

# WhITER RSHE Nov|OE STATION KITS 



## A COMPLETE AMATEUR RADIO STATION Three Easy-ło-Assemble Kits

## Includes all parts and PUNCHED metal chassis

## FEATURES of the COMPLETE NOVICE STATION

(1) A two tube transmitter kit - 25 watts input to final stage.
(2) A "hot" little two stage receiver kit with plenty of bandspread.
(3) One power supply kit for both rew ceiver and transmitter.
$\star$ COMPLETE INSTRUCTIONS $\star$ STANDARD PARTS USED THROUGMOUT
$\star$ ECONOMICAL USE OF ONE POWER SUPPLY $\star$ LOWEST COST POSSIELE

* all kITS INCLUDE punched metal Chassis, tubes and hardware
$\star$ A.R.R.L. HANDBOOK CIRCUITS $*$ KITS MAY be purchased SEPARATELY


## $\begin{gathered}\text { THREE KITS } \\ \text { ONLY }\end{gathered} 1 / 195$

Read about them in the pages of RADIO AND TELEVISION NEWS (September and October 1953). Get one or all of these swell units. . . with chassis already punched... ready for quick and ensy asseme bly from simple directions furnished free with esch tit.

## NOVICE TRANSMITTER KIT

Two tubes-6AG7 erystol oscillotor ond 6L6G finol amplifier.
The modified Pierce oscillotor is especially noted for its excellent keying and minimum crystol strain. No fancy ontenna arroy necessary. Pi section out. put circuit will work with ony length wire for ontenno. Simple to tune.
25 watts input to final omplifier on 80 and 40 meter Novice bands.
Pilot light tuning indicator.
Kip includes tubes, punched chassis, hardwore, one erystal in holder for the 80 meter Novice band and one plug-in coil form for finol omp. Less key, hookup wire ond solder.

SHIPPING WEIGHT 4 LBS.
MODEL WAT-25. NET. . $\$ 17.31$

## Novice Power Supply Kit

Furnishes filament valtage and plate power for BOTH receiver ond tronsmitter
Husky enough to supply full input to tronsmitter and well filtered for hum-free receiver operotion. Uses 5Y3GT rectifier and OD3 volroge regulator. The OD 3 supplies 150 volts de (reguloted) to the receiver ond to the screen grid of the iransmitter's crystal oscillotor.
High voltoge furnished to the rronsmitter is 350 volts de at 100 milliomperes ond the filoment voltoge for the receiver and transmitter is 6.3 volts of 4.7 omperes.
Has AC On-Off switch and Send-Receive switch.
Complete kit of parts with tubes, punched chassis and hardwore, less hookup wire ond solder.

SHIPPING WEIGHT 12 LBS.
MODEL WAP-25. NET... $\$ 14.23$

## NOVICE RECEIVER KIT

This two stage receiver uses o twin triode 6SN7GT as a regenerative detectar and audio omplifiep. is unusual stability is due, in o lorge part, to the regulated voltage from the OD3 regulator fube n the power supply.
Bandspread-plenty of it-100 dial divisions of he bandspread dial on the 80 meter Novice bond ( $3700-3750 \mathrm{ke}$ ) and 70 divisions on the 40 meter Novice band ( 7175.7200 kc )
80 meter coil covers $3.5-8 \mathrm{mc}$ on moin tuning dial. 40 meter coil covers 6.5-18 mc on moin tuning dial.
Complete kit with tube, punched chassis, hardware and one plug-in coil form. Less heodphones, hook10 wire and solder.

SHIPPING WEIGHT 4 LBS
MODEL WAR-25. NET. . . $\$ 13.41$

## ACCESSDRY ITEMS

roll hookup wire. 25 feet. ..... 44
expra plug-in coil form for receiver kit .....  51
extra plug-in coil form for tronsmitter kit ..... 34
J.33 telegroph key
8
phone plug for ke ..... 38
100 feet \#14 enamel covered ontenna wire ..... 25
2 ontenno insulotors @.21 ..... 42
at ..... 97

KITS MAY bE PURCHASED SEPARATELY. If you ore o beginner, you can stort out right now with the receiver ond power supply kits. Just os soon as you get your license, you con be on the oir with only the oddition of the swell tronsmitter kit. Or if you
olreody hove a receiver, the transmitter and power supply kits will put you in business with on oulstonding signol in the 80 ond 40 meter Novice bands - and most important of all - LOOK AT THE LOW COST


## NC. 88 RECEIVER

The advanced design and angineering incorporoted into this fine receiver makes it o top performer for the Novice or the experienced omoteur. It hos two lorge indirectly-lighted lucite dials. One covers 550 KC to 40 MC in 4 rongers ond the other dial hos calibroted bondspreed for the 80 $40,20,15$ and 10 meter bonds plus o logging scole.
FEATURES: Tuned RF stoge, two if'stoges, two high-fidelity oudio stoges with phono input ond two-position tone contral, separote HF oscillotor for high stability, series volve noise limiter, deloyed AVC, heodphone jock ond builf-in speoker.
8 HIGH GAIN MINIATURE TUBES PLUS REC. TIFIER: 6BA6 1 st RF, 6BE6 mixer, $6 C 4$ HF osc. 6BD6 1st IF, 6BD6 2nd IF, 6AL5 2 2nd det.-AVC. ANL, $12 A X 7$ ist oudio-BFO, 6AQ5 oudio outpur,
5 Y3GT rectifier.
CONTROLS: Moin tuning, bondspread tuning, band selector, sensitivity, $A C$ on/off-volume, re-ceive-stondby, ANL on/off, tone Hi-Lo, CWO pitch, ontenno trimmer, AM/CW.
Finished in hommertone grey enomel. Sizc: $83 / 4 \mathrm{H} \times 161 / 2 \mathrm{~W} \times 10^{1 / 2} 2^{\prime \prime} \mathrm{D}$. For 115 VAC . 60 cycle operation. Complete with tubes. Shpg. wgt. 30 lbs.
MODEL NC-88. Nef....................
. 119.95


## BUILT-IN SELECT-O.JECT

The NC- 125 is on up-to-the-minute generol coverage receiver incorporoting oll the lotest engineering improvements, including Notional's exchusive SELECT-O-JECT oudio filfer-yet moderotely priced. An ideol receiver for the omateur as well os for the discriminoting shortwove enthusiost. Here ore some of the outstanding featupes of this receiver. Coverage: 560 KC to 35 MC in 4 bands, voice or CW. Edge-lighted, directreoding scole with omateur, police, foreign and ship frequencies cleorly morked. Bondspreod ovoiloble over entire ronge. Sensotional Notional Se-lect-O-Ject buitt in. Averoge sensitivity of 3 microvalts for 10 DB signal-to-naise ratio. Lively "S" meter. Automotic Volume Control, Automotic Noise Limiter, Voltoge-reguloted stobilized osciltotor tholds signol regordless of line valtoge fluctuations): oudio circuit essentiolly flot to 10,000 CPS; jock for phono input or NFM odapter: socket for battery operotion; occessory socket for NFM odoptor or other occessory. Conirols: Moin Tuining. Bandspread, Select-O-Ject Frequency Conprol, Select-O-Ject Boost Controt, Send-Receive Switch, Code .Pitch Control, CWO-MVC-ANL switch, AF Goin. Triminer (motches ontenno to input for moximum efficiency). Bandswitch RF oain. 9 fubes, plus voltoge regulotor and rectifier. 300 ohms anfenno input impedance, 4 watis moximum output, 8 chms output impedance. Size: $161 / 2 \times 101 / 2 \times 83 / 4{ }^{\prime \prime}$ Cobinet finished in attroctive gun metal smooth orey enomel. For $105-130$ oun merol smooth grey enomel. For $105-130$ voirs, f tubes, less speoker. Shpg. wgt. 36 lbs .

MODEL NC-125. NET. . $\$ 199.95$
MODEL NC-I25TS. Motching 6" PM Specker for NC-125. Shpg. wgt. 10 lbs . NET.... $\$ 11.00$ NFM-73害. Norrow Bond FM Adaptor for NC-125. NET


NEW NATIONAL NC. 98 RECEIVER WITH CRYSTAL FILTER


#### Abstract

Low-priced recaiver with crystal filter and 5 . metor. Covers 550 KC to 10 MC on main tuning 10 thry 10 ranges. Bandspread dial calibrated position erystal filter with phasinged diols. 3. position erystal filter with phasing eanirol. Solectivity of 6 DB down: Crystol OFF i 7 KC , BROAD -1.5 KC , SHARP- 450 cyclest Illumin. oted 5-mater has mechanical and olectrical zera adiust; One RF, two 1F, two audio stages, phono input. Automotic seriozetvoe naise limit IAT. Accessory zocket for NBFM odapter. 9 MIN IATURE TUBES. Finishod in hammertono grey  60 cycle aperation. Complete with tubes, less speoker. Shpg. Wgt. 30 ibs MODEL NC.98. Nef.................... $\$ 149.95$ Marching 6" PM spooker for NC.98. Size: 10\% 101/2x7MO. Shpg. Wgt. 10 lbs. MODEL NC-98TS. Net,....................... $\$$ Il.00 NFM-83-50. NBFM Adopter. Net........... $\mathbf{\$ 2 6 . 7 5}$




Fivetube superhet covering broodeost ond mojor shortwaye bands; continuous from 540 KC 1030 MC . For the shortwove listener, the amo taur, and the person wonting a compoct hame pable radio. Recaives voice, music, or code. Has unique od justable plastic bondspread knob Built-in speaker, tip jaeks for heodrhonas or external speaker. With pubes. Shpg. Wgt. 10 lbs. MODEL SW-54. Nef. $\qquad$ \$ 49.95


## HRO-60 RECEIVER

The new HRO-60 is the latest and greatest of a greot series. In oddition to oll the feotures of previous HRO's, you now get duol conversion on previous HRO's, you now get duol conversion on tuned circuits in the three 456 KC IF stoges Curent reguloted heaters in HF OSC ond 6BE5 2nd conv. HF oxilloar and S mpter ompl and 6 2nd age requlated Covers $50-430$ KC 480 KC 35 MC and $50-54$ MC ed Edge-lighted diret frequency reading en. Edge-fighted direct frequency reading sole with one ronge in view of a lime. Buif-in isolated heovy duty power supply. Sensifivity of 1 MV or 8 KC KC overall to approx. 1200 Mi ar 40 DE Negligible drift ofter wormup. Micrometer dial far logging. Provision for crystol calibrotor unit. Ovillotor ciscuits not disobled when receiver is in send position. High fidelity push-pull audio, phone icrk. Accessory socket for Select-O-Ject. Tubes HF TF ose., GBE6 Znd HF conv., 6SG7 1st IF, ESG7 2nd 1F, 6SG7 3rd IF, 6 H6 det.-AVC, 6H6 ANL 6 Sid 7 Ist ondio, 6SN7 phase splitter and 5 meter OMp., 6V6GT PP oudio (2.), 5 V 4 rect., 6517 BFO, 082 volt. reg., 4 H 4 osc. fil. current reg. Com plete with coil's A, B, C, D, covering 1.7-30 MC and tubes. Less speaker. size: $193 / / \mathrm{W} \times 101 / 0 \mathrm{Hx}$. $161 / 2$ "D. Operates on 115.230 VAC . Shpg. wgt. 90 lbs .

## MODEL HRO-60 NET $\$ 533.50$

## ACCESSORIES FOR HRO. 60

HRO.60TS. 10" PM Speaker in marching eabi net. Shpg. Figt. 12 1bs. Net.................. $\$ 16.00$ NFM-83-50. NBFM Adopter. Net........... \$ 26.75 HRO.60.XCU-2. 100\%1000 KC Crystol Colitrator. Shpg, Wgt. 2 lbs. Net.....................S 27.50

## COIL SETS FOR HRO-60

| 60-AA | $27.5-30 \mathrm{MC}$ | NET $\$ 24.50$ |
| :--- | :---: | ---: |
| $60-A B$ | $25-35 \mathrm{MC}$ | 24.50 |
| $60-A C$ | $21.0-21.5 \mathrm{MC}$ | 24.50 |
| $60-A D$ | $50.0-54.0 \mathrm{MC}$ | 24.50 |
| $60-E$ | $900-2050 \mathrm{KC}$ | 24.50 |
| $60-7$ | 480.960 KC | 24.50 |
| $60-G$ | $180-430 \mathrm{KC}$ | 24.50 |
| $60-H$ | $100-200 \mathrm{KC}$ | 28.50 |
| $60-1$ | $50-100 \mathrm{KC}$ | 34.50 |

## NC-183D RECEIVER

## DUAL CONYERSION

## Steep Skirt Selectivity

Notionol's new dual conversion receiver for the Ham, SWL, Commercial, or CD user. 1 MV sensifivity on 6 meters. Duol conversion incorporoted in the $6,10,15,20$, and 40 meter ham bonds. in the 6, $10,15,20$, ond 40 meter ham bands. Feotures steep-sided skirt selectivity with three IF 12 stoges. 16 tuned circuits on the three high bands, 12 on oll other bands plus new crystol filter. Uses new type minioture tubes in. RF ond if circuits. New type dual IF's. New re-designed crystal filter with deeper phosing notch. Indirectly ?ghted lucire dials with white tetters on block. PP high fidelity oudio system. Fully odjustoble outomatic noise fimiter. Amplified and deloyed A.VC. Adiustoble sensitive $S$ meter. Adjustoble tone and BFO controls. Antenno trimmer. Phono input with rodio phono switch. Built-in occessory socket Continuous bandspread through frequency range of receiver. Calibroted bandspread on 6,10,11, 15 20, 40, and 80 meter amoteur bonds. 'Provision for NBFM odopter and Select-O-Ject. Battery operotion if desired. Tubes: 6BA6 1 st RF, 6BAG


2nd RF, 6BE6 1st conv., 6BE6 2nd conv., 68A6 ls \{F, 6BA6 2nd IF, 6BA6 3rd IF 6AL5 2nd det.-AVC, 6AHG AVC omp.. 6SJ7 BFO, 6AL5 naise limiter, 6SJ7 1st oudio, 6SN7 phose in. verter-"S" meter omp., 6V6GT' oudio output (2), OP2 volt. reg., SU4G rectifier. For operotion on 115-230 VAC. Smooth grey finished cobinet. Wish fubes. Size: $101 / 2 \mathrm{Hx} 193 / 4 \mathrm{~W} \times 163 /{ }^{\prime \prime} \mathrm{D}$. Shpg. wgt. 65 Bbs .

MODEL NC-183D (table madel) NET
$\$ 399.50$

ACCESSORIES FOR NC.183D
NC.183TS. $10^{n}$ PM Speaker in metching cabi-
rati. Shpg. Wgt. 12 lbs . Not................... 16.00 NFM-83-50. NBFM Adopler, Net. ......... 826.75


## NEW

## AMATEUR RECEIVER

Nowly styled receiver with $10,11,15,20$, 40,80 meter amateur bands calibroted on large easy-1oread dial. Separate band. spread funing condenser. Two IF stages. Covers broadeast band, $540-1680 \mathrm{KC}$ and three shortwave bands to 34 MC . RF stoge. Built-in speaker. Front panel controls: sensifivisy, band selector, tuning, volume, AVC on/off, noise limiter on/off, AM/CW, tone ( 3 pos.), pitch, standby/receive, phone jack. Grey-black steel eabinet with brushed chrome trim, red pointers. Seven tubes plus rectifier. Size: $18^{1}, 2 \times 8^{1} \times 10^{\prime \prime} \mathrm{D}$. Operates on 105-125 VAC $50 \% 60$ eycles. Shpg. Wgt. 36 lbs .
MODEL S.85. Net.....................\$ 119.95 MODEL S.86. Same as above but for 105 125 volis $A C$ or DC. Net............ \$ 119.9 S

## SINGLE SIDEBAND

> TRANSMITTER

HT-30


For use on SSB, AM, and CW. Built-in VFO, provision for crystal. Bandswitching for $80,40,20$, and 10 meters. Full function control, AM, CW, upper side band, lawer side band. Combination carrier level meter and grid current meter. Ample gain for -55 DB mierophone. 35 watts peak output. Provision for coaxial output fitting. TVI suppressed, control cireuits ond $A C$ lines filtered. Front panelcontrols for bandsvitch. ing, VFO or 3 quartz crystals, P.A. plate tuning, speech level, corrier level $0.100 \%$, meter selector, drive control, power off3 tandby-transmit, operation control, function selector, tuning-VFO, headphone jack. Uses 2-6CD6 in final, tolol 16 tubes plus rectifier and voltage regulotor. Operates on 105-125 VAC $50 / 60$ cyeles. Grey-black steel cabinet with brushed chrome trim and red pointer. Piano hinge top. Size: $18 /{ }^{3} \times$ $12^{2 /} \times 9^{\prime \prime} \mathrm{H}$. Shpg. Wgt. 52 ibs .
MODEL HT. 30. Net................... $\$ 349.95$

the latest model of a
famous shortwave receiver

## THE NEW S-38D

World's most popular shortwove receiver of low cost with performance and styling that amazes the experts. Covers broancost band, 540.1650 KC and has three shortwove bands, 1.65-5 MC, 5.14.5 MC, 14:5. 32 MC. Bands pread dial. Communications type controls for accurote tuning, large easy-foread slide rule dial. Headphone tip jacks on rear. Built-in PM speaker. Oscillatar far reception of cade signals. Uses four qubes plus rectifior. Grey steel cabinet, size $12 \% \times 7 \times 71 /{ }^{\circ} \mathrm{H}$. Operates on $105-125$ volis $A C$ or DC. Shpg. Wgt. 13 lb . MODEL S.38D. Net...................... $\$ 49.95$


## DELUXE

## SWL RECEIVER

Outstanding receiver for all-wave listeners. Provides communications receiver performonce in simplified form. Single tuning control covers wide-vision dial. Built-in 500 KC crystal calibrator. Continuous AM reception 540 KC to 109 MC ; FM reception 27-109 MC. Temperature compens oted, voltage regulated. 2 RF , 3 if stoges; dual IF channels ( 155 KC and 10.7 MC ). Audia flat $50.15,000$ cy., 10 wats push-pull output. Controls: band selector $540-1520 \mathrm{KC}, 1.62$ $4: 9$ MC, 4:9-15 MC, $15-32 \mathrm{MC}, 27-56$ MC, 54.109 MC; Rec./Standby, Calibration Osc. On/Off Noise Limiter, Tuning, AF Gain, Phono/FM/AM/CW, 6-position Selectivity, 4 -position Tone, RF Gain, Calibration Reset. Doublet or single wire antenna. Outputs of 3.2, 8; and 500 ohms. Phone jack. Phono input jock. Socket for external power. 14 tubes plus voltoge regulator and rectifier Grey steel cabinet with satin chrome trim. Size: $20 \mathrm{~W}_{\times} 10 / 4 \mathrm{H} \times 1 \mathrm{~s}^{\mathrm{m}} \mathrm{D}$. For 105-125 VAC 50/60 cycle operation. Complete with tubes, less speaker. Shpg. Wgt. 70 lbs.
MODEL SX.62A. Net................... 349.95


FOR AMATEUR - SWL

Covers broadcast band 540.1680 KC , plus three shortwave bands, 16.34 MC, ealibrated for $10,11,15,20,40$, and 80 meters on large easy-to-read bandspread dial which has separate bandspread tuning condenser. Calibratedelectrical bandspread. "5" meter calibrated in "S" units and miecrovalis. One RF stage, two IF stages. Crystal fit. ter. Antenna trimmer. Terminals on rear for 3.2 and 500 ohm speaker. Headphone jack. 3 -position tone control. ANL control. Sensitivity control. Volume control with AC $s$ witch. Code pitch control. Requires sepo. rate speaker like R-46A. Uses seven tubes plus rectifier. Operates on 105-125 VAC 50/60 eycle. Grey-black steel cabinet with brushed chrome trim. Piano hinge top. Size $18 \frac{1}{2} \times 81 / 2 \times 11 \mathrm{DD}$. Shpg. Wgt. 36 lbs .
MODEL SX-99. Less speaker. Net \$149.9S MODEL R.46A. Speoker for SX.99....19.9S

SELECTABLE
SSB RECEIVER


Extremely stable, sensitive receiver for all types of communications including single sideband. Covers $538-1580$ KC ond 1720 $K C$ to $34 \cdot M C$ on 4 ranges of moin tuning dial; $80,40,20,10$ meter amoteur bands on calibrated bandspread dial. Both dials gear driven. Temperature compensated HF oscillatar eirevits. Crystal controlled second conversion oscillators. Highly selective 50 KC IF system, mixer type second detector reduces $1 M$ distortion on SSB. Upper or lower sideband selectable by means of panel switeh. Low drift. Eleven Yubes plus rectifier and voliage regulator. - 5 " meter colibroted in " 5 " units ond mi. crovalts. Front panel controls: sensitivity, band switch, volume, funing, AVC on/off, noise limiter, bandspread, selectivity, pitch, reception, stondby, phone jack. "Operates on 105-125 VAC 50/60 eycle. Grey. block steel cabinet with brushed chrome trim and red pointers. Piano hinge top. Size $18^{1 / 2} \times 8^{1 / 2} \times 10^{1} / 2$ "D. Requires external speaker like R-46A. Shpg. Wgt. 45 lbs.
MODEL SX.96. Less speoker. Net $\$ 249.95$ MODEL R.46A. Speaker for SX. $96 . . .19 .95$


## ALL-WAVE

PORTABLE

Four bond, high performance receiver which operates on 105.125 volts $A C$ or $D C$ or on batteries For use by amateurs, yochis. men, aviotion enthusiasts, sporismen, etc. Receives 170 to 400 KC for airwoy ranges, marine beacons, airfield control towers. 540 to 1600 KC for stondard AM broadcost bond. 2 to 6 MC band for ship-to-shore, amateur, shortwave tropical band, ete. 6 to 18 MC bend for more shortwove, amateur, etc. Has high gain loop for broadeast and long wave, telescoping whip for short wave. BFO and stondby switch. World coll zone map on lid. Five tubes plus selenium rectifier. Case finished in grey leatherette, size $16 \frac{1}{2} \times 10 \times 7 \frac{1}{2}$. Uses Evereody 557 or Burgess F6A60P battery. Shpg. Wgt., less battery, 19 lbs.
MODEL 5.93 . Less baftery. Net.... $\$ 99.95$
CIVIL PATROL


## FM RECEIVERS FOR

## EMERGENCY CALLS

Extreme sensitivity, increased oudio power, new adjustoble built-in reloy squelch system which is completely quiet when no signal is being received. Maximum perlormance with wide range of antennas. Excellent frequency stability. Sensitivity under $1 / 2 \mathrm{mic}$ crovelts. Built-in speaker with provision for headphones. Eight tubes plus selenium rectifier. Greysteel cabinet, size
 squelch/ofl: Shpg. Wgi. 14'ibs.
MODEL S.9. 30.50 MC range. Net $\$ 59.95$ MODEL S.95, 150.173 MC range....... 59.9 S


## hallicrafters

## HT. 20 TRANSMITTER

A deluxe bondswitching alf-bond transmitter with cloborote TVI suppression throughoul. Power outout roted af 100 watrs AM phone; $\$ 15$ watts CW $100 \%$ high levet modulotion. Covers confinuous onge t.7-31 MC. All camponents are heow duty ond ore rated for continuous aperation. Complete merering with single meter and 6-position witch. 10-posifion crystal switch with inpu or externol of 90 OB down token tow insure spurious outpuls of 90 DB down below full roted output on all requent ies above 40 mC . Chassis is rodiotion proof, external leads rodiation suppressed by Hallicroffers new how inductance bypass. capocitors. Tuning dial and meter shielded with metol sereening. Pi surpur feeds into 52 chm 4 -section ow pos: filter. II tubes include two 807 modutotors and 4D 32 final omplifier. High impedance mike irput. Cobinet size: $20 \times 121 / 4 \times 171 / 4$ ". For operation on 105-125. VAC, $50 / 60$ cy. Shpg wat. 130 libs.

MODEL HT-20. NET.... $\$ 449.50$

## SMALL BUT POWERFUL

## S-53A



Hallicrofters finest small communicalions receiver complete in itself, with builf-in PM speoker. PER complete in itself, with buili-in PM speoker. PER-
FORMANCE: Coverage $540-1600 \mathrm{KC}, 2.6-31 \mathrm{MC}$ plus $48-54.5 \mathrm{MC}$. 2 stoges IF omplificotion. CONTROLS: Main funing in MC. Seporote bondCONTROLS: Main tuning in MC; Seporote bondspreod dial with logging scole plus MC colibrotion for 48.54 .5 MC bond; Rec. /Stondby switch; Bond swith $54.31 \mathrm{MC}-1630 \mathrm{KC}$; 2.5-6.3 MC, 6.3.16 MC, 14-31 MC and 48-54.5 MC; AM/CW; RF Gcin, Noise Limiter, AF Gain, 2-position Tone; Speoker/Phorwes switch on reor. EXTERNAL CONNEC. TIONS: Doublet or single wire ontenno. Phone tip jock.s. Phonogroph input jock. 105-125 $50 / 60$ er. AC line. 7 TUBES PLUS RECTIFIER: 6C4 Osi., 6BA6 Mixer, 2-6BA6 IF Amps., 646 Det, AVC ond ANL, $6 S C 7$ BFO ond AF Amp., 6K6GT Output, 5Y3GT Rectifier. PHYSICAL DATA: Sorin black steel cobinet with brushed chrome trim. Top opens on piono hinge. Size: $127 / \mathrm{Wa}$. $7 \mathrm{Hx} 73 / \mathrm{K}^{\prime 0} \mathrm{D}$. Complete with tubes. Shpg. wgt. 19 lbs.
MODEL S-53A. NET . $\$ 99.95$


## 75A. 3 RECEIVER

Features the sensational Collins resonant mechanical filter which gives almost rec. tongular skirt selectivity. Dual conversion, nine funed eirevits and erystal filter assure outstanding performance on all amateur bands, 160 through 10 meters. Has extraordinary stability, accuracy of calibration, sensitivity, and image rejection. 3 KC meshanical filter is supplied. Extra socke $\dagger$ is provided for addition of 800 cycle filter; for control switch on panel. Ideal SSSC reception. Crystal oscillator uses a different crystal for each band. Stable VFO is hermetically sealed and temperature compensated. Slide rule dial shows only the band in use in 100 KC divisions, second dial colibrated in 1 KC divisions. Accurate $S$ meter with zero adjustment. Sensitivity, 2 microvalts for 10 DB signal-to-noise ratio. 2 watts audio output; 4 and 500 ohm output terminals plus phone jack. Series type noise limiter for phone, shunt type for CW. Tubes: 6CB6 RF, 2-6BA7 mixers, 2-6BA6 VFO and buffer, 12AT7 erystal osc. 4-6BA7 IF amps, 6AL5 AVC-det., 6BA6 BFO, 2.6AL5 noise limiters, 12AX7 AVC amp.-audio amp., 6AQ5 output, 5Y3GT rectifier, OA2 reg. Size: $21 \frac{1}{6} \times 12 \frac{1}{2} \times$ 13 $1 /{ }^{\circ "}$. For 115 VAC $50 / 60$ cycle operation. Shpg. Wgt. 70 lbs .
MODEL 75A-3. Net.................... $\$ 530.00$


## AF-67

110 VAC POWER SUPPLY. For use with AF-67. Supplies dual simultoneous high voltages with separate filters. 475 VDC, 170 MA; 230 VDC, $80 \mathrm{MA} ; 6 \mathrm{VAC}, 6 \mathrm{amps}$ or 12 VAC, 3 amps. Input: $110-120$ VAC, 60 cycles. Separate filament and plate transformers. 24 -volt tap for control or bias supply. Fused primary. Uses 5U4G and 6X5GT rectifiers. Cobinet motches AF-67. Size: $111 / 4 \times 7 \times 8 \frac{1}{2^{n}}$. Shpg. Wgt. 30 fbs.
MODEL PS-2V. Net. $\qquad$ $\$ 49.50$

## ELMAC ACCESSORIES

CONNECTING CABLE. Complete with plug ond fonning strip to connect PS. 2 V power supply to AF-67 Trans-Citer. MODEL CFS.I. Net.. $\qquad$
"PUSH-TO.TALK" KIT. Includes rectifier, relay, and filter condenser to allow "push. to-talk" operation of a station from on AC supply.
MODEL PTR.I KIT. Net...
4
READY FOR A NEW RECEIVER?-We'll Trade In Your Old One!


Requires two coils to motch 75 ohm unbolanced transmitter output to 75 or 300 ohm balanced antenna feed lines. Efficient 80 thru 10 meters. For use with Collins 32 V , Johnson Viking, and other transmit. ters up to 150 watts input. Need not be mounted in metal box. Requires an $8 \times 10^{\prime \prime}$ mounting plate. Less plate, hardware, ond insulators.
MODEL 3975. 2 required. Net Each $\$ 3.75$ NO. PS.239. Undrilled $8 \times 10$ plate...... 88
I.KW BALUNS. Provide desirable imped. nnce motch between an unbalanced power source and a balanced load. Moximum iransfer of power, maximum signol-to-noise intio, minimum SWR, minimum line radio. tion. Coax input conneclor, ceramic feed. thru output terminals.
1.KW Single Band Beam Type Baluns are designed for rotary type antennas which employ " T" match section. Impedance, 75 ohms unbalonced to 100 balanced. Housed in heavy gauge weatherproofed case, size $3^{2}{ }^{1} \times 3^{1 / 1 / 2 \times 4^{4}}$. Net weight 3 lbs . Shpg. Wgt. 5 $16^{2}$ s.
MODEL 700 For 10 meter band Net $\$ 16.50$ MODEL 701 For 15 meter band 16.50 MODEL, 702 For 20 meter band
16.50
16.50
1.Kw Single Band Folded Dipole Boluns are designed especially for half-wave fold. ed dipole antennas fed with 300 ahm line. Impedance, 75 ahms unbalanced to 300 ohms balanced. Haused in heovy. gauge weather proofed case, sire $3^{1} 2^{2} \times 3^{1} \times 4^{\prime \prime}$. Ne 2 lbs. Shipg. Wgt. 4 liss.
MODEL 710 For 10 meter band Ne: $\$ 16.50$
MODEL 711 For 15 meter band 16.50
MODEL 712 For 20 meter band $\quad 16.50$
MODEL 713 For 40 meier band $\quad 16.50$
MODEL 714 For 80 meter band $\quad 16.50$

## บลม



## NEW PRO-310

Completely modern, double conversionomn teur receiver. Incorporates complete prinied eircuit for the RF section. Preciaion differental tuning system mokes it possible to reat exact frequency to which receivel is set-Coverage of 550 KC to 35.52 MC in six bands with rotary turret selectar. Three RF tuned circuits. Second conversion oscillater is crystal controlled. Besides the norma! BFO level, on extra high level BF is incorporated for single sideband recep. tion. Calibrated bandspread. Antenna inpul impedance 75 ohms, provides for use of coaxial line. "S" meter calibrated 1 to ? in steps of appraximately 6 DB , also in. cludes. DB scale above 5 -9, 3-positian variable selectivity, two for phone, one for CW, 4 KC to 350 CPS. Antenna compensator permits compensation for looding effects of various types of anfennas and improves image rotio. Uses 14 tubes including rectifier and voltage regulator. Audio output 2 watts, 6 ahms impedance. AVC operates on RF and IF stages. New noise limiter. Sensitivity: I microvolt CW signal produces - 10 to 1 signal-to-noise ratio. Operotes on 105-115 VAC $50 / 60 \mathrm{cy}$. Size: $151 / 2 \times 17 / / \mathrm{c}^{x}$ $9 " \mathrm{H}$. Less speaker. Shpg. Wgt. 40 ibs MODEL PRO.310. Net............... $\$ 495.00$ MATCHING SPEAKER for PRO-310. Shpg. Wgt. 12 lbs. Net........................... $\$ 18.50$


## HQ-140-X

COMMUNICATIONS RECEIVER
Offers many new features which provide improved sensitivity, selectivity, stability and imoge ratio. 3 warts undistorted audie output gives superior fidelify for music and voice reproduction. Covers 540 KC ta 31 MC confinuaus in sixranges on accurately calibrated rain tuning dial. Bandspreart dial is calitrated for the $80,40,=10,15$ and 10 meter amateur bands and has an arbitmary lagging scale. Antenna input for single wire or balanced line. Antenac trim mer oh front panel. Colibrated $S$ meter. Special patented Hommarlund erystal fil. ter provides extreme selectivity, switch hos six pasitions, three for phono, two for CW, "off". Tubes: 6BA6 RF, 6CA osc. 6BÉ6 mixer, 3 -6BAG IF, 6AL'S def. AVC: ANL, 12AU7 audia-BFO, 6V6GT output, SU4G rect. and VR 105 voltage reg. 2 -tone grey cabinet, $11 \times 20 \% \times 13 \%$ "D. For 105.115 VAC $50 / 60$ cycle operotion. With pubes, less speaker. Shpg. Wgt. 60 lbs.
MODEL HQ-140X. NET. $\$ 264.50$ MATCHING $10^{\circ \prime}$ PM SPEAKER for HQ-140X re.

STEWART-WARIER


## CITIZENS RADIO

CENTRAL STATION POWER PACK
A 2 -way AM radio communication system cleverly built into telephone type hond. sets. Operates in the Citizens Radio Band ( 465 MC ) and provides reliable shortrange communicatigns from several hundred yards to many miles depending on location and terrain. Small and lightweight, assures quick ond easy portable opera. tion; can be comfortably held and operated with one hand. Measures only $101_{3}{ }^{\prime \prime} \ldots 17^{\prime \prime}$ with collapsible plug-in type antenna. Weighs only 28 ounces; approximately $51 / 2$ Ibs. with portable battery pack and carrying case. Central Station Power Pack may
be used for AC operation. Ruglifier of cosi metal is finished in rich maroon with black trim. Portofone uses two miniafure tubes for transmitter and receiver. Knob adjusts receiver to exoct transmittet frequency. Small glow lamp indicates if battery voltage is sufficient for operation of set Station license easy to obtain; operater license not necessary if author. ized by station licensee. FCC license application forms and complete instructions included with each unit. Portafones are sold only in pairs. Less power supply.
Shpg. Wgt. 12 bs.
$\qquad$ $\$ 199.50$

BATTERY PACK. A, B, C, pack for Porto. phone. Slips into carrying case. Shpg. Wgt. 1 lbs.
NO. F5XX92. Net........................... $\$ 6.45$
6 VDC POWER PACK. Plugs into 6 VDC cigaretfe lighter outlet of a cor, truck, or boal. Supplied with $5-\mathrm{ft}$. length of cord and terminating plug. Size: $5^{1 / 2} \times 3 \frac{1 / 4}{} \times 51 / 2^{n}$ Shpg. Wgt. 6 lbs .
MODEL G-698300. Ne $\qquad$ .31 .00
12 VDC POWER PACK. Same as above power pack except plugs into 12 VDC cig. arefte lighter cutlet. Shpg. Wgi. 6 liss. MODEL G.698400. Net. $\qquad$
CENTRAL STATION POWER PACK. FO Modal 73 Portafones. Plugs into 115.120 VAC, 60 cycle outlets. Includes mounting base to hold Portafone. Shpg. Wgi. 7 lbs NO. G-698200. Nef. $\qquad$ . 34.65
MASTER STATION AMPLIFIER. Amplifies incoming signal and alerts operator who may be engaged in other work. Lifting Portaphone from cradle cuts out loutspeak. er and applies high voluage to Por*aphone for instant operation. Operates on 110-120 VAC. Shpg. Wgt. 36 lbs .
MODEL 9179. Nef.............
... $\$ 189.50$


## VIKING II TRANSMITTER KIT

Bondswitching tronsmitter covers 160,80, $40,20,15$, and 10.11 meters. 180 wotts input on CW ; 135 watts on phone, $100 \%$ AM modulotion. Sockets for 10 crystols. Effective TVI suppression; oll openings ond external leads completely filtered. Ventiloted copper-plated steel cabinet with phosphor bronze bonding strip. Power socket for externol VFO. For use with high impedance microphone. Antenna relay terminals. Pi-network output matches wide range of impedances; provides up to 30 DB 2nd hormonic attenuation. Tubes: 6AU6 crystal osc., 6 AQ 5 buffer-doubler, paralle! 6146 's finol, 6AU6 speech, 6AU6 driver, PP 807's modulator, porallel 5R4GY's HV rect., 5 V 4 G LVrect., 6 AL 5 bias rect. Size $20 \times 10^{3 / 16} \times 13^{n}$. For $110.120 \mathrm{VAC} 50 / 60 \mathrm{cy}$. operation. With tubes, cabinet, punched chassis, wiring horness, wire, solder, all ports, hordware, and complete assembly ond operating instructions. Less crystal, key, ond mike. Shpg. Wgt. 85 lbs .
MODEL 240-102.1 KIT. Net........ $\$ 279.50$ MODEL 240.102-2. Wired, tested.....337.00

## VIKING 11

CIVIL DEFENSE TRANSMITTER
Specifically designed to meet requirements as set forth in FCDA Cońrributions Manual M 25-1 revised. Qualifies for matching funds program. Basically the same transmitter as stondord Viking II with the following modificotions: Codmium-plated cobinet instead of copper plated; Modulation limiting system to prevent overmodulotion; Microphone jack which permits use of pushtotalk microphone; Provides continuous coverage from 1.75-4.0 MC, 5.2-8.0 MC, 9.8-15 MC, $15.0-21.8 \mathrm{MC}$, $21.0-30.0 \mathrm{MC}$. Wired ond iested with tubes, less crystals, key, ond microphone. Not ovailable in kit form. Shpg. Wgt. 85 lbs . MODEL 240-102.15. Net............. $\$ 398.00$

## JOHNSON VIKING

## VFO KIT



Stable VFO with $5^{n}$ dial calibrated for all bands, 160 thru 10 meters. For use with 'Johnson or other transmitters. Uses 6AU6 ECO, OA2 regulotor. Output frequencies: 1.75-2.0 MC for 160, 80,40 meters; 7.0. 7.425 MC for $40,20,15,10$ meters; 6.7.7.0 MC for 11 meters. Clean keying for "break$\mathrm{in}^{\mathrm{n}}$. Plugs into Johnson transmitter for power. When used with other transmitters, requires $250-300$ VDC unreguloted af 15 $M A$ and 6.3 volts $A C$ or $D C$ at .3 amps . Size, $7 \times 6^{7}, \times 6^{\circ}{ }^{\circ}{ }^{10}{ }^{\prime \prime}$. With all ports and instructions. Less tubes. Shpg. Wg g. 6 lbs. MODEL 240.122-1 KIT. Net.......... $\$ 42.75$ MODEL 240-122-2. Wired, tested......63.75


## NEW JOHNSON VIKING RANGER

 TRANSMITTER-EXCITER KITA rugged, compoet, self-contained 75 -wot? CW or 65-wott phone transmitter which can olso be used as o flexible exciter unit without modification. Bondswitching operation on oll amateur bonds from 160 through 10 meters. Pi-network antenna load motching from 50 to 500 ohms. Frequency control with very stoble built-in VFO or crystol. High goin oudio and complete TVI shielding and filfering. Velvet smooth, accurate funing with new 6.10 .1 planetary dial. Separate colibrated bandspread dial scales for each of the seven bonds, 160 , 80, 40, 20, 15, 11, and 10 meters. Excellent keying stability for break-in operation. REAR OF CHASSIS: Nine-pin receptacle brings out TVI filtered control and oudio leods for exciter operation. This plug also permits the Ronger to te used as ofiloment and plate power source and a modulator for -operating ouxiliary equipment such as a VHF transmitter; Available at the output plug are 6.3 VAC at 5.5 amp , 500 VDC at up to 210 MA .300 VDC of up to 50 MA along with the full 33 watts out. put of the modulator.
TUBES: $6 A U 6$ VFC, OA2 voltage reg:, 6CL6 crystol ose., 6CLL 6 buffer, 6146 final amp, 6AQ5 clamper, 12AX7 dual triode speech omp, 12AU7 dual triode oudio driver, 2.1614 PP modulators, 6AX5 low voltage rect. and 5R4 high voltage rect.
As on exciter, the Ronger will drive any of the popular KW level fubes and provides high quality speech driver for high powered modulators. Basic control functions for high powered stage can be handled right af the exciter. No internal chonges ore necessary to chonge from transmitter to exciter operation. Unit measures only 15x $111 / 16 x^{9 m}$. Designed for easy assembly. Wiring harness, punched chassis, all parts, hardwore, and connectors are furnished along with complete as sembly instructions, pictorial diagroms, and operating directions. Less tubes, crystal, key, and mike, Shpg. Wgt. 54 lbs .
MODEL 240-161. Nef.................\$ 179.50 MODEL 240-161-2. Wired, tested.... 258.00 Full set of tubes for Ranger. Net..... 23.92

