The $B \cap D 1 D$ STACK Cop. , minn

Everything
$\qquad$
and research equipment.
from America's finest
NE-SOURCE-OF-SUPPLY distributor

## Collins 75A Amateur Receiver

A modern receiverusing recently developed and proved clectrical circuits and mechanical design. Frequency coverage 3.2 to 30 me: $80,10.20,15,11$ and 10 meters. Calibrated dial has only the hand used lighted for easy reading. Double conversion assures optimum selectivity plus efficient image rejection; image rejection is a minimum of 50 dh. even on 10 meters: IF rejection is 70 dh . minimum. A $1-\mathrm{mi}$ crovolt RF sienal provides normal output with approximately 6 dh. siznal to noise ratio. Low imperiance antenna input for both balanced and unbalanced lines. High sensitivity, crystal filter for variable selectivity, antomatic moise limiter, signal strength meter, automatic volume control, 2.5 watts of output power are availatle. Operates on 115 volts $50-60$ cycles. Size $211 / 8^{\prime \prime}$ wide, $1214^{\prime \prime}$ high, $137 / 8^{\prime \prime}$ deep
CA'T. NO. 36-095 Net Price . . $\$ 375.00$


## Collins 32V-1 150 Watt Amateur Transmitter

A quality engineered instrument with more desirahle features per cubicinch than any other ham I ransmitter. Permeability tuned, it covers $80,40,20,15,11$ and 10 : the $1.6-2 m e$ range is spread over 16 the $1.6-2 m e ~ r a n g e ~ i s ~ s p r e a d ~ o v e r ~$
turns of the wrnier dial. Tubes: 6S.J7 turns of the wrnier dial. Tubes: 6S. 76
oscillator; GAK Class $A$ RF buffer;
AG 7 harmonic anplifier; 2 - 7 CE bufler doublers; 41032 RF power amplifier; GSL 7 (2) for audio amplifier; 2 - 807 modulatorn; 5 Z 4 IV rectifier; $2-51 \mathrm{~S} 4 \mathrm{GY}$ HV rectifiers. Audio distortion less that $-\%$ at $90 \%$ modnlation with 1000 cps. input. Frequency response within 2 dh. Irom $200-$ Guency response within ath. Trom 300 ep 3006 cps. Antennal matching network for 50600 ohms covers all usual requirementa.
Operates on 110125 volts 50 60 cycles. Operates on 110 l 125 volts 50 60 cycles. stallations. A 1 k $\mathbb{X}$ final amplifier may he driven casily with thim model.
CAT. NO. 35-00I Net Price . . $\$ 475.00$


Collins 30K Amateur Transmitter
Designed by enginerrs wholk now what yemt want in a transmitter. All circuits band witehed, except the anterna tuming net work. Two separate plug-in coils are aun Wlied for that - one for 80 and 40 metars, one for 20, 15, 11 and 10 meters. Complete circuit fusing protection. 'T.'O. control. Tubes: $1-12541$ iF power amp-;6S.i7specehamp.; 6SN7 AF: 6116 speech chipper: $6 \mathrm{B4G}$ modulator driver: 5R44; Y low voltagerect.; 8fon high-voltagerects. Meters: modit lator plate current, fil. voltages, power amp. grid eurrent, power amp. plate current. RF output, Controls: plate on-oIf switch; filament on-off switeh; phone-CW switeli: audio qain control; filament voltage adjustment; low voltage tume operate switch; PA grid tuning: PA grid bomerwwitching; I'A plate cuning: PA plate bandswitching; antemna loudine. Size $3 y^{\prime \prime}$ wide $16 \frac{1}{2}$ deep, $66 y^{\prime \prime}$ high. 115 voht 60 cycles. Includes Collinn 310 A exciter unit. Eiciter gives cathode keying for fant cloan CW. gives cathode keying for fant clman Ciw.
Ontput fed ibroigh 73 ohm eona transOntput fed brongh 73 ohm conax trans-
misaion line to linh on grid coil of transmitter. Tulues: 65.J I'TO: 6AGT bulfer amplifier; bAG7 dowbler: 80 multiplier: 80\% wutput; 2-VIB105 voltage reg.; 2-VIK 150 voltage reg.; 5 R4GY rect. 6 CX 5 bias rect.
CAT. NO. 35-042 Net Price with 310A Exciter Unit
81450.00

# HALLICRAFTERS RECEIVERS 



## (A) Hallicrafters Model SX-42



The ultimate in all-wave recelvers for world-wide reception covering the entire frequency range from 540 kc . to 110 mc ., In slx bands: 540 to 1620 kc .; 1.62 to $5 \mathrm{mc} . ; 5$ to $15 \mathrm{mc} . ; 15$ to 30 mc .; $1620 \mathrm{kc} . ; 1.62$ to 5 mc .; 5 to 15 mc .; 15 to 30 mc .;
27 to 55 mc .; 55 to 110 mc . Tubes: 6 AG 5 Ist RF; 6AG5 2nd RF; 6H6 AM rectifler and NL; $7 F 8$ converter; 6SK7 1st IF; 6SG7 2nd IF; 7H7 1st FM limiter amplifier; 7H7 2nd FM limiter; 6H6 discriminator; 6SL7 audlo Inverter; 6V6 audio output (2); 7A4 BFO and FM tuning meter ampllfer; VR 150 voltage regulator; 5 U4G rectiler. Electrical bandspread dial callbrated for amateur bands; CW pitch adjustable from panel; four-position switch for phone. FM. AM or CW; receive-standby switch; ANL; AVC Switch; six-position selectivity switch with crystal filter operates on frequencies between 540 kc . and 30 mc . Transmitter connection; phono connection. Dual IF transtormers: 455 kc . IF for standard operation; 10.7 mc . IF for VHF and FM operation. Two tuned RF stages with minlature tubes for better VHF performance. Permeabillty adjusted mlero-set coils in RF sectlon. Push-pull final audlo stage delivers over 8 watts with less than $8 \%$ harmonic distortion. Cabinet $20^{\prime \prime}$ wide, $9 \frac{3{ }^{3}}{4}$ high and $16^{\prime \prime}$ deep. Set operates on 105-125 volts AC and draws 110 watts at 117 volts. Socket provided for external battery operation. Draws 5 amps at 6 volts DC for heater current and 150 ma at 270 volts DC for plate current when used with batteries.
Cat. No. 36-055 Net Price
${ }^{s} 275.00$
Model SX-42U Same but for $110,130,150,220$ and 250 volt operation at 25 to 60 cycles.
Cat. No. 36-056 Net Price
$\$ 287.50$
Model R42 Speaker for above units. Table type to match recelver with switch for high fidelity reception.
Cat. No. 36-057́ Net Price . . . $\$ 34.50$ Cat. No. 36-058 SX-42 with R-42 speaker. Net Price . . . . . . . . . $\$ 309.50$ Cat. No. 36-059 sX-42U with R-42 speaker. Net Price
$\$ 322.50$

## (D) Hallicrafters Model S-40A

The fnest performing receiver in the popular price fleld; incorporates many circult refinements and features never before offered in this price range. Covers 540 kc . to 43 mc . in four bands: 540 to 1700 kc ; 1.7 to 5.35 mc .; 5.35 to 15.7 mc .; 15.7 to 43 mc . Nine tubes: 6SG7 RF amplifler; 6SA7 converter; 6SK7 1st 1F; 6SK7 2nd 1F; 6SQ7 2nd detector and 1st AF; 6F6G output; 6H6 ANL and gas gate; 6J5GT BFO; and 80 rectifier. Permeability adjusted micro-set colls in RF section. Separate sensitivity and volume gain controls; three-position tone control. Connections for operation with transmitter. Internal PM speaker held in rubber mounts. Biack finish steel cabinet with red and gray trim; 18 $\frac{2}{2}^{"}$ wide by $8 \frac{1^{\prime \prime}}{}{ }^{\prime 2}$ high by $9 \frac{5}{8}$ " deep. Operates on 105-125 volts AC and draws 75 watts at 117 volts. Audio output $2 \frac{1}{2}$ watts. Socket provided for use with external batterics. Draws 3.3 amps heater current at 6 volts and 70 ma . plate current at 270 volts, when used with batterles. Cat. No. 36-052 Net Price
s99.50

> Model S40U. Same specifications as above but may be used on $110,130,150,220$ or 250 volts, 25 to 60 cycles. Cat. No. $36-053$ Net Price . $\$ \mathbf{1 0 9 . 5 0}$

Model SM-40 'S'' Carrier-level Meter. Cat. No. 36-054 Net Price . . $\$ 16.00$

## (B) Hallicrafters Model SX-43

This quallty, precision-engineered receiver offers continuous coverage from 540 kc . to 55 mc . with an additional band from 88 to 108 mc . AM reception on all bands; CW on four lower bandis, and FM on frequencles above 44 mc . Automatic noise limiter; electrical bandspread; frequency meter tuning; record player input. Tubes: 6BA6 RF; 7F8 converter oscillator; 6EG7 1st 1F; 6SH7 2nd IF and 2nd converter, band 5 AM ; $68 \mathrm{H} 7 \mathrm{3rd} \mathrm{IF}$ ( 10.7 mc. ) ; 6H6 AM detector and noise limiter; 6 AL5 FM detector; 6SQ7 Ist AF amplifier; 6J5 BFO second converter oscillator, band 5; 6V6 audio output; 5 Y 3 rectifier. For operation on 105-124 volts 50-60 cycles. Draws 90 watts at 117 volts. When operated from external batteries the heaters draw 3.8 amps at 6 volts and the plate 105 ma . at 270 volts.
Cat. No. 36-049 Net Prlce
$\$ 189.50$
Model $8 \mathrm{XX}-43 \mathrm{U}$ same is above but in voltages: 110. 130, 150, 220 or 250,25 to 60 cycles AC. Cat. No. 36-050 Net Prlce . . $\$ 199.50$
R44 Bass-refiex speaker for use with SX 43.
Cat. No. 36-051 Net Price
$\$ 24.50$

## (C) Hallicrafters Model S-38

A highly sensitive all-wave recelver, ideal for communications service. Distinctive styling and quality workmanship put it far ahead in the tow price field. Four-band coverage: 540 kc . to 32 me. Band 1, $540-1650 \mathrm{kc}$.; band $2,1.65-5 \mathrm{mc}$.; band 3, $5-14.5 \mathrm{mc}$. ; band 4, $13.5-32 \mathrm{mc}$. Main dial calibrated in megacycles; electrical bandspread dial for ultra fine tuning. BFO pitch adjustable from front panel. AM-CW switch turns on automatic volume control in AM position. Standby-recaive switch. Automatic noise limiter. Antenna terminals for doublet or single wire antenna. Tip Jacks for headphones. Internal PM speaker mounted in top of satinblack steel cabinet with gray and red trim. Size, $12 \xi^{\prime \prime}$ wide, $61^{\prime \prime}$ high by $7 \frac{1}{2}^{\prime \prime}$ deep. Has six tubes: 12SA7 converter; 12SK7 IF amplifer; 12SQ7 second detector, AVC, first AF: 12 SQ 7 BFO , ANL, 35L6GT second AF; 35Z5GT rectifer. Designed for $105-125$ volts AC or DC. Special external resistance line available for 210-250 volts AC or DC operation. Power consumption on 117 volts is 29 watts. Cat. No. 36-045 Net Price
${ }^{\text {s }} 49.75$
220 VOLT CORD ADAPTER.
Cat. No. 36-046 Net Price
$\$ 1.41$

## (F) Hallicrafters Model S-47

A high-precision, fine quality receiver espectally adapted to use in homes, schools or public institutions. It is a $15-$ tube AM-FM instrument covering 535 kc . to 108 mc . In three bands; band 1 , 535 to 1720 kc .; band $2,5.9$ to 18.2 mc .; band 2 a . 535 to 1720 kc.; band $2,5.9$ to 18.2 mc .; band 2 a .
9 to 12 mc .; band $2 \mathrm{~b}, 15$ to 18 mc .; band $3,88 \mathrm{mc}$. Five tuning pushbuttons for AM and flve for FM. AFC on FM band. Treble tone and AM selectivity switch. Push-pull 6V6GT's provide 12 watts audio output. AM response essentially flat Irom 30 to 7500 cps ; FM from 30 to 15,000 cps. Phone connection at rear of chassis. Dual IF transformers - 455 kc . for AM and 10.7 mc . for FM. Tubes: 6BA6 RF; 6 J 6 RF oscillator and AFC; 6BE6 mixer; 3-6SG7 IF; 6SH7 IF; AM detector; 6AL5 FM detector; 6J5 AF; 6J5 base ampllifer; 6SQ7 AF; 6SQ7 phase inverter; 6V6GT power amplifiers; 5 U 4 G rectlifer. Operates on $105-125$ volts $50-60$ cycles. Power drain is 100 watts. Use any speaker with 500-600 ohms input. Cat. No. 36-047 Net Price
\$229.50
Model S-47C same as above without cabinet for



## National NC-46 Receiver

A professional-appearing, general-coverage receiver with all the latest features for swooth control. Peak performance from 540 kc . to 30 me. divided into 4 bands - 80, 40, 20 and 10 meters. Tubes: 2-6SG7 IF; 6H6 detector limiter; 6SF7 AVC amplifier; 6SJ7 BFO; 68C7 audio inverter; 2-25L6 push-pull audio output, and $25 Z 5$ rectifler. 5 microvolts sensitlvity with 50 milliwatt output over entire range. Audio output 4 watts maximum. Output variation with AVC is leas than plus or minus 4 db . with input 10 to 100,000 milcrovolts. Two-tone gray steel cabinet
 AC/DC operation. Complete less speaker. Cat. No. 36-041 Net Price Cat. No. 36-042 NC-46TS speaker.
Net Price


## National HFS Receiver

A new versatile recelver/converter with an unusual frequency range, 27 to 250 mc ., and with ane selectivity characteristics. Circuit is basically superheterodyue-superregenerative, with i.f./converter output channel at 10.7 mc . Equally adaptable us a converter in conjunction with a conventional superhet tuning to 10.7 mc . or as a complete VHF recelver for AM. FM, and CW; to use as a high ndelity FM unit. simply connect converter output to 10.7 nue. FM i.f. channel. Storage rack inside cubinet for six plug-in coils which cover 178-250, 120-178, 80-120, 56-80, 41-60, 27-42 me. Controls include: tuning dial, trimmer control. regeneration control, audio gain, int-ext switeh, converter-output control, and $B$ plus/OFF switch. Tube complement: 6AK5 1st det.; 9002 h.f. osc.; 6SG7 L.f. amp.; 6SK7 2nd det.; 6J5 1st audlo; 6V6GT/G audio output and 6J5 converter output. $6^{\prime \prime}$ PM speaker built in. Size, overall: $16 \frac{9_{1}^{\prime \prime \prime}}{16} \times 88^{\frac{3^{\prime \prime}}{\prime \prime}} \times 88^{\frac{1}{2}}$. Finbullt in. Size, overall: $16 \frac{1}{6}$
ished in smooth gray ename.
Cat. No. $36-128$ Model HFS recelver including colls. Net Price $\$ 142.00$ Cut. No. 36-129 Type 8886 Power Supply, $115 / 230$ volts $50-60$ cycles. Net Price. $\$ 22.43$ Cat. No. 36-130 Type 686 S Vibrator Power Supply 6 volts DC. Net Price Cat. No. 36-131 TB-1 Tilt Base.
$\$ 34.16$ Net Price
$\$ 3.95$

## National NC-173 Receiver

A new communlestion receiver covering from 540 kc . to 31 mc ., and 48 to 56 mc . on the 6 -meter amateur band. Bandspread tuning knob and dial for $80,40,20,10$ and 5 meter arnateur bands. Tubes: 5Y3GT/G rectlfier; VR150 voltage regulator; 6V6 audio output; $6 \mathrm{SJ7}$ audio; 6 H 6 noise limiter; 6SJ7 HFO; 6 AC6 AVC; 6 H 6 2nd delector, AVC and NL.; 2-6SG7 11; 6.15 voltageregulated HF oscllator; 6SA7 1st detector; 6SG7 tuned RF with antenna compensator. Double-diode noise limiter with variablc threshold control effective on both CW and phone. Six positlons from broad to sharp provided on new crystal filter, with phasing control for attenuation of interference. Output 3.5 watts. Smooth tion of interference. Output 3.5 watts. Smooth $110-120$ or $220-240$ volts $50-60$ cycles. May be $110-120$ or $220-240$ voits $50-60$ cycles. May be
operated on batteries in emergency. Cabinet similar to NC-183. Complete with tubes and speaker. Cat. No. 36-033 Net Price
$\$ 189.50$


## National NC-2-40 D Receiver

A recelver with many newly developed features represents one of the mast outstanding developments of the famous National engineering staff. Tubes used are: 6SK7 Tuned RF stage, 6K8 First Detector, 6 J 5 HF Oscilator, 6SK7 1st IF, 6SK7 2nd IF, 6SL7 Second Detector-Limiter, 6SNJ7 AVC, 6SJ7 BFO, 6SN7 1st audlo Nolse Limiter, $2-6 \mathrm{~V} 6$ Audio output and $5 \mathbf{Y} 3 \mathrm{G}$ as rectifler.

A full-vision dial operated through a $30-1$ gear drive is accurately calibrated on ten frequency ranges. Six of these ranges are for general coverage over the total tuning range from 490 to $30,000 \mathrm{KC}$; four additlonal ranges provide callbrated bandspread of the amateur $80 / 40 / 20 / 10$ meter bands. Automatic range-In-use indlcator is bullt in the dial. Bandspread on nmateur is bullt in the dial. Bandspread on amateur bands is extremely generous, covering most or
the $180^{\circ}$ dial scale; no resetting is necessary to the $180^{\circ}$ dial scale; no resetting is necessary to
return to any pre-logged station or frequency. Uniform bandspread is provided through a unique tapped coil arrangement similar to that used in the famous HRO receiver, and the same knob used for tuning is used to shift bands.

The sensitivity of the NC-200 is purticularly high, with an lnput signal of only 1 microvolt providing 1 watt of audio output. Newly developed RF coupling circuits provide full sensitivity up to the extreme high end of the tuuing range at 30 MC . All RF and 1 F colls are wound on molded polystyrene coll forms, assuring freedom from circuit losses caused by humidity. All critical components, such as tuning and trimming condensers, are Insulated with isolantite, to insure high stability at all frequencies.


National NC-183 Receiver
The very latest in circuit design is incorporated in thls modern, quality communications recciver. Has calibrated amateur bandspread with gear drive tuning dials for 6. 10-11, 20, 40 and 80 meter bands. Two RF stages on all tands with image rejection 40 db . at 28 mc . Double-diode noise limiter efective on both phone and CW. Six steps of selectivity on new type crystal filter, from the broad 1 st step to the extremely sharp 6th step "g" meter built in with adjustable 6th step. "g" meter built in with adjustable sensitivity for both phone and CW. Stablity assured by temperature compensation and voltage regulator. Phono input jack on rear panel provldes for connecting a high-impedance record player pickup. Accessory socket permits connection of FM adaptor, crystal callbrator, etc. Uses 14 tubes plus rectifier and voltage regulator. Range of trequency 0.54 to 31 mc. plus 48 to 56 me. for 6 meter amateur band. Operates on $110-120$ volts or $220-240$ volts $50-60$ cycles. $110-120$ volts or $220-240$ volts $\$ 268.00$
With tubes, less speaker.
Cat. No. $\mathbf{3 6}-\mathbf{0 3 8}$
Net Price Cat. No. 36-038 Net Prlce
Cat. No. 36-039 NC-183TS $10^{\prime \prime}$ Speaker.
Net Price
$\$ 14.00$
Cat. No. 36-040 NFM-83 FM Adaptor. 95

Temperature compensation in the higt frequency osclllator, RF stage, and first detector circuits reduces frequency drift to a negligible value. Six step selectivity is provided by a new type of crystal fliter with equal utility for elther phone or CW reception. Other important leatures are: wide range adjustable series-valve-noise fimiter, calibrated stgnal level meter, provision for battery operation in emergencies, standby switch, separate $10^{\prime \prime} \mathrm{PM}$ speaker in matching metal cabinet, attractive wodern cabinet finished in two-tone gray and chrome, self-balancing phase Inversion circuit, 8 watts undistorted audio output, image ratio of better than 30 db ., separate high frequency oscillator and first detector tubes, absolute minlmum of tnherent circuit nolse, and an attenuator type tone control.
All controls are conveniently grouped for maximum simplicity In operation. Controls include: combination tuning and bandchange knob, RF and AF gain controls, BFO on-off and variable pitch, 3 position fll-plate-standby swltch. Crystal selectivity, Crystal phasing. For the critical amateur and commercial operator, the high selectivity and sensitivity provide a type of overall performance never before available in a recelver so moderately priced.
Two-tone gray cabinet $19 \frac{3}{4} \times 10 \frac{5}{4} \times 15 \frac{1}{2}$ ". Operates on $110-120$ or $220-240$ volts $50-60$ cycles. With tubes, less speaker.
Cat. No. 36-036 Net Price
${ }^{5} 236.25$
Cat. No. 36-037 $10^{\prime \prime}$ speaker. Net Príce $\$ 16.44$


## National NC-33

A quality engineered receiver famous among "Hams" and professlonals for real performance in amateur, pollce, and foreign or domestic broadcast. Range: 500 kc . to 35 mc . in four bands: cast. Range: 500 kc . to band C. $1420-4200 \mathrm{kc}$.; band $B, 4.0-12 \mathrm{mc}$-; band A, $12.0-35 \mathrm{mc}$. Dials provide either general coverage or bandspread tuning. Tubes: 12SA7 converter; 12SG7 IF; 12H6, 2nd detector AVC noise limiter; 12sLigGT 1st audloand BFO; 35L6GT audlo output 3 保 put and $35 Z s$, rectifer. Buik-in PM speaker cuts out when earphones are plugged in. For operation on 105-125 volts 40-60 cycles or 105125 volts DC. Size $16 \frac{1^{\frac{2}{2}}}{} \times 8^{\frac{3}{4}} \times 8 \frac{1}{2}{ }^{\prime \prime}$.
$\$ 57.50$

You can fill ALL your radio amateur needs from this catalog-see the complete index, pages 111-114.

# NATIONAL HALICRAFTERS 



## (A) Hallicrafters 7-inch Television Model T-54

All of the magle entertainment of television brought to you with sharp, clear, constantly stable pictures at a practical price. Made possible only by the fact that high frequency circults and precision engineering have for many years been the speclaHzed work of Hallicrafters engtneers. Provldes a $4^{\prime \prime} \times 5 \frac{1}{2}$ " picture - for perfect viewing in the apartment, den or living room. Pushbutton tuning for each of the 12 television channels. Seven-inch electrostatic tube. Front panel controls for contrast, brlghtness, volume, horizontal hold, vertical hold. fine tunling. Special automatic gain control clrcuit controls the i.f. system to maintaln constant reception in spite of atmospherle or other varlations in signal strength from the transmitting station, High sensitivity and excellent distance reception, comparable to those in much higher priced brackets. Three 1.1 . stages with iron-core i.f. transformers. 18 tubes plus cathode-ray tube and 4 rectitiers. Transformerless power supply; operstes from 105-120 volts, $50-60$ cycle AC. Housed in attractive cabinet finished in rich sllver gray; has "airodized" top; modern functional deslgn. Size: $20 \frac{1}{3} \times 16 \times 9 \frac{1}{2}^{\prime \prime} \mathrm{high}$.
Cat. No. 36-101 Model T-54 complete as above.
Net Price
${ }^{s} 139.50$
Model 505 - Same as Model T-54 above but furnished in mahogany veneer cabinet.
Cat No. 36-102 Net Price
${ }^{8} 149.50$

## TV Screen Magnifying Lens



Transforms screen of $7^{\prime \prime}$ tube to equivalent of big $10^{\prime \prime}$ screen for added enjoyment without eye strain, fatigue, distortion. Installation is as simple as ABC . . . no clamps to scratch surface of the set. Sliding telescope for horizontal and vertieal adjustment. Fits all 7 -inch recelvers. Cat. No. 16-321 Net Price


## TRANSVISION TELEVISION KITS

## (D) TV-FM Receiver Kit IOBL

The really economical way to enjoy big-pleture, direct-vlew, quality television-assemble it yourself and save as much as half the cost! EVERYTHING required to assemble a complete quallty TV-FM set is included in the kit, except a screw driver, cutting pliers, and a soldering iron. A sharp, steady 115 -square-inch plew ture is achleved with unsurpassed brightness, even in a lighted room. And no thrill compares to that of the man (or woman) who builds it bimself. plus the fun and relaxation of a new hobby. Anyone can do it - no technical skill is requilred to assemble the Transvision klt and enjoy the finest in television reception in addition to savIng several hundred dollars. Many housewives have successfully followed the simple, complete Instruction Included in every kit. Here is what the kit gives you:
Modernly styled cabinet with bullt-in lens that enlarges the 10 -Inch direct-view picture tube to 115 square inches. Recelves all 12 TV channels and FM radio. (The FM radio comes to you factory-assembled in the kit.) 23 tubes, Including pleture tube and 2 rectifers. 4 mc. band width for full picture defnition. High-fidelity FM sound reproduction. 3 stages of pleture i.f pre-tuned at factory. 2 stages of sound i.f., fac tory pretuned. Maximum pleture sensitivity better than 50 microvolts. 1 stage of video ampliflcation. Int. trequency - audio 21.9 mc . plo ture 26.4 mc . 13 -channel r.f. front-end unit prewired and tuned with continuous tuning for FM radio. High-fidelity speaker. Chassis size $22 \times 17 \frac{1}{3} \times 4^{\prime \prime}$. Cabinet designed by Hal Bergstrom, prominent industrial designer, is 26 strom, prominent industrial designer, is 26
$\times 17 \times 19^{\prime \prime}$ deep. Also includes folded-dipole antenns, and 60 ft . of lead-In wire; color-flter kit for bullt-In lens.
Cat. No. 36-280 Net Price
${ }^{s} 284.00$

## (E) Television Kit Model IOA

Easy-to-assemble Transvision kit 10A is the ideal set for those who want a practically-priced high-quality television set but do not desire FM reception. Model 10A is furnished less cabinet and may be adapted to form a unit wlth exlsting AM/FM recelvers. Thus for a minimum price brilliant expensive-quality television is acquired - a front row seat at the foot-lights of the spectacular and ever-Increasing varlety of television entertainment. Transvision assembly engineers have originated a unique system of sssembly, with Instructions and pletures keyed to each part as a package number. Anyone can follow the instructions, all you have to know is how to read! Uses $10^{\prime \prime}$ electromagnetic direct-view picture tube for 52 sq . $\mathbf{i n}$. picture; continuous tuning on all 12 channels. Supplled complete with 12 channel dipole antenna and lead-in wire. Tubes, parts, chassls are all included. No other parts parts, chassis are all included. No other parts are required. Time checks show a novice can
assemble Model 10 A in 40 hours. Television performance of Model 10 A is similar to Model 10BL above.
Cat. No. 36-281 Model 10A. Net Price $\$ 199.00$ Cat. No. 36-282 Cabinet for Model 10A as 111 usw trated. Net Price

# PROJECTION TELEVISION 

HIGH FIDELITY AMPLIFIER with Dynamic Noise Suppressor


## New $16^{\prime \prime} \times 12^{\prime \prime}$ TV Picture System

 Hallicrafters Projection Model T-60 For deluxe custom installation where the desire is for the utmost realism and lifellke viewing with custom-deslgned installations in homes, taverns, and institutions. A projection system gives 192 square inches of picture area . . clear, steady, optically correct and with all eye-strain ellminated. Heart of the system is a small cathoderay tube ( $2 \frac{1}{2}$ " projection type), an optical unit that magnifies, reflects and projects the imaue, and a high voltage unit to sustain brilliance and stability. A bighequality FM sound system gives clear natural tone. System includes 8 -inch permanent-magnet speaker mounted on baffe. Systom is assembled in compact arrangement for easy installation in book cases, or small graceful cabinets of custom design. Sturdy wood framework simplifies installation.Excellent vlewing day or night. No need to dirm room. Front panel controls: contrast control for best plature definition; brightness control tor best viewing brillancy; volume controi; horizontal and vertical controls for synchronization; 12 push-button channel selectors; fine-tuning control. Rear panel controls: tocus control; vertical and horizontal position controls; width and height controls; vertical linearity control.
Specifications: 22 tubes plus 3 high-voltage rectifers; selenium low-voltage rectifler; 12-channel push-button selector switch; r.f. amplifier for improved signal-to-noise ratio; 3 i.f. amplifiers; 2 video amplifers; improved synchronizing circuits; automatic gala control; automatic black level control; inter-carrier FM sound system. Size $45 \times 25 \times 13^{\prime \prime}$ deep. Cat. No. 36-103 Model T60 as above. Net Price
$\$ 595.00$
H.H. Scott Amplifier

Model 210 A
With Dynamic
Noise Suppressor


A wide-range, high-fidellty amplifer comblned with the fumous H. H. Scott Dynamic Noise Suppressor unit provides the best reproduction of recorded music possible and enhances both FM and AM radio reception. Extended listening range, 30 to 20,000 cycles, with negligible intermodulation or translent distortlon. Power output 20 watts with less than $2 \%$ harmonic distortion, 15 watts with less than $1 \%$ harmonte distortion Amplifier incorporates squeleh circuit, whistle fiter, preamplifer for magnetic plckup. Dynamle Noise Suppressor allows widest use of highand low-frequency gain, With freedom from scratch, hiss, and rumble. High-frequency noise reduction is between 20 and 30 db . above dynamic pass band; low frequency nolse reduction is 15 Jb at 50 cycles, 20 db . at 30 cycles. Hum level is inaudible under normal listening conditions. Five controls, Volume, Frequency Range, Bass, Treble, Dynamic Noise Buppression, provide maximum flextbllity and easy selection of exact tonal balance to please the individual ear. Tube complements, 1-12SL7GT balance to please the $1-6 S L 7 G T, 1-S Q 7,1-12 S G 7,2-6 S G 7,1-8 N 7 G T, 2-6 L 6 G A, 1-5 V 4 G$ 1-6SL7GT, $1-\mathrm{SQ}, 1-12 \mathrm{SG7}, 2-6 \mathrm{SG7}, 1-8 \mathrm{~F} 7 \mathrm{GT}, 2-6 \mathrm{LGGA}, 1-5 \mathrm{~V} 4 \mathrm{G}$.
Operates on 115 volts, 60 cycles. Furnished complete with instructions. Dimensions overall, $12^{\prime \prime} \times 15^{\prime \prime} \times 8 \frac{1}{2}^{\prime \prime}$.

Cat. No. 33-001 Net Price
${ }^{5} 269.00$

# Hallicrafters - transmitters - receivers - National 


(A) Hallicrafters New HT-19

## Medium Power Transmitter

A completely self-contained unlt for the modernminded ham offers both Narrow Band FM and CW, plus provisfons for AM, to give maximum fiexibility on 5 popular bands. Basically the HT-19 consists of a VFO (ECO or Pierce crystal), a frequency modulator with speech amplifier, and r.f. buffer and thal amplitter. The 4-65A in the final output stage gives 125 watts output. Features blgh stability and extremely low FM distortion. Pilot lights for flament and plate power. 'remperature compensation and voltage regulator for oscillator stablilty

Controls: 5 -position switch for 3 crystals, VFO, or NBFM; band selector for $3.5-4.0 \mathrm{MC}, 7.0-$ or NBEM; barnd selector $21.0-21.45 \mathrm{MC}$, and 27.16-29.7 MC; final colls changed inside the unit, all five coil assemblies inside at all times; Check Switch turns on ose. for "spottIng" signal on receiver; Plate Switch fur " $B$ " power and makes remote control connections; Power Switch in line; Deviation Control holds . 4 ratio; Osc. Plate Tuning for osc. gang and calibrated dial; Power Amp. Tuning. Push-button ma. meter.
External Connections: Mike connector; keyling terminals; $50-600$ ohm output; 6 terminals for remoting; 4 terminals tor applying AM from external modulator.

Tube Complement: 3-6BA6's - oscillator, FM, and speech amp.; 6L6 Buffer; 4-65̄A output; VH-150 and VR-105 regulators; 5Y3GT and 2-866's rect.
Aerodized cabinet with satin gray anish, chrome and black knobs. Slze $20^{\prime \prime} \times 10^{1 / 1} \times 18^{\prime \prime}$ deep. Operates on 105-125 volts $50-60$ cycles.

Cat. No. 35-017 HT-19 as above complete with tubes
Net Price
${ }^{8} 359.50$

(B) Hallicrafters Model HT-18 Exciter Modernize your old transmitter with this new variable master osclllator. Narrow band FM and calibrated 5 -band VFO complete with all coils and buititin power supply. Frequency range $3.5-4.0 \mathrm{mc} ., 6.8-7.425 \mathrm{mc}$., $14.0-14.4 \mathrm{mc}$., $21.0-$ 21.5 me . and 27.185 to 29.7 me. Built-in pre-amp for high-impedance erystal or dynamic microphones. Oscllator keyed for CW use. Tubes: GBA6 ECO or crystal osclliator; 6BA6 trequency modulator; 6BA6 AF; 6L6 output; VR105 voltage regulator; VR150 voltage regulator; age reculator; $5 \mathrm{Y} 3 \mathrm{GT} / \mathrm{G}$ power rectifier. For operation on $105-125$ volts $50-60$ cycles. Crystals. used if desired, are in the 3.5 megacycle band but are not supplied with unit.
Cat. No. 35-016 Witl tubes but no crystals. Net Price
. $\$ 110.00$
(C) New Hallicrafters S-51 Receiver

For yachtsmen, mariners, pllots, the S-51 covers from 140 kc . to 12.5 Mc . In 4 bands plus three from 140 kc . to 12.5 Mc . in 4 bands plus three In 200-300 kc. and $2-3 \mathrm{Mc}$. range. Maximum convenience is assured by dircetly calibrated maln tunlng dial and band divisions so that calling and working frequencles lie in same band. Special precautlons protect agalnst hazards of salt sea air; trimmer condensers are treated, transformers impregnated, heavily plated. BFO with pitch varlable from front panel; combined a.v.c. and b.f.o. switch; separate r.f. and a.f. gain controls. PM speaker water-resistant and has internal rubber shock mounting. Sensitivity less than 10 microvolts at all frequencles. Audio output 1 watt. Tube complement: 3-6SS7; 2-7C6; 35L6; 6V6; 7A6; and 35Z5 rect. Operates on 110 v. AC/DC or $6,12,32 \mathrm{v}$. DC. Dimensions:
 $18 \frac{1}{2} \times 8 \frac{1}{2} \times 9 \frac{5^{\prime \prime}}{}$. Complete with tubes, less
vibrapack. vibrapack.
Cat. No. 36-066 $\mathrm{s}-51$ as above. $\$ 149.50$
Net Price Net Price Cat. No. 36-151 6-volt vibrapack complete.
Net Price Cat. No. 36-152 12-volt vibrapack complete. Net Price . . . . . $\$ 22.50$ Cat. No. 36-153 32-volt vibrapack complete. Net Price $\quad \$ 22.50$


## (D) National HRO-7

The modern version of the famous HRO communications recelver, incorporating all its time proven features plus laboratory circuit developments which result in a new custom-built receiver. Some of the features are: automatic, adjustable threshold noise limiter; improved highfrequency oscillator; 2 minlature tubes - 6C4 and OA2 for voltage regulation and osclllator stability; slide rule type callbration for all col sets. Frequencles from 1.7 to 30 mc . are covered with the 4 sets of colls supplied; nve additional sets are avallable for frequencles from 50 to 2050 kc . Accessory socket, supplying 6.3 volts AC, 150 volts DC regulated and 240 volts DC unregulated, built-in for attaching crystal callbrator, HF converter, FM adaptor, record player, etc. Tubes: 4-6K7, 2-6J7, 6C4, 2-6H6 6SJ7, 6V6GT/G and OA2. 3 watts maximum output. Uses type 697 power pack; 75 watts at 115 volt $50-60$ cycles 1 phase, with $8 w i t c h$ for 230 volts included. Smooth gray enamel cabinet $19 \frac{1}{2} \times 10 \times 10^{\prime \prime}$. Complete with coils, tubes, and power supply, less speaker.
${ }^{\$} 292.50$
With colls, tubes, power supply and speaker. Cat. No. 36-030 Net Price . . $\$ 311.00$
Cat. No. 36-031 Type MCR speaker only. Net Price
Cat. No. 36-032 Type 697 Power supply
Net Price $\quad \$ 20.36$

# AM - FIM TUNERS - Meissner 



A


A

(D) Espey Model No, 7-B FM-AM Chassis
An 11-tube AC superheterodyne with an improved FM clrcult designed especialiy for custom installatlons. Large dial with dual pilot light illumination and smooth tuning with high-ratio tuning condenser, covering 540 to 1700 kc for AM and 88 to 108 mc . for FM . Tubes: 6 BA6 AM and 88 tolifier; 7 Q 7 AM osclliator, mixer; 7AH7 IF amplifier; 7AG7 FM detector driver; 7 A 6 FM detector; 7F8 FM oscillator mixer; 7C6 AM detector audio amplifter; 7F7 audio amplifler-inverter; 7C5 push-puli power amplifier; 5 Y 3 rectifer. The model $7-\mathrm{B}$ chassis is complete ready to operate wlth tubes, loop antenna for AM and folded dipole for $\mathrm{F}^{\circ} \mathrm{M}$, speaker and hardware for mounting in bookcase, table cabinet, or console. Chassis $13 \frac{1^{\prime \prime}}{} \times 9^{\prime \prime} \times 9^{\prime \prime}$. Operates on 105-125 volts $50-60$ cycles. Draws 80 watts.
Cat. No. 36-093 Net Price
$\$ 84.50$

## (E) Meissner BC and SW Superhet Kit

Easily constructed with only pliers, screw driver and soldering iron, this kit covers frequencies from 550 to 1600 kc - and 6 to 18 mc . High quality components and careful circult design. Filter choke for hum-free output with no power loss; IF wave trap eliminates interference. $5^{\prime \prime}$ spenker. Tubes: 12SK7 RF; 12SA7 oscllator mixer; 12SK7 IF; 12SQ7 detector, AVC and audio ampllfier; 35L6GT beam power output; 3525 GT rectifer. Pilot light on dial. Operates on 110 volt AC/DC. Complete with speaker and tubes.
Cat. No. 36-026 Type 10-1199 Net Price $\$ 27.72$
(F) Meissner BC Band Superhet Kit An easily constructed recelver that covers the broadcast band from 540 to 1600 kc . High gain reception with loop antenna feeding directly into mixer converter tube. Component parts of highest quality. Cable drive dial assembly calibrated in kilocycles with pilot lightillumination. Tubes: 12SA7 mixer-oseillator; 12SK7 IF; 12SQ7 diode detector and first audio; 50L6GT beam power output; $35 Z 5 \mathrm{GT}$ rectlfler. Operates on 110 volt AC/DC. Complete with speaker and tubes. Cat. No. 36-024 Type 10-1191-A $\$ 22.67$
Net Price Net Price

Cablinet Cat. No. 36-025 Type 11-8269-1
(Ivory) $^{\text {Net Price }}$. $\$ 2.40$

## (G) Meissner 3-tube AC/DC Kit

## Type 10-1193

A regenerative kit for beginner. Three type 76 tubes, plug-In coil for broadcast; capable of long distance reception. Operates on 110 volt AC/DC Complete, less tubes and headphones.
Cat. No. 36-001 Net Price
$\$ 6.77$
Type 10-1192- Two tube kit. "Same as above but 2 No. 76 tubes.
Cat. No. 36-002 Net Price
$\$ 5.72$
Accessories for above kits:
C
3
3

## (A) Meissner AM-FM Tuner and Amplifier

For replacement or custom installations. Frequency range of $\mathrm{FM}, 88-108 \mathrm{mc} ; 535$ to 1620 kc on AM. 18 watts power output at less than $2 \%$ harmonic distortion. Audio fldelity flat within plus or minus 2 db . from 50 to 15000 cps . Hum level 65 db . below full output. Less than 20 microvolts sensitivity. Supplied with phono input. Two indoor antennas supplied - loop for AM, and folded dipole for FM reception with provislon for external antennas. Designed for 12 ohm PM speaker (not supplied). Draws 190 watts at $105-125$ volts, $50-60$ cycles. 22 tubes: 3-6SK7, 6SA7, 6H6. 5-6AG5, 6C4, 2-9001, 6AL5, 2-6J5, 6U5/6G5, 6SN7GT, 2-6L6, 5 Y 3 G and 5 V 4 G . Tuner chassis $14 \frac{1}{\prime \prime} \times 12 \frac{1}{\prime \prime} \mathrm{x}$ $8 \frac{3}{3}^{\prime \prime}$ high. Amplifier $7 \frac{1}{8}{ }^{\prime \prime} \times 16 \frac{1}{2}^{\prime \prime} \times 7^{\prime \prime}$ high. Complete less speaker and cabinet. Cat. No. 36-023 Type 9-1093 Net Price $\$ 198.40$

## (B) Meissner FM Receptor

For conversion of any AM receiver to AM-FM. Covers the 88 to 108 MC FM band and may be used on a PA system. Flat audio fidellty plus or minus 2 db . Connection easily made to phono Input of receiver. Tubes: 2 6AG5; 2 6BA6; 2 6C4; 1 6AL5; and 6X5GT rectifier. 105-125 volt 50-60 cycles power supply bullt in. Walnut cabinet. $12 \frac{3^{\prime \prime}}{} \times 8^{\prime \prime} \times 6 \frac{3}{\prime \prime}^{\prime \prime}$.
Cat. No. 36-020
${ }^{\$ 38.33}$


## Meissner AM-FM Tuner

A nombination AM-FM recelver of exceptionally high fldelity for custom installation or replacement. Covers broadcast band from 527 to 1620 kc and the FM band from 88 to 108 mc . Draws 80 watts at $105-125$ volts $50-60$ cycles. Frequency response is tlat plus or minus 2 db . from 30 to 15,000 cycles. Less than 10 microvolts sensitivity. Output is 8 volts at the high irnpedance terminals and .75 volts at the 500 ohm terminals. Hum level 60 db . below output. May be used with record player. Tubes: 9003 RF amplifier; 6BE6 osclilator converter; 2-9003 456 kc IF ampllflers; 6 AL 5 detector for the AM section. For the FM section:6AG5 RF ampllfier; 6 C 4 oscllator; 6 AG 5 converter; 3-6AG5 10.7 mc IF amplifiers; 2-9001 limiters and 6AL5 detector. Two 6C4's used for audio ampliflers, $6 \mathrm{U} 5 / 6 \mathrm{G} 5$ tuning indicator, and $5 \mathrm{Y} 3 \mathrm{GT} / \mathrm{G}$ rectifier. Chassis $16^{\frac{3}{3}} \times 10^{\frac{1}{\prime \prime}}$ - requires $1 \frac{1^{\prime \prime}}{4^{\prime \prime}}$ between chassis and panel.
Cat. No. 36-022 Type 0-1091 Net Price $\$ 156.80$ (C)

## FM Pilotuner

Adds frequency modulation to any AM set. enabling you to tune the entire FM range of 88 to 108 Mc in any location where FM reception is avallable. Connects directly to the phono input avallable. Connects directly. The phono input
or may be wired in directly. Tubes: 3 - 6 BA , 6BE6, 6AL5. $9^{\prime \prime} \times 7^{\prime \prime} \times 6^{\prime \prime}$ walnut cablnet. For


(H) Meissner Model 9-1090

A varlable-frequency exclter that cuts QRM to a minimum. Turret-mounted coils provide 6position shfelded band switching. Eye tube key and tuning indicator. Fundamental frequency is doubled in the tuved plate circuit of a $6 \mathrm{~V} 6 \mathrm{GT} / \mathrm{G}$ electron coupled oscillator and again in the electron coupled osciliator and again in the
doubler amplifer stage using an 807 . VR 150 and OD-3 voltage regulators. $2-5 \mathrm{Y} 3 \mathrm{G}$ rectifers in parallel. 605/6G5 tuning indicator. Complete with power supply, coll strips for $80,40,20,15$ and 11-10 meter bands, tubes - without crystals. For 110 volt 60 cycle AC operation. Cat. No. 36-021 Net Price
$\$ 99.50$

## New Signal Shifter Kit

Now the Melssner Signal Shifter described above Is avallable in complete kit form. With a pair of pliers, screw driver, and soldering iron you can duplicate the peak performance of the factorybuilt model. Shielded turret is furnished as a unit, ready to install. Complete kit includes tubes and power supply
Cat. No. 36-121 Net Price
$\$ 49.75$

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## (A) Sonar Model MB-611 Mobile Transmitter

A small transmitter designed for 6, 10 and 11 meter operation; can be operated from any type of power supply. May be Installed in any type of vehicle or used for fixed station operation or as a drlver to a high-power final amplifier. Has a 40 meter Xtal oscillator 6000 kc . to 8000 ke . Power output is approximately 22.5 watts. Requires from 250 to 600 volts at 100 mills from vibrator, dynemotor or AC supply. Power consumption 2.6 amps in standby and 10 to 20 amps in transmit from 6 volt battery. Suppled with 10 - and 11-meter output; specify 6-meter output when ordering if desired. Any microphone with output from -52 db . or better may be used. Tubes: $68 L 7$ speech armplifier; fSL7 Xtal oxcillator and phase modulator; 6SL7 DC amplifier and devlation amplifler. 2 -6SK7's frequency multipliers; 6AF6G dual-eye tunlng indicator; 2E26 power amplitier. Complete with tubes less crystal and power supply
s72.45

\section*{Net Prlce

## Net Prlce <br> Catt. No. 35-025 Net Price

## Sonar Model CFC Frequency-control

 (B)
## Exciter

Designed to moet the requirenients for good VFO control with provisions for CW keying and a built-in CW monitor. Can be switched for either VFO or spot-frecuuency crystal control; 1000 kc secondary standard crystal is resonated with WWV, permitting accurate check points for the VFO in all amateur bands. Oscillator tunes from 1620 kc . to 2000 kc . on 160 meters. Output 4 to 5 watts. A link coupling to any type of trausmitter is provided. The dial is directly calibrated for all bands with a $6: 1$ vernier for ease of operation Draws 60 watts on $110-125$ volts $50-60$ cycles 75 to 300 ohm impedance on 80 and 40 meters. Tubes: 68K7 VFO osclllator; 6SL7GT 1 mc . crystal osclllator and spot erystal oscillator; 6 V 6 intermediate buffer ampliner; 6Lb wide-band buffer doubler; VR 150 voltage regulator for VFO oselliator; 5 Y3GT rectifier.
s59.75

## PS-50 Power Supply

Destgned to fit Into VFX-680 cublinet as power supply for AMP-50; outlets provided for VFX680, any AC operated relay. May be used with any simllar exciter or amplifer. Power iaput $110-120$ volts, $50-60$ cycles. Power output 850 volts at $130 \mathrm{mlls} ; 6.3$ volts at 3 amps . Protected by 5 amp . Instrument-type fuse. Uses 5R4GY rectider. Size- $10 \times 5 \times 6^{\prime \prime}$.
Cat. No. 35-127 Black Anish
Cat. No. 35-128 Gray finish
\$33.45

## AMP-50 Amplifier

Link-coupled to the VFX-680, the AMP-50 is an excellently designed low-power ampllifer using the 2E22 power pentode with the high-efficiency plug-in coil system. Plate-tank is a split-stator condenser and a swingling center-link coil for balanced loading and harmonic suppression. Power output 50 watts; input impedance 150 ohms. output 50 Watts; input impedance 150 ohms.
Complete with tubes - $2 \mathrm{E} 22,6 \mathrm{Y} 6 \mathrm{G} .3^{\prime \prime}$ meter with 2 direct reading scales. Size $-3 \frac{1}{2} \times 19 \times 6^{\prime \prime}$. Cat. No. 35-125 Gray finish Cat. No. 35-126 Black fintsh Net Price
${ }^{\text {s }} 57.45$

## (D) Sonar Model XE-10 NBFM Exciter

A complete NBFM unit having lts own power supply. Designed for conversion of any 28 mc . CW transmitter to NBFM phone. Uses the exclusive Sonar phase modulated circuit with crystal control or may be used with any type of VFO. 80 meter ascllator - frequency range of erystal 3130 ke . to 4000 kc . $3-4$ watts power output; 75 to 300 ohms RF output Impedance. For operation on $40,20,15,11,10.6$ and 2 meter bands. Draws 40 watts at $110-125$ volts $50-60$ cycles. Uses any microphone with an output cycles. User any microphone whe 48 db to 52 db . Tubes: 6SL7 speech amplifier; 6SL 7 Xtal osclllator and phase modu1ator; 6V6 doubler; 5 Y 3 rectifer. Complete with tubes but less crystal.
Cat. No. 35-032 Net Price
\$39.95

Receiving Equipment

## RME - Gon-Set

## (E)

## Con-Set Converters

## Con-Set " $6-15$ " Converter

A brand new design; a radical new development first released for sate in February, 1948. Frequency range $6,10-11,15$ meters all combined in one unlt without plug-in colls or coil band-change switches. Actually 3 separate converters with individual antenna input circuits. Output frequency is 7 mc . Large bandspread dial with 20:1 vernier drive and average diai length of $11^{\prime \prime}$, Uses 8 tubes ( 12 actual tube sections). Cat. No. 36-077 Net Price
$\$ 75.00$

## 20 Meter Converter

Same as 6-11 above but for the 20 -meter band. Cat. No. 36-078 Net Price
$\$ 39.95$

## (G) RME HF 10-20 Converter

An eftcient converter covering trequencles between 14 and 30 mc ., with three bands: 14-14.4 me., 21-21.45 mc. and $27-29.7 \mathrm{mc}$., for 20,15 and 11-10 meter bands. Tubes: 6BA6 TRF, 6J6 mixer, 5Y3GT rectiner and VR 150 voltage regulator. Three antenna input connections; shielded 300 ohm output. Oscllator temperature300 ohm output. Oscllator temperaturecompensated for maximum stability. Gray steel
cablnet $11^{\prime \prime} \times 12^{\prime \prime} \times 11^{\prime \prime}$. Operates on $105-125$
 volts $50-60$ cycles.
Cat. No. $36-070$

## 10-11 Meter Converter

Converts broadcast, auto, or communications recelvers to 10-11 meters for excellent mobile or fixed reception. Bulti-in pre-selection; receiver is tuned to converter output, $1500-2000 \mathrm{kc}$., and converter is tuned to desired station. Uses $6 \mathrm{AK} 5 \mathrm{RF}, 6 \mathrm{AK} 5$ mixer, 6C4 oscillator, and OB2 voltage regulator. Complete band-spread between 27-30 MC, with 8:1 vernier drive. 11luminated dial, ON-OFF switch, built-in connecting cables. Steel case, $3 \frac{1^{\prime \prime}}{2^{\prime}} \times 5 \frac{1}{2} \times 5 \frac{1^{\prime \prime}}{}$, finished in gray wrinkle. Complete with tubes, instructlons.
Cat. No. 36-076 Net Price
s39.95

## 6 Meter Converfer

Same as above but for 6 meter band.
Cat. No. 36-079 Net Price
$\$ 39.95$

## (G) RME VHF-152A Converter

Designed for use with any recelver, the 152A covers the $11-10,6$ and 2 meter amateur bands. Tuning range 27 to 29.8 me., 49.5 to 54.2 me. and 143.8 to 148.2 mc . Tubes: 6 AK5 RF amplifier, GJ6 mixer oscillator, 5Y3GT rectiner and VR150 voltage regulator. Provided with 4 antenna input connections ior best results; with 300 -ohm output impedance through shielded cable. Gray steel cabinet $11^{\prime \prime} \times 12^{\prime \prime} \times 11^{\prime \prime}$. Operates on 105-125 wolts $50-60$ cycles. $\$ 86.60$
Cat. No. $36-069$ Net Price .

## Sonar Model VFX-680 All Band (C) <br> Exciter

A complete all-band NBFM phone and CW exciter with buitt-in power supply: The newly developed Sonar NBFM modulator and VFX osclliator is Incorporated. By inserting a quartz erystal, the osclilator operates from VFO to Xtal crystal, the osclilator operates from VFO to Xtal
control and by varying the VFX control, any type cut crystal becomes "rubberized." The oscllistor has a tuning range of 1565 kc . to 2000 kc., on 160 meters. VFX slift: 30 kc . on 80 meters; 60 kc . on 40 meters; 120 kc . on 20 meters; 240 kc on 10 meters and 480 kc . on 6 meters. Four to six wetts power output. Two monitors one for CW and one for NBFM phone. Frequency range - $80,40,20,15,11,10,6$ and 2 meters with an output on all bands except 6 and 2 meters. Draws 65 watts at $110-125$ volts $50-60$ cycle. Plug in colls allow 2 band operation with one set of colls. Exciter supplied with 40 and 20 meter coils. Uses any microphone having an output from -48 db . to -52 db . Size $5 \frac{1}{2}^{\prime \prime} \times 19^{\prime \prime} \mathrm{x}$ 8年". Tubes: 6AG7 VFO/VFX oscillator; 6SL7 speech amplifler; GSL7 NBFM modulator and NBFM monitor; 6AG7 1st frequency multipller; 5 Y 3 rectifer; 6AF6G dual tuning Indicator; VR150 voltage regulator for oscillator.
Cat. No. 35-026 Net Price
$\$ 87.45$
Coils for VFX-680
Cat. No. 35-027 80 meter Net Price . $\$ 1.50$ Cat. No. 35-028 15 meter Net Price: 1.50 Cat. No. 35-029 10 meter Net Price : 1.50 Cabinets
Cat. No. 35-030 Black finish Net Price. $\$ 6.75$ Cat. No. 35-031 Gray inish Net Price.


## (F) <br> RME MB-3 Monitor

For monltoring phone and CW. Will monitor your own transmission even on your frequency. Other uses of the MB3 are modulator for MCW. adjusting modulation equipment, code practice adjusting modulation equip
oscillator. $81 z 4^{\prime \prime} \times 5^{\prime \prime} \times 6^{\prime \prime}$.
Cat. No. $36-072$ Net Price
\$27.50

## (G) RME DB-22A Preselector

Adds 3 tuned circuits and 2-6AB6 tubes ahead of the RF stage in your present receiver for tremendous increase in galn. Range 540 to 44.000 ke. In sour bands. Built-in power supply with 6X6 tube. 20 to 25 db . gain over entire range. $7^{\prime \prime}$ dial calibrated on all bands. Gray metal cabinet $11^{\prime \prime} \times 12^{\prime \prime} \times 11^{\prime \prime}$. Operates on $105-125$ volts $50-60$ cycles. With tubes. $\$ 71.00$ Cat. No. 36-071 Net Price
Service Instruments


## (A) MILLEN

## 50-Watt Transmitter-Exciter

6L6 and 807 in compact relay rack mounting. Tri-tet circuit used to obtain harmonic output is reduced to simple tetrode circult for output at crystal fundamental by shorting cathode tank. Output at 4th harmonic of crystal frequency is ample to drive 807 operated as straight ampliter or frequency doubler. Thus, with a single crystal of correct frequency 25 to 50 watts or more may be obtalned in four bands.
Entire unit designed to work from one 250 ma . supply dellvering up to the 750 volt maximum working rating of the 807 . Fixed blas of 45 volts is required, and heaters consume 1.8 amp . at 6.3 volts. The 200 ma . meter may be switched to read plate current in either stage.
Because of the frequency multiplications obtainBecause of the frequency multiplications obtain-
able in both oscillator and 807 , eoveral possible coll and crystal combinations will give the same output frequency.
Cat. No. 35-07i Type 90800 less tubes, but ncluding one set of colls. Net Price . \$42.50 BE SURE TO STATE BAND IN WHICH CRYSTAL WORKS AND BAND IN WHICH OUTPUT IS DESIRED.

## Cathode

Extra CoIls

| Cathode |  |  | Plate |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. |  |  | Cat. |  |  |
| No. | Band | Net | No. | Band | Net |
| 35-072 | 160 | \$0.90 | 35-075 | 80 | \$1.25 |
| 35-073 | 80 | . 90 | 35-076 | 40 | 1.25 |
| 35-074 | 40 | . 90 | 35-077 | 20 | 1.25 |
|  |  |  | 35-078 | 10 | 1.25 |

## (F) High Voltage Power Supply

This unit has a DC output of 700 volts, with maximum current of 250 ma .; supplies AC filament power of 6.3 volts at 4 amps . Ideal for use with transmitters such as the 90800 , as well as for general laborstory purposes. The power supply uses two 816 rectifers and has a two-section pl fiter with 10 h chokes and a 2-2-10 mfd. bank of 1000 volt capacitors. Panel $83^{\prime \prime} \times 19^{\prime \prime}$ rack size. Cut. No. 35-045 Type 90281 less tubes. Net Price
$\$ 84.50$

## Stancor ST-202A Transmitter Kit



Compact, desk-type, high-frequency transmitter In an easy-to-assemble kit form. Six bands between 3.5 and 30 mc . $-10,11,15,20,40$ and 80 meters with six crystals for internal irequency control. Power consumption 335 watts at 115 volts 60 cycles. Tubes: 6 V 6 oscillator; 6 L 6 Intermediate; 5 R4-GX HV rectiner; 5 X 3 GT LV rectifier; and elther one of the following for power amplification to suit the operator: $35 \mathrm{~T}-35 \mathrm{TG}-$ HK54-811 or 5514. Kit Includes cablnet, chassis, bottom plate and all circuit and constructional components. A prefabricated, cabled harness assures a neat under-chassls wiring job. Every step in construction is covered by a detalled instruction manual. Accessories required but not furnished are: milliammeter, 5 tubes, amplifler tank coils, and orystals. Cat. No. 35-036 Net Price
$\$ 92.80$

## (B) Millen RF Power Amplifier

This 500-watt amplifer may be used as the basls for a high-power amateur transmitter or as a means for increasing the power output of an existing transmitter. Assembled on a $10 \frac{1}{2}$ " relay rack panel which carrles grld and plate tank tunIng capacitor dials, as well as the grid and plate current milliammeters. Plug-in inductors furnished for operation on $10,20,40$ or 80 meter bands. With one set of colls. Less tubee. Cat. No. 35-046 Type 90881 Net Price $\$ 89.50$

## (D) Millen 90711 VFO

A complete transmitter control unit with stable gang-tuned electron-coupled oscillator and amplifier; voltage regulated power supply 105-125 volts. $50-60$ cycles; accurately calibrated fullvision bandspread dlal for $10,15,20,80$ meters; provislons for controlling complete transmitter from oscillator panel. Unusually stableand drift free. Output may be coupled to low-impedance link or, by means of the plug-In adaptor, output may be plugged Into a transmitter crystal socket or connected directly to a grid. Bandspread changing by means of a switch on osclllator; no plug-in colls. Tube complement - 63 K 7 osc., 6 L 6 amp ., $5 \mathrm{~V} 3-\mathrm{GT}$ rect., VR-150 voltage regu6L6 amp., 5V3-GT rect., VR-150 voltage regu-
lator, VR.75 voltage regulator. Stze- $122^{\prime \prime}$ x $12^{\prime \prime} \times 11^{\prime \prime}$ high. Complete with tubes and Impedance adaptor.
Cat. No. 35-091 Net Price
${ }^{5} 89.75$

(G) Millen Single Sideband Selector

Willimprove amazingly the effective selectivity of any amateur recelver, reducing nolse and heterodyne Interference. Operates on the princlple of reduction of receiver band to $25 \%$ normal, eliminating by selection elther of the sidebands and working on the remaining sideband plus carrier. Cabinet is designed to at nicely into the hamshack beside the recelver, connecting to receiver without clrcult changes. Circuit utilizes 2 crystals; 1 -6SA7 converter, 1 - 6SK 7 if amplifier, 1 - 6SN7GT det. and audlo amp., 1 amplifer, 1 - 6SN7GT det. and audlo amp., 1 -
5 Y 3 GT rect.; rf and af galn controls; lever type 5Y3GT rect.; rf and a
aldeband shift switch.
Cat. No. 36-185 Type 92105 complete with tubes, Input cable, crystals for $455 / 6 \mathrm{kc}$ i.f. recelver. Net Price
$\$ 75.00$

## Hytron

Hy-Q 75 VHF Transmitter Kit


Oscillator for 1 i and 2 meters. Sllver-plated tank circuit for low RF losses. Special RF chokes for peak operation. Tunes 135 to 250 mc . Uses HY75A tube. Useful power to load at 144 mc . is 14 watts on CW; 11 watts on phone. Adjustable to match parallel-line or concentric feeder. With instructions.
Cat. No. 35-038 Net Price
\$9.95

Incorporates the Bllley CCO-2A oscllator (described elsewhere in this section) with one 6AG7; uses standard 7 mc . crystals for 10 -meters and Bliley AX-3 crystal for 6 and 2 meters. Frequency multiplication with a 2 E 26 tripler driving an 829B inal amplifier, 2E26 is used for 2-meter output. Millen plug-in colls provide link selection for each band. Chassls and front panel are copper-plated; front panel, 8 al $^{\prime \prime} \times 19^{\prime \prime}$, is finished in black wrinkle. All circuit tuning controls on front panel; terminals for power supply and RF output in rear; 4-position meter switch and 0-30 ma. meter. Furnlshed with 11-10 meter grid and plate colls; less tubes crystal and power supply
Cat. No. 35-081 Type 90810 Net Price $\$ 69.75$
Grid Cons Extra Coils

| Grid Cons |  |  | Plate Coils |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. |  |  | Cat. |  |  |
| No. | Band | Net | No. | Band | Net |
| 35-082 | 6 | \$1.80 | 35-084 | 6 | \$1.80 |
| 35-083 | 2 | 1.80 | 35-085 | 2 | 1.80 |

## (E) Millen 90811 HF RF Amplifier

The ampllfier section of the 90810 Transmitter is avallable separately, with the same features described above: plug-in colls for rapld band change; 75-watt output. Furnished with 10 meter colls, less tubes. Size $4 \times 7 \frac{1}{4} \times$ n $^{\prime \prime}$. See above for 6,2 meter colls.
Cat. No. $35-086$ Type 90811 Net Prico
33.00 Cat. No. 35-086 Type 90811 Net Pi
CoILs FOR 20 MetERs
Cat. No. 35-087 Grid colls. Net Each \$1.80 Cat. No. 35-088 Plate colls. Net Each $\quad \mathbf{1 . 8 0}$


## (H) MILLEN R-9'er <br> Antenna Matching Preamplifier

You can gain 30 to 60 db . for your televislon or 6. 10,20 meter recelver with this electronic impedance matching device and broad band preamp. Amount of gain depends on make of recelver and antenna and extent of existing mismatch. Once tuned, the unit automatically matches recelving antenna to receiver, an important factor usually overlooked. Uses 1 - 6AK5 tube. Provided with cable plug for power connection to recelver, coax connectors and plugs for antenna and recelver connection.
Cat. No. 36-170 Type 92101 less tube and coll. Net Price
$\$ 24.75$

| Cat. | Couns |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | TV |  |
|  | Type | Band | Channel | Net |
| 36-171 | 46906 | 48-55 mc. | - | \$3.15 |
| 36-172 | 46910 | 27-32 mc. | - | 3.15 |
| 36-173 | 46920 | $13-15 \mathrm{mc}$. | - | 3.15 |
| 36-174 | 46992 | $54-60 \mathrm{mc}$. | 2 | 3.90 |
| 36-175 | 46993 | $60-66 \mathrm{mc}$. | 3 | 3.90 |
| 36-176 | 46994 | 68-72 mc. | 4 | 3.90 |
| 36-177 | 46995 | 78-82 mc. | 5 | 3.90 |
| 36-178 | 46996 | $82-88 \mathrm{mc}$. | 6 | 3.90 |

[^1]
(A) Sylvania Modulation Meter

Model X-7018. Designed for checking radiophone transmitters, thls meter may be used as phone monitor. Meter reuds from 0 to $120 \%$ modulation with radio frequency range to 54 mc . Slze $4 \frac{1}{6} \times 4 \times 4^{\prime \prime}$. Uses no tubes, $A C$ or battery power.
Cat. No. 35-040 Net Price
$\$ 34.75$

## (B) Triplett Frequency Meter

Tuned absorptlon-ty pe frequency meter covering the $3.5-4,7-7.3,14-14.4,20-21.5,28-30 \mathrm{MC}$ amsteur bands. Incorporates a germanlum crystal and DC milliammeter indicator for greater sensltivity. Band-change switch. Audio Jack for monitoring phone slgnals. A fully shielded unit of pocket size. Gray "hammered" enamel finish with black trim.
Cat. No. 36-075 Net Price
$\$ 14.45$

## (C) BUD Frequency Calibrator

A simple, inexpensive device for checking transmitter frequency to comply with FCC regulatlons. A completely self-powered 100 KC osclllator, it glves 100 KC check points on all bands up to 30 MC. Plugs into 110 volt receptacle; plck-up lead connects to antenna binding post of receiver. With ON-OFF switch and "Standby" switch. $\$ 13.96$
Cat. No. 35-022 Net Price

## (E) BUD Wave Meter

Absorption-type wave meter for 5 to 160 meters. Usefulin quickly determining frequency to which each stage of transmitter is tuned. Can be used as neutralizing indicator, and to indicate standing waves on antenna feed lines. Band-switching type, no plug-in coils. Cat. No. 35-021 Net Price
38.08

## (D) BUD Gimix

One of the most useful adjuncts to proper transmitter adjustment and operation. A multipurpose unit, can be used as a wave-meter, monitor, field strength indleator, carrier shift indicator, and a sensitive neutralizing instrument. Callbrated for $10,15,20,40$, and 80 meter amateur bands.
${ }^{8} 8.13$

## (F) Millen

## Midget Absorption Frequency Meters

These handy, absorptlon-type meters can be poked Into shield compartments, coll cans, chassis corners to check harmonics, parasitics, tank tuning, and a host of other applications. Quickly show what la going on in a circult. $\begin{array}{llcl}\text { Cat. No. } & \text { Type } & \text { Range-Mc. } & \text { Net Price } \\ \mathbf{3 6 - 0 1 0} & 90605 & 3-10 & \mathbf{\$ 4 . 5 0}\end{array}$ 36-010 36-011 36-012 $\begin{array}{llll}36-013 & 90607 & 23-60 & 4.50\end{array}$ $\begin{array}{rrrr}36-014 & 90608 & 50-140 & 4.50 \\ 36 & 90610 & 105-150 & 6.00\end{array}$ $\begin{array}{lll}\mathbf{3 6 - 0 1 5} & 90609 & 130-170 \\ 36-016 & \mathbf{9 0 6 0 4} & \mathbf{6 . 0 0}\end{array}$ $\begin{array}{lllr}36-016 & 90604 & 160-210 & 6.00 \\ 36-017 & 00819 & 350-1000 & 15.00\end{array}$ (G) Type 90600 . Types 90605-90608 ln wooden case ; to 149 me .
Cat. No. $36-018$ Net Price . . $\$ 18.00$ Cat. No. 36-018 Net Price

# CRYSTALS - Sockets - Adapters <br>  

(A) Valpey Amateur-band Crystals

Crystals for frequency control; in hermetically sealed, low loss CM-5 crystal mount
A flat, rectangular mount, the CM-5 has pin spacing to permit mounting two units in one standard octal socket, or for close grouping in limited space. Case is of high quality, low loss phenollc, hermetlcally sealed with neoprene cover gasket. High nickel content, stainless steel olectrodes. Cover, screws, pins are brass with beavy nickel plate.
Cat. No. Net Price Cat. No. 41-015 41-016 $41-017$ 41-018 41-019
41-020 Band 80 Meters
80 Meters
20 Meters
10 Meters
12.5-13.5 MC
6.25-6.75 MC

Net Price
2.80
3.50
3.50
4.50
4.50
3.50
.80

## (B) Millen Crystal Sockets

Steatite insulation holds strong contacts; Integral bushings project thru round holes in panel.
$\left.\begin{array}{lcccr}\text { Cat. } & & \text { Pin } & & \\ \text { No. } & \text { Type } & \text { Diam. } & \text { Spacing Net Ea. } \\ \text { 41-040 } & 33002 & .125^{\prime \prime} & .750^{\prime \prime} & 25 \mathrm{c} \\ 41-041 & 33102 & .095^{\prime \prime} & .500^{\prime \prime} \\ 41-042 & 33202 & .125^{\prime \prime} & .500^{\prime \prime}\end{array}\right\}$

## SC National Crystal Sockets

| Cat. |  | PIn |  |
| :---: | :---: | :---: | :---: |
| No. | Type | Diam. | Spacing |
| 41-043 | SC-1 | ${ }^{18}{ }^{\prime \prime}$ | $.500^{\prime \prime}$ ) |
| 41-044 | SC-2 |  | . $486^{\prime \prime}$ \} |
| 41-045 | SC-3 | $\frac{1}{8}{ }^{\prime \prime}$ | .750") |

## (C) Amphenol Type 54-2

Polystyrene erystal bolder socket. Contacts are special phosphor bronze, silver plated. Takes bolders with 1 " prongs, $\frac{3^{\prime \prime}}{2}$ centers.
Cat. No. 41-030 Net Each

## BLILEY CRYSTALS

(D) AX2 for Ham Frequencies

High-stablitity crystals plated to Insure long-term precision and rellabllity. Calibrated to $\pm .002 \%$. Drift less than . $0002 \%$ per degree centrigrade Holder pins on $.486^{\prime \prime}$ centers. When ordering specify frequency.
Cat. No. Range
41-001 3500-4000
$41-002$ 7000-7425 KC
41-003 12500-13500 KC
41-004 13580-13714 KC

Sllver-plated precision crystal dealgned for use in secondary standards. Wire supports are soldered to the plated surfaces. Crystal is adjusted to exactly 100 KC at 25 C . Exceptionally low drift in recommended clrcult.
Cat. No. 41-006 Net Esch
$\$ 6.95$

## (F) Type SMC100 <br> Dual 100-1000 KC

Recommended for signal generators used in allgnment work. Provides 100 or 1000 KC source. In recommended oscillator circult, 1000 KC frequency is within $\pm .05 \%$ at 25 C ; 100 KC frequency adjusted to zero beat at 25 C . Cat. No. 41-007 Net Each
$\$ 8.75$

## (C) Type MC7 Ship-fo-Shore

 Supplied to specified frequency in 2000-3500 KC range. When ordering for ship recelver, specliy frequency (computed by addition or subtraction of intermediate frequency of recelver). Gasketsealed case; preclsion crystal tolerance $\pm .02 \%$. ${ }^{\frac{1}{8} n}{ }^{n}$ pins on $\frac{10}{1 "}$ centers.Cat. No. 41-008 Net Each
(H) Mosley Adapters

To adapt a given crystai holder to a socket of a different size already installed in equipment. Type 75-5 fits any crystal holder with ${ }^{3}$ " prong spaclag to an octal or crystal holder socket with $\frac{1}{3}$ " spacing. Type 5-75 fits $\frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ prongs to 5 or 6 prong socket or ${ }^{\frac{2}{6}}{ }^{\prime \prime}$ crystal holder socket.
$\left.\begin{array}{ll}\text { Cat. No.41-035 } & \text { Type 75-5 } \\ \text { Cat. No. 41-036 } & \text { Type 5-75 }\end{array}\right\} \quad$ Net Ea. 35c

## Amphenol Mica-filled Sockets

Molded of mica-filled Bakelite. Take crystal holders with 2 prongs on $\frac{3}{8}$ " centers. May be used as dual tip jacks.

| Cat. No. |  | Net Ea |
| :---: | :---: | :---: |
| 41-031 | For ${ }^{\prime \prime}$ "prongs $\}$ | 10 c |
| 41-032 | For $\frac{5}{8 \prime \prime}$ "prongs $\}$ |  |

## (1) Bliley CCO Model 2A

A crystal controlled oscillator for 2-6-10-11 meters that provides the advantages of VHF crystal control for elther new construction or conversion. Uses one 6AG7 tube. Direct output on 6-10-11 meters; ample output to drive tripler stage on 2 meters. Uses Bllley AX2 20 -meter crystals on 10 and 11 meters; new Bliley AX3 crystals for 0.2 meters. Single tuning control, bandswitch, and crystal socket on outside of metal subchassls; power and o.p. terminals at back. Supplled less tube and crystal. \$9. 05 Cat. No. 35-051 Net Price
See Bllley crystal listing in this catalog for AX-2 crystals.
Blley AX-3 crystals are available for 6,2 meters. specify frequency
Specli $41-009$ Net Each $\$ 3.95$

| Tube | Net Each <br> In Quantities of: <br> 1-49 50-99 |  | Tube Type | Net Eachin Quantities of:1-49 $50-99$ |  |  | Net Each $\ln$ Quantities of: |  | Tube | Net Each <br> In Quantitles of: |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type |  |  |  |  |  |  |  |  |  |  |  |
| OZ4 | \$1.23 | \$1.17 | 6AL5 | 1.12 | 1.06 | 68T7 | 1.48 | 1.40 | 14 A 5 | 2.18 | 2.07 |
| OZ4G | 1.23 | 1.17 | 6AL7GT | 1.48 | 1.40 | 6 SZ 7 | 1.23 | 1.17 | 14A7/12B7 | 1.23 | 1.17 |
| 1 A3 | 1.23 | 1.17 | BAQ5 | 1.12 | 1.06 | 6T7G | 1.78 | 1.69 | 14AF7 | 1.23 | 1.17 |
| 1A4P | 2.18 | 2.07 | 6AQ6 | 1.01 | . 95 | 6 68 | 1.48 | 1.40 | 14B6 | 1.23 | 1.17 |
| 1A5GT | 1.01 | . 95 | 6AQ7GT | 1.23 | 1.17 | 6U5/6G5 | 1.12 | 1.06 | 14B8 | 1.23 | 1.17 |
| 1 A 6 | 1.78 | 1.69 | 6AR5 | . 92 | . 87 | 6U7G | 1.01 | . 95 | 14C5 | 1.23 | 1.17 |
| 1A7GT | 1.12 | 1.06 | 6AS5 | 1.12 | 1.06 | 6V6 | 1.78 | 1.69 | 14C7 | 1.23 | 1.17 |
| 1B3GT/8016 | 1.78 | 1.69 | 6AT6 | . 83 | . 79 | 6V6GT | 1.12 | 1.06 | 14E6 | 1.01 | . 95 |
| 1B4P | 2.18 | 2.07 | 6AU6 | 1.12 | 1.06 | 6W7G | 1.48 | 1.40 | 14 E 7 | 1.23 | 1.17 |
| 185/25s | 1.78 | 1.69 | 6AVB | . 83 | . 79 | 6 X 4 | . 83 | . 79 | 14F7 | 1.23 | 1.17 |
| 1C5GT | 1.23 | 1.17 | 6B4G | 1.48 | 1.40 | 6X5 | 1.48 | 1.40 | 14F8 | 1.48 | 1.40 |
| 1 C 6 | 1.78 | 1.69 | 6B5 | 1.78 | 1.69 | 6X5GT | . 83 | . 79 | $14 \mathrm{H7}$ | 1.23 | 1.17 |
| 1C7G | 1.78 | 1.69 | 6B6G | 1.23 | 1.17 | 6 Y 6 G | 1.34 | 1.27 | 14J7 | 1.48 | 1.40 |
| 1D5GP | 2.18 | 2.07 | 6B7 | 1.78 | 1.69 | 6Z7G | 2.18 | 2.07 | 14N7 | 1.48 | 1.46 |
| 1D7G | 1.78 | 1.69 | 6138 | 1.78 | 1.69 | 6ZY5G | 1.23 | 1.17 | 14Q7 | 1.23 | 1.17 |
| 1D8GT | 2.18 | 2.07 | 6B8G | 1.78 | 1.69 | 7A4 | 1.01 | . 95 | 14R7 | 1.23 | 1.17 |
| 1E5GP | 2.18 | 2.07 | 6BA6 | 1.01 | . 95 | 7A5 | 1.01 | . 95 | 15 | 1.78 | 1.69 |
| 1E7GT | 2.18 | 2.07 | 6BA7 | 1.34 | 1.27 | 7A6 | 1.01 | . 95 | 19 | 1.78 | 1.69 |
| 1 F 4 | 1.48 | 1.40 | 6BE6 | 1.01 | . 95 | 7A7 | 1.01 | . 95 | 19 T 8 | 1.48 | 1.40 |
| 1F5G | 1.48 | 1.40 | 6BF6 | . 92 | . 87 | 7A8 | 1.01 | . 95 | 24A | 1.23 | 1.17 |
| 1 F6 | 2.18 | 2.07 | 6BG6G | 2.68 | 2.54 | 7AD7 | 1.48 | 1.40 | 25A6 | 1.78 | 1.69 |
| 1F7G | 2.18 | 2.07 | 6BH6 | 1.12 | 1.06 | 7AF7 | 1.01 | . 95 | 25AC5GT | 2.18 | 2.07 |
| 1G4GT | 1.48 | 1.40 | 6BJ6 | 1.12 | 1.06 | 7AG7 | 1.23 | 1.17 | 25L6 | 1.78 | 1.69 |
| 1G5G | 1.48 | 1.40 | 6 C 4 | . 92 | . 87 | 7AH7 | 1.23 | 1.17 | 25L6GT | . 92 | . 87 |
| 1G6GT | 1.48 | 1.40 | 6 C 5 | . 92 | . 87 | 7B4 | 1.01 | . 95 | 25Z5 | . 83 | . 79 |
| 1H4G | 1.23 | 1.17 | 6C5GT | . 83 | . 79 | 7B5 | 1.01 | . 95 | 25Z6 | 1.23 | 1.17 |
| 1H5GT | . 92 | . 87 | 8C6 | 1.12 | 1.06 | 7B6 | 1.01 | . 95 | 25Z6GT | . 75 | . 71 |
| $1 \mathrm{H6G}$ | 1.78 | 1.69 | $6 \mathrm{C8G}$ | 1.78 | 1.69 | 7B7 | 1.01 | . 95 | 26 | 1.01 | . 95 |
| 1J5G | 1.48 | 1.40 | 6D6 | . 92 | . 87 | 7B8 | 1.01 | . 95 | 27 | . 83 | . 79 |
| 1J6GT | 1.48 | 1.40 | 6D8G | 1.78 | 1.69 | 7 C 5 | 1.01 | . 95 | 30 | 1.12 | 1.06 |
| 1 L 4 | 1.12 | 1.06 | 6E5 | 1.23 | 1.17 | $7 \mathrm{C6}$ | 1.01 | . 95 | 31 | 1.48 | 1.40 |
| 1 LA 4 | 1.48 | 1.40 | 6F5 | . 92 | -87 | 7 C 7 | 1.01 | . 95 | 32 | 1.78 | 1.69 |
| 1 la 6 | 1.48 | 1.40 | 6F5GT | . 92 | . 87 | 7E6 | 1.01 | . 95 | 32L7GT | 1.78 | 1.69 |
| 1LB4 | 1.48 | 1.40 | 6F6 | 1.12 | 1.06 | 7E7 | 1.23 | 1.17 | 33 | 1.78 | 1.69 |
| 1LC5 | 1.48 | 1.40 | 6F6G | . 92 | . 87 | 7F7 | 1.23 | 1.17 | 34 | 1.78 | 1.69 |
| $1 \mathrm{LC6}$ | 1.48 | 1.40 | 6F6GT | . 83 | . 79 | 7 F 8 | 1.48 | 1.40 | 35 | 1.12 | 1.06 |
| 1LD5 | 1.48 | 1.40 | 6 F 7 | 1.78 | 1.69 | 767/1232 | 1.48 | 1.40 | 35A5 | 1.01 | . 95 |
| 1LE3 | 1.48 | 1.40 | 6F8G | 1.78 | 1.69 | 7H7 | 1.12 | 1.06 | 35B5 | 1.12 | 1.06 |
| 1LG5 | 1.48 | 1.40 | 6G6G | 1.48 | 1.40 | 7K7 | 1.48 | 1.40 | 35C5 | 1.12 | 1.06 |
| 1 LH 4 | 1.48 | 1.40 | 6H6 | . 92 | . 87 | $7 \mathrm{J7}$ | 1.48 | 1.40 | 35L6GT | . 92 | . 87 |
| 1LN5 | 1.48 | 1.40 | 6H6GT | . 92 | . 87 | 7L7 | 1.23 | 1.17 | 35W4 | . 70 | . 66 |
| 1N5GT | 1.12 | 1.06 | 6 J 5 | . 83 | . 79 | 7N7 | 1.23 | 1.17 | 35 Y 4 | 1.01 | . 95 |
| 1P5GT | 1.23 | 1.17 | 6J5GT | . 83 | . 79 | 7Q7 | 1.01 | . 95 | 35Z3 | 1.01 | . 95 |
| 1Q5GT | 1.48 | 1.40 | 6J6 | 1.62 | 1.54 | 7R7 | 1.23 | 1.17 | 3524GT | . 83 | . 79 |
| 1 R 5 | 1.12 | 1.06 | 6.J7 | 1.12 | 1.06 | 737 | 1.48 | 1.40 | 35 Z GT | . 70 | . 66 |
| 1 S 4 | 1.34 | 1.27 | $6 \mathrm{J7C}$ | 1.12 | 1.06 | 7V7 | 1.48 | 1.40 | 36 | 1.48 | 1.40 |
| 155 | 1.01 | . 95 | 6J7GT | 1.12 | 1.06 | 7W7 | 1.48 | 1.40 | 37 | 1.01 | . 95 |
| 1 T 4 | 1.12 | 1.06 | 6J8G | 1.48 | 1.40 | 7 Y 4 | 1.01 | . 95 | 38 | 1.23 | 1.17 |
| 1T5GT | 1.48 | 1.40 | 6K5GT | 1.23 | 1.17 | $7 \times 7$ | 1.48 | 1.40 | 39/44 | 1.48 | 1.40 |
| $1 \mathrm{U}^{4}$ | 1.12 | 1.06 | $6 \mathrm{K6GT}$ | . 83 | . 79 | 7Z4 | 1.01 | . 95 | 41 | . 92 | . 87 |
| 1 L 5 | 1.01 | . 95 | 6K7 | . 92 | . 87 | 10 | 2.18 | 2.07 | 42 | . 92 | . 87 |
| 1 V | 1.23 | 1.17 | 6K7G | . 92 | . 87 | 12 A 7 | 1.78 | 1.69 | 43 | . 92 | . 87 |
| 2 A 3 | 1.78 | 1.69 | 6K7GT | . 92 | . 87 | 12A8GT | 1.12 | 1.06 | 45 | . 92 | . 87 |
| $2 \mathrm{A4G}$ | 1.78 | 1.69 | 6K8 | 1.34 | 1.27 | 12AH7GT | 1.48 | 1.40 | 45Z3 | 1.01 | . 95 |
| 2 A 5 | 1.23 | 1.17 | 6K8G | 1.62 | 1.54 | 12AL5 | 1.12 | 1.06 | 45 Z GT | 1.01 | . 95 |
| 2 A 6 | 1.48 | 1.40 | 6L5G | 1.48 | 1.40 | 12AT6 | . 83 | . 79 | 46 | 1.48 | 1.40 |
| 2 A 7 | 1.48 | 1.40 | 6L6 | 1.98 | 1.88 | 12AT7 | 1.48 | 1.40 | 47 | 1.34 | 1.27 |
| 2B7 | 1.48 | 1.40 | 6L6G | 1.62 | 1.54 | 12AU6 | 1.12 | 1.06 | 49 | 1.48 | 1.40 |
| 2E5 | 1.23 | 1.17 | 6L7 | 1.34 | 1.27 | 12AU7 | 1.34 | 1.27 | 50 | 2.18 | 2.07 |
| 3A8GT | 2.68 | 2.54 | 6L7G | 1.62 | 1.54 | 12AV6 | . 83 | . 79 | 50A 5 | 1.23 | 1.17 |
| 3LF4 | 1.48 | 1.40 | 6N6G | 2.18 | 2.07 | 12AW6 | 1.48 | 1.40 | 50B5 | 1.12 | 1.06 |
| 3Q4 | 1.23 | 1.17 | 6N7 | 1.34 | 1.27 | 12AX7 | 1.34 | 1.27 | 50 C 5 | 1.12 | 1.06 |
| 3Q5GT | 1.34 | 1.27 | 6N7GT | 1.34 | 1.27 | 12BA6 | 1.01 | . 95 | 50 L 6 GT | . 92 | . 87 |
| 3 S 4 | 1.12 | 1.06 | 6P5GT | 1.23 | 1.17 | 12BA7 | 1.34 | 1.27 | $50 \times 6$ | 1.23 | 1.17 |
| 3 V 4 | 1.12 | 1.06 | 6 Q 7 | 1.12 | 1.06 | 12BE6 | 1.01 | . 95 | 50Y6GT | 1.01 | . 95 |
| $5 \mathrm{AZ4}$ | . 75 | . 71 | 6Q7G | 1.01 | . 95 | 12 C 8 | 1.78 | 1.69 | 53 | 1.48 | 1.40 |
| 5 T 4 | 2.18 | 2.07 | 6Q7GT | 1.01 | .95 | 12F5GT | 1.01 | . 95 | 55 | 1.23 | 1.17 |
| 5U4G | . 83 | . 79 | 6R7 | 1.48 | 1.40 | 12H6 | 1.01 | . 95 | 56 | 1.01 | . 95 |
| 5V4G | 1.34 | 1.27 | 6R7GT | 1.01 | . 95 | 12 J 5 GT | . 83 | . 79 | 57 | 1.12 | 1.06 |
| 5 W 4 | 1.48 | 1.40 | 6S7 | 1.48 | 1.40 | 12 J 7 GT | 1.12 | 1.06 | 58 | 1.12 | 1.06 |
| $5 \times 4 \mathrm{G}$ | 1.01 | . 95 | 6S7G | 1.78 | 1.69 | 12K7GT | . 92 | . 87 | 59 | 1.98 | 1.88 |
| 5 Y 3 GT | . 59 | . 56 | 6S8GT | 1.34 | 1.27 | 12 K 8 | 1.34 | 1.27 | 70L7GT | 1.98 | 1.88 |
| 5 Y 4 G | . 83 | . 79 | 6SA7 | . 92 | . 87 | 12Q7GT | 1.01 | . 95 | 71A | 1.12 | 1.06 |
| $5 \mathrm{Z3}$ | 1.01 | . 95 | 6SA7GT | . 92 | . 87 | 12SA7 | . 92 | . 87 | 75 | . 92 | . 87 |
| 5Z4 | 1.48 | 1.40 | 6SB7Y | 1.34 | 1.27 | 12SA7GT | . 92 | . 87 | 76 | . 92 | . 87 |
| 6 A3 | 1.48 | 1.40 | 6SC7 | 1.12 | 1.06 | 12SC7 | 1.23 | 1.17 | 77 | . 92 | . 87 |
| 6A4/LA | 1.78 | 1.69 | 6 SF 5 | . 92 | . 87 | 12SF5 | 1.01 | . 95 | 78 | . 92 | . 87 |
| 6 Ab | 1.48 | 1.40 | 6SF5GT | 1.01 | . 95 | 12SF7 | 1.12 | 1.06 | 79 | 1.48 | 1.40 |
| 6 A7 | 1.12 | 1.06 | 6SF7 | 1.12 | 1.06 | 12SG7 | 1.12 | 1.06 | 80 | . 65 | . 61 |
|  |  |  |  |  |  | 12SH7 | 1.23 | 1.17 | 81 | 2.18 | 2.07 |
| 6 A8 | 1.12 | 1.06 | 6SG7 | 1.12 | 1.06 | 12SJ7 | . 92 | . 87 | 82 | 1.48 | 1.40 |
| 6 A 8 G | 1.12 | 1.06 | 6SH7 | 1.23 | 1.17 | 12SJ7GT | . 83 | . 79 | 83 | 1.48 | 1.40 |
| 6A8GT | 1.12 | 1.06 | 68J7 | . 92 | . 87 | 12SK7 | . 92 | . 87 | 83V | 1.78 | 1.69 |
| $6 \mathrm{AB5} / 6 \mathrm{~N} 5$ | 1.48 | 1.40 | 6S.37GT | . 83 | . 79 | 12SK7GT | . 92 | . 87 | 84/6Z 4 | 1.01 | . 95 |
| $6 \mathrm{AB7} / 1853$ | 1.78 | 1.69 | 6SK7 | . 92 | . 87 | 12SL7GT | 1.34 | 1.27 | 85 | 1.23 | 1.17 |
| $6 \mathrm{AC5GT}$ | 1.48 | 1.40 | 6SK7GT | . 92 | . 87 | 12SN7GT | 1.23 | 1.17 | 89 | 1.23 | 1.17 |
| 6AC7/1852 | 1.62 | 1.54 | 6SL7GT | 1.34 | 1.27 | $12 \mathrm{SQ7}$ | . 83 | . 79 | 117L7/M7GT | 1.98 | 1.88 |
| 6 6117G | 1.78 | 1.69 | 6SN7GT | 1.23 | 1.17 | 12SQ7GT | . 83 | . 79 | 117N7GT | 2.18 | 2.07 |
| 6AF6G | 1.48 | 1.40 | 6SQ7 | . 83 | . 79 | 12SR7 | 1.23 | 1.17 | 117P7GT | 2.18 | 2.07 |
| 6 6G5 | 1.48 | 1.40 | 6SQ7GT | . 83 | . 79 | 12SR7GT | 1.01 | . 95 | $117 \mathrm{Z3}$ | . 83 | . 79 |
| $6 \mathrm{AG7}$ | 1.78 | 1.69 | 6SR7 | 1.01 | . 95 | 12Z3 | 1.48 | 1.40 | 117Z4GT | 1.48 | 1.40 |
| 6AK6 | 1.34 | 1.27 | 6587 | 1.01 | . 95 | 14A4 | 1.48 | 1.40 | 117Z6GT | 1.34 | 1.27 |

Cathode Ray Tubes -- Shields


RCA Cathode Ray Tubes
see Television section page 42 for RCA television tubes. Cat. 38-107
$38-108$ 38-108 38-110 38-111 $38-112$ $38-114$
$38-115$ $38-115$
$38-116$
$38-117$ 38-118 $38-119$
$38-120$
$38-121$ 38-121 $38-123$
$38-124$ 38-124 $38-125$
$38-126$ $38-127$
$38-128$ 38-128 $38-130$
$38-131$ $38-131$
$38-132$ $38-132$
$38-133$
$38-134$
$38-134$
$\mathbf{3 8 - 1 3 5}$ $\begin{array}{lllr}\text { 38-135 } & 5527 & \mathbf{2}^{\prime \prime} \text { Iconoscope } & \mathbf{4 7 . 5 0}\end{array}$


MILLEN
Aluminum \& Magnetic Metal Shields
A stock line of high-permeability shields for cathode-ray tubes to minimize effect of stray magnotic felds. These shields are made from nicolol or mu-metal. The alumtnum shield cans are available in a varlety of sizes. Types 80003-8 are aluminum. Types 80032 and 80067 - mumetal.
metal.
$\begin{array}{ll}\text { Cat. No. Type } \\ 02-365 & 8003\end{array}$
$\begin{array}{ll}02-365 & 80003 \\ 02-366 & 80004\end{array}$

> Size $1 \frac{7}{8} \times 4^{n}$ $1 \frac{1}{I^{\prime \prime}} \times 17 \times 41^{n} \times 14^{\prime \prime}$ $2^{\prime \prime} \mathrm{sq}, \times 47^{\prime \prime}$

Net
$\$ 0.30$
02-367
02-368 80005

02-370 80008 2戈D×2竞
02-371
80067
For 3BP1
12.00
(A) Bezel, Cushion, and Filter A complete bezel assembly for 2-3-5" tubes.

| Cat. No. | Type | Tube Slise | Net |
| :--- | :---: | :---: | ---: |
| $02-372$ | 80072 | $2^{\prime \prime}$ | $\$ 1.25$ |
| $02-373$ | 8073 | $3^{\prime \prime}$ | 3.90 |
| $02-374$ | 80075 | $5^{\prime \prime}$ | $\mathbf{7 . 5 0}$ |
|  |  |  |  |

Type 80078 nicolol shield and bezel kit for $3^{\prime \prime}$ tubes.
Cat. No. 02-375 Net Price . . . $\$ 7.50$

DuMont Cathode Ray Tubes
Guaranteed for 1,000 hours or six months service. whichever perlod first occurs. Return-card guarantee validation.
Cat. Type Perslstence Slze Each $\begin{array}{lrccr}\text { No. } & \text { Type } & \text { Perslstence } & \text { Size } & \text { Each } \\ 38-201 & \text { 5JP1A } & \text { Medium } & 5^{\prime \prime} & \$ 67.50 \\ \mathbf{3 8 - 2 0 2} & 51 \text { P1A } & \text { Medium } & 5^{\prime \prime} & \mathbf{3 9} 50\end{array}$ $\begin{array}{lllll}38-202 & \text { 5LP1A } & \text { Medium } & 5^{\prime \prime} & 39.50 \\ 38-203 & \text { 5LP11A } & \text { Short } & 5^{\prime \prime} & 42.25 \\ 38-204 & \text { 7EP4* } & \text { Medium } & 7^{\prime \prime} & 23.25\end{array}$ 38-204 7EP4* Medlum $7^{\prime \prime} \quad 23.25$

* Replaces Transvision Television Kit Tube.

Sweep Circuif Oscillator Tube
TYPE 6Q5G - An octal-base gas triode for use in cathode-ray equipment.
Amps. Volt. Drop Fll. Peak Pl. V. $\begin{array}{lcc}.6 & 19 & 6.3 \text { V., } 6 \mathrm{M}\end{array} \quad 300$ Cat. No. 38-205 Net Price . . . $\$ 2.20$

## RCA Manuals

Receiving Tubeg. For Television, FM, and Standard Broadcast. Complete listing of characteristics and socket connections.
Cat. No. 42-076 Net . . . . . 10c Power and Gas Tubes. For Radio and for Industry. Characteristics and socket connections. Cat. No. 42-077 Net . . . . . 10c Phototubrs Cathode-Ray, and Spechal TuBes, Technical information on gass and vacuum-type phototubes, multiplier phototubes cathode-ray oscillograph tubes, camera tubes, low-microphonic tubes, acorn, and other smali tubes for speclal applications.
Cat. No. 42-078 Net . . . . . 10c Phototubes. Phototube theory; Gata; curves. and circuits.
Cat. No.42-079 Net . . . . . 5c

# - RCA Special Purpose Tubes 

| Type | Net Price | Type | Net <br> Price | Type | Net Price | ${ }_{850}$ Type | $\begin{array}{r}\text { Net } \\ \text { Price } \\ \hline \text { P3 }\end{array}$ | Type | Net <br> Price <br> $\$ 9.75$ | ${ }_{2051}$ Type |  | Net Price 1.90 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OA2 | \$2.20 | 6FP7-A | \$30.25 | 575-A | \$24.25 | 850 | \$ 43.25 | 931-A | 59.75 | 2051 |  | 1.90 |
| OA3/VR75 | 1.35 | 5R4-GY | 1.50 | 579-B | 13.20 | 851 | 253.00 | 934 | 3.40 | 5550 |  | 44.00 |
| OA4-G | 1.25 | 5WP15 | 70.00 | 627 | 17.25 | 857-B | 209.00 | 935 | 7.80 | 5551 |  | 73.50 |
| OB2 | 2.30 | 6AG7-X | 1.75 | 629 | 10.00 | 858 | 500.00 | 954 | 5.65 | 5552 |  | 110.00 |
| OC3/VR105 | 1.35 | 6AK5 | 1.80 | 672-A | 26.50 | 860 | 34.50 | 955 | 3.60 | 5553 |  | 241.00 |
| OD3/VR150 | 1.30 | 6A57-G | 4.90 | 673 | 24.25 | 861 | 178.25 | 956 | 6.30 | 5554 |  | 173.00 |
| $1 \mathrm{C21}$ | 2.45 | 6C24 | 54.25 | 676 | 48.00 | 862-A | 1150.00 | 957 | 3.75 | 5555 |  | 336.00 |
| 1 P 21 | 50.00 | 6F4 | 6.40 | 677 | 48.00 | 864 | 1.75 | 958-A | 6.25 | 5556 |  | 10.00 |
| 1 P 22 | 14.75 | 6 J 4 | 8.05 | 800 | 11.50 | 865 | 11.50 | 959 | 6.25 | 5557 |  | 7.00 |
| 1 P 28 | 15.50 | 6 LA | 6.60 | 801-A | 3.75 | 866-A | 1.95 | 991 | 75 | 5558 |  | 14.00 |
| 1 P 29 | 2.95 | $6557-\mathrm{Y}$ | . 85 | 802 | 4.75 | 868 | 2.50 | 1603 | 7.40 | 5559 |  | 19.50 |
| 1 P37 | 2.85 | 65N7GTX | 1.40 | 803 | 24.25 | 869-B | 132.00 | 1608 | 7.90 | 5560 |  | 23.00 |
| 1 P39 | 1.85 | 7BP7A | 48.50 | 804 | 17.50 | 872-A | 8.20 | 1609 | 8.60 | 5561 |  | 38.00 |
| 1P40 | 1.85 | 7 C 24 | 159.50 | 805 | 13.50 | 874 | 2.75 | 1610 | 2.50 | 5563 |  | 43.90 |
| 1 P 41 | 2.80 | ${ }^{7} \mathrm{CP} 4$ | 35.25 | 806 | 34.25 | 876 | 5.50 | 1612 | 3.00 | 5581 |  | 2.25 |
| 1 P 42 | 5.70 | 8D21 | 1775.00 | 807 | 2.50 | 878 | 12.75 | 1613 | 2.65 | 5582 |  | 2.65 |
| 2C21/1642 | 1.40 | 9C21 | 866.00 | 808 | 10.75 | 880 | 483.00 | 1614 | 2.05 | 5583 | * | 3.05 |
| 2 C 22 | 1.60 | 9 C 22 | 1275.00 | 809 | 4.00 | 884 | 1.85 | 1616 | 8.65 | 5584 |  | 3.95 |
| $2 \mathrm{C40}$ | 14.50 | 9C25 | 1158.25 | 810 | 14.50 | 885 | 2.00 | 1619 | 2.50 | 5588 |  | 110.00 1257.50 |
| 2 C 43 | 11.00 | 9C27 | 855.50 | 811 | 3.30 | 886 | 4.60 | 1620 | 6.60 | 5592 |  | 1257.50 |
| 2 D 21 | 2.00 | 10-Y | 1.95 | 812A | 4.05 | 889-A | 210.50 | 1621 | 2.15 | 5618 |  | 3.60 |
| 2E24 | 5.10 | 12 A 6 | 1.25 | 813 | 16.00 | 889R-A | 308.00 | 1622 | 2.30 | 5651 |  | 3.30 |
| 2 E 26 | 3.85 | 12DP7A | 77.00 | 814 | 14.25 | 891 | 223.00 | 1623 | 4.05 | 5652 |  | 6.55 1300.00 |
| 2K26 | 192.00 | 12K8-Y | 1.30 | 815 | 6.90 | 891-R | 377.75 | 1624 | 4.00 | 5655 |  | 1300.00 1425.00 |
| 2K56 | 185.00 | 12L8GT | 2.25 | 816 | 1.30 | 892 | 223.00 | 1625 | 2.65 | 5671 |  | 1425.00 |
| 2V3-G | 3.15 | 12sw7 | 1.10 | 826 | 12.50 | 892-R | 377.75 | 1626 | 1.85 | 5691 |  | 7.75 |
| 2X2-A | 2.05 | 128X7GT | 1.40 | 827-R | 172.50 | 893-A | 630.00 | 1629 | 1.40 | 5692 |  | 7.75 |
| 3A4 | 1.20 | $128 Y 7$ | 1.30 | 828 | 13.75 | 893A-R | 1150.00 | 1631 | 2.50 | 5693 |  | 6.40 |
| 3A5 | 1.95 | $26 A 6$ | 2.20 | 829-B | 16.25 | 898-A | 1150.00 | 1632 | 3.10 | 5713 |  | 176.00 14.50 |
| $3 \mathrm{B25}$ | 6.40 | 26A7-GT | 5.95 | 830-8 | 11.50 | 917 | 3.50 | 1633 | 1.95 | 8000 |  | 14.50 |
| 3 C 23 | 12.00 | 26 C 6 | 1.85 | 832-A | 11.75 | 918 | 2.85 | 1634 | 1.40 | 8003 |  | 13.00 |
| 3 C 33 | 21.25 | 26 D 6 | 2.00 | 833-A | 49.50 | 919 | 3.50 | 1635 | 2.15 | 8005 |  | 7.40 |
| 3 D 22 | 13.25 | 89-Y | 1.10 | 834 | 14.50 | 920 | 4.15 | 1644 | 3.10 455 | 8008 |  | 8.20 15.50 |
| 3DP1A | 18.00 | 105 | 48.00 | 835 | 16.25 | 921 | 1.95 | 1654 | 85.00 | 8012-A |  | 15.50 10.30 |
| 3DP1-52A | 18.25 | 172 | 50.00 | 836 | 8.25 | 922 | 1.95 | 1816-P4 | 85.00 | 8013-A |  | 10.30 |
| 3 E 22 | 8.30 | 203-A | 13.75 | 837 | 4.75 | 923 | 2.05 | 1851 | 2.90 | 8020 |  | 20.00 |
| 3E29 | 20.25 | 204-A | 115.00 | 838 | 13.75 | 924 | 2.60 | 1904 | 23.00 | 8025-A |  | 10.00 |
| 3 JP 1 | 16.50 | 207 | 242.00 | 841 | 4.35 | 925 | 2.15 | 1945 | 109.25 | 9001 |  | 3.10 |
| 4B26/2000 | 9.85 | 211 | 13.75 | 842 | 4.05 | 926 | 2.90 | 1946 | 10.90 | 9002 |  | 2.50 3.10 |
| $4 \mathrm{C33}$ | 182.75 | 217-C | 21.50 | 843 | 2.30 | 927 | 2.50 | 1947 | 8.40 | 9003 |  | 3.10 |
| $4-125 A / 4 D 21$ | 27.50 | 304TH | 55.00 | 845 | 13.75 | 928 | 3.15 | 1949 | 11.30 | 9004 |  | 2.30 |
| 4E27/8001 | 24.50 | 502-A | 1.85 | 846 | 250.00 | 929 | 1.75 | 1950 | 7.80 | 9005 |  | 3.45 1.60 |
| $4 \times 500 \mathrm{~A}$ | 97.50 | 559 | 5.35 | 849 | 138.00 | 930 | 1.65 | 2050 | 1.85 | 9006 |  | 1.60 |



## (A) Eimac Tubes

TYpe 4-125A-A mainstay for FM telephony and AM class-C telegraphy. Power tetrode; max. ratings: plate 3000 volts $\mathrm{DC}, 225 \mathrm{ma}$. DC; plate dissipation 125 watts; grid voltage -500 volts DC. Cat. No. 38-301 Net Each

| Cat. |  | Plate |  |
| :---: | :---: | :---: | :---: |
| No. | Type | Watts | Net |
| 38-302 | 3 C 24 | 25 | \$8.00 |
| 38-303 | 4-250A | 250 | 37.50 |
| 38-304 | 4-65A | 65 | 14.50 |
| 38-305 | 25 T | 25 | 8.00 |
| 38-306 | 35 T | 50 | 9.50 |
| 38-307 | 35 TG | 50 | 10.00 |
| 38-308 | 75TH | 75 | 12.00 |
| 38-309 | 100TL | 100 | 16.50 |
| 38-310 | 100 TH | 100 | 16.50 |
| 38-311 | 250'TL | 250 | 30.00 |
| 38-312 | 250 TH | 250 | 30.00 |
| 38-313 | 450 TL | 450 | 70.00 |
| 38-314 | 450 TH | 450 | 70.00 |
| 38-315 | 750 TL , | 750 | 125.00 |
| 38-316 | 1000 T | 1000 | 125.00 |
| 38-317 | 1500 T | 1500 | 200.00 |
| 38-318 | 2000 T | 2000 | 250.00 |
| 38-319 | KY21A | Keyer | 12.00 |
| 38-320 | RX21A | Rect. | 8.00 |

## Heat Dissipating Connectors

Type HR-3-for connection to plate and grid with adequate heat dissipation. Machined dural rod. For plate connection of $35 \mathrm{~T}, 35 \mathrm{TG}$, $250 \mathrm{TH}-\mathrm{TL}$. For grid connections of 35 TG , $250 \mathrm{GH}-\mathrm{TI}$. With mountling screws.
Cat. No. 01-601 Net Each
60 c
Type Hr-6 - For plate connection of 4-250A, 4-125A, $100 \mathrm{TH}-\mathrm{TL}, 250 \mathrm{TH}-\mathrm{TL}$; for grid connection of $152 \mathrm{TH}-\mathrm{TL}, 304 \mathrm{TH}-\mathrm{TL}$. With mounting screws.
Cat. No. 01-602 Net Each

## BUD <br> (B) Heat Dissipating Connectors

 Cat.No. Type For Tubes trize Net $\begin{array}{lllll}01-701 & \text { TC-488* } & \text { HK24 } & .049^{\prime \prime} & 35 \mathrm{c} \\ 01-702 \text { TC-489* } & 35 \mathrm{~T}, \text { HK54, etc. } & .069^{\prime \prime} & 35 \mathrm{c}\end{array}$ $\begin{array}{llll}01-702 \text { TC-489* } & 35 \mathrm{~T}, \text { HK54, etc. } & .069^{\prime \prime} & 35 \mathrm{C} \\ 01-703 \text { TC-1930 } & 100 \mathrm{~T}, 807 \text {, etc. } & .360^{\prime \prime} & 59 \mathrm{c} \\ 01\end{array}$ 01-704 TC-1921 866.T125, etc. . $560^{\prime \prime} 59 \mathrm{C}$ +Maximum dia. of leads or caps these connectors fit.

* For wire leads.


## G-E Thyratrons and Photo Tubes

| Cat. No. | Type | Description | Net Ea. |
| :---: | :---: | :---: | :---: |
| 38-401 | FG27A | Thyratron | \$19.00 |
| 38-402 | FG67 | Thyratron | 21.00 |
| 38-403 | Fg81A | Thyratron | 14.50 |
| 38-404 | FG172 | Thyratron | 42.00 |
| 38-405 | GL414 | Thyratron | 100.00 |
| 38-406 | PJ22 | Photo Tube | 2.20 |
| 38-407 | GL868/PJ23 | Photo Tube | 2.15 |
| 38-408 | OB3/VR90 | Glow Tube | 1.40 |

(C) Taylor Tubes

| Cat. Type | FII. | PI.Dis. | Net Each |
| :---: | :---: | :---: | :---: |
| 38-501 866-JR |  |  |  |
| $\frac{1}{1}$-wave rectifer | 2.5 v., 2.5 m | - | \$1.25 |
| 38-502 873 |  |  |  |
| $38^{\frac{1}{2}-\text { wave rectifer }}$ | 5 v., 6.5 a. | - | 17.25 |
| 38-503 T-21 |  |  |  |
| Beam power amp | 1fer 6.3 v., . 9 | a. 21 w | 2.50 |
| 38-504 T-40 |  |  |  |
| Zero blas | 7.5 v., 2.5 a. | 40 w. | 3.95 |
| 38-505 TZ-40 |  |  |  |
| Class B Audio | o.p. 225 w. | 40 w. | 3.95 |

## (J) Photoelectric Cell

The EBY Electric Eye is a new type photoelectrio cell designed for long life, ruggedness, and sansltlvity. Can be used in sultable clrcuits to operate relays and other devices. Plugs into a standard 4-prong socket. See Advance Relay 850 In Relay sectlon of this catalog for sensitlve relay suited to photo cell operation.
Cat. No. 38-551 Net Each
$\$ 2.94$


G

## (D) Hytron Tubes

Transmitting \& Special Purpose
Laboratory designed and built eapecially for use at high and ultra-high frequencles.
HY 75A

Typical applications: Class C amp. and osc.; plate mod. class C .

Rating - Continuous Service
Fil Plate Plate Watts $\begin{array}{lll}6.3 \text { v., } 2.6 \mathrm{a} . & 450 \mathrm{v},-90 \mathrm{ma} . & 15 \mathrm{w.} \\ \text { Cat. No. } 38-001 & \text { Net Each } .\end{array}$
Type 5514 - This new zero-blas triode replaces The HY30A, HY40, HY40Z, HY51A, HY51B, the HY30A, HY40, HY40Z, HY51A, HY51B,
and HY51Z. Typical applications: class C amp. and osc.; plate mod. class $C$; class $B$ mod. ( 2 tubes).

| Fil. | Plate |  | Pl. Dis. |
| :---: | :---: | :---: | :---: |
| 7.5 v., 3 a | 1500 | 175 ma | 65 w. |
| Cat. No. | -009 Net | ch | \$4.95 |
| Cat. | Hytron | Plate |  |
| No. | Type | Watts | Net |
| 38-002 | 5516 | 15 | \$5.95 |
| 38-003 | 2 E 25 | 15 | 5.50 |
| 38-004 | 2E30 | 10 | 2.25 |
| 38-005 | HY-69 | 40 | 5.50 |
| 38-006 | HY-615 | 3.5 | 2.25 |
| 38-007 | HY-114B | 1.8 | 2.25 |
| 38-008 | OB2 | Volt Reg. | 2.30 | Raytheon Tubes

transmitting \& Industrial sfeclal Purpose Type RK4D32 beam tetrode for R-F osclliator and amplifer appllcations. Characteristles: cathode fll. 6.3 volts, 3.75 a.; max. volt., plate 750 volts, grld -200 , screen 350; max. current, plate 300 ma ., grld 15 ma ., screen 35 ma . Plate dissipation 50 watts; grid dirive 1.25 watts; output 100 watts. 7 -pin base.
Cat. No. 38-020 Net Each
Plate ${ }^{-} \$ 9.75$

| Cat. |  |  |  |
| :---: | :---: | :---: | :---: |
| No. ${ }^{\text {38-021 }}$ | $\begin{array}{r} \text { Type } \\ \text { RK4D22 } \end{array}$ | Dissipation 50 watt | $\begin{aligned} & \text { Net } \\ & \$ 9.75 \end{aligned}$ |
| 38-022 | RK3B24 | Rectifier | 7.25 |
| 38-023 | RK59 | 15 watt | 4.50 |
| 38-024 | RX212 | Rectifier | 27.15 |
| 38-025 | $1641 / \mathrm{RK} 60$ | Rectifier | 2.75 |
| 38-026 | RK61 | Thyratron | 3.50 |
| 38-027 | 6AN5 | 4.2 watt | 5.35 |
| 38-028 | 6N4 | 3 watt | 3.00 |
| 38-029 | BH | Rectifer | 4.75 |
| 38-030 | CK1013/5517 | Rectifer | 2.25 |

## (E) Sub-Miniature Tubes Receiving Types

Dimenslons of this ultra-compact "pocket recelver" type tube are $11^{18}{ }^{\prime \prime} \times 0.3^{\prime \prime} \times 0.4^{\prime \prime}$.

Characteristics
Fil. 1.25 volts, 30 ma . ${ }^{*}$ Fil. 1.25 volts 50 ma . Pins $0.2^{\prime \prime}$ long, $0.016^{\prime \prime}$ dia. $+1 \frac{1}{4}^{\prime \prime}$ leads.
Cat.
No. TypeProngs Description
38-031 2E31* 5 RF Pentode
38-032 2E32* 5 RF Pentode
$38-033$ 2E35 $\dagger 5$ Power Amplifer 38-034 2E36 5 Power Amplifier
s2.29 38-035 $2 \mathrm{E} 41 \dagger{ }^{6}$ 5 $\quad$ Diode Pentode 38-036 2 2E42 6 Dlode Pentode $\begin{array}{lll}38-036 & 2 \mathrm{E} 42 & \text { ( } \\ \mathbf{3 8 - 0 3 7} & 2 \mathrm{G} 21 * 7 & \text { Triode Heptode }\end{array}$ $\begin{array}{lll}38-037 & \text { 2G21* } 17 & \text { Triode Heptode } \\ 38-038 & 2 G 22 * & \text { Triode Heptode }\end{array}$

## (E) Sub-Miniature Special Purpose Tubes

Flexible leads are $\frac{z^{\prime \prime}}{2}$ long, may be soldered directly into circuit or cut to fit sub-miniature sockets. Dimensions: $1 \frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ long, $4^{\prime \prime}$ dia.
Cat.
No. Type Prgs. Description 38-040 CK551AXA 5 Diode Pentode 88-041 CK553AXA 5 RF Pentode 38-041 CK556AX 4 Triode, UHF osc. 3.90 38-042 CK568AX 4 Triode, UHF osc. 3.90 38-043 CK569AX 5 RF Pentode 2.60 38-044 CK570AX 7 Triode 10.00 38-045 CK605CX 7 RF Pentode $\quad \mathbf{8 . 0 0}$ 38-046 CK606BX 4 VHF Dlode 38-047 CK608CX 6 Triode, UHF osc. 38-048 CK610CX 5 Triode, UHF osc. 7.00


## (F) EL Rectifier and Grid Control Rectifier Tubes

EL tubes are guaranteed for over 2,000 hours if used under proper circuit conditions; fallures short of this period may be returned to the manufacturer with statement as to conditions of operation.

| Full-wave Rectipiers |  |  |  |
| :---: | :---: | :---: | :---: |
| Cat. |  | Max. | Net |
| No. | Type | DC O.P. | Each |
| 38-601 | EL-1C | 1.0 | \$5.70 |
| 38-602 | EL-3C | 2.5 | 8.25 |
| 38-603 | EL-6C | 6.4 | 14.50 |
| Half-wave Rectimiers |  |  |  |
| 38-604 | EL-6B | 6.4 | 10.80 |
| 38-605 | EL-16B | 16.0 | 22.50 |
| 38-606 | EL-16F | 16.0 | 22.50 |
| 38-607 | EL-60B | 50.0 | 94.00 |
| Grid-control Rectifurrs |  |  |  |
| 38-608 | ELCLB | 1.0 | 7.50 |
| 38-609 | EL-Clj | 1.0 | 7.50 |
| 38-610 | EL-C3J | 2.5 | 14.20 |
| 38-611 | EL-C6J | 6.4 | 25.00 |
| 38-612 | EL-C6C | 6.4 | 37.80 |
| 38-613 | EL-C16J | 16.0 | 49.50 |

## (C) Sylvania Flash Tubes

Standard equipment used in well-known makes of elecrronic photo-flash units. See Transformer and Capacitor Sections for transformer and capacitor units designed to be incorporated in photoflash equipment.
Cat. No. 38-754 Type R4330. Flash duration. $1 / 5000$ th second. Provides over 10,000 flashes, Net Price
$\$ 19.00$
Cat. No. 38-755 Type R4340. Flash duration, $1 / 1250$ th second. 2250 volts. Over 30,000 flashes 400 watt-sec. per flash.
Net Price
$\$ 57.00$
Cat. No. 38-756 Type OA5. Triggertube. Used for electronic relay and switching. Maximum plate volt, 1000.
Net Price
$\$ 4.80$

## (H) Sylvania Strobotrons

For use in stroboscopes, electronic relays, etc. Gas flled.
Cat. No. 38-751 Type 1D21. Max. repetition rate, 240 pulses per second. Anode voltage, 300 volts, max. Neon-red light. Trigger grid voits -50 to +50 . Discharge capacitance, 50 mfd . max. aver. cathode current, 50 ma . max.
Net Price
$\$ 4.40$
Cat. No. $3 \dot{8}-752^{\circ}$ Type SN 4 . As above, but max. repetition rate of 60 p.p.s.
Net Price
Cat. No. $38-75 \dot{3}^{\prime}$
Type
R4350.
. Blue-white
$\$ 4.40$ Hight. Max. repetition rate, 15 fashes per second. Anode voltage, 700 volts min ., 1000 volts max. Discharge capacitance, 2 mid. max.
Net Price
$\$ 14.35$

## (I) Sylvania Germanium Crystal Diodes

Type 1 N 34 Single Diode. Maximum rating 40 ma . average anode current. 1 mmf . shunt capacitance. For nolse ellminators, sound deteotors, DC restorers for television, signal tracing probes. etc.
Cat. No. 38-757 Net Price . . . $\$ 1.20$ Type 1N35 Dual Diode. Made up of 2 1N84's for modulation, demodulation, or full wave rectification in balanced circuits.
Cat. No. 38-758 Net Price
$\$ 2.65$

(A) AMPHENOL Type S \& RS

Ring Type $\boldsymbol{5}$ - Extremely compact; require minimum chassls area; firmly held by No. 4 Amphenol retalner ring; fit panels . 044 to $.062^{\prime \prime}$ thick; body molded of high dielectric black bakelite. Easily changed without damage to panel.

| Cat. No. | Type | Prongs | Net Ea. |
| :---: | :---: | :---: | :---: |
| 02-001 | 7884 | 4 | 8 c |
| 02-002 | 7895 | 5 | 8 c |
| 02-003 | 7896 | 6 | 8 c |
| 02-004 | 78875 | 7 Small | 8 c |
| 02-005 | 7887L | 7 Large | 8 c |
| 02-006 | 7887C | 7S-7L | 10 c |
| 02-007 | 7888 | Octal | 10c |
| 02-008 | 7899 | 9 | 12c |
| 02-009 | 78-8L | Loktal | 12c |
| 02-010 | 78-A7P | 7 Min . | 18 c |
| 02-011 | 78-A9P | 9 Min . | 26 c |

FIG. B
Replacement Type RS - Same socket, ringmounted in nickeled steel plate; slotted holes for mountlag centers $1 \frac{3^{\prime \prime}}{\prime \prime}$ to $1_{\mathbf{1}^{\prime \prime}}$.

| 02-012 | 78RS4 | 4 | 8 c |
| :---: | :---: | :---: | :---: |
| 02-013 | 78RS5 | 5 | 8 c |
| 02-014 | 78RS6 | 6 | 8 c |
| 02-015 | 78RS7S | 7 S | 8 c |
| 02-016 | 78RS7L | 7 L | 8 c |
| 02-017 | 78RS7C | 7S-7L | 11c |
| 02-018 | $78 \mathrm{RS8}$ | Octal | 11 c |
| 02-019 | 78RS8L | Loktal | 13c |
| 02-020 | 78RS8LT* | Loktal | 17c |
| 02-021 | 78RS9 | 9 | 13c |
| * Low-1 |  |  |  |

## (D) High-voltage Safety Sockets

For rectlfer and other tubes with base dlameter of $1 \frac{3}{8 \prime \prime}$. Socket set at bottom of deep molded Bakellte shell for safety. Heavy steel mounting plate molded into shell has $\frac{3}{31}{ }^{\prime \prime}$ dlam. mounting holes on $1 \frac{7^{\prime \prime}}{}$ centers.
Cat. No. 02-050 Type 77A-4. 4-contact socket. Cat. No. 02-051 77A-8. Octal socket. 71 C Net ea.

## (F) ZIP-IN Ethylon-A

Miniature 7 E 9 pin sockets
Molded of high "Q" factor Ethylon-A. Mounts In $.136^{\prime \prime}$ diam. holes on $1 \frac{g^{\prime \prime}}{16}$ centers, Chassis holes are $\overline{3}^{\prime \prime}{ }^{\prime \prime}$ for 7 -pin and $\frac{15}{}{ }^{\prime \prime}$ for 9 -pin.

Without Tube Shield Base

| Cat. No. | 6 Type | No. Plo | Net Ea. |
| :---: | :---: | :---: | :---: |
| 02-052 | 59-357 | 7 | 12 c |
| 02-053 | 59-359 | 9 | 29 c |
| With Tube shield Base |  |  |  |
| Cat. No. | Type | No. Plns | Net Ea. |
| 02-054 | 59-367 | 7 | 16 c |
| 02-055 | 59-369 | 9 | 35 c |
| Tube Shields |  |  |  |
| Cat. No. | Type | Desc, | Net Ea. |
| 02-075 | 5-401* | Short | 8 c |
| 02-076 | 5-402* | Long | 8 c |
| 02-077 | 5-405 $\dagger$ | $1 \frac{1}{2 \prime \prime}^{\prime \prime}$ | 12c |
| 02-078 | 5-408 $\dagger$ | $1 \frac{18}{18 / 2}$ Long | 14c |
| 02-079 | 5-409 $\dagger$ | $2{ }^{\frac{3}{3}}{ }^{\prime \prime}$ Long | 14 c |
| *Mate with tube shield bases used with zip-in sockets above. |  |  |  |
|  |  |  |  |


(I)

## Saddle-type Sockets

TYPE 54-8 - Molded of polystyrene; ultra-low loss for UHF work; $1 \frac{1}{2}$ " mountlig centers; positive contacts. Type 74-8 molded of black bakeIte.
Type 54-8. Octal. Polystyrene body. Cat. No. 02-032 Net TYPE 54-8L. Loktal. Polystyrene. Cat. No. 02-033 Net

28 c
Cat. No. 02-033 Ne
32c
Cat. No. 02-034 Net
8 C
(J) Steatite Sockets Type RSS

For high-frequency and high-temperature work In transmitters and amplifiers; slotted mounting holes fit $1 \frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ to $\frac{17_{8}^{\prime \prime}}{}$ centers.

| Cat. No. | Type | Pronge | Net Ea. |
| :---: | :---: | :---: | :---: |
| 02-035 | 49RSS4 | 4 | 28 c |
| 02-036 | 49RSE5 | 5 | 28 c |
| 02-037 | 49RSS6 | 6 | 28 c |
| 02-038 | 49RSS7S | 7 Small | 28c |
| 02-039 | *49RSS7L | 7 Large | 35c |
| -2-040 | 49RSs8 | Octal | 28c |
| *Mtg. h | 1 詻" $^{\text {a }}$ |  |  |

(K) "MIP" Sockets

Bakelite, molded on steel mounting plate, cannot oosen or vibrate; mounting centers $11^{\prime \prime}$, chassis hole $1^{15^{\prime \prime}}$.

| hole $1{ }^{18}{ }^{\circ}$. | Ttpe | Prong8 | Net Ea. |
| :---: | :---: | :---: | :---: |
| 02-022 | 77MIP4 | 4 | 7 c |
| 02-023 | 77MIP5 | 5 | 7 c |
| 02-024 | 77 MLP 6 | 6 | 7 c |
| 02-025 | 77MIP7S | 78 | 7 c |
| 02-026 | †77MIP7L | 7 L | 8 c |
| 02-027 | 77MIP8 | Octal | 8 c |
| 02-028 | *88-8 | Octal | 8 c |
| 02-029 | *88-8X | Loktal | 12c |
| 02-030 | 77 MIP 9 | 9 | 11 c |
| -02-031 | 77MIP11 | 11 | 14c |
| $\dagger$ Requir | $1{ }^{\frac{8}{12}}{ }^{\prime \prime}$ hole. |  |  |

## (C)

## C) Wafer Sockets

Laminated bakelite; sturdy with positive con tacts; for glass or metal tubes; $1 \frac{1^{\prime \prime}}{} \mathrm{mtg}$. etrs.
Cat. No. Prongs Net Cat. No. Prongs Net $\begin{array}{llllll}02-221 & 4 & 6 c & 02-224 & 7 S & 8 c \\ 02-222 & 5 & 6 c & 02-225 & 7 L & 8 c \\ 02-223 & 6 & 6 c & 02-226 & 8 \text { oct. } & 7 c\end{array}$

BUTTON TYPE
Wafer minlature with brass, solder-coated contacts. For 7 -prong mindature tubes.
Cat. No. 02-227 Net Ea,

## (E) Diheptal Tube Sockers

For TV, oscilloscope, and cathode ray tubes. Maximum of 14 equally spaced pins on a circle diameter of $1.750^{\prime \prime}$.
Cat. No. 02-082 Type 59-415. Small. Net 98c Cat. No. 02 -083 Type 59-417. Medum. Net 98c

## (G) Bakelite and Steatite Sockets

For television, FM, auto radios, portables, etc. 147 type mount in $\frac{5_{8}^{\prime \prime}}{8}$ chassils hole, mtg. centers $1 \frac{1}{2}^{\prime \prime} ; 59$ type mount in $\frac{3^{\prime \prime}}{}{ }^{\prime}$ hole, $1 \frac{1}{3}^{\prime \prime} \mathrm{mtg}$, centers. Rivet hoies .095".
Bottom-Mounting Type - No Sheld Bage Cat. No. Net

| No. | Type | Contacts | Ea. |
| :--- | :---: | :---: | :---: |
| $02-056$ | $147-500$ | 7 | 14c |
| $02-057$ | \#147-501 | 7 | $30 c$ |
| $02-058$ | $59-409$ | 9 | $23 c$ |

Top-Mounting Type - Wite Shimid bast Cat

| No. | Type | Contacts | Ea. |
| :--- | :---: | :---: | :---: |
| $02-059$ | $\dagger 147-905$ | 7 | 23 c |
| $02-060$ | $\$ 147-925$ | 7 | 37 c |
| $02-061$ | $\$ 147-913$ | 7 | $24 c$ |
| $02-062$ | $\$ 59-407$ | 9 | $34 c$ |
| $02-063$ | $\dagger 59-406$ | 9 | 33 c |
| *Steatite. | tBlack bakelite. | $\ddagger$ Mica-illed bakelite. |  |

## JOHNSON


(A) Type 101 - Especially designed for UHF tubes as 826, 829 and 832 . 7-pin steatite wafer socket with a base shield, retainer springs; 4 mtg . holes, $2 \frac{\mathrm{~F}^{\prime \prime}}{18}$ on centers.
holes, $2 \frac{18}{18}$ on centers.
$\$ 1.76$
(B) Type 212 - For RCA833. Steatite base. Fllament clamps have springs which relieve strain on tubeseals. Phosphor bronze plate leads. $\$ 5.88$ Cat No. 02-242 Net Ea (C) TYpe $234-$ For W. E. 5D21, 705A, 715A,
715B Ray theon, RKR72, RK72. Heavy steatite 715B Raytheon, RKR72, RK72. Heavy steatite base, with tube lock.
$\$ 1.76$
Cat. No. 02-243 Net Ea.
(D) Type 215 - For 250 watt tubes as 204A, 849. etc. "Safety cup" grips tube plate terminal.
Cat. No. 02-244 Net Ea.
$\$ 2.50$
(E)TrPE 244-For superjumbo-base transmitting tubes as 8008; 4-pin wafer type; steatite insulation; 4 mtg . holes $17^{n}$ on centers. Stray capacity contacts to ground.
Cat. No. 02-245 Net Ea.
$\$ 1.18$
(E) TyPE 275 - A 5-pin steatite wafer socket for giant-base transmitting tubes. Ventilated. Cat. No. 02-246 Net Ea.


## NATIONAL SOCKETS

## Acorn Sockets

Type XLA - Low-loss socket for 6F4 and 950 series acorn tubes up to 600 MC . Compact mounting provisions for by-pass condensers. Low resistance, low, constant inductance.
Cat. No. 02-306 Net Each
Type XLA-S - Internal shield to at XLA above for tubes such as 956 .
Cat. No. 02-304 Net Each
36 c
TYPE XLA-C - Miniature by-pass condenser mounts inside socket directly below contact. Specify capacity, 50 or 100 mmf .
Cat. No. 02-305 Net Each
36c
TYPE JX-51 - Low-loss wafer socket for 813 and other tubes with Glant 7-pln base. Cat. No. 02-308 Net Each

Hx 1009 Low Tre ix 100s - Low-loss wafer socket for type 4-125-A, $4-250-\mathrm{A}$ and other tubes using Giant 5 -pin base. Shleld grounding clips mount on chassis with socket mounting serews to ground at three points. Forced air ventilation. With standoft insulators.
Cat. No. 02-309 Net Each
\$1.65
TYPE HX-29 - Low-loss wafer socket with steatite insulation for 829 and 832 tubes. Cat. No. 02-310 Net Each
81c

81c

## CIR Series Sockets

Feature low-loss steatite Insulation; contact grips entire length of tube prong. Metal ring for 6 position mountlig.
$\left.\begin{array}{lcccc}\text { Cat. No. } & \text { Prongs } & \text { Cat. No. } & \text { Prongs } & \text { Net Ea. } \\ 02-336 & 4 & 02-337 & 7 \mathrm{~L} & \\ 02-331 & 5 & 02-338 & 75 & 30 c \\ 02-332 & 6 & 02-339 & \text { Octal }\end{array}\right\}$

## XC Series Sockets

Acorn wafer sockets with firm gripplng contacts, high current capacity, low-loss steatite insulatlon.

| Cat. No. | Type | Prongs | Net |
| :--- | :--- | :--- | :--- |
| 02-311 | XC-4 | 4 | 36 c |
| $02-312$ | XC-5 | 5 | 39 c |
| $02-313$ | XC-6 | 6 | 42 c |
| $02-314$ | XC-7S | 7 (Small) | 45 c |
| $02-315$ | XC-7L | 7 (Large) | 45 c |
| $02-316$ | XC-8 | 8 (Octal) | 39 c |

Sub-miniature Socket
Made with mica-filled low loss bake-
 lite and sllver-plated beryllumcopper contacts.
Cat. No. 02-301 5-prong.
Net Each
$20 c$
Cat. No. 02-302 6-prong.
Net Each
Cat. No. 02-303 7-prong
Net Each
23c

## Amphenol "RCP" Replacement Plugs

Molded from high-dlelectric bakelite, these plugs have a nickel-plated steel mounting plate slotted for $1 \frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ to $1 \frac{7^{\prime \prime}}{}{ }^{\prime \prime}$ centers.

| Cat. No. | Type | Prongs |
| :--- | :--- | :---: |
| $02-067$ | $86-\mathrm{RCP}-4$ | 4 |
| $02-068$ | $86-\mathrm{RCP}-5$ | 5 |
| $02-069$ | $86-\mathrm{RCP}-6$ | 6 |
| $02-070$ | $86-\mathrm{RCP}-7 \mathrm{~S}$ | 7-Small |
| $02-071$ | $86-\mathrm{RCP}-7 \mathrm{~L}$ | 7-L |
| $02-072$ | 86 RCP |  |
| $02-073$ | $86-\mathrm{RCP}-9$ | Octal |
| $02-074$ | $86-\mathrm{RCP}-11$ | 9 |
|  | 11 |  |


(E)

EBY Bakelite Sockets
One-plece Bakelite sockets for baseboard or subpanel mounting; $1 \frac{1}{1}{ }^{\prime \prime}$ " centers.

Con-
Cat. No. tacts Net Cat. No. Contacts Net $02-201 \quad 4 \quad 26 \mathrm{c} \quad 02-269 \quad 7 \mathrm{lg}$ \& sm . 32c $\begin{array}{lllllll}02-201 & 5 & 28 \mathrm{c} & 02202 & 8 \text { oct. } & 32 \mathrm{c}\end{array}$ 02-203 6 28c

## JOHNSON

## (G) Bayonet Tube Sockets

Heavy-duty phosphor bronze contacts; aluminum shell; one-piece glazed white porcelain base. Type 209 - With ample spacing between contacts and shell for high voltages; 4 mtg . holes $2 \frac{5}{8}^{\frac{5}{8}}{ }^{\prime \prime}$ on ctrs. Bayonet base.
$2 \frac{18}{16}$ on ctrs. Bayonet base.
Cat. No. 02-247 Net Ea.
88c
Type 210 - Same as above except lower spacing between contacts and shell. Bayonet base. 88C Cat. No. 02-248 Net Ea.
TyPE 211 - Standard 50-watt base with double filament contacts for heavy currents. Terminals clearly marked. Bayonet base.
$\$ 1.09$
Cat. No. 02-249 Net Ea.
Type 216B - For tubes having a giant 5-pin bayonet base. 803 , RK28, etc. Beryllum-copper contacts.
${ }^{2} 2.00$

## Miniature Sockets

Sockets for 9000 serles and miniature serles such as 1S4, 1S5, 1T4, 1R5, etc.
(H) Type 267 - All-steatite type.

30c
Cat. No. 02-251 Net Ea.
3
(I) Type 277B - Steatite base with metal mounting ring which forms a shield.

46 c
Cat. No. 02-252 Net Ea.
(J) TYPE 278A - 1 " shield cap for Type 277B, Cat. No. 02-253 Net Ea. . . . 12c (J) Type 278B - $13^{\prime \prime}$ shleld cap for Type 277B. Cat. No. 02-254 Net Ea.

## Jumbo Wafer Sockets

Steatite wafer sockets with brass contacts, steel spring, cadmium plated, and with tube insertion key grooves.
(K) TYPE $237-7$-pln socket for giant tube base as HK257 and RCA813.
Cat. No. 02-255 Net Eu.
65 c
(L) Type 247-7-pin socket for transmitting tubes as the 826. Etched aluminum base shield.73C Cat. No. 02-256 Net Ea.
(M) Acorn Sockets Type 265

For the new acorn tubes; 4 mitg. holes on $1 \frac{3}{16}{ }^{\prime \prime}$
ctrs. Contacts Insulated by mica.
65 c


## AMPHENOL Sockets - Connectors JONES <br>  <br> B <br> (A) 110-250 Volt Power <br> Receptacles and Plugs <br> Retainer-Ring Type <br> 

Receptacle and plug mount with No. 4 Amphenol retainer-ring - no screws or rivets needed. Rated 15 amp. 110 volts; 10 amp .250 volts. Plug has screw terminals; receptacle has both screws and solder lugs, and takes elther polarized or standard plug. Also supplied assembled to steel mounting plate with slotted holes for mounting on $1 \frac{l^{\prime \prime}}{}$ to $1 \frac{1}{1}^{\prime \prime}$ centers.

Unhounted Receppacles Cat. No. Circuit Net Price 01 -001 2-pole universal 18c 01-002 3-pole polarized 25 c

Plate-mounthid Receptacleg $\begin{array}{lll}\text { 01-003 } & \text { 2-pole unlversal } & \text { 20c } \\ 01-004 & \text { 3-pole polarized } & 27 c\end{array}$ $01-005 \begin{gathered}\text { Unmounted Plugs } \\ 2 \text {-pole standard }\end{gathered}$ 1-006 2-pole polarize 1-007 $\quad 3$-pole polarized $\quad 25 \mathrm{c}$

## (B) Cord Connectors

Bakelite connectors with snap-on steel caps taking $\frac{7}{18}{ }^{\prime \prime}$ cord. Supplled wth cable clamp for strain rellet.

Cat. No.
01-008
01-009
01-010 2-pole standard
$01-011$ 2-pole polarized
01-012

## RECEPTACLES



Low-loss Connectors for Coax and Twinax Cables
Lxtremely compact connectors with low-loss mica-alled bakelite or polystyrene insulation assembled so that there are no alr spaces within the connector. Connectors are strong, zinc die-castings heavily silver plated. Connectors assemble to each other with practically no air space, hence constane characteristics are maintained. All connectors are fully assembled and ready tor use.
Connector plugs . . . connect to single or twin conductor cables and at receptacles of all fittings listed below.
$\begin{array}{lcccccc}\text { Cat. Amphenol } & \text { Signal } & \text { Navy } & \text { Nable } & \text { Net } \\ \text { No. } & \text { No. } & \text { Corps } & \text { No. } & \text { Cable } & \text { Price }\end{array}$ $\begin{array}{lllllll}\text { 01-052 } & \text { 83-1SP } & \text { PL-259 } & \text { CPH-48195 } & \text { Coax. } 410^{\prime \prime} & \text { A } & \text {. } 82 \\ 01-053 & 83-22 S P & \text { PL-284 } & & \text { Twin. } 410^{\prime \prime} & \text { A } & \mathbf{1 . 1 2}\end{array}$ Angle plug adapters . . . Copper alloy pin contact on one end; socket contact on other end assembled without solder; pure polystyrene dielectric. 01-054 83-1AP M-359 CPH-49182 Coax .410" B 1.46 Junctions . . . Socket contacts on both ends it contact plos of connectors; usefulin joining cables or repairing damuged cables.
$01-055 \quad 83-1 \mathrm{~J}$ PL-258 CPH-49191 Coax $410^{\prime \prime}$ C $\quad 1.14$ $\begin{array}{llllll}01-056 & 83-22 \mathrm{~J} & \text { PL-285 Twin.410 } & \text { C } & 1.86\end{array}$ "'Ter"' Connectors . . . Provide convenient means of tapping off coax line; sockets for straight-through connection, pin for tap.

Chassis or Box Type Receptaches . . . One-plece construction for easy soldering to connectors within box or chassis; low-loss mica-filled bakelite insulation.
01-058 83-1R SO-239 CPH-491194 Coax . $410^{\prime \prime}$ E $\quad$ E.21


Co-Axial Cable Connectors
Unbreakable shielded connectors for co-axial cables up to ¹ $^{\prime \prime}$ o.d.; may be reamed to fit cables up to $\frac{3_{1}^{\prime \prime}}{}$ o.d.; screw-type locking ring prevents accldental disconnections; insulation is low-loss polystyrene.

| Cst. No. | Type | Coupling | Flg. | Net Ea. |
| :---: | :---: | :---: | :---: | :---: |
| 01-017 | 93-M Male plug | Ring | L | \$1.06 |
| 01-018 | 93-F' Female jack | Threads | K | 1.06 |
| 01-019 | 93-C Female receptacle | Threads | J | . 89 |

## Heavy-duty Radio Connectors

An improved cable connector. Fully shlelded by drawn brass shell that protects the connector and carries threads and coupling ring. Will withstand rough usage and exposure. Positive contacts. Male connoctor shells have a keyway for pin alignment. For cables up to $\frac{1^{\prime \prime}}{2}$.

| $\begin{aligned} & \text { Cat. No. } \\ & 01-020 \end{aligned}$ | Type | (G) | Cable Type, Male |  | Type | Prongs | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Prongs | S Net | Cat. No. |  |  |  |
|  | 04M | 4 | \$0.89 | 01-022 | 08M | 8 | \$0.89 |
| 01-021 | 05M | 5 | . 89 | 01-023 | 012M | 12 | 1.43 |
|  |  | $(\mathrm{H})$ | Cable TyPe, Female |  | 08F | 8 | \$0.89 |
| 01-024 | 04 F |  | \$0.89 | 01-027 |  |  |  |
| 01-025 | 05F | 5 | . 89 | 01-028 | 012F | 12 | 1.43 |
| 01-026 | 06F | 6 | . 89 |  |  |  |  |
|  | (I) Chabsis Type, Female |  |  |  | P08F | 8 | \$0.89 |
| 01-029 | P04F | 4 | \$0.89 | 01-032 |  |  |  |
| 01-030 | P05F | 5 | .89 | 01-033 | P12F | 12 | 1.43 |
| 01-031 | P06F | 6 | . 89 |  |  |  |  |

## JONES Shielded Multiple Cable Connectors

Polarized plugs for cord or chassis mounting; phosphor bronze "knifeswitch" contacts glve double contact area for high current rating; molded bakelite insulation; metal caps with fibre liner; cable grip furnished on all cord-type connectors; angle brackets on chassis units; nominal rating for " 300 " serles. 45 volts 5 amperes.

Female Cord Connector, Fig. O

| Cat. Con- |  |
| :--- | :--- |
| No. | tacts |
| Type No. |  |
| Na |  |
| Na |  |

$\begin{array}{lccc}\text { No. } & \text { tacts } & \text { Type No. } & \text { Ea. } \\ 01-501 & 2 & \text { S-302CCT } & \$ 0.30\end{array}$
$\begin{array}{lrrr}01-501 & 2 & \text { S-302CCT } & 0.34 \\ 01-502 & 3 & \text { S-303CCT } & 34 \\ 01-503 & 4 & 8-304 C C T & .37 \\ 01-504 & 6 & \mathrm{~S}-306 C C T & .41 \\ 01-505 & 8 & \text { S-308CCT } & .47 \\ 01-506 & 10 & 8-310 C C T & .54\end{array}$
$\begin{array}{llll}01-506 & 10 & 8-310 C C T & .54 \\ 01-507 & 12 & 8-312 C C T & .61\end{array}$

Male Cord Connector, Fig. N Cat. Con- No. Ne Net $\begin{array}{llll}\text { 01-508 } & 2 & \text { P-302CCT } & \text { Sa.31 }\end{array}$ $\begin{array}{llll}01-508 & 2 & \text { P-302CCT } & 0.31 \\ 01-509 & 3 & \text { P-303CCT } & .33\end{array}$ $\begin{array}{llll}011-509 & 3 & \text { P-303CCT } & .33 \\ 01-510 & 4 & \text { P-304CCT } & .36\end{array}$ $\begin{array}{llll}01-510 & 4 & \text { P-304CCT } & .36 \\ 01-511 & 6 & \text { P-306CCT } & .39\end{array}$ $\begin{array}{lrlr}01-511 & 6 & \text { P-306CCT } & .39 \\ 01-512 & 8 & \text { P-308CCT } & .43\end{array}$ $\begin{array}{llll}\mathbf{0 1 - 5 1 3} & 10 & \text { P-310CCT } & .48 \\ 01-514 & 12 & \text { P-312CCT } & .53\end{array}$

Connectors for Ingtallation on Chassis

| Connectors for ingtallation on Chassis |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Le, Fig. M |  |  | MA | E. Fig. $P$ |  |
| 01-515 | 2 | S-302AB | \$0.15 | 01-522 | 2 | P-302AB | \$0.14 |
| 01-516 | 3 | 8-303AB | . 18 | 01-523 | 3 | P-303AB | . 16 |
| 01-517 | 4 | B-304AB | . 20 | 01-524 | 4 | P-304AB | . 19 |
| 01-518 | 6 | S-306AB | . 25 | 01-525 | 6 | P-306AB | .23 |
| 01-519 | 8 | S-308AB | . 30 | 01-526 | 8 | P-308AB | . 27 |
| 01-520 | 10 | S-310AB | . 36 | 01-527 | 10 | P-310AB | . 31 |
| 01-521 | 12 | S-312AB | . 42 | 01-528 | 12 | P-312AB | . 3 |

Series " 300 " connectors avallable up to 33 contacts. Prices on request.
Jones 110 Volt, 10 Amp., Cable Connectors

| FEM |  |  | Fig. 0 | Male |  | Connector, | 50.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 01-529 | 2 | S-402CCT | \$0.55 | 01-535 | 2 | $\mathrm{P}-402 \mathrm{CCT}$ | \$0.51 |
| 01-530 | 4 | 8-404CCT | . 70 | 01-536 | 4 | P-404CCT | . 58 |
| 01-531 | 6 | S-406CCT | . 86 | 01-537 | - | P-406CCT | . 68 |
| 01-532 | 8 | S-408CCT | 1.00 | 01-538 | 8 | P-408CCT | . 85 |
| 01-533 | 10 | S-410CCT | 1.15 | 01-539 | 10 | P-410CCT | 96 |
| 01-534 | 12 | S-412CCT | 1.30 | 01-540 | 12 | P-412CCT | . 0 |


| Connectors for Installation on Chabsis |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fe | Le, Fig. M |  |  |  | E, Fig. P |  |
| 01-541 | 2 | S-402AB | \$0.37 | 01-547 | 2 | P-402AB | \$0.33 |
| 01-542 | 4 | S-404AB | . 47 | 01-548 | 4 | P-404AB | . 40 |
| 01-543 | 6 | S-406AB | . 59 | 01-549 | 6 | P-406AB | . 47 |
| 01-544 | 8 | S-408AB | . 70 | 01-550 | 8 | P-408AB | . 55 |
| 01-545 | 10 | S-410AB | . 82 | 01-551 | 10 | P-410AB | . 63 |
| 01-546 | 12 | 8-412AB | . 93 | 01-552 | 12 | $\mathrm{P}-412 \mathrm{AB}$ | . 70 |



## Series 91-3 and 4 Contact

For all typer of portable apparatus, altho deaigned primarily for microphone installation. Protected agalnst accidental disconnection. Polarized contacts prevent incorrect insertions.

| Cat. |  | Con- | Coup- |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | Type | tacts | llag | Net |
| 01-088 | MC3M | 3 | M | 65 c |
| 01-091 | MC3M1 | 3 | M | 65 c |
| 01-095 | MC4M | 4 | M | 71 c |
| 01-098 | MC4M1 | 4 | M | 71 c |
| 01-089 | MC3F1 | 3 | F | 65 c |
| 01-090 | MC3F | 3 | F | 65 c |
| 01-096 | MC4F1 | 4 | F | 71c |
| 01-097 | MC4F | 4 | F | 71c |
| 01-092 | PC3F | 3 | F | 32c |
| 01-093 | PC3M | 3 | M | 32 c |
| 01-094 | SP-PC3F | 3 | F | 65 c |
| 01-099 | PC4F | 4 | F | 35 c |
| 01-100 | PC4M | 4 | M | 35 c |
| 01-101 | SP-PC4F | 4 | F | 71c |
| F-fem | M | ale. |  |  |

## Series 80-1 and 2 Contact

For co-sxial, shielded, and microphone cablea, speakers, etc. Sleeve contacts and ring couplings for positive contact protected against accidental disconnections. Bakelite element in chrome plated brass shell with spring-type cord protector for cable units; chassis units furnished with mounting hardware.

| Cat. | Type | Con- <br> tacts | Coup- <br> Ilng | Net |
| :--- | :--- | :---: | :---: | :---: |
| No. |  |  |  |  |

Cannon Connectors
Type XL Connectors
Three-contact; designed for microphones, particularly in broadeasting stations. Carry 15 amps.

Straight Cord Plugs

|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Flg. | Description | Net |
| 01-925 | XI-3-12* | A | Male (pinInsert) | \$0.71 |
| 01-926 | XL-3-11* | A | Female (socket insert) | . 73 |
| Wall Mount Receptacles |  |  |  |  |
| 01-927 | XL-3-14* | B | Male (pin Insert) | . 59 |
| 01-928 | XL-3-13* | B | Female (socket insert) | .73 |
| Panel Mount receptacles |  |  |  |  |
| 01-929 | XL-3-14N* | C | Male (pln Insert) | . 68 |
| 01-930 | XL-3-13N* | C | Female (socket insert) | . 73 |

- 

Cable units are wholly shlelded, unbreakable connectors with butt contacts and threaded couplings; chrome finish; spring cord protectors take cords up to $\frac{1}{\prime \prime}^{\prime \prime}$ diam. For extra springcontact pressure use Type SP-MC1M. Chassis units mount in $.385^{\prime \prime}$ hole for grounded service, in $\frac{1}{3}$ hole for 2 -circuit ungrounded service; furnished with Insulating washers and locknut; male threads ift $F$ and FA cable units.

| Cat. No. | Type | Coupling | Net |
| :---: | :---: | :---: | :---: |
| 01-065 | MC1FA | ${ }^{\text {F }}$ | 39c |
| $01-066$ | MCIF | F | 32c |
| 01-067 | MC1M | M | 25c |
| 01-068 | SPMC1M | M | 32c |
| 01-069 | PC1M | M | 19c |
| 01-070 | SP-PC1M | M | 25c |
| 01-071 | CL-PC1M | M | 25c |
| 01-072 | 202* | M | 27c |
| 01-073 | 818* | M | 27c |
| 01-074 | MC1P $\dagger$ | Phone Plug Adapter | 29 c |
| 01-075 | CCC1 | Cap and Chain | 32c |

Mtg Plate Receptacles for MC1F and MC1FA

| $01-931$ | XL-3-12sC $\dagger$ | D | Male (pln insert) | $\mathbf{1 . 6 2}$ |
| :--- | :--- | :---: | :--- | :--- |
| $01-932$ | XL-3-11SC $\dagger$ | D | Femsle (socket insert) | $\mathbf{1 . 6 5}$ |

* Zinc shell. $\quad+$ Steel shell. Adapter Receptacles
Adspt popular types of microphones to Cannon XL-3-11 plug.
$01-933$ XL-3-50* For Unlversal C-20A mike, etc.
01-934 XL-3-50T* For Turner 211 mike, ete.
01-935 XL-3-50N* For E-V. Shure, Astatlc, etc.


## MUELLER SPRING CLIPS



A - Alligator . . . accurately made, sllm jaws, fine-meshing teeth, strong apring for hard bite; barrel connection fits banana plug; convendent round thumb grip; made of steel, $2^{\prime \prime}$ long.
Cat. No. 32-775 Type 60 solder cennection. Net Ea. 5c 10 for 39c Cat. No. 32-776 Type 60 Cs solid copper for R.F. work, serew connection eliminates necessity for soldering. Net Ea. 7c 10 for 59c
B - insulated Alligator . . . similar to above, plus insulated handle; screw terminal; barrel fits banana plus; $2 t^{\prime \prime}$ long.
Cat. No. 32-777 Type 60Hs steel, red handle Net Each 8 c 10 for 69 c Cat. No. 32-778 Type 80 H s steel, black handle Net Each 8 c 10 for 69 c Cat. No. 32-779 Type 60CHS cop., red handle Net Each 10 c 10 for 88c Cat. No. 32-780 Type 60CHS cop., blk. handle Net Each 10 c 10 for 88c C-Crocodile . . . gets into tight places; teeth mesh whole length of both sides of jaws; screw connection; shank fits banana plugs.
Cat. No, 32-781 Type 85 steel, $2 \mathbf{z}^{\prime \prime}$ long. Net Each 5c 10 for 44c D--"Trp-Clip" Crocodile . . same as above but with one Jaw equipped with standard phone tip; overall length 2 势".
Cat. No. 32-782 Type 85T
Net Esch 11c 10 for $93 c$
E - Wee-Pee-Wee . . . only 1 Ht $^{\prime \prime}$ overall, witht" jaw spread; light-welght thin-nosed; entirely nod-ferrous, ideal for R.F. Cat. No. 32-783 Type 88

Net each 12c 10 for 98c
F-PEE-WEE . . jaw teeth mesh on ends; interlocking necks in tull channel construction prevent offsetting; screw connection; use copper clips for R.F. or heavy current work.

| Cat. N | ype | Material | Amps. | Length | Open. | Net Ea. | 10 for |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 32-784 | 45 | Cad-plated steel |  | 12" | "' | \$0.05 | \$0.36 |
| 32-785 | 45 C | Copper | 10 | 11" | \%" | . 06 | . 54 |
| 32-786 | 48B | Cad-plated steel | 10 | $2^{\prime \prime}$ | * | . 05 | 39 |
| 32-787 | 48C | Copper | 20 | $2^{\prime \prime}$ | " | . 06 | . 40 |
| 32-788 | 27* | Cad-plated steel | 20 | $2{ }^{\prime \prime}$ | " | . 08 | . 68 |
| 32-789 | $27{ }^{\text {c* }}$ | Copper | 40 | $2{ }^{\frac{7}{18}}{ }^{\prime \prime}$ | * | .13 | 1.17 |

* Jaw teeth mesh on all three sides.

G - Battery Clips . . . husky elips for connection to storage batteries; teeth on one jaw and notch on other; heavy spring.
$\begin{array}{llllllll}32-790 & 24 \mathrm{~A} & \text { Lead-plated steel } & 25 & 27^{\prime \prime} & 1^{\prime \prime} & \$ 0.10 & \$ 0.78 \\ 32-791 & 24 & & \text { Sold }\end{array}$ $\begin{array}{lll}32-791 & 24 & \text { Solid copper }\end{array}$ $32-792$ 21A $\quad$ Lead-plated steel $32-793$ 21* Solld copper 32-794 11A* Lead-plated steel 32-795 11* Solid copper $\begin{array}{rl}50 & 2 ⿳^{\prime \prime} \\ 50 & 4^{\prime \prime} \\ 100 & 4^{\prime \prime} \\ 100 & 6^{\prime \prime} \\ 200 & 6^{\prime \prime}\end{array}$
$1^{\prime \prime}$
$11^{\prime \prime}$
$11^{\prime \prime}$
$11^{\prime \prime}$
$12^{\prime \prime}$
.15
.13
.38
.45
.75
1.37
1.17
3.43
4.12

* Furnished with lug for cable connection.


Clip Insulators
Rubber insulators to fit above clips; can be used with jaws exposed or concealed; speclity red or black. Cat. Clip Ins. Net Ten No. No. No. Es. for 32-796 88 5/85T 32-798 48B/48C 32-799 45/45C $\begin{array}{lll}93 & 5 c & \$ .34 \\ 87 & 8 c & .34\end{array}$ 32-800 $27 / 27 \mathrm{C}$ 32-801 21/24 $32-80124 / 24 \mathrm{~A}$ $32-802$
$\mathbf{3 2 - 8 0 3}$
$\mathbf{1 1}$
$\mathbf{1 1 / 1 1 A}$
$\begin{array}{rrr}89 & 8 \mathrm{c} & .54 \\ 47 & 9 \mathrm{c} & .54 \\ 29 & 15 \mathrm{c} & .98 \\ 28 & 19 \mathrm{c} & 1.27\end{array}$ $26 \quad 19 \mathrm{c}$ $\begin{array}{lll}26 & 19 \mathrm{c} & 1.27 \\ 13 & 51 \mathrm{c} & 2.25 \\ 13 & 51 \mathrm{c} & \mathbf{3 . 5 3}\end{array}$

## Insulated Alligator Clip

Ideal for service beach. Can be soldered without removing insulation. Banana plug fits into $1^{\prime \prime}$ handle. $22^{\prime \prime}$ for Banana Plugs.
Cat. No. 32-761 Red
Cat. No. 32-762 Black Net ea. 7c 10 for
21" for Phone Tips
Cat. No. 32-763 Red
Cat. No. 32-764 Black Net ea. 25c 10 for


B

## MICROPHONE CABLE SHIELDED AND RUBBER-SHEATHED

(A) Single Conductor

Low-capacity, rubber core ard apecial stranding give extra dexiblity plus anusual strength. Type 8401 for ribbon, crystal, or single button carbon milke - or low-impedance transmlssion line; type 8411 for lapel mike; type 8481 for phono pick-ups. Net Cat. No. Type Mmt/ft Per It. 100 ft . $\begin{array}{lllll}30-001 & 8401 & 25 & 6 \mathrm{c} & \$ 4.90 \\ 30-002 & 8411 & 35 & 5 \mathrm{c} & \mathbf{3 . 6 7}\end{array}$ $\begin{array}{lllll}30-003 & 8431 & 55 & 3 y / 2 \mathrm{c} & \mathbf{2 . 2 0}\end{array}$

## (B) Two Conductor

For double-button carbon microphone clrcults using shield as grounded connection; for low-impedance transmisalon lines; or for coupling pre-amplifier to power amplifter. $\begin{array}{lllll}\mathbf{3 0 - 0 0 4} & 8422 & 70 & \mathbf{8 c} & \mathbf{\$ 6 . 1 7}\end{array}$

## (C) Three to Seven Conductor

Type 8423 for double-button carbon microphones feeding mixer panel or circults requiring mike diaphragm to be above ground, yet shielded; type 8424 for double-button mike with attenuation control at mike and using two of the four cable wires; type 8425 for condenser mike line and power supply to head amplitier; type 8426 for condenser mike with remote control switch or pllot light at mike; ty pe 8427 for auto-radio test instruments and acid-resisting analyzer cable.
Cat. No. Type Wires Per ft. 100 ft . $\begin{array}{lllll}30-005 & 8423 & 3 & 9 \mathrm{c} & \$ 7.35\end{array}$ $\begin{array}{rrrrr}30-006 & 8424 & 4 & 111 / 2 \mathrm{c} & 8.82 \\ 30-006 & 8425 & 5 & 1312 \mathrm{c} & 10.29 \\ 30-007 & 120 \\ 30-008 & 8426 & 6 & 16 \mathrm{c} & 12.49\end{array}$ $\begin{array}{rrrrr}30-008 & 8426 & 6 & 16 \mathrm{c} & 12.49 \\ 30-009 & 8427 & 7 & 18 \mathrm{c} & 13.82\end{array}$

## (D) Shielded Grid Wire

Type 8885 No. 20 stranded tinned copper, rubber, cellulose acetate brald, oopper shield.
Cat. No. 30-029
Cat. No $30-030$
25 ft. \$0.81

## (E) Rubber-Insulated Push-Back Wire

Type 8838. No, 20 stranded. General use hook-up wire. Supplted in red, black, blue, green and yellow. Cat. No. 30-052 25 ft. $\$ 0.35$ Cat. No. 30-053 100 ft .1 .23 Type 8901. No. 20 solld tinned copper; vinyl plastic insulation. Supplied in red, black, blue, green and yellow.
Cat. No. 30-054
25 ft .23 c Cat. No. 30-055 100 ft. 73c Type 8902. No, 24 same specifications as 8901 above.
Cat. No. 30-056
25 ft .20 c
Cat. No. 30-057
100 ft .56 c

## Appioved Type P.O.S.J. Lamp Cord

Rubber-covered parallel No. 18 stranded copper wire with pull-apart insulation.
Cat. No. 30-048 Per ft. \$0.02
Cat. No. 30-049 $\quad 100 \mathrm{ft}$. 1.90

# $=\left({ }^{4}\right.$ 

D<br>\section*{(F) (G) Transmission Line Cables}

Twisted-pair Lead-in
Type 8204. 72 ohm. Two No. 18 cond. covered with color-coded rubber and weather-proof brald. Cat. No. 30-025

Per ft. $3 \frac{1}{c} \mathrm{c}$ 500 ft . $\$ 13.80$

## Coaxial Cable

Type 8209. No. 18 stranded with cotton wrap and rubber insulation colorcoded.
Cat. No. 30-027 Per ft. 7c Type 8205 No. 22 stranded paper wrap rubber insulation black braid. Cat. No. 30-028 Per ft. 2c

## (H) (I) Cellulpse Acetate Hook Up Wire

Tinned copper with cellulose acetate wrap and cellulose braid. Lacquer coating. 1000 VAC breakdown volt-
age.
Type
Type 8941 . No. 20 Soltd $\quad$ Net 100 ft . Not
25 ft Price

Color Cat. No. Price Cat. No. Red 30-058 $\quad 30-063$ $\left.\begin{array}{ll}\text { Black } & 30-059 \\ 30-060\end{array}\right\} \begin{array}{r}39 \mathrm{c} \\ \begin{array}{l}30-064 \\ 30-065\end{array}\end{array}$ | Blue | $30-060$ |
| :--- | :--- | :--- | :--- |
| Green | $30-061$ |\(| \begin{array}{ll}30-065 <br>

\mathbf{3 0} \& \mathbf{3 0 - 0 6 6}\end{array}\)
1.03

Yellow 30-062 $\quad 30-067$
Type 8943. No. 20 stranded

|  | 25 ft . |  | 100 ft . |  |
| :---: | :---: | :---: | :---: | :---: |
| Color | Cat. No, |  | Cat. No. |  |
| Red | 30-068 |  | $30-073$ |  |
| Black | 30-069 |  | 30-074 |  |
| Blue | 30-070 | 29c | 30-075 | 1. |
| Green | 30-071 |  | 30-076 |  |
| Yellow | 30-072) |  | 30-077 |  |
| Type 8945. No. 18 Solld |  |  |  |  |
|  | 25 ft . |  | 100 ft . |  |
| Color | Cat. No. |  | Cat. No. |  |
| Red | 30-078 |  | 30-083 |  |
| Black | 30-079 |  | 30-084 |  |
| Blue | 30-080 | 37c | 30-085 | 1.18 |
| Green | 30-081 |  | 30-086 |  |
| Yellow | 30-082 |  | 30-087 |  |

Type 8947. No. 18 stranded
Color Cat .
$\begin{array}{lll}\text { Col } & 30-088 \\ \text { Red } & 30-093 \\ \text { Black } & 30-089\end{array}$
$\left.\begin{array}{ll}\text { Black } & 30-089 \\ \text { Blue } & 30-090 \\ \text { Gre }\end{array}\right\} \begin{array}{ll}30-091\end{array} \begin{aligned} & 30-095 \\ & 30-096\end{aligned}$

| Green | $30-091$ | $30-096$ |
| :--- | :--- | :--- |
|  | $30-092$ | $30-097$ |

Type 8938. No. 14 Stranded

|  | 25 ft . |  | 100 ft . |
| :---: | :---: | :---: | :---: |
| Color | Cat. No. |  | Cat. No. |
| Red | 30-098 | 56 c | 30-101 |
| Black | 30-100 | 56 c | 30-102 |

## Replacement and Extension Cord

Type 1725. Brown rubber-covered lamp cord with rubber plug. Opposite end stripped and tinned. $7 \frac{1}{3}$ long.
Cat. No. $30-050$ Net Price 34 c Type 1701. Same as 1725 but 10 ftlong Cat. No. 30-051 Net Price 83c

=and fiver


N

## MULTI-WIRE CABLE <br> (J) Rubber Sheathed

Composed of rubber-Insulated wires in cotton wrap with cord fillers and overall heavy rubber sheath.

| Cat. | Mirs. |  |  | Net | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Cond. | O.D. | Per Ft. | 100 Ft . |
| 30-010 | 8452 | 2 | .245" | 5 c | \$3.67 |
| 30-011 | 8453 | 3 | . 275 " | 7 c | 5.00 |
| 30-012 | 8454 | 4 | . $2655^{\prime \prime}$ | 8 c | 6.03 |
| 30-013 | 8455 | 5 | . $285{ }^{\prime \prime}$ | 9 c | 6.47 |

(K) Braid-Covered Plastic-Insulated Cables

Tinned copper stranded wire with plastic insulation; abrasion-proof cotton brald covering. For permanent installations.
Cat. Mrs. Net Net $\begin{array}{lccccr}\text { No. } & \text { Mype } & \text { Cond. } & \text { O.D. } & \text { Per Ft. } & 100 \text { Ft. } \\ \text { 30-014 } & 8443 & 3 & .135^{\prime \prime} & 4 \mathrm{c} & \$ 2.65\end{array}$
30-015
30-016
30-017
30-018
$\begin{array}{llllll}30-018 & * 8447 & 7 & .218 & 8 \mathrm{c} & 6.27 \\ 30-019 & * 8448 & 8 & .235^{\prime \prime} & 9 \mathrm{c} & 6.91\end{array}$
$\begin{array}{llllll}30-019 & * 8448 & 8 & .240^{\prime \prime} & 11 \frac{1}{2} \mathrm{c} & 8.38 \\ 30-020 & * 8449 & 9 & .260^{\prime \prime} & 11 \frac{1}{2} \mathrm{c} & \mathbf{8 . 8 2}\end{array}$

* Have two conductors of No. 16 stranded ( $19 \times 29$ ); the rest are

No. 22 stranded ( $7 \times 30$ ).
(L) Cable for Intercommunication and Public Address Systems
Tinned copper, solld; vinyl plastic insulation, color-coded. No. 22 conductors cabled in pairs; over-all brown cotton braid.

| Cat. | Mfrs. | No. |  | Net | Net |
| :--- | :--- | :--- | :--- | :--- | ---: |
| No. | Type | Pairs | O.D. | Per Ft. | 100 Ft. |
| $30-031$ | 8740 | 1 | $.115^{\prime \prime}$ | $2 \frac{1}{c} \mathrm{c}$ | $\$ 1.84$ |
| $30-032$ | 8741 | 2 | $.175^{\prime \prime}$ | 5 c | 3.53 |
| $30-033$ | 8742 | 3 | $.195^{\prime \prime}$ | 6 c | 4.87 |
| $\mathbf{3 0 - 0 3 4}$ | 8743 | 6 | $.275^{\prime \prime}$ | 9 c | 6.61 |
| $30-035$ | 8744 | 9 | $.320^{\prime \prime}$ | 13 c | 9.55 |
| $30-036$ | 8745 | 15 | $.415^{\prime \prime}$ | 21 c | 16.17 |
| $30-037$ | 8746 | 27 | $.535^{\prime \prime}$ | $\mathbf{3 8 c}$ | 29.40 |

## (M) 3-Conductor Cable

Type 8734. No. 22 tinned copper, fexible strand with color-coded vinyl plastic insulation.
One conductor shielded; 2 conductors palred, unshielded.
Cat. No. 30-038 Per foot
$\$ 0.07$
Cat. No. 30-039 100 feet
5.52
(N) PA Cable-Amplifier to Speaker

Type 8799. No. 18 bare copper, solid; plastic insulation, color-coded; conductors cabled; tinned copper bratu shield.
Cat. No. 30-040 Per foot
$\$ 0.05$
Cat. No. 30-041 100 feet
3.38

## Thermoplastic Hook-Up Wire

UL approved. Easy stripping insulation. 10,000 v. breakdown test. Oll and acid proof and will withstand $80^{\circ} \mathrm{C}$ temperatures. No. 20 Solid

|  |  |  | No. 20 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Color | $\begin{aligned} & 25 \mathrm{ft} . \\ & \text { Cat. No. } \end{aligned}$ | Net Price | Color | $\begin{aligned} & 25 \mathrm{ft} . \\ & \text { Cat. No. } \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Price } \end{aligned}$ |
| Black | 30-103 |  | Black | 30-108 |  |
| Red | 30-104 |  | Ked | 30-109 |  |
| Blue | 30-105 | 24 c | Blue | 30-110 | 28 c |
| Green | 30-106 |  | Green | 30-111 |  |
| Yellow | 30-107 |  | Yellow | 30-112 |  |


| Magnet Wire - Double Cotton 1/2 Lb. Spools |  |  |  |  |  |  |  | Magnal Wire - |  |  | Plain | Enameled | 1/2 | Spools |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Bize | Feet | ${ }_{\text {Net }}$ | Cat. No. | Size | Feet | Net $\mathbf{\$ 0 . 6 9}$ | $\begin{aligned} & \text { Cat. No. } \\ & \mathbf{3 0 - 1 7 3} \end{aligned}$ | $\begin{gathered} \text { Slze } \\ 14 \end{gathered}$ | $\begin{gathered} \text { Feet } \\ 38 \end{gathered}$ | $\begin{gathered} \text { Net } \\ \mathbf{\$ 0 . 3 0} \end{gathered}$ | Cat. No. | 8ize | Feet 640 | \$0.43 |
| .30-179 | 14 | 36 | \$0.37 | 30-191 | $\stackrel{26}{28}$ | 558 842 | $\mathbf{8}$ $\mathbf{. 6 9}$ $\mathbf{. 8 4}$ | 30-174 | 16 | 83 | . 33 | 30-186 | 28 | 1013 | . 47 |
| 30-180 | 16 | 61 | . 39 | $30-192$ $30-193$ | 28 30 | 842 1321 | . 88 | 30-175 | 18 | 101 | . 35 | 30-187 | 30 | 1602 | . 51 |
| 30-181 | 18 | ${ }^{96}$ | . 43 | $30-193$ $30-194$ | 30 32 3 | 1321 1889 | $\begin{array}{r}.98 \\ \hline 17\end{array}$ | 30-176 | 20 | 159 | . 37 | 30-188 | 32 | 2543 | . 55 |
| $30-182$ $30-183$ | 20 | 150 | . 54 | 30-194 | 32 34 | 1889 2746 | 1.51 | 30-177 | 22 | 253 | . 37 | 30-189 | 34 | 4042 | . 67 |
| 30-184 | 24 | 362 | . 63 | 30-196 | 36 | 3801 | 1.91 | 30-178 | 24 | 402 | . 39 | 30-190 | 36 | 6410 | . 78 |
| 18 |  |  |  | hen | e | W | Sta | log |  | r | 0 |  |  |  |  |

## (A) Amphenol RG High Frequency Cables

Have flexible polyethylene inner jacket covered by copper shleld with vinyl or poly outer jacket. Impervious to gasoline, acids, alkalis, and oils and may be burled in the ground. 21-038 is 2 -conductor.

|  | MPr's | Nominal | Nominal | Cable | Per |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Imped. | mmid-ft. | O.D. | Ft. |
| 30-301 | 21-004 | 52.0 | 29.5 | . 405 | 17c |
| 30-302 | 21-007 | 75.0 | 20.5 | . 405 | 15 c |
| 30-303 | 21-024 | 53.5 | 28.5 | . 195 | 8 c |
| 30-304 | 21-025 | 73.0 | 21.0 | . 242 | 10 c |
| 30-305 | 21-038 | 95.0 | 16.0 | 285 | 20c |

(B)

Type 8899. No. 18 stranded; cotton wrap. rubber overall. Red or black, flexible and limp. 5000 v . insulation.
Cat. No. 30-042 Per foot
Cat. No. 30-043 100 feet
1.84

Type 8898. Same as above but $10,000 \mathrm{v}$. Insulation.
Cat. No. 30-044 Per foot
$\$ 031$
$\mathbf{2 . 8 9}$
Cat. No. 30-045 100 feet
(C)

## Auto and Aircraft Radio Wires

Type 8665 high tension cable. No. 16 stranded stainless steel; rubber Insulation; glass yarn web brald; neoprene jacket; tinned copper braid shield; neoprene jacket.
Cat. No. 30-046 Per foot
$\$ 0.17$
Cat. No. 30-047 100 feet

## Varnished Spaghetti Tubing

Average dlelectrlc strength, 4000 v. Meets VTS and ASTM specs. 36-inchlengths.


| (D) | Indoor Aerial Wire |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Type 8014. Extra flexible. No. 25 stranded. 25 ft hank. |  |  |  |  |
| Cat. No. | 3 Per hank |  |  | \$0.18 |
| Cat. No. | 4500 feet |  | - | 1.98 |
| (E) | Shielded | ad-In |  |  |
| Type 8206. No. 18 stranded, rubber covered, copper shleld overall. 63 mm per foot maximum. |  |  |  |  |
| Cat. No. | 5 Per foot |  |  | \$. 03 |
| Cat. No. | 6250 feet |  |  | 5.88 |
| (F) Rubber-Covered Lead-In |  |  |  |  |
| 18-Strand Overall d | $\begin{aligned} & \text { e } 8200 \\ & \text { er } 0.126^{\prime \prime} \end{aligned}$ | 16-Strand Overall d | $\begin{aligned} & \text { e } 8201 \\ & \text { er } 0.135^{\prime \prime} \end{aligned}$ |  |
| Cat. No. | Length Net | Cat. No. | Length | ${ }_{50}{ }^{\text {Net }}$ |
| 30-135 | 100 ft . $\quad \mathbf{0 . 9 8}$ | 30-138 | 100 ft . | 1.13 |
| 30-136 | 500 ft . 3.91 | 30-139 | 250 ft. | 2.36 |


| Aerial Wire |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| High-conductivity codper wire with enamel insulatlon |  |  |  |  |  |  |
| Stranded Bare <br> Type $8000-7 \times 22$ <br> Cat. No. <br> Length |  | Copper | Copperweld Solid Enameled Antenna Wire |  |  |  |
|  |  |  |  |  |  |  |
|  |  | $\begin{aligned} & \mathrm{Net} \\ & \$ .64 \end{aligned}$ | Welded copper covering - steel core. |  |  |  |
| $\begin{aligned} & \text { Cat. No. } \\ & 30-117 \\ & 30-118 \end{aligned}$ | Length 50 ft |  | Ga. Cat. | No. N |  |  |
| $\begin{aligned} & 30-118 \\ & 30-119 \end{aligned}$ | 100 ft . | 1.18 | 14 30-14 | 40 \$1.0 |  | \$2.0 |
| -119 | 1,000 ft. | 11.02 | $12 \quad 30-14$ | 411.5 |  | 3.0 |
| Type 8002. $7 \times 24$ |  |  | $10 \quad 30-14$ | 422.24 | 30 | 4.25 |
| $\begin{aligned} & \text { Cat. No. } \\ & 300121 \\ & 30-122 \\ & 30-123 \\ & \mathbf{3 0 - 1 2 4} \end{aligned}$ | Length | . 49 | Solid Tinned Copper W |  |  |  |
|  |  |  | Heavy-duty copper aerlal wire. |  |  |  |
|  | 100 ft . | . 83 |  |  |  |  |
|  | 1,000 tt. |  | 30-146 | 14 |  | \$0.79 |
|  |  |  |  |  |  | 1.02 |
| Stranded Enameled <br> Type 8005. $7 \times 22$ |  | Copper | 30-148 | 10 | 100 |  |
|  |  | Copper | Solid Enameled Copper |  |  |  |
| Type 8005. $7 \times$ Cat. No. | Length |  | Type 800 | No. |  |  |
| -125 | 75 ft . | \$1.18 |  |  |  |  |
|  | 100 ft . | 1.47 |  |  |  | \$1.76 |
| 30-127 | $1,000 \mathrm{ft}$. | 13.18 | \| $\begin{aligned} & 30-131 \\ & 30-132\end{aligned}$ |  |  | 3.33 |
| Type 8006. 7 | $7 \times 20$ |  | Type 8009. | 9. No. 14 |  |  |
| $\begin{aligned} & \text { Cat. No. } \\ & \mathbf{3 0 - 1 2 8} \end{aligned}$ | Length |  | Cat. No. |  |  |  |
|  | 100 tt . | \$2.45 | 30-133 |  |  | \$1.18 |
|  | 1,000\%. | 22.00 | 30-134 |  | ft . | 5.3 |

Type 8014. Extra fexible. No. 25 stranded. 25 ft hank.
Cat No. 30-114 Fer hank
0.18
(E)

## Shielded Lead-In Wire

Type 8206. No. 18 stranded, rubber covered, copper shleld overall 63 mmf per foot maximum
Cat. No. 30-115 Per foot

18-Strand Type 8200

## ANTENNA ACCESSORIES <br> INSULATORS




## VIS-O-GLOW

(A) Lightning Arrester

Neon tube arrester. Very sensitive and will carry heavy discharges. Carries $\$ 100$ fire Insurance. Made of crystal-clear glass.
Cat. No. 27-205 Single. Net
$\$ 0.82$ Cat. No. 27-206 Duplex. Net : : $\$ 1.15$ BELDEN

## (B) Lightning Arresters

000 Porcelain single-wire type. With mounting hardware.
Cat. No. 27-207 Net 19c 10 for $\$ 1.70$ Binale Type 8896 Bakelite. U.L. approved. Cat. No. 27-208 Net

## (C) Ground Clamp

Frame cannot twist. WIL out thru palnt to make ontact.
Cat. No. 29-007 Net Each 9c 10 for 73c

## (D) Lead-In Strips

Weather-proofed; clip connectors at each end. Cat. No. 29-005 Net Esch

## Antenna Loop

Replacement loop with single mounting hole for easy installation. Hi-Q, covers broadcast band with 385 mmid. tuning-condenser. Cat. No. 29-006 Net Each


## Antenna Insulators

(E) Made of clear glass. Smooth surface prevents collection of dirt and tce. $3^{2 / 1}$ long.
Cat. No. 27-201 Net Each
(F) Nail-it Knobs. Glazed white porcelaln. Grooves for 2 wires.
Cat. No. 27-202 Net Each . . . $4 c$
(G) Screw-eye Insulator, $3^{\prime \prime}$. Bakellte.

Cat. No. 27-203 Net Each
4 c
(G) Screw-eye Insulator, $7^{\prime \prime}$. Bakellte.

Cat. No. 27-204 Net Each

## National

## (H) Antenna Lead-In Bushings

steatite bushings. Assembly includes male and
female bushings and metal fittings.
Cat. No. 27-104 Type Xs7 $1^{\prime \prime}$ hole.
Net per pr.
Cat. No. 27-105 Type XB8 $\frac{1}{2}^{\prime \prime}$ hole.
Net per pr.
Cat. No. 27-106 Type Xsi $1^{\prime \prime}$ hole.
Net per pr.
Cat. No. $27-107^{\circ}$ Type Xsé 1 in $^{\prime \prime}$ hole.
Cat. No. 27
Net per pr.
72 c
strain insulator.
Cat. No. 27-108 Net Each

## Johnson Antenna Insulators

Wet process porcelain with smooth white glazing: long leakage path, low capacity and freedom from molsture absorpulon.


## (N) Feeder Insulators

High grade, low-absorption porcelain, sllicone impregnated, aflords finest water repellent characteristics. Type 122 has notches for $1 \frac{1}{2}^{\prime \prime}$ line. All have $\frac{1}{3^{\prime \prime}} \mathrm{I} \frac{1}{1}$ " cross section.

| Cat. No. | Type | Length | Net |
| :--- | :---: | :---: | :---: |
| 277043 | $136-122$ | $2^{\prime \prime}$ | 10 c |
| $27-044$ | $136-124$ | $4^{\prime \prime}$ | 14 c |
| $27-045$ | $136-126$ | $6^{\prime \prime}$ | 18 c |
| $27-046$ | $136-31$ | - | $9 \frac{1}{2} \mathrm{c}$ |

 <br> \section*{Johnson <br> \section*{Johnson <br> <br> Stand-Off Insulators} <br> <br> Stand-Off Insulators}

Heavy, breakage-resistant bases, with adequate "glaze" grooves around mounting holes, are a feature of these stand-offs. Types 65, 66, 67, and 68 have unbreakable, cudmium-plated, drawn steel bases. Suffix "J" Indicates jack-type. All are low-absorption porcelain for R.F. Furnished with nickel-plated brass hardware.

| Cat. | Type |  |  | Fig. |
| :--- | :--- | :--- | :--- | :--- | | Body |
| :--- |
| Bgt. |$\quad$ Net

* Square Base.



## Amphenol BC - SW - FM

## Twin-Lead

 Transmission Line
## (A) 10-20 Meter Band Antenna

The signal squirter, Type $140-005$, is establishIng world-wide DX records. Simple inductostub coupling of transmission line to antenna for great performance without adjustments to reduce transmission line standing wave. Unilmited rotation, high torward directivity, low-loss elements, non-resonant transmlssion line, positive meck, high front-to-back ratio. Furnished with mounted inductostub, direction Indicator, center section, elements, insulators, and hurdware. Cat. No. 29-054 Net Each 0 meters Type 160-003. Cat. No. 29-055 Net Each
${ }^{5} 224.00$ Dlrection indicator for Rotators above. Type 160 -947.
Cat. No. 29-056 Net Each
$\$ 28.00$

## (C) Amphenol Twinlead Line

Durable, Inexpensive, low-loss, water-repeltent Amphenol Twin-lead line is first cholce. It is unaffected by alkalles and olls, remains texible at $-70^{\circ} \mathrm{C}$ and is unaffected by sualight.
 transmitting
Type 14-023. 75 ohm . Rated 1000 w . for 30 mc . Cat. No. 29-091 Net per $100^{\prime} \$ 6.48$ Net per ft . 7 c

## Amateur Antennas - Auto Aerials

## AMATEUR ANTENNAS

 Workshop Associates2-Meter Beam - A 6 -element array with 2 driven elements. Power gain is 6 ( 7.8 db .). Matched with $50-\mathrm{ohm}$ coax line. Elements are -inch aluminum sealed tubing, supported in heavy-duty molded plastic heads. Bullt to weather the storms. Hardware and instructions included.
Cat. No. 29-075 Net Each
s21.50 6-Meter Beam - A high-gain 3-element directional antenna with rotating mast. Standing wave ratlo less than 1.1 over entire band with $72-$ ohm cable. Aluminum alloy construction with heavy-duty plastle head; will withstand high winds. Complete with hardware, instructions. Cat. No. 29-076 Net Each . . $\$ 9.00$ 10-Meter Dipole - Coverage trom 27 mc . to 30 mc . Two aluminum elements which telescope between 130 and 214 inches. Bi-directional, but roiable mast equipment is available. $\mathbf{C 8 . 0 0}$ Cat. No. 29-07 Net Each 10-meter Difole-to-Beam Kit - Accessories to convert above antenna to a 3 -element 10 meter beam antenna.
s31.50 Cat. No. 29-078 Net Each 10-Meter Beam - 3 -elements; adjustable aluminum alloy sleeves telescope. Element spacing is also adjustable. Exceptional rigidity provides smooth rotation. Efficient 68 -ohm impedance match.
s39.50
Dual-Ten Beam - 6 -element for the "ultimate" In a high-gain 10 -meter beam. Dual beams are vertically polarized with 1-2 wave-length spacing. Beam width for $\frac{1}{3}$ power angle: horizontal $64^{\circ}$, vertical $68^{\circ}$. Power gain of 6 ( 7.8 db .). Broad band. Construction similar to 2 -Meter Beam antenna above.
${ }^{5} 100.00$ Cat. No. 29-080 Net Each
20-METER Byam - 3 -element 36 -ft. beam covers the band. Light weight with rigidity for smooth rotation. Built to withstand high winds and ice loads. Two-inch duraluminum booms. Minimuni sag; taper from $1 \frac{\frac{1}{n}^{\prime \prime}}{}$ to $\frac{\frac{1}{2}^{\prime \prime}}{}$ dlameter. Length and spacing adjustable. 55 pounds. $\$ 120.00$
Cat. No. 29-081

## Antenna Mast and Mount

model AM - Tubular steel mast of two 4-it. sections for overall length of 7 nift. No guy wires; strong adjustable steel mounting arms and brackets. All hardware Included.
$\$ 8.25$ Cat. No. 29-082 Net Each a $\dot{4}$. Cat. No. 29-083 Net Each $\$ 1.30$

## Manual Mast Rotator

Model AM2 - Kit includes extra sectlons brackets, arm for locking. Designed for Beam Antennas above.
Cat. No. 29-084 Net Each
${ }^{5} 5.00$

## Motorized Rotator

Destgned for above "Beams," will handle a 10 and 20 combination or UHF of your own. Lowloss coax all the way. Rotation automatically stops to prevent twisting coax line. 1 RPM, instantly reversible. Switch on indicator for complete control. Compass dial pointer. Ball thrust bearing base plate handles 500 pounds easlly. Quiet operation, precision gears, heavy-duty 110 volt AC motor. Weathertight aluminum casing.
Cat. No. 29-085 Net Each
${ }^{8} 157.50$

## Standoff Insulator

Molded of strong, weatherproof plastic, attaches with a single wood screw. For the new 300 -ohm parallel iline.
Cat. No. 29-086 Net Each 9c
(A) Mosely Dipole Connector

Center-connects 300 -ohm line folded dipole type. Solderless, secure connections. Furnished with screws, nuts, and washers.
Cat. No. 29-451 Net Price .
35c

## (B) Shur Antenna Mount

Fits anywhere - on root-top, sloping side, or vertical surface. Cast aluminum construction will support weight of any fixed standard FM or TV antenna. Takes up to $1 \frac{1}{2}$ inch pole. With complete instructions and mounting hardware Cat. No. 29-041 Model M-C Net Price \$5.25 See the Wave Meter Section for a complete listling of frequency calibration and monitoring instruments.

10.METER OIPOLE

20.METER BEAM


ROTATOR INOICATOR
(A) Type DCF-3 - The "Pbantom." Three tele scoping sections. $56^{\prime \prime}$ when extended, $3 \frac{1}{2}^{\prime \prime}$ when collapsed. Fits every car, top-cowl, and tender. Completely shtelded from englne noises, completely water sealed. $36^{7 \prime}$ coaxial lead cable insulated with polyethylene; shield braid, and sulated with polyethylene; shield braid, and
vinylite, connector fittlng, bayonet adapter vinyilite, connector niting, bayonet $\$$ sdapter
Included.
Cat. No. 29-201 Net Each Cat. No. 29-201 Net Each
(B) Type TCF-3 - The "Eightball." Fits all cars, top, cowl, and feader. Secure installation; easy to mount. 3 sections, $56^{\prime \prime}$, non-telescoping. $36^{\prime \prime}$ coaxial lead cable, insulated with polyethylene; shicld braid, and vinylite, connector fitting, bayonet adapter included.
${ }^{5} 3.15$ Cat. No. 29-202 Net Each

A flexible (C) TYPE CF-6 - The "Flex-Angle." A flexible tlon. 3 sections $68^{\prime \prime}$. Includes all accessories listed for Type DCF-3. $\$ 3.20$ Cat. No. 29-203 Net Each (D) TYPE SB-3 - The "Challenger." slde-cow 1
and fender mount with two stancions. Quality and fender mount with two stancions. Quality Ward high "Q," low-loss, coaxial cable le"d without Vinylite jacket. Shield-can type installation. 3 sections, $36^{\prime \prime}$
$\$ 1.73$ Cat. No. 29-204 Net Each
\$1.73
(E) TyPE SC-6 - "Air King." 3 sections, 66 ", side-cowl and fender mount. Two-stanchion mounts provide secure installation. Smart chrome-cap insulators. Includes conversion kit for universal mounting. Includes all accesse:ies listed under DCF-3. Cat. No. 29-205 Net Each
$\$ 2.91$ (F) Type SC-8 - "Long Ranger." Same as Type SC-6 above but 4 sections, $100^{\text {", for fine recep- }}$ thon in low signal areas. Cat. No. 29-206 Net Each
s4.09

## Lead Extension

Typs C-8 - Provides lead extension needed when mounting antenna on fender. Ward fittings dsalgned for attachment to the standud ward $36^{\prime \prime}$ lead provided with antennas above.
Cat. No. 29-207 Net Each
44 c

## PROFESSIONAL TYPE

(C) Automobile Aerials

For use where strength, ruggeriness, and special high-ire uency insulation are vital; solid springsteel rods, $96^{\prime \prime}$ long, tapered for flexibillty, and cadmlum plated for protection against corrosion; lower section conisists of $8^{\prime \prime}$ diameter brass rod heavily plated; aerial is flexlble enough to bend freely under contact with tree limbs, yet amply sturdy. For particularly arduous service, the heavy conlcal coll spring holds rod erect at normal specds and while car is turning corners, and flexes to allow rod to pass under solld obstructions; spring is not part of the electrical circuit; flexible insulated lead passes through center of spring and connects to aerial. For dependable service in any weather. Lucite and impregnated Bakelite are used for insulation.

## Bumper Mounting Spring Type

Type 1380 - Attaches to car bumper support; rigid clamp bolds spring base. $96^{\prime \prime}$ high. $\$ 16.34$ Cat. No. 29-251 Net Each

## Body Mounting Spring Type

Trpe 1480 - Mounts anywhere on the car, except the bumper; soft rubber gasket makes tight fit and keeps molsture out.

## Cat. No. 29-252 Net Each

'16.34

## Car Roof Mounting

Type 1918 - A new ear-root mobile aerlal. $20^{\prime \prime}$ high.
s2.70
Cat. No. 29-253 Net Each
Notc: Series 1300 can be supplied in $78^{\prime \prime}, 84^{\prime \prime}$, and $90^{\prime \prime}$ lengths. Series 1400 can be supplied in $60^{\prime \prime}$. $66^{\prime \prime}, 72^{\prime \prime}, 78^{\prime \prime}, 84^{\prime \prime}$, and $90^{\prime \prime}$ lengths. Write for prices.
All professional type antennas are furnished without lead-in cables; see coax cable listing in this catalog.


Shielded Connector
Antenna coupler for anto radios. $1 \frac{3}{3^{\prime \prime}} \mathrm{x} \frac{3^{\prime \prime}}{}$ dila Bayonet type.
Cat. No. 29-301 Net Each 6c 10 for 54c

#  

## MEISSNER <br> "Align-Aire" IF Transformers

Excellent stablity, unaffected by humidlty, nonmicrophonic and dust proof, this IF transformer may be used where the utmost in seleotivity and sensitivity a re desired. All types are double tuned and are housed in shields $2^{\prime \prime} \times 2^{\prime \prime} \times 4^{\frac{3^{\prime \prime}}{}}$. Cat.

| No. | Type | Range (kc) | Use |
| :--- | :---: | :---: | :--- |
| $21-801$ | $16-6643$ | $415-540$ | Input |
| $21-802$ | $16-6123$ | $415-540$ | Interstage |
| $21-803$ | $16-6645$ | $415-540$ | Output |

21-804 16-6139 415-540 Output C.T
Net Price,

## (A) Phono Osc. Coil

For record reproduction through the radlo receiver. Knob adjustment. $1 \frac{17}{z^{\prime \prime}}$ square by $31^{\prime \prime}$ high.
Cat. No. 21-805 Type 17-9373 Net Price $\$ 1.65$

## B. F. O. Coil

Supplies beat note for reception of CW. Alds in tuning weak stations. Range: 290-650 kc. peaked at 456 kc .
Cat. No. 21-806 Type 17-6753 Net Price $\$ 1.44$

## Adjustable SW Coils

Provide IF between 175 and 520 kc ., ferrocart iron cores add gain and selectivity to the receiver. Cat. No. For 1.7 to 5.3 MC Cape $\quad$ Cat. No. Type $\begin{array}{lllll}\text { Cat. No. } & \text { Ant. } & 14-1041 & 21-858 & 14-1044 \\ 21-807 & \text { Ant. } & 14-1042 & 21-859 & 14-1045\end{array}$ $\begin{array}{lllll}21-808 & \text { R.F. } & 14-1042 & 21-859 & 14-1045 \\ 21-809 & \text { Osc. } & 14-1043 & 21-860 & 14-1046\end{array}$ Net each . . . . $\$ 1.03$
(B) Standard Oscillator Coils

Frequency range $545-1580 \mathrm{kc}$. For use with 365 mmf. condenser. Impregnated to resist climatic conditlons.

|  | Unshielded Type |  |  |
| :---: | :---: | :---: | :---: |
| Cat. No. | Type | IF | Net |
| 21-810 | 14-3732 | 175 KC | 62 c |
| 21-811 | 14-4034 | 456 KC | 62c |
| 21-812 | 14-1033* | 456 KC | 62 |

$21-812$

- Spectal oscllator coll for 68A7 and 12sA7.

|  | Shielden TYPE |  |  |  |  |
| :--- | :--- | :---: | :---: | :---: | :---: |
| Cat. No. | Type | IF | Net |  |  |
| 21-813 | $14-4242$ | 175 KC | 79 c |  |  |
| $21-814$ | $14-4243$ | 456 KC | 79 c |  |  |

## (C) Standard Antenna RF Coils

Cover broadcast band trom 545 to 1580 kc . with a 365 mmf . tuning condenser. High-imperlance primaries; protected agalnst humldity.

Unshielded Type
Cat. No. 21-815 Ant. Coll (14-1010) Net ea. 56 c Cat. No. 21-816 RF Coil (14-1011) Net ea. 56c

Seifelded Type
Cat. No. 21-817 Ant. Coll (14-1004) Net ea. 73c
Cat. No. 21-818 RF Coil (14-1005) Net ea. 73c
(D) Midget Antenna and RF Coils

Full coverage of broadcast band with 365 mmf . tuning condenser. High-impedance primaries. Fully protectod against humidity

Shielded Type
Cat. No. 21-819 Ant. Coll (14-2436) Net ea. 73c Cat. No. 21-820 RF Coil (14-2437) Net ea. 73c

Unghiclded Type
Cat. No. 21-821 Ant. Coll (14-1022) Net ea. 50c Cat. No. 21-822 RF Coll (14-1023) Net ea. 50c

## MEISSNER

(E) Plastic IF Transformers

For use in small recelvers. Coll form molded in plastic in one plece; unaffected by weather conditions; $11^{\prime \prime}$ square by $2 \frac{1}{2}^{\prime \prime}$ hlgh.

## 175 KC

Cat. No. Type $\begin{array}{lllll}21-823 & 16-6649 & \text { Input } & 21-858 & \text { 16-6652 }\end{array}$ $\begin{array}{llllll}21-825 & 16-6651 & \text { Inter, } & \text { Output } & 21-860 & \text { 16-6654 }\end{array}$

$$
370 \mathrm{KC}
$$

21-826 16-6855 21-827 16-6655 21-828 16-6056 Net. Each

## Small Plastic IF Transformers

Same as above but smaller - $1 \frac{1}{8}$ " square by $2 \frac{1}{2}{ }^{\prime \prime}$ high; 456 kc .; universal replacement for most late model sets.
Cat. No. 21-829 16-6666 Input Net ea. 82c Cat. No. 21-830 16-6667 Output Net ea. 82 c

## Tweet Filter Output IF

Built-ln AVC flter; 456 kc . for use in late model

## receivers.

Cat. No. 21-831 Type 16-6670 Net Price $\$ 1.32$

## Ferrocart Iron-Core <br> IF Transformers

Litz wire, impregnated windings; 456 ko; used for replacements or original installation. 1竟" square by $3^{\prime \prime}$ high.
Cat. No. 21-832 Type 16-5740 Net ea. \$1.65 Cat. No. 21-833 Type 16-5742 Net ea. $\$ 1.65$
(F) Iron-Core RF Chokes

Maximum efticiency - lower DC resistance per MH. Wax-Impregnated colls; universal wound. $\begin{array}{lccc}\text { Cat. No. } & \text { Type } & \text { Mh. } & \text { Net } \\ \text { 21-834 } & 19-6834 & 2.5 & \$ 0.56\end{array}$ $21-834$
$21-835$ 19-6834
2.5
10.0 $\begin{array}{lll}211-835 & 19-6840 & 10.0 \\ 21-836 & 19-6842 & 30.0 \\ 21-837 & 19-6844 & 60.0\end{array}$ $\begin{array}{lll}21-867 & 19-6846 & 80.0\end{array}$ $\$ 0.56$
.71
.82 .94 $\begin{array}{r}.94 \\ 1.06 \\ \hline\end{array}$

## (C) Cartwheel IF

Small, unshielded, complete with dua trimmers. Used in many small AC-DC or mildget receivere. $1 \frac{3^{\prime \prime}}{1 \prime}$ by $1 \frac{1}{1^{\prime}}$ " by $1 \frac{1^{\prime \prime}}{}$. One-plece molded plastle trimmer base; for 456 kc . only.
Cat. No. 21-838 Type 16-6661 Net Price 82c

## Universal Oscillator Coil

For use in recelvers with a 456 kc . IF. Primary winding is tapped for use with 25 different osclllator tubes.
Cat. No. 21-839 Type 14-1040 Net Price $\$ 1.18$

## (H) Standard IF Transformers

General replacement IFP's. Mica dielectric trimmers. Ceramle base. $\frac{17}{7}^{\prime \prime}$ sq. $x 3^{\prime \prime}$.
Cat. No. Type For Cat. No. Type $\begin{array}{llllll}21-840 & 16-5712 & \text { Input } & 21-864 & 16-5704\end{array}$ $21-841 \quad 16-6133$ Inter. $\overline{21-865} \quad \overline{16-5706}$ $21-842$ 16-5714 Output 21-865 10-5706 * Center tapped.
Output
$\$ 1,23$

## BC Wave Traps

Compact units designed for ellmination of interference caused from broadcast stations. Fully shielded and molsture protected. Eusy adjustment. Instructions for use as rejector or by-pass arrangement. $18^{\prime \prime} \times 1_{1}^{17}$ high. Mounting brackets attached.

| attachec. | Type | Range | Net Ea. |
| :--- | :---: | :---: | ---: |
| Cat. No. | R-7. |  |  |
| $21-844$ | $15-8479$ | $400-700 \mathrm{kc}$. | $\$ 0.88$ |
| $21-845$ | $15-8480$ | $650-1000 \mathrm{kc}$. | .88 |
| $21-846$ | $15-8481$ | $\mathbf{8 5 0 - 1 6 0 0} \mathrm{kc}$. | $\mathbf{. 8 8}$ |



## MEISSNER

## 3/4" Square IF Transformer

For small AC/DC and portable sets. May be used for input or output; HiQ iron core; com-presslon-type trimmers; in $^{\prime \prime}$ square by 2 long;. spade-bolt mounting; 456 kc .
Cat.No. Type Application Net Ea 21-847 16-6668 Battery type input 1.03 $21-848$ 16-8669 Battery type output 21-849 16-6678 AC/DC input or output 1.03

## (I) FM-IF Transformers

For use in sets designed for FM. Permeablitytuned from top and bottom. Peaked at 10.7 MC . Cat. No. 21-850 Type 16-6665 Net Price $\$ 1.76$

## Discriminator Transformers

For use in FM circuits. Extremely stable and unaffected by cllmatic changes. Tuned to 10.7 MC. Cat. No. 21-851 Type 17-3484 Net Price $\$ 2.34$

## Slip-Over Primaries

For use as replacement windings on all types of antenna and RF colls.
Cat. No. Type
 Net
24c
21c
21c
21c
18c

## Dowel-Type Primary

Replacement for burned out primaries in high impedance antenna colls. Wound on $\frac{1^{\prime \prime}}{2} \times \frac{1}{}^{\prime \prime}$ dowels. Inductance 1700 microhenries.
Cat. No. 21-857 Type 14-6865 Net Price 24c
(J) Ohmite Power Line Chokes

Consist of two single-layer windings on a single ceramic core, insulated, and protected by mols-ture-proof coating. Recommended for use in suppressing radio frequency interference. Nonmagnetic brackets furnished.
Cat.
No.

 $\begin{array}{lllllll}21-709 & \text { Z-22 } & 18 & 20 & 0.045 & 8 \mathrm{x} \times 11^{\prime \prime} & 3.06\end{array}$ $21-710$ *Z-30 $\quad 46 \quad 20 \quad 0.085 \quad 8 \frac{1}{5} \times 1 \frac{1}{t}^{\prime \prime} \quad 4.59$ * One section is wound as a second layer over the other.

## (K) Ohmite RF Plate Chokes

These bigh frequency chokes are single-layer wound on low-power-factor steatite. The singlelayer winding is designed to ayold adverse harmonic effects and also prevents breakdown from high RF potentlals. Furnished with non-magnetic mounting bracket.

Cat. No. Type Range Mh. Core Net | $21-701$ | Z-460 | $320-520 \mathrm{Mc}$. | 0.20 |
| :--- | :--- | :--- | :--- |

 21-703 $2=144 \quad 75-190 \mathrm{Mc} \cdot 1.8$ $21-703$ Z-144 $\quad 75-190 \mathrm{Mc} . \quad 1.9$ $21-704$ Z-50 $\quad 35-110 \mathrm{Mc}$. 6.5 $\begin{array}{rrr}21-705 & \mathrm{Z}-28 & 20-60 \mathrm{Mc} . \\ 21.0 \\ 21-706 & \mathrm{Z}-14 & 7-35 \mathrm{Mc} .44 .0\end{array}$ $21-706$ Z-14 $\quad 7-35$ Mc. $44.0 \quad 2 \times$ 2 $20 \mathrm{Mc} .85 .06 \times 16$ 94c Non-magnetic bruckets furnished with 2-7. All chokes 1000 ma. rating, except Z-14 and Z-28 which are rated at 600 ms .

## (L) Stanwyck Midget Coils

For input or output stages; these 455 kc . IF transformers have iron cores and very bigh gain. Suttable for small recelyer and portables. Aluminum cans ${ }^{\frac{3}{2}}$ square and 1 " high with poly base
Cat. No. 21-504 Spade-bolt mounting
Net Price
$97 c$
Cat. No. 21-505 Clip mounting
Net Price - COILS FOR FM
Iron-core permeability-tuned IF transformers for FM applications; polyethelene bases; $\mathbf{f}^{\prime \prime} \mathrm{sq}$. $x 1 \mathrm{l}^{\prime \prime} \mathrm{h}$. Model SFM-6I4S 10.7 mc . IF, 200 kc . bandwidth.
Cst. No. 21-501 Net Price . . $\$ 1.23$
TyPE 8FM-6158- Discrimipator. 10.7 me. IF, bandwldth 330 kc . peak to peak. 2 -volt input- $\theta$-volt output.
Cat. No. 21-502 Net Price
\$1.41
TYPE SFM-613S - Discriminator, ratio type.
Same characteristics as 615S.
Cat. No. 21-503 Net Price
$\$ 1.50$


## MILLEN

(A) R. F. Chokes- 34100 Series

A highly efficlent midget RF choke of original design, available in mounting styles and with connection means for every installation need. $2.5 \mathrm{mh},-250 \mathrm{ma}$.
Cat.No. Type Connection
Mounting Net 21-001 100 Wire leads Bteatitestandoff 42c $21-002101$ Wireleads Threaded stud 36 c $\begin{array}{lllll}\text { 21-002 } & 101 & \text { Wire leads Threaded stud } \\ 21-003 & 102 & \text { Solder lugs } & \text { Threaded stud } & \text { 42c }\end{array}$ $\begin{array}{lllll}\text { 21-003 } & 102 & \text { Solder lugs Threaded stud } & \text { 42c } \\ \text { 21-004 } & 103 & \text { Wire leads Self support } & \text { 36c }\end{array}$ 21-005 104 Threaded studs both ends 42 c

## Universal 1 MH. 300 MA. RF. Chokes

Cat. No. Type Connection Mounting Net 21-006 105 Wire leads Steatlestandoff 42c 21-007 106 Wire leads Threaded stud 36 c 21-008 107 Solder lugs Threaded stud 42c 21-009 108 Wire leads Self support 36 c $\begin{array}{ll}\text { 21-010 } 109 & \text { Threaded studs both ends } \\ \text { 42c }\end{array}$

## (B) Millen Shielded 10 MH Receiving

Cat. No. 21-011 Type 34010 Net Price 75c (C) Millen Universal Air-Core Transmitting Choke
Cat. No. 21-012 Type 34140 Net Price $\$ 1.00$ Millen 4 MH Amateur Transmitting Choke
Cat, No. 21-013 Type 34152 Net Price $\$ 1.50$ (D) Millen Amateur Band Air-Core 1 MH 600 MA
Cat. No. 21-014 Type 34154 Net Price $\$ 1.75$
Millen $21 / 2 \mathrm{MH} 500 \mathrm{MA}$. Transmitting Choke
Cat. No. 21-015 Type 34156 Net Prlee $\$ 1.50$ Millen

## Ceneral Purpose Chokes

Single-coll, higb-inductance units wound on low-loss steatite form.

| low-loss steatite form. |  |  |
| :--- | ---: | :---: |
| Cat. No. | Type | MH |
| $21-016$ | 34210 | 10 |
| $21-017$ | 3425 | 25 |
| $21-018$ | 34240 | 40 |
| $21-019$ | 34280 | 80 |
| $21-020$ | 34285 | 85 |

34280
(E) If Transformers

A complete line of IF's, discriminators and aircore and Iron-core units. The large heavy-wall, aluminum shleld cans, high $Q$ condensers and coils result in the overall $Q$ of all transformers being extremely high.



## NATIONAL, If Transformers

456 kc alr-dielectric IF transformers; Litz-wound colls on ceramlc base.
Cat. No. 21-201 Type IFC Net Price
Cat. No. 21-202 Type IFCO Oscillator
Net Price .
$\$ 4.2$ TYPE IFJ 15 mc . IF transformer for UHF superhet.
Cat. No. 21-203 Net Price
$\$ 8.25$
TYPE IFK - Fixed coupling
Cat. No. 21-243 Net Price
$\$ 7.25$ Type IFL-IF transformers for FM-AM at 10.7 mc .

Cat. No. 21-204 Net Price . . . $\$ 6.90$ Type IFM - 150 kc . at 1.6 db . attenuation Cat. No. 21-205 Net Price . . $\$ 6.4$ TYPE IFN - 100 kc . pass band at 1.5 db . attenuation
Cat. No. 21-206 Net Price . . . $\$ 6.45$ Type IFO - FM discriminator circuits. Linear to plus or minus 100 kc . over band.
Cat. No. 21-207 Net Price
$\$ 6.98$

## RF Chokes

The R-100 series of RF chokes are identical electrically but are provided with a variety of mounting provisions. Each type is avallable in $2.5,5$, and 10 mh . sizes; current rating 125 ma , The R-300 serles are similur to R-100 sertes but with current rating of 300 ma ; uvallable in inductance values ot $0.5,1.0,2.5$, and 5.0 mh .
Type R-100 - With pigtail leads.
Cat. No. 21-208 Net Each
. 35 c TyPE R-300-With pigtall leads. Cat. No. 21-209 Net Fach - $\quad 38 \mathrm{c}$ stand-of insulator
Cat. No. 21-210 Net Each Type r-300U - With pigtall leads; removable stand-off Insulator.
Cat. No. 21-211 Net Each . . 42c TYPE R-1008-Has cotter pin lug terminais and a non-removable stand-oIf insulator.
Cat. No. 21-212 Net Each . . 42c
TYPE R-300S-Cotter pin lug. terminals and non-removable stand-off insulator.
Cat. No. 21-213 Net Each . . . 42c
Type R-100ST - Has 6-32 threaded stud at each end.
Cat. No, 21-214 Net Each . . . 40c TYpe R-300st - Has 6-32 threaded stud at each end.
Cat. No. 21-215 Net Each . . . 40 c

## R-33 Series Chokes

2-scetion RF chokes avallable in 10. 50,100 , and 750 microhenry ratings; current ratling 33 ma, Wound on ${ }^{\prime \prime}$ long form ranging in diameter up to $\frac{5^{\prime \prime}}{16}$ maximum. Specify inductance rating when ordering.
Cat. No. 21-216 Net Each . . . 35c
Single-layer solenold choke 1 microhenry inductance, $33 \mathrm{~m} \Omega$.
Cat. No. 21-217 Net Each . . . 35c

## R-50 Series Chokes

3- and 4-section RF chokes avallable in $0.5,1$, 2.5. and 10 mlllibenry ratings; 50 ma . Wound on $1^{\prime \prime}$ long form, maximum diam. $\frac{15}{3^{\prime \prime}}$. Specify inductance ratings when ordering. Cat, No. 21-218 Net Each

35c
Type R-50-1 Choke - 10 millheary ratings; wound on iron core.
Cat. No. 21-219 Net Each
53c

## Type R-60 Choke

A high-current RF choke avallable in 2 and 4 ml crohenry slzes; 500 ma . $1 \mathrm{~h}^{\prime \prime}$ long by $\frac{5}{16}^{\prime \prime}$ diam. Specify inductance when ordering.
Cat. No. 21-221 Net Each
35 c
See Listing of Fissex IF Transformers


## Transmitter Chokes

Type R152 for 80 and 160 meters; rated at 600 ma. continuous; lnductance 4 mh ; 10 ohms DC resistance. R154 for 20, 40 and 80 meters; Inductance 1 mh.; 6 ohms DC resistance. Vertical mounting - wound on isolantite core with lug terminals at ends.
Cat. No. 21-222 Type R152 Net Price $\$ 1.75$ Cat. No. 21-223 Type R154 Net Price 1.75 Type R154U five section honeycomb coll on isolantite core for 20,40 and 80 -meter bands. 600 ms . continuous; 1 mh . Inductance; 6 ohms DC resistance
Cat. No. 21-224 Net Price $\qquad$

## High Voltage Xmtg Choke

Type R175 for use in transmitters with plate supply up to 4000 volts unmodulated or 3000 volts modulated. For $10,15,20,40$ and 80 -meter bands; .225 mh . inductance; 0.6 mmf . capacity; 6 ohms DC resistance; 800 ms . DC.
Cat. No. 21-225 Net Price
$\$ 2.25$

## Plug-in Base \& Shield

Low-loss base for mounting condensers and colls to achleve Ideal shlelding; easily removable. Shield can is $2^{\prime \prime} \times 2$ 2 $^{\prime \prime} \times 4 \frac{1}{8}$ ".
Cat. No. Type Net Ea.
21-226 PB10-5 (5-prong base \& shteld) 75 c 21-227 PB10-6 (6-prong base \& shield) 75c 21-228 PB10A-5 (5-prong base only) 51c 21-229 PB10A-6 (6-prong base only) 51c

## Type AR HF Coil

The AR-2 and AR-5 colls are high-Q permeablilty tuned RF colls on low-loss mica-filled bakelite torms. The AR-2 coll tunes from 75 mc . to 110 mc . with capacteles from 100 to 10 mmfd . AR-5 coll tunes from 37 mc . to 110 mc . With capacities from 100 to 10 mmid . Inductive windings may be replaced as desired to modify tuning range. Type AR-2. Cat. No. 21-230 Net Ea. \$1.70 Type AR-5 Cat. No. 21-231 Net Ea. \$1.46

## Type XR-50

Mica-filled bakelite coll forms; may be wound as desired to provide a permeability-tuned coll;
 diam. by $\frac{1}{2 \prime 2}$ long.
diam. by $\frac{1}{3 \prime}$ long
Cat. No. 21-232
Cat. No. 21-232 Net Each

## Transmitting Coils - Coil Forms


(A) Barker Williamson Air Inductors
Enameled-wire alr-wound plug-in colls on steatite base allow for quick band change. Capacity resonates on tow-frequency end of band. Center tapped except types BEL, TA and HDA.

| Cat. No | 'Bel' 100 Watt End Link |  |  |
| :---: | :---: | :---: | :---: |
|  | Type | Cap. <br> Mmi. | Net |
| 22-001 | $80 B E L$ | 36 | \$3.16 |
| 22-002 | 40 BEL | 36 | 2.83 |
| 22-003 | 20BEL | 33 | 2.48 |
| 22-071 | 1513EL | 21 | 2.48 |
| 22-004 | 10BEL | 21 | 2.41 |
| 22-005 | 5 BEL | 14 | 2.41 |
| 22-006 Jack bar assembly for "Be |  |  |  |
| coils. | ce. | . | 85 |
| "BCL" 100 Watt Center Link |  |  |  |
| 22-007 | 80 BCL | 39 | 3.16 |
| 22-008 | 40 BCL | 37 | 2.83 |
| 22-009 | 2QBCL | 34 | 2.48 |
| 22-072 | 15 BCL | 21 | 2.48 |
| 22-010 | 10BCL | 20 | 2.41 |
| 22-011 | 5BCL | 14 | 2.4 |

22-012 Jack bar assembly for "BCL" series colls. Net Price
"BVL" 100 Watt Swinging Link

| 22-013 | 80 BVL | 46 | 2.61 |
| :---: | :---: | :---: | :---: |
| 22-014 | 40 BVL | 29 | 2.28 |
| 22-015 | 20BVL | 25 | 2.00 |
| 22-073 | 15BVL | 25 | 2.00 |
| 22-016 | 10BVL | 14 | 1.93 |
| 22-017 | 5BVL | 15 | 1.93 |

22-018 BVL jack bar assembly with swinging link. Net Price $\$ 3.44$

|  | "TCL" | 500 Watt Center Link |  |
| :--- | :--- | :--- | :--- |
| $22-019$ | 80TCL | 55 | $\$ 3.65$ |
| $22-020$ | 40TCL | 34 | $\mathbf{3 . 3 0}$ |
| $22-021$ | 20TCL | 21 | 2.96 |
| $22-074$ | $15 T C L$ | 21 | 2.96 |
| $22-022$ | 10'TCL | 19 | 2.89 |

22-023 Jack bar assembly for "TCI." series coils. Net Price

(B) 75 Watt Junior Plug-in Coils

Small size - $1 \frac{15}{15}{ }^{\prime \prime} \times 3 \frac{1}{16}^{\frac{1}{6}}{ }^{\prime \prime}$ - mounted on steatite base. May be used in buffer, final amplifter or oscillator stages with inputs up to 75 watts and plate voltages up to 850 .

|  | End | Center | Adj. |  |
| :---: | :---: | :---: | :---: | :---: |
| Band | link | Link | Link | Net |
| 80 | 22-049 | 22-054 | 22-059 | \$1.38 |
| 40 | 22-050 | 22-055 | 22-060 | 1.38 |
| 20 | 22-051 | 22-056 | 22-061 | 1.38 |
| 15 | 22-080 | 22-081 | 22-082 | 1.38 |
| 10 | 22-052 | 22-057 | 22-062 | 1.38 |
| 6 | 22-053 | 22-058 | 22-063 | 1.38 |

## (C) 2A Band Hopper

A75 watt panel-controlled bandswitcher. May be used on 80, 40, 20, 15 and 10 meters. Deslgned for use with 50 minta. tuning capacitor. Size $5 \frac{1}{5}$ " long $\times 3$ 3 ${ }^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep
Cat. No. 22-064 Net Price
4.81

## (D) 5 Band Turrets

5 colls for 80, 40, 20, 15 and 10 -meter operation mounted on bandswitch for panel mounting. Tuned with 100 mmf . capacitor. BTEL, JTEL and BEL have end link. BTCL, JTCL and IBCL center tapped with center link.

| Cat. No. | Type | Watts | Link | Net |
| :--- | :--- | :---: | :--- | ---: |
| 22-065 | BTCL | 35 | Center | $\$ 8.44$ |
| $22-066$ | BTEL | 35 | End | 8.44 |
| $22-067$ | JTCL | 75 | Cente | 9.38 |
| $22-068$ | JTEL | 75 | End | 9.38 |
| $22-069$ | BCL | 150 | Center | 11.69 |
| $22-070$ | BEL | 150 | End | 11.69 |

## (E) BARKER-WILLIAMSON

## Type CX Heavy-duty Capacitors

Heavy-duty butterlly type for use in push-pull RF amplifiers. A high-Q unit with split stator and butterfly rotor with provision for bullt-in neutralizing capacltor on end plate; . $500^{\prime \prime}$ air-gap noted by A in type number; $375^{\prime \prime}$ by B; . $250^{\prime \prime}$ by $C$.

| Cat. |  | Mmi. | Mmi. | Net |
| :---: | :---: | :---: | :---: | :---: |
| No. | Type | Max. | Min. | Ea. |
| 18-501 | CX 40A | 40 | 18 | \$19.81 |
| 18-502 | CX 40A* | 40 | 18 | 21.66 |
| 18-503 | CX 45B | 45 | 17 | 19.34 |
| 18-504 | CX 45B* | 45 | 17 | 21.19 |
| 18-505 | CX 45C | 46 | 13 | 16.72 |
| 18-506 | CX $45 \mathrm{C}^{*}$ | 46 | 13 | 18.57 |

Type 3722-1 HD Jack Bar
Mounts on stator rods of CX eapacitors. With swinging link. For B-W HDVL coils.
Cat. No. 18-507 Net Price $\$ 6.25$
TYPE N2 neutralizes $75 \mathrm{~T}, 808^{\circ}, 35 \mathrm{~T}, 852$ and similar tubes. For mounting on CX capacitor. Cat. No. 18-508 Net Price

## Neutralizing Plates

TYPE N3 neutralizes 801. T-TZ40, HK154, RK18. 812, 811, $100 \mathrm{TH}, 810,806, \mathrm{~T} 55,250 \mathrm{TH}$. etc.
Cat. No. 18-509 Net Price
Type 3913 Mounting Bracket
For mounting swinging link assemblies on CX capacitors.
Cat. No. 18-510 Net Price
75c

## BUD

(F) Midget Plug-In Coils

5 -prong plug-in alr-wound inductor. May be used in all stages with 75 watts or less |nput. End link type not center tapped. Other types center tapped.

| Freq. | Center | End | Adj. |  |
| :---: | :---: | :---: | :---: | ---: |
| Band | Link | Link | Link | Net |
| 80 | $21-601$ | $21-606$ | $21-611$ | $\$ 1.27$ |
| 40 | $21-602$ | $21-607$ | $21-612$ | 1.22 |
| 20 | $21-603$ | $21-608$ | $21-613$ | $\mathbf{1 . 2 2}$ |
| 10 | $21-604$ | $21-609$ | $21-614$ | $\mathbf{1 . 1 8}$ |
| 0 | $21-605$ | $21-610$ | $21-615$ | .98 |



National Multi-Band Assembly TYPE MB150
Provides new simplicity for multi-band transmitters, tuning all amateur bands $80-10$ meters with $180^{\circ}$ rotation of shaft. Three colls, four capacitors, and an RF choke are comblned as a compret tank, $3^{\prime \prime}$ wide $x 8^{z^{\prime \prime}}$ high $x 9^{\prime \prime}$ long, overall. Separate link coupling coil has special edjustment clips to match up to 600 ohms impedances. Fast band changing without handing colls. Ideal tor use as all-band plate tank in pushpuli or balanced single-ended stages up to 150 watts input
No. 18-009 Net Price
$\$ 18.75$

## (G) Amphenol Coil Forms

Type $24-6 \mathrm{H}$ - 6-prong plug-in polystyrene tor UHF use. ${ }^{1 "} \times 1{ }^{\circ}{ }^{\prime \prime} 6^{\prime \prime}$
Cat. No. $21-551^{16}$ Net Price . . 28c Type 24 - Same as above but hole in base for screw; no prongs.
Cat. No. 21-552 Net Price . . . 11c
Type 78S6ET-UHF miniature socket for bove; will also fit bantam tubes.
Cat. No. 21-553 Net Price
17c
(H) Type PR Coil Forms

Of molded polystyrene, open at one end and closed at other except for mounting hole for 6-32. Cat.

| No. | Type | Dis | Length | E |
| :---: | :---: | :---: | :---: | :---: |
| 21-233 | PRC-1 | Dis' | Len | \$0.15 |
| 21-234 | PRC-2 | ${ }^{\prime \prime}$ | " | . 15 |
| 21-235 | PRC-3 | " | ?" | 15 |
| 21-236 | PRD-1 | $\frac{1}{\frac{1}{2}}$ | \% ${ }^{\prime \prime}$ | 15 |
| 21-237 | PRD-2 | $\frac{1}{2}{ }^{\prime \prime}$ | $1^{\prime \prime}$ | . 15 |
| 21-238 | PRE-1 | ${ }^{2} 16$ | ${ }^{\prime \prime}$ | . 18 |
| 21-239 | PRE-2 | ${ }^{16}{ }^{\prime \prime}$ | $1{ }^{\prime \prime}$ | . 18 |
| 21-240 | PRE-3 | ! ${ }^{\prime \prime}$ | $2^{\prime \prime}$ | 24 |
| 21-241 | PRF-1 |  | $3^{\prime \prime}$ | 24 |
| 21-242 | PRF-2 |  | $13^{\prime \prime}$ | . 30 |

## (1) Coil Forms

Smooth-rim type for winding your own colls. $1 \frac{1}{4}^{\prime \prime} \times 2 \frac{1}{4}$ ".
Cat. No. 21-875 4 prongs Net Price 21c Cat. No. 21-876 5 prongs Net Price 21c Cat. No. 21-877 6 prongs Net Price 21c Ribbed type. Size 1㘶 $^{\prime \prime} \times 2^{1 / \prime}$
Cat. No. 21-878 4 prongs Net Price 24c Cat. No. 21-879 5 jrongs Net Price 24 c Cat. No. 21-880 6 prongs Net Price 24 c


Millen Quartz Q
Quartz Q sheet $3^{\prime \prime} \times 8^{\prime \prime} \times .1^{\prime \prime}$.
Cat. No. 21-564 Net Each
Quartz Q coll dope, 2 oz
Cat. No. 21-565 Net Each . . . 50c

# NATIONAL VARIABLE CAPACITORS 



For use in power stages up to 3000 volts; mount on panel, chassis, or stand-off Insulators; aluminum plates have buffed edges; .077" gap.

|  | Single-stator Models |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat. |  | Mmp. | Mmi. |  |
| No. | Type | Max. | Min. | Net |
| 18-010 | TMC-50 | 50 | 10 | \$3.60 |
| 18-011 | TMC-100 | 100 | 13 | 4.25 |
| 18-012 | TMC-150 | 150 | 17 | 5.25 |
| 18-013 | TMC-250 | 250 | 23 | 5.70 |
| 18-014 | TMC-300 | 300 | 25 | 6.10 |
| Double-stator Models |  |  |  |  |
| 18-015 | TMC-50D | 50-50 | 9-9 | \$4.35 |
| 18-016 | TMC-100D | 100-100 | 11-11 | 5.95 |

## Type TML Transmitting Capacitors

A L KW unlt with steatite insulators syectally treated to prevent moisture absorption und flash-overs. A lurge rugged condenser for panel. chassis, or standoff mounting. Smooth tuning on precision end bearings.

| Single-Stator Monels |  |  |  |  |
| :--- | :--- | ---: | :--- | ---: |
| Cat. |  | Mmi. | Mmi. | Net |
| No. | Type | Max. | Min. |  |
| $18-029$ | TMI-75E | 75 | 25 | $\$ 18.35$ |
| $18-030$ | TM1-150D | 150 | 60 | 18.50 |
| $18-031$ | TMI-100D | 100 | 45 | 16.60 |
| $18-032$ | TMI-50D | 50 | 22 | 11.50 |
| $18-033$ | TML-245B | 245 | 54 | 20.15 |
| $18-034$ | TML-150B | 150 | 45 | 18.35 |
| $18-035$ | TML-100B | 100 | 32 | 17.55 |
| $18-036$ | TML-75B | 75 | 23.5 | 12.80 |
| $18-037$ | TML-500A | 500 | 55 | 24.60 |
| $18-038$ | TMI-350A | 350 | 45 | 19.65 |
| $18-039$ | TML-250A | 250 | 35 | 18.35 |

$\begin{array}{llll}18-040 & \text { TML-3ODE } & 30-30 & 12-12 \$ 18.55\end{array}$ $18-041$ TMI.-60DD $\quad 60-60 \quad 26-26 \quad 20.15$ $\begin{array}{ccccc}18-041 & \text { TM1.-60DD } & 60-60 & 26-26 & 20.15 \\ 18-042 & \text { TMI-100DB } & 100-100 & 27-27 & 12.35\end{array}$ 18-043 TML-601) 3 60-60 $20-20 \quad 19.15$ 18-044 TML-2001)A 200-200 $30-30 \quad 24.60$ 18-045 TML-100DA $100-100 \quad 17-17 \quad 20.15$

Type TMH Transmitting Capacitors
Compact construction; excellent power factor; $.040^{\prime \prime}$ aluminum plates; panel or standoff mountIng; steatite Insulation. Standofrs included.

Single-stator Models

| Cat. | Glensta |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Mmi. | Minf. |  |
|  | Type | Max. | Min. | Net |
| 18-046 | TMH-50 | 50 | 9 | \$3.95 |
| 18-047 | TMH-75 | 75 | 11 | 4.15 |
| 18-048 | TMH-100 | 100 | 12.5 | 4.35 |
| 18-049 | TMH-150 | 150 | 18 | 4.95 |
| 18-050 | TMH-35A | 35 | 11 | 4.25 |
| Dourle-Stator Models |  |  |  |  |
| 18-051 | TMH-35D | 35-35 | 6-6 | \$4.15 |
| 18-052 | TME-50D | 50-50 | 8-8 | 4.35 |
| 18-053 | TMH-75D | 75-75 | 11-11 | 4.95 |

Type RSL Shaft Lock
Rotor shaft lock for AMT, TMA, TMC and similar capacitors. Fits $\frac{1}{6}$ "shaft.
Cat. No. 00-194 Net Each
57c


## Morris Coil Winder

will produce professional-looking honeycomb. solenold, and splderweb colls in various widiths and diameters. Hus recorder and indicator that counts turis. Complete with hstructions Cat. No. 21-885 Net Price


TMH

TMK
Type TMK Transmitting Capacitors
For exciters and low-power transmitters. Panel or standoff mounting with provision for AR-16 coils in swivel plug-in-mount on either top or rear of condenser. Steatite insulation.

| Single-Stator Models |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat. |  | Mmi . | Mmt. |  |
| No. | Type | Max. | Min. | Net |
| 18-054 | TMK-35 | 35 | 7.5 | \$3.45 |
| 18-055 | TMK-50 | 50 | 8 | 3.55 |
| 18-056 | TMK-75 | 75 | 9 | 3.80 |
| 18-057 | TMK-100 | 100 | 10 | 3.95 |
| 18-058 | TMK-150 | 150 | 10.5 | 4.65 |
| 18-059 | TMK-200 | 200 | 11 | 5.25 |
| 18-060 | TMK-250 | 250 | 11.5 | 5.75 |
| Double-Stator Models |  |  |  |  |
| 18-061 | TMK-35D | 35-35 | 7.5-7.5 | \$3.80 |
| 18-062 | TMK-50D | 50-50 | 8-8 | 3.95 |
| 18-063 | TMK-100D | 100-100 | 10-10 | 5.25 |

## Type TMA Transmitting Capacitors

A larger model of the TMC. For mounting on panel, chassis, or standoff insulators. Heavy aluminum plates with rounded and buffed edges: Steatite insulation.

Single-Stator Models

| Cat. |  | Mmf. | Mmi. |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | туре | Max. | Min. | Net |
| 18-064 | TMA-300 | 300 | 19.5 | \$7.60 |
| 18-065 | TMA-50A | 50 | 15 | 4.95 |
| 18-066 | TMA-100A | 100 | 19.5 | 5.85 |
| 18-067 | TMA-150A | 150 | 22.5 | 6.45 |
| 18-068 | TMA-230A | 230 | 33 | 7.95 |
| 18-069 | TMA-100B | 100 | 30 | 8.50 |
| 18-070 | TMA-150B | 150 | 40.5 | 9.95 |
| 18-071 | TMA-50C | 50 | 21 | 5.55 |
| 18-072 | TMA-100C | 100 | 37.5 |  |

## Double-stator Models

18-073 TMA-200D 200-200 $\quad 15-15 \quad \$ 9.40$ $18-074$ TMA-180D $\quad 180-180 \quad 10-10 \quad 12.90$ 18-075 TMA-50DA $\quad 50-50 \quad 12.5-12.5 \quad 6.75$ 18-076 TMA-100DA $100-100 \quad 17-17 \quad 8.75$ 18-077 TMA-60DB $\quad 60-60 \quad 19.5-19.5 \quad 8.95$ $\begin{array}{lllll}18-078 \\ \text { TMA-40DC } & 40-40 & 18-18 & 8.50\end{array}$

## Type AMT Transmitting

The new AMT series is a larger and sturdier model of the TMK. Solid aluminum tie bar across ton for added rigidity acts as mounting for colls in double stator models. Double stator models have standard end drive (D series) or center drive (DG series).
18-001 AMT-50 $50 \quad 13 \quad \$ 5.20$ $\begin{array}{lllll}18-002 & \text { АМТ-100 } & 100 & 20 & 6.10\end{array}$ $18-003$ AMT-50D* $\quad 50-50 \quad 13-13 \quad 7.00$ $\begin{array}{llccr}18-004 & \text { AMTT-100D* } & 100-100 & 20-20 & 9.00 \\ 18-005 & \text { AM1T-50DG* } & 50-50 & 13-13 & 10.75\end{array}$ 18-006 AMT-100DG* $100-100 \quad 20-20 \quad 12.75$ * Double stator models.

## New National Right Angle Drives

Sturdy compact drives developed for use with the new AMT condensers. Nickel plated cast frames and smooth operating bronze gears. Type ACD-1 has 32 pitch gears, $\frac{1}{n}^{\prime \prime}$ diam. dlal shaft, drives $\}^{\prime \prime}$ shafts. ACD-2 has 24 pltch gears for heavier service, $\frac{1^{\prime \prime}}{\prime \prime}$ diam. shaft driving $\frac{1}{}{ }^{\prime \prime}$ diam. shafts. Type ACD-3 is same as ACD-2 except drives " diam, shafts.
Cat. No. 18-114 Type ACD-1 Net Price $\$ 3.75$
Cat. No. 18-115 Type ACD-2 Net Price $\mathbf{3 . 9 0}$ Cat. No. 18-116 Type ACD-3 Net Price $\mathbf{3 . 9 0}$


Type ST Receiving Capacitors
$180^{\circ}$ rotation straight-wavelength plates with $.026^{\prime \prime}$ air gap on ST35 thru ST150 Incl.; . $018^{\prime \prime}$ gaj on all others. Isolantite insulation.

| Cat. | Split-stator Double-bearing |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Mmf. | Mmf. |  |
| No. | Type | Max. | Min. | Net |
| 18-018 | STD-50 | 50-50 | 5-5 | \$3.60 |
| 18-113 | STHD-100 | 100-100 | 5.5-5.5 | 3.90 |
|  | double-bearina Models |  |  |  |
| Cat. |  | Mmi. | Mmi. | Net |
| No. | Type | Max. | Min. |  |
| 18-019 | ST-35 | 35 | 6 | \$1.85 |
| 18-020 | ET-50 | 50 | 7 | 1.90 |
| 18-021 | ST-75 | 75 | 8 | 2.00 |
| 18-022 | ST-100 | 100 | 9 | 2.10 |
| 18-023 | ET-140 | 140 | 10 | 2.30 |
| 18-024 | ST-150 | 150 | 10.5 | 2.30 |
| 18-025 | STH-200 | 200 | 12.0 | 2.50 |
| 18-026 | STH-250 | 250 | 13.5 | 2.70 |
| 18-027 | STH-300 | 300 | 15.0 | 2.90 |
| 18-028 | STH-335 | 335 | 17.0 | 3.10 |

## Type SE Receiving Capacitors

Straight-line trequency; $270^{\circ}$ rotation with double bearings. Steatite Insulation.

| Cat. |  | Mmf. | Mmi. |  |
| :--- | :--- | ---: | ---: | ---: |
| No. | Type | Max. | Min. | Net |
| 18-079 | SE-50 | 50 | 9 | $\mathbf{\$ 2 . 3 0}$ |
| $18-080$ | SE-75 | 75 | 10 | 2.40 |
| $18-081$ | SE-100 | 100 | 11.5 | 2.60 |
| $18-082$ | SE-150 | 150 | 13 | $\mathbf{2 . 7 5}$ |

## Type SEU Receiving Capacitors

Same as SE but for high voltage.

| $18-083$ | SEU-15 | 15 | 7 | $\$ 2.80$ |
| :--- | :--- | :--- | ---: | ---: |
| $18-084$ | SEU-20 | 20 | 7.5 | 2.95 |
| $18-085$ | SEU-25 | 25 | 8 | 3.10 |


| Type | SEH Receiving | Capacitors |  |  |
| :---: | :---: | :---: | :---: | ---: |
| $\mathbf{1 8 - 0 8 6}$ | SEH-200 | 200 | 12 | $\$ 2.80$ |
| $18-087$ | SEH-250 | 250 | 14 | 3.00 |
| $18-088$ | SEH-300 | 300 | 16 | 3.25 |
| $18-089$ | SEH-335 | 335 | 17 | $\mathbf{3 . 5 0}$ |

## Type NC-600 Neutralizing

Range 0.5 mmf . to 4 mmf . For use with tubes similar to 6L6. Isolantite insulated. Cat. No. 18-100 Net Price

32 c

## Type NC-600U Neutralizing

Same as above but on smallistandoff insulator.
Cat. No. 18-101 Net Price . . . 38c

## Type NC-800A Neutralizing

For tubes auch as $35 \mathrm{~T}, 800$, etc. Range from 1.5 mmif to 10 mmf . Steatite insulated. Cat No. 18-102 Net Price
$\$ 3.00$
Type NC-75 Neutralizing
Disc-type with range of 2 to 12 mmf .
Cat. No. 18-103 Net Price
$\$ 3.60$

## Type NC-150 Neutralizing

Capacity 2 mmf to 14 mmf
Cat. No. 18-104 Net Price
$\$ 5.25$
Type NC-500 Neutralizing
For WE-251, $450 \mathrm{TH}, 450 \mathrm{TL}, 760 \mathrm{~T} 1_{,}$etc. Cat. No. 18-099 Net Price . . . $\$ 8.7$


VARIABLE CAPACITORS



## (E) Neutralizing Capacitors

In these compret units, extreme efficiency results from the eliminution of all external supporting structures. Style A unlts have Quartz $\mathbf{Q}$ dielectric; Style $B$ units, for higher heat conditions. have air dielectric and Isolantite insulation. $\begin{array}{lcrcc}\text { Cat. No. } & \text { Type } & \text { Mmt. } & \text { Volts } & \text { Net } \\ 18-714 & 15001 & 2-10 & 4,000 & \$ 1.20 \\ 18 & \end{array}$ $\begin{array}{llrll}18-715 & 15002 & 2.5-12 & 4,000 & 1.35 \\ 18-716 & 15003 & 1.5-8.5 & 4,000 & 1.20\end{array}$ $\begin{array}{lllll}18-716 & 15003 & 1.5-8.5 & 4,000 & 1.20 \\ 18-717 & 15005 & 2.5-12 & 6.000 & 2.70\end{array}$ $\begin{array}{lllll}18-718 & 15006 & 3.5-13 & 6.000 & 3.00\end{array}$
(D) Open-frame Midget

Double-bearing, brass plate condensers for marine, aircraft, police, and amateur service; $\frac{1}{4}^{\prime \prime}$ shaits arranged to allow ganging of two or more condensers.

| Cat. No. | Type | Mmt. | Net |
| :---: | :---: | :---: | :---: |
| 18-719 | 19025 | 25 | \$1.83 |
| 18-720 | 19035 | 35 | 1.86 |
| 18-721 | 19050 | 50 | 1.92 |
| 18-722 | 19075 | 75 | 2.01 |
| 18-723 | 19100 | 100 | 2.16 |
| 18-724 | 19140 | 140 | 2.34 |
| 18-725 | 19200 | 200 | 2.58 |
| 18-726 | 19250 | 250 | 2.70 |
| 18-727 | 19325 | 300 | 2.94 |
| 18-728 | 19935* | 35 | 2.22 |
| 18-729 | 19950 | 50 | 2.52 |

*.064" air gap; all others .022".
(F)

## Ultra Midgets

Extremely compact; ideal for small recelvers Steatite insulation; single bearing.

| Cat. No. | Type | Mmi. | Spacing | Net |
| :---: | :---: | :---: | :---: | :---: |
| 18-730 | 20015 | 15 | Single | \$1.02 |
| 18-731 | 20025 | 35 | Single | 1.11 |
| 18-732 | 20035 | 35 | Single | 1.17 |
| 18-733 | 20050 | 50 | Single | 1.20 |
| 18-734 | 20100 | 100 | Single | 1.50 |
| 18-735 | 20920 | 20 | Double | 1.20 |
| 18-736 | 20935 | 35 | Double | 1.40 |

## (2)

## EL MENCO

## Type 46 Mica Trimmer Condenser

Ceramic base with India ruby mica. Treated for humidity-resistance and permanence of capacity setting.

|  |  |  | 3 turns |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat. | No. | Closed | Open |  |
| No. | Plates | Mmi. | Mmi. | Net |
| 19-001 | 9 | 780 | 150 | 41 c |
| 19-002 | 8 | 680 | 125 | 38 c |
| 19-003 | 7 | 580 | 100 | 24 c |
| 19-004 | 6 | 480 | 70 | 22 c |
| 19-005 | 5 | 380 | 45 | 20 c |
| 19-006 | 4 | 280 | 25 | 18 c |
| 19-007 | 3 | 180 | 9 | 16 c |
| 19-008 | 2 | 80 | 4 | 12c |
| 19-009 | 13 | 30 | 2 | 12c |
| 19-010 | 14 | 15 | 1.5 | 18c |

## (Y) Trimmers and Padders

Type 50 - Dual Padder is two variable trimmers h.ounted on a single base. Designed as a tuner for IF transiormers. May be mounted inside transformer shield if shield is over $1 \frac{1}{16}^{\prime \prime} \mathrm{x}$ $1 \frac{1}{16}$ ".

## BUD

(W) "MC" Midget Condensors

Semi-circular electro-soldered plates. Single bearing. Double spaced units have $.060^{\prime \prime}$ uir gap; others . $024^{\prime \prime}$. Wiping spring contact on rotor. $z^{\prime \prime}$ hole for mounting Cat.

Mmf. Mmi. No. of Net $\begin{array}{cccccc}\text { 19-101 } & 1870 & 15 & 3 & 3 & \$ .75\end{array}$ $19-102$

$19-103$ 19-104 19-105 | Doube-Spaced |  |  |  |  |  |
| :---: | :---: | :---: | :---: | ---: | ---: |
| 19-106 | 1879 | 15 | 4 | 5 | .90 |
| $19-107$ | 1880 | 35 | 5 | 11 | 1.10 |

## （A）Midway Featherweight Capacitors

Straight－line－capacity type．Light in weight，compact（panel space only $3^{\prime \prime} \times 21^{\prime \prime}$ ），adapted to re－ ceivers und 25 －watt，or lower，CW transmitters；also portable equipment．Extremely rugged and rigid．Alr gap between plates is ． 031 ＂．Shaft diameter $1^{\prime \prime}$ ．Mycalex insulation．

| Cat． | Single Condenners |  |  | Net | DOUBLE CONDENSERS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Max． | Min． |  |  |  | Max． | Min． |  |
| No． | Type | Cap． | Cap． | Price | Cat． |  | Cap． | Cap． | Net |
| 18－801 | M12－25－BS | 25 | 5 | \＄2．38 | No． | Type | Each | Each | Price |
| 18－802 | MR－50－BS | 50 | 6 | 3.60 | 18－810 | MR－25－BD | 25 | 5 | \＄3．85 |
| 18－803 | M 1 －70－BS | 70 | 7 | 3.10 | 18－811 | MR－50－B13 | 50 | 6 | 4.11 |
| 18－804 | MR－105－BS | 105 | 8 | 3.22 | 18－812 | MR－70－BD | 70 | 7 | 4.32 |
| 18－805 | MR－150－BS | 150 | 10 | 3.56 | 18－813 | MR－100－BD | 100 | 8 | 4.50 |
| 18－806 | M R－260－BS | 260 | 11 | 3.85 | 18－814 | MR－150－BD | 150 | 9 | 4.65 |
| 18－807 | MR－365－BS | 365 | 14 | 4.20 | 18－815 | MR－260－BD | 260 | 11 | 5.25 |
| 18－808 | MO－150－BS | 150 | 14 | Spec． | 18－816 | MO－180－BD＊ | 180 | 15 | 7.07 |

## （B）Featherweight Transmitting Capacitors

A very popular condenser in the amateur experimental and commercisl fields．Air gap of ．070＂sults it to use in CW transmitters up to 100 watts power or phone transmitters up to 50 watts carrier with $100 \%$ modulation．Mycalex insulation．

| Cut． | Gingle Condensers |  |  | Net | Double Condenseas |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Max． | Min． |  |  |  | Max． | Min． |  |
| No． | Type | Cap． | Ciap． | Price | Cat． |  | Cap． | Cap． | Net |
| 18－817 | MT－20－GS | 20 | 5 | \＄2．88 | No． | Type | Each | Each | Price |
| 18－818 | MT－35－GS | 35 | 6 | 3.10 | 18－824 | MT－20－GD | 20 | 7 | \＄4．90 |
| 18－819 | MT－50－6S | 50 | 8 | 3.45 | 18－825 | MT－35－GD | 35 | 7 | 5.51 |
| 18－820 | MT－70－GS | 70 | 10 | 3.96 | 18－826 | MT－50－GD | 50 | 9 | 5.61 |
| 18－821 | MT－100－GS | 100 | 12 | 4.32 | 18－827 | MT－70－GI） | 70 | 10 | 6.18 |
| 18－822 | MT－150－GS | 150 | 16 | 5.31 | 18－828 | MT－100－GD | 100 | 13 | 7.05 |
| 18－823 | MG－35－NS | 35 | 12 | 5.31 |  |  |  |  |  |

## （C）Standard Transmitting Capacitors

Heavy rotor and stator plates，with rounded edges，are buffed and pollshed insuring minimum corona losses and maximum peak breakdown voltage．A self－cleaning phosphor bronze contact apring ac－ complishes a perfect rotor connection offering very low RF contact resistance，Mycalex insulated． Single Condensers

| Double Condensers |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat． |  | sec． | sec． | Net |
| No | Type | Each | Each | Price |
| 18－846 | XR－500－PD | 500 | 18 | \＄8．40 |
| 18－847 | XT－80－PD | 80 | 11 | 5.60 |
| 18－848 | XT－210－PD | 210 | 22 | 7.70 |
| 18－849 | XP－90－KD | 95 | 15 | 6.65 |
| 18－850 | XP－325－KD | 325 | 38 | 19.50 |
| 18－851 | XG－50－XI） | 50 | 14 | 9.45 |
| 18－852 | XG－110－XD | 110 | 27 | 15.93 |
| 18－853 | X $(-40-\mathrm{XI})$ | 40 | 14 | 10.17 |
| 18－854 | XD－160－XD | 160 | 28 | 16.84 |
| 18－855 | $\mathrm{XC}-75-\mathrm{XD}$ | 75 | 21 | 13.31 |

＂M＂Mounting Brackets
Made to fit the＂$N$＂or＂$M$＂type capacitors on this pare．Sathi－fuish aluminum．Supplied with hardware．
Cat．No．18－916 Net Price
15c

## （D）Uitra－High Frequency <br> Transmitting Capacitors

A complete serles of efflelent，medium－powered transmitting condensers for 5,10 ，and 20 meters． No frame or tle rods；aluminum end plates；long， brass，nickel－plated front bearing with ball thrust rear bearing．Insulation is Isolantice Single－hole mounting，or can be mounted on brackets listed on this page．

| Single Condensers |  |  |  |
| :---: | :---: | :---: | :---: |
| Cat． | Type | Cap． | Net |
| No． | No． | Range | Price |
| 18－856 | NP－50－D8 $\dagger$ | 50－9 | \＄3．10 |
| 18－857 | Nド－75－DS $\dagger$ | 75－11．0 | 3.63 |
| 18－858 | NP－100－DS $\dagger$ | 100－13 | 4.11 |
| 18－859 | NP－150－DE $\dagger$ | 150－19 | 5.39 |
| 18－860 | NGi－35－1）S $\ddagger$ | 35－11 | 4.06 |
| Double Condensers |  |  |  |
| 18－861 | NT－50－GI）＊ | 50－7 | 5.31 |
| 18－862 | NP－15－ND＊ | 17－4 | 5.04 |
| 18－863 | NP－35－ND $\dagger$ | 35－5 | 5.31 |
| 18－864 | NP－35－DD $\dagger$ | 35－5 | 4.56 |
| 18－865 | NP－50－DD $\dagger$ | 50－9 | 5.31 |
| 18－866 | NP－75－1）D $\dagger$ | 75－11 | 6.37 |
| 18－867 | NA－12－ND $\dagger$ | 13－7 | 13.30 |
| ＊Air gap ． $070^{\prime \prime} 3000$ volt peak． |  |  |  |
| † Air gap ．084＂ 4200 volt peak |  |  |  |
| $t$ Air ga | $71^{\prime \prime} 6000$ volt |  |  |

t Air gap ． $171^{\prime \prime} 6000$ volt peak．

## Capacitors <br> 

## （F）Trim Airs

Use of Isolantite insulation makes these con－ densers excellent for uitra－bigh－frequency work． Shaft with rotor locking nut．Panel mounting by means of bushing and nut．

| Cat． | Type <br> No． | Max． <br> Cap． | Min． <br> Cap． | Net <br> Price |
| :--- | :--- | :---: | :---: | ---: |
| $18-900$ | ZU－75－AS | 75 | 2.7 | $\$ 1.50$ |
| $18-901$ | ZU－100－AS | 100 | 3 | 1.53 |
| $18-902$ | ZU－140－AS | 140 | 5 | 2.76 |
| $18-903$ | ZR－10－AS | 10 | 1.2 | 1.11 |
| $18-904$ | ZR－15－AS | 15 | 1.5 | 1.14 |
| $18-905$ | ZR－25－AS | 25 | 2 | 1.26 |
| $18-906$ | ZR－35－AS | 35 | 2.5 | 1.32 |
| $18-907$ | ZR－50－AS | 50 | 2.8 | 1.38 |
| $18-908$ | ZR－100－AS | 30 | 4 | 1.98 |
| $18-909$ | ZT－10－AS | 11 | 3.6 | 1.29 |
| $18-910$ | ZV－5－TSt | 5 | 1.8 | 1.11 |
| $18-911$ | ZT－15－AS | 15 | 3 | 1.35 |
| $18-912$ | ZT－30－AS | 30 | 4 | 1.65 |
| $18-913$ | ZS－4－FS | 4 | 1.5 | 1.65 |
| $18-914$ | ZS－7－SS | 7 | 4 | 1.83 |

＋Double bearing；two end plates．

+ Supplied with 2 segment stator for 5 meter circuits．


## （C）Dual Trim Airs

Incorporates all of the excellent features of the single Trim－air．Ideal for push－pull exciter unit， portable ultry H．F．gear and laboratory equip－ ment．

| Cat． | Type | Max． | Min． | Net |
| :--- | :--- | :---: | :--- | ---: |
| No． | No． | Cap． | Cap． | Price |
| $18-887$ | EU－75－AD | 75 | 2.7 | $\$ 2.88$ |
| $18-888$ | EU－100－AD | 100 | 3 | 3.00 |
| $18-889$ | EU－140－AD | 140 | 5 | 5.31 |
| $18-890$ | ER－10－AD | 10 | 1.2 | 2.31 |
| $18-891$ | ER－15－AD | 15 | 1.5 | 2.31 |
| $18-892$ | ER－25－AD | 25 | 2 | 2.37 |
| $18-893$ | ER－35－AD | 35 | 2.5 | 2.58 |
| $18-894$ | ER－50－AD | 50 | 2.8 | 2.73 |
| $18-895$ | ER－100－AD | 100 | 6.9 | 4.89 |
| $18-896$ | ET－15－AD | 15 | 3 | 2.84 |
| $18-897$ | ET－30－AD | 30 | 4 | 3.18 |
| $18-898$ | ES－4－8D | 4 | 1.5 | 3.18 |
| $18-899$ | ES－7－SD | 7 | 4 | 3.54 |

## （H）Trim－Air Bracket

Specially designed bracket for Trim－air con－ densers，pernits mounting on chassls．Insulated from rotor．Very sturdy
Cat．No．18－915 Net Price

## （1）Cardwell Dise Type Neutralizer

Satin－finlsh uluminum；fine serew adjustment，no wobble．Knurled thumb－nut for easy locking． Nickel－silver bearing．Glazed steatite Insulation． Cat．No．18－937 Type AIDN Range 1 mmf ．to 7 mmf ．Net Price
Cat．No．18－938 Type BDN Range 3 mmf ．to 15 mmi．Net Price
$\$ 4.45$

## （J）Neutralizing Capacitors

For new low－capacity tubes．Mycalex insulation．

| Cat．No． | Type | Cap． | Net Price |
| :---: | :---: | :---: | :---: |
| 18－868 | NA－4－NS $\dagger$ | 4－3．25 | \＄3．03 |
| 18－869 | NA－6－NS＊ | 6－4 | 3.03 |
| 18－870 | NA－10－NS＊ | 12－6 | 3.42 |
| 18－871 | NA－16－NS＊ | 16－7 | 4.45 |
| ＊ 6600 vol | peak． |  |  |

## DIALCO



Series 910
A low-priced unit for most applications. 1-inch mounting hole. Takes standard lamp. removable from front of panel. Faceted jewels.
catalog number

| Color | Bayonet | Mimature | Candelabr |
| :--- | :---: | :---: | :---: |
| Red | $00-357$ | $\mathbf{0 0 - 3 0 3}$ | $00-306$ |
| Green | $00-301$ | $00-304$ | $00-307$ |
| Amber | $00-302$ | $\mathbf{0 0 - 3 0 5}$ | $\mathbf{0 0 - 3 0 8}$ |

$\begin{array}{llll}\text { Amber } & 00-302 & \mathbf{0 0 - 3 0 5} \quad 00-308\end{array}$
 for candelabra sockets. Each

## (B)

## Series 31101—Enclosed

Porcelain and brass construction: mounts in $1^{\prime \prime}$ diameter hole; polished chrome-plate holder; candelabra base; faceted Jewel; bulb removable from front. Supplled without bulb. U.L. listed.

### 0.313

00-314 Green Net each . . . 94c
00-315 Aren
00-316
Cat. No. 00-397 s6. 115 -volt bulb for all above units. Net each
Cat. No. 00-395 Ne45. Neon bulb for all units above except $00-314$. Net each . . 39c

## Series 810

Tremovable $\frac{1}{2}$ " jewel pilot miniature assembly; mounts in $\frac{11}{26}$ " hole; screw-in type jewel holder, with faceted jewel.
Cat. No.

(C) 115 -volt 1 -inch Type-Series 75

Candelabra base, pllot light assembly for 115 volts. Faceted $1^{\prime \prime}$ jewel in chrome-plated brass holder. Mounts in 1-inch panel hole.
Cat. No.
$\begin{array}{ll}00-319 & \text { Red } \\ 00-320 & \text { Green }\end{array}$
$00-321$ Areen
Net each
Cat. No. 00-397 115-volt bulb for above
76 c
17c
(D) 110-220 Volt Neon-95410

Fully enclosed assembly with built-in resistor for the new NE-51 neon glow lamp 110 or 120 volts. Cap is molded plastic. threaded to screw into brass holder. $\frac{3^{\prime \prime}}{}{ }^{\prime \prime}$ mounting hole. $2 \frac{1}{4}^{n}$ long. Suppiled less lamp.
Cat. No.
00-323 Red
00-324 Amber Net each . . . 88c
00-325 Opal
$00-389 \mathrm{NE}-51$. Neon lamp for above 10 c
(E) UL Neon Pilot Assemblies Series 31914
For NE-45 neon glow lamp at 115 volts. Candelabra base, lamp accessible írom front. Smooth lens in chrome-plated brass holder. 1" mounting hole. 28"long. Without bulb.

00-395 NE-45. Neon lamp for above

We stock the entire Dialco line of pilot lamp assemblies, jewels, etc. Specify type, finish, size, base, voltage, jewel style, color, when ordering Dialco items not listed in this catalog.
(F) $1 / 2$-inch Pilot Assemblies

A low-cost space saver. Mounts in $\frac{7}{16}$ hole; nickel-plated brass jewel holder; faceted jewel; lug terminals. 110 volts.

SERIES 510 - MINIATURE SCREW

## Cat. No.

00-333 Red
00-334 Green Net each . : . 19c SERIES 710 - MINIATURE BAYONET Cat. No.
00-336. Red
00-337 Green Net each . . . 19c 00-338 Amber

## (G) Series $81410 \quad 1 / 2$-inch

Enclosed type with smooth-raced Jewel; avia-tion-type compact assembly. Nickel-plated brass holder; bayonet base, lamp replaceable from front; $\frac{3}{4}^{3 /}$ mounting hole. $2 \frac{1}{k}^{\prime \prime}$ long. Through panel up to 咅 "thick. Without bulb. $^{\text {b }}$
Cat. No
$\left.\begin{array}{ll}\mathbf{0 0 - 3 3 9} & \begin{array}{l}\text { Red } \\ 00-340 \\ \text { Green } \\ \text { 00-341 }\end{array} \\ \text { White }\end{array}\right\}$ Net each $\ldots \quad$ 73c

## Pilot Jewels

Complete with turned brass holders for mounting in panels; $\frac{7}{16}{ }^{\prime \prime}$ hole for mounting; nickelplated brass holder; faceted jewels. Supplied Fith mounting nut
Cat. No.
Red
$\left.\begin{array}{ll}\mathbf{0 0 - 3 4 3} & \text { Green } \\ 00-344 & \text { Amber }\end{array}\right\}$ Net each . . . 12 C
(H)

## Lamp Installer

For faster mass production or use in places that are hard to reach when servicing. Made of rubber. Takes neon and candelabrit lamps. Whit not damage lamps. A very handy gadget
Cat. No. 00-345 Net each
24c

## Dialco Socket Assemblies

Cadmlum-plated brachets, tinned brass lugsBayonet type, furnished with coll spring construction for positive contact. Highest grade insulating washers.
Cat. No.
$000-346$
$00-347$
$00-348$
$00-349$
$00-350$
$00-351$
$00-352$
$00-353$
$00-354$
$00-355$
$00-356$

| Miniature acr |  |  |
| :---: | :---: | :---: |
| Type | Fig. |  |
| 501 | W | Net Each $7 c$ |
| 507 | x | 10 for 48c |
| 504 | Y | 100 for \$ 4.32 |
| 505 | Z |  |
| Miniature bayonet |  |  |
| 701 | W | Net Each 7c |
| 707 | X | 10 for 64c |
| 704 | Y | 100 for \$5.76 |
| 705 | Z |  |
| Candelabra 115-volt |  |  |
| 601 | W | Net Each 10c |
| 604 | Y | 10 tor 90c |
| 605 | T | 100 for $\$ 8.10$ |



* Minlature bayonet type.