## standing wave RATIO BRIDGE



For accurate measurements of SWR on 52 ahm transmission lines and proper adiustment of antenna couplers. Moy be changed for 70 ohms and apen wire lines. Shielded canstructian. With 83-1R connectors and polorized meter jocks. I wott moximum RF power required. Colibroted for use with 0.1 MA 100 ar 250 micraamp meters. Wired and tested. Size $2 \frac{1}{1} \times 4^{1} /{ }^{2}$. Shpg. Wg. $1 \frac{1}{2} \mathrm{lb}$. MODEL 250.24. Net...................... $\$ 9.75$


## VIKING MOBILE VFO KIT

Buily for rugged mobile operation. Edgelighted lueite vernier dial occurotely calibrated for $75,40,20,15$, and 10 meters. Oscillator mierotes in 3.5-4.0 MC ronge of oll times. 3.75-4.0 MC output for 75 meters, 7.05-7.45 MC for 40/20/10 meters, 10.58 11.17 MC for 15 meters. Moy be mounted on steering post. Tubes: 6BH6 osc., 6BH6 isolotion amp/multiplier, OA2 regulotor. May be wired for 6 or 12 volt operation. Requires 6.3 VDC or .45 amps or 12.6 VDC at .25 and 250.300 VDC at 20 MA . Size $4 \times 41 / 2 \times 5$ ". Complete kit with cables, connectors, all parts, hardwore, assembly and operating instructions. Less tubes. Shpg. Wgt. 3 lbs.
MODEL 240-152-1 KIT. Net $\qquad$ . $\$ 29.45$ MODEL 240-152-2. Wired, tested..... 44.95

## MOBILE TRANSMITTER KIT

Bandswitching on 75, 40, 20, 15, 11-10 meters. Up to 60 watts input at 600 volts; 30 watts at 300 volts; $100^{\circ}$ modulated. Se lector far four crystals and external VFO. For under-dash installation. All stoges metered. For dynamic, crystol, or carbon microphone; "push-10.qalk". operation. 52 ohm output. Tubes: 65 H 6 osc., 6AQ5 bufferdoubler, 807 final, 6 BH 6 speech, $6 \mathrm{BH6}$ driver, 'PP 807's modulator, 12AU'7 bios ose. Size: $6 \% / 10 \times 7 \% \times 103 / 10^{6}$. With all ports and instructions. Less tubes, crystols, microphone, and power supply. Shpg. Wgt. 20 lbs.
MODEL 240.141.1. Net................\$99.50
MODEL 240.141-2. Wired, tested.....144.50


Self-contained ontenna coupling system which performs alltransmission line matching and switehing functions in medium powered omoteur stations. Will lood almost every kind of antenno from $3.5 \cdot 30 \mathrm{MC}$. Matehes balonced ontennas from 25-1200 ohms and loads unbolonced or single wire aniennos 25.3000 ohms. Tunes out large amounts of reactance. Helps reduce TVI. A companion unit to the Viking I and II. Can be used with any 250 -watt trons mitter. Nominol input impedonces 52 chms. Built. in changeover reloy which also mutes re. ceiver during transmission. "Motch Box" alsa motches ontenno input toreceiver. All front ponel controls, no internal adjustments. Fully shielded. Cobinet finished in moroon and grey, size $9 \% \times 7 \times 101 / 2 \mathrm{DD}$. Completaly assembled and tested. Shig. Wgt. 9 lbs .
MODEL 250-23. Net..................... 34.85

## HIGH FREQUENCY RECEIVERS AMATEUR

## JOHNSON Liking

JOHNSON
SIGNAL
SENTRY


Will monitor either CW or Phone signals without regord to operating frequency. Sim. ple circuit change permits using as code proctice oscillator. No direct connection to transmitter. Powered by receiver, requires 250 VDC 5 MA, 6.3 VDC . 6 A. ' Sim= ple installation, Signal Sentry plugs into phone jack of receiver, phones plug into monitor phone jock. Loosely coupled lead provides sample signal, receiver output is muted. Size $31 / \times 3 \% \times 3 \%$ "D. With cables, conneciors, ond instructions but less $12 A X 7$, and 12AU7. Shpg. Wgt. 3 lbs .
MODEL 250-25. Net.................
.... $\$ 14.70$


WHIPLOAD-6 BANDSWITCHING MOBILE ANTENNA LOADING COIL

Instont bandswitching on 6 bonds - 75, 40, $20,15,11$, and 10 meters when this highly effic ient loading coil is used with standord mobile antennos. On 75 meters, a special voriable capacitor, with a dial scole for occurate calibration, is shunted across the coil to permit tuning the entire bond. Complete coverage available on other bands without tuning. Large diameter airwound coil provides high Q. Tops for each band are initially adjusted with a grid dip meter or field strength measurements, ond require no further attention. Fibre glass housing protects ossembly from shock and exposure.
MODEL 250.26. Net $\qquad$ $\$ 19.50$

## JOHNSON <br> "BI.NET"



## MOBILE ANTENNA NETWORK

Two band mobile ontenno loading network designed for center mounting on stondord whip. Provides 10 and 20 meter operation outomatically without switching. Has no switches, reloys, or other mechonical controls. Has $3 / 4$ thread for antenna mounting. Enclosed in streamlined plastic housing. May be used in conjunction with the Whip-load-s for automatic 10 and 20 meter oper. ation and bondswitching for other bands.
MODEL 250-22. Net $\qquad$ .$\$ 10.95$

## JOHNSON

## LOW PASS FILTER



Provides 75 DB or more attenuation of tronsmitter harmonic and spurious output above 54 MC. Will handle a full KW $100 \%$ modulated. Choracteristic impedance of filter is 52 ohms. Equipped with cooxial input and output connectors. Shpg. Wgt. 3 lbs.
TYPE 250-20. Net...................... $\$ 13.50$

## MONITORADID



## CRYSTAL CONTROLLED SINGLE FREQUENCY MOBILE FM RECEIVERS

High quality crystal cantrolled single fre quency receiver to be used as additional receiver for separate frequency channel monitoring to supplement 2 -way communications systems. May also be used to dispatch police, fire, civildefense personnel, ambulances, etc. All units are shipped with crystol installed to order and aligned to frequency. High sensitivity and selec. tivity, adiustable squelch. Antenno imped. ance 53 ohms. Builtoin 4" PM speaker. Available for 6 or 12 volt ignition systems, specify. Size $4 \frac{1}{4} \times 6 \frac{1}{4} \times 14 \mathrm{n}$. Shpg. Wgt. 12 lbs.

MODEL FMCI-H-6. 147-174 MC, 6 VDC input. Specify xtal frequency. Net.... $\$ 129.76$ MODEL FMCI-H-12. 147.174 MC, 12 VDC input. Specify xtol frequency. Nei \$129.76 MODEL FMCI-L-6. $30-50$ MC, 6 VDC in. put. Specify xtol frequency. Net... $\$ 129.76$ MODEL FMC1-L. 12.30.50 MC, 12 VDC input. Specify $x$ tol frequency. Net... $\$ 129.76$ MODEL A-101. Gutter mount antenna for Model FMCl.H receivers. Net.......... $\$ 7.00$

## POLIE ${ }^{\text {Salaran }}$



## FM RECEIVERS

FOR EMERGENCY CALLS
A home radio built to receive emergeney calls in the 152.174 MC band. Brings in police calls, fire olarms, railroad, border patrol, etc. Uses five tubes plus rectifier, superhet eircuit with 10 microvolt sensitivity, 100 KC selectivity. Built-in Alnico $\vee 5^{\text {² }}$ speaker. Full vision illuminated dial. Brown plastic cabinet, size $101 / 2 \times 7 \times 7=\mathrm{D}$. Complete with $14^{n}$ whip antenna. Operates on 115 VAC or 115 VDC. Shpg. Wgt. $71 / 2 \mathrm{lb}$. MODEL PR.9. Net. $\qquad$ $\$ 49.95$
MODEL PR.31. Similor to MODEL PR.9 but operotes in 30-50 MC. Net....... $\$ 49.95$ MODEL PR-74. Similar to above but operofes in 72.76 MC band. Net.......... $\$ 49.95$ MODEL S.19. Squelch adapter for above receivers. Easy to install. Net.c..... $\$ 12.50$ MODEL CA.2. Cooxial antenna for PR.9 receiver. Ner:............................... $\$ 5.00$ MODEL A.30. Whip antenno for PR- 31 and PR.74 receivers. Net...................... $\$ 6.50$

## MONITOPADID



## FIXED FREQUENĆY ALERT RECEIVER

Crystal controllod fixed frequency FM receivers. Designed to pass exacting requirements far commercial and civil defense use. Certified for CD use FCDA type R. $74+$ R-76. Ideal for police ond fire de. portments, pipelines; toxicabs, forestry units in weak signal areas. Extreme sensitivity, selectivity, ond image rejection. 12 fubes. Dual conversion. Built-in speak. er and squelch. 1 wott audio. Provisions for operating external switches to activate olerting devices or remote sirens. Complete with tubes, crystal installed to order, (specify exact frequency). Size: $8 \times 9 / 1 / 2^{x}$ $141 / 4$ ". For 110.120 VAC 60 cycle operation. Shpg. Wgr. 22.lbs.
MODEL MCA. 100 -L. For $25-50$ MC. Specify exact crystal frequency. A-30 whip ontenno recommended. Net................ $\$ 149.50$ MODEL MCA-100:H. For 147-174 MC. Spe. cify exact crystol frequency. CA-2 coox antenna recommended. Net......... $\$ 149.50$ MODEL CA.2. Cooxial antenno for PR-9, DR- 200 (high band), MCA-100-H. Net.
O......................................... $\$ 5.00$ MODEL A.30. Whip antenna for PR-31, PR-74, DR-200 (low bond), MCA-100-L. Net........................................... 6.50

## MONITORADID



## TWO BAND TUNABLE FM COMMUNICATIONS RECEIVER

Twa bond FM communications receiver operoting in $30-50$ and 152.174 MC ranges, Exceltent sensitivity, dual conversion with separate front end for eoch range. Moy be used as fixed frequency or is funable throughout entire range. Hos provision for 2 crystal controlled receiving frequencies (erystals not included), one in each range. Front panel squelch odjustment. Front pontel switch selects type of operotion. Tuned RF stage for better image rejection. Illuminoted slide rule dial. 14 tubes plus rectifier. Twa-tone metol cabiner, Size: $141 / 2 L \times 91 / 2 \mathrm{D} \times 8^{\circ} \mathrm{H}$. For operotion on $105-120$. VAC, 60 cy . With tubes, less speoker. Shpg. wgt. 21 lbs.
MODEL DR-200. NET.
$\$ 149.95$ MATCHING SPEAKER FOR DR-200. NET. $\$ 14.95$

## esces

## TEL-O.PATCH



High quality sound receiving and tronsmit. ting unit for low impedance lines, designed for experimental and amateur use. Affords true undistarted vaice reproduction with perfect intelligibility ot $100^{\circ}$ o modulation. Feedback, hum, naise, and other undesir. oble foctors ore eliminated. Receive position designed to work on ony receiver with output impedance from 500 to 5000 ohms. Transmit position designed for high goin or mike input, con be modified easily to low gain stoge. Easy installation.

## THE ORIGINAL

General purpose madel for use with oll types of recejvers and transmifters. Provides standard phone jack output for con. nection to receiver. Equipped with the Amphenal 75.PC1M connector for connecting to speech input. Complete with in. structions. Shpg. Wgt. 3 lbs .
ORIGINAL TEL.O.PATCH. Net.... $\$ 14.95$ THE REGEMCY
Designed for the hom who uses Collins Equipment such as $32-\mathrm{V}$ series, $75-\mathrm{A}$ series, and KW.1. Equipped with lever action telephone type switch, which contrals both transmitter ond madulation. Separote Tel-O-Poich OFF.ON switch. Designed for high gain input. No madifications ore necessory, complete ond ready for use, including cord and plug to fit microphone and transmitter contral socket, reversible mounting plate, mounting screws, ond instructions. Shpg. Wgt. 3 ibs
REGENCY TEL.O.PATCH. Net.... $\$ 24.95$


SONAR

PHONE

PATCH
Simple to instoll and odjust. Three sets of cobles connect to telephone. line, tronsmitter mike input, ond receiver power output. Controls: receiver goin, transmitter goin, off-on switch, mike iock. Block metol cobinet, $4 W \times 4 H \times 2^{\prime \prime} \mathrm{D}$. Complete instructions. Shpg. wgi. $21 / 2 \mathrm{lbs}$.
MODEL PP-24. NET
. $\$ 19.50$

## MALLORY

## VIBRAPACKS



Vibrator-operated power supplies fumish high voltoge DC ta portoble-mobile installotions. Built-in noise suppression. 6 VDC input. Eosy to install in trunk or other convenient tocotion. Shpg. wgt 10 lbs.
TYPE VP-555H. 300 VDC of 200 MA
TYPE VP-557. 400 VDC ol 150 MA.


# \#awey-weals 

## Bandmaster Transmitters

$80,40,20,15,11,10,6$ and 2 Meters
( completely wired and tested - nor a kit)


RANDAASTER TRANSEIITTER

## BANDMASTER VFO

Designed especiolly for oll harvey Wells Bandmasters but may be used with other typets of transmitters. Highly stable Clopp oscillotor circuit uses $6 A Q 7, \mathrm{OB2}$. Hos slanted illuminated diol foce for eose of operotion with full visibility. 6 bands directly colibrated, $80,40,20,15,11$ and 10. Furnishes 30 - 35 volts RF output over entire trequency ronge. 300 ohm output plugs into transmitter crystal socket. Heater voltages and plote power ore supplied from terminal strip on Eandmosters. Requires 300 VDC or $30 \mathrm{MA}, 6.3$ volts at .65 omps. Bondmaster will mount on VFO unit os illustrared. Shpg. wgt. 8 lbs .
BANDMASTER VFO. NET.
$\$ 47.50$

## BANDMASTER SENIOR

A complete reody to go erysto!-controlled transmit. ter including the new crystol-oseillator-VFO switching circuip. Phone ar CW - 8 bands - 80, 40, 20. 15, $11,10,6$ and 2 meters. Ideol for either mobile or fixed stotion use. Will operate from AC power pocks up to 450 V of 275 MA vibrotor supoly or dynomotor supply for portable mobile aperotian. Employs Pi ontenna motching network. Power input to finol is 50 wotts with 450 V power supply on bands 1 through 7,30 wotts on band 8 . No tuning odjustments ore necessary except those required to resomate the final output to the antenna. May be mounted on rack panel with power supply. For use with corbon microphone power supply. For use with corbon microphone. No plug-in coils. CONTROLS: Bond Switch, Exing Power.on Switch Corriermon Switch Meter Switch. Antenna network will moteh non-reactive Seeder. Antents network will morch non-reactive calibrotion chort on front portel os well os twa cole arid ond plate OC milliommeter TUBES 6 A05 Crystol Oscillotor 6405 Buffer-Multiplier 807 Finol Amplifier 2-6L6G Closs B Modulotors 807 Finol Amplifier, 2-6L6G Closs B Modulotors. with tubes. Shpg. Wgt. 19 lbs .

## MODEL TBS-50C. NET. . $\$ 111.50$

## BANDMASTER DELUXE

The lost word in a versatile smoll tronsmitter for tham or commercial use, Used extensively in foreign countries for importont commercial opplicotions. Hos built-in 3 -tube preamplifier for use with crystal mike, and ALL the features of the Bondmoster Senior. Shpo. wst. 20 ibs. $\$ 13750$

## AC POWER PACK

For use with Bandmoster Transmitters. Moy be mounted on rock porel. Uses two 5U4G rectifiers. Delivers 425 V at 275 MA ; 6.3 V of 4 amps . For $110 \mathrm{VAC} 50 / 60 \mathrm{cy}$. Shpg. wgt 23 lbs. MODEL APS-50. NET.
39.50

RACK PANEL
Speciolly drilled for mounting Bondmaster Tronsmitters ond AC power supply APS-50. Block crockie finish. Size: $121 / 2 \times 19^{* *}$. Shpg. wgt. 8

TBS-1A PANEL. NET.
55.75

## -aNSEE



## GONSET "SUPER-CEIVER"

Pravides sensational communicatians receiver performance in mabile installations when used with high quality converters such as the Ganset " Super-Six" . Consists of four IF stages ( 262 KC ), odjustable squelch, noise elipper, internal speaker, vibratar pawer supply, stable BFO for CW and SSB. Crystal contralled. Duol canversion; excellent selectivity. Provisions for external speaker and $S$ meter, Main cantrals are on separate small control head which mounts near converter for finger-tip operotion. 1430 KC crystal furnished; may be foctory exchonged for other inputs. Size: $61 / \times 6 \frac{1}{4} \times 51_{4}^{m}$. With pubes, cobles, and connectors. (Price does not include' converter). Shpg. Wgi. 10 lbs.
MODEL 3041.6.6 VDC input. Net $\$ 119.50$ MODEL 3041-12. 12 VDC input....... 119.50


AUDIO AMPLIFIER - POWER SUPPLY
An oudio amplifier-power supply specific. olly designed to supply aupput audio ond power for tuners with low-level oudio outputs. Has built-in PM panel speoker, oudio gain and tone contrals. Ideal for use with Gonset FM-AM tuners, two meter tunable and crystol controlled funers, to provide a complete, independent communicotions receiver. Size: $6 \frac{1}{6} \mathrm{D} \times 7 \mathrm{~W} \times 6 \%^{\prime \mathrm{H}} \mathrm{H}$. Shpg. Wgt. 9 lbs.
MODEL 3034. 6 VDC Input. Net.... $\$ 44.50$ MODEL 3036. 115 VDC Input. Net $\$ 44.50$


## AIRCRAFT VHF ADAPTER

VHF odapter for private aircraft, covers 108 to 128 MC band when used in conjuncfion with medium or low frequency oircroft or outo radio. Requires 120-180 VDC, obtained fram as socioted receiver. Built-in series gote noise clipper reduces ignition noise, Size: $5,2 \times 3,2 \times 5 / 2^{m}$, Shpg, Wgt. 5 Kbs. Specify if for 6 or 12 volt aperation. MODEL 3014. Net. $\qquad$ $\$ 69.50$ MODEL 3015. With Built-In Squeleh. Ner.............................................. $\$ 79.50$


## "Commander"

35.50 waft MULTI-*AND TRANSMITTER

This new compoct sturdily-built crystat contralled transmitter hos o continuous frequency ronge of torion use. TiAR RF 6AG7, 6146 AF 12 AT7. storion use. Wubes. RF, 6AG7, 61 6 . AF, I zAT7, 2.6AQS. WIl occommodate ony stondord carbon Modulatort Closs AB2 beam tetrodes and integral hoduloror. Closs AB2 beam retrodes and inegral high lavel speech clipping which requires no od ustment. Exirely ef fedtines including soox rib. conventional types of feedilines including coox, ribban, open line, or direct to Morconi ontennos. ble to that of many other tronsmitters which run ble to that 500 volts. ot 400 to 500 volts. Rated ot 35 wotts input on VDC it $200-225 \mathrm{MA}$. Power requirements: 300 or or 200-225 MA phone) and 6.3 voits A . or DC of 3.15 omps. Smoll in size and suitoble or under dosh mounting, $57 / 8{ }^{3} \mathrm{H} \times 81 / 8^{\circ} \mathrm{W} \times 71 / 8 \mathrm{D}$. Completely wired ond tested with oli tubes, including two high-Q coils which cover $10-11,15,20$, 40 , 75 and 80 meters. Blue groy hommertone MODEL 3016 . 6 . NET.
$\$ 124.50$

## VFO FOR COMMANDER

A uniquo circuit omplaying no fubes; good stability bocouse no heat is genorated in cast oluminum box. Plugs directly into plug recop tecle on front of Commondor. Covers $10,11,15$, 20,40 , and 75 metors. Size $51 / 6 \times 5 \frac{1}{6} 31 / 2 m$. Shpg. Wgt. 5'ibs.
MODEL 3020." Net..................................... 29.95


## SIGNAL SLICER

A highly selective IF omplifier for olmost ony outo or home radio using 0455 or 262 KC IF system except those with o seeking suner. Will increase the selectivity to 3.5 KC , permitting operotlon under conditions of severe interference. Built-in noise clipper. Brood-shorp position swifch permits receivet to be used for normal reception. Unit obtains its power from the rodio to which artoched. Eosy to instoll. Measures only $61 / 2 W \times 57 / 8 \mathrm{Hx}^{\prime} \mathrm{C}$ Shpg. wgt. 5 lbs.
MODEL 3028 ( 455 KC). NET.
\$29.91 MODEL 3048 (262KC). NET
$\$ 29.9$.


NOISE CLIPPER. Reduces ignition and similar type inferferance. Easily installod on mobile or fixed recelvers having conventional diade second detectors. Size: $2 \times 4 \times 21 / \mathrm{m}$. With tube, cables, ond instructions. Shpg. Wgt. 2 lbs. MODEL 3001. Net.... $\qquad$ .. $\$ 9.25$
DELUXE NOISE CLIPPER-SQUELCHER. Combines the famous Gonset noiso clipper with the Gansat adjustable squelch circuit. For any mobilo or fixod raceiver. Eosy to install. Sire: $41 / 4 \times 51 / 4 \times 21 / 4^{1}$. Shpg. Wgt. 3 lbs .
MODEL 3000. Net...


## "COMMUNICATOR II"

## COMPLETE 2 METER STATION

A completely self-contoined 2 meter station in o single, highly compact unit. Power supply is for both 6 VDC ond 110 VAC operotion to provide both 6 VDC ond 110 VAC operotion to provide hondle cosual or emergeney communicotions hondie casual or emergency communicotions. Receiver is on extremely hor superher; tronsmitrer is crystol controlled for maximum stobility. Self contained speoker ond oudio channel moy be utiinzed as on excellent emergency PA system. Tuning front ponel. Hos o range of up to 100 miles front panel. Hos o rer
under ideal conditions.
RECEIVER hos 10 tubes ( 4 dual purpose). 6BQ7 coscode RF, $12 A T 7$ mixer-ose. 6BH6 IF 16 MC 6BH6 IF, 6BJ6 IF, $6 T 8$ 2nd def, oudio ond noise clipper, $12 A \times 7$ oudio, 6 V 6 oudio, $6 \times 4$ (2) rectifiers. Built-in odjustoble squelch. Dynomic speaker. Headphone jock. Edge-lit colibroted tuning diol with on/off light switch.
TRANSMITTER uses 6CL6 $\times$ xol osc.-tripler, 12 AV 7 tripler-doubler, 2E26 finol, 9036 runing eye rectifier, $6 E 5$ tuning eye. 5-7 wotts output. Uses 8 MC erystals. Tuning eye metering on oll stages; no externol meter required. Either erystol or carbon mike moy be used.
Steel cobinet finished in grey hommertone. Weighs opprox. 19 lbs. Size $101 / 4 \times 91 / 4 \times 7{ }^{\prime \prime}$. Complete with 19" whip ontenno, less mike ord erystol Shpg. wgt. 25 lbs.
MODEL 3025. NET $\qquad$

VFO AND AUDIO PREAMP
Stable VFO plugs into erystal socket of Communicator. 24 MC oufput. Builp-in audio preamp increoses mike pickup when desired. Switch permits "zeroing in" on received signal. Self-contained power supply permits use with most any 2 -meter rig. Cabinet matches Commuhicator. For 115 VAC 60 cycle operation.
MODEL 3024. Net.......................... $\$ 84.50$


3002
"3.30" CONYERTER
Continuous coveroge 3-30 MC. Bondspread diol with plenty of bandspreod on ham bands. High sensitivity on a short whip. High stobility. Four working (RF) tubes give lots of reserve goin. Ex. rremely compoct. $51 /{ }^{4} \times 31 / 3^{\prime \prime} \times 51 /{ }^{\prime \prime} \mathrm{D}$. Outpur fraquency $1500-2000 \mathrm{KC}$. Shpg. wgt. $43 / 4 \mathrm{lbs}$.
MODEL $\mathbf{3 0 0 2}$. NET. . . . . . . . . $\$ 44.75$

## POLICE, MARINE, C.A.P.

Performance ond construction comporoble to 3-30 model except covers 1.6 to 6 MC in 2 bands ond employs I MC output (IF). Ideol for palice, morine, CAP, eivil defense, disaster communicotiens, ond amoteur 75 ond 160 meter mobile work.
MODEL 3003. NET
 3003

## 2 METER CONVERTER

An amoteur converter covering 144-148.2 MC, or fixed or mobile use. Unique superimposition uning feapure and I MC ioutput) IF doubles andspreod, speeds tuning, ond ovoids irroges from V. toxicobs, police, or other stotions cutside 2 meter band. High stability permits use with outo or home broodeast set, providing some order of selectivity obrainable on lower frequency bonds. Excellent sensitivity. 50 ohm coax input eosily odapted for use with open wire line or 300 ohm ribbon. Utilizes powtr supply of receiver 0 which afroched. Standard Gon-Set cose,迤 lofor-mixer, OB2 volfoge regulotor. Shpg. wgi. lofor-m
MODEL 3008. NET.
. $\$ 44.50$


## AM AND FM TUNERS

Compoct tuners provide sensitive, stablo rea ceiver when used with outo, home, or communicavions receiver or when used with the Gonsot audio omplifier-power supply unit. Includes squalch and noise elipper, if and low level audio. 50 ahm input. Shpg. Wgt. 5 lbs.

MODEL 3009.FM 30-40 MC FM Net $\$ 69.50$ MODEL 3009-AM 30.40 MC AM Not | 69.50 |
| :--- |
| 9.50 | MODEL 3010-FM $\quad 40-50 \mathrm{MC}$ FM $\quad 69.50$ MODEL $3010 . A M \quad 40.50 \mathrm{MC}$ AM MODEL 3011.FM 88-108 MC FM MODEL 3012-FM $152-162 \mathrm{MC}$ FM MODEL 3013-FM 162-174 MC FM

69.50
69.50 69.50
69.50 69.50
69.50

STEERING POST MOUNTING BRACKET. For oll models of Gonset convertors. Convertor may be mounted in position most convenient to driver of car. With mounting straps and hordwore. Shpg. Wgt. 3 tbs.
MODEL 3006. Net....

## AMATEUR LYSCO AMATEUR EQUIPMENT

## LYSCO

## TVI SUPPRESSED

## TRANSMITTER

The Lysco 600 is a VFO or crystal-controlled bandswitching tronsmitter, covering $160,80,40,20$, 15,11 and 10 meter amateur bands. Conservotively roted of 35 wotts input. Tube line-up: 6AG7 osc., 6AG7 8utfer-Doubler, 807 omp., 5U4G rect., VR-150. Oscillator fundamental on 160, 80 and $\mathbf{4 0}$ meters. Amplifier runs stroight through on oll bands ond is mounted in a comportment under the chassis, providing double shielding for prevention of spurious ond harmonic radiation. Filters which ore provided reduce spurious and harmonic rodiotion of least 60 D8 below maximum power

outpht of the fundamental frequencies. Oscillotor keyng for break-in aperotion. Terminals for exrernol madulosor. Aprractive black wrinkle cabinet with large illuminated fuls vision dial, each band colibroted indicating opproximate band lim. ifs. Size: $17 \times 9 \times 11$. Complete with tubes ond instructions, less modulotor. Shpg wgt. 35 tbs

## MODEL 600. NET

$\$ 143.95$
For ruck mounting. Stondard panel, $101 / 2^{\prime \prime}$ high. No cabinat.
MODEL GOOR. NET.
$\$ 143.95$

## MODEL 600 TRANSMITTER WITH MODULATOR

This version of the formous 600 retains off of its feotures. In oddition, hos a built-in CLAMP. MASTER modulotor which uses $65 J 7$ ist speech. 6SN7GT 2nd speech ond oudio rectifier, 6V6GT clamp modulatar. Input for crystol or high im-


## 25 WATT MODULATOR

Will modulate 50 watts RF input so transmitter For high impedance dynomic or erystal mike. Output impedonce, 4000 ohms RF lood. Uses 6AU6, $12 A U 7$ and 2 6L6G's in closs 8. Has pilot light. goin control and mike jock on front ponel. Power requirements: 400 VDC @ $175 \mathrm{MA}, 6.3 \mathrm{~V}$ @ 3 omps. Attroctive grey hommertone cobinet with sith screened panel. Size $8 \mathrm{H} \times 8 \mathrm{~W} \times 5^{\circ} \mathrm{D}$, With lubes, less mike. Shpg. wgt 9 fbs.
MODEL 403. NET: . . . . . . $\$ 39.95$


Extromely compact VFO can be dash mountad for mobile operation. $14^{7}$ ribbon lead with plug to fit erystal socket of transmitter to be drivon. Voltago regulated oscillator eirevir. Slug-puned RF eircuit. Full-vision calibrared illuminated dial for 80, 40, 20,10 mesers. Tubes: 6 AK 5 osc., 6 AK 5 bulfor, 6 AK 5 doubler. VFO output on 80 or 10 meters. Powor roquirements: 6.3 V . AC/OC 1.35 cmps., 200 VDC 30 MA . Size: $4 \times 43 \times 5{ }^{4}$. With tubos.' Shpg. Wgt. 7 lbs .
MODEL 382. Not..

pedorse dynamic mike. An odded feoture enobles the operctor to "zero-beat" ony signal by ollowing ose, operation only. Shpg. wot. 37 lbs.

MODEL 6005. NET
.$\$ 189.95$


Here is on efficient ond inexpensive clomp type modulotor which will modulate ony modern tronsmitte, with pentode or tetrode power omplifiers with input up to 1 KW . Designed for aperation with erystal or dynamic high impedance microphone. Simple to instoll. Uses 6SJ7 ist speech, 6SN7TGT 2nd speech, 6V6GT modulator. 8lock wrinkle finish cobinet $4 \times 4 \times 6^{\prime \prime}$. Ponel controls: modulotor on/otf switch and coin contral. Power modulotor on $/ 0$ tf switch ond gain contral. Power requicements: $300-400$ valts DC 20 MA 6.3 volis testec, complete with tubes. Shpg. wgt. 7 lbs . MODEL 401. NET.
$\$ 19.95$


## ANTENNA

COUPLER

Desigs:ed to work with ony length ontenno over 50 feet long ogoinst ground. Roted of 50 to 75 wotts. Unit is fed with 50 ohm cooxial line with connector of rear of well shielded metol case. 5 posifitin switch for coorse tuning: capocitor for fine tuning Neon lanp RF indicotor. Unit will indicote RF on oll frequencies from 1.75 to 29.7 MC without ontenno. Will greatly ottenuate hormanies for the reduction of TVI Tests with o tronsmitter on 75 meters indicoted o reduction of the second rormonic from $5-9$ to $5-1$ of 1000 ieet Size: $4 \times 43 / 4 \times 5^{\prime \prime}$ Shpg. wgt 6 lbs .
MODEL 50. NET
$\$ 14.50$

Completely pockaged oscillator unit to utilize direct erystal control output on the 6 and $10-11$ meter bonds. Single diol tuning. Adequate output o drive VMF medium power rubes, no self oscillation. Uses one 6AG7 tube. Campleie less crystcl ond tube Shpg. wigt 1 lb .
MODEL CCO.2L. Net........................... $\$ 11.95$ AX-2 CRYSTAL5. 7.9 MC erystals for Model CCO-2L. Not Each..................................... $\$ 2.95$


## NOVICE TRANSMITTER

## AND POWER SUPPLY KIT

The new Novice Transmitter Kit is a 25-wott input 2 -bond tronsmitter operating in the 3.7 MC to 3.75 MC and 26.96 to 27.23 MC bands. Es'pecially designed to provide ease of ossembly ond operotion, simple to tune and requiring only o simple ontenno system. The untuned Pierce type crystol oscillotor will oscillote freely with ony type crystol, uses one 6 V 6 tube. The tuned autput amplifier with pi type tuning system uses one 6L6 tube. Works with simple single wire ontenno, no meters ore required for tuning ond loading the antenno. The especially planned foolproof pictorial wiring diagroms ore easy to follow and con be used by onyone. Tuning condenser is of the tronsmirting rype. Kis comes complete with tubes and mansmetting key. Low loss plug-in coll forms and wire are also included in this easy-to-build kit. The power supply includes power tronsformer, choke, and rectifier tube type 5 Y 3 . An excellent unit for the novice amateur. Complete with all parts shown obove but less hook-up wire, solder, ond crystols. Shpg. wgt. 16 lbs .
MODEL NT-200. Net.......................
.$\$ 29.40$

## MEISSNER NOVICE

## TRANSMITTER KIT



A well designed novice tronsmitter kit of simple construction which requires a minimum of rodio knowledge to ossemble ond operate. Operates as - transmitter with o folded dipale ontenno ond with on input of 20 to 25 wotts on 80 meters. Circuit is a straight forward oscillator. Provisions for metering and plate current ore provided by terminal strip of the rear of chassis. Kit contains all parts except the erystal, 6V6 and 5U4 rubes. Wire and solder furnished. Controls include off/on swisch and tuning knob. Jack for key on front pannel. 80 meter coil included. An excellent way for the novice to get started. Husky power supply assures full power rotings.
MODEL 2-CW. NET . . . . . : $\$ 24.45$
NO. 18-3912. 20 Meter Coil. NET. . . . . $\$ 2.94$ NO. 18-3913. 40 Meter Coil. . . . . . . . . . . $\$ 2.94$

## MILLEN

SSB PHASING UNIT
A preciston 90 degree differential phase shift unit. Phase shift between the two sets of output terminols is 90 degrees plus or minus 1.3 degrees over o frequency ronge of 225 cy . to 2750 cy . A single sideband tronsmitter using this unit will hove 40 D8 suppression of the unwanted sideband. Con be used either in receiving or tronsmitting service. Contains two independent networks. Precisely odusted of factory. Size 1 娄 $\times 2 \times 4^{\prime \prime}$. May be mounted ke on JF transformer
MODEL 75012. NET
$\$ 9.75$


Variable Frenueney Ostillator

A complete tronsmitter control unit with a stable gang-tuned etectron-coupled ascillator and amplifier, voltoge-regulcted power supply which operores from 105-125 VAC 50/60 cycle power line. High or low impedonce output with enough power to drive any tube up to on 807 , output on 80 or 40 meters. Accurotely calibroted full vision bandspread dial colibroted for $10,15,20,40$ and 80 reter omoteur bands. Provisions for cohtrolling complete transmitter from the oscillotor panel. Unit is unusually stoble and drift-free. Good electricol bondspread is provided for each omateur band. Bond change, including bondspread, is accomplished by a switch on the ascillator panel, na plug-in coils. Keying is clean and free from all onnaying chirp, quick drift, jump, and similar difticulties. Complete with tubes and impedance odapter. Size: $12^{3 /} /{ }^{\prime \prime} \mathrm{W} \times 12^{\prime \prime} \mathrm{D} \times 11^{\prime \prime} \mathrm{H}$. Shpg. wgt. 30 lbs
MODEL 90711. NET. . ... \$124.50


Capable of power output of 70 to 85 watts on phone ar 87 to 110 watts on CW on 20, 15, 11 , Uses 829 B or 3 E29 tube in push-pull circuit. Requires external pawer supply, modulator, and grid and plate meters. Only 8 watts required to drive unit to fuli power output. May be excited directly by crystal oscillator or law power VFO on 20, $15,11,10$, or 6 meters. Size: $83 / 4 \mathrm{~L} \times 4 \mathrm{~W} \times 63 / 4 / \mathrm{H}$. Requires power supply of from 400 tc 750 volts at 180 to 275 MA . Grid ond plate coils for 10 meters supplied. Less tubes. Shpg. wgt. 6 lbs. MODEL 90811. NET...... $\$ 37.50$ GRID AND TANK COILS FOR 90811 $\begin{array}{ll}\text { Number } \\ 48002 & 2 \mathrm{mtr} \text { grid cail and link } \\ 48006 & \mathbf{N a t} \\ \$ 2.01\end{array}$ $48006 \quad 6 \mathrm{mpr}$. grid coil and link $\quad \$ 2.01$ 4801110 mtr . grid cail and link 4802120 mtr . grid coil and link 481022 mtr tenk cail and link $48106 \quad 6 \mathrm{mtr}$. tonk cait and link 48121


## RF POWER

AMPLIFIER
A Universal RF Power Amplifier designed for use with PP tubes such as $35 T^{\prime} \mathrm{s}, \mathrm{T}_{-}-40^{\prime} \mathrm{s}, 812^{\prime} \mathrm{s}_{5}$ etc.. with plate power input about 500 watts. Grid and plare MA meters. Plug-in cails. Provision for vocuum condenser plug-in. For standard rack mounting. With one set of coils, less tubes. $\mathbf{M O D E L}$
500 WATT TANK COILS FOR 90881

| Number | Prequency | Net |
| :--- | ---: | ---: |
| 42010 | 10 Meters | $\$ 3.18$ |
| 42020 | 20 Meters | 3.18 |
| 42040 | 40 Meters | 3.18 |
| 42080 | 80 Meters | 3.18 |
| 42160 | 160 Meters | 3.69 |
| 75 | WATT | GRID COILS |
| 43011 | 10 Meters | 90881 |
| 43021 | 20 Meters | $\$ 1.41$ |
| 43041 | 40 Meters | 1.41 |
| 43081 | 80 Meters | 1.41 |
| 43161 | 160 Meters | 2.41 |



## GRID DIP METER

One of the most versotile instruments ever devel-. aped. A highly stable, calibrated RF oscillator. unit with a $2^{\prime \prime}$ meter ic read grid current. Fre: quency-determining cail is plugged inta unit so thot it may be used as a probe. Operates an 115 VAC $50 / 60$ cy. or may be used with botteries. $270^{\circ}$ calibrated drum dial provides 7 direct reading secles plus an additional universal scale. Frequency range 1.5 to 300 MC in 7 overiopping ranges. Ecch range has individual plug-in prabe. For extended range, see coils below. Size: $7 x$. $3 \mathrm{ra}^{3} \times 3 \frac{1}{1 / 9^{\prime \prime}}$.
4-in-1 imstrument:

1. Grid Dip Oscillarar
2. Oscilloting Detector
3. Signal Generator
4. Indicating Absorption Wavemeter

Many applications af this grid dip meter.

1. Aligning receiver tuned circuits.
2. Determining frequency of tronsmitter tuned circuits with power off.
3. Trensmitter neutralization
4. Finding of parasitic aseillotians.
5. Preruning wave trops.

6 . Indication of sircuit $Q$.
7. Measurement of self-resonant frequency of RF chokes.
8. Measurement of inductance and copocity
9. Measurement of antenna resonont frequency.
10. Adjustment of tuned feeders.
11. Tuning beam antennos, etc

Complete with 7 inductors, rack, tube, and in-


ADDITIONAL COILS FOR ABOVE

| Number | Preq. Rong* | Net |
| :--- | :--- | ---: |
| 46702 | $925-2000 \mathrm{KC}$ | $\mathbf{\$ 6 . 7 2}$ |
| 46703 | $500-1050 \mathrm{KC}$ | 6.72 |
| $\mathbf{4 6 7 0 4}$ | $325-600 \mathrm{KC}$ | 6.72 |
| 46705 | $220-350 \mathrm{KC}$ | $\mathbf{6 . 7 2}$ |



Standing Wave

## Ratio Bridge

The Millen S.W.R. bridge provides easy and inexpensive measurement of standing wave ratic an antennas using coax cable. The compact and sturdy rectangular shielding case (anly $41 / 4 \times 21 / 4 \times-$ $15,8^{\prime \prime}$ ) is fitted with coox terminals of both ends. Socket type binding posts provide connection 10 a $0-1$ MA meter. (Use.ycur own meter.) Matching plug is furnished. As cssembled the bridge is set plug is 52 ohm line. A colibroted 75 ohm resistor is mounted inside the cose for substitution in the is mounted inside the case for substitution in the circuit when 75 ohm line is used. A calibration curve showing standing wave ratia against meter MODEL 0067
MODEL 90671. NET
$\$ 16.80$

## Midget Absorption Frequency Meters



Con be used close to transmitter cails, chassis, erc. Will check parasitics, harmanics, ascillator, doubler, tank tuning. All models directly calibrated in frequency. Shpg. wgi. I lb.