Note: Take advantage of quantity price discounts - deduct $10 \%$ for ten or more BONES of same type pllot or flashight bulbs

## 115-volt Pilot Lamp

Rated 1500 hours average use. 6 watts; candelabra base. 17 ${ }^{\prime \prime}$ "long. 4 oz .
Cat. No. 00-397 Net
17c

# MILLEN - KNOBS - DIALS - DRIVES  <br>  <br> (E) Right Angle Dial. Type 10001 <br> Smalldrum dial supplied with $23^{\prime \prime}$ square molded bakelite escutcheon plate. Rotation $180^{\circ}$; dial graduated 0-100. <br> Cat. No. 00-002 Net Price <br> $\$ 1.85$ 

## (F) Type 10000 Worm Drive Unit

(A) Model 10035

Illuminated dial, very compact - $8 \frac{1}{\prime \prime}^{\prime \prime} \times 6 \frac{1^{\prime \prime}}{}-$ sturdily built. All-enclosed mechanism prevents behind-panel interference. Ratio 12:1. Direct calibration. Provision for mounting and marking auxiliary controls. Two, 4 and 5 line scales furnished.
Cat. No. 00-006 Net Price
$\$ 6.00$
(B)

## Model 10030

Control shaft has $1: 1$ ratio. Veeder-type counter reads directly to 1 part in 100 of 1 revolution. Bullt-in dial lock and !" drive shaft coupling. May be used with multi-revolution transmitter controls or, through gear reduction mechanism, for control of fraction revolution capacitors. Cat. No. 00-007 Net Price

## Model 10039

New, smaller instrument dial similar to Model 10035 above. $4^{\prime \prime} \times 3 \frac{t^{\prime \prime}}{4}$. Enclosed mechanlsm; 1-100 logging scale; 5 blank scales; futed knobs. Cat. No. 00-008 Net Price
$\$ 2.70$
(C)

## Model 10008

Heavy nickel-silver dial insulated from shaft by Bakelite hub; $180^{\circ}$; 0 to $100 ; 3 \frac{1}{*}^{\prime \prime}$ diameter. Fluted knob.
Cat. No. 00-009 Net Price
$\$ 1.00$
(D) Model 10011 Disc Meter Dial

A 0-100, $180^{\circ}$, disc-type vernier with escutcheon to match square meters; $3_{i^{\prime \prime}}$ dia. ; ratio 10:1. Cat. No. 00-001 Net Price
$\$ 2.25$

# Vernier Dials - Dial Plates Handwheel Controls 

## (A) ICA Miniature Dials

Chrome-silver dials; black-etched markings. 1 " $^{\prime \prime}$ diam. For $\frac{1}{\prime \prime}^{\prime \prime}$ shaft.
Cat. No. 00-054 10-10 thru 180 Net Ea. 50c Cat. No. 00-055 10-10 thru 270 Net Ea. 50c

## (B) ICA Precision Vernier Dial

Smooth action and precision callbration feature this vernier dial. Chrome-silver dial plates are engraved with black markings, calibrated from 0 to 100; permits resetting of dlal to fraction of a division; fluted, skirted knob; for $\frac{1}{\prime \prime}^{\prime \prime}$ shafts. Hardware included.

| Cat. No. | Type | Dia. | Degrees | Net |
| :--- | :---: | :---: | :---: | ---: |
| $00-050$ | 2170 | 2 n $^{\prime \prime}$ | 325 | $\mathbf{\$ 1 . 2 3}$ |
| $00-051$ | 2171 | $23^{\prime \prime}$ | 180 | $\mathbf{1 . 2 3}$ |
| $00-052$ | 2168 | $4^{\prime \prime}$ | 325 | $\mathbf{1 . 6 2}$ |
| $00-053$ | 2169 | $4^{\prime \prime}$ | 180 | $\mathbf{1 . 6 2}$ |

## (D) Gordon Handwheel Control With Pointers

For radio transmittlug and commerelal applications. Handwheels are made of bakelite and have brass bushings for ${ }^{\frac{1}{6}}$ shafts. Pointers are chromeplated; less dials.

|  |  | Wheel | Net |
| :---: | :---: | :---: | :---: |
| C'at. No. | Type | Size | Ea. |
| 00-160 | 308 | 317" | 94 c |
| 00-161 | 310 | $2{ }^{1 /}$ | 82c |
| 00-162 | 312 | $1{ }^{\text {" }}$ | 65 c |
| 00-163 | 314 | $1{ }^{1 / 4}$ | 53 c |

## (C) Dial Plates

Beautiful chrome-silver dials accurately ongraved with black numerals.
 $\begin{array}{llllll}00-057 & 3 \frac{1}{n}^{\prime \prime} & 67 \mathrm{c} & 00-060 & 3 \frac{1}{2 \prime} & 67 \mathrm{c} \\ 00-058 & 4^{\prime \prime} & 76 \mathrm{c} & 00-061 & 4^{\prime 2} & 76 \mathrm{c}\end{array}$

## (E) Dial Plates for Switches

Series 400 plates fit all Mallory types 311J. 3200 J , and other standard switches with $1 \frac{11}{\prime \prime}$ base; 20-degree spacing between numerals. Series 300 dlal plates fit all $1200 \mathrm{~L}, 1300 \mathrm{~L}$, and other standard switches with $1 \frac{1}{4}$ "base, also $1 \frac{1}{4}$ "-base 3100 J and $3200 \mathrm{~J} ; 30$-degree spacing between numerals.

| Cat. No. | Type | Marking | Cat. No. 00-090 | Type |
| :---: | :---: | :---: | :---: | :---: |
| 00-091 | 453 | 1 to 3 | 00-122 | 373 |
| 00-092 | 454 | 1 to 4 | 00-123 | 374 |
| 00-093 | 455 | 1 to 5 | 00-124 | 375 |
| 00-094 | 456 | 1 to 6 | 00-125 | 376 |
| 00-095 | 457 | 1 to 7 | 00-126 | 377 |
| 00-096 | 458 | 1 to 8 | 00-127 | 378 |
| 00-097 | 459 | 1 to 9 | 00-128 | 379 |
| 00-098 | 460 | 1 to 10 | 00-129 | 380 |
| 00-099 | 461 | 1 to 11 | 00-130 | 381 |
| 00-100 | 462 | 1 to 12 | 00-131 | 382 |
| 00-101 | 463 | 1 to 13 | .. | ... |
| 00-102 | 464 | 1 to 14 | . |  |
| 00-103 | 465 | 1 to 15 |  |  |
| 00-104 | 466 | 1 to 16 | . |  |
| 00-105 | 467 | 1 to 17 |  |  |
| 00-106 | 468 | 1 to 18 |  |  |
| 00-107 | 472 | Off 1 to 2 |  |  |


(L)

## Shaft Lock

With Mounting atrip.
Cat. No. 00-023 Type 10060 Net Price 36c (M)

Shaft Lock
With mounting nut for potentiometers.
Cat. No. 00-024 Type 10061 Net Price 36c
( $\mathbf{N}$ )
Shaft Lock
With knurled control knob.
Cat. No. 00-025 Type 10062 Net Price 45c (O)

Shaft Lock
With lever contro
Cat. No. 00-026 Type 10063 Net Price 45c
(PQ) Bar Knobs. Brass Inserts
Cat. No. 00-015 (P) Type 10002 Net Price 55 Cat. No. 00-016 (Q) Type 10003 Net Price 45c
(R)

Tuning Knobs
Cat. No. 00-017 Type 10006 Dia. 2 2" $^{\text {N }}$ Net Price Cat. No. 00-018 Type 10014 Dia. 言" . 15 c Cat. No. 00-019 Type 10018 Dia. $1^{38^{\prime \prime}}$. 40 c

## Dial Illuminator

Cat. No. 00-020 Type 10036 Net Price 35c

## Drum Meter Dial Bezel

Cat. No. 00-029 Type 10082 Net Price 60c
Disc Meter Dial Bezel
45c Cat. No. 00-030 Type 10083 Net Price 60c

# National $\underset{\substack{\text { KNobs } \\ \text { Dials }}}{\text { - Shaft Couplings }}$ <br>  <br> (11) <br> <br> NATIONAL <br> <br> NATIONAL <br> <br> Knobs and Dials <br> <br> Knobs and Dials <br> <br> Type MCN Dial 

 <br> <br> Type MCN Dial}
A.scaled-down model ideally suited for mobile installations, small converters and tuners; may be mounted on standard $3_{2}^{\frac{1}{2}}$ rack panel. Piovides three callbrattng scales and $180^{\circ} 0-100$ logging scale. $2 \frac{3}{3}^{\prime \prime} \times 3$ it $^{\prime \prime}$
Cat. No. 00-171 Net Price
$\$ 2.70$

## Type ACN Dial

For direct calibration. Bezel size $5^{\prime \prime} \times 7 \frac{1}{\prime \prime} ; 5$ blank scalen; one $180^{\circ}$ soale graduated $0-100$; velvet vernier drlve; easy to mount
$\$ 3.30$

## Type SCN Dial

Witli the same dial scales as ACN but in reduced gize, $4 \frac{T^{\prime \prime}}{10} \times 6 \frac{1}{}^{\prime \prime}$, for economy of panel-mounting suace.
Cat. No. 00-172 Net Price
$\$ 3.00$

## Type ICN Dial

The answer to the request of amateurs all over the world for anliluminated ACN dial. Two dial lights; seml-circular dtal window prevents shadow castlag. $5 h^{\prime \prime} \times 7 \frac{1}{\frac{1}{2}}$
Cat. No. 00-173 Net Price
$\$ 6.00$

## Type AM Dial

The original "velvet vernier" mechanism in a metal-skirted dial $3^{\prime \prime}$ in diatn., ratio 5 to I. Fits ?" shaft.
Cat. No. Divisions Rotatlon Direction
$0-176$

| $00-177$ | $100-0$ | $180^{\circ}$ | Clock wise |
| :--- | :--- | :--- | :--- |
| $00-177$ | 100 |  |  |
| $00-178$ | $150-0$ | $180^{\circ}$ | Clock wise |
| $00-179$ | $200-0$ | $360^{\circ}$ | Clock wise |
| $00-180$ | $0-150$ | $270^{\circ}$ | Counter-clockwise |
| Net Each |  |  |  |

Net Each

## Type HRS Knob

These knobs are molded of high qualliy sray plastic and have $11^{\prime \prime}$ dlameter chrome-plated bevel skirts. Fit t" diam. shafts.
HRS-1 ON-Ol'F knob thru $30^{\circ}$ rotation. Cat. No. 00-182 Net Each $50 c$ HRS-2 - Culibrated $5-0-5$ thru $180^{\circ}$ rotation. Cat. No. 00-183 Net Each 50 c HRS-3 - Callbrated $0-10$ thru $300^{\circ}$ rotation. Cat. No. 00-184 Net Each . . . 50c HR - An HRS type knob without chrome platerl skirt but with white dot for spotting settinge.
Cat. No. 00-185 Net Each
30c

## Type HRB Knob

For bandswitching or other operations where a switch is turned to several index positions. A bright zinc-slloy custing.
Cat. No. 00-186 Net Each
45 c

## PW Precision Drives

For smooth, precise control and high re-set accuracy. Micrometer dial reads direct to 1 part in 500. 10 revolutions covers tuning range; 20 to 1 ratio worm gear. Individually insulated rotorn, brush contacts. Steatite stator Insulation.
Type NPW-O - Drive shaft perpendtcular to panel. With flexible steatite coupling to it $\|^{\prime \prime}$ ghaft. Less capactor
Cat. No. 18-009 Net Each
$\$ 9.00$ Type PW-O - Drive shaft paraijel to panel. 2 couplings as above supplied. Less capucitor. Cat. No. 18-007 Net Each
Type PW-D - Micrometer dial ouly No re duction gear turniahed fits s" shaft Cuction gear turnished. Fits be" shaft.
Cat. No. 18-068 Net Each
$\$ 5.25$

## Type HRT Knobs

A new light-gray plastic knob with elirome trim, for creating a modern panel layout. $2 \frac{1}{n}^{n}$ dlam., fits $\frac{1}{6}$ " ghaft.
Cat. No. 00-181 Net Euch
75 c
TYPE HRT - M Knob-A smaller version of Type HRT Knob above; $1^{3}{ }^{3} 0^{\prime \prime}$ diam.
Cat. No. 00-192 Net Each
50 c

## Type R Knob

$13^{\prime \prime}$ diam. dial with black bakeltte knob. German silver scale calibrated 0 -10 in $180^{\circ}$ clockwise rotation. Fits $\frac{1}{1^{\prime \prime}}$ shaft.
Cat. No. 00-187 Net Each
60 c

## Type HRP-P Knob

Black bakelite knob $1 \frac{1}{\frac{1}{2}^{\prime \prime}}$ long and $\frac{1^{\prime \prime}}{2^{\prime \prime}}$ wlde; with pointer. Fits $\}^{\prime \prime}$ shaft.
Cat. No. 00-188 Net Each . . 24c
TYPE HRP KNOB - Bame as HRP-P above but without pointer.
Cat. No. 00-189 Net Each
18c

## Type $O$ Dial

3妾" nickel-silver scale insulated from hub. Metal brush grounds scale; mounts directly on $\frac{1^{\prime \prime}}{n^{\prime}}$ shaft. Callbrated 0-100; counterclockwise rotation thru $180^{\circ}$. Black bakelite knob.
Cat. No. 00-190 Net Each . $\$ 1.00$ TYPE HRK KNOB - Black bakelite knob $28^{3 \prime \prime}$ нs used on Type O Dial above.
Cat. No. 00-191 Net Each

## Type ODL Dial Lock

Clamps the rim of $\mathrm{O}, \mathrm{K}, \mathrm{L}$, and M dials. Brase* nickel plated.
Cat. No. 00-19.3 Net Each . . . 33c




## Standard Knobs

Molded plastic knobs with lustrous finish in fliverse styles and colors to meet all replacement needs.

| Cat.No. | Fig. | Diam. | Color | 1 | 10 For |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 00-601 | A | 11" | Walnut | 9 c | \$0.81 |
| 00-602 | A | $1{ }^{\frac{1}{8}}{ }^{\prime \prime}$ | Ivory | 9 c | . 81 |
| 00.603 | B | $1{ }_{1}^{18}{ }^{\prime \prime}$ | Black | 7 c | . 56 |
| 00-604 | B | $1 \frac{1}{16}{ }^{\prime \prime}$ | Walnut | 7 c | . 56 |
| 00-605 | C | $1{ }^{\frac{3}{16}}{ }^{\prime \prime}$ | Walnut | 9 c | . 81 |
| 00-606 | C | $1{ }^{\frac{3}{16}}{ }^{\prime \prime}$ | Ivery | 9 c | . 81 |
| 00-607 | I) | $1{ }^{1}{ }^{16}$ | Black | 7 c | . 56 |
| 00-608 | D | $1 \frac{188}{18}$ | Walnut | 7 c | . 56 |
| 00.609 | E | $8^{\prime \prime}$ | Black | 6 c | . 48 |
| 00-610 | E | $3^{\prime \prime}$ | Walnut | 6 c | . 48 |
| 00-611 | E* | $3^{\prime \prime}$ | Black | 6 c | . 48 |
| 00-612 | E* | ?" | Walnut | 6 c | . 48 |
| 00-613 | F | 1 " | Walnut | 8 c | . 72 |
| 00-614 | F | $1^{\prime \prime}$ | Ivory | 8 c | . 72 |
| 00-615 | G | $1{ }^{\prime \prime}$ | Black | 12 c | 1.08 |
| 00-616 | H | $1{ }^{1 /}$ | Black | 12 c | 1.08 |
| 00-617 | H | $13^{\prime \prime}$ | Black | 12c | 1.08 |




## Millen Flexible Couplings <br> \section*{FOK $1 / 4$ " Shafts}

(L) TYPE 39001 - A new flexible coupling with no backlash yet angle drive up to $45^{\circ}$ is provided. Isolantite insulation. Ideal for 10001 drum dial. Cat. No. 00-751 Net Each
(M) Type 39002 - Compact conventlonal type coupling.
Cat. No. 00-752 Net Each
42c
(N) TYPE 39005 - A non-insulated universal joint for large angle drives recquiring high torque. Cat. No. 00-753 Net Each . 42 c
(O) Type 39006 - Unique type of flexible coupling for use where shafta have end motion, eccentric, or end wobble.
Cat. No. 00-754 Net Each
42c

## E. F. Johnson Shafts, Accessories

Flexlble Shafts. Phosphor bronze with $\frac{1}{6}$ hub. Up to $90^{\circ}$ angular control. (Fig. P)
Cat. No. 00-701 $3^{\prime \prime}$ Net Price
Cat. No. 00-702 $6^{\prime \prime}$ Net Price
Cat. No. 00-702 6 Ner Price: . 32c Panel Bearing and Shaft Extensions. For $\frac{1}{4 \prime \prime}$ shaits. (Fig. Q)

| Cat. No. | Type | Staft Length | Net |
| :---: | :---: | :---: | :---: |
| 00-703 | 115-255 | * | 12 c |
| 00-704 | 115-256 | 3 " | 24 c |
| 00-705 | 115-2562 | $6^{\prime \prime}$ | 35 c |

* Take knurled shafts.


# Croname Tuners - Dials - Knobs 


dlal. The variable condenser may be ceutered ubove or below center, or to the left or right. Cushion spring cllips hold the "edge-lighted" glass scales. All tuners have genuine bronze escutcheons. All will fit either clockwise or counter-clockwise condensers with $z^{\prime \prime}$ cr $t^{\prime \prime}$ shafts. Tuners can be installed vertically with a vertical scale. Dual scale supplied: BC and $6-18 \mathrm{mc}$

## sw. <br> (A) Type 233

## For Small Consoles, Table Sets

Overall dimenslons $3 \frac{3^{\prime \prime}}{41} \times 6 \frac{3}{\prime \prime}^{\prime \prime}$. Panel cutout $24^{\prime \prime} \times 6^{\prime \prime}$. Supplled with two screw-type sockets with spring mounting ellips.
$\$ 3.14$
(B) Type 232 Medium Tuner

Overall dimenstons $2 \frac{9}{16} 6^{\prime \prime} \times 6 \frac{1}{10^{\prime \prime}}$. P'ane! cutout $13^{3 \prime \prime}$ x $5 \frac{1}{\prime \prime}^{\prime \prime}$. Two screw-base sockets supplied, with spring mounting elips.
C'at. No. 00-201 Net Price
$\$ 2.94$
(C) Type 231 Small Tuner.

Overall dimenstons: $24^{\prime \prime} \times 4 \frac{8^{\prime \prime}}{}$. Panel cut out $17^{\prime \prime} \mathrm{x} 4 \frac{3}{8}$ ". Supplied with screw base bulb socket and spring mounting elip.
C'at. No, 00-202 Net Price
$\$ 2.79$

## Type 234

For Consoles and Large Table Models Overall dimensions: $3 \frac{1}{16}{ }^{\prime \prime} \times 8{ }^{7}{ }^{76}{ }^{\prime \prime}$. Panel cutout "名" $\times 7 \frac{9}{10}$ ". Supplied with two screw-type sockets with spriug mounting clips.
Cut. No. 00-203 Net Price
$\$ 3.53$

## KNOBS



## Croplastic Bar Knobs

Modern, smart designs in popular colors. Molded of "Croplastic," For test equipment, P.A. systems, etc. Brass inserts fit $\frac{1}{1}$ "shaft. Slottedhead, cup-polnted set screws.
Cat.
No. Type Fis Size
$00-233$
$00-234$
$00-235$
00-236
00-237
00-238
00-239
00-239
00-240
$00-241$
$00-243$

* For close to panel mounting.

.


## Alternate Calibrated Scales

Net Price, any scale
$44 c$
AM-Broadcast Band
$\begin{array}{lcccc} & \text { Tuner } & \text { Tuner } & \text { Tuner } & \text { Tuner } \\ \text { For } & 231 & 232 & 233 & 234 \\ \text { Horlzontal } & 00-204 & 00-206 & 00-208 & 00-210 \\ \text { Vertical } & 00-205 & 00-207 & 00-209 & 00-211\end{array}$

| AM-FM-13C Bands |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Tuner | Tuner | Tuner | Tuner |
| For | 231 | 232 | 233 |  |
| Horizontal | 00-216 | 00-218 | 00-220 | 00-222 |
| Vertical | 00-217 | 00-219 | 00-221 | 00-223 |
| AM-Broadcast \& Shortwave |  |  |  |  |
|  | Tuner | Tuner | Tuner | Tuner |
| For | 231 | 232 | 233 |  |
| Vertical | 00-212 | 00-213 | 00-214 | 00-215 |
| $0-100$ \& 2 Blank Channels |  |  |  |  |
|  | Tuner | Tuner | Tuner | Tuner |
| For | 231 | 232 | 233 |  |
| Horizontal | 00-224 | 00-226 | 00-228 | 00-230 |
| Vertical | 00-225 | 00-227 | 00-229 | 00-231 |

(D)
name Rado Dial
Compact for small size installations. Dtrect ratio without reduction. Scale is metal in Iuxurlous "Croart" finish. Antlque bronze escutcheon with openireg $1 \frac{1}{8}^{\prime \prime} \times 33^{3 \prime \prime}$. For $180^{\circ}$ condensers, Supplied with bushings to fit elther $\frac{1}{1 "}^{\prime \prime}$ or $\frac{1}{n}^{\prime \prime}$ shafts. Specify whether condenser closes left or right. Broadcast and 5.5-16 me callbration. With pllot lamp socket
Cat. No. 00-280 Net Ea.
$\$ 1.71$

## (E) Croname Aluminum Dial Plates

 Modern in design, attractive sllvery-white fintsh with leglble, durable figures. $2 \frac{3}{18}$ "high $x$ $25_{3}^{\prime \prime}$ wide.| Cat. No. | Title | Callbratlon | $\begin{gathered} \text { Net } \\ \text { Fa. } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 00-256 |  | 0-10 |  |
| 00-257 | Tone | 0-10 |  |
| 00-258 | Gain | 0-10 |  |
| 00-259 | Master Galn | 0-10 |  |
| 00-260 | Record | 0-10 |  |
| 00-261 | Mlcrophone | 0-10 |  |
| 00-262 | Microphone- 1 | 0-10 |  |
| 00-263 | Microphone-2 | 0-10 |  |
| 00-264 | Gain | 5-0-5 | 21c |
| 00-265 | Increase | (with arrow) |  |
| 00-266 | Radio-Mlerophone | 5-0-5 |  |
| 00-267 | Record-Mlerophone | 5-0-5 |  |
| 00-268 | Volume | 0-10 |  |
| 00-269 | Fader | 5-0-5 |  |
| 00-270 | Bass | 5-0-5 |  |
| 00-271 | Treble | 5-0-5 |  |
| 00-272 | Expansion | 0-10 |  |
| 00-273 | Indicator |  | 48c |
| 00-274 | Indleator (2 $\mathbf{D}^{\prime \prime}$ " high x $2 \frac{3}{16}$ " wlde) |  | 48c |

## (F) Chrome-and-Black Dial Plates

Highest quality etched plates. Heavy brass, satin-chrome plated, with dull black background. $3^{\prime \prime}$ diam. 0-100 thru 180
Cat. No. 00-275 Net Ea.
$3^{\prime \prime}$ diam, 0-100 thru 270
Cat. No. 00-276 Net Ea.

## (G) Azimuth \& Test Dial

For calibrating circults; for direction finders. Callbrated over tull $360^{\circ}$, in degrees; $6^{\prime \prime}$ diam.; mounted on hub tor ${ }^{\prime \prime}$ shaft; spun chrome plate aulsh on heavy brass with black enamel figures; highly accurate. Type 27010.
Cat. No. 00-232 Net Ea.
$\$ 3.23$

## (H) OFF-ON Switch Plate

Aluminum with black background. Toggle switch type.
(cat. No. 00-278 Net Es. . . . . 7c
(I) Rotary Switch Plate

Ftched polished aluminum with black background.
Cat. No. 00-277 Off-On Ner Ea. . 7c
(1) Round Control Plates
$1 \frac{1}{n}^{\prime \prime}$ dium., made of etched polished aluminum with black background.
Cat. No
Cat. NO
00-279
00-281 Volume
00-282 O-100
$00-283 \quad 0-100$ thru $270^{\circ}$
-Net Ea.


## Type MEA-8

For octal-type maglc eye tube. New unlversal short bracket permits use of any of the octal tubes Including dual pattern and multi-pattern types. Complete, less tube. Cat. No. 00-376 Net Price
eye tube; can be installed in any set having automatic volume control. Also for FM receivers, test instruments, signal tracers. Complete, including escutcheon, hardware, and $22^{\prime \prime}$ color coded cable. Less tube.
Cat. No. 00-375 Net Price

## AMPHENOL <br> MAGIC EYE <br> ASSEMBLY

| Cat. No. | Size | Fig. | Net Ea. |
| :---: | :---: | :---: | :---: |
| 00-244 | *2" | D | 10c |
| 00-245 | $2^{\prime \prime}$ | E | 11c |
| 00-246 | 14" | E | 8 c |
| 00-247 | *14" | D | 7 c |

## Fluted Knobs

Molded of black Bakelite;metal inserts for $\frac{1}{2}{ }^{\prime \prime}$ shafts.

| (G) Pointer Type |  |  | (F) Less Pointer |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | dam. | Net | Cat. No. | Dam. | N |
| 00-248 | 12" | 26c | 00-251 | $1{ }^{\prime \prime}$ | 1 |
| 00-249 | $1{ }^{\prime \prime}$ | 35c | 00-252 |  | 2 |
| 00-250 | $2{ }^{\text {\% }}$ | 41c | 00-253 | $2{ }^{3}$ |  |
| 00-254 | 21 " | ${ }_{32 \mathrm{c}}^{\mathbf{S k} \mathrm{c}}$ | TYPE $00-255$ | $3^{\prime \prime}$ |  |

## National <br> Type CFA Chart Frame



Size 22" $\times 33^{\prime \prime}$ with clear celluloid to cover chart. Cat. No. 00-200 Net Price

## METAL CABINETS－Relay Racks－Panels


（E）Small Sloping Panel Cabinets
Streamlined with rounded corners；finished in marine gray ripple．Sultable for speakers，re－ ceivers，intercom systems，input stages．
Cat．No．
$37-127$
$37-128$
Overall size
Net Price
37－128
$4 \frac{3}{16} \times 4 \frac{1}{2} \times 4 \frac{1}{2 \prime}$
$7 \frac{1}{2}^{\prime \prime} \times 44^{\prime \prime}$
$\$ 1.26$
2.26

## （F）Portable Steel Cabinets

Ideal for oscllators，transcelvers，test equipment． Front and back panels removable；are held with self tapping screws．Leather handle．Black ripple inish．

| Cat．No． | Overall Size | Net Price |
| :--- | :--- | ---: |
| $37-129$ | $12 \times 7 \frac{3}{4} \times 7^{\prime \prime}$ | $\$ 2.50$ |
| $\mathbf{3 7 - 1 3 0}$ | $15 \times 7 \frac{3}{4} \times \mathbf{7}^{\prime \prime}$ | $\mathbf{2 . 9 1}$ |

（G）DeLuxe Sloping－chassis Units
With chrome trimmed handles and louvres； rounded corners；marine gray ripple finish． Ample space for mounting instruments．

\section*{（B）Standard Relay Racks <br> For standard $19^{\prime \prime}$ rack panels．Substantially con－ structed of $\frac{7}{64}$＂pressen steel．Members and braces securely welded．Panel nitg．holes for either＂Amateur＂or type＂C＂panels tapped for 10／32 screws． <br> | Cat． |  | Panel | Net |
| :---: | :---: | :---: | :---: |
| No． | Overallsize | Sprace | 1rice |
| 37－010 | $73 \frac{1}{4} \times 20 \times 22^{\prime \prime}$ | $711^{\frac{317}{\prime \prime}}$ | \＄17．06 |
| 37－011 | $38 \frac{1}{\frac{1}{4}} \times 20 \times 19^{\prime \prime}$ | $36{ }^{3 / 1}$ | 14.26 |

## Relay Rack Trucks

For $18^{\prime \prime}$ deep racks．With swivel type castors， rubber composition wheels．Finished in grey ripple enamel，chrome trimmed．Type RT－412． Cat．No．37－190 Net Price ．．$\$ 10.39$

## （C）Sloping Front Cabinets

All purpose cabinets for use in studios，lab－ oratories，etc．Top corner is rounded and trimmed with ehrome molding；marine gray ripple finish．Chassis may be mounted to front panel and removed as a unit．Rear is ventilated； with opening for connections．
with opening for
Ca．W．D．Chussis Net Ea． $\begin{array}{llll}\text { Cat．No．} & \text { H．W．D．} & 7 \times 7 \times 2^{\prime \prime} & \$ 3.88 \\ 37-001 & 8 \times 8 \times 8^{\prime \prime} & 7 \times 9 \\ 37-002 & 8 \times 10 \times 8^{\prime \prime} & 7 \times 9 \times 2^{\prime \prime} & 4.26 \\ & 3 \times 7 \times 1\end{array}$ $\begin{array}{llll}37-000 & 8 \times 10 \times 8^{\prime \prime} & 7 \times 9 \times 2^{\prime \prime} & 4.26 \\ 37-003 & 8 \times 14 \times 8^{\prime \prime} & 7 \times 13 \times 2^{\prime \prime} & 5.59 \\ 37-003 & & \end{array}$ $\begin{array}{llll}37-003 & 8 \times 14 \times 8^{\prime \prime} & 7 \times 13 \times 2^{\prime \prime} & 5.59 \\ 37-004 & 12 \times 18 \times 12^{\prime \prime} & 10 \times 17 \times 3^{\prime \prime} & 7.50\end{array}$

## （D）Speaker Cabinets

Streamlined appearance with rounded front cor－ ners．Substantialiy made from sheet steel louvred back eover；black ripple enamiel finish． $\begin{array}{ccccc}\text { Cat．No．} & \text { Hole } & \text { Spkr．} & \text { Cablnet Slze } & \text { Net } \\ 37-020 & 41^{\prime \prime} & 6^{\prime \prime} & 10 \times 10 \times 6^{\prime \prime} & \$ 3.00 \\ 37-021 & 63^{\prime \prime} & 8^{\prime \prime} & 12 \times 12 \times 7^{\prime \prime} & 3.59 \\ 37-022 & 9^{\prime \prime} & 10^{\prime \prime} & 14 \times 14 \times 8^{\prime \prime} & 4.70 \\ & & & & \end{array}$ $\begin{array}{lllll}37-022 & 9^{\prime \prime} & 10^{\prime \prime} & 14 \times 14 \times 8^{\prime \prime} & 4.70 \\ 37-023 & 11^{\prime \prime} & 12^{\prime \prime} & 16 \times 16 \times 8^{\prime \prime} & 6.31\end{array}$

|  | Deluxe | Speaker Cabinets |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 37－024 | $43^{3 \prime}$ | 6 ＂ | $10 \times 10 \times 6^{\prime \prime}$ | \＄4．12 |
| 37－025 | 6⿳亠丷厂犬 | 8＇1 | $12 \times 12 \times 7^{\prime \prime}$ | 5.17 |
| 37－026 | $9{ }^{\prime \prime}$ | $10^{\prime \prime}$ | $14 \times 14 \times 8{ }^{\prime \prime}$ | 6.47 |
| 37－027 | 11＂ | 12＂ | $16 \times 16 \times 8{ }^{\prime \prime}$ | 8.53 |


| Ca |  | Ch | is | Net |
| :---: | :---: | :---: | :---: | :---: |
| No． | Overall | Btm． | Ht．St． | Price |
| 37－131 | $7 \times 17 \times 9{ }^{1 / 1}$ | $10 \times 17^{\prime \prime}$ | $3{ }^{\frac{1}{2}}{ }^{\prime \prime} 4^{\prime \prime}$ | \＄6．03 |
| 37－132 | $10 \times 14 \times 9{ }^{\frac{1}{3}}{ }^{\prime \prime}$ | $13 \times 14{ }^{\prime \prime}$ | $3{ }^{\frac{1}{2}}{ }^{\prime \prime} 4^{\prime \prime}$ | 6.47 |
| 37－133 | $10 \times 17 \times 9{ }^{\frac{1}{3}}{ }^{\prime \prime}$ | $13 \times 17^{\prime \prime}$ | $33^{\prime \prime}{ }^{\prime \prime} 4^{\prime \prime}$ | 6.76 |

（H）DeLuxe Amplifier Chassis

| Cat．No． | Overall | Chassis | Net |
| :--- | :---: | :---: | :---: |
| $37-134$ | $5 \frac{1}{3} \times 10 \times 9^{\prime \prime}$ | $3^{\prime \prime}$ | $\$ 3.62$ |
| $37-135$ | $8 \times 12 \times 9^{\prime \prime}$ | $3^{\prime \prime}$ | 4.70 |
| $37-136$ | $7 \times 17 \times 9^{\prime \prime}$ | $3^{\prime \prime}$ | 4.85 |
| $37-137$ | $10 \times 14 \times 9^{\prime \prime}$ | $3^{\prime \prime}$ | 5.29 |
| $37-138$ | $10 \times 17 \times 9^{\prime \prime}$ | $3^{\prime \prime}$ | 5.59 |

（1）Hinged Cover Cabinets
A rugged steel eabinet with piano－hinged top cover；removable bottom，front and back panel； flnished in black ripple．Supplied knocked down． Cat．No Overall Size Net Price 37－121 $9 \times 5 \times 6^{\prime \prime} \quad \$ 2.35$ $37-122 \times 8 \times 7^{\prime \prime} \quad 2.94$ 37－123 $12 \times 8 \times 7^{\prime \prime} \quad 3.38$ 37－124 $12 \times 11 \times 8^{\prime \prime} \quad 4.03$ 37－125 $14 \times 8 \times 7^{\prime \prime} \quad 4.03$ 37－126 $18 \times 12 \times 9^{\prime \prime} \quad 5.06$

## （J）Table Type Relay Racks

Ideal where a regular floor type heavy duty rack is not needed．Mounting holes accurately drilled is not needed．Mounting holes accurately drined
on universal centers，tapped for $10 / 32$ screws． on universal centers，tapped for $10 / 32$ screws．
Finished in black ripple enamel．Shipped knocked－ down with ell necessary screws．
$\begin{array}{llll}\text { Cat．No．} & \text { Overall Size } & \text { Panel } & \text { Net } \\ \text { 37－018 } & 25 \times 21 \times 12^{\prime \prime} & 21 \times 19^{\prime \prime} & \$ 5.64\end{array}$ $\begin{array}{lllll}37-018 & 32 \times 21 \times 12^{\prime \prime} & 28 \times 19^{\prime \prime} & 7.06 \\ 37-019 & 32\end{array}$
> ＂Futura＂Sloping－panel Cabinets
> An all－round cabinet for many uses．Rounded corners and raised louvres；front panel removable； marine gray ripple finish with chrome panel moulding．
> Cat．No．
> 37－032
> 37－033
> 37－034


K

## （K）Standard Steel Cases

Utillty cabinets for monltors，shield cans．Fabri－ cated of No． 20 gauge steel，with flanged edges． spot－welded corners；flat tops and bottoms are removable；held in place by self－tapping screws．
Cat．No．

$$
\begin{gathered}
\text { Size } \\
4 \times 4 \times 2^{\prime \prime} \\
4 \times 5 \times 3^{\prime \prime} \\
6 \times 6 \times 8^{\prime \prime} \\
9 \times 5 \times 8^{\prime \prime} \\
10 \times 8 \times 7^{\prime \prime} \\
10 \times 8 \times 10^{\prime \prime} \\
12 \times 11 \times 8^{\prime \prime}
\end{gathered}
$$

Net
37－144
37－145
$\begin{array}{r}.97 \\ \hline .97\end{array}$
$37-148 \quad 10 \times 8 \times 10^{\prime \prime} \quad 2.35$
37－149 $12 \times 11 \times 8^{\prime \prime} \quad 2.53$

## （L）DeLuxe Hinged Steel Cabinets

Streamlined appearance，rounded front vertical corners，and marine gray finish．Panel－type door on full length ptano hinge．Ventilating louvres at sides；opening at rear for leads，cables．
Cat．No．Panel＂Cabinet Chassis＊Net 37－113 $8 \times 8^{\prime \prime} \quad 8 \times 10 \times 8^{\prime \prime} \quad 7 \times 7 \times 2^{\prime \prime} \quad \$ 4.26$ $37-1148 \times 10^{\prime \prime} 8 \times 12 \times 8^{\prime \prime} \quad 7 \times 9 \times 2^{\prime \prime} \quad 4.41$ $\begin{array}{lllll}37-114 & 8 \times 10^{\prime \prime} 8 \times 12 \times 8 & 7 \times 9 \times 2 & 4.41 \\ 37-115 & 8 \times 12^{\prime \prime} & 8 \times 14 \times 8^{\prime \prime} & 7 \times 11 \times 22^{\prime \prime} & 5.29\end{array}$ $\begin{array}{llllll}37-115 & 8 \times 12^{\prime \prime} & 8 \times 14 \times 8^{\prime \prime} & 7 \times 11 \times 22^{\prime \prime} & 5.29 \\ 37-116 & 12 \times 18^{\prime \prime} 12 \times 20 \times 12^{\prime \prime} 10 \times 17 \times 3^{\prime \prime} & 8.23\end{array}$ $37-116,12 \times 18^{\prime \prime} 12 \times 20 \times 12^{\prime \prime} 10 \times 17 \times 3^{\prime \prime}$
＂Order from separate listing on next page．

## Standard Hinged Steel Cabinets

Same as above but minus chrome trim．
Cat．No．Panel Cablnet Chassis＊Net $37-1178 \times 8^{\prime \prime} \quad 8 \times 10 \times 8^{\prime \prime} \quad 7 \times 7 \times 2^{\prime \prime} \quad \$ 2.94$ 37－118 $8 \times 10^{\prime \prime} 8 \times 12 \times 8^{\prime \prime} \quad 7 \times 9 \times 2^{\prime \prime} \quad 3.23$ $37-1198 \times 12^{\prime \prime} 8 \times 14 \times 8^{\prime \prime} \quad 7 \times 11 \times 2^{\prime \prime} 4.12$ $37-12012 \times 18^{\prime \prime} 12 \times 20 \times 12^{\prime \prime} 10 \times 17 \times 3^{\prime \prime} 7.64$ ＊Order trom separate listing on next page．

## （M）Deluxe Cabinet Racks

Streamlined styling with rounded vertical front corners，top and bottom trimmed with chrome moldings．Panels fit lito recess．Ventilation louvres on side．Piano－type hinges on top doors，which have snap catches．For standard do＂rack panels．May be used with any chassis $19^{\prime \prime}$ rack panels．May be used with any chassis
up to $13^{\prime \prime} \times 17^{\prime \prime}$ ．Constructed of $\frac{1}{16}$ sheet steel． up to $13^{\prime \prime} \times 17^{\prime \prime}$ ．Constructed of $\frac{1}{16}$＂sheet steel．
Black ripple fnish unless marine gray is spectfed． Black ripple finish unless marine gray is
All cabinets are $21^{\prime \prime}$ wlde $\times 13 \frac{1}{\prime \prime}^{\prime \prime}$ deep．
All cabinets are $21^{\prime \prime}$ wide $\times 13 \frac{1}{2}^{\prime \prime}$ deep．

| Cat．No． | Ht ． | Panel | Door | et |
| :---: | :---: | :---: | :---: | :---: |
| 37－005 | 101／2＂ | 83＂${ }^{\frac{11}{4}}$ | Top | \＄10．14 |
| 37－006 | 14＂ | 121＂ | Top | 12.60 |
| 37－007 | 191／4＂ | $17 \frac{1}{2}$ | Tod \＆Rear | 16.43 |
| 37－008 | 28 ＂ | $26 \frac{1}{}{ }^{\prime \prime}$ | Top \＆Rear | 18.93 |
| 37－009 | $363 / 4{ }^{\prime \prime}$ | $35^{\prime \prime}$ | Top \＆Rear | 21.14 |

[^2]
## Meter Cases - Relay Racks - Panels - Bases


(A) Streamlined Meter Cases

Metal cases with rounded top to match streamlined gear finish. Made of steel, with welded joints. Slze $4 \frac{1}{8} \times 4 \frac{3}{16} \times 4 \frac{1}{4}^{\prime \prime}$.

(B) ICA Chrome Handles

An attractlve adornment for any cablnet. Furnished with mounting serews.

| Cat. No. | Type | Length | Net Price |
| :--- | :---: | :---: | ---: |
| 37-153 | 3500 | $4^{\prime \prime}$ | $\mathbf{4 4 c}$ |
| $\mathbf{3 7 - 1 5 4}$ | 3501 | $5 t^{\prime \prime}$ | $\mathbf{4 4 c}$ |

(C)

## Meter Panels

Slotted to fit all standard racks. Finished in black ripple unless gray is specified.

| Cat. | No. | Meter | Hole |  |
| :--- | :---: | :---: | :---: | :---: |
| No. | Holes | SIze | S1ze | Net |
| $\mathbf{3 7 - 1 1 1}$ | 5 | $3^{\prime \prime}$ | $213^{\prime \prime}$ | $\$ 2.12$ |
| $\mathbf{3 7 - 1 1 2}$ | 3 | $3^{\prime \prime}$ | $2 \frac{13^{\prime \prime}}{}$ | $\mathbf{1 . 4 7}$ |

## (D) ICA Relay Rack Brackets

For reinforcing racks and for mounting of panels, shelves, chassis. Black ripple finish.
Cat. No.
$37-150$
$37-151$
37
$\begin{array}{rr}\text { Size } & \text { Net Price Pr. } \\ 5^{\prime \prime} & \$ 0.63 \\ 8^{\prime \prime} & \mathbf{9 0} \\ 11^{\prime \prime} & \mathbf{1 . 2 0}\end{array}$
(D) Chassis Mounting Brackets

Brackets to fit any of the chassis listed on this page; mounting holes are drilled to match. Finlshed in black ripple enamel. Panels must be at least $7^{\prime \prime}$ high.

|  |  | Net |
| :--- | :---: | ---: |
| Cat. No. | Size | per Pr. |
| $37-028$ | For $8^{\prime \prime}$ base | $\$ 0.73$ |
| $37-029$ | For $10^{\prime \prime}$ base | $\mathbf{1 0 0}$ |
| $\mathbf{3 7 - 0 3 0}$ | For 11 base | $\mathbf{1 . 1 2}$ |
| $37-031$ | For $13^{\prime \prime}$ base | $\mathbf{1 . 2 9}$ |


|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A | C |  | E |  | 8 |
| Coat Tube Shields |  |  |  |  |  |
| Cat. <br> No. | Type | Flg. | Use With |  | 10 |
|  |  |  |  | Ea | For |
| $\begin{aligned} & 02-441 \\ & 02-442 \end{aligned}$ | $\mathrm{Gil331}_{\text {G1331A }}$ | A | As above but closed top | 3 c | 24c |
|  |  |  |  | 3 c | 24c |
| $\begin{aligned} & 02-443 \\ & 02-444 \end{aligned}$ | $\begin{aligned} & \text { G1330 } \\ & \text { G1330A } \end{aligned}$ | A | Small GT/G Small GT/G and loktal | 3 c | 24 c |
|  |  |  |  | 3 c | 24c |
| 02-445 | G1222K | C | Al1 GT | 3 c | 24c |
| 02-446 | G1222L | C | Loktal | 3 c | 24c |
| 02-448 | G1160 | D | 39, 78, etc. |  | 59c |
| 02-450 | G1700 |  | Min. T5 with base | 7 c | 59c |
| 02-451 | G1004 |  | Ground cllp | 1 c | 8 c |
| 02-452 | G1307 | - | Double clip | 3c | 24c |


(E) Standard Relay Rack Panels

Finished in black or marine gray ripple. Panels $19^{\prime \prime}$ wlde $\times \frac{1}{8}^{\prime \prime}$ thick; amateur rack notehing.

| Cat. No. | Type | Size | Net |
| :---: | :---: | :---: | :---: |
| 37-099 | 3600 | $1{ }_{4}^{\frac{3}{4}} \times 19^{\prime \prime}$ | \$0.65 |
| 37-100 | 3601 | $31 \times 19^{\prime \prime}$ | . 73 |
| 37-101 | 3602 | 5 ${ }^{\frac{1}{4} \times 19}$ | . 85 |
| 37-102 | 3603 | $7 \times 19^{\prime \prime}$ | . 91 |
| 37-103 | 3604 | $8 \frac{3}{4} \times 19^{\prime \prime}$ | 1.15 |
| 37-104 | 3605 | $10 \frac{1}{2} \times 19^{\prime \prime}$ | 1.29 |
| 37-105 | 3606 | $12 \frac{1}{4} \times 19^{\prime \prime}$ | 1.59 |
| 37-106 | 3607 | $14 \times 19^{\prime \prime}$ | 1.82 |
| 37-107 | 3608 | $15 \frac{3}{2} \times 19^{\prime \prime}$ | 2.12 |
| 37-108 | 3609 | $17 \frac{1}{\frac{1}{2} \times 19^{\prime \prime}}$ | 2.26 |
| 37-109 | 3610 | $19 \times 19^{\prime \prime}$ | 2.44 |
| 37-110 | 3611 | $21 \times 19^{\prime \prime}$ | 2.76 |

## (E) Masonite Relay Rack Panels

Tempered masonite, a non-magnetic material, sturdy and tough but easlly drilled. Black ripple finish unless gray is specifted.

| Cat. No. | Type | size | Net |
| :---: | :---: | :---: | :---: |
| 37-155 | 3662 | $1 \frac{3}{4} \times 19^{\prime \prime}$ | \$0.50 |
| 37-156 | 3663 | $3 \frac{1}{3} \times 19^{\prime \prime}$ | . 65 |
| 37-157 | 3664 | $5 \frac{1}{4} \times 19^{\prime \prime}$ | . 85 |
| 37-158 | 3665 | $7 \times 19^{\prime \prime}$ | . 94 |
| 37-159 | 3686 | $8{ }^{3} \times 19^{\prime \prime}$ | 1.18 |
| 37-160 | 3667 | $10 \frac{1}{} \times 19^{\prime \prime}$ | 1.32 |
| 37-161 | 3668 | $12 \frac{1}{4} \times 19^{\prime \prime}$ | 1.47 |
| 37-162 | 3669 | $14 \times 19^{\prime \prime}$ | 1.65 |
| 37-163 | 3670 | $15.3{ }^{\prime \prime}$ | 1.82 |
| 37-164 | 3671 | $17 \frac{1519}{}$ | 2.12 |
| 37-165 | 3672 | $19 \frac{1}{8} \times 19^{\prime \prime}$ | 2.35 |
| 37-166 | 3673 | $21 \times 19^{\prime \prime}$ | 2.56 |

## (E) Aluminum Relay Rack Panels

Standard relay rack panels of t" thick aluminum.* All are $19^{\prime \prime}$ wide. Furnished in either black or gray wrinkle finish.
Cat. No.

| Black or Gray |  | Height |  |  | $\begin{array}{r} \text { Net Ea. } \\ \$ 0.75 \end{array}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 37-201 |  | $1{ }^{1 / 2}$ |  |  |  |  |
| 37-202 |  | $3{ }^{1 /}$ |  |  | 1.22 |  |
| 37-203 |  | $5 \frac{1}{\prime \prime}^{\prime \prime}$ |  |  | 1.69 |  |
| 37-204 |  | $7{ }^{\prime \prime}$ |  |  | 1.93 |  |
| 37-205 |  | 8*" |  |  | 2.37 |  |
| 37-206 |  | $10^{\frac{1}{2}}{ }^{\prime \prime}$ |  |  | 3.09 |  |
| 37-207 |  | 121" |  |  | 3.63 |  |
| 37-208 |  | $14^{\prime \prime}$ |  |  | 4.12 |  |
| 37-209 |  | 15 ${ }^{\prime \prime}$ |  |  | 4.61 |  |
| 37-210 |  | 172" |  |  | 4.90 |  |
| 37-211 |  | 191* |  |  | 5.49 |  |
| 37-212 $21^{\prime \prime}$ |  |  |  |  | 5.78 |  |
| * Aluminum panels $\frac{z^{\prime \prime}}{18}$ thick are avallable at $60 \%$ increase In cost over $\frac{1}{8}^{\prime \prime}$ listed above. Add |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| letter T to catalog numbers above when ordering $\frac{3}{10} "$ panels. |  |  |  |  |  |  |
| Bud Aluminum Chassis |  |  |  |  |  |  |
| Combining greater ruggedness with lighter |  |  |  |  |  |  |
| weight, these chassis are constructed of heavier |  |  |  |  |  |  |
| gauge than their steel equivalent. Splendid for all RF applications. Spot welded construction; |  |  |  |  |  |  |
| etched finish. |  |  |  |  |  |  |
| Cat. |  |  |  |  |  | Ne |
| No. | Type | D | W | H | Gauge | Price |
| 37-213 | AC-402 | 5 | 7 | 2 | 18 | \$0.62 |
| 37-214 | AC-404 | 5 | 10 | 3 | 18 | . 88 |
| 37-215 | AC-405 | 7 | 7 | 2 | 18 | . 73 |
| 37-216 | AC-406 | 7 | 9 | 2 | 18 | . 88 |
| 37-217 | AC-407 | 7 | 11 | 2 | 18 | . 94 |
| 37-218 | AC-409 | 7 | 13 | 2 | 18 | 1.06 |
| 37-219 | AC-411 | 7 | 15 | 3 | 16 | 1.29 |
| 37-220 | AC-413 | 10 | 12 | 3 | 16 | 1.41 |
| 37-221 | AC-414 | 10 | 14 | 3 | 16 | 1.35 |
| 37-222 | AC-415 | 10 | 17 | 2 | 16 | 1.35 |
| 37-223 | AC-416 | 10 | 17 | 3 | 16 | 1.52 |
| 37-224 | AC-417 | 11 | 17 | 3 | 14 | 1.95 |
| 37-225 | AC-418 | 12 | 17 | 3 | 14 | 1.96 |
| 37-226 | AC-419 | 13 | 17 | 2 | 14 | 2.06 |
| 37-227 | AC-420 | 13 | 17 | 3 | 14 | 2.26 |

## National

Type T-78 Tube Shield
A three-plece pure aluminum shield for shielding glass tubes with ST-12 bulbs, such as 6 C 6 and 6D6 tubes.
Cat. No. 02-340 Complete, net each

## (F) Steel Chassis Bases

One-plece steel chassls with bases folded for addltional strength. Drilled for bottom plates.
*Because of small size the two ends are partly open.

| Cat. No. | Type | Slze | Gauge | Net |
| :---: | :---: | :---: | :---: | :---: |
| 37-037 | $1560{ }^{*}$ | $4 \frac{1}{2} \times 8 \times 1 \frac{1}{2}^{\prime \prime}$ | No. 20 | \$0.61 |
| 37-038 | 1530* | $5 \times 9 \frac{1}{} \times 1{ }^{\prime \prime}$ | No. 20 | . 64 |
| 37-039 | 1582 | 51 $\times 10 \times 3{ }^{\prime \prime}$ | No. 20 | 91 |
| 37-040 | 1566 | $5 \times 13 \times 3$ " | No. 20 | 1.02 |
| 37-041 | 1526 | $7 \times 7 \times 2^{\prime \prime}$ | No. 20 | 82 |
| 37-042 | 1569 | $7 \times 9 \times 2{ }^{\prime \prime}$ | No. 20 | 88 |
| 37-043 | 1527 | $7 \times 12 \times 3{ }^{\prime \prime}$ | No. 20 | 1.14 |
| 37-044 | 1571 | $7 \times 13 \times 2$ " | No. 20 | 1.06 |
| 37-045 | 1528 | $7 \times 17 \times 3^{\prime \prime}$ | No. 20 | 1.26 |
| 37-046 | 1520 | $10 \times 12 \times 3^{\prime \prime}$ | No. 20 | 1.38 |
| 37-047 | 1568 | $10 \times 14 \times 3$ " | No. 20 | 1.44 |
| 37-048 | 1583 | $10 \times 17 \times 3^{\prime \prime}$ | No. 20 | 1.29 |
| 37-049 | 1522 | $10 \times 23 \times 3$ " | No. 18 | 1.94 |
| 37-050 | 1524 | $13 \times 17 \times 3^{\prime \prime}$ | No. 18 | 2.45 |
| 37-051 | 1580 | $10 \times 17 \times 4^{\prime \prime}$ | No. 18 | 2.05 |
| 37-052 | 1581 | $13 \times 17 \times 4^{\prime \prime}$ | No. 18 | 2.76 |
| Black Ripple Finish |  |  |  |  |
| Cat. No. | Type | Size | Gauge | Net |
| 37-053 | 4000* | $4 \frac{1}{2} \times 8 \times 1{ }^{\prime \prime}$ | No. 20 | \$ . 61 |
| 37-054 | 4001* | $5 \times 9 \frac{1}{2} \times 1{ }^{\prime \prime}$ | No. 20 | . 67 |
| 37-055 | 4032 | $5 \frac{1}{2} \times 10 \times 3$ " | No. 20 | .91 |
| 37-056 | 4003 | $5 \times 13 \times 3^{\prime \prime}$ | No. 20 | 1.03 |
| 37-057 | 4024 | $7 \times 7 \times 2^{\prime \prime}$ | No. 20 | . 82 |
| 37-058 | 4004 | $7 \times 9 \times 2{ }^{\prime \prime}$ | No. 20 | . 88 |
| 37-059 | 4006 | $7 \times 12 \times 3$ " | No. 20 | 1.12 |
| 37-060 | 4007 | $7 \times 13 \times 2$ " | No. 20 | 1.06 |
| 37-061 | 4009 | $7 \times 17 \times 3^{\prime \prime}$ | No. 20 | 1.27 |
| 37-062 | 4016 | $10 \times 12 \times 3{ }^{\prime \prime}$ | No. 20 | 1.38 |
| 37-063 | 4017 | $10 \times 14 \times 3{ }^{\prime \prime}$ | No. 20 | 1.44 |
| 37-064 | 4033 | $10 \times 17 \times 3^{\prime \prime}$ | No. 20 | 1.29 |
| 37-065 | 4019 | $10 \times 23 \times 3^{\prime \prime}$ | No. 18 | 1.94 |
| 37-066 | 4021 | $13 \times 17 \times 3^{\prime \prime}$ | No. 18 | 2.45 |
| 37-067 | 4030 | $10 \times 17 \times 4^{\prime \prime}$ | No. 18 | 2.06 |
| 37-068 | 4031 | $13 \times 17 \times 4^{\prime \prime}$ | No. 18 | 2.76 |

## Chassis Bottom Plates

Designed to fit all ICA chassis and amplifer units Equipped with four bosses to prevent marring.

| Zinc Plated |  |  |  |
| :---: | :---: | :---: | :---: |
| Cat. No. | Type | Size | Net |
| 37-069 | 1601 | $5 \times 9{ }^{\prime \prime}$ | \$0.38 |
| 37-070 | 1625 | $5 \frac{1}{5} \times 10^{\prime \prime}$ | . 41 |
| 37-071 | 1602 | $5 \times 13^{\prime \prime}$ | . 41 |
| 37-072 | 1623 | $7 \times 7$ | . 44 |
| 37-073 | 1603 | $7 \times 9$ | . 44 |
| 37-074 | 1604 | $7 \times 11^{\prime \prime}$ | . 53 |
| 37-075 | 1605 | $7 \times 12^{\prime \prime}$ | . 56 |
| 37-076 | 1606 | $7 \times 13^{\prime \prime}$ | . 56 |
| 37-077 | 1607 | $7 \times 15^{\prime \prime}$ | . 62 |
| 37-078 | 1608 | $7 \times 17^{\prime \prime}$ | . 65 |
| 37-079 | 1612 | $8 \times 12^{\prime \prime}$ | . 65 |
| 37-080 | 1615 | $10 \times 12^{\prime \prime}$ | . 68 |
| 37-081 | 1616 | $10 \times 14^{\prime \prime}$ | . 71 |
| 37-082 | 1617 | $10 \times 17^{\prime \prime}$ | . 82 |
| 37-083 | 1618 | $10 \times 23^{\prime \prime}$ | 1.03 |
| Blace Ripple |  |  |  |
| Cat. No. | Type | Size | Net |
| 37-084 | 4051 | $5 \times 9 \frac{1}{2}^{\prime \prime}$ | \$0.38 |
| 37-085 | 4075 | $5 \frac{1}{3} \times 10^{\prime \prime}$ | . 41 |
| 37-086 | 4052 | $5 \times 13^{\prime \prime}$ | .41 |
| 37-087 | 4073 | $7 \times 7$ " | .44 |
| 37-088 | 4053 | $7 \times 9$ " | . 44 |
| 37-089 | 4054 | $7 \times 11^{\prime \prime}$ | .53 |
| 37-090 | 4055 | $7 \times 12^{\prime \prime}$ | . 56 |
| 37-091 | 4056 | $7 \times 13^{\prime \prime}$ | . 56 |
| 37-092 | 4057 | $7 \times 15{ }^{\prime \prime}$ | . 62 |
| 37-093 | 4058 | $7 \times 17{ }^{\prime \prime}$ | . 65 |
| 37-094 | 4062 | $8 \times 12^{\prime \prime}$ | . 65 |
| 37-095 | 4065 | $10 \times 12^{\prime \prime}$ | . 68 |
| 37-096 | 4066 | $10 \times 14^{\prime \prime}$ | . 71 |
| 37-097 | 4067 | $10 \times 17^{\prime \prime}$ | . 82 |
| 37-098 | 4068 | $10 \times 23^{\prime \prime}$ | 1.03 |

## National

## Miniature Tube Shield and Base

For complete shlelding and locking-in minlature tubes. Cadmlum-plated spring steel. Base has $\mathbf{i}^{\prime \prime} \mathrm{mtg}$. centers.
Cat. No. 02-341 Tube shleld Net Each bc Cat. No. 02-342 Base Net Each

## Grid Cap Shields

Cat. No. 16-351 Net Each

## WALSCO

## ＂40 Line＂Walsco Hardware 24¢ Per Package

All the radio hardware and acces－ sory items that are in everyday use by the radio service man－uniform products of highest quality－are conveniently packaged in useful， economical quantities．

## SCREWS

（A）Walsco 3560 －Standard machine screw assortment．Round head，cadmium plated，steel machine screws．Approx． 50 assorted No．6， 8 ， 10 serews，$t^{\prime \prime}$ to $1^{\prime \prime}$ long．Cat．No．16－001 ＊3560－99－200 assorted screws． Cat．No．16－180
（A）Walsco 3360 －Small screw and nut assort－ ment．Extra－small screws and nuts（Nos． 2 and 4）for fastening small parts，replacing rivets，ete．， in radio and experlmental work．Approx． 40 screws and 40 nuts．Cat．No．16－002
（A）Walsco 3140 －A package of standard ma－ chine screws，most widely used $8-32 \times$ 童＂slze． Approx． 50 per packuge．Same quality as ahove assortments．Cat．No．16－003
＊3140－99－ 200 per pkg．Cat．No．16－181
（F）Walsco 3553 －Standard wood screw assort－ ment，handy for shop or home．Round and that head，brass and steel．Approx． 35 screws．
Cat．No．16－004
（B）Wisco 3470 －Sheet metal and self－tapping screws for either plastle or metal．For mounting parts to chassis，replaclug rivets，etc．Hex bead， slotted，cadmium plated．Assorted sizes．Approx． 30 screws per package．Cat．No．16－005
－3470－99－125 per package．Cat No．16－182
（C）Walsco 3540 －Assorted rack serews with cup washers for mounting punels in racks，fasten－ ing record－hlayers，etc．Nickel piated．Approx． 15 of each per packake．Cat．No．16－006
（C）Walsco 3543 －Widely used size 6－32 $\times$ 部 rack screws as above．Approx． 40 per pk ． Cat．No．16－007
＊3543－99－200 per pkg．Cat．No．16－183 （C）Walaco $3544-$ No． 6 washers for rack ecrews above，it＂${ }^{\prime \prime}$ ．N．Nickel plated．Approx． 50 per pkg．Cat．No．16－008
（D）Walsco 2950 －Assortment of antlque bronze finished rosette head for mounting spenk－ ers，etc．Approx． 20 screws per package
Cat．No．16－009
（E）Walsco 3480 －Assortment of precision， hardened steel set screws for $k$ nobs，record chang－ ers，etc．Approx． 20 screws per pkg
Cat．No．16－010

## NUTS

（G）Walsco 3520－Assorted＂small pattern＂ nuts for electronic and electrical work．Precision－ made of steel，cudmium plated．Approx． 60 per package．Cat．No．16－011
＊3520－99－ 200 per pkg．Cat．No．16－184 （G）Walsco 3190－Approximately 40，8－32 nuts of same quality as above．The most widely used slze．Cat．No．16－012
＊3190－99－200 per pkg．Cat．No．16－185
（H）Walsce 3530 －A variety of the type of nuts used on volume controls，switches，jacks，etc All cadmlum or nlckel plated．Approx． 15 per Dkg．Cat．No．16－013

## SNAP－IN TRIMOUNTS

Faster than screws；for use on all modern radlo sets，back covers，dial scales，built－in antennas， t．
（I）Walsco 3460 －Approx． 25 assorted Tri－ mounts of dimensions listed below．
Cat．No．16－014
（I）Walsco 3462 －Approx． 30 Trimounts Size：$\frac{9}{32}$ head，$\frac{1^{4}}{}{ }^{4}$ long，for $\frac{1}{8}{ }^{\prime \prime}$ hole． Cat．No．16－015
＊3462－99－ 125 per pkg．Cat．No．16－203
（I）Walsco 3463 －Approx． 25 Trimounts Size：$\frac{9}{3_{2} "}$ head， $\mathrm{H}^{\prime \prime}$ long，for $\mathrm{gin}^{\prime \prime}$ hole．
Cat．No．16－016
（I）Walsco 3464 －Approx． 25 Trimounts Slae： $7^{\prime \prime}$ head，$\frac{e^{\prime \prime}}{2}$ long，for $\frac{3}{32}$＂hole．
Cat．No．16－017
＊3464－99－100 per pkg．Cat．No．16－202
（I）Walsco 3465 －Approx． 20 Trimounts： Blze：｜＂head，$\frac{1}{1}^{\prime \prime}$ long，for $\frac{1}{\frac{1}{\prime \prime}}$ hole．
Cat No．16－018
＊3465－99－ 100 per pkg．Cat．No．16－201

## ＊WALSCO＂99＂LINE

Packaged in clear plastic boxes with sliding cover，the new＂ 99 ＂line makes an orderly small－parts shelf with the parts visible ．．．easy to find．Approximately 4 to 6 times as many parts as in the＂ 40 ＂line．Items avail－ able in the＂ 99 ＂line are marked＂on this page．

## Net Per Package

99c


## EXPANSION SPRINGS

Expansion springs find untoid applications in radio and electrical ghops，laboratories，etc． （J）Walsco 3290 －Assortment of 10 large springs．Used in record changers．
Cat．No．16－019
（J）Walsco 3300 －Assortment of 10 small springs．Cat．No．16－020

## WASHERS，RETAINER RINGS

（K）Walaco 3510 －Steel washers，cadmlum plated．In standard sizes．Have the right size on hand when you need tt．Approx． 100 washers per pkg．assorted for No．4，No．6．No．8，No． 10. $1^{\prime \prime}$ screws．Cat．No．16－021
（L）Walsco 3420 －Approx． 40 assorted＂$C$＂ retainer rings and washers of type used for vol－ ume controls，record changers，etr．Rings are tempered spring steel；washers are annealed Sizes forshatts｜＂to sis dlam．Cat．No．16－022 （L）Walsco 3421 －＂C＂shape retalner rings for $\frac{1}{4}$ shats．Approximately 50 per packuge． Cat．No． $16-023$
Walsco 3422 －＂C＂＇washers for $\frac{1}{2} "$ shaft．
Approx． 40 per package．Cat．No．16－024

## RUBBER GROMMETS

For protection of cables when passing thru sharp chassls holes．Also used for vibrationless mount－ ings．Made of new oll－and－solvent－resistant syn－ thetic rubber．For wails up to $\frac{1}{16}{ }^{\prime \prime}$ thick materlal （M）Walsco 3340 －Assortment of about 15 grommets in sizes listed below．Cat．No．16－025 （M）Walsco 3341 －Apyrox． 20 rubber grom－ mets．For $t^{\prime \prime}$ hole；$\frac{1}{3}{ }^{\prime \prime}$ O．D．；${ }^{\prime \prime}$ I．D．
Cat．No，16－026
＊3341－99－100 per pkg．Cat．No．16－196 （M）Walsco 3342 －Approx． 15 per puckage．

Cat．No．16－027
＊3342－99－75 per pkg．Cat．No．16－197
（M）Walsco 3343 －Approx． 15 per package． Size：for $\mathrm{t}^{\prime \prime}$ hole；fi＂O．D．； $\mathrm{t}^{\prime \prime}$ I．D．
Cat．No，16－028
＊3343－99－7 per pkg．Cut．No．16－198
（M）Walaco 3344 －Approx． 10 per pleg．Size
 ＊3344－94－60 per pleg．Cat．No．16－199 （M）Walsco 3345 －Approx． 10 per pkg．Size： for ${ }^{\frac{3}{6} "}$ hole； 传＂$^{\prime \prime}$ O．D．；$\frac{1}{3}{ }^{\prime \prime}$ I．D．Cat．No．16－030 ＊3345－99－ 40 per pkg．Cat．No．16－200

## CHASSIS MOUNTS

Long lasting synthetic rubber mounts to reduce ＂mlcrophonlcs，＂vibration，etc．
（N）Walsco 2740 －Assorted mounts， 10 per pkg．Varlety of sizes，those most ofteil required Cat．No．16－031
（O）Cord Strainrelifefs－Walsco 3348 － Grommet and strain relief combined in one plece． For appliance cord sets．Prevents insulation damage by sharp edged holes． 4 per package Cat．No．16－033
（P）RUbber Wabhers and Bumperb－ WAlsco 3440 －Assortment of rubber washers， bumpers，spacers for vibratlonless mounting eliminating rattles，microphonics． 20 per pkg Cat．No．16－032
（Q）Rubeeh Feet－Walsco 3350 － 12 as－ sorted rubber leet，screw type．Supplled with wood screws；machine or self－tappling serews may be used．Cat．No．16－053
（Q）Rubber Feet－Walsco 3355 －Rubber tack feet．Made of oil－resistant synthetic rubber， 16 per pkg．＂diam．，$\frac{7}{32}$＂high．Cat．No．16－052 ＊3355－99－50 per pkg．Cat．No．16－192
（k）Snap Hole－Pluge－Flat head，metal but－ ton with spring flanges．Snap Into hole to seal ad－ justments，cover unused holes，etc．Secure fit easily removed．

| Cat． | Walsco | Slze | Qt． |
| :---: | :---: | :---: | :---: |
| No． | Type | Hole | per Pkg． |
| 16－034 | 3500 | Asso | tment |
| 16－035 | 3501 | \％＂ | 8 |
| 16－036 | 3502 | ＂ | 8 |
| 16－037 | 3503 | ＂ | 6 |
| 16－038 | 3504 | ＊ | 6 |
| 16－039 | 3505 | ＂${ }^{\prime \prime}$ | 5 |
| 16－040 | 3506 | 1 ＂ | 4 |
| 16－204＊ | 3501－99 | ${ }^{\prime \prime}$ | 50 |
| 16－186＊ | 3502－99 | 教＂ | 50 |
| 16－187＊ | 3503－99 | ！＂ | 40 |
| 16－188＊ | 3404－99 | ＂ | 30 |
| 16－189＊ | 3505－99 | ${ }^{\prime \prime}$ | 25 |
| 16－190＊ | 3506－99 | $1^{\prime \prime}$ | 0 |

（S）Vendilating Snap Hole－plogs－Walsco 3320 －Ventilation for amplifers，transmitters， portable equlpment，etc．by fine wire screen： plugs fit in as above． $2, \frac{1}{2}$ and 2,1 hole plugs per pkg．Cat．No．16－04í
＊Walsco 3320－99 Cat．No．16－191
（T）Cable Clamps－Cadmium plated，heavy gauge steei，$\frac{3}{8 \prime \prime}$ wide．Precisely punched，formed， with No．6．No． 8 mtg ．holes．

| Cat． | Walsco |  | Qt． |
| :---: | :---: | :---: | :---: |
| No． | Type | Dlam． | per $\mathbf{P}$ |
| 16－042 | 3330 | Assortment | 25 |
| 16－043 | 3331 | $\frac{1}{8}^{\prime \prime}$ to ${ }^{\frac{3}{16}}$＂ | 40 |
| 16－044 | 3332 |  | 35 |
| 16－045 | 3333 | $\frac{1}{4}{ }^{\prime \prime}$ to $\frac{5^{18}}{}{ }^{\prime \prime}$ | 25 |
| 16－193＊ | 3331－99 | $\frac{1}{8 \prime \prime}^{\prime \prime}$ to $\frac{1}{16}{ }^{\prime \prime}$ | 125 |
| 16－194＊ | 3332－99 |  | 100 |
| 16－195＊ | 3333－99 | ＂to ${ }^{\frac{8}{81}}$ | 75 |

（U）Terminal Lugs－Walsco 3280．Six as－ sorted slzes most often used．Accurately formed for easy mounting．Of thned brass．Approx． 40 lugs per pkg．Cat．No．16－046
（V）Key Wrenches－Wrench sets for hex and spline socket screws．Made of spectal alloy steel to nt all standard socket serews used in radio and electronic equipment．
Cat．Walsco
No．Type Description
16－047 $3580 \quad 5$ Hex wrenches：fit set screws No． 4 to $\frac{1}{\frac{1}{2} .}$ ．Cad screws No． 2 to 8.
16－048 3581 4 Hex wrenches；for set screws ＂＂to $\frac{1}{16}$ ．Cap screws No． 8 to 4
解 wrenches；for set screws No． 8 ．

Felt Pads－Walsco 3495 －Pads for phono cabinet IIds，feet，etc． 60 dlses $3^{\prime \prime}$ diam．， $\frac{1}{32}^{\prime 2}$ thick．Cat．No．16－050
（W）Phono Picevp Set Scre ws－Walsco 2570. Knurled head，steel screws，antique bronze finish． Assortment for all popular pickups and recording heads． 10 per package．Cat．No．16－051

# RADIO－ELECTRICAL HARDWARE <br>  <br> （J）5－Lb，Hardware Kit 


（A）Machine Screws
Round head，nickel－plated steel

|  |  | Net |
| :---: | :---: | :---: |
| Cat．No． | Size | Per Gross |
| 16－128 | 6－32 $\times 1$ 年 ${ }^{\prime \prime}$ | 37c |
| 16－129 | $6-32 \times \frac{5}{18}{ }^{\prime \prime}$ | 38 c |
| 16－130 | 6－32 $\times$－ | 41 c |
| 16－131 | 6－32 $x^{\text {告 }}$ | 46 c |
| 16－132 | 6－32 $\mathrm{x}^{\prime \prime}$ | 53 c |
| 16－133 | 6－32 $\times 11^{\prime \prime}$ | 68 c |
| 16－134 | $6-32 \times 1{ }^{\prime \prime}$ | 76 c |
| 16－135 | $6-32 \times 2{ }^{\text {＂}}$ | 93 c |
| 16－136 | $8-32 \times \frac{3}{16}{ }^{\prime \prime}$ | 46c |
| 16－137 | 8－32 $\times$ 年＂ | 53 c |
| 16－138 | $8-32 \times 1{ }^{\text {² }}$ | 58 c |
| 16－139 | $8-32 \times 1{ }^{\prime \prime}$ | 98 c |
| （B） $\mathrm{R}-\mathrm{H}$ | Philips Head Screws | Machine <br> Net |
| Cat．No． | size | Per Cross |
| 16－140 | $6-32 \times 1{ }^{\frac{1}{4}}{ }^{\prime \prime}$ | 43 c |
| 16－141 | 6－32 x ${ }^{\text {／}}$ | 44 c |
| 16－142 | 6－32 $\times$ 年＂ | 45 c |
| 16－143 | $6-32 \times 1{ }^{\prime \prime}$ | 52 c |
| 16－144 | $8-32 \times$ 新＂ | 38 c |
| 16－145 | 8－32 $\times$ 空＂ | 42c |
| 16－146 | $8-32 \times 1^{\prime \prime}$ | 57c |

## RADIO HARDWARE IN IARS


（F）Replacement Cord \＆Plug－Complete high－quality unit for replacing damaged cords on appllance．6－toot cord is securely gripped by spring prongs．Stripped wire ends are already tinned．
Cat．No．16－257 Net Each
17c
（G）Belden Dual－Outlet Extension－Fa－ mous Belden quallity extension with double outlet receptacle．U．L．listed．Rubber cord $10^{\prime}$ long，rubber plug eap．
Cat．No．16－258 Ner Each
（H）Friction Tape－－Standard composition black electrical tape for a multitude of household and industrial uses．Individually packaged． Cat．No．16－259 2 oz．Roll．Net Each 12 c Cat．No $16-260$ 4 oz．Roll．Net Each 21c $\begin{array}{llll}\text { Cat．No } 16-260 & 4 \mathrm{oz} \text { ．Roll．Net Each } & \text { 2c } \\ \text { Cat．No．16－261 } & 8 \mathrm{oz} . \text { Roll．}\end{array}$ （H）Radio Friction Tape－$\frac{1}{17}$ width of these $60^{\prime}$ rolls for more convenient and more econom－ ical radio work．
17c

## （F）Tinned Soldering Lugs

Cat．No．16－105 Type 1 Cat．No．16－106 Type 2 Cat．No．16－107 Type 3 Cat．No．16－107 Type 3
Cat．No．16－108 Type 4 Cat．No．16－109 Type 5 Net per package of 100 lugs 34c （C）Spade Lugs
For mounting shields to chassis． Cadmium plated steel．6－32 thread． Cat．No．16－110 Per Doz．Net 10 c

Per Gross Net 65 c

## （H）Rubber Grommets

Insulate and protect cable from sharp holes in metal panels，chassls， etc．Pure gum rubber．

Net Price
Cat．No．Fits Hole Per Doz．
 16－124 $\stackrel{16}{16}$ 22c

## （I）Split Lock Washers

 In packages， 24 per pkg．| Cat．No． | Size | Net Price <br> Der Pkg． |
| :--- | ---: | ---: |
| $\left.\begin{array}{lr}16-125 & 8 \\ 16-126 & 10\end{array}\right\}$ | 7 C |  |

The most convenient method of keeping hardware always on hand， sorted，easily selcctable．Price in－ cludes hardware and glass jar． Any Radio Hardware Jar．
Net Price
33 c
Glass Jar，empty．
Cat．No．16－072 Net Each 6c
（N）Fibre Washers
Cat．No．Quantity

| $16-092$ | 125 | 6 |
| :---: | :---: | ---: |
| $16-093$ | 100 | 8 |
| $16-094$ | 90 | 10 |


| （N） | Plated Steel | Washers |
| :---: | :---: | :---: |
| Cat．No． | Quantity | Slze |
| $16-095$ | 100 | 6 |
| $16-096$ | 100 | 8 |
| $16-097$ | 100 | 10 |

A hardware assortment that con－ slats of assorted sizes of screws，nuts， wood screws，self－tapping screws， set－screws，lugs，grommets，rivets， washers－all the fittings needed for everyday requirements．
Cat．No．16－103 Net Price $\$ 2.56$

## （K）1，000－Piece Radio

## Hardware Assortment

Contains 1,000 pieces of assorted machine screws，wood screws，nuts， bolts，rivets，eyelets，luge，lock Washers，fibre washers，bakelite wachers，rubber grommets，etc． Cat．No．16－104 Net Price 89c

## （L）Assortment of Fibre

 WashersBox of assorted fibre washers，both flat und shoulder types included． Diverse diameters，thicknesses， holes． 100 per box．Sizes to take screws No． 6 to No．10；volume con－ trol shafts ${ }^{1 / 1}$ to ${ }^{\frac{z^{\prime \prime}}{8}}$ Cat．No．16－127 Net Price 36c
（M）Bracket Assortment
Box of 28 assorted nickel－plated metal brackets．Offset and angle type．
Cat．No．16－121 Net Price
41c

## （A）Round Head Machine Screws

| Cat．No． | Quantity | Stze |
| :---: | :---: | :---: |
| 16－073 | 100 | 4－36 $\times \frac{1}{}{ }^{\prime \prime}$ |
| 16－074 | 75 | $4-36 \times{ }^{\text {3 }}$ |
| 16－175 | 90 | 6－32 $\times$＇${ }^{\prime \prime}$ |
| 16－076 | 80 | 6－32 $\times \frac{1}{}{ }^{\prime \prime}$ |
| 16－177 | 70 | 6－32 $\times \frac{3^{\prime \prime}}{}$ |
| 16－078 | 50 | $6-32 \times 1{ }^{\prime \prime}$ |
| 16－079 | 65 | $8-32 \times{ }^{\text {\％}}$ |
| 16－080 | 35 | $10-32 \times 1$ 1 |
| （P） | Self－Tapping | Screws |
| Cat．No． | Quantity | Size |
| 16－086 | 50 | $6 \times 1$ \％ |
| 16－087 | 45 | 6 x |
| 16－088 | 40 | 7 x |

（C）Shakeproof Lock Washers

| Cat．No． | Quantity | Slze |
| :--- | :---: | ---: |
| $16-089$ | 100 | 6 |
| $16-090$ | 90 | 8 |
| $16-091$ | 80 | 10 |


（1）Walsco Flock Spray Outfit
Velvet－like，colorful，durable felt flock fintsh can be obtained by any novice with the Walsco Flock Spray Gun．For use on radio cablnets，phono turntables，speaker grilles，etc．Kit contains spray gun．Ivory and brown felt flock，undercoats to match，thinner，brush，instructions． Cat．No．16－063 Kit K－50．Net Price $\$ 6.76$

## Walsco Felt Flock Materials

Felt Flock－Made of rayon tibers cut to unt－ form lengths for even nap．Bright colors．In $3 \ddagger \mathrm{oz}$ ．containers． 1 oz ．covers $1 \frac{1}{2}$ to 2 sq ． ft ． Cat．No．Color Cat．No．Color Net Ea． 16－064 Brown 16－066 Red 97c 16－065 Ivory 16－067 Green
Felt Flock Undercoat－Provides color base and an excellent adhesive for felt flock．In $\frac{1}{\frac{1}{3}}$ pint cans，covers about $10 \mathrm{sg} . \mathrm{ft}$ ． $\begin{array}{lllll}\text { Cat．No．Color } & \text { Cat．No．} & \text { Color Net Ea．} \\ \text { 16－068 } & \text { Brown } & 16-070 & \text { Red } & \mathbf{8 2 c}\end{array}$ 16－068 Brown 16－070 Red

# Radio Chemicals 

DIAL ACCESSORIES Phono-Motor Drives

(A) Walsco Dial Drive Springs

Assontment 3400 - Ten assorted springs of fine music whe carefully looped at ench end and rustproofed. Includes large and small springs. Cat. No. 00-460 Net Ea. Assortiment 3410 - Ten assorted small springs. $\frac{1}{3}^{\prime \prime}$ to $\frac{3^{\prime \prime}}{4}$ !ong.
Cat. No. 00-461 Net Ea.
24c
(B) Radio Knob Springs

Walsco 3450 - The better method of fastening knobs to shafts. Assortment of about 20 surings in all regular sizes and shapes.
Cat. No. 00-462 Net Ea.
24 c

## Dial-drive Rubbers

Flnest grade rubber friction drives in assorted sizes as used in RCA. Emerson, Stewart Wurner, etc.
Cat. No. 00-463 Net Ea
88c

## JFD Dial Belt Kits

The belts most manufacturers use. Klt assortments in sturdy metal indexed cabinets. Each kit includer, with belts, 1 measurement chart, a couversion chart, and 64-page belt booklet covering all types of belts.
$\underset{\text { Cat. No. 00-464 }}{\text { Kır }} \underset{\text { Net Price }}{\text { N25A }} 25$ belts. $\$ \mathbf{3 . 9 4}$ Kit B100A - Assortment of 100 belts. Cat. No. 00-465 Net Price $\qquad$ $\$ 14.70$
All JFD dial belts are available singly. Net Ea.

(D) 100-ft. Spools Of Dial Cord

Spool 35-1C-"Suecial Thin" cord .025 " diam., 30 lbs. breaking strength.
$\$ 2.70$ at. No. 00-454 Net Ea.

Spool 39-1C - "Standard" cord .031" diam.. 32 ibs, breaking strength.
Cat. No. 00-455 Net Ea.
s2.70
Spool 34-1C - "Medium" cord .042" ilam., 35 lbs . breaking strength.
\$2.70
Spool 33 - Heavy dial cord as used on Philco, Majestic. $062^{\prime \prime}$ diam.; treated to prevent slip. Cat. No. 00-457 Net Ea. . . . \$1.02

Spool 31-16-strand braided bronze cable, $.040^{\prime \prime}$ diani. 50 lb . breaking strength.

70 c Cat. No. 00-458 Net Eit

Srool 30 - Phosphor bronze cable, $.040^{\prime \prime}$ diam., 42 strand. Breaking strength 60 lbs .

88c

## Walsco Dial Cables \& Cords

Multispool - For the serviceman's "call" kit. provides cable and cord for all needs on one handy, compact. divided sıool: 15 ft . of phosphor bronze cable No. 30; 15 ft . of heavy cord No. 33; 15 ft . of medtum cord No. 34; 15 ft . of special thin cord No. 35.
\$2.06
cat. No, 00-450 Net Price
al assort-
Thrifty-Srool, "A" - A small practical assort ment of three nopulur dal cables: 15 ft . each or bronze cable No. 31, medium cord No. 34. and
speclai thin cord No. 35 .
Cat. No. 00-451 Net Price . Cat. No. 00-451 Net Price
Thrifty-Spool " $\mathbf{B}$ " - A substantial gaving is offered by this one spool containing 15 ft . each of No. 39 Standard cord, No. 34 medium cord. and No. 35 spectal thin cord.
Cat. No. 00-452 Net Price
'1.47

## C) Phono-Motor Rubber Drives

Exact replacements for all standard phono-motor drives. Preefsion-made of abrasion-resistant synthetic rubber to as sure uniform speed and long life. Attach with rubber cement. Net Each 24 c Cat. No. Walsco

16-054
10-055
16-056
$16-057$
16-057
$16-058$
$16-059$
16-059

2560-16
2560-17
2560-18
2560-19
2560-20
2560-25


Expansion spring dirive 1

Used on General Ind. Alliance Motorola
RCA
Phileo, RCA etc. Detrola Detrola, Utah 194647 models

R.M.A. Color Coding Kit

Kit includes all standard R.A1 A. colors: black. brown, red, orange, yellow, green, blue, purple, gray, and white. Brilliant hues. Complete with brushes and color chart.
Car. No. 16-401 Net Price
\$1.03
Dial Lite Colohing
Long-lasting coloring for multi-colored bulbs. Just dipping does it. Dries Instantly. Colors: red, green, blue, amber; and solvent.
Cat. No. 16-402 Net Price

## Luminous Lite-Koat

Long-life "glows in the dark' coating materials, complete in one kit. Coating absorbs light during daytinie, emits light in the dark. For dials, knobs, switch plates, etc. With complete instructions and many susgestions. Kit includes LiteKoat powder, Mix-Koat. Top-Koat, brushes and thinner.
Cat. No. 16-403 Net Price

## General Cement Paints \& Varnishes

Ahr-dmy Wrinkle Vahish
Reguires no baking; can be brushed or sprayed; gives professional results.

| Color | Cat. No. |
| :--- | :---: |
| Black | $\frac{1}{\text { Pt. }}$ |
| Brown | $16-404$ |
| Green | $16-405$ |
| Silver Grey | $16-406$ |
| Redl | $16-407$ |
| Blue | $16-408$ |
| Net Each t pint $26 c$ | $16-409$ |
| 1 plnt $\$ 1.32$ |  |

Cat. No. ${ }_{16-410}$ Pt.
16-410
16-411
$16-412$
$16-413$
16-414
16-415

## Cifystal Finish Lacquer

Black, alr-drying lacquer that gives a professional finish on any metal; easy to apply.

|  | Cat. No. | Cat. No. |
| :--- | :---: | :---: |
| Color | $\frac{1}{1}$ Pt. | $1 \frac{1}{2}$ Pt. |
| Black | $16-416$ | $16-419$ |
| Gray | $16-417$ | $16-420$ |
| Brown | $16-418$ | $\mathbf{1 6 - 4 2 1}$ |

$16-418$
Net Each per $\frac{\frac{2}{8}}{8}$ plnt 26 c ; per $\frac{1}{2}$ plnt 88 c
Telephone Black and Gbay
Good-covering, fast-drying enamel. Ebony black, handsome gray.

|  | Cat. No. | Cat. No. |
| :--- | ---: | ---: |
| Color | $\frac{1}{8}$ Pt. | 1 Pt. |
| Black | $\mathbf{1 6 - 4 2 2}$ | $\mathbf{1 6 - 4 2 4}$ |
| Gray | $\mathbf{1 6 - 4 2 3}$ | $\mathbf{1 6 - 4 2 5}$ |

## (E) Walsco Staple Driver

Just the thing for rapid installation of ground wires, lead-in wires, and indoor aerials. Reaches Into the hard-to-get-at places and drlves staples quickly and accurately lnto wood, plaster, cement, and mortar. To protect insulated wire, the depth the staple is driven may be adjusted as required. Magazine holds 23 staples of size suitable for holding No. 14 wire. Feed mechanism operates with trigger. Supplied with box of 250 staples and suggestions for use.
Cat. No. 16-060 Net Price
$\$ 4.85$
Box of 250 staples for Wulsco Stapler. Cat. No. 16-061 Net Price

32c
Box of 1,000 staples for Walsco Stapler.
Cat. No. 16-062 Net Price
\$2.41


Radio Cement - Vibration-proof and heatresisting for repalring sucakers and for general radio work.
Cat. No. 16-156 4 oz. botzle. Net Each 59c Cat. No. 16-147 8 oz. bottle. Net Each 94c Cat. No. 16-148 1 pt. bottle. Net Each $\$ 1.76$ Plastic Cement - For repairing brokeu plastle knobs, grld caps, etc. Waterproof, heat-resistant. Dries fast, forms strong bond.
Cat. No. 16-149 2 oz. bottle. Net Each 35c Vinylite Cement - With Vinylite plastic resin base for excellent adheston to metals, plastles, leather, cardboard, paper. Flexible when dry.
Cat. No. 16-150 2 oz. bottle Net Eaeh 41c Rubber Cement - For cementing rubber mounts. cushions to chassis, lids, etc.
Cat. No. 16-151 4 oz. bottle. Net Each 59 c Cement Solvent and Thinner - To loosen cement on speaker cones, voice colls, etc., and to thin Rudio and Plastic Cements above.
Cat. No. 16-152 4 oz. bottle. Net Each
Cat. No. 16-153 8 oz. bottle. Net Each 50 c Cat. No. 16-154 1 pt. bottle. Net Each 76c Polystyrene Cement - Used as coll dope to molsture-proof. Alsc to hold windings in place. Negligible electrical losses even UHF.
Cat. No. 16-155 4 oz. bottle. Net Each 59 c Walscolub B - Applled to switches, push buttons, tuners. volutne controls, etc., to prevent corrosion and eliminate noise
Cat. No. 16-166 13 ${ }^{\frac{3}{6}}$ oz, tube. Net Fach 32c Contactene - A combiliation of solvent and Walscolub B that cleans contacts, lubricates, and protects against corrosion.
Cat. No. 16-167 2 oz, bottle. Net Each 29c Cat. No. 16-168 4 oz. bottle. Net Each 38c $\begin{array}{llll}\text { Cat. No. 16-168 } & \text { 4oz. bottle. Net Each } & \text { 53c } \\ \text { Caz }\end{array}$ motor and Gear lubricant - For phono motors, record changers, etc. Long-lasting. Cat. No. 16-170 13 ${ }^{\frac{3}{4}}$ oz. tube. Net Each 32c No-slip - Contracts, sets, and shrinks dial belts, cords. etc. to stop slip immediately.
Cat No. 16-171 2 oz. bottle. Net Each 44c Carbon Tethachlohide - May be used on most delicate parts to instantly dissolve grease and dirt. Non-Infiammable.
Cat. No. 16-173 4 oz. bottle. Net Each 32c Radio Dial Oil - A light-boded lubricant, ideal for ail electronte and clectrical appliances. Cat. No. 16-172 2 oz. bottle. Net Each $26 c$ Schatch Removing Polish - A hlend of polish and stain that removes cabinet und furniture scratches and polishes. Will not change shade of finlsh.
Cat. No. 16-174 Dark. 4 oz. bottle. Net Ea. 29 c Cat No. 16-175 Light. 4 oz bottle. Net Ea. 29c Super Polish - For a "brand new' appearance. Super polish removes old polish, grease, or dirt and forms a dry, durable film for protection and and for

## polish

Cat. No. 16-176 4 oz. bottle. Net Each 29 c Cat. No. 16-177 8 oz. bottle. Net Each 44c Recordene - Cleans dít, grease, and dust from record grooves to increase record life and decrease surface nolse.
Cat. No. 16-178 2 oz . bottle. Net Each 29c Insulating Varnish - Fast-drying on transformer, solenoid, motor coils. etc. Withstands heat, acid, oll, grease. Non-corrosive.
Cat. No. 16-179 2 oz. bottlc. Net Each 35c

## QUALITY HAND TOOLS



## (A) Casco Electr-O-Tool Kit

Casco gives you an extra-quality power tool complete with 20 useful accessories all contained in a handsome case. Electr-o-tool is specially designed for both mechames and hobbyists. Its perfect performance is a time-saver at home, shop. store, or at the work bench; grinds, drills, engraves, carves, routs, saws, sands, polishes, sharpens, cleans. Two easily changed collets hold all accessories. Sinooth vibrationless power at high speed with precislon bullt motor; triple cooling for steady performance under load; safety sleeve locks shaft, preventing acciclental starting while inserting accessory. Kit includes 1 pollshIng wheel, 3 mandrels, 1 felt wheel, 3 brushes, 2 abrasive dlses, 2 collets, 1 ball cutter, 1 dressing stone. 1 wrench, 4 emery wheels, one $\frac{1}{16}{ }^{\prime \prime}$ speed drill.
Cat. No. 17-370 Net Price
\$14.95

## Impakt Self-Acting Center-Punch and Scriber

The complete layout tool; bandy, pencil-size with hardened steel point for seribing on metal or plastic. Spring barrel provides impact for center punch; hold polnt against work, pull up control knob and let go - Impakt makes a clean, precise centering mark, depth depending on distonce knob is pulled up. Ideal for panel and chassis layout.
Cat. No. 17-601 Net Price
${ }^{8} 1.50$

## (B) Circle Cutter

Rugged, square shank cutter that will cut holes from $3^{\prime \prime}$ to $8^{\prime \prime}$ in metal, wood, plastics, etc. Has部" shaft to fit any hand- or motor-driven chuck. Removable $\frac{3}{15}$ "p plot drill.
Cat. No. 17-580 Net Price
\&3.35


## (H) Speedex Wire Stripper

A fast, easy operating tool; speeds plant production; saves valuable time on fleld job. Can be fastened to the bench or held in the hand. Interclangeable precision steel blades can be purchased separately.
Standard Model - Strips ends of wire or anywhere along the length. Can be used for $90 \%$ of all stripping jobs.

|  | Type |  |  |
| :---: | :---: | :---: | :---: |
| Cat. No. | No. |  | Net Ea. |
| 17-470 | 733 | 12 to 20 wire | \$3.53 |
| 17-471 |  | 14 to 30 wire |  |

Automatic Models. - Jaws stay open untll wire is removed. Strips fuest stranded wire without crushing.

| Cat. No. | Type |  | Net Ea. |
| :--- | :--- | :--- | ---: |
| $17-472$ | 744 | 12 to 20 wire | $\$ 4.70$ |
| $17-473$ | $744-\mathrm{A}$ | 14 to 30 wire | $\mathbf{4 . 7 0}$ |

## (J) Hollow-Handle Hand Drill

Heavy $3 \frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ single-gear drive; three-Jaw chuek handles standard round shank drills up to $t^{\prime \prime}$; chuck closes down to grip firmly even the extremely small size drills. Hollow wooden handle storing extra drills has threaded cap.
Cat. No. 17-541 Net Price
$\$ 1.45$
(C)Lenk Type 104 Gasoline Blotorch

Heavy duty gasoline blow torch that generates quickly and delivers high steady heat; extralarge priming cup for faster starting; flame control and shut-off valve; self-cleaning ortice Non-clogging burner-
Cat. No. 17-525 Net Each
${ }^{8} 1.96$

## (D) Type 108 Alcohol Blotorch

Blows itself; works on denatured or commercial alcohol; screw top for easy loading; copper heat conductor attached to wick in pressure chamber insures quick starting; even fuel feed for steady heat; leakproof solid base. Size $5 \frac{\text { 青" } \times 2 \xi^{\prime \prime} \times 1^{\prime \prime}}{}$ Cat. No. 17-526 Net Each
$\$ 1.14$

## (E) Pawood Hole Cutters

Heavy-duty tool Type 5 for brace or electric drill Cuts holes $1^{\prime \prime}$ to $5 \frac{1}{2}^{\prime \prime}$ diameter in steel. Bakelite, or wood. Type 4 is similar to Type 5 but cuts holes $\frac{7}{8}$ " to $4^{\prime \prime}$ in diameter. Pawood "Junlor" is for amateur or light work, cuts holes $\frac{3^{\prime \prime}}{8}$ to $2 \frac{1}{2}{ }^{\prime \prime}$ cliameter. Type No. 2 cuts holes $1^{\prime \prime}$ to $4^{\prime \prime}$ in light metals, hardwoot, plastics, etc
Cat. No.
17-508
Type 5, round sbank
Net Ea.
17-508 Type 5, round shank $\$ 1.88$
17-510 Type 5, square shank
1.88
$\begin{array}{llr}\text { 17-511 } \quad \text { 'Jupe 4, round shank } & 1.30 \\ & .78\end{array}$
17-512 Type 2, round shank 1.12
Cat. No. 17-51.3 Replacement blades for above hole cutters. Net Each

## (F) Tap and Die Set

Extremely useful In the home or shop. Set contains one each 6-32; 8-32; 10-32; 4-36; $\frac{2}{6}$-20 tap and die, one die stock, and one tap and reamer wrench; In hardwood case with hinged cover.
Cat. No. 17-585 Net Price
$\$ 3.45$

## (G) Dremel Moto-Tool

Combines " 100 tools in one." Grinds, drills, carves, routs, pollshes. High speed 110 volt AC/DC motor gives Moto-tool amazing power for work in almost any material and conserves emery wheel points. Sturdy Bakelite shock-proof housing. Advanced air-cooling system permits continuous use without overheating. Vibrationlens dynamic-balanced armature. Trouble proof bearings are oll-less, self-allgning.
Chuck lock pin disengages automatically, no wrench required to hold chuck from turning. Light weight, compact design, and cerrect balance give ease of handling. Kit contains Mototool, with $\frac{1}{8^{\prime \prime}}, \frac{1}{16}{ }^{\prime \prime}$, and $\frac{3^{\prime \prime}}{3^{\prime \prime}}{ }^{\prime \prime}$ collets, 4 emery wheel points, 1 dressing stone, 8 carving cutters, 1 steel saw, 3 bristle brushes, 1 steel brush for cleaning metals, 1 screw mandrel with sanding discs, 1 shoulder mandrel, one $\frac{1}{2}^{\prime \prime}$ drum sander; 6-fout rubber-covered cord
s23.50
Cat. No, 17-360 Net Price
described
Moto-Tool Model 2 - Moto-Tool as described above, complete wich chuck, one $\frac{1}{8}$ "collet, one emery wheel point.
${ }^{s} 16.50$

## Universal Moto-Tool Stand

A practlcal bench accessory that frees both hands for manipulating work over wheels or cutters. Heavy cast iron, attractively finished. Fastens to bench. Moto-Tool can be set at any angle. Cat. No. 17-362 Net Price . . $\$ 4.50$

## Moto-Tool Shaping Table

Moto-Tool mounts vertically in stand (above) and unique shaping table clamps firmly to MotoTool. Table can be raised and lowered to desired level. For routing and grinding flat pleces to any slape or to a predetermined depth. Two finger grips for guiding shaping table over the work. Cat. No. 17-363 Net Prlce
$\$ 2.50$


## (L) Black and Decker 1/4" Drill

Ideal for home or shop use; small, Ilght, sturdy, and dependable; easy to handle; for steel, plastics, metal, or wood. Speed - 2250 R.P.M. Houslng is die-cast aluminum. Jacobs hex-key chuck. Welght $3 \frac{1}{4}$ lbs. $7 \mathbf{g}_{8}^{\prime \prime}$ overall length. 110 volts AD/DC. AD/DC. 17-535 Net. Price
$\$ 18.95$

## (K) Drill Case

Opening the cover lifts the drills Into position for easy selection; drills lower into case when lid is closed; clearly indexed for sizes; compact and sturdily built. Type No. 41 for drills 1 to 60 Less drills.
Cat. No. 17-502 Net Price
$\$ 2.45$

## (M) Drill Stand

Sturdlly constructed of heavy gauge aluminum and steel plates with tive supporting tivets and spacers. Ample tinger space for selecting drills. Sizes clearly indexed. Type No. 51 for 1 to 60 drille. Size $6 \frac{1}{4}^{\prime \prime} \times 22^{\frac{1}{8} / \prime} \times 11^{\frac{1}{4}}{ }^{\prime \prime}$.
Cat. No. 17-503 Net Price

## (N) Drill and Wire Gauge

For 1 to 60 drills. Lists tap, tup drill, and body drill slzes. decimal equivalents.
Cat. No. 17-504 Net Each


Kraeuter Line of Drop－Forged Steel Tools
Kraeuter＂INDUSTRIAL＂hand tools are thoroughly tested working tools manufactured under the most rigid specifications to ensure un－ excelled performance on the job for which each is deslgned．The Kraeuter process of edging，hard－ ening and tempering，grinding and polishing， testing，and finsl inspection of the finished tool ls the acme of quality production．

| Cat．No． | Fig | pe | Net |
| :---: | :---: | :---: | :---: |
| 17－301 | A | 1830 61＂side－cutters | \＄1．59 |
| 17－302 | B | $45015^{\prime \prime}$ diagonal cutters | 1.59 |
| 17－303 | B | $45016^{\prime \prime}$ diagonal cutters | 1.87 |
| 17－304 | C | $46107^{\prime \prime}$ heavy diugonsl cut． | 1.83 |
| 17－305 | D | $261261{ }^{\prime \prime}$ wire－strip diag． | 2.35 |
| 17－306 | E | $16114^{\text {\％}}$ Rd．nose，rd．Jaw | 1.30 |
| 17－317 | E | $16116^{\text {A }}$ Rd．nose，rd．Jaw | 1.53 |
| 17－307 | F | $16014^{\prime \prime}$ short fat nose | 1.11 |
| 17－308 | F | $16016^{\prime \prime}$ short flat nose | 1.36 |
| 17－309 | G | $17416^{\prime \prime}$ long flat nose | 1.59 |
| 17－310 | H | $16435^{\prime \prime}$ Short needle nose | 1.60 |
| 17－311 | I | $16616^{\prime \prime}$ Long needle nose cutters | 1.79 |
| 17－312 | J | $17717^{\prime \prime}$ Ext．long needle nose cutters | 1.83 |
| 17－313 | K | $16916^{\prime \prime}$ Halt－rd．chain nose | 1.62 |
| 17－314 | L | $16315{ }^{\text {² }}$＂Snipe nose | 1.91 |
| 17－315 | M | $13806{ }^{\prime \prime}$＂Side－cutters | 1.23 |
| 17－316 | M | $13808^{\prime \prime}$ side－cutters | 1.57 |
| 17－318 | N | $18018{ }^{1 / 1}$ side－cutters | 2.79 |

## （AA）Stevens Walden

Migit Set 3100A－Kit includes hinge handle used as either offset wrench or tee handle；Spin－ tite handle； 6 －polnt sockets，$\frac{1}{18}, \frac{7}{\frac{7}{2}}, \frac{2}{4}$ ．$\frac{9}{32} ; 12-$ point sockets，$\frac{5}{16}, \frac{37}{3}, \frac{1}{8}, \frac{7}{16} ; 8$－point sockets，$\frac{2}{2}$ ， $\frac{5}{16}$, in．In drawn steel case， $6{ }^{\prime \prime} \times 2{ }^{\prime \prime} \times 1{ }^{\prime \prime}$＂． Cat．No．17－350 Net Price
$\$ 5.85$

## Spintite Wrench Set

Set T－73－Most popuiar Spintite set．Contents：
 and sturdy wooden stand for close－at－hand bench convenlence．
Cat．No．17－351 Net Price
$\$ 3.82$
SET T－51－Compact tool roll with Ideal assortment of Splntites and tools．Contents：

 ，
Cut．No．17－352 Net Price
$\$ 5.44$ （BB）SET T－52－Deluxe electrical and radio roll kit．Contents：universal handle；Spintite shanks，
 14 $\times 4^{\prime \prime}, \frac{1}{6} \times 4^{\prime \prime}$ ；Reamawl $\frac{10}{18}{ }^{\prime \prime}$ to $\frac{1^{\prime \prime}}{16} ; 6^{\prime \prime}$ long nose pliers； $5^{\prime \prime}$ diagonal cutters；neutralizing and alignment tool；leatherette roll．
Cat．No．17－353 Net Price
$\$ 8.23$
（CC）Flexible Socket Driver Set Actually reaches around corners to get at inac－ cessible places．Steel－wire－coll shaft．Amber handle．With six 6 －point sockets，$\frac{3^{\prime \prime}}{16}, \frac{1}{\prime \prime}^{\prime \prime}, \frac{s^{\prime \prime}}{16}$ ． $\frac{3^{\prime \prime}}{}{ }^{\prime \prime} \frac{I^{\prime \prime}}{10}, \frac{1}{2}^{\prime \prime}$ ．With wood case． Cat．No．17－530 Net Price
$\$ 1.80$


## AA

（O）Xcelite Nut Drivers Set 27
Top quallty Xcelite nut drivers，in the popular sizes；held in a untque，metal tool that is a model of convenlence and efficlency．Selection of the right tool becomes second nature，Nut drivers are preciston formed，free of burrs，fit snugly； sockets deep enough to fit two nuts；shaft bole 1 $\frac{1}{2}^{\prime \prime}$ ．Handles of special fre－and shock－reststant plastic are color－coded for size．Tool holder has special locking arm，can be padlocked．Set includes
 with holder．
Cat．No．17－380 Net Price
$\$ 3.82$
（P）Nut Driver Set No． 15
A five－drlver Xcelite set that offers the most use－ ful slzes with a compact tool stand for conventent bench or shelf storage．Driver sockets are pre－ clsion formed，entirely free of burrs and fit nuts snugly．Tempered and well tinished．Shockproot
 $\dagger^{\prime \prime}$ nut drivers；metal stand，with sizes labeled． Cat．No．17－381 Net Price ．．．$\$ 2.38$

## （Q）Xcelite Nut Drivers

Widely accepted as the standard of high quallty Xcelle nut drivers are guaranteed against de－ fectlve materials and workmanshlp for one year． A vailable in all nizes as listed below

|  | Type | Nut |  |
| :---: | :---: | :---: | :---: |
| Cat．No． | No． | Slze | Net Ea． |
| 17－382 | 6 | ${ }^{\frac{3}{16}}$ |  |
| 17－383 | 7 | T／${ }^{\frac{1}{2}}{ }^{\prime \prime}$ |  |
| 17－384 | 8 |  |  |
| 17－385 | 9 | \％＂ | $45 c$ |
| 17－386 | 10 | s＂ |  |
| 17－387 | 11 | 貄 |  |
| 17－388 | 12 | 3 |  |
| 17－389 | 14 | 年＂ | 59 c |
| 17－390 | 16 | $\frac{1}{\frac{1}{2}}$ | 59 c |

（W）Hollow Handle Screw－Nut Driver Set
Heavy－duty steel hollow handle stores screw
 $\frac{1}{2 \prime}^{\prime \prime}, \frac{1}{10}{ }^{\prime \prime}, \frac{1}{2}^{\prime \prime}$ ；hanole knurled to furnish secure gripplig surface．Overall obish，white nickel． Cat．No．17－575 Net Price

## （R）Midget Screwdrivers

Jewelers＇type screwdrivers made of steel tubing with tempered steel blades and free－turning swivel head．Removable blades held firmly by threaded chuck；body knurled and nickel plated． Overall length $3 \frac{1}{\prime \prime}^{\prime \prime}$ ，body dlam．$\frac{1}{}{ }^{\prime \prime}$ ．Set of 6 acrew－ drivers per box with $.100^{\prime \prime}$ to $.025^{\prime \prime}$ blades．
Cat．No．17－505 Net Price
$\$ 3.35$
（S）MULTI－UGE RULE AND＂GaUGE－4－1nch
 protractor，center finder for shafts and dises， circle－divider，tap drill table－all these features combined in one amazing pocket tool．Stainless steel．With leather case．
Cat．No．17－506 Net Each

## （T）Standard Wire Gauge

For gauging wire，sbeets，plates of non－ferrous． metals such as copper，brass，alumtnum，eic． Decimal equ ivalents on reverse side．From 0 to 36 Cat．No．17－514 Net Each

## （U） $6^{\prime \prime}$ Scale and Wire Gauge

Stainless steel rule graduated in 64ths with table of decimal equivalents etched in the back．Wire gauge gives Browne \＆Sharpe ratings for wires from No． 20 to No． 8.
Cat．No．17－507 Net Each

．

．

（V）Automatic Center Punch
Pushing the punch with the hand sets and re－ leases built－In striking mechanism which makes a uniform impression on metal or plastic．Elther tight or heavy impression．$\frac{1}{n}^{\prime \prime}$ diameter by $5^{\prime \prime}$ long．Finest shock－resisting alloy steel．
Cat．No．17－500 Type No． 79 Net Each $\$ 2.25$ Replacement point．
Cat．No．17－501 Net Each
25c

## （Q）Hollow Shaft Nut Drivers

The ideal tool tor installing and removing volume controls and other panel equirment；for telechone or power switchboards where long bolts or studs are encountered．

| Cat． | Type | Nut | Hole | Net |
| :---: | :---: | :---: | :---: | :---: |
| No． | No． | Slze | Depth | Ea． |
| 17－391 | H8－10 | ${ }^{516}$ | $23^{\prime \prime}$ | 62 c |
| 17－392 | HS－11 | 新 | $2{ }^{\text {＂}}$ | 62c |
| 17－393 | HS－12 | f | 5 ＂ | 62c |
| 17－394 | HS－14 | $\frac{7}{18}$ | $5^{\prime \prime}$ | 71 c |
| 17－395 | HS－16 | \％ | 5 ＂ | 73 c |
| 17－396 | HS－18 | \％${ }^{\text {\％}}$ | 5 ＂ | 76 c |
| 17－397 | H．S－20 |  | 5＂ | 88c |

## （X）Xcelite Screwdrivers

Shockproof，break proof，amber plastic handle； chrome vanadium steel blade ground to fit screw slot accurately；embedded end of blade has wing design，prevents blade turning in handle．Slzes marked on handle．

| Cat．No． | Blade Size | Type No． | Net Ea． |
| :---: | :---: | :---: | :---: |
| 17－398 | 年 $\times 2{ }^{\prime \prime}$ | 3322＊ | 18c |
| 17－399 | 效× ${ }^{\prime \prime}$ | 3324＊ | 18 c |
| 17－400 | $1 \times 2$ | 182 | 26 c |
| 17－401 | 183 ${ }^{\prime \prime}$ | 183＊ | 18c |
| 17－402 | 1 $\times 4^{\prime \prime}$ | 184＊＊ | 18 c |
| 17－403 | 1 $\mathrm{x}^{\prime \prime \prime}$ | $184 \dagger$ | 29 c |
| 17－404 | 186＂ | $186 \dagger$ | 32 c |
| 17－405 | 1810＂ | $1810 \dagger$ | 38 c |
| 17－406 | $\frac{\frac{b}{3}}{} \times 3^{\prime \prime}$ | 5323 | 35 c |
| 17－407 | $\frac{3}{16} \times 4^{\prime \prime}$ | 3164 | 44 c |
| 17－408 | 咅 $\times 6{ }^{\prime \prime}$ | 3166 | 50 c |
| 17－409 | $\frac{3}{18} \times 8^{\prime \prime}$ | 3168 | 53 c |
| 17－410 | $\frac{1}{1} \times 4^{\prime \prime}$ | 144 | 53 c |
| 17－411 | $\frac{1}{8} \times 6^{\prime \prime}$ | 146 | 56 c |
| 17－412 | $1 \times 8{ }^{\prime \prime}$ | 148 | 62 c |

＊$\frac{1}{2}$＂diameter handle．$+\frac{2^{\prime \prime}}{3}$ diameter handle．

## （Y）Spark Plug Tester

This Xcellte tester has a neon tube in the handle； Intensity and evenness of the flash Indicates if spark plug is tunctioning correctly． $\mathbf{1}^{\prime \prime} \times 2^{\prime \prime}$ ． handle $\frac{1}{3}$＂
Cat．No．17－413 Type T－182 Net Each 38c
（Z）Xcelite Set－Screwdriver
Pocket－clip－handled screwdriver to fit set screws． Xcelite amber handle．
Cat．No
Type
332388
Blade Net Ea．


# Soldering Irons \& Accessories 



## (A) KWIKHEAT SOLDERINC IRON

Thermostatically Controlled Model 300 K wikheat soldering Iron takes any of the interchangeable tips listed below. Thermoatatically controlled to maintain the proper soldering temperature. Will not overheat. 225 watts; heats in 90 seconds. For $100-125$ volts AC, 60 cycles, only. Furnished with No. 1 tip. Length $13^{1 / \prime}$ overall. UL IIsted.
Cat. No. 17-250 With No. 1 tip. Net Price $\$ 8.25$
Interchangeable Tips for Model 300 No. 0 Tip - Tapered point for light work. Copper alloy. Cat. No. 17-251 No. 1 Tip - Heavier tapered copper alloy tip for medium work. Cat. No. 17-252 No. 2 Tip - Medium size copper alloy chisel tip. Cat. No. 17-253 No. 3 Tip - $90^{\circ}$ angle tip for corners; flat point of copper alloy. Cat. No. 17-254 No. 4 Tip - Heavy-work size copper alloy chisel tip. Cat. No. 17-255 No. 5 Tip - A 1 oz. capacity aluminum melting pot for tinning.

Cat. No. 17-256 All of above Tips. Net ea. . $\qquad$

## (B) <br> WELLER "Solderlite" SOLDERING GUNS

A time-saving tool for experimenters, maintenance men, hobbyists; a profit-making tool for the serviceman. Provides advantages no other solderIng tool can approach. Gives you soldering heat in 5 seconds. Balanced welght, comfortable pistol grip and trigger make it easy to hold and nontirling. Prefocused spotilght built in to show the way in dark corners. Tip can be bent to get into tight corners. Long-length tip for hard-to-reach jobs. Model 207, helow, has dual-heat feature; second position of trigger switch provides $35 \%$ greater heat instantaneously for soldering to chassis, etc.
Model s-107. 100 watts.
Cat. No. 17-226 Net ea.
Lots of one dozen. Net ea.
Model D-297. Dual Heat.
Cat. No. 17-227 Net ea.
$\$ 12.69$

Lots of one dozen. Net es. Replacement tips for "Solderilte." . \$13.18 Cat. No. 17-228 Net ea.

## (C) Ungar Soldering Pencil

A powerfullittle pencll Iron that will perform precision work on Intricate, hard-to-reach soldering jobs. Weighs 3.6 oz ; heats in 90 sec . Overall length $7^{\prime \prime}$; perfectly balanced. UL Histed; 110 volts AC/DC.
Handle cord set with 6-ft. plastic cord. Takes all tips.
Cat. No. 17-201 Net ea. . . . 78c
No. 536 pyramid tip made from Tellurium. Cat. No. 17-202 Net ea

78c No. 537 pencll tip made from Elkaloy; ${ }^{\prime \prime}$ diam. Cat. No. 17-203 Net ea. No. 538 chisel tip made from Elkaloy; $\frac{1}{2}^{n}$ diam. Cat. No. 17-204 Net es. . 78 c No. 539 heavy duty t1p made from Tellurlum. Cat. No. 17-205 Net ea.
No. 540 marking tip for plastic or wood. Cat. No. 17-206 Net ea.


## AMERICAN BEAUTY IRONS

Preferred by those who measure the value of a tool by the service it renders, these dependuble, long-lasting soldering irons are avallable in sizes to sult every use. Each Iron has baffle plate at shank to keep handte cooler; and is furnished with separate, heat-insulating stand.
Type 3138 is designed primarily for production and maintenance in radio, telegraph, ignition, etc., work. Type 3158 is for the same purposes but where grester heating capacity is needed. Type 3178 is for heavy work of all kinds.
$\begin{array}{lccccc}\text { Cat. } & & & & \text { Tip } & \text { Net } \\ \text { No. } & \text { Type } & \text { Fig. } & \text { Watts } & \text { Diam. } & \text { Price } \\ 17-101 & 3138 & \mathbf{F} & 100 & \sum^{n} & \$ 5.36\end{array}$
$\begin{array}{llllll}17-101 & 3138 & \mathbf{E} & 100 & { }^{\prime \prime} & \$ 5.36 \\ 17-102 & 3158 & \mathbf{F} & 200 & \text { In }^{\prime \prime} & \mathbf{6 . 4 1} \\ 17-103 & 3178 & \mathbf{G} & 300 & \mathbf{8 . 5 9}\end{array}$

## (D) Type 3128 Light-Duty Iron

Has plug-type $t^{N}$ tip with nichrome element but without compression winding which features high-wattage 3138-3178 series. Ideal for light, intermittent soldering; 60 watts.
$\$ 3.34$

## Replacement Tips

Genuine American Beauty soldering Iron replacement tips for models listed above. $\begin{array}{lllll}\text { Tip No. } & 3728 & 3738 & 3758 & 3778 \\ \text { Fits No. } & 3128 & 3138 & 3158 & 3178\end{array}$ $\begin{array}{lcccc}\text { Cat. No. } & 17-105 & 17-106 & 17-107 & 17-108 \\ \text { Net Ea. } & 27 \mathrm{c} & 34 \mathrm{c} & \mathbf{7 3 c} & \$ 1.27\end{array}$

## Replacement Elements

American Beauty heating elements to fit irons listed above.
$\begin{array}{lcccc}\text { Iron No. } & 3128 & 3138 & 3158 & 3178 \\ \text { Cot No } & 17-109 & 17-110 & 17-111 & 17-112\end{array}$ $\begin{array}{lllll}\text { Cat Ea. } & \$ 1.99 & \$ 2.40 & \$ 3.19 & \$ 4.33\end{array}$

## (H) American Beauty

## Temperature_regulating Stand

Stops over-heating when tron is Idle yet holds fron at working temperature ready for instant use; adjustable thermostat lets you set heat just where you want It; Iron plugs into stand and rests in metal cradle when not in use; handles Irons up to 660 watts on clrcuits up to 240 volts; for use on AC only.
${ }^{5} 3.88$

## Kester Solder

Rosin core solder - For radio and electrical work. Non-corrosive. $\frac{3}{\frac{3}{2}^{\prime \prime}}$ diam.
Cat. No. 17-276 3 oz. tln Cat. No. 17-277 1 lb . spool Cat. No. 17-278 5 lb . spool Thin rosin core solder - $\frac{1}{15}{ }^{\prime \prime}$ diam. Cat. No. 17-279 1 lb . spool 17 c Net \$1.09 Net $\$ 5.00$ Net Cat. No. 17-280 5 lb . spool $\quad \$ 5.00$ Net

## Kester Soldering Paste

For soldering jobs where paste is required. Results in neat, non-corrosive soldering joints. 2 oz can.
Cat. No. 17-281 Net ea.
15C
10 for


## DRAKE SOLDERING IRONS

All Drake soldering irons listed here are for use on 110 volts $\mathrm{AC} / \mathrm{DC}$ and are equipped with $6-\mathrm{ft}$. U.L. cord and rubber plug. All are UL. Insted

## General Purpose, Industrial and Radio Irons

Type 315 60-watt - $e^{\prime \prime}$ thp iron, excellent for intermittent duty on light soldering jobs; $11^{\prime \prime}{ }^{\prime \prime}$ long.
Cat. No. 17-001 Net Price
$\$ 1.12$
Type 316 100-watt - $\frac{3}{8}^{\prime \prime}$ tlp Iron for most general soldering: $13 \frac{1}{2}^{\prime \prime}$ long.
Cat. No. 17-002 Net Price
$\$ 1.84$

## masururn mex $-\square$

TyPE 225 80-watt - $\frac{3}{\prime \prime}^{\prime \prime}$ adjustable plug tip, general purpose light radio Iron
\$2.55 Cat. No. 17-003 Net Price
TyPE 600-10 100-WatT - 害" tip iron for medumheavy production on fle work; cooling fins; length 12 $\frac{1}{3}$ "; "Magic Cup" stand.
Cat. No. 17-004 Net Price
4.31

TyPE 800 200-WATT - $5^{\prime \prime}$ tip iron for general factory soldering, art glass, and medium tin work; $143^{\prime \prime}$ long
Cat. No. 17-005 Net Price
$\$ 5.88$
TYPE 325 100-Watt - $1^{\prime \prime}$ adjustable plug thp ron; standard for general radio work.
Cat. No. 17-007 Net Price
$\$ 2.94$


TYPE 326 125-watT - $\frac{7^{\prime \prime}}{3}$ adjustable plug tip Iron. An extra-hot fron for service men. Cooling fins dissipate heat. $13^{n}$ long.
$\$ 3.53$
Cat. No. 17-008 Net Price
TyPe 425 200-watt - $\frac{t^{\prime \prime}}{}$ " adjustable plug tip iron tor medium heavy-duty work. Cooling fins. Cat. No. 17-009 Net Price
$\$ 5.88$ TYPE 400 60-watt - A smail Industrial iron for continuous duty on close work; $9^{\prime \prime}$ long; b $^{\prime \prime}$ tip; "Magic Cup" stand; fin cooling.
3.27 Cat. No. 17-010 Net Price

## Drake Model 350 Midget

A compact, high quality, continuous-duty soldering Iron, desigued for soldering volce coil leads, meter connections, crystal pickups, etc. Has $\frac{1}{t^{\prime \prime}}$ traight tip and comes with extra bent tip. $7^{\prime \prime}$ ong; wt. 6 oz
2.94

## Drake Replacement Tips

| Cat. No. | For Type No. | Net Ea. |
| :--- | :--- | ---: |
| 17-011 | 315 | 53 c |
| $17-012$ | 316 | $\$ 1.06$ |
| $17-013$ | 225 | 74 c |
| $17-014$ | $600-10$ | 74 c |
| $17-015$ | 800 | $\$ 1.18$ |
| $17-016$ | 350 | Straight Tip |
| $17-017$ | 350 Bent Tip | 15 c |
| $17-018$ | 3325 | $\mathbf{7 4 c}$ |
| $17-019$ | 326 | 74 c |
| $17-020$ | 425 | $\$ 1.18$ |
| $17-021$ | 400 | $35 c$ |

## Drake Soldering Pots

## (I) MODEL 200

Heavy-duty, production-type. 300-watt solder pot. Well $2 \frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ diameter by $2^{\prime \prime}$ deep, holds 2 lbs . of solder. Complete with detachable cord, plug. 110 volts AC/DC. UL listed.
Cat. No. 17-022 Net Price
$\$ 5.15$
Replacement element for above.
${ }^{\$} 1.36$

## (J)

MODEL 100
150 -watt pot ideal for IIght tinning. Holds 1 lb . of solder in well $1 \frac{1}{3}$ " dtum. by $1^{\prime \prime}$ deep. Complete with detachable cord and plug. UL listed. 110 volts AC/DC.
Cat. No. 17-024 Net Price
Replacement element for above.
$\$ 3.97$
Cat. No. 17-025 Net ea. . .
94 c


## （A）Vertrod All－band TV Antenna

 Folded Di－pole－Duo－orienting For 13－chanmel TV reception plus FM on the same antenna；includes LF array and HF array． Individual arrays are separately rotable for maximum signal strength in any direction．LF and HF arrays may be coupled if so desired． Fast，easy assembling．Built ruggediy to with－ stand weather and wind．May be mounted any－ where．Compiete with bardware．Cat．No．29－381 Net Each
$\$ 9.71$

## （B）Vertrod TV－FM－AM Rod Antenna All－Channel

An exclusive new design＂Brings the indoor ant tenna outcioors．＂Eliminates the drawbacks of indoor antennas，no indoor poles or hanging wires，gives higher contrast，reduces signal loss．Antenna rod mounts on outside of any win－ dow of apartment or private house，prolects no more than 45 inches for excellent TV－FM－AM reception．Makes slmple，low cost，installations． Adjustable base allows 180 －degree retation in horizontal or vertical planes
Cat．No．29－385 Net Price
$\$ 3.57$


## （C）JFD Folded Di－pole Duo－orienting Antenna

Model TA115 covers the frequency range 44－216 MC， 13 channels and $\mathbf{F M}$ ．Upper and lower sec－ tions of antenns array can be broadsicte－tuned Independently for locatlons where upper channel and lower channel transmitters are not found in the same direction；also wherc ghost effects and minor traffic nolse are troublesome．Upper and lower sections can be coupled or operated with separate transmission lines．Impedance value for each section is 300 ohms；gain is 4.2 db ．for each section over tuned dipole．New design incor－ porates unbreakable polystyrene insulator；double cross－arms on each stacked array；beavy－duty U－bolt clamp attaches array to mast．Complete package contents include cerrosion－proof $7 \frac{1}{\frac{1}{2}}$＂ verticul mast；all－angle steel mounting bracket， insulators to anchor lead－In to mast．
Cat．No．29－351 Net Price
$\$ 17.10$

## （D）Amphenol Folded Di－pole Type 114－005

A highly efficlent，well－matched antenna for maximum quality reception．Covers all channels In both bands with unidirectional pattern， ellminating＂ghost＂rettectlons．Large folded dipole also serves as reflector for small folded dipole．Mast and elements are high strength， aluminum tubing．Insulators are rugged，low－ loss，molded plastic．Has all mechanical detafls of Type 114－001 above and same accessories． Cat．No．29－052 Net Each ，$\$ 16.17$

## Workshop Television Antennas

Custombuilt for each of the prineipal TV chan－ nels，these high－efficient，well－matehed antennas provide extra＂signal strength＂in locations where broad－band antennas are Inadequate．Reflection ＂ghosts＂are ellminated．Three elements of $\frac{1}{3}$－inch sealed duraluminum tubling．Tubuiar steei mast 7t ft．high，needs no guy wires．Universal mounting brackets．Antenna feed point is pro－ tected by a rugged plastic head． Speeify Channel when ordering．
Cat．No．29－087 Net Each
$\$ 27.00$


## Century High Speed Drill Sets

Made of highest quality zungsten molybdenum tool steel to withstand abnormal heating and afford long－ifife keenness．Mechanics＇length for rugged duty．
（B）SET M－3－Set consists of 13 drills，from $\frac{1}{18}{ }^{\prime \prime}$ to $\mathbf{l}^{\prime \prime}$ by 64ths；in Huot Index drill case．Opening the case brings drills into position for rapid selec－ tion．Plainly indexed．Size： $43^{\prime \prime} \times 2^{\prime \prime} \times x^{\prime \prime}$
Cat．No．17－545 Net Price
$\$ 4.10$
SET M－11－Consists of 11 Century drills； from $\frac{1}{5}{ }^{\prime \prime}$ to $\frac{z}{3}^{\prime \prime}$ sizes in $3^{\frac{1}{2}}{ }^{\prime \prime}$ graduations．Addl－ tional space in Huot Index case for ten extra drills．
Cat．No．17－550 Net Price
$\$ 6.35$
SeT M－15－15 Century drills，sizes $\frac{1}{58}$＂to $\frac{3^{\prime \prime}}{}{ }^{\prime \prime}$ In $\frac{2^{\prime \prime}}{3^{\prime \prime}}$ graduations．Additional space in Huot Index case for 14 extra drills．
（A）SET M－7－7 Century drills，sizes from ${ }^{1 / 2 \prime}$ to $\frac{1^{\prime \prime}}{1^{\prime}}$ in $\frac{1}{8^{\prime \prime}}$＂graduations．Red Bakelite hexagonal stand with indexed sizes．
Cat．No．17－551 Net Price
$\$ 2.25$

## Century High Speed Drills

Mechanics＇length Century dillls as described ubove are available individually in a complete range of sizes as listed below．

| Cat．No． | Size | Ea． | Cat．No． | Size | ． |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 17－640 | $\frac{1}{11^{\prime \prime}}$ | 18c | 17－655 | 年＂ | \＄0．48 |
| 17－641 | \％＂ | 18c | 17－656 | $\frac{5}{16}{ }^{\prime \prime}$ | 53 |
| 17－642 | 3 ${ }^{\frac{3}{2}}$ | 18c | 17－657 | 矿＂ | ． 58 |
| 17－643 | 矿＂ | 19 c | 17－658 |  | ． 63 |
| 17－644 |  | 20c | 17－659 | 38＂ | ． 70 |
| 17－645 | ${ }^{\text {\％}}$ | 21c | 17－660 |  | ． 74 |
| 17－646 |  | 24 c | 17－661 | $\frac{25}{44}{ }^{\prime \prime}$ | ． 80 |
| 17－647 | 部＂， | 25 c | 17－662 | 簢＂， | ． 88 |
| 17－648 | 3＂ | 26 c | 17－663 |  | ． 94 |
| 17－649 |  | 28 c | 17－664 |  | 1.00 |
| 17－650 |  | 31 c | 17－665 | 遃＂ | 1.09 |
| 17－651 |  | 34 c | 17－666 | 13＂ | 1.15 |
| 17－652 | 1＂ | 36 c | 17－667 | 314＊ | 1.22 |
| 17－653 | $\frac{1711}{68}$ | 42 c | 17－668 | ＊ | 1.29 |
| 17－654 | 㫨＊＊ | 45 c |  |  |  |

## Electric Drills Square Hole Punch <br> 

（C）Speedway $1 / 4^{\prime \prime}$ Drill
Spectally wound，high－torgue AC／DC Speed Way motor is back－geared 20 to 1 through double－ reduction steel gears and operates at 1000 R．P．M．，fow enough to prevent burning low－ priced irill bits．Capacity $\}^{\prime \prime}$ in steel．Comes complete with automatic snap－release chuck， thumb switch，rubber cord and plug．
Cat．No．17－596 Net Price
$\$ 11.80$

## （D）Eagle Hand Drill Sets

SET ES－3－Contains 3 carbon－steel drill blts：$\frac{7^{16}}{16^{\prime \prime}} \cdot \frac{1^{\prime \prime}}{}{ }^{\prime \prime} \cdot \frac{3}{16}$＂mounted in handy contalner． Cat．No．17－576 Net Price
$38 c$
Ser ES－4－Contains 4 carbon－steel drill
 Cat．No．17－577 Net Price
$45 c$
SET ESS－5－Contains 5 carbon－steel drill bits：$\frac{1}{16}$＂$\cdot \frac{3^{3}}{} 3^{\prime \prime}, \frac{1}{n}^{n} \cdot \frac{3}{16}$＂mounted in handy contuiner Cat．No．17－578 Net Price ．．．56c

## （E）Drill Set M－12 In $1 / 4^{\prime \prime}$ Electric <br> Drill Box

Set M－12 consists of two sets of twist drllls held in an all－metal box designed to take any popular－ priced $\frac{1}{\prime \prime}^{\prime \prime}$ electric drill．Drills，in indexed，rack which thps forward for casy access when cover is opened，conslst of one set high－speed mechanics－ length up te $\frac{t^{\prime \prime}}{}$ for drilling steel＇and plastic，and a set of 5 wood blts for drilting up to $\frac{1}{2}$＂dlam．holes with $\frac{1}{\prime \prime}^{\prime \prime}$ electric drili．Century wood bits are the arst with up to $\frac{1}{2}$＂diam．hole drill to fit $\frac{1}{2}$＂electric drills．
Cat．No．17－552 Net Price


## （F）Gilbert Electric 1／4＂Drill

MODEL 146 －The improved Gllbert drill，ideal for hadr－line precision，plency of power for heavy work．Housing ts atne－base die－casting with a grip that is bullt to ft the hand，balanced to cut fatigue．Finger－tip control of power switch．Has Jacobs hex $子^{\prime \prime}$ key chuck；steel splndle runs in bronze sleeve，ball bearing thrust．At 1100 R．P．M．（no－load speed is 1620 ）torgue is .55 ft ． lbs．；stall at 2.4 ft ．Ibs．；horsepower at 1100 R．P．M．is $\mathbf{0 . 1 1 5}$ ．Total welght $43 / 4$ pounds．With 10－foot 3－conductor cord with grounding wire． For 110 volts， 60 cycles．
Cat．No．17－591 Net Price
$\$ 16.95$

## （C）Square Hole Punch

Operating on the screw principle－for punching power－the Pioneer square－hole punch elimi－ nates tedious hand flling and sawing of holes to mount angular parts on chassls and sheet metal． Incorporates features of self－aligning punch and die shearing actlon Made of high grade tool steel， precision machined，heat treated，and ground to close tolerances．
Cat．No．17－625 ${ }^{\text {b／}}$ Square Punch Net $\$ 2.95$
Cat．No．17－626 ${ }^{3 /}$＂Square Punch Nct $\$ 3.50$

## (A) All-channel "Vision" <br> Tele-booster

A new highly efficient all-channel booster for use with any television receiver, slmple to install by external connection to receiver, easy to operate. Actually makes the difference between "fat" and very bright pictures on weak stations. Improves immunity to off-channel interference; can be tuned to boost weak station or turned off to provide normal rcception. Eliminates need for outdoor antennas in many locations. Two positlons of switch cover all 13 channels. Use 2-6A K5's in stable and efficient wide-band amplifler circult, with self-contained power supply usIng selenlum rectiflers. In attractive hardwoodfinished case, $6 \times 4 \frac{1}{3} \times 5^{\prime \prime}$
s22.50

## DeLuxe Model "Vision"

## Tele-booster

Three stages of high-gain, broad-band ampllfers adjustable gain, and smooth continuous tuning make Model TVZ unsurpassed in the field. An elegant cabinet, discreetly lighted channel Indicator and handsome styling blend with finest recelver. Has all of the performance advantages of standard Tele-Booster above plus added amplifter stage, continuous-channel tuning. vernier dial, deluxe styling.
Cat. No. 36-252 Net Price
s35.00

## STANCOR TELEVISION COMPONENTS

The most popular units used in construction of television receivers and associated equipment. They have been designed to meet the increased demand from designers, engineers and amateur experimenters for replacement and original construction needs.

## Vertical Output Transformers

Type A-8115 is designed to couple the vertical output tube to the deflection yoke in typical vertical deflection circuits. Interchangeable with RCA Type 204 T 2 ; may be used in conjunction with RCA 201 D 1 or 201D2 deflection yokes and direct viewing or projection kinescopes, such as RCA types $10 B P 4,7 D P 4$ and 5TP4. Vertical bracket type mounting with leads. Varnish Impregnation. $1^{\frac{19}{3} \frac{1}{2}} \times 2^{\prime \prime}$ mtg. ctrs. Size, $3 \frac{1}{18} \times$ $2 \frac{1}{2} \times 2 \frac{1}{2^{\prime}}$ deep.

## Cat. No. 14-601 Net Each

$\$ 3.53$

## Vertical Blocking Oscillator <br> Transformers

Type A-8121, for use in blocking oscllator circuits for generation of 60 c.p.s. as required. Interchangeable with RCA Type 208T2, Potted in drawn sheet metal case with leads out of bottom. $1 \frac{18}{18}{ }^{\prime \prime} \mathrm{mtg}$. ctrs. Slze, $1 \frac{3}{4} \times 2 \frac{5}{16} \times 1 \frac{13^{\prime \prime}}{}$ deep. Mtg. Fig. TD Cat. No. 14-602 Net Each
$\$ 1.88$ TYPE A-8111 is slmilar to A-8121 except for mounting in horizontal Channel frame. May be used to replace RCA Type 208T2. Vacuum wax impregnation. $2^{\prime \prime}$ mtg. ctrs. Size, $1 \frac{1}{2} \times 2 \frac{1}{2}$ $\times 1 \frac{1}{2}{ }^{\prime \prime}$ deep. Mtg. Fig. A

## Cat. No. 14-603 Net Each

$\$ 1.47$

## Horizontal Blocking Oscillator Transformers

TYpe A-8120 generates 15,750 c.p.s. pulse required in typical blocking oscillator circuits. Replaces RCA Type 208T1. Potted in drawn sheet metal case with leads out of bottow. $1 \frac{19}{81} \times 2^{\prime \prime}$ mtg. ctrs. Stze, $1 \frac{3}{4} \times 2 \frac{5}{16} \times 1 \frac{1}{3}{ }^{\prime \prime}$ deep. Mtg. Fig. TD
Cat. No. 14-604 Net Each
\$2.29 Type A-8110 is similar to A-8120 except for horizontal channel frame type mounting. Vacuum wax impregnation. Replaces RCA Type 208T3, $208 T 1$. $2^{\prime \prime}$ mitg. ctrs. Size, $1 \frac{1}{2} \times 2 \frac{1}{2} \times 1 \frac{1^{\prime \prime}}{2}$ deep. Mtg. Fig. A
Cat. No. 14-605 Net Each
$\$ 1.62$

## (FC) Focus Coil

For magnetically locused kinescopes with defiection angles up to $50^{\circ}$. Large center hole of coil for ample clearance between core and kinescope neck, allowing for tipping and displacing axls when necessary. Rheostat adjustment of operating current is recommended for best performance. Replaces RCA Type 202D1.
Cat. No. 22-202 Net Each
$\$ 4.41$
(DY) Deflection Yoke DY-1
Exact replacement for RCA Type 201D1. For use with direct view tubes requiring $50^{\circ}$ magnetic deflection.
Cat. No. 22-617
Net
$\$ 4.41$

TELEVISION
Tele-Boosters - Preamps
Replacement Components


## (B) Millen R-9'er Antenna Matching Preamplifier

You can gain as much as 30 to 60 db . for your television recelver with this electronlc impedance matching device. Amount of gain depends on make of receiver and antenna and extent of existing mismatch. Once tuned, the unit automatically matches receiving antenna to receiver, an important factor usually overlooked. Uses 1 - 6AK5 tube. Provided with cable plug for power connection to recelver, coax connectors and plugs for antenns and receiver connection. Also designed for 6, 10, 20 meter reception.

Cat. No. 36-170 Type 92101 less tube and coil. Net Price .
$\$ 21.60$
Coils
Cat. No Type
Band Channel Net
36-171 46906
8 Band
36-172 46910
36-173 46920
$27-32 \mathrm{mc}$.
\$3.15
$13-15 \mathrm{mc} . \quad-\quad 3.15$
36-174 46992
35-176 46994
36-177 46995
$54-60 \mathrm{mc}$.
$60-66 \mathrm{mc}$.
$68-72 \mathrm{mc}$.
$76-82 \mathrm{mc}$.
$82-88 \mathrm{mc}$.
46096

## (M) Type P-8153

A combination plate and flament transformer for replacement in RCA model 721 TS receiver $3 \frac{3}{18} \times 4 \frac{1}{18}{ }^{\prime \prime}$ mtg. ctrs. Size, $3 \frac{7}{8} \times 4 \frac{5}{8} \times 5^{\prime \prime}$ high. Type $M$ mounting. Ratings: plate supply $365-0-365$ VAC, 250 DC ma.; rect. fil. 5.0 v. , 3.0 amp.; auxiliary nl. 6.3 v . - 6.0 amp., 6.3 v. $0.8 \mathrm{amp} ., 5.0 \mathrm{v}$. -2.0 amp . High voltage winding designed to deliver 350 VDC at 250 ma . into 80 mfd . condenser input filter following a Type 5U4G tube in a full wave rectifer circuit.
Cat. No. 14-610 Net Each
\$12.94

## (M) TyPE P-8154

Designed to work together with Type 8155 , below, as a more economical power supply than is possible with one unit; serves as Admiral model 80 B 11 replacement. High voltage winding delivers 400 v . DC at 205 ma . Iato a 40 mfd . conlivers 400 v . DC at 205 ma . Into a 40 mid . condenser input filter following a type 54U4G tube
in a full wave rectifier circuit. Ratings: plate supply $375-0-375$ VAC, 205 ma . DC.; rect. fil. 5.0 v., 3 amp .; auxllary fil. 5.0 v. -2 amp .; 6.3 v. -5.6 amp . $3 \frac{3}{3} \times 3^{\prime \prime} \mathrm{mtg}$. ctrs. Slze. $3 \frac{3}{4} \times 4 \frac{1}{2} \times 4 \frac{1}{4}$ high. Type $M$ mounting.
Cat. No. 14-611 Net Each
$\$ 8.94$

## (M) TYPE P-8155

Designed to work together with Type 8154 above. Serves as Admiral model $80 \mathrm{B1} 2$ replacement. High voltage winding delivers 210 volts DC at 90 ma . Into \& 40 mid . condenser input filter tollowing a $5 \times 3$-G tube in a full wave rectifer circult. Ratings: plate supply 225-0-225 VAC, 90 ma . DC; rect. fil. 5.0 v., 2 amp.; auxiliary fil. 6.3 v . -5.15 amp . $2 \frac{1}{2} \times 21 / 4 \mathrm{mtg}$. ctrs. Size $2 \frac{18}{18} \times 3{ }^{\frac{1}{8}} \times 33^{n \prime}$ high. Type $M$ mounting.
Cat. No. 14-612 Net Each
$\$ 5.23$

## (A) Filter Choke

Type C-2325 has rated inductance of $2 \mathrm{hy} . \mathrm{min}$. ; 200 ma . DC test voltage of 1500 volts; DC resistance 60 ohms. Core is $\frac{\bar{y}^{\prime \prime}}{} \mathrm{x} \frac{\mathbf{l}^{\prime \prime}}{}$. $3 \frac{1^{\prime \prime}}{}$ motg. ctrs. Size $2 \frac{1}{4} \times 3 \frac{3}{2} \times 2 \frac{3}{n}^{\prime \prime}$.
Cat. No. 22-201 Net Each
$\$ 1.70$

## (A) Thordarson Television Power Transformers

TYpe T22R40 - Ideal for use in high-voltage, low-current power supplies. Pri. rated 117 volts 60 cycles. Sec. insulated for 7500 volts RMS test. With instructions.
Cat. No. 12-087 Flg. GGV. Net Price
$\$ 9.00$

## (B) UTC Television Transformers

Compound-sealed in heavy steel cases affording a high degree of shtelding.

Cat. No. Type
Cat. No. Type
$13-249$ Horizontal oscillator (15750 cycles) RC-50 \$4.12
$\begin{array}{llllll}13-249 & \mathrm{R}-92 & \text { Vertical oscillator (60 cycles) } \\ \mathbf{1 3 - 2 5 0} & \mathrm{R}-93 & \text { Vertica output, tapped for diferent tubes } & \mathrm{RC}-50 & \mathbf{4 . 1} \\ \mathbf{8 . 2 3}\end{array}$
13-251 R-94 Horizontal output (special core), tapped for adjustment
$13-252$ R-95 2800 VAC ( 4000 DC ) $2.5 \mathrm{~V}-1.8 \mathrm{~A}, 6.3 \mathrm{~V}-$ .6A tapped $2.5 \mathrm{~V}-2.1 \mathrm{~A} ; 7000 \mathrm{~V}$. teat


## MALLORY

(A) 8301 Inductuner

A variable inductance tuner for all bands within the $44-216 \mathrm{mc}$ range, including 6.2 and $11 / 1$ meters. Especially suited for television and FM and is exact replacement for the DuMont television set. Tunes all channels in 10 turns of the shaft.
Cat. No. 22-301 Net Price
$\$ 29.40$

## (B) Video Coupler

An inter-stage coupling device cohslsting of peuking Inductances and a load resistance providing a flat response to 4 mc per second. Will work into a terminating capacity of 22.5 mmfd . and has a maximum dissipation of 2 watts. Size ${ }^{3 / 3} \times 1 \frac{3^{\frac{3}{4}}}{}{ }^{\prime \prime}$.
Cat. No. 22-302 Net Price
$\$ 1.03$

## AMPHENOL Magnal Socket

For 11 brong cathode-ray and television tubes; ${ }^{\frac{1}{16}}{ }^{\prime \prime}$ nin circle; mounts in 1/" hole. Steatite. Cat. No. 02-041 Net Each

## (C) Diheptal Tube Sockets

For TV. osellloscope, and cathode ray tubes. Maximum of 14 equally spaced pins on circle diameter of $1.750^{\prime \prime}$
Cat. No, 02-082 Type 59-415 Small Net 98c Cat. No. 02-083 Type 59-417 Medium Net 98c

## IRC "W" Television Controls

For vertical and horizontal control of television pletures. 2 -watt wire wound with lineal tapers. Spiral spring connectors. Center tapped.
Cat. No. 09-004 Type W10X 510 ohms
Net Each
$\$ 1.09$
Cat. No. 09-005 Type W20X 1020 ohms.
Net Each
$\qquad$

(D) RCA Television Tubes

High grade, long life. RCA Kinescope tubes for excentional briliance. White screens

| Cat. No. | Type | Screen | Net |
| :--- | :---: | :---: | :---: |
| $38-101$ | 5TP4 | $5^{\prime \prime}$ | $\$ 59.40$ |
| $38-102$ | 7DP4 | $7^{\prime \prime}$ | 23.80 |
| $\mathbf{3 8 - 1 0 3}$ | "7JP4 | $7^{\prime \prime}$ | $\mathbf{2 2 . 0 8}$ |
| $\mathbf{3 8 - 1 0 4}$ | $9 A P 4$ | $9^{\prime \prime}$ | 57.60 |
| $38-105$ | 10 BP 4 | $10^{\prime \prime}$ | $\mathbf{3 4 . 0 0}$ |
| $\mathbf{3 8 - 1 0 6}$ | $12 \mathrm{AP4}$ | $12^{\prime \prime}$ | $\mathbf{6 6 . 0 0}$ |

* Replaces 7GP4.

See page 12 for a listing of RCA and
See page 12 for a listing of $R$.
DuMont Cathode Ray Tubes.


201D1

$201 \times 1$

Type 201D1 Deflection Yoke
For use with direct view tubes requiring $50^{\circ}$ magnetle deflection. Provides required retrace time when used with typlcal defection circuits using RCA Horizontal Output Transiormers $211 \mathrm{~T} 1,204 \mathrm{~T} 3$ or 204 T 1 and 204 T 2 Vertical Output Transformers.
Cat. No. 22-118 Net Price
$\$ 5.29$

## Type 202D 1 Deflection Yoke

For magnetically focused tubes having deffection angles up to $50^{\circ}$. Large clearance hole in coil center for tipping and displacing axis when required.
Cat. No. 22-120 Net Price
$\$ 5.35$
Type 201X1 Yoke Mounting Hood
Holds type 201D1 deflection yoke on tubes, with provisions for radial and axial adjustment of the yoke to orlent picture. Rubber bumper for tube protection.
Cat. No. 22-121 Net Price
$94 c$
Type 203D1 Ion Trap Magnet
Used where tubes with ion trap guns are used. Prevents ions from bombarding the sensitlve tube screen.
Cat. No. 14-301 Net Price
$\mathbf{\$ 3 . 8 2}$

## Type 211T1 Horizontal Output Transformer

For use with 201 D 1 deflection yoke and with direct viewing tubes requiring $50^{\circ}$ magnetic deflection. Auto-transformer primary supplies voltage for pulse rectifier to supply picture tube anode potential. Filament winding for pulse rectifier included. Secondary tapped for connecting width control 201 R1. Powdered iron core.
Cat. No. 14-304 Net Price
$\$ 6.76$
Type 204T2 Vertical Output

## Transformer

For use in vertical deflection clrcuits. Couples the vertleal output tube to the deflection yoke Used In clrcuits with 201D1 or 201 D 2 deflection yokes and direct view of projection kinescopes requirlng $50^{\circ}$ magnetic deflection. Rigid mounting brackets and special impregnation.
Cat. No. 14-306 Net Price
$\$ 4.12$

## Type 208T2 Vertical Blocking

## Oscillator Transformer

Generates 60 cps pulses required to drive grids of vertleal discharge tubes. Potted can for molsture resistance.
Cat. No, 14-307 Net Price
$\$ 2.12$


Triplett Precision Panel Meters
Triplett DC meters are D＇Arsonval－ty ne with an extra－light yet sturdy moving coll．The AC meters are the movable－iron repulsion－type，air damped，and with extra－light moving parts．Both AC and DC instruments have sapphire jewel bearings．F＇inest workmanship assures depend－ able performance．White，enameled－on－metal dluls．Molded－compound zero adjuster．Accur－ acy $2 \%$ ．All models listed are flange mount as illustrated．Molded Bakelite case．

## $2^{\prime \prime}$ and $3^{\prime \prime}$ Round Case DC <br> Milliameters

Model 221 T Body $2{ }_{3}^{\prime \prime}$ dia．Depth $13^{\prime \prime}$ ．Flange $2{ }^{\prime \prime}$＂dia．
Model 321 T Body $2 \frac{3}{6}^{\prime \prime}$ dia．＿Depth $1 \frac{3}{3}{ }^{\prime \prime}$ ．Flange $3 \frac{1}{2}$＂dia．
Type 321 T Type 221T
Cat．MA，Approx．Cat．
No．Net Range Resis．No．Net
25－101 \＄7．74
$\begin{array}{lllll}25-102 & 6.64 & 0-5 & 6.6 & 25-115\end{array}$
$\begin{array}{lllll}\text { 25－103 } & 6.64 & 0-10 & 3.1 & 25-116\end{array}$
$\begin{array}{lllll}25-104 & 6.64 & 0-15 & 2 & 25-117 \\ 25-105 & 6.64 & 0-25 & 12 & 25-118\end{array}$
$\begin{array}{lllll}25-105 & 6.64 & 0-25 & 1.2 & 25-118\end{array}$
$\begin{array}{lllll}25-106 & 6.64 & 0-50 & .6 & 25-119 \\ 25-107 & 6.64 & 0-100 & .3 & 25-120\end{array}$
25－108 6．64 0－150 $\quad 23 \quad 25-121 \quad \$ .68$
$\begin{array}{lllll}25-109 & 6.64 & 0-200 & .15 & 25-122\end{array}$
$\begin{array}{lllll}25-110 & 6.64 & 0-250 & .12 & 25-123 \\ 25-111 & 6.64 & 0-300 & 1 & 25-124\end{array}$
25－111 $6.64 \quad 0-300 \quad$ ． $1 \quad 25-124$
$\begin{array}{lllll}25-112 & 6.64 & 0-500 & .06 & 25-125 \\ 25-113 & 6.64 & 0-1000 & .03 & 25-126\end{array}$

## ＂ 2 and 3＂Square Case <br> DC Milliammeters

Mode！227T Flange $23^{\prime \prime}$ ．Body $2 \frac{3}{16}{ }^{\prime \prime}$ dia． Depth $1^{33^{\prime \prime}}$ ．
Model 327 T Flange $3^{\prime \prime} \times 3^{\prime \prime}$ ．Body $23^{\prime \prime}$ dia． Depth 1 月 $^{\prime \prime}$ ．
TYPE 327T Type 227T
Cat．MA．Approx．Cat． No．Net Range Resis．No．Net

 $\begin{array}{llllll}25-128 & 7.74 & 0-1.5 & 55 & 25-145 & 6.76 \\ & 25-125 & 7.74 & 0-3 & 0 & 25-146\end{array}$ $\begin{array}{lllll}25-129 & 7.74 & 0-3 & 9 & 25-146 \\ 25-130 & 6.64 & 0-5 & 6.6 & 25-147\end{array}$ | $25-130$ | 6.64 | $0-5$ | 6.6 | $25-147$ |
| :--- | :--- | :--- | :--- | :--- |
| $5-131$ | 6.64 | $0-10$ | 3.1 | $25-148$ | $\begin{array}{lllll}\mathbf{2 5 - 1 3 1} & \mathbf{6 . 6 4} & 0-10 & 3.1 & \mathbf{2 5 - 1 4 8} \\ \mathbf{2 5 - 1 3 2} & \mathbf{6 . 6 4} & 0-15 & 2 & \mathbf{2 5 - 1 4 9}\end{array}$ $\begin{array}{lllll}\mathbf{2 5 - 1 3 3} & 6.64 & 0-25 & 1.2 & 25-150\end{array}$ $\begin{array}{rrrrr}\mathbf{2 5 - 1 3 4} & \mathbf{6 . 6 4} & 0-50 & .6 & \mathbf{2 5 - 1 5 1} \\ \mathbf{2 5 - 1 3 5} & 6.64 & 0-75 & 1.3 & \mathbf{2 5 - 1 5 2}\end{array}$ $\left.\begin{array}{ccccc}25-135 & 6.644 & 0-100 & .3 & 25-153 \\ 25-137 & 6.64 & 0-150 & .23 & 25-154\end{array}\right\} .68$ $\begin{array}{lllll}25-137 & 6.64 & 0-150 & .23 & 25-154 \\ \mathbf{2 5 - 1 3 8} & 6.64 & 0-200 & .15 & 25-155\end{array}$ $\begin{array}{lllll}25-138 & 6.64 & 0-200 & .15 & 25-155 \\ 25-139 & 6.64 & 0-250 & .12 & 25-156\end{array}$ $\begin{array}{lllll}25-139 & 6.64 & 0-250 & .12 & 25-156 \\ 25-140 & 6.64 & 0-300 & .1 & 25-157\end{array}$ 25－141 $6.64 \quad 0-400 \quad .25 \quad 25-158$ $\begin{array}{lllll}25-142 & 6.64 & 0-500 & .06 & 25-159 \\ 25-143 & 6.64 & 0-1000 & .03 & 25-160\end{array}$

$2^{\prime \prime}$ and $3^{\prime \prime}$ Round Case AC Voltmeters
Model 231s Body 2 2 $^{\prime \prime}$ dia．Depth $1 \frac{3}{8}^{\prime \prime}$ ．Flange2 $\frac{3}{y^{\prime \prime}}$ Model 3315 Body $2 \frac{3}{6}{ }^{\prime \prime}$ dia．Depth $1 \frac{13}{6}{ }^{\prime \prime}$ ．Flange $3 \frac{1}{2}{ }^{\prime \prime}$ Type 3315

Type 231S
Cat．MA．Approx．Cat．

No．Net Range Resis．No．
$\begin{array}{rrlrr}25-161 & \$ 6.64 & 0-5 & 4 & 25-170 \\ \mathbf{2 5 - 1 6 2} & 6.64 & 0-10 & 16 & 25-171\end{array}$ $25-162 \quad 6.64 \quad 0-10 \quad 16 \quad 25-171$ $\left.\begin{array}{lllll}\mathbf{2 5 - 1 6 3} & \mathbf{6 . 6 4} & 0-15 & 16 & 25-172 \\ 25-164 & 6.64 & 0-25 & 20 & 25-173\end{array}\right\} \mathbf{\$ 5} .68$ $\begin{array}{lllll}25-164 & 6.64 & 0-50 & 50 & 25-174 \\ & \mathbf{2 5 - 1 6 4} & & \end{array}$ $\begin{array}{lllll}25-166 & 6.64 & 0-100 & 91 & 25-175\end{array}$ $\begin{array}{llllll}25-167 & 7.74 & 0-150 & 110 & 25-176 & 6.64\end{array}$ $\begin{array}{lllllr}25-168 & 9.31 & 0-300 & 144 & 25-177 & 8.34\end{array}$ $\begin{array}{llllll}25-169 & 12.62 & 0-500 & 125 & 25-178 & 11.18\end{array}$

## High Range DC Voltmeters

Deslgned for radio amateurs． 1000 ohms per volt． Models 321 T － $3^{\prime \prime}$ round case．Model 327 T － $3^{\prime \prime}$ rectangular case．

## Cat．No．

25－288
$25-288$
$\mathbf{2 5 - 2 8 9}$
25－289
25－291

| Range | Net |
| :--- | :---: |
| $0-1000$ |  |
| $0-2000$ |  |
| $0-3000$ |  |
| $0-4000$ |  |
| $0-5000$ | $\$ 11.56$ |
|  | 12.62 |



| 331 S | 337 S |
| :---: | :---: |
| $25-205$ | $25-213$ |
| $25-206$ | $25-214$ |
| $25-207$ | $25-215$ |
| $25-208$ | $25-216$ |
| $25-209$ | $25-217$ |
| $\mathbf{2 5 - 2 1 0}$ | $25-218$ |
| $25-211$ | $25-219$ |
| $25-212$ | $25-220$ |

## AC Ammeters

|  |  | 2318 | 237 S |  |
| :---: | :---: | :---: | :---: | :---: |
| \＄6．64 | 0－1 | 25－221 | 25－228） |  |
| 6.64 | 0－2 | 25－222 | 25－229 |  |
| 6.64 | 0－3 | 25－223 | 25－230 | \＄5 68 |
| 6.64 | 0－5 | 25－224 | 25－231 | 0.08 |
| 6.64 | 0－10 | 25－225 | 25－232 |  |
| 8.26 | 0－25 | 25－226 | 25－233 | 6.64 |
| 10.00 | 0－50 | 25－227 | 25－234 | 8.34 |
| 14.30 | 0－75 |  |  |  |

## 2＂and $3^{\prime \prime}$ Square Case AC Voltmeters

Model 237S Flange $23^{\prime \prime}$ x $2 \frac{7 z^{\prime \prime}}{}$ ．Body $2 \frac{3^{\prime \prime}}{18}$ dia． Denth $1 \frac{3 B^{\prime \prime}}{}$ ．
Model $\underset{3}{3375}$ Flange $3^{\prime \prime} \times 3^{\prime \prime}$ ．Body $2 \frac{3}{\prime \prime}^{\prime \prime}$ dia． Depth $1{ }^{13^{\prime \prime}}$
Type 327 S Type 23S7
Cat．Approx．Cat．
No．Net Range Resis．No．Net
25－179 $\quad \$ 6.64 \quad 0-5 \quad 1 \quad 25-188$
$\begin{array}{lllll}25-180 & 6.64 & 0-10 & 16 & 25-189 \\ 25-181 & 6.64 & 0-15 & 16 & 25-190 \\ 25-182 & 6.64 & 0-25 & 20 & 25-191 \\ 25-183 & 6.64 & 0-50 & 50 & 25-192\end{array} \$ .68$ $\begin{array}{lllll}25-182 & 6.64 & 0-25 & 20 & 25-191 \\ 25-183 & 6.64 & 0-50 & 50 & 25-192 \\ 25-184 & 6.64 & 0-100 & 91 & 25-193\end{array}$ $\begin{array}{rrrrr}25-184 & 6.64 & 0-100 & 91 & 25-193 \\ 25-185 & 7.74 & 0-150 & 110 & 25-194 \\ 25-186 & 9.41 & 0.600 & \mathbf{6 . 6 4}\end{array}$ $\begin{array}{rrrrrr}25-185 & 7.74 & 0-150 & 110 & 25-194 & 6.64 \\ 25-186 & 9.31 & 0-300 & 144 & 25-195 & 8.34 \\ 25-187 & 12.62 & 0-500 & 125 & 25-196 & 11.18\end{array}$

## Model 426 VU Meter

Internal Impedance 3000 ohms．Steady state reference 1 milliwatt．For 600 ohm line， $0-100 \%$ scule；also minus 20 to plus 3 V．U．scale．Flange $4^{\prime \prime} \times 4 \frac{1}{\frac{1}{2}^{\prime \prime}}$ ．Body dia． $3 \frac{1}{2}^{\prime \prime}$ ．Depth $1 \frac{7}{3} 3^{\prime \prime}$ ．
Cat．No．25－292 Net Price ．．．\＄22．64

## $3^{\prime \prime}$ Round and Square DC

Volimeters
Supplied with laternal multipliers up to 500 volts． 1000 ohms per volt．


RF Ammeters

Depth 1童＂．
Model 347 s Flange $3^{\prime \prime} \times 3^{\prime \prime}$ ．Body $2 \frac{7}{\prime \prime}^{\prime \prime}$ dia． Depth 1青＂
TYpe 347 S Net Range Cat．No．TYPE 341 S

| Cat．No． | Net | Range | Cat．No． | Net |
| :--- | :---: | :---: | :---: | :---: |
| $25-275$ | $\$ 7.64$ | $0-.5$ | $25-281$ |  |
| $25-276$ | 7.64 | $0-1$ | $25-282$ |  |
| $25-277$ | 7.64 | $0-1.5$ | $25-283$ |  |
| $25-278$ | 7.64 | $0-2.5$ | $25-284$ |  |
| $25-279$ | $\mathbf{7 . 6 4}$ | $0-5$ | $\mathbf{2 5 - 2 8 5}$ |  |
| $25-280$ | $\mathbf{7 . 6 4}$ | $0-10$ | $25-286$ |  |

## $2^{\prime \prime}$ and $3^{\prime \prime}$ Round Case DC Microammeters

Type 321 T

| TyPE 321T |  |  |  |
| :--- | :---: | :---: | ---: |
| Cat． | Approx． |  |  |
| No． | Range | Resis． | Net |
| $\mathbf{2 5 - 1 9 7}$ | $0-50$ | 2,150 | $\$ 18.42$ |
| $\mathbf{2 5 - 1 9 8}$ | $0-100$ | 900 | $\mathbf{1 5 . 8 6}$ |
| $\mathbf{2 5 - 1 9 9}$ | $0-200$ | 360 | $\mathbf{1 3 . 1 4}$ |
| $\mathbf{2 5 - 2 0 0}$ | $0-500$ | 156 | $\mathbf{1 0 . 1 0}$ |


| Cat.No. | 2＂and 3＂Square Case DC Microammeters |  |  |
| :---: | :---: | :---: | :---: |
|  | Type 327T |  |  |
|  | Range | Approx． Resis． | Net |
| 25－201 | 0－50 | 2，150 | \＄18．42 |
| 25－202 | 0－100 | 900 | 15.86 |
| 25－203 | 0－200 | 360 | 13.14 |
| 25－204 | 0－500 | 156 | 10.10 |


| 1 | DC Ammeters |  |  |
| :---: | :---: | :---: | :---: |
| 321 T | 327 T |  |  |
| 25－235 | 25－240 | 0－1 |  |
| 25－236 | 25－241 | 0－5 |  |
| 25－237 | 25－242 | $0-10$ | \＄6．64 |
| 25－238 | 25－243 | 0－25 | 0．04 |
| 25－239 | 25－244 | 0－30 |  |
| 25－245 | 25－246 | 30－0－30 |  |

AC Milliammeters
Cat．No．
Cat．No．Amps．

| Cat．No． <br> 337． | Amps． | Net |
| ---: | :---: | ---: |
| Cat．No． | Ma． | Net |
| $\mathbf{2 5 - 2 5 5}$ | $0-10$ | $\mathbf{\$ 7 . 6 4}$ |
| $\mathbf{2 5 - 2 5 6}$ | $0-15$ |  |
| $\mathbf{2 5 - 2 5 7}$ | $0-25$ |  |
| $\mathbf{2 5 - 2 5 8}$ | $0-50$ |  |
| $\mathbf{2 5 - 2 5 9}$ | $0-100$ |  |
| $\mathbf{2 5 - 2 6 0}$ | $\mathbf{0 - 2 0 0}$ | $\mathbf{\$ 6 . 6 4}$ |
| $\mathbf{2 5 - 2 6 1}$ | $0-250$ |  |
| $\mathbf{2 5 - 2 6 2}$ | $0-500$ |  |

## RF Ammeters

$2^{\prime \prime}$ and $3^{\prime \prime}$ Round Cast
Model 241 S Body 2 土 $^{\prime \prime}$ dia．Depth $1 \frac{3}{8}$＂．Flange $2 \mathbf{3}^{\prime \prime}$ ．
Model 341 S Body $2^{33^{\prime \prime}}$ dia．Depth $13^{\prime \prime}$ ．Flange $3 \frac{1}{2}$＂．

| Type 341S |  |  | Type 2418 |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Net | Range | Cat．No． | Net |
| 25－263 | \＄7．64 | 0－5 | 25－269 |  |
| 25－264 | 7.64 | 0－1 | 25－270 |  |
| 25－265 | 6.64 | 0－1．5 | 25－271 | 6．64 |
| 25－266 | 7.64 | 0－2．5 | 25－272 |  |
| 25－267 | 7.64 | 0－5 | 25－273 |  |
| 26－268 | 7.64 | 0－10 | 25－274 |  |

## Conant Instrument Rectifiers



Recommended for use at commercial and audio frequencles．Will operate up to 50,000 cps．where accuracy of reading ls not essentlal．The listing below will cover most requirements．Type 160 and $160-\mathrm{C}$ are for applteations requiring good frequency response over the entire range where the ap－ paratus requires less than 1 ma ．for operation．

| Cat． |  |  | Internal | No．of | Interm | tent | Contin | ous | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Type | Series | Circuit | Term． | Volts | Ma． | Volts | Ma ． | Ea． |
| 32－350 | M | 500 | 1 | 4 | 20 | 60 | 10 | 30 | \＄2．06 |
| 32－351 | HS | 500 | 2 | 3 | 10 | 60 | 5 | 30 | 1.59 |
| 32－352 | T | 500 | 3 | 3 | 20 | 60 | 10 | 30 | 1.59 |
| 32－353 | H | 500 | 4 | 2 | 10 | 60 | 5 | 30 | ． 88 |
| 32－354 | B | 160 | 1 | 4 | 20 | 10 | 10 | 5 | 2.06 |
| 32－355 | BHS | 160 | 2 | 3 | 10 | 10 | 5 | 5 | 1.59 |
| 32－356 | BT | 160 | 3 | 3 | 20 | 10 | 10 | 5 | 1.59 |
| 32－357 | BHS－C | $160-\mathrm{C}$ | 2 | 3 | 10 | 10 | 5 | 5 | 1.59 |

## SIMPSON TEST INSTRUMENTS

## Model 390 Volt-Amp-Wattmeter

The ideal instrument for servicing all types of electrical appliances, including refrigerators and oll-burner installations. Volt-ampere combinathons clearly indexed. All readings shown on one 3-Inch meter. Special plug and coded leads furnished for applance testing. Ranges: volts $0-150 / 300$; атыs 0-3/15; watts 0-300/600/1.500/ $3000.5 \%$ accuracy. Size: $3^{\prime \prime} \times 55_{3}^{7} \times 2 \frac{12^{\prime \prime}}{}$. Cat. No. 32-429 Net Price

## Model 377 DC Voltmeter

For all A and B dry batterles, and grid, plate, and flament voltages in battery operated radlo sets. Reslstance 1000 ohms/volt. Ranges: $0-1 / 2.5 / 5$ / 10/25/50/100/250/1000 volts. 3\% accuracy. Slze: $3^{\prime \prime} \times 57^{\prime \prime} \times 2 \frac{1}{2}$ "
Cat. No. 32-427 Net Price
\$18.25

## Model 378 AC Milliammeter

A low cost, handy size milliammeter combining a current transformer and indicating instrument. Five separate ranges for variety of testing jobs: $0-5 / 25 / 100 / 250 / 1000 \mathrm{ma} .5 \%$ accuracy. Size: $3^{\prime \prime} \times 5 \bar{z}^{\prime \prime} \times 2$ ' $^{\prime \prime}$.
Cat. No. 32-428 Net Price

## Model 371 AC Voltmeter

A very desirable unlt for any industrial or laboratory test kit. Ranges; $0-150 / 300 / 600$ volts. Usef ul in servicing motors and electric appllances and for checking line voltage. Size: $3^{\prime \prime} \times 57^{\prime \prime} \times$ $\stackrel{22^{\prime \prime}}{\text { Cat }}$
Cat. No. 32-419 Net Price . . . $\$ 16.75$
Model 372 Ohmmeter
A complete lnstrument: self-contalned batteries; wide range, from 0.2 ohms to 50 megohms. Adjustment compensater for variations in battery voltage. Wire-wound, matched metallized re-
ststors used throughout. Basic sensitivity of 8.5 ststors used throughout. Hasic sensitlvity of 85
microamps. Ranges: $0-500 / 5000 / 50.000 / 500,000$ ohms, 5 megohms; 50 negohms. Accuracy, $3 \%$. Cat. No. 32-420 Net Price
$\$ 23.20$

Ammeters

## Voltmeters

## Wattmeters

## Ohmmeters



## Model 373 DC Milliammeter

For radio servicing, laboratory work, alarm and signal circuits, this model provides milliamp ranges from 0.02 to 1000 ma . Especially suited for circults supplied by dry cells. Ranges: $0-1.5 / 10 / 25 / 50 / 100 / 250 / 500 / 1000 \mathrm{mu}$. Accuracy $3 \%$. Slze $3^{\prime \prime} \times 51^{\prime \prime} \times 2{ }^{\prime \prime}$
\$18.25

## Model 374 DC Microammeter

Emhodies a basic movement of 50 microamps sensitivity with self-contained shunts. Can be used with external resistors for bigh-sensitivity voltmeter at 20,000 ohmis/volt. Partleularly useful in photocell work. Switch "short" position removes meter from circuit. Ranges: $0-50 / 100$ / $250 / 1000.3 \%$ accuracy. Slze: $3^{n} \times 5^{\frac{5}{3}}{ }^{\prime \prime} \times 2 \frac{1}{2 \prime \prime}$
Cat. No. $32-422$ Net Price $\quad \$ 29.90$

## Model 375 DC Ammeter

For checking auto radio sets, DC motors, experimental DC circuits. Entirely self-contained. Ranges: $0-1 / 2.5 / 5 / 10 / 25 \mathrm{amps} .3 \%$ accuracy Size $3^{\prime \prime} \times 51^{\prime \prime} \times 22^{\prime \prime}$.
Cat. No. 32-423 Net Price $\qquad$ $\$ 18.70$


Frame for Panel Meters
For all meters with $2 \frac{3^{\prime \prime}}{}{ }^{\prime \prime}$ body diameter. Bir ding posts for connecting test leads.
Cat. No. 25-313
Net Price

## Model 370 AC Ammeter

A compact instrument in which a current transformer and indicating instrument are comblned for a high-quality multiple-range AC ammeter. Range is complete from $0-1 / 2.5 / 5 / 10 / 25$ amps. For measuring current drain of electrlc appllances, motors, henting elements, lamps, radio sets. Slze $3^{\prime \prime} \times 57^{\prime \prime} \times 2$ l $^{\prime \prime}$
Cat. No. 32-418 Net Price
$\$ 18.50$

## Model 240 Hammeter <br> AC/DC V.O.M.

The Ideul Instrument for checking high voltage and all component parts of transmitters and receivers. Self-contained, needs no external multipliers, has a sensitivity of 1000 ohms/volt, and has maximum voltage of 3000 volts AC/LC. All the variety of useful ranges to do all-around general service work. Shock-proot; bridge-type movement; soft tron pole pleces; resistors in matched pairs for all-range accuracy. Ranges: AC volts 0-15/150/750/3000; DC velts $0-15 / 75$ $/ 300 / 750 / 3000$; DC milliumps 0-15/300/750; resistance $0-3000 / 300,000 \times 1000$ ohms $/$ volt AC/ DC. Supplled with test leads Insulated ugansto 3000 volts. fitted with rubber guarded alligator clips. Accuracy DC $3 \%$; AC $5 \%$. Size $3^{\prime \prime} \times 51^{\prime \prime} \times$ $2 \frac{1}{2}{ }^{\prime \prime}$. 3 -inch meter.
Cat. No. 32-424 Net Price
$\$ 21.31$

## Model 230 AC/DC V.O.M.

Contuins the ranges to enable the experienced technician to do a complete serviolng job. Ranges: AC volts $0-10 / 250 / 1000$; DC volts $0-10 / 50 / 250 /$ 1000; DC milliamps $0-10 / 50 / 250$; resistance $0-1000 / 100,000$ ohms. 3 -ineh meter. Furnished complete with test leads. Size: $3^{\prime \prime} \times 5 \frac{1}{2}^{\prime \prime} \times 22^{\prime \prime}$. DC accurucy 3\%, AC accuracy j\% Cat. No. 32-425 Net Price

## Model 376 AC Voltmeter

A rectifer-type AC voltmeter with wide varlety of ranges whleh cover botla primary and secondary voltases of transformers in radio sets. toys, and appliances. Excellent output meter when used with proper condenser. Ranges: 0-5/10/25/50/ 100/250/500/1000 volts. $5 \%$ accuracy. Slze $3^{\prime \prime} \times 5 \frac{1}{1 / \prime} \times 22^{\frac{1}{2}}$
Cat. No. 32-426 Net Price
$\$ 18.25$


# SIMPSON PANEL METERS 

Round Models 25 and 26 Rectangular Models 27, 37, 47, 49, 57

High Range DC Plate Voltmeters

| Cat. | Range | Net |
| :---: | :---: | :---: |
| No. | Ohms/Volt | Price |
| 25-055 | ()-1500 |  |
| 25-056 | 0-2000 | \$16.90 |
| 25-057 | ()-3000 | 16.90 |
| 25-658 | 0-4000 |  |
| 25-659 | 0-5000 | 22.34 |
| Modill $263^{\prime \prime}$ Shmoud Casf. |  |  |
| 25-C60 | (1-1500) |  |
| 25-061 | 0-2000 | 16.90 |
| 25-062 | 0-3000 | 9 |
| 25-063 | 0-4000 |  |
| 25-064 | 0-5000 | 22.34 |
| Model $273{ }^{\prime \prime}$ Rectangular Cabe |  |  |
| 25-065 | 0-1500 |  |
| 25-066 | 0-2000 | 16.90 |
| 25-067 | 0-3000 | 16.90 |
| 25-068 | 0-4000 |  |
| 25-669 | 0-5000 | 22.34 |

## Model 27 DC Galvanometers

$3 \frac{2}{3 \prime}$ rectangular bakelite case. Sensltivity 500-0500 microamperes. Scale $50-0-50$. Approx. resistance 46 ohms.
Cst. No. 25-079 Net Price . . . $\$ 8.82$
Sensittulty 75-0-75 microamperes. Scale $50-0-50$ Approx. resistance 2000 ohms
Cat. No. 25-070 Net Price
$\$ 14.11$
Model 37 RF Ammeters

|  | val T | -pes | Net |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Cat. No. } \\ & 25-071 \end{aligned}$ | Kange | Resis 0.325 |  |
| 25-072 | $0-1.5$ | 0.20 |  |
| 25-073 | 0-2 | 0.15 | 0.11 |
| 25-074 | 0-3 | 0.10 |  |
| 25-075 | 0-5 | 0.05 |  |


| Model 57 AC Meters |  |  |  |
| :---: | :---: | :---: | :---: |
| aC Milliammeters |  |  |  |
| 25-036 | 0-50 | 80.0 |  |
| 25-037 | 0-100 | 20.0 | \$6.32 |
| 25-038 | 0-250 | 5.0 | 0.32 |
| 25-039 | 0-500 | 0.9 |  |
| ac voltmeters |  |  |  |
| Cat. No. | Range | Approx | Resis. Net |
| 25-040 | 0-3 | 12 |  |
| 25-041 | 0-10 | 133 |  |
| 25-042 | 0-15 | 300 | \$6.76 |
| 25-043 | 0-50 | 3.333 | 0.76 |
| 25-044 | 0-100 | 16.666 |  |
| 25-045 | 0-150 | 25.000 | 8.08 |
| 25-046 | 0-300 | 50,000 | 9.41 |
| 25-047 | 0-500 | 83,000 | 11.76 |
| AC Ammeters |  |  |  |
| 25-048 | 0-1 | 0.287 |  |
| 25-049 | 0-2 | 0.115 |  |
| 25-050 | 0-3 | 0.027 | 6.32 |
| 25-051 | 0-5 | 0.012 | . 32 |
| 25-052 | 0-10 | 0.003 |  |
| 25-053 | (0)25 | 0.0003 |  |
| 25-054 | 0-50 | 0.0001 |  |

## VU Meters

A volume level meter marked to show percentage modulation, with scales stressing level in VU. Cut. No. 25-076 Model 47 . $3^{\prime \prime}$ rectangular case. Net Price . . . . . . $\$ 20.58$ Cat. No. 25-077 Model 49. $4 \frac{1}{2}$ " rectangular case. Net Price . . . . . \$23.52 Cat. No. 25-078 Model 49, Illuminated Net Price

## 3" Square Panel Mefers

Well damped, jewel movement; plus or minus $2 \%$ accuracy. $100^{\circ}$ scale are. Size $3^{\prime \prime} \times 3 \frac{1}{8} \prime \prime$; mounts in 2 at $^{\prime \prime}$ bole.

## Model 27 DC Meters

Cat. No.
dC Milliammeters

| Cat. No. | Range | Approx. Rests. |  |
| :---: | :---: | :---: | :---: |
| 25-001 | 0-1 | ${ }_{46.0}$ | Ner |
| 25-002 | 0-5 | 23.0 |  |
| 25-003 | 0-10 | 7.0 |  |
| 25-004 | 0-25 | 2.2 |  |
| 25-005 | 0-50 | 2.0 |  |
| 25-006 | 0-100 | 1.5 | *7.06 |
| 25-007 | 0-200 | 0.75 |  |
| 25-008 | 0-300 | 0.50 |  |
| 25-009 | 0-500 | 0.30 |  |
| 25-010 | 0-1000 | 0.15 |  |
|  | DC Vo | Ltmeters |  |
| Cat. |  | Sensitivity | Net |
| N0. 25.011 | Range | ohms/volt | Each |
| 25-011 | 0-8 | 100 | \$7.64 |
| 25012 | 0-10 | 100 | 7.64 |
| 25-014 | 0-15 | 100 | 7.64 |
| 25-015 | 0-150 | 100 | 7.64 |
| 25-016 | 0-250 | 500 | 9.41 |
| 25-017 | 0-300 | 500 | 10.58 |
| 25-018 | 0-100 | 1000 | 11.76 |
| 25-019 | 0-300 | 1000 | 13.67 |
| 25-020 | 0-500 | 1000 | 15.29 |
| 25-021 | * ()-1000 | 1000 | 16.90 |
| 25-C65 | * 0-1500 | 1000 | 16.90 |
| 25-C66 | *0-2000 | 1000 | 16.90 |
| 25-067 | *0-3000 | 1000 | 16.90 |
| 25-069 | * $0-5000$ | 1000 | 22.34 |


| DC Ammeters |  |  |  |
| :---: | :---: | :---: | :---: |
| Cat. No. | Range | Approx. | Resls. Net |
| 25-026 | 0-1 | 0.050 |  |
| 25-027 | 0-2 | 0.025 |  |
| 25-028 | 0-3 | 0.016 |  |
| 25-029 | (0)5 | 0.010 | 7.04 |
| 25-030 | 0-10 | 0.005 |  |
| 25-031 | 0-25 | 0.002 |  |
| DC Michoammeters |  |  |  |
| 25-032 | 0-50 | 2.000 | \$16.90 |
| 25-033 | 0-100 | 2,000 | 14.70 |
| 25-034 | 0-200 | 1,000 | 12.35 |
| 25-035 | 0-500 | 200 | 9.70 |



E

(E) Simpson Model 555 Tube Tester

Will test all receiving tubes, including the latest nine pin miniatures and the subminlatures used in hearing aids, etc. Extra sockets are provided and the flexible individual element switching arrangement takes care of future tube developments. Tests can also be made on gaseous rectifiers, plot lamps, and continuity of ballast tubes. Illuminated meter for quick readings. Beautiful modern styling in the shining silver and black of higbly pollshed, enduring, anodized aluminum. With "No-Backlash" Roll Chart. Size $16 \frac{3}{4} \times 12 \frac{1}{2} \times 6^{\prime \prime}$
Cat. No. 32-408 Net Price
${ }^{8} 69.85$

## Simpson Model 335 Plate Conductance Tube Tester

Dial indicates percentage of rated plate conductance, which is proportional to percentage of rated mutual conductance with consiant amplificacion factor. Minimum settings; flament voltages constant; short test for all electrodes; low-voltage diode test; automatic reset switch; all standard tube sockets with provisions for additions. Portable case $15 \frac{1}{2}^{\prime \prime} \times 9 \frac{1}{2}^{n} \times 61^{\prime \prime}{ }^{n}$.
Cat. No. 32-401 Net Price.

## Simpson Model 445 Plate Conductance Tube \& Set Tester

Handles just about every radio testing requirement. Tube tester is of plate conductance type; see Model 335 above. High sensitivity volt-ohmmilliammeter: negilgible current consumption assures accurite full-scale readings from 2.5 to 5,000 volts; current readings from 1 microamp to 500 milliamps; resistance from $\frac{1}{2}$ ohm to 20 megohms. Ranges: volts $0-2.5 / 10$ / $50 / 250 / 1000 / 5000$; DC millamps. 0-10/100/500; DC microamps. 0-100; reslistance $0-200 / 200,000$ ohms $/ 20$ megohms; db. -10 to +52 in 5 ranges. DC sensttivity 20,000 ohms/volt; AC sensitivity 1000 ohms/volt. $4 \frac{1}{\frac{1}{n}^{\prime \prime}}$ dial. Slize $15 \frac{2^{\prime \prime}}{} \times 99 \frac{1}{2}^{\prime \prime} \times 6 \frac{1}{2}^{\prime \prime}$.
Cat. No. 32-402 ${ }^{\text {Net }}$ Price
${ }^{s} 128.50$

## (F) Simpson Model 330RC Mutual Conductance <br> Tube Tester

Tests tube in percentage of rated dynamic mutual conductance; voltage applied automatically over entire tube operating range approximating actual conditions in radio set. Colored zones on dial colncide with mleromho ratings, indicating good, fair, doubtful, bad. Tests all types, including acorn tubes. Neon glow tube for shorts. Only a few settings needed for the most complicated tubes. $4 \frac{1}{2}$ " meter. Wlth "No Backlash" Roll Chart see into panel. Case of sturdy plywood construction, fubricoid trimmed. Removable cover. Slze: $15 \frac{1}{2}$ " $\times 9 \frac{1}{3^{\prime \prime}} \times 6 \frac{t^{\prime \prime}}{}$ Cat. No. 32-403 Net Price
${ }^{s} 137.50$

## (G) Radio City Dynoptimum Tube Tester Model 322

A tube tester that is easy to operate. Only five controls. Permits accurate checking of widest variety of old or new tubes. Provides means of checking sections of multi-purpose tubes, miniatures, and sub-minlatures. Extremely low test-circuit voltage drop. Jack is provided for head-phone noise test to check noisy, swinglng, or high-resistance internal tube connections. Neon lamp for rapld short and leakage tests between elements.
 Cat. No. 32-450 Net Price
 Cat. No. 32-451 Net Price.

## Rolindex Model 103

Roll chart for accurate data at filck of a dial. For use with Models 322 , $322 \mathrm{P}, 802 \mathrm{~N}$ Cat. No. 32-452 Net Price
${ }^{8} 7.35$

(A) Sylvania Model 140 Tube Tester

Tests all popular and most special tubes. Extra sockets and switch contacts for additional types. Dypamic plate conductance type which slmulates actual operation of the tube. Triple roller chart for tube data. Portable case. For $105-120$ volt $50-60$ cycles.
s 79.50 Cat. No. 32-504 Net Price
\$79.50

## Model 139-Counter type. Same as above

 Cat. No. 32-501 Net Price
## (B) Triplett Model 3480 Tube Tester

Combination tube tester and volt-ohm-milliammeter has tube tester circuits for emisslon, sbort and open tests, "good and bad" scale; tests all recelving tubes, gaseous rectifiers, pilot lamps, resistors and ballast tubes. Set tester ranges: DC/AC volts 0-3-12-60-300-1200; DC 0-1.2-12-120 ma., $0-12$ amps.; resistance $0-1000-10,000$ ohms and $0-1-50$ megs. $6^{\prime \prime}$ meter. In metal portable-t ype case; baked enumel finish. Built-in roll tube chart. For $110-120$ volts, $50-60$ cycles.
s96.77 Cat. No. 32-205 Net Price

## Triplett Model 3212 Tube Tester

Counter model with speed roll tube chart - tests all receiving tubes, pilot lamps, resistors and gives short and continuity test of motors, leads and realstance elements. Line, hot-cathode short, and quality tests on one switch. Large scale Indicates "Good-Bad." 19-position filament sclector covers from 0.75 to 110 volts. Spare switch and socket for future modincation. Heavy steel case. For $110-120$ volts 60 cycles.
${ }^{\text {s } 62.23}$ Cat. No. 32-206 Net Price

## (C) Triplett Model 3413 Tube Tester

Multi-purpose test circuit provides for emlssion test, short and open element test, and transconductance comparison test for matching tubes. Tests all receiving tubes, gaseous rectifiers, ballasts and pllot lamps with neon short indicator. "Good-Bad" Indicator. Built-in roll chart. For 110 volts 60 cycle. Cat. No. 32-207 Net Prlce
$\$ 68.10$

## SIMPSON

Signal

## Generators



## (G) Simpson Model 415 AM-FM Signal Generator

Conthuous coverage, with smooth, vernter-tuning difect reading dial, from 70 KC to 130 MC in 8 ranges at trequency accuracy of $1 \%$. Stable thru wide varlations in line voltage. ContInuously variable vernier controls RF output, $0-.4$ volts, through shielded ladder attenuator. 0 to $100 \%$ modulation from Internal 400 -cycle sine wave source or from external source. Up to 20 volts of 400 -cyclesine wave for external use. High-fidelity modulation to $100 \%$ from below 60 cycles to over 10 KC . No undesirable frequency moduliturn present. Colls and tuning condenser individuaily shielded and additlonal shield covers both assemblies. Case is steel, copper plated for hielding. Size: $5 \frac{5}{3}^{\prime \prime} \times 111^{\prime \prime} \times 15 \frac{1}{8 \prime}$
Chiclang. Size: 5 Not Price
${ }^{\text {s }} 112.70$

(D) Supreme Model 504B Tube and Set Tester

A convenient combination of multimeter. battery tester, condenser tester And tube tester, Will test any type of cube. Multimeter operated by pushbutton selector system for speedy operation. Equipped with Supreme $4^{\prime \prime}$ meter with "good and bad." Scale also reads DC volts 0 to 2500 at 1000 ohms per volt; AC volts $\mathbf{0}$ to 1000; current 0-500 DC microamps., 0 to 250 DC ma. and 0-10 DC amps.; resistance 0 to 20,000 ohms and 0 to 20 megs. output volis 0 to 1000. Rolier chart built in for tube settings. For $110-$ 125 volts $50-60$ cycles.
${ }^{8} 100.45$ Cat. No. 32-257 Net Price
(E) Supreme Model 589A Tube and Battery Tesier The model 589 A is designed as an economical, simple, and efficient tube and battery tester. Supreme's floating fllament circuit is incorporaterl in the lnstrument, with filament voltages from $\frac{3}{1}$ volt to tull line voltage Built-In roll tube setting chart for easy operation. Neon lamp provifled for checking leakages between tube elements and for open clrcuits. Noisy. loose, and bad connectlons may be checked by use of headiphones for which a jack is provided. The battery tester checks $A$ and $B$ batteries under their normal load on easy-reading "replace-good" scale. Power supply 100 te 133 volts $50-60$ cycles.
${ }^{8} 53.75$
Cat. No. 32-255 Net Price

## Supreme Model 6.20 Dynamic Tube Tester

This new model 620 tester uses Supreme's double-floating filament-return selector system which eliminates the use of more than one socket of each type. Equlpped with rugged $4^{\prime \prime}$ Supreme meter. Tests all receiver tubes neluding the latest sub-minlature types and selects the tubes "good and bad" on standardized percentage rating. Fllament voltages avallable from 1 volt to full line voltage with a circult insert provided for checking nolse, leakage, loose and bad connections. Settings for tubes provided on chart with easy-rolling mechanism; simply turn chart to proper tube listing and set controls as chart indicates.
Cat. No. 32-256 Net Price
$\$ 108.00$


## (F) Ferret Model 701 Signal Generator

For gàrycing any type of AM, FM or television equipment. Range 170 ke. to 128 me. Completely shlelded for minimum radiation; crystal calibrated, low-loss, permeabillty-tuned RF colls; internal 400-cycle sine wave modulation 0 to $100 \%$. callbrated directly on dial; 20 to 10,000 -cycle external modulation for frequency response measurements; turret coil construction with shortest possible leads for minimum leakage and maximum RF stability; low-loss, low-lmpedance, coaxial cable output. Vernier 3:1 drive. 110 -volt 60 -cycle operation.
${ }^{\text {s }} 73.45$ Cat. No. 32-615 Net Price

## (H) Simpson Model 340 Signal Generator

A new signal generator with seven RF ranges: $75 \mathrm{KC}-30 \mathrm{MC}$ fundamental trequency; up to 120 MC on harmonics. Unmodulated, or $30 \%$ AM at 400 cycles. RF output from 0.5 microvolts to 0.1 volt controlled by step attenuator of ladder type. Audio signal, continuously varlable from 0 to 5 volts. Electron-coupled circult gives extreme stability and uniform output. Has shlelded colls and line cord and line fliter. Highly readable 9-inch meter dial. Vernier tuning. Enclosed in steel case $16^{\prime \prime} \times 10^{\prime \prime} \times 6^{\prime \prime} . \$ 68.45$ Cat. No. 32-412 Net Price

## New Simpson Roto-Ranger Multi-tester

The only multi-range tester on the market which provides a single full length scale for each range. As selector switch is moved to the range desired, an ingenious gearlng mechanism rotates a drum, bringing foto place behind the meter window the proper scale for that range. Here is the equivalent of 18 separate instruments combined in one sturdy and compact unit. There are no cramped callbrations in these full sized Roto-Ranger scales. Each is designed as it would be for a separate instrument. Ranges are: volts. AC and DC, 2.5, 10, 50, 250, 1000, 5000; DC millamperes, 10, 100, 500; DC microamperes, 100; Amps., DC, 10; Output, 2-5, 10, 50, 250, 1000; ohms $0-2000$ ( 12 ohms center). $0-200,000$ ( 1200 ohms center), $0-20$ meg. ( 120,000 ohms center). Sensitivity 20,000 ohms per volt DC, 1000 ohms per volt AC.
Cat. No. 32-431 Complete with test leads, manual. Net Price

# SIGNAL GENERATORS 


(E) Triplett Model 2432 Signal Generator

A quality RF signal generator with 6-position turret-type coil switching device for rapid, efficlent band changing. Has coaxial jacks for RF and AF output. Frequency range $75-224,220-750,700-2500,2450-8500 \mathrm{kc}$. and $8-25,24-50 \mathrm{mc}$. Voltage regulator tube insures stability under normal line fluctuations. Unmodulated or 400 -cycle sine wave modulated output. Air-trimmed permeability-tuned coils Metal case with hinged cover und leather strap handle. For $110-120$ volts, 60 cycles.
$\$ 66.15$
(F) Triplett Model 3432 Signal Generator

Extremels accurate signal generator with lighted lucite dial; 7-band coverage - 165 kc to 120 mc .; 165 kc . to 40 mc . on fundamentals, 36 mc . to 120 mc . on harmonies. Large, legible scales with 10 to 1 vernler tuning. Internally modulated RF ( $30 \%$ at 400 cycles), externally modulated RF, unmodulated RF and 400 -cy cle AF. RF output given fine control by output attenuator. For $110-120$ volts $50 / 60$ cy cles. Electrostatically shlelded transformer. With coaxial cable and tubes.
$\$ 68.11$
Cat. No. 32-210 Net Price
Generator
(C) Hickok $288 \times$ FM-AM Universal Signal Generator A variable frequency signal generator, crystal controlled, for AM, FM and television. RF innodulated or internaily amplitude mor internally frequency modulated. RF variable from 100 kc . to cycles, or internally frequency 160 mc . on FM, in 7 bands, all fundamental. Fixed $50-\mathrm{mc}$. output is internally frequency modulated at 60 cyctes and at 400 cycles for FM and television. Flxed, crystal-controlled $100-\mathrm{kc}$. and $1000-\mathrm{kc}$. outputs either unmodulated or internally amplitude modulated. Fixed 1000 kc . internally frequency modulated at 60 cycles for visual $\mathbf{I F}$ alignment. 50 mc . and 1000 kc . osciliators beat with variable RF oscillator to give variable FM signals. Variable AF output 0-15,000 cy cles; fixer AF 400 cycles. Outputs continuously variable with multiplier and linear con400 cycles. Outputs continuousiy 3 ranges. 110 -volt 60 -cycle operation. trols. Db. meter -10 to plus 38 in 3 ranges. 110-volt $60-c y$ cle operation,
Cat. No. $\mathbf{3 2 - 1 5 8}$ Net Price. Cat. No. 32-158 Net Price .
Model 277X same as 288 X but
150.36

## (H) Radio City Model 705 Signal Cenerator

Frequency range from 95 KC to 100 MC ; fundamentals in 5 bands are continuously variable from 95 KC to 25 MC . Self-contalned modulator source generates 400 -cycle sine wave, modulates carrier $30 \%$ or $80 \%$; 400 cycle frequency avallable for external use. 5 -step ladder attenuator concycle frequency avallable for external use. trols voltage from zero to maximum. Calibration accurate to $2 \%$ thru BC
band; to $3 \%$ for HF bands. Practically zero drift during warm-up. RF circuits, coil assembly, and attenuator individually shielded for stable operation. High-ratio plavetary-drive tuning condenser with choice of vernier or direct drive. $110-130$ volts $50 / 60$ cycle operation Size: $8^{\prime \prime} \times 11 \frac{1 \mathbf{n}^{\prime \prime}}{}$ $\times 5^{\prime \prime}$. Complete with shielded cable fitted with coax connector, alligator clips. Cat. No. 32-458 Net Price
$\$ 48.51$

## (I) Feiler ModeI TS-3 Radio Stethoscope

For radlo servicing. Signal is heard in $5^{\prime \prime}$ speaker when $1^{\prime \prime}$ shtelded probe is touched to any part of the set. May be attached to VOM meter for visual indication. With headphone jack, steel case, 4 tubes, probe and service guide. For 115 volts $50-60$ cycles.
$\$ 34.95$
Cat. No. 32-604 Net Price
Uses two
MODEL TS-2 Fether - Simlar to TS-3 but battery operated. Uses two 45 volt and one 4.5 volt batteries. Same teatures as AC model. With
tubes. probe and instructions- less batteries. . .
Cat. No. $\mathbf{3 2 - 6 0 2}$ ( Net Price. Cat. No. 32-602 Net Price

## (J) Feiler Pocket Stethoscope

Portable, wlll fit into a pocket. $3^{\prime \prime}$ PM speaker; high-gain amplifier; with 4 tubes; high-sensitivity probe. For 105-125 volts DC.
Cat. No. 32-601 Net Price
\$28.95

## (K) Model TS- 1 Economy Kit

Low-cost analyzer. Using any magnetic earphones, any part of the set may be cheeked by audible slgnal. Metal case, snap-lock cover, with compartment for batteries, $3^{\prime}$ cable, and probe. With tube, less batteries and phones.
Cat. No. 32-603 Net Price
s9.85

# SERVICE INSTRUMENTS 


(C) RCA Audio Voltmeter Model WV-73A
For fadity measurements, conductivity measurements, and use as a high-galn a-f amplifer. Model WV-73A offers: unusual sensitivity, 0.001 volt AC; wide range, $1,000,000$ to 1 ; can be connect.ed across 1000 -volt DC clrcuits; withatands overloads of 1000 to 1 ; excellent frequenoy response 20 cycles to 20 KC . Operates on 105-125 volts, 50/60 cycles. Cat. No. 32-020 Net Price
${ }^{\text {s }} 175.00$


## (A) RCA Model WV-65A Voltohmyst

Type WV-65A performs all the measurement functions of the model above but is operated by internal battery, entirely independent of external power source. Measures DC volts $0-1000$ in six ranges, 11 -megohm input impedance; AC volts $0-1000$ in ave ranges, 1000 ohms/volt sensitivity; ohms $0-1000$ megs in six ranges; direct current 0-300 mililiamps., 0-10 amps. With 1 meg. shlelded signal-tracing probe for dynamic voltage measurements. Cat. No 32-002 Net Price
$\$ 87.50$

## (A) RCA Model 195-A Voltohmyst

One of the most useful and versatile voltage testing devices for signal tracing and testing. Incorporates 6 instruments in one. DC voltmeter: $0-5 / 10 / 50 / 100 / 500 / 1000$ volts. Electronic ohmmeter: $0-1000 / 10,000$; 100,000 ohins, $1 / 10 / 1000$ megohms. AC voltmeter; $0-5 / 10 / 50 / 100 / 500 /$ 1000 volts. Electronic AF voltmeter: range $30-100 \mathrm{KC} . ; 0-5 / 10 / 50 / 100$ volts. Electronic output meter: range -20 to +62 db . In 6 ranges. FM alignment indicator: meter reads plus or minus for allgnment of $F M$ disdriminator circuit. Includes new features such as a diode rectifer for AC measurements directly on DC scale, new plastic meter case with one-plece unbreakable front, and shielded cable and probe.
${ }^{8} 79.50$

## (A) RCA Model WV-75A Voltohymst

An electronlc voltmeter with a newly developed dlode probe for reading peak-to-peak RF voltages up to 250 MC , and DC resistance to 1000 megohms. For FM and TV, all AC measurements in recelvers. DC measurements directly at grid, plate, screen or cathode terminal. Meter is burnout proot. Drift virtualiy ellminated. One meg. isolating resistor in DC probe for dynamic voltage checking. Polarity reversing switch. One seale for allohmmeter ranges. PuAh-pull DC VTVM eircuit is highly stable and linear. Ranges: DC volts $0-3 / 10 / 30 / 100 / 300 / 1000$ volts with 11 megohm input; AC volts $0-3 / 10 / 30 / 100 / 300 / 1000$; resistance $0-1000 / 10,000$ 100,000 ohms, $1 / 10 / 1000$ megoh ms. Probe RF input Impedance at 1 MC , 0.625 megohms and 15 mmf . Complete with tubes, probe. Operates on 105-125 volts, $50 / 60$ cy cles, 15 watts.
${ }^{s} 125.00$

## RCA Crystal Probe Model MI-8263

Makes any model RCA Voltohmyst a VHF volimeter; can also be used on voltmeter channel of RCA Chanalyst deseribed on this page. Probe employs a germanium crystal rectifier. Frequency range that $\pm 10 \%$ from 1 KC to 100 MC for FM. TV, and other HF testlng. Input voltage 20 rms . volts max. Overall accuracy $\pm 7.5 \%$ at full scale. Probe point is long and narrow for easy testing; shlelded cable; probe body insulated and shielded. Cat. No. 32-003 Net Price

## (B) Precision Model 85 Multi Range Testers

34 ranges to 6000 volts, 12 amperes, plus 70 DB, 60 megohms, $4 \xi^{\prime \prime} 50-$ mferoampere meter. Full rotary tange and function selection. Molded bakellte case with plastic handle. Recessed 6000 -volt safety jacks. 20,000 ohms per volt DC; 1000 ohms per volt AC. With batteries and test leads. Cat. No. 32-052 Net Price

## (B) Model 80 34-Range Tester

Same as model 85 but 1000 ohms per volt AC and DC. Complete with batteries and test leads.
s32.70

## Precision Model EVIOMCP

(1) and get tester with ranges: 0-6000 VDC; 0-2000 megs; also $0-6000$ volts AC/DC at 1000 ohms per volt; DC to 12 amps. ; db minus 26 to plus 70. Steel case with probe and battery.
Cat. No. 32-054 Net Price
Model EVIOP - Same as above but walnut-findshed hard wood e $\$ 89.95$ Cat. No. 32-055 Net Price . . . $\$ 92.70$ Model RF10-VT RF probe for use with above. Cat. No. 32-056 Net Price

## (D) Precision Model E200C

For servicing AM, FM and television recelvers; 88 kc . to 120 mc . in 8 bands; (on fundamentals 88 kc . to 30 mc .) $1 \%$ maximum deviation. Unmodulated RF, 400 cycle modulated RF, externnlly modulated RF, and 400 cycle audlo output. Durl-calibrated RF attenuators. $0-100 \%$ modulation control. $6 \frac{1}{2}{ }^{\prime \prime}$ scale with vernier for reading $1000: 1.0-50$ volts AVC voltage. Complete with coaxial cable. In heavy steel case. For $110-120$ volts, 50-60 cycles.
Cat. No. 32-051 Net Price
s67.25

## (I) Meissner Analyst

Tests recelvers and locates faults by the "signal tracing" method; completely equipped with all devices needed for slmultaneous checks on various parts of the recelver circult; five separate channels, each integrated in its own panel division with all controls clearly marked and accurately callbrated. The Analyst is completely whed, allgned, and laboratory tested; furnished with full set of 12 tubes and ready to use the minute it is connected to the 110 -volt AC ilne. Includes 4-range electronic voltmeter. wide-range audio channel, 95 to $1,700 \mathrm{KC}$ rf-lf channel, four electron ray Indicators, shielded test cables and prods, and detailed instructlon book. Cat. No. 32-100 Net Price
$\$ 111.57$
(E) Hickock Model 156 Indicating Traceometer

For quick signal tractng from antenna to speaker. Operation of IF, detector, discriminator, Iimiter, RF mixer, local oscllator, AF and power supply may be checked without changing a test lead. Bult-in speaker for monitoring. Separate meters for each of 5 channels. VTVM cannot be damaged by overloads. Wattmeter measures 0 to 150 watts, For $105-$ 125 volts $50-60$ cycle.
${ }^{s} 195.00$

## (F) Sylvania Model 134 Polymeter

A VTVOM for laboratory and servicing. Uses midget probe with proxlm-ity-fuse tube; only 3 mm . shunt capacity. Ranges: $\mathrm{AC}-\mathrm{DC}-\mathrm{RF}$ volts and milliamperes, $0-10 / 30 / 100 / 300$ plus $0-1000 \mathrm{DC}$ volts and $0-10 \mathrm{DC}$ amps; restatance $0-1000 / 10,000 / 100,000$ ohms and $0-1 / 10 / 10 \mathrm{CO}$ megs. ; frequency range: AC volts, $20-15,000 \mathrm{cps}$, RF volts, 10 ke . to 300 mc . Input im pedance DC volts 16 megs.; AC and RF volts 2.7 megs. DC ranges accurate to plus or minus $5 \%$, except plus or minus $7 \%$ on 10 amp scale; AC and RF ranges plus or minus $7-8 \%$. For 105-125 volts $50-60$ cy cles. Cat. No. 32-505 Net Price
$\$ 89.50$

## (G) Simpson Model 321 "Ciant" Set Tester

Model 321 incorporates 50 ranges. Suited for elther bench use or panel mounting. 7-inch meter, housed in molded bakelite case; DC scales in black, AC scales in red. Range selector fitted with large, easily operated bakelite handle; markings plainly read. All voltage ranges. AC and DC, have resistance of 1000 ohms per volt. Ranges: AC/DC volts $0-3 / 7.5 / 30$ / $75 / 150 / 300 / 750 / 1500 / 3000 ;$ DC milliamps. $0-1.5 / 7.5 / 15 / 75 / 300 / 750$; DC amps $0-15$; resistance $0-2000 / 20,000 / 200,000$ ohms $2 / 20$ megohms; mid. $0-.05 / .5 / 50 ; \mathrm{db}-20$ to +48 ln 7 ranges. $3 \%$ accuracy DC, $5 \%$ accuracy AC. 3000 -volt test leads furnished. Size $11{ }^{\prime \prime}{ }^{\prime \prime} \mathrm{x} 8 \mathrm{~g}^{\prime \prime} \mathrm{x} 4^{\prime \prime}$.
Cat. No. 32-407 Net Price .
$\$ 59.50$

## (H) Triplett Model 2405 A Volt-Milliammeter

Ranges 0-10-50-250-500-1000 volts DC at 25.000 ohms per volt and AC at 1000 obms per volt; AC amus. $0-0.5-1-5-10$; DC amps. $0-10$; DC ma $0-1-10-50-250$; DC microamps. 0-50; ohms 0-4000-40.000; megohms 0-4-40;


## Speco Model Stab-Kit

A complete kit of parts including cablne: to bulld a model stab-Kit signal tracer. Includes all parts, instruction book with assembly and wiring instructions, etc.
Cat. No. 32-325 Net Price .
${ }^{8} 17.95$

# MULTITESTERS 


(A) Triplett Model 625NA Volt-Ohm Milliameter For testing all high resistance circuits including television and FM, $0^{\prime \prime}$ meter with mirrored scale. Ranges: DC volts $0-1.25 / 5 / 25 / 125 / 500 / 2500$ at 20,000 ohms per volt, $0-2.5 / 10 / 50 / 250 / 1000 / E 000$ at 10,000 ohms per volt; AC volts $0-2 / 5 / 10 / 50 / 250 / 1000 / 5000$ at 10.000 ohms per volt; DC amps. 0-10; all DC current measurements at 250 MV ; resistances 0-2000/ 200,000 ohms/40 megs.; db. ranges from minus 30 to plus 69 . Molded case, leather carrying strap, test leads, alligator clips and instructions. Cat. No. 32-220 Net Price Leather carrying case for above
Cat. No. 32-221 Net Price
44.10
(B) Triplett Model 666-HH Volt-Ohm-Milliammeter A precision, compact instrument that provides a complete miniature laboratory for DC and AC voltages and resistance analyses. Ranges: DC volts 0-10-50-250-1000-5000 at 1000 ohms per volt; AC volts 0-10-50-250-1000-5000 at 1000 ohms ner volt; DC ma. 0-10-100-500 at 250 millivolts; ohms $0-2000-400,000$. Self contained battery - plug-in type - 1.5 volts $50^{\prime \prime}$ test leads with clips and plugs furnished. Black moulded case $3 \frac{1}{16}{ }^{\prime \prime} \mathrm{x}$ $57^{\prime \prime} \times 2 \frac{18}{10}$
Cat. No. 32-201 Net Price
$\$ 21.56$ Cat. No. 32-202 Model 669 Leather Case. Net Price . . , $\$ 4.65$

## (C) Precision Series 40 AC-DC Multi-Range Tester

Small, portable unit incorporating all features found in larger instruments. 1000 ohms sensitivity on both AC and DC. Rotary selective; with $3^{\prime \prime}$ meter with legible scales. Ranges AC/DC and output volts 0-3-12-60-300-12006000 ; DC current $0-0.6-6-60-600 \mathrm{ma}$; resistance $0-5000-500,000$ ohms-5 megs. ; 6 db . ranges, minus 26 to plus 70 db . Black molded bakelite case with handie, ohmmeter batteries, test leads and instructlons. $\$ 24.25$
Cat. No. 32-074

## (D) Radio City Multi-Tester Model 488-A

An ultra-sensitive multi-tester with a dual sensitivity of 20,000 and 1,000 ohms per volt. For current measurement from 1 micramp. to 12 amps. Ideal for TV receiver servicing. Current translormer type AC ammeter with voltage drop of only 0.4 volts at fullssale 12 amp . range. Center of low ohm scale reads 37 ohms, permits extremely accurate readings. Widescale $4 \frac{t^{\prime \prime}}{}$ meter with movement of 50 microamps. is accurate to $2 \%$ of full scale. All multipliers, shunts are matched and accurate to $1 \%$. Read as low as 1 microamp, 25 ohms, 1 volt. Batteries easily accessible. Overall accuracy $3 \%$ on DC, $5 \%$ on AC. 15,000-volt test leads supplied. Complete with self-contalned battery. Ranges: DC volts. $0-3 / 12 / 60 / 300 / 600 / 1,200 /$ 6,000; AC volts, $0-3 / 12 / 60 / 300 / 600 / 1,200 / 6,000 ;$ DC millamps., $0-3 / 20 /$ 120/600; DC milcroamps., 0-60/300; DC amps., 0-12; AC amps., 0-3/6/12; resistance, $0-3,000 / 300,000$ ohms, 30 megolims; output volts $0-3 / 12 / 60$ $300 / 600 / 1,200 / 6,000$ volts. Slze: $111^{\text {b }} \times \mathrm{x} 93^{\prime \prime} \times 6 \frac{1}{2}$
Cat. No. 32-460 Net Price .
\$58.31

## (E) Simpson Model 260 Set Tester

A very popular, fne-quality VOM for testing television and radio sets. DC sensitivity 20,000 ohms per volt. Negligible current consumption insures remarkably accurate full-scale voltage readings. Low readings of 1 microamp, $\frac{1}{2}$ ohms can be made, high readings of $10 \mathrm{amps}, 20$ megohms. AC sensitivity 1000 ohms per volt. Ranges: AC and DC volts $0-2.5 / 10$ / 50/250/1000/5000; DC amps 0-10; DC milliamps 0-10/100/500; 1)C microamps 0r100; resistance $0-2,000 / 200,000 /$ ohms, 20 megohms; db. -10 microamps 0r100; resistance $0-2,000 / 200,000$ ohms, +52 in five ranges. Internal construction of separate recesses for comto +52 in five ranges. Internal construction of separate recesses
ponents gives high accessibility, added iusulation. great strength.

ROLL-TOP CAEE TYPE
Model 260 tester contained in roll-top safety case. Flick of the finger rolls it up and instrument is ready to use. Test lead compartment. \$42.87 Cat. No. 32-404 Net Price

OPEN-FACE TYPE
Molded Bakelite case as shown above.
${ }^{\text {s }} 38.17$
Cat. No. 32-405 Net Price
Cowhtcle leather case for above
Cat. No. 32-406 Net Price

## Supreme Model 542 Multimeter

The model 542 is a dependable, accurate-reading. compact instrument for general applications. Virtually a pocket laboratory; dimensions $5 \mathrm{f}^{\prime \prime} \mathrm{x}$ $3 \frac{1}{16}$ " $\times 2 \frac{1}{1 / 2}^{\prime \prime}$ weight 23 ounces. Ranges: DC ma. $0-0.3 / 6 / 30 / 150$; DC volts $0-6 / 150 / 300 / 1500$; ohms $0-2000 / 20,000 / 200.000 / 2$ meg.; AC volts $0-6 / 30 /$ $150 / 600$; output volts $0-6 / 30 / 150 / 600 ; \mathrm{db}$, ranges -6 to $+10,+8$ to +24 , +22 to $+38,+34$ to +50 . Uses $3^{\prime \prime}$ meter with sensitlvity of 5000 ohms per volt. Equipped with batteries, in molded bakelite case. \$23.18


## (F) Radio City Pocket Multi-Tester Model 449

An ultra-compact, highly efficient lustrument for gederal testing and fast trouble shooting. Germanium crystal rectifier affords meter stability. eliminates AC voltmeter temperature errors, extends frequency response to 50 KC . 3 -inch square meter accurate to $2 \%$; sensitivity 200 microamps., 5,000 ohms per DC volt. AC voltmeter frequency response flat $30-50 \mathrm{KC}$. Voltage multipliers have $1 \%$ tolerance. Ranges: DC volts $0-5 / 50 / 250$ / 1,$000 ; \mathrm{AC}$ volts $0-5 / 50 / 250 / 1,000 ; \mathrm{DC}$ milliamps., $0-0.5 / 10 / 100 / 1,000$; resistance $0-2.000 / 20,000 /$ ohms, $0-.2 / 2$ megohms; db. -6 to +52 in four ranges calibrated on 500 -ohm impedance line, correction clarts for other impedances. Metal case, $6^{\prime \prime} \times 3^{\prime \prime} \times 2 \frac{1}{\prime \prime}^{\prime \prime}$. With batterles; without leads
Crt. No. 32-461 Net Price
\$24.01

## (C) Radio City Model $447 \mathrm{AC} / \mathrm{DC}$ Multi-Tester

Three-inch d'Arsonval-type 0.1 milliampere meter; low-range, low-drain ohmmeter; wire-wound shunts with $2 \frac{1}{2} \%$ tolerance; $5 \%$ accuracy on AC measurements, better on DC; suppressor-type copper-oxide rectifier. Ranges: DC volts $0-5 / 50 / 250 / 500 / 2,500 ;$ AC volts $0-10 / 100 / 500 / 1,000$; DC milliamps $0-1 / 10 / 100$; DC amps $0-1 / 10$; reslstance $0-500 / 100,000$ ohms, $0-1$ megohm; db. -8 to +55 , scale calibrated for $500-0 \mathrm{hm}$ impedance, correction charts for others. Complete with test leads; self-contained battery. Size: $5 \frac{1}{6}$ " $\times 8 \frac{5^{\prime \prime}}{} \times 3 \frac{1}{\prime \prime}^{\prime \prime}$
${ }^{s} 17.59$ Cat. No. 32-462 Net Price
17.5 Model 447-P - Same as above, in portable hardwood case partment and seli-latching cover,
$\$ 21.51$


## Hickok Model 203 Electronic Multitester

Compact universal test instrument for AC/DC volts, ohms, DC milliamperes, capacity, and inductance; ideal for allgnment of FM and television receivers. Ranges: volts AC or DC $0-3 / 12 / 30 / 120 / 300 / 1200$; mils $0-3 / 12 / 30 / 120 / 300 / 1200$; capacity $0-100.000 \mathrm{mmf}$. in 2 ranges, $0-1000$ in 5 ranges; Inductance $50 \mathrm{mh} .-100 \mathrm{~h}$; and ohms 1 ohm-10,000 megohms in 7 ranges; AC impedance to 5 megs may be measured. Input impedance 15 megs. on DC. 12 megs. on AC. For 105-125 volts 50-60 cycles.
Cat. No. 32-160 Net Price
$\$ 89.40$

## (H) Hickok Model 209 Volt-Ohm-Capacity- <br> \section*{Milliameter}

A 300 -megacycle VTVOM with capacity ranges $0-10000 \mathrm{mmf}$. and $0-1000$ mfd.; resistance 1 ohm to 10.000 megs.; inductance, 60 mh . to 100 h . $\mathrm{AC} / \mathrm{DC}$ volts $0-3-12-30-120-300-1200$; DC ma. 0-3-12-30-120-300-1200; Input imp. 15 megs. DC and 12 megs. AC. Complete with 6 tubes, RF probe and test leads. $105-125$ volts $50-60$ eycles. Cat. No. 32-151 Net Price
$\$ 99.60$

## Hickok 435 Volt-Ohm-Milliameter

Wide-range, easy to read, large square-face meter. Ranges: AC/DC and output volts $0-2.5-10-50-1000-5000$ at 20,000 ohms $/$ vent; DC $0-2.5-10-$ 50-250-1000 ma. and 0-10a; resistance, 0-10 megs. In 4 ranges; Db minns 20 to plus 29. Operates on one 4.5 volt battery.
${ }^{\text {s }} 37.50$ Cat. No. 32-152 Net Price

## Hickok 858P Dual-Sensitivity Tester

54 ranges, with push-button control for all functions. AC/DC and output volts 0-3-6-12-60-300-600-1200-6000 at 20,000 or 1000 ohms per volt DC and 1000 ohms per volt AC; DC current 0-60-120 microamps. 0-1.2-12-$120-600 \mathrm{~ms}$. and 0-1.2-12 amps.; ohms 0-6000-60,000-600,000 and 0-6-60600 megs.; db. minus 26 to plus 70. $4^{\frac{1}{2}} 50$-microamp. meter. Hardwood case with battertes and test leads.
s 48.94
Cat. No. 32-153 Net Price
847 P - Same as above. 5000 and 1000 ohms per volt. Ranges to 6000
 200-microamp. meter
Cat. No. 32-154 Net Price
${ }^{\text {s }} 44.00$
See the New Simpson Roto Ranger on Page 46


A

## (A) Dumont 5" Oscilloscope Model 208B

Uses 5LP1 tube at 1,400 volts accelerating potential; sweep range is 2 to 50,000 cycles; deflection factors - .010 volts per Inch vertical, .50 volts per inch horizontal; input impedance -2 megohms vertical, 5 megohms horizontal; input frequencles 2 to 100,000 cycies; distortionless input attenuator.
$\$ 285.00$
Cat. No. 32-530 Type 208B. Complete with tubes. Net

## Dumant 3" High Frequency Oscilloscope

For studying audio and video signals above the usual working range of oseilloscopes; wide-range respouse adequate for work with square waves, pulses, and steep wave-fronts; furntshed with test prohe having shielded cable and low input capacitance. Uses 3GP1 tube at 1,000 . volts accelerathg potential; sweep range 15 to 30,000 cycles; Input range 20 to $2,000,000$ cycles vertical. 10 to 100,000 cycles horizontal; deflection factors - .70 volts per inch horizontal, 10 volts per inch verifeal. . 40 volts ber inch vertical with probe; input innpedances -2 megohms at terminals, 1 megolim at prove; metal case $14 \frac{1}{8}$ " $\times 88^{\prime \prime} \times 15_{8}^{1 / \prime}$; carrying handle.
Cat. No. 32-531 Type 224A' complete with tubes and probe. $\$ 290.00$ Net Price

## (B) 5" Dumont Oscilloscope Model 274-A

This precision instrument was developed as an inexpensive general purpose instrument for laboratory, radio service, and educational applleations. The Type 274 serves as an excellent null indicutor on inductance/capacitance bridges, as a means o? measuring time and amplitude of pulses, as an Indicator in studles of sound, light. electricity, and electronics and many other general appllcations. Cat. No. 32-532 Net Price.
${ }^{5} 136.50$

## (C) Dumont 3" Ceneral Purpose Oscilloscope

A small, convenlent cathode-ray oscilloscope for faboratory and shop use; valuable in field work where minimum power consumption, small size, and light weight are essential; uses 3API high-vacuum tube at 1,100 volts accelerathig potential; gas-discharge sawtooth oscillator for sweep continuously variable from 15 to 30,000 cy cles; amplifiers cover 5 to 100,000 cycle range; deflection factors - .70 RMS volts per 1nch vertical, 55 volts per inch horizontal; lnput impedance - 1 megohm vertical, 800,000 ohms horizontal; metal case $11 \frac{5}{8}^{\prime \prime} \times 71^{\prime \prime} \times 14^{\prime \prime}$ with convenient carrying handie Cat. No. 32-534 Type 164E complete with tubes.
${ }^{8} 127.20$ Net Price

## (D) Dumont Electronic Switch and Square-Wave Generator

Permalte simultaneous observation of two independent stgnuls on the screen of a single cathode-ray tube; useful in compariug amplitude, wave-form, and phase relationships; may be cascuded for study of three circulta on a single tube; switehing rate is continuously variable from 10 to 2,000 times per second; input resistance 100,000 ohms; output resistance 50,000 ohms; square-wave output 30 volts peak-to-peak, Irequency continuously variable 10 to 500 square-wave cycles per second; metal case $111^{\prime \prime \prime} \times 7 \mathrm{l}^{\prime \prime} \times 13^{\prime \prime}$; carrying handle.
Cat. No. 32-525 Type 185A complete with tubes. Net
${ }^{s} 105.00$

## (E) Dumont 215 Linear Time-Base Cenerator

Extends the low-frequency time-base of any $5^{\prime \prime}$ balanced deflection osctlograph. Balanced output adjustable to undistorted maximum of about 400 volts peak to peak. Sweep frequencies from 0.2 to $125 \mathrm{c} . \mathrm{p} . \mathrm{s}$. with positive or negative return-trace blanking signal. Has compensating circuit for exact linearity. 300 volts DC positioning voltage. Steel case with carrying hindle. For $115-230$ volts $40-60$ cycles. With tubes. $\$ 215.00$
Cat. No. 32-526 Net Price. . . . .

## MILLEN OSCILLOSCOPES Series 90902

For elther general laboratory and experimental ase or as complete self-contained portable equipment. As transmitter modulation monitor, no additlonal
 equipment is needed; trajuezoldal patterns are obtained by feeding moculation carrier voltage to vertical plates and audlo modulating voltage to horizontal plates. For laboratory use, sweep, pulse generator, amplititer, etc., can be added to companlon rack panels. Complete with tubes Cat. No. 32-101 $2^{n}$ scope. Net Price . . . . . . . . $\$ 42.50$ Cat. No. 32-102 $3^{\prime \prime}$ scope. Net Price Cat. No. 32-103 $5^{\prime \prime \prime}$ scope.

## IFSTERS Capacitance - Resistance - Inductance



## (A) C-D Capacitor Analyzer

A precision instrument for laboratury und shop; accurately measures capacity of paper, mica, air, and electrolytle capacitors from . 00001 to 240 mid.; measures power factor; indicates leakage and insulation resistance; detects defective capacitors; readings are on six linear color-coded scales. The Wien bridge circuit has high sensitivity and includes balance sensitivity control that speeds operation. Visual eye indicates balance and leakage. Push-button switching for rapld control. Contained in portable case $6 \frac{1}{4} \times 12 \times 9 \frac{3}{4}$ with bullt-in power supply for 110 volt AC operation.
Cat. No. 32-730 Type BF-50, less tubes. Net Price
$\$ 41.80$
Cat. No. 32-731 Kit of tubes 1-12A7 and 1-6E5. Net
2.44

## (B) C-D Capacitor Decades

Provide accurate standards over wide range of capacity; may be used in groups of three, or individually; each unit furnished with callbration chart glving exact capacity values for all scale markings; rated at 600 volts $D C$, 220 volts AC

| 220 volts AC |  | Max. |  |  |  |
| :--- | :---: | :---: | :---: | :---: | ---: |
| Cat. No. | Type | Mtd. | Steps | Tol. | Net |
| $\mathbf{3 2 - 7 3 4}$ | CDA-5 | .011 | .0001 | $5 \% \dagger$ | $\mathbf{8 8 . 3 3}$ |
| $\mathbf{3 2 - 7 3 5}$ | CDB-5 | 1.1 | .01 | $5 \%^{*}$ | $\mathbf{8 . 3 3}$ |
| $\mathbf{3 2 - 7 3 6}$ | CDB-3 | 1.1 | .01 | $3 \%^{*}$ | $\mathbf{1 1 . 7 6}$ |
| $\mathbf{3 2 - 7 3 7}$ | CDC-5 | 10.0 | 1.0 | $5 \%^{*}$ | $\mathbf{1 7 . 1 5}$ |
| $\mathbf{3 2 - 7 3 8}$ | CDC-3 | 10.0 | 1.0 | $3 \%{ }^{*}$ | $\mathbf{1 9 . 1 1}$ |

* Oll-paper dielectric.
$\dagger$ Mica dielectric.


## (C) C-D Capacitor Bridge

Thls nltra-compact bridge (Wien type) quickly and accurately measurea all types of capacitors from .00001 to 50 mfd ; Indicates power factor; detects detoctive condensers; checks circuit conthuity. Dual type visual eye bridge balance and direct-reading scale for rapid, easy use. This compact Instrument - only 煖 $\times 5 \times 3^{\prime \prime}$ - is wholiy self-contained, requiring no accessories; bakelite case, is attrictlve walnut color. Furnished with deaccessories; bakelte case, in attrictive wainut color. Furmished with de-
tachable test leads and complete operating lastructions.
Cat. No. $32-732$ Type $B N$, less tubes. Net Price. . Cat. No. 32-732 Type BN, less tubes. Net Price Net 2.85

## (D) Sprague Tel-Ohmike Model To-3

Universal capacitor and resistor analyzer with built-in DC volt-milliameter Checks capacitors and resistors without removing them from the circuit. Capacity: 0.00001 to 2000 mfd , in A ranges; power factor: $0-50 \%$ at 60 cycles; insulation resistance $0-2500$ megs. ; resistance 2.5 ohms to 25 megs . In 3 ranges; DC meter range $0-15 / 150 / 750$ volts - $0-1.5 / 15 / 75 \mathrm{ma}$; 35 watts at 115 volts 60 cycle.
559.70 C'at. No. 32-660 Net Price


## (C) Aerovox L-C Checker

Tests condensers and Inductances at radio frequencles under essentially working conditions . . . While part is still in its circult. Also tests comblnations of capacitance and inductance, showing resonant frequency, hence operating efficiency of circuit. Indispensable to the sertous radio worker. Large, full-vision dial reada capacitance .0004 to 1.0 mfd . and inductance 0.1 to $10,000 \mathrm{mmh}$. in six frequency ranges, $60-170,170-490,490-1,500 \mathrm{kc}$., $1.5-4.6,4.5-15,13-40 \mathrm{mc}$. Magic eye type 6 E 5 is indicator. Other tubes are $6 \mathrm{~J} 5 \mathrm{G}, 25 \mathrm{Z} 5$, and V1R105. Accuracy of $L$ and $C$ readings is better than $10 \%$; frequency readings, about $1 \%$. Instrument contained in crackle-finished steel housing with slde compartment holding power cord, test leads, coupling link, and capacity cllp. Size $10 \frac{1}{2} \times 7 \frac{1}{2} \times 5 \frac{1}{3}$
Cat. No. 32-754 L-C Checker Model 95, complete as described, Including explicit operating instructions. Net Price
$\$ 44.75$
(E) Aerovox Motor-Starting Capacitor Selector Determines the necessary capacitance to replace the wornout motorstarting capacitor, at the mere Hip of a switch. In the absence of label, nameplate or other means of identification, this Instrument provides the immediate answer. The 0-150 volts AC voltmeter can be used separately. Cat. No. 32-751 Model 87. Net Price
$\$ 20.53$
Cat. No. 32-752 Model 85. Net Price
11.41
4.56
Cat. No. 32-753 Emergency Capacitor. Net Price . . . 4.56

## (F) Aerovox Capacitance and Resistance Bridge 76

This instrument combines simplicity of operation, and accuracy at a modest price. Measures capacitunce from 100 mmt . to 200 mtd . In six ranges. Measures resistance from 10 ohms to 20 megohms in six ranges. Measures power factor from 0 to $50 \%$. Provides DC polarizing potential for leakage measurements, from 0 to 600 volts DC, continuously variable and calculated in volts. Checks leakage or insulation resistance.
s 44,76 Cat. No. 32-750 Net Price

## (H) Solar Type CF Exam-eter

A sturdy, reliable capacitor analyzer designed to simplify electronic servlelng. Has exclusive, patented '(Quick-Check" circuit for tests and "intermittent' checks without unsoldering capacitor leads. Capacity range 10 mmt. to 2000 mtc .; power factor range 0 to $50 \%$; insulation resistance range 3 to 10,000 megohms; leakage current reads on $4 \frac{1}{2}$ " meter; continuously adjustable 0-550 VDC power supply; $0-600$ volts 3 -range DC VTVM; 100 ohm to 7.5 meg. AC resistance brilge. Furnished with technical manual.
$\$ 58.50$ Cat. No. 32-665
Cat. No. 32-666 CF $2-\mathrm{U}$
CF
CF

## (1) Solar Model CBB Analyzer

Magic Eye for bridge balance Indication; capacitance range - 10 mmt . to 800 mf ; power tactor range 0 to $55 \%$; neon lamp circuit tor insulation resistance and electrolytic leakage; resistance bridge 50 ohms to 2 megohms; color coded scales. Portable case with detachable cover.
Cat. No. 32-667 CB131-60 115 volts AC 50-60 cycles. Net Price $\$ 39.00$ Cat. No. 32-668 CBB2-U 115 volts AC 25-60 cycles. Net Price $\$ 46.90$

## Triplett Model 2450 VTVOM-Capacity Meter

Ranges: Volts AC/DC 0-2.5-10-50-250-500-1000; DC ma. 0-. 1-1-10-50-$250-1000$; ohms 0-1000-10,000-100,000; megs. 0-1-10-100-1000; mid. 0-.05. $5-5-50-500$. Input impedance 51 megs , on DC, 8 megs. and 5 mmf . on AC. $6^{\prime \prime}$ meter. For $110-120$ volts 60 cycles.
Cat. No. 32-217 Net Price
${ }^{5} 97.51$


## Model MMI Micro-Match

For measuring standing wave ratlo and RF power. Model MM1 can be connected into a transmission line of any impedance from 70 to 300 ohms. Reversing terminals permits reading RF power fed down transmission line. Operates on any frequency from 3 to 30 MC , with any transmitter power from 10 to 100 watts.
\$29.50

## Model MM2 Micro-Match

For measuring standing wave ratio and RF power on couxial transmission 1ines. Reads accurately in trequency range trom 3 to 162 MC without absorbing appreclable power from line. May be left in line to monitor standing wave ratio and RF power while line is in use. Line lmpedance 52 to 72 ohms; power range from 10 to 500 watts, reflection coefficient less than 1 db .; directivlty more than 20 db .; power loss less than 0.3 db . With Amphenol connectors.

Cat. No. 32-651 Coupler \& Indicator, 52 ohms. Net $\cdot \dot{3}-652^{\circ}$ Cat. No. 32-652 Coupler \& Indicator tor 72 ohms. Net
$\$ 37.45$ Cat. No. 32-653 Coupler for either of above.
Net

## NEUTRALIZING TOOLS - TEST PRODS


(A) ICA Kit "994"

14 tools telescone to form 6 more tools for alignment of almost all types of recelvers. With leatherette, compartmented case. Tools include: fiexible shaft screwdriver, alignment tool. alligator side wrench, $f^{\prime \prime}$ Insulated square nut wrench, $2^{\prime \prime}$ hex nut side wrench, $6^{\prime \prime}$ insulated driver with metal nlb, $\frac{5^{\prime \prime}}{16}$ and $\frac{1}{4}$ " nut wrench, $\frac{1}{6}$ " hex slotted insulated wrench driver, "fis" hex insulated nut wrench, $5^{\prime \prime}$ and $6^{\prime \prime}$ insulated drlver. Cat. No. 32-842 Net Price
\$4.41

## ICA Kit "998"

"Twelve-In-4" telescoping tools include: $\frac{1}{4}$ " hex nut wrenches, $\frac{3}{16^{\prime \prime}}$ and $\frac{5^{\prime \prime}}{18^{\prime \prime}}$ nut wrenches, $2^{\prime \prime} \frac{1}{}^{\prime \prime}, 5^{\prime \prime}$, $6^{\prime \prime}$ screwdrivers, allgator side wrench, etc. Supplied with case
Cat. No. 32-843 Net Price
\$3.82

## (B) Alignment \& Neutralixing Tools

## ICA Kit 995

Kit includes all the tools needed for allgning any type of set. 21 tools with roll case: flexible-shaft screwdriver, $4-\ln -1$ allgnment tool, $5-\ln -1$ allgnment tool, tuning wand, test leads, balanelng tool adjustable tool for $\frac{1^{\prime \prime}}{2^{\prime \prime}}$ hex nuts, $\frac{1}{\prime \prime}^{\prime \prime}$ hex wrench, wrench tool for $\frac{5}{16} \pi^{\prime \prime}$ and $\frac{1}{4}$ " hex nuts, fork-type neutralizing wrench and serewdrlver. narrowshaft alignment tool, bone-fibre screwdrivers allgnment tool for "." nuts. Cat. No. 32-341 Net Prioc
\$11.76
(C) 5-in-1 Alignment Tool "1022"

5 tools telescope into one "fountain pen." slze unit.
Cat. No, 32-844 Net Price
79c
(D) 4-in-1 Alignment Tool "1019" A handy pocket-size unit with fenoline bandle. Cat. No. 32-845 Net Price 50 c

## (E) Amphenol Polystyrene HF Neutralizer

Has no capacity effect when allgning critical circuits. An essentlal for high frequency circuit adjustments.
Cat. No. $3<-878$ Net Each
15c

## (F) Non-Metallic Adjustable Tool

Neutrallzing tool cf rugged plastic construction has screwdriver at one end, $\frac{1}{6}$ " bex socket at other end.
Cat. No. 32-846 Adjustable from $6^{\prime \prime}$ to $10^{\prime \prime}$. Net Price

44 c
Cat. No. 32-847 Adjustable frcm $12^{\prime \prime}$ to $16^{\prime \prime}$
Net Price . . . . 59c
Non-Metallic Aligning Screwdriver
For adjustment of trimmer capacitors in RF circuits. Barrel diam. ${ }^{3 / 6} 6^{\prime \prime}, 6^{\prime \prime}$ long overall.
Cat. No. 32-848 Net Each

## Bakelite Dual-end Screwdriver

Barrel of Bakelite f" dlam., $7^{\prime \prime}$ long overall.
Cat. No. 32-849 Net Each

## (G) Metal-Collar Neutralizer

Metal collars make this tool a long lasting part of any hardworking tool klt. $\frac{1}{2}$ " and $\frac{f^{\prime \prime}}{26}$ hex nut sockets.
Cat. No. 32-850 Net Each

(H) Philco Alignment Tool

Special book on one end for neutrallzing air trimmer condensers on Phlleo sets.
Cat. No. 32-851 Net Each
35c
(1) Test Lead Phone Tips

Solderless connection; knurled coliar tightens after wire is inserted thru barrel. Insulated sleeve. Fits all standard tip jucks. $17_{8}^{\prime \prime}$ overall. Cat. No. 32-836 Red Net Each Cat. No. 32-837 Black 10c
(J) Phono Needle Test Prods

Chuck takes standard phonograph needles, tighten with nut. Solderless eonnectlons. Cat. No. 32-834 Red Cat. No. 32-835 Black

Net En.
(K) Combination Clip-Wrench Tool

TYpe 5012 - Alligator clip at one end of bone fibre barrel, $\frac{1^{\prime \prime}}{}$ hex nut socket at other end. Cat. No. 32-852 Net Each

## (L) Tuning Wand

Type 5002 - With brass end and iron core end to increase or decrease coll inductance as desired when adjusting colls.
Cat. No. 32-853 Net Each

## TEST SETS <br> 


(H) Mini-volt Neon Clow Voltmeter A rugged, simple meter of good accuracy, virtually burnout proof, for use by servicemen, electricians, laboratories. Callbrated for 65 to 06 volts AC; may be used on DC. G-E neon lamp guaranteed for 10,000 hours of operation. Complete with $12^{\prime \prime}$ flexible leads, test prods; lightwelght, compact bakelite case takes rugged handling
Cat. No. 32-771 Net Price

## (A) Heavy-Duty Test Leads \& Prods

With replaceable phonograph needle points that penetrate the insulation of wirt; extra-flexible red and black rubber-covered "kinkless" leads $48^{\prime \prime}$ long; $6^{\prime \prime}$ fenoline handles. With Insulated phone tip terminals. ICA Type 400
Cat. No. 32-826 Net Per Palr 82c Cat. No. 32-827 With Alligator clip terminals. ICA 388. Net Per Pair

82c
Cat. No. 32-828 with noninsulated clip terminals. ICA 312. Net Per Pair

82c

## (B) Unbreakable Test

 LeadsHandles are brass, cadmium plated, covered with live rubber; 4 ft "kInkless" leads, rubber-covered. Polnted phone tip prods, phone tlp terminals.
Cat. No. 32-831 ICA 332. NonInsulated phone tips.
Per Pr. Net Price Cat. No. 32-832 ICA 331. Insulated phone tips.
Per Pr. Not Price

## (C) ICA Test Prod Kit

 A universal test kit; insulated fittings are provided for every type of testing. One pair of test leads 4 ft. long. One end has insulated phone tip prods and the other end Insulated, removable, banana-ty pe plugs Extra flttings, spadelugs, phone tip, and alligator clip terminals are interchangeable with banana plugs.Cat. No. 32-829 ICA 312.
Net Price
$\$ 1.47$
(D) Finger-Grip Test Leads Molded, finger-grip insulated phone tlps at ends of fiexihle "kinkless" leads 4 ft long; sharp pointed prods screw into $5^{\prime \prime}$ bandles of red and black fenoline; all connections well soldered.
Cat. No. 32-830 ICA 373.
Net Price
$\$ 1.03$
(E) Thin-Shaft Test Leads

Long thin shaft lets prod reach into crowded spaces without touching off a short. A new ICA set. Handles are Tenite, black and red; 4 ft . wirs leads. Molded finger-grip phone tip plugs.
Cat. No. 32-833 ICA 438
68c

## (F) Reiner 15,000 V. Heavy Duty Test Leads

For use on high tension circuits. Combination triple barrier long path leakage guard and thumb rests with $6^{\prime \prime}$ red and black prods. Leads $45^{\prime \prime}$ long. Cat. No. 32-885 Net Price
$\$ 2.91$
(C) General Cement Ne-O-Lite

Tests for live lines, polarity. blown fuses, defective spark plugs and cables; indleates DC, AC , or RF and voltage up to 500 volts; shortproof leads and tips; handy pocket-cilp.
Cat. No. 32-880 Net Each

## (1) ICA Safe-T-Tester

Insulated for 10,000 volts for testing blgh-voltage equipment, this safety prod permits the energlaing circult to be completed only when the bandle Is pushed to make positive contact. Eliminates accidental shorts which can cause drastic dumage. Fits standard test equipment. With 4 ft . leads. Cat. No. 32-840 ICA 446 . Net Price 88c

A complete assortment of Mueller spring and alligator clips for test and service work is listed on page 17 of this catalog.


## AUDIO AND POWER REPLACEMENT COMPONENTS


（A）Filter and Audio Chokes

| Cat． | Type |  |  |  | Dimensions，In． |  | Net |
| :--- | :---: | ---: | :---: | :---: | :---: | :---: | :---: |
| No． | No． | Hys． | Ohms | Current | W | D | H． |
| Price |  |  |  |  |  |  |  |

（B）Shielded Universal Mounting Audio Transformers

| Cat．No． | Type No． |
| :--- | :---: |
| 13－205 | $\mathrm{R}-23$ |
| $13-206$ | $\mathrm{R}-24$ |
| $13-207$ | $\mathrm{R}-25$ |
| $13-208$ | $\mathrm{R}-26$ |
|  |  |
| $13-209$ | $\mathrm{R}-27$ |
| $13-210$ | $\mathrm{R}-28$ |
| $13-211$ | $\mathrm{R}-29$ |
| $13-212$ | $\mathrm{R}-30$ |
| $13-213$ | $\mathrm{R}-31$ |
| $13-214$ | $\mathrm{R}-32$ |
| ＊Will match tubes like 27,37, |  |

1 plate＊to 1 grid
1 plate＊to 2 grids
2 plates＊to 2 grids
Driver． 1 plate to 2 grids

15 watt Universal Output
35 watt Universal Output
Mike to grid
Fllter choke
Filter choke
Filter choke

| 3）：1 ratio Description |  |
| :---: | :---: |
| $2: 1$ ratlo | 2.5 |
| 1．5：1 stepup for Class A triodes | 2.6 |
| 1．5：1 stepdown for Class AB |  |
| Single 42，2A5，6F6，45， 46 to AB | 2.65 |
| 6L6＇є，42＇в，2A5＇s，6F6＇s |  |
| All tubes to any voice coil from ． 1 to 30 ohms | 2.4 |
| All tubes to any volce coll from .1 to 30 ohms | 3.4 |
| Single or double button mike or line to 1 grid | 2.5 |
| 13 Hys－ $250 \mathrm{MA}-100 \mathrm{ohms}$ | 6.47 |
| 10 Hys－ $80 \mathrm{MA}-250$ ohms | 2.0 |
| 10 Hys $-150 \mathrm{MA}-100$ ohms | 2.9 |

（A）Channel－Frame Audio Transformers

| Cat．No． | Type | Appllcation | Description | W D H | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 13－215 | R－33 | 1 plate＊to 1 grid | 4：1 rato | $2 \% \times 18 \times 1 \frac{17}{18}$ | \＄1．70 |
| 13－216 | R－34 | 1 plate＊to 2 grids | 2：1 ratio | $2 \frac{5}{8} \times 1 \frac{1}{18} 18$ | 1.76 |
| 13－217 | R－35 | Mike to 1 grid | 17：1 ratio | $27 \times 1 \times 1 \frac{11}{18}$ | 2.18 |
| 13－218 | 12－90 | Intercomm．speaker to grld | 4 ohm to 40,000 ohm grid | $2 \frac{1}{2} \times 1 \frac{13}{1 / 8}$ | 1.76 |
| 13－219 | R－53 | Plate and mike to grid | $3: 1$ and $17: 1$ ratio | $2 \frac{8}{6} \times 11 \times 1 \frac{11}{16}$ | 2.18 |
| 13－220 | R－56 | 1 plate to 2 grids | 2：1 ratio | $3 \frac{5}{16} \times 1 \frac{1}{1} \times 2$ | 2.18 |
| 13－221 | R－57 | 1 plate to 2 grids | 21：1 ratio | $4{ }^{1} \times 2 \times 2{ }^{\frac{5}{5}}$ | 3.41 |
| 13－222 | R－36 | Driver | 30，49，etc．to Class B 10，49，79， 89 grids | $2{ }^{\frac{7}{8}} \times 1 \frac{3}{8} \times 1 \frac{1}{16}$ | 2.18 |
| 13－223 | R－37 | Output | Class B 19，49， 79,89 plates to 3500 and 5,000 ohras | $27 \times 18 \times 1 \frac{17}{18}$ | 2.29 |
| 13－224 | R－58 | 5－watt Universal output | Any single tube to any voice coll， 11 to 30 ohms | $2 \frac{1}{3} \times 1 \frac{1}{4} \times 1 \frac{3}{4}$ | 1.76 |
| 13－225 | R－38A | 6－watt Universal | Any tubes up to 6 watts to any volce coll， 1 to 30 ohms | $2 \frac{1}{2} \times 1 \frac{1}{8} \times 1 \frac{1}{1}$ | 1.76 |
| 13－226 | R－59 | 10－watt Universal | Any tubes up to 10 watts to any voice coll，． 1 to 30 ohms | $2 \frac{1}{8} \times 1 \frac{1}{181} 11$ | 2.06 |
| 13－227 | R－60 | 15－watt Universal | Any tubes up to 15 watts to any volce coll， 11 to 30 ohms | $3 \frac{5}{18} \times 1 \frac{1}{3} \times 2$ | 2.18 |
| 13－228 | R－39 | 10－watt lne Matchlng Transtormer | $250,500,1,500 \mathrm{ohms}$ to $2,8,15 \mathrm{ohms}$ | $2{ }^{\frac{1}{6}} \times 1 \frac{13}{\frac{1}{2}} \times 1 \frac{14}{16}$ | 2.24 |
| 13－229 | R－40 | 25－watt line Matchlog Transformer | $250,500,1,500$ ohms to 2，8， 15 ohms | $41 \times 24 \times 2 \frac{5}{8}$ | 3.23 |


| Cat． | Type | （C）Vertical Shielded Power Transformers |  |  |  |  | Dimenslons |  | （A）Channel－Frame Filament |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | High | DC | Rect． | Fil． 1 | Fill 2 |  |  |  |  | Fils |  |  |
| No． | No， | Voltage | MA． | lil． | C．T． | C．T． | W D H | Net | $\begin{aligned} & \text { Cat. No. } \\ & \text { 13-197 } \end{aligned}$ | Type FT－1 | Volts <br> 2.5 CT | Amps | $\begin{gathered} \text { Net } \\ \$ 1.59 \end{gathered}$ |
| 13－183 | －11 | 350－0－350 | 75 | A | 3A or $2.5 \mathrm{~V}-3 \mathrm{~A}$ | $2.5 \mathrm{~V}-8 \mathrm{~A}$ | $3 \times 34 \times 3 \frac{1}{2}$ | \＄5．59 | 13－198 | FT－2 | 6.3 CT | 1.2 | 1.59 |
| 13－183 | 11 | 350－0－350 |  |  | SA $2.5 \mathrm{~V}-3 \mathrm{~A}$ | 2．5V－8A | $3 \times 34 \times 3 \frac{1}{2}$ | \＄5．59 | 13－199 | FT－3 | 2.5 CT | 6 | 1.76 |
| 13－184 | 12－12 | 375－0－375 | 100 | 5V－3A | 6．3V－4A or $2.5 \mathrm{~V}-4 \mathrm{~A}$ | 6．3V－2A or | $3 \frac{1}{4} \times 3$ 咱 $\times 4$ | 6.35 | 13－200 | FT－4 | 6．3 CT | 2.5 | 1.91 |
|  |  |  |  |  |  | $2.5 \mathrm{~V}-8 \mathrm{~A}$ |  |  | 13－201 | FT－5 | 2.5 CT | 10 | 1.91 |
| 13－185 | R－13 | 425－0－425 | 200 | 5V－3A | $6.3 \mathrm{~V}-5 \mathrm{~A}$ or $2.5 \mathrm{~V}-5 \mathrm{~A}$ | 6．3V－3A or |  | 9.11 | 13－202 | FT－6 | 5 CT | 3 | 1.91 |
|  |  |  |  |  |  | $2.5 \mathrm{~V}-12 \mathrm{~A}$ |  |  | 13－203 | FT－7 | 7．5 CT | 3 | 1.91 |
| 13－186 | R－54 | 300－0－300 | 50 | 5V－2A | $6.3 \mathrm{~V}-2 \mathrm{~A}$ or $2.5 \mathrm{~V}-5 \mathrm{~A}$ |  | $2 \frac{1}{3} \times 2 \frac{1}{2} \times 3 \frac{1}{4}$ | 3.88 | 13－204 | FT－8 | 6．3 CT | 6 | 3.53 |



（E）Varitap Flush－Type Power Tranisformer

| Cat． | Type | High | DC | Rect． | Fil． 1 | Fil． 2 | Dimensions | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | No． | Voltage | MA． | Fll． | C．T． | C．T． | W D H | Ea． |
| 13－178 | R－6 | 300－0－300 | 50 | 5V－2A | $6.3 \mathrm{~V}-2 \mathrm{~A}$ or $2.5 \mathrm{~V}-5 \mathrm{~A}$ |  | $3 \times 2 \frac{1}{2} \times 3$ | \＄3．53 |
| 13－179 | R－7 | 350－0－350 | 75 | $5 \mathrm{~V}-3 \mathrm{~A}$ | $6.3 \mathrm{~V}-3 \mathrm{~A}$ or $2.5 \mathrm{~V}-3 \mathrm{~A}$ | $2.5 \mathrm{~V}-8 \mathrm{~A}$ | $8{ }^{3} \times 2 \frac{7}{1} \times 34$ | 4.59 |
| 13－180 | R－8 | 375－0－375 | 100 | $5 \mathrm{~V}-3 \mathrm{~A}$ | $6.3 \mathrm{~V}-4 \mathrm{~A}$ or $2.5 \mathrm{~V}-4 \mathrm{~A}$ | $2.5 \mathrm{~V}-10 \mathrm{~A}$ | 3年×3娄 $\times 3$ 年 | 5.59 |
| 13－181 | R－9 | 400－0－400 | 125 | 5V－3A | $6.3 \mathrm{~V}-4 \mathrm{~A}$ or $2.5 \mathrm{~V}-4 \mathrm{~A}$ | $\begin{aligned} & 6.3 \mathrm{~V}-2 \mathrm{~A} \text { or } \\ & 2.5 \mathrm{~V}-10 \mathrm{~A} \end{aligned}$ | $4 \frac{1}{2} \times 3 \frac{3}{4} \times 4$ | 6.47 |
| 13－182 | $\begin{aligned} & \mathbf{R}-10 \\ & \text { Prima } \end{aligned}$ | $\begin{array}{r} 425-0-425 \\ y 50-60 \text { cyc } \end{array}$ | 200 | 5V－3A | $6.3 \mathrm{~V}-5 \mathrm{~A}$ or $5 \mathrm{~V}-5 \mathrm{~A}$ | $\begin{aligned} & 6.3 \mathrm{~V}-3 \mathrm{~A} \text { or } \\ & 2.5 \mathrm{~V}-12 \mathrm{~A} \end{aligned}$ | 41183娄×隀 | 8.23 |

（F）Export Voltage Adapter
Complete with cord and plug and special locking switch providing for line voltages of 105 to 250 volts； 42 to 60 cycles．Output voltage 115 ． $\begin{array}{lccr}\text { Cat．No．} & \text { Type } & \text { Rating } & \text { Net } \\ 13-242 & \text { R－47 } & \text { 85 watts } & \$ 5.88 \\ 13-243 & R-48 & 150 \text { watts } & 7.94\end{array}$

UTC TV transformers are listed on page 41 of this catalog．

## Step－Down Auto－Transformers

With b－foot cord and female receptacle 220－240 to $110-120$ volts $-50 / 60$ cycles．

| Cat．No． | Type | Applicatlon | Net |
| :---: | :---: | :---: | :---: |
| 13－230 | R－41 | 85－watt capacity | \＄4．41 |
| 13－231 | R－42 | 125－watt capacity | 5.00 |
| 13－232 | R－43 | 175－watt capacity | 5.59 |
| 13－233 | R－44 | 250－watt capacity | 7.35 |
| 13－234 | R－45 | 500－watt capacity | 11.76 |
| 13－235 | R－46 | 1200－watt capacity | 20.58 |
| 13－236 | R－64 | 2500 watts，no cord | 41.16 |

（G）Isolation Transformers
For lsolating line nolse，AC－DC＇sets，etc．Elec－ trostatic shielding； 2000 －volt breakdown，test． Six－foot cord；female receptacle．Primary 110－ 120 volts $50 / 60$ cycles－Secondary 110－120 volts
Cat．No．Type Rating Ne

| 13－237 | R－73 | 100 watts | $\$ 7.64$ |
| :--- | :--- | :--- | :--- |
| 13－238 | R－74 | 250 watts | $\mathbf{1 4 . 1 1}$ |


| 3－238 | R－74 | 250 watts | 11 |
| :---: | :---: | :---: | :---: |
| 3－239 | R－75 | 600 watts | 20.58 |

#  

Low-Impedence to Grid Transformers Series LS
Mtg. type LS-1 except $\ddagger$ is Ls-2.

| C8 |  | Imp. | Secondary | Shlelding and |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | Type | Ohms | Imp. Ohms | Hum Reduction | Net |
| 13-001 | 10 | $\begin{aligned} & 50,125,200 \\ & 250,333,500 \end{aligned}$ | 69,000, 2 sect. | Dual alloy shield-74DB | \$14.70 |
| 13-002 | 10X | $\begin{aligned} & 50,125,200, \\ & 250,333,500 \end{aligned}$ | 50,000 | Quadruple alloy shield-92DB | 18.92 |
| 13-003 | 12 | $\begin{aligned} & 50,125,200, \\ & 250,333,500 \end{aligned}$ | 120,000, 2 sect. | Dual alloy shield-74DB | 16.46 |
| 13-004 | LS-12X | $\begin{aligned} & 50,125,200, \\ & 250,333,500 \end{aligned}$ | 80,000, 2 sect. | Quadruple alloy shield-92DB | 20.58 |
| 13-005 | 14 | $\begin{aligned} & 2.5,5.5,10, \\ & 15,22,30,60 \end{aligned}$ | 60,000, 2 sect. | Dual alloy sheld-74DB | 16.48 |
| 13-006 | 14X | $\begin{gathered} 2.5,5.5,10 \\ 15,22,30,60 \end{gathered}$ | 60,000, 2 sect. | Quadruple alloy shield-92DB | 20.58 |
| 13-007 | 15X* | 30, 50, 200, 250 ohms each primary | 60,000, 2 sect. | Quadruple alloy shield-92DB | 20.58 |
| 13-008 | $18 \dagger$ | $\begin{aligned} & 50,125,200, \\ & 250,333,500 \end{aligned}$ | 50,000, 2 sect. | Alloy casting $-50 \mathrm{DB}$ | 18.82 |
| 13-009 | 26 | 5,000 ohms | 60,000, 2 sect. | Dual alloy <br> shield-74DB | 14.70 |

* Three isolated lines or pads to one or two grids. $\dagger$ High level multiple line to PP grids.

| Interstage Audio Transformers |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. | Type | Imp. | Secondary | Shielding |  |
| No. | LS | Ohms | Imp. Ohms | Hum Reduction |  |
| 13-010 | 19** | 15,000 ohms | $95,000 ; 1.25:$ <br> 1 ea. slde | Dual alloy shleld-50DB | \$14.11 |
| 13-011 | 20* | 50-500 | 60,000 2:1 | Dual alloy | 12.35 |
| 13-012 | 21** | $8,000-15,000$ $50-500$ | 13 | shield-74DB | 4.11 |
|  |  | 8,000-15,000 | 1.5:1 | shield-74DB |  |
| 13-013 $\ddagger$ | $22 \dagger$ | 8,000-15,000 | 38,000 ohms sec. turn ratio | Alloy casting $-74 \mathrm{DB}$ | 18.23 |
| 13-014 | $25 \dagger$ | 30,000 ohms plate to plate | $\begin{aligned} & 1.6: 18 \\ & 50,000 ; 1.3: 1 \\ & \text { overall } \end{aligned}$ | Dual alloy <br> shield-74DB | 16.46 |
| 13-015 | $26 \dagger \dagger$ | 5,000 ohms | 60,000; 2 sect. | Dual alloy shield-74DB | 14.70 |
| 13-016 | 40** | 8,000 to 15,000 ohms also for bridging 50/ 500 ohm line | $\begin{aligned} & 135,000 \text {; ratio } \\ & 1.5: 1 \text { ea. slde } \end{aligned}$ | Dual alloy shifeld-74DB | 14.11 |
| * Single plate to single grid. ** Single plate to P.P. grids. \& Primary and secondary each in two sections. |  |  | $\dagger$ P.P. Plates to P.P. grid. <br> t† Single plate or line to one or two grids. |  |  |


| Mixing Transformers |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Mounting Type Ls-1. |  |  |  |  |  |
| Cat. | Type | Imp. | Secondary | Shlelding and |  |
| No. | LS | Ohms | Imp. Ohms | Hum Reduction | Net |
| 13-017 | 30 | $\begin{aligned} & 50,125,200 \\ & 250,333,500- \end{aligned}$ | $\begin{aligned} & 50,125,200, \\ & 250,333,500- \end{aligned}$ | Dual alloy shield-74DB | \$14.70 |
|  |  | 600 | 600 |  |  |
| 13-018 | 30X | $\begin{aligned} & 50,125,200, \\ & 250,333,500- \end{aligned}$ | $\begin{aligned} & 50,125,200, \\ & 250,333,500- \end{aligned}$ | Quadruple alloy shleld-92DB | 18.82 |
|  |  | 600 |  |  |  |
| 13-019 | 31X* | $\begin{aligned} & 30,50,200, \\ & 250 \text { ea. pri. } \end{aligned}$ | $\begin{aligned} & 50,125,200 \\ & 250,333,500 / \end{aligned}$ | Quadruple alloy shield-92DB | 20.58 |
| 13-020 | 31* | 30, 50, 200, | 600 $50,125,200$, | Dual alloy | 16.80 |
|  |  | 500 ea. pri. | 250, 333, 500 | shteld-74DB |  |
| 13-021 | 31 X | $30,50,200 \text {, }$ | $50,125,200 \text {, }$ | Quadruple alloy shield-92DB | 14.70 |

* Three lsolated lines or pads to multiple lines.