## NEW EXCITER-TRANSMITTER

A.todern design Exciter-Transmitter in cludes leofures and shielding for TVI reductian, bandswitching for the 4-7-14-21 and 28 MC bands, circuit metering. Can servatively rated far use either as a trans mitter ar exciter. 5763 ascillator-buffermultiplier and 6146 power amplifier. 90 watts input for CW. Con be keyed in the oscillatar and/or omplifier or by medins af keyed external VFO such os Milien 90711. 67 watts input phane. Rack maunted. $31 / 2^{\prime \prime}$ ponel tieight. Shpg. Wgt. 20 lhs. MODEL 90801. Less fubes. Net.... $\$ 75.00$


## MODULATOR

40.watt madulatar designed especially for use with 90801 Exciter-Transmitter. 12AX7 speech amplifier. 6C4 valrage amplifier closs ABI 6146's. Suitable far madulating transmitters with pawer input up ta 80 watts. Goin is ample far the use of law level, high impedance erystal ar dynamic mikes. Frequency respanse is adjusted for gaod cammunication intelligibility with limited side bands. Madulator incarporates a switch far camplete changegver of modus lator and transmitter from CW to phane. Rack maunted. Panel height $5 \frac{1 / 4}{}$. Shpg. Wgt. approximately 15 lbs .
MODEL 90831 . Less rubes. Net..... $\$ 60.00$


## ANTENNA MATCHING PREAMPLIFIER R9'er

An electranic impedance matchirg device and broadband pre-amplifier cambined in a single unit. Specifically for the 6 and 10 meter ham bonds. Average gain of 30 db with mast receivers. Exfremely compact. Utilizes plug-in coils. Power ubtained from receiver. Uses ane 6AK5 tube. Camplete with power plug, inpur and autput cannectors but less tube and cails.
MODEL 92101. NET
.$\$ 24.26$

| R9'er COILS |  |  |
| :--- | :---: | ---: |
| Type | Frequener | Nei |
| 46906 | 6 Meters | $\$ 3.54$ |
| 46910 | 10 Meters | 3.54 |
| 46915 | 15 Meters | 3.54 |
| 46920 | 20 Meters | 3.54 |



HIGH VOLTAGE POWER SUPPLY. 700 VDC at 235 MA autput and 6.3 at 4 amps. For use with the Millen 90801 Exciter or ony application where power supply of this type is needed. 115 VAC 50/60 cycle operation. Less tubes. Shpg. Wgi. 60 lbs.
MODEL 90281. NET.
. $\$ 94.50$
"Your trade-in's worth more at the WALTER ASHE STORE"

# (71) MORROW 

## AMATEUR MOBILE COMMUNICATIONS EQUIPMENT



## 5 BAND CONVERTER

Covers $75,40,20,15$, and 10 meter bands. Big edge-lighted slide rule dial. $1 / 2$ mierovolt sensitivity. Excellentimage rejection. Extremely stable and ruggedly buils for rough mobile use. Built-in series. noise limiter. 1525 KC output. Bond switch, funing control, and antenno trimmer. Uses 6CB6 RF, $12 A T 7$ mixer ose., 6BA6 IF, 6AL5 naise limiter. Requires 6 or 12 volts at 1.5 amps and 200 VDC of 20 MA . Strong steel case finished in grey hammertone. Size: $4 \times 55_{5}^{5} \times 7^{\text {n }}$. With Tubes. Shipg. Wgr. 6 lb . MODEL 5BR-I. Net. $\qquad$ $\$ 74.95$

## CONVERTER FOR FTR RECEIVER

Same converter as the 5BR. 1 but does not hove built-in noise limiter. It is specifically designed for use with the Morrow FTR receiver without modification. Shpg. Wgt. 6 lbs .
MODEL 5BRF. Net...................... $\$ 7.95$


FIXED TUNED MOBILE RECEIVER Crystol controlled, fixed iuned. Companion unit for use with SBRF converter but other good converters may be adapted for use with it. The two units combine to give double conversion and steep-sided skirt selectivity. Nine tubes. BFO. Exceptional stability offords excellent SSB reception. Sensitivity $1 / 2$ microvolt. Novel noise limiter and noise bolonced squelch circuits. Effec. tive Smet er. Same size as SBRF converter. Power supply and speaker not included in receiver so that heat and vibration will not offect receiver's fine selectivity and stability. Major controls on front panel. Relay control terminals for receiver muting. SendReceive reloy on power supply. Furnished with 1525 KC crystol for use with Morrow converters but 1425 and 1550 KC crystals for use with other converters available on exchange basis. With tubes, pawer supply. shielded power cobles. Less speaker. Shpg. Wgt. 15 lbs .
MODEL FTR.6. For 6 volts. Net $\$ 128.40$ MODEL FTR.12. For 12 volis........ 128.40


## THREE BAND MOBILE CONVERTER

A mobile converter for 2,6 , and $10-11$ meters. Separote ontenno input connectors for eoch band. Individual slug-type cails for each band. Sensitivity of 1.25 MV on all bands. Four tuned circuits in IF output stoge. Output frequency 1550 Cuits in if output stoge. Output frequency KC . Hos built-in noise clipper, ontenao changeKC. Hos built-in noise clipper, ontenno changeover switch, tronsmit-receive switch, edge-lighted diol. Requires $150-180$ VDC @ 25 MA from cor rodio. Rugged and stoble tuning mechonism. Uses 6AK5 RF omp., $12 A T 7$ osc.-det., 6BJ 6 IF amp., 6 AL 5 ANL , ond OB2 voltoge regulotor. Finished in dark grey enamel. Size: $5^{3 / 4} \mathrm{~W} \times 47 / 8 \mathrm{H} \times 5^{1 / 4}{ }^{\prime \prime} \mathrm{D}$. Shpg. wgt. 4 lbs.
MODEL MC-53. NET.,. . $\$ 66.60$


PRESELECTOR
This broodband preselector greátly improves the gain and signal-to-noise rotio of any good amoteur receiver. Average overall goin is 25 DB on alt borts 3.5 through 30 MC . Covers all omareur bonds 80 through 10 meters. Uses $36 J 6$ tubes plus rectifier. Controls: an-aff, band selector and ontenno peoking. Input impedonce 600 to 50 ahms for coox, doublet or twin lead. 52 to 300 ohms output to receiver through shielded coble. Blue-grey steel cobinet, $5 \mathrm{H} \times 7 \mathrm{5} / \mathrm{hW} \times 6^{\prime \prime} \mathrm{D}$. For $115 \mathrm{VAC}, 50 / 60 \mathrm{cy}$. aperotion. Shpg. wgt. 8 lbs.
MODEL DB.23. NET..... $\$ 49.50$

## MOBILE CONVERTER

A mobile converter covering all amoteur bonds, 10 through 80 meters in 5 ronges- $26.5-30,21$ -$21.45,14-14.3,7-7.3$ and $3.5-4 \mathrm{MC}$. Sensitivity $1.25^{\circ} \mathrm{MV}$ on oll bands. Input impedance 50 or 72 ohms. Highly efficient noise limiter built in. Uses 6AK5 RF amp., $12 A T 7$ ose.-det., 6BJ6 If omp., 6AL5 noise limiter. Slug-type coils for each band, 4 puned circuits in IF output stoge for high signol-to-noise ratio. Tuning knob locoted on the side provides easy finger funing through o 25-to- 1 worm gear assembly. Has tronsmit-receive switch to silence receiver and operote transmifter relays. Output frequency 1550 KC . Requires only 150-180 VDC of 25 MA . Metol cose finished in drok grey enamel. Size: $47 / 8 \mathrm{H} \times 53 / 4 \mathrm{~W} \times$ $51 / 4^{\prime \prime} \mathrm{D}$. Complete. with fubes, connecting cobles, and instructions. Shpq. wat 7 lbs.

MODEL MC-55. Net. .... $\$ 69.50$


## RME SPEECH CLIPPER

A peak limiting preomplifier which will improve performance of phone tronsmitters. Attenuotes frequencies above 3000 CPS and below 200 CPS. Hormonics resulting fram clipping are eliminared by pi low-pass filter. Operotes directiy into speech amplifier through $18^{\prime \prime}$ shielded cable. For high impedance mike. Uses 6SC7 and 6H6 tubes. Built-in power supply. Blue grey steel case, size $5 \mathrm{H} \times 75 / \mathrm{WW} \times 6^{\prime \prime} \mathrm{D}$. For $110-120^{\mathrm{VAC}} 50 / 60 \mathrm{cy}$. operotion. With tubes. Shpg. wgt. 9 lbs .

MODEL 100. NET
. $\$ 39.50$

## N (1) IC IC I W



GC
MOBILE SPEAKER. Moy be mounted overhead, under dash, or on fire wall. $5^{\prime \prime}$ heavy duty PM. Cast aluminum case. Chromed steel grill. With mounting bracket. Shpg. Wgt. 5 lbs.
MODEL SH. Net $\qquad$ .. $\$ 7.50$

## GENERATOR NOISE FILTERS

Tuned circuit RF filter aftenuates generofor noise created by brush sparking. Eosy to install. Just tune to minimum hash level in mobile receiver. Shpg. Wgt. 1 lb .
MODEL GC.10. For 10 meters. Nep.. $\$ 3.75$ MODEL GC.20. For 20 meters. Net. $\$ 3.75$

## CARTER GENEMOTORS



For mobile use. Will furnish the necessory "B" power for ham mobile installations. Will give long life and quiet operation. Supplied less filter but in most coses AM transmitters usually only require 02 or 4 mfd oil condenser across output for quiet operation. Size: $7^{1 / 4} \mathrm{~L}^{3} 4^{3, W}, \mathrm{~W} \times 3^{1 / 2} \mathrm{H} \mathrm{H}$ includ. ing base. Shpg. Wgt. 15 lbs.
Model InputVDC Output VDC 450AS 6@29A. 400 @ $250 \mathrm{MA} \$ 49.25$ 520AS 6 - 28 A. 500 a 200 MA 49.25 624 VS 6946 A . 600 - 240 MA 52.32 450BS 12 - $13 \frac{1}{2}$ A. $400 \div 250 \mathrm{MA} 49.98$ 520BS 12 @14A. $500 \div 200 \mathrm{MA} 51.03$

## ELDICO KITS - B\&W

## ELDICO KITS



## TUBELESS VFO KIT

Compoct remate VFO for use with Eldico TR.ITV and TR.75TV tran smitters. Covers 80, 40, 20, 15, and 10 meters. Plenty of bondspreod an $6^{\prime \prime}$ diol; 80 meter band is divided into twa sectians. Sturdy canstruetion and lack of heat becouse af no tube in unit ossures extreme stobility. No power connections required; iust single caoxiol line fram VFO to the tronsmitter. With cobinet, oll parts, ind instructions. Shpg. Wgt. 5 nibs.
MODEL VFO-2 KIT. Nef.............. $\$ 24.95$
MODEL VFO.2. Wired ond rested..... 29.95


## ANTENNASCOPE

The instrument to give you positive ontenno per formance ond efficiency. The Antennascope is on impedance meosuring meter used in conjunction with the Grid Dipper. With the Antennoscape you can measure radiation resistonce af your antenne; resonont frequency of your antenno; impedonce af your transmission line; input impedonce af your your rransmission line, input of your feedlines. Each kit is absolutely camplete with special handselected pats; 0-100 microammeter; silk screened diol; drilled and fobricoted case. Complete kit with instructions. Shpg. wgt. 5 lbs.
MODEL AT. 1 Kit. NET . . . $\$ 29.95$ MODEL AT-1, wired ond tested. NET.... $\$ 34.95$

## ELECTRONIC BUG

SELF-COMPLETING DOTS AND DASHES Self-completing type of outomatic keying device. Features self-completing characters thot automotically insure perfectly formed sending; continuous variable speed contral far any rote of sending fram 8 to 50 WPM; seporote conirol for weight of characters and rotio of dashes to dot length. Buit . in power supply. Complete kit with instructions.
Shpg. wgi. 20 lbs.

## MODEL EE.IK. NET

$\$ 29.95$
MODEL EE.1, wired and tested. NET..... \$39.95 MODEL EE-2K, complete kit including addition of NET
.$\$ 34.95$
MODEL EE-2, wired ond rested with keying monirer. NET.


## TR-75TV TRANSMITTER

60-watt CW tronsmitter kit includes onti-TVI feotures-speciol shielding and bypossing to reduce harmonies. An easily built beginner's transmitter. Covers olf bands $90,40,20,15$ and $11=10$ meters. Antenno tuner output permits easy motching to any single cr long wire antenna. Uses 6AG7 crystol oscillator and 1625 final. Husky power supply with 5 U4G rectifier delivers 550 volts. 'Complete with every part including oll tubes, capocitors, meter, resistors, hordwore, chossis, cover, low poss filter, coil forms and wire for any one band, complete simple instruction manual. Size: $17 \times 10 \times 9^{\prime \prime}$. This pransmitter is easily adoptoble to phone operatian by using the AM- 40 medulator. Fcr operation from 110-120 volts, 50/60 cy. AC. With complete simple instruction monual. Shpg $W \mathrm{gr} .50 \mathrm{lbs}$.
MODEL TR-75TV Kit. NET
$\$ 64.95$
MODEL TR-75TV, Wired and rested. NET \$94.95 Extra Coit Set Kits tor addritional bonds. $\$ 4.50$


## ELD/CO MODULATOR KIT

The ideol modulotor and speech omplifier for TR-75TV and tronsmitters of similor power. Poir of 6L6G's dehivers 40 worts of oudio. 8uilt-in power suFply furnishes 350 VDC of 200 MA . Uses 6 tubes plus 5 U4G rectifier. Complete with oll ports and instrictions. Less mike. For opero. tion on $110-120 \mathrm{VAC}, 50 / 60 \mathrm{cy}$. Shpg. wgt 40 lbs.
MODEL AM.40 Kit. NET \$59.95
MODEL AM-40. Wired and tested. NET.\$79.95

BARKER \& WILIIAMSON


## TRANSMITTER

BANDSWITCHING - 150 WATTS
Completely self-cantained, fully bandswitching, VFO ar crystal controlled fronsmitter. Covers $80,40,20,15,11$ and 10 meters. 150 wotts input on $\mathrm{CW}, 135$ watts an phane. Stoble VFO with occurotely colibrated scale. Crystal ascillotar uses 80 . meter crystols for all bands. Pi-network output. Thorough TVI precoutions token include built-in low pass filter. May be used as exciter for high power modulator and RF amplifier. Unitized construction permits quick occess and easy removal of any mojor section without disturbing other sections. Tubes used: 6BJ6 VFO, 6BJ6 crystal osc., 6BJ6 buffer, 4-6AQ5 multipliers, 2-8146 RF omp., 6 U8 speech amp., 6 AC5 driver, $2-6146$ modulators, 5 V4G and 2-5R4GY rectifiers, OC3 and OD3 regulotors. Cobinet finished in blue grey, etched oluminum ponel. For $110 \mathrm{VAC} 50 / 60$ cycle operation. Wired and tested with tubes. Less crystal, microphone, ond key. Shpg. Wgt. 90 lbs . Size: $22 \times 11 \frac{1}{2} \times 14 \frac{3}{4}$. .
MODEL 5100. Net....
.. $\$ 442.50$
SINGLE SIDEBAND ADAPTER. For use with the B\&W Model 5100 Tronsmitter. Permits operotion on CW, AM, SSB with comporable power output on oll bands. Write for full description and price.


ALL.BAND FREQUENCY MULTIPLIER Fixed funed, broodband frequency mulitiplier designed far use with on externol VFO. Outpus an all amateur bands 80 thru 10 meters af flip of 0 switch. Uses four 6AQ5 mulfipliers ond an 807 with of least 25 wotts output on all bonds. Pi-network in final output. Terminal strip indicates voltoges required; opproximotely 600 plate volts and 250 screen volts. With rubes. Shpg. Wgi. 8 lbs .
MODEL 504C. Net...................... $\$ 85.00$ CRYSTAL OSCILLATOR. Seporate unir which wall ottach to the 504C multiplier. Write for description and price.

LIAMSON

DIP
METER


Highly sensitive, occurately colibrated. Has enumeroble uses in the laborotory, service shop, ond hom shack. Incorporotes many features. Con be used as a grid dip oscillotor, signcl generotor, or absorption wave meter. Moy olso be used to moke measurements- of copocity, inductonce, circuit "Q", and os a means of determining other foctors in electricol circuits. Complete instruction book enclosed with instrument. Self-contoined power supply operates from 110 volts AC. Covers 1.75 to 260 MC in five colibroted overlopping bands. 500 microomp meter with odjustoble controt. Wedge-shoped for eose of getting into tight ploces. Uses 955 ocorn-type tube. Size: $3 \times 3 \times 7^{n}$. Finished in hammeroid grey. Weight 2 -lbss Shpg. Wgt. 3 lbs.
MODEL 600. Net.........................


## SSB EXCITER TRANSMITTER KIT

Phiosing type excifer or low power trans. mitter kit for the following types of trans. mission: switchable single sideband (with or without carrier), double sideband reduced carrier AM, narrow band phase modu. lation, break-in CW. Features voice controlled break-in ond receiver muting. Unit operotes on 160 through 10 meters. 10 watts peak output. Will drive KW beam power lineor amplifier or 400 watt triade linear amplifier. 9000 KC master erystal oscillator. Sacket on panel for injection frequency crystol. Rear power socket for externol VFO. Tubes: 3.12AT7, 12AU7, 6BA7, 6AG7 linear amp., 5U4G and 6AL5́ rectifiers. Steel cabinet, grey finish, $14^{3 / 4}$ $83 / 4 \times 10^{n}$. With 9000 KC crystal, preoligned phose shift network, wiring harness, tubes, and oll ports, building ond oligning in: structions, plug-in coils for one band (specify band); less injection frequency erystol. For 110.120 VAC 60 eycle operation. Shpg. Wgt. 35 lbs.
MODEL IOB KIT. Net. $\qquad$ MODEL 10B. Wired and tested. Plug-in coils for one band (specify band) ond instructions. Net........................... $\$ 179.50$

## Central Electronics

## SINGLE SIDEBAND



SIDEBAND SLICER KIT. Improves any receiver with 450.500 KC IF. Upper or lower sideband reception of SSB, AM, PM, and CW of flip of switch. Cuts QRM in holf. Substitutes for diode detector in receiver. Self-contained power supply. Grey finish cose, size $5 \frac{1}{2} \times 8^{3} / 4 \times 13^{\prime \prime}$. With fubes, wiring assembly, prealigned phose shift network and instructions. For $110-120$ VAC 60 cycle operation. Shpg. Wgt. 15 Ibs.
MODEL A KIT. Net.
..$\$ 49.50$
MODEL A. Wired and tested. Net...... $\$ 74.50$
MODEL AP. 1 PLUG.IN ADAPTER. IF stoge used with Sideband Slicer. Allows receiver to be switched bock to normal. wired and tested. Shpg. Wgt. 15 lbs .
Net.
. $\$ 8.50$
MODEL QT. 1 ANTI.TRIP UNIT, Prevents loud noises from loudspeoker such os loud signals, heterodynes, ond stotic from trip. 2 ping the voice break-in circuit. Shpg. Wgt. 2 lbs. Net.................................... $\$ 12.50$

EXTRA PLUG-IN COIL SETS. For Model 108. Specify band. Shpg. Wgt. I lb, Per

Set, Net....................................... 3.95


BANDSWITCHING<br>SS8 TRANSMITTER KIT

Has same features as the 10 B but, in addi. tion, is completely bandswitching on all bands, has 20 watts peak output and fea. tures magic eye corrier. null and modulo. fion peak indieator, Tubes: 3.12AT7, 12AU7, 6BA7, 12BH7, 2-6AG7 linear omp.., $6 E 5$ magic eye, $5 U 4 G^{\prime}$ and $6 A L 5$ rectifiers. Steel cose, grey finish, $14^{2} / \times 8^{3} / 4^{\times 1} \times 10^{m}$. With
9000 KC 9000 KC crystol, prealigned phose shift network, wired and tested 3 -stoge band. switch RF unit, wiring harness, qubes, oll paris, ond complete building and oligning instructions; less injection frequency crystal. For 110.120 VAC 60 eycle opero. tion. Shpg. Wgt. 40 lbs .
MODEL 20A KIT. Nef.. $\qquad$ ..$\$ 199.50$
MODEL 20A. Wired, tested. Net... $\$ 249.50$

MODEL PS. 1 PLUG.IN ALIGNED PHIASE SHIFT NETWORK. With socket. Avoiloble separately for home constructors. Sideband rejection 40 to 45 DB over 225 to 2750 CPS. For use with GE Signal Slicer and SSB Jr. Shpg. Wgł. 1 Jb. Net............ 88.95

## Barker \& Williamson

## LOW pass

## FILTERS

## SYLVANIA

Two low pass filters for use of the trans. mitter for reducing or eliminating TVI. Either will handle I KW of RF power sofe. ly if SWR is not excessive. Meosured ottenuotion is better than 85 DB through. out all TV channels and over 100 DS in channel 2. Constructed of heovy gouge copper sheot.
MODEL $425 \quad 52$ ohms Net $\$ 14.85$
$\square$ "ON-THE-AIR" SIGNAL
Shows when you ore on the air. Lorge, bright red letters ore clearly reod ocross the room. Fine for mobile or fixed stotion. Block metal cose, $5 x-$ $21 / 8 \times 1$ Uses screw base pilot lomp. Requires 5.3 volts to operote. Shpg. wgt. i lb.
"ON-THE-AIR" SIGNAL. NET.
.$\$ 1.50$


## FREQUENCY

## METER

Bondswitching type covers 5 hom bands. Uses new germonium crystal ond DCMA. Direct colibration. Audio jack for monitoring phone signals. Can be used for checking fundomental frequencies, porasitics, neutmalizing RF omplifier standing wave rotio on lines, undesiroble or smali RF signal, etc. Shpg. wgt. $11 / 4 \mathrm{Jbs}$,
MODEL 3256 . NET.

## W9IOP'S "SECOND OP"

handy operating ald for hams Ingenious computer gives complete DX information instantly. With one seftring you get all of the following information at a glonce: prefix; greot circle beam heading; time and date of DX location; air mail, first class, ond QSL card posfoge rates; international reply coupon exchange table; continent; DX zone; prefix-to-country transiotion. Also included is a list of QSL Bureau addresses. Measures $10 \frac{10}{}{ }^{\prime \prime}$ in diOmeter. POSTPAID IN U.S.A.

## ELENCO

## INDIVIDUAL SSB UNITS



## X. 4 SINGLE SIDEBAND SERIES

SSB EXCITER. Compact unit suitable far mobile or fixed installations. Utilizes a very stoble crystal filter for sideband generation. Choice of transmitted sideband by using crystal or VFO on proper heterodyn. ing fr equency above or below the desired operating frequency in the range of 3.6 to 4.0 MC. Uses 6SA7 crystal osce, and audio mixer, 6SL7 speech amp., 6SA7 2nd mixer and VFO, 6F6 4 MC power autput. Enough oudio gain for microphone of -60 DB output level or higher. Power output up io 10 wats depending on power supply used. Pawer requirements: 6.3 valts at 1.6 omps, $200-300$ VDC at 80 MA . Cabinet finished in black ripple measures only $6 \times 6 \times 6^{\prime \prime}$. Wired and tested, with tubes; crystal filter aligned. Less power supply.
MODEL X. 4 SSB EXCITER. Net.... $\$ 69.50$
VFO. Small, rugged VFO uses a modified Clapp circuit and utilizes the 6SA7 2nd -ixer of the X-4 exciter to furnish ascil. lator voltage. Plugs into crystal socket on back of X. 4 exciter with $18{ }^{\prime \prime}$ iwin coble and plug which ore furnished with VFO. Provides sideband selection and is ex. tremely stable. Silver mica padders and ceramic ascillator coil forms are used, no heat is developed because there is no tube in the unit. $4^{\text {n }}$ tuning dial covers 3.6 to 4.0 MC in approximately 50 KC steps. Black ripple cobinet meosures $4 \times 4 \times 2^{\text {n }}$. Also provides VFO operotion on 20 ond 40 meters when using the $X \cdot 4$ mixer. Wired and tested.
MODEL X.4 YFO. Nef................... $\$ 24.50$
VOICE CONTROL UNIT. Designed to permit voice-controlled operation of the X-4 exciter and associated receiver. Circuit uses 6 SN 7 dual triode; one section as a valtage amplifier, other section as a negotive pulse gating qube which controls the voice-operated reloy. May be used with some power supply as used with exeiter. Requires 6.3 volts of $.6 \mathrm{amps}, 200-300$ VDC af 10 MA . Black ripple cabinet, $4 \times 4 \times 2^{\prime \prime}$. Wired and tested with power plug, sacket, ond rube, less connecting cable. MODEL X. 4 VOICE CONTROL UNIT. X..... $\$ 19.95$

MIXER. Designed to use with the X. 4 excirer to convert the 4 MC SSB signal to 40 and 20 meters with power output up to 10 watts. A 6L6 is used as a combined crysiol ascillator and mixer stage. To change bands when using the X-4 exciter and mix. $e r$, it is only necessory to change one coil and one crystal in the mixer. Moy be oper. ated from some power supply as the exciter. Requires 6.3 volis of .9 amps ! 200-300 $V D C$ at 60 MA . Black ripple cabine $\mathrm{f}, 4 \times 4 \mathrm{x}$ $2^{\mathrm{m}}$. Wired and tested with tube, power plug, and socket, plus ane coil and one crystal for 20 meters. Less connecting coble.
MODEL X. 4 MIXER. Ne f............... $\$ 19.95$
Cail for 40 meters. Net..
.$\$ 1.75$
Crystal for 40 meters............................. 3.95

75.METER SSB TRANSMITTER.EXCITER

A complete 75 -meter single sidebord trans. mitter with 10 wotts peak output - enough power to dive most high power tubes to a full KW. Uses 12 fubes with on 807 linear amplifier. Built-in power supply; valtage regulatar for 450 KC erystal ascillotor and for the very stable VFO. Unis uses crystal filter type of circuit and provides SSSC or SS with carrier, 4 MC output. Other feafures include voice control eirevit with plate relay, varioble receiver carrier in ection, provisions for break-in CW apero tion. Spare wired socket for odditional 807 omplifier parallel 807 s with larger external power supply will deliver up to 100 watts peak output. Unit may alsa be operated on 20 and 40 meters when used with the BSM. 3 Bandswitching Mixer. Grey ripple cobinet, $20 \times 12 \times 12^{\text { }}$. For 115 VAC, 60 eycle operation. Complete with tubes. MODEL \$5.75. Nef..................... \$ 245.00

## EANDSWITCHDNG MIXEE

The bondswitching mixer is used to con. vert the 4 MC output frequency of the SS-75 to 20 and 40 meters. Unit has individually pretuned tonk ercuits for each band. No retuning recessory in the exciter or mixer stages when changin! bands - just furn the band:witch. Tubes used are two 807 s as mixers and a 6AG7 heter odyning erystal oscillotor. 20 watts power output on 20 and $4 C$ meters when using a 600 volt power supply. When using the BSM in conjunction with the SS.75, the units convet the receiver corrier from the exciter, os well os the trensmitted : "B signal, to the desired band. When bandswitch is on 75 meters the mixer power supply is autamatically turned off, and the 4 MC output fram the exciter is $s$ witched straight through to the final. Grey ripple finished panel meastires $19 \times 3{ }^{1} /{ }^{\prime \prime}$. Chassis extends $7^{\prime \prime}$ behind panel. Completely oligned with tubes and crysiols, less power suply.
MODEL BSM-3. Net....
. $\$ 75.00$

SPEAKATROL. Designed for use with ony vice operated relay contral system. By using this unit, the micraphone can "dis: tinguish" between the local operatof's vaice and saunds coming fram the loudspeoker. The unis operates by toking voltage from the vaice cail winding of the receiver output transformer. The $A C$ valiage is rectified to a negotive DC valtoge. A 635 is used as a negative pulse gating qube with o relay in the plate circuit. A signal from the receiver causes vaice con trol in transmitter to be inoperative and ony sound into microphone will not trip tronsmitter an. As saon as the receiver output drops off, the vaice confrol becomes operative. Operating valtages may be obtained fram the SS-75 exciter when used with that unit. Housed in black ripple cabinet, $4 \times 4 \times 2^{\text {n }}$. With tube, connecting socket, and plug, less cable.
MODEL SPEAKATROL. Nef.......... $\mathbf{\$ 2 4 . 5 0}$
CRYSTAL FILTER. An exact duplicate of the filter used in the SS.75 exciter. It is designed for those who would like to con. struct a high quality crystal filier transmitter or extiter, without concern of the alignment and design of the crystal filter. Unit is completely aligned and ready to use by connecting to the input and autput terminals. Alignment guaranteed for three years. Complete with carrier ascillator erystal installation notes and schematic diagram of the SS-75 exciter. Mounted on smoll chassis, $4 \times 2 \times 43 / 4^{n}$, for mounting on larger chassis.
MODEL FL-1 FILTER. Nef.......... $\$ 29.50$
TR SWITCH. A unit which is effectively an electronic antenna reloy. Especially useful when tast break-in is used; such os push-idtalk AM, break-in CW, or voice control break-in on SSB. No power supply required; input connects across coax line fram transmitting ontenna, output connects to receiver antenno terminals, adjust trimmers on 3 witch for maximum received signal on receiver 5 meter. "Limiter" or " clipper" circuit limits amount of power that con get from local transmitter to the receiver, yet allows relatively weak signal to poss through with little attenuation. Black ripple cabinet, $4 \times 4 \times 2^{\prime \prime}$. Supplied with plug-in coil for 75 meters.
MODEL TR SWITCH. Net
...... $\$ 9.95$
10 meter coil for TR Switch. Nef..... 1.75 20 meter coil for TR Switch............. 1.75 40 meter coil for TR Switch.. 1.75


FCC.90A
6x. 79

## GIMIX

Multi-purpose unit, high sensitivity obsorption type frequency meter and field strength indicatar. May also be used os monitor, corriar shift indicoto and neutralizer. Colibrated far use on $10,20,46$ and 80 meter ham bands. Shpg. wgt. 4 lbs. MODEL GX-79. NET.

## LEARM THE CODE FROM YOUR PHONOGRAPH



## electronic

## techaical

## INSTITUTE

## Cade Instruction Course

Learn the code the new easy woy! You learn only by sound. These code recards are particularly designed ta help you poss FCC omateur and radio-telegraph code examinations. Records play of 78 RPM and ore unbreakable at normal usoge. Moy be used with record changers. Course includes recards used in practicing capying code through stotic and interference. Instructions in. cluded on how to construct code oscillotors ond use of headphones. Album No. I contains alphabet. numbers, and punctuation. Album No. 2, 4 to 10 words per minute. Album Na. 3, 11 to 20 10 wards per minute. Abum Na. 3, il ta 20 words per minute. Shpg. Wgt. of single alb
lbs. Shpg. wgt. of set of 3 albums, 20 lbs . lbs. Shpg. wot. of set of 3 albums, 20 lbs. 10.78
ALBUM NO. 1. NET
10.78
1078

ALBUM NO. 2
10.75

ALBUM NO. ${ }^{3}$.......
\$ET OF THREE ALEUMS
10.78
29.35

## NOVICE LICENSE COURSE

Simple ond eosy woy to learn the code to qualily ourself for the novice licanse. Course contains 34 4-minute codo recordings (alphabet through 6 WPM); 212 record albums; tore record for sending proctice; instructions for using your record player to send radio code; Novice lesson No. 1Basic Radio Thaory (8 record sides explaining pictures covaring all the basic radia theory needed in passing nevico exomination); Novice lesson No. 2-Rodio Operation (Correct method for going on the oir and oll rules and regulations needod by the omoteur); Novice lesson No. 3 - The Amateur Station (Information on building your transminer, code practice oscillator, and station
monitor. Pietorial instructions. Parts list and monitor. Pictorial instructions. Parts
schematic diagram.). Shpg. Wgt. 8 lbs.
E.T.I. NOVICE COURSE. Ne?...


Linguaphone
Code Records
Leam the International Marse Cade-quickly and easily with these recards. Cambines EYE and EAR method. Complete LINGUAPHONE code equipment consists of 5 double faced electrically transcribed records in durable album. Discs play at 78 RPM and ore unbreakoble with normal usoge This is the scientific way to learn the code. Shpg. wgt, $51 / 4$ lbs
MODEL 1800 . NET....
$\$ 10.73$

## BUD Code Practice Oscillators



Code practice oscillator and use as monitor atter Code pracrice oscillaror and 48 PM monitor ofter you learn the. code. Buittin 4. VM speaker. Wind operch up to contral to suit individual requiremonts. pitch contral to suit individual requiremonis: for group practice. Extornal spaakor may be for group practice. Extornal spaakor may be plugged in without use of output tronstormet. ses SOC5 and 35w4 tubos. Operatos on 117 volts $A C / D C$. Grey hammertone. Sizo: $61 / \times 5 / 3 \times 2$.
$3 / 5=D$. Shpg. Wgt. 4 lbs.
MODEL CPO-128A. Net........................... $\$ 15.43$
Earphone type code proctico oscillator ond manifor less spooker. Similor in other respects to the Model CPO.128A. Shpg. Wgi. 3 lbs.
MODEL CPO.130A. Not..


## ELDICO "PRIVATE TUTOR'" RADIO COURSES

## Novice Amoteur Radio Course

A complete theory and code course toilor-made for the Novice. Consists of five Columbia long-playing $331 / 3$ RPM microgroove recardings for code instructions, six novice theory lessons and examinations, an ARRL License Manual and various supplementory aids. The unbreakoble microgroove $12^{\prime \prime}$ records give a total of olmost five hours af code instructions or the equivalent of 50 standard speed records. Code instructions are oscompanied by the vaice of the instructor.
Navice Course (Code © Theory). NET. . . $\$ 25.00$
Recards only (Code Course). NLT. . $\$ 17.00$
Ther Recards only (Code Course). NET. ... $\$ 17.00$
Theary Course only. NET.... $\$ 10.00$

## Advanced Code Course

The Eldico "Private Tutrar" Advanced Code Course cansists of five long-ploying Columbio microgroove recordings. Each record can be ployed at three different speeds on a three-speed recard player. By this means, these records will reproduce code from 8 to 30 WPM. Each recard hos appraxi. motely 30 minutes of practice time when played of $331 / 3 \mathrm{RPM}$. Course includes stroight text, numbers, coded groups and cryptograms. Recards are available individuolly. Order by recard number.

| Record | Wards Per Minute of the Three Speeds |  |  |
| :---: | :---: | :---: | :---: |
| No. | $331 / 3$ RPM | 45 RPM | 18 RPM. |
| 1 | 6 | 9 | 14 |
| 2 | 8 | 13 | 21 |
| 3 | 10 | 15 | 23 |
| 4 | 11 | 16 | 26 |
| 5 | 13 | 17 | 30 |
| EACH R | RD. NET |  | . $\$ 3.95$ |



## ICA TRIPLEX

A single unit key which incarporates blinker light, radia signal, and telegraph sending. Using only twa smoll floshlight cells, this unit may be used for beginners in tearning the code by relegraph signals ar by blinker light. Easy ta hook up and operate, code symbols are on top of instrument. with switch to select type of transmission on side. Two units may be used in conjuncrion with each other to send messages up conjult finished leet aport. Well mode and aftroctively finished. Less MODEL 70. NET EACH
$\$ 1.91$

## ICA Code Practice <br> Oscillator <br> 

Combination Audia Oscillatar, Cade Practice Set and Keying Manitar complete with tube and selfcontained speaker. 110 valt AC/DC operation. 3 different autout frequencies and vorioble valume contral A number of phones ond keys may be used in clossroom aperatian All controls and jacks ore on tront panel for easy operation. Shpg.
wgt. 4 lbs.

```
20% DEPOSIT REQUIRED ON
C.O.D. ORDERS
```


## CODE AND THEORY COURSES

AMECO home study courses are designed to prepore you for amoteur and commercial exams and amateur theory exams. Courses are simple, modern and low in price. No previous background required. All neces. sary moterial for the FCC tests is included. Order by course number.
NOVICE CODE COURSE. Prepares you for NOVICE and TECHNICIAN code tests. Includes five double faced 78 RPM records, album, and code learning book. Records, which reoch sending and receiving, start with the alphobet and go up to $71 / 2$ WPM. Typical FCC type exams are included in the recordings. Code books give fastest methods for learning code and charts to check receiving occuracy.
COURSE NO. I. Net., $\qquad$
$\qquad$ $\$ 7.95$ SENIOR CODE COURSE. Prepares you for the NOVICE, TECHNICIAN, GENERAL, CONDITIONÁL and 2ND CLASS radiatele: graph code examinations. Consists of everything included in Course No. 1 plus six additional double faced78R PM records which bring your speed up to 18 WPM. Also includes FCC type exoms for GEN. ERAL and 2ND CLASS rodiotelegroph licenses.
COURSE NO. 2. Ne
ef....
.${ }^{\$} 12.95$
ADVANCED CODE COURSE. Prepares NOVICE operators for GENERAL CLASS and 2ND COMMERCIAL exams. Consists of las! six records of No. 2 Course and leorning book. Code speeds from $81 / 2$ to 18 WPM. Included are FCC type exams for GENERAL CLASS and 2ND CLASS radiotelegroph licenses.
COURSE NO. 3. Net $\qquad$ .$\$ 6.95$ RADIO AMATEUR THEORY COURSE. Prepares the beginner for theory examinations of the NOVICE, TECHNICIAN, CON. DITIONAL and GENERAL licenses. The course consists of fourteen lessons, close to 400 FCC type questions ond onswers, three spudy guides - oll under one cover, plus a guide on how to set up a ham 3 totion.
COURSE NO. 4. Net........................ 3.95

## AMECO RADIO AMATEUR QUESTION

 AND ANSWER LICENSE GUIDEContoins FCC-type multiple choice ques. tionsand answers, FCC-type exams similar in all respects to: those given by FCC. Sections on preparing Novice examination, General Class and Techaicion, Bosic Electricity, Power Supplies, Rules and Regulations, etc. Postpoid in U.S.A. Net.... $\$ .50$

BARGAIN
TELEGRAPH KEY

MODEL J.38. Signal Corps key packed in original corton. Excellent for beginners or ham operators. Sturdily built, will lost a lifetime. With switch. Shpg. Wgt. 1 lb.
Net.................................................. 98

## MASCO "ECONOMY LINE"

## PHONO TOP

MOBILE AMPLIFIER


MODEL MM15P3. Operates from 6 volts DC or 117 volts AC. Output 15 watts, peak 20 watts. Inputs for one mike and one phomo. Standby "battery saver" switch. phono. Standby ${ }^{\text {Outpats }} 2-4-8-15-500$ ohms and 70 volts. Frequency response $50-15,000 \mathrm{CPS}$. Power consumption. AC so watts. DC $15 \mathrm{amps}$. 3 -speed phono plays all records, turnover crystal cartridge. Tubes: $1-6$ Sci. 1-6SL7GT. 2 -6VGGT. 1-6AX5GT. Size: $12 \times 10$ $\times 8{ }^{\mathrm{H} H} \mathrm{H}$. Shpg. Wgt. 22 lbs . Net $\$ 91.87$

## PORTABLE SYSTEM



MODEL, MUS carrying case with two bult-in I?" PM speakers with $\mathbf{s}^{\prime}$ cable.s and connec. tor. Mode! Jr-30 mikw with $15^{\prime}$ cabll. Shpg. Figt. 43 lbs. Net $\$ 135.97$

RECORD CHANGER



MONEL ME3GR. Same amplifier as Model ME3G but features addition of Webster Hodel $11+$ Record Changer. Plays all three speeds (33-1/3, 45, 78 RPM) autumatically. Si7e: $15 \times 15 \times 9$. Shpg. Mgt. 48 1ion. Nít $\$ 141.61$

In addition to regular voice coil outpuls, all Masco amplifiers now inctude 70 volt tap (constant voltage) for easy matching of speokers,

## MASCO MUSICAL INSTRUMENT AMPLIFIERS

MODCL Mu-5. Versatile instrument for use by musicians. singers. lecturers and all other entertainment applications. The 3channel input permits mixing of singing with dance band or other music. Inputs for two musical instruments and one microphone. 5 watts output with less than crophone. 5 harmonic distortion. Controls: 1 volume. 1 tone. $8^{" \text { spaaker. Control panel }}$ pounted on top of case. Attractive twotone bronn and tan carrying case. Tubes: $1-6 S L 7 G T . ~ 1-6 V^{\prime} 6 G T, ~ 1-6 X 5 G T$. Frequency
, Size: $11 u_{2}$ response $\pm 2 \mathrm{DB} 100-8000 \mathrm{cy}$. Size: 11 usx $8,2 \times 13^{\mathrm{MH}} \mathrm{H}$. For 117 VAC. Shpg. Wgt. $151 \mathrm{bs}.$.
Net $\$ 39.69$


monsil Mu-17. Deluxe model himh power musical instrument amplifier with four inputs, one for microphone and three for musical instruments. Separate volume ronmusical for each inpuit gives great versatrol for each input gives great versatility in mixing. Sufficient power out put ( 17 watts normal. 25 watts peak) for any appleatery covered in two-tone brown and tan fabrikoid. Control panel on top of case. Indicatinc palot 11 ght . Frequency response: $\pm 2$ [H $50-12000 \mathrm{cy}$. Tubes used: 1-6J7. $2-12 \mathrm{~A} \times 7$, 2-6L6G, 1-5Y3GT. Case size: $15 \times 8$ ! $1 \times 1 \mathbb{C}^{11} \mathrm{H}$. For 117 VAC operation. Shps. Wet. 321 l .
Net $\$ 82.03$

## TECH-MASTER Ulitra linear <br> WILLAMSON-Type Amplifier Kit

mod To-15A. Uses the famous Williamson circuit with uni que modification for crue high fideljty reproduction at increased power output. Utilizes specially creard Peerless Output Transformer. After wourd Peerless Output Transiormer, hours of easy assembly. builder will few hours of easy assembly. builder will be repaid with finest listening quality. Less than. $25 \%$ distortion at nomal 1 is tening levels. Power output: 15 watts undistorted. Inputs: high impedance for undistorted. crystal pickup. are 4. 8. and 16 ohms. Output impedances are 4. 8. and 16 ohms. (Tech-Master TMD-15P preampligier is recommended as companion unit). Responst al 5 watts $8-80000$ CPS. $\pm 1$ DB. 10 watts 12. 5 watts R-5 2000 CPS, $\pm 1$ DB. Tubes: 2-6SN?. 2 5881, $1-5 V 4 G$. Kit is furnished complett. with all tuhes, punched chassis, all components. full instructions. Size: $0 \times 12 x$ FN: For operation on $105-125$ VAC $50 / 60$ cy. All major components are mounted $1 / 1$ place on chassis and are ready towide Shog. Wit. 27 1be.
CDS. Till 15A
et. 88.9

## TECH-mASTER Four Channe! PRE-AMPLIFIER KIT

Input Selector -

## Phono Pre-Amp-Yone Control

MOHEL TMD-15P. Four channel preamplifier kit for the discrimimating listener. Has 11 wanted features four input channels.
 Arsotv tuner. tape or wire recorder. etc. Ali-TV tuner, tape or wire recorder. etc.
$3-$ Dosition equalizer switch in high gain 3-position equalizer switch in high gain input circuit permits selection of carn over and roll-ors of recordings. Twn inmitch most top controls provide dependenc, cond and atyenus full bass and treble tion. Power is obtanned from main amplatier. AC ontlet on rear of chassis. Tube complement: 1 -12AX7. 1-12AUt. Kit is turnished complete with all parts, tules, punched chassis, rabinet, and detailed instructions. All major romponents arc bimuted in place on chassis ami ready to


MOOEL TMD-15P
Net $\$ 19.55$
"Your trade-in's worth more at the WALTER ASHE STORE" (17)

## 8 WATt AMPLIFIER



MODEL, MABN = OUTPUT, 8 watts. PEAK, 13 watts. INPUTS 2: 1 Mike, I Phono. FREQUENCY RESPONSE: $\pm 2$ DB 50 to 10.000 CPS. GAIN: Mike 128.5. Phone 75DB. CONTROLS: Mike, Phono, tone (wi th.on/off sw.), TUBES: 4:. 6SF5, 6SJ7, 6L6, 5Y3GT. OUTPUT IMPEDANCES: 3.2. 8, 509 Ohms. VOLTACE: $105-125$ VAC, 60 cy. FINISh:
 Complete witil tubes, less cover. Shpg. Wgt. ly lbs.