## Plate, Crystal, Photocell, and Bridging to Line Transformers

Mounting Type Ls-1.
Cat.

| Cat. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Application | Pri. Imp. | Sec. Imp. | Net |
| 13-022 | 50 | Single plate to 8, | 8,000/15,000 | 50, 125, 200, | \$14.11 |
|  |  | multiple line |  | 250, 333, 500-60 |  |
| 13-023 | 51 | Push pulliow 8, | 8,000/15,000 | 50, 125, | 14.11 |
|  |  | level plates to ea | each side | 200,250, 333, |  |
|  | 37 | multiple line | 100,000 | 500-600 | 14.70 |
| 13-024 |  | Crystal microphone or plckup |  | $\begin{aligned} & 50,125, \\ & 200,250, \end{aligned}$ |  |
|  |  | to multiple line |  | 333, 500-600 |  |
| 13-025 | 38 | Crystal micro- | 100,000 | 50, 125 | 18.82 |
|  |  | phone or pick- |  | 200, 250, 333, |  |
|  |  | up to multiple |  | 500-600 |  |
|  |  | line, with ex- |  |  |  |
|  |  | ternal equalizer |  |  |  |
| 13-026 | 150 | Bridging transformer from 50 | bridging | $\begin{aligned} & 50,125,200 \\ & 250,333, \end{aligned}$ | 14.70 |
|  |  | to 500 ohm |  | $\begin{aligned} & 250,333, \\ & 500-600 \end{aligned}$ |  |
|  |  | line to multiple |  |  |  |
|  |  | line |  |  | 14.70 |
| 13-027 | 151 | Bridging trans- | 16,000 | 50, 125, 200 |  |
|  |  | former from 50 | briolging | 250, 333. |  |
|  |  | to 500 ohm line |  | 500-800 |  |
|  |  | to multiple il |  |  |  |



| Hybrid and Repeat Coils |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Mounting type Ls-1 |  |  | Pri, and | Hum |  |
| $\begin{aligned} & \text { Cat.No. } \\ & \text { 13-028 } \end{aligned}$ | $\begin{gathered} \text { Type } \\ 140 \end{gathered}$ | Application | Sec. Imps. | Reduction | Net |
|  |  | Line to line | $500 / 600 \mathrm{ohms}$ | Quad. alloy | \$20.58 |
|  |  | for isolating | $500 / 600$ ohms | shleld-92DB |  |
|  |  | balanced and | both split |  |  |
|  |  | unbalanced cir- |  |  |  |
|  |  | for maximum re- |  |  |  |
|  |  | duction cross |  |  |  |
|  |  | talk (70DB) |  |  |  |
| 13-029 | 141 | 3 sets balanced | 500/600 ohms | Dualalloy | 1646 |
|  |  | windings for | 500/600 ohms | shteld-74DB |  |
|  |  | hybrid service; |  |  |  |
|  | 142 | centertapped |  |  | 20.58 |
| 13-030 |  | Line to line and to push pull | $\begin{aligned} & 500 / 600 \text { ohms } \\ & 500 / 600 \text { ohms } \end{aligned}$ | Dual alloy shield-74DB | 20.58 |
|  |  | grids for hybrid |  |  |  |

## Driver Transformers



| Output |  | Transformers | to Line and Primary | Voice Coil |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. | Type | Type |  | Secondary |  |
| No.13-034* | LS | Tubes | Imp. Ohms | Imp. Ohms | $\begin{gathered} \text { Net } \\ \$ 16.46 \end{gathered}$ |
|  | 52 | Push-pull 245, | 8,000 ohms | 500, 333, 250 , 200, 125, 50, $30,20,15,10$,$7.5,5,2.5,1.2$ |  |
|  |  | 250, 6V6, 42 or |  |  |  |
|  |  | 2 A 5 A prime |  |  |  |
|  |  |  |  |  |  |
| 13-035* | 54 | Same as above | 8,000 ohms | $\begin{aligned} & 30,20,15,10 \\ & 7.5,5,2.5,1.2 \end{aligned}$ | 11.76 |
|  |  |  |  |  |  |
| 13-036* | 55 | Push-pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's | 5,000 ohms pl. to pl. and 3,000 ohms plate | 500,333,250, $200,125,50$, 30. 20, 15, 10 , 7.5, 5, 2.5, 1.2 | 16.46 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  | to plate <br> 8,000 ohms pl. to pl. and 3,000 ohms plate |  | 11.76 |
| 13-037* | 57 | Same as above |  | $\begin{aligned} & 30,20,15,10, \\ & 7.5,5,2,5,1.2 \end{aligned}$ |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 13-038 $\dagger$ | 58 | Push-pullparallel 2A3's, 6A5G's, 300A's, 6A3's | 2,500 ohms pl. to pl. and 1.500 ohms pl. to pl. | $\begin{aligned} & 500,333,250, \\ & 200,125,50, \\ & 30,20,15,10, \\ & 7.5,5,25,1.2 \end{aligned}$ | 29.40 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 13-039* | 61 | Push-pull | 10,000 ohms | 500, 333, 250, | 16.46 |
|  |  | 6B5, 6A6, 53, |  | $200,125,50$ |  |
|  |  | $6 \mathrm{~F} 6,71 \mathrm{~A}, 59 \text {, }$ | and 6,000 | $30,20,15,10$ |  |
|  |  | 79, 89, Class | ohms plate | $7.5,5,2.5,1.2$ |  |
|  |  | B 46's, 59 's | to plate |  |  |
| 13-040 $\ddagger$ | 6L1 | Push-pull | $\begin{aligned} & 6,600 \text { ohms } \\ & \text { pl. to pl. } \end{aligned}$ | 500, 333, 250, | 24.70 |
|  |  | 6L6's self |  | 200, 125, 50, |  |
|  |  | bias; incor- |  | 30, 20, 15, 10, |  |
|  |  | porates tertiary |  | 7.5, 5, 2.5, 1.2 |  |
|  |  | winding for |  |  |  |
|  |  | stabilized feedback |  |  |  |
| 13-041 $\ddagger$ | 6L4 | Push-pull 6L6.s | 3,800 ohms | 500, 333, 250, | 29.40 |
|  |  | fixed blas or PP | pl. to pl. \& | 200, 125,50, |  |
|  |  | parallel 6L6's | 4,500 ohms | 30, 20, 15, 10, |  |
|  |  | self bias | pl. to pl. | $7.5,5,2.5,1.2$ |  |
| * Mounting type |  | LS-2. + Mounting type LS-4 |  | Mounting type LS-3. |  |

## High Level Matching Transformers

| High Level Matching Transformers |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. | Type |  | Primary | Secondary |  |
| No.13-042* | $\begin{gathered} \text { LS } \\ 33 \end{gathered}$ | Applicatlon | Imp. Ohras | Ohms | Net |
|  |  | High-level line | 50, 125, 200 , | 1.2, 2.5, 5, 7.5, | 16.46 |
|  |  | matching | 250, 333, 500 | $10,15,20,30$, |  |
|  |  | 15 watts |  | 50, 125, 200, |  |
| 13-043 $\dagger$ | 34 | High-level line matching 30 watts | $\begin{aligned} & 50.125,200, \\ & 250,333,500 \end{aligned}$ | 1.2, 2.5,5,7.5, | 24.70 |
|  |  |  |  | $\begin{aligned} & 1.2,2.5,5,7.5, \\ & 10,15,20,30 \end{aligned}$ |  |
|  |  |  |  | 50, 125, 200, |  |
|  |  |  |  | 50, 333. 500 |  |
|  |  |  |  |  |  |



G-1, G-2,
G-3, G-4,

G-5, G-7, G-8, G-9, G-10, G-11
G-12
Case Sizes Special Series Audio \& Power Transformers Mtg.Fig. Helght Width Depth Mtg.Fig. Height Width Depth


| Matching Transformers |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. |  |  |  |  |  |  |
| No. 13.11 | Type | Application Tube to line | Pri. Ohms 15,000 | $\begin{gathered} \text { Sec. } \\ 200 / 500 \end{gathered}$ | $\begin{aligned} & \mathrm{Fig} . \\ & \mathrm{G}_{\mathrm{G}-2} \end{aligned}$ | Net |
| 13-112 | S-12 | Line to spkr, 15 w . | $\{500,2000$ | $\{2,4,8$, | G-2 | 4.61 |
| 13-113 | S-13 | Line to spkr, 30 w . | \{4000 | 15 | G-4 | 6.08 |
| Universal Output Transformers |  |  |  |  |  |  |
| Secondary impedance 500, 15, 8, 2 ohms. Watts Flg. Ne |  |  |  |  |  |  |
| Cat.No. | Type | Primary Im | edance | Watts | Flg. | Net |
| 13-114 | S-14 | 2500, 4000, 7000, | 10,000 | 10 | G-2 | \$4.41 |
| 13-115 | 8-15 | P.P. tubes: 4000, | 5000, 10,000 | 12 | G-2 |  |
| 13-116 | S-16 | P.P. 3000, 6000, | 000-10,000 | 30 | G-4 | 4.35 |
| 13-117 | S-1 | P.P. 3800, 4500-5 | 000 | 55 | G-5 | 7.35 |

Plate and Filament Transformers 115 V., 50/60 Cycles Cat. No. 13-138 s-39. H.V.: $490-400-0-400-490$, at 175 ma . Rect. fil,
 Net
Cat. No. 13-139 S-40. H.V.; 525-425-0-425-525, at 250 ma. Rect. fil. Cat. No. 1 Net
Cat. No, 13-140 S-41. H.V.: 600-0-600, at 200 ma. Rect. fll., 5V-3A: fil. No. 1, 7.5 V tapped, $6.3 \mathrm{~V}-3 \mathrm{~A}$; fil, No, 2, 6,3 VCT-2A. Mtg. Fig. G-7. Net
Cat. No. 13-141 S-42. H.V.: 600-525-0-525-600, at 300 ma. Rect. fll., 5V-3A; fl. No. 1, 7.5 V tapped, $6.3 \mathrm{~V}-3 \mathrm{~A}$; f1. No. 2, 6.3VCT-3A. Mtg. Flg. G-8. Net
Cat. No. 13-142 S-43. H.V.: $525-0-525$, at 450 ma . - and $40-0-40$ at 200 ma. Rect. Fil., $5 \mathrm{~V}-3 \mathrm{~A}$ and $5 \mathrm{~V}-6 \mathrm{~A}$; fil. No. $1,6.3 \mathrm{VCT}-2 \mathrm{~A}$; fil. No. 2 6.3 VCT-5A. Mtg. Fig. G-9. Net

## Plate Transformers 115 VAC

| Cat. <br> No. | Type |  | AC High Volta |  | DC Ma | Mtg Fig. | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13-143 | S-44 | 575-525-0 | -525-575 |  | 500 | G | 19 |
| 13-144 | S-45 | 900-750-0 | -750-900 |  | 200 | G-8 | 11.76 |
| 13-145 | S-46 | 1000-750- | -750-1000 |  | 300 | G-9 | 14.70 |
| 13-146 | S-47 | 1500-1250 | -1000-0-1000-1 | 250-1500 | 300 | G-10 | 18.62 |
| 13-147 | S-48 | Same as | bove |  | 500 | G-11 | 27.44 |
| 13-148 | S-49 | 2100-1800 | -1500-0-1500-1 | 800-2100 | 300 | C-12 | 25.97 |
| 13-149 | S-50 | 3000-2500 | -0-2500-3000 |  | 300 | G-12 | 36.26 |
| 13-150 | S-51 | Віаs, 15 | - $100 \mathrm{~V} . \pm 6 \%$ |  | 200 | G-5 |  |
| 13-151 | S-52 | Bias, 75 t | - 400V. $\pm 6 \%$ |  | 200 | G-7 | 11.76 |
| 13-152 | S-74 | 1175-500 | -0-500-1175 |  | 150 150 | G-10 | 16.17 |
| Combined Plate and Filament Transformer |  |  |  |  |  |  |  |
| Cat. | Type |  | 1 ri. V | High |  | ment |  |
| 13-044* | LS A | plication | 50-60 Cycles | Voltage |  | ding |  |
|  | 70 Hamser | mph-power | 100, 105, 110, | 425-375-0- |  | CT 3 | $19.99$ |
|  |  |  | 115, 120, 125 | 375-425 | 5 | CT 2 |  |
|  |  | ervice |  | 200 MA , | 2.5 | CT 1 |  |
|  |  |  |  | 70-0-70 | 6.3 | CT 1 |  |
|  | * Mounting type Ls-3. |  |  | 50 MA | 6.3 V | CT 3 |  |

2-Section Filter Choke

| Cat, |  | Application |  |  | Mtg. |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| No. | Type | Inductance | DC | Fig. | Net |  |
| 13-045 | LS-90 | Fiter choke | Series 50 hy. | 50 MA | LS-2 | $\mathbf{\$ 8 . 2 3}$ |
|  |  | with huin | Parallel 12.5 hy. | 100 MA |  |  |

## UTC <br> AUDIO and POWER EQUIPMENT

SPECIAL SERIES

## Filter, Swinging and Audio Chokes

| Cat. | $\dagger$ P.P. Audio C.T |  | § Swingin | 1 | 1 others are | alter types. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Type | Henrys | Ma | Ohms | Insul. | Fig. | Net |
| 13-123 | S-23* | 500 | 5 | 6000 | 1500 v . | G-2 |  |
| 13-124 | S-24 $\dagger$ | 500 | 3 | 4000 | 1500 v . | G-2 | 3.63 |
| 13-125 | S-25 | 30 | 30 | 900 | 1500 v . | G-2 | 3.04 |
| 13-126 | S-26 | 15 | 60 | 230 | 1500 v . | G-2 | 3.04 |
| 13-127 | S-27 | 30 | 75 | 350 | 1500 v . | G-4 | 3.72 |
| 13-128 | S-28 | 20 | 100 | 350 | 1500 v . | G-4 |  |
| 13-129 | S-29 | 10 | 175 | 95 | 1500 v . | G-4 | 3.72 |
| 13-130 | S-308 | $5 / 25$ | 175 | 95 | 1500 v . | G-4 | 3.72 |
| 13-131 | S-31 | 20 | 225 | 120 | 2700 v . | G-5 | 4.90 |
| 13-132 | S-328 | 5/25 | 225 | 120 | 2700 v . | G-5 | 4.90 |
| 13-133 | 8-348 | 5/25 | 300 | 90 | 4000 v . | G-7 | 6.86 |
| 13-134 | S-35 | 20 | 400 | 85 | 5000 v . | G-8 | 10.29 |
| 13-135 | S-368 | 5/25 | 400 | 85 | 5000 v . | G-8 | 10.29 |
| 13-136 | S-37 | 20 | 550 | 60 | 6000 v. | G-8 | 13.72 |
| 13-137 | S-388 | 5/25 | 550 | 60 | 6000 v . | G-8 | 13.72 |

Single-Secondary Filament Transformers All pri. tapped $105-115$ volts $50 / 60$ cycles.


Multiple-Secondary Filament Transformers
Primary tapped $105-115$ volts, $50 / 60$ cycles. Insulation, 3000 volts, except g-71, 10,000 volts and $\$-72,5000$ volts. In G-5 case except *G-7 case.

|  |  | $\begin{gathered} \text { Fil. } 1 \\ \text { CT } \end{gathered}$ |  | ${ }_{\mathrm{CIT}}{ }^{2}$ |  | $\begin{aligned} & \text { Fil. } 3 \\ & \mathrm{O}^{2} \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type |  | A. | v. | A. | v. | A. |  |
| 13-164 | S-64 | 2.5 |  | 2.5 | 5 |  | 6 | $\$ 5.39$ |
| 13-165 | S-65 | 2.5 | 5 | 5 | 4 | 6.3 | 3 | 5.39 |
| 13-166 | s-66 |  | 10 | 7.5 | 6.5 | - | - | 5.39 |
| 13-167 | S-67 | 5 | 6 | 6.3 | 5 |  |  | 5.39 |
| 13-168 | S-68 | 5 | 3 | 6.3 | 4 | 7.5 | 5 | 5.88 |
| 13-169 | S-69 | 6.3 | 3 | 7.5 | 6.5 | - | - | 5.88 |
| 13-170 | \$-70 | 6.3 | 5 | 6.3 | 5 |  |  | 5.88 |
| 13-171 | S-71* | 2.5 | 6 | 2.5 | 6 | 2.5 | 12 | 9.80 |
| 13-172 S-72 |  | 5 | 3 | 5 | 3 | 5 | 6 | - 6.17 |
|  |  | Universal |  |  | Modulation |  | Transformers |  |
|  |  |  |  | Type | Audio Power |  | Mtg. |  |
|  |  | No. |  |  |  |  | Fig. |  |
|  |  | 13- | 118 | 8-18 |  | tts | G-3 | \$4.90 7.35 |
|  |  | 13 | 119 | S-19 |  | atts | G-4 | 7.35 10.78 |
|  |  | 13 | 121 | S-20 S-21 |  | atts | G-5 | 10.78 15.19 |
|  |  | 13 | 122 | S-22 |  | tts | G-9 | 23.52 |

Type A
Ultra Compact High Fidelity Audios
Maximum level plus 10 DB . Excellent shlelding. Top or bottom mounting; size $1^{\frac{1}{2}}{ }^{\prime \prime} \times 1_{2^{\prime \prime}} \times 2^{\prime \prime}$.

| size 1年" $\times 1 \frac{1}{2}$ |  |  | Sec. Imp. | $\underset{30-20,000}{ \pm 2 \mathrm{db}}$ | $\begin{gathered} \text { Net } \\ \$ 8.82 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| 13-087 A-10 |  | $\begin{aligned} & 50,125,200-2 \\ & 333,500-600 \end{aligned}$ |  |  | $\begin{array}{r} 19.41 \\ 8.82 \end{array}$ |
| 13-088 | A-11* |  |  |  |  |  |  |
| 13-089 | A-12 | $\begin{aligned} & 50,125,200-250, \\ & 333,500-600 \end{aligned}$ | $80,000,2$ sect. | 30-20,000 |  |
|  |  |  |  |  |  |
| 13-090 | A-14 | 30 | $50,000,2$ sect. | 30-20,000 |  |
| 13-091 | A-16 | 15,000 | 60,000 P.P. | 30-20,000 | 8.64 |
| 13-092 | A-18 | 15,000 | 80,000 P.P. | 30-20,000 | 10.58 |
| 13-093 | A-19 | 15,000 | 80,000 P.P. | 50-12,000 | 8.82 |
| 13-094 | A-20 | $\begin{aligned} & 50,125,200-250 . \\ & 333,500-600 \end{aligned}$ | Same as pri. | 30-20,000 |  |
| 13-095 | A-21 | $\begin{aligned} & 50,200-250, \\ & 500-600 \end{aligned}$ | Same as pri. | 50-10,000 |  |
|  |  |  |  | 30-20,000 | 8.82 |
| 13-096 | A-24 | 15,000 | $\begin{aligned} & 50,125,200- \\ & 250,500-600 \end{aligned}$ |  | . 8 |
| 13-097 | A-25 | 15,000 | Same as above | 50-12,000 | 8.23 |
| 13-098 | A-26 | 30,000 P. to P. | Same as abov | 30-20,000 | 8.82 9.00 |
| 13-099 | A-27 | 100,000 | 50, 125, 200/ |  | 9.00 |
|  |  |  | 250,333, | measured with |  |
|  |  |  | 500/600 ohms |  |  |

* Extra shlelding. source

Audio Choke. Type A30. 300 hy . at 2 ma., 6,000 ohms DC, 75 hy . at 4 ma.;

1500 ohms DC, inductance with no DC 450 hy .
Cat. No. 13-100 Net Price .
$\$ 5.88$ buckling tap
the Commercial Guade series are mounted in uniform drawn cases intended for chassis mountIngs. All audlo components are linear, $\pm 1 \frac{1}{2} \mathrm{db}$. from 60 to 8500 cycles. CG power and Varimatch units are deslgned to A.I.E.E. commercial standards and are conservatively rated for continuous duty. The conservative derign and manufacturing procedure make them sultable for virtually all types of commercial, quality amateur, and public address service.

| Filter Chokes |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Inductance shown is at rated DC ma. |  |  |  |  |  |
| Cat. |  | Ind. |  | C Res. |  |
| No. | Type | Hys. | Ma. | Ohms | Net |
| 13-277 | CG-40 | 10 | 200 | 110 | \$5.00 |
| 13-278 | CG-41 | 4-20 | 200 | 110 | 5.00 |
| 13-279 | CG-44 | 30 | 100 | 400 | 5.00 |
| 13-280 | CG-45 | 250 | 15 | 5000 | 5.00 |
| 13-281 | CG-48C | 75 | 50 | 2500 | 5.00 |
| 13-282 | CG-100 | 12 | 150 | 120 | 5.29 |
| 13-283 | CG-102 | 12 | 250 | 105 | 8.23 |
| 13-284 | CG-104 | 10 | 350 | 90 | 12.35 |
| 13-285 | CG-108 | 10 | 500 | 55 | 20.78 |
| 13-286 | CG-19 | 10 | 1000 | 45 | 35.28 |

## Case for Commercial Grade Transformers

| Case. | Base | Mounting |
| :---: | :---: | :---: |
| No. | Dim. ${ }^{\text {(Sq }}$ | Dim. (Sq.) Height |
| RC-50 | $1{ }^{18}$ | $1{ }_{16}^{16}$ |
| RC-62 | $1 \frac{13}{15}$ | $1 \frac{1}{2} 23$ |
| RC-75 | 23 | $1 \frac{13}{18}$ 2 $2 \frac{2}{8}$ |
| RC-87 | $2 \frac{18}{16}$ | $2 \frac{3}{31}$ 年 ${ }^{\frac{1}{4}}$ |
| RC-100 | 3 | $2 \frac{3}{3}$ |
| RC-112 | $3 \frac{3}{16}$ | 211 4 |
| RC-125 | $3 \frac{3}{4}$ | 3 4 4 |
| RC-150 | $4 \frac{1}{2}$ | $3 \frac{8}{5}$ - $5^{\frac{1}{2}}$ |
| RC-152 | 51 | $4 \frac{1}{4}$ 5 |
| $\underline{12 \mathrm{C}-175}$ | $5 \frac{3}{4}$ | $4 \frac{7}{8} \quad 7 \frac{1}{8}$ |
|  |  | Outp |
| Secondary | Impedance | :500, 200, 16, 8, 5 |
| Cat. |  | Imp. P.P. |
| No. | Type | Ohms, Overall |
| 13-322 | CG-15 | 8,000 |
| 13-323 | CG-16 | 3,000/5,000 |
| 13-324 | CG-19 | 6,000/10,000 |
| 13-325 | CG-710 | 14,000/20,000 |
| 13-326 | CG-2L6 | 9,000 |
| 13-327 | CG-4L6 | 3,800/4,500 |



Type RC


Type EC

## Filament Transformers

Primary tapped at 105, $115,220,230$ AC 50/60 cycles


Plate Transformers
Primarles for $105,115,220,230$ volts, $50-60$ cycles. Secondary voltages can be reduced to half by using 220 volts primary on 110 volts.
Cat. No.


Input, Interstage, Mixing and Low Level Output Transformers

Cat
No.

plicatio
Primary Impedance

| Primary Impedance Ohms | Secondary Impedance Ohms |
| :---: | :---: |
| 15,000 | $135.0003: 1$ ratio |
| 15.000 | 135,000 centertapped $3: 1$ ratlo overall |
| $30,000 \mathrm{P}$ to P | 80,000 overall $1.6: 1$ ratio o verall |
| 50, 200, 500 | 80,000 |
| 50, 200, 500 | 120,000 overall |
| 50, 200, 500 | 80,000 overall |
| 15,000.50, 200 | 80.000 overall |
| 30.000 P to P | 25,000 overall $9: 1$ ratio overall |
| $30,000 \mathrm{P}$ to P | 7,500 overall .5:1 ratlo overall |
| 5.000 P to P | 1,250 overall .5:1 ratlo over all |
| 50, 200,500 | 50, 200, 500 |
| 15,000 | 50, 200, 500 |
| 15,000 | 50, 200, 500 |


| Cuse |  |
| :---: | ---: |
| No. | Net |
| RC-50 | $\mathbf{\$ 5 . 5 9}$ |
| RC-62 | $\mathbf{5 . 8 8}$ |
| RC-7. | $\mathbf{7 . 3 5}$ |
| RC-50 | $\mathbf{7 . 3 5}$ |
| RC-50 | $\mathbf{7 . 9 4}$ |
| RC-75 | $\mathbf{1 0 . 2 9}$ |
| RC-62 | $\mathbf{7 . 9 4}$ |
| RC-87 | $\mathbf{6 . 4 7}$ |
|  |  |
| RC-87 | $\mathbf{6 . 4 7}$ |
| RC-100 | $\mathbf{7 . 0 6}$ |
|  |  |
| RC-50 | $\mathbf{5 . 8 8}$ |
| RC-50 | $\mathbf{7 . 0 6}$ |
| RC-50 | $\mathbf{7 . 9 4}$ |

## Varimatch Line to Voice Coil Transformers

Whll match any voice coil or group of voice coils to a 500 -ohm line. More than 50 volce coll combinations can be obtalined; 2 to 75 ohms .

| Cat. | Audio Primary |  |  |  |  |  |  | Secondary | Case |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | W. | Impedance | Impedance | No. | Net |  |  |  |  |
| 13-333 | CVLL- | 15 | 500 ohms | .2 to 75 ohms | RC-87 | $\$ 4.70$ |  |  |  |  |
| $13-334$ | CVL-2 | 40 | 500 ohms | .2 to 75 ohmms | RC-125 | 6.76 |  |  |  |  |
| $\mathbf{1 3 - 3 3 5}$ | CVL-3 | 75 | 500 ohms | .2 to 75 ohms | RC-150 | $\mathbf{1 0 , 2 9}$ |  |  |  |  |

## U T C - VARIMATCH TRANSFORMERS

## Varipower Autoformers

These units are designed to serve three functions, namely, to effect reduced power for transmitter operation, to take care of line voltage variations from 95 to 130 volts, and to permit minor voltage variation from other transformers. Taps are provided at $55,75,05,100,105,110,115,120,125$, and 130 volts. Output voltages from 0 to 130 volts in 5 volt steps can be obtained.

| Cat. No. | Type | Rating | Net |
| :--- | :--- | :--- | :---: |
| 13-298 | VA-1 | 150 watt | $\$ 5.88$ |
| $13-299$ | VA-2 | 250 watt | 9.60 |
| $13-300$ | VA-3 | 500 watt | 10.29 |
| $13-301$ | VA-4 | 1,000 watt | 14.70 |
| 13-302 | VA-5 | 2.000 watt | $\mathbf{2 1 . 1 7}$ |



Varimatch Driver Transformers

| Cat. <br> No. <br> 13-293 | $\begin{gathered} \text { Type } \\ \text { CG-51AX } \end{gathered}$ | From Plates | $\begin{gathered} \text { To } \\ \text { Grids } \end{gathered}$ | Class | $\begin{aligned} & \text { Mtg. } \\ & \text { Fig. } \end{aligned}$ | $\begin{gathered} \text { Net } \\ \$ 6.17 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $* 46, * 6 \mathrm{~L} 6,$ | 46, 59 | B | RC-87 |  |
|  |  | $\begin{aligned} & * 45, * 59, * 2 \mathrm{~A} 3, \\ & * 49 \end{aligned}$ |  |  |  |  |
|  |  | *37, *76, *6C6 | *19, 79 |  |  |  |
|  |  | *6C5 | *19 |  |  |  |
|  |  | *30 |  |  |  |  |
| 13-294 | CG-53AX | *2A5, *42, *45 | 45, 2A5, 42 | AB |  |  |
|  |  | $42,45,50,59$ | 210, 801, RK18 |  |  |  |
|  |  | 2A3 or 6L6 | 35T, 800, 838 | B | RC-112 | 7.35 |
| 13-295 | CG-59AX | 500,200 or 50 | 805, 838,203A | B | RC-112 | 7.35 |
|  |  | ohm line to | 800, RK 18, 801 |  |  |  |
| 13-296 | CG-238AX | P.P. Par, 2A3 | P.P. Par. 805 |  |  |  |
|  |  | 45, 50, 59, 6L6 | 838, 203A | B | RC-150 | 18.92 |
|  |  | 100T, 845 | 250T, HF200 |  |  |  |
| 13-297 | CG-512 | 500,200 or 50 | 250T, HF300 | B | RC-150 | 17.64 |
|  |  | Ohm to | HF200 or 849 |  |  |  |

## (A) Varitran Control Units

Provides continuously variable output voltage, using a sllding contact riding over the turns of an autotransformer; 115-volt input, $0-130$ volts continuously variable output. Complete with cord, plug, and switch. For motor control, heat control, rectifer control, light control, line voltage control.

| Cat. No. | Type | Watts | Amps | Size | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 13-046 | $\mathrm{V}-0$ | 230 | 2.0 | 44" $\times 6 \frac{1}{\prime \prime}^{\prime \prime} \times 43^{\prime \prime}$ | \$11.27 |
| 13-047 | V-1 | 570 | 5.0 | $4{ }^{\prime \prime} \times 8^{\prime \prime} \times 3{ }^{\prime \prime}$ | 17.15 |
| 13-048 | $\mathrm{V}-1-\mathrm{M}$ * | 570 | 5.0 |  | 28.42 |
| 13-049 | V-2 | 570 | 5.0 |  | 14.70 |
| 13-050 | V-3 | 850 | 7.5 |  | 21.56 |
| 13-051 | V-4 | 1250 | 11.0 | 6年" $\times 10{ }^{\frac{3}{4}}$ " $\times 5^{\prime \prime}$ | 31.36 |

## (B) Sub Ouncer Units

For use in hearing alds, vest pocket radios and midget devices. Cat

|  |  | Application |  | Pri. DC |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13-082 | So | Input |  | 0 | 250 | \$3.2 |
| 13-083 | SO-2 | Interstage, 1:3 | 10,000 | 0 | 90 M | 3.29 |
| 084 | 80-3 | Plate to Line | $10 \mathrm{M}, 25 \mathrm{M}$ | 3, 1.5MA | 200, 500 | 3.29 |
| 13-085 | SO-4 | Output | 30,000 | 1 MA | 50 | 3.29 |
| 13-086 | SO |  |  |  |  | 3.00 |

## Varimatch Modulation Units

The Varimatch transformer will not only match PRESENT avallable modulator tubes, but any tube that may be released at a FUTURE date. These transformers will also match the line Impedance output of PA or similar ampliners direct to the Class C tubes.
Cat. Cap.Audio WIll Mtg.
No. Type Watts Modulate Fig. Net 13-287 CVM-0 $\quad 12 \quad 25$ watts RC-100 $\$ 5.00$ 13-288 CVM-1 30 60 watts RC-125 8.23 13-289 CVM-2 $60 \quad 120$ watts RC-150 12.05 13-290 CVM-3 $125 \quad 250$ watts RC-152 17.64 13-291 CVM-4 300 600 watts RC-175 29.40 13-292 CVM-5 $600 \quad 1 \mathrm{KW} \quad$. $\quad 67.62$ The secondaries of all Varimatch transformers are designed to carry the Class C plate current.

## Varimatch Outputs for P.A.

Universal unlts designed to match any tubes within the rated output power to line or voice coll. Output impedance $500,200,50,16,8,5,3,1.5$ ohms. Primary impedance $3000,5000,6000,7000,8000,10,000,14,000$ ohms (except 125 and 300 watt models).

| Cat. Case Audio |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| No. No. | N. |  | Case |  |
| Notal Tubes | No. |  |  |  |

$\begin{array}{lccc}\text { No. } & \text { No. } & \text { W. } & \text { Typleal Tubes } \\ \text { 13-328 } & \text { CVP-1 } & 12 & 42,43,45,47,2 \mathrm{~A} 3,6 \mathrm{~A} 6,6 \mathrm{~F} 6,\end{array}$
$\begin{array}{lllll}13-329 & \text { CVP-2 } & 30 \quad \text { 25L6 } \\ \text { 42, 45, 2A3, 6L6, 6V6, 6B5 }\end{array}$
RC-100 \$5.29 RC-125 7.58 $13-331$ CVP-3 $60 \quad 46^{\prime} \mathrm{B}, 508,300 \mathrm{~A}$ s, 616 's, 801,807 RC-150 11.76 13-332 CVP-5 300 ( 17.05 13-332 CVP-5 300 211, 242A's, 203A's, 838's.
$4-845 ' \mathrm{~s}, \mathrm{ZB}-120$ 's
RC-175 29.40

## Photo Flash Transformers

Can be used tor either standard or trigger multiple flash bulbs.
Cat. No. 13-244 Net Price
\$5.88
PF-1 Primary for 115 volts, $50 / 60$ cycles. Secondaries for power supply dellvering 2200 volts DC to condenser up to 100 mfd ( 30 mfd charges In 4 sec.) G-3 case $2 \frac{1}{8} \times 2 \frac{3}{4} \times 2 \frac{1}{2}$ inches high. Weight 2 lbs. Cat. No. 13-245 Net Price
PF-2 For portable photoflash service. Primary tapped for 4 -volt or 6 volt battery (full wave vibrator). Secondary for power supply delivering 2200 volts DC to condenser up to 60 mfd . ( 30 mfd . charges in 8 sec . with 6 volts or 14 sec . With 4 volts). Compound fealed in G-3 case. Weight 6 volt
2 lbs.
Cat. No. 13-246 Net Price.
$\$ 5.88$
PF-3 Trigger Transformer 15 KV peak.
Cat. No. 13-247 Net Price
\$2.65

(C) Ouncer and Plug-In Audio Units

Ideal for hearing-aid, alrcrait, glider, portable, concealed service and other applications. Overall dimensions $\frac{7}{\frac{1}{8}}$ diam. by $1 \frac{1}{8} "$, Including lugs. Weight about one ounce. Mounting by two acrews on $\frac{y^{\prime \prime}}{\prime \prime}$ centers. Unlis not carrying DC have nat response $40-15,000$ cycles; units with DC in primary (and $0-14$ \& $0-15$ ) are for volce frequencies 150 to 4,000 cycles. Max. level 0 db . 200 -ohm balanced winding may be used for 250 -ohm service.



# THORDARDSON Transformers <br>  <br> AGF <br> If you do not find a listing of the transiormer <br>  

## Thordardson Audio Input Transfromers

For coupling a signal source to the grid or grids of a Class A amplifier tage. * $250-3500 \mathrm{cps} . \quad \dagger 60-7500 \mathrm{cps}$.

| Cat. |  | Turns |  | Mtg . |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. Type | Fig. | Ratio | Application | Ctr | Net |
| 12-001*T20 A00 | BAH | 1:10 | Line or mic. to sgl. or PP grids |  | \$1.89 |
| 12-002†T20A01 | FGV | 1:20 | Line or mic. to sgl. grid. | $23^{\prime \prime}$ | 2.76 |
| 12-003†T20A02 | FGV | 1:20 | Line or mic. to PP grids | 21 | 2.91 |
| 12-004*T20A03 | BAH | $1: 35$ | Sgl. pl. and mic. or line to grid | 2 | 2.43 |
| 12-005*T20A04 | BAH | 1:80 | volce coll or mic. to grid |  | 1.74 |
| 12-006 $\dagger$ T20A05 | RTV | 1:10 | Line or mic. tosgl or PPgrids | $1 \frac{5}{16}^{\prime \prime}$ | 6.36 |

## Audio Interstage Transformers

For coupling the plate or plates of an amplifier stage to the grid or grids of the following stage where grid current is not drawn; pri. 8 ma. T20A25 as split secondary, hum-bucking coil. * Has wire leads.

| C |  |  |  |  |  | Mtg. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type |  | Ratio | Heat |  |  |  |
| 12-009* | *T20A16 | BAH |  | Sg1. pl. to sgl. or P | grids |  | \$1.74 |
| 12-010* | T20A17 | FGV | 1:2 | Sgl. pl. to sgl. or P | grids |  | 2.28 |
| 12-011 | T20A 19 | BAH | 1:3 | Sgl . or PP pl.tosgl. | or PPgrids | 2 | 2.13 |
| 12-012 | T20A22 | BAH | $1: 3$ | Sgl. pl. to sgl. or P | grids | $2{ }^{\frac{2}{8}}$ | 2.55 |
| 12-013 | T20A23 | FGV | $1: 3$ | Sgl. pl. to 8gl. or PP | grids | $2 \frac{1}{8}$ | 2.76 |
| 12-014 | T'20A24 | FGV | 1:3 | PP pl, to PP grids |  | $2 \frac{3}{8}$ | 3.00 |
| 12-015 | T20A25 | RTV | 1:1.41 | Sgl. or PP pl. to sgl. | PP grids | $1{ }^{\frac{5}{16}}{ }^{\prime \prime}$ | 6.00 |
|  |  | cr | on | Cable Transfor | ners |  |  |
|  | it rapid | ng | orn | h- to low-impeda | micro |  |  |
| any ump | iffer. | qu | r | se lat | rom |  | 5.000 |
| cycles. | Shielded | arain | bun | Fig. |  |  |  |
| Cat. No | 12-016 |  | T20A | 40 30-60 ohm prl | Net Ea. |  | \$15.00 |
| Cat. No. | 12-017 | Type | T20A | 41 200-250 ohm pri | Net Ea. |  | 15.00 |
|  |  |  | Driv | Transformers |  |  |  |
| Designed good reg | d to provi gulation fo | de su or th | $\begin{aligned} & \text { fleient } \\ & \text { most } \end{aligned}$ | primary inductance gid driver requirem | roper its. |  | nd |
| * Single 1 grids. | plate to $P$ Others are | $\mathrm{P} \text { clas }$ for PF | $\begin{aligned} & \text { ss " } \mathrm{B} " \mathrm{c} \\ & \text { P plates } \end{aligned}$ | or "AB" grids. | ngle or | pr | to PP |
| Cat. |  |  |  |  | Pri. to | Pri. |  |
| No | Type | Flg. |  | Suggested Tubes | $\frac{1}{3}$ See. | Ma . | Net |
| 12-018 | *T20D75 | BAH | 1H4G | or 30 to 19 | 2.4:1 |  | \$1.65 |
| 12-019 | *T20176 | BAH | 6N7 | o 6N7 | 5.2:1 | 6 | 1.74 |
| 12-020 | *20D77 | FGV | 6 F 6 | PP 6L6 | 2.5:1 | 30 | 2.58 |
| 12-021 | T20D78 | GGV | PP 6 | F6 to PP 6L6 | 4:1 | 40 | 3.45 |
| 12-022 | tT20D79 | FGV | PP 6 | N7 to PP 6N7 | 5.2:1 | 30 | 2.94 |
| 12-023 | T20D80 | GGV | PP 2 | 3 to 805-832 | 3.2:1 | 40 | 4.08 |
| 12-024 | T20D81 | GGV | PP 8 | 5 to PP 805-833 | 5:1 |  | 9 |
| 12-025 | T201082 | GGV | PP 2A | 33 or 6L6 to PP 805 | 5:1, 4:1, |  |  |
|  |  |  |  |  | 3.2:1 | 60 | 4.50 |
| 26 | T20083 | PUV | 500 | ns-class $\mathbf{B}$ grids | 15 watts |  | 15.87 |

Lerms Expander-Compressor Feedback Control
Cate No. Cat. No. 12-027 Type T20A26 Fig. RTV Net Price $\$ 5.70$

## Filament Transformers

Rathigs are for continuous operation at peak load and from a 117 volt $50-60$ cycle source. T21F05 hus 10.000 volt insulation; T21F02, 7,500 volt - for high voltage rectiflers; others, 1,600 volts insulation.

| Cat. No. | Type | Flg. | Volts | Amps. | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12-028 | T21F00 | BAV | 2.5 CT | 5 | \$2.16 |
| 12-029 | T21F01 | BAV | 2.5 CT | 10 | 2.91 |
| 12-030 | T21F02 | CAV | 2.5 CT | 10 | 3.99 |
| 12-031 | T21F03 | BAV | 5 CT | 3 | 2.49 |
| 12-032 | T21F04 | BAV | 5 CT | 7 | 3.69 |
| 12-033 | T21F05 | CAV | 5 CT | 3 | 3.60 |
| 12-034 | T21F06 | CAV | 5 CT | 13 | 2.81 |
| 12-035 | T21F07 | Cav | 5 CT | 21 | 5.19 |
| 12-036 | T21F08 | BAV | 6.3 CT | 1 | 1.89 |
| 12-037 | T21F10 | BAH | 6.3 CT | 3 | 2.49 |
| 12-038 | T21F11 | CAV | 6.3 CT | 6 | 3.69 |
| 12-039 | T21F12 | CAV | 6.3 CT | 10 | 3.63 |
| 12-040 | T21F14 | BAH | *6.3/5/2.5 | 2.5 | 2.49 |
| 12-041 | T21F15 | BAV | 7.5 CT | 4 | 3.69 |
| 12-042 | T21F16 | CAV | 7.5 CT | 8 | 3.63 |
| 12-043 | T21F17 | CAV | 7.5 CT | 12 | 4.50 |
| 12-044 | T21F18 | CAV | 10 CT | 5 | 3.63 |
| 12-045 | T21F19 | CAV | $\dagger 10$ or 11 CT | 12 or 11 | 5.19 |

## Vibrator Power Transformers

Recommended for replacement in auto recelvers, original installation in A fystems, transcelvers, etc

| Cat. No. | Type | Primary | Secondary | Mtg. | Net |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 12-046 | T22R20 | 6-8V DC | $250 V$ DC 50 ma | CAV | $\$ 3.81$ |
| $12-047$ | T22R22 | 6-8V DC | $325 V$ DC 75 ma | CAV | 4.50 |
| $12-048$ | T22R24 | $6-8 V$ DC | $325 V$ DC $135 \mathrm{ma} \&$ | GGV | $\mathbf{8 . 6 4}$ |

$\begin{array}{llllll}12-047 & \text { T22R22 } & 6-8 V \text { DC } & 325 V \text { DC } 75 \mathrm{ma} & \text { CAV } & \mathbf{4 . 5 0} \\ 12-048 & \text { T22R24 } & 6-8 V \text { DC } & 325 V \text { DC } 135 \mathrm{ma} \& & \text { GGV } & \mathbf{8 . 6 4}\end{array}$ 117 V AC $\quad 6.3 \mathrm{~V}$ CT 4.75 A

RAV
RTV


PUV


Modulation Transformers

| Cat. No. | Type | Fig. | Watts | Primary | Sec. Imp. | Net |
| :--- | :---: | :---: | :---: | :---: | :---: | ---: |
| 12-049 | T21M50 | BAH | 3 | 19 | 4500 | $\$ 2.04$ |
| $\mathbf{1 2 - 0 5 0}$ | T21M52 | FGV | 10 | 6N7 | $4500-3000$ | 2.76 |
| $\mathbf{1 2 - 0 5 1}$ | T21M54 | GGV | 25 | PP-6L6 | 4000 | $\mathbf{3 . 9 6}$ |
| $\mathbf{1 2 - 0 5 2}$ | T21M56 | GGV | 75 | TZ20's 809's | $6600-3750$ | $\mathbf{6 . 5 7}$ |

## Multimatch Modulation Transformers

For medlum and high-power modulation. Matches standard modulator tubes. Sec., $5 \mathrm{M}, 6 \mathrm{M}, 7 \mathrm{M}, 8 \mathrm{M}, 9 \mathrm{M}, 10 \mathrm{M}$ ohm load.

| Cat. | Mfrs. |  |  | Pri. | Sec. | Ma. |  |
| :--- | :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| No. | Type | F1g. | Watts | Ma. | Ser. | Par. | Net |
| 12-053 | T21M60 | KTV | 15 | 50 | 50 | 100 | $\$ 10.71$ |
| $\mathbf{1 2 - 0 5 4}$ | T21M61 | PUV | 60 | 125 | 125 | 250 | $\mathbf{1 4 . 4 0}$ |
| $\mathbf{1 2 - 0 5 5}$ | T21M62 | PUV | 125 | 210 | 160 | 320 | 21.60 |
| $\mathbf{1 2 - 0 5 6}$ | T21M64 | PUV | 300 | 250 | 250 | 500 | $\mathbf{3 2 . 7 9}$ |

## Filtering and Coupling Chokes

Voltage regulation not affected with these new chokes. Provide more inductance in filter throughout current range, decreasing rlpple voltage. * Indicates luductance at rated ma. load.

|  |  |  |  | Rated | Max. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Cat. No. } \\ & 12.057 \end{aligned}$ | Type T20C50 | Fig. BAH | ${ }_{350}{ }^{\text {Hys. }}$ | Ma. | Ma. | Insul. | ${ }_{5} \mathrm{Net}$ |
| 12-058 | T20C51 | BAB | 350 35 | 15 | 25 | 2000 | \$2.07 |
| 12-059 | T20C52 | BAH | 8 | 40 | 65 | 1200 | 1.32 |
| 12-060 | T20C53 | BAH | 12 | 80 | 100 | 2000 | 1.83 |
| 12-061 | T20C54 | GGV | 8 | 150 | 200 | 2700 | 2.94 |
| 12-062 | T20C55 | GGV | 6 | 200 | 300 | 2700 | 3.81 |
| 12-063 | T20C56 | GGV | 7 | 300 | 375 | 3500 | 5.34 |
| 12-064 | T20C57 | PUV | 10 | 500 | 600 | 7500 | 20.70 |
| 12-065 | T20C58 | BAH | 0.75 | 0 | 10 | 1100 | 1.38 |

## Dual Tone Control Reactor

For use with R1068X Dual Tone Control listed below. Inductance 22 hys; DC resistance 220 ohms.
Cat. No. 12-066 Type T20C74 Fig. RAV Net Price
\$2.76
Type R1068X Dual Tone Control - For use in tone compensating system to boost or attenuate bass or treble frequencles independently of each other
Cat. No. 12-067 Type R1068X Net Price


## Splatter Suppressor Chokes

Attenuates audto modulating frequencies above 3000 cps ; eliminates splater harmonics generated in speech ampiliter. KTV type mounting.

| Cat. No. | Type | Application | DC Res. | Net |
| :--- | :---: | :---: | :---: | :---: |
| 12-068 | T20C60 | Induct.2 to 1.5 H | 30 | $\$ 10.20$ |
| 12-069 | it 300MA DC |  |  |  |
|  | T20C61 | Induct. .2 to 1.5H | 27 | $\mathbf{1 2 . 0 0}$ |

## Plate Transformers

Matched plate supplies for 115 volts $50-60$ cycles, excent *for $115-230$ volts + For two full-wave rectifler systems, or one rectifier at combined current output.

| Cat. No. | Type | Fig. | DC Volts | De Ma. | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12-070 | T21P75* | PUV | 2500-2000-1250 | 500 | \$93.15 |
| 12-071 | T21P77* | PUV | 2500-2000 | 300 | 65.55 |
| 12-072 | T21P79* | PUV | 1580-1250 | 400 | 46.59 |
| 12-073 | T21P81 | PUV | 1250-1000 | 300 | 41.40 |
| 12-074 | T21P82 | PUV | 2000-1500 | 220 | 41.40 |
| 12-075 | T21P83 | PUV | 1250-1000 | 200 | 25.5 |
| 12-076 | T21P85 | PUV | 600-500 | 300 | 17.6 |
| 12-077 | T21P87 | GGV | 650-500 | 220 | 10.35 |
| 12-078 | T21P89 | GGV | 400 | 175 | 6.21 |
| 12-079 | +T21P91 | PUV | 1000, 750 | 150, 110 | 21.0 |
| 12-080 | †T21P93 | GGV | 1000, 400 | 95, 125 | 9.66 |

## Power Transformers, T22 Series

To furnish plate and filament voltage requirements of ampllfers, receivers and exciter stages of tiansmitters. All ratings are for a pri. Input of 117 volts $50-60$ cycles. Type GGV mounting.


+ Fil. 16.3 volts.


## THORDARSON

## Replacement Power Transformers

T22 Series
Deslgned for general replacement．Adjustable mounting brkts．Mounting type AGF．RMA color coded．All prl．ratings 117 volts． $50-60$ cycles． Secondary CT．＊Has additional 2.5 volts CT winding，at 3.5 amps ． $\dagger$ Has additional 2.5 volt CT winding，at 5 amps．$\ddagger$ Rect． 5 volts， 2 a． \＆Rect． 5 volts， 3 ．

| Cat． |  | Plate |  | Fil． 1 |  | Mtg．Ctrs． |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Type | V． | MA． | V． | A． |  | Net |
| 12－088 | R00 | 500 | 40\％ | 6.3 | 2.0 | $2 \times 2{ }^{\frac{1}{2}}{ }^{\prime \prime}$ | \＄4．14 |
| 12－089 | R01 | 550 | 50\％ | 6.3 | 2.5 | $2 \times 2$ | 4.20 |
| 12－090 | R02 | 600 | 70\％ | 6.3 | 3.0 | $2 \times 2{ }^{\prime \prime}$ | 5.01 |
| 12－091 | R04 | 600 | 90t | 6.3 | 3.5 | $2 \frac{1}{4} \times 2 \frac{1}{17}{ }^{\prime \prime}$ | 5.13 |
| 12－092 | R05 | 600 | 1208 | 6.3 | 5.0 | $21 . \times 3{ }^{1 / 17}$ | 5.70 |
| 12－093 | R06 | 650 | 1508 | 6.3 | 5.0 | $2 \frac{1}{2} \times 3{ }^{\frac{1}{8}}$ | 6.57 |
| 12－094 | R07 | 700 | 2008 | 6.3 | 6.0 | $3 \times 3 \frac{3}{\frac{31}{\prime \prime}}$ | 7.44 |
| 12－095 | R08 | 500 | $40 \pm$ | 2.5 | 4.0 | $2 \times 2{ }^{\prime \prime}$ | 4.14 |
| 12－096 | R09 | 550 | 50\％ | 2.5 | 7.5 | $2 \times 2 \frac{1}{}{ }^{\prime \prime}$ | 4.50 |
| 12－097 | R10＊ | 650 | 85 | 2.5 | 9.0 | 2t $\times 3 \frac{1}{\prime \prime}$ | 5.88 |
| 12－098 | R11 $\dagger$ | 650 | 1208 | 2.5 | 12.5 | $2 \frac{1}{2} \times 3 \frac{1}{\frac{1}{8}}$ | 6.57 |

## Output Transformers，Series T22

All color－coded；instructions furnished with each；compact．

| ＊Have lugs on secondary taps．\＄Mounting Type GGV． |  |  | Mounting Type BAH． Mounting Type BHH． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| Cat．No． | Type | Primary | Secondary | Watts | Net |
| 12－099 $\dagger$ | S45 | 1500－3000 | 3.2 | 3 | \＄1．38 |
| 12－100 + | S46 | 3000－6000 | 3.2 | 3 | 1.44 |
| 12－101＋ | 847 | 6000－12，000 CT | 3.2 | 3 | 1.65 |
| 12－102 $\dagger$ | 848 | 12，000－25，000 CT | 3.2 | 3 | 1.77 |
| 12－103 $\dagger$ | S56 | 8000／10，000 CT | 3．2－4，6－8 | 8 | 2.49 |
| 12－104 $\dagger$ | 558 | 5000／7000 CT | 3．2－4，6－8 | 8 | 2.49 |
| 12－105 $\dagger$ | S60 | 2500／4000 CT | 3．2－4，6－8 | 8 | 2.58 |
| 12－106 $\ddagger *$ | S62 | Univ．Plate | ． 1 to 29 | 8 | 2.55 |
| 12－107 $\ddagger$ | S64 | 10，000 CT | $\begin{gathered} 3.2-4,6-8,15, \\ 250,500 \end{gathered}$ | 25 | 4.32 |
| 12－108！ | S66 | 8000 CT | $\begin{aligned} & 3.2-4,6-8,15, \\ & 250,500 \end{aligned}$ | 25 | 4.32 |
| 12－109 $\ddagger$ | 868 | 6500 CT | $\begin{aligned} & 3.2-4,6-8,15, \\ & 250,500 \end{aligned}$ | 25 | 4.50 |
| 12－110 $\ddagger$ | S70 | 5000 CT | $\begin{gathered} 3.2-4,6-8,15 \\ 250,500 \end{gathered}$ | 25 | 4.62 |
| 12－111 $\ddagger$ | 872 | 3000 CT | $\begin{aligned} & 3.2-4,6-8,15 \\ & 250,500 \end{aligned}$ | 25 | 4.62 |
| 12－112 | 878 | 3300 CT | $\begin{aligned} & 3.2-4,6-8,15, \\ & 250,500 \end{aligned}$ | 60 | 6.57 |
| 12－1138＊ | S74 | Universal CT | 1 to 30 | 25 | 3.81 |
| 12－1148＊＊ | S76 | Universal CT | 500 | 25 | 4.08 |
| 12－1158＊＊＊＊＊＊＊＊＊ | 580 | 500－600 | 3．2－4，8－8， 15. | ${ }^{8}$ | 2.64 |
| 12－1168＊ | 882 | 2000／1500／1000／500 | 3．2－4，6－8， 15 | 25 | 4.29 |
| 12－117 $\dagger$ | 883 | 2000／1500／1000／500 | 3．2－4，6－8， 15 | 15 | 3.30 |
| 12－118 $\dagger$ | 884 | 2000／1500／1000／500 | 3．2－4，6－8， 15 | 5 | 2.70 |
| 12－119 $\dagger$ | S85 | 2000／1500／1000／500 | 3．2－4，6－8， 15 | 3 | 2.46 |
| 12－120 $\dagger$ | 886 | Univ．Plate | 3．2－4，6－8 | 3 | 1.89 |
| 12－121 $\dagger$ | 887 | Univ．Plate | 3．2－4，6－8 | 6 | 2.07 |
| 12－122 $\dagger$ | 888 | Univ．Plate | 3．2－4，6－8 | 8 | 2.25 |

## Tube－To－Line Transformers

Primary for single or push－pull plates．Pritnary center tapped．Eecondary to line．Low level．

| Cat．No． | Type | Flg． | Prl． <br> rrl． | Sec． | Ctrs． $23^{\prime \prime}$ | Net $\begin{gathered} \mathrm{Net} \\ \$ 3.24 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12－131 | T22S90 | FGV | $20,000$ | 500 CT or 125 to 200 ohms | $2 \frac{3_{8}^{\prime \prime}}{}$ | $\$ 3.24$ |
| 12－132 | T22S92 | RTV | 20，000 | 500 CT or 125 | $1{ }^{\frac{6}{18}}$ | 6.48 |

## Autotransformers

Change 220－250 volts， $50-60$ cycte to $110-125$ volts．Continuous duty． Line cord and plug for primary． standard line receptacle for sec－ ondary．
Cat．No．Type Flg．VA Net Cat．No．Type Fig．VA $\quad$ Net $\begin{array}{ccccc}\text { 12－123 } & \text { T23V21 } & \text { GMV } 80 & \$ 6.00 \\ \text { 12－124 } & \text { T23V22 } & \text { GMV } 150 & 7.20\end{array}$ $\begin{array}{llll}\text { 12－124 } & \text { T23V22 } & \text { GMV } 150 & \mathbf{7 . 2 0} \\ \text { 12－125 } & \text { T23V23 } & \text { GMV } 250 & \mathbf{9 . 0 0}\end{array}$ 12－126 T23V24 GMV $500 \quad 12.00$

Plug－In Adjustmen： Isolation Transformers 12－127 T23V25 GMV 10011.04 12－128 T23V26 PUV $250 \quad 22.80$

## Band－Pass Speech Filter

200 to 3500 Cycle Band Pass Fllter． Cat．No．12－129 RTV Type T20C73 Net Price
Matching Line to RF Load Modulation Transformers Type T21M86 50 watts，Pri． 500 ohms Sec． 5 M－6M－7M－8M－9M－ 10 M ，Sec．Max．DC 200 Ma
Cat．No，12－130 KTV．
Net Price
$\$ 17.25$
See Television Section Llsting of Thordarson TV power trans－ former．

## STANCOR

## Driver Transformers

| ， |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Type | Sec．Ratio | Ma． | Size | Fig． | Net |
| 14－073 | A4723 | 3：1 | 30 | $15 \times 2{ }^{\text {圱 } \times 14}$ | A | \＄1．56 |
| 14－074 | A4752 | 2／1．5／1：1 | 40 | $2 \times 3 \frac{1}{4} \times 1{ }^{\text {² }}$ | A | 2.40 |
| Poly－Pedance Modulation |  |  |  |  |  |  |
| Pri．and sec．match 2,000 to 20,000 ohms． |  |  |  |  |  |  |
| Cat． |  | Max．DC | Ma． |  |  |  |
| No． | ${ }^{\bullet}$ Type | Audio Pri． | Sec． | Slze | Fig． | Net |
| 14－071 | A3893 | $60 \quad 180$ | 180 | $4 \times 3 \frac{1}{} \times 4{ }^{\prime \prime}$ | D | \＄8．40 |
| 14－072 | A3898 | 300260 | 260 |  | FS | 34.71 |



Push－Pull Audio Input Transformers
Max．Pri．DC， 10 ma ．For single plate to push－pull grids．
Cat．

| No． | Type | Ratio | Size | Fig． | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 14－033 | A4741 | 2：1 |  | 8 | \＄1．68 |
| 14－034 | A4750 | 3：1 | $2{ }^{\frac{8}{8}} \times 2 \times 2{ }^{\frac{7}{18}} \times 1 \frac{13}{4}^{\text {m }}$ | S | 2.10 |
| 14－035 | A．52C | 2：1 |  | A | 1.47 |
| 14－036 | A．53C | 3：1 | $11 \times 2$ \％ 1 教＂ | A | 1.47 |
| 14－037 | A62C | 2：1 | $1{ }^{\frac{1}{8}} \times 22^{\frac{7}{1}} \times 1{ }^{\frac{1}{1 / \prime}}$ | A | 1.59 |
| 14－038 | A63C | 3：1 | $1 \frac{8}{8} \times 2{ }^{\frac{7}{5}} \times 1{ }^{\frac{1}{2}}{ }^{\prime \prime}$ | A． | 1.59 |
| 14－039 | A73C | 3：1 | $2 \times 3 \frac{1}{4} \times 1 \frac{3}{8}^{\prime \prime}$ | A | 1.92 |

## Combination Plate and Filament Transformers


 $\begin{array}{llllllllll}14-061 & \text { P4078 } & 700 \text { CT } & 70 & 6.3 & 3.0 & 5.0 & 3.0 & \text { C } & 5.10\end{array}$ ＊Additional fl．winding， 6.3 volts at 4.0 я．


## Vibrator Transformers

## Cat．Type Bec．DC to Filter Sec．AC

No．Type Volts Ma．Volts Size Fig．Net $\begin{array}{llllllll}14-049 & \text { P6301 } & 150 & 40 & 210-0-210 & 2 \frac{5}{18} \times 2 \frac{7}{8} \times 11^{\prime \prime} & \mathrm{S} & \$ 2.70 \\ 14-050 & \text { P4061 } & 250 \mathrm{FP} & 50 & 290-0-290 & 34 & 2 \frac{1}{2} \times 2^{\frac{1}{7}} & \mathrm{~N} \\ 3.15\end{array}$
 ＋6－051 P6166＊Folts DC 115 volts AC pri．Others 6 volts IDC pri．tat 2.25 amps（FP）

## Stancor Output Transformers

| Cat． |  |  |  |  | Mtg． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Type | Primary | Secondary | W． |  | Fig． | ${ }_{\text {N }}^{\text {Net }}$ |
| 14－001 | A3865 | 1500 | 6．4， 2 | 5 |  |  |  |
| 14－002 | A3825 | 1．5－4．5M | Univ．V．C． | 8 | $2{ }^{13}{ }^{18}$ | Q | 1.47 |
| 14－003 | A3876 | 2000 | 4 ． | 5 | $2{ }^{\prime \prime}$ | A | ． 81 |
| 14－004 | A3877 | 5000 | 4 | 5 |  | A | 91 |
| 14－005 | A．3800 $\dagger$ | 5000 CT | 500．250．15，8， 4 | 0 | $2{ }^{\frac{1}{4}} \times 2^{\prime \prime}$ | C | 4.013 |
| 14－006 | A3801 $\dagger$ | 6600 C＇T | $500,250,15,8.4$ | 35 | $2 \frac{1}{21} \times 2{ }^{\frac{3}{16}}{ }^{\prime \prime}$ | C |  |
| 14－007 | A3878 | 7000 | 4 | 5 | $2^{\prime \prime}$ | A | 1.91 |
| 14－008 | A 3822 | 7－10M | Univ．V．C． | 4 |  | Q | 1.12 |
| 14－009 | A2312 | 14000 | $4$ | 10 | $2{ }^{\text {而 }}$ | A | 1.144 |
| 14－010 | A3857 | 25 MCT | $4$ | 5 | 2 ＂ | A | 1.15 |

Universal Output Transformers

| Cat No． | Type | ＊Primary | Watts | Size | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 14－011 $\dagger$ | A3830 | 3－10M－CT | 20 |  | \＄2．50 |
| 14－012 $\ddagger$ | A3849 | 1．5－10M | 10 |  | 1.32 |
| 14－013 $\dagger$ | A3850 | 4－14M－CT | 8 | $2 \times 2{ }^{2} \times 1{ }^{\prime \prime}$ | 1.50 |
| 14－014 $\ddagger$ | A3870 | 4－14M－CT | 18 | $2 \times 3 \frac{1}{4} \times 2^{\prime \prime}$ | 1.91 |
| 14－015 | A3856 | 4－14M－CT | 4 |  | 1.32 |
| 14－016 | A3823 | 4－14M－CT | 8 |  | 1.41 |
| 14－017！ | A3852 | 4－14M－CT | 18 | $2{ }^{\frac{1}{16}} \times 28 \times 2$ | 1.82 |
| ＊Second | to V．C | $\dagger$ Mtg． | Ig．J． | $\ddagger$ Mtg．Flg．Q |  |

# Stancor Transformers <br> A <br>  <br> C <br>  <br> FK <br>  <br>  <br> <br> Line to Voice Coil Transformers <br> <br> Line to Voice Coil Transformers <br> Prl．imp．，2000，1500， $1000,500 \mathrm{hms}$ <br> <div class="inline-tabular"><table id="tabular" data-type="subtable">
<tbody>
<tr style="border-top: none !important; border-bottom: none !important;">
<td style="text-align: center; border-left-style: solid !important; border-left-width: 1px !important; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top-style: solid !important; border-top-width: 1px !important; width: auto; vertical-align: middle; ">Cat．No．</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top-style: solid !important; border-top-width: 1px !important; width: auto; vertical-align: middle; ">Type</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top-style: solid !important; border-top-width: 1px !important; width: auto; vertical-align: middle; ">Sec．Impl．</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top-style: solid !important; border-top-width: 1px !important; width: auto; vertical-align: middle; ">Wats</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top-style: solid !important; border-top-width: 1px !important; width: auto; vertical-align: middle; ">Size</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top-style: solid !important; border-top-width: 1px !important; width: auto; vertical-align: middle; " class="_empty"></td>
</tr>
<tr style="border-top: none !important; border-bottom: none !important;">
<td style="text-align: center; border-left-style: solid !important; border-left-width: 1px !important; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">14－052</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">A7947</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">6 ohms</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">8</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">$18 \times 2$ 生 $\times 19^{\text {9 }}$</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">\＄1．74</td>
</tr>
<tr style="border-top: none !important; border-bottom: none !important;">
<td style="text-align: center; border-left-style: solid !important; border-left-width: 1px !important; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">－053</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">A7949</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">6－8 ohms</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">12</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">$2 \frac{5}{16} \times 27 \times 1 \frac{13}{4 \prime}$</td>
<td style="text-align: center; border-right-style: solid !important; border-right-width: 1px !important; border-bottom-style: solid !important; border-bottom-width: 1px !important; border-top: none !important; width: auto; vertical-align: middle; ">2.17</td>
</tr>
</tbody>
</table>
<table-markdown style="display: none">| Cat．No． | Type | Sec．Impl． | Wats | Size |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 14－052 | A7947 | 6 ohms | 8 | $18 \times 2$ 生 $\times 19^{\text {9 }}$ | \＄1．74 |
| －053 | A7949 | 6－8 ohms | 12 | $2 \frac{5}{16} \times 27 \times 1 \frac{13}{4 \prime}$ | 2.17 |</table-markdown></div> <br> Cat．No．Type <br> <br> Isolation Transformers <br> <br> Isolation Transformers <br> $\begin{array}{lllllll}\text { 4－054 P6160 } & 125 / 115 / 105 & \text { Sec．Watts } & \text { Slze } & \text { Net } \\ 4 \frac{3}{4} \times 4 \times 33^{\frac{5}{4}} & \$ 10.35\end{array}$ <br>  

## Tube Checker Transformer

TYpe P－1834－3－Prlmary $125 / 115 / 105$ volts 60 cycles．Secondary $1.1 / 1.4 / 1.5 / 2 / 2.5 / 3 / 3.3 / 5 / 6.3 / 7.5 / 12 / 25 / 30 / 35 / 50 / 70 / 85 / 110 / 117$ ． Size $25 / 8 \times 4 \frac{1}{16} \times 2^{\prime \prime} .3$ lbs．
Cat．No．14－055 Net Price
$\$ 7.20$
Step－Down Transformers

| Cat．No．Type | Watts | Pri． | Sec． | Size | Fig． | Net |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| 14－040 | P6287 | 40 | 230 | 115 | $4 \frac{1}{2} \times 3^{\prime \prime}$ dia．can | － | $\mathbf{\$ 4 . 2 0}$ | 14－041 P6124 $1000 \quad 230 \quad 115 \quad 7^{2} \times 6 \frac{1}{8} \times 6 \frac{1}{3}{ }^{\prime \prime} \quad$ FK $\quad 24.00$

## Universal Power Transformers

These transformers will service the majorlty of radlos in use today．Pro－ viding officient performance in combination with extreme compactness and a high degree of adaptablity，these are truly unlversal replacement trans－ formers．The four universal mounting brackets suppled

Universal Replacements for $\mathbf{2 . 5}$ Volt Tubes

| Cat． | M |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | \＄Fil． 1 | Overall |  |
|  | Type | Volts | Ma． | A． | Size | Net |
| 14－042 | P6001 $\dagger$ | 650 | 40 | 4.0 | $2 \frac{1}{2} \times 3 \times 23^{\prime \prime}$ | \＄3．60 |
| 14－043 | P6003 $\dagger$ | 700 | 70 | 9.0 |  | 5.10 |
| 14－044 | P6004 | 700 | 90 | 12.5 | 31×3年×3＂ | 4.65 |
| 14－045 | P6006＊＊ | 700 | 120 | 12.5 |  | 6.36 |
| 14－046 | P6007＊ | 800 | 110 | 15.0 | 31 $\times 3$ 3 $\times 33^{\frac{3}{81}}$ | 6.15 |
| rdinl | －${ }^{\text {chind }}$ | 2.5 | ut | mps． | § Fil．1， 2.50. |  |

+ Rect． 5 v．， 2 a．\＄Rect． 5 v．， 3 a．


## Intercommunication and Transceiver Transformer

Type a 4744 for intercom．input．Type A3833 for transceiver input mike and plate to grid．

| Cat．No．Type | Pri． | Sec． | Size In． | Fig． | Net |  |
| :--- | ---: | :--- | ---: | ---: | ---: | ---: |
| $14-047$ | $\mathbf{4 4 7 4 4}$ | 4 | 25.000 | $1 \frac{1}{2} \times 27 \times 1 \frac{1}{2}$ | A | $\$ 1.47$ | 14－048 A3833 200 and 5.000 60，000 $1 \frac{5}{8} \times 2 \frac{1}{8} \times 1 \frac{1}{2} A \mathrm{~A} \quad 2.04$

## Transmitting Type Transformers and Chokes

| Swinotng Chokes |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Type | Hys． | Ma． | Ohm | Insul． | Fig． | Net |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 14－058 | C－1411 | 4.5 | 200 | 80 | 3000 | C | 3.78 |
| 14－059 | C－1413 | 8.0 | 300 | 80 | 5000 | D | 6.90 |


（A）Mallory Inductuner
Type 8301 －A variable Inductance tuner for all bunds within the 44－216 me．range，including 6．2，and $1 \frac{1}{6}$ meters．Especially sulted for tele－ vislon and 1 M and is exact replace－ ment for the DuMont Television set． Tunes atl channels in 10 turns of the
shaft．No．22－201 Net Price $\$ 9.40$
（B）Essex Electronics
Standard IF Transformers
Factory tuned to 455 KC ；ceramic－ base trimmer；Latz wire；aluminum shield．
Cat．No．21－901 T302 Input Net Each
Cat．No．21－902
T303 Cat．No．21－902 T303 Output． Net Each
Iron Core IF Transformers Factory tuned to 455 KC ；ceramic－ base trimmer；powdered iron cores． Aluminum shield
Cat．No．21－903 T304 Input Net Euch

21－904 T305 Outp Net Each

## Permeability Tuned IF

## Transformers

runed to 455 KC ；silver mica con－ denser；Litz wire；aluminum shield． Tuned by movable powdered iron slugs．
Cat．No．21－905 T300 Input
Net Each $\$ 1.74$ Cat．No．21－906 T301 Output．
Net Each ．．．

## Midget IF Transformer

For battery sets；tuned to 455 KC ； iron cores；zluc shield；combination input or output
Cat．No．21－907 T308 Net Ea $\$ 1.10$
（A）NPO Ceramicons
Zero Temperature Coeyficient NPO Ceramicons，with sllver elec－ trodes fired on ceramic dielectrlc， have zero temperature coefficlent； ＂ Q ＂for values greater than 30 Mmf．is 1000 or higher；＂Q＂for values less than 30 Mmf ．decreases somewhat as capacity increases． Working voltage 500 VDC．Di－ mensions：type $K-.250 \times .562^{\prime \prime}$ ； type L－． $250 \times .812^{\prime \prime}$ ；type M－ $.340 \times 1.328^{\prime \prime}$
Cat．No．Type
$\begin{array}{ll}\text { cat．No．} & \text { Ype } \\ \mathbf{0 8 - 0 0 1} & \mathrm{K} \\ 08-002 & \mathrm{~K}\end{array}$ $\begin{array}{ll}08-001 & \mathrm{~K} \\ 08-002 & \mathrm{~K} \\ 08-003 & \mathrm{~K}\end{array}$ $\begin{array}{ll}08-003 & \mathrm{~K} \\ 08-004 & \mathrm{~K} \\ 08-605 & \mathrm{~L}\end{array}$ 08－006 08－007 08－007 M $08-009 \mathrm{M}$ 08－010
M
3
5
10
20
20
25
33
50
75
100
120 $\left.\begin{array}{l} \pm 1 \\ \pm 1 \\ \pm 1 \\ \pm 2 \\ \pm 2.5 \\ \pm 3.3 \\ \pm 5 \\ \pm \pm 7.5 \\ 0 \pm 10 \\ 0 \pm 12\end{array}\right\}$
（A）GP Ceramicons Units with sil ver electrodes fired on certmic dielectric for geueral pur－ pose by－pass and blocking appitica－ tlons．Power factor will not exceed $3 \%$ ．Rated voltage：Type GP1－ 500 VDC；Type GP2－ 350 VDC Dimenslons： 1＇ype $\mathrm{K}-.250 \times 1562^{\prime \prime}$ ； Type L－． $250 \times .812^{\prime \prime}$ ；Type M $.340 \times 1.328^{\prime \prime}$ ．
Cat．No．Type
$08-02 \mathrm{j}$
$08-022$
GP1K
$08-023$ 08－024 GP1K $08-025$ GP1K $\begin{array}{lll}08-026 & \text { GP1L } & 150 \pm 20 \\ 08-027 & \text { GP2K } & 200 \pm 40\end{array}$ 08－028 GP2K 200士40 $08-029$ GP2K 250士50 $\begin{array}{lll}08-030 & \text { GP2KK } & 500 \pm 60 \\ & 500\end{array}$ 08－031 GP2L 750 150 $08-032$ GP2L 1000 +200 08－033 GP2L $1500 \pm 300$ 08－034 GP2M $2000 \pm 400$ 08－035 GP2M $200 \pm 400$ $\begin{array}{llll}08-036 & \text { GP2M } & 5000 \pm 1000 & 18 \mathrm{C}\end{array}$

## Ceramicon Trimmers

High stabllity and simplicity of ad－ ustment feature these units with silver electrodes fired on ceramle rotor and stator．Capactty changes in direct proportion to degree of ro－ tation．Type NPO has zero temper－ ature co－etficient．N300，N500， N750 have nerative temp．coef．of $300,500,750$ parts $/$ milllon $/{ }^{\circ} \mathrm{C}$
（E）TYPE 557
Constructed with slivered dise di－ electric between plastlc base and ceramic rotor．

| Cat． |  | Temp． |  |
| :---: | :---: | :---: | :---: |
| No． | Mmid． | Coet． | Each |
| 08－060 | ＇3－12 | NPO |  |
| 08－061 | 5－25 | NPO |  |
| 08－062 | 5－30 | N750 | 73c |
| 08－063 | 8－50 | N750 |  |
| 08－064 | 1.5 to 7 | （NPO） |  |
|  |  | TS2A |  |
| （F）Trpe Ts2A |  |  |  |
| 08－075 | 3．0－12 | （NPO） |  |
| 08－076 | 3－13 | （N300） |  |
| 08－077 | 5－20 | （N300） | 88c |
| 08－078 | 4－30 | （N500） |  |
| 08－079 | 7－45 | （N500） |  |

Erie Silver－mica Button
Ideal for VHF and UKF applica－ tions，these silver－mica midget capacitors have＂$Q$＂factor greater than 1000 at 1 Mc ．In values greater than 100 Mmf ．； 50 to 100 Mmf ． ratings have＂Q＂fuctor greater thau 700；values below 50 Mmf ．have ＂ Q ＂factor greater than 500 ． 350 VAC or 500 VDC working．
（B）TyPE $370-\mathrm{Cl} 3$
Ring metal shell，with 3 soider lugs． Figh potential terminal at elther end for feed－thru．
Cat．No．Cap．（Mmf．）Each
08
08
08
$08-091$
$08-092$
$08-093$
$\begin{array}{ll}08-093 & 100 \pm 10 \\ 08-094 & 150 \pm 15 \\ 08-095 & 200 \pm\end{array}$
$\begin{array}{ll}08-094 & 200 \pm 20 \\ \mathbf{0 8 - 0 9 5} & 300 \pm 30 \\ 08-096 & 400 \pm\end{array}$
$\begin{array}{rrr}08-097 & 400 \pm 40 & \\ 08-098 & 500 \pm 50 & \\ 08-099 & 1000 \pm 150 & \$ 1.47 \\ 08 & 1.76\end{array}$
（C）TYPE 370－FF
Mounts with one 3－48 screw．
$\begin{array}{ll}08-110 & 15 \pm 1.5 \\ 08-111 & 50 \pm 5\end{array}$
08－112 $50 \pm 5$
$08-113 \quad 100 \pm 10$
$\begin{array}{lr}08-114 & 200 \pm 20 \\ 08 & 300 \pm 20\end{array}$
73 c
08－115 300士 15
08－116 $400 \pm 40$
08－117 $500 \pm 50$
08－118 $750 \pm 1 \hat{1} 0$

## （D）Feed－thru Ceramicons

 Type 362Compact－only ${ }^{\prime \prime}$＂long body－ ceramic condenser． 20 gutuge feed－ thru wire．Self－bolting to chassis punel 500 VDC working．
Cat．No．08－130 1500 Mmf ．

## （C）Tubular Trimmers

 Type 532New type plastic－dielectric ca－ paeltor with simple，preclse adust－ ment and stable capuctty． 500 VDC Cat．No．08－141 ． 5 to 5 Mmp ． Cat．No．08－142 1.0 to 8 Mmp ．
Net Each－ 1.0 to 8 Mmir

## （H）HV Ceramicons <br> TYpe 410

Spectally designed ceramle capacitor with low－loss molded case，rod－type terminals，long creepage path；for television power supplles，filter，by－ pass；rated 10 KV ．Case dimensions， pass；rated 10
Cut．No．08－153 500 Mmf ．
Net Each
$\$ 1.03$
（I）Stand－off Ceramicons Exceptlonally sulted for VHF，UHF and RF by－pass applications Molded phenolic case；mount with 3－48 nut；may be used to mount other units in circuit．Height when mounted：＂Type 323 －$\frac{1}{3} \frac{9}{2} " ; ~ †$ Type 324 －$\frac{37}{32}$＂

| Cat． | Cap． | Cat． | Cap． |
| :--- | :---: | :--- | ---: |
| No． | （Mmp．） | No． | （Mmf．） |
| $08-047$ | $50^{*}$ | $08-050$ | $1000 \dagger$ |
| $08-048$ | $100^{*}$ | $08-051$ | $1500 \dagger$ |

# mica oll－paper CAPACITORS 

## （A）C－D Molded Mica <br> Receiving Capacitors

Ideal for use as padding unlts，plate tuned filter capacitors．
＊300 Volts DC working， 600 volts IDC test

|  | $5 W \frac{1}{1}$ | $x{ }^{\frac{3176}{16}}$ | et |
| :---: | :---: | :---: | :---: |
| Cat．No． | ${ }_{5}{ }^{\text {T }}$ | M1d． | Net |
| 06－436 | 5 Ql | ． 00001 | 1.5 c |
| 06－437 | 5Q2 | ． 00002 | 15c |
| 06－438 | 5 Q 25 | ． 000025 | 15c |
| 06－439 | 5Q3 | ． 00003 | 15c |
| 06－440 | 5Q4 | ． 00004 | 12 c |
| 06－441 | 5Q5 | ． 00005 | 12 c |
| 06－442 | 5 Q 7 | ． 00007 | 12c |
| 06－443 | 5T1 | ． 0001 | 12c |
| 06－444 | 5T15 | ． 00015 | 12c |
| 06－445 | 5 T 2 | ． 0002 | 12c |
| 06－446 | 5T25 | ．00025 | 15 c |
| 06－447 | 5 T 3 | ． 0003 | 15 c |
| 06－448 | 5 T 4 | ． 0004 | 15c |
| 06－449 | 5 T 5 | ． 0005 | 15c |
|  |  |  |  |
| 06－450 | 5 T 6 | ． 0006 | 15c |
| 06－451 | 5 T 7 | ． 0007 | 15 c |
| 06－452 | 5 T 8 | ． 0008 | 15c |
| 06－453 | 5 T 9 | ． 0000 | 15c |
| 06－454 | 5 D 1 | ． 001 | 18 c |
| 06－455 | 5 D 15 | ． 0015 | 18 c |
| 06－456 | 5D2 | ． 002 | 24 c |
| 06－457 | 5 D 25 | ． 0025 | 26 c |
| 06－458 | 5D3 | ． 003 | 29c |

TYPE 1D $1 \frac{3}{16}{ }^{\prime \prime}$ square $x \frac{5^{\prime \prime}}{16}$

| $06-459$ | $5 D 4$ | .004 | 32 c |
| :--- | :--- | :--- | :--- |
| $06-460$ | $5 D 5$ | .005 | 35 c |
| $06-461$ | 5 D 6 | .006 | 44 c |
| $06-462$ | $3 D 7^{*}$ | .007 | 53 c |
| $06-463$ | $3 D 8^{*}$ | .008 | 59 c |
| $06-464$ | $3 D 9^{*}$ | .009 | 59 c |
| $06-465$ | $3 \mathrm{~S}^{*}$ | .01 | 71 c |

## AEROVOX

## （B）Silvered Mica Capacitors

For critical applications；low temperature co－ effclent－． 0022 per degree $F$ ．；exceptionally high＂Q＂；practically no capacity drift with time； wax impregnated externally；specincally designed for push－button tuning；tolerance $\pm 5 \% ; 1.000$ volt DC．test；size $\frac{⿹ 勹 口_{3}}{2}$ square．
Cat．No．Mid．Net Cat．No．Mfd．Net $\begin{array}{llrlll}07-279 & .0015 & .79 & 07-283 & .004^{*} & 1.27\end{array}$ $\begin{array}{llllll}07-280 & .002 & .79 & 07-284 & .005 * & 1.32\end{array}$ 07－281 ． 0025 1．06
＊ 600 volt DC test．

## Midget Size

$27^{\prime \prime \prime \prime} \times$＂${ }^{\frac{35}{8}}$
1，000 VDC Test

| Cat．No． | Mid． | Net | Cat．No． | Mifd． | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 07－285 | ． 000005 | 32c | 07－292 | ． 0015 | 27 |
| 07－286 | ． 00001 | 24 c | 07－293 | ． 0002 | 27 |
| 07－287 | ． 000025 | 24 c | 07－294 | ． 00025 | 27 |
| 07－288 | ． 00004 | 24 c | 07－295 | ． 0003 | 32 |
| 07－289 | ． 00005 | 24 c | 07－296 | ． 0004 |  |
| 07－290 | ． 00007 | 24c | 07－297 | ． 0005 | 41 |
| 07－291 | 0001 | 24 c |  |  |  |

## （B）Type 1467 Mica Capacitors

Compact，size ${ }^{35}{ }^{3}$＂square；provided with wire leads； 1000 volts DC test－ 500 volts DC working． $\begin{array}{llll}\text { Cat．Cap．} & & \text { Cat．Cap．} \\ \text { No．Mfl．Net No．Mfd．Net }\end{array}$ $\begin{array}{llllll}\text { No．} & \text { Mid．} & \text { Net } & \text { No．} & \text { Mifd．} & \text { Net } \\ \mathbf{0 7 - 1 1 1} & .0005 & 15 \mathrm{c} & \mathbf{0 7 - 1 1 7} & .003 & 29 \mathrm{c}\end{array}$ $07-112 \quad .00075 \quad 15 \mathrm{c}$ 07－118 $\begin{array}{lllll}0.004 * & 32 \mathrm{c}\end{array}$ $\begin{array}{lllllll}07-113 & .001 & 18 \mathrm{c} & 07-119 & .005^{*} & 35 \mathrm{c} \\ 07-114 & 0015 & 18 \mathrm{c} & 07-12 \theta & 006^{*} & 44 \mathrm{c}\end{array}$ $07-115$ ． 002 24c 07－121 008＊59c 07－116 ． $0025 \quad 26 \mathrm{c}$ 07－122 $0 \mathbf{0 1 *}^{*} \quad 71 \mathrm{c}$ ＊ 600 volts DC Tent－ $\mathbf{3 0 0}$ volts DC Working
（B）Type 1468 Mica Capacitors
Midget slze 数＂$^{\prime \prime} \times \frac{20 / 1}{64} \times \frac{3}{16}$＂；provided with wire leads； 1000 voits DC test－ 500 volts DC work－ Ing

| Ing． | Cap． |  | Cat． | Map． |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Cat．No． | Mfd． | Net | No． | Met |  |
| $07-123$ | .000001 | 18 c | $07-131$ | .00015 | 18 c |
| $07-124$ | .000005 | 18 c | $07-132$ | .0002 | 18 c |
| $07-125$ | .00001 | 18 c | $07-133$ | .00025 | 18 c |
| $07-126$ | .000025 | 18 c | $07-134$ | .0003 | 18 c |
| $07-127$ | .00004 | 18 c | $07-135$ | .00035 | 18 c |
| $07-128$ | .00005 | 18 c | $07-136$ | .0004 | 18 c |
| $07-129$ | .000075 | 18 c | $07-137$ | .0005 | 18 c |
| $07-130$ | .0001 | 18 c | $07-138$ | .00075 | 18 c |
|  |  |  | $07-139$ | 001 | 24 c |

## （D）Type DYR Metal Shell C－D Capacitors

Nou－inductive by－pass units impregnated and filled with Dykanol＂A＂and sealed in non－ corrosive cases with leak－proof screw－lug termi－ nals．Sultable for HF and AF bypass，audio fre－ quency coupling，and AC circults．Will stand immersion in hot sait water；hence are desirable for marine，aireraft and tropical service．

|  | $600 \mathrm{~V} . \mathrm{D}$ | Working |  |
| :---: | :---: | :---: | :---: |
| 06－351 | ． 05 | $1{ }^{\frac{1}{1} \frac{3}{6}} \times 1 \times \frac{3}{}{ }^{\frac{3}{1}}$ | \＄1．5．3 |
| 06－352 | 1 | $1{ }^{18} \times 1 \times$ | 1.56 |
| 06－353 | ． 25 |  | 1.65 |
| 06－354 | ． 5 | $1 \frac{13}{18} \times 1 \times{ }^{1 / \prime \prime}$ | 1.76 |
| 06－355 | 1.0 | $2 \times 1 \frac{3}{8} \times{ }^{\prime \prime}$ | 2.00 |
| 06－356 | 2.0 | $2 \times 2 \times 1{ }^{\frac{1}{4}}$ | 2.68 |
| 06－357 | ．05－． 05 | 1星 $\times 1 \times 1 \times$ | 1.94 |
| 06－358 | 1－． 1 | $1 \frac{13}{\frac{13}{6}} \times 1 \times{ }^{\text {P }}$ | 1.97 |
| 06－359 | ．25－． 25 | $1 \frac{18}{18} \times 14 \times$ | 2.00 |
| 06－360 | ．5－5 | $2 \times 1 \frac{13}{4} \times$ | 2.29 |
| 06－361 | 1．－1． | $2 \times 2 \times 1{ }^{\frac{1}{\prime \prime}}$ | 2.82 |
| 06－362 | 1－．1－． 1 | $1 \frac{1}{6}^{3} \times 1 \times{ }^{\frac{3}{3 \prime \prime}}$ | 2.23 |
| 06－363 | ．25－．25－．25 | $2 \times 13 \times 1{ }^{\prime \prime}$ | 2.53 |
| 06－364 | ．5－5－5 | $2 \times 2 \times 1{ }^{\prime \prime}$ | 3.06 |

## C－D Type DT Tubulars

A compact and dependable non－inductive con－ denser that is oll－saturated and wax－impreg－ nated．Is molsture－proof and has a low power factor．Wire leads are soldered and firmly anchored．

| Cat．No． | Mfd． | Net | Cat．No． | Mtd ． | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 06－244 | ． 01 | 14 c | 06－251 | ． 06 | 19 c |
| 06－245 | ． 015 | 14 c | 06－252 | 1 | 19 c |
| 06－246 | ． 02 | 14c | 06－253 | 2 | 22 c |
| 06－247 | ． 025 | 14 c | 06－254 | ． 25 | 24c |
| 06－248 | ． 03 | 14 c | 06－255 | ． 5 | 31c |
| 06－249 | ． 04 | 14 c | 06－256 | 1.0 | 48c |
| 06－250 | ． 05 | 16c |  |  |  |
|  | 600 V | OLTE | Workino |  |  |
| 06－257 | ． 0001 | 14c | 06－268 | ． 02 | 16 c |
| 06－258 | ． 00025 | 14c | 06－269） | ． 025 | 19 c |
| 06－259 | 0005 | 14c | 06－270 | ． 03 | 19c |
| 06－260 | ． 001 | 14c | 06－271 | ． 04 | 19c |
| 06－261 | ． 002 | 14c | 06－272 | ． 05 | 22 c |
| 06－262 | ． 003 | 14 c | 06－273 | ． 06 | 22c |
| 06－263 | ． 004 | 14c | 06－274 | ． 1 | 24 c |
| 06－264 | ． 005 | 14c | 06－275 | ． 2 | 29 c |
| 06－265 | ． 006 | 14c | 06－276 | ． 25 | 29c |
| 06－266 | 01 | 16 c | 06－277 | ． 3 | 37c |
| 06－267 | 015 | 16 c | 06－278 | ． 5 | 42 c |

## （E）Type EZ Cardboard－tube

Electrolytics
The most practical all－around replacemen capacitor available．Has mounting feet for up right mounting and strap for horizontal mounting

| Cat． | Cap． | D．C． |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No． | Mid． | W．V． | D $\times$ L | Net |
| 06－169 | 8 | 250 | \％$\times 2 \frac{1}{2 \prime}^{\prime \prime}$ | \＄0．62 |
| 06－170 | 16 | 250 | $1{ }^{1} \times 2{ }^{\frac{3}{4}}{ }^{\text {m }}$ | 76 |
| 06－171 | 24 | 250 | $1 \frac{1}{16} \times 2{ }^{\frac{3}{\prime \prime}}$ | 8 |
| 06－172 | 8 | 350 |  | 6 |
| 06－173 | 12 | 350 | $\frac{15}{16} \times 2{ }^{\frac{3}{4 \prime \prime}}$ | 7 |
| 06－174 | 16 | 350 | $1 \times 2 \frac{3}{6 \prime \prime}^{\prime \prime}$ | 8 |
| 06－175 | 24 | 350 | $1 \times 3{ }^{\prime \prime}$ |  |
| 06－176 | 8 | 450 | $\frac{7}{8} \times 2{ }^{3 \prime \prime}$ | 6 |
| 06－177 | 12 | $\pm 50$ | $1 \times 2{ }^{3 \prime \prime}$ | 7 |
| 06－178 | 16 | 450 | $1_{16}^{18} \times 2{ }^{\frac{1}{4}}$ |  |
| 06－179 | 30 | 450 | $14 \times 3{ }^{\frac{1}{2}}{ }^{\prime \prime}$ | 1.0 |
| 06 Dual Common－negative Units |  |  |  |  |
| 06－180 | 20－20 | 150 | $1 \times 23^{\prime \prime}$ | ． 8 |
| 06－181 | 30－30 | 150 | $1 \frac{1}{16} \times 2 \frac{3}{4}{ }^{\text {m }}$ | 1.0 |
| 06－182 | 50－50 | ． 150 | $1 \frac{1}{16} \times 3$＂ | 1.21 |
| 06－183 | 8－8 | 250 | $1 \times 2{ }^{\prime \prime}$ | ． 97 |
| 06－184 | 8－8 | 350 | $15 \times 3 \frac{1}{1 /}$ | ． 0 |
| 06－185 | 8－8 | 450 | $1 \times 3 \frac{1}{7 \prime \prime}$ | 1 |
| 06.186 DUAL SEPARATE－NECTION UNITS |  |  |  |  |
| 66－186 | 8－8 | 250 | $1{ }^{\frac{1}{5}} \times 2{ }^{\frac{317}{4}}$ | 1.2 |
| 06－187 | 16－16 | 250 | $1{ }_{8}^{3} \times 3{ }^{3}$ | 1.6 |
| 06－188 | 8－8 | 350 | $1 \frac{3}{8} \times 3^{\prime \prime}$ | 1.3 |
| 06－189 | 12－12 | 350 | $1{ }^{\frac{1}{8}} \times 3{ }^{\frac{3}{7 \prime}}$ | 1.5 |
| 06－190 | 16－16 | 350 | $1{ }^{3} \times 4{ }^{\prime \prime}$ | 1.76 |
| 06－191 | 8－8 | 450 | $1 \frac{3}{8} \times 3^{\prime \prime}$ | 1.3 |
| 06－192 | 8－16 | 450 | $1{ }^{3} \times 3^{3}{ }^{\prime \prime}$ | 1.5 |
| 06－193 | 12－12 | 450 | $1{ }^{18} \times 3^{3 /}$ | 1.5 |
| 06－194 | 16－16 | 450 | $1 \frac{3}{8} \times 43^{\prime \prime}$ | ． 8 |
| Triple Common－negative Units |  |  |  |  |
| 06－195 | 20－20／20 | 150／25 | $1 \times 3^{\prime \prime}$ | 1.2 |
| 06－196 | 30－20／20 | 150／25 | $1 \times 3^{\prime \prime}$ | 1.26 |
| 06－197 | 30－10／20 | 150／25 | $1 \times 3^{\prime \prime}$ | 1.2 |
| 06－198 | 40－20／20 | 150／25 | $1 \frac{1}{16} \times 3^{\prime \prime}$ | 1.1 |
| 06－199 | 30－20／10 | 150 | $1 \frac{1}{8} \times 2{ }^{\frac{3}{8 \prime}}$ | 1.2 |
| 06－200 | 40－20－20 | 150 | 11 1 ¢ $3^{\prime \prime}$ | 1.3 |
| 06－201 | 15－10／20 | 350／25 | $1 \frac{1}{1} \times 3{ }^{\frac{1}{2}}$ | 1.3 |
| 06－202 | $20 / 10 / 20$ | 400／350 |  |  |


| Thiple Separate－section Units＊ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 06－203 | 8－8／20 | 250／25 | $1{ }^{1}$ | X 3 | \＄1．4 |
| 06－204 | 8－8／20 | 350／25 | $1 \frac{3}{8}$ | $\times 3 \frac{3}{}{ }^{\prime \prime}$ | 1.50 |
| 06－205 | 12－12／20 | 350／25 | $1{ }^{\frac{3}{8}}$ | $\times 3{ }^{\frac{3}{4 \prime \prime}}$ | 1.62 |
| 06－206 | 16－16／20 | 350／25 | $1{ }^{\frac{3}{8}}$ | $\times 4{ }^{\frac{3}{4 \prime}}$ | 1.88 |
| 06－207 | 8－8／20 | $450 / 25$ | $1{ }^{\frac{3}{5}}$ | $\mathrm{x} 3{ }^{\frac{3}{4 \prime \prime}}$ | 1.56 |
| 06－208 | 12－12／20 | 450／25 | $1 \frac{3}{8}$ | $\times 4{ }^{\frac{3}{\prime \prime}}$ | 1.77 |
| 06－209 | 8－8－8 | 250 | $1 \frac{3}{8}$ | x 3 ＂ | 1.47 |
| 06－210 | 8－8－8 | 350 | 15 | x 3 3 ${ }^{\prime \prime}$ | 1.56 |
| 06－211 | 8－8－8 | 450 | $1{ }^{18}$ | x $3 \frac{3}{6}{ }^{\prime \prime}$ | ． 6 | 06－21）Quadruple Common－negative Units $\begin{array}{lrll}06-212 & 8-8 / 10-10 & 150 / 25 & 1\end{array} 2^{3 / \prime} \quad 1.38$ 06－213 $30-20 / 10-10 \quad 150 / 25 \quad 11_{6}^{3} \times 23^{\prime \prime} \quad 1.53$ $06-21440-20-20 / 20 \quad 150 / 25 \quad 1 \frac{3}{16} \times 3^{\prime \prime} \quad 1.68$ $06-215$ 50－30－20／20 $150 / 25 \quad 1 \frac{3}{16} \times 3 \frac{5^{\prime \prime}}{} \quad 1.73$ 06－216 $40-40-30 / 20 \quad 150 / 25 \quad 1 \frac{1}{16} \times 3 \frac{1}{2}{ }^{\prime \prime} \quad 1.76$ 06－217 $50-50-50 / 20 \quad 150 / 25 \quad 1 \frac{1}{8} \times 3 \frac{1}{2}^{\prime \prime} \quad 1.9$

QUADRUPLE SEPARATE－AECTION UNITS＊ $\begin{array}{rrrlll}06-218 & 16-16 / 10-10 & 150 / 25 & 1 \frac{3}{1} & \times 3^{\prime \prime} & 1.81 \\ 06-219 & 8-8 / 10-10 & 450 / 25 & 1 & \text { x }^{3 \prime} 3^{\prime \prime} & 1.95\end{array}$ $06-220 \quad 40-30-20 / 20 \quad 150 / 25 \quad 1 \frac{1}{8} \quad$ x $3 \frac{3}{4 \prime} \quad 2.15$ ＊First section separate．others common－negatlve．

## （C）Tubular Paper Capacitors

These Aerovox cartridge capacitors are especially desirable for use where high grade units are re quired at low cost．They are compact，non－ inductively wound，and sealed in wax－impreg－ nated paper tubes with wax－11lled ends for longer Ife and protectiou against moisture．

| TYpe 484－400 Volit |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Mid． | Net | Cat．No． | Mid． |
| 07－304 | ． 01 | 15c | 07－309 | ． 1 |
| 07－305 | ． 02 | 15c | 07－310 | ． 25 |
| 07－306 | ． 03 | 18c | 07－311 | ． 5 |
| 07－307 | 05 | 18c | 07－312 | 1.0 |
| 07－308 | ． 06 | 21c |  |  |
| Type 681－600 Volit |  |  |  |  |
| 07－313 | ． 001 | 15c | 07－321 | ． 02 |
| 07－314 | 002 | 15c | 07－322 | ． 03 |
| 07－315 | ． 003 | 15c | 07－323 | ． 04 |
| 07－316 | ． 004 | 15c | 07－324 | ． 05 |
| 07－317 | ． 005 | 15 c | 07－325 | ． 06 |
| 07－318 | ． 006 | 15c | 07－326 | 1 |
| 07－319 | ． 01 | 18c | 07－327 | ． 25 |
| 07－320 | ． 015 | 18c | 07－328 | ． 5 |
| TYPE 1084－1000 VOLT |  |  |  |  |
| 07－329 | ． 001 | 29c | 07－334 | ． 006 |
| 07－330 | ． 002 | 29c | 07－335 | ． 01 |
| 07－331 | ． 003 | 29 c | 07－336 | ． 02 |
| 07－332 | ． 004 | 29c | 07－337 | ． 05 |
| 07－333 | ． 005 | 29c | 07－338 | 1 |

# AEROVOX－High－Voltage and Transmitting 


＂Hyvol＂Oil－impregnated Oil－filled Capacitors

## （A）In Round Aluminum Cans

## Type 05

Convenlent round can，provided with ring mount－ Ing；high－voltage pllar terminals．Hermetically sealed in leak－proof containers．Very conserva－ tive ratings for continuous operation．

| Cat． | Cap． |  |  |
| :---: | :---: | :---: | :---: |
| No． | M ${ }^{\text {d }}$ ． | D× H | Net |
| 07－340 | 1 | $2 \times 2{ }^{\prime \prime}$ | \＄2．24 |
| 07－341 | 2 | $2 \times 2{ }^{\text {¹ }}$ | 2.91 |
| 07－342 | 4 | 2× $3 \frac{3}{4}{ }^{\prime \prime}$ | 4.03 |

## （B）Type 09 Aerovox Hyvol

Oil－impregnated Oilmfiled Capacitors Hermetically sealed in rectangular metal cans with adjustable clamp mounting；high－tension pillar terminals with locknuts and soldering lugs． Intended for heavy－duty continuous service in transmitters，amplifiers．Exceptionally compact size for given capacity and working voltage－ with high safety factor．

| 600 VDC Working |  |  |  |
| :---: | :---: | :---: | :---: |
| Cat．No． | Mfd． | l．W．D． | Net |
| 07－343 | 1 | $2 \frac{1}{6} \times 1+18 \times 1 \frac{1}{16}$ | \＄3．12 |
| 07－344 | 2 | $2 \frac{7}{6} \times 118 \times 1 \frac{1}{16}$ | 3.79 |
| 07－345 | 4 | $3 \frac{1}{4} \times 2 \frac{1}{2} \times 1 \frac{3}{16}$ | 4.47 |
| 07－346 | 6 | $4 \frac{4}{1} \times 2 \frac{1}{2} \times 1 \frac{3}{16}$ | 4.91 |
| 07－347 | 8 | $3 \mathrm{x} \times 3 \frac{3}{4} \times 1 \frac{1}{4}$ | 6.0 |
| 07－348 | 10 | $41 \times 3 \frac{1}{1} \times 1 \frac{1}{6}$ | 7.15 |
| 1，000 VDC Working |  |  |  |
| 07－349 | 1 | $2 \frac{1}{} \times 1 \frac{18}{18} \times 1 \frac{1}{16}$ | ． 35 |
| 07－350 | 2 | $3 \frac{1}{1} \times 1$ 者 $\times 1 \frac{1}{18}$ | 4.47 |
| 07－351 | 4 | $4{ }^{481} \times 2 \frac{1}{2} \times 1 \frac{3}{16}$ | ． 5 |
| 07－352 | 10 | $4 \times 3$ 3素 $\times 1 \frac{1}{6}$ |  |
| 1，500 VDC Working |  |  |  |
| 07－353 | 2 | $41 \times 2{ }^{1 / 8} \times 1 \frac{3}{16}$ | 5.59 |
| 07－354 | 4 | $41 \times 3 \frac{3}{3} \times 14$ | 7.58 |
| 07－355 | 10 | $4 \frac{3}{6} \times 3 \frac{3}{6} \times 3 \frac{3}{16}$ | 13.41 |
| 2.000 VDC Working |  |  |  |
| 07－356 | 1 | $37 \times 2 \frac{1}{2} \times 1 \frac{3}{16}$ | 4.91 |
| 07－357 |  | $4 \times 3 \frac{3}{4} \times 1 \frac{1}{4}$ | 5.8 |
| 07－358 | 4 | 31 $\times 3 \frac{3}{4} \times 24$. | 8.0 |
| 07－359 | 10 | 4婁×3！$\times 4 \frac{9}{16}$ | 16.5 |
| 3，000 VDC Working |  |  |  |
| 07－360 | 2 | $3 \frac{1}{6} \times 3 \frac{3}{4} \times 3{ }^{\frac{3}{16}}$ | 13.4 |
| 07－361 | 4 | 4 ${ }^{\frac{3}{4} \times 3 \frac{8}{4} \times 4 \frac{9}{16}}$ | 19. |
| 4，000 VDC Working |  |  |  |
| 07－362 | 2 | $51 \times 3 \frac{3}{4} \times 4 \frac{9}{16}$ | 25.01 |
| 07－363 | 4 | $8 \times 3$ 年 $4 \frac{4}{18}$ | 35.72 |
| 5，000 VDC Working |  |  |  |
| 07－364 |  | $4 \frac{1}{2} \times 3 \frac{3}{4} \times 24$ | 17.8 |
| 07－365 | 1 | $4 \frac{5}{5} \times 3 \frac{3}{4} \times 4 \frac{4}{18}$ | 22.5 |
| 07－366 | 2 | $6 \frac{1}{4} \times 3 \frac{3}{4} \times \frac{1}{16}$ | 28.5 |
|  |  |  |  |

## （C）Compact Energy－storage Capacitors Type PX

For high－speed thash photography，capacitor－ discharge welding，flash signaling equipment， pulsing，and other energy storage uses requiring extremely high currents during short discharge periods．Compact，minimum weight，solder lug terminals，terne plate containers．

## 50．0 Watt Seconds

Cat．No．Type VDC Peak Cap．Mfd．Net

## Photo－Flash Power Supply

Complete descriptive literature covers the con－ struction of a practical power supply for photo－ flash applications．Trigger circuits and applica－ tions are listed．
Cat．No．42－074 Net Price

## ． 59

13.41
4.91
8.82
8.03
16.52
13.41
25.01
．
.88
28.58
44.66

（D）Types 1455－57 Mica Capacitors

## Size $1 \frac{1}{2}{ }^{\prime \prime} \times 1 \frac{25^{\prime \prime}}{32^{\prime}} \times \frac{1}{32}{ }^{\prime \prime}$

Types 1455－57，have insulated mounting holes， independent of soldering lugs，for connections； $11 / 2^{"}$ spacing between mounting hole centers．If $1 \frac{2}{16}$＂spacing is preferred specify Types 1445－47． Large meter－mounting brackets，permittling use of this type of unit for shunting meter windings． may be obtained，at 44 c added to net price； specify by adding suffix（a）to catalog number． Small brackets are also available at 25 c addl－ tional；specify by suffix（e）．Both brackets have universal slots for elther mounting hole spacing． Standard tolerance $\pm 20 \%$ ；for $\pm 10 \%$ add $10 \%$ to price；$\pm 5 \%$ add $20 \%$ ；$\pm 2 \%$ add $75 \%$ ．

Type 1455
1000 VDC TEST－ 600 VDC Wовк．

| Cat | Cad |  | Cat． | Cap． |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Mfd． | Net | No． | Mfd． | Net |
| 07－161 | ． 00005 | \＄0．41 | 07－167 | ． 003 | \＄0．59 |
| 07－162 | ． 0001 | ． 41 | 07－168 | ． 005 | ． 59 |
| 07－163 | ． 00025 | ． 41 | 07－169 | ． 01 | ． 94 |
| 07－164 | ． 0005 | ． 41 | 07－170 | ． 02 | 1.29 |
| 07－165 | ． 001 | ． 41 | 07－171 | ． 03 | 1.73 |
| 07－166 | ． 002 | ． 47 |  |  |  |
| Type 1456 |  |  |  |  |  |
| 2500 VDC Test－1250 V1DC Wors |  |  |  |  |  |
| 07－172 | ． 00005 | ． 59 | 07－177 | ． 002 | 1.12 |
| 07－173 | ． 0001 | ． 59 | 07－178 | ． 003 | 1.24 |
| 07－174 | ． 00025 | ． 59 | 07－179 | ． 005 | 1.41 |
| 07－175 | ． 0005 | ． 59 | 07－180 | ． 01 | 2.29 |
| 07－176 | ． 001 | ． 73 |  |  |  |


| 5000 VDC TESTE |  |  |  |  | 2500VDC |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 07－181 | .0001 | .73 | $07-186$ | .002 | 1.82 |
| $07-182$ | .0002 | .82 | $07-187$ | .0025 | $\mathbf{2 . 0 3}$ |
| $07-183$ | .00025 | .88 | $07-188$ | .003 | $\mathbf{2 . 2 4}$ |
| $07-184$ | .0005 | $\mathbf{1 . 0 0}$ |  |  |  |
| $07-185$ | .001 | 1.21 |  |  |  |

## Type 1450 Mica Cacacitors

1000 VDC TEAT－600 VDC WORK Intended for the more critical service of low－ powered transmitting circuits，buffer stages， nower ampllfers，and luboratory equipment． Non－magnetic parts are used to reduce r．f．losses to minimum；heavy terminals provide minimum r．f．and contact resistance．Intended for point－ to－point wirlng，being supported entirely by soldered connectlons； $1 \frac{1}{4}$＂$\times 1 \frac{\xi^{\prime \prime}}{} ; \frac{8^{\prime \prime}}{16}$ or $\frac{3^{\prime \prime}}{}$ thick （see below）．

| Cat． | Cap． |  | Cat． | Cap． |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Mfd． | Net | No． | Mfd． | Net |
| 07－140 | ． 00025 | \＄0．27 | 07－151 | ． 005 | \＄0．41 |
| 07－141 | ． 0003 | ． 27 | 07－152 | ． 006 | ． 47 |
| 07－142 | ． 00035 | ． 27 | 07－153 | ． 008 | ． 53 |
| 07－143 | ． 0004 | ． 27 | 07－154 | ． 01 | ． 59 |
| 07－144 | ． 0005 | ． 27 | 07－155 | ．015＊ | ． 79 |
| 07－145 | ． 001 | ． 29 | 07－156 | ．02＊ | ． 85 |
| 07－146 | ． 0015 | ． 32 | 07－157 | ．025＊ | 1.03 |
| 07－147 | ． 002 | ． 32 | 07－158 | ．03＊$\dagger$ | 1.21 |
| 07－148 | ． 0025 | ． 35 | 07－159 | ．04＊+ | 1.56 |
| 07－149 | ． 003 | ． 41 | 07－160 | ．05＊† | 1.94 |
| 07－150 | ． 004 | ． 41 |  |  |  |
| ＊600 volts DC．Test－300 v |  |  |  |  |  |
| $\dagger 3^{\prime \prime}$ thic | All 0 | hers |  |  |  |

A complete listing of capacitance testirg instruments is glven in the 1 nitrument sec－ tion of this catnlog，including the famous Aerovox and C－D test Instruments．See the description of the Aerovox Motor－Starting Capacitor Selector in the same section．

## CORNELL－DUBILIER <br> HIGH－VOLTAGE \＆TRANSMITTING

## （B）TJU TJL Dykanol <br> Transmitting Capacitors

Dependable，compact，lightweight capacitors for amateur，broadcast，and commercial service．Im－ pregnated and alled with non－inflammable，fre－ proof Dykanol A，these units are safe over a wide range of temperatures and voltages and may be sately operated at $10 \%$ above rating．Furnished with universal，clamp－type brackets for upright or Inverted mounting．Heavy，threaded termi－ nals are brought out through high－voltage insulators．

| 600 Volt DC Woreing |  |  |
| :---: | :---: | :---: |
| Cat．No． | Type Mfd． | Net |
| 06－314 | TJU6010 1 | \＄3．09 |
| 06－315 | TJU6020 2 | 3.82 |
| 06－316 | TJU6040 | 4.85 |
| 06－317 | TJU6060 6 | 6.03 |
| 06－318 | TJU6080 8 | 7.20 |
| 06－319 | TJU6100 10 | 8.08 |
| 1000 Volt dc Woreing 3.38 |  |  |
| 06－320 | TJU10010 1 | 3.38 |
| 06－321 | TJU10020 2 | 4.41 |
| 06－322 | TJU10040 4 | 5.59 |
| 06－323 | TJU10100 10 | 8.97 |
| 1500 Volt DC Working |  |  |
| 06－324 | TJU15010 1 | 3.97 |
| 06－325 | TJU15020 2 | 5.59 |
| 06－326 | TJU15040 4 | 7.50 |
| 06－327 | TJU15100 10 | 13.38 |
| 2000 Volt DC Working |  |  |
| 06－328 | TJU20010 1 | 4.85 |
| 06－329 | TJU20020 2 | 5.73 |
| 06－330 | TJU20040 | 8.08 |
| 06－331 | TJU20100 10 | 16.32 |
| 2500 Volt DC Working |  |  |
| 06－332 | TJU25010 1 | 7.06 |
| 06－333 | TJU25020 2 | 11.47 |
| 06－334 | TJL25040 4 | 16.02 |
| 06－335 | TJL25100A 10 | 40.13 |
| 3000 Volt DC Working |  |  |
| 06－336 | TJU30010 | 10.73 |
| 06－337 | TJL30020 2 | 13.38 |
| 06－338 | TJL30040 | 19.70 |
| 4000 Volt dC Working |  |  |
| 06－339 | TJU40010 | 19.70 |
| 06－340 | TJIA0020 2 | 24.99 |
| 06－341 | TJL40040A 4 | 35.72 |
| 5000 Volt dc Working |  |  |
| 06－342 | TJU50005 0.5 | 17.79 |
| 06－343 | TJL50010 1 | 22.34 |
| 06－344 | TJL50020 | 28.66 |
|  | 6000 Volt DC Working |  |
| 06－345 | TJL60010A | 44.69 |

## （A）Type TQ Transmitting

 CapacitorsType TQ are genuine Dykanol，freproof，trans－ mitting filter capacitors that can be mounted up－ right or inverted by means of the mounting ring supplied．Equipped with two insulated terminals． Cylindrical can．

Volts dC Working
Cat．No．Cap．Mid．
06－684


## Type tla Trangmiting Capacitors

For compact，high－voltage filter applications in P．A．amplifiers and power supplies；one terminal is insulated，the other is the metal case；insulating washers furnished allow insulated mounting；im－ pregnated and filled with Dykanol；will with－ stand high transient and surge voltages．

| 600 V．D．C．Woreing |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Type | Mfd． | L．$x$ D． | Net |
| 06－423 | TLA－6020 | 2 | $2 \frac{7}{4} \times 1 \frac{1}{}{ }^{\prime \prime}$ | \＄2．44 |
| 06－4 24 | TLA－6040 | 4 | 4交× $1 \frac{1}{2}{ }^{\prime \prime}$ | 3.35 |
|  | 1000 V．D．C．Worming |  |  |  |
| 06－425 | TLA－10010 | 1 | $2 \mathrm{~T} \times 1{ }^{\text {² }}$ | 2.24 |
| 06－426 | TLA－10020 | 2 | 4雱 $\times 1 \frac{1}{2}$ | 2.93 |
|  | 1500 V．D．C．Working |  |  |  |
| 06－427 | TLA－15005 |  | $2 \frac{1}{6} \times 1 \frac{1}{2}$ | 2.68 |
| 06－428 | Tl．A－15010 | 1 | 4娄 $\times 1 \frac{1}{}{ }^{\prime \prime}$ | 2.93 |

## Type TLAD

Units Insulated from Container
Cat．Cap．

| Cat． | Cap． |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No． | Mfd． | V．D．C． | L．$\times$ D． | Net |
| 06－429 | 2 | 600 | $2 \mathrm{x} \times 1 \frac{1}{3}^{\prime \prime}$ | \＄2．88 |
| 06－430 | 4 | 600 | $4 \frac{1}{7} \times 1{ }^{\prime \prime}$ | 3.79 |
| 06－431 | 1 | 1000 | $27 \times 1 \frac{11}{}$ | 2.68 |
| 06－432 | 2 | 1000 | $4 \frac{1}{3} \times 1{ }^{1 \prime \prime}$ | 3.35 |
| 06－433 | ． 5 | 1500 | $2 \frac{1}{8} \times 1{ }^{\prime \prime}{ }^{\prime \prime}$ | 3.16 |
| 06－434 | 1 | 1500 | 4年×11＊ | 3.35 |



> SPECIAL CATALOGS
> Space does not permit a complete listing of Cornell－Dublier products， but the Radio Shack can furnish them in such types as the High Volt－ age condensers，oil－filled and her－ metically－sealed motor starting con－ densers，and all special types．Write us for y

## HKCT Photo－flash Capacitors

This unit is spectally designed for use in high－ speed photographic equipment，traffic light blinkers，light metal welding and other light－ duty DC energy－storage and discharge applica－ tions；compact and light weight consistent with safe electrical ratings，operating characteristics and extra－long life．

2000 VoLTS D．C．WORKING
Cat．No．Type Mid．Size Lbs．Net

 2500 Volt DC Working
 $\begin{array}{lllllll}06-349 \dagger & 103 & 25 & 3 \text { 集 } \times 4 \frac{1}{16} \times 66^{\prime \prime} & 5 \frac{5}{4} & 13.25\end{array}$
 ＊30．$\dagger 80 . \quad \$ 100$ ，all others 50 ．

For a listing of Sylvania Electronic Photodash Tubes see the Tube Section of this Catalog．For listings of photoflash transformers，see the trans－ listings of photo
former section．

## Molded Mica Transmitting <br> \section*{Capacitors}

Highly perfected mica condensers that readily mount in any position． （－1）mica capacitors types 4 and 9 are deslgned to meet the require－ ments of power amplifers and low－ power transmitters．They are principally employed for grld and plate blocking purposes and for r．f． by－pass functions．

Type 4
1200 V．D．C．TEST 600 V．D．C．WORKING

| Cat．No． | Cap．Mid． | Net |
| :--- | :--- | ---: |
| $06-490$ | .00005 | $\mathbf{\$ 0 . 4 1}$ |
| $06-491$ | .0001 | .41 |
| $06-492$ | .0002 | .41 |
| $06-493$ | .00025 | .41 |
| $06-494$ | .0003 | .41 |
| $06-495$ | .0004 | .41 |
| $06-496$ | .0005 | .41 |
| $06-497$ | .001 | .41 |
| $06-498$ | .0015 | .41 |
| $06-499$ | .002 | .47 |
| $06-500$ | .0025 | .53 |
| $06-501$ | .003 | .59 |
| $06-502$ | .004 | .59 |
| $06-503$ | .005 | .59 |
| $06-504$ | .006 | .71 |
| $06-505$ | .007 | .76 |
| $06-506$ | .008 | .82 |
| $06-507$ | .01 | .94 |
| $06-508$ | .015 | $\mathbf{1 . 0 6}$ |
| $06-509$ | .02 | 1.29 |
| $06-510$ | .025 | 1.56 |
| $06-511$ | .03 | 1.73 |



| 5000 V．D．C．Test |  |
| :---: | :---: |
|  | C．C．Wor |
| Cat．No． | Cap．Mrd． |
| 06－528 | ． 00005 |
| 06－529 | ． 0001 |
| 06－530 | ． 0002 |
| 06－531 | ． 00025 |
| 06－532 | ． 0003 |
| 06－533 | ． 0005 |
| 06－534 | ． 001 |
| 06－535 | ． 0015 |
| 06－536 | ． 002 |
| 06－537 | ． 0025 |
| 06－538 | ． 003 |
| 06－539 | ． 004 |
| 06－540 | ． 005 |

Net
.73
.73
.82
.88
.91
1.00
1.21
1.59
1.82
2.03
2.24
2.56
2.76

## Type 9

## 1200 V．D．C．Test

 600 V．D．C．Working$06-541$
$06-542$
$06-543$
$06-544$
$06-545$
$06-546$
$06-547$
$06-548$
$06-549$
$06-550$
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$06-557$
$06-558$
$06-559$
$06-560$
00005
0001
.00025
.0005
001
.002
.0025
.003
.004
.005
.006
.008
.01
.015
.02
.025
.03
.04
.05
.06
winNoiniojojivinuiningir

| Cat．No． | Cap．Mid． | Net |
| :---: | :---: | :---: |
| 06－561 | ． 00005 | ． 59 |
| 06－562 | ． 0001 | ． 59 |
| 06－563 | ． 00025 | ． 59 |
| 06－564 | ． 0005 | ． 59 |
| 06－565 | ． 001 | ． 73 |
| 06－566 | ． 002 | 1.12 |
| 06－567 | ． 0025 | 1.18 |
| 06－568 | ． 003 | 1.29 |
| 06－569 | ． 004 | 1.29 |
| 06－570 | ． 005 | 1.41 |
| 06－571 | ． 006 | 1.41 |
| 06－572 | ． 008 | 1.82 |
| 06－573 | ． 01 | 2.29 |
| 06－574 | ． 015 | 2.73 |
| 06－575 | ． 02 | 3.21 |
| 06－576 | ． 025 | 3.59 |
| 06－577 | ． 03 | 3.76 |
| 5000 V．D．C．TEst |  |  |
| 2500 V．D．C．Working |  |  |
| Cat．No． | Cap．Mid． | Net |
| 06－578 | ． 00005 | ． 73 |
| 06－579 | ． 0001 | .73 |
| 06－580 | ． 00025 | ． 88 |
| 06－581 | ． 0005 | 1.00 |
| 06－582 | ． 001 | 1.21 |
| 06－583 | ． 002 | 1.82 |
| 06－584 | ． 0025 | 2.03 |
| 06－585 | ． 003 | 2.24 |
| 06－586 | ． 004 | 2.56 |
| 06－587 | ． 005 | 2.76 |
| 06－588 | ． 006 | 2.85 |
| 06－589 | ． 008 | 3.12 |
| 06－590 | ． 01 | 3.35 |
| 06－591 | ． 015 | 3.65 |

## AEROVOX - Electrolytic Capacitors <br> 



## (A) Type G Screw-mounting

 CapacitorsWith threaded cover, lock washer, and nut for mounting unit through chassis. May be insulated from mounting surface. 450 VDC work. Cat. No. Cap. Can Size Net | 07-094 | 8 | $11 \times 21^{n}$ | $\$ 1.02$ |
| :--- | :---: | :---: | :---: |
| $07-095$ | 16 | $188^{3}$ | $\times 24^{\prime \prime}$ |

## (B) Type GL Metal-can Wire-lead Capacitors

These Inverted mounting, aluminum can capacitors are made in single, double and triple sectlon units with separate color-coded leads. Muitiple section units have two leads brought out from each section.

| GL-600 BINGLE-SECTION800 VDC PEAK 600 VDC Worki |  |  |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Cat. No. | Mtd. | Size | Net |
| 07-001 | 4 | $17 \times 4^{\prime \prime}$ | \$1.76 |
| 07-002 | 8 | $17 \times 4 \frac{1}{}{ }^{\prime \prime}$ | 2.35 |
| 07-003 | 16 | $1 \frac{18}{8} \times 4{ }^{\text {d }}$ | 2.94 |
| GL-450 SINGLE-SECTION 525 VDC Peak 450 vDC wohking |  |  |  |
|  |  |  |  |
| 07-004 | 4 | $18 \times 3$ | 1.00 |
| 07-005 | 8 | $1{ }^{\frac{8}{8} \times 3^{\prime \prime}}$ | 1.03 |
| 07-006 | 10 | $1{ }^{\text {c }} \times 3^{\prime \prime}$ | 1.18 |
| 07-007 | 12 | $1{ }^{1} \times{ }^{\prime \prime}$ | 1.26 |
| 07-008 | 16 | $1{ }^{\text {c }} \times{ }^{\prime \prime}$ | 1.41 |
| 07-009 | 20 | $1{ }^{1} \times 3^{\prime \prime}$ | 1.56 |
| 07-010 | 30 | $1{ }^{\text {P }} \times 3^{\prime \prime}$ | 1.76 |
| 07-011 | 40 | $1{ }^{18} \times{ }^{\prime \prime}$ | 2.00 |
| 07-012 | 80 | $18 \times 4^{\prime \prime}$ | 3.53 |
| 2GL-450 Double-section |  |  |  |
| 07-013 | 8-8 | $18 \times 4^{\prime \prime}$ | 1.62 |
| 07-014 | 8-16 | $1{ }^{1} \times 4^{\prime \prime}$ | 1.91 |
| 07-015 | 10-10 | $1{ }^{1} \times{ }^{\prime \prime}$ | 1.76 |
| $07-016$ | 16-16 | $1 \mathrm{x}^{\prime \prime}$ | 2.06 |
| 07-017 | 20-20 | $1 \frac{1}{2} \times 4^{\prime \prime}$ | 2.35 |
| 3GL-450 Tripleb-section |  |  |  |
| 07-018 | 8-8-8 | $1 \frac{1}{12} 4^{\prime \prime}$ | 2.50 |
| 07-019 | 10-10-10 | 1\% $\times 4^{\prime \prime}$ | 2.94 |
| GL-475 Singlesection |  |  |  |
| 07-020 | 8 | $18 \times 3$ | 1.33 |
| 07-021 | 16 | $17 \times 3^{\prime \prime}$ | 2.06 |

## Capacitor Mounting Hardware

Additional hardware for mounting all types of electrolytic capacitors as well as tubular paper units is available as shown listed below.
No. Part
 06-222 12125 Mounting ring $1^{\prime \prime}$ " di 06-223 15501 Mounlis ring, "1" 06-224 16693 Mounting rig. $1 \frac{1}{2}{ }^{\prime \prime}$ da. 8c $\begin{array}{llll}06-225 & 14464 & \text { Mounting ring, } 2 \text { dia. } & 12 \mathrm{c} \\ \mathbf{0 6}\end{array}$ 06-226 13500 Mounting ring, $23^{\prime \prime}$ dia. 12c 06-227 13591 Mounting ring, $3^{n}$ dia. 12 c 06-228 15266 Mounting ring. $33^{\prime \prime}$ dis. 12c 06-229 17842 Mounting riag, $1^{n}$ dis. 06-230 19213 Mounting ring, $1 \frac{1}{1}$ " dia 06-231 18573 Mounting ring, $1^{1 \prime \prime}$ dla. $\begin{array}{lll}06-232 & 17843 & \text { Mounting ring, } 1_{1}^{\prime \prime} \\ 06-233 & 17844\end{array}$ dia. 06-233 17844 Mountligg ring, $1 i^{\prime \prime}$ dia. 06-234 21368-1 Mounting clip. $\frac{3^{\prime \prime}}{3^{\prime}}$ dia. 06-235 21368-2 Mounting cllp, $1^{\prime \prime}$ dia. 06-236 21368-3 Mounting clip, $1 z^{\prime \prime}$ dla 06-237 17920 "C" clamp for ${ }^{\frac{5}{8} "}-\frac{7}{3} "$ cans or tubulars

06-239 $17022 \quad$ "C" clamp for $1 \frac{1}{4}$ " $-1 \frac{1}{4}$ " 06-240 17923 "C" clamp for $1 \frac{1}{8} "-1 \frac{1}{2} "$ 06-241

## CORNELL－DUBILIER



## （A）Beaver Tubular

 Electrolytic CapacitorsSuall，hermetically sealed electrolytics for applic－ atlons where size is a Lactor．Seamless，drawn aluminum container，cardboard sleeve．Will fit conveniently in small spaces or may be attached directly in the assembly supported by strong． bare，tinned－cupper leads．


## Type BRD Dual－Section Units

Same constructional features as BR but have positive lead at each end and common negative mounting atrap on can

Cat．No．Type Mfd．W．v．DxL Net 06－041 $1145 \quad 10-10 \quad 450 \quad 1 \times 21^{\prime \prime} \quad \$ 1.09$ $\begin{array}{lllllll}06-042 & 1845 & 18-18 & 4.50 & 1 & \times 3^{\prime \prime} & 1.38 \\ 06-043 & 2235 & 20-20 & 350 & 1 & \times 3^{\prime \prime} & 1.23\end{array}$ 06－044 $2225 \quad 20-20 \quad 250 \quad 1 \times 2^{\prime \prime} \quad 1.06$ | $06-045$ | 2215 | $20-20$ | 150 | $\frac{5}{5} \times 11^{\frac{1}{6} / n}$ | .76 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $06-046$ | 3315 | $30-30$ | 150 | 1 | $\times 2^{4}$ |
| 88 |  |  |  |  |  | $\begin{array}{llllllll}06-047 & 3515 & 30-50 & 150 & 1 & \times 21^{\prime \prime} & 1.00\end{array}$


 Case not insulated；metal mounting strap pro－ vided for negative contact．

## Type BBR Miniature Tubulars

＂Baby BR type capacitors＂are deslgned for use In compact apparatus such as hearing aids，pocket radlos and other small assemblles．They are ex－ cellent for low－voltage clrcults and are hermeti－ cally sealed in aluminum cans．

| Cat．No． | Type | Mfd． | W．v． | D $\times 1$. | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 06－051 | 50－3 | 50 | 3 |  | 59 c |
| 06－052 | 25－3 | 25 | 3 | 音 $\times 1{ }^{1 \frac{1}{16}}{ }^{\prime \prime}$ | 59 c |
| 06－053 | 50－6 | 50 | c | $\frac{3}{8} \times 1{ }^{1}{ }^{1}{ }^{\prime \prime}$ | 59 c |
| 06－054 | 25－6 | 25 | 6 | 書 $\times 1{ }^{16} 10$ | 59 c |
| 06－055 | 5－6 | 5 | 6 |  | 59 c |
| 06－056 | 20－25 | 20 | 25 | $\frac{5}{2} \times 1 \frac{1}{1 / 1}{ }^{\prime \prime}$ | 59c |
| 06－057 | 10－25 | 10 | 25 | $\times 1 \frac{1}{17}{ }^{\prime \prime}$ | 59c |
| 06－0．58 | 10－50 | 10 | 50 | $\times 1 \frac{1}{10}$＊ | 59c |
| 06－059 | 5－50 | 5 | 50 |  | 59 c |
| 06－060 | 10－20 | 10 | 90 | ¢ $\times 1.10$ | 59 |
| 06－061 | 16－20 | 16 | 90 | $\frac{1}{1} \times 1 \frac{7}{16}$ | 59 |

（B）UP Prong－Base Electrolytics
The smallest hermetically sealed round－can elec－ trolytic avallable．Positive terialinals on bakellte cover；tongued mounting ring．Supplied with bakelite and metal mounting rings．

（C）KR Screw－Neck Electrolytics
Standard size dry electrolytle condensers employ－ ing a high formation process which insures long dependable service．Avallable in single，dual，and triple sectlons with color coded leads．

| 660 Volta dC Working |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Type | Mid． | $17 \times$ | Net |
| 06－099 | 604 | 4 | 1）$\times 3{ }^{\frac{1}{2}}{ }^{\prime \prime}$ | \＄1．76 |
| 06－100 | 608 | 8 | $1 \frac{3}{3} \times 4{ }^{\prime \prime}$ | 2.35 |
| 06－101 | 616 | 16 | $1{ }^{\frac{1}{2}} \times 4{ }^{\frac{1}{2}}{ }^{\prime \prime}$ | 2.94 |
| 450 Volts DC Working ${ }^{1 / 10}$ |  |  |  |  |
| 06－102 | 504 | 4 | $1 \times 23^{\prime \prime}$ | 1.00 |
| 06－103 | 508 | 8 | $1 \times 2{ }^{\text {\％}}$ | 1.03 |
| 06－104 | 512A | 12 | $1 \times 2{ }^{\prime \prime}$ | 1.26 |
| 06－105 | 516A | 16 | $1 \times 3 \frac{1}{1 /}$ | 1.41 |
| 06－106 | 520 | 20 | $1{ }^{1+} \times 2 \frac{1}{2}$ | 1.56 |
| 06－107 | 530 | 30 | $1{ }^{3} \times 31{ }^{\prime \prime}$ | 1.76 |
| 06－108 | 540 | 40 | $1{ }^{1 / 8} 4{ }^{\text {a }}$＂ | 2.00 |
| 06－109 | 588A | 8－8 | $1{ }^{18} \times{ }^{\prime \prime}$ | 1.62 |
| 06－110 | 5816A | 8－16 | $1{ }^{13} \mathrm{x} 4 \frac{1}{}{ }^{\prime \prime}$ | 1.91 |
| 06－111 | 5888A | 8－8－8 | 1娄 $\times 4{ }^{\text {4 }}$＂ | 2.50 |

## （D）Type EB

## Replacement Electrolytics

These are especially sulted to use in receivers replacing units of larger sizes．Color coded leads

| 450 Volts DC Working |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Type | Mfd． | D $\times 1$ | Net |
| 06－112 | 9080 | 8 | $1{ }^{\frac{1}{6} \times 4} \times$ | \＄1．05 |
| 06－113 | 9100 | 10 | $1{ }^{1} \times 4{ }^{\text {3／}}$ | 1.23 |
| 06－114 | 9120 | 12 | $1 \frac{1}{2} \times 4 \frac{11}{\prime \prime}$ | 1.37 |
| 06－115 | 9160 | 16 | $1{ }^{1 / 2} \times 4{ }^{\prime \prime}$ | 1.55 |
| 06－116 | 8800 | 8－8 |  | 1.61 |

## （E）Type FA Insulated－can Electrolytic

In round aluminum cans；designed for hlgh－ capaclty，low－voltage applications where hum－ iree operation is essential；cardboard insulating

| sleeve． | Cap． | D．${ }^{\text {．}}$ ． |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Mfa． | W．V． | D X L | Net |
| 06－133 | 500 | 12 | 1票 $\times 2{ }^{1 / 7}$ | \＄1．62 |
| 06－134 | 1000 | 12 | $1{ }^{18} \times 1{ }^{\prime \prime}$ | 1.71 |
| 06－135 | 1500 | 12 | $1{ }^{\frac{1}{8} \times 4}{ }^{\text {¢ }}$ | 2.65 |
| 06－136 | 2000 | 12 | $1 \frac{3}{8} \times 4 \frac{1}{4 \prime \prime}$ | 2.82 |
| 06－137 | 2500 | 12 | 118 $\times 43^{\prime \prime}$ | 3.18 |
| 06－138 | 3000 | 12 | $1{ }^{1} \times 4 \frac{1}{\prime \prime}$ | 3.53 |
| 06－139 | 4000 | 12 | 13 $\times 4{ }^{\frac{1}{8}}$ | 4.18 |
| 06－140 | 500 | 15 | $13 \times 2{ }^{\prime \prime}$ | 1.82 |
| 06－141 | 1000 | 15 | $1{ }^{\text {最 } \times 3{ }^{\prime \prime}}$ | 2.18 |
| 06－142 | 2000 | 15 | $1{ }^{3} \times 4{ }^{\prime \prime}$ | 3.41 |
| 06－143 | 3000 | 15 | $1{ }^{1} \times 41^{\prime \prime}$ | 4.12 |
| 06－144 | 4000 | 15 |  | 4.76 |
| 06－145 | 500 | 18 | $1{ }^{1} \times 2^{\prime \prime}$ | 2.00 |
| 06－146 | 1000 | 18 | $1{ }^{18} \times 3^{\prime \prime}$ | 2.35 |
| 06－147 | 2000 | 18 | $1{ }^{\text {I }} \times 4{ }^{\text {\％}}$ | 3.65 |
| 06－148 | 4000 | 18 | $11 \times 4{ }^{\text {¢ }}$＂ | 5.15 |
| 06－149 | 500 | 20 | $11 \times 3{ }^{\prime \prime}$ | 2.21 |
| 06－150 | 1000 | 20 | $11 \times 4{ }^{\prime \prime}$ | 2.59 |
| 06－151 | 2000 | 20 | $1{ }^{1} \times 4{ }^{\prime \prime}$ | 3.82 |
| 06－152 | 4000 | 20 | $2 \times 4{ }^{\prime \prime}$ | 5.44 |
| 06－153 | 500 | 25 | $1{ }^{18} \times 3^{\prime \prime}$ | 2.35 |
| 06－154 | 1000 | 25 | $1{ }^{1} \times 4 \frac{1}{3}$ | 2.85 |
| 06－155 | 2000 | 25 | 1娄×4 ${ }^{\frac{1}{8}}{ }^{\prime \prime}$ | 4.23 |
| 06－156 | 4000 | 25 | $2 \times 4{ }^{\prime \prime}$ | 5.79 |
| 06－157 | 1000 | 30 | $1{ }^{3} \times 4{ }^{\text {² }}$ | 3.38 |
| 06－158 | 2000 | 30 | $2 \frac{1}{3} \times 4 \frac{1}{1 \prime}$ | 4.65 |
| 06－159 | 4000 | 30 | $3 \times 4{ }^{\prime \prime}$ | 6.59 |
| 06－160 | 500 | 35 | $1{ }^{1} \times 4{ }^{\prime \prime}$ | 2.50 |
| 06－161 | 1000 | 35 | 14 ${ }^{\text {x }} 4{ }^{1 / 1}$ | 3.82 |
| 06－162 | 2000 | 35 | $2{ }^{2} \times 4{ }^{1 / 1}$ | 5.06 |
| 06－163 | 3000 | 35 | $2 \times 4{ }^{\prime \prime}$ | 5.29 |
| 06－164 | 1000 | 40 | 13 ${ }^{3} 4{ }^{1 / 3}$ | 4.62 |
| 06－165 | 2000 | 40 | $2 \frac{1}{2} \times 4{ }^{\prime \prime}$ | 5.44 |
| 06－166 | 500 | 50 | $13 \times 4{ }^{\prime \prime}$ | 2.82 |
| 06－167 | 1000 | 50 |  | 5.00 |
| 06－168 | 2000 | 50 | $2 \frac{1}{3} \times 4 \frac{3}{3 \prime}$ | 6.17 |

## （F）BRH High－capacity Low－volt－ age Units

Etched－foll electrolytics，hermetically sealed in aluminum can with Insulating sleeve and mount－ ing strap．

| Cat．No． | Type | M | V． | D $\times$ L | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 06－117 | BRH601 | 100 | 6 | $\frac{5}{8} \times 1 \frac{1}{16}$ | \＄0．68 |
| 06－118 | BRH6025 | 250 | 6 |  | 85 |
| 06－119 | BRH605 | 500 | 6 | 8 $22^{\prime \prime}$ | 1.00 |
| 06－120 | BRH610 | 1000 | 6 | \％$\times 2^{\prime \prime}$ | 1.32 |
| 06－121 | BRH615 | 1500 | 6 | \％$\times 2{ }^{\prime \prime}$ | 1.76 |
| 06－122 | BRH620 | 2000 | 6 | $1 \times 2 \frac{11}{}$ | 2.29 |
| 06－123 | BRH121 | 100 | 12 | －$\times 1 \frac{7}{16}{ }^{\prime \prime}$ | ． 73 |
| 06－124 | BRH1225 | 250 | 12 | 番× ${ }^{\prime \prime}$ | 1.03 |
| 06－125 | BRH125 | 500 | 12 | $\frac{7}{8} \times 2 \frac{1}{10}$ | 1.12 |
| 06－126 | BRH151 | 100 | 15 | $\frac{5}{181}{ }^{\frac{7}{18}}{ }^{\text {\％}}$ | ． 76 |
| 06－127 | BRH1525 | 250 | 15 | $\frac{3}{4} \times 2$ | 1.12 |
| 06－128 | BRH155 | 500 | 15 | $\frac{7}{8} \times 2{ }^{\prime \prime}$ | 1.23 |
| 06－129 | BRH251 | 100 | 25 | 亳× $2^{\prime \prime}$ | ． 79 |
| 06－130 | BRH2525 | 250 | 25 | $\frac{7}{8} \times 2^{\prime \prime}$ | 1.18 |
| 06－131 | BRH255 | 500 | 25 | $1 \times 2 \frac{11}{}$ | 1.32 |
| 06－132 | BRH501 | 100 | 50 | $\frac{3}{4} \times 2^{\prime \prime}$ | 88 |

## Type PECH and PEB Electroiytic <br> Replacements

Paper replacement capacitors that simulate elec－ trolytics in appearance；these filifill many service requirements．Mounting flanges are provirled on all cardboard box unlts．Size

| Cat．No． | Cap．Mfd． | L． X W．x H． | Net |
| :---: | :---: | :---: | :---: |
| 06－412 | 4 |  | \＄1．18 |
| 06－413 | 8 |  | 1.91 |
| 06－414 | 8－8 | $4 \frac{3}{1} \times 2 \times 1{ }^{\prime \prime}$ | 2.35 |
| 06－415 | 4 | $4{ }^{\frac{3}{1}} \times 13^{3 /}$ | 1.24 |
| 06.416 | 8 | $4{ }^{4} \times 1{ }^{\text {P }}$＂ | 2.06 |
| 06－417 | 8－8 | $4 \times 1{ }^{1}{ }^{\prime \prime}$ | 2.53 |

[^3]
# Mallory Volume Controls 



## (A) Standard Carbon Controls

Fixed shaft - no taps for volume or tone control in audio circults. A $11^{n}$ carbon control avallable in a range of resistances and tajers to satisfactorily cover the beld. Furnished with mounting hardware,

| Cat. No. | Type | Ohms Taper |  | Cat. No. | Type | Ohms Taper |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 09-757 | Y5MP | 5000 | 4 | 09-776 | Y250MP | 250000 | 4 |
| 09-758 | E12* | 5000 | 1 | 09-777 | M | 250000 |  |
| 09-759 | F12* | 7500 | 1 | 09-778 | UC511 $\dagger$ | 250000 | 1 |
| 09-760 | Y10MP | 10000 | 4 | 09-779 | UC509* | 250000 | 2 |
| 09-761 | G12* | 10000 | 1 | 09-780 | Y500MP | 500000 | 4 |
| 09-762 | UC501* | 10000 | 2 | 09-781 | N | 500000 | 1 |
| 09-763 | H12* | 15000 | 1 | 09-782 | UC512 $\dagger$ | 500000 | 1 |
| 09-764 | Y* | 20000 | 1 | 09-783 | UC513 | 500000 | 2 |
| 09-765 | Y25MP | 25000 | 4 | 09-784 | UC503 | 750000 | 1 |
| 09-766 | J* | 25000 | 2 | 09-785 | Y 1000 MP | 1 Meg . | 4 |
| 09-767 | Y50MP | 50000 | 4 | 09-786 | 0 | 1 Meg . | 1 |
| 09-768 | K12 | 50000 | 1 | 09-787 | UC514 $\dagger$ | 1 Meg . | 1 |
| 09-769 | K* | 50000 | 2 | 09-788 | $\mathbf{P}$ | 2 Meg . | I |
| 09-770 | Z12 | 75000 | 1 | 09-789 | UC504 | 3 Meg. | 1 |
| 09-771 | Z* | 75000 | 2 | 09-790 | UC505 | 4 Meg . | 1 |
| 09-772 | Y100MP | 100000 | 4 | 09-791 | UC506 | 5 Meg . | 1 |
| 09-773 | UC510* | 100000 | 1 | 09-792 | UC507 | 5 Meg . | 2 |
| 09-774 | UC502 | 150000 | 2 | 09-793 | UC508 | 9 Meg . | , |
| 09-775 | Y200MP | 200000 | 4 |  |  |  |  |
| Net Each . . . . . . . . . . . . . |  |  |  |  |  |  |  |

## (B) TRP Standard Controls

Fixed shaft - single and double tapped for volume control with tone compensation audio circuits. Mounting hardware furnished

| Cat. No. | Type | Ohins | Tap | Cat. No. | Type | Ohms | Tap |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 09-794 | TRP601 | 40 M | 8M | 09-807 | TRP615 | 3 Meg . | 900M |
| 09-795 | TRP602 | 60 M | 4M | 09-808 | TRP616 | 500 M | 60 M |
| 09-796 | TRP603 | 250 M | 110 M | 09-809 | TRP617 | 60M | 12M |
| 09-797 | TRP604 | 350 M | 20M | 09-810 | TRP618 | 2 Meg . | 250M |
| 09-798 | TRP605 | 350M | 70 M | 09-811 | TRP619 | 500 M | 100 M |
| 09-799 | TIRP606 | 500 M | 100 M |  |  |  | 200 M |
| 09-800 | TRP607 | 500 M | 225 M | 09-812 | TRP620 | 2 Meg | 900M |
| 09-801 | TRP608 | 1 Meg . | 200M | 09-813 | TRP621* | $2 \frac{1}{4}$ | 250 M |
| 09-802 | TRP609 ${ }^{\text {P }}$ | 1 Meg . | 500 M |  |  | Meg. | 500 M |
| 09-803 | TRP610 | 1 Meg . | 30 M | 09-814 | TRP622 | 44 M | 7-14M |
| 09-804 | TRP612 | 2 Meg . | 15M | 09-815 | TRPP623 | 250 M | 50 M |
| 09-805 | TRP613 | 2 Meg . | 400 M | 09-816 | TRP624 | 23 | 250 M |
| 09-806 | TRP614 $\dagger$ | 350 M | 70 M |  |  | Meg. | 500 M |
| Net Each . . . . . . . . . . . . . . . . \$1.09 |  |  |  |  |  |  |  |
| * No provislon for switch; if switch is desired use TRP624. |  |  |  |  |  |  |  |
| $\dagger$ Has slotted shaft for auto sets. |  |  |  |  |  |  |  |
| Special | per | er | . Le | witches. |  |  |  |

## (C) Type UM Midget Controls

Plug-in shaft with no taps. For volume or tone control in audio circuits. Available in a wide range of resistances and tapers and has an excellent satety factor in current carrying capaclty, Mounting hardware furnished

| Cat. |  | Ohm |  | Cat. |  | Ohin |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Res. | Taper | No. | Type | Res. | Taper |
| 09-581 | UM114* | 5M | 4 | 09-600 | UM144 | 150 M |  |
| 09-582 | UM118* | 10M | 1 | 09-601 | UM 147 |  |  |
| 09-583 | UM119* | 10M | 2 | 09-602 | UM150 ${ }^{\text {+ }}$ | 250 M | 1 |
| 09-584 | UM120* | 10M | 4 | 09-603 | UM149 | 250M | 4 |
| 09-585 | UM121** | 15M | 1 | 09-604 | UM151 | 350 M | 1 |
| 09-586 | UM122** | 15M | 2 | 09-605 | UM154 | 500 M | 1 |
| 09-587 | UM124* | 20M | 1 | 09-606 | UM157t | 500 M | 1 |
| 09-588 | UM128* | 25M | 2 | 09-607 | UM156 | 500 M | 4 |
| 09-589 | UM129* | 25 M | 4 | 09-608 | UM158 | 750M | 1 |
| 09-590 | UM133 | 50 M | 1 | 09-609 | UM161 |  |  |
| 09-591 | UM134* | 50 M | 2 | 99-610 | UM162t | 1 M | 1 |
| 09-592 | U.M135 | 50 M | 4 | 09-611 | UM 160 | 1 Meg . | 2 |
| 09-593 | UM137 | 75 M | 1 | 09-612 | UMI 159 | 1 Meg . |  |
| 09-594 | UM138 | 75 M | 2 | 09-613 | UM1814 | 2 Meg . | Suec. |
| 09-595 | UM 140 |  |  | 09-614 | UM163 | 2 Meg . | 1 |
| 09-596 | UM143 $\dagger$ ' | 100M | 1 | 09-615 | UM165 | 3 Meg . | 1 |
| 09-597 | UM141 | 100M | 2 |  |  |  |  |
| 09-598 | UM142 | 100M | 4 |  |  |  |  |
| 09-599 | UM180 $\ddagger$ | 100 M | Spec. |  |  |  |  |
| * External adjustable resistor included. |  |  |  |  |  |  |  |
| Clutch type controls - no provision for attachable switch. \$ Right hand switch action. |  |  |  |  |  |  |  |
| Net Ea |  |  | . . |  |  |  | 73 c |

## Attachable Standard Switches

For use with standard universal controls, carbon and wire-wound types, TRP tapped controls, and universal dual controls.
Cat. No. 09-868 Type 6-9. SPST. Net Each
Cat. No. 09-869 Type 7. DPST, Net Each
Cat. No. 09-870 Type 8. SPDT. Net Each
Cat. No. 09-871 Type 13. 3PST. Shorting type. Net Each
Cat. No. 09-872 Type 14. 4PST. Shorting type. Net Each


## (D) New Mallory Midgetrols

These $\frac{15}{18}$ diameter controls are the answer to the replacement problems so often encountered on small sets. New type flat shaft is easily adaptable to any type knob with only two shaft fittings furnished. Shaft extension fits all Midgetrols. Quiet, dependably operating contacts. Furnished complete with hex nut, lock washer, U-clip, and spring steel clip.

| Type | Ohms | Taper | Type | Ohms | Taper | Type | OhmsTaper |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| U-12 | 5 M | 1 | $\mathrm{U}-33$ | 50 M | 1 | $\mathrm{U}-45$ | 260 M | 2 |
| $\mathrm{U}-14$ | 5 M | 4 | $\mathrm{U}-34$ | 50 M | 2 | $\mathrm{U}-46$ | 250 M | 4 |
| $\mathrm{U}-18$ | 10 M | 1 | $\mathrm{U}-35$ | 50 M | 4 | $\mathrm{U}-48$ | 500 M | 1 |
| $\mathrm{U}-19$ | 10 M | 2 | $\mathrm{U}-36$ | 75 M | 1 | $\mathrm{U}-50$ | 500 M | 4 |
| $\mathrm{U}-20$ | 10 M | 4 | $\mathrm{U}-39$ | 100 M | 1 | $\mathrm{U}-51$ | 750 M | 1 |
| $\mathrm{U}-21$ | 15 M | 1 | $\mathrm{U}-40$ | 100 M | 2 | $\mathrm{U}-53$ | 1 Meg | 1 |
| $\mathrm{U}-22$ | 15 M | 2 | $\mathrm{U}-41$ | 100 M | 4 | $\mathrm{U}-54$ | 1 Meg | 4 |
| $\mathrm{U}-24$ | 20 M | 1 | $\mathrm{U}-42$ | 150 M | 1 | $\mathrm{U}-55$ | 2 Mcg | 1 |
| $\mathrm{U}-28$ | 25 M | 2 | $\mathrm{U}-43$ | 200 M | 4 | $\mathrm{U}-57$ | 3 Meg | 1 |
| $\mathrm{U}-29$ | 25 M | 4 | $\mathrm{U}-44$ | 250 M | 1 | $\mathrm{U}-65$ | 5 Meg | 1 |

Cat. No. 09-921 Type U Midgetrol. Specify type number and value when ordering. Net Each

## Type UT Tapped Midgetrol

Same as Type U Midgetrol, above, except are tapped. Provide tone compensation when needed

| Cat. No. Type | Ohms | Tap | Cat. No. Type | Ohms | Tap |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $09-922$ | UT-420 | 250 M | 50 M | $09-927$ | UT-450 | 2 Meg | 125 M |
| $09-923$ | UT-425 | 350 M | 70 M | $09-928$ | UT-448 | 2 Mcg | 250 M |
| $09-924$ | UT-427 | 500 M | 100 M | $09-929$ | UT-454 | 2 Meg | 400 M |
| $09-925$ | UT-431 | 500 M | 225 M | $09-930$ | UT-451 | 2 Meg | 00 M |
| $09-926$ | UT-443 | 1 Meg | $\mathbf{4 5 0 M}$ |  |  |  |  |
| Net Each | . | . |  | . | . | . | . |

## Midgetrol Switches and Accessories

Cat. No. 09-931 US-26. SPST AC switch. Net . . 35c
Cat. No. 09-932 US-26T, SPST AC switch, with dumbly terminal. Net
Cat. No. 09-933 US-27. "DPST AC switch. Net
Cat. No. 09-934 UE-28. SPDT switch. Net . Cat. No. 09-935 US-23. 4PST, shorting switch. Net Cat. No.09-937 UP-10. Idler pulley. Net

12c
(E) Type MRT Midget Controls

A fixed-thaft, slagle-tapped control designed for control of volume with tone compensation in audio circults. Complete with mounting hardware. Cat. No. Type Ohms Tap Cat. No. Type Ohms Tap $\begin{array}{llllllll}09528 & \text { MRT420 } & 250000 & 50000 & 09-538 & \text { MRT443 } & 1 \mathrm{Meg} . & 450000\end{array}$ 09-529 MRT425 $350000 \quad 70000 \quad 09-539$ MRT460 1 Meg. 500000 09-530 MRT426 $500000 \quad 15000 \quad 09-540$ MRT445 2 Mog. 5000 09-531 MRT427 $50000010000009-541$ MRT448 2 Meg. 15000 09-532 MRT428 $500000 \quad 5000 \quad 09-542$ MRT447 2 Meg .60000 $09-533$ MRT430 $500000 \quad 150000$ 09-543 MRT450 2 Meg. 125000 09-543 MRT421 $500000 \quad 225000$ 09-544 MRT448 2 Meg .250000 $09-535$ MRT436 1 Meg. 125000 09-545 MRT454 2 Meg .400000 $09-536$ MRT438 1 Meg. 300000 09-546 MRT449 2 Meg. 600000 $09-537$ MRT440 1 Meg. 200000 09-547 MRT451 2 Meg. 900000
Net Each

## Type MR Midget Control

A small control for tone or volume control Ln audio ctrcuits. A $3^{\prime \prime}$ channel shaft is permanently attached. Mounting hardware furnished. When ordering, specity type number and resistance

| Type | Ohms | Taper | Type | Ohms | 'Taper | Type | Ohms | Taper |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MR14* | 5000 | 4 A | MR33 | 50000 | 1 | MR44 | -250000 | , |
| MR18* | 10000 | 1 | MR34* | 50000 | 2 | Mr45 | 250000 | 2 |
| MR19* | 10000 | 2 | MR35 | 50000 | 4 | MR48 | 500000 | 1 |
| MR20* | 10000 | 4 | MR36 | 75000 | 1 | MR50 | 500000 | 4 |
| MR21* | 15000 | 1 | MR37 | 75000 | 2 | MR51 | 750000 | 1 |
| MR22* | 15000 | 2 | MR39 | 100000 | 1 | MR.53 | 1 Meg . | 1 |
| MR24* | 20000 | 1 | MR40 | 100000 | 2 | MR55 | 2 Meg . | 1 |
| MR28* | 25000 | 2 | MR41 | 100000 | 4 | MR57 | 3 Meg . | 1 |
| MR29** | 25000 | 4 | MR42 | 150000 | 1 |  |  |  |
| Cat. No. | 09-502 | Net E | ach |  |  |  |  | 73c |

* External adjustable resistor included.


## Type MK Midget Controls

Flxed, knurled shaft - no taps. For volume or tone control in audio circuits. Complete with mounting hardware.
Cat. No. Type Ohms Taper Cat. No Type Ohms Taper Net $\begin{array}{lllllllll}09-548 & \mathrm{MK}-400 & 250000 & 1 & 09-550 & \mathrm{MK}-402 & 1 & \mathrm{Meg} & 1 \\ 09-53 \mathrm{c}\end{array}$

## Mallory Volume Controls

## (A) Type TM Midget Controls

Plug-in shaft - slngle tapped. For use as a volume control with tone compensation tn audio circuits. This control is provided with a socket which will take 30 diff erent ty pes of shafts insurlig maximum flexibility of stock. Mounting hardware furnished.

| Cat. |  | Overall | Tap |
| :---: | :---: | :---: | :---: |
| No. | Type | Res. | Resis. |
| 09-616 | TM220 | 250 M | 50 M |
| 09-617 | TM221 | 250M | 110 M |
| 09-618 | TM222*' | 250 M | 110M |
| 09-619 | TM225 | 350 M | 70 M |
| 09-620 | TM223* ${ }^{\text {² }}$ | 350 M | 70M |
| 09-621 | TM228 | 500 M | 5M |
| 09-622 | TM226 | 500 M | 15 M |
| .09-623 | TM233 | 500 M | 60 M |
| 09-624 | TM224* | 500 M | 100 M |
| 09-625 | TM227 | 500 M | 100M |
| 09-626 | TM230 | 500 M | 150 M |
| 09-627 | TM231 | 500 M | 225 M |
| 09-628 | TM232* | 500 M | 225M |
| 09-629 | TM234 | 1 Meg . | 65 M |
| 09-630 | TM236 | 1 Meg . | 125 M |
| 09-631 | TM240 |  |  |
| 09-632 | TM24 ${ }^{*}$ | 1 Meg . | 200 M |
| 09-633 | TM238 | 1 Meg . | 300M |
| 09-634 | TM239* | 1 Meg. | 300M |
| 09-635 | TM242* | 1 Meg . | 450 M |
| 09-636 | TM243 | 1 Meg . | 400M |
| 09-637 | TM124 | 1.5 Meg . | 200M |
| 09-638 | TM245 | 2 Meg . | 5 M |
| 09-639 | TM246 | 2 Meg . | 15 M |
| 09-640 | TM247 | 2 Meg . | 60 M |
| 09-641 | TM250 | 2 Meg . | 125 M |
| 09-642 | TM248 | 2 Meg . | 250 M |
| 09-643 | TM254 | 2 Meg . | 400 M |
| 09-644 | TM249 | 2 Meg . | 600 M |
| 09-645 | TM251 | 2 Meg . | 900M |
| 09-646 | TM252* | 2 Meg. | 900M |
| 09-647 | TM259 | 2 Meg . | 1 Meg |
| 09-648 | TM257 | 3 Meg . | 900 M |
| 09-649 | TM261 | 5 Meg . | 1 Meg. |

Clutch type controls - no provision for at tachable switch.
Net Each
$\$ 1.09$

Type DTM Midget Controls
Plug-ln shaft - double tapped. For use as a volume control with tone compensation in audio circuits. Provided with a socket which will take 30 diferent types of shafts. Mounting hardware provided.

| Cat. |  | Overall |  | Tap Resistance |  |
| :--- | :--- | :--- | ---: | ---: | :---: |
| No. | T3pe | Res. | Tap 1 | Tap 2 |  |
| $09-650$ | DTM282 | 250 M | 50 M | 100 M |  |
| $09-651$ | DTM283 | 500 M | 100 M | 200 M |  |
| $09-652$ | DTM287 | 1 Meg. | 50 M | 100 M |  |
| $09-653$ | DTM289 | 1 Meg. | 250 M | 500 M |  |
| $09-654$ | DTM291 | 1.5 Meg. | 225 M | 500 M |  |
| $09-655$ | DTM293 | 2 Meg. | 5 M | 500 M |  |
| $09-656$ | DTM295 | 2.25 Meg. | 250 M | 500 M |  |
| $09-657$ | DTM296 | 2.25 Meg. | 500 M | 1 Meg. |  |
| $09-658$ | DTM298 | 3 Meg. | 100 M | 1.5 Meg. |  |
| Net Each |  |  |  | $\$ 1.09$ |  |


(B) Standard Wire-wound Controls


## (C) Type T and L Pads

For controlling the level of low-impedance audio circuits and for volume control of microphones, talking pleture amplifiers, and many varied sound amplifying and audio distribution systems. May be used with audio amplflers having a peak audio rating of 15 watts and a continuous DC dissipa tion rating of 4 watts in any position. Mounting hardware furnished.

|  | "T" PADs |  | "L" PADS |  |  |
| :--- | :---: | ---: | :--- | ---: | ---: |
| Cat. No | Type | Ohms | Cat. No. | Type | Ohms |
| $09-873$ | T6 | 6 | $09-881$ | L6 | 6 |
| $09-874$ | T8 | 8 | $09-882$ | L15 | 15 |
| $09-875$ | T15 | 15 | $09-883$ | L50 | 50 |
| $09-876$ | T50 | 50 | $09-884$ | L200 | 200 |
| $09-877$ | T200 | 200 | $09-885$ | L250 | 250 |
| $09-878$ | T250 | 250 | $09-886$ | L500 | 500 |
| $09-879$ | T500 | 500 | $09-887$ | L2000 | 2000 |
| $09-880$ | T2000 | 2000 |  |  |  |
| "T" Pads. Net Each | $\$ 2.50$ | "L" Pads. Net Each. | $\$ 2.20$ |  |  |

(D) Type $M$ Variable Wire-wound Resistors

With stub shafts; used on blas controls and voltage dividers in bridge circults and test instruments; 4 watt rating; for use in instruments where reliabillty is paramount; mounting hardware furnished.

|  |  | Ohms |  | IOMETERS <br> Cat. No. | Type | Ohms | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Mip | Ohms |  | 09-683 | M400P | 400 | $\mathrm{Net}^{0.73}$ |
| 09-670 | M3P | 3 |  | 09-684 | M500P | 500 | . 73 |
| 09-671 | M6P | 6 |  | 09-685 | M600P | 600 | . 73 |
| 09-672 | M10P | 10 |  | 09-686 | M1MP | 1M | . 82 |
| 09-673 | M15P | 15 |  | 09-687 | M2MP | 2 M | . 82 |
| 09-674 | M20P | 20 N | Net | 09-688 | M3MP | 3M | . 82 |
| 09-675 | M25P | 25) | Ea. | 09-689 | M4MP | 4M | . 82 |
| 09-676 | M30P | 307 | 73 c | 09-690 | M5MP | 5 M | . 82 |
| 09-677 | M40P | 40 |  | 09-6,91 | M10MP | 10M | . 97 |
| 09-678 | M50P | 50 |  | 09-692 | M15MP | 15 M | . 97 |
| 09-679 | M60P | 60 |  | 09-693 | M20MP | 20 M | . 97 |
| 09-680 | M75P | 75 |  | 09-694 | M25MP | 25 M | . 97 |
| 09-681 | M100P | 100 |  | 09-695 | M50MP | 50 M | 1.15 |
| 09-682 | M200P | 200) |  | 09-696 | M70MP | 70M | 1.15 |
| Rhfostats |  |  |  |  |  |  |  |
| Cat. No. | Type | Ohms | Amps | Cat. No | Type | Ohms | Amps |
| 09-697 | M05R | $\frac{1}{2}$ | 2.80 | 09-705 | M20R | 20 | . 45 |
| 09-698 | M1R | 1 | 2.00 | 09-706 | M25R | 25 | . 40 |
| 09-699 | M2R | 2 | 1.4 | 09-707 | M30R | 30 | . 37 |
| 09-700 | M3R | 3 | 1.15 | 09-708 | M40R | 40 | . 32 |
| 09-701 | M4R | 4 | 1.00 | 09-709 | M50R | 50 | . 28 |
| 09-702 | M6R | 6 | . 82 | 09-710 | M60R | 60 | . 26 |
| 09-703 | M10R | 10 | . 63 | 09-711 | M75R | 75 | . 23 |
| 09-704 | M15R | 15 | . 52 | 09-712 | M100R | 100 | . 20 |
| Have open or "ofr' position counter-clockwlse. |  |  |  |  |  |  |  |
| Net Each . . . . . . . . . . . . . . . 59c |  |  |  |  |  |  |  |
| Cat. No. | 09-713 | Type 39 | 95 dial pl | te for " $\mathrm{M}^{\prime \prime}$ | controls. | * | 15c |

## Type C Wire-wound Variable Resistor

$1 \frac{1}{16}$ " diametar small resistor that will dissipate 2 watts over the entire element for continuous operation. Avallable only in linear taper. Contact arm is grounded. $284^{\circ}$ total rotation; $266^{\circ}$ effective electrical rotation. For use In test and special instruments, bias control and bridge circuits. Mounting hardware supplied.

| Potentiometers |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Ohms | Amps | Cat. No. | Type | Ohms | Amps |
| 09-732 | C6P | 6 | . 58 | 09-737 | C40P | 40 | . 22 |
| 09-733 | C10P | 10 | . 45 | 09-738 | C50P | 50 | . 2 |
| 09-734 | C15P | 15 | . 37 | 09-739 | C100P | 100 | . 14 |
| 09-735 | C20P | 20 | , 32 | 09-740 | C200P | 200 | 1 |
| 09-736 | C30P | 30 | .26 | 09-741 | C400P | 400 | . 07 |
| Net Each |  |  |  |  | - |  | 73 c |
| 09-742 | ClMP | 1 M | . 045 | 09-743 | C3MP | 3M | . 025 |
| Net Each |  |  |  |  | - |  | 82 c |
| 09-744 | C5MP | 5 M | . 02 | 09-746 | C10MP | 10 M | . 014 |
| 09-745 | C6MP | 6M | . 018 | 09-747 | C15MP | 15M | . 011 |
| Net Each | . . |  | $\mathbf{R H}_{\mathbf{H}}$ | ОSTATS |  |  | 97 c |
| 09-748 | C6R | 6 | . 58 | 09-752 | C30R | 30 | . 26 |
| 09-749 | C10R | 10 | . 45 | 09-753 | C40R | 40 | . 22 |
| 09-750 | C15R | 15 | . 37 | 09-754 | C50R | 50 | 2 |
| 09-751 | C20R | 20 | . 32 | 09-755 | C100R | 100 | 14 |
| Net Each |  |  |  |  |  | . | 59 |

## (E) Type E Wire-wound Potentiometers

Stub shaft; supplied with grounded contact arm. $310^{\circ}$ total rotation; $299^{\circ}$ errective electrical rotation. Will dissipate 7 watts. Mounting hardware furnished.
Cat. No. Type Ohms Amps Cat. No. Type Ohms Amps 09-714 E5MP 5000 . 042 , $09-716$ E20MP 20000 . 021 09-715 E10MP 10000 . 03 Net Each 09-717 E25MP 25000 019 * 09-720 E100MP 100000 $\begin{array}{llllllll}09-718 & \mathrm{E} 50 \mathrm{MP} & 50000 & .0135 & 09-721 & \mathrm{E} 125 \mathrm{MP} & 125000 & .0085\end{array}$ $09-719$ E75MP $\quad 75000$. $011 \quad 09-722$ E150MP $150000 \quad .0078$ Cat. No. 09-723 Type 399 Dial Plate for '"E"' Controls. Net

## Type B Carbon Type Variable Resistors

For use in test and other Instrument and special applications. $1 \frac{1}{2}$ " heavyduty control with a nominal 1 watt rating with linear taper. Mounting hardware furnshed.

|  |  |  |  | Type | Ohms |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Ohms | Cat. No. | Type | Ohms |
| 09-724 | B5MP | 5000 | 09-728 | B100MP | 100000 |
| 09-725 | B10MP | 10000 | 09-729 | B250MP | 250000 |
| 09-726 | B25MP | 25000 | 09-730 | B500MP | 500000 |
| 09-727 | B50MP | 50000 | 09-731 | B1000MP | 1 Meg . |
| Net Each | . . . | . . | . . . | - • • | 73 c |

# Mallory - Ohmite 

## Mallory

## Hardware for Controls

Type EC240 Universal combination extenslon shaft coupling and reducer. Wlll couple two $\frac{1}{4}^{\prime \prime}$ shaft or one $\frac{1 / 2}{\prime \prime}$ shaft and one $\frac{3}{16}$ " shaft.
Cat. No. 09-950 Net Price
Wrench for Volume Control nuts. $\frac{1}{2}^{\circ \prime \prime}$ and ${ }^{3} 0^{\prime \prime}$ diameters.
Cat. No. 09-951 Net Price

## Adjustable Mounting Brackets

Cat. No. 09-952 (A) Type RB248. Net 15 Cat. No. 09-953 (B) Type RB249. Net 15 c Nuts - hexagon shoulder type for mounting. Cat. No. 09-954 255 . $1^{\prime \prime}$ panel. Net . 12 Cat. No.09-955 A11260-12. 年". Net . $\quad 15 \mathrm{c}^{\text {. }}$ Cat. No. 09-956 A11260-2. $\mathbf{t}^{\prime \prime}$. Net . 18c

## Couplers and Bushings

Well made couplings, extensions and reducers that huve many applicatlons.

| Cat. No. | Type | Fig. | Net |
| :--- | :---: | :---: | :---: |
| $09-963$ | EC240 | C. | 18c |
| $09-964$ | EC256 | D | $18 c$ |
| $09-965$ | EC257 | E | 18 c |
| $09-966$ | EB247 | F | $15 c$ |
| $09-967$ | UB241 | G | Sc |
| Split bushing to increase shat |  |  |  |
| Cilameter. |  |  |  |

Cut. No. 09-968 Net Price . . . 6c

## Type RS Universal Extension

 Cat. No. 09-957 RS242. Fig J $4^{\prime \prime} \times \frac{1}{2}^{\prime \prime} \times 3^{3} x^{\prime \prime}$ flat. Net
 $\qquad$ Cat. No. 09-960 RS245. Fig. I, $2^{\prime \prime} \times 4^{\prime \prime}$. 09-960 RS245. Fig. I. 24 c $2^{\prime \prime} \times t^{\prime \prime}$ with $\frac{3^{\prime \prime}}{22^{\prime \prime}}$ slot. Enclosed in tight fitting tube. Net Cat. No. 09-961 RS 246 6. Flg. M. . $^{\circ}$. 26c $2^{\prime \prime} \times 4^{\prime \prime} \times{ }^{\frac{3}{32}}{ }^{n}$. Tongue shape and fitted with ${ }^{\text {tube. Net }}$ Not. $09-962$ Type $178 . \quad$ Flg. H. Wrench for $\frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ and $\frac{9^{\prime \prime}}{16}$ volume control hex nuts. Cadmium plated. Net

Type SMD Midget Dual Controls Fixed shaft, for special applications as recommended In the Mallory Radio Service Encyclopedia. Mounting hardware furnished.


\section*{09-568 SMD500 2 Meg .2 Meg} 09-569 SMD501 $2 \mathrm{Meg}, 1 \mathrm{Meg}$. 500 M * 09-570 SMD502 250M 1 Meg . $250 \mathrm{M} \dagger$ 09-571 SMD503 $2 \mathrm{Meg} .1 \mathrm{Meg} .500 \mathrm{M}^{*}$ 09-572 SMD504 250M $500 \mathrm{M} \quad 50 \mathrm{M} \dagger$ 09-573 SMD505 $250 \mathrm{M} \quad 1 \mathrm{Meg} .300 \mathrm{M}{ }^{*}$ $\begin{array}{llll}\text { 09-574 } & \text { SMD506 } & 500 \mathrm{M} & 1 \mathrm{Meg} .200 \mathrm{M} \dagger \\ 09-575 & \text { SMD } 507 & 500 \mathrm{M} & 350 \mathrm{M}\end{array}$ $09-576$ SMD508 $30 \mathrm{M} \quad 1 \mathrm{Meg} .450 \mathrm{M} \dagger$ 09-577 SMD509 2 Meg . 500 M 900 M* 09-578 SMD $5101 \mathrm{Meg} .500 \mathrm{M} \quad 300 \mathrm{M} \dagger$ | 09-579 SMD511 | 1 Meg .350 M | $70 \mathrm{M} *$ |  |
| :--- | :--- | :--- | :--- |
| 09-580 | SMD512 | 1 Meg. | 350 M | * Front.




## Tapers for Mallory Controls

These taper numbers apply to both carbontype and wire-wound Mallory controls.

1. Left-hand modifed log. taper; for shunt service as in natenna and audio circults.
2. Right-hand log. taper; for serles service as In cathode-voltage controls.
3. Combination left- and right-hand taper; for shunt-series service as in combination antenna shunt plus bias clrcuits.
4. Linear control; resistance change directly proportional to shalt rotation.
5. A LInear in center, approximate log. taper thru $20 \%$ rotatlon at ench end.
6. Modiffed left-hand taper for antenna shunt plus bias control; furnished in wirewound only.

## (N) SRP Standard Single Controls

Fixed shaft - for special applications as recommended in Mallory Radio Service Encyclopedia. Mounting Hardware furnished.

| Cat. No. | Type | Ohms | Descriptlon | Net |
| :--- | :---: | :---: | :---: | ---: |
| $09-817$ | SRPP153 | 13000 | Wire wound | $\$ 1.09$ |
| $09-818$ | SRP245 | 32000 | Carbon | 1.09 |
| $09-819$ | SRP282 | 350000 | Carbon | 1.09 |
| 09-820 | SRP239 | 450 ohtns | Repiacement wlre-wound | Net Ea. |
| $09-821$ | SRP241 | 6000 ohms | Strips Ior controls | 35c |

DRP Standard Dual Controls
For special appllcations as recommended In Mallory Radio Service Encyclopedta. Mounting hardware supplied.
Cat. Resistance Cat. Resistance $\begin{array}{ccrccccc}\text { No. } & \text { Type } & \text { Front } & \text { Rear } & \text { No. } & \text { Tyne Front Rear }\end{array}$ $\begin{array}{rlrrrrrrr}09-822 & \text { DRP114 } & 250 & 5000 & 09-829 & \text { DRP301 } & 5000 & 2500 \\ 09-823 & \text { DRP115 } & 3800 & 3800 & 09-830 & \text { DRP304 } & \text { 1 Meg. } & 3 \text { Meg. }\end{array}$ 09-824 DRP116 25700 10000 $\begin{array}{lllllll}09-831 & \text { DRP308 } & 1 \text { Meg. } & \text { 3 Meg } \\ 50000 & 50000\end{array}$ 09-825 DRP169 7500 10000 09-832 $\quad$ DRP311* 150000 09-826 DRP232 3 Meg. 3 Meg. 09-833 DRP314 $500000 \quad 2500$ 09-827 DRP240 $250000 \quad 10000$ 09-834 DRP315 2 Meg .2500 09-828 DRP250 $50000 \quad 1000$
Net Each

- DRP311 is tapped at 160,000 ohms.


## (O) Universal Dual Controls

Consists of two $1_{\frac{1}{2}}{ }^{\prime \prime}$ wire-wound or carbon controls driven by a single shaft. Furnished with mounting hardware.

| Cat. | Ohms |  |  |  | Ohms | Cat. |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Front | Rear | No. | Type | Front | Ohms |
| Rear |  |  |  |  |  |  |  |



Mallory Radio Service Encyclopedia The most complete Mallory Radio Service Encyclopedia of all-with complete servicing information on ALL prewar and post-war recelvers. Complete tube comple ments, IF peaks of sets are listed by make and model number. Original part numbers and easily avallable replacements are listed together Circuit references. Everything neerled to do a thorough service job quiekly and proftably Cat. No. 42-271 Net Each

## OHMITE Industrial Application Controls

Ohmite Vitreous Enameled Controls. All porcelaIn body, wire wound, insulated shafts. Single hole mounting. $3^{\prime \prime}$ hole. Can also be furnished in 150,300 and 500 watt sizes.


Cat. No. 09-273 Type 5000 Dial Plate for Types H \& J. 0-100.
Net Each


## I R C

## (R) Type "W" Volume Controls

IRC wire-wound controls for power requirements up to 2 watts; tight, uniform winding assures accuracy; spiral-spring connector from rotor to terminal eliminates noise; dlameter $1 \frac{z^{\prime \prime}}{}$; depth behind panel $\frac{5}{16}$ "; shait length $2 \frac{15}{16^{\prime \prime}}$; supplied with back cover.

| Type | Ohms | Type | Ohms | Type | Ohms | Type | Ohms |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| W2 | 2 | W20 | 20 | W100 | 100 | W2000 | 2000 |
| W3 | 3 | W25 | 25 | W200 | 200 | W3000 | 3000 |
| W5 | 5 | W30 | 30 | W300 | 300 | W4000 | 4000 |
| W6 | 6 | W40 | 40 | W400 | 400 | W5000 | 5000 |
| W8 | 8 | W50 | 50 | W500 | 500 | W7500 | 7500 |
| W10 | 10 | W60 | 60 | W750 | 750 | W10000 | 10000 |
| W15 | 15 | W75 | 75 | W1000 | 1000 |  |  |
| C8 |  |  |  |  |  |  |  | Cat. No.09-001 Specify type and value. Net Each . . 73c Cat. No. 09-002 No. 51. SPST switeh for W Controls. Net Each 35c Cat. No. 09-003 No. 52. DPST switch for W controls. Net Each 44c

## (Q) IRC All-purpose Kit

A selection of nine "hot-number" IRC i. 1, and 2 meg controls with 4 switches and 4 speclal shafts every one a fast mover - at the standard net cost of the items - plus an attractive 12 compartment utility cabinet at no cost. Includes 5, D13-133 $\frac{1}{2}$ meg; 1, D13-133X $\frac{1}{2}$ meg.; 1, D13-137 1 meg.; 1, D13-137X 1 meg.; 1, D13-139 2 meg.; 3. No. 41 SPST switches; 1, No. 42 DPST switch; 1 , type "A" shaft; 1, type "H" shaft; 3, type "E" shafts. Sturdy utllity cardboard cabinet measures $7 \frac{3}{8} \times 7 \frac{3}{4} \times 4 \frac{1}{2}$ " ${ }^{\prime \prime}$ attractively finished in yellow, blue, and silver.
Cat. No. 09-078 Net Price
$\$ 9.53$

## (S) Master Radiotricians Control Cabinet

This strong. all-metal IRC cablnet is factory packed with 18 Type D controls (marked + In listing elsewhere on this page) of the most popular and universal types. 6 switches and 5 spectal shatts are ulso included. The cabinet. painted silver, blue, and yellow is $14 \frac{1}{3} \times 7 \frac{3}{8} \times 4 \frac{1}{3}$ and is given free with the control and switch combination.
Cat. No. 09-006 Net Price .
$\$ 18.17$

## (P) Fixed-shaft Type DS Controls

Specifleations same as Type D control but have fixed shaft.

| Cht. |  |  |  | Cat. |  |  | Ta- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Ohms | Taper | No. | Type | Ohms |  |
| 09-007 | DS11-116 | 10000 | A | 09-013 | DS11-130 | 250000 | A |
| 09-008 | DS14-116 | $10000^{*}$ | D | 09-014 | DS 13-130 | 250000 | C |
| -009 | DS $14-120$ | 25000* | D | 09-015 | DS13-133 | 500000 | C |
| 09-010 | DS11-123 | 50000 | A | 09-016 | DS13-137 | 1 Meg . | C |
| 09-011 | DS11-128 | 100000 | A | 09-017 | DS13-139 | 2 Meg . | C |
| 09-012 | DS13-128 | 100000 | C |  |  |  |  |
| * Includes 270 -ohm $\frac{1}{2}$-watt fixed-blas reslstor. |  |  |  |  |  |  |  |
| Not Each | . . |  |  |  |  |  |  |

## Tapped Type DS Controls

| Cat. No. | Type | Ohms | Tap | Taper |
| :---: | :---: | :---: | :---: | :---: |
| 09-018 | D813-130X | 250,000 | 125 M | Spec. |
| 09-019 | DS18-130X | 250,000 | 60 M | H |
| 09-020 | DS13-133X | 500,000 | 125 M | H |
| 09-021 | DS13-137X | 1 Meg . | 250 M | H |
| 09-022 | DS13-139X | 2 meg . | 500 M |  |
| Net Each |  |  |  | \$1.09 |

## (O) Dual Controls

Eight popular dual controls are included in IRC's new Century line. Standard No. 20 serles switches can be attached. $11^{\prime \prime} \times 1 \frac{1}{4}$ ".
Cat.
No. Type Ohms Curves No. Type Ohms Curves $\begin{array}{llllllll}09-024 & 35-1620 & 10 \mathrm{M} / 25 \mathrm{M} & \text { C/E } & 09-027 & 33-3333 & 500 \mathrm{M} & \text { ea. } \\ \text { O/C }\end{array}$ $\begin{array}{llllllll}09-024 & 61-1623 & 10 \mathrm{M} / 50 \mathrm{M} & \mathrm{F} / \mathrm{A} & 09-028 & 33-3737 & 1 \mathrm{Meg} . \text { ea. } & \mathrm{C} / \mathrm{C} \\ 09-025 & 33-2828 & 100 \mathrm{M} \text { ea. } & \text { C/C } & 09-029 & 33-3939 & 2 \mathrm{Meg} . ~ е а . ~ & \text { C/C }\end{array}$ $\begin{array}{llllll}\text { 09-026 33-3030 } & 250 \mathrm{M} \text { ea. } \mathrm{C} / \mathrm{C} & \mathbf{0 9 - 0 9 9} & 31-4141 & 5 \mathrm{Meg} \text { ea. A/A } \\ \text { Net Each }\end{array}$ Net Each
$\begin{array}{ll}\text { Cat. No. 09-030 SPST switoh for dual control. Net Each . } \\ \text { Cat. No. 09-031 } & \text { DPST }\end{array}$
Cat. No. 09-031 DPST switch for duß control. Net Each

## IRC Clutch Type DC Controls

Practical for auto radio use and many other applications. Controls have friction clutch drive arm and are equipped with a special shaft for use where elther a slotted or tongued type shaft is required. Switches cannot be used with friction elutch controls.
Cat. No. 09-098 Net Price

## (T) IRC Type D Universal Controls

The "Century" line of universal controls will meet over $90 \%$ of all replacement needs. These controls are furnished with Type " $A$ " "Tap-ln" shaft for standard set-screw or push-on knobs. Ca

| Cat. |  |  | Ta- | Cat. |  |  | Ta- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Ohms | per | No. | Type | Ohms |  |
| 09-036 | D 11-103 | 500 | A | 09-057 | D 14-123 | 50000* | D |
| 09-037 | D11-108 | 1000 | A | 09-058 | D13-125 | 75000 | C |
| 09-038 | D11-110 | 2000 | A | 09-059 | D14-125 | 75000* |  |
| 09-039 | D11-112 | 3000 | A | 09-060 | D11-128 $\dagger$ | 100000 | A |
| 09-040 | D11-113 | 4000 | A | 09.061 | D13-128 $\dagger$ | 100000 | C |
| 09-041 | D11-114 | 5000 | A | 09-062 | D11-129 | 200000 |  |
| 09-042 | D13-114 | 5000 | C | 09-063 | D14-129 | 200000* | D |
| 09-043 | D14-114 | 5000* | D | 09-064 | D11-130 | 250000 |  |
| 09-044 | D11-115 | 7500 | A | 09-065 | D13-130 $\dagger$ | 250000 |  |
| 09-045 | D11-116 $\dagger$ | 10000* | A | 09-066 | D14-130 | 250000* |  |
| 09-046 | D13-116 | 10000 | C | 09-067 | D13-132 | 350000 | C |
| 09-047 | D14-116 $\dagger$ | 10000* | D | 09-068 | D11-133+ | 500000 |  |
| 09-048 | D16-116 | 10000* | F | 09-069 | D13-133 $\dagger$ | 500000 | C |
| 09-049 | D14-118 | 15000* | D | 09-070 | D 14-133 | 500000 | D |
| 09-050 | D16-118 | 15000*: | F | 09-071 | D11-137 | 1 Meg . | A |
| 09-051 | D16-119 $\dagger$ | 20000* | F | 09-072 | D13-137 $\dagger$ | 1 Meg . | C |
| 09-052 | D11-120 | 25000 | A | 09-073 | D 14-137 | 1 Meg . |  |
| 09-053 | D14-120 | 25000* | D | 09-074 | D13-139 $\dagger$ | 2 Meg. | C |
| 09-054 | D16-120 | 25000 | F | 09-075 | D 13-140 | 3 Meg . | C |
| 09-055 | D11-123 $\dagger$ | 50000 | A | 09-076 | D11-141 | 5 Meg . |  |
| 09-056 | D13-123 $\dagger$ | 50000 | C | 09-077 | D11-143 | 10 Meg . | A |
| Net Eac | 270 obms |  |  |  |  | 10 Mes |  |

$\dagger$ Included in Master Radiotriclan's Kit.
Tap-in Shafts for "D" Controls

| Cat. No. | Type | Net | Cat. No. | Type | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 09-079 | B | 26 c | 09-084 | J | 18 c |
| 09-080 | E | 18c | 09-085 | K | 18 c |
| 09-081 | F | 18c | 09-086 | L | 18c |
| 09-082 | G | 18c | 09-087 | M | 26 c |
| 09-083 | H | 18c | 09-088 | N | 18c |
|  | Attachable | switches for | Type D | Controls |  |
| Cat. |  |  |  | For 8 <br> and Dual |  |
| No. |  | Circuit | Controls | Controls | Net |
| 09-091 | SPST |  | No. 41 | No. 21 | 35 c |
| 09-092 | DPST |  | No. 42 | No. 22 | 44 c |
| 09-093 | SPDT |  | No. 43 | No. 23 | 44 c |
| 09-094 | Three Po |  |  | No. 24 | 44c |
| 09-095 | Four Poi |  | No. 45 | No. 25 | 44c |
| 09-096 | SPDT at | clockwise positlon |  | No. 26 | 44c |
| 09-097 | SPST wit | h dummy lug | No. 47 | No. 27 | 44c |

## Extension Shafts

These shafts attach to regular shatts, thus extending length to any needed size, frequently inake it possible to use standard controls for "special" jobs

| Cat. No. | Shaft No. | Size |
| :---: | :---: | :---: |
| 09-032 | 441 |  |
| 09-033 | 442 | $4^{\prime \prime} \times \frac{l^{\prime \prime}}{\prime \prime}$ dia $\times \frac{3^{\frac{3}{31}}}{}{ }^{\prime \prime}$ flat |
| 09-034 | 443 | $4^{\prime \prime} \times \frac{3}{16}{ }^{\prime \prime}$ dia $\times \frac{1}{14^{\prime \prime}}$ "fat |
| 09-035 | 444 | $8^{\prime \prime} \times \frac{1^{\prime \prime}}{\prime \prime}{ }^{\prime \prime}$ dls. $\mathrm{x} \frac{8}{32}{ }^{\prime \prime}$ that |

## Mallory 1485

Control Cabinet
This cabinet is factory-packed with 15 popular controls and 9 switches which will service $90 \%$ of your needs. When you purchase the controls and switches included in this cablinet, you get the cabinet free of charge.

Cat. No. 09-501 Net Price $\$ 14.55$



## "Dividohm" Adjustable Resistors

Resistance wire is wound over porcelain core. Vitreous enamel covers the surface and protects the unit against both mechanical and electrical injury. A narrow strip along one side of unlt is lett bare to make contact with the "ball polnt" on the adjustablelug. Wire is always tight. Mounting bracket is supplied.

10, 25, 50, 75 wATT

| Avatlable stock Ranges |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 | 75 | 300 | 750 | 2000 | 4000 | 7,500 | 12,000 | 40,000 |
| $215 \dagger$ | 100 | $350 *$ + | 800* | 2250 | 4500* | 8,000 | 15,000 | 50,000 |
| $320+\ddagger$ | $150 \ddagger$ | 400 | 1000 | $2500 \pm$ | 5000 | 8,500** | 20,000 | 60,000 |
| 25 | 200 | 500 | 1250 | $3000 \ddagger$ | 6000 | 0,000 | 25,000 | 80,000 |
| 7.5† 50 | 250 | 600* $\ddagger$ | 1500 | 3500 | 7000* | 10,000 | 30,000 | 100,000 |
|  | 200 Watts |  |  |  | 100 Watts |  |  |  |
| $10 \frac{1}{\prime \prime} \times 1 \frac{1}{\prime \prime}^{\prime \prime}$. | Mou | ating C | Centers | $11 \chi^{\prime \prime}$ | $6{ }^{\frac{1}{\prime \prime}} \times$ x ${ }^{\frac{71}{8 \prime}}$. | Mountl | Ig Ce | ers $7 \frac{1}{4}$ |
| Cat. No. | Res. | Ohmes |  |  | Cat. No. | Res. | hms |  |
| 09-154 |  | $1)$ |  |  | 09-129 |  |  |  |
| 09-155 |  | 2 |  |  | 09-130 |  | , | $\$ 2.22$ |
| 09-156 |  | 3 |  | 77 | 09-131 |  |  | 2.22 |
| 09-157 |  | 4 |  |  | 09-132 |  |  |  |
| 09-158 |  | 5 |  |  | 09-133 |  | 5 |  |
| 09-159 |  | 10 |  |  | 09-134 |  |  |  |
| 09-160 |  | 25 |  |  | 09-135 |  |  |  |
| 09-161 |  | 50 |  |  | 09-136 | 5 |  | \$1.74 |
| 09-162 |  | 0 |  | 14 | 09-137 | 10 |  | 1.74 |
| 09-163 |  | 50 |  |  | 09-138 | 25 |  |  |
| 09-164 |  | 00 |  |  | 09-139 | 50 |  |  |
| 09-165 |  |  |  |  | 09-140 | 1,00 |  |  |
| 09-166 |  |  |  |  | 09-141 | 1,50 |  |  |
| 09-167 |  |  |  | 8 | 09-142 | 2,500 |  | 79 |
| 09-168 |  |  |  |  | 09-143 | 5,00 |  |  |
| 09-169 | 10,0 |  |  | \$2.30 | 09-144 | 10,00 |  | \$1.89 |
| 09-170 | 15,0 |  |  | . 42 | 09-145 | 15,00 2000 |  | \$2.01 |
| 09-171 | 20,0 |  |  |  | $09-146$ $09-147$ | 20.00 |  |  |
| -09-172 | 25,0 30 |  |  | . 47 | 09-147 $09-148$ | 25,00 30,00 |  | \$2.14 |
| 09-174 | 40,0 |  |  |  | 09-149 | 40,00 |  |  |
| 09-175 | 50,0 |  |  | \$2.53 | 09-150 | 50,00 |  | \$2.22 |
| 09-176 | 75,0 |  |  | \$2.67 | 09-151 | 75,00 |  | \$2.33 |
| 09-177 | 100,0 |  |  | \$2.77 | 09-152 | 100,00 |  | \$2.43 |
| 09-178 | Extra | slider |  | $\$ 0.15$ | 09-153 | Extra | Slider | \$0.15 |

## 75 Watts - Dim., $6^{\prime \prime} \times \frac{9}{16}{ }^{\prime \prime}$ <br> Mtg. Cths. 7

Available in all ranges listed at left except those indicated by $\ddagger$ Resistances of 4, 7200, 35,000, and 45,000 ohms also avallable.
1 to 4 ohms
Cat. No. 09-120 Net Ea. $\$ 1.71$ 5 to 1000 ohms.
Cat. No. 09-121 Net Ea. $\$ 1.33$ 1250 to 5000 ohms.
Cat. No. 09-122 Net Ea.
6000 to 10,000 ohms.
Cat. No. 09-123 Net Ea. $\$ 1.47$ 12,000 to 20,000 ohms.
Cat. No. 09-124 Net Ea. \$1.56 25,000 to 40,000 ohms.
Cat. No. 09-125 Net Ea. \$1.71 45,000 to 60,000 ohms.
Cat. No. 09-126 Net Ea. \$1.76 80,000 ohms.
Cat. No. 09-127 Net Ea. $\$ 1.93$ $100,0010 \mathrm{ohms}$.
Cat. No. 09-128 Net Ear. \$2.12

## 50 Watts- Dim., $4^{\prime \prime}$ Mtg. Ctras., $4^{\prime \prime}$$\frac{9}{18}{ }^{\prime \prime}$

All stock ranges listed at left exeept those Indleated by $t$. Resistances of 4 , and 7200 ohms avalable. 1 to 4 ohms.
Cat. No. 09-198 Net. Ea, \$1.47 5 to 1000 ohms.
Cat. No. 09-111 Net Ea. \$1.16 1500 to 5000 ohms. Cat. No. 09-112 Net Ea.
$\$ 1.28$ 10,000 ohms
Cat. No. 09-113 Net Ea.
$\$ 1.39$ 20,000 ohms.
Cat. No. 09-114 Net Ea. $\$ 1.50$ 25,000 ohms to 40,000 ohms.
Cat. No. 09-116 Net Ea. $\$ 1.63$ 50,000 ohms.
Cat. No. 09-117 Net Ea. \$1.62 100,000 ohms.
Cat. No. 09-118 Net Ea. \$1.91 Extra slider.
Cat. No. 09-119 Net Es. 12c

## 25 WatTR - Dim., $2^{\prime \prime} \times \frac{9^{\prime \prime}}{16}$ <br> MTG. CTRs., 2

All stock ranges up to 25,000 ohms except those indicated by *.
1 to 1000 ohms.
Cat. No. 09-105 Net Ea. $92 c$
1500 to 5,000 ohms.
Cat. No. 09-106 Net Ea. $93 c$ 5000 to 10.000 ohms
Cat. No. 09-107 Net Ea. $\$ 1.00$ 12,000 to 20,000 ohms.
Cat. No. 09-108 Net Ea. $\$ 1.0$ 25,000 ohms.
Cat. No. 09-109 Net Ea. \$1.11 Extrs sllder.
Cat. No. 09-110 Net Ea. 12c
10 Watts - Dim.t $11^{3 \prime \prime} \times \frac{5}{16}{ }^{\prime \prime}$ MTG. CTRS., $2 \frac{1}{4}^{\prime \prime}$
Available in all values listed in stocl ranges above up to 10,000 ohms 1 to 1000 ohms.
Cat. No. 09-101 Net Ea. 71 1250 to 5000 ohms.
Cat. No. 09-102 Net Eil. 73 c 6000 to 10,000 ohms.
Cat. No. 09-103 Net Ea. 78 c Extra slider.
Cat. No. 09-104 Net Eu.
12 c


Parasitic Suppressor
The model P300 suppressor is designed to prevent unwanted ultra high frequency parasitic oscillations. whlch oceur in the plate and grid leads of push-pull and parallel tube circuits, without loss of ciriving power. It is non-inductive, 50 ohm vitreous enameled resistor combined with a choke of 0.3 microhenries inductance and 0.003 ohms DC resistance. Size $1 \frac{3^{\prime \prime}}{3}$ long and $\frac{21}{3!} "$ diameter.
Cat. No. 09-194 Net Price \$1.15

(A) "Little Devil" Molded Composition Resistors

Full $\frac{1}{2}$-watt, 1 -watt, and 2 -watt resistors; can be used at full ratings at $70^{\circ}$ Centrigrade. Ratings for maximum continuous RMS voltage are: $\mathbf{3 5 0}$ volts for the $\frac{1}{2}$-watt; 500 volts for the 1 -watt; 1000 volts for the 2 -watt unit. $\frac{1}{2}$-watt - Code: Lidlo

1-watt - Code: LIDME
2-Watt - CODE: LIDHI


Cat. No. 09-197 Lots of 100, Each
QUAN'TITY PIRICE APPLIES ONLY FOR LOTS OF 100 OF SAME VAlUE.


Ohmite Ohm's Law Calculator
Gives speedy solution of Ohm's law formulae plus power calculation from a single setting of the rule. Has a RMA color code chart.
Cat. No. 42-063 Net Price

Convenient for use across transmitter tube nlaments. Provides electrical center for grid and plate returns.

| Fil. <br> Volts | Max. |
| :---: | :---: | :---: | :---: | :---: |

$\pm 10 \%$ tolerance Megs. Megs
(C)

Brown Devil" Vitreous Enameled Resistors
Real vitreous enamel coating. Recommended for dependability. Engineered to provide maximum protection against humidity and mechanical damage. Slze: 10 -watt, $1 \frac{3^{\prime \prime}}{\frac{1}{2}} \times \frac{3^{\prime \prime}}{8} ; 20$-watt, $2^{\prime \prime} \times \frac{1^{\prime \prime}}{2}$

| Ohms | Olims | Ohms | chfy Value | Ohms |
| :---: | :---: | :---: | :---: | :---: |
| 1* | 125* | 1000 | 6,000 | 25,000 |
| 2* | 150 | 1100* | 7,000 | 30,000 |
| 3* | 200 | 1200 | 7,500 | 35,000 |
| 4* | 225* | 1250 | 8,000 | 40,000 |
| 5 | 250 | 1500 | 8,500* | 4,5,000 |
| 7.5* | 300 | 1750 | 10,000 | 50,000 |
| 10 | 350 | $1850+$ | 11,000* | 55,000 $\dagger$ |
| 12* | 400 | 2000 | 12,000* | 60,000t |
| 15* | 450* | 2250 | 12,500 | 65,000 $\dagger$ |
| 20* | 500 | $2400 \dagger$ | 13,500* | 70,000t |
| 25 | 600* | 2500 | 14,300* | $75.000 \dagger$ |
| 30* | $650 \dagger$ | $2750 \dagger$ | 15,000 | $80.000 \dagger$ |
| 35* | 700 | 3000 | 16.000* | 85,000 $\dagger$ |
| 40* | 750 | 3500 | 17,500* | 90,000 $\dagger$ |
| 50 | 800 | 4000 | 18,000* | 95,000 $\dagger$ |
| 75 | $850 \dagger$ | 4500 | 20,000 | 100,000 $\dagger$ |
| 100 | 900* | 5000 | 22,500* |  |

Avalable in all values except those'marked $\dagger$
Cat. No. Ohms Net

| Cat. No. | Ohms |  | Net |
| :---: | :---: | :---: | :---: |
| 09-179 | 1 to | 1,000 | 34 c |
| 09-180 | 1,100 to | 5,000 | 37c |
| 09-181 | 6.000 to | 10,000 | 42c |
| 09-182 | 11,000 to | 20,000 | 47c |
| 09-183 | 22,500 to | 25,000 | 51 c |
| 09-184 | 30,000 to | 50,000 | 57 c |
|  | 20-watt | Ize |  |
| Avallable | values exce | those |  |
| Cat. No. | Ohn |  | Net |
| 09-185 | 5 to | 1,000 | 44c |
| 09-186 | 1,200 to | 5,000 | 46 c |
| 09-187 | 6,000 to | 10,000 | 52c |
| 09-188 | 12,500 to | 20,000 | 55 c |
| 09-189 | 25,000 to | 40,000 | 64 c |
| 09-190 | 45,000 to | 60,000 | 73 c |
| 09-191 | 65,000 to | 80,000 | 86c |
| 89-192 | 85,000 to | 100,000 | 99 c |



## (A) Insulated Resistors

Small, light, with high voltage insulation, usable anywhere without fear of shorting. IRC famous metallized resistance element sealed in moistureproof insulation. Noise-free, crack-proof. Color coded and marked. Long wire leads.

Ohms Ohms Ohms Ohms Ohms Ohms Ohms Ohms Ohms $\begin{array}{lllllllll}0.47 & 3.9 & 33 & 270 & 2,200 & 15.000 & 100.000 & 560,000 & 3.9 \mathrm{meg}\end{array}$ $\begin{array}{lllllllll}0.56 & 4.7 & 39 & 330 & 2,700 & 18,000 & 120,000 & 680,000 & 4.7 \mathrm{meg}\end{array}$ $\begin{array}{lllllllll}0.56 & 4.7 & 37 & 390 & 3,300 & 22,000 & 150,000 & 820,000 & 5.6 \mathrm{meg} \\ 0.68 & 5.6 & 47 & 470 & 3,900 & 27,000 & 180,000 & 1.0 \mathrm{meg} & 6.8 \mathrm{meg} .\end{array}$ $\begin{array}{lllllllll}0.82 & 6.8 & 56 & 470 & 3,900 & 27,000 & 180,000 & 1.0 \mathrm{meg} . & 6.8 \mathrm{meg} . \\ 1.0 & 8.2 & 68 & 560 & 4,700 & 33,000 & 220,000 & 1.2 \mathrm{meg} . & 8.2 \mathrm{meg} .\end{array}$ | 1.0 | 8.2 | 68 | 560 | 4,700 | 33,000 | 220,000 | 1.2 meg. | 8.2 meg. |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1.2 | 10.0 | 82 | 680 | 5,600 | 39,000 | 270,000 | 1.5 meg. | 10 | $\begin{array}{llllllllll}1.5 & 12.0 & 100 & 820 & 6,800 & 47,000 & 330,000 & 1.8 \mathrm{meg} . & 12 & \mathrm{meg}\end{array}$ $\begin{array}{rrrrrrrrrr}1.8 & 15.0 & 120 & 1.000 & 8,200 & 56,000 & 390,000 & 2.2 \text { meg. } & 15 & \text { meg. } \\ 2.2 & 18.0 & 150 & 1,200 & 10,000 & 68,000 & 470,000 & 2.7 \text { meg. } & 18 & \text { meg. }\end{array}$ $\begin{array}{llllllllll}2.7 & 22.0 & 180 & 1,500 & 12,000 & 82,000 & 510,000 & 3.3 & \text { meg. } & 22 \\ \text { meg. }\end{array}$ $\begin{array}{llll}3.3 & 27.0 & 220 & 1,800\end{array}$

Specify "Type" and resistance value when ordering $\frac{2}{2}$-watt - Type BTS Insulated filament. H2 $_{2}{ }^{\prime \prime} \times \frac{1}{8}$ ". 470 ohms to 22 Meg. 350 volts max Cat. No. 10-101 Net Ea. lots of 100, Ea.

1-WATT - TYPE BTA
Insulated tilament. S33 $_{3}{ }^{\prime \prime} \times \frac{1^{\prime \prime}}{2} .330$ ohms to 22 Meg. 500 volts max. Cat. No. 10-102 Net Ea. 15 c Lots of 100, Ea.

## 2-wATT - TYPE BT-2

Insulated flament. $1 \frac{3}{6}{ }^{\prime \prime} \mathrm{x} \frac{22^{\prime \prime} .}{6}$. 470 hms to 22 Meg. 500 volts max. Cat. No. 10-103 Net Ea.
Lots of 100, Ea.

1-WATT - TYPE BW:
Insulated wire-wound. 0.47 to 820 ohms. ${ }^{\frac{3}{8}}$ " $\mathrm{x} \frac{3}{16}$ "
Cat. No. 10-104 Net Ea. Lots of 100, Ea.

1-watt - Type BW-1
Insulated wire-wound. 0.47 to 4,700 ohms. $14^{\prime \prime} \times \frac{1}{1}$
Cat. No 10-105 Net Ea 15c Cat. No. 10-105
Lots of 100, Ea.

2-watt - Type BW-2
Insulated wire-wound. 1.0 to 4700

Cat. No. 10-106 Net Ea. 20 c Lots of 100, Ea. . . 12c Quantity pbice applies only to purchaseg of 100 of a bingle Purge.
value.

## (B) Precision Wire Wound Resistors

Designed to meet the most exacting demands for accuracy and durability Tspecially adapted for use as meter multiplers, und shunts in increasing the ange of single-range voltmeters and milliammeters, and for other equipment such as faders, gain-control pads, etc. Normal tolerance is $1 \%$.

| Type WW4 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Ohms | Net | Cat. $\mathrm{No}_{8}$ | Ohms | Net |
| 10-151 | 0.1 | \$1.03 | 10-171 | 15,000 | \$1.03 |
| 10-152 | 0.5 | 1.03 | 10-172 | 20,000 | 1.12 |
| 10-153 | 1 | 1.03 | 10-173 | 22,500 | 1.12 |
| 10-154 | 10 | 1.00 | 10-174 | 25.000 | 1.12 |
| 10-155 | 25 | 1.00 | 10-175 | 30.000 | 1.12 |
| 10-156 | 50 | 1.00 | 10-176 | 40,000 | 1.12 |
| 10-157 | 100 | 1.00 | 10-177 | 50,000 | 1.12 |
| 10-158 | 200 | 1.00 | 10-178 | 60.000 | 1.32 |
| 10-159 | 250 | 1.00 | 10-179 | 75.000 | 1.32 |
| 10-160 | 300 | 1.00 | 10-180 | 100,000 | 1.44 |
| 10-161 | 500 | 1.00 | 10-181 | 125,000 | 1.65 |
| 10-162 | 1,000 | 1.00 | 10-182 | 150,000 | 1.65 |
| 10-163 | 1.500 | 1.00 | 10-183 | 175,000 | 1.88 |
| 10-164 | 2,000 | 1.00 | 10-184 | 200,000 | 1.88 |
| 10-165 | 2,500 | 1.00 | 10-185 | 225,000 | 2.06 |
| 10-166 | 4,000 | 1.03 | 10-186 | 250,000 30000 | 2.06 |
| 10-167 | 5,000 | 1.03 | 10-187 | 300.000 400000 | 2.76 |
| 10-168 | 7.500 | 1.03 | $10-188$ $10-189$ | 400,000 500,000 | 2.94 |
| $10-169$ $10-170$ | 10,000 | 1.03 1.03 | 10-189 | 500,000 |  |
| 10-170 | 12,500 |  |  |  |  |
| TYPE WW2 |  |  |  |  |  |
| Cat. No. | Ohms | Net | Cat. No. | Ohms | $\underset{\text { Net }}{ }$ |
| 10-190 | 600,000 | \$4.12 | 10-194 | 1.5 Meg. | \$9.03 |
| 10-191 | 750,000 | 4.50 | 10-195 | ${ }_{2}^{2} \mathrm{Meg}$. | 11.76 |
| 10-192 | 900.000 | 5.29 | 10-196 | 2.5 Meg . | 14.23 |
| 10-193 | 1 Meg . | 5.67 |  |  |  |

## IRC Resist-O-Guide

Handy vest-pocket resistor guide Has three multi-colored rotary dises which quickly indicate value of any resistor color-coded according to RMA standards. Tolerance indicator. Back lists RMA-JAN standard $5 \%$ and $10 \%$ stock values. shpg. wt. 2 oz.
Cat. No. $10-200$ Net Price . 10c


## Wire Wound Power Resistors

Adjustable and fixed IRC power resistors meet those applicatlons of a highly dependable wire-wound resistor. Will stand the gaff in any climatefrom the heat and humidity of the tropics to the icy cold of the arctics. Accurate within $5 \%$.

SPECIFY RESISTANCE VALUE WHEN ORDERING,
Pleferfeed Stock Ranges

| Ohm | Ohms | Ohms | Onms | Ohims | Ohms | Ohms | Ohms | Ohms | Ohms |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 15 | $150 \ddagger$ | $500 \ddagger$ | $1200 \dagger$ | 2000+ | $4500 \dagger$ | 8,500 $\dagger$ | 14,300† | 40,000 ${ }_{+}^{+}$ |
| $2 \ddagger$ | $20 \dagger$ | $200 \pm$ | $600 \dagger$ | 1250 | 2250 | $5000 \%$ | 9,000 | 15,000\% | 50,000 ${ }^{+}$ |
| 3 | 25 | $250 \ddagger$ | 750 | 1450† | 25004 | 6000\% | 10,000\% | 20,000 $\ddagger$ | 60,000\% |
| $5 \ddagger$ | 50 | 300 | 800 | 1500\% | 3000\% | 7000+† | 11,000† | $25.000 \ddagger$ | 75,0007 |
| $7.5 \dagger$ | 75\% | $350 \dagger$ | $850 \dagger$ | $1750 \dagger$ | 3500 | 7500\$ | 12,0007 | 30,000\% | 100,000 $\ddagger$ |
| $10 \ddagger$ | $100 \ddagger$ | 400 | $1000 \%$ | $1850 \dagger$ | 4000\% | $8000 \%$ | 12,500\% $\dagger$ | 35,000 |  |

## (C) Fixed Power Resistors

10-watt -- Type AB
All values as listed above up to 25,000 ohms except $850,1200,1750$, and 1850. Dim., $1_{\frac{31}{4 \prime}} x \frac{3^{\prime \prime}}{16}$.
Cat. No.

## Resistance

1 to 1000
1,250 to 5,000 6,000 to 10,000 11,000 to 20,000 25,000

20-watt - Type DG
All values as listed above up to 50,000 ohms except $2.3,7.5,15,20$, 600 , 1450, aud 14,300 . Dim., $2^{\prime \prime}$又 ${ }^{\circ}{ }^{16}$ "。
Cat. N
10-10

## Resistance

 1 to 1.000 1,200 to 5,000 6,000 to 10,000 11,000 to 20,000 25.000 to 40,000 50,00050-watt - Type EP
All values indicated by $\ddagger$ in stock ranges above except 75 and 150 ohms. Dim., $4_{\frac{1}{2}}{ }^{\prime \prime} \times \frac{3^{\prime \prime}}{4^{\prime \prime}}$

## Cat. No. Resistance

10-109 5 to 1,000 \$.80 1,500 to 5,000 . 8 6,000 to 10,000 25,000 to 20,000 5,000 to 40,000 50,000 to 60,000
75,000 75,000 100,000

100-watt - Type ha
Cat. No. 10-110 Dim., $6 \frac{1}{2}$ " $\times 1 \frac{1}{8}{ }^{\prime \prime}$ $25,50,75,100,150,250,500,750$, and 1000 ohms. Net Ea. . $\$ 1.20$ $1250,1500,2000,2500,3000$, and 5000 ohms. Net Ea. . . $\$ 1.23$ 7500 and 10,000 ohms.
Net Ea
15,000 and 20,000 ohms
$\$ 1.32$
15.000 a
$\$ 1.45$
25,000,
hms. Net Ea
1.57
$50,000,60,000$ ohms. Net . $\$ 1.65$
75,000 ohms. Net Ea. : $\$ 1.76$ 100,000 ohms. Net Ea. : $\$ 1.86$

## 200-watt - Type ho

Cat. No. 10-111 Dim., $10 \frac{1}{2}^{\prime \prime} \times 1 \frac{\frac{1}{8}^{\prime \prime}}{}$ $25,50,100,250,500,750$, and 1000 ohms. Net Er. . . $\$ 1.59$ $1500.2000,2500,3000$, and 5000 ohms. Net Ea.
$7500,10,000$ ohms. Net Ea. $\$ 1.73$ 15,000, 20,000 ohms. Net Ea. $\$ 1.84$ $25,000,30,000$, and 40,000 ohms. Net Ea. . . . . $\$ 1.91$ $50,000,60.000$ ohms. Net Ea. $\$ 1.98$ 75,000 ohms. Net Ea. : $\quad \$ 2.09$
100,000 ohms. Net Ea. . $\quad \$ 2.20$

## (D) Adjustable Power Resistors

10-watt - Type ABA
All stock ranges listed above up to 10,000 ohms except $850,1200,1750$ 1850.

Cat. No. 10-112 Dim., $1^{\frac{3}{6}}{ }^{\prime \prime} \times \frac{5}{18}{ }^{\prime \prime}$ 1 to 1000 ohms. Net Ea. 70c 1250 to 5000 ohms. Net Ea. 73 c 6000 to 10,000 ohms. Net Ea. 78 c

25-WATT - TYPE DHA
All stock ranges listed above up to 25,000 except those marked $\dagger$
Cat. No. 10-113 Dim., $2^{\frac{1}{2}}{ }^{\prime \prime} \times \frac{{ }^{1}}{16^{\prime \prime}}$ 1 to 1000 ohms. Net Ea. 92 1250 to 5000 ohms. Net Ea. 93 c 6000 to 10,000 ohms. Net Ea. $\$ 1.00$ 12,000 to $20,000 \mathrm{ohms}$.
Net Ea.
25,000 ohms. Net Ea
$\$ 1.03$
50-WATT - TYPE EPA
All stock ranges listed above which are indlcated by $\ddagger$ except 7000 and 12,500 ohms
Cat. No. 10-114 Dim., $4 \frac{1_{2}^{\prime \prime}}{} x^{\frac{3 / 4}{4}}$ 1500 to 5000 ohms. Net Ea. \$1.21 6000 to 10,000 ohms. Net Ea. $\$ 1.28$ 12,000 to 20,000 ohms.

## Net Ea.

$\$ 1.39$
25,000 to 40,000 . Net Ea. $\$ 1.50$ $50,000,60,000$ ohms. Net La . $\$ 1.62$ 75.000 ohms. Net Ea. . $\$ 1.80$ 100,000 ohms. Net Ea. , \$1.91

100-WATT - TYPE HAA
Cat. No. 10-115 Dim., $6 \frac{1}{2}^{\prime \prime} \times 1 \frac{1}{s^{\prime \prime}}$ Stock ranges listed below.
$100,200,400,500,750,1000$ ohms. Net Ea. . . . . \$1.74 $1500,2000,2500,3000,4000,5000$. Net Ea. $\$ 1.79$ 6000, $7500,8000,10,000$ ohms.
$6000,7500,8000,10,000$
Net Ea.
Net Ea.
$15,000,20,000$ ohms. Net . $\$ 2$. $25,000,30,000$ and 40,000 ohms. Net. Ea. $50,000,60,000$ ohms. Net 75,000 ohms. Net Ea. 100,000 ohms. Net Ea.

200-WATT - TYPE HOA
Cat. No. 10-116 Dim., $10^{\frac{1}{2}} \times 1_{\frac{1}{3}} /$ Stock ranges Ilsted below.
$100,500,1000$ ohms. Net Ea. \$2.14 $1500,2000.2500,3000,5000$
Net Eir. . 10.000 . $\quad \$ 2.18$

| Net Ear. |
| :--- |
| 10.000 ohms. Net Ea. $\quad \$ 2.18$ | $15,000,20,000$ ohms. Net Ea. $\$ 2.42$ $15,000,20,000$ ohms. Net Ea. 2 .

$25,000,30,000$, and 40,000 ohms. $25,000,30,000$, and 40,000 ohms. $\$ 2.47$ Net Ea.
$50,000,60,000$ ohms. Net Ea. $\$ 2.5$ 75,000 ohms. Net Ea. . $\$ 2.67$ 100,000 olims. Net Ea.
$\$ 2.77$

## Spare Slider Bands

| Cat. No. | For | Net Ea |
| :--- | :--- | ---: |
| $10-117$ | DHA |  |
| $10-118$ | EPA |  |
| $10-119$ | ABA |  |$\} \quad 12 \mathrm{C}$

# Resistor Kits - Cords - Ballasts 

## (A) IRC Free All-Metal Resist-O-Cabinet

New all-metal resistor cabiret free with the f,urchase of one of the resistor assortments listed below. Four large drawers with separate sections. Finished in blue, yellow and sliver. Size $11^{\prime \prime} \times 5 \frac{1}{2} \times 5 \frac{h^{\prime \prime}}{}$,

Assortment No. 1 - 59 Resistors
BTS. $\frac{1}{3}$ watt, one each $1,000,4,700,10,000,27,000,47,000$ ohms; 0.1 meg. $0.27,0.47$ megs. BTA. 1 watt, one each $39,000,68,000$ ohms; $0.15,0.22$ megs. Two each $1,000,1,500,2,200,2,700,4,700,15,000,27,000$ ohms; 1.0, 2.2 megs. Three each $10,000,47,000$ ohms; 0.1 meg., $0.27,0.47$ megs. Type AB 10 -watt. One each $1,000,1,500,2,500,5,000$ ohms. Two each $10,000,15,000$ und 25,000 ohms. Type ABA, 10 -watt adjustable. One each $10,000,15,000$ and 25,0000
$1,000,2,500,5,000,10,000$.
Cat. No. 10-197 Net Price, Cabinet Free
$\$ 9.95$
Assortment No. 2 - 100 Resistors
Type BW-3. Two each 47, 100, 270 ohms. BTS. $\frac{1}{2}$ watt, two each 3,300 , $6,800,33,000,68,000,82,000$ ohms; $0.22,0.33$ megs. Three each 470, 1,500, $15,000,22,000,39,000$ ohms; $0.15,1.0,2.2$ megs. Flve each 2,200, 2,700, 27,000 ohms; 0.27 megs. Six each $1,000,4,700,10,000,47,000$ ohms; 0.1 , 0.47 megs .

Cat. No. 10-198 Net Price Cabinet Free
$\$ 7.71$
Assortment No. 3 - 83 Resistors
Type BW-1. Two each 47, 100, 270 ohms. BTA. 1 watt, two each 470 , $1,500,2,700,3,300,6,800,33,000,39,000,68,000,82,000$ ohms $; 0.15,0.22$, $0.33,1.0,2.2$ megs. Three each $15,000,22,000,27,000$ ohms. Five each $1,000,2,200,4,700,10,000,47,000$ ohms; $0.1,0.27,0.47$ megs. Cat. No. 10-199 Net Price Cablnet Free .
$\$ 8.30$

(B) Clarostat Universal Resistor Tubes

| Cat. |  | Replaces AC-DC Tubes | Having Num- | Ending in |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Beginning with Letters: | bers From: | 1 etter: | Net |
| 38-701 | 10-23-A | BK, BL, K, L, M | 10 to 23 | A, B, C, D | 73c |
| 38-702 | 10-23-E | BK, BL, K, L, M | 10 to 23 | E | 73c |
| 38-703 | 10-23-F | BK, BL, K, L, M | 10 to 23 | F, G, H | 73c |
| 38-704 | 23-55-A | BK, BL, K, L, M | 23 to 55 | A, B, C, D | 73 c |
| 38-705 | 23-55-E | BK, BL, K, L, M | 23 to 55 | E | 73 c |
| 38-706 | 23-55-F | BK, BL, K, L, M | 23 to 55 | F, G, H | 73 c |
| 38-707 | 60-92-A | BK, BL, K, L, M | 60 to 92 | A, B, C, D | 73 c |
| 38-708 | 60-92-E | BK, BL, K, L, M | 60 to 92 | E | 73 c |
| 38-709 | 60-92-F | BK, BL, K, L, M | 60 to 92 | F, G, H | 73c |
| 38-710 | 92-105-A | BK, BL, K, L, M | 92 to 105 | A, B, C, D | 73 c |

## JFD Resistor Line Cords

## AC/DC Resistor Cords

Flexible, aturdy line cords. Standard threeterminal type. Leads are color coded. Stripped wire ends are tinned for easy soldering. The perfect line to stock for economical replacement needs.

| Cat | JFD |  | Cat. | JFD |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Ohms | No. | Type | Ohms |
| 30-401 | 2180 | 135 | 30-407 | 2186 | 290 |
| 30-402 | 2181 | 160 | 30-408 | 2187 | 300 |
| 30-403 | 2182 | 180 | 30-409 | 2188 | 330 |
| 30-404 | 2183 | 200 | 30-410 | 2189 | 350 |
| 30-405 | 2184 | 220 | 30-411 | 2190 | 390 |
| 30-406 | 2185 | 250 | 30-412 | 2450 | 450 |
| Net Eac |  |  |  |  |  |

## |FD Tapped 4-Terminal A-C/D-C Resistor Cords

Pllot light resistor shunt is bullt into cord. For use on numerous popular make sets.
TYPE 2176 - 160 ohms. tapped at 24 ohms. For sets using tubes with about 69 volts drop. 81 C Cat. No. 30-417 Net Ea.
TYPE 2177 - 180 ohms, tapped at 25 ohms. For sets having comblned tube voltage drop of about 63 volts.
Cat. No. 30-418 Net Ea.
81c
Type 2178 - 200 ohms, tapped at 25 ohms. For sets have combined tube voltage drop of about 57 volts. Also for tubes with combined voltage drop of 63 volts, if line voltage is nigh. voltage drop of 63 volts, if line voltage is nigh.
Cat. No. $30-419$ Net Ea. . . . 81c TYPE 2179 - 200 ohms, tapped at 40 ohms. For sets having combined tube voltage drop of about 57 volts and two pllot lights in serles. Cat. No. 30-420 Net Ea.

## Shure Reactance Slide Rule

A five-sale calculator for computing capacitive or inductive reactance, "Q" of inductances, dissipation factor, and all frequency problems. An add to the service shop, laboratory or classroom. Cat. No. 42-062 Net Price

## Stancor Multi-Slide Rule

A real ald to the radio techniclan. Performs all mathematical functions. Has 4 -place log table, decimal equivalents, etc.
Cat. No. 42-061 Net Price
(E) Universal A-C/D-C Line Cords Replaces AC/DC resistor line cords. Contains 6 wires, from 220 ohms to 300 ohms. Select required resistance atid cut others off. Can be used for standard 3-terminal or tapped cord. JFD Type 2175. JFD Type 2175.
Cat. No. $30-413$

## Cat. No. 30-413 Net Ea.

\$1.01

## Motorola Line Cord Replacement

JFD Type 2198 is the correct replacement for Motorols portable 41D, 51D, 52D, 41H sets. 8 ft . long; two resistance elements, 1100 and 280 ohms; 4 terminals.
${ }^{\$} 1.21$

## Cat. No. 30-414 Net Ea

## Combination Antenna Wire and A-C Cord

JFD Type 2168 - 3-wire cord with female socket to fit 3 -prong male plug used on Sentinel, Admiral, Sonora, etc.
${ }^{1} 1.01$
Cat. No. 30-426 Net Ea.
1.01
(F) Step-down Ballast 220-110 V. JFD TYPE 464 - Permits use on 220 volt line, of 110 volt AC/DC radio using 5 tubes drawing .15 amps . Contalns female receptacle on top for radio line cord. Cat. No. 30-427 Net Ea.
s 1.41

## JFD Step-down Line Cords

Permit operation of 110 volt radlo sets on 220 volt line. Furnished with male plug and connector.
Type 2191 - For sets using .3 ampere tubes. Cat. No. 30-422 Net Ea.. . $\$ 1.41$ Type 2192 - For sets using . 15 ampere tubes. Cat. No. 30-423 Net Ea. . . . $\$ 1.41$

## Resistance Cord Wire

By cutting the wire to the required size, it is easy to make your own supply of resistance cords. $\left.\begin{array}{l}\text { Cat. No. 30-424 } \\ \text { Cat. No. } 30 \text { ohms foot } \\ 60 \text { ohms foot }\end{array}\right\}$ Net per ft. 6 C 25 ft . for $\$ 1.20 \quad 100 \mathrm{ft}$. for $\$ 4.25$

## High-resistance Cords

TyPE 2197 for AC/DC battery sets. Resistance 560 ohms. Replacement for sets that are rapidly growing in popularity; should be stocked by every serviceman.
${ }^{\text {s }} 1.01$
Cat. No. 30-415 Net Ea
a. 45 Z 3 rectifter tube, such as pocket-type Admiral. Fada, Bentinel, Sonora, Motorola, Detrola, Farnsworth; resistance 960 ohms.
Cat. No. 30-416 Net Ea.
${ }^{5} 1.01$

## Adjustable Ballast Kit

JFD Type 770 - Kit includes 2 Type A, 2 Type B, 1 Type C Ballasts: these three types replace over 3000 exact duplicate AC/DC resistance tubes. Alr-cooled perforated shell; large insulating surface; long life; heavy resistance wire, precision wound; permits exact adjustment. Individual packages contain complete instructions, list of replacements. Cat. No. 30,431 Kit Net Price : $\$ 4.04$ Cat. No. Type - Tube Prefx
$\begin{array}{lcc}\text { Cat. No. } & \text { Type } & \\ 30-428 & \text { A } & \text { K, L, M, BK Prefix } \\ \mathbf{3 0 - 4 2 9} & \text { B } & \text { K, L, M, BK, BM } \\ \mathbf{3 0 - 4 3 0} & \text { C } & \text { All 4-prong tubes or BM }\end{array}$ All 4-prong tubes

Tube Numbers
6 thru 42
45 thru 105
80 thru 350
Net Ea.
A, B, C, Tube Suffix
A, B, C, D, F, G, H
A, B, C, D, F, G, H, S1, S2, 33
R, R4, R8, L, L4, L8

## Electro-glow Switch Plate

Neon giow visible day or night tells whether swlech is ON or OFF. Swltchplate fits any standard type toggle switch. Easy to connect: flexible leads from switchplate to switch terminals, serles connection for glow when switch is OFF, parallel for ON glow. 110 volts AC/ IDC. Over 10,000 hours lamp life. Type 200. Cat. No. 00-401 Net Price
(A) New Astatic "Cardinal" Mike

Crystal - Dynamic
A compact, versatile, economlcal new model microphone avalable in both crystal or dynamic models whose performance compares favorably with many higher priced models. Case is die cast and finlshed in bright gold. Dark brown plastic base is available separately. Wide-range response, 30-10,000 c.p.s.; high output level. May be used on floor stand, desk stand, or as liand mike. Adaptable to standard AC or DC circuits. Furnished with $15-\mathrm{ft}$, cable. Furnished with 1i-ft, cable.
Cat. Cat. No Type Load Output Net 20-010 CX* 5 Meg. $\quad-50 \mathrm{db}$. $\$ 5.73$ $\begin{array}{llllr}20-011 & \text { CX-1 } \dagger & 5 \mathrm{Meg} . & -50 \mathrm{db} & 5.73 \\ 20-012 & \text { CD5 } & 500 \text { ohms } & -62 \mathrm{db} & 11.47\end{array}$ $20-013 \mathrm{CDH} \quad 5 \mathrm{Meg}$. -50 db . 11.47 * Model CX smooth response $30-10,000 \mathrm{c} . \mathrm{p} . \mathrm{s}$ $\dagger$ Model CX-1 rlsing characteristle between 1500 and 5500 c.p.s. speech range
Cat. No. 20-014 Base sold separately. Net Price

59c

## (B) Tru-sonic Model C-I Microphone

Operating on a truly unique principle, different from that of uny other microphone uvailable today, performance of the Stephens Model C-1 is the outstanding microphone development of recent years. Many unequalled features due to utilization of phase-modulated crystal-controlled carrler frequency with remotely located oscillator/ demodulator. Head operates on principle of minute capacity changes that produce electrical energy. Absolutely flat response throughout entire audio range. Small size, $1 \times 1_{\frac{1}{2}}{ }^{\prime \prime}$ pickup, reduces acoustic interference pattern, permits more freedom of movement and placement. Operated directly linto line. Superior signal-tonoise ratio. No polarized voltage on diaphrugm, permitting close spacing and high pressure sensltivity. High output level - 10 db . Lightwelght and rugged to stand unusual abuse. Freedom from "bloops" and "blops" in close talking. Non-microjhonic because oscillator/demodulator is removed from operating area. Diaphragm dameter is $\frac{1}{2}$ " , minimizing phase cancellations at audible trequencies. Output impedance 200 ohms. Operates on $110-120$ volts AC. Pickup and demodulator carrled in $8 \frac{1}{2} \times 9 \frac{1}{2} \times 7 \frac{1}{\prime \prime}$ leatherette case with $30^{\prime}$ coax cable, $15^{\prime}$ shielded cable, AC cord, sill fittings.
Cut. No. 20-090 C-I Microphone system as above. Net Price
$\$ 290.00$

# LATE RELEASES of NEW PRODUCTS 



## (C) Johnson Miniature Variable

## Capacitors

The smailest varlable built, these new Johnson miniature capacitors are ideal for small assemblies. "" wide $x{ }^{\frac{3}{4} / "}$ high overall; depth behind panel ranges from $\frac{z^{\prime \prime}}{60^{\prime \prime}}$ for smallest types to $1 \frac{1 t^{\prime \prime}}{}$ for largest capacity value type. Single-hole mounting, flats on mounting prevent turning. Beryllium copper contact spring. Split sleeve rotor bearing - no wobble to shaft; steatite end trame. Nickel plate fintsh. Voltage breakdown trame. Nickel plate fintsh. Voltage break
750 volts r.m.s. at $210 \mathrm{mc} .0 .15^{\prime \prime}$ spacing.

|  | Single |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. |  |  | Max. | Min. | Net |
| No: | Type | Plates | Mmf. | Mme. | Price |
| 18-601 | 160-102 | 5 | 5.14 | 1.55 | \$0.94 |
| 18-602 | 160-104 | 9 | 8.69 | 1.73 | 1.00 |
| 18-603 | 160-107 | 15 | 14.58 | 2.15 | 1.09 |
| 18-604 | 160-110 | 21 | 19.7 | 2.6 | 1.18 |
| Differential, Type |  |  |  |  |  |
| 18-605 | 160-303 | - | 5.58 | 1.84 | 1.27 |
| 18-606 | 160-305 | 13 | 9.30 | 1.98 | 1.39 |
| 18-607 | 160-308 | 22 | 14.82 | 2.32 | 1.54 |
| 18-608 | 160-311 | 31 | 19.30 | 2.67 | 1.71 |
| Butterfly Type |  |  |  |  |  |
| 18-609 | 160-203 | 7 | 3.30 | 1.72 | 1.36 |
| 18-610 | 160-205 | 13 | 5.27 | 2.10 | 1.47 |
| 18-611 | 160-208 | 22 | 8.50 | 2.72 | 1.71 |
| 18-612 | 160-211 | 31 | 11.02 | 3.20 | 1.88 |

## (D) Aerovox Duranite Molded Tubular Capacitors

Entirely new DURANITE provides permanent, non-varying, rock-hard casing with smooth, clean surface. Pigtall leads will not pull out or work loose. Moisture-proof, they stand up under extreme temperatures from sub-zero to $212^{\circ} \mathrm{F}$. Temperature co-efficlent of capacitance similar to wax and oll capactors. Smaller dimensions than conventional tubulars.

P288-200 VDC W.

| Cat. No. | Mfd. | Net | Cat. No. | Mfd | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 07-401 | . 015 | 15c | 07-404 | . 1 | 21c |
| 07-402 | . 04 | 18c | 07-405 | . 5 | 35 c |
| 07-403 | . 05 | 18c |  |  |  |
|  | P488-400 VDC W. |  |  |  |  |
| 07-406 | . 006 | 15c | 07-410 | . 05 | 18c |
| 07-407 | . 01 | 15 c | 07-411 | 1 | 21c |
| 07-408 | . 02 | 15 c | 07-412 | 25 | 26 c |
| 07-409 | . 03 | 18c |  |  |  |
|  | P688-600 VDC W. |  |  |  |  |
| 07-413 | . 001 | 15c | 07-420 | 01 | 18c |
| 07-414 | . 0015 | 15 c | 07-421 | . 02 | 18 c |
| 07-415 | . 002 | 15c | 07-422 | 03 | 21 c |
| 07-416 | . 003 | 15 c | 07-423 | 04 | 21c |
| 07-417 | . 004 | 15 c | 07-424 | 05 | 24 c |
| 07-418 | . 005 | 15 c | 07-425 | 1 | 26. |
| 07-419 | . 006 | 15 c |  |  |  |

## RCA TEST RACK

## For Complete TV, FM and AM Testing

At last - to enable the up-to-date serviceman to keep abreast of the everchanging requircments of modern servicing, RCA engineering has produced this invaluable equipment. Provides ail the test equipment the serviceman needs to cope with complex service problems of all TV, FM and AM recelvers. The six RCA instruments furnished with the complete table rack are of the noted RCA quality, all are designed to do their job with the utmost convenience, precision, and completeness. $48 \times 33 \times 12 \frac{1}{2}$ deep.
Cat. No. 32-035 Trable Rack with 6 test units described below Net Price

RCA Table rack only. Net 'Price
$\$ 1099.00$ Cat. No. 32-036 RCA Table rack only. Net 'Price . : . $\$ 90.00$ WV-95A Master Voltohmyst
A foremost model of the fumed 1RCA Voltohmyst test instrument line. Range: AC volts, $0-1000$ in 7 steps; DC volts, $0-1000$ in six steps (11 megolums input resistance) ; flat 30-20,000 c.p.s.; 0-10 DC amps in 6 ranges; ohms $0-1000$ megs in 6 ranges; minimum rearling 1 microamp.; capacitance. 5 mmf . to 1000 mfd . with polarizing voltage on high. Operates on $105-$ 125 volts, $50-60$ cycles. $9 \frac{3}{4} \times 13 \frac{1}{2} \times 7 \frac{1}{2}$ ".
${ }^{s} 152.50$

## WR-59A TV Sweep Cenerator

I.f./v.r. ranges: $0-10 \mathrm{Mc}$. video; $5-15 \mathrm{Mc}$. prewar pix i.f.; $20-30 \mathrm{Mc}$.; $20-30 \mathrm{Mc}$. postwar plx 1.f. FM 1.f. $10-11.5 \mathrm{Mc}$.; TV sound i.f. 20.25-22.25 Mc.; 25-40 Mc. spare; 13 TV r.f. channels. Output .1-. 175 volts RMS. Output impedance: r.f., matched with 300 ohms balanced to ground; i.f./v.r., cable terminated in 100 ohms. Power supply, $105-125$ volts 50/60 cycles; consumption, 36 watts. Includes 1 WR-59A TV sweep unit, 1 power cord, 1 l.f./v.r. output cable, 1 r.f. outjut cable. $7 \frac{1}{2} \times 10 \times 13 \frac{1}{2}$. Cat. No. 32-041 Net Price
$\$ 325.00$

## WR-39A Television Calibrator

A slgnal source, heterodyne detector, and crystal standard for producing all the standard RMA frequencles used in Television servlce. TV callbration, $19 \mathrm{Mc}-120 \mathrm{Mc}$ in 4 bunds, $170-240 \mathrm{Mc}$. in two bands. Tuning ratio 10:1. Output i volts R.M.S. min.; output impedance 100 ohms ; output control range 100 to 1 . Audio characteristics: gain, approximately 1000 ; output to speaker or phone Jack; max. output 3 watts. Internal crystal standards. Complete with power cord and output cable, built-in speaker Cat. No. 32-042 Net Price
$\$ 250.00$

## Model WR-67A Test Oscillator

Cat. No. 32-012 See full description of this instrument in Signal Generator Section, page 47, of thils catalog. Net Price
$\$ 89.50$


## Model WA-54A Audio Oscillator

Cat No. 32-015 See full description of this tustrument on page 47 int Signal Generator Section of this catalog. Net Price

## WO-55A 3" Oscilloscope

An invaluable aid for servicing FM, and AM sets, an Indispensable instrument for TV servicing. Ruled screen for measuring peak-to-peak voltages with internal voltage source for calibration. Vertical and horizontal sensitivity 1.4 volts per inch, peak-to-peak. Input impedance, 5 megohms and 55 mmf . Range up to 200 Kc . Operates on $105-125$ volts, $50-60$ cycles. Lightweight, uses miniature tubes to effect economy of test panel space, $9 \frac{3}{4}^{3} 13 \frac{1}{2} \times 7 \frac{1}{2}^{\prime \prime}$
Cat. No. 32-028 Net Prlce
'129.50

# ADVANCE RELAYS 



## Keying Relay

Safe operation up to 5,000 volts is assured by use of two SPST switches in series; $\gamma^{\prime \prime}$ pure silver contacts in heavy phosphor bronze spring leaves; heavy-duty magnet coll and strong return spring provide for exceptlonal keying speeds. Size $3^{\prime \prime} \times 2^{\prime \prime} \times 1 \frac{3}{3^{\prime \prime}}$. Blading posts for coll and line connections.
Cat. No.
03-101
03-102
03-103

$$
\begin{gathered}
\text { Type } \\
101 \mathrm{~K} 6 \mathrm{v} \text { AC } \\
101 \mathrm{~K} 115 \mathrm{v} . \mathrm{AC}
\end{gathered}
$$

Net Ea.

## (B) <br> Time Delay Relay

Serfes 300 normally open thermostat. Particularly sulted to preheat control for tube filaments, this unit has many other uses; adjustable for delay periods of 10 scconds to one minute; timing is accurate and relay makes or breaks without hesttation or chattering; f" pure silver contacts handie 30 A at 6 volts to 10 A at 115 volts.
Operates on 110 volts $\mathbf{A C}$;
Cat. No. Type Net Ea.
03-104
03-105
301B SPST N/O
304B DPDT
$\$ 4.26$
03-106
304B DPDT
5.00
5.00

03-107
306B DPST N/O
5.00
5.55

## .Normally Closed Thermostat

Cat. No. 03-108 Type 354B DPDT 115 volt,AC. Net Price
$\$ 5.00$

## (C) Spaced Antenna Relays

The new type 2,300, used in pairs, provides the bighest effieleney in transmission line switching. The spacing between contact assembly and coll, and between contacts, allows high loading of RF and will, under proper conditions, handle any load up to 1 KW and is also Ideal for other RF applications such as diathermy, etc. Standard coils are wound for 110 volts AC, $50-60$ cycles. coils are wound for 110 volts AC, $50-60$ cycles.
Cat. No.03-109 Net Price . . $\$ 4.69$

## (D) Antenna Relays

The type 400 relay is ideal for transmitting purposes where high radlo trequency is being handled. The contact combination is DPDT using $\frac{1}{2}$ pure silver points rated at 10 A on 110 volts AC non-Incluctive loads. 115 volt AC coils.

${ }^{8} 6.37$
Cat. No. 03-110 Net Price

## (E) 20 Ampere Relay

Type 951 C is an exceptionally sturdy power transfer relay with $\frac{3 /}{6}$ pure silver contacts rated at 20 amperes on 110 volts $A C$ non-unductive loads; SPST circuit. 6-volt DC coil. \$4.27 Cat. No. 03-111 Net Price
-0
(F) 30 Ampere Relay

Type 961 C is constructed with two sets of $\frac{n_{8}^{\prime \prime}}{8}$ silver contacts allowing for greater capacity and a rating of 30 amperes on 110 volts AC noninductive loads. SPST circuit. 6 volt DC coll. Cat. No. 03-112 Net Price. . . $\$ 4.98$

## (G) Industrial Control Relays

Type 953B relay is designed for general circuit control applications, partlcularly for manufacturers. $\frac{1}{8}$ " pure silver contacts are standard but the relay is available with $\frac{1^{\prime \prime}}{}$ or $\frac{31}{16}{ }^{\prime \prime}$ if desired. Available in voltages $1-115$ volts AC SPDT
 Cu. No 113 Net Price
(H) Type 966B is designed expressly for use in industrial applicatlons-air conditioning, lighting and power transfer systems. DPST NC with ? contacts. 115 volts AC colls.
${ }^{5} 3.36$
Cat. No. 03-114 Net Price
(I) TyPE 979B relay is a 3PDT unit with bighly effclent AC colls requiring 6 watts may be plac ed in continuous service without danger of overheating. $\mathbf{1}^{\prime \prime}$ sllver contacts. 115 volts AC colls. Cat. No. 03-115 Net Price . $\$ 4.47$
(J) Midget Type Ceramic Insulated

This unlt is a compact DPDT ceramio-insulated relay espectally designed for aircraft, marine, mobile and portable radio equipment. To handie RF power safely, hlgh-dielectric "Ceramic Steatite" insulation is used throughout and $\frac{1}{}^{\prime \prime}$ pure silver contacts are adequately spaced.
Cat. No, 03-116 Type 1000 10a 115 volt AC.

## Net Price

Cat. No. 03-117 Type 2000 10a 6 volts DC
Net Price
$\$ 5.33$

## (K) Latching Antenna Relay- <br> Electrical Reset

With the Type 400 M relay it is possible to transmit and recelve without power consumption in the relay coils. A momentary fmpulse changes the antenna and provides quiet operation and positive contact in elther position. DPDT contacts are $\frac{1}{\prime \prime}$ pure silver rated at 10 A on 110 volts AC non-inductive loads. 115 -volt AC colls. Cat. No. 03-118 Net Price
$\$ 8.41$

## (L) Overload Relay Manual Reset

The Type 700 relay is an excellent safety device for various types of electronic apparatus to protect equipment against excessive currents. When current passing through the coll reaches a predetermined value, within the prescribed range, the armature of the relay is pulled in which snaps open the contacts which are thus Jocked open mechanically until reset by the hand lever. Type 700 comes in two styles: type $A$ which allows the relay to close on any current from 250 to 500 mills and type B for any setting between 500 and 1,000 mills.
'6.57
(M) Overload Relay Electrical Reset Type 750 relay is equipped with a variable potentiometer that may be easily adjusted for any desired overload current within the prescribed range. It is avaliable in two styles: type A for any current setting between 250 and 500 mllis and type 13 for any setting from 500 to 1,000 mills. Cat. No. 03-120 Net Price

## (N) Electronic Relay

The Type 850 relay is a sensitive DC relay for use in electronic tube circults. Colls are obtainable in resistances from 1500 to 20,000 ohms. Positive, dependable operation may be ob catned on as little as $\mathbf{1 2}$ milliwatts. SPDT comblnation, sliver contacts rated at 1.5 amp . on 110 volts AC noninductive loads.
Cat: No. 03-121 Net Price
s4.63


## (O)(P)(Q) Midget Relays

Designed for all applicatlons where a small, inexpensive and dependable relay is needed. Sturdy construction and very fast operation. Series 1,500 avallable in 1.5 to 115 volts AC. Series 1600 available in 2 to 32 volts DC.

| Cat. No. |  | Type |  | Net Ea, |
| :---: | :---: | :---: | :---: | :---: |
| 03-122 | K1504 | 115 VAC | DPDT | \$2.26 |
| 03-123 | K1504 | 24VAC | DPDT | 2.26 |
| 03-124 | K1503S | 115 VAC | SPDT | 2.10 |
| 03-125 | K1503S | 24 VAC | SPDT | 2.10 |
| 03-126 | K1509 | 115VAC | 3PDT | 2.61 |
| 03-127 | K1603s | 6VDC | SPDT | 2.10 |
| 03-128 | K1604 | 6VDC | DPDT | 2.26 |
| 03-129 | K1603 | 6 VDC | SPDT-DM | 2.26 |
| (R) | Coaxial Relays |  |  |  |

For use with 52 or 75 ohm RG eoaxial cables Max. rating 88 watts at 100 me. Power consumption ty pe $72003-\&$ va; ty pe 8200 .

| Cat. No. | Type | Net Ea. |
| :--- | :--- | ---: |
| 03-130 | 7200 115VAC | $\$ 8.08$ |
| $03-131$ | 7204 | 115 VAC |
| $\mathbf{0 3 - 1 3 2}$ | 8200 | 6VDC |
| (5) | $\mathbf{1 0 . 0 3}$ |  |
|  | 8.08 |  |

## (5) Industrial Control Relay

Type 9813 B four-pole double-throw relay was designed to meet the need for at compact and small size, positive and reliable four pole relay Has ${ }^{1 "}$ pure silver contacts.
Cat. No. 03-133115VAC Net Price . $\mathbf{6 . 4 0}$
(T)

Impulse Relay
Serles 900 relay has innumerable applications and provides great flexitility in new developments and new circuits. Is small in size but will give positive, dependuble servlce. Obtainable in all AC and DC voltuges.
Cat. No. 03-134 Type 904B DPDT 115VAC. Net Price
\$7.47
Cat. No. 03-135 Type 904 B DPDT 24 VAC Net Price
$\$ 7.47$

## Mechanically Locking Electrically <br> (U) <br> Reset Relays

Series 600 relay is especially good for applications Where it is not practical to have the holding coll in constant service. When ordering thls type be sure to specify input voltage and whether for AC or DC operation
Cat. No. 03-136 Type 604B DPDT 115 VAC . Net Price
\$6.21
(V)

## Industrial Relays

This serles 450 relay is avallable for operation on 1 to 115 volts AC or 2 to 40 volts DC. Has t" silver contacts rated at 20 amperes on 110 voits non-inductive loads.
Cat. No. 03-137 Type 454 DPDT 115 VAC. Net Price
$\$ 4.53$
(w) Ultra-sensitive DC Relay

Type 1200 ofters the last word in modern deslgncomblalug sensitivity, durablilty, compactness and fine appearance. Has moulded bakelite base, clear plastic cover and a counter-bslanced armature makes operation possible in any position withstanding vibration up to 10 G 's. Contacts SPDT rated at 1 ampere at 110 volts AC nonInductive load. Supplied in coll resistances from 1 ohm to 30,000 ohms.
Cat. No. 03-138 8700 ohms Net Price
$\$ 5.72$
Cat. No. 03-139 20000 ohms Net Price
6.43

## (X) Small Bakelite-insulated Relay

Series 100 M and 200 M are similar in design to the 1,000 serles relays, excedt for the insulation which is bakelite. and are available for operation on any AC voltage from 1-115 and any IDC voltage from 2-40 (200 series)
Cat. No. 03-140 Type 104AM DPDT 115VAC Net Price
3.62

Net Price
Cat. No. 0
Net Price
$\$ 3.62$

POTTER AND BRUMFIELD RELAYS (A) PR Heavy Duty Power Relays

These heavy duty power relays are promarily for such circuits as remote break-in control of transmitters, motor starting up to 1 HP , etc. Full floating contact carrier, clean wiping contact motlon. 7 to 10 volt-amps operathg power required. * Double-break contact.

$$
110 \text {-volt } 60 \text {-cycle colls. }
$$

Cat. Model Normal No No Type Position Contacts Net No. 01 No. TYpe Position Contacts Ea. $\begin{array}{lllll}03-001 & \text { PR1A } & \text { SPST } & \text { Open } & 15 \mathrm{amps} \\ 03-002 & \text { PR2A } & \text { SPST } & \text { Closed } \\ 15 \mathrm{umps} & 2.85\end{array}$ $03-003$ PR3A SPST Open* 20 amps 3.10 03-004 PR4A SPST Closed* 20 amps 3.15 03-005 PR5A SPDT $\cdots \quad 15 \mathrm{amps} \quad 3.20$ 03-006 PR7A DPST Open 15 amps 3.65 03-007 PR8A DPST Closed 15 amps 3.85 03-008 PR11A DPDT .... 15 amps 4.90
(B)MR Medium Duty Power Relays The popularity of this relay is based on ine design, small space requirements and rugged, reliable pertormance. * Indicates double break contact. 110 -volt $60-\mathrm{cycle} \mathrm{AC}$ Coil Cat. Model Normal Net No. No. Type Position Contacts Ea. 03-009 MR1A SPST Open 8 amps $\$ 2.00$ 03-010 M122A SPST Closed 8 amps 2.00 03-011 MR3A SPST Open* 8 amps 2.15 $03-012$ MR5A SPDT … 8 umps 2.70 03-013 MR7A DPST Open 8 amps 2.60 03-014 MR8A DPST Closed 8 amps 2.50 03-015 MR11A DPDT 8 umps 2.80
6-volt 60 -cycle AC Coll 03-016 MR1A SPST Open 8 amps 2.00 03-017 MR5A SPDT … 8 amps 2.15 03-018 MR7A DPST Open 8 amps 2.60 03-019 MR11A DPDT 6 -volt DC Coll
$03-020 \mathrm{MRID}$ SPST Open 8 amps 2.00 03-021 MR5D SPDT .... 8 amps 2.15

## (C) LS Series Plate Circuif Relays

 4 amp. sllver contacts $\frac{3^{2}}{} 5^{\prime \prime}$ dia. Size, $23^{\prime \prime} \times 13^{\prime \prime}$ $1^{\frac{3}{3}}{ }^{\prime \prime}$. Type LS5 SPDT 2500 ohm coil. Operating current. 6.0 ma1.90 Cat. No. 03-022 Net Price current.
s2.20

##  POWER - ANTENNA - PLATE



## Radio Relays by Guardian

TYPE K320 keying relays are low-voltage relays for controlling high-voltage transmission. Control up to 2,000 volts with clean make and break. Special oversize sll ver contacts ean handle $5,0 \mathrm{CO}$ watts on 60-cycle non-inductive 115 volts AC and in AC primary circuit of any inductive power supply dellvering up to and including 1 KW
(D) Cat. No. 03-051 Net Price
$\$ 2.35$
TYpe A-300 relay is specifically designed for low loss antenna changeover operation on antenna circuits of any transmitter with up to 1 KW input power. 110 volt $50-60$ cycle coll
${ }^{\text {s }} 4.77$
TYpe X300-ER adjustable overload relay gives positive precise protection against current surges and continuous overloads. Adjustable from 250750 ma . DC. Insulation between coll and ground rated at 3.000 voits.
(F) Cat. No. 03-053 Net Price
s4.84
TYPE B100 break-in relay is an absolute necessity for installation where the transmitter is located in another room from the receiver and key, A frequentiy employed installation is to have the B-100 connect the antenna and plate voltage to the receiver when open. Closing a toggle switch In the 110 -volt circuit to the relay disconnects the receiver antenna and plate voltage, and at the same time connects the antenna to the transmitter and closes the 110 -volt primary of the plate transformers. Action is DPDT. \$5.64 Cat. No. 03-054 Net Prlce

## AEMCO AUTOMATIC TIMERS

## (B) Signal Timer Model SIC-36

A flexible and adjustable timer for sounding a signal at preset times during 24 -hour period Large dial, pialnly visible, has sets of tapped holes; screw pins provide any schedule of stgnals In steps as close as five minutes thru the day. Can be easily changed as desired at any time. Signal set to sound five seconds, adjustable up to 30 seconds. Equipped with Sunday and hollday cutouts; manual control to sound signal at any time. Timer operates on 110 volts AC; signal can operate on low voltage AC or DC. For 220 volt timer add suffix letter "T" to Catalog Number. Attractive steel cabinet; may be locked.
Cat. No. 05-840 Net Price
$\$ 90.00$

## Model SIG-A

For requirements where not over 6 slgnals are used durlng 24-hour period; signals are permanently set at factory; unit may be returned to factory for changes. Signals can be as close together as 2 minutes. Write for data prices on Sig-A with Sunday cutout and manual control to specification
Cat. No. 05-841 Net Price


A


B


C

## (A) Synchronous-motored Time Switches

Dependable, ruggedly constructed, synchromotored timers for automatic "ON" and "OFF"' switching of all types of electrical equipment. All AEMCO models offer these superlor features: self-starting synchronous motors; cabinet window for easy inspection of dial, trip levers, and contact positions; permit manual oderation; setting as close as 15 minutes between "ON" and "'OFF"'; simple setting operation; tamper-proof padlock hasps. All models are normally supplied with dials having one set of trip levers. Dual trip lever dials are optlonal at no charge (see listing below). Dials are easily Interchangeabie.

## Model 120

Single-pole, single-throw model with capacity of 20 amperes flls the need under the majority of requirements. Cabinet has convenient knock-outs for quick connection in permanent installations. Dimensions $7 \frac{1}{2} \times 4 \frac{1}{\frac{1}{2}} \times 3 \frac{1}{2}$.

## Model 230

A double-pole, single-throw model with each pole capable of handling 30 amperes. Dimensions: $7 \frac{1}{2} \times 4 \frac{1}{2} \times 3 \frac{1}{2}$.

## Madel 145

A single-polc, single-throw model with capacity of 45 amperes. Includes a Sunday and hollday Cutout, as standard equipment, by simple insertion of screw-pin in star-wheel, Dimensions:


(G) Husky Co-axial Antenna Transfer

This relay is a co-axial unit designed to transfer a 52 ohm antena transmission line from receiver to transmitter without mismatch when proper cables are used. This unit will switch 750 watts of RF when impedances are properly matched. Destgned for operation on 115 volts 60 cycles. Cat. No. 03-303 Type 6350 SPDT. \$9.80 Cat. No. 03-304 Type 6351 SPDT. 10.78 Net Price .
(H)

## Mack Mercu-trol

This relay has hermetically sealed heavy tungsten contacts. Mercury to mercury make and break in inert gas. It is safe under all conditions and will take motor loads up to $2 \mathrm{HP}, 110$ volts or 220 volts AC. Current loads up to 35 amps. 110 volts; 25 amps., 220 volts AC. $2 \frac{5}{2}^{\prime \prime} \times 4 \frac{1}{2}{ }^{\prime \prime} \times 2 \frac{1^{\prime \prime}}{}$ Cat. No. 03-301 Type $400 \mathrm{~N} / \mathrm{O}$ Net Price $\$ 8.00$ Cat. No.03-302 Type $600 \mathrm{~N} / \mathrm{C}$ Net Price 9.60 Tube Only
Cat. No. 03-305 Type 40 N/O Net Price $\$ 4.00$ Cat. No. 03-306 Type 60 N/C Net Price $\quad 5.60$

## (I) Gordon RF Relay

For antenna change-over, multi-band transmitter tank switching, and 60-cycle power switching. A high power DPDT relay; easlly handles 1 KW ; ${ }^{3}$ " silver contacts, $\frac{1}{2}$ gap. Insulation is Alsimag 196; low losses up to 100 Mc . Operates on 105 120 volts. $50-60$ cycles. Size $4 \frac{3^{\prime \prime}}{n^{\prime \prime}} \times 5 \frac{9^{\prime \prime}}{16^{\prime \prime}} \times 3^{\prime \prime}$. 120 volts.
Model 1000.
Cat. No. 03-351 Net Price
$\$ 10.58$

## Model 245

A double-pole, single-throw model with each pole having a capacity of 45 amperes. Includes Sunday and holiday cutout as standard equipment. Dlmensions: $8 \times 5 \frac{1}{4} 3 \frac{1}{2}^{\prime \prime}$

## Plug-in Model 110

A single-pole, single-throw model equipped with 5 -foot extension cord and plug for connection to standard outlet; receptacle takes appliance plug. Ideal for refrigerators, fans, radios, electric cookers, etc. Single-pole, single-throw; 10 amp. capacity will handle motors up to $\frac{1}{3}$ horsepower. Dimenslons: $7 \frac{1}{3} \times 4 \frac{1}{2} \times 3 \frac{1}{3}$.


* Double pole models, all others single pole.

Cat. No. 05-806 Extra dial, double trip lever Net Each
Cat. No. 05-807 Extra dal, single trip lever. Net Each

## Optional Modifications

For 50 -cycle motor at no extra charge, add letter "C'' to Catalog Number when ordering. For dial with double set of trip levers, at no extra cost, add letter "T" to Catalog Number. Write for information on 25 -cycle models and double-throw models.

## SWITCHES TAP - ROTARY - TOGGLE - KNIFE - PUSH-BUTTON

## (A) Ohmite Power Switches

New Ohmite tap switches are high-amperage load-break multi-point selectors particularly deaigned for alternating current use. Each switch is a non-shorting, single-pole, rotary, multi-position unit. Several switches can be connected mechanically to form multi-pole assemblles. Silver-to-sllver contact, compact, all-enclosed, ceramic construction. Many contacts, convenient terminals, "Slow-Break" Actlon for Alternating current, low contact resistance, self-cleaning contacts, back-of-panel mountling, high current ratings, non-shorting type.
All ratings for alternating current non-Inductive load. Net price does not include knob.

Model 111 Tap Switce

|  | *Single Unit |  | Cat. |  |
| :--- | :---: | :---: | :---: | :---: |
| No. of Tandem |  |  |  |  |
| Taps | Cat. | No. | Net | No. |
| 8 | $\mathbf{0 5 - 2 0 1}$ | $\mathbf{2 . 1 4}$ | $\ldots \ldots$. | Net |
| 6 | $\mathbf{0 5 - 2 0 2}$ | 2.07 | $\ldots .$. |  |
| 4 | $\mathbf{0 5 - 2 0 3}$ | 1.99 | $\mathbf{0 5 - 2 0 5}$ | $\mathbf{\$ 7 . 8 0}$ |
| 2 | $\mathbf{0 5 - 2 0 4}$ | $\mathbf{1 . 9 9}$ | $\mathbf{0 5 - 2 0 6}$ | $\mathbf{7 . 8 0}$ |

*Depth behind panel $1 \mathrm{l}^{\prime \prime}$. † Depth behind panel $2 \frac{3}{3}^{\frac{3}{2}}$.

| No. | *Single Unit |  | +2 In Tandem |  | +3 in Tandem |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Taps | Cat. No. | Net | Cat. No. | Net | Cat. No. | Net |
| 12 | 05-207 | \$5.72 | 05-218 | \$15.45 | 05-229 | \$22.93 |
| 11 | 05-208 | 5.72 | 05-219 | 15.45 | 05-230 | 22.93 |
| 10 | 05-209 | 5.55 | 05-220 | 15.06 | 05-231 | 22.36 |
| 9 | 05-210 | 5.55 | 05-221 | 15.06 | 05-232 | 22.36 |
| 8 | 05-211 | 5.35 | 05-222 | 14.68 | 05-233 | 21.79 |
| 7 | 05-212 | 5.35 | 05-223 | 14.68 | 05-234 | 21.79 |
| 6 | 05-213 | 5.17 | 05-224 | 14.29 | 05-235 | 21.22 |
| 5 | 05-214 | 5.17 | 05-225 | 14.29 | 05-236 | 21.22 |
| 4 | 05-215 | 4.97 | 05-226 | 13.92 | 05-237 | 20.64 |
| 3 | 05-216 | 4.97 | 05-227 | 13.92 | 05-238 | 20.64 |
| 2 | 05-217 | 4.97 | 05-228 | 13.92 | 05-239 | 20.64 |
| * De | behind p | el $1 \frac{7^{\prime \prime}}{}$. | + Depth behind panel $4 \frac{3}{16}{ }^{\prime \prime}$. |  |  |  |

(B) OHMITE BC-3 Transmitter Band Change

All-purpose high-voltage switch provides instant, gasy change from one frequency to another by front-of-panel knob control. Porcelain vitreous enamel lusulation; low-resistance contacts; sultable for circuits up to 1 kw . rating. Supplied with knob and mounting bracket. Cat. No. 05-240 Net Price
\$2.52

On-Off indicating Plateb. Toggle switch plates; rigid, die-cast plate with tatuary bronze finish. $\frac{\lambda^{\prime \prime}}{}$ hole.
Cat No 05-293 Net Each 2c
Etched and polished aluml num; for toggle or rotary switch
Cat. No. 05-294 Net Each 11c
10 for 98c

## H\&H SWITCHES

(A) Rotary Switches

Positive contact at 1 amp .250 volts, 3 amps . 125 volts. Stem is $11 / 2^{\prime \prime}$ long; shank diam. $3^{\prime \prime}{ }^{\prime \prime}$ Lock nuts supplied. U Lillsted. Cat.
${ }^{\text {No. }}$
$05-013$
$05-013$
$05-014$
05-01

## (D) Push-On, Push-Off Switches

Single push button gives both "On" and "Orf control. Rated at 3 amps., 250 volts; 6 amps., 125 volts. U.L. listed. Snap-on Bakellte buttoncap; specify red or black cap when ordering. SPST.
Cat. No. 05-016 Net Each 56c 10 for $\$ 5.04$ Above push-button switches without Bakelite cap on metal actuator
Cat. No. 05-017 Net Each 47c 10 for $\$ 4.23$
(B) Heavy-Duty Toggle Switch

Carrles 20 amp at 125 volts or $1 \frac{1}{2} \mathrm{HP}$. DPST, Bakelite body; serew terminals.
Cat. No. 05-018 Net Price
$\$ 2.23$

## (C) HEH Neutral-Center Toggle

Heavy-duty DPDT 10 amp . at 125 volts. Screw terminals.
Cat. No. 05-019 Net Price
$\$ 3.51$

## (D) HEH Momentary-Contact

Slow make and break SPST rated 75 watts 125 volts; $\frac{9}{16 "}$ sleeves; solder lugs; red or black push button.
Cat. No. 05-020 Net Price

## Two-Circuit Momentary-Contact

One clrcult normally on and one normally off; may be connected for SPDT clrcult. Rated 1 amp. at 125 volts. Metal، red or black Bakelite button.
Cat. No. 05-021 Net. Price 50c 10 for $\$ 4.50$

(E) HEH Toggle Switches

These toggle switches are approved by Underwriters laboratorles to carry 3 amp . at 125 volts or 1 amp . at 250 volts. Two lock nuts included. All with $\frac{y^{3}}{}{ }^{\prime \prime}$ stem.

| Cat. |  |  | Net | 10 |
| :--- | :--- | :--- | :--- | :--- |
| No. | H\&H Type | Circult | Ea. | for |
| 05-001 | 20994-A | SPST | 26 c | $\$ 2.34$ |
| $05-002$ | $21350-\mathrm{B}$ | SPDT | 32c | 2.88 |
| $05-003$ | $20902-A M$ | DPST | 50c | 4.50 |
| $05-004$ | $20905-Z$ | DPDT | 53c | 4.77 |

## (F) Bat-Handle Toggle Switches

All-Bakelite body. bat handle. lug terminals $\frac{y^{5}}{5}$ dia. mtg. shank. Takes 3 amps. at 250 volts; 6 amps. at 125 volts. All with $\frac{15}{3}$ stem.
UL listed.