Net Less Cover \$38.22 With Cover 45 28


## 25 WATT

MODEL MA25N - OUTPUT. 25 Watts. PEAK, 40 Matts. 1 Phoro and 3 separate mike inputs. FREQUENCY RESPONSE $\pm 2 \mathrm{DB}, 50$ to 15 , OOT CPS . GAIN: Mike, 133.5 DB ; Phono, 79 DB . CONTROLS 6. 3 mike, Phono, Bass, Treble. TVBES: 4-GJ7 $2-6 S C 7,2-6 L 6 \mathrm{G}, 1-5 \mathrm{~V} 4 \mathrm{G}$, OUTPUT TMPES $4-6 \mathrm{ANCES}$ 4, 8. $15,125.250,500$ ohms. HUM LELEL: 64 DB below rated output. Operates on 110 V AC. 60 CPS, 145 watts. S1ze: $15 \times 8^{\prime \prime} \times 88^{\prime \prime} 38^{\prime \prime} \mathrm{H}$. Shpg. Wgt. 30 lbs . | Net $\$ 85.26$ |
| :--- |

## 17 WATT

MODEL MAI7N - OUTPUT, 17 watts. PEAK, 26 watts. 1 Phans and 2 Mike inputs. FREQUENCY RESPONSE: $\pm 2 \mathrm{JB}, 50$ to 12.000 CPS. GAIN. M1crophone, 132 DB ; Phono, 78 DB. CONTROLS: 5-2 mike, Phono. Bass, Treble. tubes: 1-6SC7. 1-6SJ7, 1-6SL7GT, 2-6L6G. 1-5V4G. OUTPUT IMPEDANCES: 4.-8. 15, 125, 250, 500 ohms. HUM LEVEL: 62 DB below rated output. operates on 110V. 60 CPS 125w. Size: $13 \times 8 \times 8$ $3 / 8^{\prime \prime}$. Shpg. Wgt. 20 lbs. Tubes included.

Net \$ 68.21

## 35 WATT

MODEL MAB5N - OUTPUT. 35 watts. PEAK. 50 watts. 1 Phono and 3 separate mike inputs. FREQULNCY RESPONSE $\pm 2$ DB, 50 to 15,000 CPS. GAIN: Mike. 135 DB; Phono, 80.5 DB. CONTROLS 6. 3 Mike, Phono, Bass, Treble. TUBES: 3-6J7, 1-6SC7, 3-6SN7GT, 2-6L6E. 1-5U4G, 1-6X5GT. OUTPLT IMPEDANCES: 4. $\mathrm{S}^{\text {. }}$ 15, 125, 250, 500 ohns. HUN LEVER: 65 DB below rated output. Operates on liov ac. 60 CPS. 190 watts. Size: $15 \times 9 \% \times 8 \quad 3 ; 8^{{ }^{n} 1 i}$. Including tubes. Shpg. Wgt. 32 ibs.

Net $\$ 105.84$

## 75 WATT

MODEL MA77 - OUTPUT. 75 watts. PEAK, 90 watts. Has one phono and four mike inputs, separate bass and treble controls. Separate volume controls for each input. voice coll. line and constant voltage output taps are provided FREQUENCY RESPONSE $\pm 2 \mathrm{DB}, 50$ to 15,000 CPS. GAIN: mike 136.5 DB . phono 82 DB . OUTPUT IMPEDANCES: 4. 8, 15, 125, 250 ohms. Size: $17 \times 11 \times 9$. Tubes included. Shpg. wgt. 45 ibs. WALTER

PORTABLE SYSTEMS


MODEL MAS8N - Complete with MABN amplirier and cover, $10^{\prime \prime}$ speaker, 25 ft , cable and plug. JT-30 Astatic mike in 2 plece carrying case (not illustrated). Shpg. Wgt. 30 lbs ( l . Ne ( $\$ 77.91$

MODEL MAS25N - Sant as MA25N but in. cludes Astatic JT- 30 mike, with 12 ft . cord. Two $12^{\prime \prime}$ speakers with 25 ft. cable each ana carrying case. shpg. Wyt. 60 Net \$141.12

MODEL MASI7N - Same as MAI7N bu't in cludes Astatic JT-30 inike, two $10^{n}$ speakers with 25 ft . cable each and carrying case. Shpg. Wgt. 45 lbs.

Net \$ 124.07

HODEL MAS35N - Same as MA35N but includes Astatic JT- 30 mike with 12 ft . cord, two $12^{\prime \prime}$ heavy duty speakers with 25 ft . cord each and carrying case. Shpe Wgt. 63 lbs.

Net \$ 175. 66

## 25 WATT

## PHONO TOP SYSTEM

Same os Model MAS25N with addition of 3-speed record player and all-purpose "Turnover" crystal cartridge. Ideal for indoor or outdoor use where it is necessary to have musie. Shpg. Wgt. 61 lbs.
MODEL MAS25PN-3. Nef............ $\$ 167.58$
PHONO-TOP MODEL


Some specifications as Model MA25N with addition of 3 -speed record player and allpurpose "Turnover" crystal cartridge. Ideal for indoor or outdoor use where it is necessary to hove music. Shpg. Wgt. 32 Ibs. MODEL MA25PN3. Nef.............. . $\$ 107.31$

In oddition to regular voice coil outputs, all Masco amplifiers now include 70 volt top (constant volioge) for eosy mapching
of speakers.

MODEL MC1 26P-3. 3-speed (33-1/3, 45 \& 78 RPM) Phono Top Mobile Amplifler, wi th turnover cartridge, OUTPUT: 12 watts. PEAK: 18 watts inputs 2: 1 Mike, 1 Phono. FREquency responSE: $\pm 3$ DB 100 to 8,000 CPS. GAlN: Mike 110 DB, Phono 75 DB. CONTROLS: Mike, phono, on/ off/standby/operate (has battery saver switch). TUBES 5: 1-6SF5, 1-6SL7GT, 2-6VGGT 1-724. OUTPUT IMPEDANCES: 3.2, 8, 15 ohmst POWER CONSLIMPTION: 117 V AC 60 matts, 6 V DC 8 amps. SIZE: $12 \times 6 \times 8$ "H. Shpg. Wist. 15 lbs.

Net \$88.98
MODEL MC126 - Same as above but with plain cover, less phono ton mechanismo Shpg. Wgt,
15 lbs Not $\$ 58.80$


MOLLL MC25PN-3. 3-speed (33-1/3.45 \& 78 RPM Phono Top Player with turnover cartridge OUTPUT: 25 watts, PEAK: 40 wat ts. I Phond and 3 -separate Mike Inputs. FREQUENCY RE SPONSE: $2 \mathrm{DB}, 50$ to $15,000 \mathrm{CPS}$. GAIN: Mike 133.5 DB, Phono 79 DB. CONTROLS: 6. 3 mike, Phono, Bass. Treble. Separate Battery Saver Switch. TUBES: 4-6J7, 1-6SC7, 1-6SL7GT, 2 6L6G. 2-724. OUTPUT IMPEDANCES: 4. 8. 15. 125, 250, 500 ohms. HUM LEVEL: 64 DB below $^{8}$ rated output. Operates on $110 \mathrm{~V} A \mathrm{AC}, 60$ CPS 45 watts. $O R$, DC $6 V$. 23 Amps. SIZE. 60 CPS, $83 / 3^{\prime \prime}$. Tubes included. Shpg. Wgt. 44 lbs. Net $\$ 145.50$


MODEL. MAC25PN-3. Same as MC25PN-3 (3-speed player and turnover cartridge) but includes Astatic JT30 Mike with 12 ft . cord, two $12^{\text {h }}$ speakers with 25 ft . cord each. and portable carrying case which holds speakers and amplifier. Shpg. Wgt. 72 lbs.

Net $\$ 20286$

AUDIO--Hi-FI

## AMPLIFIERS



PORTABLE SYSTEMS


AODEL MES8 PORTABLE SYSTEY. Sam ampli * fier is NES but includes carrying case with $0^{\prime \prime}$ PM spealer, 25 ft. cable and plug. Astatic JT 30 mike with cable and connectors. Shp\%. V.t. $2 \pm 1 \mathrm{l}$. Net $\$ 59.39$


HODEL NES18. 18 MATTS. Same amplifier as NE18 with addition of Astatic JT30 Mike with 12 ft. cable and plug, $212^{n} \mathrm{PM}$ speakers, housed in portable carrying case. 2-25 ft, speaker cables and pluss. Shpe. igt. 38 lbs Net $\$ 89.67$

HODEL mES27, 27 WATTS. Same amplifier as PE27 kith add:tion of Astatic JT30 Mike with cable and piug, 2-12" pl speakers with $2-25$ ft. casles and plugs, housed in partable carrying case. Shpg. Wgt. 54 1bs.

Net $\$ 103.63$
NODEL FUS36. 36 HTTTS. Sume anmplifier as ME3E with addition of Astatic JT30 Mike Hith cable and plug, 2-12" pal speakers, with 25 ft . cables and plugs, housed in portalic carryir. case. Shpg. Mgt. 58 ibs.

Net $\$ 120.54$


HODB "ES18P3 Sam systrm as liodel MES18 Wl th a ddition of 3 -speed phono top which playe 33-1/3. $45 \& 78$ RPY records with all nurpose turnover cartricige. Shpg. Wgt. 47 lbs . Net $\$ 110.25$

MODFL iES27P3. Seme as Nodel MFS27 with addition of 3-speed phono top which plays $33-1 / 3,45$, and 78 RPV records with all-rurpose turnover cartridge. Shpf. int. ©3 lhs.

Net $\$ 124.21$

PHONO TOP UMSCD


MODEL ME18P3 18 WATTS. Same ampluzier as Model ME18 with addition of 3-speed phono top record player and turnover crystal cartridge. Shps. $W_{6} t .261 \mathrm{bs}$ Net $\$ 66,15$


MoDEL $4 E 2$ P3. $2^{-}$watts. Same amplifier as Model ME27 with addition of 3-speed phono top record player and turnover crystal cartridge. Shpg. Wgt. 39 lbs .


WODD. HM27P3. Operates from 6 VDC, 25 A . or 117 ViC 60 cy . "Battery-Saver" switch keeps filaments $11 t$. " $B$ " supply readily avallable at flick of swj tch . Heavy duty vibrator. 3 -speed phono top with allpurpose turnover cartridge. plays $33-1 / 3$. 45 , and $7 \$$ RPM records. Power output 27 wattis, peak 40 on AC or DC. Inputs 3: 2 mike and 1 phono, individually controlled. Variable tone control. Tubos 6 : 2-6SC7, 1-6SI7, 2-6L6G, 1-5YiG. Size: $12 \times 11 \times 8^{\text {n }}$. Shpg. $\mathrm{kgt}, 40$ lus. Net $\$ 111.72$


MODEL MMSTTP3 Same as Model MM27P3 plus Astatic JT30 Mike, cable and connectores 2-12" PM spkrs, with 25-ft. cable and plugs in portable carrying case. Size $15 \times 18: \times 23$. Shpg. Higt. 62 lbs. Net $\$ 158.76$


8 WATTAMPLIFIER. Separate cantrals for mike, phona, tane. Input for ane crystal mike, one phono. FREQUENCY RESPON. SF: $80.12,000$ cycles. Selec-Tone tone con. trol. OUTPUT IMPEDANCE: $4-8-16$ alims. rubes: 1.6AV6, 1.6S.57, 1.eL6GA, 1. 5Y3GT. Size: (with coge) $11 \times 7 \times 7$ ':"H. Operotes an 117 VAC. Less coge. (i) L npproved. Shpg. Wgt. 10 lbs.
MODEL CH. 8. With tubes. Net...... $\$ 32.70$ CAG. 8 CAGE for Model CH. $8 . . . . . . .$.


PORTABLE SYSTEM. Consists of CH. 8 amplifier with tubes, carrying case with one $8^{\prime \prime}$ speoker mounted, mike with stand adapter, cable and plug. Shpg. Wgt. 28 lbs. MODEL CH.851. Net.................... $\$ 55.56$


PORTABLE SYSTEM. Consists of CH-8 omplifier with fubes, two-piece corrying case with two $10^{\prime \prime}$ speakers with $25 . f 4$. cobles, mike with stond adopter, coble and plug. Shpg. Wgt. 36 lbs.
MODEL CH.8P1.

## BOGEN SCHOOL SYSTEMS

Wolter Ashe Rodio Company is distributor for Bogen School Systems. A complete engineering service is mointained to ossist you in planning and specifying the correct sound equipment for any size installation. Write us your sequirements.


18 WATT AMPLIFIER. One mike input, ane phono input. 4-pasition tone cantral. FREQUENCY RESPONSE: 50-12,000 cycles. OUTPUT IMPEDANCE: 4-8-15 ohms, 70 volis. TUBES: 2 -6SF5, 1-6SL7GT, 2 , 6VEGT, 1-5Y3GT. Size: $14 \times 8 \times 8^{\prime \prime} \mathrm{H}$. Opprates ar 117 VAC. U L approved. Compleir with tubes. Fused circuit. Shpg. Wgt. 20 lh. MODEL CH.18. Net..................... $\$ 48.90$


PORTABLE SYSTEM. Consists of CH. 18 omplifier with tubes, two-piece portoble carrying casewith twa $1^{2 \prime}$ Alnica $V_{s p e a k}$. ers with 25-ft. cobles, plus mike with stand adopter, cable and plug. Shpg. Wgt. 50 lbs. MODEL CH.18P1. Neq.................. $\$ 94.50$


18 WATT UNIVERSAL MOBILE SYSTEM. Operates an either 6 volts $D C$ or 117 volts AC. Ph sno top has 3 -speed motar far playing 78, 45, $331 / 2$ RPM recards, furnover crystal cartridge. Input for mike. 4-position tone cortral. Standby switch. FREQUEN. CY RESPONSE: $50.12,000$ cycles. OUT. PUT INPEDANCE: 4.8 .15 ohms ond 70 volis, brought out to terminal strip ond two speaker sackets. TUBES: 2.6SF5, 1.7Z4, 1.6SL7GT, 2.6 V 6 GT . Size: $15 \times 10 \times 10^{\prime \prime} \mathrm{H}$. U/L approved. Camplete with fubes. Shpg. Wigt. 50 ibs .
MODEL CH. 618Y. Net................. $\$ 98.25$


30 WATT AMPLIFIER. Has input for two mikes, ane phana. 4-pasition tone cantral. FREQUENCY RESPONSE: $40-10,000 \mathrm{cy}$ cles. OUTPUT IMPEDANCE: $4-8.15 \mathrm{ohms}$ 70 valis brought aut to terminal strip and twa speaker sackets. Inverse feedback circuif. Extractor type fuse. TUBES: 24SC7, 1.6SL7GT, 2.6L6G, 1.5U4G. Operntes on 117 VAC. Size: $15 \times 10 \times 8^{\prime \prime} \mathrm{H}$. U 1 rppraved. With tubes and cage. Shpg. Wat. 27 lbs.
MODFL CH.30. Net...................... 58.05


30 WATT PORTABLE SYSTEM. Consist of Model CH-30 omplifier, two 12" Alnico $V$ speakers with $25-f$. cobles, maunted in two-piece corrying case, crystol mike with stand adapter, coble and plug. Shpg. Wgt. 56 lbs .
MODEL CH.30PI. Net................ \$ 103.08


60 WATT POWER AMPLIFIER. For oll high power requirements in shipyords, industrial plonts, stadio, etc. Inputs for two mikes with individual contrals. Input for phano with valume contral. 4-pasition tone contral. FREQUENCY RESPONSE: 40-12,000 cycies. OUTPUT IMPEDANCE: 4-8.15 ahms, 70 and 140 valts, canstand valtage autput for ease of speaker matching. Terminal strip and twa speoker sockefs for cannection of speaker lines. Has extroctor type fuse. Off-On pilot lomp indicator. TUBES: 2.6SF5, 1.6SL7GT, 1. 6V6GT, 2.807, 1.5Y3GT, 1.5R4GY. Operotes on 117 VAC. Size: $17 \times 111 / 2 \times 9 / /^{n} H$. With tubes and coge. U/L oppraved. Shpg. Wgt. 43 lbs.
MODEL CH.60. Net
\$ 93.60
(20) NEED NEW TEST EQUIPMENT?-We'll Trade In Your Old Units!


30 WATT PORTABLE SYSTEM. With 3. speed phono top and turnover crystal cortridge. Consists of all features of Madel CH-30P1 with addition of record player. Shpg. Wgi. 59 lbs.
MODEL CH-3OYPI. Ne个............. 122.88


30 WATT AMPLIFIER. Incorporates 3. speed record player and erystal turnover cartridge which plays all speeds and types of records, 78, 45, 33 $1 / 2$ RPM. All other specifications identical to Nodel CH- 90 but is $10^{\prime \prime}$ high. With tubes and cage. Shpg. Wgt. 30 lbs.
MODEL CH 3 YY. Nef................... $\$ 77.55$


6 WATT MOBILE AMPLIFIER. For use in emergency cars, mobile PA, bus and trolley announcing systems, te. Four alternote nounting posifions. May be serviced with. sut removing from dashboard. Standby 5 witch. Fused DC power cable. Input for ane mike. Oufput 4.8 .15 ohms. Uses 2. 5SF5, 1-6LGGA, $1.6 \times 5 G T$. Size: $31 / 4 \times 8 \times 7^{\prime \prime}$. Jperates from 6-volt storage battery. Shpg. Ngt. 8 lbs.
MODEL. CD 6. With tubes. Net...... $\$ 37.35$

## THE GREAT

 Bogen DB-20 AMPLIFIER

20 WATT TRUE HIGH FIDELITY AMPLI. FIER. Only $0.3 \%$ distortion of full power output, peak wottage 30 watts. Rated as one of the best amplifiers obtainable by one of the country's leading research organizations FREQUENCY RESPONSE: $20-20,000$ cycles $\pm 0.7$ DB. INPUTS: Mag. netic cartridge, crystal cartridge, funer, TV, tape recorder. Seven different equali: zation curves available when using mag. netic cartridge. HUM: -75 DB. Has standard volurre control and also Loudness Contour Selector which permits properly compensated response for any listening level. Separate bass and treble tone controls with boost and atrenuation. DAMP. ING FACTISR: 13. OUTPUT IMPEDANCE: 8 and 16 ohms. TUBES:3-12AT7, 1-12AU7, 2.6L6G, 1.5U4G. Operates on 117 VAC , 150 watts. Size: $15 \mathrm{~W} \times 9 / / \mathrm{D} \times 8^{\prime \prime} \mathrm{H}, \mathrm{U} \mathrm{L}^{\prime}$ approved. Shpg. Wgt. 30 Jbs .
MODEL D8-20. With fubes. Net..... $\$ 99.00$

## "WITH VARIABLE DAMPING FACTOR".

Fomous Model DB. 20 with additional fea: qure, Varioble Damping Foctor. Hos complete range of damping which allows the speaker and cabinetresonance to be effec. lively " funed out". Most non-linear charac. teristics of speaker and enclosure which cause distortion are drastically reduced. Shpg. Wgi. 30 lbs .
MODEL. DE-20.DF. Net.............. $\$ 108.00$

## UTVCCD

Four-Channel Microphone Mixer


Four independent gain controls, four mike inputs. One output connector and 4-ft. cable. Used to convert one mike input to four channel operation. Shpg. Wgt. $31 / 2 \mathrm{lbs}$.
MODEL. MM.4. Net......................... $\$ 12.49$

## 10 WATT HIGH FIDELITY AMPLIFIER



Acclaimed by audio experts and users. Has built-in shock mounted preamplifier for G.E., Pickering, and similar magnetic pickups, input for crystal piekup, tuner or other. FREQUENCY RESPONSE: $30-18,000$. cycles $\pm 1$ DB. HUM: -68 DB. POWER OUT. PUT: 10 watts at $3 \%$ distortion, peak power 15 watts. Built-in 3-pasition record equalizer for "LP", " 78 ", and worn records. Has separate bass and treble controls with boost and attenuation. OUTPUT IMPED. ANCES: 4-8-16 ohms. TUBES: 1-6SC7, 1 . $6 \mathrm{SL7}, 2.6 \mathrm{~V} 6 \mathrm{GT}, 1.5 \mathrm{Y} 3 \mathrm{GT}$. Operates on 117 VAC, 70 watts. Size: $6 \times 11 \times 7$ DD. UN approved. Shpg. Wgt. 15 lbs.
MODEL DB.10A. Net..................is 54.45
8 WATT HIGH FIDELITY AMPLIFIER


Quality performance for the low budget audiophile. Removable front panel adapts unit for open shelf or custom cabinet in. stallations. FREQUENCY RESPONSE: Within IDB from 30-20,000 cycles. POWER OUTPUT: 8 watts at $1 \%$ harmonic distortion, $0.25 \%$ distórtion at 1 watt listening level. HUM: -60 DB. OUTPUT IMPED. ANCE: 4-8.16 ohms. INPUTS: Low level magnetic cartridge, erystal cartridge, radio funer, or TV set. Built-in preamplifier for magnetic cartridge. Separate bass and treble controls, TUBES: 1-6SC7, 2.6V6GT, $1-6 S L 7 G T, 1.6 \times 5 \mathrm{GT}$. Size: $81 / 4 \times 11 \times 6^{\prime \prime} \mathrm{H}^{\prime \prime}$. Operates on 117 VAC. Shpg. Wgr. 10 Jbs.
MODEL HF.8. With tubes. Net...... $\$ 35.95$
10 WATT HIGH FIDELITY AMPLIFIER


Praised by independent consumer research organizations and audiophiles alike. Excellent companion amplifier for R.640G and AM-901 puners. 4 -position tone control. 3 -position function selector switch permits use of Phono (high impedance input), Tuner, Auxiliary which may be used for tope recorder, additional phono, etc. Inverse feedback circuit. POWER OUTPUT: 10 watts at $5 \%$ distortion, peak pawer 14 watts. FREQUENCY RESPONSE: 40-15,000 $\pm 1$ DB. HUM:-80 DB. OUTPUTIMPEDANCE: 3.2 and 8 ohms, TUBES: 1-6SL7GT, 2 $6 \mathrm{~V} 6 \mathrm{GT}, 1.5 \mathrm{Y} 3 \mathrm{GT}$. Operates on 117 VAC , 60 watts. Size:. $5 \times 11 \times 6 \mathrm{H}$ H. Shpg. Wi. 10 lb . MODEL PH-10-1. With tubes. Net $\$ 35.50$

## AUDO-HIFFI BOGEN AMPLIFIERS AND SYSTEMS


J. 15 J. 30

15 WATT POWER AMPLIFIER. Two high impedonce mike inputs, one phono. (See listing of low impedance input transform. ers.) POWER OUTPUT: 15 wotts at less than 3\% harmonic distortion. Peak power 25 watts. FREQUENCY RESPONSE: $\pm 1 \frac{1}{2}$ DB from $30-12,000$ cycles. HUM: -70 DB OUTPUT IMPEDANCE: 4-8.16 ohms and 70 volts ( 325 ohms) ovailable at terminal strip ond two speaker sockets. TUBES: 3.65F5, 1-6SL7GT, 2.6L6G, 1.5Y3G. Oriental green case, buff control panel. hronze knobs. Sixe: $15!2 \times 7^{3} \times 10^{1 / 2} \mathrm{D}$. Oper. ates on 117 VAC $50 / 60$ eycles, 95 watts. U.L approved. With tubes. Shpg. Wgi. 26 Ibs.
MODEL J.15. Net....................... $\$ 68.40$

30 WATT POWER AMPLIFIER. Two high impedance mike inputs, one phono. (See listing of low impedance input transformers.) POWER OUTPUT: 30 watts af less thon $5 \%$ harmonic distortion, peok power 40 watts. FREQUENCY RESPONSE: $\pm 21 / 2$ DB from 20-12,000 cycles. Separate boss and treble tone controls. HUM: -68 DB. OUTPUT IMPEDANCE: 4-8-16-500 ohms and 70 valts ( 164 ohms) -ovailable ot ter. minal strip and two speaker sockets. TUBES: 3.6SF5, 1.6SL7GT, 2.6L6G, 1. SU4G. Orientol green case, buff control panel, bronze knobs. Size: $151,2 \times 73 / 4 \times 10^{3} 4^{n} 0$. Operates on 117 VAC $50 / 60$ cycles, 140 watts. U/L approved. With tubes. Shpg. Wgt. 30 lbs .
MODEL J.30. Net........................ 79.65 Also ovailable for $19^{\prime \prime}$ rack panel mount. ing of extro cost.


50 WATT POWER AMPLIFIER. Less thon $3 \%$ harmanic distartion. Peak power 90 watls. FREQUENCY RESPONSE: $\pm 2$ DB from 30.20,000 cycles. INPUTS: 2 high im. pedance mike, 1 phono. (See listing of low impedance transformers.) HUM: -74 DB. OUTPUT IMPEDANCE: 4-8.16 ohms, 70 and 140 valts ( 100 and 400 ohms) avail. able at terminal strip and two speaker sockets. TUBES: 3-6SF5, 1-6SL7GT, 1 . 6SN7GT, 2.807,1-5Y3GT, 1.5R4GY. Size: $17 \times 91 / 4 \times 121 / 2{ }^{n}$ D. Silver grey cage, green control penel, bronze knobs. Operates on 117 VAC $50 / 60$ eycles, 210 watts. $\mathrm{U} / \mathrm{L}$ ap. proved. With tubes. Shpg. Wgt. 43 lbs.
MODEL J. 50 . Net.
.$\$ 117.90$
Also ovailable for $19^{\prime \prime}$ rack panel mount. ing at extra cost.

J.15Y J.30Y

15 WATT AMPLIFIER. With 3 -speed phono and furnover crystal cartridge. Other specifications identical to Model J. 15 except size which is $15^{\frac{1}{2}} \times 9 \times 10^{1 / 40}$. $U, L$ ap. proved. With tubes. Shpg. Wgt. 31 Ibs.
MODEL J.15Y. Net...................... $\$ 87.90$

30 WATT AMPLIFIER. With 3 -speed phono ond turnover erystal cartridge. Other specifications identical to Model J. 30 except size which is $151 / 3 \times 9 \times 10^{3 / 4}$ D. U/ approved. With tubes. Shpg. Wgt. 35 lbs .
MODEL J.3OY. Ne $\uparrow$
.599 .15
FORTABLESYSTEMS


15 WATT PORTABLE SYSTEM. Consists of Mode! J-15 amplifier, Shure 710 crystalmike with stond odapter ond $5 . \mathrm{ft}$. cable and plug, two Jensen P125 speokers with 25 -ft. cobles, mounted in corrying case. Size: $21^{1 / 2} \times 16^{1 / 2} \times 13^{\prime \prime} \mathrm{O}$. Shpg. Wgt. 60 lbs.
MODEL J.15P. Complete. Net....... $\$ 117.48$

30 WATT PORTABLE SYSTEM. Consists of Model J. 30 amplifier, Shure 710 crystal mike with stand odapter ond $5 \cdot \mathrm{ft}$. cable and plug, two Jensen P12S speakers with 25 -ft. cables, mounted in carrying case. Size: $21 / 1 / 2 \times 16 / 12 \times 13^{\prime \prime}$. Shpg. Wgt. 64 lbs.
MODEL J.30P. Camplete. Net...... $\$ 129.66$


15 WATT PORTABLE SYSTEM. With 3. speed record ployer with turnower crystal cartridge. Other specifications same as Madel J-15P. Shpg. Wgt. 65 lbs.
MODEL J.15YP. Complete. Net... $\$ 136.98$
30 WATT PORTABLE SYSTEM. With 3 speed record ployer with furnover crystal cartridge. Other specifications same os Model J.30P. Shpg. Wgt. 69 lbs.
MODEL J.30YP. Complete. Net....S 149.16


23 WATT MOBILE AMPLIFIER. For operc. tion on 117 volts $A C$ or 6 volis DC. Rug. gedly constructed to withstond the hard use encountered in sound truck or rental purpose. Has 3 -speed phono yop enabling use of all types of records. Turnover crystal cartridge ploys $78,45,33^{1,}$ RPM records. Peak power 30 watts. 6 -position tone control. Input for high impedance: mike. FREQUENCY RESPONSE: 3014.000 cycles. OUTPUT IMPEDANCE 4.8 .16 ohms and 70 volts available at ter. minal strip and two speaker sockets. POWER CONSUMPTION: AC, 117 volts 115 watts; DC. 6 volts 14 amperes. U/L onproved. TUBES: 2-6SF5, 1-6SL7GT, 2-1 AL6G, 1.7Z4. Dimensions (with phono) $15^{1} \times 10^{2} / 2 \times 10^{7}{ }^{\prime \prime} \mathrm{DD}$. Shpg. Wgt. 35 lbs.
MODEL H.623Y. Nef................... \$ 117.60


HIGH FIDELITY PUBLIC ADDRESS AM. PLIFIER, With ANTI-FEEDBACK control which permits "tuning out" of objectionable acoustic feedback in sound system without offecting fone quality or output power. Full 50 watts oufput of less thon $3^{\circ} \%$ harmonic distortion, peak power 90 watts. FRE. QUENCY RESPONSE: $\pm 2$ DB from 20 . 20,000 eycles. Separate boss and trebletone controls with attenuation. INPUTS 5: 4 high impedonce mike, 1 phono (See listing of low impedance transformers). HUM: -65 DB, OUTPUT IMPEDANCE: 4.8.16 ohms, 70 and 140 volts ( 100 and 400 ohms), ovailable at terminal strip ond two speaker sockets. TUBES: 5-6SF5, 2-6SC7, 2-807, 1-6SL7GT, 1-6SN7GT, 1-5Y3GT, 1-5R4GY. Case finished in Oriental green, size 17x $9 \times 14^{\prime \prime}$ D. Buff control panel, buff knobs. Operates on 117 VAC $50 / 60$ eycles, 240 wotts. U/L opproved. Shpg. Wgt. 47 lbs.
MODEL JX.50. With tubes. Net... $\$ 167.70$
30 WATT HIGH FIDELITY AMPLIFIER. Similar to Model JX-50. Full output at less than $2 \%$ hormonic distortion. Peak power 40 watts. FREQUENCY RESPONSE: $\pm 1 / 2$ DB from 20.15,000 cycles. Incorporates ANTI-FEEDBACK feature. INPUTS 5: 4 high'impedance mike, 1 phono (See listing of low impedance transformers). OUTPUT IMPEDANCE: 4-8.16.500 ohms and 70 volts ( 167 ohms), available of terminal strip and two speoker seckets. Separate bass and treble controls with attenuation. TUBES; 5.6SF5, 2.6SC7, 1.6SL7GT, 2.6L6G, 15U4G. Oriental green cose, buff control panel, bronze knobs. Size: $17 \times 9 \times 14^{\text {n }} \mathrm{D}$. Operates on 117 VAC $50 / 60$ cycles, 140 watts. $\mathrm{U} / \mathrm{L}$ approved. Shpg. Wgt .40 lbs. MODEL JX.30. With tubes, Net.... \$ 131.70 JX-50 and JX-30 available for $19^{\prime \prime}$ panel mounting at extro cost.


6 WATT UNIVERSAL MOBILE AMPLIFI.
ER. Far use on 6 valt battery or an 117 VAC source. Far use in emergency cars, mobile PA, bus and frolley announcing systems, efc. Mounts easily under doshboard and can be serviced without removing amplifier. Inputs for crystal or other high impedance mike and phono. Peak power 8 walts. FREQUENCY RESPONSE: $\pm 2$ DB from $60-9,000$ eycles. OUTPUT IMPEDANCE: 4-8-16 ohms of speaker socket. POWER CONSUMPTION: AC, 117 VAC 50 watts; DC, 6 volts 7 amperes. Standby switch reduces current droin. Size: $61 / \times 6^{\prime} / \times 9^{1 / 20}$. TUBES: $1.6 S J 7,1$. 6SL7GT, 1-6L6GA, 1.6X5GT. Shpg. Wgt. 15 lbs.
MODEL E.66. NeP........................ 46.65

## DAVID BOGEN

HIGH FIDELITY TUNERS


FM.AM TUNER. Covers bands of 88.108 MC and 530.1650 KC . High sensitivity ( 5 microvolss), high selectivity, full fidelity. FM response $50 \cdot 15,000$ CPS. AFC control prevents drift. Connects to your présent amplifier. Only two controls on tuner, funing and FM.AM switch. FM.AM audio output 1 volt, high impedance, Loop antenna furnished. TUBES: 1-6BC6, 1-6AB4, 2 . 6BA6, 2.6AU6, 1.6AL5, 1.6BE6, 1.6X4, 1-12AT7. Operotes on 117 VAC, 50 watts. Size: $10 \times 7 \times 11 \frac{1 / 2}{2} \mathrm{D}$. Shpg. Wgt. 14 lbs .
MODEL R.640G. In case. Net...... $\$ 112.95$ MODEL R-640. Less case............. 105.50


AM TUNER. For high fidelity installations. Covers range $530-1650 \mathrm{KC}$. Only two controls on tuner, station control and function selector switch. Designed to be used with amplifier of your choice which incorporates its own tone controls, goin control and preomplifier. RESPONSE: $50-7500$ cycles, oudia output 1 volt. Sensitivity is 5 microvolts. Loop antenna furnished. 10 KC whistle filter to eliminate inter-station inferference. TUBES: 2 -6BA6, 1-6BE6, 1 . 12AT7, 1-6X4. Operates on 117 VAC. Size: $10 \times 7 \times 7^{\text { }} \mathrm{H}$. Härdwore furnished. Shpg. Wgt. 12 lbs.
MODEL AM.901-1. Nef.................. $\$ 69.30$


BROADCAST QUALITY PREAMPLIFIER. With five inputs. For theatres, recarding companies, large P.A. systems, etc. Four high impedance mike inputs (may be converted to low impedance input by means of plug-in transformers T-155, T-156, T-157). One phonoinput. Broadeast type mike connectors. Has Master Gain contral and india vidual control for each input. Bass-Treble Pone corrector. HUM:-65DB. FREQUEN. CY RESPCNSE: $£ 2$ DB fram $20.15,000 \mathrm{cy}$. OUTPUT impedance: 8 volis of less than $1 \%$ distortion into 10,000 ohms. TUBES: S-6SF5, 1-6SN7GT, 1-6X5GT. Operates on 117 VAC 50/60 cycles 27 watts. Size $15 / 2 \times 8 \times 11^{\prime \prime}$ D. Shpg. Wgt. 17 lbs. MODEL JOH. Net. $\qquad$ .$\$ 79.65$
Also available in low impedance output ( 500 ohms) and for $19^{\circ}$ rack panel mounting at extra cost.