A heavy-duty toggle switch for use in transmitter clrcults, motors, and applances. SPST and DPST models are rated 6 amps. at 250 volts, 12 amps . at 125 volts SPDT rating, 3 amps , 250 volts, 6 amps, 125 volts. Screw terminals: ${ }^{\text {fing }}$ n dism shank, fin long with two lock nuts U.L. Hsted.
$\begin{array}{llllc}\text { Cat. } & & & \text { Net } & 10 \\ \text { No. } & \text { H\&H Type } & \text { Clrcult } & \text { Ea. } & \text { for } \\ 05-009 & 8067 & \text { SPST } & 50 \mathrm{c} & \$ 4.50 \\ 05-010 & 80600 & \text { DPST } & 53 \mathrm{c} & 4.77 \\ 05-011 & 80618 & \text { SPDT } & 53 \mathrm{c} & \mathbf{4 . 7 7}\end{array}$
(H) H\&H Push Button Power Switch A safety switch for transmitters; used in racks and cabinets; opens circuit when door is opened; DPST; 12 amps. at 125 volts. $\frac{7}{14}{ }^{\prime \prime}$ shank.
Cat. No. 05-022 Net Price
$\$ 1.01$

## (I) Mallory 2000

## Single Push-button Switch

Ideal for appllcations requiring momentary or permanent contact. Many different circuit combinations available in locking or non-locking types. Excellent for use in meter circuits, and test panels. With knob and mounting hardware. "L" added to type number Indicates locking. Cat.

| No. | Type | Actlon | Net |
| :---: | :---: | :---: | :---: |
| 05-165 | 2001 | SPST-make | \$.76 |
| 05-166 | 2001-L | SPST-make | . 76 |
| 05-167 | 2002 | SPST-break | . 76 |
| 05-168 | 2002-L | SPST-break | . 76 |
| 05-169 | 2003 | SPDT | . 82 |
| 05-170 | 2003-L | SPDT | . 82 |
| 05-171 | 2004 | DPST-make 2 | . 94 |
| 05-172 | 2004-L | DPST-make 2 | . 94 |
| 05-173 | 2005 | DPST-break 2 | . 94 |
| 05-174 | 2005-L | DPST-break 2 | . 94 |
| 05-175 | 2006 | DPDT | 1.15 |
| 05-176 | 2006-L | DPDT | 1.15 |
| 05-177 | 2007 | DP-make 2 break 1 | 1.03 |
| 05-178 | 2007-L | DP-make 2 |  |
|  |  | break 1 | 1.03 |
| 05-179 | 2008 | DPDT-make |  |
| 05-180 | 2008-L | betore break |  |
|  |  | before break | 1.29 |



## MALLORY

(A) 1200 L and 1300L Multi-Gang Switches

Shorting type; make betore break; one fixed and one adjustable stop; sllverplated contacts; phosphor bronze springs; 3-and 4-gang spaced $1^{\prime \prime}$; all others $\frac{1}{2}{ }^{\prime \prime}$. $2^{\prime \prime}$ notehed shaft.

| Shorting |  | Non-SHORTING |  | Gangs | Total Poles | Pos. per Pole | Net <br> Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Cat. No. | Type |  |  |  |  |
| 05-055 | 1216L* | 05-075 | 1316L* | 1 | 1 | 6 | \$0.76 |
| 05-056 | 1211L | 05-076 | 13111. | 1 | 1 | 11 | . 91 |
| 05057 | 1215L* | 05-077 | 1315L* | 1 | 2 | - 5 | . 97 |
| 05-0.58 | 1213L* | 05-078 | 1313L** | 1 | 3 | 3 | 1.06 |
| 05-059 | 1212L* | 05-079 | 1312L** | 1 | 4 | 2 | 1.12 |
| 05-060 | 1226L* | 05-080 | 1326I.* | 2 | 2 | 6 | 1.26 |
| 05-061 | 1221 L | 05-081 | 1321L | 2 | 2 | 11 | 1.35 |
| 05-062 | 1225L* | 05-082 | 1325L* | 2 | 4 | 5 | 1.53 |
| 05-063 | 1223L* | 05-083 | 1323L** | 2 | 6 | 3 | 1.65 |
| 05-064 | 1222L* | 05-084 | 1322L* | 2 | 8 | 2 | 1.73 |
| 05-065 | 1236L* | 05-085 | 1336L* | 3 | 3 | 6 | 1.71 |
| 05-066 | 1231 L | 05-086 | 1331L | 3 | 3 | 11 | 1.82 |
| 05-067 | 1235L* | 05-087 | 1335L* | 3 | 6 | 5 | 1.94 |
| 05-068 | 1246L* | $05-088$ | 1346L* | 4 | 4 | 6 | 2.12 |
| 05-069 | 1241 L | 05-089 | 13411. | 4 | 4 | 11 | 2.32 |
| 05-070 | 1245L* | 05-090 | 1345 L * | 4 | 8 | 5 | 2.70 |
| 05-071 | 1251 L | 05-091 | 1351 L | 5 | 5 | 11 | 2.88 |
| 05-072 | 1256 L | 05-092 | 1356L | 5 | 10 | 6 | 3.56 |
| 05-073 | 1261 L | 05-093 | 1361L | 6 | 6 | 11 | 3.41 |
| 05-074 | 1266L | 05-094 | 1366L | 6 | 12 | 6 | 4.35 |

(B) 3100 and 3200 Jingle Gang Switches

For band switching, etc. Low-voltage switehes with $2^{\prime \prime}$ shaft, barknob, and nut. $1 \frac{\mathrm{~h}^{\prime \prime}}{}$ base types h.ve arljustable stops.

| Shomting |  | Non-shorting |  | Poles | Positions | Hase Dia. | Net <br> Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Cat. No. | Type |  |  |  |  |
| 05-095 | 3115J | 05-107 | 3215 J | , | 5 | $1{ }^{12}$ | \$0.68 |
| 05-096 | 31112 J | 05-108 | 32112 J | 1 | 12 | $1{ }^{1 /}$ | . 68 |
| 05-097 | 3122 J | 05-109 | 3222 J | 2 | 2 | $1{ }^{\text {1/ }}$ | . 68 |
| 05-098 | 3123J | 05-110 | 3223J | 2 | 3 | $1{ }^{1 /}$ | . 68 |
| 05-099 | 3126J | 05-111 | $3226 . \mathrm{J}$ | 2 | 6 | $1{ }^{1 /}$ | . 68 |
| 05-100 | $3134 . \mathrm{J}$ | 05-112 | $3234 . \mathrm{J}$ | 3 | 4 | $1{ }^{1 / \prime}$ | .71 |
| 05-101 | 3142J | 05-113 | 3242 J | 4 | 2 | $1{ }^{1 \prime}$ | . 71 |
| 05-102 | 3143J | 05-114 | 3243J | 4 | 3 | $1{ }^{\prime \prime}$ | . 71 |
| 05-103 | 31117J | 05-115 | 32117J |  | 17 | $1 \frac{11}{6 /}$ | 1.06 |
| 05-104 | 3129. | 05-116 | 3229 J | 2 | 9 | $1 \frac{12}{16}{ }^{\prime \prime}$ | 1.06 |
| 05-105 | 3136J | 05-117 | 3236 J | 3 | 6 | $1{ }^{16}$ | 1.15 |
| 05-106 | 3163J | 05-118 | 3263J | 6 | 3 | $1{ }^{1 / 13^{\prime \prime}}$ | 1.15 |

## (C) 170C Ceramic-Section Selector Switches

RF losses are minimized with ceramic-section selector switches in high trequency circuits. Im joregnated ceramic stators and rotors minimize moisture absorption; 2-gang spaced $\frac{1}{2}$ "; 3-gang, $1^{\prime \prime} ; 2^{\prime \prime}$ grooved shaft, knob, and mounting hardware.

| Cat. No. | Type | Gangs | Circuits <br> per Gang | Positions <br> per Clrcult | Net |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $05-119$ | 171 C | 1 | 1 | 6 | $\$ 1.00$ |
| $05-120$ | 172 C | 1 | 1 | 11 | 1.00 |
| $05-121$ | 173 C | 1 | 2 | 5 | $\mathbf{1 . 0 0}$ |
| $05-122$ | 174 C | 1 | 3 | 3 | 1.00 |
| $05-123$ | 175 C | 2 | 1 | 6 | 1.59 |
| $05-124$ | 176 C | 2 | 1 | 11 | 1.59 |
| $05-125$ | 177 C | 2 | 2 | 5 | 1.59 |
| $05-126$ | 178 C | 2 | 3 | 3 | 1.59 |
| $05-127$ | 179 C | 3 | 1 | 6 | 2.29 |
| $05-128$ | 180 C | 3 | 1 | 11 | 2.29 |
| $05-129$ | 181 C | 3 | 2 | 5 | 2.29 |

(D) 5000-6000-7000 Lever-Action Switch

Shorting or non-shorting contacts; positive or spring-return indexing of two, three or four positions; $20^{\circ}$ spacing between posittons; can be mounted in multiple with $y^{\prime \prime}$ spacing between levers; with knob and mounting hardware.

With Positive-action Index

| Shorting |  | Non-shorting |  |  | Positlons | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Cat. No. | Type | Poles |  |  |
| 05-131 | 5124 | 05-134 | 5224 | 2 | 4 |  |
| 05-132 | 6142 | 05-135 | 6242 | 4 | 2 | 73 c |
| 05-133 | 6143 | 05-136 | 6243 | 4 | 3 | 73 c |
| With Spring-betubn Index |  |  |  |  |  |  |
| 05-137 | 7122 | 05-142 | 7222 | 2 | 2 | 73 c |
| 05-138 | 7123 | 05-143 | 7223 | 2 | 3 | 73 c |
| 05-139 | 7142 | 05-144 | 7242 | 4 |  | 73 c |
| 05-140 | 7143 | 05-145 | 7243 | 4 |  | 73 c |
| 05-141 | 7162 | 05-146 | 7262 | 6 | 2 | 73 c |



## (1) Federal Anti-Capacity

 SwitchesDesigned for low capacley letween circuits. Positive contacts.

| circults. | Positive contacts. |  |
| :--- | :--- | ---: |
| Cat. No. | Type | Net Ea. |
| $05-035$ | DPST | $\$ 1.90$ |
| $05-036$ | DPDT | 1.90 |
| $05-037$ | 4PDT | 2.25 |

## 1400L Circuit Opening Switch

For test sets, tube checkers, analyzers and other apparatus where it is desirable to use one meter to read many quantities. Knob and mounting hardware.
Cat. No. 05-147 Net Price
$\$ 3.47$
(E) 151L Hamswitch

Two-section. flve-circuit. five-position switch. For switching meter circuits. All unused terminals are automatically shorted together. With knob and mounting hardware.
Cat. No. 05-148 Net Price.
$\$ 1.62$

## 152L Hamswitch

Two-section, two-circuit. six-position switch for bandswitching or meter switching uses. With knob and mounting hardware
Cat. No. 05-149 Net Price
$\$ 1.91$
(F) 160C Ceramic-Section Hamband Switch

For band switching in low-power transmitter circuits. Four-position. conthuously rotatlng switches for use in plate circults up to 1000 volt DC ; handle power up to 100 watts. K nob and mounting hardware

| Cat. No. | Type | Gangs | Positions <br> per Gang | Circuits <br> per Sw | Net |
| :--- | :---: | :---: | :---: | :---: | ---: |
| $05-159$ | 161 C | 1 | 4 | 1 | $\$ 1.18$ |
| $05-160$ | 162 C | 2 | 4 | 2 | 1.76 |
| $05-161$ | 163 C | 3 | 4 | 3 | 2.35 |
| $05-162$ | 164 C | 4 | 4 | 4 | 2.94 |
| $05-163$ | 165 C | 5 | 4 | 5 | 3.67 |

## (C) 2100 Multiple Push Button Switches

For multiple-circuit applications as in station selector tunlng. inter-ofice communication, tube checkers. From 4 to 8 browa Bakelite buttons with bronze escutcheon plate and blank designation Inserts.

| Cat. No. | Type | Buttons | Deseription | Net |
| :--- | :---: | :---: | :---: | ---: |
| 05-150 | 2164 | 4 | Circuit Closing | $\mathbf{\$ 3 . 0 9}$ |
| $\mathbf{0 5 - 1 5 1}$ | 2166 | 6 | Circuit Ciosing | $\mathbf{3 . 8 5}$ |
| $05-152$ | 2168 | 8 | Circult Closing | $\mathbf{4 . 6 5}$ |
| 05-153 | 2184 | 4 | Circuit Transfer | $\mathbf{3 . 0 9}$ |
| $05-154$ | 2186 | 6 | Circult Transfer | $\mathbf{3 . 8 5}$ |
| $\mathbf{0 5 - 1 5 5}$ | 2188 | 8 | CIrcuit Transfer | $\mathbf{4 . 6 5}$ |
| 05-156 | 2194 | 4 | *Circuit Transfer | $\mathbf{3 . 0 9}$ |
| 05-157 | 2196 | 6 | *Circuit Transfer | $\mathbf{3 . 8 5}$ |
| 05-158 | 2198 | 8 | *Circuit Transfer | $\mathbf{4 . 6 5}$ |
| *Non-shortening |  |  |  |  |

*Non-shortening

## CENTRALAB

(H) Special-Purpose Lever-Action Switches

Low-capacity, silvered contacts save panel space, Furnished with black Bakelite knob and mounting bolts. May be used singly or in groups

| Shorting Type |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Poles | Positions | Index | Net |
| 05-275 | 1452 | 2 | 3 | Positive |  |
| 05-276 | 1453 | 2 | 3 S | Spring-Return |  |
| 05-277 | 1456 | 4 | 2 S | Spring-Return | 73 |
| 05-278 | 1459 | 4 | 2 | Positive | 73c |
| 05-279 | 1460 | 2 | 3 P | Positive \& S-R |  |
| Non-shorting Type |  |  |  |  |  |
| 05-280 | 1454 | 2 | $3 \quad \mathrm{P}$ | Positive |  |
| 05-281 | 1455 | 2 | 3 S | Spring-Return |  |
| 05-282 | 1457 | 4 | 2 S | Spring-Return | 73 c |
| 05-283 | 1458 | 4 | 2 P | Positive | 13c |
| 0-5284 | 1467 | 2 | 3 | Positive \& S-R |  |
| Cat. Mounting Plates for Above |  |  |  |  |  |
|  |  |  |  |  |  |
| No. ${ }^{\text {05 }}$ |  |  | Swit ches | S $\quad$ Size | Net |
| 05-285 |  |  | 1 | \% ${ }^{\prime \prime} \times 2{ }^{\frac{1}{\prime \prime}}$ | 21 c |
| 05-286 |  |  |  | $1^{\frac{1}{2}} \times 2{ }^{\prime \prime}$ | 24 c |
| 05-287 |  |  |  | $\left.23^{\prime \prime} \times 2\right\}^{\prime \prime}$ | 29 c |
| 05-288 |  |  | 4 | $3^{\prime \prime} \times 2{ }^{\text {\% }}$ | 35c |

## Tone Switches

Positive-acting shorting-type contacts. Insulated $1^{\prime \prime \prime} \times 26^{\prime \prime \prime}$ shaft, $z^{\prime \prime} \times \frac{3_{0}^{\prime \prime}}{}$ bushing. Rated 1 a .- 6 v .
Cat. No. 05-289 Type 1460 SPDT Net Price
Cat. No. 05-290 Type 1461 SP 3 Pos . Net Price
44 c
Cat. No. 05-291 Type 1462 DPDT Net Price . . . . 44 c
Type 1450 Universal Flat Switch. Non-shorting; St or DT up to 4 poles; ${ }^{\frac{5}{3} / \prime}$ deep $2!^{\prime \prime}$ shaft; bar knob.
Cat. No. 05-292 Net Price

## JACKS and PLUGS





## Economy Phone Plugs

(E) Standard Phone Plug

For one or two phone or speaker cords; screw terminals; nickel-plated brass hardware; molded Bakellte Insulation - red or black.
Cat. No. 01-960 Black Net Each
Cat. No. 01-961 Red Net Each - 27c
10 for $\$ 2.43$
27c
27

## (F) Shielded Phone Plug

Similar to above but has nickeled brass shell with gum rubber insulating bushing for cord.
Cat. No. 01-962 Net Eacb 49c 10 tor $\$ 4.41$

## (G) Stubby Shielded Plug

Shlelder, with metal-shell barrel $1^{\prime \prime}$ long. Screw connections
Cat No 01-963 Net Each 42c 10 tor $\$ 3.75$

## Midget Phone Plug

Barrel $1^{\prime \prime}$ long, overall length $2 \frac{1}{4}{ }^{\prime \prime}$. Solder lug connections.
Cat. No. 01-964 Red
$\begin{array}{llr}\text { Cat. No. 01-964 } & \text { Red } & \text { Net Each } \\ \text { Cat. No. 01-965 } & \text { Black } & 27 \mathrm{c}\end{array}$
10 for $\$ 2.43$
(H) Walsco Miniature Jack and Plug Ideal for hearing alds, speaker extensions, carbon mikes; two-conductor, army-type; molded case, needs no screws; 1 lang.
Cat. No. 01-877 Plug Net Price
Cat. No. 01-878 Jack Net Prlce
24 c
(I) Midget Jacks

Compact size; require 俸 mounting hole; Bakelite insulation.
Cat. No. 01-879 Open circult
Net Each 16c
10 for $\$ 1.44$
Cat. No. 01-880 Closed circuit
Net Each 19 c
10 tor $\$ 1.71$

## (J) Bud Jack and Switch Plates

Aluminum with polished letters on black enameled baekground. Outside diam. $1 \frac{1^{\prime \prime}}{}$.

| Cat. No. | Marking | Hole | Net |
| :--- | :--- | :--- | ---: |
| 05-301 | Mlerophone | $3^{\prime 3} 2^{\prime \prime}$ | Each |
| $\mathbf{0 5 - 3 0 2}$ | Phones | H⿳ $_{3}^{\prime \prime}$ |  |
| $\mathbf{0 5 - 3 0 3}$ | On-Off | . $\mathbf{4 7 5}^{\prime \prime}$ | $\mathbf{1 2 c}$ |


(A) Plain Phone Tip Jacks

Made of nickel-plated brass. A strong spring assures perfect contact. Fits $\frac{1_{4}^{\prime \prime}}{\prime \prime}$ mounting hole in panel up to ${ }^{1 \prime}$ thick.
Cat. No. 01-808 Net Each $6 c$
10 tor . . . . . 54 c

## (B) Insulated Tip Jacks

For standard phone tips. Colored head $\frac{7}{i^{\prime \prime}}$ diam. New. improved springs hold phone tips very rigid. Cat. No. 01-809 Black
$\begin{array}{ll}\text { Cat. No. 01-809 } & \text { Black } \\ \text { Cat. No. 01-810 } & \text { Red }\end{array}$
Cat. No. 01-8
Net Each 9 c
10 for 80c

## Banana Plug or Tip Jack

Takesstandard phone tips or banana type plugs. Plugs fit interchangeably. Fits $\frac{1}{\prime \prime}^{\prime \prime}$ diam. hole in panel up to $\frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ thlek.
Cat. No. 01-811 Black
Cat. No.01-812 Red
Not Each 11c
10 for 99c

## (C) Standard Cord Tip

Fits standard tip facks listed above. Length overall $\frac{15}{16}{ }^{\prime \prime}$, shank diameter L' $^{\prime \prime}$
Cat.
Cat. No. 01-830 10 for $\quad 12 \mathrm{c}$
(D) Solderless Phone Tips

Lead wire is fastened securely by screw ard nut connection. Two slzes.
Cat. No. 01-813 1s " long
Cat. No. 01-814 $i \frac{1}{3}$ " long
Net Each 6c
10 tor 54c

## Insulated Solderless Phone Tip

Fits all standard tip jacks; insulated handle; $1{ }^{\prime \prime}$ long, overall
Cat. No. 01-815 Red
Cat. No. 01-816 Black
Net Each 10c
10 for 90 c

## (E) Banana Plugs

All-metal plugs, nickel-plated brass, complete with two plated nuts; 6-32 thread; $\frac{1}{2}$ " long.
Cat. No. 01-817 Net Each 7c Per 1060 c

Per $100 \$ 5.40$

## (F) Insulated Banana Plugs

Set screw in side of insulated barrel secures wire. Barrel $\frac{7^{\prime \prime}}{8}$ long. 6-32 $\mathrm{x} \frac{{ }^{\prime \prime}}{}{ }^{\prime \prime}$ thread.
Cat. No. 01-818 Red
Cat. No. 01-819 Black
Net Each 12c 10 for $\$ 1.08$

## (C) Split-Type Banana Plug.

Non-insulated banana plug, splittype snugly fits standard banana jack; with nuts.
Cat. No. 01-820 Net Each 7c 10 for $62 \mathrm{c} \quad 100$ for $\$ 5.60$
(H) Insulated Split Banana Plug
As above but insulated barrel to match Insulated jacks below; solderless connection; $1 \frac{9^{\prime \prime}}{16}$ overall; $\frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ plug.
Cat. No. 01-821 Black
Cat. No. 01-822 Red
Net Each 12c 10 for $\$ 1.07$
100 for $\$ 9.70$
(I) Banana Plug Jack

Takes all standard banana jacks; made of brass, nickel plated; ints $\frac{1}{}^{\prime \prime}$ hole.
Cat. No. 01-823 Net Euch 4c 10 for $81 \mathrm{c} \quad 100$ for $\$ 3.25$
(J) Insulated Banana Jack

Take insulated banana plugs above; mount in $\frac{t}{4}^{\prime \prime}$ hole on panel up to $\mathrm{B}^{\prime \prime}$ thiok.
Cat. No. 01-824 Red
Cat. No. 01-825 Black
Net Each 9c

# $\substack{\text { Johnson } \\ \text { Ampheorol }}$ Plugs－Jacks－Terminals 

Jones

## （A）Amphenol Single－Prong Plugs and Tip Jacks


These single－prong plugs carry more current than ordinary cord tips． Molded Bakelite with deep recess for wire insulation．Tip Jacks mount in $8^{\prime \prime}$ holes and are held by Amphenol No．2－11 retainer rings；no serews or rivets required．Type 78－1P Socket for phone tips．78－1S socket for 71－1s $\frac{3}{35}{ }^{\prime \prime}$ pluge．

$$
\begin{aligned}
& 78-1 \mathrm{P} \text { Socket } \\
& 78-18
\end{aligned}
$$

78-18 Socke


| Cat．No． |  | Cat．No． | Net Ea． |
| :--- | :--- | ---: | ---: |
| 01－104 | Black | $01-107$ | 5 c |
| $01-105$ | Black | $01-108$ | 5 c |
| $01-106$ | Black | $01-109$ | 31 c |



Johnson Jacks and Plugs
A fulline of high quality jacks and plugs in small sizes for complete laboratory and shop applica－ tlons．

| Cat No | Type | Fits | Long | Net |
| :---: | :---: | :---: | :---: | :---: |
| 01－985 | 108－74 | 75，75A，75C | ${ }^{\prime \prime}$ | 7 c |
| 01－986 | 108－75 | 74 | $1 \frac{1}{4}^{\prime \prime}$ | 7 c |
| 01－987 | 108－75A | 74 | $1{ }^{1 / 2}$ | 8 c |
| 01－988 | 108－75C | 74 | $1{ }^{\prime \prime}$ | 8 c |
| 01－989 | 108－76 | 77，77A | $1 \frac{17}{\prime \prime}^{\prime \prime}$ | 21c |
| 01－990 | 108－77 | 76 | $1{ }^{\prime \prime}$ | 18c |
| 01－991 | 108－77A | 76 | $1{ }^{\prime \prime}$ | 21c |
| 01－992 | 106－70 | 71 | $1 \frac{1}{\prime \prime}^{\prime \prime}$ | 29 c |
| 01－993 | 106－71 | 70 | $17^{\prime \prime}$ | 15 c |
| 01－994 | 106－72 | 73，73A | $1{ }^{\prime \prime}$ | 21c |
| 01－995 | 106－73 | 72 | $1 \frac{18}{18}$ | 9 c |
| 01－996 | 106－73A | 72 | $1{ }^{\frac{8}{18}}{ }^{\prime \prime}$ | 9 c |

## National Type FWH Terminal Strip

 The insulators of type FWH are molded R－39； serrated bossee grip thinnest panels firmly．Bind－ ing posts take banana plugs at top． Cat．No．01－972 Net Price－
Assembly incorporates jacks，uses same insula－ tors as FWH above．When used with FWF plug be low，no exposed metal when plug is in place． Dual Banana Plug Type FWF
Molded R－39 plug with two banana plugs on $\frac{3^{n}}{4}$ centers．Fits terminals FWH and FWJ above． Leads enter thru top or side．
c Cat．No．01－974 Net Price


（B）Jones Barrier－Type Screw Terminal Strips
Molded Bakelite bases with sturdy barriers on top and two sides．prevent－ ing flashover．Binding－head screws are nickeled brass mounted on rigid jumper bars．4－hole mounting．

No． 140 Terminal Stripg
敦＂high．音＂terminal centers．

| Cat．No． | Type | Term． | Net | Cat．No． | Type | Term． | Net |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $01-629$ | $2-140$ | 2 | 14 c | $01-633$ | $6-140$ | 6 | 35 c |
| $01-630$ | $3-140$ | 3 | 20 c | $01-634$ | $8-140$ | 8 | 46 c |
| $01-631$ | $4-140$ | 4 | 25 c | $01-635$ | $10-140$ | 10 | 57 c |
| $01-632$ | $5-140$ | 5 | 31 c | $01-636$ | $12-140$ | 12 | 67 c |

$\begin{array}{lllll}01-632 & 5-140 & 5 & 31 \mathrm{c} & \text { 01－636 } \\ & & \text { NO．} 141 & \text { TERMINAL STRIPG }\end{array}$
Metal－to－metal spacing $\frac{3}{3}^{\prime \prime}$ ．G－32 $\times \frac{2^{\prime \prime}}{2}$ binder－head screw．Base $1 \frac{1}{8}^{\prime \prime}$ wide $x \frac{3^{\prime \prime}}{}{ }^{\prime \prime}$ high．$\frac{7}{18}{ }^{\prime \prime}$ terminal centers

| Cat．No． | Type | Term．Net | Cat．No． | Type | Term． | Net |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $01-637$ | $2-141$ | 2 | 19 c | $01-641$ | $6-141$ | 6 | 45 c |
| $01-638$ | $3-141$ | 3 | 25 c | $01-642$ | $8-141$ | 8 | 58 c |
| $01-639$ | $4-141$ | 4 | 31 c | $01-643$ | $10-141$ | 10 | 73 c |
| $01-640$ | $5-141$ | 5 | 39 c | $01-644$ | $12-141$ | 12 | 86 c |

 wide $x{ }^{\frac{0}{"}}$ high．if terminal centers．

| Cat．No． | Type | Term． | Net | Cat．No． | Type | Term． | Net |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| $01-645$ | $2-142$ | 2 | 22 c | $01-651$ | $8-142$ | 8 | 72 c |
| $01-646$ | $3-142$ | 3 | 30 c | $01-652$ | $9-142$ | 9 | 80 c |
| $01-647$ | $4-142$ | 4 | 38 c | $01-653$ | $10-142$ | 10 | 89 c |
| $01-648$ | $5-142$ | 5 | 47 c | $01-654$ | $11-142$ | 11 | 97 c |
| $01-649$ | $6-142$ | 6 | 55 c | $01-655$ | $12-142$ | 12 | $\$ 1.06$ |
| $01-650$ | $7-142$ | 7 | 65 c |  |  |  |  |

Terminal Strips and Binding Posts


## ICA Binding Posts

（C）ICA Single－Molded Bake－ Iite，sturdy construction．Cap diam．量＂${ }^{\prime \prime}$ ；length ${ }^{\frac{1}{18}}{ }^{\prime \prime}$ ．
Cat．No．01－801 Net Each 11c
（D）ICA Combination－Hole for wire；banans olug fits in top of post． Cap diam．$\frac{1}{2}^{\prime \prime}$ ，length 1 ＂ Cat．No．01－802 Net Eac
（E）Terminal Lugs－Screw lug only，without strip． Cat．，No．01－806 Net per Doz．42c

## EBY Binding Posts

（F）Eby Junior Single Post－ Molded knob and base；knob Is nou－ removable．Plain brass inserts； knurled base prevents post twlsting； hole $\frac{1}{82}$＂diam．；screw $6-32 \times \frac{1}{\hat{1}^{\prime \prime}}$ ． Cat．No．01－851 Net Esch

EBY Twin Posts－Both posts completely Insulated；non－remov－ able knobs．Center mitg．screw $6-32 \times 7^{\prime \prime}$ ．Base $2^{\prime \prime} \times \frac{18^{\prime \prime}}{} \times \frac{7^{\prime \prime}}{16}$ ．$\frac{7 y^{\prime \prime}}{8}$ between post centers．Specify marking：plain，plus，mlnus，ant．， gnd．
Cat．No．01－852 Net Each 42c
EBY Triple Posts－Two posts completely insulated；one mtg． screw $8-32 \times \frac{1}{*}$ ．Ground post is other mitg．screw． $22^{\prime \prime} \times 17^{\prime \prime} \times \frac{3}{18}$ ． Posts fin between ctrs．Non－ removable knobs．
Cat．No．01－853 Net Each 75c

## （C）Bakelite Terminal

Standard lug terminals riveted to Bakelite strip．Two mounting lugs rveted to 4,5 ，and 6 terminal strips， others have one mounting lug

Single lug strips
Net 14 c per doz
（H）Screw Terminal Strips Bakelite strip with securely fastened terminals．Ideal for amplifiers， radios．

| Cat． |  | Net | 10 |
| :--- | :--- | :--- | ---: |
| No． | Term． | Ea． | For |


| No． | Term． | Ea． | For |
| :--- | :---: | :---: | ---: |
| $01-561$ | 2 | 6 c | $\$ 0.54$ |

01－562
$01-563$
01－564
$\begin{array}{llll}01-564 & 5 & 17 \mathrm{c} & 1.55 \\ 01-565 & 6 & 19 \mathrm{c} & 170\end{array}$
（I）Heavy－Duty Strips
Strips are $\frac{3}{3^{\prime \prime} "}$ thlck Bakellte．Cad－ mium－plated terminals．

| Cat． |  | Net | 10 |
| :--- | :---: | :---: | ---: |
| No． | Term． | Price | For |
| $01-566$ | 2 | 11 c | $\$ 0.99$ |
| 01567 | 3 | 14 c | 1.26 |
| $01-568$ | 4 | 17 c | 1.53 |
| $01-569$ | 5 | 20 c | 1.80 |
| $01-570$ | 6 | 23 c | 2.07 |
| $01-571$ | 7 | 26 c | 2.34 |
| $01-572$ | 8 | 29 c | 2.61 |

（K）Millen Safety Terminals
A high－voltage terminal with metal parts com－ pletely enclosed in Bakelite case．
Cat．No．01－940 Net Price
High－Voltage Terminal Strips
Barrjers prevent arc－over；lugs to connect in－ ternal wirlng
Cat．No．Fig．Type No．Term．Material Net $01-941$ L $37104 \quad 4$ Bakellte \＄． 60 $01-942$ M 37302 2 Steatite .60 $01-943 \mathrm{M} \quad 37303 \quad 3 \quad$ Steatite $\quad .70$ $\begin{array}{llllll}01-944 & \mathrm{M} & 37304 & 4 & \text { Steatite } & .80\end{array}$ $\begin{array}{llllll}01-945 & \mathrm{M} & 37305 & 5 & \text { Steatite } & \mathbf{9 0 0} \\ 01-946 & \mathrm{M} & 37306 & 6 & \text { Steatite } & \mathbf{1 . 0 0}\end{array}$
（J）Fahnestock Clip Terminals
Holds wire in secure contact；Ideal tor temporary hookups．Made of spring brass：$\frac{1}{5}$＂wide．
＊Double clip，stagle mtg hole．

| Cat． |  |  | Net | Net For： |
| :---: | :---: | :---: | :---: | :---: |
| No． | Type Length | Wire | 10 | 1000 |
| 01－803 | $21^{\text {1 }}$ | No． 10 | 8 c | \＄6．40 |
| 01－804 | 9C＊ $1{ }^{\frac{7}{7 \prime}}$ | No． 8 | 36 c | 29.00 |

A complete line of wire and cable con－ nectors and spring clips is listed on pages 15,16 ，and 17 of this catalog．

## Acro Chassis Cradle



One of the most essential pieces of equipment for the serviceman．Jaws clamp chassis in form， tight grip．Takes any radio，ampllfer，phono chassis．Adjustment ts easy，requires only finger manlpulation to fix in any desired position． Ruggediy constructed of cast aluminum．

# Littlefuses - Fuse Mountings  <br> Quick-acting fuses for use in rudio, auto-radios, amplifers, etc. Dlagonal element alignment assures accurate calibration and alignment. Size $1 \frac{1}{4}^{\prime \prime} \mathrm{x}$ !" 

| Cat. |  | Mrr's. |  | 100 |
| :---: | :---: | :---: | :---: | :---: |
| No. | Amp. | Type | Each | For |
| 04-001 | $\frac{1}{16}$ | 312.062 | 9 c | \$7.35 |
| 04-002 | $\frac{1}{6}$ | 312.125 | 9 c | 7.35 |
| 04-003 | 1 | 312.250 | 9 c | 7.35 |
| 04-004 | 磍 | 312.375 | 9 c | 7.35 |
| 04-005 | $\frac{1}{2}$ | 312.500 | 8 c | 6.86 |
| 04-006 | 4 | 312.750 | 9 c | 7.35 |
| 04-007 | 1 | 312001. | 4 c | 3.43 |
| 04-008 | $1{ }^{\frac{1}{2}}$ | 31201.5 | 4 c | 3.43 |
| 04-009 |  | 312002. | 4 C | 3.43 |

## Auto Littlefuses SFE

Medium-speed fuses made to size specifications of Society of Automotlve Engineers - graduated in length according to current rating. Strengthened construction agalnst shocks and vibration.

| Cat. No. | Amps. | Type | Size | Each | 100 For |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 04-046 | + | 307004. | \%"dia. $\mathrm{x} \frac{5^{\prime \prime}}{}$ | 3 c | \$2.45 |
| 04-047 | 6 | 307006. | $\frac{1}{\prime \prime}^{\prime \prime}$ dia. $x$ a ${ }^{\prime \prime}$ | 3 c | 2.45 |
| 04-048 | 9 | 307009. | $\frac{1}{2 \prime}^{\prime \prime}$ da, $x$ f" | 21. | 1.96 |
| 04-049 | 14 | 307014. | $t^{\prime \prime}$ dia. $\times 1{ }^{18}{ }^{18}$ | $2 \frac{1}{2} \mathrm{c}$ | 1.96 |
| 04-050 | 20 | 307020. | $4^{\prime \prime}$ dias, x It ${ }^{\prime \prime}$ | 2 c | 1.71 |
| 04-051 | 30 | 307030. | $\frac{1}{4}^{\prime \prime}$ dia. x $1{ }^{\frac{1}{16}}{ }^{\prime \prime}$ | $3 \frac{1}{2} \mathbf{C}$ | 2.94 |

050

## 8AG Instrument Littlefuses

For protecting delicate instruments; operate at high speed and prevent burnout of costly equipment through sudden overload. Glass enclosed; $1^{\prime \prime}$ long by $\xi^{n}$ diameter; may be used up to 250 volts AC or DC except styles indleated * are 32 volts miax.

## Ca No

04
04
04
$04-015 \quad 1 / 200$
04-016 $1 / 100$

| $04-017$ | $1 / 32$ | 4 |
| :--- | :--- | :--- |
| $04-018$ | $1 / 16$ |  |

# Tru-Sonic 

 $\underset{\substack{\text { REPRODUCERS } \\ \text { RRFLEX HoRARNETS }}}{ }$ University
(C) TRU-SONIC Coaxial P-52A

A high-fldelity $15^{\prime \prime}$ conxial speaker with conetype low-frequency unit and multicellular type high-frequency unit and dividing unit. which deivers the low frequencies to the large cone. High frequencles are distributed througbont the entire listening area without loss of level.
Widest possible angle of high irequency distribution is obtained by use of 8 celluiar horns in a compact assembly. Input impedance 16 ohms; signal Input 20 watts. Response is plus or minus 5 db . from 50 to $12.000 \mathrm{e} . \mathrm{p} . \mathrm{s}$. Cat. No, 31-303 Net Price
${ }^{5} 120.54$

## (D) P-52FR Co-Spiral Speaker

A newly dexigned 15 " Co-Splral Speaker embodying the Silver Spiral, a differential diftuser which accomplishes high-frequency dispersion with an almost 100 per cent spherical polar pattern of over $90^{\circ}$. Frequency range is from 40 to 14,000 c.p.s. The frequency characteristic has been calculated to attenuate record motor rumble below $70 \mathrm{c} . \mathrm{p} . \mathrm{s} .$, and to emphasize a band In the "power" range around 500 c.p.s. 'Presence" is accentuated by a rise at $2.300 \mathrm{c} . \mathrm{p} . \mathrm{s}$. High frequency "hash" Is subdued by gradual roll-off from 8,000 c.p.s. $2 \frac{1}{2}$ pounds of Ainico 5 magnet. Power input 15 watts. Input impedance 16 ohms. Cat. No. 31-301 $15^{\prime \prime}$ size. Net Price. $\$ 47.04$ | Cat. No. 31-302 $12^{\prime \prime \prime}$ size. Net Price : $\$ 47.04$ |
| :--- |
| Cat. No. 31-3 |
| 41.16 |

## TRU-SONIC Speaker Cabinets


(SD)


TYYE 52-SD -. Perlod cabinet available lu mahogany or bleached blonde. Superbly designed. distinctively modern, designed to nt in with quality turnishlugg. Rare woods finished by master craftsmen, and harmonlzing metal grille. Approximate size, $35^{\prime \prime} \times 24^{\prime \prime} \times 17^{\prime \prime}$ deeb. Will accommodate P-52HF. Separate 2-way reproducer system.
$\stackrel{\text { Netse }}{\substack{\text { Nrice } \\ \text { Pl }}} 105.84$
Type 52-D - Deluxe speaker cabinet available in mahogany or bleached blonde. Acoustically engineered for realizing the full possibilities of a high tidelity speaker, mechanically constructed for a superb furniture piece. Lined with soundabsorbing fabric, enclosed against dust. Release port beneath cone relieves back-pressure and reinforces the frontal wave Cat. No. 31-307 Net Price
${ }^{5} 76.44$

## (F) University Reflex Horns

Compact units for small-space, weatherproof installations without sacrifice in quallty performance. Fabricated of heavy metal with corrosionresistant finlsh over all exposed parts, to withstand exposure, vibration, or wind. Rubberdamped rims eliminate mechanical resonance. Model GH, with $6 \frac{1}{3} \mathrm{ft}$. alr column, has low trequency eutoff for fine music reproduction. LH has higher cutoff for general purpose work. PH serves tor both speech and music. SMH is especially suited for high clarity speech reproduction. Complete with $U$ mounting bracket, without driver unit.
Cat. Mfr's. Bell Overall Cutorf Net $\begin{array}{llllll}\text { No. } & \text { Type } & \text { Dla. } & \text { Length C.P.S. } & \text { Ea. } \\ 31-404 & \text { GH } & 30^{\prime \prime} & 25^{\prime \prime} & 85 & \$ 35.28\end{array}$ $\begin{array}{llllrr}31-404 & \text { GH } & 30^{\prime \prime} & 25^{\prime \prime} & 85 & \$ 35.28 \\ 31-405 & \mathrm{LH} & 255^{\prime \prime} & 18.5^{\prime \prime} & 120 & 26.17 \\ 31-406 & \mathrm{PH} & 20^{\prime \prime} & 15^{\prime \prime} & 150 & 17.05\end{array}$ $31-407$ SMH $15.5^{\prime \prime} \quad 12^{\prime \prime} \quad 200 \quad 14.41$

## (E)P-52HF Separate 2-Way System

A sound-reproduction system that approaches perfection. The characteristics llsterl below comperfection. The charaeteristics lister below com-
bine to achieve a reproducer that lets a faint whisper be heard throughout the listening area. with balanced deep bass and highest overtones. Power input 20 watts; crossover frequency 800 c.p.s.; horizontal distribution angle $80^{\circ}$; vertical distribution angle $40^{\circ} ; 8$ htgh frequency cells comblined field 6 lbs . Alnico 5 ; Input impedance 16 ohms; cone resonance 55 cycles; diaphragm resonance 400 cycles; frequency response 30 $16,000 \mathrm{c} . \mathrm{p} . \mathrm{s}$ plus or minus 5 db . Components only
Cat. No. 31-305 Net Price $\$ 145.06$ In Model 52U Cabinet.
Cat. No. 31-306
Net Price $\mathbf{\$ 8 8 . 1 6}$


These speaker baffies are recommended for Indoor Installation. When mounted on a wall they direct Instalation. When mounted on a wall they direct
the sound to about ear level. Will improve most sound installations. Walnut veneer highly finIshed. Available to fit speaker sizes listed below. Cat. No. 31-501 $\quad$ 5-inch Net ea. $\$ 1,82$

| $31-500$ | b-inch | Net ea. $\$ 1.82$ |
| ---: | ---: | ---: |
| $31-502$ | 6-inch | 2.50 |
| $31-503$ | 8 -inch | 2.94 |
| $\mathbf{3 1 - 5 0 4}$ | 10-inch | $\mathbf{3 . 2 9}$ |
| $31-505$ | 12-inch | $\mathbf{4 . 3 2}$ |

## DeLuxe 15" RMS Baffle

A heavy-duty baftie massively constructed owalnut; heavily reinforced throughout. Speelfcally designed for $15^{\prime \prime}$ speakers, its lustrous walf but wood milsh, handsome, unique grille design and fine sound reproduction make it Ideal for concert hall and large auditorlum use
Cat. No. 31-506 Type DIS-12 Net Price $\$ 11.67$

For high-fidelity phono systems you can build using some of the speakers listed here, see the amplifiers itsted on page 98.

## CLARKSTAN Sweep-frequency Transcription

Provides a brand uew method of making instantaneous frequency response runs in testing play-back systems. With an oscllloscope, instantaneous response measurements are casilly accomplished with only a few quick adjust ments on the equalizer circuit. Aleo may be used with a high-quality playback system as a secondary sweep signal generator for testing audio amplifiers, loud speakers, microphones, etc. Frequency sweep range from 60 to 10,000 e.p.s. on $16^{\prime \prime}$ record, $70-10,000$ c.p.s. on $12^{\prime \prime}$ record. Transcriptlons are vinylite, $16^{\prime \prime}$ at $33 \frac{1}{2}$ R.P.M
Cat. No. 15-165 Type 100A. Net Each . . $\$ 15.00$ Cat. No. 15-166 Ty pe $1000 \mathrm{~A} .12^{\prime \prime}$, for 78 R.P.M. $70-10,000^{\circ}$ c.p.s. +1 db, crossover at 500 cus. Net Each



## (A)

## HYPEX Projectors

## With Annular Diaphragm Units

Type VH - A Jensen development - not exponential hut with an entirely new flare formula that gives increased efficiency in the region above acoustic cut-oIf; espectally suitable for speech reproduction since response extends from the vicinty of acoustle cut-off to the 6.000 c.p.s. region, with greatest emphasis on the middle highs that add punch and carrying power; commerclally acceptable reproduction of music, within the limitations of all small refiex horns, is also provided Sturdy steel-encesed unit, plus rettex horn construction, insures dependable operation indoors and out, under all weather conditions. Finish is durable baked lacquer. May be securely locked into desired projection position by thghtening two mounting bracket trunnion nuts. Rustproof, weatherproof terminal box; no exposed terminals. No soldering connections for instaliation. These new units are furnished with type V-21 driver unlt, described below, which is included in net priee as listed
Monel VH-24 - For speech and superior muste reproduction. Useful frequency response 110 to 6000 c.p.s. $58^{\prime \prime}$ acoustic path length. Power ratang 25 watts. Volce coll Impedance 16 ohms. Dimensions $25^{\prime \prime}$ diam.. length 22 g' $^{\prime \prime}$
Cat. No. 31-023 Complete with bracket and driver. Net Price
Monel VH-20 - For speech and musle reproduction. Useful frequency response 140 to 6000 c.p.s. $52^{\prime \prime}$ acoustlc path length. Power razing 25 watts. Voice coll imjedance 16 ohms . Dimeusions: $21^{\prime \prime}$ diam., length $20 \frac{1}{6}$
Cat. No. 31-022 Complete with bracket and driver. Net Price
$\$ 37.04$

## HYPEX Speechmaster Projector

Type VH-91 - Meets the need for paging and intereom applications. Highly emclent in the voice frequency range, it delivers clear, intelligible speech wíth "punch't to override high nolse levels. Aims in any direction and locks. Mounting provisions for table, wall, ceiling or post. Cloth-buse, phenolia-impregnated diaphragm. Volce coll impedance. 8 ohms. 15 watts max. speech input. Supplied with cable for connections; also faclities for mounting transtormer. Useful output over a $100^{\circ}$ total angle. Driver ncluded.
${ }^{\text {s }} 19.11$

## (B) Annular Drive Units

An exclusive Jensen design with dural diuphragm clamped at center and at periphery resulting in extra stability. greater freedom from harsh "breakup." Alnico permanent-magnet type, rated at 25 watts maximum with normal voice or music input. $\quad 16-\mathrm{obm}$ voice coil; dust-proof, screened sound chumber; internal screw terminals.
Cat. No. 31-024 Type V-21.
s 19.11

## Stand for HYPEX Projectors

EA-5 Stand - Adjustable stand for mounting projector on any fat surface; sturdy cast 3-leg base with horizontal and vertical adjustment Cat. No. 31-025 Net Price
$\$ 2.94$

## Jensen Volume Controls

'L' pad type volume controls for connection at speaker voice coil circuit. Complete with pointer knob and escutcheon.

|  |  | V.C. |  | Net |
| :--- | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Ohms | Watts | Ea. |
| $31-042$ | ST-276 | 6 | 5 | $\$ 1.29$ |
| $31-043$ | ST-411 | 8 | 15 | 1.76 |
| $\mathbf{3 1 - 0 4 4}$ | ST-606 | 16 | 15 | 1.76 |

JENSEN Speakers-Projectors

(E) Jensen "Standard Series"

These unusualiy sensitive Alnico 5 PM speakers have excentional performance characteristics. Completely dustproofed; all field coll models have bucking coils. All speakers are supplied less transformers but with brackets for mounting the transformers listed on this puge

|  |  |  | Voice | Coll | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Type | Size | Ohms | Watts | Ea. |
| 31-005 | P4-X | 4 " | 3-4 | 2 | \$2.44 |
| 31-006 | P5-X | 5" | 45-50 | 2.5 | 2.91 |
| 31-007 | P5-X | $5^{\prime \prime}$ | 3-4 | 2.5 | 2.53 |
| 31-008 | P6-X | $6^{\prime \prime}$ | 3-4 | 3 | 2.94 |
| 31-009 | P6-V | $6^{\prime \prime}$ | 3-4 | 4 | 3.59 |
| 31-010 | P8-V | $8^{\prime \prime}$ | 3-4 | 5 | 4.29 |
| 31-011 | P8-S | $8{ }^{\prime \prime}$ | 6-8 | 8 | 7.20 |
| 31-012 | P10-T | $10^{\prime \prime}$ | 6-8 | 8 | 6.26 |
| 31-013 | P10-S | $10^{\prime \prime}$ | 6-8 |  | 8.97 |
| 31-014 | P12-T | $12^{\prime \prime}$ | 6-8 | 9 | 6.97 |
| 31-015 | P12-S | 12" | 6-8 | 10 | 9.70 |

## (G) Jensen "Concert Series"

Heavy-duty, higaly effictent speakers for P.A. and high quality radio and phonograph applications. Supplled with covers for magnetic structures. All with Alnico 5 . magnets. Best results obtained with Bass Reflex cabinets.

| Cat. No. | Type | Stze | Volce <br> Ohms | Coll |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Watts | Net |  |  |  |
| Ea. |  |  |  |  |

(D) Extended-Range Speakers

A special series that provide high-fidelity performance up to 10,000 c.p.s. for home and studio use and will accommoriate an indoor audience of 100 persons. Meet the response quallitations for monitoring broadcast stations, wired music, etc. Alnico 5 permanent magnets.
etc. Alnico 5 permanent magnets.
Cat. No. Type Size Ohms Coll Net 31-020 P8SH $\quad 8^{\prime \prime} \quad{ }_{6-8} \quad 7.5 \quad \$ 8.35$ $\begin{array}{llllll}31-021 & \text { P12SH } & 12^{\prime \prime} & 6-8 & 9.0 & 10.58\end{array}$
(C) AP- 10 Speech Master

Designed to reproduce speech with maximum clarity and intelligibility, 'Speech Master' combines the Peridynamic principle and a spectal radating system. PM design. Found especially useful in radiophone communication, Intercom systems, paging and PA service, and short wave systems, paging and PA service, and short wave
listenng; also helpful in CW telegraph work to aid signals in over-riding QRM. Husky voice coil to withstand keying transients. Although designed primarily for speech reproduction, the "Speech Master" will handle music with reasonable quality.
Type AP-10 is suitable for desk or wall mounting; complete with tilt adjustment and base; double dustprooted, rully enclosed and protected; internal brucket for mounting $\frac{\frac{1}{2}^{\prime \prime}}{} \times \frac{\frac{1}{2}^{2}}{}{ }^{2}$ transformer; 3-it. rubber-covered cord. Helght $6 \mathbf{3}^{\prime \prime}$, depth 5表", diam. 5". Finished gray with satin-chrome trim.
Cat. No. 31-028 4-ohm v.c. Net Price $\$ 8.17$ Cat. No. $31-02945 \mathrm{ohm}$ v.c. Net Price $\$ 8.53$

## (C)

## Type AP-11

Similar to AP-10 but designed for panel mounting without buse or swivel bracket. Has clearance eyelets for mounting screws. Mounts in $43 \frac{71}{\prime \prime}^{\prime \prime}$ cut-out. Depth from front panel $4^{\frac{1}{2}}{ }^{\prime \prime}$. Screws and drilling template furnished. 4-ohm volce coil. Cat. No. 31-030 Net Price
$\$ 6.64$

## SEEPAGE 81 FOR JENSEN BASS REFLEX CABINETS

(F) "Coaxial Series" Speakers

For high fidelity service where plenty of power must be handled. Dual speaker arrangement comprises a fine $12^{\prime \prime}$ or $15^{\prime \prime}$ "woofer' assembled on the same framework with a cone type high frequency "tweeter." Both speakers are latest PM type. Fllter network for correct balance betwech speaker unlts is included. For best low frequency response, use these speakers in Jcnsen :'Bass Reflex' cabinets.

TYPE HNP-5I - $15-1 N C H$ - Superb high fidelity for FM recelvers, record and transeription reproduction, studio monttoring, etc. Cone-type lowfreauency speaker combined with a horn-type high-frequency unit, both with Alnico 5 magnets. Embodies "roll-ofl" dividing network. Choice of four cut-off frequencies to matcl program: $15,000,10.000,7.500$ and 0.000 c.p.s. Maximum input 25 watts. Range 50 to 15,000 c.p.s. Input input 25 watts. Range 50
Impedance $500-600$ ohms.
Cat. No. 31-001
81.66

TYPE JAP-60 - 15-INCH - For FM-AM recelvers and commerclal record reproduction where smooth response and balance are required. Control switch provides choice of four cut-off Irequencles: $15,000,10,000,7,500$ and 6,000 c.p.s. "Roll-off" dividing network. Frequency range 50 to 15.000 c.p.s. Maximum input 17 watts. PM field. Input impedance $500-600$ ohms. Integral two-channel network
Cat. No. 31-002 Net ea.
$\$ 55.53$
TYPE JHP-52 - 15-INCH - For FM-AM receivers and advanced phono reproduction where slightly less efficiency can be tolerated than is offered by JAP-60. "Roll-off" type h!gh-frequency control with 4 -position switch. Frequency range 50 to 15,000 c.p.s. Input handing capacity 14 watts. Integral two-channel type network. Input impedance $500-600$ ohms. PM field. No. 31-003 Net ea. . \$47.07
Cat. No. 31-003 Net eq
TYPE JCP-40-12-inch - For FM-AM receivers, reproduction of commerclal records, and as the ideal replacement unlt for a single radiator speaker. Frequency range 50 to 12,000 c.p.s.. handles up to 10 warts. "Bridging"' type network. Input impedance 6-8 ohins. $\$ 19.60$ Cat. No. 31-004 Net ea.

## Jensen Adjustable-impedance Transformers

For use with all Jensen speakers. Types $\mathbf{X}$ and Y are provided with flexlble leads and pln-tip Jacks for rapld selection of the desired impedance: ype $P$ and $L$ have soldering lug terminals for the various lmpedances.

Type X - Matches voice coll to 4,500, 7,000, 10,000 , and 14,000 ohms plate Impedance; al windings except volce coll are center-tapped.

| Cat. No. | Type | Mtg. Ctrs. | Sec. <br> Imp. | Watts | Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 31-031 | zX-100 | 3 | 8 | 17 | \$5.7 |
| 31-032 | ZX-1005 | $3{ }^{\frac{1}{8}}$ | 6-8 | 14 | 4.2 |
| 1-033 | 100 |  |  |  |  |

Type Y - Matches "ilne" impedance values: $500,1,000,1,500,2,000$ ohms. No center tap.

| 31-034 | ZY-2005 |  | 8 | 17 | \$5. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 31-035 | ZY-2003 | 3 | 6-8 | 14 | 4.23 |
| 36 | ZY-2002 | 2 | 6-8 | 9 | 29 |


| 31-036 | ZY-2002 | $2 \frac{13}{18}{ }^{\prime \prime}$ | 6-8 | 9 | 2.94 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 31-037 | ZY-4002 | 2 \% | 3-4 | 6 |  |

Types $P$ and $L$ - Type $P$ is for plate impedance matching; Type $L$ is for line Impedance matching.

| $31-038$ | ZP-1023 | $2^{\prime \prime}$ | $3-4$ | 3.5 | $\$ 1.26$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $311-039$ | ZP-1025 | $2^{\prime \prime}$ | $3-4$ | 3.5 | 1.26 |
| $31-040$ | ZL-2021 | $2^{\prime \prime}$ | $3-4$ | 3.5 | 1.26 |
| $31-041$ | "ZP-1024 | 2 23 | $3-4$ | 6.0 | 1.53 |

## Pickering



A


B


## (A) Model 161 M PICKERING Pickup

 A professional magnetic reproducer with diamond stylus for transcriptlons and lateral-cut records up to $16^{\prime \prime}$. Tracking pressure 20 grams; frequency response flat from 30 to 15,000 eycles; radius of stylus . $0025^{\prime \prime}$ for use with all 88 to 136 line per theh recordings; free from vertical response. Practlcally shock proof because of guard Into which stylus recedes under shock; life of stylus about 5000 hours. 10,000 ohms impedance: 50 miliivolts output. Arm $2 \frac{3}{4}$ high, $143^{\prime \prime}$ long; with arm rests99.00

## (B) Model 163A Equalixer

A 5 -position equalizer for the 161 M -pickup. Extremely fat response on standard recordings. Output at $500-600$ ohms. $-60 \mathrm{db} . \$ 42.00$
Cat. No. $15-182$ Net Price
.00

## Model 165L Equalixer-Amplifier

zero db output at $30,250,500,600$ ohms. Includes 5 -position equalizer. Tubes: 6SJ7, 6SL7. ${ }^{6 J 5}$. Overall size $5^{\prime \prime} \times 6^{\prime \prime} \times 10^{\prime \prime}$. Cat. No. 15-183 Net Price
s 120.00

## (C) PICKERING Model $120-\mathrm{M}$ Pickup Cartridge

Will fit almost any arm which will take a crystal cartridge. High imjeedance, to work into a grid cireuit; output 70 millivolts from 40 to 10.000 c.p.s.; . $0027^{\prime \prime}$ tip radius sapphire stylus; $\frac{1}{2}$ oz. tracking pressure. 13" long, $\frac{3^{\prime \prime}}{\mathbf{z}^{\prime \prime}}$ wide and $\frac{3^{\prime \prime}}{} \mathbf{~ h l g h}$. Cat. No. 15-184 Net Price . $\$ 15.00$ Adaptor to mount $120-\mathrm{M}$ in Brush PL-20 armCat. No. 15-185 Net Price

45c

## (D) Model 125-H Equalixer-amplifier

For use with $120-\mathrm{M}$; raises output to 2.5 v . Work ${ }^{-}$ ing into $250,000 \mathrm{ohm}$ load. Draws 4 ma at $200-$ 300 volts DC and 0.3 amp at 6.3 volts $\mathrm{AC} / \mathrm{DC}$. Cat. No. 15-186 Net Price
$\$ 19.50$

## Aeropoint Long Life Needles

Type 88. Curved spring design absorbs shocks from record irregularities and minimizes surfuce nolse. Electronium tipped. Good for 5,000 sides. Cat. No. 15-201 Net Price
$\$ 1.47$
Type 111. Surface noise reduced with spring curve. Electronlum tipped. Will play over 2,000 sides.

98 c
Cat. No. 15-202 Net Price
Pbe
Type 250. Curved spring design and sapphire jewel tip set in stainless steel give high-fidellty performance. Rated tor over 5,000 sides. Cat. No. 15-203 Net Price
$\$ 2.47$

## G-E Magnetic Cartridge <br> For Long Playing Records

 The new variable-reluctance cartridge designed especially for smooth, wide-range reproduction of the new narrow-groove, longplaying records. With very low mechanical impedance, due to high stylus-arm compllance and low stylus-arm mass, the RPG-041 places very low loading on the record groove and allows the light stylus pressures required. Adaptable to the smatler tighter arms which must be used with long-playing records. 15 millivolts output; stylus pressure 6-8 grams.Cat. No. 15-079 Model RPX-041.
Net

(H) CLARKSTAN RV Pickup

A magnetic plekup, with replaceable stylus, that offers a flat frequency response up to 15,000 c.p.s., a high output of 125 millivolts at 1000 c.p.s. and operates with needle force as low as c.p.s. and operates with needle
7 grams. Response meets FM specifications. Extremely rugged, unbreakable even under most severe of working conditions. High impedance is standard; may be had In 5, 250, and 500 ohm impedance if specified. Stable under all temperature and humidity conditions; suitable for tropical use. Standard screw mounting holes. $\frac{1}{2}^{\prime \prime}$ between centers. Complete with sapphire stylus.
$\$ 15.00$

## Cat. No. 15-161 Net Ea <br> (1) CLARKSTAN Transcription <br> Tone Arm

The features of this professional plekup arm are usually found only in much higher priced tone arms. May be used with any standard cartridge. either magnetic or crystal, with $\frac{1}{2}^{\prime \prime} \mathrm{mtg}$, holes. Four sets of ball bearings, 2 sets for vertical, 2 sets for horizonta! motlon; operates with needle force as low as 5 grams. Built of cast aluminum with sufficient mass for low arm resonance. Enwith sufficient mass for low arm resonance. En-
tire arm easily mounted in existing equipment. tire arm easily mounted in existing equipment.
Beautifully finished in gray wrinkle with gleaming cueing handle and groove pointer. Complete with arm rest, template, and instructions for mounting. For turntables up to $17^{\prime \prime} . \$ 19.50$
Cat. No. 15-162 Net Price Cat. No. 15-162 Net Price
pickup above Cat. No. 15-163 Net Price . $\$ 34.50$ Sapphire stylus replacement for $R$ V plekup above. Sapphire stylus replacement for $R V$ phekup above.
Cat. No. 15-164 Net Ea. . . $\$ 2.40$

## Phono Pickup Weight Scale

Clearly shows whether excessive arm weight is damaging records; for checklug new arms, replacing old ones, and adjustlag recording head mechanisms and tensions of spring and lever controls.
$\$ 2.50$ Cat. No. 15-177 Net ea.


## (A) G. E. PREAMPLIFIER

G. E. Preanplifier - Provides the increased output and equalizer necessary for use of G. E. cartridge, above, with existing equipment. Includes one 6 SC 7 tube. Size $3 \frac{5}{\frac{5}{8}} \times 3 \frac{5}{5} \times 4 \frac{1}{2}$ " high. Cat. No. 15-077

Net ea. $\$ 5.82$

## Clarkstan



## (F)

## Type 93A "Glider" Pickup

A low-mass tone arm whose high needle-point compliance makes possible use of lightweight aluminum construction without counter-welghting and provides unlform needle pressure of $1 \frac{1}{8}$ ounces. Frequency response 60-6000 c.p.s. ; output at 1000 c.p.s. is 1.6 volts. Jight weight coupled with high output makes it espectally suitable for replacement of out-moderi heavyweight ifickups. For $10^{\prime \prime}$ to $12^{\prime \prime}$ records. $\$ 4.41$ Cat. No. 15-403 Net Ea.
TYPE 96A - With all the features of Type 93A above but 4.3 volt output.
\$5.00
(F)Type "900" Muted-stylus Pickup Uses Shure "Sixty" lever-type crystal cartrldge; Ideal for high-quality home phonographs, colnoperated machines, for modernizing old equipment and wherever shellac or Vinylite records are used. Plckup arm is aluminum, designed for best tracking, Provides high needle fexiblity, 1.8 volts output. 1 oz, needle pressure, and flat frequency response.
Cat. No. 15-405 Net Ea.
$\$ 6.76$

## (E) BRUSH Model PL-20

A high-quality crystal pickup deslgned for use with all lateral-cut records up to $17 \frac{1}{2}$ " diameters, Includlng broadcast transeriptions. Low stylus force, 1 ounce, minimizes record wear and background noise. Permanent sapphire stylus shows no wear after 250 hours continuous playing. Flat to 6000 c.p.s., slight rise to 10,000 c.p.s. With permanent polished sapphire stylus and highipermanent polished sapphire stylus and high-
impedance equalizer.
Cat. No. 15-141
Net Ea. Cat. No. 15-141 Net Ea.
PI-2Z replacement cartriclge for above. $\$ 9.82$
Cat. No. 15-142
(G) RCA Magic Tone Cell

Kit modernizes any of 69 RCA radio-phono models. "Silent" sapphire jewel point. Includes hardware and instructlons.
s4.70
RCA cartrldge 38610
Cat. No, 15-402 Net Ea.
\$3.26

## (C) G.E. V.R. Cartridge

A marvel of supreme quality reproduction for lateral records in commercial, studto, and home applications. Responds only to lateral vibration, ignoring the vertical vibration of surface scratches and roughness. Very low needle talk because jewel tip is held in soft, spring mounting, and because of very light and small stylus assembly. L.ow distortion - resonant response ellininatedsmooth high frequencles. A magnetic pickup; must be used with preamplifier listed below or slmilar.
Cat. No. 15-076
Net ea. $\$ 4.67$
(B) G.E. UPA-004 Pickup Arm

For reproduction of $10^{\prime \prime}$ andi $12^{\prime \prime}$ records, this arm is equipped with the G-E variable reluctance cartridge. Balanced for 1 oz. stylus pressure, adjustable. For use with any manual record changer. Excellent response with absence of undesirable resonance. Single hole mounting with mounting rest supplled. Furnished with 24" free length speclal cotton covered shielded lead. "Blue gray" gold hammertone thish. $\$ 9.57$


## ASTATIC

(A) Model 507 Pickup

Crystal phonograph plckup, newly styled, carefully designed to provlde high performance at low cost. For use in new record players or as replacement in modernizing existing equipment. Spring counter-balanced arm. Output .6 volt. With Astatic L-40A cartridge, replaceable needle type. For $10^{\prime \prime}$ or $12^{\prime \prime}$ records. Cat. No. 15-301

Net ea.

## (B) Model 510 Pickup

Crystal phono pickup. Offset head provides balanced tracking; axial cushioned. Astatlc Type L-72A crystal cartridge with replaceable needle. High output, 3.5 volts. Cut-oft frequency 4000 c.p.s. Needle pressure $1 \frac{1}{2}$ ounces. Arm rest and $13^{\prime \prime}$ cable included. Ideal for compact or portable equipment. For $10^{\prime \prime}$ and $12^{\prime \prime}$ records.
Cat. No. 15-302
Net ea.
$\$ 4.41$

## (B) Model 510-QT Pickup

Same pickup arm as above but incorporating the new Astatic QT3-J ("Qulet-Talk') cartridge. Sapphire needle. Cat. No. 15-003

Net ea
${ }^{5} 5.73$

## (C) Type 508 Pickup

Crystal plckup for $10^{\prime \prime}$ and $12^{\prime \prime}$ records. Incorporates Astatic L-71A cartridge with output of 1.0 volt and neerlle pressure of $1 \frac{1}{2}$ ounces. Frequency response 50 to 8000 cycles, better than the range of most commerclal records, which makes it an ideal reylacement for tmproving existing phono equipment.

Net ea.
s9.07

## (C) Nylon - 508 Pickup

Embodies the new Nylon 1-J crystal cartridge in the 508 arm above. Nylon needle chuck and replaceable long-life sapphire tipped stylus; achleves the ideal linkage for transmission from needle to crystal. Output 1.0 volt. Frequency response 50 to 8000 c.p.s. For 10 and $12^{\prime \prime}$ records. Cat. No. 15-305

Net ea.
${ }^{8} 10.11$

## PICKUPS

(D) The New FP-QT Pickup

A carefully engineered tone arm, of distinctive styling. to exploit fully the posslbllities of the QT3-J cartridge. A repiaceable sapphire-tip needle is used in this type crystal cartridge with output voltage of 75 volt, frequency range $50-5000 \mathrm{c} . \mathrm{p} . \mathrm{s}$. Overall length $9 \mathrm{~s}^{\prime \prime}$; for $10^{\prime \prime}$ and $12^{\prime \prime}$ records.
Cat. No. 15-306
Net ea. 1
$\$ 10.79$
Type FP-QT-M with replaceable metal-tip needle.
Net ea. $\$ 10.50$

## (E) Type HP Pickup

A long, slender, stralght-arm crystal pickup of the lowpressure type for use on all lateral transcriptions up to $16^{\prime \prime}$. Ball-bearing swivel base. 1 -ounce needle pressure. Embodles the QT3-J pick-up cartridge with rewaceable sapphire-tip needle. Output 75 volts; frequency response 50 to 5000 c.p.s. $23 \frac{1}{2} "$ cable. $\$ 16.38$
Net No. $15-308$

## (F) Type "400" Pickup

The "Studio Master," a streamlined crystal pickup intended for broadeast and recording studio use. For all lateral transeriptions up to and including $16^{\prime \prime}$. New type, adjustable helght, swivel base. Incorporates Astatic 1-J Nylon cartridge with long-life replaceable sapphire-tipped nylon stylus and nylon needle chuck. Output 1.0 volt; trequency response 50 to 8000 c.D.S Needle pressure $1^{\frac{1}{2}}$ ounces. Length $12 \frac{1}{8}{ }^{\prime \prime}$. $\$ 14.02$ Cat. No. 15-309

Net
QT
Incorporates QT3-J cartridge with output of .75 volt: frequency response $50-5000$ c.p.s.; in arm described above.
Cat. No. 15-310
vet ea. 14.70

## (E) The New S12-LT-M

Embodylng the new low-pressure, low-needle-talk, high-sensitivity LT-M cartridge ilsted below, Model S12-LT-M is an accurately bulanced tone arm for reproduction of transeriptions up to 16 inches in dlameter Isolated against vibration. 1 oz , needle pressure. $\mathbf{1 5}^{\prime \prime}$ long; black flish. Furnished with $12^{\prime \prime}$ cable. $\$ 9.03$
Cat. No. $15-311$


## Astatic Cartridges

For Astatic plekups; these crystal cartridges are manufactured with utmost care and are individually tested for output and response.
Cat. No. Flg. Model Volts Press. Net
15-312 Fg. Model Volts Oz. Eacl
15-312 A L-24A $2.95 \quad 2^{3} \quad \$ 3.26$
15-313 A L-26A $1.4 \quad 2 \frac{4}{4} \quad 2.62$
$\begin{array}{lllll}\mathrm{A} & \text { L-46A } & 3.5 & 14 & \mathbf{3 . 9 1}\end{array}$
$\begin{array}{lllll}\mathrm{B} & 401 \mathrm{~A} & 1.4 & 2^{\frac{3}{6}} & \mathbf{2 . 6 2}\end{array}$
15-318
15-318
15-320
15-321
15-322
15-323
15-324
15-325

* With permanent needle.

E

F

G

H


## New Types Astatic Cartridges

## (G) Nylon l-J Type

Nylon needle chuck and needle provide kneeaction tracking and achieve ideal mechanical linkage for energy transmission between needle and crystal. Operates with minimum needle pressure of $1 \frac{1}{4}$ ounces; output 1.0 volt; cut-off 8000 c.p.s.

Cat. No. 15-327
Net ea. $\$ \mathbf{4 . 5 6}$
Cat. No. 15-328 Nylon 1-J Needle
Net ea. \$1.76

## Type LT-M

Type "T" needle, preclous-metal tipped, with new Astatle crystal cartridge combine for a lowpressure, low-needle-talk, high-sensitivity unit. Output 1 volt; frequency cut-oft 4000 c.p.s.; minimum operating pressure $\frac{7}{3}$ ounce
Cat. No. 15-333 Net ea. \$4.12 Type "T" needle replacement. Cat. No. 15-334

Net en. \$1.47


## Model EA-1 Equalizer

A compact unit designed for installation in radio sets and audio amplifiers which have insufficient gain for operation of Model M1-2 pickup cartrldge. Provides 'bass boost.
Cat. No. 15-357 Net Prlce

## Astatic <br> Cartridges

## (H) "QT" Quiet Talk Type

Fits standard flat-type pickups, mounting with only two screws. An advancement in plekup cartridge design that llmits vibration to lateral motion only to relieve record wear. Needle pressure only $1 \frac{1}{6}$ ounces; output .75 volt; frequency response $50-5000$ c.p.s.

QT3-M cartrldge with preclous metal tip stylus. Cat. No. 15-329

Net ea. \$4.94
QT3-J cartridge with sapphire tlp stylus.
Cat. No. 15-330
Net er. \$5.23
Replacement sapphire needle for QT3-J
Cat. No. 15-331
Net ea. $\$ 1.76$
Replacement metal needle for QT3-M
Cat. No. 15-332
Net ea. \$1.47

## ASTATIC <br> Tone Equalizer <br> for Crystal Pickups

Tone adfustment network inserted between pickup and amplifer with 4 -position knob which selects bass, medium, high fidelity, and out circult. Complete with dial plate and knob.
$2^{\prime \prime}$ dlam. ${ }^{\frac{g^{\prime \prime}}{}}$ deep. Type E4P.
Cat. No. 15-350
Net ea. $\$ 1.94$

# Record Changers - Phono Motors 



## (A) New Model 156

Inccrporates all the new developments in modern reproducer and record-changer destgn at a spectacular low prlce. The tone arm ofters the most desirable plekup cartridge - either a high quality crystal cartridge or the famous $\mathbf{G} . \mathrm{E}$. variable reluct ance cartridge - with low pressure for long record wear and low surface nolse. Changes all standard records with simple. fool-uroot. "nonjamming* finger operation - In four seconds! Automatically shuts off after last record is played. The dependable heavy-duty Webster motor is cushion-mounted. Stainless steel splndle is cushioned for record protection. Mounting base 14 inches square; overall depth above and below board - $9^{\prime \prime}$. $105-120$ volt. 60 cycle operation Complete with installation and operating instructions, template, and mounting hardware.
Cat. No. 34-010 With crystal cartridge, less needle, includes output leads to ampliffer. Net
$\$ 26.66$ Cat. No. $34-011^{\circ}$ with G.E. Varlable-reluctance cartridge, permanent stylus. $\$ 27.83$
Cat. No. 15-101 Net

## (E) New Model 146

A new record changer unlt which has beeu used by manufacturers in original equipment and is a proved performer. Compact and efficient. an ideal replacement for outmoded changers. "Nonjamming," fast-cycle changing - ubout 4 seconds. Plays twelve $10^{\prime \prime}$ records or ten $12^{\prime \prime}$ standard records. Plays home recordings or Inside-out recordings manually. High-impedance crystal cartridge plckup; $36^{\prime \prime}$ lead. Dependable heavyduty motor cushion-mounted for silent operation; quiet record drop. At end of last record, piekup arm returns to rest outside record, turntable continues to revolve untll turned off. 105-125 volt. 60 cycle operation; adaptable to 50 cycle operatlon. Dimensions - $12^{\prime \prime} \times 12 \frac{1}{2}^{\prime \prime} \times 9^{\prime \prime}$ overall; $6 \frac{1}{\frac{1}{2}^{\prime \prime}}$ above main plate, $2 \frac{1}{3}$ " below. Supplied complete with mounting template, instructlons, mounting hardware.
Cat. No. 15-104 Net Price
$\$ 22.25$
(H) Carrard RC-60 Deluxe Changer For the discriminating wusic lover who desires treasured records to be played carefully and falthfully. A powerful, steady, governor-controlled motor. complete with speed control for exact 78 R.P.M. reproduction or accelerated or retarded apeeds. Intermixed $10^{\prime \prime}$ and $12^{\prime \prime}$ records played automatically, with automatic stop after last record. Reject lever. Truetangent jewelmounted pickup glves smooth tracking. sets down gently as a feather. Low-pressure crystal pickup with permanent stylus. Non-slip spindle equipped with special rotating springs prevents wavery reproduction and slipping between records. $110-130$ volts $50 / 60$ cycles. $\$ 69.50$
Cat. No. $15-151$ Net Price Cat. No. 15-151 Net Price

## RC-60 With G. E. V. R. Cartridge

 Atove record changer with the G.E. variablereluctunce cartridge. Requires pre-ampllfier 1lsted elsewhere in this section. Cat. No. 15-152 Net Price${ }^{\text {s }} 69.50$
Model RC-60 Changer with Garrard magnettc pickup for use with replaceable needles.
Cat. No. 15-153 Net Price
$\$ 69.50$

> Garrard RC-60 models are avallable in Dual Range 110/130 volts - 200/250 volt, $50 / 60$ cycles at the same price. Add 'D" to Catalog Number whell ordering. For Universal AC/DC models, 110/130 -200/250 volts, $50 / 60$ cy cles, add " U " to Catalog Number when ordering.


## W-C Microgroove Record Players

For nupreme enjoyment of the new mlcromroove records. Webster-Chicago milcrogroove record changers afford unique efficiency with automatle playing. Whether one microgroove record or a stack. the $W=C$ changer permits playing without danger of scrutching grooves. Duhl-speed models are capable of superior eflictency for playing both regular aroove and microgroove records auto matically at correet speed and needle pressure. The W-C 4-ple shaded motor minimizes develonment of fiats in the rubber-tired turntable wheel.

## (C) Model 133 Single Speed

The flrst automatle record changer designed to play microgroove records at correct speed and needle prassure. Mounted on allattractlve brown hammered-finished base, Mudel 133 is equipiped with 7-ft. pickup cord with plug for asy connectlon to radios having phono-Input receptacle; 7-It. motor cord and plug. Heavy-duty motor provides smooth power. Piays ten $12^{\prime \prime}$ or twelve $10^{\prime \prime}$ records. Operates on $105-120$ volts 60 -cycle $10^{\prime \prime}$ records. Operates on $105-120$ volts 60 -cycle
current. Base dimensiona $121^{\prime \prime} \times 12^{\prime \prime}$; over all space required $135^{\prime \prime} \times 144^{\prime \prime} \times 9^{n}$.
Cat. No. 15-110 Net Price
$\$ 38.95$

## (A) Model 246 Dual Speed

Plays both microgroove and regular groove records. Equipped with a dual-speed motor with 3 witchlog arrangenent providing for $33 \frac{1}{3}$ or 78 R.P.M. and whth a meutral postion which shuts off the motor at the same time disengaglng drive to avold tlattening drive wheel. In all other respects Model 246 is similar to Model 146 listed above. Plckup arm returns to rest position after the last recurd has been played; turntable continues to revolye until switch is returned to neutral pesition.
Cat. No. 15-111 Net Price
$\$ 29.25$

## (B) Model 256 Dual Speed

The ultimate in inne record changer destgin makes thawless reproduction, smooth lust flow of records available for playing botn microgroove and regular groove records. Switcning arrangement for $33 \frac{1}{5}$ or 78 R.1'M, and neutral position which shuts oft notor and disengages drive to avoid flattening drive wbeel. Bmbodles all the supreme features of Model 156 described above. All operating features are slmilar except thut pickup arin returns to rest position untl switeh is turned o neutral position
Cat. No. 15-112 Net Price
$\$ 33.91$

## (G) ALLIANCE Model 80

Careful design and production result in a dependably performing unit ut an amazingly low price. Motor is fan-cooled, rubber vibration-insulated, with undform apeed frietion-drive. Maximum below-base dimension, $2 \frac{1}{2}$ ".
$\$ 3.72$
Cat. No. 15-026 Net Price

## (1) RCA Radio-Phono Switch

When record players and phonographe are operated thru radio recelvers, this unique switch permits instant change-over, isolates blas and other DC voltages in receiver, no hum is introducerd and tonal quality is unatfected. Easlly installed, usually without removing recelver chassis from cabinet.
Cat. No. 15-134 Net Price 78 R.P.M.


## \section*{(D) <br> CI Phono Motors <br> <br> Model CX Gear-Drive} <br> <br> Model CX Gear-Drive

Comblnes low cost with quiet, dependable performance. 4-pole motor is fully onclosed, fan cooled; hellcal-cut drive gears run in sealed ollbath; has ample power for $10^{\prime \prime}$ or $12^{\prime \prime}$ records. Motor isolated from turntable both mechanleally and electrically. Dimenslons: $4 \frac{1}{2}^{\prime \prime} \times 4_{8^{\prime \prime}} ; 33^{\prime \prime}$ below mounting Hate; $9^{\prime \prime}$ turntable. Complete with mounting plate, ready for Installation
9.95

## Model MX Rim-Drive

An economy model that delivers quallity performance. Rim drive, 2 -pole tan-cooled motor with Idler destgn that insures quiet operation; turntuble keyed to shaft. Motor Insulated from plate to eliminate vibration. Olless bearinga. Dimensions: $3 \frac{1}{n}^{\prime \prime} \times 2 \frac{1}{4}^{n} ; 2 \frac{4}{\prime \prime}^{\prime \prime}$ below mounting plate; $9^{\prime \prime}$ turntable. 78 R.P.M.
s4.77

## Model RX Rim-Drive

Light weight, compactness, dejuendable operation feature thls 4 -pole model. Rubber insulated from both mounting piate and turntable. Driving pulley. Idler, and turntable are positively aligned In one plane ior effictent performance. $10^{\prime \prime}$ turntable. Dimensions: $41_{1}^{1}{ }^{\prime \prime} \times 33^{\prime \prime} ; 22_{8}^{\frac{3}{6}}$ nelow mounting plate. 78 R.P.M.
${ }^{3} 5.75$

## (E) Model LX Rim-Drive

A low-cost, 2-pole motor, whth rim drive. that delivers ample qulet, smooth power to play $10^{\prime \prime}$ and $12^{\prime \prime}$ records. Rubber vibration-insulated. Turntable shaft keyed to, and revolvess with, turntable. Complete with $9^{\prime \prime}$ turntable and mounting plate. ready for Installation. Dlmensions: $3 \frac{1}{2}$ " $\times 2^{\prime \prime}$; depth $2^{\prime \prime}$ below plate. 78 R.P.M. $\mathbf{S H}^{4.08}$ Cat. No. 15-005 Net Price

## The Green Flier

(F) 78 and $331 / 3$ R.P.M.

A nowertul governor-controlled induction motor that can maintain uniform speed under variations of load that make it sultable for dependable heavy duty performance. Fully enclosed, with sllent liellcal-cut gears running lif sealed oll bath; never needs olling. Complete with mounting hartware and $12^{\prime \prime}$ turntable. Dimensions: $8 \frac{3}{16} \times 5 \frac{13^{\prime \prime}}{16^{\prime \prime}}$; depth $33^{\prime \prime}$ below mountling strap. $\$ 16.45$
Cat. No. 15-006 Net Price Cat. No. 15-007 Same as above but with $10^{\prime \prime}$ turntable. Net Price . . . . $\$ 15.90$

## Automatic Stop Switch

Optlonal equipment with all " $\mathbf{X}$," Green Fller and GI-RM4 motors listed above. 87C
Ca. No. 15-008 Net ea.

(C)

## Webster-Chicago 180 Wire Recorder

A portable wire recorder that plugs into 110 -volt 60-cycle conventlonal outlet and gives you a halfhour of unbroken recording of whatever you chose to reproduce - conference proceedings, amateur entertaimnent, speeches, radlo programs - anything you hear that you want to hear again. All accessories are freluded in this self-contalned unit, including crystal microphone, 2 i 5 -minute reels of wire, I $30-\mathrm{minute}$ reel, amplifer, speaker; has outlet built In for attaching an extra speaker. Incorporates signal Indicator for input control. Connection provided for direct radio program recording (without mike). Operation is simplicity itself. Flick a switch to "Record." When the recording is finished, switch to "Rewind," then to Listen." The old recordug on the tape is autoinatically erased as the new is recorded. If you want to save a recording use a new reel. (See accessories listed below.) Completely enclosed in uttractive carrylng case, 17 Bl $^{\prime \prime} \times 11^{\prime \prime}$ " $\times 7 \frac{1}{2}^{\prime \prime}$. Cat. No. 34-002 Net Price
xira rels of wire lt mare tha ording is of wred is you want to an hour of reorng is desired or if you want to retain a recording. you will want extra reels of recording wire. Can be cut, or spliced by tying a tight knot. Cat. No. 34-003 15-Minute Reel. Net ea. \$1..30 Cat. No. 34-004 30-Minute Reel. Net es. 1.95 Cat. No. 34-005 1-Hour Reel. Net et. 3.25 Cat. No. 34-006 Output cord for connecting extra, renote speaker. Net ea. $\$ 1.63$ Cat. No. 34-007 Input cord for connecting recorder directly to radio. Net ea.
$\$ 1.63$

## Astra-sonic Wire Recorder and Phono-radio



Combines in one portable unit a superhet radio, record player, and wire recorder - a marvel of compact convenience. Englueered for highfidelity response and ease of operation, and is packed with special featurss. Records directly on the wire from fits radio. phonograph or mike. A feature is the synchronized timing meter wbich ellminates guesswork in finding a specife place on the wire. Outlets provided for external speaker and external amplitier jacks. FM input fick for recordling from exterual FM tuner. Ampliter and recording bead response is essenthally flat from 100 to 7,500 cycles. Furrished complete with crystal mike, $9^{\prime \prime}$ line cord, two spools recording wire and long-life recording ueedle. In sturdily constructed eablnet, covered with simulated leather. List Price. . $\$ 189.50$
Cat. No. 34-051 Net Price
\$149.50

## (B) <br> Webster-Chicago Model 78 Recorder

A complete wire recording unlt - with the sume foundation unlt as the Webster 180 - that can be connected to any home radlo or amplifier. Conslsts of the comulete wire transporting system, triple purpose recording head (records. erases, plays back), oscillator coll, built-in preamplifer, interstage amplifter, and power supply. A simple installation operation gives the same quality reproduction as ohtained from your ex isting amplifier or radio. Two recording positlons - mike and line - two listening positions mike and line - controllesl by push buttons Meter type volume level indicator ofers visual control of input level with the volume control. Complete with cords, connectcrs, instruction for insuallatlon to radio or amplliter, one 15 -minute spool of recording wire. Encased in attractively streamlined metal housing, $11^{\prime \prime} \times 1 \frac{3}{3}^{\prime \prime} \times 6^{\prime \prime}$ high. Onerates on 105-120 volts, $50-60$ cycles.
s99.50
Cat. No. 34-008 Net Prlce
(D)

## Brush "Soundmirror"

Type BK-403 Brush magnetic tape recorder, In attractlve black leatherette carrylag case, is ideal or portable use by broadcasters, in school classrooms, for industrial conference recording, in commerctal sound studios, and for home entertainment. No technical skill is required to get quick, uecurate, on-the-spot recording. Affords two ribbon speeds, 4.5 inches per second for voice reproduction, 7.5 Inches per second for music; frequency response is true to 5000 c.p.s. Only 45 -seconds required for rewind. High-impedance input for crystal mike; low-level. low-lmpedance for dynarnic mike; high-impedance. high-level Input for radio. Self-contained amplifer and speaker. Type BA-106 crystal microphone and desk stand with removable base Included. Complete with one take-up reel, 5 reels of tape. 110120 volts 60 cycles.
${ }^{5} 375.00$
Cat. No. 34-131 Net Price
Cat. No. 34-132 Extra reel of tape.
Net Price
$\$ 2.50$
(A) New Model 81 Wire Recorder

The "Iblectrontc Memory" all purpose magnetic wire recorder and playback. Designed for heavy duty use in permanent and semi-permanent installations and supplied with a microphone and 15-miluute spool of wire. Recordings may be played back thousands of times without appreclable lows of cquality, or the recording may be erased and the sume wire used over. Electrodymamle $5 \frac{2}{4}$ "speaker. Recordis 2 feet ps; rewinds 14 feet ps. Triple purpose head records, plays and eroses. Recording level indicator insures proper input slgnal. Gray and maroon hammerloid finlsh. Overated on $105-120$ vac. $\$ 114.50$ Cat. No. 34-009 Net Price
(A) Astatic FL-33 Pickup

## For Microgroove LP Records

Snecially designed to weet the precise requirements of the new microgroove recordings, the FL-33 plekup with LP-33 erystal cartridge is a professional tone arm. 5 -gram needle pressure. correct for the new lower-radins needle tlp; bermanent sapphire needle with $001^{\prime \prime}$ tip. Approximately one-hali volt output; ireguency ranke 30 to $10,000 \mathrm{c}$.p.s. Base destgn eliminates ranke arm resonance and assures perfect tracking. Cartridge LP-33 is instantly replaceable with the model LP-78 described below: cartridge slips int and is pressure held, thus providing the proper pickup for $33_{3}^{1}$ or 78 RPM records. Cat. No. 15-351 Model FL-33 Plekup complete with LP-33 cartridge. Net Price . $\$ 11.70$ Cat. No. 15-352 Model LP-33 Cartridge only. Cat No. 15-3.32 Model EP-3.3 Cartridge only.
Net Price

## Model LP-78 Cartridge

Fits the $F$ L pickup arm, instantly interchangeable with 1,P-33 cartrilge, but has a $003^{\prime \prime}$ radius needle for playing 78 RPM records. Thus enables quick change-over to prover pickup for 78 or $33 \frac{1}{3} \mathrm{RtPM}$ (inlerogroove) records.
Cat. No. 15-353 Net Price when purchased with Fl-33 Pickup
\$5.2.3 Cut. No. 15-354 Net Price when $\mathrm{L} P$-78 is purchased separately

## Model FL Filter

An important accessery for Astatic Fl-33 pickup, for best nerformance with high quallity speakers. Controls plekup response, elinulates high frequency peak.
Cat. No. 15-355 Net Prlee
$\$ 4.04$

## Magnetic Recording Wire

Economical high-quality recording wire for use with allstandard makes of wlre recorders. (Not sultable for use with tape recorters.) The high fidellty type wire is forspecial permanent orsemipermanent recording and usually requires two erasures before re-using
Cat. No. Spool Cat. No. Spool Cat. No. Spool 34-401 1 Hr. 34-402 $\frac{1}{3} \mathrm{Hr}$. $34-403 \quad \frac{1}{3} \mathrm{Hr}$. (Price is same for both types.)

## High Finelity Permanent Type

$34-404 \quad 1 \mathrm{Hr} . \quad 34-405 \quad \frac{1}{2} \mathrm{Hr} . \quad 34-406 \quad \frac{1}{8} \mathrm{Hr}$. Net Euch $\$ 3.25 \quad \$ 1.95 \quad \$ 1.30$ Quantity discount for standard package of 10 spools of each type, deduct $10 \%$ from net price per spool.
Cat. No. 34-410 Empty Spool. Net Each 34c Cat. No. 34-411 Plastic Leader. Net Each 8c


## (B) Alliance Dual Motor Unit 78 and $331 / 3$ RPM

Two separate rim-drive motors for playing both Lp micro-groove records and regular records $12^{\prime \prime}$ turntable for $10^{\prime \prime}$ and $12^{\prime \prime}$ records. Speed selector lever connects speed desired and automatically disengages other motor. When selector lever is OFF, both idlers are disengaged to prevent distortion. For 110 volts 60 cycles.
Cat. No. 15-027 Net Each
$\$ 11.76$

## REK-O-KUT

(A) Model V-16 Recording Turntable An eminently ane instrument. Lathe-turved of hi-test aluminum alloy casting. Turntable shaft ground to a micro finish and lapped Into bearing. Continuous duty motor has dynamically balanced Motor. Neoprene compound idlers resist oil or wear, and give maximum traction. 78-333/3 R.P.M.
s165.45
(B)Model G-2 Transcription Turntable Smooth and fast-starting turntable for vertical and lateral transcriptions; its superior performance has been acclalmed by the broadcasting industry. Will not jump its groove from a standing start or during shift in speed while revolving. Constant speed better than $\frac{1}{2}$ of $1 \%$. Noise level 45 db below maximum recording level. $78-331 / 3$ R.P.M.

Cat. No. 34-192 Net Price
'125.00

## (C) Model T-12 Turntable

Construction, quality, and performance are equal to Model "G," but modified for "professlonal performance at home." Turntable of hi-test aluminum alloy casting, flush-mounting chassis of ribbed L-beam aluminum. Constant-speed motor fitted with exclusive Rek-O-Kut formica pulley. Turntable shaft hardened and ground and lapped into bearing. Overall dimensions $15^{\prime \prime} \times 12 z^{\prime \prime}$; motor board $112^{\prime \prime} \times 9^{\prime \prime}$ wide. Dual speed.
Cat. No. 34-193 Net Price . . $\$ 9.50$

## 


(D) Overhead Recording Mechanism

Overhead recording mechanism with a mechanical spiraling device. An exclusive Rek-O-Kut feature is the second over-running clutch in the spiral mechanism, built into the crank - in addition to the usual clutch built into the lead-screw. Spiral up to $\frac{3}{16}$ " pitch. Equipped with 120 line outside in. Also a vallable in $\mathrm{O}-1$ or $\mathrm{I}-\mathrm{O} \times 90,105$, 120, at no extra cost, if specihed. Micrometer control of cut depth. Chip collector
Cat. No. 34-194 Model M-5 with magnetic cutter
Cat. No. 34-195 Model B-5 with Brush RC-20 crystal cutter.
${ }^{\text {s }} 175.00$

## Recording-level Meter

A new principle of visual control in the Vm-2 meter assures distinctive style recording as controlled by the artist. Operates from output of 8 , $15,200,500$-ohm amplifer. Deluxe case.
Cat. No. 34-197 Net ea.
$\$ 29.50$
Matching Transformer
Type T-45 matching transformer for crystal cutter. Taps for 8 -ohm voice coll and 500 -ohm amplifer output.
${ }^{5} 9.50$

## 500-ohm Magnetic Cutter

Cat. No. 34-198 Net Price
'18.00


## RECORDING BLANKS

NEEDLES


## AUDIOPOINTS <br> Sapphire Points

For use by protessional recordists to produce the best possible results. Each stylus is disc-tested by the manufacturer for quality and uniformity. Cat. No. 34-251 Net ca.

## Stellite Points

A favorite with many professionals as well as nonprofessional recordists. Cuts a quiet shiny groove for several hours. Individually tested. 88 C Cat. No.34-252 Net ea.

## RecorDisc Sapphire Stylus

For longest life and superior instantaneous recording Normal use gives 10 hours of clean shiny recording. May be resharpened up to 15 times.
$\$ 3.83$
Cat. No. 34-326 Net ea.

## Stylus

Produce results almost as good as those from sapphire stylus above at much less initial cost. Especially recommended for less experienced operators.
$\$ 1.18$

## Cat. No. 34-327 Net ea

Stylus
Precision-made of processed and tempered steel with filter cutting point and recessed shank. An unbeatable value in quality, long life, and low price.
$43 c$
Cat. No. 34-328 Net ea.

## Hand Lapped Steel Stylus

 Hand lapped for greater fidelity. . 29CCat. No. $34-329$
Net ea. Cat. No. 34-329 Net ea.

## Steel Styli, Nickel-plated Shank

With a recording life of approximately 1 hour. Cat. No. 34-330 Net . . . 3 for 59c
How to Make
Good Recordings

The complete handbook for the everyday recordist. Covers every phase of dise recording from chooslng the equipment to producing a professional ninished recording. 128 pages. Cat. No. 42-064 Net Price
$\$ 1.25$

## Red Label-Double-face

Exceed the professional demands of broadcasting stations, sound studios and movie studios for top quallty. Aluminum base.

| quality. Aluminum base. |  |  |  |
| :--- | :---: | :---: | ---: |
| Cat. No. | Dia. | Each | 25 For |
| $34-201$ | $8^{\prime \prime}$ | $\$ 0.80$ | $\$ 12.00$ |
| $34-202$ | $10^{\prime \prime}$ | 1.15 | 17.25 |
| $34-203$ | $12^{\prime \prime}$ | 1.85 | 27.75 |
| $\mathbf{3 4 - 2 0 4}$ | $16^{\prime \prime}$ | $\mathbf{3 . 4 0}$ | $\mathbf{5 1 . 0 0}$ |

## Red Label-Single-face

Applications where one side only is required become measurably more economical. Same quality as above.

| Cat. No. | Dia. | Each | 25 For |
| :--- | :--- | ---: | ---: |
| $34-205$ | $10^{\prime \prime}$ | $\$ 0.85$ | $\$ 12.75$ |
| $34-206$ | $12^{\prime \prime}$ | 1.40 | 21.00 |
| $34-207$ | $16^{\prime \prime}$ | 2.35 | $\mathbf{3 5 . 2 5}$ |


| $34-206$ |
| :--- |

## Yellow Label

For commercial grade recordings in studiosschools, homes, etc. Aluminum base.

| Cat. No. | Dia. | Each | 25 For |
| :--- | :---: | ---: | ---: |
| $34-208$ | $10^{\prime \prime}$ | $\$ 0.90$ | $\$ 13.50$ |
| $34-209$ | $12^{\prime \prime}$ | 1.50 | 22.50 |
| $34-210$ | $16^{\prime \prime}$ | 2.70 | 40.50 |

## RECORDISCS <br> Red Label

Heavy $.021^{\prime \prime}$ aluminum base coated with nitrate for professional grade recordings, and reduced in size for use with non-professlonal equipment.

| Cat. No. | Dla, | $1-4$ | 5 For |
| :--- | :---: | :---: | ---: |
| $34-274$ | $61^{2 \prime}$ | 20 c | $\mathbf{\$ 0 . 9 0}$ |
| $\mathbf{3 4 - 2 7 5}$ | $8^{2 \prime}$ | $\mathbf{2 7 c}$ | 1.20 |
| $34-276$ | $1^{\prime \prime}$ | 40 c | 1.80 |

$\begin{array}{lccc}34-275 & 10^{\prime \prime} & 27 \mathrm{c} & \mathbf{4 0 c} \\ 34-276 & 1.20 \\ & & & 1.80\end{array}$

## "GM" Label

Aluminum base $.021^{\prime \prime}$. Built for wide frequency reproduction with great brilliance. Will not dry out or deterioriate.

| Cat. No. | Dia. | $1-4$ | 5 For |
| :--- | :---: | :---: | ---: |
| $\mathbf{3 4 - 2 7 7}$ | $8^{\prime \prime}$ | $\mathbf{4 0 c}$ | $\$ 1.80$ |
| $\mathbf{3 4 - 2 7 8}$ | $10^{\prime \prime}$ | $\mathbf{5 2 c}$ | $\mathbf{2 . 4 0}$ |
| $\mathbf{3 4 - 2 7 9}$ | $12^{\prime \prime}$ | $\mathbf{6 7 c}$ | $\mathbf{3 . 0 0}$ |

## Purple Label

The new hecordisc blank with lighter weight aluminum base for tine quality home recording. $\begin{array}{lccr}\text { Cat. No. } & \text { Dla. } & 1-4 & 5 \text { For } \\ 34-280 & 62^{\prime \prime} & 15 \mathrm{c} & \mathbf{\$ 0 . 6 5} \\ \mathbf{3 4 - 2 8 1} & 80^{\prime \prime} & 20 \mathrm{c} & \mathbf{9 0} \\ \mathbf{3 4 - 2 8 2} & 10^{\prime \prime} & \mathbf{3 5 c} & \mathbf{1 5 5}\end{array}$

## ZEPHYR RECORDING BLANKS

## Green Label

Double-faced plastic coating on bond-paper base. For home and amateur recording with freedom from scratch and surface noise.
$\begin{array}{lccr}\text { from scratch and surface noise. } & \\ \text { Cat. No. } & \text { Dia. } & \text { Each } & 6 \text { For } \\ 34-271 & 6 \frac{1}{2 \prime \prime} & 10 \mathrm{c} & \$ 0.50 \\ 34-272 & 8^{\prime \prime} & 20 \mathrm{c} & .90 \\ 34-273 & 10^{\prime \prime} & 28 \mathrm{c} & \mathbf{1 . 2 0}\end{array}$

## Reference Label

For making economical test cuts. flling, and reter ence recordings. Aluminum base.

| Cat. No. | Dia. | Each | $\mathbf{2 5}$ For |
| :--- | :--- | ---: | ---: |
| $\mathbf{3 4 - 2 1 1}$ | $10^{\prime \prime}$ | $\$ 0.70$ | $\$ 10.50$ |
| $34-212$ | $12^{\prime \prime}$ | 1.05 | $\mathbf{1 5 . 7 5}$ |
| $\mathbf{3 4 - 2 1 3}$ | $16^{\prime \prime}$ | $\mathbf{1 . 9 0}$ | $\mathbf{2 8 . 5 0}$ |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

For schools, homes, amateur and demonstration work. Same as above except thinner aluminum base.

| Cat. No. | Dla. | Each | 50 For |
| :--- | ---: | ---: | ---: |
| $34-214$ | $8^{\prime \prime}$ | $\$ 0.50$ | $\$ 15.00$ |
| $\mathbf{3 4 - 2 1 5}$ | $10^{\prime \prime}$ | .75 | $\mathbf{2 2 . 5 0}$ |

## Masters

Ideal when pressings are to be made by electroplating. by either gold sputtering or silvering process. Aluminum base. 2 sides.

| Cat. No. | Dia. | Each | $\mathbf{2 5}$ For |
| :--- | ---: | ---: | ---: |
| $\mathbf{3 4 - 2 1 6}$ | $13 \frac{1}{4}^{\prime \prime}$ | $\$ 3.05$ | $\mathbf{\$ 4 5 . 7 5}$ |
| $\mathbf{3 4 - 2 1 7}$ | $17 \frac{11}{\prime \prime}^{\prime \prime}$ | $\mathbf{5 . 1 0}$ | $\mathbf{7 6 . 5 0}$ |

## SOUNDCRAFT

## "Broadcaster" Discs

Professional recording dises for broadcasting, rebroadcasting, and similar use. Heavy aluminum base. Blue embossing, no paper label.

| Cat. No. Dia. | Ea. | Cat. No. | Dia. | Ea. |  |
| :--- | :---: | :---: | :---: | :---: | ---: |
| $34-351$ | $8^{\prime \prime}$ | $\$ 1.00$ | $\mathbf{3 4 - 3 5 5}$ | $12^{\prime \prime}$ | $\$ 2.20$ |
| $\mathbf{3 4 - 3 5 2}$ | $10^{\prime \prime}$ | .90 | $\mathbf{3 4 - 3 . 5 6}$ | $16^{\prime \prime}$ | $\mathbf{2 . 7 5}$ |
| $\mathbf{3 4 - 3 5 3}$ | $10^{\prime \prime}$ | $\mathbf{1 . 4 0}$ | $\mathbf{3 4 - 3 5 7}$ | $16^{\prime \prime}$ | $\mathbf{3 . 9 5}$ |
| $\mathbf{3 4 - 3 5 4}$ | $12^{\prime \prime} *$ | 1.50 |  |  |  |
| "Playback" Discs |  |  |  |  |  |

Heavy aluminum base. Professional quality, with full sound-spectrum frequency response Orange embossing. No paper label.
Cat. No. Dla. Ea, Cat. No. Dia. Ea.

| $34-358$ | $6 \frac{1}{2}$ | $\$ 0.55$ | $34-362$ | $12^{\prime *}$ | $\$ 1.30$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $34-359$ | $8^{\prime \prime}$ | .80 | $34-363$ | $12^{* \prime}$ | 1.85 |
| 344.360 | $10^{\prime \prime *}$ | .80 | $\mathbf{3 4 - 3 6 4}$ | $16^{\prime \prime *}$ | 2.30 |
| $34-361$ | $10^{\prime \prime}$ | 1.15 | $34-365$ | $16^{\prime \prime}$ | 3.30 |

$\begin{array}{llrlll}34-360 & 10^{\prime *} & .80 & 34-364 & 16^{\prime \prime *} & \mathbf{2 . 3 0} \\ \mathbf{3 4 - 3 6 1} & 10^{\prime \prime} & 1.15 & 34-365 & 16^{\prime \prime} & \mathbf{3 . 3 0}\end{array}$

## "Audition'" Dises

Heavy aluminum base. "Standard" quality for studio, reference, school, home applications, Give high quality with fow cost.
Cat. No. Dla. Ea. Cat. No. Dia, Ea. $\begin{array}{rrrrrr}34-366 & 61^{\prime \prime} & \mathbf{\$ 0 . 4 5} & 34-369 & 12^{\prime \prime \prime} & \$ 1.45 \\ 34-367 & 8^{\prime \prime} & .70 & 34-370 & 16^{\prime \prime} & 2.65 \\ 34-368 & 10^{\prime \prime} & .90 & & & \end{array}$ 34-368 ${ }^{10}$ " "Maestro" Discs
Master dises for making transcriptions and records that are to be pressed. All single face. Cat. No. Dia. Ea. Cat. No. Dia. Ea. $\begin{array}{llllll}34-371 & 12^{\prime \prime} & \$ 1.55 & 34-373 & 177^{\prime \prime \prime} & \$ 2.95 \\ 34-372 & 13 \frac{1}{4} & 1.95 & & \end{array}$ *Single face; all other double face.

# presto Recorders - Playbacks meissner - g-i 



## PRESTO

## Model "Y" Portable Recorder FIGS. A. B, C

This portable recorder for 16 " transeription re cording and playback is of indisputable profes sional quallty. For $33^{\frac{1}{3}}$ R.P.M. broadcasting transcriptions or 78 R.P.M. $6^{\prime \prime}, 8^{\prime \prime}, 10^{\prime \prime}, 12^{\prime \prime}$ re cordings and recordings for commercial pressings Also provides extreme high-fidelity reproduction of both transcriptions and phono records. Usable as p.a. system for audlences up to 500 persons In wide use for protessional-auditions to prospecthe sponsors. Records continuous 15 minute program at $33 \frac{1}{3}$. All operating controls are easily sccessible. Model $87-$ A recording amplifter with $10^{\prime \prime}$ PM speaker, two-mike mixer. high and low frequency equalizers and changeover switch tor continuous recording or re-recording. Constant speed without vibration. Instant recording speed changeover without stopping. I-O ог O-I cutting controlled by lever. Vibration damper. 110 volts. 60 cycles. Complete, less microphone and stand.
Cat. No. 34-126 Net Price
${ }^{8} 741.00$

## (D) Model "K" Portable Recorder

The portable recorder, playback, and p.a. system for sales training, teachers, actors, and musicians when quality recording and easy nortability are desired. Records 15 minutes continuously at $33 \frac{1}{3}$ R.P.M. on $13 \frac{1_{2}^{\prime \prime}}{2}$ disc. Makes $6^{\prime \prime}, 8^{\prime \prime}, 10^{\prime \prime}, 12{ }^{\prime \prime}$ records. Plays all makes of records. For volce amplification to an audience of 500 . With many of the valuable features of the Model " $Y$ " above Same high-grade design magnetic cutting head and plekup. 6-tube amplifier. High frequency equalizer for $33 \frac{1}{3}$ R.P.M.; tone control for needle scratch suppression. Detachable dynamic speaker. Quick change-over from $0-1$ to $1-O$ Exclusive l'resto rubber-tired direct drive without rubber pulleys and belts. High-fidelity amplifier cutting head. pickup. Low noise level. Speed uniform within $.5 \%$. 110 volt. 60 cycle operation. Complete, less microphone and stand.
Cat. No. 34-127 Net Price
$\$ 348.00$
(A) Model 75-A Recording Turntable

16" (lual speed Presto recording turntable; portable yet rugged for applications in industry teaching, and broadcasting. Includes turntable drive mechanism, and cutting and playback heads as in Model "Y"; less Model 87-A speaker and recording amplifiers.
Cat. No. 34-128 Net Price
s 451.00

## (E) Model "L" Transcription Playback

A portable unit complete with $12^{\prime \prime}$ dual-speed turntable, high quallty pickup, 4-stage amplifter, and $8^{\prime \prime}$ speaker, all mounted in slagle case.
Cat No. 34-1 29 Net Price
$\$ 290.00$


## Phono Jack

Slugle-prong, positlve-grip phono jack; used on RCA-type recording units, receivers, auto sets; mounted on Bakelite disc. $\frac{1}{16}$ "thick, $\frac{1}{18}{ }^{\prime \prime}$ mtg. ctrs.
Cat. No. 01-96t Net Each
Phono Plug
RCA-type; used with phone Jack above Cat No 01-967 Net Each


## (I) Model GI-RM4

A heavy-duty, dynamically balanced 4-pole rim drive motor. Exceptionally qulet operation, due to rubber vibration insulation from both mounting plate and turntable. Turntable keyed to, and revolves with turntable shaft. Retractable record revove pin in turntable permits record-cutting and playing standard records without any adjustment. Positive alignment of driving pulieys, idler. and turatable for highly efficient performance. $10^{\prime \prime}$ weighted turntable. Complete with turntable and mounting plate. Dimensions:
 Cat. No. 34-178 Net Price
$\$ 9.90$

## UTC Universal

Interstage Equalixer


Designed for connection between two triode audio stages or to match a 5000 to 30,000 ohm source to grid. Requires no additlonal audio stage unless gain of equipment to which the equalizer is added is low. Continuously adjustable equalization to 15 db . above and below a flat reference at both treble and bass. Complete with etched panel $2 z^{\prime \prime}$ by $4^{\prime \prime}$.
Cat. No. 36-073 Type CGE-1 Net Price $\$ 15.00$ Cat. No. 36-074 Free booklet showing response curves and applications for the CGE-1.

## Stroboscope Disc

Checks the speed of revolution for $33 \frac{1}{3}$ and 78 R.P.M. turntatiles under lights from 50, 60 and 25 cycle current. Results in better sounding pitch and tempo from recordings. Tests are a clnch to make. yet positive and clear. 15 C Cat. No. 15-178 Net ea

15C

## Wireless Phono Oscillator

No electrical connections to make when convertIng radio to radio-phovo combination with the Adaptol oscillator. Simply plug into any AC/DC outlet; jack takes record player input lead ... and permanent installation is completed. Radio can still be played. Excellent reproduction. $\$ 5.85$


F


## GENERAL INDUSTRIES

(F) GI-RC130L With Record Changer

A superior combination unit that cuts records up to $10^{\prime \prime}$ diameter and plays twelve $10^{\prime \prime}$ or ten $12^{\prime \prime}$ records automatically at 78 R.P.M. Recording operation is simple-just lower cutting arm over record dise and it starts. Depth-ot-cut regulation by adjustment on top of cutting arm. A single lever sets for $10^{\prime \prime}$ to $12^{\prime \prime}$ changeover record removal, manual, and recording opera tions. Positive, quiet, smooth record changing Reject button. Shock mounting isolates entire assembly from cabinet. With low-pressure crysta pickup, on-off switch, and spring-mounting hardware Base plate $14^{\prime \prime} \times 14^{\prime \prime} \times 3^{\prime \prime}$; height above lower edge of base plate $5 \frac{7}{16}^{\prime \prime}$; depth $23^{\prime \prime}$
Cat. No. 34-176 Net price
$\$ 40.14$
(G)CI-R90L-78 and $331 / 3$ R.P.M An attractively styled assembly for deluxe applications; beautiful walnut wood-grain finish on steel base. Turntable recessed into well in base plate. Dual speeds, 78 and $33 \frac{1}{3}$ R.P.M. controlled by speed-change dial for either cutting or playback. Cuts up to $10^{\prime \prime}$ records; plays up to $12^{\prime \prime}$ records. Starts cutting when cutting arm is lowered over disc. Depth-ot-cut adjustment Plckup and cutter arms labelled. Dynamically balanced 4 -pole unlform-speed motor with compensating swltch. $10^{\prime \prime}$ weighted turntable; low pressure crystal pickup; plekup and cutter arn rests. Base plate - $15^{\prime \prime} \times 11_{2}^{\prime \prime}$ : helght over lower edge of plate - $2 \frac{3^{\prime \prime}}{3}$; depth - $3_{8_{8}^{7 \prime \prime}}^{7}$. $\$ 28.95$ Cat. No. 34-177 Net Price

## GI-R70L

A smooth performing, slngle-speed home recorder and playback. Cuts records up to $10^{\prime \prime}$, plays records up to $12^{\prime \prime}$. Regulation of depth-of-cut by adjustment on ton of cutting arm. Retractable record driving bin in turntable permits playing standard records without adjustment. Heavyduty. self-starting. constant speed. 4-pole, rim drive. induction type motor dynamically balanced. Assembly includes: motor, $10^{\prime \prime}$ weighter turntable, low-pressure crystal plckup, arm rests. turntable, low-pressure crystal plckup, arm rests,
drawn steel base plate. Base plate $-15^{\prime \prime} \times 10^{\prime \prime}$, height above lower edge of plate $21^{1 \prime \prime}$, depth $2{ }^{5}{ }^{\prime \prime}$.
Cat. No. 34-179 Net Price
s24.51

## (H)MEISSNER Radio-Phono-Recorder

A recorder. nhonograph, and radio combinationall that is needed to make parties, social gatherlags, and home entertainment torever-lasting. A professionally built instrument with controls deslgned for use by the non-technician. Two speeds. $33 \frac{1}{3}$, and 78 R.P.M. input level carefully monitored by neon load and overload indicators. High fidelity crystal cutting head for records up to 10", excellent crystal mike. Lightweight crystal arm for playback of recordings and commercial dises up to $12^{\prime \prime}$. Ample record storage space. Records radio programs directly, without microphone side-nolse. Sedarate volume controls permit mixing and "dubbing", live and radlo promit mixing andite, selective, full-tone receiver. All compactly and attractively housed with "airplane" luggage fanish. Furnished with complete instructions, mlke, and tubes. Cat. No. 34-151 Net Price
${ }^{\mathrm{s}} 111.28$

# Electro-Voice $-\underset{\substack{\text { MICRORHONES } \\ \text { fLoor stand }}}{\substack{\text { St }}}$ 


(B) The CARDAX Crystal Mike

## Dual Frequency - Unidirectional

For the first time the Cardax makes avallable a dual-frequency-response erystal microphone for elective unidirectional reproduction of voice and music. The Cardax "mechanophase" uses a phase-shlfting diaphragm to produce high unidirectivity at all frequencie:. Rear response is down on an average of 18 db . Frequency response is controlled by screw adjust ment on back of mike; gives either wide response for high fidelity music pickup or rising response for high (requencles, which is ideal for speech. Hish outpit level, varies between - 57 and -48 db . for flat and rising response. Tilt adjustment; bullt-in on-of switch; Bimorph crystal; satin-chrome finish; 20-ft. cable.
Cat. No. 20-101 Net Price
${ }^{5} 23.23$

## (I) The COMET-D Dynamic Mike

A combined dynamte mlcrophone and stand at a rare low price. Internal moving coll with Acoustalloy diaphragm provides exceptionally smooth, high quality performance. Output level 53 db . below 1 volt/dyne $/ \mathrm{cm}^{2}$. open circuit. Frequency response $70-7.000$ cycles. Non-directlonal at low frequencles, rising directivity at high frequencies. Equipped with $7 \frac{1}{2}$-ft. shielded rubber-facketed cable. Finished in lustrous gray. Espectally suited for p.a., home recording. intercom and hmateur radio communtcations. Model 601
Cat. No. 20-103 Net Price
\$1 1.47

## (1) The Comet Crystal Mike

High capacity crystal assures smooth, wide-range response and high output level for excelient reproduction of voice and musle; especially suited for home recordings, pconomical p.a. pazing. "ham" communications. Output level -48 db . Frequency response $70-7.000$ cycles. High tmpedance; can be used with any standard amplitier high-Impedance input. Welghted bottom. 7 -ft. cable. Model y02
Cat. No. 20-104 Net Price
*7.79
With on-of switch
${ }^{5} 8.67$
(E) Electro-Voice "Century" Mikes A new design in low-cast mikew whith cun be used on 1 loor stand. In the hand. suspended in mid-air or on desk with or without stand. Carbon, crystal or dynamle types available.

Model 915 - Crystal type with $60-$ T,500 c.p.s. response. Output -50 db . Furnished with $7 \frac{1}{2} \mathrm{ft}$. shielded cable.
Cat. No. 2C-105 Net Irice
$\$ 5.88$
MODEL 615 - High-impedance dynamic type designed for rough servlce. Has $55-7,500$ e.p.s. response. Furnished with $7 \frac{1}{2} \mathrm{ft}$. shielded cable. Cat. No. 20-106 Net Price
$\$ 9.70$
Monel 6158R - same as type 615 but with $48^{\prime \prime}$ cable, relny switch and hook.
Cat. No. 20-107 Net Price
$\$ 11.76$
Model 215 - Single-bution carbon mike. 200$4,000 \mathrm{c} . \mathrm{p} . \mathrm{s}$. response. -26 db , output. With $48^{\prime \prime}$ cable.
Cat. No. 20-108 Net Price . . . $\$ 4.85$
Model 215SR - Same as 215 but with hang-up hook and relay swltch.
Cat. No. 20-109 Net Price . . . $\$ 5.88$
Model 415 Desk Stand. Mounts mike at $15^{\circ}$ tilt. Cat. No. 20-110 Net Price . . . 88c

## (A) <br> CARDYNE I <br> Unidirectional Dynamic Mike

True cardioid plekup with broad frontal selection and nepligible rear plekup. Stops feedback. Hi-h (direct to grid, 25.000 ohms) Impedance. Response substantially fat 40 to 10,000 e.n.s. Smooth, firm tllting action permits alming at sound solirce for selective pickup. Electro-Voice Acoustalloy diaphragm insures withstanding severe operating conditions. Entire moving coll assembly cradled in Koylon synthetic latex rubber. Type MC-1 cable connector. locking stingie contact, built into mlerophone stud to permit tilting without straln on cable. Bullt-ln on-of switch. Finished in durnble satin-chrome
Cat. No. 20-102 Type 726 Net Price . $\$ 34.99$

## Dynamic Microphones

(C) MODEL 630-C-A general purpose mike with Acoustalloy diaphragm assurlng smooth frequency reswonse $40-9,000$ c.p.s. -53 db . output Finished in satin-chrome, this mike is ruggedly built. May be tilted $90^{\circ}$.
Cat. No. 20-111 High Impedance. \$21.46
Cat. No. 20-112 250 ohms. Net Price. $\$ 21.46$
(G) MODks 605 - A substantial, low-cost mike with $50-7,500 \mathrm{c} . \mathrm{p} . \mathrm{s}$. response and -57 db out out. $22^{\circ}$ tilt. Chrome finish. Equipped with cable connector.
Cat. No. 20-113 Net Price
${ }^{8} 15.29$
(D) ModEL 610 - Quality instrument with response from $50-8,000$ c.p.s. with -53 db . out put. Fixed $15^{\circ}$ tilt.
${ }^{8} 18.23$
(F) MODEL G00D-Rugred hand-held model with response of $100-6.000 \mathrm{c} . \mathrm{D} . \mathrm{s}$. and -55 db . output. Push-to-talk switel. Hlgh lmpedance. 6' cable. Cat. No. 20-115 Net Price . . $\$ 20.58$ (F) Model 602- Same as 600D for use where noise is 100 db , or more. Has a nolse-cannolse is loture.
celling feat more. Has a nolse-can-
Cat. No. $20-116$ Net Price . $\$ \mathbf{2 3 . 5 2}$

(J) Atlas Boom Stand BS-35
"Floating action"'stantl with fliger-tip control Boom arm may be removed. Stand is adjustable vertically. counterweighted 63 -inch boom can be tilted and extender boricontally. Counterweight can be rexulated for all microphone weights Vertical extension $72^{\prime \prime}$ maximum, minimum $48^{\prime \prime}$ Thre-legred buse. Ctrome and gun-metal thalsh With universul swivel.
\$32.34

## (K) "Baby Boom" Arm BB-1

Can be easily and unickly attached to uny malorophowe floor stand. Boom arm is equipped with unlversal swivel that can be adjusted and locked In any pasition. Slldag counterweight. 32-inch tube section, super-chrome plated. $\$ 4.12$


## (D) Model 910 Crystal Microphone

With bigh-capacity molsture-sealed crystul with flat response $50-8,000$ c.p.s. -48 db . output With $8^{\prime}$ cable. $15^{\circ}$ fixed tllt. $\$ 13.23$
Cut. No. 20-118 $8^{\prime}$ cable. Net Price
Cat. No. 20-119 20' cable. Net Price
$\$ 14.11$
(G) Model 905 Crystal Microphone

A quallty unlt with sinooth response $50-7,500$ c.p.s. -54 db . output. $22^{\circ}$ fixed tilt. Satin chrome fulsh
$\$ 9.70$

## (H) Model 635 Broadcast Microphone

For use in all broudcast applications, this high fidelity, quality dynamie mike is well sultert for studio, recording, and in sound amplification work. Has fat reaponse $60-13.000$ c.p.s. andi -53 db output. 50 or 250 ohms impedanee may be chosen by recessed switch. Moisture proof and shock reststant. It has the "Acoustalloy" diaphragm. Finished ln satln-chrome. it has a $00^{\circ}$ tilt on a swivel head. "With 20 ' shlelded cable and bullt-In connector.
Cat. No. 20-120 Net Price
$\$ 35.28$

## Floor <br> Stands

(L) Snyder Model Me-5 - Two-section telescopic stand adjustable from $30^{\prime \prime}$ to $60^{\prime \prime}$. Staff triple chrome plated. Heavy duty, $12^{\prime \prime}$ dlameter base is rieh gray crackle finish with chrome trim. Cat. No. 20-351 Net Price $\quad \$ 6.1$ (L.) Snyder Model Ms-1 -Two section telescopicstand adjustable from $30^{\prime \prime}$ to $60^{\prime \prime}$ with stanlard $10^{\prime \prime}$ base. Finished as Model-M8-5 above. Cat. No. 20-352 Net Price
$\$ 5.06$
(M) Electro-Voice Model 430-Pinger pressure ou a button gives control of height between $36^{\prime \prime}$ and 65 . Steady. tri-leg base for wide support. Finished in gray and chrome
s8.82
(M) Electiro-Voice Dravie 425-Construction features same as above except button below mike gives easy, smooth, onc-hand control of stant height. Folding legs. Fintshed in satin-clirome. Cat. No. 20-354 Net Price . \$14.41

# TURNER - Microphones - AST ATIC 



## ASTATIC

## (M) Model "DN-Dynamic"

Incorporating the new unitary moving coll system and carefuily proportioned acoustic clrcuit to achieve flat response from 50 to 7000 cycles. All the well-known features are incorporated in the new model, including Astatic's tilting head, swivel mount for semt- or non-directlonal posiswivel mount the new streamlining; finished in tlons. Note the new streammegrife. Complete opalescent gray and with chromegrine. Comple.
with plug, connector and $15-\mathrm{ft}$. abielded cable with plug, connector and $15-\mathrm{ft}$. shielded cable.
Cat. No. 20-001 Net Price . . $\$ 14.46$
Cat. No. 20-001 Net Price
(N)Model D104 Crystal Microphone
Long proved for effclency and dependability, Model D-104 has high output level, -48 db ., for reduced RF feedback. New type yoke-driven, bridge-mounted Grapholl crystal element, improved shock-proof mounting and barometric proved shock-proos Especially popular for closecompensation. Especiadio amateur use. Speech talking applications in radio amateur use. Fineech
range response from 30 to 7,500 cycles. Finished range response from 30 to 7,500 cycles. Finished
in chrome. Includes interchangeable plug and In chrome. Includies interchangeable plug and cable.
cable.
Cat. No. 20-002
s14.46
(O) Model T-3 Crystal Microphone A general-purpose crystal microphone with selflocking tilting head for non-directional or sembdirectional use. Ideal for studio setupe and amadirectional use. Ideal pis, intercoms, p.i. systems. Output love teur rigs, Intercoms, p.a. systems. Output love
-52 db ; frequency response substantially flat -52 db ; frequency response substantially iat
from 30 to 10,000 c.p.s. Gleaming chrome onish Complete with interchangeable plug and socket connector and $25-\mathrm{ft}$. shielded cable. $\$ 16.08$ Cat. No. 20-003 Net Price
(0) Desk Stand Model CT-3

Model T-3 Mike with "grip-to-talk" desk mike stand Built-in relay operating ON-OFF switch for remote control of transmitters and amplifiers With socket connector, spring cable protector, 8 ft . two conductor, shielded, rubber-covered cable. Height $82^{\prime \prime}$.
Cat. No. 20-004 Net Price
${ }^{\text {s }} 19.32$

## (P) SPECO "MAX-MIXER"

A simple, low-cost method of adding and mixing microphone inputs (two or more) to any amplifier "Max-Mixer" cable plugs into microphone input, one two, or three high impedance mikes plug into one, twat " Eoch mike is regulated by Max-Mxer. separate volume control. Case forms shield ior the network. Complete with 6-ft. flexibly shielded cable with screw-on connector; phon plug adapter for amplifier phone jack. \$11. 14 Cat. No. 20-301 Net Price

# SHURE Microphones - Cable Transformers 



B


E

H

## Shure Semi-directional Crystal Mikes

(A) "Stratoliner" Model 708A

An expensive-looking microphone at low cost. High output level ( 53.0 db . below 1 volt per bar) with wide-range, peak-free response ( $60-8,000$ c.p.s.) for good reproduction of either volce or music. Genulne Bimorph crystal. Placed horizontally, Model T08A is semi-directional; placed vertlcally, it is non-directlonal in the horizontal plane. Swlvel permits tilting through an angle of $90^{\circ}$. Pearl gray finish. Complete with $20-\mathrm{ft}$. shielded cable.
${ }^{\text {s }} 16.17$
Cat. No. 20-056 Net Price (B)

## Model 707A

The ideal combination of good-quality performance and low cost. Peak-free response characteristics, typical semi-directional plekup, output 53 db . below 1 volt per bar. Moisture-proofed Bimorph crystal is mechanically isolated. Fintshed in pearl gray with high-polish plated front. With 7-ft. single conductor shielded cable with spring proteetor.
s8.33
(C)

## Lapel Mike Model 76B

Clips to the lapel for utmost conventence in pubIf address, lecturing, with portable transmitters, etc. Excelient reproduction of speech is provided, while user can move freely. A pressure-actuated diaphragm-type crystal mike. Welght only 11 ounces. Response from 40-6,000 cycles. Highfrequency response is accentuated. $1^{\prime \prime}$ diatmeter. With $25-\mathrm{ft}$. shlelded cable. Output level 57 db . below 1 volt per bar. Cat. No. 20-058 Net Price
${ }^{s} 15.88$

## Microphone ON-OFF Switches



Model A83A - Quick and convenient plug-in switch for mike. No soldering connections. Attaches to any cable-connector type Shure microphone. Arrow knob.
Cat. No. 20-059 Net Price
Model A84A - Press-to-taik momentary-contact switch.
s 2.88
Cat. No. 20-060 Net Price
Model A85B - Momentary relay type swltch. For use with two-conductor shielded cable with crystai and hish-impedance dynamic mikes only. Standard Shure recentacle. Satin-chrome finish. bakelite disc. Without cable.
$\$ 4.82$
Cat. No. 20-061 Net Price
Cable Type Transformer


Matches 35 to 50 and 150 to 250 olim microphones to high impedance amplifier input. High quality construction achleves a compact, sturdy unit. Case dtam. $1 \mathbf{1}_{8}^{\prime \prime}$, length $2 \mathbf{f}^{\prime \prime}$
s8.97 Cat. No. 20-063 Net Price
8.97

## Electro-Voice Model 502

 Mike TransformerDesigned for matching 50 and 250 ohm microphones to high-impedance amplifer. $40-20,000$ c.p.s. response plus or minus l db. With fourcontact connector. Shielded. Cat. No. 20-121 Net Price

## Shure Semi-Directional Dynamic Mikes

(D) "Sonodyne" Model 51

For all general purpose use, including public address, recording, and communications, Model 51 is a pressure dynamic high-output nulke with wide-range peak-Iree frequency response and semi-directional pickup characteristies; embodles the multi-Impedance switch for 35-50 ohm, $150-$ 250 ohm , and high impedance input. Frequency response $60-10,000$ cycles. Smari pearl-gray case, functionaliy deeigned. Complete with built-in receptacle, two-conductor shielded plastic-jacketed cable and attached mike plug. Cat. No. 20-052 Net Price

52
A sturdily constructed dynamic microphone for low-cost public address systems, recording, communications, and simallar installatlons. Its highquality pertormance ls due to a smooth frequency response between $00-8,000$ cycles and excelient semi-directional characteristics. Output 52 db below 1 volt per bar. High impedance. Complete with single-conductor plastic-jacketed attached cable.
${ }^{s} 14.70$

## Unidirectional Crystal Mike

## (F) "Monoplex" Model 737A

A high-out put super-unidirectional crystal mike. Improved cardioid pickup lattern gives front-torear sensltivity ratio of 14 to 1 for random sound. It offers the sdvantages of Shure acoustic phase shifting network with diaphragm type element at low cost. Crystal is "metal-sealed" to withstand climatic conditions. Pivot at rear of case permits alming at sound source, or pointing upwards for non-directional horizontal pickup. Frequency response $60-10,000$ cycles. Built-in cable connector. With $20-1 \mathrm{t}$. shlelded cable. $\$ 23.37$ cat. No. 20-054 Net Price

## (G) "Versatex" Model 718A

A new high-output diaphragm-type crystal mike of unusually versatile design. Fits convenlently in the palm of the hand, can be set right down on the table, and may be used on the conventional floor stand. With frequency response from 60 to 8,000 cycles, typleal semi-directional plekup, and high out put ( 53 db below 1 volt per bar) It is the ideal "ham" mike and very suitable for home recording, low cost p.a. systems, call systeras, etc. High impedance. In a durable plastle streamilned case. Catridge unit mounted in rubber for mechanical isolation. " -27 thread takes any floor stand. With 7 -ft. cable.
Cat. No. 20-055 Net Price
s.79


## UTC Microphone

## Cable Transformers

Designed to be inserted in the cable circuit, and ruggedly constructed to withstand mechanical abuse; connections to terminal boards insicle the end caps; spring strain relief; units may be located any place on the cable within twenty-five feet of the amplifier; $1 \frac{1}{2}{ }^{\prime \prime}$ diameter, $2 \frac{3^{\prime \prime}}{}$ long, weight 1 lb.
Cat
$\begin{array}{ll}\text { No. } & \text { Type } \\ 20-321 & \text { Mc- }\end{array}$
Primary tapped, $30 / 50$ and 200/250 ohms, secondary to grid, tandard fdelly
20-322 MC-2 Primary tapped 30/50 and $200 / 250$ ohms, secondary to grid, $\$ 10.00$ high indelity,


## Unidirectional Dynamic Mikes

## (H) "Broadcast" Model 556

Especially constructed to meet the requirements of the broadcast studio, and tested to close tolerances in frequency response and directivity. This super-cardloid type, unidirectionai. moving-col mike, has front-to-rear sensitivity ratlo of 14 to 1 for random sounds. New Shure acousto-mechanical circult, containing a moving-coil element with a high-flux magnet, makes possible high efficiency and smooth peak-free response from 40 to 10.000 c.p.s. and solves feedback problems. Mechanically lsolat ed from vibration by spring suspension inside mike case. Ewivel permits head to be aimed directly at sound sotirce. Practically Immune to influence of moisture, temperature, and mechanical vibration.
Multi-impedance switch, bullt in at the rear of the microphone, permits Model 556 to be worked directly Into a 30-50 ohm line, a $150-250$ ohm line, or a high impedance output. Switch positlons are marked. Rich, chrome Anish. 7-ft. shielded double-conduct or cable.
Cat. No. 20-050 Net Price
${ }^{8} 54.40$

## (H) Modern Desk Stand

Model 836A - Is a beautiful, streamlined mount with firm support at the correct helght. Fits Shure connector type mikes, concealing plug in base. Adapter piate and tubing provided for other types. Removable button for installation of bushing switch or volume control. Pearl gray fuish. Base $2 \frac{1}{2}^{\prime \prime}$ high, $5^{\prime \prime}$ wide, $7^{\prime \prime}$ long. $\$ 2.94$
Cat. No. 20-062

## (I) "Unidyne" Model 55

Perbaps the most widely used mike in the world for public address, Model 55 is excellent for recording. communications, small studio and remote broadcasting. It has all the extreme unidirectional characteristics and mechanical properties of Model 556 above with the exception of the vibration isolatlon unit. Model 55 also has the bult-in multi-lmpedance switch deseribed above. With $25-\mathrm{ft}$. shielded, double conductor cable and microphone plug attached. $\$ \mathbf{3 9 . 7 0}$
Cat. No. 20-051 Net Price . .