PORTABLE MUSIC.INSTRUMENT AMPLI. FIER. For guitars, violins, efe. Provides full range reproduction with dynamic realism. Sufficient output for mostauditoriums. 20 watts normal output, 35 wotts peak. Atfractive, sturdy case covered in blue leotherette. Has three high impedance inputs for mosical instruments and one high impedance input for mike. $12^{n}$. Alnico $V$ PM speaker. Tone control. Operates on 117 VAC $50 / 60$ cycles, 120 watts, Size $15 \% / \times 19 \times 8 \%^{m}$, Corrying weight 24 lbs . Shpg. $\mathrm{Wg} \mathrm{F}^{\mathrm{o}} 30 \mathrm{lbs}$.
MODEL GA-20. Net...
..$\$ 85.35$

AMILTON

## ElECTRONICS

MX-3
MIKE
MIXER


Mixer unit for adding input chonnels to any high impedance omplifier. Permits 3 input devices such as mikes, tuners, phono, recorders, otc. to be fed into amplifier. Separate gain control for each input allows perfect mixing. Complete with $33^{\prime \prime}$ lead and connectors. Grey hammerloid finish, size $11 / 2 \times 31 / 2 \times 8^{\text {n }}$. Shpg. Wgr. $1 / 2 \mathrm{lbs}$.
MODEL MK.3. Net


IOWATT AMPLIFIER. One high impedance mike input, one phano input. Peak power 15 watts. 6 -position Multi-Range Tone Corrector. FREQUENCY RESPONSE: $\pm 11 / 2$ DB from $60-10,000$ eycles. OUTPUT IM. PEDANCE: $4-8-16-500$ ohms ( 500 ohm tap is equal to a 70 -voli canstant voltage tap). Two speaker sockets with impedance selectar at output. TUBES: 1.6SJ7, 1.6SL7. $2.6 \mathrm{~V} 6,1.5 \mathrm{Y} 3 \mathrm{GT}$. Grey cage, green panel. size $11 \times 7 \frac{3}{18} \times 7^{n}$. Operates on 117 VAC $50 / 60$ eycles, 70 watts. $U / 2$ approved. Shpg. Wgt. 15 lbs.
MODEL HE.10. With tubes. Nef..... $\$ 42.75$ 10 WATT PORTABLE SYSTEM. Consists of Model HE-10 amplifier with qubes, Shure 710 crystal mike with 5 -ff. cord, plug oud stand adapter, two Jensen P10S speakers mounted in portoble baffles which serve as carrying case for complete system. Size $9 / / 2 \times 12^{\frac{1}{2}} \times 17^{3} / 4 \mathrm{H}$. Shpg. Wgt. 39 lbs.
MODEL HE.1OP. Complete. Net.... $\$ 85.80$
DAVID BOGEN

## HIGH POWER BOOSTER AMPLIFIERS



For use in industrial plants, airports, shipyards, stadia, etc. Ideal for use with type JOH preamplifiers. $\mathrm{U} / \mathrm{L}$ approved.
125 WATTS at $3 \%$, peak power 140 watts. FREQUENCY RESPONSE: (af 1 wgit level) $\pm 1$ DB from 20-20,000 cycles. OUTPUT IMPEDANCES: 90 ohms and iwo constant voltage taps, 70 and 140 volts. Unit operates on 117 VAC $50 / 60$ cycles, 325 watts. Size $17 \times 9 / / 2 \times 12 \frac{1}{2}{ }^{n}$ D. Shpg. Wgt. 59 lbs.
MODEL HO.12S. High imp. Net.... \$ 129.45 MODEL HOL-125, Low imp-500 ohm. 139.95 SO WATTS. Similor to Model HO-125. Shipg. Wgt. 45 lbs.
MODEL HO.50. High imp. Ne f...... $\$ 100.50$ MODEL HOL 50 . Low imp- 500 ohm. 114.25 30 WATTS. Similar to above. Shpg. Wgt. 30 Jbs.
MODEL JO-30. High imp. Net....... $\$ 65.25$ MODEL JOL 30 . Low imp- 500 ohm... 75.75

## LOW IMPEDANCE <br> INPUT TRANSFORMERS

Series " J" ond " JX" amplifiers are normally supplied with high impedance inputs. In order to convert to low impedance input, use one of the fransformers listed below. Sockets to accommodate these fransformers are mounted on chassis of amplifier. Shpg. Wgt. 1 lb .
MODEL T.155. 200 ohm plug-in. Net $\$ 9.00$ MODEL T.156. 500 ohm plug-in......... 9.00 MODEL T.157. 50 ohm plug-in.......... 9.00


BELL MODEL 2122.C
Combines low price with many desiroble feotures usually found in more costly equipment. POWER OUTPUT: 10 wats at $2 \%$ distartion, Peok Power 15 watts. IN. PUTS, 4: Radio Tuner, Auxiliary Tape, TV or Crystal Pickup, Two for Magnetic Pickups with built-in preomplifiers ond individuol equalizotion. FREQUENCY RE. SPONSE: $20-20,000$ CPS $\pm \frac{3}{6}$ DB with contrals set for flat. TONE CONTROLS: Seporaie boss and treble controls, flat center positions. SELECTOR SWITCM: With equal. ization; 5 positions, POP.LO NOISE, COL LP-AES-RCA, FFRR.EARLY 78, TUNER, AUX. HUM LEVEL: 65 DB below rated output. OUTPUTS: $4,8,16$ ohms, high im. pedonce jock for disc or tope recorders. Socket for Model 2201 Pilot Light Assem. bly. Complete with template, four $1^{13 / 4}$ extension shofts for console mounting. Two 117 VAC convenience outlets on reor of chassis for tuner, chonger, etc. TUBES: $2.6 \mathrm{SC} 7,1.6 \mathrm{SL7}, 2.6 \mathrm{~V} 6 \mathrm{GT}, 1.5 \mathrm{Y} 3 \mathrm{GT}$. Operotes on 117 VAC 50/60 eycle. SIZE: $111 / 2 \times 6 \times 8^{\text {m }}$ D. Net weight $101 / 2 \mathrm{lbs}$. Shpg. Wgt. 13 lbs.
MODEL 2122.C. Net. $\qquad$ . $\$ 52.87$

ACCESSORY: Pilot lamp ossembly complete with S-ft. cord, plug, socket, lomp, ond instructions, wired ond ready for installation. Serves as indicator that amplifier (or system) is on. For use with Models 2122-C, 2199-B, and 2200-B.
MODEL 2201. Net.
$\$ 1.91$


BELL
MODEL 2199-B
Contains all desirable feotures wanted by the high fidelity fon. POWER OUT PUT: 12 wotts of $1 / 2 \%$ distortion, Peak Power 20 watts. MUM LEVEL: 70 DB below roted output. FREQUENCY RESPONSE: 20 10 20,000 CPS $\pm 1 / 2$ DB with controls set for flat response. INPUTS, 6: Two for Magnetic Pickup, one Crystal Pickup, one Fre. quency Modulated or Ceramic Pickup, one Radio, one for Tope, Disc, or TV. OUTPUT IMPEDANCES: 4, 8, 16 ohms with ouxili ory high impedonce jock for tope or disc recorders, CONTROLS: 7-position equoli. zation and selector switch; 78 RPM, COL. LP, RCA-AES-NARTB, FFRR, Europeon, Radio, Tape; Continuously variable com. pensated loudness control; Gain control; Separate bass and treble controls. Motor umble switch. Three $A C$ convenience out lets on rear for tuner, chonger, etc. Socket for 2201 Pilot Light Assembly. Removable etched panel ond lour $13 / 4{ }^{\prime \prime}$ extension shafis for console mounting. TUBES: 1-6SC7, 2. 6SL7, 2-6V6GT, 1-5Y3GT. Operotes on $117 \mathrm{VAC} 50 / 60$ cycle. SIZE: $13 \times 8 \frac{3}{9} \times 6^{1 / 4} \mathrm{H}$. Shpg. Wgt. 17 lbs.
MODEL 2199-B. Net
. .578 .35

## Bell



## BELL MODEL 2200.C

Amplifier with truly remarkable feotures, 20 watts output at less than. $3 \%$ distartion. Peak Power 35 wotts. FREQUENCY RE. SPONSE: 20-20,000 eycles $\pm .2$ DB with contrals setfor flot response. HUM LEVEL 80 DB below roted output. INPUTS, 7: Radio, Crystal Pickup, Two Magnetic Pick. ups, TV, Tope Recorder, and Mierophone. CONTROLS: 5 -position equalizer switch; 78 RPM, COL.LP, RCA.AES, FFRR, EUR. Selector switch, Phono w/rumble filier; Phono without rumble filter; Radio; TV; Tope. Continuously varioble loudness control. Gain control. Bass control. Treble contral with AC switch. Radio level set contral (rear panel). OUTPUT IMPED. ANCES: $4,8,16$ ohms. Plus $\mathrm{Hi}-\mathrm{Z}$ tape recarding oufput. Three power outlets en rear for tuner, changer, recorder, etc. Removable etched ponel ond six $13 / 4$ exten. sion shafts for custom installation included. tUBES: 1-6SC7, 1-6SN7GT, 2-6SL7GT, $2-5881,1-5 U 4 \mathrm{G}$. SIZE: $16 \times 8 \frac{3}{3} \times 7^{5 m} \mathrm{H}$. Operotes from 117 VAC $50 / 60$ cycle. Shpg. Wgi. 30 lbs.
MODEL 2200.C. Net..................... $\$ 97.95$


## WITH REMOTE CONTROL

Custom high fidelity, all-triode amplifier with remote control unit from which you con adjust volume, bass or treble, compensate for all types of records, or switch from AM to FM radio. Amplifier may be 25 or more feet from remote control, (shipped with 5.ft. coble, 20.ft. extensions avail. oble). POWER OUTPUT: Less thon . $2 \%$ distortion of 10 watts, less than $.4 \%$ of 15 wotts, less than $2 \%$ ot 20 wotts, Peak Power 30 watts. FREQUENCY RESPONSE: $20-30,000 \mathrm{CPS} \pm 1 / \mathrm{DB}$. HUM LEVEL: 80 DB below full output. INPUTS, 6: Two Mognetic Pickups, Crystal Pickup, Mierophone, Two Radio. CONTROLS: On remote unit - Selector-Equalizer Switch, Compensated Volume Control, Bass Control, or Treble Control; On amplifier - Phoster Gain Control, AC Switch. OUTPUT IMPED. ANCES: 4, 8, 16 ohms. TUBES: 3-12AU7, 3.12AX7, 2-6SN7GTA, 2-6B4G, 1.5V4G. sIZE: Amplifier $8^{1} \times 2 \times 17 \times 7^{\prime \prime} \mathrm{H}$., Remote Unit $31 / 2 \times 10 \times 4 / 2^{\prime \prime} \mathrm{H}$. Operates on 117 VAC 50/60 cycle. Shpg. Wgt. 35 lbs.
MODEL 2145.A. Nef..
.$\$ 186.15$
ACCESSORY: 20-ft. extension coble for more flexible installation of Model $2145 . \mathrm{A}$. Shpg. Wgt. 5 lbs .
MODEL 2148. Ne†
$\$ 7.20$


Excellent unit for ploying all size dises and transcriptions up to $16^{\prime \prime}$. Will ploy ony records of $331 / 4,45$, or 78 RPM. Output of 2.5 watts is sufficient for most any opplication. Equipped with $8^{\prime \prime}$ Alnico V PM speaker, this unit can be used for commercial or home use. Combination bass and treble tone control. $A C$ s witch attached to volume control. Pickup is lotest type of 400 Astatic with iwin CAC cortridge. Speaker coble is 15 feet long and moy be used up to that distance from unit. Operotes on 117 VAL 60 cycle, 30 wotts tubes: 1-12AV6. 1-35W4, 1.50B5. Size: $8 / 2 \mathrm{D} \times 15 \mathrm{H} \times 14$ "W. Net weight 15 lbs . Shpg. Wg+. 20 lbs.
MODEL 2198. Net........................ 71.91


High quality transeription ployer which hondles all reconds or tronscriptions up to $16^{\prime \prime}$. Sufficient power ( 10 wotts, peak 15 watts) to answer any need. Built-in scratch-noise filter to suppress surfoce noise of old or worn records. Mierophone. Micro-instrument, and phonograph have separote volume controls for simultoneous intermixing. Frequency re sponse $30-15,000$ cyele. Inputs for one mike, one mike on instrument, one phono (built-in). Motor is 3 -speed, continuously varioble 30-80 RPM. Uses $16^{\prime \prime}$ professional phono arm with twin crystal cortridge. Heavy duty 12" Alnica $V$ PM speaker in lid with 25 -foot coble, 4 ohm outlet for adaitional speaker. Separote. boss ond treble controls. Operotes on 117 VAC. Cose size: $17 / 2 \mathrm{D} \times 18 \mathrm{~W} \times 12 / 2^{\prime \prime} \mathrm{H}$. Has carrying weight 34 lbs. Shpg. Wgt. 40 lbs. MODEL 2195. Nct...................... $\$ 154.33$

# GENERAL ELECTRIC 

Custom Music Ensemble



## 10-Watt High Fidelity Amplifier

MODFL Al-300. 10 watt high fidelity anplifler for home music systems. Designed to be used with Model Al-200 Preamplifier Control Unit, conpetitive preanplifiers, tuners having own controls, moniter or booster unit. Sinall in size, $4^{\prime \prime} z^{n}$ wide, 12$\}^{\prime \prime}$ long. $5 \%^{\prime \prime}$ high, makes hidden installation easy. No controls on unit. Has 15 DB inverse feedback loop, split load triode phase inverter to drive two 6VGGI. Hum balance adjustment. Prequency response, $\pm 2$ DB, $30-15,000$ cycles (1/2 watt output). Output impedances 4, 8,16 ohns. Hum level -70 DB High impedance input. Tubes: 1-12AX7. 1-6C4, 2-6V6GT. $1-5 Y 3 G T$. For operation on $105-120$ VAC, 60 cy, Blue lustre finish. Shp. Wt. 131 h .

## 12-inch Dual Coaxial High Fidelity Speaker

 Model A1-400Dual Coaxial High Fidelity Speaker. Wile ancle dispersion spe. aker with smooth response 40-15,000 cy. Tweeter unit mount ed on slotted baffle plate which serves as tweeter baffle, reduces interference between woofer and tweeter units. Built in 1800 cycle cross
 over. Woofer dianeter $12^{\prime \prime}$. tweeter diame eter $2 x^{\prime \prime}$. Alnico V ring magnets. woofer 14t oz. tweeter 6.8 oz . Speaker may be "front-mounted ${ }^{\text {n }}$ on enclosure. 8 ohm V.C. Power rating 25 watts. Size: $12-3 / 8$ dia. by 6-1/8" deep. Shpg. Wgt. 10 lbs.

Net \$ 41.11


## 12" DELUXE HIGH FIDELITY

 SPEAKERSmpone 1201A. Unsurpassed in the medium priced field. High fidelity $12^{\prime \prime}$ speaker with $50-13,000$ cycle response. Cone has "edge-dip" treatment resulting in smooth response and long cone life. Will carry 25 watts output. Equipped with protective rigid dust cap which reinforces cone assembly. $14 / 2 \mathrm{oz}$. Alnico $v$ magnet. Uses famous GE $1 K^{\prime \prime}$ aluminum base voice coil. impedance 8 ohms. $\$$ shpg. Wgt. $6{ }^{4} \mathrm{l}$ lbs.

Net \$ 19.95
MODEL 1203A. $12^{\prime \prime}$ high fidelity speaker similar to above but has $9^{\circ}$ oz. magnet. Power. 25 watts. Shpg. Wgt. $5 / \mathrm{h} 1 \mathrm{bs}$.

## Preamplifier Control Unit

MODFL Al-200. Preamplifier-equalizer for use with GE Madel Al-300 Power Amplifier 11sted above, other amplifiers. Inputs: Fi for Magnetic Cartridge, 32 for FM -AM Tuner, for TV sound, Tape or Disc Recorder. 7-position selector control. 5 are for eecord compensation, others are for radic or auxilliary. New loudness control compensates for reduced sensitivity of human ear at both ends of audio range. switch or rear permits selection of conventional volume control in place of loudness control. Separate, continuously variable bass and treble controls with attenuatjon. AC on-off switch and pilot. 2 AC powry outlet receptacles. Size: $3 H x$ 12,1 Hx $8_{2}^{\prime \prime}$ "D. Tubes: $1-6 \mathrm{SC7}$. 1-12AX7, 112AU7. Fselenium rectifier. Complete with f-ft. cable and plugs to attach to amplifier. Operates on 105-190 VAC 50/60 cy. Shpg. Nigt. 8 lbs. Net $\$ 56.79$

## "BATON" TONE ARMS



MODED, 1-500. Designed for use with all types of records up to $12^{\prime \prime}$ diameter. Artm is constructed of strong, lightweight aluminum for minimum lateral and vertical inerria. Cartridge head accommodates GE Variable Reluctance Cartridges which simply plug into head, no soldering. No torsional resonances at all audible frequencies. Cartridge pressure quickly and accurately adjustable by means of sliding meicht. Stylus pressure shown directly in grams on calibrated scale. The cartridge head tilts upward $90^{\circ}$ for easy stylus inspection. Lateral and vertical bearings are dustproof. lifetime lubri. cated. Haight adjustable up to $2^{n}$. Arm is $10.7 / \mathrm{m}^{\prime \prime}$ long. Less cartridge.

Net $\$ \mathbf{3 1 . 3 1}$
MODFL, A1-501. For use with records up to $16^{*}$ diameter and designed for broadcast and professional use as well as homes. Length $1 \div-1 / 3^{n}$. Less cartridge.

Net \$34.79


G-E RECORD
COMPENSATOR

MODEI, A1-900 RECORD COMPENSATOR. A New adjustatle high impedance passive network for use with standard type ce cartridges. Five positions. LP. ABS. FLAT, GOOD early 73, POOR early 78. Connects betwe en pickup cartridge and pre-amplifier infut. Mounts on panel up to 3/4" thick in any position. Requires $4^{n}$ behind parrel. Size. $22^{n}$ L.. $2^{n} W_{0}, 2^{n}$ H. Shpg. Wg t. 11 lb .

## DRECISION ELECTRONKS

 GROMMES CUSTOM
## MUSIC AMPLIFIER



This excellent amplifier was chesen as one of those used in a national magazine's suggested combination for a home music system. Frequency response beyond $20 \cdot 20,000$ CPS $\pm 0.5$ DB, $30-20,000 \mathrm{CPS} \pm 1$ DB at 10 watt level. 20 watts peak. Loudness control incorporated. Separate calibrated bass and treble controls. Built-in equalizer preamplifier for magnetic pickups. Two inputs, crystal piekup or tuner. Two AC ouflets on rearfor furer and record ployer. Hum and noise level -80 DB. Uses five tubes and rectifier, 2-6V6GT in autput. Size $11 \times 7 \times 7$. Brown hamererloid finish. For operation on 105-125 VAC 60 cycle. Output impedance 4, 8, and 16 ohms. Shpg. Wgt. 15 lbs.
MODEL 50PG3. Net.................... 53.90
GROMMES
MUSIC AMPLIFIER

model Lun. Power output 8 watts normal. 18 watts peak. Frequency response 20 to 20000 cy . plus or minus 1 DB at 3 watts. Separate bass and treble cortrols. Built in magnetic ptckup pre-amplifier equalization down to 40 CPS: 500 cycle turnover and 47000 ohm inpuc permits use of external record compensator. Input for radio or crystal pickup. Output 4, 8, 16 ohms. AC outlet for tuner, etc. Fused AC line. Tubes: 1-6SC7, 1-6St 7GT, 2-6V6GT. 1-5Y3GT. For operation on 1 I7 VAC. Size: $10 \% \times 6 \times 1 / 4 \times 54^{1 / 2}$. Shpg. Wgt. 10 lbs .

Net $\$ 40.91$

## Precision Ten Watt Amplifier



Versatile high quality amolifier, normal output 10 watts. maximum 12 watts. Mike input gain 105 DB . Phono input gain 65 DB. Frequency response 70-10.000 CPS. Tone control. Output impedance's 4 and 8 ohms. Tubes: 1-6SC7. 1-6L6. 1-5Y3GT. Size: $7 \times 103 \times 5 \%$. Operates on $110 / 120$ VAC. 60 cy. Shpg, Wgt. 14 lbs.
MODEL G- 10
Net 827.84

## AUDIO－HIFI HI－FI AMPLIFIERS－PARTS CABINETS

## Illcluthosh

HIGH FIDELITY AMPLIFIERS


thoost A－116．Fine 30－watt high fidelity amplifiet－ith irequency response of $20-30000$ cycles plus or minus $1 / 10 \mathrm{DB}$ ． $10-50000 \mathrm{cy}$ ． $1 / 2 \mathrm{DB}, 10-100000 \mathrm{cy}$ ． 1 DB at 15 watt．s．Output impedances 4， 8,16 ， and 600 olms．Has input for any tuner or zero lin\＃level．Powers and works with any McInさosh Pre－Amp and others．Uses world famulus McIntosh output trans former resulting：in finest quality sound．．Fin． ished in grey Hammertone．Chassis size： $12 \mathrm{Lx} 8 \mathrm{D} \times 8{ }^{6}{ }^{1} \mathrm{H}$ ．Operates on 117 Vaf．Tubes： 1－12AX7． 2 －12BH7．2－6BG6， 1 －5还 G．Shpg．日gt． 35 Ibs ．

献 143.50

## 50 WATTS


wonel 50w－2．One of the finest hich fi delity arelifiers yet developed． 50 watt normal autput with peak power of 100 watts．Frequency range of $20-20000$ CPS at less than 1\％distortion．Plug－in com－ ponents． 40 DB gain． 200000 ohm input impedance for tuner．crystal cartridge गr AE－ 2 are－amp． 600 ohm bal anced output © $4-8 \cdot 16-32$ ohms bal anced or unbal anced． Noise， $9 C$ DB below rated output．Damping factor 10．Separate amplifier and power supply chassis，size $8-3 / 16 \times 6-3 / 4 \times 4-1 / 2^{\prime \prime}$ ． Finished in grey hamertone．Tubes：Out－ put．2－6LEG；inverter Amplifier，1－12AK7； Pre－amp，（as required） $1-12 \mathrm{AX7}$ ；Recti－『iers，2－3U4G．Complete with tubes，in－ structions and connectors．Operates on $105 / 125 \mathrm{WAC} 20 \mathrm{cs}$ ．Shig．Wet． 601 bs ． Net $\$ 249.50$

## Equalizer

Pre－Amplifie


Vew Egualizer Preamplifler for use with yower ancilifiers．Delivers 4 volts at less thas $0.3 \%$ distortion， $20-20000$ CPS， ：1ve 1npu＊channels，TV audio，FM－AM iuner，low level mike，high level mag． retic cartridge，low level magnetic zartridge Master volume control．Base und treble accentuate or attenuate．Size $11 \times 7-3 / 4 \times 4 \cdot 1 / 8$ wood cabinet．Supplied fith connector to obtain power from maln mplifier and connect equalizer output ：o power anylifier．

90DEL C－104A Equalizer Preamplifier in wood cab：ngt（illustrated）．Net $\$ 67.50$ 10PEL C－ 104 Less mood cabinet． 59.54

U T C

LINEAR STANDARD
AMPLIFIER KIT


New height of fidelity．Full 20 watts out． put．Intermodulation distartion：． $07 \%$ of 1 watt， $1 \%$ at 20 watts．Frequency response （controlled）：I DB 20－20，000 sycles．Hum and noise level： 80 DB below rated output． Feedback： 36 DB．Output impedonces（not critical）： $4.8 \cdot 16$ ahms，also 2．5．10．20－30 ohms．Tubes：1．12AX7，2．6AU6， 2.5881 （KT－66），1．5V4G．Employs printed circuit panel as the chassis with virtually all components preassembled and wired．Each $k$ it which comes complete，including tubes and cover，can be fully pre－tested before shipment．Additional wiring involves only the connection of 17 leads to screw ter． minols for completion．Complete，ready for finol ossembly．Size： $5!/ 4 \times 8 \times 17 /{ }^{\prime \prime}$ ．Shpg． Wgt． 26 lbs ．
MODEL MLF，Ne†．．．．．．．．．．．．．．．．．．．．．．．$\$ 105.84$

## ARKAY KIT MODEL A－10

## Completely NEW

High Fidelity AMPLIFIER

in KIT FORM



10．wott high fidelity amplifier in kit form Designed to meet the exacting stondords of high fidelity enthusiasts．Power output of 10 wotts or 32 DB ，less then $3 \%$ distor－ sion．Frequeney response of 20 to 20,000 CPS 4 DB ．Tone control produces maxi－ mum boss boost of 48 DB at 100 CPS ． Treble control produces maximum treble boost +10 DB at $10,000 \mathrm{CPS}$ ．Hum level －70 DB below rated＇output．Output imped． ances 4,8 ，or 16 ohms．Bolanced preampli． fier stage for reluctance pickup．Inputs for reluctance pickup，and or microphone， funer，or crystal pickup．Tubes：1－6SC7， 1. 6SL7，2－6V6GT， 1.5 Y3GT．Size： $111 / 4^{1 / 3} /^{x}$ $21 / 4 \mathrm{H}$ ．Operates on 110.120 VAC．Com－ plete with tubes．Shpg．Wgt． 15 Ibs． MODEL A．10．Ne1．．．．．．．．．．．．．．．．．．．．．．．．． 22.95

HEAVY DUTY STEEL DRAWERS


Heavy duty steel drawer units moke excel． lent small parts bins for home，shop，ond stare．Securely welded with strong handles． Drawer size， $11 / 3 \times 5 \% \times 31 / 4 \mathrm{H}$ ．Each drower comes equipped with two dividers．Finished in olive green．Lobel holders on every drawer and cross divider．Units may be NO．8． 8 drawers．Cabinet size， $251 / 2 W_{x}$ 1OHx12D．Shpg．Wgt． 30 Ibs．Net．．．．$\$ 14.35$ EXTRA DIVIDERS．Net Eoch．．．．．．．．．．．．$\$ .09$ NO．11， 18 drawers．Cabinet size，34Wx 133／4x12D．Shpg．Wgt． 75 lbs．Net．$\$ 23.35$ EXTRA DIVIDERS．Ne中 Each．．．．．．．．．．．$\$ .09$


MULTI－DRAWER
Build your small parts cabinet to fit your space－odd any number of units as needed． Unit rigidly interlocks with others at top， bottom，and sides．For storage of small parts，sturdy all－steel construction．Flexi－ ble cabinet arrangement with smooth sliding drawers．Holder for contents identificotion． Size： $5^{\prime \prime}$ front to back， $2 \frac{1}{4}^{\prime \prime}$ wide， $2 \frac{1}{/^{\prime \prime}}$ deep． Each unit accommodates three all－steel drawer dividers．
M． 1010 MULTI－DRAWER．Net Each．．．$\$ .42$
Set of 10 Drowers．．．．．．．．．．．．．．．．．．．．．．．．．．．．．3．78
M．10it DIVIDERS．Net Each．．．．．．．．．．．．．\＄． 03
Set of 10 Divider s．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 27
Set of 100 Dividers．．．．．．．．．．．．．．．．．．．．．．．．．．． 2.50


## MICROCIRCUITS

Conducting and resistance ink and points． For use in building or repairing of minia． fure tube sets，heoring aids，control cir－ euits，amplifiers，etc．Kit contains silver conducting point，low，medium，high，and very high resistonce point，brush，brush cleoner，ond solvent．Complete manual tells you how to make chokes，coils，resistors， coupling transformers，efc．Shpg．Wgt． 2 lb ． MODEL S． 21 SUPER KIT．Net．．．．．．．$\$ 10.26$

## CRAFTSMEN AMPLIFIERS - PREAMPS AUDO-HIFFI



FM.AM TUNER WITH EQUALIZER PRE. AMP. FM section of the superlative funer has high sensitivity with AFC to assure negligible drift, AFC may be disabled by means of switch on front panel. AM section features 2 -position bandwidth, sharp for noisy lacations and DX, broad position for high fidelity reception. AM section has 10 KC whistle filter to eliminate odiocent channel interference. Audio section contains separate boss and treble controls with boost and attenuation, high quality built-in preamplifier for magnefic cartridges and four positions of record equalization. Has extra input for tape and TV. Works beoutifully with amplifier such as Crafismen C550. Tubes: 2-6BJ6, 1-6BE6, 1-6BC6 1.6BN6, 2-6AU6, 2-6AL5, 1-6BK7A, 1 . 6U8, 1.6AV6, 3-12AX7, 1-5Y3GA. Loop antenno included. Frequency response FM, 20-20,000 CPS $\pm 1 / 2$ DB; AM, 20-5,000 $C P S \pm 1 / 2 D B$. Chossis finished in beautiful chrome plating, front panel suitable for use with or without custom cobinet. Size: $14!, 2 x$ $13^{1} 1 \times 6^{3 / 2 m} H$. Operates on $110-120$ VAC, 65 watts. Complete with all instructions, maunting hardwore, interconnecting cables. Shipg. Wgt. 22 lbs.
MODEL C1000. Nef.
.$\$ 179.50$


FM.AM TUNER WITH PHONO PREAMP. High qualify funer for custom builders. Has preamp for magnetic cortridges. Edgelighted sliderule diol. Automatic frequency control. Input channels for phono and TV as well as two power outlets are switched from front panel. AM low impedance loop and built-in FM antenna. Externol antennas moy be used. Wide band IF channels provide outstonding audia fidelity. Double priode audio amplifier with negotive feedback handles up to 3 volt output at less than $1 \%$ distortion. Audio output matches high or low gain amplifier such os Crofisman C550 and C400. Continuously variable bass and treble controls; flat response 20-20,000 CPS. Sensitivity 5 MV. 11 subes plus recpifier. Chassis finished in polished chromium. Size: $131 / 2 \times 91 / 2 \times 7 \mathrm{n}$. Operates on $105-125$ volt 60 cycles, 45 watts. Complete with fubes. Shpg. Wgt. 16 lbs.
MODEL C10. Nef......................... 131.50


HIGH FIDELITY AUDIO AMPLIFIER. Delivers full 30 watts of power with only $1 / 30$ of $1 \%$ harmonic and $1 / 2 \%$ of $1 \%$ IM distortion. Uses exclusive thermal type time deloy raloy for protection of power supply. Frequency response: $\pm 0.1$ DB 20-20.000 cycles, +2 DB 5-100,000 cycles. Power response 30 watts $\pm 1$ DB $10-50,000$ cycles. Phase shift: $\pm 15$ degrees $20-20,000$ eycles. Hum and Noise: 90 DB below rated output. Damping Factor: 32:1. Output Load Impedance: 8 and 16 ohms nominal. Output Internal Impedance: 0.57 ohm on 16 ohm tap. Tubes: ?-6SN7GTA, 2-KT66, 1-5U4G. Operates on 117 VAC, 130 watts. Specially designed, fully potted oụput tansformer. Since the C550 has na control functions, it may be ploced in ony convenient locofion. Chassis finished in beautiful chrome plating. Size: $8 \times 131 / 2 \times 71 / 2^{\prime \prime} \mathrm{H}$. Complete with instructions, mounting hordware, and interconnecting cables. Shpg. Wgt. 30 lbs .
MODEL C550. Net...................... 109.50


HIGH FIDELITY AMPLIFIER. Feafures a direct-coupled, split-laad triode phase inverter driving PP 6V6 power output fubes. Designed to operate with Craftsmen puners and TV chassis. Frequency response $\pm 1$ DB $10.30,000 \mathrm{CPS}$ ( $1 / 2$ watt output); pawer response 10 wotts $\pm 1$ DB 15-20,000 CPS. Hum and noise level: 70 DB below rated output. For 110.120 VAC 60 cycle, 65 wotts. Size: $14 \times 4 / 2 \times 5^{\prime} / 4 \mathrm{H}$. Shpg. Wgt. 12 lb. MODEL C400. Net...
\$ 42.90


SHARP CUT-OFF FILTER SYSTEM. Designed for use with Model C350 Equalizer Preamplifier. Used in eliminoting distortion present of the extremes of the audio frequency range. LO range lever affords sharp filter action to reduce hum or turn. table rumble. HI renge lever controls the oction of the high frequency filtering which reduces hiss and record serateh. Both HI and LO filters hove a flat position which permits frequency response of $\pm 0.5 \mathrm{DB}$ 20-20,000 CPS. Hum level 70 DB below 1 ' volt output. Operates on $110-120$ VAC. Size: $12 \frac{1}{2} \times 6 \frac{1}{2} \times 1 \frac{1}{2}{ }^{3} \mathrm{H}$. Shpg. Wgt. 8 lbs.
MODEL C375. Net...
. 39.50

## SPECO



## AMPLIFIER.PREAMPLIFIER

MODFL 201. For phono reproduction or us. aith mike. 2 watts output. Tone contrul. volume control/AC switch. Size: $2 \times 5 \% \times 3^{n} \mathrm{~F}$ 1-12SQ7, 1-50L6, 1-35256T. For 110-120 $A C-D C$ operation. Less tubes and output transformer. Shpg. Pith 3 lbs . Net $\$ 4.85$


WODEL 309. Full 5 -watt amplifier for use with magnetic or crystal pickups. Builtin preamp for GE and similar cartridges. 2 inputs, Response. $50 \cdot 14,000$ cycles. Tone. volume control/aC switch. l-12SC7. 1-12J5GT. 2-35L6, 1-35Z5GT. Less output
 $130 \mathrm{AC}-\mathrm{DC}$ operation. Shpg. Wgt. 6 ibs.


## AUDIO-HIFI DISC AND TAPE RECORDERS



MULTI.SPEED RECORDER Oual speed, $33 /{ }^{n}$ or $71 / 2^{n}$ per secand. Dual trock, provides iwo full hours of recording on $7^{\prime \prime}$ reel of $3^{\frac{1 / 4 n}{4}}$ speed, one hour at $71 / 2^{n}$. Amplifier equalizes autamatically at either speed. Has fast forword and rewind speeds. Editing key permits odding or deleting on any section of the tape while playing. Lid moy be closed when recording or ploying $7^{\prime \prime}$ reels. Magic eye recording indicotor. Positive interlock control switch prevents occidental erasure and tope spillage. Frequency response: $712^{\prime \prime}$ per second, 50 . 9500 CPS, $3 \frac{3 / 3^{*}}{}$ per second, $50-5000$ CPS. Less than $0.5^{\circ}$ flutier. $6^{\prime \prime}$ Alnico $V$ speakrr. Power output 5 wotts. Mike input jock for recording from mike. Radio input jock for recording direet from radio, TV sound, phono. Auxiliary speaker jocks for external speaker. Auxiliory omplifier jock for direct connection to external amplifier or for monitoring. Operotes on 105.120 VAC 60 cyele. Ployback tone control. Complete with mike. Size: $16 \times 15 \times 11^{\prime \prime}$. Shpg. Wgi. 32 lbs.
MODEL TR.4.Neभ..................... $\$ 139.50$


DUAL SPEED RECORDER
Single knob control provides instont selec. tion of Record or Play in speeds of either $71 / 2^{\prime \prime}$ or $3^{\frac{11 / 4}{4}}$ per second tape speeds. Has fast forward ond fast rewind, 40-1. Stroight line looding of tope. Frequency range: $7^{1} 2^{\prime \prime}$ per sec ond, $50-8000$ CPS; $3^{3 / 41}$ per secand, 50.5000 CPS. Will reeard or play bock two full hours on $3^{3 / 4^{\prime \prime}}$ per second on $7^{\prime \prime}$ reel, one full hour on $7 / 6^{n}$ per second. Volume contral with on/off switch. Cantinuously variable tone contral. 3 wotts output. Has built-in $4 \times 6^{\prime \prime}$ Alnico $V$ speoker. Output jock for external speoker. Inputs for mike, radio, TV, phono. Neon bulb level indico. tor. Less thon $0.5 \%$ flutter of $7 / 2^{\prime \prime}$ per second. Prafessional quality record and erose heods. Complete with micraphone. Two-tane leotherette case, size $15 \% \times 131 / 4 x$ $8 \% / 9 \mathrm{H}$. Operotes on 105-120 VAC 60 eycle. Shipg. Wgi. 30 lbs.
MODEL CT.I. Net......................... $\$ 99.50$

PENTRON


HIGH FIDELITY RECORDER
Three-speaker high fidelity tope recorder dual speed, dual track. Push-button speed change, $3^{3 / 4^{\prime \prime}}$ and $7 \frac{1}{2 \prime \prime}$ per second. Lid can be clased when using 7" reels. Automatic omplifier equolizing. Two hours recording at $3^{\frac{1 / 4}{\prime \prime}}$ on $7^{\text {" }}$ reel, one hour of $7 \frac{1 / 2^{2}}{}$ speed. Magic eye recording indicator. Pasitive interlock control switch prevents occident al erosure and tope spillage. Uses iwo 6" woofers built into case ond external tweeter with individual vatume control. Frequency range: $50-10,000 \mathrm{CPS}$ of $712^{n}$ per second, 50.5000 CPS of $33 / 4 \mathrm{~m}$ per secand. Provision for externol wooler speaker. Fast forward and fast rewind speeds. Power output 5 wotts. Less thon $0.5 \%$ flutter. Editing key permits editing any section of tape while in motion. Separote record and erose heods. Complete L/C crossover network of 1000 cycles. Mike input jock for recording from mike. Rodia/Tope/TV inpu jock. Tone contral. Complete with mike. For operotion on 105.120 VAC 60 eycles. Size: $16 \times 15 \times$ 11". Shpg. Wgt. 37 lbs.
MODEL HT.225. Net.
.$\$ 168.75$


THREE.SPEED TAPE RECORDER
Duel track recorder with many desirable feotures. Three recording speeds, $1_{\text {. }}{ }^{\prime \prime}$ per second (for vaice only), $3 \frac{14}{4}$ per secand and $7^{1, \prime \prime}$ per second. $7^{1, m}$ is ideol for moking high fidelity recordings direct from mile, rodio, or phono. Up to four hours recording time of $1 \frac{1 / 4}{1 / 4}$ per second, two hours of $3 \frac{1}{4}$. Tope is eosy to erose and moy be used over ond over. Nean recording level indicotor. Changing speeds is quick and easy. Has fast farward and rew ind feoture. Plays bock through internol speoker, jock for external speaker. Sioroge spoce in case (with cover) for occessaries. Case size: $15 \times 16 \times 81 / 2^{m}$. For operation on 117 VAC. Complete in partoble carrying case with crystal microphone, tope, and reels. Net wgt. 33 lbs . Shpg. Wgt. 40 Jbs.
MODEL RT.65B. Net................. $\$ 124.30$


## RECORDING MECHANISM FOR

 CUSTOM INSTALLATIONS Two-speed tope mechonism. For use with preamps PRE. 7 ond HFP.1. For custom in. stallatians, portable use, schools, sound spudios, efe. $3 \frac{13 / 4}{}$ and $71 / 2^{m}$ per second. Push-pull speed change. Up to iwa hours recording or playbock. Fast forward and re. wind speeds. Flutter: $0.3^{\circ} 0$ at $71 / 2^{n}, 0.5 \%$ at $33 / 4^{n}$ per second. Shaded four pole selfstorting induction motor, bolanced. Spoce required for mounting, $91 / 2 \times 8 \times 53 / 4 \mathrm{DD}$. Dual track heads. Operates on 117 VAC 60 ey: cle. Shpg. Wgt. 26 lbs.MODEL 9T.3M. Nef..................... $\$ 59.75$


DELUXE PREAMPLIFIER. Wide frequency response ( $50-12,000 \mathrm{CPS} \pm 3 \mathrm{DB}$ ). Fully wired, ready to plug into any hi.fi system. Complete with illuminated VU recording meter, monitor jack, motor switch, inputoutput jocks, volume contral, ploy-record switch. Output, high impedance. Space re. quired for cutout, $91 / 2 \times 41 / \times 5,5 \mathrm{D}$. Operates on 117 VAC 60 eyeles. Tubes: 2.6AU6, 1. 12AT7, 1-12AU7, 1.6×4. Shpg. Wgt. 6 Ibs. MODEL KFP.1. Net...
..$\$ 59.75$
STANDARD PREAMPLIFIER.fully wired, reody to plug into ony hi-fi system. Complete with magic eye level indicator, motor switch, pilot light, volume control, playrecord switch. Output ond input jacks ore mounted on frant parel. Frequency range: $50-9500 \mathrm{CPS} \pm 3 \mathrm{DB}$ of 7!'2' per second. Outputs: oudio omplifier, heodphones. Operates on 117 VAC 60 cycles. Spoce required for curout: $10^{\prime} / 2 \times 4^{\prime \prime} \times 6^{\prime \prime}$. Tubes: 2 . 12AU7, $1.12 A \times 7,1.6 \times 4,1.6 E 5$. Shpg. Wg. 6 ilbs.
MODEL PRE.7. Net..................... 39.75

## Pentron



Complete recorders with preamplifier and tape mechonism mounted in speciolly built corrying cose.
MODEL PMC. Consists of 9 T. 3M mechonism with PRE. 7 omplifier. Net..... $\$ 114.50$ MODEL PMD.1.Consists of 9 T .3 M mecho. nism with HFP-I amplifier. Net... $\$ 134.50$ OSCILLATOR COIL. Required only when preamp other thon PRE-7 or HFP-1 is used with 9T. 3M mechonism.
NO. 311 -A.13. Net..
. 1.50 MOUNTING BOARD. For mounting Pentron 9 T .3 M mechanism in cabinets.
NO. X.305. Net.
.$\$ 1.95$

Carter CONVERTERS

FOR

## TAPE AND WIRE

## RECORDERS



Converts 6 volts $D C$ to 115 volts $A C 60$ cyele, 60 wots. 29 DC amperes drain. For use with the following models: Air King 750, Ampro $730-731$, Crescent H22A1, 903-907, Knight Wire, Webeor 80-180-228. 18, Wilcox Goy 8U12, Wirewoy, Dictorrl. Size: $81 / 4 \times 4 / 2 \times 5^{4} \mathrm{H}$. Shpg. Wgt. 17 lbs.
MODEL AL06OCW. Net.
\$ 52.92

Irput 6 volts DC 31 amperes. Outpur 115 volts $A C 60$ cycles 80 wotts. For following models: Bell RT50-RT65B, Crestwood CP201, Dukone, Groy Audograph, Eicor 1000-15.115, Knight Tope, Peirce 558, Mosco D37, LD37, DC37. Pentron T.3, 9T3, 9T3C, Revere T130, T50n, Tope Moster Foundotion Unit, Webeor 210-1, Wilcox Goy IC10-2C10-3F'10.3A10. Size: 8 'ix $4 / 4 \times 5 \mathrm{HH}$. Shpg. Wgt. 17 lbs.
MODEL AlO80CW. Net. $\qquad$ S 53.28
Input 6 volts DC 35 amperes. Output 115 volts $A C 60$ cyeles 130 wotts. For the following madels: Concertone 1401-1501, Brush BK401-403, Crescent H19A1, Mag. necord PT6-PT6A_PT63, Mognecord Voyoger, Pierce 260-265-270.Reclest, Revere T700, Webster Ekotope 101-109.711-114205. Size: $10 \frac{1}{4} \times 4^{\prime} / 2 \times 5^{n} \mathrm{H}$. Shipg. Wgt. 20 lb . MODEL AIOIOCW4. Net............... 61.74

Chonges $D C$ to $A C$ for most uses where $A C$ is not reodily ovailoble. $D C$ input 6 volts, 40 omperes. AC output 115 volts, 60 cycles 150 wotrs. For all non-inductive
 $41 / 2 W_{x 5} \mathrm{H}$. Shpg. Wgi. 15 lbs .
MODEL AlOISC. Net...
. $\$ 55.86$

## CUSTOM MODEL CONVERTER WITH MANUAL FREQUENCY CONTROL

Input 12 volts DC 29 amperes. Output 115 valts AC 60 cycles 210 watts.' With monuol frequency control, designed for broadcast service. For use with Ampex 400A.401A, Magnecord Bi-Naural, Webster, etc. Output frequency can be mointained at 60 cycles with constont $70 \%$ power foctor load. $\pm 10 \%$ input valtage variation. Size: $11 \frac{1}{2} \times 61 / 2 \times$ $10^{\prime \prime} \mathrm{H}$. Shpg. Wgt. 30 lbs.
MODEL BR1021CP. Net.
. $\$ 187.42$

## BELL

TE-CORD ©fone

DUAL-SPEED

DISC IRECOREER


MOMPD. PC-47A. New mudel recorder which *ill record and give immediate playback at spetals of 78 , $\$ 5$, and $33-1 / 3$ RPM ( 45 upm conversior sp=ing supplied). Compact, coumbete self-cuncained, easily jurtable in single carrying case. Will rucord direct foom any radio. Also serves as a public address system. Has spparite channel for copying records or unbbing in sound effects. Recording is visual. level iadicator on panel. Headphone moniforins jack. Records 15 minutes on a $10^{n}$ dise at 33-1/3 RPM. Cupies a $12^{\prime \prime}$ commereial record on a $10^{\prime \prime}$ blank at 78 RPM, cuts 160 lines per inch. All controls are easily available and permit dubbing in thile recording is in process Uses $6^{*}$ heavy duty PM speaker. Crysital microphone with shielded rubber cable and plis supplied. Uses newest style Astatis CAC-D-J turnover arm and cart. ridge. Magnetic cutting head. Power output 3 vatts, peak power 5 matts. Inputs for mitrophone, radio-phono, direct external recording. Has $j$ ack for external speaket. For operation on 105-120 VAC 60 cy. Sice: 18x10×16". Shyg. Wgt. 42 lbs.

MONLL BC-47A
Net \$ 114. 14

MOOFL Rh-6. Records and plays back all three speeds. $33-1 / 3$, 45, and 78 RPM. All rexordings made at 160 Ines per inch. Hecords directly from microphone. radio, tape or wire recorder. or from anctiver phonograph. Automatic recording equallation for each speert. supplied by Spoed Change bwitch. Magic-eye tuhe permits accurate control of recording level. linit any also be used as record player or 5 watt public address system. Adjustable catting head. Built-in $5 \times 7$ speaker. output jack for external speaker. Records un dises up to $10^{\prime \prime}$ for 15 minutes recording time at $33-1 / 3$ RPM. Playback pickup has tilting cartridge with twin styli. Inputs for 1 Microphone, I Radio Phonosraph. Tubes: 2-6SL7GT. I-6V GT . 1-6U5, $1-6 \times 5 \mathrm{GT}$. Operates on 117 VAC ©n cycles. Attractively styled case covered in brown and tan leatherette. Size: $16 x$


MOFFL EK-6R, Same as above but has built 1 n AM ranlo which tunes 535-1720 KC. Recordings can be made from radio or simply use radio as regular receiver.

Net 142.87


SOUND-REEL.

## TAPE RECORDERS

MODEL 53. Dual speed, dual track tape recorder provides professional quality inexpensively for home or school, business man or professienal. Frequency response: 80 to $8500 \mathrm{CPS} \pm 3$ DB at 7.5 inches per second, 80 to 5000 CPS $\pm 3$ DB at 3.75 inches per second. 5 watts output to internal or external speaker. Has out puts for external speaker and external amplifier or telephono line ( 500 ohms). Dual track, up to 2 hours of recording time. Inputs for Microphone and Radic or Phonogruph. Hast forward and rewinding speeds. Press-To-Record pushbutton for foolproof recordjing and rlayback without accidental erasure. Flutter and wow . 3 co Monitoring switch using headphones or speaker. Automatic equalization on both recording speeds. Has separate motors for takeup and drive for minimum wow and flutter. Complete with crystal mike with 7usf. cord. 1-7 reel with 625-it. tape and $1=7^{M}$ empty reel mounted inside cover. Case size: $14 \% \times 13 \times 10^{1 / 2}{ }^{3} \mathrm{H}$. Luggage typecase linished in maroon and grey leather ette. Operates on 117 VAC 60 cy. Carrying weight $35 \mathrm{lbs}$. , Shpg. Wgt. 40 lbs.

Net $\$ 163.34$
MonFI, 53-R. Same as above but has builtin AM radio which tunes 500 to 1700 KC . dindiu programs may be recorded directly Hithout additional connections. or can be used as regular radio when not recording. For 117 VAC 60 cy. Carrying weight 38 lbs.. Shpg. Tgt. 43 lbs.

Net $\$ 191.27$

## THREE SPEED

DISC RECORDER


# SCQTCH Sound Recording Tape 



High оㅇOutput
Scotch HIGH CUTPUT recording tope is a recent deve lopment which feotures reduced bockground noise, output of of leost 8 DB greoter, lower distortior, greoter fidelity range, and eliminotion of squeal and sticking by new dry lubricotion method. Avoil. oble in types "A" or "B". All types, hove plostic bocking. Plasific reels.

| number | ENGTM |  | ${ }^{7}$ |
| :---: | :---: | :---: | :---: |
| 120A. 3 | 300 ft . | \$1.33 | 1.20 |
| 120A-6 | 600 ft . | 2.67 | 2.40 |
| 120A. 12 | 1200 f. | 4.34 | 3.90 |
|  |  | 1.5 | 6.12 |
| 120A-24H | 2400 NARTB Hub | 8.00 | 7.20 |
| 120A.24R | 2400 1014" Reel | 9.90 | 8.91 |
| 120A.48H | 4800 NARTB Hub | 16.00 | 14.40 |
| 120A-48R | $480014^{\prime \prime}$ Reel | 20.00 | 18.00 |

- Magnetic coating wound focing in.

Magnetic Tape

Plostic bose recording tope mode for professional and home recording uses. Individually pockoged in ottroctive hinged boxes. High fide lity tope with plostic bocking ond red oxide coating. Designed es. peciolly for the critical user. Lengths up to 1200 feet ore wound on speciolly de. signed light sturdy plostic reels.

NUMBER LENETH $1.11 \mathcal{N E T}_{12}^{T}$ ORACMORE 111A.1.5 $\quad 150 \mathrm{ft}, \quad \$ .67 \quad \$ .60$ $\begin{array}{llll}111 \mathrm{~A} .3 & 300 \mathrm{ft} . & 1.17 & 1.05 \\ 111 \mathrm{~A} .6 & 600 \mathrm{ft} . & 2.34 & 2.10\end{array}$ $\begin{array}{llll}111 \mathrm{~A}-12 & 1200 \mathrm{ft} & 3.67 & 3.30\end{array}$

111 A .24 H 2400 NARTB Hub $\quad 6.676 .00$ 111A.24R 2400 10 $1 / 2$ "NARTB Rool 8.577 .71

## EMPTY PLASTIC REELS



| $3 n$ | 150 f. | $\$ .17$ | $\$ .15$ |
| :--- | :--- | :--- | :--- |
| $5 n$ | 600 f. | .44 | .39 |


| $7 "$ | 1200 ft. Plostic | .54 | .39 |
| :--- | :--- | :--- | :--- |
| $7 n$ | .50 | .45 |  |


SCOTCH BRAND SPLICING TAPE
NO. 41. Length $1 /{ }^{\prime \prime} \times 150^{\prime \prime}$. Net Eoch. $\$ \mathbf{} 35$
LEADER AND TIMING TAPE
NO. 43. $1 / 4^{n} \times 150 \mathrm{ff}$. Net Edch.......... $\$ .40$


# Professional 

TAPE AND REELS

ScoichPROFESSIONAL 7" reel with largesized hub, $21 / 4^{\prime \prime}$ diameter insteod of conventional size $1 \frac{1}{2 m}$. This gives new reel some rotio of outside diometer to hub diameter of standard NAB metal reel, making for more accurate timing. Reel contains 1200 splice-free feet of plastic-bocked dry lubricoted tope which minimizes "tape squeal".

NO. 111.AP. 1200 ft. type "A" tope on 7" reel with $2^{334}$ " hub. Net Eoch.......... $\$ 4.00$ 12 reels or more. Net Eoch............ $\$ 3.60$ 7" Professional Reel only.............. . 83 12 reels or more............................. . 75

## audiodises

ALUMINUM
BASE

RED LABEL AUDIODISCS
Professional type for broadcost stations, sound movies, etc. Double sided with center pin ond three drive pin holes. Aluminum base.
Size Pid "Net Eo Wg' Net Eo Pkg $\begin{array}{cccccc}8^{\prime \prime} & 25 & \$ .66 & 12 \mathrm{oz} . & \$ .59 & 6 \mathrm{lb} . \\ 10 & 25 & .91 & 1 \mathrm{lb} . & .82 & 8\end{array}$

| 12 | 25 | 1.50 | 1 | 1.35 | 14 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 16 | 25 | 2.77 | 2 | 2.50 | 25 |
|  | YELLOW LABEL AUDIODISCS |  |  |  |  |

For commersiol recording studios, schools, ond home recording. Excellent general purpose record. Center pin and three drive pin holes. Aluminum base.

| Size | sid | Net $E_{0}$ 8 kn Pkg | $\begin{aligned} & W_{g t} \\ & E_{0} \end{aligned}$ | Net E。 Sid Pkg | Pkg |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $8{ }^{\prime \prime}$ | 25 | \$ . 55 | 12 oz . | \$ 49 | 6 lb |
| 10 | 25 | . 74 | 1 lb . | . 65 | 8 |
| 12 | 25 | 1.22 | 1 | 1.10 | 14 |
| 16 | 25 | 2.17 | 2 | 1.95 | 25 | BLUE LABEL AUDIODISCS Std Net Eo Wgi Net Eo Pkg Sire Pkg Bkn Pkg EO Sid Pkg Wgt 8" $50 \quad \$ .40 \quad 12 \mathrm{oz} . \$ .36 \quad 8 \mathrm{lb}$. $\begin{array}{llllll}10 & 50 & .59 & 12 & .53 & 11\end{array}$

## audiotape

MAGNETIC Recording Tape


A superior plostic base tope for professional or amateur use. $7^{\prime \prime}$ reels hove 1250 feet. 600 -fi. lengths avoilable on $5^{\prime \prime}$ sturdy plostic reels, larger rolls ore wound on aluminum hubs. Block oxide or red oxide.

|  |  |  |  | Net Each |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Coating | Feet | oxide | 1-9 | 10 |
| 640 | Black | 600 | Out | \$ 2.28 | \$ 2.06 |
| 641 | Elack | 600 | IN | 2. 28 | 2.06 |
| 1240 | Black | 1250 | out | 3.60 | 3.23 |
| 1241 | Black | 1250 | In: | 3. 60 | 3. 23 |
| 650 | Red | 600 | out | 2.28 | 2.06 |
| 651 | Red | 600 | In | 2.28 | 2.06 |
| 1250 | Red | 1250 | Out | 3. 60 | 3. 23 |
| 1251 | Red | 1250 | In | 3. 60 | 3. 23 |
| 25siH | Red | 2500 | In | 6.54 | 3. 88 |
| 50511: | Red | 50no | In | 13.06 | 11. 76 |

## JENSEN SILCLOTH

A record cloth which discharges spotic on records ond keeps them that woy. Also furnishes lubricant for record grooves, prolongs life of both record and stylus. Excellent for cleoning picture fubes, puts o silicone film on front of picture tube, this film Knocks the stotic chorge ond keeps it off. NO. 200. Net

## engissca

GREENLABELDISCS
Highest quality recording discs which are widely used by broadcast stations and professional recordists. Perfectly coated double sided types on aluminum base. Packed 25 to a carton.
TYPE 616A. $16^{\prime \prime}$ disc. Net Each \$2.77 TYPE 616A. $16^{n}$ disc. Carton of 25. Shpg. Hgt. 30 lbs. Net $\$ \mathbf{6 3 . 0 0}$ TPE 611A. $11-7 / 8^{n}$ disc. Net Each $\$ 1.53$ TYPE 611A. $11-7 / 8^{\prime \prime}$ disc. Carton of 25. Shpg. Kgt. 25 lbs.

Net $\$ 34.75$

## TAPE <br> SPLICER


"JIFFY-SPLICE". Makes a professional job every time. Handles all types of recording tape. Unifo:m $30^{\circ}$ butt-joint eliminates waste. clean, uniform cutting.

Net $\$ 1.47$

## (28) <br>  <br> RECORDING WIRE

High quality stoinless steel recording wire for all wire recorders. Plostic leaders. High tensile strength.
No. 5173. $1 / 4$ Hour Spool. Nef ........... $\$ 1.47$
NO. 5172. $1 / 2$ Hour Spool................... 1.76
NO. 5171. I Hour Spool................... 2.94

## GARRARD RECORD CHANGERS



3-SPEED PLAYER

CREST. 3-speed manual record player. Has 4-pole motor with balanced armature and heavy drive shaft, no "wows" or wavers. Universal cartridge shell. fits all magnetic or crystal cartridges. Ballbearing mounted pull-away idler wheel for longer life. smoother performance. Automatic start and stop, move tone arm to start. shuts off at end of record. Arm locks in place when not in use. Con-denser-resistor network across switch. eliminates "plop" shut-off noise. Bronze bearings at all moving parts. $10^{\circ}$ turntable. Minimum cabinet dimensions: 13** left to right. $12 \%^{\prime \prime}$ front to rear. $3 k^{\prime \prime}$ clearance atbove board, $3 / 2^{\prime \prime}$ below board. Operates on 100-130 and 200-250 VAC, 60 cycle. Less cartridge. Shpg. Wt. 15 lbs. monel $T$ Net $\$ 31.85$

WBT Hood Base for Model T. Net \$ 5.15

## GARIAR1

PRESSURE GAUGE


STYLUS PRESSURE GAUGE. Simple, accurate, inexpensive instrument to measure stylus pressure of microgroove pickups. Scale calibrated 0-15 gramnes. Net $\$ 2.45$

## CLARKSTAN

## NEEDLE FORCE GAUGE

IMPROVED


For measuring needle pressure of pickups including new Microgroove. Two scales: in grams to $1 \mathbf{o z}$. . other scale in ounces reads to 4 oz One moving part.
model 301
Net \$ 1.47


AUTOMATIC 3-SPEED RECORD CHANGERS

Garrard's papular model, designed for music lovers who demond excellence of performance in their record changers. Plays oll types of records - $33^{1 / 3}, 45,78$ RPM. Plays oll types of records regardless of diameter ( $7^{\prime \prime}, 10^{\prime \prime}$, or $12^{\prime \prime}$ ) or size of spin. dle hole. Player action is simple and easy, entirely outomotic, with unfoiling switch. offot end of losi record. Extremely simple to aperate. Has one turntable, one tone orm, ane set of switches. Tone arm is jewel mounted. Reject lever ollows instant rejection of any record. Minimum mounting space required as follows: 151/2" long, $1314^{n}$ wide with $5 \% 3^{n}$ clearance above ond $31 / 2^{\prime \prime}$ clearance below top of motor board. With two interchangeable plug-in heads for cartridges, such os GE, Pickering, etc., hordwore, 6' line cord, and 4' pickup cable. Less cartridges. For operation on $100 / 130,200 / 250$ VAC 60 eycle. Does not inelude 45 RPM spindle, Shipg. Wgt. 20 lbs.
MODEL RC-80. Net...................... $\$ 48.51$
45 RPM SPINDLE. Not................... $\$ 3.47$
WB. $80 / 90$ WOOD BASE for RC. 80 or RC-90. Nef .................................... \$ 5.83 GX. 80 GARRARD SHELL with iurnover cartridge for RC. 80. Net................ \$ 5.88
EXTRA SHELLS. Net.................... 1.50
50 CYCLE ADAPTER. Net.............. $\$ .75$
DRIVE BELT for RC.80. Net........... $\$ .22$

## CLARKSTAN ARM FOR <br> MICROGROOVE OR STANDARD


"Trionic" orm ovailoble in two lengths for home or professional use. Slide-in cortridge holder ollows instantaneous mounting. Any cartridge not over $3 / /^{\prime \prime}$ wide may be used. Height adjustment from $111 / 16^{" 1}$ to $25 / 10^{" 1}$ obove bose plone. Weight adjustment with ony pickup from 5 grams up. Vertical roller bearing. Low arm resonance, olunimum castings. Finish grey wrinkle, brushed chrome. Less cortridge. Shpg. Wg+. 6 lbs. NO. $213 \quad 12^{n}$ Arm Net $\$ 21.56$ NO. $212 \quad 16^{n}$ Arm 22.05
NO. $213 G 12^{\prime \prime}$, For GE Head Net $\$ 21.56$ NO. $212 \mathrm{G} \mathrm{16"}$, , For GE Hood 22.05

Finest changer in Garrard's history. Has new and exclusive features such as faur. pole motor which is adjustable on all speeds by means of eddy current brake control. not mechanically. Manual position for playing single records. Fast change cycle, regordless of speed of furntable. Improved pulley drive, no belts. Plays all records, all speeds - $7^{\prime \prime}, 10^{n}, 12^{n}, 331 / 3$, 45, 78 RPM. Mechanism stops after las $\dagger$ record and tone arm returns to rest position. Muting switch for silence during chonge cycle. Drive wheel retrocłs during change cycle ond when switched off as suring no flat surfaces to cause "wow". Sup plied with two pickup heads which accommodate all model cortridges, magnetic or
 boord, $4^{\text {n }}$ below motor board, (fits former Garrord motor boords). Unit plote ond tone arm finished in high gloss enamel, chrome occessories. Complete with spring mountings, 6' line cord, 4' pickup coble, hord. ware, template, ond instruction monuol. Less cartridges ond 45 RPM spindle. Operates on 100/130, 200/250 VAC 60 cycle. Shpg. Wgt. 25 lbs.
MODEL RC.90. Net $\qquad$ .... $\$ 88.11$
45 RPM SPINDLE. Nef................... $\$ 3.47$ WB. $80 / 90$ WOOD BASE for RC. 80 of RC-90. Net.................................... $\$ 5.83$ GX/T90 GARRARD SHELL with turnover cartridge for RC. 90 and Crest. Net.. $\$ 5.88$ 50 CYCLE ADAPTER. Nel.............. $\$ .75$ EXTRA SHELLS. Nef.;
.. $\$ 1.50$


No. 610. STROBOSCOPIC CARD. For checking turntable speed of ricrogroove and standard records. $33-1 / 3$ RPM, 45 RPM .78 RPM . Includes replaceable funch-out for $1 \frac{1 / 2 "}{}{ }^{\prime \prime}$ center hole for 45 RPM records. Printed by letter press on quality enameled stock.

Net $\$ .15$

## AUDIO-HIFI THREE-SPEED RECORD CHANGERS

# V-M tri-o-matic RECORD CHANGERS 



## RECORD CHANGERS

New modernly styled completely automatic record changer for playing $7^{\prime \prime} .1^{\prime \prime}$. and $12^{\prime \prime}$ records at $33-1 / 3,45$, or $78^{\circ} \mathrm{RPM}$. Also plays records manually if desired. Record capacity: 12-10", 10-12 ${ }^{n}, 33-1 / 3$ or 78 RPM. 12-7", 33-1/3, or 45 R'PM POSItive intermix of any ten $12^{\prime \prime}$ or $10^{\prime \prime}$ records of same speed. Automatic shutoff on all size records, all speeds. Jamproof mechanism with few moving parts, only one control knob. Powerful four-pole motor. Dual needle reversible crystal cartridge. Minimum mounting space, $13-3 / 16^{\prime \prime}$ wide, $11-7 / 8^{\prime \prime}$ depth, overall height $7 \mathrm{~K}^{\prime \prime}$, Bese plate is tangent to $12^{\prime \prime}$ record on three sides. U/L approved. For operation on 117 VAC 60 cy . Shpg. Wgt. 12 lbs.
MouEl 951. Whth dual needle turnover crystal cartridge.

Net $\$ 30.22$
MODEL 951-GE. With G.E. triple play variable cartridge and dual needles, (requires preamp not supplied). Net $\$ 33.47$

## Changer Attachment



MonEL 956, Same as Model 951, mounted on "plug-is" base. Shps. Wgt. 14! libs,

Net \$ 32.66
MODEL 956-GE. Same as Model 951-GE, inounted on "plug-in" base. Shps. Wgt. 15\%/2 1 bs .

Net \$ 35. 91

## V-M 45 Spindle Accessory



Vin-45 SPIMDLE. With this snindle you can play a stack of 12 large-center hole records without the bothersone task of inserting center-hole adapters in each record. Simple to use, simply slide down over present spindle when piaying 45 RPM records. Fits all current and older modHIs of wh changers. Net 1.88

At. Mi-3994. 50 cycle adapter for Models 951, 9510E. 956, 956GE. 920. Net $\$ .07$

## V-M

## AUTOMATIC

## record changer attachment



MODEL 920. Plays all size records, of $10^{\prime \prime}, 12^{\prime \prime}$ : all speeds, $33-1 / 3,45,78$ \& Rin $^{\prime}$ Fully automatic. $10^{\prime \prime}$ and $12^{\prime \prime}$ of same speed may be intermixed. Plays 10-12 ${ }^{\prime \prime}$. 12-10n. 14-7n. Simple one-knob control. load changer, set speed and needle and isten. Shuts off after last record. Has turnover crystal cartridge with 001 and .003 stylus. Unit may be wired into your radio or amplifier so that entire systen shuts off after last record. Mahogany plastic base with gold accessories. Size $113 \times 9 j^{\prime} \times 7 \mathrm{~K}^{\prime \prime}$. Complete with $6-\mathrm{ft}$. AC cord, 4-ft. shielded phono lead. For 117 VAC. Shpg. Wgt. 10 1bs.

Net $\$ 29.95$


## [larkstan| <br> RECORDING WICROSCOPE

MODEL 232 MiCBOSCOPE. For use in Iaboratory, shop, or production. Excellent for inspecting record grooves. Built-in illumination, measuring scale (reticle)and high quality optics which are usually found only in much higher priced instruments. Magnification, 20X and 40X, high resolving power. Direct measurements of $.002^{n}$ and .004". Finished in black Du Lite, polished nickel and maroon baked enamel. Complete in doyptalled wood carrying case. Net $\$ 24.01$

## UNIVERSAL

## FREQUENCY RECORD

Double sided, 78 and $33-1 / 3 \mathrm{KPM}$. 96 lines per inch. Low surface noise. Vinyl. 50-10,000 CPS. 19 spot check frequencies 15 seconds of unmodulated grooves fal rumble measuremfits. Voice announcements clearly identify pach frequency band.
Shng. Wgt. $12 \mathrm{n} \mathrm{\%}$.
Net $\$ 2.50$
STORE HOURS:
9:00 A. M. to 5:30 P. M.
Manday through Saturdoy
SHOP IN COMFORT IN OUR
AIR CONDITIONED STORE

## © mecompers awd mecono <br> PHONOMOTOR <br> FOR HIGH FIDELITY

 GENERAL INDUSTRIES Smooth Power

An excellent motor for high fidelity re* ception. Quality reproduction on 78. 45. and 33-1/3 RPM. Four-pole. four-coil 3 speed motor with speed changes accomplished by vertical movement of ider wheel to appropriate diameter of motor shaft. Precision construction throughout as sembly features oilless bearings 10 motor and turntable. Uynamically balanced rotor. Complete with $10^{\prime \prime}$ turntable. speed indicator dial. 45 RPM record adaptor, on-off switch. Size $6 \cdot 1 / 16 \mathrm{~L}$. xe-1. w. $\mathrm{X}_{4}^{\prime}$ "H. For operation on 115 VAC 60 cy. Shp. Wgt. elf 1 b . Shp. Wgt.

Net $\$ 14.70$


MODEL RM SERTES. Beavy-duty rim drlve $4^{-}$ pole motor. Rubber insulated from both wounting plate and turntable for exceptionally quiet operation. Turntable shaft revolves with turntable and is grooved for holding clip. Retractable pin for holding home recordings firm does not interfere with regular records. Size: length, $3-3 / 8$. width, $3-3 / 8$. depth 2-15/16 below mounting plate. Complete with $10^{\prime \prime}$ weighted turntable and mounting plate. For operation on 115 VAC. 60 cy . Shpg. Wgt. 91 bs .

79 RPM
Net $\$ 11.70$
FM-4-3
$331 / 3$ RPM 45 RPM
12. 15
12.15


MODEL LX SEpiles. Rim drive 2 -pole motors Rubber insulated from both mounting plate and turnteble for quiet operation. Turntable shaft revolves with turntable and is grooved for clip. Size; length. 3h, width. 2. depth, 2-5/16 below mounting plate. Cumplete with $9^{\prime \prime}$ turntable and mounting plate, All models fur operation on $115 \mathrm{YAC}, 60 \mathrm{cy}$.

| LX | 78 RPM | Net \$ 4.32 |
| :---: | :---: | :---: |
| LX-3 | 33 1/3 RPM | 5.04 |
| LX-45 | 45 P9? | 5.04 |

general industries


DELUXE DUALSPEED PHONOMOTOR

PMomogmapm motors,
CMAMGER-RECOMDERS

HOME RECORDING
PHONO ASSEMBLIES


MODEL GI-R85L - LP. 78 and $331 / 3$ RPM with canversion spring for changing 331/3 RPM speed to 45 RPM.
MODE: GI.R90L . STANDARD, 78 and $33^{1 / 2}$ RPM.
Model GI.R9OL is the standard model which cuts 120 lines per inch and plays back records with standard needle pressure. The Model GI-R85L incorporates a dual purpose pickup cartsidge and an excellent and simple adjustment for playing the LP records and sfandard records. Cuts 160 lines per inch. Conversion spring for changing the $331 / 3$ RPM speed to 45 RPM with mounting instructions furnished. Both models cut records up to $10^{\text {m }}$ diometer, ploy records up to $12^{\prime \prime}$ diameter. Dynamically-balanced, rim deive, 4 -pole motor. Assembly includes dual speed motor; $10^{\prime \prime}$ weighted turntable; cutting mechanism; crystal pickup; compensarion switch; pickup and cutter arm rests; drawn steel bose plate with formed down edges. Size: $15^{\prime \prime}$ wide, $11_{6}^{1, n}$ front-toback, heigh $2 \%$, depth below base plate $3 \% /{ }^{\prime \prime}$. Operates on 115 VAC 60 cycles. Shipg. Wgt. 17 lbs.
GI-R85L. With crystal cutter. Nef... $\$ 33.90$ GI-R85L. With magnetic sutter......... 35.10 GI-R90L. With crystal cutter. Net... \$ 31.20 GI.R90L. With mognetic sutter........ 32.40

## 3-SPEED PHONO MOTOR



MODLL TR. Del uxe 3 -speed rie drive. 2pole motor. Mas turntable speeds of 331.3 . 45. 78 RPM. Change of speeds accorplished by throwing lever to desaren position. Has 3 separate pulleys which run on oil impregnated bearings. 2 pulleys not being used remain stationary. Size: length. $3-1 / 8$. width. $2 \%$ depth, 2 's. Complete with $9^{\text {" }}$ turntable. For use on 115 LAC. 60 cy . Shpg. Wgt. 4 lbs.

Net $\$ \mathbf{7 . 2 6}$

MODEL LR. DCluxe 2 -speed (78. $331 / 3$ RPM) motos. Uses 4 -pole motor with simple and posivive mechanism for shifting from one speed to anather. Speed change is accomplished by means of an external pushplished by means of ander, an ingenious mechanism puli lever, an ingenious mechanism
raiss and lowers the entire idler assem-rais-s and lowers the entire idler assear
bly, disencages the idler wheel from the two diameter motor shaft and moves the idler wheel from one diameter to the other assuring positive action. Siza: length, 6. width, 5-5/8. deptli, 2-5/8. below mounting plate. Complete with $10^{*}$ turntable and mounting plate. For operation on 115 VAC. 60 cy . Shpg. Wgt, at lbs.

Model LP-743 3-Speed

## Turntable


3.SPEED PRECISION TURNTABLE. 12* furntable which plays all speeds of records and transcriptions, $33 \frac{1}{3}, 45,78$ RPM. For the discriminating high fidelity operator who requires vibration-free, quiet performance. Four pole, constant speed induction motor. Instontoneous speed shift, not necessary to stop turntoble or remove disc. Heavy gauge ste el plate chas sis, finish is Hammertone grey. Size: $12 \times 15^{\prime \prime}$. height above chassis $1 \frac{1}{\prime \prime}$, depth below chassis $5^{\prime \prime}$. Operotes from $110-120$ VAC 60 eycles. Shpg, Wgt. 15 lbs.
MODEL LP.743. Net.
. $\$ 59.50$
Cliarkstal

STROBOSCOPIC CARD


Brand new stroboscope which w111 chech all speeds of record playing equipment. 33-1/3. 45. 78 RPM at both 50 and 60 cy . N. 610

Net \& 1 !

## AUDIO DEVICES

## CHIP-CHASER



For disc recorders. Has heavy base whic is placed beside the turntable. require no fastening down or adjusting. Fits ar machine or turntable. wiper blade is st on disc before starting to record. Chif chaser rushes thread towards the centes and winds thread on center post. Nothir to get out of adjustment. Tips up out c way when not in use. Will not scratch c damage recording. Shpg. wgt. 3 lbs.

For $12^{n}$ Turntable
Net $3 .!$
For $16^{n}$ Turntable

## AUDIO-HIFI ASTATIC PICKUPS - CARTRIDGES

REPLACEMENT PICKUP

## PHONOGRAPH PICKUPS

## FOR LONG PLAYING RECORDS

CARTRIDGES
astanc
MODEL P-CAC. Designed to meet requirements of long playing records. Frequency range: 30 to $11,000 \mathrm{CPS}$. Output: 1.0 V . at 1000 CPS. Has replaceable stylus, sapphire tipped . 001 . for all $33-1 / 3$ and 45 RPM records. Overall length $8^{\prime \prime \prime}$. mounts in $1 / 2^{\prime \prime}$ hole. $13^{\prime \prime}$ super-flexible, single conductor cable. Plays all records up to $12^{\prime \prime}$. Finished in Grey Hammerlin. Shpg. Fgt. 1 lb . Net $\$ 6.32$
FOR 78 RPM RECORDS
MODEL P-12. High quality, low priced pickup for playing all 78 RPM records up to $12^{\text {m }}$ diameter. Curved arm with spring counterbalance for correct stylus pres* sure. Frequency range: 50 to $5,000 \mathrm{CPS}$. Output: 4.0 volts at 1000 CPS . Stylus pressure 1 oz . Stylus not included. $13^{\prime \prime}$ leads. Finished in Brown Hammerlin. Shpg. Hgt. 1 lb .

Net 3.53

| Typ | Record | Needle <br> Supplied | Output Volfoge | Response | Needle Pressure | Net Eoch |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14L3 | 33.45 | M. 001 | 2.4 | 50-4,000 | 10 gr . | \$4.12 |
| 14L3-A6 | All | M-. 002 | 2.4 | 50.4,000 | 10 | 4.12 |
| 14L3.78 | 78 | M-. 003 | 2.4 | 50-4,000 | 10 | 4.12 |
| 14L3.0* | All | M.001-. 003 | 2.4 | 50-4,000 | 10 | 5.00 |
| 15L3 | 33.45 | M. 001 | 3.5 | 50.5,000 | 10 | 4.12 |
| 15L3.AG | All | M. 0002 | 3.5 | 50.5,000 | 10 | 4.12 |
| 15L3.78 | 78 | M-. 003 | 3.5 | 50.5,000 | 10 | 4.12 |
| 15L3.0* | A11 | M-. $0001 \cdot .003$ | 3.5 | 50-4,000 | 10 | 5.00 |
| 16 L 3 | All | Nant | 4.0 | 50.5,000 | 16 | 3.53 |
| 401.A | Replacement for RCA. |  |  |  |  | 2.94 |
| 402.mb | Snop-in Roplacement for Admiral 78 |  |  |  |  | 4.06 |
| $403 . J$ | Roplacos RCA 70338, 70339, 72551. |  |  |  |  | 4.41 |
| AC.AG.J | All | J. 002 | 1.0 | 50-10,000 | 6 gr. | 3.82 |
| AC.C.AG.J | 411 | J. 002 | 0.4 | $50 \cdot 6,000$ | 6 | 3.82 |
| AC.C.Ji | 33.45 | J. 001 | 0.4 | 50.6,000 | 5 | 3.82 |
| AC.C.78.Js | 78 | J. 003 | 0.4 | 50.6,000 | 6 | 3.82 |
| ACD.C.J* | All | J..001-.003 | 0.4 | 50-5,000 | 6 | 5.48 |
| ACD.C.1J | Same os over knob Some as bly turno | ACD.C.J exc b. Replaceme ACD.C.J oxc ver and knob | pt equippo cartridg pt equipp | with spind for ACD.C. with compl | lo for turn 2J assemb lete assem | Y. 5.48 5.88 |
| ACO.J* | Al1 | J. 001.003 | 1.0 | 50-6,000 | gr. | 5.48 |
| ACD.1J | Same os ACD-j except equipped with spindle for turnover |  |  |  |  |  |
| ACD.2.J | Some os ACD.J except oquipped with turnover bracket |  |  |  |  | 5.88 |
| AC.J | 33.45 | J. 001 | 1.0 | 50-10,000 | 5 gr . | 3.82 |
| AC.78.J | 78 | J-007 | 1.0 | 50.10,000 | 6 | 3.82 |
| AC.R.J | 33.45 | Ropilocement brockof. . 45 | or RCA P " hole cen | $76257 \text { with }$ | mounting | 5.23 |
| 8.2 | 78 | Optional | 2.5 | 50-4,000 | 21/408. | 3.26 |
| CAC-AG.J | All | J. 002 | 1.35 | 30-11,000 | 10 gr . | 4.41 |
| CAC.D.J* | All | J. 0001.003 | 0.7 | 30.11 .000 | 10 | 6.17 |
| CAC.J | 33.45 | J. 001 | 1.0 | 30.11 .000 | 6 | 4.41 |
| CAC.78.J | 78 | J-003 | 1.35 | 30.11,000 | 10 | 4.41 |

WITH TURNOVER CARTRIDGE FOR V.MCHANGERS
MODEL 9-D. Turnover pickup assembly with Astatic "CAC" twin cartridge. Replaces V-M Models 920, 950, 955, 970, 971, 980, 985, etc. and similar makes. Simple in= structions included, no tools but screw driver needed. Independent needles, free of interaction. Sapphire needle for 45 . 33-1/3 records, Osmíum needle for 78 RPM

Net \$6,76
FOR WEBSTER.CHICAGO CHANGERS
ASTATIC 8-D FLIP-OVER ARM AND CARTRIDGE. Replacement arm and cartridge complete with needles for standard and microgroove records. Exact replacement for Models 356, 346, 256, 246, 355, etc. No tools other than screwdriver needed, no soldering necessary. Shpg., Wgt. 1 lb .
No. 8-D
Net $\leqslant 6.76$
7.D TURNOVER PICKUP

MODEL 7-D. Plays all records 8 grams needle pressure. Turnover type Dickup with double needle crystal cartridge. Switches from playing $33-1 / 3$ or 45 RPM records to standard 78 RPM records with turn of knob at front end of tone arm. Unique in its ability to play both types of records at low pressure. Needs no ex tra mechanism to change pressure when knob is turned. Sapphire needle for long plays, $33-1 / 3=45$, and precious metal point for standard 78. Needles easily replaceable. Mounts 7" from turntable center. Response: 50-6000 CPS. Finished in dark brown Hammerlin. Complete with cartridge. Shpg. Wgt. 2 lbs. Net $\$ 9.35$


TURNOVER PICKUP
MODEL 400-D. Turnover type transcription pickup, Plays $33-1 / 3$, 45 or 78 RPM records $10^{\mathrm{m}}, 12^{\mathrm{m}}$ or $16^{\mathrm{H}}$, at 8 grams needle pressure. Uses LQD-1 dual needle crystal cartridge. Excellent response, 50-7,000 CPS. Finished in light brown hammerlin. Shpg. Wgt. 1L: lhs. Net

## RECORDING HEADS

Siperior qualities of these cutting heads sre due to high order of needle stiffness, excellent power sensitivity and wide range response. Replacements for most every type of cut ter now in use in home recorders. Shpg. Wgt. 8 oz.

| Number | Type | Max. Rec. <br> Voltage | Upper |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Useful |  |
|  |  |  | Himit | Net |
| X-26 | Crystal | 150V RUS | 6000 CPS | 7.53 |
| M-41-8 | Magnetic | 3Y RMS | 7000 | 7. 53 |
| (8 chms) |  |  |  |  |
| M-41-50 | OWagnetic | 30V RMS | 7000 | 7. 53 |

30V RMS 7000
7. 33

[^0]READY FOR A NEW RECEIVER?-We'll Trade In Your Old One!

# JENSEN EXACT REPLACEMENT NEEDLES 

Complete line of exact replacement needies for all popular phono cartridges. Figures in point column indicate point size. $1=.001^{\prime \prime}$ micro-groove for $331 / 3$ and $45 \mathrm{rpm} ; 2=.002^{\prime \prime}$ for all 3 speeds; $3=.003^{\prime \prime}$ standard for 78 rpm ; $1 / 3=$ twin needle. $.001^{\prime \prime}$ and $.003^{\prime \prime}$; $2.5=.0025^{\circ}$ transcription. Needles with sapphire points, Indicated by asterisk ( ${ }^{\circ}$ ); others have osmium points. Ilustrations (except GE-11 and 8-86) are exact size. Illustrations showing $.003^{\prime \prime}$ needles apply also to corresponding $.001^{\prime \prime}$ and $.002^{\prime \prime}$ stock numbers.