## (J) Amperite Kontak Mikes

For all string instruments such as vioiln, guitar, ukulele, double bass, pinao, etc. Gives an ordinary violin the volume and depth of a "Strad." No string changes, no drlliing, attached without tools. Operated with high-gain amplifier, 90 db . or more. Can be used with most radios. Response from 40 to 9,000 cycles. Output -40 db . Equipped with 15-ft. cable.
MODEL SKH — Cat. No. 20-305 Net Price \$7.06
MODEL KKH - Same as above in all spectficutions but with built-in volume control for conventent adjustment by mustician.
Cat. No. $20-306$
Net Price \$10.58

## BOGEN AMPLIFIER SYSTEMS


(A) E75 HIGH POWER SYSTEMS-70 WATTS The only amplifier on the market with dual-amplifer protection for continuous service, eliminating the fear of complete breakdown of the sound system. The E75 ampliner has two separate power amplifiers, driven by a common preamplifer, with separate power supply, inverse-feedback circult, and master gain control for each amplither. Should one power ampliter fail, 35 wats is stll supplied by the other - an invaluable guarantee of continuous service for stadia, airport, theatre, and factory sound systems. Controls are mounted on a single pancl, and include two mikes, one phono, a bass-treble tone compensator, and two master gain.

E75 Amplifien Specifications
Power output - 70 watts at less than $4 \%$ distortion; 100 watts peak power.
Frequency response $-30-14,000$ eycles, $\pm 1 \mathrm{db}$
Gain - Microphone, 124 db . Phono, 80 db . Hum - minus 70 db . at 100 w
Input impedance - 2 microphone channels, 1 phono channel, 500,000 ohms each.
Output impedance - Each power amplifier tapped at 4-8-15-500-1000 ohms.
Power consumption - 290 watts, 117 volts, $50-60$ cycles
Tubes $-2-6 \mathrm{SF} 5,2-6 \mathrm{SL} 7 \mathrm{GT}, 2-6 \mathrm{~F} 6 \mathrm{G}, 2-7 \mathrm{Z} 4,4-6 \mathrm{~L} 6 \mathrm{G}, 2-5 \mathrm{U} 4 \mathrm{G}$; total 14. Dimenstons-17 $\times 10 \times 12 \frac{1}{2}$ " deep.

## (A) Model E75 Amplifier

Cat. No.33-101 Complete with tubes. Net Price
${ }^{\$} 134.24$

## (A, D, E) Model E75B Indoor System

Complete system includes E75 amplifer, with'tubes; 4 Bogen $12^{\prime \prime}$ heavyduty C12B speakers each mounted in BX12 wanut baffe, and each with $25-\mathrm{ft}$, speaker cable and plus; 1 Astatic JT30 microphone with hande. interlocking base, $15-\mathrm{ft}$. cable, and plug.
s 277.50 Cat. No. 33-102 Net Price

## (A, D, F) Model E75TU Outdoor System

Includes E75 amplifer with tubes; 4 Bogen-University LH trumpets and GAH driver unlts; 1 Astatic JT30 microphone with $15-\mathrm{ft}$. cable, handle, and plug.
Cat. No. 33-103 Net Price
\$339.60

## (B) NEW HX50 HIGH FIDELITY SYSTEMS-

 50 WATTSThe new HX50 amplifler incorporates the new revolutionary Bogen development in sound engineering - anti-feedback control-for unmatched high fidelity. While preserving tone quality and output level, it permits "tunlng-out" acoustic feedback in the sound system, thereby permitting the sound level of the system to be raised 10 db , above the usual level. The result is that more power may be used, the system is more stable, and microphone placement is far less critical. Other feat ures inelude; push-pull " 807 " output with multi-stage regulation; stabilized input stages for minimum noise; safety interlock switch disconnects high voltage when cage is removed; oil-flled high-voltage filter capacitors.

HX 50 Amplifier Specifications
Power output - 50 watts at $3 \%$ distortion; peak power 90 wutts
Frequency response - 20-20,000 cycles $\pm 2 \mathrm{db}$.
Tone range control - Bass control, +20 to -30 (11), at 100 cycles; treble control, +21 to -14 db . at 10,000 cycles.
Gain - Microphone channels (3). 121 db .; phono (1) 89 db .
Hum - Eund, -65 db ; mic., - 58 db . (to rated output)
Input Impedance - (3) microphone channels, 500,000 ohms; phono channel (1), 500,000 ohms.
Output impedance - 4-8-16 ohm and 2 constant-voltage taps (70 and 140 volts).
140 volts).
Tubes - 4-6SC7; 3-6SL7; 1-6SN7; 1-5R4GY; 2-807; 1-5Y3; total 12 Dimensions - $17 \times 9 \times 13 \frac{1}{3}^{\prime \prime}$ deep.

## (B) Model HX50 Amplifier

Cat. No. 33-106 Complete with tubes. Net Price
${ }^{s} 145.14$

## (B, E, G) Model HX50B Indoor System

Complete system includes $\mathbf{H X} 50$ amplitier complete with tubes; four, Jen sen $12^{\prime \prime}$ heavy-duty P12P speakers mounted in Bogen Deluxe BX 12 walnut baffles each with $25-\mathrm{ft}$. cable and plug; one Astatic N30 crystal microphone with $121 / 2$-ft. cable and plug.
Cat. No. 33-107 Net Price
s288.99

## (B, G, F) Model HX50TU Outdoor System

System includes HX50 anıplifier with tubes; three, Bogen-University LH trumpets and MA25 units; one, Astatic N30 crystal microphone with $12 \frac{1}{3}-$ ft . cable and plug.

Net Price
$\$ 280.59$
Cat. No. 33-108

## (C) H50 STANDARD AMPLIFIER SYSTEMS-50 WATTS

A superb quality amplifier built tor applications where frills are not needed but with emphasis on durability, power, and down-to-earth usefulness. Hus three individually controlled channels, 2 mike, 1 phono. A treble-bass tone compensator provides broad-range tone correction. Inverse feedback provides automatic regulation of output regardiess of speaker load changes. h50 Amplifier Specifications
Power output - 50 watts at less than $5 \%$ distortion. Peak power - 90 watts.
Frequency response - 30-20,000 cycles $\pm 2 \mathrm{db}$.
Gain- Microphone inputs (2), 120 db . Phono input (1), 80 db
Hum - Fund. -74 db .; Mic. -59 db . (referred to rated output).
Input imperlance - Mic. channels (2). 500,000 ohms; phono channei, 500,000 ohms.
Output impedance - 4-8-16 ohms and two constant-voltage taps ( 70 volts and 140 volts).
Power consumption - 240 watts, 117 volts, $50-60$ cycles.
Tubes --3-6SC7, 1-6SL7, 1-6SN7, 2-807, 1-5R4GY, 1-5Y3; total 9. Dimensions- $17 \times 11 \frac{1}{2} \times 9 \frac{1}{4}{ }^{\prime \prime}$ high.
(C) Model H50 Amplifier
${ }^{5} 110.25$

Output-Impedance taps eliminate involved calculations for line matchin transformers. Two 807's push-pull output; oil-filled high voltage filter capacitors; safety interlock switch disconnects high voltage when cage is removed; all wiring is laced cable type; all components mounted on terminal boards. UL listed.

## (C, D, E) Model H50 Indoor System

System includes: H50 amplifer with tubes; four Bogen $12^{\prime \prime}$ heavy-duty C12B speakers mounted in Bogen Deluxe BX 12 bames each with 25-fa speaker cable and plug; one Astatic JT30 microphone with bandle, interlocking base, $15-\mathrm{ft}$. cable and plug.
Cat. No. 33-113 H50B system complete as above. Net Price. $\$ 253.35$

## (C, D, H) Model H50TU Outdoor System

System includes H50 amplifer with tubes; three Bogen-University PH trumpets and SAE units; one Astatic JT30 microphone with handle and interlocking base, with $1 \overline{\mathrm{~N}}$-ft. cable and plug.
Cat. No. 33-114 model H50TU system complete as above. \$238.80 Net Price

Cat. No. 33-112 Complete with tubes. Net Price



## (A) EX326 DE LUXE UNIVERSAL MOBILE SYSTEMS

Nothing has been spared to make EX326 systems the very finest in unlversal sound systems. For Indoor or outdoor use, on 6 volts DC or 115 volts AC , with rugged, faultless, high-quality performance. 32 watts of power at less than $5 \%$ distortion. Three separate input channels. 2 mic. and one phono, can be mixed and iaded. Triple-range electronic tone-corrector permits individual boosting or attenuating of the bass and treble registers. MODEL EX326 SPECIFICATIONA
Power output - 32 watts at less than $5 \%$ distortion. Peak power - 40 watts.
Frequency response - 30-12,000 cycles $\pm 2 \mathrm{db}$.
Gain - Microphone 120 db .; phono 70 db .
Hum - AC operation - 70 db .; DC operation -60 db .
Input impedance - Microphone channels (2) 500.000 ohms; phono ehannel 500,000 ohms.
Output impedance - 4-8-15-250-500 ohms, avallable at terminal stri $\mathrm{I}_{\mathrm{p}}$ and 2 built-in speaker sockets.
Power consumption - 120 watts, 117 volts AC; 28 amps. 6 volts DC.
Tubes - 3-6SF5, 2-6SL7GT, 2-6L6G, 1-5U4G; total. 8.
Dimensions - $16 \times 16 \times 10 \frac{1^{\prime \prime}}{} \mathrm{high}$.

The EX326 is completely self-contained; bullt-in 6-volt DC and 115 -volt AC power supply; constant-apeed phono-motor protected by hinged cover. Changeover from 6 -volt to 115 -volt operation is automatic and foolproof. Standby switch on illuminated sloping control panel disconnects $B$ supply, but keeps flaments heated, ready for instant use; standby operation by remote control is avallable.
(A) Model EX326

Cat. No. 33-135 Complete with phono and tubes. Net Price $\$ \mathbf{1 5 0 . 0 0}$

## (A, E) Model EX326F Basic System

Complete system Includes: EX326 amplifier with tubes; two Bogen Alnico $5 \mathrm{C} 12 \mathrm{C} 12^{\prime \prime}$ speakers, each with $15^{\prime}$ cable and plug; one Astatce N30 crystal microphone with $12 \frac{1^{\prime}}{}{ }^{\prime}$ cable and plug.
Cat. No. 33-136 Model EX326F as above. Net Price.
'181.95

## (A, E, G) Model EX326TU Outdoor System

Complete system includes: EX326 amplifer with tubes; two BogenUniversity PF trumpets and SAH units; one Astatic N30 crystal microphone with $124^{1,}$ cable and plug.
Cat. No. 33-137 Model EX326TU as abova. Net Price
\$239.55

(B) MODEL E14 SYSTEMS-14 WATTS

Incorporating many of the features of the high power systems, Model El4 is designed to best serve restaurants, small leoture halls, single floor factorles - the greatest number of sound system installations - which usually require about 14 watts of audio power. Provides 3 input channels for 2 microphones, one phono pickup. and noiseless electronic mixing of all three channels. Accurate bass-treble corrector to compensate for acoustic conditions. Two 6Lb's beam power output tubes deliver 14 watts. Inversa feedback for uniform frequency response, regardless of speaker load varlations. Output taps for quick and simple speaker matching.

Model E14 Amplifieb Specifications
Power output- 14 watts at less than $5 \%$ distortion. Peak power- 25 watts Frequency response - 40-12,000 cycles $\pm 1.5 \mathrm{db}$.
Galn - Mlerophone channels (2), 115 db . Phono channel, 75 db .
Hum - Fund, $-64 \mathrm{db} . ;$ mic. -57 db . (referred to rated output).
Input impedance - Mierophone channels, 500,000 ohms. Phono channel, 500,000 ohms.
Output impedance - 4-8-15-250 and 500 ohms avallable at both terminal strip and two speaker sockets.
Power consumption - 90 watts, 117 volts, $50-60$ cycles.
Tubes - $26 \mathrm{SF5}, 1-6 \mathrm{SN} 7 \mathrm{GT}, 1-6 \mathrm{SC} 7,2-6 \mathrm{~L} 6 \mathrm{G}, 1-5 \mathrm{Y} 3 \mathrm{GT}$.
Dimensions - $14 \times 7 \frac{3}{6} \times 8^{\prime \prime}$ high.

## (B) Model E14 Amplifier

Cat. No. 33-118 Complete with tubes. Net Price
\$57.00

## (B, D, F) Model E14B Indoor System

Complete system includes: E14 amplifler with tubes; two Bogen Alnico 5 C12C speakers mounted in Bogen WA12 bafles, each with $25-\mathrm{ft}$. cable and plug; one Astatic JT30 microphone with handle, interlocking base, $15-\mathrm{ft}$. cable and plug.
${ }^{s} 103.35$

## (B, D, I) Model E14P Portable System

Same as Model E14B above but with speakers mounted in Bogen K20 portable speaker baffle which also carries the amplifer. $\$ 103.65$ Cat. No. 33-120 Model E14P complete as above. Net Price 103.05

(C) MODEL E10 SYSTEMS—10 WATTS

The standard for low-power faxed and portable Installations, Model E10 outperforms everything in its rated class. If a portable unit is required that can be set up and will operate perfectly at a moment's notice, with assurance of continuous dependable operation, a Bogen E10 system is recommended. One microphone cnannel. one phono channel, full-range tone control. Each channel has individual gain control which can be mixed and faded. Controls and power switch mounted on handsome 4-color control panel. Two 6V8's in push-pull provide 10 watts, 13 watts when needed. Bulld-in multiple impedance selector. Constant 70 -volt output available. Model E10 Amplifier Specifications
Power output- 10 watts at less than $5 \%$ distortion. Peak power- 17 watts Frequency response - $60-10,000$ cycles $\pm 1.5 \mathrm{db}$.
Gain - Microphone channel, 115 db . Phono channel, 80 db .
Hum - Fund. -64 db ; mic. -57 db . (referred to rated output)
Input Impedance - Microphone channel, 500,000 ohms; phono channel, 500,000 ohms.
Output impedance - $4-8-15-500$ ohms. $500-\mathrm{hm}$ tap is equivalent of $70-$ volt constant-voltage tap, available at two speaker sockets.
Power consumption - 75 watts, 117 volts, $50-60$ eycles.
Tubes-2-6SC7, 2-6V6GT, 1-5Y3GT.
Dimensions - $7 \times 11 \times 7 \frac{5^{\prime \prime}}{}{ }^{\prime \prime} \mathrm{h} / \mathrm{gh}$.

## (C) Model E1O Amplifier

Cat. No. 33-125 Complete with tubes. Net Price.

## (C, D, F) Model E10B Indoor System

Complete system includes: E10 amplifier with tubes; two Bogen Alnico 5 C10C speakers mounted in Bogen BA12 baffles, each with 25-1t. cable and plug; one Astatic JT30 crystal microphone with handle, interlocking base, 15-ft. cable and plug.
s78.15

## (C, D, H) Model E1OP Portable System

Same as Model E10B but with speakers mounted in Bogen Model 10A portable speaker baffle which also earry amplifier.
Cat. No. 33-127 Model E10P system complete as above. $\$ 78.90$
Net Price


## (A) BOGEN 4-CHANNEL PREAMP LLO

A preamplifer for installations requiring low-impedance multi-channel inputs, permitting mixing of four microphones with long microphone cables. Output Impedances of $50,125,200$, or 500 ohms are avallable. Separate gain control is provided for each channel. Master control adjusts overall volume. Bultt-in power supply facilitates connection to any existing amplifier.

Model Llo Specifications
Output - "O" leve!; response - 20-12,000 cyclest 2 db .; gain - 75 db .; hum - minus 63 db . ; Input impedance - 4 channels, 50,200 , or 500 ohms; output impedance - $50.125,200$ or 500 ohms; power consumption - 32 watts, 117 volts AC; tubes - $5-6 \mathrm{SF} 5,1-6 \mathrm{SJ} 7,1-6 \mathrm{X} 5 \mathrm{GT}$; dlmensions $14 \frac{1}{16} \times 8 \times 7$ ti $^{\prime \prime}$ high.
Cat. No. 33-140 Model LLO preampliffer complete with tubes. Net Price
$\$ 158.25$ Net Price ${ }^{\text {NOTE: Model HH }}$ high input and high output impedance 4 -channel preamplifier and Model HLO, high input and low output Impedance model are available on special order.

## (C) Bogen Model K30 Portable Carrying Case

Portable dual $12^{\prime \prime}$ speaker-amplititer case of rugged plywood construction. beautifully finished with durable leatherette. Will house two $12^{\prime \prime}$ speakers and provides amplifier space $15^{\prime \prime}$ long $\times 10^{\prime \prime}$ high $\times 9 t^{\prime \prime}$ deep. Overall dimensions, $16^{\prime \prime} \times 14 \frac{1^{\prime \prime}}{3^{\prime}} \times 222^{\frac{1}{2}}{ }^{\prime \prime}$ high.
${ }^{9} 15.30$ Cat. No. 33-145 Net Price.

## (D) Bogen Portable Dual $12^{\prime \prime}$ Speaker Case

Deldie Model 140 A portable case which divides into two completely enclosed heavy-duty $12^{\prime \prime}$ Infonte baffles, each with an auxillary low-frequency radiator for extended bass response without boom or resonance. Case and speaker panels are built of $3^{\prime \prime}$ plywoon, strongly relaforced and covered with attractive durable leatherette. Dimensions (closed) $22 \frac{1}{2}^{\prime \prime} \times 18^{\prime \prime}$ wide $\times 12 \frac{1^{\prime \prime}}{}{ }^{\prime \prime}$ deep. $\$ 19.05$ Cat. No. 33-146 Net Price

## CHALLENGER A MPLIFIER SYSTEMS <br> BOGEN "CHALLENGER" AMPLIFIER SYSTEMS

The new selecTone tone corrector is embodied in all models of Challenger amplifters, a feature which provides a range and selectlon of tone response keyed to the program and avallable previously in only the most expensive commerclal sound equipment. This unique tone control provides four distinctive frequency responses: first is "Deep Bass" for deeply accentuated bass response and sharply reduced treble which is Ideal for poputar music and older record reproduction; second position is "Mellow" useful with nolsy records and standard broadcast band tuners because high trequencles are sharply reduced; position 3 is "Crisp" and Ideal for speech trequency response; fourth position ts "Brilliant" for recorded music and voice, it accentuates the bass and treble, effecting a sensation of 'presence.
(E) MODEL CC60-60 WATT AMPLIFIER SYSTEMS

To command 60 watts of power with faithful response and dependable performance, the Challenger CC60 offers incomparable quality features at an amouzingly economical price. Four dials offer individual control of two microphones, phonograph, and SelecTone. Constant-voltage output makes speaker matching a simple matter. Two 807 's in push-pull output; inverse feedback for better response and regulation. Two oil-flled high-voltage filter capacitors for greater stability. Terminal strip and 2 -speuker sockets for connection of speaker lines. Fused line. Specincations are: power outfor connection of speaker lines. Fused line. Specincations are: power output - 60 watts; response - $30-12.000$ cyclest $2 \mathrm{db} .$, mic. no. $2,120 \mathrm{db}$., phono, 85 db ; output impedance - $4,8,15$ ohms, 70 and 140 volts. Tubes - $2-6$ SFs $^{2} 1-6 \mathrm{SL} 7 \mathrm{GT}, 2-807,1-5 \mathrm{Y} 3 \mathrm{GT}$, $1-5 R 4 \mathrm{GY}$; dimensions - $17 \times 11 \frac{1}{2} \times 9 \frac{1}{" \prime}^{\prime}$ high.
Cat. No. 33-220 Model CC60 amplifier complete with tubes. $\$ 79.38$ Net Price

## (E, F, C) Model CC60B Indoor System

Complete system Includes: Model CC60 Amplifier with tubes and cage; four Alnico 5 PM speakers each with $25^{\prime}$ cables and plugs, mounted in $12^{\prime \prime}$ hand-finished wall baffles; one Astatic JT30 crystal microphone with handle, interlocking base, $1^{\prime}$ cable and piug:
Cat. No. 33-221 Model CC60B as above. Net Price
${ }^{s} 149.85$

## ( $\mathrm{E}, \mathrm{F}, \mathrm{H}$ ) Model CC60T Outdoor System

Complete system includes: Model CC60 amplifier with tubes and cage, three Unlversity PH trumpets with MA25 driver units; one Astatic JT30 crystal microphone with handle, interlocking base, $15^{\circ}$ cable and plug. Cat. No. 33-222 Model CC60T as above. Net Price. . $\mathbf{1 8 3 . 3 1}$


## (B) BOGEN BOOSTER AMPLIFIERS

## 50 Watrs - 125 Watts

Two new boosters embodying the latest developments in design and the most advanced techniques in construction are perfect for sound systems in Industrial plants, alrports, stadia - wherever undistorted high power ts required. An input signal of 5 volts will drive booster to rated output; boosters may be paraileled without increasing size of driver. Constantvoltage output taps eliminate difficulties in speaker matching when different loads are required for different speakers in same system. Multi-stage Inverse feedback gives excellent regulation regardless of speaker load varlations. Input sectlon condenser of high-voltage fiter is oll-filed; all resistors, condensers are mounted on terminal boards; all wiring is of laced cable type. Output tubes are of transmitter type; all components are conservatively rated. Provision for remote-control relay. Also embodies proviston for mountiug relay on booster chassis. Safety interlock switch automatically disconnects high voltage when cage is removed.

## (B) Model CO50 Specifications- 50 Watts

Power output - 50 watts at less than $5 \%$ distortion. Peak power - 90 watts.
Frequency response - 20-20,000 cycles $\pm 1 \mathrm{db}$. Gain - 48 db .
Hum - Minus 70 db . (referred to rated output).
Input - High impedance (1), 100,000 ohms
Output Impedance - 4-8-16 ohms and two constant-voltage taps, 70 and 140 volts.
Power consumption - 200 watts, 117 volts, $50-80$ cycles.
Tubes-1-6SL7, 1-6SN7, 2-807, 1-5R4GY, 1-5Y3; total, 6.
Dimensions $-17^{\frac{1}{1}} \times 11 \frac{1}{2} \times 9_{\frac{3}{8}}^{\prime \prime}$ high.
Cat. No. 33-138 Model G050 booster amplifier complete with tubes.
Net Price
$\$ 89.25$
(B) Model HO125 Specifications- 125 Watts

Power output - 125 watts at less than $5 \%$. Peak power- 140 watts. Frequency response - $20-20,000$ cyclest 1 db . Gain - 53 db .
Hum - Minus 65 db . (referred to rated output).
Input - High impedance (1) 100,000 ohms.
Output impedance - 90 ohms, and two constant-voltage taps, 70 and 140 volts.
Power consumption - 400 watts, 117 volts, $50-60$ cycles.
Tubes - 3-6SN7, 1-68L7, 2-807, 1-5R4GY, 1-5Y3; total 8 .
Dimensions- $17 \frac{1}{10} \times 11 \frac{1}{2} \times 9 \frac{7}{3}^{\prime \prime}$ high.
Cat. No. 33-139 Model H01 25 complete with tubes. Net Price
$\$ 111.75$


## BOGEN "CHALLENGER" Sound Systems



## (A) AMPLIFIER MODEL CC30-30 WATTS

Only "Challenger" engineering casn offer these outstanding features with a 30 -watt power output at a sensationally economical price! Individunl controls for two micropionew, phono, and SelecTone; inverse feedback fur better response and regulation; terminal strip and 2 -speaker plug-in sockets for connection of speaker lines; molded Bakelite sockets throughout; fused line; recessed carrying handles. PLUS these specificat lons: power outjut 30 watts; response - $30-12,000$ c.p.s. $\pm 2 \mathrm{db}$; galn - mic. (each) 118 db. . phono. 85 db ; olltput impedance - 4, 8. 15 olims, 70 volts; tubes - $2-$ 6SC7. 1-68L7GT, 2-6L6G, 1-5U4G; dimensions - CC30. $15 \times 10 \times 8^{\prime \prime}$ high - CC30X $15 \times 10 \times 10^{\prime \prime}$ high.

## (A) Model CC30 Amplifier

Cat. No. 33-212 Model CC30 with care. tubes as above.
${ }^{s} 47.04$ Net Price
(B) Model CC30X Amplifier and Phono

Cat, No 33-213 Model CC30 Amplifer with built-in phono top ancl tubes. Net Price \$59.09

## (E, G) Model CC3OP Portable System

Complete system Ineludes Model CC30 ampliner with tubes and cage; two Alnico 5 PM speukers, each with $25^{\prime}$ cable and plug, mounted in snlit portable speaker baffle which also carries the amplifer; one Astatic JT30 crystal microphone with handle, Interlocking base, $15^{\prime}$ cable and olug. Cat. No. 33-214 Model CC30P as above. Net Price
$\$ 90.55$

## (A, G, H) Model CC3OB Indoor System

Complete system Includes CC30 amplifier with tubes and cage; two $12^{\prime \prime}$ Alnto 5 PM speakers, each with $25^{\prime}$ cable ard plup. mounted in $12^{\prime \prime}$ handfintshed wall baftes; one Astatic JT30 crystal microphone with handle. interlocking base, $15^{\prime}$ cable and plug. Cat. No. 33-215' Morlel CC30B as above. Net Price
86.58

## (B, G, H) Model CC30X-B Indoor Amplifier-

 Phono SystemSystem same as CC30B above, except phono top amplifler, Model CC30X is furnished in place of Model CC30
s98.64

## (C) AMPLIFIER MODEL CC8-8 WATTS

Featuring inverse feedback for better response and regulation, and indlvidual controls for microphone, phono and selectone, Model CC8 is a moderate-power unit, at a moderate price that offers high-value performance. Power output is 8 watts with response of $80-12,000$ cyeleb土 $\pm \mathrm{db}$. Plug-in connection for speaker line is provided. Performance features are: gain -mic., 108 db .; phono, 11 db .; output Impedance - 4, 8, 16 ohins. Molded bakelite sockets throughout. Tube complement-1-6SF5 $1-6 \mathrm{SJ} 7,1-61.6 \mathrm{GA}, 1-5 \mathrm{Y} 3 \mathrm{GT}$. Dimensions with cuse are: $11 \times 7 \times 7 \frac{{ }^{\frac{5}{8}}{ }^{\prime \prime}}{}$ Cat. No 33-201 Modet CC8 with tubes less case. Net Price $\$ 24.99$ Cat. No. 33-201
Cat, No. 33 -202
Cage
Cor
$\$ 2.94$

## (F, G) Model CC8S Portable System

Complete system includes CC8 amplifier with tubes; one, $8^{\prime \prime}$ Alinico 5 PM speaker mounted in portable carrying case; one, Astatic JT30 crystal microphone with handle, Luterloeking base, $15^{\prime}$ cable and plug. $\$ 49.10$
Cat. No. $33-203$ Model CC8s System as above. Net Price


(D) AMPLIFIER MODEL CCI8-I8 WATTS

Answering the need for an economically priced medium-nower amplifter with quality features, Model CC18 ampliner offers these advantages: individual controls for microphones, phono. SelecTone; constant-voltage output for ease of speaker matching; inverse feedback for better response, and regulation; terminal strip and 2 -speaker plug-in sockets for sveaker connection; fused line; molded Bakelite sockets throughout. CC18 specincutions are: power output - 18 watts; response $-30-12,000$ c.p.s.土 2 db . gain - mic. 118 db ., phono, 78 db .; output imp. $-4,8,15 \mathrm{ohms}, 70$ volts tubes - 2-6SF5, 1-6SLनGT, 2-6V6GT, 1-5Y3GT; dimensions -14 $\times 8 \times 8^{\prime}$ high
Cat. No. 33-206 Model CCl8 amplifier complete with tubes, cage. Net

## (F, G) Model CCI 8P Portable System

Complete system Includes: Model CC18 ambllfer whith tubes and cage; two, $12^{\prime \prime}$ Alnico 5 PM speakers each mounted In split, portable syerke bafte which also carries the amblliter, with $25^{\prime}$ cable and plug; one, Astatic JT30 crystal microphone with handle, Interlocking base, $15^{\prime}$ cable and plug. Cat. No. 33-207 Model CC18P System as above. Net Price . $\$ 81.00$
(D, G, H) Model CCI 8B Indoor System

Complete indoor system inciudes: CC18 amplitier with tubes and cage two. Ainico 5 PM speakers each with $25^{\prime}$ cable and plug, mounted in $12^{\prime \prime}$ hand-innished wall bafles; one Astutic JT30 crystal microphone with handle interlocking base, $15^{\prime}$ cable and plug.
Cut. No. 33-208 Model CC1813 Systen as mbove. Net Price
$\$ 77.03$

## (J) MODEL CC6I8-UNIVERSAL 18 WATT SYSTEMS

## AMPLIFIFR-AND-PHONO UNITS

The versatile Challenger Model CC618 operates on 6 volts DC or 115 volts AC with Instant, foolyroof change-over from battery to AC power. Features remote control of "standby" to reduce current drain. Built-In constant speed phonograph. Constant-voltage output permits eusy matohing of speakers. Individual controls for mileroyhone, phono, SelecTone. Terminal strip and two speaker plug-in sockets for connection of speaker lines. Inverse feedbuck for better response and regulation. Splecifications are: power output - 18 watts; response $-30-12,000$ cycles, $\pm 2 \mathrm{db}$., galn mle., 118 db . phono, 78 db ; output impedance - 4.8. 15 ohwos, 70 volts: tubes - 2-6SF5, 1-6SL7GT, 1-7Z4, 2-6V6GT; dimeusions $-15 \times 10$ $x 10^{\prime \prime}$ blgh.
Cat. No. 33-235 Model CC18 ampliter with tubes, cage, AC and DO cable and bullt-In phono top. Net Price

## (J. K, L) Model CC618T Universal System

Complete system Includes; CC618 amplifier with tubes, cuges, cables, and phono top; one Unlversity PH trumpet with MA25 driver; one Astatic JT30 crystal microphone with haudle, interlocking base, 15 ' cable, and plug.
Cat. No. 33-236 Model CC618T System as above. Net Price $\$ 116.69$

# T ALK-A P P O NE INTER-COM SYSTEMS 

Flexible Systems For Every Inter-com Need



## (A) "Chief Forty Niner" Push-button System

The ultimate of completeness and flexiblity in intercommunication. UL approved. Master stations may talk with any other master as well as with all staff stations. The staff station may answer the master and originate calls to one, two, or six masters, depending on its capacity. Staff stations converse with masters only. Any station can be used as elther "private" or "nonprivare" in the same system. "Non-private" stafts allow answering from a distance of 50 feet without leaving work. Beautil.illy styled; bakelite, walnut-finish case; master has translucent lighting to show when unit is "ON" or "OFF." Multi-matic selector: six-station master has 6 push-buttons; 12 -station master has 12 pushbuttons. "Hold-a-matce" control allows conference among a group of stations. Stations may be up to 3000 feet apart. Furnished complete witn junctlon box, ready to plug in, and with simple instructions for easy installation. All ruaster stations are $12^{\prime \prime} \times 9^{\prime \prime} \times 7^{\prime \prime}$ 。
Model C-4906-1'ush-button master with 6 stidtion capacity, complete with tubes. $\$ 42.50$
Cat. No. 43-009 Net Price
Cable 6212 - For interconnecting C-4906. Cat. No. 43-010 Net per Foot . 17 $\frac{1}{3} \mathrm{c}$ Model C-4912 - lush-button master for 12 stations. complete with tubes. Cat. No. 43-011 Net Price
$\$ 52.50$
Model C-4912X - Same as C-4912 except equipped with privacy eariphone. Cat. No. 43-012 Net Price
864.50

Cable 6224 - For interconnecting C-4912. Ca1. No. 43-01.3 Net per Hoot
Model C-41 - Staft station for origfnation of call to one master.
${ }^{\$} 11.00$ call to one master.
Cat. No. 43-014
Cable 6204 - For connecting C-41 station. Cat. No. 43-015 Net per Foot
Model C-42 - Staff station for origination of calls to 2 masters.
${ }^{\text {s }} 16.50$ Cat. No. 43-016 Net Prlee
Model C-46 - Staff station with push-button controls for originating calls to 6 masters. Cat. No. 43-017 Net Price
$\$ 29.95$
Cable 6004-For connecting $\mathrm{C}-12$ and $\mathrm{C}-46$. Cat. No. 43-018 Net per loot
> for OFFICE FACTORY HOME


## Model LM <br> (B) Master Selective System

LM Master Systems consist of one Master unit which can be connected with one or more (up to 10) sub-stations. Model LM-5 has a maximum capacity of 5 sub-stations. Model LM-10 has a maximum of 10 sub-stations. The master station can talk "privately" to any one of the substations or to all at the same time. Sub-stations can be connected "privately" or "non-privatoly." Sub-stations can originate calls to the master sta-Sub-stations can originate cals o onsiderable dis-
tion. Sub-stations can be at a consin tance from the master unit. On "non-private" system, persons at sub-stations need operate no controls and can reply from a distance. No current consumed by sub-stations. can be installed almost anywhere. Cablnets measure $8 \frac{1}{1}{ }^{\prime \prime} \times 66^{\prime \prime}$ $\times 7 \frac{1}{2}{ }^{\prime \prime}$. Master stations operate on 115 volts $\mathrm{AC} / \dot{\mathrm{D}} \mathrm{C}$. U.L. approved.
Model LM-5 Master Selective system for five sub-stations complete with tubes and instruetions. Cat. No. 43-001 Net Each
$\$ 22.50$ Model LM-10 Master selective system for 10 sub-staticns complete with tubes and instructions. Cat. No. 43-002 Net Each $\quad \$ 29.95$ Model LR-3 Sub-station unit for LM-5 or LM-10. Cat. No. 43-003 Net Each Cable for use beCable No. 5303-3-conductor cabl
tween LR-3 and LM-5 or LM-10.
Cat. No. 43-004 Net per Foot

## Model LS

(B) Super Selective System

Consist of all master units. Model LS-5 tor five stations, Model Ls-10 for ten stations. Any station In the system can call any other and carry on a 2-way conversation, up to a total of 5 with LS- 5 , and 10 with LS-10. Five simultaneous private conversations can be conducted with LS-10; 2 simultaneous private conversations can be held with LS-5. All master stations are private. Stations cannot listen in on each other. Variable volume from a whisper to full room volume. Stations can be located up to 1000 or 2000 feet apart. tions can be located up to 1000 or 2000 reet apart.
Cable runs from first unit to second, from second to third, etc., until last unlt is reached, no cable between last and first units. Cabinets measure $8 \frac{1}{6} \times 6 \frac{1}{2 \frac{1}{2}}{ }^{\prime \prime}$. Operates on 115 volts AC/DC. U. L. approved.

Model LS- 5 - Super Selective unit for five stations complete with tubes and instructions. Cat. No. 43-00.5 Net Each . $\$ 22.50$ Cat. No. 43-005 Net Each
Model LS-10-Super Selective unit for 10.50 statlons complete with tubes and instructions. Cut. No. 43-006 Net Each Six-conductor cable. No. 5506 , $\$ 29.95$ ing IS-5 units as outllned above
Cat. No. 43-007 Net per Foot
11-conductor 10 c LS-10 units as outlined above.
Cat. No. 43-008 Net per Foot

## How to Measure Cable Requirements for "Chief Forty Niner"

To interconnect master stations, measure from first master to second master only, from second to third only, etc., and then total. To connect C- 41 staff scation, measure from staff station to the one master to whlch staff originates calls. To connect C-42 and C-48, measure a separate length of cable from stafl station to each master to which staff originates calls. (For each C-42 or C-46, follow same procedure.)
(B) TWO-STATION INTERCOM SYSTEM, MODEL LC-2

The ideal communicution system for bome, office, store, and industry. Housed in smart Bakelite cablnet of walnut finish. Easy to install without calling for service of technician. Instructions included for wiring for (1) "Monitor" duty, and (2) intercom duty. As "Monitor," sub-station picks uy every sound even though originating as far as 40 feet from sub-station; simultaneously serves as a receiver. For intercom duty, both Master and sub-station have "press-to-talk" switch. Release of switch permits listening. Master cannot listen in on sub-station, but sub-siation can originate
calls. Sound and noise from sub-station is not heard on Master except when in actual operation. Master has the On-Off switch and volume control. 110-1:20 volts AC/DC UL listed. Complete with Master unit, substation, hify feet of cable, tubes, instructions. Dimensions of cubinets: $8 \frac{\frac{1}{2}^{n}}{} \times 6 \frac{1}{3}{ }^{\prime \prime} \times 7 \frac{1}{2}{ }^{\prime \prime}$.
Cat. No. 43-023
Net Price
${ }^{\$} 23.50$
Extra 3-conductor cable in lengths up to 2,000 feet.
Cat. No. 43-024
Net per ft. 5 c

## (A) MODEL CD6 MOBILE AMPLIFIER

Operating on 6 volts DC, and with universal mounting for any of 4 alternate positions, thls is the ideal low-power amplifier for car and similar installations. lrequency response is designed for optimum fldelicy of speech reinforcement. Microphone gain is 109 db . Output impedances 4, 8, 15 ohms . Remote aontrol of standby switch reduces current drain, conserves tubes and components. Vlbrator is replaceable from front wlthout dismounting amplitier or removing cage. Complete chassis can be taken out by removing just four screws. Bullt-in DC cable fuse. Primary power circult shielded from high gain circult for minimum hum. Tubes-2-6SF5, 1-6L6GA, $1-6 \times 5 \mathrm{GT}$. Dimensions - $3 \frac{1}{4} \times 8 \times 7^{\prime \prime}$ high. Cat. No. 33-230 Model CD6 Mobile amplifier with tubes, cage, and DC cable.
\$31.60
(A, B, C) ModeI CD6U Complete Mobile System
Complete system includes: CD6 amplifer with tubes. cage, and cable; one Unlversity 188 trumpet; one Astatic crystal microphone with handle, Interlocking buse, $15^{\prime}$ cable, and plug. Cat. No. 33-231 Model CD6U System as above. Net Price
\$59.39

# Bog - High-Fidelity Phono Amplifiers - н. Bogen - High-Fidelity Phono Amplifiers - soott 



## (A) New Bogen Model PX15 Phono Amplifier

A sensational feature of Model PX 15 is the new Bogen Scratch Eilminutor ith 4 selective positions to correct for varied conditions of record nolse reasured but nolsy and worn records sound better than when they were new! Other features are the dual electronic tone-corrector; bullt-in preamp for G-E, Pickerlig, Astatic, and similar magnetic pick-ups; direct connection for crysta! plekup or tuner output; provision for simple exernal switching of pickup and tuner, removing loisd of magnetic amplifier when tuner is in circuit. Power output is 15 watts with less than $2 \%$ disFrequency response is 30-15,000 cyclest in, peak powerctor range: bass, +20 to -23 db . at 60 c.p.s.; treble, $1 \frac{1}{3} \mathrm{db}$. Tone-corrector range. Eass, +20 to -20 at 10,000 c.p.s. Eum is -75 db . referred to rated output. Output impedance 4-8-15-500 ohms at terminal strip and two speaker sockets. Maximum gain 108 db . Tube complement-2-6SL7GT, $1-6 S N 7 G T, 2-6 L 6 G, 1-5 Y 3 G T$. Operates on 115 volts $50-60$ cycles. Dimensions $15 \times 8 \times 91^{\prime \prime}$.
s82.50
Cat. No. 33-060 PX15 Amplifier with tubes. Net Price
Cat. No. 33-061 PXI5C Same as PX15 but with $4^{\prime}$ extension controls. Net Price
$\$ 3.75$

## (A, C, D) Radio Shack Engineers Recommend

 If you seek a custom-built music reproduction system that wll fulfill your deal of perfect music enjoyment, the Radio Shack's audio experts recom(he Bogen PX15 amplifier, the Stephens TruSonic P52A $15^{\prime \prime}$ couxlal speaker - or Jensen HNP51 sueaker - with the Wic 52 A 15 coaxial speakeng Esch of these components forms the Webster-Chicago 156 record changer. Esch of these a phonograph system of undisputable supremacyCat. No. 31-303 (D) Tru-Sonic P52A Speaker. Net Prlce 120.54 Jensen HNP-51 Speaker. Net Price
$\$ 81.66$
$\$ 27.83$
Cat. No. 34-011 (C) Model 156 Record Changer. Net Price . $\$ 27.83$ Cat. No. 33-060 (A) Bogen PX. 15 Amplifier. Net Price
$\$ 82.50$

## Bogen PH10 Multi-range

## Phono Amplifier

- 10 Watts


A completely new, low-priced phono amplifler with the remarkable Bogen 4-position Multi-range Tone Control - the first position provides a deep bass response; second position a mellow bass with broadened hlgh frequency response; third position is essentialiy flat response with greater high register; fourth position extends response for FM and other wide range programs. All guess work is removed - at the user's command are four sharply defined frequency curves to provide the finest performance regardless of program material. Made especially for use in normally quiet places such as the home PHIO Ls virtually humless. Input circuit acplacamodates any crystal phono pickup or output of a radio tuner. Output is push-pull with inverse feedback. Power output 10 watts at $5 \%$ disis push-pull with inverse feedback. Power output
tortion; peak output 14 watts; frequency response $40-15,000 \mathrm{c} . \mathrm{p} . \mathrm{s} . \pm 1 \mathrm{db}$.; tortion; peak output 14 watts; irequency response $40-15,000 \mathrm{c} . \mathrm{p.s}$. . 1 db.,
grin $\mathbf{i 2}$ db.; tnput impedance 500,000 ohms; output tmpedance 3.2 and 8 ohms; hun -80 db . referred to rated output, In flat response. Power consumption 60 watts, 117 volts, 60 cycles. Tubes-1-6SL7GT; $2-6 \mathrm{~V}$ GGT; $1-5 \mathrm{Y} 3 \mathrm{GT}$. Dimensions - $5 \times 11 \times 3^{\prime \prime}$.
Cat. No. 33-130 Model PHi0 amplifier complete with tubes.
Net Price
\$29.20

## (B) New Bogen Phono Amplifier-Model PXIO

A new higli-fidelity amplifier, with 10 -watt output at $5 \%$ distortion, permits direct connection of crystal pickup or tuner output and contains bulit-in preamplifier for G-E, Pickering, Astatic, and similar magnetic plckups. Features straight-line dynamic range expander and new multirange tone control. Four tone control positions - (1) Mellow Bass, (2) Wide Range, (3) Extended Range, and (4) Brilliant key frequency response to type of recording or program. Provision for simple external switching of plckup and tuner, removing load of magnetic sreamplitier when tuner is in circuit. Peak power 17 watts; frequency response $30-18,000$ cycles $\pm 2 \mathrm{db}$. magnetic plekup gain 105 db .; crystal plekup gain 63 db ; hum -70 db referred to rated output. Input Impedance - magnetic, 47,000 ohas; crystal, 470,000 ohms. Output impedance $-4-8-15-500$ ohms; $500-\mathrm{ohm}$ tap Ls equivalent to 70 volts constant-voltage tap. Tube complement -1-6SC7, 2-6SL7GT, 1-6sA7, 2-6V6GT, 1-5Y3GT. Dimensions $11 \times 7 \times 7 \frac{11}{\prime \prime}$ high.
Cat. No. 33-051 Amplifter Model PX10, with tubes, less cage. $\$ 51.15$ Net
Cat. No. 33-052 Amplifer Model PX10C, same as PX10 but with $\mathbf{4}^{\prime}$ extension controls. Net Price
56.10
$\$ 3.00$
(B, C, E) Bogen-Tru-Sonic-Webster Phono System
Here is a record player system that the Radio Shack's audio engineers unreservedly recommend-assembled from among the world's foremost audlo components for an Ideal comblnation. Combine the new Bogen phono PX10 amplifier described above with the Stephens P52A Co-Spiral peaker and the Webster 156 Recort Changer using the G-E magnetic cartridge. Notice the total of the prices of the component parts - unbeatable for a custom-bulit phonograph of superlative quality.
Cat. No. 31-301 (E) Stephens Tru-Sonic $15^{\prime \prime}$ speaker P52FR. \$47.04 Net Prlce
Cat. No. 34-011 (C) Model 156 Webster Recorder Cbanger with G-E Cartridge. Net Price . . . . . . . . . . . . . $\$ 27.83$
Cat. No. 33-051 (B) Bogen PX10 Amplffer. Net Price . $\$ 51.15$ Fuil description of the $\mathbf{P} 52 \mathrm{FK}$ speaker is listed on page 000 of this catalog; of the 1 b 6 Record Changer on page 83.
H.H. Scott "Little Wonder"

Dynamic<br>Noise Suppressor



Model 110A Dynamic Nolse Suppressor reduces background nolse hiss, scratch, and rumble - to add reallsm and "presence" to the music reproduction of even the finest existing phono systems. Easily installed on almost all commercial and custom built sets, the "Little Wonder" realizes the full capability of your present equipment. Plugs in between pickup and smplifier; socket adapter furnished plugs into power-tube socket. Matched low-needle-tsik pickup is furnished for insertion into extsting tone grms. Remote control for setting exact degree of suppression to sult Individual ear can be mounted anywhere at instrument or elsewhere in room. Entire Suppressor unit can be placed anywhere in cabinet -only $\left.\left.7^{\prime \prime} \times 3\right\}^{\prime \prime} \times 4\right\}^{\prime \prime}$ overall. Effective over frequency range 30 to 8000 cycles. High frequency noise reduction between 20 and 30 db . above dynamic pass band; low-frequency noise reduction is 15 db . at 50 cycles. 20 db at 30 cycles. Tube complement, 1-6SQ7, 2-6SG7. Furnished complete with matched jlckup, remote control, fittings, cables, adapters, tubes, and instructions.
Cat. No. 15-251 Net Price :
$\$ 49.50$

Bogen Portable System LP-16 for LP Records \& Transcriptions

A compact portable phono-amplitier system that plays both the new long-playing micro-groove records, and regular records and transcriptions. Uses the shure MG-16 plekup for LP records, Astatic " 400 " transeriptlon arm with QT3 cartridge for records and transeripthons up to $16^{\prime \prime}$ in diameter. Removable lid contains bullt-in Jensen F8s, $8^{\prime \prime}$ speaker. Power out put 10 watts at less than $5 \%$ distortion; peak power 14 watts; response (extended range-50-8000 c.ps. +2 db ; galn, phono channel 65 db ., mike channel 115 db . hum, phon; channel -70 db., mike channel - $55 \mathrm{db} .$, Input Impedance 8 ohms. Dual synchronous motor assembly for 78 and $33 \frac{1}{3}$ R.P.M. Power: 85 watts at 117 volts 60
cycles. Tubes: 1-6SJ7, 1-68L7GT, $2-6 V 6 G T$, 1-5Y3GT. Sturdy lugguge-type case measures $204 \times 18 \frac{1}{3} \times 12 \frac{1}{4}^{\prime \prime}$ high. Cat. No. 33-080 Model LP-16 as above. $\$ 105.00$ Net Price

## Po:łable Phono-Amplifier System for Transcriptions

Model UP-16 has all the performance features of Model LP-16 above. but without Shure MG-16 pickup. Cat. No. 33-081 Model UP-16 complete. $\$ 96.00$ Net Price

BURGESS BATTERIES
BURGESS PORTABLE RADIO BATTERIES
Portable＂A＂Batteries


## Burgess Batteries

Fresh stock－in all popular styles and sizes－for standard and special services．We stock a complete line of Burgess dry batterles and can furnish all available Items；If the battery you want is not listed here，order by Burgess number from the Radio Shack．Codeletters giving method of con－ necting the batteries below are：g－screw terminals；F－Fahnestock type spring clips；P－plug－in type；ST－strap terminals；C－coil spring terminals．

|  |  |  |
| :--- | :--- | :--- |
| Cat．No． | Type | Volts <br> 23－001 |
| 23－002 | 21308 PI | $103 \frac{1}{2}$ |
| $23-003$ | 21308 SC | 45 |
| $23-004$ | 10308 PI | 45 |
| $23-005$ | 10308 SC | 45 |
| $23-006$ | 2308 PI | 45 |
| $23-007$ | 2308 SC | 45 |
| $23-008$ | 5308 | 45 |
| $23-009$ | W30BPX | 45 |
| $23-010$ | X30X | 45 |
| $23-011$ | Z30NX | 45 |
| $23-012$ | 5156 PI | $22 \frac{1}{2}$ |
| $23-013$ | 5156 SC | $22 \frac{1}{2}$ |
| $23-014$ | 4156 | $22 \frac{1}{2}$ |
| $23-015$ | A15ST | $22 \frac{1}{2}$ |


|  |  |
| :---: | :---: |
| $23-016$ | 5540 |
| $23-017$ | W5BP |
| $23-018$ | 5360 |
| $23-019$ | 2370 PI |
| $23-020$ | 2370 BI |
| $23-021$ | B3BPX |

23－016 5540 3－017 W5BP 3－019 2370 PI 23－021 B3BPX

|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Slze |  | Std． | Single | Std． |
|  | S | 6 | \＄3．48 | \＄3．17 |
|  | P | 6 | 3.42 | 3.10 |
|  | F | 6 | 3.42 | 3.10 |
| $8 \frac{1}{82} \times 4 \frac{1}{12} \times 7 \frac{1}{1 / 4}$ | $\mathbf{P}$ | 6 | 3.26 | 2.96 |
|  | F | 6 | 3.26 | 2.96 |
|  | P | 6 | 2.48 | 2.16 |
|  | F | 6 | 2.48 | 2.16 |
|  | 5 | 10 | 1.65 | 1.50 |
| $2{ }^{\frac{1}{8}} \times 1{ }^{1} \times 4{ }^{\frac{1}{3}}{ }^{\prime \prime}$ | 5 | 6 | 2.01 | 1.83 |
| $1 \frac{5}{16} \times 2 \frac{15}{18} \times 55^{\prime \prime}$ | 5 | 6 | 2.86 | 2.60 |
| $1{ }^{\frac{1}{6}} \times 3{ }^{\frac{1}{72}} \times 5 \times{ }^{\frac{1}{15}}{ }^{\prime \prime}$ | $\stackrel{5}{5}$ | 10 | 1.78 | 1.62 |
|  | $\stackrel{\mathrm{P}}{ }$ | 10 | 1.31 | 1.19 |
| $41 \times 2 \frac{1}{4} \times 2{ }^{\text {a }}$ | F | 10 | 1.31 | 1.19 |
|  | 5 | 10 | 1.00 | ． 91 |
| $3 \frac{7}{16} \times 2 \frac{1}{3} \times 2{ }^{\frac{1}{3}}$ | ST | 6 | 1.18 | 1.07 |



23－022 F4BP 23－023 12F3 23－024 432 $23-025$ 2F2H 23－026 2F2BP 23－027 F2BP 3－028 B2BP 23－029 2Z2PI 23－030 422 23－031 2FBP 23－032 44
＂B＂Batteries

## ＂C＂Batteries

 N下がサーが ＂A＂Batteries $\begin{array}{ll}6 \\ 4 \frac{1}{3} & 10 \\ 4 \frac{1}{2} & \\ 3 & \\ 3 & \\ 3 \\ 3 & \\ 3 & \\ 3 & \\ 1 \frac{1}{2} & \\ 13 & \end{array}$ $21 \times 2 \quad x$ $\stackrel{8}{8}$

Portable Radio Battery Plugs
The battery plugs listed below fit all the standard type dry batterles as designated．Tough Bakelite insulation．

| Cat．No． | Ftg ． | Type | For | Ea． | 10 for |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 23－105 | D | 2793 | 6 V ．＂A＂ | 5c | \＄0．35 |
| 23－106 | D | 200 | 3 V ．＂A＂ | 12 c | ． 80 |
| 23－107 | A | 273 | Portable＂B＂ | 7 c | ． 50 |
| 23－108 | C | 120 | 12／90＂A／B＂ | 7 c | ． 50 |
| 23－109 | B | 274 | $1-1 / 2 \mathrm{~V}$. ＂A＂ | 5 c | ． 35 |
| 23－110 | E | M64 | 6／90＂A／B＂ | 8 c | ． 55 |
| 23－111 | － | \＄2767 | 60 V ．＂B＂ | ${ }_{5}^{8 c}$ | ． 55 |
| 23－112 | － | ＊2792 | 4－1／2 V．＂A＂ | 5 c | ． 35 |
| 23－113 | － | \＄M77 | 7－1／2 V．＂A＂ | 10 c | ． 65 |
| 23－114 | HI | ＋5705 | Zenith＂A／B＂， | 15 c | 1.00 |
| 23－115 | － | 2745 | Philco＂A／B＂ | $7 \frac{1}{2} \mathrm{C}$ | ． 50 |
| 23－116 |  | 2900 | $7 \frac{1}{2} / 90$＂ $\mathrm{A} / \mathrm{B}$＂ | 10 c | .65 |
| 23－117 | $F$ | 2776 | 6／90＂A／B＂． | 12c | ． 80 |
| 23－118 | G | 2791 | 6／90＇A／B＇ | 10 c | ． 65 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Fig I Male snap－on type．For Burgess XX30，XX45． |  |  |  |  |  |
| Cat．No．23－119 10 for 35 c Each $\quad$ Eig．J Female snap－on type．For Everoady $4 \mathbf{5}^{\circ} 5,467$. |  |  |  |  |  |

Flashlight Batteries





6AC10


## （A）Mallory Vibrapacks

Ideal power supplies to provide dependable and low－cost high－voltage DC from a low－voltage battery．In wide use for＂$B$＂power In auto recelvers， aircrait and marine recelvers and transmitters，farm recelvers，two－way radlo equlpment，mobile telephones，auto p．a．systems．Low battery draln； low cost and low maintenance；Ilght－welght and compact；time－tested In the field．Built－ln nolse suppressors．

| Cat． |  | Input | Output | Max． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Type | Volts | Volts | Ma． | Desc． |  |
| 23－210 | VP－540 ${ }^{+}$ | 6.3 | 250 | 60 | Seli－rect． | \＄17．6 |
| 23－211 | VP－551 | 6.3 | 125－150－175－200 | 100 | Sell－rect． | 13.23 |
| 23－212 | VP－552 | 6.3 | 225－250－275－300 | 100 | Selt－rect． | 15.4 |
| 23－213 | VP －553 | 6.3 | 125－150－175－200 | 100 | Tube rect． | 14.4 |
| 23－214 | VP－554 | 6.3 | 225－250－275－300 | 100 | Tube rect． | 16. |
| 23－215 | VP－555＊ | 6.3 | 300 | 200 | Tube rect． | 30.5 |
| 23－216 | VP－557＊ | 6.3 | 400 | 150 | Tube rect． | 30.5 |
| 23－217 | VP－G556 | 12.6 | 225－250－275－300 | 100 | Self－rect． | 16.90 |
| 23－218 | VP－F558 | 32 | 225－250－275－300 | 100 | Tube rect． | 18.37 |
| ＊High D | er type． |  | Includes complet |  | and RF Filt |  | Type VF－223 Filiter．For use with single－unit Vlbrapacks．Suppresses hum with minimum voltage drop．Also used where voltage regulation 18 lm － portant，as in Class＂ B ＇＂audlo amplifters． Cat．No．23－219 Net Price

$\$ 4.70$

## Mallory Battery Chargers

Convenlent ．．．efficlent ．．．economical charging of any storage battery used in autos，buses，trucks，taxis，small boats，alrplanes，on the farm，or any 6 －volt storage battery used in industry，laboratory，test equlpment． Embodies the tamous Mallory magnesium－copper sulade all－metal rectiffer time－teated and proved rugged and dependable．The Mallory taper charg－ Ing feature automatically decreases charging rate，prevents plate damage， and Insures maximum battery life．Highly portable，these urits may be placed anywhere：In the car，on garage floor，on the bench，etc． 115 －volt 60 cycle operation．Equipped with $6-\mathrm{ft}, \mathrm{DC}$ and AC cords；heavy－duty alligator cllps．Types 6AC6 and 6AC10 have charging indicator．All for 6 －volt batteries

| Charge Taper |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Type | From | To | Size | Net |
| 23－200 | $6 \mathrm{AC4}$ | 4 amps ． | 2 | $4 \frac{1}{16} \times 78{ }^{\frac{3}{18}}$ | \＄9．79 |
| 23－201 | $6 \mathrm{AC6}$ | 6 ampk． | 4 | $4 \times 8 \times 4 \frac{1}{3}$ | 13.04 |
| 23－202 | 6AC10 | 10 amps ． | 7 | $6 \frac{1}{4} \times 10{ }^{\text {a }} \times 5{ }^{\frac{1}{2}}$ |  |

## （C）Mallory Magnesium－Copper Sulfide Rectifiers

All－metal construction assembled under high pressure to withatand vibra－ tlon and shock．For rugged，dependable service in numerous applicstions requiring low DC voitages at medium and high currents such as battery eliminators，battery chargers，electroplating，welding，engine starting， solenold and relay operation．Withstands extreme temperatures，from -905 to +2655 ．＂Self heallng＂rectifylng film．Amperage rating given is for continuous duty．
Cat．Max．DC

| Cat． <br> No． <br> 23－203 | $\begin{aligned} & \text { Type } \\ & 1 B 4 R \end{aligned}$ | Max．DC |  |  | Replacement tor | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ACV． | VoltsA | mps． |  |  |
|  |  | 3.6 | 1.7 | 1.5 | CTC－P－Power Battery Eliminator | N1．14 |
| 23－204 | 188R | 7.2 | 3.4 | 1.5 | CTC－P－Power Battery | \＄1．14 |
|  |  |  |  |  | Eliminator | 1.57 |
| 23－205 | 1812R | 10.8 | 5.2 | 1.3 | Electric Fence Power Supplies | 2.02 |
| 23－206 | ${ }_{\text {F16 }}^{1812 \mathrm{C} 1 \mathrm{~J}}$ | 10.8 | 5.1 | 3.2 | Mallory 3C，6AC4 Boosters | 3.46 |
| 23－208 | 1816CB7 | 14.4 | 6.8 | 3.9 6.3 | Mallory | ． 02 |
| 23－209 | F24H1P | 21.6 | 10.4 | 1.9 | Chargers | 5.00 |
|  |  |  |  |  | Electropak，Rectopak， |  |
|  |  |  |  |  | Univerter，etc． | 3.33 |
| （D） D ceptacle |  |  |  |  | Mallory polarized dashboar | $\mathrm{d} \mathrm{re}$ |
| Cat．No | 3－221 | E |  |  |  | \＄1．18 |

E

（E）Mallory Replacement Vibrators
Noted for their long service life，these quallty units are designed for use In auto radlos and battery recelvers．All vlbrators are rated at 6 volts except the Type W245A and Type W246 whloh are 4 volts．A gulde to proper types for replacement is offered free of charge．
Cat．

| Cat． |  |  | Base | － |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No． 229 | Type | Volts | Diagr． | Slize |  |
| 23－229 | 222 | 6 | 20 | 4t $\times 1.18 \times 1+{ }^{\prime \prime}$ | \＄4．88 |
| 23－230 | 245 | 6 | 21 | $1{ }^{1} \times 3{ }^{1 / 1}$ | 4.11 |
| 23－231 | 245A | 5 | 21 | $1{ }^{18} \times 3$ 3／＂ | 4.11 |
| 23－232 | 245 C | 6 | 28 |  | 4.11 |
| 23－233 | W245 | 4 | 21 | $1{ }^{1} \times 3$ \％ | 4.11 |
| 23－234 | W245A | 4 | 21 | $118 \times 3 \frac{1}{1 / 2}$ | 4.11 |
| 23－235 | 246 | 6 | 38 | $1{ }^{1 / 8} \times 1{ }^{\text {2 }}$ | 4.11 |
| 23－236 | 246 A | 6 | 38 | 11483年＂ | 4.11 |
| 23－237 | W246 |  | 38 | 1） x 3 3＂ | 4.11 |
| 23－238 | 247 | 6 | 46 | $1{ }^{1 / 8} \times 1$＂ | 4.11 |
| 23－239 | F247 | 32 | 46 |  | 4.65 |
| 23－240 | 248 | 6 | 44 | 13．$\times 3$ ？${ }^{\prime \prime}$ | 4.11 |
| 23－241 | 249 | 6 | 32 | $1{ }^{1 / 8} \times 3$ \％${ }^{\prime \prime}$ | 4.11 |
| 23－242 | 270 B | 6 | 23 | $2 \times 4{ }^{\prime \prime}$ | 4.88 |
| 23－243 | 271 HD | 6 | 24 | $2 \times 4{ }^{\prime \prime}$ | 4.88 |
| 23－244 | 273 C | 6 | 29 | $2 \times 4$ 年＂ | 4.88 |
| 23－245 | 273 D | ${ }_{6}$ | 31 | $2 \times 4{ }^{\prime \prime}$ | 4.88 |
| 23－246 | 292 | ${ }_{6}^{6}$ | 3 | $1 \frac{1}{2} \times 1{ }^{1} \times 21^{\prime \prime}$ | 3.38 |
| 23－247 | 294 |  | 8 | $1{ }^{1} \times 3{ }^{\frac{1}{1 \prime}}{ }^{10}$ | 2.62 |
| 23－248 | F294 | 32 | 8 | $1{ }^{1 / 3}{ }^{\frac{1}{3}}$ | 3.82 |
| 23－249 | ${ }_{\text {F502P }}$ | 6 32 | 51 9 | $1{ }^{1} \times 2{ }^{\prime \prime}$ | 3.38 |
| 23－251 | 505P | 32 6 | 8 |  | 4.88 |
| 23－252 | 506 P | 6 | 8 36 | 1483\％ | 2.62 |
| 23－253 | 514 | 6 | 30 |  | 3.38 4.11 |
| 23－254 | 716 | 6 | 30 | $1 \frac{1}{18} \times 3$ 3 ${ }^{\text {a }}$ | 4.11 |
| 23－255 | 725 C | 6 | 32 | $13 \times 3{ }^{1 /}$ | 4.65 |
| 23－256 | G725C | 12 | 32 | $1{ }^{\circ} \times 3$ \％ | 5.32 |
| 23－257 | 742 | 6 | 32 | $1{ }^{1} \times 2{ }^{\text {\％}}$ | 4.11 |
| 23－258 | 743 | 6 | 38 | $1{ }^{1} \times 3$ \％ | 4.11 |
| 23－259 | 748 | 6 | 44 | $1{ }^{\text {c }} \times 2{ }^{\prime \prime}$ | 4.11 |
| 23－260 | G749C | 12 | 21 | $\left.1 \frac{1}{2} \times 3\right\}^{\prime \prime}$ | 5.32 |
| 23－261 | 825 C | 6 | 8 | $1 \frac{1}{1} \times 3 \frac{1}{1}$ | 3.68 |
| 23－262 | 826C | 6 | 8 | $1 \frac{1}{2} \times 3{ }^{\prime \prime}$ | 3.38 |
| 23－263 | F826C | 32 | 8 | $1{ }^{1 / 2} \times{ }^{\prime \prime}{ }^{\prime \prime}$ | 4.11 |
| 23－265 | 839 | 12 | 8 |  | 4.11 |
| 23－266 | 852 | 6 | 14 | $1{ }^{1} \times{ }^{\text {a }}$ | 3.38 2.62 |
| 23－267 | 853 | 6 | 10 | $1{ }^{1 / 83}$ | 2.62 |
| 23－268 | 854 | 6 | 11 | $1{ }^{1} \times 1{ }^{1 /}$ | 2.62 |
| 23－269 | 859 | 6 | 8 | $11 \times 2{ }^{\text {c }}$ | 2.62 |
| 23－270 | 860 | 6 | 14 | $1)^{1 / 3}{ }^{\text {a }}$ | 2.62 |
| 23－271 | 870 | 6 | 14 | $11 \times 3$＂ | 2.62 |
| 23－272 | 901 M | 6 | 8 | $1{ }^{1} \times 3$＂ | 2.20 |
| 23－273 | 952W | 6 | 16 | $1{ }^{\text {P }} \times 2$ \％$^{\prime \prime}$ | 4.11 |
| 23－274 $\mathbf{2 3 - 2 7 5}$ | 953W | 6 | 16 | $1{ }^{1} \times 3{ }^{\text {c }}$ | 4.11 |
| 23－275 | $\begin{array}{r}954 \\ 1100 \\ \hline\end{array}$ | ${ }_{6}^{6}$ | 39 | $1{ }^{1} \times 3{ }^{18}$ | 4.11 |
| 23－277 | 1501 | 6 | 8 | $1{ }_{18} 8 \times 2{ }^{\prime \prime}$ | 2.62 |
|  |  | 2 －vol | Vibrato | $1 \frac{1}{5} \times 25^{\prime \prime}$ | 2.62 |
| 23－278 | T4000 | 2 | 50 | 11 x $27^{\prime \prime}$ | 3.38 |
| 23－279 | T4002 | 2 | 52 | 1t $\times 1 \frac{1}{2} \times 2{ }^{\prime \prime}$ | 5.70 |
| 23－280 | T4003 | 2 | 50 | 1者 $\times 21^{\prime \prime}$ | 5.23 |

Cat．No．23－288 Type GC7 ground cup for $1 \frac{1}{2}^{\prime \prime}$ digmeter vibrators．$^{\prime}$ Makes a low RF ground connection between vibrator can and power supply chassle．Net Price
Cat．No．23－285 Mallory Replacement Gulde ．．．．．Free

## Mallory Vibrator Buffer Capacitors

Designed for use in high－voltage vibrator buffer appllcations．Very com pact for space limitations．Type VD491 Is for Motorola models using a dua .0008 mfd .1600 volt suppressor capacitor．

| Cat．No． | Type | Mfd． | Wkg．V． | Slae |
| :---: | :---: | :---: | :---: | :---: |
| 23－281 | VB470 | ． 0075 | 1600 |  |
| 23－282 | VB471 | ． 01 | 1600 |  |
| 23－283 | VD491 | ．0008－．0008 | 1600 |  |
| 23－284 | VO480 | ． 5 | 120 |  |

# Power Plants - Converters - Inverters 



## (A) Carter Super Converters

Small, compact, quiet-running, two-pole, fancooled units for changing DC to AC. Ideally suited for radio equipment, p.a. systems, musical instruments, small signs, etc. For $85 \%$ to $100 \%$ power factor only. 3600 R.P.M. Cast aluminum base. Average efficiency $60 \%$. AC output voltage regulation $15 \%$.
Type D1015C - Input: 115 volts, 2.0 amps . DC; 115 volts, 150 watts, 60 cycle, AC output. Slze: $82^{\prime \prime} \times 4 \frac{42^{\prime \prime}}{} \times 4 \frac{33^{\prime \prime}}{}$
Cat. No. 23-190 Net Each
${ }^{8} 44.59$ TYPE D 1025 C - Input: 115 volts, 3.5 amps. DC; out put 115 volts, 250 watts. 60 cycles. AC. Cat. No. 23-191 Net Price

## (B) Carter Genemotors

The power supply used by leading moblle communications manuiacturers; ideally sulted for police, taxicab, marine, and aireraft communications. The $2^{\prime \prime}$ trame Genemotor is equipped with oil-less bronze bearings, requires no lubrication. $3^{\prime \prime}$ frame models are ball bearing equipped, and are extremely fast starting - 600 volt output in less than $3 / 10$ second. Average o.p. regulation $25 \%$, efliciency $60 \%, 1 \%$ ripple unflitered.
TYPE 415A - $2^{\prime \prime}$ frame. Input: 6 volts, 18.2 amps. Output: 400 volts, $150 \mathrm{~m} . \mathrm{a}$. $\$ 37.04$ Cat. No. 23-192 Net Price
37.04 Type $450 \mathrm{AS}-3^{\prime \prime}$ frame. Input: 6 volts, 28 amps Output: 400 volts $250 \mathrm{~m} . \mathrm{a}$. Cat. No. 23-193 Net Price
s37.73 TYPE 520 AS - $3^{n}$ frame. Input 6 volts, 28 amps. Output: 500 volts 200 m.a. $\$ 39.10$ Cat. No. 23-194 Net Price

## (C) Carter Magmotors

The ideal power supply for pollice and taxicab receivers. Permanent-magnet field increases efficiency and compact design; 3000-hour brush Hie. Average voltage regulation, $20 \%$; effciency $50 \%-60 \%$; $1 \%$ AC ripple. Size: 5 º $^{\prime \prime} \times 311^{\prime \prime}$ $\times 2 \frac{1}{1 "}^{\prime \prime}$.
Type MA250 - Continuous duty. Input: 6 volts, 4.3 amps. Output: 250 volts $50 \mathrm{~m} . \mathrm{a}$. Cat. No. 23-195 Net Price Cat. No. 23-195 Net Price . . $\$ 33.27$ TYPE MA301 - Continuous duty. Input: volts, 9.5 amps. Output: 300 volts, $100 \mathrm{~m} . \mathrm{a}$. Cat. No. 23-196 Net Price


## (D) Kato Power Plants

For use on trailers, boats, construction jobs, farms, and wherever AC power is needed away from central station lines. All models listed generate 115 volts, 60 cycles AC. Single cyllinder, air-cooled, 4-cycle engine with constant speed of 1800 R.P.M. Shielded and filtered for radio operation without interference.

## TYPE 23HAB4

Delivers up to 500 watts at 110 volts AC. Compact and readily portable. 1 H.P. engine selfcranking with addition of 2 six-volt batteries. l-gallon gas tank, runs $6 \frac{1}{2}$ hours on full tank. Push-button and hand starters. Ammeter, charge control resistor. cables, complete instructions included. Less batterles. Welght 125 lbs. Stze: $25^{\prime \prime} \times 11^{\prime \prime} \times 20^{\prime \prime}$.
Cat. No. 23-330 Not Price
${ }^{s} 143.32$

## Type 14HAB4

Dellvers 600 watts AC. 1.4 H.P. engine. Requires 2, 6-volt batteries for self-starting. Runs 6 hours on tull tank ( 1 gallon). Complete with ammeter, charge control resistor, cables, complete instructions. Less batteries. Welght 170 lbs. Slze: $24^{\prime \prime} \times 18^{\prime \prime} \times 20^{\prime \prime}$.
$\$ 190.15$
Cat. No. 23-331 Net Price

## TYPE 26HAB4

Delivers 1,000 watts AC at 115 volts. 2.4 H.P. engine requires two 6-volt batterles for selfstarting. Runs four hours per gallon. Tank capacity 5 qts. Welght 265 lbs. $81 z e: 29^{\prime \prime} \times 12^{\prime \prime}$
$\times 26^{\prime \prime}$.
Cat. No. 23-332 Net Price. $\$ 270.11$
(F) FTR Selenium Rectifiers

TypE 403D2625 - Small 5-plate, 100 ma . rectlfier for replacement of rectifier tubes in portable AC/IDC radio and other sets. RMS voltage 120 volts; inverse voltage 380 volts 1200 ma . peak current; RMS current 325 ms ; DC output 100 ma. at 5 volt drop. Size $1 \frac{1}{8} \times 1 \frac{1}{\frac{1}{2}} \times \frac{1 t^{\prime \prime}}{}$
Cat. No. 23-335 Net Each
50-100. $\$ 1.09$ 6-49, Each $\$ 1.00$
trial Esch 93 c TYPE 404D2795 - For industrial applications. 200 ma.; RMs voltage 120 volts; inverse voltage 380 volts; RMS current 550 ma.; peak current $2,000 \mathrm{ma}$.; DC output $2,000 \mathrm{ma}$. at 5 volt drop. Cat. No. 23-336 Net Each

50-100. Each $\$ 1.37$

## (C) Mallory Grid Bias Cells

Can be used for source of Initial bias for RF, IF and AVC stages. Designed to bias first audio tubes in high-gain amplifiers. Eilminates using hlgh-capacity cathode bypass capacitors. Accurate to $10 \%$. May be used in series for higher voltages.
Cat. No. 23-286 BC-1. 1 volt Net Ea. 24 C Cat. No. 23-287 BC-2. $1 \frac{1}{4}$ volt Net Ea. 24 C

## Cell Holders

| Cat No. | Type | For | Net |
| :--- | :--- | :--- | :--- |
| 23-222 | GB11A | 1 cell | 9 c |
| $23-223$ | GB11B | 1 cell | 12c |
| $23-224$ | GB12 | 2 cells | $\mathbf{1 5 c}$ |
| $23-225$ | GB13 | 3 cells | $\mathbf{2 1 c}$ |
| $23-226$ | GB14 | 4 cella | $\mathbf{2 4 c}$ |

## Cell Clips

Cat. No. 23-227 GB-15. For 1 cell Net Ea. 9c Cat. No. 23-228 GB-16. For 2 cells Net Ea. 9c

## (E) ATR Standard and Heavy-Duty Inverters

For operating AC radios, p.a. systems, TV sets. amplifiers, radio-phonos, stc., from DC voltages in vehicles, ships, trains and in DC districts. Designed for quiet, long-life radio operation. Well-filtered to assure inter-ference-free reception. All models listed embody ATR 10 -contact plug-in inverter vibrators with 4 -point voltage regulators. Fuse protected. Operating efficiency better than $85 \%$. Recommended for loads with power factor greater than $80 \%$. Standard (RSB) size: $7 \frac{1}{\prime \prime}^{\prime \prime} \times 8 \frac{3}{16} \times 4 \frac{1}{2}$; Heavy Duty


| Cat. |  | Input | Output | Watts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | DC | 60 Cycle | Cont. | Inter | Net |
| 23-160 | 6-RSB | 6 v . | 110 v . | 75 | 85 | \$29.37 |
| 23-161 | 12-RSB | 12 v . | 110 v. | 100 | 125 | 29.37 |
| 23-162 | 24-RSB | 24 v . | 110 v . | 100 | 125 | 33.51 |
| 23-163 | 32-RSB | 32 v. | 110 v . | 100 | 150 | 29.37 |
| 23-164 | 32B-RHB | 32 v. | 110 v . | 180 | 200 | 46.76 |
| 23-165 | 50-RSB | 50 v . | 110 v. | 100 | 150 | 38.20 |
| 23-166 | 110-RSB | 110 v . | 110 v | 150 | 250 | 29.37 |
| 23-167 | 110A-RHB | 110 v. | 110 v . | 225 | 325 | 42.63 |
| 23-168 | $110 \mathrm{~B}-\mathrm{RHB}$ | 110 v. | 110 v . | 350 | 500 | 48.50 |
| 23-169 | $110 \mathrm{C}-\mathrm{RSB}$ | 110 v . | 110/200 v. | 150 | 250 | 38.20 |
| 23-170 | 220M-RSB | 220 v. | 110 V . | 150 | 250 | 33.51 |
| 23-171 | 220A-RSB | 220 v . | 110/220 v. | 150 | 250 | 38.20 |

## Sterling Dry Cell Tester

Type 24 - Ammeter for testing No. 6 dry cells. $0-35$ amps. scale; 1 amp. divislons. Cat. No. 23-150 Net Each

TYpe 34C - Voltmeter for testing 45 volt "B" batteries, $0-50$ volt scale; 1 volt divisions. Cat. No. 23-151 Net Each

Type 45 - Voltammeter for testing No. 6 dry cells and 45 volt " $B$ " batteries. 0-35 amps., $0-50$ volt; 1 amp , and 1 volt divisions. Cat. No. 23-152 Net Each

## GTC "Perma-Power" Battery Eliminators (H) Model " $A$ "

For converting $1 \frac{1}{3}$ volt battery-aperated radios with 4, 5, or 6 tubes to allelectric oderation. Circuit provides high voltage regulation. Universal sockets for all battery plugs. Fits $99 \%$ of all portables as well as all farm battery radlos. No tubes, uses selenfum rectifiers. Hum-free; radio plays immediately without warm-up. Output: "A" - 1.5 v. at 200 ma..; 1.35 v at $250 \mathrm{~m} . \mathrm{a} . ; 1.55 \mathrm{v}$. at 300 man ; 1.35 v . at $350 \mathrm{~m} . \mathrm{a}$.; "B" -90 v . at 13 ma ., 101 v. at $8.5 \mathrm{~m} . \mathrm{a}$. Size: $2 \frac{1}{2}^{\prime \prime} \times 4 \frac{1}{2} \times 6 \frac{3^{\prime \prime}}{}$.
$\$ 9.85$ Cat. No. 23-180 Net Each
(I) Model " $B$ "

Converts $98 \%$ of all 6-volt battery sets to all-eleatrie operation. Two isolated sources for vibrator and flaments eliminates vibrator disturbance and assures high-fidelity operation. All construction features of Model " A " above. Output: 2 sources of 6 volts at $1 \frac{1}{2} \mathrm{amps}$., or parallel cannection

Cat. No. 23-181 Net Each
$\$ 11.73$

## Burgess Flashlight Cases

(A) Burgess Type 146 - Btandard two-cell flashllght case, of brass. nickel-plated and durable enamel finish. Switch locks "ON." Polished reflector, non-adjustable, prefocused bulb.
Cat. No. 23-121 Less batteries. Net Esch
$\$ 1.07$
(B) Burgess Type 92 DrLuxe Fountain pen type flashlight. Chrome-plated metal case trimmed with lasting maroon enamel. Switch locks in "ON" position. Takes 2 cells.
Cat. No. 23-122 Less batterles. Net Each

(C) Buganss TYpe K2 - Pelm-of-your-hand size flashlight. Molded plastic case. Switch locks "ON." Takes 2 cells.
Cat. No. 23-123 Net Each 40c

(E) TRIMM HEADPHONES

## The Featherweight

A recognized quality leader. Welght only 4 oz . Dlam. $2 \frac{3^{\prime \prime}}{16}$, depth $\frac{1}{4}^{n}$. Bakelite shell and cap. Forged magnet of best $36 \%$ Cobalt ateel. Adjustable steel headband. Ideal for alrcraft, amateurs; complete with $6-\mathrm{ft}$. molsture-proof cord. Cat. No. 20-441 4,000 ohms. Net Price $\$ 5.88$ Cat. No. 20-442 24,000 ohms. Net Price $\quad 5.88$ Cat. No. 20-443 Dlaphragm repl. Net ea. 12c Cat. No. 20-444 Cap repl. Net ea.

## The Dependable

Bakelite shell and cap. Forged magnet of chrome steel. 2,000 ohms DC resistance. No outside terminals. Very sensitive and absolutely reliable. With 5-ft. cord.
Cat. No. 20-445 Net Price
$\$ 2.44$
Cat. No. 20-446 Single phone as above $\$ 1,000$ ohms. Net Price
$\$ 1.26$
Cat. No. 20-447 Cap repl. Net ea. 35c Cat. No. 20-448 Dlaphragm repl. Net ea.

9c

## (D) The Professional

The original Trimm headset; double-unlt watchcase type with bakelite cap and shell; forged chrome steel magnets, impregnated colls, and 5 - ft . moisture-proot cord. Concealed terminals; fabriccovered wire headband; easily adjusted for comfort.
Cat. No. 20-449 3,000 ohms. Net Price \$2.94 Cat. No. 20-450 4,000 ohrns. Net Price
2.94
2.94 Cat. No. 20-451 Caprepl. Net ea. 35c Cat. No. 20-452 Diaphragm repl. Net ea.

## (F) Army-Navy Phones

Very sensitive; meet both Army and Navy spectfications. 6-foot molsture-proof cord with phone tip terminals. Bi-polar magnets with 2-lb. pull. Leather headband. Inside terminals.
Cat. No. 20-453 2,200 ohms. Net Price $\$ 9.41$ Cat. No. 20-454 Cap. repl. Net ea. Cat. No. 20-455 Dlatphragm repl.

53 c Net ea.

12c

## Acme DeLuxe Phones

An exceptionally effictent, small, low-priced headset for amateurs, special installations. Chrome steel magnets. Molded bakelite caps give thls exceptionally light-weight, comfortable headset a rich, mellow tone.
Cat. No. 20-456 2,000 ohms. Net Price $\$ 1.48$ Cat. No. 20-457 Single phone headset as above Cat. No. 20-45 Single phone headset as above
1,000 ohms. Net Price . Cat. No. $20-458$ Cap. repl. Net ea.

26 c
Cat. No. 20-459 Dlaphragm repl.
Net ea.
9c


Philmore Fixed Crystal Detector
The sensitivity is determined by accurate test equipment and is permanently fixed. Enclosed in bakelite case.
Cat. No. 36-088 Net Price
$46 c$

## Philmore Open-Type Crystal Detector

Universal joint on swivel arm provides quick accurate adjustment on any point of crystal. With mounting hardware.
Cat. No. 36-089 Net Price
12c
(C) Lead-mounted Calena Crystal

Cat. No. 36-090 Net Price
10 for

(1)

Brush "Hushatone"<br>Model BA-303

Private entertalnment for the home, hospital, etc. Simply place it under a plllow and enjoy the radio without disturbance to others. Easlly installed. Ample output. Hermetically sealed, can be dipped into disinfecting solution. Lightweight crystal drive provides uniform response and high sensitivity. Handsome maroon finish with satin chrome trim. $10-\mathrm{ft}$. cord.
Cat. No. 20-402 Net Price
s9.75

## (G)(H) Headphone Accessories

Headphone Cushions - Airplane type, finest quality sponge rubber. For comfort when using recelvers over long periods of time.
Cat. No. 20-471 Net per palr.
$65 c$
Double Cords - Flexdble replacement cords for headphones. Fit any type phones. $4 \frac{2}{2}$ feet. Cat. No. 20-472 Pintips both ends. Net 29c Cat. No. 20-473 As above with spade tips at one end, pin t1ps at other end. Net . 29 c
Single Cords - One end tipped, other end spade-lugged. 4 feet long.
Cat. No. 20-474 Net ea.
$23 c$
Cat. No. 20-475 As above, pin tips on both ends. Net ea.

23c

## (J) TELEX "Monoset" Headphones

Its comfortable design and light weight ( 1.2 ozs .) obsoletes the old-style cumbersome headsets. Worn under the chin for convenient, superior applications in diverse fields of communications Built of tenite plastic. High fidellty, high sensitivity. Impedance 2,000 ohms. Comp :ete with standard type plug, insulated cord.
Cat. No. 20-476 Model 2568 Net Price $\$ 7.35$
Model 2841 - Telex Monoset above with volume control mounted in the lightwelght cord. V.C. clips to lapel. Valuable in group hoering systems. Cat. No. 20-477 Net Price
$\$ 9.70$

## (K) TELEX Pillow Speaker

For private listening, so quiet it can be used without disturbing occupant of the next bed, yet with rich, full tone. Encased in durable, handsome plastic. Waterproof, shockproof. Extremely compact for slipping under the plliow without discomfort. Attaches to radio by means or simple hook-up. Complete with standard $10-\mathrm{ft}$. cord, jack and plug radlo connection, and instruction sheet. 2000 ohms.
Cat. No. 20-478 Net Price
\$7.06
Specify Cat. No. 20-479 If switch Model is do sired. $6-\mathrm{ohm}$.

# TELEGRAPH APPARATUS 



## SPEED-X KEYS

## (A) Standard Model 310

Heavy die cast base finished in black wrinkled enamel. Smooth adjustable bearings. s" pure sllver contacts. Provision for plugging in semiautomatic keys when desired.
er $\$ 1.91$
Cat. No. 20-655 Net Price
with circuit closing switch mounted on base.
Cat. No. 20-656 Net Price . . $\$ 2.20$

## (B) Heavy Duty Key Model 320

A key for heavy duty professional work. Extraheavy die-cast base inlshed in black wrinkled enamel. Large, strong chrome plated key arm with adjustable steel bearings. Heavy brass connector strip under base. Well insulated. Improved navy type knob. $4^{\prime \prime}$ pure sllver contacts Cat. No. 20-657 Net Price


## (E) Model 300 SPEED-X Key

A well-built, smooth-acting key for the beginner at low cost. Molded brown Bakelite base and knob. Spring bearings; simple adjustments; all machine parts nickel plated. $\frac{1}{1}$ " pure silver contacta. With standard code card.
Cat. No. 20-651 Net Price Cat. No. 20-651 Net Price

## (D) Model 400 Buzzer

An all-purpose high quallty buzzer with silver contscts, precision parts. Bakelite case allenclosing.
Cat. No. 20-653 Net Price
s1.18

## Metal Hand Key Model 305

Scientifically correct design and construction but low in price. Key arm and machlne parts are nickel plated. Metal base finished in black wrinkle. Adjustable key arm spring; smooth acting spring bearing. $\frac{3^{\prime \prime}}{}$ pure silver contacts. Cat. No. 20-654 Net Price
(C) Model 501 High Speed Key

A beautifully chrome finlshed quallty key for the profesblonal and amateur C.W. operator, Fully adjustable from lowest to highest speeds. Steet base $6 \frac{1^{\prime \prime}}{} \times 3 \frac{1^{\prime \prime}}{} \times \frac{1^{\prime \prime}}{3}$ drilled for stationary mounting; rubber feet. 5 sensitivity adjustments. Two sets of $\frac{1}{2}$ " pure sliver contacts. All machine parts heavily chrome-plated. With circult closing switch.
Cat. No. 20-658 Net Price
$\$ 14.70$

## (F) Practice Set Model 450

Set consists of constant frequency adjustable buzzer, standard hand key with $\frac{z^{\prime \prime}}{}$ pure sillver contacts mounted on molded brown Bakelite base $6^{\prime \prime} \times 4^{\prime \prime}$. A complete sending and receiving set; may be used singly or in pairs for point-topolnt communicatlon. With hook-up diagrams and standard code chart.
Cat. No. 20-652 Net Price
\$2.65


## VIBROPLEX "Bugs"

## The Original

(A) "ORIGINAL" VIBROPLEX . . . transmits the same grade of code as the strongest hand faster than possible on an ordinary key, and with less than half the labor. Single lever action, with two pairs of contact points - one for dots and the other for dashes. Contacts $\frac{1}{3}^{\frac{3}{6}}{ }^{\prime \prime}$ dlameter; chrome anished metal parts, black base; weight, 3 I lbs. Complete with cord and wedge.
"ORIGINAL" Model standard finish. $\$ 15.95$ Cat. No. 20-601 Net Price
"ORIGINAL" Model DeLuxe all chrome.
Cat. No. 20-602 Net Price . . . $\$ 19.50$

## The Blue Racer

The "BLUE RACER" V IBROPLEX . . . similar to "Original" model but only half as large; weight $2 \frac{1}{2}$ lbs.
"BLUE RACER" Standard finish. \$15.95 Cat. No. 20-603 Net Price
"BLUE RACER" DeLuxe all chrome.
Cat. No. 20-604 Net Price
$\$ 19.50$

## The Lightning Bug

(B) "LIGHTNING BUG" VIBROPLEX latest model; single lever, improved dat pendulum, instantly adjustable dot contact spring, circult breaker parallel with pendulum, two pairs of large contact points. Complete with cord and wedge.
"LIGHTNING BUG" standard inish. Cat. No. 20-605 Net Price
$\$ 13.95$
'LIGHTNING BUG" DeLuxe all chrome.
Cat. No. 20-606 Net Price
$\$ 17.50$

## The Zephyr

The "ZEPHYR" VIBROPLEX
similar to "Lightning Bug" but mounted on a slightly smaller base; has circuit closer, cord, and wedge. "ZEPHYR"' standard finlsh.
${ }^{\text {s }} 12.50$ Cat. No. 20-607 Net Price

## Carrying Case

CARRYING CASE . . . its all Vtbroplex keys. Black morocco finish, plush lining carrying strap, lock and key.
$\$ 5.50$

## The Champion

(C) "CHAMPION" VIBROPLEX . . . for radio use only ; designed to meet the demand for a lowpriced radio transmitter. Single lever with two pairs of contact points; large, standard size base; without circult closer, cord, or wedge. Standard anlsh only.
Cat. No. 20-608 Net Price . .
$\$ 9.95$

## (D)

## MON-KEY

## New Monitor and Sending Key

A new comblned electronic monitor and sending key that gives amateur sending electro-timed rhythm and unlformity that the best professional can't beat - makes sending mechanlcally perfect: press key to right and get evenly spaced fect: press key to right and get evenly spaced
dots, press key to left for evenly spaced dashes. dots, press key to left for evenly spaced dashes.
Dlal settlng for adjustable speed control. Monltor Dlal settlng for adjustable speed control. Monltor
provides clear tone adjustable in volume. Built-in 2 -inch dynamic speaker; keying relay with 2 amps. contacts for direct keying; fully shielded. Feather touch aluminum key. Transparent plastlc cover protects contacts from dust. Plastic base, cast aluminum housing with handsome crackle fnish ( $11^{\prime \prime} \times 4 \frac{1^{\prime \prime}}{} \times 4^{\prime \prime}$ ); rubber feet. A most important improvment in sending equipment. 110 volts AC/DC
Cat. No. 20-501 Net ea.
\$29.50

## (F) ICA DeLuxe Signatone

A truly deluxe type of audio oscllator. Continuously variable volume control; 3 output frequencles. Sulted for group Instruction, equipped to take a number of phones and keys. Also for use as keying monitor for transmitter. Clear, steady audio frequency for check work. Built-in
 Cat. No. 20-551 Net Price . . . $\$ 11.76$


F

(G)

## ICA Signatone

Has same frequency output and controls as DeLuxe models. Without speaker. Extra termInals for keys and phones. Good for group work.
Cat. No. 20-552 Net Price
s.82

## (E) Automatic Sender Type "S"

A stmple, easlly used automatic keying unit that operates from punched tape to glve steady, evenly-keyed signals for code instruction; adjust able speed from 4 to 35 words per minute. Compact, housed in aluminum case $5 \frac{z}{2}^{\prime \prime} \times 4^{\frac{1}{2}}{ }^{n} \times 6^{n}$, finished in black wrinkle. 110 volt 60 cycle induction motor. Clear plastic tape reels. Speed control; selected speed remains constant. 10 tape control; selected speed remains constant. rolls, double periorated (twenty lensons), with practice procedure. Binding post terminals for oscllator or buzzer. Only 3 controls: motor switch, contact switch, and speed control. With tape rolls.
\$23.50
Cat. No. 20-526 Net Price

## Automatic Sender, DeLuxe Model

General constructional design is slmilar to model above with added features. Retracting brush contact for protectlon against damage. Motor and drive assembly Individually rubber mounted. Case of matched grain walnut, $9^{\prime \prime} \times 6 \frac{1}{2}$ " $\times 6 \frac{3^{\prime \prime}}{\prime \prime}$. Includes ten, double perforated rolls. $\$ 29.40$ Cat. No. 20-527 Net Price

For 25 years The Radio Shack has been the headquarters for radio "ham"' equipment in New England. "The Ghack" has continued to expand during the past quarter-century until now it is one of the foremost national distributors of electronic equipment. But still we hold that prompt, dependable service to "hams" is the real reason for our existence. WATCH OUR FULLPAGE ADS IN "OST" MAGAZINE FROM MONTH TO MONTH FOR THE BEST VALUES IN ALL KINDS OF "HAM" GEAR.

# Noise Suppresors - Filters <br> $=5=$ <br> A <br>  <br> B <br>  <br>  

(A) Aerovox Type $\mathbf{I N}-27$

Simple, inexpensive noise filter. Inserted between set and outlet when interference is slight. Also used with appllance causing low-intensity interference. Keeps troublesome noises out of house wiring and power line. Slze $17 x 1 \frac{1}{2}$ " Cat. No. 07-298 Type IN-27 Net Price

88c
(B) Type IN-29

Especially efrective for local sources of interference of variable character but strong intensity. Very effective for electric razor and other vibratIng devices. Plugs between device and line. Slze $11 \times 3^{\prime \prime}$.
Cat. No. 07-299 Type IN-29 Net Price $\$ 1.03$

## (C) Suppressor Capacitors

Cat. No 07-301

Type
1120
Cap. Mfd. 07-302

1140
1.0
0.5

Net
79 c
(D) Type IN-42

Designed for use in the more serious cases of radio interference from power lines and appllances. Provided with Inductance as well as capacitance for thorough filtering action. Plugs into electric outlet; radio set or interfering device plugs into receptacle of the filter. Recommended for use between interfering device and power line. Size $2 \frac{1}{4}$ " $\times 3^{\frac{3}{4}}$ "; provided with mounting ring. Rated at 6 amps. for $110-220$ volts AC.
Cat. No. 07-300 Type IN-42 Net Price \$4.41
(E) Ammeter Capacitors

| Cat. No. | Type | Cap. Mid. | Net |
| :--- | :--- | :---: | :---: |
| $07-303$ | 1160 | .5 | 59 c |

## TOBE

## Industrial Filterettes

Type 1249. Designed for use between the ignithon transformer and control whing of oll burners. Sealed in a steel case $3 \times 3 \frac{3}{4} \times 6$, rated at 125 volts, AC-DC, 5 amps.
Cat. No. 07-601 Net Price
$\$ 5.59$
Type 1217. For major applance and other installations, ofl burners, refrigerators, dish washers, sign flashers; in $8 \frac{7}{16} \times 3 \frac{3}{6} \times 1 \frac{1}{2}$ steel knockout box. Rated for operation on 250 volts AC/DC, up to 10 amps .
Cat. No. 07-602 Net Price
$\$ 7.35$

## Plug-in Filterettes

Type 1214. Designed for appliances such as sewing machines, vacuum cleaners, mixers, cash registers. Operates on 125 volts, 15 amps. $\mathrm{AC} / \mathrm{DC}$; size $1 \frac{1}{2} \times 2{ }^{3}{ }^{\prime \prime}$; with ground terminal. Cat. No. 07-603 Net Price . . . $\$ 1.17$
TYPE 1218 - For office machines, large food mixers (commercial type), and light electromedical equipment. In steel case $88^{\frac{1}{2}} \times 3 \frac{{ }^{\frac{5}{15}}}{16}$ $\mathrm{x} 1 \mathrm{H} \mathrm{\delta}^{\prime \prime}$; with 6-ft. rubber cord; standard 2-contact receptacle. $125 / 250$ volts AC/DC; 10 amps. Cat. No. 07-606 Net Price . . . $\$ 7.50$

Type 1215. For electric razors and smaller applances. No ground terminal. Rated 125 volts, 15 amps. AC/DC.
Cat. No. 07-604 Net Price
$\$ 1.17$
Type 1220. For ellmination of nolse reaching the receiver through power line connection. Size $2 \& \times 2 \frac{1}{} \times 1 \frac{1}{\mu}^{\prime \prime}$. 125 volts, 15 amps. AC/DC. $\$ 3.23$
Cat. No. $07-605$ Net Price . . $\$ 3.23$


## (F) Gonset Clipper Noise Limiter

Reduces noises from shavers, power leaks, 1gnttion. Uses 6 AL5 tubes and is easily installed in any stationary or moblle recelver in which first audio and second detector are in one tube. Slize $2 \times 4 \times 1 \frac{1}{2}^{\prime \prime}$.
Cat. No. 07-610 Net Price
(G) Master Distributor Carbon

## Suppressor

Designed for use on the newer type cars where only one suppressor is required. Ellminates all motor nolse.
Cat. No. 29-305 5 for $\$ 1.85$ Net Each 41c
(H) Wire-wound Suppressors

Permanently sealed in a molsture-proof, heat resigting, Insulated casing with standard brackets and fitting for all makes of spark plugs and cars. These suppressors have an extremely low DC resistance and thus defnitely do not affect the intensity of the Ignition spark or cut down the speed of the car. The inductance of the winding offers a high resistance to the ignition nolse trequencles and effectively suppresses all interterence.

| Cat. No. |  | Type | Net Ea. |
| :---: | :---: | :---: | :---: |
| 29-302 | 2351B | Spark Plug |  |
| 29-303 | 2353B | Cable Type | 35 |
| 29-304 | 2454B | Distributor |  |

## G-C Anti-static Powder

Auto static, caused by rotation of wheels, brakes, tires, is reduced to a minimum by insertion of contents of one envelope into tube valve. Efrective throughout the life of the tire tube.
Cat. No. 29-307 Injector unit. Net Cat. No. 29-306 5 pkgs. powder. Net

## Thordardson - RCA Manuals <br> 

## Thordarson Audio Amplifiers

This new catalog covers a complete itne of audio amplifers for publle address work and other audlo applications from 8 watts to multi-booster installatlons.
Cat. No. 42-066

## Thordarson Amplifier Cuide

This guide is a valuable source of information to the P.A. man and experimenter interested in bullding high quality audio amplifers. Cat. No. 42-067 Net Price
$15 c$

## Thordarson Transmitter Guide

This publication supplies complete description of practical types of transmitters and short wave apparatus for amateurs and experimenters.
Cat. No. 42-068 Net Price

## Thordarson Complete Transformer Manual

This transformer manual is a complete book containing all of the latest Thordarson catalogs, guides and current literature.
Cat. No. 42-069 Net Price

Thordarson Replacement Encyclopedia Guide
This replacement encyclopedia is a useful timesaver for servicemen and experimenters showing recommended Thordarson Items for obsolete recelvers.
Cat. No. 42-071 Net Price
15c
Amateur Pre-Amplifier and Driver
Thls manual thoroughly covers the construction and application of a $6 \mathrm{~B} 4,10$-watt amplifer Speech filter as well as compression circuit is incorporated. Complete circuit detalls and construction data supplied.
Cat. No. 42-072 Net Price
15c

## Phonograph Reproduction and Recording Amplifier

The data sheets covering this high fidelity amplifier give full construction information and layout data. The output stage consists of $2-6 \mathrm{~B} 4$; an expander circult is incorporated.
Cat. No. 42-073 Net Price
15c

## RCA Tube Data Manuals

Tube Manual - a complete listing of all raca receiving tubes showing operating characteristics and some applicable circuits; much valuable information, dimensions and charts. 257 pages.
Cat. No. 42-001 Net Price
35c

## The "Radiotron" Designer's Handbook

This 356-page, stifl-covered, $6^{\prime \prime} \times 9^{\prime \prime}$ handbook is replete with illustrations, tables, reference charts, and data essential to the radio set designer and useful to every radio and electronic englneer, service man, and amateur.
Cat. No. 42-002 Net Price
$\$ 1.22$

## Thordarson Broadcast Catalog

This catalog supplies a complete listing of the Thordarson Broadcast Line as well as the TruFidelity transformers for low level audio appllentions.
Cat. No. 42-070 .

# AMATEUR RADIO BOOKS 



## The Radio Amateur's Handbook

The Handbook tells the things needed for a comprehensl ve understanding of Amateur Radio. Suggestions to learn code, trafic-handling procedure and operating practices - electrical and radio fundamentals, design, construction, and operation of amateur equipment; covers subject thoroughly. Includes the latest and the best information on everything in Amateur Radio.
Cat. No. 42-701 Net Price
above $\$ 2.00$ Deluxe Edition. Same as above but bound in Buckram.
Cat. No. 42-702 Net Price
$\$ 3.00$

## A Course in Radio Fundamentals

Based on above handbooks; describes 40 experlments with simple apparatus, giving complete practical knowledge of radio theory and design. Cat. No. 42-703 Net Price
How to Become a Radio Amateur
A comprehensive, step by step explanation for the beginner, from how radlo works to license requirements. Includes instructions for a transmiltter. receiver, antennas, coll winding, choosing trequencles, etc. 48 pages.
Cat. No. 42-704 Net Price


## License Manual

The ARRL License Manual tells you how to pass the government license test and get an officially assigned call. This manual makes it a simple and comparatively easy task, and enables you to do this work without difficulty. Also contained is a large amount of general information. Contains 198 typical questions and answers used in government examinations.
Cat. No. 42-709 Net Price
25c

## Radio Operating

## Questions and Answers

By Nilson and Hornumg
Contains typical questions and answers that are asked, and examinations for commerclal radio operator and amateur operator license. Contains operating procedure, laws and theory. 477 pages. Cat. No. 42-710 Net Price
$\$ 3.68$

## Hints and Kinks

This book enables an amateur to make a small amount of money do a great deal for him. Shows him how to use his ingenuity in making many useful gadgets. Full of good Ideas.
Cat. No. 42-720 Net Prlce
50c


## Practical Radio Communication

by Nilson and Horndng
Contains all fundamentals about recelving and transmitting theory. A commercial operator should not be without it. Very helpful in obtainlng a commerclal license. 754 pages and 434 llustrations.
Cat. No. 42-711 Net Price
$\$ 6.37$
Learning the Radio Telegraph Code A training manual to teach students skill and proclsion in handling code. Covers high speed oper ation and how to build a code practice table. Cat. No. 42-723 Net Price

25c

## Radio Map

Rand McNally 6-color world map with distances: prenxes, time zones, districts, etc. $30^{\prime \prime} \times 40^{\prime \prime}$.
Cat. No. 42-721 Net Price
Handbook
A.R.R.L. Antenna Handbook A comprehensive manual of amateur antenna design and construction by the headquarters staf of the American Radio Relay League. Sixteen chapters, profusely llustrated. Both the theory and the practice of all types of antennas used by the amateur, from simple doublets to multielement rotaries.
Cat. No. 42-719 Net Price
50c


## Log Book

This 38-page log. with an equal number of blank pages for notes and general log information, and a sheet of graph paper are spiral bound, allowing the book to be opened flat at any page. This page size is $8 \frac{1}{2}^{\prime \prime} \times 11^{\prime \prime}$.
Cat. No. 42-716 Net Price
50c

## A.R.R.L. Minilog

$4^{\prime \prime} \times 6^{\prime \prime}$ Amateur Radio Station logbook. 60 pages. 139 pages.
Cat. No. 42-717 Net Price
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## How To Figure Transportation Charges

## For Parcel Post Shipments

If you specify shlpment of your order vala Parcel Post, please include sumlent money for the postage. If you send too much, we will immediately refund the surplus. For your convenience a parcel post rate schedule is listed on this page. Remittance of the full amount will result in saving on C.O.D. fees. At your request, we will insure parcel post shipments that total less than $\$ 10.00$. For orders of more than $\$ 10.00$ we will use our own discretion on insuring parcel post shipments (unless instructed by you to Insure).
Note - The Parcel Post rate schedule printed on the back of Radio Shack Order Blanks has been replaced by the new rates printed below, as of January I, 1949.

## Parcel Post Rates for All Zones

Parcels up to 8 ounces may be shipped anywhere in the United 8tates for 6c. Parcel post shlpments to any zone must not exceed 70 pounds. The limit of size on all parcel post packages is 100 inches in length and girth combined at widest point. Example: a package $35 \mathrm{in} .10 \mathrm{ng}, 10 \mathrm{in}$. wide and 5 n. high measures 65 in . In lengith and girth combined (length 35 in . plus twice 10 in . width plus twice 5 in , height equals 65 in .)

| $\begin{aligned} & \text { Welght } \\ & \text { in Pounds } \end{aligned}$ | $\begin{array}{llllllll}1-2 & 3 & 4 & 5 & 6 & 7 & 8\end{array}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Up to | 150 to | 300 to | 600 to | 1,000 to | 1,400 to | Over |
|  | 150 | 300 | 600 | 1,000 | 1,400 | 1.800 | 1,800 |
|  | miles | milies | milles | milles | miles | milies | miles |
| 1. | \$0.12 | \$0.13 | \$0.14 | \$0.15 | \$0.16 | \$0.17 | \$0.18 |
| 2. | . 15 | . 16 | . 19 | . 21 | . 24 | . 27 | . 30 |
| 3 | . 17 | . 19 | . 23 | . 27 | . 31 | . 36 | . 41 |
|  | . 19 | . 22 | . 28 | . 33 | . 39 | . 46 | . 53 |
| 5....... | . 21 | . 25 | . 32 | . 39 | . 46 | . 55 | . 64 |
| 6........ | . 23 | . 28 | . 37 | . 45 | . 54 | . 65 | . 76 |
| 7. | . 25 | . 31 | . 41 | . 61 | . 61 | . 74 | . 87 |
| 8........ | . 27 | . 34 | . 46 | . 57 | . 69 | . 84 | . 09 |
|  | . 29 | . 37 | . 60 | . 63 | . 76 | . 93 | 1.10 |
| 10....... | . 31 | . 40 | . 55 | . 69 | . 84 | 1.03 | 1.22 |
| 11. | . 33 | . 43 | . 59 | . 75 | . 91 | 1.12 | 1.33 |
| 12. | . 35 | . 46 | . 63 | . 80 | . 98 | 1.21 | 1.44 |
| 13. . . . . . | . 37 | . 49 | . 68 | . 86 | 1.06 | 1.31 | 1.56 |
| 14. | . 39 | . 52 | . 72 | . 91 | 1.13 | 1.40 | 1.67 |
| 15,...... | . 41 | . 54 | . 76 | . 97 | 1.20 | 1.49 | 1.78 |
| 16. | . 43 | . 57 | . 80 | 1.02 | 1.27 | 1.58 | 1.89 |
| 17. | . 45 | . 60 | . 85 | 1.08 | $1.35{ }^{\text {b }}$ | 1.68 | 2.01 |
| 18. | . 47 | . 63 | . 89 | 1.13 | 1.42 | 1.77 | 2.12 |
| 19....... | . 49 | . 66 | . 93 | 1.19 | 1.49 | 1.86 | 2.23 |
| 20....... | . 51 | . 68 | . 97 | 1.24 | 1.56 | 1.95 | 2.34 |
| 22....: | . 55 | . 74 | 1.06 | 1.35 | 1.71 | 2.14 | 2.57 |
| 24....... | . 59 | . 80 | 1.14 | 1.46 | 1.85 | 2.32 | 2.79 |
| 26. | . 63 | . 85 | 1.23 | 1.57 | 2.00 | 2.51 | 3.02 |
| 28. | . 67 | . 91 | 1.31 | 1.68 | 2.14 | 2.69 | 3.24 |
| 30. | . 71 | . 96 | 1.40 | 1.79 | 2.29 | 2.88 | 3.47 |
| 32. | . 75 | 1.02 | 1.48 | 1.90 | 2.43 | 3.06 | 3.69 |
| 34. | . 79 | 1.08 | 1.57 | 2.01 | 2.58 | 3.25 | 3.82 |
| 36. | . 83 | 1.13 | 1.65 | 2.12 | 2.72 | 3.43 | 4.14 |
| 38. | . 87 | 1.19 | 1.74 | 2.23 | 2.87 | 3.62 | 4.37 |
| 40....... | . 91 | 1.24 | 1.82 | 2.34 | 3.01 | 3.80 | 4.59 |
| 42. | . 95 | 1.30 | 1.91 | 2.45 | 3.16 | 3.99 | 4.82 |
| 44. | . 99 | 1.36 | 1.99 | 2.56 | 3.30 | 4.17 | 5.04 |
| 46. | 1.03 | 1.41 | 2.08 | 2.67 | 3.45 | 4.36 | 5.27 |
| 48. | 1.07 | 1.47 | 2.16 | 2.78 | 3.59 | 4.54 | 5.49 |
| 50....... | 1.11 | 1.52 | 2.25 | 2.89 | 3.74 | 4.73 | 5.72 |
| 52. | 1.15 | 1.58 | 2.33 | 3.00 | 3.88 | 4.91 | 5.94 |
| 54. | 1.19 | 1.64 | 2.42 | 3.11 | 4.03 | 5.10 | 6.17 |
| 56. | 1.23 | 1.69 | 2.50 | 3.22 | 4.17 | 5.28 | 6.38 |
| 58. | 1.27 | 1.75 | 2.59 | 3.33 | 4.32 | 5.47 | 6.62 |
| 60....... | 1.31 | 1.80 | 2.67 | 3.44 | 4.46 | 5.65 | 6.84 |
| 62. | 1.35 | 1.86 | 2.76 | 3.55 | 4.61 | 5.84 | 7.07 |
| 64. | 1.38 | 1.92 | 2.84 | 3.66 | 4.75 | 6.02 | 7.29 |
| 66. | 1.43 | 1.97 | 2.93 | 3.77 | 4.90 | 6.21 | 7.52 |
| 68. | 1.47 | 2.03 | 3.01 | 3.88 | 5.04 | 6.39 | 7.74 |
| 70....... | 1.51 | 2.08 | 3.10 | 3.98 | 5.19 | 6.58 | 7.97 |


|  | Parcel Po |
| :---: | :---: |
| Amount of C.O.D. Charges | C.O.D. fee |
|  | Cents |
| \$0.01 to \$2.50 | 20 |
| \$2.51 to \$5.00 | 25 |
| \$5.01 to \$25.00 | 35 |
| \$25.01 to \$50.00 | 45 |

## For Express \& Freight Shipments

If there is a freight or express agent in your town, do not send money for transportation. We whll shlp express or treight collect. It there is no agent In your town, send money for transportation. The cost is the same in both cases. We recommend that all radios, tubes, transmitters, and generators be shipped by express; also all bulky merchandise.

## Express Charges

Express charges are also determined by the welght of the shipment and distance of the consignee from shipper. The following chart indicates charges. Add 3\% Federal Excise Tax.

| Max. Distance n Miles |  |  |  | $\begin{gathered} 50 \\ \mathbf{M} \end{gathered}$ | $150$ | $\begin{aligned} & 300 \\ & \mathrm{M} \end{aligned}$ | $\begin{aligned} & 500 \\ & \mathbf{M} . \end{aligned}$ | $750$ $\mathbf{M}$ | $1000$ $\mathbf{M}$ | $\begin{aligned} & 1500 \\ & \mathrm{M} . \end{aligned}$ | $\begin{aligned} & 2000 \\ & \mathbf{M} . \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| cost | up | to | 5 lbs. | \$0.89 | \$0.92 | \$0.97 | 51.02 | \$1.07 | \$1.09 | \$1.25 | \$1.36 |
| " | ${ }^{*}$ | * | 10 lbs . | . 95 | 1.01 | 1.11 | I.21 | 1.30 | 1.35 | 1.67 | 1.89 |
| ${ }^{4}$ | " | ${ }^{*}$ | 15 lbs . | 1.01 | 1.11 | 1.25 | 1.41 | 1.54 | 1.61 | 2.10 | 2.43 |
| * | - | * | 20 lbs . | 1.07 | 1.20 | 1.40 | 1.60 | 1.77 | 1.86 | 2.52 | 2.96 |
| - | ${ }^{4}$ | * | 25 lbs. | 1.13 | 1.30 | 1.54 | 1.79 | 2.01 | 2.12 | 2.95 | 3.50 |
| ** | $\bullet$ | ** | 35 lbs. | 1.25 | 1.49 | 1.83 | 2.18 | 2.49 | 2.64 | 3.80 | 4.57 |
| ${ }^{\prime}$ | * | " | 45 lbs . | 1.38 | 1.67 | 2.11 | 2.56 | 2.96 | 3.16 | 4.64 | 5.63 |
| ** | ** | ** | 55 lbs . | 1.50 | 1.86 | 2.40 | 2.95 | 3.43 | 3.73 | 5.49 | 6.70 |
| ** | * | " | 75 lbs . | 1.74 | 2.23 | 2.97 | 3.72 | 4,38 | 4.79 | 7.18 | 8.83 |
| '* | ${ }^{*}$ | * | 95 lbs . | 1.98 | 2.61 | 3.54 | 4.49 | 5.32 | 5.84 | 8.88 | 10.97 |
| For | Ea. |  | 100 lbs. | 2.04 | 2.70 | 3.69 | 4.68 | 5.56 | 6.11 | 9.30 | 11.50 |

## $2 \%$ Transportation Allowance

On orders of a total velue of $\$ 100.00$ or more you may deduct $2 \%$ of the total amount as a transportation allowance. This does not apply to surplus items advertised elsewhere. No allowances on forelgn orders.

## Returning Merchandise

If at any time it becomes necessary to return any merchandise for adjustments, write us in advance, giving the following information: reason re turned; when and where purchased; number of sales slip, if purchased over the counter. In the case of recelpt of damaged shipment, obtain a report from the postmaster or express agency, and mail to us. All adjustment matters must be sent to us on a separate sheet of paper; do not add claim to an order. Do not include money in the package you return. Pack the returning merchandise carefully, insure, and write your name and address on all packages and Jetters betore returning to us.

## Parcel Post Insurance Rates

| Amount of insurance | $\underset{\text { Inse }}{\text { Insurance }}$ | Amount of insurance | Insurance tee |
| :---: | :---: | :---: | :---: |
|  | Cents |  | Cents |
| \$0.01 to \$5 | 5 | \$25.01 to \$50 | 20 |
| \$5.01 to \$10 | 10 | \$50.01 to \$100 | 25 |
| \$10.01 to \$25 | 15 | \$100.01 to \$200 | 30 |

## Postal Notes

Fee is elght cents for any amount not exceeding ten dollars.

| Money Order Rates <br> Amount of money order | Fee |
| :---: | :---: |
|  | Cents |
| From \$0.01 to \$5 | 10 |
| From $\$ 5.01$ to $\$ 10$ | 15 |
| From \$10.01 to \$50 | 25 |
| From $\$ 50.01$ to $\$ 100$ | 35 |

## Air Parcel Post Rates

| Zones | $1 \& 2$ | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 st lb. | 55 c | 60 c | 65 c | 170 c | 75 c | 75 c | 80 c |
| For each | Add | Add | Add | Add | Add | Add | Add |
| Exra 1b. | 4 c | 8 c | 14 c | 24 c | 33 c | 45 cl | 65 c |
| U. 8. Terrltorles and |  |  |  |  |  |  |  |

# The RADIO SHACK'S 

 Liberal "Play as You Pay" PlanThe Radio Shack's popular "Play as You Pay" Plan enables you to secure immediate possession of the equipment you desire, while paying for it over the period of months best suited to your budget. "Play as You Pay" terms are available on all purchases of new receivers, transmitters, amplifiers, television and test equipment, priced at $\$ 50.00$ or over. Government regulations require a down payment of $20 \%$ or more. A small carrying charge of $6 \%$ on the unpaid balance is included in the figures shown on the following chart:

| Cost | 6 Months |  | 9 Months |  | 12 Months |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Down | Per Month | Down | Per Month | Down | Per Month |
| \$ 50 | \$10.00 | \$7.17 | * | * | * | * |
| 60 | 12.00 | 8.50 | \$12.00 | \$5.67 | * | * |
| 70 | 14.00 | 9.83 | 14.00 | 6.56 | * | * |
| 80 | 16.00 | 11.17 | 16.00 | 7.44 | \$16.00 | \$5.65 |
| 90 | 18.00 | 12.50 | 18.00 | 8.36 | 18.00 | 6.36 |
| 100 | 20.00 | 13.83 | 20.00 | 9.29 | 20.00 | 7.07 |
| 110 | 22.00 | 15.17 | 22.00 | 10.22 | 22.00 | 7.77 |
| 120 | 24.00 | 16.50 | 24.00 | 11.15 | 24.00 | 8.48 |
| 130 | 26.00 | 17.85 | 26.00 | 12.08 | 26.00 | 9.19 |
| 140 | 28.00 | 19.23 | 28.00 | 13.00 | 28.00 | 9.89 |
| 150 | 30.00 | 20.60 | 30.00 | 13.93 | 30.00 | 10.60 |
| 200 | 40.00 | 27.47 | 40.00 | 18.58 | 40.00 | 14.13 |
| 250 | 50.00 | 34.33 | 50.00 | 23.22 | 50.00 | 17.67 |
| 300 | 60.00 | 41.20 | 60.00 | 27.87 | 60.00 | 21.20 |
| 350 | 70.00 | 48.07 | 70.00 | 32.51 | 70.00 | 24.73 |
| 400 | 80.00 | 54.93 | 80.00 | 37.16 | 80.00 | 28.27 |
| 450 | 90.00 | 61.80 | 90.00 | 41.80 | 90.00 | 31.80 |
| 500 | 100.00 | 68.67 | 100.00 | 46.44 | 100.00 | 35.33 |
| 750 | 150.00 | 103.00 | 150.00 | 69.67 | 150.00 | 53.00 |
| 1000 | 200.00 | 137.33 | 200.00 | 92.89 | 200.00 | 70.67 |

* Due to new government Regulation $W$, the minimum allowable monthly payment is $\$ 5.00$. Thus 9 and 12 month terms on $\$ 50.00$ purchases cannot be given, nor can 11 month terms be given on $\$ 60.00$ or $\$ 70.00$ purchases


## EXAMPLES:

$\$ 130.00$ purchase on 9 months "Play as You Pay": Down payment $\$ 26.00$, balance in monthly installments of \$12.08.

## \$1 200 purchase on 12 months "Play as You Pay": <br> Add down payments for $\$ 1000$ and $\$ 200=\$ 240.00$ <br> Add monthly payments for $\$ 1000$ and $\$ 200=\$ 84.80$

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# COLANS FREQUENCY CONTROL <br> * Stable * Versatile 

Collins P.T.O. Exciter Units Collins WIO exciters give you not only the flexGolity and convenience of varion and high stabitits Who the accurate calibration and tuned oseilaalso Collins 70E-8A permaly indicates operating of the Collong dial roughy moverdes direct tor. Slide-rite while vernier dial provices curve frequency, wilocycles, no reference eharso is front eading in actual coverage the vernier dial 1600 to the 400 k.c. range.

## Collins 310C-1 Exciter

## Adds versatility to your rig . . .

A straightforward unit consisting of a 70E-8A I'TO and a multiplicr, with an r.f. output of upproximatcly 80 volts rmas across 40,000 ohms. lis output frequency range is from $3.2 \mathrm{~m} . \mathrm{c}$. to $4.0 \mathrm{~m} . \mathrm{c}$. Output can lec plugged into erystal socket, or applied to grid of 807 bufferstage, giving your present rig far greater versatility than a large number of erystals could aflord, yet without loss of erystal accuracy and stability. Circuit consists of a Collins $70 \mathrm{E}-8 \mathrm{~A} 10$ followed by a 6AG7 multiplier; key jack is inserted in the 6AG7 cathode circuit; two voltage regulator lubes, a V13105 and VH150, insure good keying characteristics. R.F. output is capateitively coupled to coasial lead and can be fed directly to grid. In addition to $1^{\prime} T O$, dial controls include a fid7 llate Tuning and function switch for M.O. OFF, M.O. ON, Standly, and Send. Adjustalle index on vernier tuning dial can be set from front panelf for extremely accuratecalibration. Dimensions- $15 \frac{3}{18} \times 8 \frac{3}{8} \times 834^{\prime \prime}$ high. Operates on 6.3 volts atc at $1.0 \mathrm{amp}, 300 \mathrm{v}$. d-e at 40 ma. Complete with tubes and instruction hook, less power supply.
CAT. NO. 35-0106 Net I'rice
$\$ 85.00$


## Collins Model 70E-8A

## Permeability Tuned Oscillator

A versatile andextremely accurate variable-frequency oscillator that is the product of a special study of oscillator characteristics and their control, made by Colling engineres over a period of years. This oseillator has a linear range of 1600 h.c.- $2000 \mathrm{k} . \mathrm{c}$. with sixtecn turns of the vernier dial required to cover the took.e. range. lis excellent stability, accurate caliliration, and voltage coefficient mateit ideatly suited for use in an cxeiter. measurement inst rumments, and for receiver alignment. Every Colling 70E-8A meets the following factory teste: accuracy of dial calibration within $\pm 250 \mathrm{c} \cdot \mathrm{g} . \mathrm{s}$. relerred to oscillator fundamental frefueney; masimum warmupdrift of fiondamental irequency not in excerse of 250 c.p.s. at constant voltage and temperature: fundamental frequency after warmup and at constant voltage not to vary more than 250 e.p.s. between 10 C and 50 C ; voltage stability reforred to fundamental frequency within 10 parts/utillion for voltage change of $10 \%$ from normal. Usable obtput of 10 volts from 6SJ7 oscillator tutic for driving untuned Class A r.f. stage in an exeiter. Dimensions: v.lio. $-45 / 8 \times 51 / 4 \times 28 / 4^{\prime \prime}$; diat-10×8×13/4" behind pancel. Compotete with tube, slide rule and vernier dial assembly, and instruction hook.
${ }^{8} 40.00$

Model 310 Collins 310C-2 Exciter
 sional performance to your supply. Add profesoutput of the $310 c-2$ into rip by plugaing the
versuat versatile teat instrament. it crystal sochet. A penclubility make it ideal for accuracy and demateur hands, and in ter rectiver



 $8100.0 \%$


Models 310B-1 and 310B-3 Exciters
Monel 3t01s-l is a versatile. handswitching, selfpowered exciter unit with a link circuit output to work into a final of higher ontput.
Model 310B-3 is basieally identical with the 31013-1 but has a serics-parallel tunable matching antenna network, universal type. to match any antenna having an inlegral mumber of quarter waves in langth. Mabes a highy satisfactory standby transmitter, is a natural for spot freunency network, and is the answer for emergency work due to its low power source refuirements. Idall for the beginner - when nore power is desired, morely add the final amplifier stange.
The 310 b-1 is conservatively rated at 15 watts output on all amaleur bandeunder 32 megacyeles. Has ample drive for a hilowatt final atilizing the new pentode tubes. With additional multiplication it makes an excellent frequency control for amateur bands in the VIFF and UIIF regions.
llas separate multiplier and amplifier tuming controls. ON-OFF power switch, function switch with M.O. OFF - M.O. Terst-Standhy-Send positions, handswitch, and meterswiteli for readingllate and Grid currentsin 2E26stage. Adjust able index on vernier tuning dial can le set from front panel for extremely accurate calibration. Recciver disabling circuit operates on Send posi-
 Multipliers, 1 2F26r.f.amp., 1-5R.4G1 II.V. reet.. I-5Z4 L.V. rect.. 1-6il6 bias ract.. 1-V13 105 voltape reg.. $1-V R 150$ voltage reg. Dimensions, $19 \times 10 \frac{8}{8} \times$ 9 9, hiph. Operates on 115 volts a.c. Complete with tuloes and ingtruction book. CIT. NO. 35004 3!018-1 Exciter. Net $\$ 190.00$ CAT. NO. 35 005 31013 With antenna network Net Price
$\$ 215.00$

## The <br> <br> New <br> <br> New HALIICRAFIERS SX-62

FM/AM All-Wave Receiver

- SWL Version of The Famous SX-42
- Coverage- 540 KC-109 MC Including FM
- Built-In Crystal Calibrator


## NATIONAL N(.57

## With all the apin

Warmatistener has berenaiting fores that the allor FM. A single requeney - standapreme perision dial. Only oning control covares the. SW A buittin crymbit coliand lights upat a the wide switch putes 500 h Cataration oncillator time. Continuous AM recept signuts acroses the dip of MC; FM reception recption from 540 he diat. Comprnated oscill ${ }^{27-109 ~ M C . ~ F e m C ~ t o ~} 109$ Two r.f and sechator with ent TemperatureKC and 10.7 if. stages; dual if age regulator 8-watt puah Mc). Audio flat 6o channele (455 Cont push-pull output. CONTHOLS: Hand Seler
$\mathbf{M C}^{4.9 \mathrm{MC}, 4.9-15 \mathrm{MC}}{ }^{15} 32 \mathrm{MC} 540-1620 \mathrm{KC} 1.62-$ Oft, Noisetre/Standby; Crystal Am; Noise Limiter; Tuninystal Calibration On r.f. Gain; 6-position Selectivity gain; Phono FM
 CONNECTIONS: Doublet Reset.
Sol and 5000 olims output; phole-wire antonna; onnections, 10 caternal power; remets phono Une cons; 105125 a-cline. promote standhy UHE COMPLEMENT
conve; 6SK7 i.f. amp: $2-6 A G 5$ 's r.f. amps.: 7 Fs Bro silf limiter and Ams i.f. amprithi if

 piano-hinged tone with saltin ehrome ret. CAT. NO. 36061 sec, $20 \times 10 \frac{1}{4} \times 16^{\prime \prime}$ deep. For 105125 volts, 50 SX 60 cycles. C4T
*269.50
K-4. So. 36062 SX-62 complete with tulies and CAT. NO. 36063 SX -62 U , $\$ 303.50$ for $105-125$ and 210250 complete with tubes speaker. Net Price 2.20 wita, 25 60 escles, less \$302.0\% 55 me : band 4.6513 .5 mc - land D , 180 , me.; band band F., $0.54 \quad 1.6 \mathrm{me}$. Conombout 4.65 we. hand 11,6 meters. Andioker with 40, 20, 15. 10 11, a $5^{\prime \prime}$ M sperated on is 3 watte fed inineformer monmpedance.

 Phone jach atinacrted. Designedess power when plug is 130 volte $50-60$ cycher monnted tion ont ion, 84 watis. Sockernal acees-
 at rear for connech whatis AC, 150 wolt. Comsories and 250 wolts unrepublated $\quad \$ 89.50$ plete with $36-034$ Nel lrice
CAT. NO. 36-634 in signal level meter llluminated plug-in sign for NC- 57 calibrated in 'S Net Price CAT, NO. $36-035$ Net Irrice

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