Jexsen
Type
Point
'For Cartridge Type No.
For Astatic Cartrjdges
A-70 $3 \quad 14 L 3-78 \mathrm{M} ; 15 \mathrm{~L} 3-78 \mathrm{M}$;

$\begin{array}{lll}A-702 & 2 \\ \text { A-71 } & 14 \mathrm{~L} \cdot \mathrm{GC}-\mathrm{AG}-\mathrm{M} ; 15 \mathrm{~L} 3-\mathrm{AG}, \mathrm{M} & \text { OC-DJ }\end{array}$
$\begin{array}{lll}\text { A-71 } & 3^{\circ} \text { GC-DM, CC-DJ } \\ \text { A-73 } & 3^{\circ} \text { LT-3D; LT-4D }\end{array}$
$\begin{array}{lllll}\text { A-73 } & \text { L. LT-3D; LT-4; LT-4D } & \text { LT: } \\ \text { A-732 } & 2^{*} & \text { LT-4-AG; LT-5*AG } & & 1.47 \\ \text { A. }\end{array}$


A-75 3* AC-78; ACD Serles; $^{\text {A. }}$




$\begin{array}{lll}\text { A-80LP } & 1 & C Q-M ; L Q D ; ~ L Q D-1 ; ~ \\ \text { A-802 } & 2 & C Q-A C-M ; ~ C A C-A G-M ~\end{array}$
A-81 3* QT-J; QT2-J; QT3-J; LQD;
A-81LP 1* QT-33-J;CQJ; LQD;
$\begin{array}{lll}\text { A-812 } & 2^{\circ} & \text { CQ-AG-J; CAC-AG-J } \\ \text { A-82 } & 3 & \text { Nylon 1M } \\ \text { A-82S } & 3^{*} & \text { Nylon 1J } \\ \text { A-83 } & 3 & \text { LT-3D; LT-4D; LT-4D1; MD } \\ \text { A-83LP } & 1 & \text { LT-3D; LT-4; LT-4D; LT-4DI }\end{array}$
$\begin{array}{lll}\text { A-83 } & 3 & \text { LT-3D; LT-4D; LT-4DI; MD } \\ \text { A-83LP } & 1 & \text { LT-3D; LT-4; LT-4D; LT-4DI } \\ \text { A-832 } & 2 & \text { LT-4-AG; LT-5-AC }\end{array}$


| $\mathrm{A}-84$ | 3 | $\mathrm{GC}-78-\mathrm{M} ; \mathrm{MG}-78-\mathrm{M} ;$ |
| :--- | :--- | :--- |
| $\mathrm{A}-84 \mathrm{LP}$ | 1 | $\mathrm{GC}-\mathrm{M} ; \mathrm{GC}-1 \mathrm{M} ; \mathrm{MO}$ |
| 1 M |  |  |

$\begin{array}{lll}\mathrm{A}-84 \mathrm{~L} & 1 & \mathrm{GC} \\ \mathrm{A}-842 & \mathrm{GC}-\mathrm{AG}-\mathrm{M} ; \mathrm{MO}-\mathrm{AG}-\mathrm{M}\end{array}$
$\begin{array}{lll}\text { A-842 } \\ \text { A-85 AC-78; ACD Serles; } 10 \mathrm{~L} & \text {; } 11 \mathrm{~L} 3\end{array}$
A-85LP 1 AC; ACD Ser; 10L3; 1113
A-852
A. 86

A-86LP
A-87 3 LT-33 Markel Playmaster
A-87LP 1 MD-1 Markel Playmaster
$\begin{array}{lll}\text { A-88 } \\ \text { A-88LP } & \text { U } \\ \text { A }\end{array}$
$\begin{array}{ll}\text { A-88LP } \\ \text { A-89 } & \text { 3. MD-3 Markel Playmaster }\end{array}$
$\begin{array}{lll}\text { A-89 } & 1^{*} \text { MD-1 Markel Playmaster } \\ \text { A-15LP } & 1^{*} \text { L-92-33 }\end{array}$
J-15LP $\quad 1 \quad \mathrm{~L}-92-33$
J-152
For Collaro Cartrldges
$\begin{array}{lll}\text { CR-55 } & \text { Studlo O, Studio P } \\ \text { CR-55LP } & \text { Studo }\end{array}$
1.47
1.47

For Columbia Cartridges

| A-81LP | 1 * | CQ: CAC-J | 1.47 |
| :---: | :---: | :---: | :---: |
| M-60LP | 1 | 45-1609; 45-1612 |  |
| S-66 | $1 / 3 *$ | W9980-S; W9980-SD | 2.06 |

For Electro-Voice, Cartridges


## For G-E Cartrldges




Jensen Poins For Cartudge Type No . Net
Type
For Magnavox Cartridges


## For Philco Certridges

| PH-10 | $3 *$ | 76-1622 Dyn. Reproducer | 1.32 |
| :---: | :---: | :---: | :---: |
| PH-11 | 1 | 45-1609; 45-1612 | 88 |
| PH-12 | 1/3 | 76-4649 - | . 47 |
| PH-13 | $1 / 3$ * | 76-4649 | 2.06 |
| M-60LP | 1 * | 45-1609; 45-1612 | . 88 |
| PH-14 | 3 | 35-2671; 35-2674 | . 88 |
| PH-15 | $3 *$ | 35-2671; 35-2674 | 1.18 |

For RCA Cartridges

| M-70 | 3* | 70338; 70339; 72551 | 2.32 |
| :---: | :---: | :---: | :---: |
| M-70LP | $1 *$ | 74067 -- | 94 |
| M-71 | 3 | 70338; 70339; 72551 | 1.18 |
| M-71LP | 1 | 74067 | 88 |
| M-72 | $3^{*}$ | $\begin{aligned} & 9890 ; 39919 ; 39550 ; 38598 \text {; } \\ & 70332 ; 39851 \end{aligned}$ | 2.38 |
| M-73 | 3 | 9890; 39919; 39550; 38598; | 18 |
|  |  | 70332; 39851 | 1.47 |
| $\begin{aligned} & \text { M-74 } \\ & \text { M-74LP } \end{aligned}$ | 1. | 75475; 74625; 75575 ; |  |
| N-74. |  | 76318; 77779 ...... | 1.47 |
| M-75 | 3 | 75475 | .88 |
| M-75LP | 1 | 75475 | . |

## for Shure Cartridges

JP-30 $\quad 3 \quad \mathrm{P} 30 ; \mathrm{P} 57$; P70; P72; P76; P77; P79. P85. P88: P89: P94: PN30. W22AB; WC22AB; W23B; W60B; W60HS; W60PN; W61B; W65B;

JP-30LP 1 P73; P72V; P76V; W21F; $\quad$ Admiral 409A11
JP-312 2 P71; P81; P37; W26B;
W66B; Admlral 409A13 --------- . 8
JPS-30 $3^{*} \quad$ P30; P57; P70; P72; P76; P77;
P79: P85: P88; P89; P84; PN30;
W22A; W23A; W26B; W60A; W66B; Admiral 408A13 -P73; P72V: P76V: W21A: W21AR; W22A; W22AB;
WC22AB; Admiral 409A11 WC22AB; Admiral 409A11 P71; P81: P37; P81AD; W26A; Admiral 409A13 -.......-.- 1.47 WC33B; WC24; PC40; PC W31AR; WC3IAR; WC24; PC40: PC11 8 PC40; PC11 - WC3B; PC10 $-\cdots-\infty$ WC33B; WC24; PC40; PC9 ...... 1.47
W31AR; WC31AR; WC24; $\begin{array}{lll}\text { JPS-32 } & \text { WPS-32LP 1* } & \text { W31AR; WC31AR; WC24; } \\ & \text { PC40; PC11 } \\ \text { JPS-322 } & 2 * & \text { W36B; WC3BB; PC10 }\end{array}$ $\begin{array}{lll}\text { JPS-32 } & \text { WPS-32LP 1* } & \text { W31AR; WC31AR; WC24; } \\ & \text { PC40; PC11 } \\ \text { JPS-322 } & 2 * & \text { W36B; WC3BB; PC10 }\end{array}$ $\begin{array}{lll}J P S-32 & \text { W31AR; WC31AR; WC24; } \\ \text { JPS-32LP 1* } & \text { PC40; PC11 } \\ & \text { JPS-322 } & \text { 2* } \\ \text { W36B; WC36B; PC10 }\end{array}$ $\begin{array}{lll}\text { JPS-322 } & \text { 2* } & \text { W36B; WC36B; PC10 } \\ \text { J-15LP } & 1 & \text { P93MG; P95MG; W53MG } \\ J-752 & 2 & \text { P93MG; P95MG; W53MG }\end{array}$

For Webster-Chicago Cartridges
NE-215 1/3 21P247; 21P402; 21P403
2.35

NE-368 $1 / 3$ 21P404
2.35

For Webster Electric Cartridges

| W-02 | 3 | M-1 | 88 |
| :---: | :---: | :---: | :---: |
| W-05 | $1 / 3$ | F14: F14-1; F14-2; |  |
|  |  | F14-3; F14-4 | 47 |
| W-14 | $3{ }^{*}$ | A1; A7; A8.- | 7 |
| W-15 | 1* | A1; A2; A3; A4; A5: A6; A7; A8 | 1.41 |
| W-15LP | 1 | F7; F7-1; F7-2;Q2; F13 | . 81 |
| W-16 | 3 | AIM; AIM-1; A5M; <br> A6M; A7M | 81 |
| W-17 | 1 | AlM; A1M-1; A2M; A5M; A6M; A7M | 81 |
| W-30 | 3 | Q1 --- | 8 |
| W-38 | 2 | A9M; A9-1; A11 | d |
| W-412 | 2 | Q3; A9; F-13 | 8 |
| W-422 | 2 | C9: C10 | 8 |
| W-44 | 3 | F20 | 8 |
| W-44LP | 1 | F20 | 8 |
| W-49 | 3 | Q2 --- | 8 |
| W-72 | 3 | F16; F16-1; F16-2 | 8 |
| W-73 | 1 | F16; F16-1; F16-2 | 8 |
| W-81 | 3 | F15; F15-1; F18; F19 | 8 |
| W-82 | 1 | F15; F15-1; F18; F19 | 8 |
| JP-30 | 3 | F10; F11; F11-1 | 8 |
| JP-30LP | 1 | F11; F11-1 -. |  |


high fidelity home music system


THE CRAFTSMEN ASSEMBLY. Consisis of Crofismen C-10 FM-AM Tuner, C-400 Audio Amplifier, C. 20 Woofer and Tweeter, coaxially maunted speaker, and C-30 3speed Recard Changer. Changer face is chrame plated and features built-in dual sapphire cartridge. In addition to four basic components, the "Assembly" includes all hardware, escutcheons, cannecting cobles, instructions, changer maunting baard, and octual warking plons for several different kinds of instollatians, drowings af typical cabinets including harn-loaded carner types. All units except C-30 Changer are avait. able separately. Na technical knawledge is needed to gain a professianal jab. Camplete system packed in one cartan, approximate shipping weight 80 lbs. Net. $\$ 275.00$

C-10 TUNRR. Receives both FM-AM signals. standard broadcast band and FM band 88108 MC . Built-in preamp for GE dual sapphire-tipped cartridge. Inputs for TV and phono as well as two power outlets for changer etc. are controlled from front panel switch. Has continupusly variable bass and treble controls. Frequency response $20-20,000$ CPS. 11 tubes plus rectifier. Effective AFC control. Chassis finished in polished aluminum. Siz: 13/ $x^{\prime} 9^{\prime \prime} \times 77^{\prime \prime}$. C- 10 tuner onls.

Net $\$ 131.50$
C- 400 AMPLIPIPR. Higb fidelity amplifier with response of $15-20,000$ CPS. PP 6VGGT in output stage. Size $14 \times 4{ }^{\prime \prime} \times 5 \mu^{\prime 2} \mathrm{H}$. Chas. sis finished in polushed chromium. C-400 amplifier only.

Net $\$ \mathbf{4 2 . 9 0}$
C-20 SPEALER. High fidelity speaker with frequency response of $40-16,000$ CPS. Has $12^{\prime \prime}$ woofer with 24 oz . magnet and $2^{\text {n }} \mathrm{VC}$. Horn loaded tweeter with wide angle disgersion. 2000 CPS crossover. Speaker only.

Net \$49. 30
c-30 changer. Three speed, $33-1 / 3,45$, 78 RPM; all size records, $7-10 \cdot 12^{n}$. New 4-Dole. sturdy, quict motor. Especially designed for high fidelity listening. Automatic strut-off, low resonance arm. Dual-sapphire stylus installed in GE reluctance "Triple-Play" cartridge. Chrome plated base plate. Not available separately.

## audiopoints



## SAPPHIRE CUTTERS

Sipphire point with Dural shank for most exacting uses in broadcast \& all professional recordings. Disc tested to rigid specifications. Individually packared.

## Number

| Number | Net |  |
| :--- | ---: | ---: |
| 14 L | Long Shank | $\mathbf{4 . 8 5}$ |
| 14 S | Short Shank | 4.85 |
| Lots of 2 or more. each | $\mathbf{4 . 4 1}$ |  |
| Resharpening of No. 14 | $\mathbf{2 . 4 3}$ |  |

## STELLITE CUTTERS

STELITE with Dural shank. Excellent cutting qualities. With care will give sever. al hours of fine recording.

## Number

$\begin{array}{llr}\text { 34L } & \text { Rong Shank } & \text { Net } \\ \text { 34S. } & \text { Short Shank } & \mathbf{1 . 2 9} \\ \text { Luts of } 3 \text { or more. each } & \mathbf{1 . 2 9} \\ \text { Busharpening of No. 34 } & \mathbf{1 . 1 8} \\ & & .91\end{array}$

## AUDIOPOINTS PLAYBACK

h practical plasback needle for seneral use. Masched to Audio Recording Stylii. 100\% shadok-graphed. $\qquad$
No. 151 . Box of 100 Net $\$ 73$


TONE
ARM
Model LPX-006. Tone arm for playing $33-1 / 3$. 45 and 78 RPM records. Equipped with RPX-050 triple play cartridge.

Net $\$ 11.73$


## (1ु1)

WIreless
PHONO OSCILLATOR
MODEL W0-6 Wireless Phono oscillator. Compact unit designed to enable anystandard record player to be easily and simply converted to wireless operation. Records can then be played through any standard receiver without wires. Frequency can'be set to operate approx. $1100-$ 2150 KC . Complete with tube, finished in black wrankle enamel. Size: $4{ }^{4} \times 2^{\prime} 3 \times 2^{n}$.

Net $\$ 8.82$


Soft record brush in halder which fits oll types of tane arms and pickups. Clip the brush anta front of tone arm, adjust brush ta praper pressure. Threa types available for 78 RPM, multiple speed, ond new turnover hi-fi type.
NO. 78. Net.
. 5.59
NO. 45.
.59
NO. HI.F

## Gensen

CONVENTIONAL NEEDLES

No. 5. Durosmium tipped, bent shank. Fur standard records. Net $\$ .29$ sio. 10. Durosmium tip deluxe, bent shank. For standard records.

Net \$. 59

No. 15. Classic. Special sprine construc. tion. durosmium típ. 78 RPM. Net \$.88 No. J-15-LP. Classic. Duroamium tipped, plass microgroove records, 45 or $33-1-3$.

Net \$ . 73

## $2 \longrightarrow$

Nu. 25. Royal. Sapphire tig, bent shank. Fur standard records. Net \$1.47
$\qquad$
No. 75. Durosmium tip, straight shanh. For standard records. Net $\$ .44$

No. J-752. All-purpose, durosmium tipped straight shank. Plays $78-45-33-1 / 3$ discs.

Net \$ . 49

No. "NY". Nylon shank with sapphire or durosmium tips. Microgroove, standsrd or all purpose available as follows.
Std. NY-253S $\$ 147 \mathrm{NY}-153 \mathrm{D}$ (.88 Micro. $\mathrm{NY}-251 \mathrm{~S} \quad 1.47 \quad \mathrm{NY}-151 \mathrm{D} \quad .88$ All-Pur. NY-252S 1.47 NX-152D .88 S-Saphife

D-Durosmi un

## DUOTONE <br> CUTTING NEEDLES

No. $12^{\circ}$ Sapphire stycus Cutter. A professional cutting needle with highly polished jewel and hand-lapped edge. Will give 10 to 15 hours of cutting without resharpening. May be resharpened'many imes.
No. 12L - Long Shank Net Each \$ 3.23 No. 12S - Short Shank $\begin{aligned} & \text { Reshardening } \\ & \text { 3.23 }\end{aligned}$


No. 9 STELLITE CUTTING STYLUS. Hand lapped edge cuts groove which assures noiseless recording. Low surface noise. Will cut approximately $500 \mathrm{~g}^{\prime \prime}$ records.
No. 9L - Long Shank Net Each \$ 1. 18 No. 9s - Short Shank Net Each 1.18

No. 10 LAPPED STEEL CUTTING STYLUS Recommended for general home recording. five needles on card.
Net per card of 3
No. 8 STEEL CUTTING STYLUS. Used extensively by home recording fans, Hill make anpuximately 15 to $2510^{n}$ records.
Net per package of 4
\$. 50

## Grush <br> $\Rightarrow$ <br> CRYSTAL CUTTER

Hish guality, low eost recordings. 3-watt amplifier is sufficient to drive the RC- 20 cutter. Response ilat within 3 DB from $50-9000$ CPS. Shpr. Kigt. 2 lbs .

Net \$14.70
WALTER ASHE RADIO

# PHONOGRAPH PICKUPS - CARTRIDGES AUDO-HIFI 

## GENERAL (3) ELECtric



## CARTRIDGES



RPX-050 TRIPLE PLAY CARTRID(F, Plays all records, 33-1/3, 45. 78 KPM, . 001 and . 003 Baton stylus with sapphire tips. A twist of the knob positions and selects proper stylus for record. Delicately balanced for light stylus pressure. Requires preamplifier.

Net $\$ 8.20$


Variable Reluctance Cartridges with singe le replaceable stylus. Available in four models, . 001 sapphire. . 001 diamond or .003 sapphire. -003 diamond. All are designed to give high fidelity reproduction with minimum of scratch and distortion. All reouire preamplifier such as GE UPX-003A or equivalent.

RPX-040. Cartridge with . 003 sapphire stylus for 78 RPM records. Net $\$ 5.85$ RPX-041. Cartridge with . 001 sapphire stylus for 33-1/3. 45 Rpsir records. 5.85 RPX-063. Cartridge with . 003 diamond stylus for 78 RPM records. 19.96 RPX-061. Cartridge with . 001 diamond stylus for $33-1 / 3,45$ RPM records. 19.96

## STYLI

REPLACBMFNT STYLI FOR
SIAGLE STHILS CARTRIDGES
Number Stylus Radius Ne

| RPJ-001 | Sapphire | .003 | .2.06 |
| :--- | :--- | :--- | ---: |
| RPJ-002 | Diamond | .0025 | 16.17 |
| RPJ-003 | Dianond | .003 | 16.17 |
| RPJ-004 | Diamond | .001 | 16.17 |
| RPJ-005 | Sapphire | .001 | 2.06 |
| RPJ-006 | Sapphire | .0025 | 206 |



## COMPENSATOR



MODEL AI-900 RECORD COMPENSATOR. A new adjustable hígh impedance passive network for use with standard type GE cartridges. Five positions, LP, AES, FI,AT. GOOD parly 78. POOR early 78. Connects between pickup cartridge und prommlifier input. Mounts on panel up to $3 / 4^{\prime \prime}$ thick in any position. Requires $4^{\prime \prime}$ be-
 Wgt. 1 1b. Kipt $\$ 8.77$

KNOB K1T. For Triple Ploy cortridges. Washers, spring, and long and short shonk knobs.
RKP-009. Net.................................... 27

RPX-052. Popular "Golden Treasure" cartridge with reversible styli for all 3 speeds. Has . 001 diamond for playing microgrnove. 33-1/3. 45 RPM records, and .003 sasphire stylus for 78 RPM records. Low constant tracking pressure of 6-8 grams ft.r all records. Needle-talk, distortion and noise level are at minimum. Simply twist positioning knob to select correct setting. Response to $15,000 \mathrm{cy}$. Cartridge case is gold plated for long wear and eye appeal. Preamp required.

Net $\$ 22.90$
RPX-053. "Golden Treasure" cartridge. similar to above but has two diamond styli. . 001 and .003 radius. Entire usable range is reproduced with uniform velocity response. Record. wear is reduced to a minimum. Cartridge case is gold plated for long wear and eye appeal. Preamp required. Net 34.04

BROADCAST PROFĖSSIONAL TYPE.De. signed to motch broodcost equolizers ond professional equipment. Low impedonce. Smooth wide ronge response. Will occemmodate any, stondord GE stylus. Less the stylus.
RPX.046. For Single Stylus. Nef...... $\$ 6.73$ RPX-047. For Triple Ploy Stylus....... 9.08

## PREAMPLIFIER



## Preamplifier with Rectifier

UPX-001A. New design self-powered preamplifier for use with all GE and similar types of magnetic or reluctance cartridges. Bass equalization 18 DB. Less distortion, lower-output impedance ullows output lines up to 50 feet. Completely self-contained, simply plug into 117 VAC source. Completely shielded for minimun hum pickup. Uses $1-65 C 7$ tuhe. Easy to install. size $3-5 / 8 \times 3-5 / 8 \times 1-1 / 4^{n}$ ? Shipg. $1 \mathrm{gt} .1 \% \mathrm{lbs}$.

Net $\$ 10.55$
PICKERING

PICKUP ARM


PICKUP ARM. Designed to minimize record and stylus wear, cut down distartion, reduce tracking error. No spurious arm resonance otony frequency. Rugged, trouble.free beorings. Plays all size records to $17 \frac{1 / 4}{4 \prime \prime}$. Height adjustment for furntables from $1 / 2^{\prime \prime}$ to $2^{\prime \prime}$ high. One hole mounting and self. contoined leveling screws. Plug-in cortridge holder. Mognetic orm reset. Accommodotes practically ony type of cortridge. Less cartridge. Shpg. Wgt. 2 lbs.
MODEL 190.D. Nef...................... $\$ 31.50$

PICKERING
QUALITY
AUDIO COMPONENTS


DUAL STYLUS TURNOVER PICKUP. Two seporote "bock-fo-bock" cartridges. Avoil. oble with dual diomond stylus for ploying oll pypes of records ( $45,33 \frac{1}{3}, 78$ RPM) or with diamond stylus for ploying 45 and 33 ! records ond sopphire for 78 RPM records. Response 20-20,000 CPS. Mognetic cortridge hos output of 30 millivolis of 10 cm per secand. Mounts easily in ony orm. When used in o well-bolonced orm such os Pick ering 1900, pickup will track oll speeds from 4 to 6 groms.
MODEL 260-DS. With 001 diamond stylus for micrograove and .0027 sapphire stylus for 78 RPM. Net........................... $\$ 48.00$
MODEL 260-DD. With .001 diamond stylus for microgroove and .0027 diamond stylus for 78 RPM. Net........................... $\$ 60.00$


MAGNETIC CARTRIDGES. High ouppur; response $20-20,000$ CPS. Availoble for microgroove or stondord recordings. For oll high fidelity reproduction. Low distortion. Diomond or sopphire stylus. Output 50 millivolis of 10 cm per second.
S.120M
0027 Sopphire
Net
D.120M . 0025 Diomond $\quad 24.90$
D.140S . 001 Diomond 36.00
$\begin{array}{lll}\text { S.140S } & .001 \text { Sopphire } & 15.00\end{array}$


PREAMPLIFIER. For Pickering ond other mognetic cortridges. Feeds into ony good omplifier having high impedance input. Extremely low intermodulation ond hermon. ic distortion. Frequency response: 40 . 20,000 CPS. Hum level -56 DB below max. imum signal. Tubes: 1.6C4, 1.6AU6, 1 $6 \times 4$ (not furnished). Size: $7 \frac{1}{2} \times 3^{\frac{1}{2} \times 4^{\frac{5}{4}} 4} \mathrm{H}$. Operotes from 117 VAC 50/60 cycles.
MODEL 230-H. Net.
. $\$ 24.00$
RECORD COMPENSATOR. Provides six positions with necessary flexibility required to properly equalize for oll recording chorocteristics. Excellent companion equipment to Pickering 230-H preomplifier. High impedonce input. Coble ond plug supplied. Mounts in ony position. Size $1 \% /{ }^{\prime \prime}$ square, $3 \%$ " overoll, less switch shoff. Shpare, Wgt. 1 lb .
MODEL 132.E. Nef.
. $\$ 12.00$

## AUDIO--HI-FI

## TUNERS - PHONO ACCESSORIES

MEISSNER
AM-FM TUNERS

9AJ


MEISSNER 9AJ AM-FM TUNER CHASSIS is the answer to demand for a moderate priced unit. complete with audio stage for direct input to speaker, no separate amplifiers needed, kigh sensitivity and selectivity on both AM and FM bands. Temperature compensated on FM. Full tone control. Phono input for crystal pickup. power outlet for phono motor or changer. Built-in FM and AM antennas with provision for external antennas. Dial is fan otype with red fluorescent pointer, dlluminated by tro pilot 1 amps . 6 V 6 power amplifier. Chassis size $8 \times 11 \times 7 \mathrm{x}^{\prime \prime} \mathrm{H}^{\prime}$. Operates from $110 / 120 \mathrm{VAC} 60 \mathrm{cy} ., 65$ watts. complete with tubes, escutcheon plate, speaker pluz and knobs, less transformer, speaker. shpg. Wit. 11 lbs . MODEL 9AJ, Net. $\qquad$ \$77.62

## TUNER FOR KI.FI AMPLIFIER

MEISSNER 8BT AM-FM TUNER CHASSIS. Same as the gas Tuner but does not include the 6V6 power anplifier stage. Tuner may be used with any good quality amplifier and speaker. shpg. Wgt. 9 lbs.
MODEL 8BT. Nef.......................... 72.77

## ELECTRO-CORDER

 TELEPHONE PICKUP

Permanently records both sides of a telephone conversation. No eslectrical connec tion to telephone. Will work with any rion to telephone. of conversation may be kept indefinitely för future reference. High gain, high impedance. Freouency response 200-2000 CPS. Complete with 12 -ft. shielded cable Size: $6!\times 8{ }^{H} \times 1^{\prime \prime}$. Finished in telephone black. Shpg. wit. ze lbs.
No. 1200

## MEISSNER

## 4E HI-FI

TUNER AND KIT


MODEL AE TRF TUNER. A completely wired tuner which receives AM signals, 5401620 KC and is designed for simple connection to phono amplifier or PA system. Ideal for high fidelity listener or turer for PA systers, etc. Freg. response 40-15,000 kC. Large easy-to-read slide rule dial. Size: $11 \times 7 \times 5^{n}$ H. operates from $110 / 120$ VAC 60 cy . Shpg. Wgt. 81 bs .
MODEL 4E. Net.
$\$ 41.89$

## IN KIT FORM

MOLEL THEX TRF TUNER KIT. complete hit of parts for building above tuner, less *ire and solder.
MODEL TAEK. Net
$\$ 30.18$

## RECORD-O-FONE TELEPHONE PICKUP



Easily attached to any recorder or ampli. fier in a few minutes. Works with tape, disc. or wire recorders. No electrical connections to telephone. Simply place telephone on Record-o-Phone and plug into amplifier or recorder. Records both sides of conversation. Complete with cable and olug. Size: $6 \times 8 \times 1{ }^{\prime \prime}{ }^{\prime \prime}$. Shpg. Wgt. 2\% 1 bs .
No. 683
Net \$ 5.85


No. 93A - 96A. Fur use with standard 78 RPM records. Response to 6000 CPS. Needle force $1-1 / 8 \mathrm{oz}$. Shpg. Wgt. 1 lb .

No. 93A Output 1.6 V Net $\$ 4.41$ No. 96A Output 4.3 V 5.00

No. 902ac, For use with 33-1/3 - 45 RPM records. Response to 7500 CPS. Needle force 10 grams. Output 2 V . Shpg. Wgt. 1 1b.

Net $\$ 6.17$
No. 92u. Single needle, all purpose pickup with cartridge for playing 78-45-33-1/3 RPM records. Needle force 8 grams. Response 4500 cPS. Output level. MG $2 V$, standard 2.3V. Shig. Mgt. 11 b .

Net \$ 5.73
No. 920w. Speciel pickup arm for webster Chicago and $v-\mu$-speed changers. Uses dual stylus cartridge No, W-22AB. Shpg. Wgt. 1 lb .

## CARTRIOAES


:-22A. Fur use in turn-over pickups as used in V-M, Webster, etc, Uses sapphire tipped needles. Shpg. Wgt. 1 lb .

Net 6.17
-22AB. Same as above but uses sapphire MG needle and osmium tipped standard needle. Ship. Wgt. 1 lb . Net $\$ 5.59$
-26B. Used in single needle all purpose arms for playing 33-1/3-45-78 RPM records. Shpg. Wgt. 1 lb.

Net \$ 4.41



## J. W. MILLER

## Crystal Band-Pass Tuner

Miller hi-ri bandpass TRF tuner using a germanium diode detector. No tubes! No hum" Simple, easy to assemble and wire. llse with your amplifier and speaker sys-
 25 mile range) stations. Adequate selectivity. Following parts supplied with \&585 kit: 1 mutual coupling coil, 2 shielded TRF coils, 1 two-gang condenser, 1 slide rule dial, 1 chassis, miscellareous harduare and data. (Resistors, condensers, fermanium crystal and volume cuntrol not included). Range $540-1500 \mathrm{KC}$.
*585 K1T
Net $\$ 11.70$

## J. W. MILLER

 High Fidelity Tuner Kit The EL-575 Tiner fit provides esssential components to construct a hi-fi toring, alrcheck.
recording or broadcast. Flat top 20 KC bandwidth and bandpass circuits. 10 KC audio filter prevents heterodyne beat. Kit contains all colls, tuning condensers. circuit diagrams, chassis, etc. Range $540-1500 \mathrm{Kc}$.
緍- 575 Foundation Kit
Net \$ 42.60 wat-570 Coil Kit only
21. 18


WALNUT SPEAKER CABINETS

Cumpact design, suitable for theaters, auditoriums. offices, and general public address applications. Non-resonant construction. Mahogany finish.
Number Spkr. Size Shpg. Wt. Net

| STD-5 | $5^{\prime \prime}$ | 2 lbs. | $\$ 2.23$ |
| :--- | :---: | :---: | ---: |
| STV-6 | $6^{n}$ | 4 lbs. | 2.37 |
| STD-8 | $8^{\prime \prime}$ | 4 lbs. | 2.94 |
| STD-10 | $10^{\prime \prime}$ | 5 lbs. | 3.53 |
| STD-12 | $12^{\prime \prime}$ | 7 liss. | 4.63 |

## 

## PORTABLE

## CARRYING CASES



Acoustically designed for good tone guality. Models $304-305$ have split case which allows two speakers to be mounted and held securely and web straps hold cable tightly when not in use. Slide-easy board for meunting amplifier. Flocked gray grille.
No. Soeaker Amplifier Shpg. Wt. Net

| 303 | $1-10^{n}$ | MA8N | 9 lbs. | 17.64 |
| :--- | :--- | :---: | ---: | ---: |
| 304 | $2-10^{\mathrm{m}}$ | MA17N | 16 lbs. | 30.58 |
| 305 | $2-12^{\mathrm{n}}$ | MA17PN-MA25N | 21 lus. | 32.03 |
|  |  | MA25PN-MA35N |  |  | $\begin{array}{ll}303 & 1-10 \\ 304 & 2-10^{\mathrm{n}} \\ 305 & 2-12^{\mathrm{n}}\end{array}$

MA17N
MA1TPN - MA25
MA25PN-MA35N

## R-J

ENCLOS URES


Speaker enclosures available in $12^{\prime \prime}$ and $15^{\prime \prime}$ sizes. Direct rodiation of highs without obstruction, clean, smooth bass fundamentals, without peaks, down to low organ pedal notes. Expertly built of heovy, top quality genuine mahogany veneer, handrubbed. No distorting cobinet resonances. Floor models $20 \mathrm{H} \times 20 \mathrm{~L} \times 16^{\prime \prime} \mathrm{D}$. Shpg. Wgt. 35 lbs.
MODEL F-12-M. $12^{\text {m }}$. speaker. Net $\$ 49.95$ MODEL F.15.M. $15^{\prime \prime}$ speoker. Net $\$ 49.95$


KLJPSCH

HCENSED

MODEL "ARISTOCRAT". Klipsch-licensed folded corner horn enclosure reproduces bass notes down to 35 CPS with extended range on highs. Designed 90 give one full octove of added bass range when used with high quality $12^{\prime \prime}$ full ronge speaker. Sciensifically designed to reproduce bass with no boominess. Authentically styled. Lustrous hand-rubbed mahogany finish. Size: $29 / 2 H \times 19 W \times 16^{1 / 2} 2^{\prime \prime}$. Less speaker. Shpg. Wgt. 38 lbs. Nef........................... $\$ 64.68$


WITH
TRIAXIAL
SPEAKER

"TRIUMPH" THREE.WAY SPEAKER SYS. TEM. Compact high fidelity system which employs Model 308 eight inch triaxial speaker chassis. Frequency response 50 15,000 cycle. Sounds like systems many times its price. Size: $25_{5,5}^{5} \times 18 \times 12^{n} D_{\text {. Avail. }}$ oble in Cherry or Blond finish. Grill material removable from front. Power copocity 25 watts. 8 ohm voice coil. Crossovers, 1000 cycles mechanical, 5000 cycles elec. wical. Specify finish when ordering. Shpg. Wgy: 30 lbs.
MODEL "TRIUMPH". Nel............. $\$ 73.50$

## Cabinart by $\mathcal{G}$ \& H



EQUIPMENT CABINET. For record changer, radio, and amplifier. Motching piece of furniture to Model 27 speaker cabinet. Height $35^{n}$, width $231 / 2^{\prime \prime}$, depth $18^{\prime \prime}$. Reecrd changer areo, $113 / 4 \mathrm{H} \times 22 \mathrm{~W} \times 17^{\prime \prime} \mathrm{D}$. Rodio and amplifier area, $181 / 2 \mathrm{H} \times 22 \mathrm{~W} \times 16^{\prime \prime} \mathrm{D}$. Your choice of Blond Birch or Cordovan Mohogcny on Birch. (Specify finish wanted.) Shpg. Wgt. 72 lbs
MODEL 28. Net $\qquad$ . $\$ 72.00$

SPEAKER CABINET. For all 12" or 15" speakers. Diseinguished piece of furnifure which will fil in with ony type of living room or music room plan. Height $35^{\prime \prime}$, width $231 / 2^{\prime \prime}$, depth $18^{\prime \prime}$. $61 / 2$ cubic feet of baffle area. Choice of Blond Birch or Cordovan Mahogany on Birch finishes. Shpg. Wgt. 58 lbs. (Specify finish wanted) RIODEL 27. Ne†........................... $\$ 48.00$


Matching cabinets which will accommodate any combination of high fidelity components. Removable panels for furure equip. nent changes. Each cabinet measures $331 / \mathrm{H}+23 \mathrm{~W} \times 16$ "D. Made of $1 / 2$ thick select white pine plywood. Unfinished but com. pletely assembled and sanded smooth, ready for finishing. Will rake a beautiful blond or mahogany finish.
EQUIPMENT CA8INET. Hinged top phono comportment measures I.D. $71 / 2 \mathrm{H} \times 211 / 4 \mathrm{~W} \times$ $15^{1 / 9} \mathrm{D}$. Tuner compartment meosures I.D. $23^{1} / 4 \mathrm{H} \times 213 / 3 \mathrm{~W} \times 151^{1 / \mathrm{DD}}$. Shpg. Wg. 40 lbs.
MODEL 70. Net............................ $\$ 36.00$
BASS REFLEX CABINET. Acoustically correct, tuned for the averoge $12^{\text {n }}$ or 15" speoker. Baffle volume is six cubic feet. with grille cloth and acoustic insulation.
MODEL 7112. Pre-cut for $12^{n}$ specker. Shpg. Wigt, 40 lbs. Nel.................. $\$ 24.00$

MODEL 7115. Pre-cut for 15" speaker. Shpg. Wat. 40 tbs. Net................... $\$ 24.00$

REBEL

## IV

MODEL KR-4-12 \#RE8EL*. Klipsch designed corner horn enclosure for $12^{\prime \prime}$ speaker. Increases efficiency and range of any good 12" speaker. Size: $32 \mathrm{H} \times 14 \mathrm{HD} \times 21^{\prime \prime} \mathrm{W}$. Mahogany or blonde finish. Specify finish desired. Shpg. Wgt. 40 lbs . Net...... $\$ 69.00$ MODEL KR-4.15 "REBEL*. Same os Mode| KR.4-12 except for 15" speaker. Size: $32 \mathrm{H} \times 161 / 2 \mathrm{D} \times 24^{n \mathrm{~W}}$. Mohogany or blonde finish. Specify finish desired. Shpg. Wgt. 50 Ibs. Net. $\qquad$ MODEL K-12. Kif form of KR-1.12, unassembled, unfinished. Shpg. Wgt. 40 lbs. Net. .. $\$ 36.00$ MODEL K-15. Kit form of KR-4-15, un= ossembled, unfinished. Shpg. Wgi. 50 lbs. Net............................................. $\$ 42.00$

Censen


Accammodate any good speaker. Wellcenstructed of beoutifully striped satin finish veneered walnut; interlaced bronze strip grille of matching fobric. Available in two sizes for $12^{\prime \prime}$ and $15^{\prime \prime}$ speakers. MODEL D-151. Walnut, fop $15^{n}$ speaker. Size: $31 \mathrm{H} \times 273 / 4 \mathrm{~W} \times 131 /{ }^{\text {"D D. Shpg. Wgt. } 50 \mathrm{Jbs} .}$ Net............................................ $\$ 30.40$ MODEL D.121. Walnut, for $12^{\prime \prime}$ speaker. Some dimensions as D-151. Shpg. Wgt. 50 lbs. Net.. $\qquad$ Wgt. 50
... $\$ 30.40$ MODEL B-121. Utility sype bass reflex cabinet, constructed of impregnated composition board finished in brow lacquer. Metol trim. For 12" speaker. Size: $28 \frac{1}{2} \mathrm{Hx}$ $23 \% / 4 \times 11 \% /{ }^{\prime \prime}$ D. Shpg. Wt. 34 Ibs. Nef $\$ 22.79$

## Altec Lansing



MODEL 605A. A deluxe enclosure ocous. fically correct for Altec 604 C and 603 B . Can also be used on other makes of speakers. A beoutiful cabinet, well-constructed for use in the finest homes or studios, finished in beousiful wolnut or mehagany. Size $38 \mathrm{H} \times 30 \mathrm{~W} \times 16^{\text {"D }}$. Shpg. Wgt. 165 Ibs.
Net. (12. A utility cobinet for use in foctories, sound installations, etc., wherever finish of cobinet is not importont. Takes 15" speaker, grey painted finish. Size: $291 / 2 \mathrm{H} \times 251 / 2 \mathrm{~W} \times 173 / 3 \mathrm{MD}$. Shpg, Wgi. 100 lbs. Nef.......................................... $\$ 80.00$

## AUDO--HIFI HIGH QUALITY SPEAKERS - BAFFLES

## GENERAL (8) ELECTRIC

The Deluxe Model 1201 A Loudspeaker is unsurpassed for high fidelity applications, will handle. 25 watts power. Has 14: oz. Alnico V permanent magnet. Excellent frequency response. $50-13,000$ CPS. Voice coil impedance 8 ohms. The 1201A and all other speakers listed below use the famous G.E. al uminum foil bass voice coil. This feature makes G.E. speakers virtually unaffected by moisture or humidity. All mpeakers use Alnico $V$ magnets.


| Number | Size | Magnet Urgt. | Watts | Yoice 0011 Impedance | Shpg. Wgt. | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 403 D | 4" | . 68 az. | 4 | 3.2 | \% 1 b . | \$ 2.35 |
| 503D | 5 | . 68 | 4 | 3.2 | \% | 2.47 |
| 6260 | 6\% | 1.0 | 4 | 3.2 | 1 | 2.94 |
| 8000 | 8 | 2.98 | 8 | 3.2 | 2 | 6.06 |
| 8100 | 8 | 6.8 | 12 | 3.2 | ${ }^{2}$ | 8.11 |
| 10000 | 10 | 6.8 | 12 | 3.2 |  | 10.32 |
| 10120 | 10 | 3. 16 | 12 | 3.2 | 32 | 6.94 |
| 10180 | 10 | 6. 8 | 12 | 8 | 4 | 10.64 |
| 12000 | 12 | 6.8 | 12 | 3.2 | 5 | 11.17 |
| 12014 | 12 | 14.5 | 25 | 8 | $6 \%$ | 19.95 |
| 1203A | 12 | 9.0 | 25 | 8 | $5 \%$ | 13.94 |
| 12120 | 12 | 3. 16 | 12 | 3.2 | $4{ }^{\prime \prime}$ | 7.61 |

LOWELL Speaker Baffles


AL Spriss. False ceiling models made of 18 gauge spun aluminum for use where space is limited. Basy to mount when used with steel plaster ring listed below. Complete with speaker hardware but less mounting ring and speaker. Shpg, wt. 2 lbs.
 $\begin{array}{lclr}\text { MODEL ALBA } & 8^{\prime \prime} & 113^{\prime \prime} & 7.14 \\ \text { MODEL AL12A } & 12^{\prime \prime} & 16 \%^{\prime \prime} & 9.00 \\ \text { MOOEL AL15A } & 15^{\circ} & 23^{\circ} & 14.70\end{array}$
BL SERIES. Easily installed flush mount ceiling baffles for installations in clubs, lounges, PA, juke boxes, etc. Mount by means of four toggle bolts, completely sealing back of housing to ceiling. Give uniform sound reproduction over $360^{\circ}$. Padded with heavy jute to dampen reverberation. Made of 18 gauge spun aluminum. Speaker hardware furnished. Less speaker. Shpg. Hgt. 5 lbs .
MODEL BL6A Spkr. Size $6^{n}{ }^{n}$ Dian. $12 \%^{n}$ " Depth $4 \%^{n}$ Net $\$ 7.64$ $\begin{array}{llllll}\text { MONEL BL8A } & 8^{n} & 143^{n} & 48^{n} & 4 / 8^{n} & 12.93 \\ \text { MONEL BL12A } & 12^{n} & 18-3 / 8^{n} & 8^{n} & 15.87\end{array}$

SR SERIES. Designed for use in auditoriums, railroad stations, churches, and other high ceiling applications. Even sound distribution over $360^{\circ}$ area. Made of 18 gauge spun aluminum. Done and lower housing jute padded, no vibration. Speaker hardware furnished, less speaker and chain. Shpg. \#gt. 71 lbs .
MONEL SRBA Spkr. Size $8^{\prime \prime}$ Assem. O.D. Size $15^{\prime \prime}$ Net \$ 17.64 MONEL SR12A Chain Per Foot
21.76

LCB SERIES. Bi-directional corridor speaker baffle which can be heard equally well from both sides for use in hospitals, schools, industrial plants. etc. Mounts on wall or ceiling or on $4 \times 4$ outlet box. Finished in satin aluminum. Less speaker. Shpg. Wgt. $1 / 2$ lbs.
MODEL LCB- 6
For $6^{n}$ Speaker
Net \$ 8.82
MODEL LCB-8
For $8^{n}$ Speaker
10. $5 \times$

PR SERIES. Plaster rings made of heavy gauge steel, tapned $8 / 32$ for quick mounting of baffle to ceiling. Shpg. Hgt. 1/3 $8 / 32$
1b.

| MODEE, PR-6 | For Baffle Al6a | Net 1.18 |
| :---: | :---: | :---: |
| MOOEL PR-8 | For Baffle Al8A | 1.56 |
| MOPEL PR-12 | For Baffle Al 12 A | 2.06 |

rear seat extension kit
model r-7. Rear seat auto extension speaker baffle hit for all cars. For 6x9" speaker. Complete with 3-way swltch, bracket. louvre plate, mounting screws. Less

Net $\$ 2.65$


VIKING
Lovosphakrens

Complete line of well-mode speokers of nominol prices. Use as replocement for rodio, TV, low power PA systems. All ore permonent mognet types. Less oufput tronsformer.

| Madel | Size | Voice Coil | Shpg. Wgi. | Net |
| :---: | :---: | :---: | :---: | :---: |
| $3 \mathrm{J6*}$ | 3" | 3.4 ohms | 3 lbs. | \$ 2.07 |
| 35J6* | $31 / 2$ | 3-4 | 3 | 2.02 |
| 4J6* | 4 | 3-4 | 3 | 2.02 |
| 46J6* | $4 \times 6$ | 3-4 | 3 | 2.63 |
| $5 \mathrm{~J}{ }^{*}$ | 5 | 3-4 | 3 | 2.26 |
| 525J6* | 51'4 | 3.4 | 3 | 2.33 |
| $57 \mathrm{J9}$ | $5 \times 7$ | 3-4 | 3 | 3.29 |
| 6J6* | 6 | 3-4 | 3 | 2.45 |
| 6959 | $6 \times 9$ | 3-4 | 3 | 3.65 |
| 719 | 7 | 3.4 | 4 | 3.49 |
| 859 | 8 | 3-4 | 4 | 3.49 |
| 10」10 | 10 | 3-4 | 5 | 5.80 |
| 12 J 10 | 12 | 3-4 | 6 | 6.24 |

"CTM-1 Universol Mounting Brocket included free when reque sted.


MODEL AP. 10 SPEECHMASTER
Siurdy construction, double dustproofing and fine ocousticol properties moke these units occeptable for oll tolkback and monitoring opplications. Will mount on desk or wall. Complete with $36^{\prime \prime}$ cord. Finished in hommered grey with chrome trim. Voice coil 3.4 ohms. Shpg Wg. $51 / \mathrm{lbs}$.
MODEL AP. 10 (ST-590), Net............... 11.35

## ElectroVorcs

WIDE RANGE HIGH FIDELITY
RADAX COAXIAL SPEAKERS

Radax Superotwelve


Radax.Twelve
Model SP12-B


Radax Super-Eight Madel SP8-B


MODEL SP-12. Revolutionary full range coaxial speaker system which reproduces complete tonal range, Uses two cones. one for treble, one for bass. Built-in mechanical crossover. Frequency response 70-13.000 CPS. Maximum power handling capacity 25 watts. Voice coll 8 ohms. Has 23 lb . magnet structure with 3 lb . Alnico $V$ magnet. Cones treated for funfus and moisturc. Sizc: $12 \% \times 7 \%$. Shpm. Thet. 30 lbs. Net $\$ 55,86$

MODFL Spl $^{-12-B}$, Fixtended range conxial :ystem which bives you a two-way system for the price of an ordinary speaker. Gives full bass response and high frum quencies far beyond belief. Uses twu cores. one for highs, one for lows. Crossover frequency 4500 CPS. Cones are created for fungus and misture protection. Input impedance 8 ohms. power handling 15 watts. Uses $1^{l} 21 b$. Alnico


Net \$ 29.11
MulbFi, $S P-8-R$. All the bass possible in an $8^{\prime \prime}$ speaker plus high frequency response extending 2 . octaves beyond that of conventional speakers. Covers $6, \frac{12}{2}$ octaves. Features two cones which distribute the sound according to the frequency. Economical coaxial two-way system, y ohm voice coil. 15 -watt handling power. $1^{1 \prime}: 1 \mathrm{~b}$. Alnico V magnet Size: $8!\times 5 \cdot$ shpg. घet. Bl's $^{2} \mathrm{lbs}$.

Net $\$ 2 \% .93$

## 40 READY FOR A NEW RECEIVER?-We'll Trade In Your Old One!


15.JNCH WIDE RANGE COAXIAL SPEAKER

For finest wide range balanced respanse. Highly efficient $15^{\circ}$ low frequency unit, upper channelis a new compression driver perfectly matched to a special high frequency divided cellulor Hypex horn to reproduce a wide frequency range above 2000 cycles. Impedance 16 ohms. Power rating 30 watts. Complete with network and HE control.
 MODEL H. 530 (ST-893). Nef........................................... $\$ 129.50$

## NEW 15-JNCH COAXIAL SPEAKER

Coaxial speaker with the smoothness, balance, and wide range found only in advanced design two-way systems. Compression driver unit loaded by a six-cell Hypex horn reproduces frequencies above 2000 cycles. Efficient $15^{\prime \prime}$ LF unit. Impedance 16 ahms. Power rating 25 watts. Baffle opening $13 \frac{1}{6 n}$, OD $15 \frac{1 / 4}{}$, depth $9 \frac{1}{4}$ ". Shpg. W.. 16 Jbs . MODEL H. 520 (ST-892). Net............................................... 79.50

K.310A

H. 222

K. 210

15-INCH COAXIAL SPEAKER
A fine, low cost, true two-way $15^{\prime \prime}$ hi-fispeaker that will outperform many af higher prices. Integral frequency division syster. Power rating 16 watts. Output impedance 16 ohms. Baffle opening $13 \frac{1}{4}$ ",

MODEL K-310A (ST-891). Net. $\qquad$ .$\$ 37.60$

## 12.INCH COAXIAL SPEAKER

Wide range $12^{n}$ cooxial with compression driver " ${ }^{\text {w }}$ weeter" and sixcell HF horn. Integral frequency division. Power rating 25 watts. Impedance 16 ohms. Has HF balance control an $36^{n}$ cord. Baffle opening $10^{\frac{1}{2} /{ }^{\prime \prime}}$, OD $12^{\frac{1}{3}{ }^{m}}$, depth $8 y^{\prime \prime \prime}$. Shpg. Wgt. 12 lbs .
MODEL H-222 (ST-875). Nef. $\qquad$ $\$ 54.50$

## LOW COST 12-JNCH COAXIAL SPEAKER

High fidelity $12^{\prime \prime}$ speaker at amazingly low cost. Ideal for moderniz. ing TV and radio sets. Built-in frequency dividing system. Power rating 12 watts. Impedance 8 ohms. Baffle opening $10^{\prime \prime}$ ", OD $12^{\prime}{ }^{\prime \prime}$ ", depth $63 / 10$. Shpg. Wgt. 8 lbs .
MODEL K. 210 (ST.831). Net

[^1]

## e)ensen

## EXTENDED RANGE

Recommended in uses calling for a high quality direct radator or "one way" speaker. Far home music systems, quality PA work, replacement in TV, radio, etc. Avalloble in sizes from $5^{\prime \prime}$ to $15^{\prime \prime}$.

| Model | Srock No. | Size | Voice Coil | Watrs | Shpg: Wg. | Nep |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| P15NX | ST.817 | 15" | 6.8 ohms | 18 | 16 lbs . | \$ 46.05 |
| P12 MX | ST.819 | 12 | 6-8 | 16 | 12 | 35.25 |
| P12RX | ST. 885 | 12 | $6-8$ | 11 | 8 | 12.40 |
| P12SX | ST. 821 | 12 | $6-8$ | 9 | 6 | 11.35 |
| P105X | ST. 823 | 10 | 6-8 | 8 | 5 | 10.54 |
| P8-RX | ST. 887 | 8 | 6.8 | 8 | 5 | 8.50 |
| P85X | ST. 825 | 8 | $6-8$ | 7 | 4 | 7.48 |
| P6.TX | ST. 828 | 6 | $3-4$ | 5 | 4 | 5.05 |
| P5.TX | ST. 827 | 5 | 3-4 | 4 | 3 | 4.90 |

Extensive line of general purpose direct radiator laudspeakers for all needs - replacement, PA, home music systems, etc. All use Alnico $V$ magnets.


## 7 7nस्यी़्ट



Twa-way high fidelity reproducer with special 8" "woofer" and multicell horn-looded compression driver "nweeter". Has built-in frequency division system. Small, compact enelosure is designed far adequate bass potential. Can be used anywhere, may be used either on its side or standing on end. Con also be placed on table, in bookshelves, etc. Clean, smaoth reproduction, 20 watts handling power. Impedance 4 and 8 ohms. Deep burgundy Dupant Fabrikoid finished case, pigskin textured, with cantrasting front and copper-taned trim. Size: $11 \mathrm{H} \times 231 /{ }^{-1} \mathrm{~W}$ $\times 10^{n} \mathrm{D}$. Shpg. Wgt. 24 lbs,
MODEL DU-201 "DUETTE". Nef. $\qquad$ .$\$ 62.50$
MODEL DU. 202 "DUETTE" PORTABLE
.77 .50


## ensen <br> LEVEL CONTROLS



These L-pad type cantrols are highly satisfactory for use in vaice call circuits. Complete with pointer knob ond escutcheon.

| ST. 276 | $6-8$ ohms | 5 watts | Shpg. Wgt. 1 lb . | Net \$ 1.76 |
| :---: | :---: | :---: | :---: | :---: |
| ST. 760 | 3-4 | 5 | 1 lb . | 1.97 |
| ST.761 | 500.600 | 15 | 1 fb . | 3.65 |
| 5 T .411 | 8 | 15 | 1 lb . | 2.76 |

## Altec Lansing



MODEL 604C DUPLEX SPEAKFR. Professional $15^{n}$ high fidelity speaker with exponitial multicellular horn, frequency response 30 cy . to $22,000 \mathrm{cy}$. When mounted in suitable cabinet. Power rating 35 watts, 50 watts peak. Large Alnico V magnet. Frequencies from 30 to 1600 are reproduced by $15^{\prime \prime}$ cone and frequencies from 1600 to 22,000 reproduced by high frequency unit. N-1600A network provides smooth crossover at 1600 cy . Network impedance 16 ohms. Maximum dia. $15-3 / 16^{\prime \prime}$. maximum depth $1-1 / 8^{\prime \prime}$. Complete with network. Shpg. Wgt. 40 lbs . Net $\$ 156.00$


## Al|ter



603B
MODLL 602A. New $15^{\prime \prime}$ Duplex Speaker comlete with network. Frequency response 30-22,000 cJ. in suitable cabinet. $3^{\prime \prime}$ aluminum voice coll. Large Alnico $V$ magnet. Power rating 20 watts, 30 watts peak. Crossover frequency $3,000 \mathrm{cy}$. Network impedance 8 ohms. Maximum dia, 15-3/16". maximum depth 7-1/4 ${ }^{\text {n }}$. Complete with network. Shipg. Wgt. 251 bs .

Net $\$ 114.00$
MODEL 601A. New 12" Duplex Speaker with similar characteristics to Model 602A. Maximum dis. $12^{\prime \prime \prime}{ }^{\prime \prime}$ maximum depth $5-5 / 8^{\prime \prime}$. Shpig. Kgt. 17 lbs.

Net $\$ \mathbf{9 9 . 0 4}$
MODEL 603B. $15^{n}$ Dia-Cone Speaker with frequency response of $30-13,000 \mathrm{cy}$. Power rating 25 watts. Voice coll impedance 8 ohms, Large Alnico V magnet. Maximum dia., 15-3/16 ${ }^{\text {n }}$, maximum depth $7^{\text {" }}$. Shps. Wgt. 20 lbs .

Nrt $\$ 66.00$


MODEL 600B. Supersedes original Model 600. Specially treated $12^{\text {H }}$ cone ussures smooth frequency response approximately 30-12, 000 CPS. Power rating 20 watts, volce coil 8 ohms. Depth behind panel 5t". Highest value per dollar. St.pg. Hit. 151 bs .

Net \$42.00
MODEL 400B. $8^{n}$ Dia-Cone. To be used where size is important but where guality must be maintained. $8^{\prime \prime}$ size with high efficiency rating. Power handling 12 watts, voice coil 8 ohms. Approximate frequency response $40-12,000$ CPS. Depth behind nanel $3-5 / 8^{\prime \prime}$. Shing. Agt. 6 lbs.

Net \$ 21.60
 University

WIDE ANGLE
SPEAKERS


Constructed of rustproof, completely weatherproofed aluminum. No mechanical vibration. Universal bracket supplied for mounting. For use with driver units listed below. Less driver units.
 Shpg. Kt. 301 b .20 lb .15 lb .101 b . Net $\quad \$ 38.22 \quad \$ 26.17 \quad \$ 18.23 \quad \$ 15.29$

## ACCESSORIES

2IC CONNECTOR. For connecting two driver units to any trumpet. Shpg. Wgt. 21 bs .

Net $\$ 5.88$
PMA ADAPTER. Attaches to "U" bracket of any trumpet for mounting on $1 / 2^{\prime \prime}$ pipe fitting. Shpg. Wgt. 3 lbs. Net $\$ .88$ MOLEL CTR-20. Weatherproof line matching trans former. 25 watts. Pri. Imp.: 45/ $500 / 1000 / 1500 / 2000$ ohms. Sec.: 4-8-16 ohms.

Net $\$ 8.82$
BREAKDOWN-PROOF DRIVER UNITS


M4-25


University drivers are breakdown-proof and guaranteed for one year. All ratings are conservative. Use Almico $V$ magnets. Rugged and weatherproof. Model SA-30 has built-in transformer. 16 ohm voice coil. Trensformer tapped 45/165/250/500/1000/ 2000 ohns. Model PA-30 has built-in adjustable transformer, 16 ohm voice coil. transformer tapped at $165 / 250 / 500 / 1000 /$ 200 ohms. Tliread size $1-3 / 8^{\prime \prime}-18$.

Precs Ma. 25 SA.HF SA. 30 PA. 30 Power 25 watts 25 watts 30 watts 30 watt Imp. 16 ohms 16 ohms See abovesie above Freq. 90-6000 90-10000 90-10000 80-10000 Shn. Wf. $5 \mathrm{lbs} .81 \mathrm{bs} .81 \mathrm{ks} \$ 1 bi.$. $\$ 16.17 \quad \$ 20.58 \quad \$ 26.46 \quad \$ 29.40$

PAGING AND
INTERCOM
SPEAKERS


Ali Incorporate hermetically-sealed driver units. Corrosion-proof finish. Bracket for mounting inclujed.
$\begin{array}{lccc}\text { SPECS } & \text { '日8 } & \text { mil } & \text { CR } \\ \text { Power } & 12 \text { watts } & 3 \text { watts } & 18 \text { watt }\end{array}$ Impedance 8 ohms $\quad 8$ ohms 16 ohms Frequency 300-10,090 400-9,000 250-6,000 shpg. $4 \mathrm{t} . \quad 7 \mathrm{lbs}, 51 \mathrm{bs} . \quad 11 \mathrm{lbs}$.

MONEL 2W-25. Two-way paging speaker. Covers two large areas with single driv* er unit, 25 -watt output. 16 ohm voice coil. $120^{\circ}$ dispersion each horn. Frequency response $350-6.000 \mathrm{cy}$. Bell length $20^{\prime \prime}, 8^{\prime \prime} \mathrm{D}$ mouth. Horns may be angled gway from wall. Universal mounting bracket. Shpg. b"gt. 9 lis.

Net $\$ 28.22$
MODEL COBkEFLEX-2. For paging and PA, tixed (ir mobilo, and industrial sound systems. Wide angle trumpet design, uses one driver unit (not supplied). Wide angle dispersion, $120^{\circ}$ horizontal. $60^{\circ}$ vertical. Heatherproofed. U-type mount ing bracket. Size: 184 Wxal Hx 10, "D. Less unit. Shpg, hgt, 10 1bs. Net $\$ 20.58$

tODEL COBRA-12. Hade angle dispersion projector. Continuous power hendling capacity 12 watts. 8 ohm voice coil. Dispersion: $120^{\circ}$ by $60^{\circ}$. Frequancy resuonse $250=10,000 \mathrm{cy}$. Size: $20 \mathrm{Hx} 9^{\prime \mu} \mathrm{H}$. Adjustable mounting bracket. Shpg. Wgt. 8 lbs

Net \$ 26.46

RADIAL REFLEX
PROJECTORS

Re-entrant horns with radial deflectors or uniform $360^{\circ}$ sound distribution cover large areas and override high noise levels without blasting. RLl is excellent for music, RPH for music and speech and RSH for all uses in intercom work primarily for sweech. Less driver units : PECS

| PECS | RLH | FPH | RSII |
| :---: | :---: | :---: | :---: |
| Air Column | $5^{*}$ | $4^{\text {f }}$ | $3^{\prime \prime}$ |
| Diameter | $28^{\prime \prime}$ | 251"' | $19^{\prime \prime}$ |
| Height | 185:" | 14" | 11" |
| lut-Off | 110 cy . | 140 c.s. | 180 cy |
| Slipg. Wh. | 251 bs. | $22 \mathrm{lbs}$. | 16 lbs |
| Ne't | \$ 34.69 | \$ 26.46 | \$ 23.64 |



Unsurpossed in the medium priced field. High fidelity 12 " speaker with $50-13,000$ cy. response. Cone has "edge-dip" treotment resulting in smooth response and long cone life. Will carry 25 wotss output Equipped with protective rigid dust cap which reinforces cone ossembly. $141 / 2 \mathrm{oz}$ Alnico $V$ magnet. Uses famous G.E. $11 / 4$ oluminum base voice coil, impedonce ohms. Shpg. Wgt. 61/2 lbs.
MODEL 1201A. Net..
.$\$ 19.95$


15" TRIAXIAL SPEAKER. Bolanced so carefully that no "balance" cantral is needed. Reproduces all frequencies with full-badied clarity. Respanse $30-16,000$ cycles. Impedance 8 ohms, power capacity 50 watts. 1000 cycle mechonical cras sover, 5000 cycle L/C electrical network cross. over. VHF frequencies further diffrocted by apertures in horn mouth ocoustic screen. Size: $151 / 2 \times 12^{\text {"D }}$. Shpg. Wgt. 34 lbs .
MODEL 315. Net. $\qquad$
$\qquad$
12" TRIAXIAL SPEAKER. Uses famous University Alnico 5 "W" magnet and duraluminumvoice coil in woofer section. Uses HF-206 Super Tweeter for brilliont highs. Mechanical crossover at 1000 eycles and built-in L/C electrical dividing network af 5000 cycles. 25 watts capocity. 8 ohm impedance. Response: $40-17,500$ cycles. Complete with high frequency balance contral wired to $36^{\circ "}$ extension. Size: $12 \frac{1}{2} x$ $8^{\prime \prime} \mathrm{D}$. Shpg. Wgt. 12 lbs.
MODEL 312. Nep. $\qquad$ . $\$ 56.45$


8" TRIAXIAL SPEAKER, For high fidelity installations where space is at a premium and quality is. not to be campromised. Special diaphrogm and voice cail assembly operates with University Alnico 5 "W" mognet which provides response $50-15,000$ cycles. Pawer handling capacity 25 watts. 8 ohm voice coil. Crossovers, 1000 mechanical, 5000 electrical. Size: $81 / 3 \times 61 / 40$. Shpg. Wgt. 5 lbs.
MODEL 308. Net.
.$\$ 35.28$
SUPER TWEETER. Has high frequencyresponse beyond audibility. Improved, diecasp aluminum wide angle harn based on "reciprocating flares" principle, Response, $3500-17,500$ cycles. Impedance 8 ohms. Dispersion, $120^{\circ}$ horizontal, $50^{\circ}$ vertical. May be used in systems operating from 25-50 wott program source depending on crossover frequency used. Model N-2B network ideal. Requires $2 \frac{1}{2} \times 4^{7} / 3^{n}$ opening. Size: $6 \times 6 \% \times 3 \frac{1}{4} / \mathrm{H}$. Shpg. Wgt. 3 lbs .
MODEL HF-206. Nef................... $\$ 26.46$
ADJUSTABLE HIGH PASS FILTER. Meets varying requirements quickly and easily. Ideal for experimenting and protects investment in fupure expansions or changes in system. Provides crossover of 2500 , 5000 , and 10,000 eycles of 8 ohms; 1250 . 2500 , and 5000 eycles of 16 ohms; and 5000 and 10,000 cycles of 4 ohms. Perfect with C 12 W woofer. Built-in continuously varioble HF control, screw terminals. Size: $3^{5} \times 3^{1 / 4} \times 3^{\prime \prime}$. Single hole, ${ }^{23} / 60^{\prime \prime}$ mounting. Shipg. Wgt. 3 lbs.
MODEL N.1. Nef............................. $\$ 7.35$


WEATHERPROOF COAXIAL HIGH FI. DELITY SPEAKER SYSTEM. Frequency respanse 70-15,000 eycles, 2000 cycle builp-in erassaver. Pawer capacity 25 watts continuaus. Wide range music and voice, will penetrate high ambient noise levels with exceptional inrelligibility. Sound distribution $120^{\circ}$. For use indoors or outdoors, 8 ohm voice coil. Mounting, adjustable "U" bracket. Size: $22 \frac{1}{2}$ " diam., $9^{\prime \prime}$ deep. Shpg. Wgt. 23 lbs.
MODEL BLC. Nel
$\$ 44.10$


8" LOW FREQUENCY REPRODUCER. Ideal for assembling compact, limited space high quality speaker systems. Use with University 4401 Tweeter and Madel N-1 high poss filier or N. 2 B L/C Network. Con also be used with additional C8W speakers as multi-speaker woofer. Low frequency response to 50 cycles, suitable for crossover to 5000 cycles. Power capocity 25 watis. Impedance 8 ohms. Size: $8 \frac{1}{4} \times 4^{2 / 4}{ }^{\text {n }}$. Shpg. Wgł. 4 lbs .
MODEL C8W. Net.
..$\$ 13.23$
12" ADJUSTABLE RESPONSE WOOFER. Has builpoin facilities for limiting high end response to 700, 2000, or 5000 cycles. Suits crossaver requirements of any tweeter and provides additional means of setting best system tonal balance by listening to effect of changing crossover. Overall response $40-6000$ eycles. Power handling copocity 30 wotts. Impedance 8 ohms. When used with any pweeter and only a series fweeter capacitor combination forms L/C crossaver network. Model N. 1 adjustable high pass filier ideal. Connections made ta binding posts. Size: $12 \% \times 6 / /^{\prime \prime}[$. Shpg. Wgt. 8 Jbs .
MODEL C12W. Net.
.$\$ 32.34$

## HIGH FREQUENCY

TWEETER SPEAKERS

sill extend range of any good speaker. Two models available. síngle and double. Easy to mount in cabinet. Will reproduce frequenci -s betueen 2.000 and 15.000 CPS . SINGLE DOUSLE specs $4401 \quad 4402$ Response -K-15K cy. 2K-15K cy.
For Woofer Impedance Power Shpg. "gt. $\quad 6$ watts 12 watts
$\mathrm{Not}+\mathrm{t}$ \$ 14.70 \$ 23.52

and 12


6201


8200

DIFFUSICONE 8. Excellent high fidelity speaker, $8^{\prime \prime}$ size. Similar to Model 12 Diffusicone. Features wide angle dispersion, undform field pattern. Response. 70-13.000 CPS. 25 watts contInuous duty. Impedance 8 ohms. Shpg. Ogt. 8 lbs.

Net $\$ 20.38$
DIFFUSICONE 12. University $12^{\prime \prime}$ high fidelity speaker. Extended, diffused high frequency response. $2^{\prime \prime}$ volice coll on dural form. 24 oz . " $W^{n}$ shaped Alnico $V$ magnet. Uniform frequency response, 4513,000 CPS. Power capacity 30 watts. Impedance 8 ohms. All parts fully protected against corrosion. Stze: $12-1 / 8^{n}$ dta. $4-1 / 4^{\prime \prime}$ deep. Shpg. Wgt. 9 lbs. Net $\$ 26.46$ MODEL 6201. A deluxe coaxial high itdelity speaker for the finest installation. Built-In 2000 cycle crossover notwork and integral variable high frequency control. "Cobra" shaped tweeter horn for wlde range reproduction of high frequencles. 24 oz . "W" shaped Alntco V magnet. Frequency response 45-15,000 CPS. Continuous power output 25 watts. $2^{\prime \prime} 8$ ohm voice coll. Slze: $12-1 / 8^{\prime \prime}$ dia.. $8-1 / 4^{n}$ deep. Weatherproot. Shpg. Wgt. io ibs.

Net \$ 44.10
MONEL 6200. Top quallty, moderately priced high fidelity speaker. Wide range response 45 to well beyond $10,000 \mathrm{CPS}$. Handling power 30 watts. Heavy " $\mathbb{W}^{\text {m }}$ shaped Alnico $V$ magnet. $\mathbf{2}^{\prime \prime} 8$ ohm voice coil. An excell ent speaker for PA systems, churches, and homes. Weatherproof. Size: $12-1 / 8^{\prime \prime}$ dia. $4-1 / 4^{\prime \prime}$ deep. Shpg. "gt. 71 bs .

Net $\$ 20.58$


UNIVERSAL L/C DIVIDING NETWORKS. True inductance/capocitance type units which can be used singly as 6 DB rate of cutoff 2 -woy dividing networks, as 12 DB networks in pairs, singly as low or high pass filters, and as a 3-way nefwork when N-2A and N-2B are used together. Protectian against absolescence. Screwterminals. Size: $3^{3 / 4} \times 3^{1} / 4 \times 3^{1 "}$. Shpg. Wgt. 3 lbs.

## N-2B MATCHES:

| Impedance | Crossover Selections |
| :---: | :---: |
| 8 ohms | $1250,2500,5000$ |
| 16 ohms | 2500,5000 |
| 4 ohms | 2500,5000 |
|  | N-2A MATCHES: |
| Impedonce | Crossover Selections |
| 8 ohms | 350,700 |
| 16 ohms | 350,700 |
| 4 ohms | 700 |

MODEL N.2A. Net....................... $\$ 17.64$
MODEL N.2B. Net.......................... 11.76
THREE.WAY CROSSOVER NETWORK. L/C type dividing notwork for use with University C15W woofer, HF- 206 Super Tweeter, and 4401 Tweeter. Crossovers, 350 and 5000 cycles. Network complete with buils-in continuously variable "Presence" and "Brilliance" controls. Input impedance 8 ohms. Chassis adjustable for vertical and horizontal mounting and for up to ${ }^{\prime \prime}$ "panels. Size: $7 \times 5 \times 3^{\prime \prime}$. Shpg. Wgt. 5 lb . MODEL N.3. Nef........................ $\$ 23.52$


## NEW DYNAMIC

Jet-shaped high quality dynamic for PA systems, recording, etc. Alnico $V$ magnets and moving coils. Frequency response 100 10,000 CPS. Output level -58 DB. 20-fi. removable cable set. Coupler swings mike in $60^{\circ}$ arc. Satin ehrome finish. ${ }^{\frac{8 / n}{n}}-27$ thread.
Shpg. Wgt. 2 lbs. Shpg. Wgt. 2 lbs.
MODEL 95.D. High Impedance. Net $\$ 20.58$ MODEL 95.D. 200 Ohms................ 20.58 MODEL 95.D. 50 Ohms..................... 20.58 MODEL S95.D. Hiah imp. w/switch.. 22.64


## FAMOUS DYNAMIC

Rugged oufdoor or indoor dynamic mike unaffected by climatic changes or temperatures. For recording, announcing, or communications. Frequency response 80-9,000 CPS. Output level -52 DB . Semi- or nondirectional operation. Adjustable saddle and, case finished in gun-metal. ${ }^{5 n}-27$ thread mounting. $20-\mathrm{ft}$. coble. Shpg. 'Wgt. 5 lbs.
MODEL 99. High Impedance. Net... $\$ 24.40$ MODEL 99. 50 Ohms...................... 24.40 MODEL 99. 200 Ohms

## MULTI-IMPEDANCE DYNAMIC

Multi-Impedance Dynamic. 50, 200, 500, or high impedance ot the furn of a switch. Nat affected by humidisy or temperature. Output level-52 DB. Response 80-9,000 CPS. 20. ft. coble, $5,4-27$ thread. Saddle and case finished in gun-metol. Shpg. Wgt. 5 lbs .
MODEL U9.S. Net.

## OYNAMIC

General purpose dynamic. Streamlined case finished in sotin chrome. Response 100 9,000 CPS. Output level - 52 DB . Not offected by temperature or humidity. 20-ft. coble, ${ }^{\text {sn }} .27$ thread. $90^{\circ}$ tilifing head. Shpg.
Wot. 4 ibs.
MODEL 33.D. High Impedance. Net $\$ 18.76$ MODEL 33.D. 200 Ohm s................. 18.76 MODEL 33-D. 50 Ohms....................... 18.76 MODEL S-33-D. High imp. w/s witel. 20.23

90

MM.ve


Mobile mike. Rugged dynamic for ouidoor or indoor use. Output level - 52 DB . Response 150-7,000 CPS. 7-ft. shielded cable. slide switch. High impedance. Shpg. Wgr. 3 lbs .
MODEL 9.D. Net.......................... $\$ 19.11$
Pleasing reproduction of any string instru. ment. Hi-Z outpup, easily installed. 20-ft. cable and mounting device. Used on any high gain mike input. Shpg. Wgt. 3 lbs .
"MMYC" w/volume control. Net......\$ 11.17 "MM" less volume control. $\qquad$

## LAPEL MICROPHONE:

Moispure-sealed crystol. Alligator clip. Output - 52 DB. Response $50-8,000$ CPS. 20-ft. cable. Shipg. Wgt. 2 lbs.
MODEL L40. Net.

## CRYSTAL



The latest development in small inconspicunus crystal microphones. So small you can hide it in the palm of your hand hut will give lang efficient service. Slender, graceful, modern styling. Fre. quency response. 80-7000 CPS. Small size, $4-3 / 8 \times 1-1 / 8^{n}$. largest dimensions. Finished in beautiful satin chrome. Shy: Wgt. 1 lb .

MONEL, B0. Fits any standard mike stand. complete with 7 -foot attached cable.

Net \$ 9.38
MODEL 82-3H. Mounted on Tumer "ThirdHand". Excellent for use in window demonstrations. camivals, etc. Attached 20 foot cable included. Shpg. Wt. ${ }^{3} \mathrm{Lb}$. Net $\$ 13.38$
MODEL 83. Hand microphone. Same mike as others listed above. Perfectly balanced. can he concealed in palm. slipped in pocket. Used in parking lots, paging systems. 7-foot at tached cable.

Net \$ 9.38
MoDL 81. Smaller than Model 80, has attached Amphenol PCIM conncetor. Fur uis in retective work. dictating firchures.

Ni.t \$8.201
Monet, C-4 STAND. New Divot type stand which allows mike to pivot in $135^{\circ}$ arr. Fits Model 80 or any lightweight mik. with $5 / 8^{\prime \prime}-27$ thread. Solidiy huilt at die-cast zinc, finished in nolisher satin chrome. Meavy base prevents tipping.

Net \$ 3.38


Madel 22X
Model $33 x$
Model RX

## CHALLENGER

MODEL BX. Ideal for PA and amateur Mork. Brown enamel finish. $5.8^{\prime \prime}-27$ thread. output: - 52 DB: $\mathrm{Fi}-\mathrm{Z}$. 30 to $6,000 \mathrm{CPS}$. 7 ft cable. Shpg. Wigt. 3 lbs. Net $\$ 6.91$

## GENERAL PURPOSE

HObt 22X CRYSTAJ.. Minimum feed buck. $90^{\circ}$ tilting head. Built-in wind-gag vermit: outdoor operation. Impragnated againsi moisture. Mechanical shock-proof mountingAutomatic barometric compensater. Output level -52 DB. Response: $\pm 5$ ПB from $50-0000$ CPS Complete wth 7 ft . renovable cable. Satin chrome finish. Shen. Wot. 4.lhs.
S22x. Wi th switch Net $\$ 14.3 \pi$
16.02

## CRYSTAL

HOUET. 33K CRYSTAL YI CROPIONE. $5 / 8^{\prime \prime}-27$ thered. bii di guality. moisture protected. 2-1 lement cry:tal. Slock-proof muntins. cutput: -52 Di. Reswunse: $50-90 n 0$ CPS. Satin chrome finish. Tilting head. 20 it. cable. Shpy Mgt. \& 1 bs. Net $\$ \mathbf{1 5 . 8 5}$ S33X. Wi the switch
17.32

##  <br> 

V DYNAMIC

DYNAMIC
SLIM-TRIM TV DYNAMIC. Frequency response $40.20,000$ CPS. Output level -55 DB. Achieves most extended efficient HF response in any mike commercially availoble. Used in many loboratories os test standard. Excellent level offords high signal-to-thermal naise ratio. Pop.proof head stops blasts. Can be used in hand, or stand, or on boom. Easily concealed in studio props. Acoustalloy diaphrogm. Impedance 250 ohms, easily changed to 50 ohms. Cannon UA- 3 connecior. Hos $1 / 2^{\prime \prime}$ pipe thread. sm-27 odapter furnished. TV grey enamel finish. Size, with swivel, $11 \frac{1}{\prime \prime}$ long. $\left.\right|^{\prime \prime}$ diameter. 18 'cable. Shpg. Wgt .3 lbs .
MODEL 655. Nef........................ $\$ 117.60$
SLIMAIR DYNAMIC. Exceptionally fine for PA, recording, and general purpose use. Response 60-13,000 CPS. Output -55 DB. Acoustalloy diaphragm. Alnica $V$ magnet. Omns-directional, wide pickup range. Popproof heod. With switch. Satin chrome finish. Choice of high or low impedonce by changing one wire in connector. Tiltable head. Built-in MC- 4 connector. Has sn $_{4}-27$ thread, $18^{\prime}$ cable. Size $10 / 2^{\prime \prime}$ long including stud. $11 / 0^{\prime \prime}$ diameter. Net weight 1 lb . Shipg. Wgt. 3 lbs .
MODEL 636. Ne1......................... $\$ 41.16$

## "SPHEREX" CRYSTAL

MODEL 92n. Expertly engineered crystal mike for econamical use in canference recording. round table discussions. hone recording, amateur and PA uses. Has $360^{\circ}$ pizkup pattern, flat frequency response from 60 7.000 CPS. High output level. -50 DB. High int pedance output. may be used with any standard
 amadifier or recorder. molsture sealed crystal with Duralumin diaphragm treated to resist corrosion. Dual grille cloths minimize mind and breath noise. Finished in satin chromium, $5^{\prime} 8^{\prime \prime}-27$ stand coupling thread. Size: 2, ${ }^{\prime \prime}$ diameter. Shpg. Hgt. 1 lb.

MODEL $920-20$ with $\mathbf{3 0}$-ft cable.Net \$ 13.23

MOREL 335 BLAST FILTER. DCsigned to fit Models 63n. 635 and 605. Stops breath blasts even when the speaker is uorking extremely close in the microphone. Will alsn Celimanate wind rumble. Easy -to install. Simply slip it On the microphone case. No adjustments are necessary.

2 Strong, will withstand rough thandling. Finished in satin - chromilm. Shpg. "rst. 8 az.

## Electuvicic

Dynamic Microphones

911.611

Ge $\rightarrow$ MODEL 635 HIGH FIDELITY HIGH OUTPUT OYNAMIE HIGH FIDELITY
BROADCAST DYNAMIC

HIGH FIDELITY HIGH OUTPUT DYNAMIC. Briflient performance, modest cost mike. Response $60-13,000$ CPS. Qutpu: level-55 DB. Compact, lightweight, not affected by heat and humidity. Acoustalloy diaphragm. Tiltable head. Built-in MC. 3 coble cannector. Satin chrome finish. On. Off switch. 18' cable. Specify 50 ohms 250 ohms, or high impedance. Size: $2 \times 61 / \mathbf{n}^{n}$. Shpg. Wgt. 2 lbs.
MODEL 630. Net
\$ 27.64
BROADCAST DYNAMIC. Meets exacting requirements of TV and broadcast service. Compaet, rugged, versatile; used in studios and on remotes, on a stand or in the hand, indoors or out. Omni-directional, it affords uniform high quality while meeting demand of most rigorous operating conditions. Uniform response from 60-13,000 CPS. Output level -55 DB. 50-250 ohms impedance selector. A coustolloy diaphragm. Heod sils through $90^{\circ}$ ore. ${ }^{3 n}-27$ thread. Builtoin Cannon XL-3 connector. Sosin chrome finish. $18^{\prime \prime}$ cable. Size: $2 \times 61^{\circ}$. Shpg. Wgt. 3 lbs.
MODEL 635. Net.
.544 .10

## Mobil Mikes



800 D


208


210
MODEL 6G0f DYayic. Lightweight, handheld extra-rugged unit for moblie operation. Mitnstands extreme climatic conditions. Smooth response provides higher atticulation and more usable power level Gutput -55 DB. Press-to-talk switeh controls relav. Black-phenolic case. Size. 2 k $\times 2 \times 4$ ". Mounting bracket. 6-ft. cable. Choice of kigh or low impedance. Specify type desirod. Shpg. Wgt. $21 \mathrm{bs}$.

Net \$22.64
MODEL $600 \cdot[\mathrm{ll}$ With switch lack. Net $\$ 23.52$
modrl $2 G R$ Carbon mike. High output single button "ype with high intelligibility. Idea! for mobile communication. Comfortably hand-iseld, ta be operated $1 / 4^{\text {" }}$ from lips. Blast proof. water proof. shack resistant. Freguency response. $100-4000$ CPS. Output:-50 DB. Press-to-talk switch actuates rilay and button simultaneously. Complete wath 5-ft. 3-conductor cable. Size: 24×11, $\times 1-1 / 8$. Shpg. Wgt. 2 lbs.

Nint $\$ 9.70$
MOIFE 210 CARDON MOBIL-MIKE. Rugged black Phenolic case. Response: $100-400 \mathrm{C}$ CPS. Output: $=10$ D3. Sinile button. Press-ta. talk simitch. 5 ft. cable, Dash mount clip. Gives clear. crisp speech transmission in communications, public address call systems and reourdangs. Shpg. Wet. 2 lbs.

Net \$ 16.76

CARDAX MODEL 950. Hith level cardiold crys t al mike $\operatorname{l}$ th DUAL PREQUENCY RESFONSE. Selector switch gives wide range high fidelity sound pickup or rising character. 1 stic for extre erispness of speech. Output: -57 DB, for high fidelity and - 48 DB for rising response. Overcomes background noise and feedback. Pully enclosed, mois-ture-protected Metel Seal Crystal. Tiltable head. 8/8" 27 thread. Builit-in cable connector. "On-off" switch. Size: $2 \% \times 2-7 / 8 \times 6 \%$ "㐘 ineluding stud. With $18-1 t$. cable. Shpg. Wet. 5y lbs. Net \$ 24.99
mODRL 311-8 "macuny" arsTAl For paging, public address. recording and amateur communications. Excellent response 50-8000 CPS for voice and music. Output: -50 DB, Filly enclosed, misture-proofed Metal Seal crystal. Tiltable head. "On-off" switch. Bullt-in cable cannectar. $5 / 8^{n}$. 27 thread. Satin chrame Jinish. High impedance. Shpg. Egt. 41 bs . Complete with 8 ft. cable.

Net $\$ 14.98$
MERCURY DYNAMIC. Fine performing mike for general sound pickup. Response $50-8,000$ CPS. Output -55 DB. Non-direc tional. Acoustalloy diophragm. Tiltable head. On-Off switch. Built-in MC-3 connector. ${ }^{5 n}-27$ thread. Satin chrome finish. Specify if 50 ohms, 150 ohms, 250 ohms, or high impedance is mented. $8^{\prime}$ coble. Shpg. Wgt. 3 lbs .
MODEL 611.8. Net..................... $\$ 20.87$
MODEL. V-2A. Velocity mike with smonth, peak-free high ildelity respanse, $40-10,000$ CPS. Output -54 DB, Zero plckup at top. bottom and sides. Bi-directional. For individual or group work in PA, broadcasting or recarding. Acoustalloy diaphragm. Internal shock absorber. Locking cradle. On-off switch. 18-foot cable. $5 / 8^{n}-27$ thread. Size: $3 k \times 2 \% \times 8^{n}$. High imperdance. Net $\$ 38.22$


MODHL 915 "CENTURY" CRYSTAL. Very popular low cost crystar tike. Gives remarkable perfomance in all types of applications. Can be used in any position - in the hand. on a table or stand, or overhead. Smooth response 60-7500 CPS. Output: -50 DB. Moisture-sealed crystal. High impedance. Pressure cast metal case. $5 / 8^{\circ}-27$ threaded stand adapter. $T^{\prime}$ ift. shi el ded cable. Shpg. Wgt. 2 bs. Net $\$ 6.62$
MODEL 415 RECLINING DESK STAND. Mounts Century at $15^{\circ} \mathrm{t} \| \mathrm{t}$. Grey brawn finish. Size: $25 / 8^{\prime \prime} \times 23 / 4^{\circ} \times 1$ ". Sipg. 百gt. 1 lb.

Net $\$ 1.00$
MODEL 805 CONTACT MIKE For vibrating musical instruments. Increases sound volume in richest tonal effects. Response: 40-8000 CPS. Hi-Z. Inertia type crystal.


## AUDIO-HIVFI SHURE - ASTATIC MICROPHONES



MODEL 777. All parpose erystal micro phone. Universal "mounting. may be handheld, mounted on floor or table stand, hung a round neck (optional). Response. 60-10,000 CPS. Can be used by lecturers. instructors, announcers, hams, or anywhere smail, efficlent olke is needel. When mounted on cradle or swivel. can be Instantly removed without tools. (Cradle included). Long life, special sealed erystal element. High impedance out put. Finished in rich satin chrome. $\quad$-it cord. Length $4_{2}{ }^{n}$, diameter $\mathrm{I}^{\prime \prime}$. Shpg. Wt. I Lb.

Net \$ 12.35
MODEL 777 S . Same as above with switch
Net $\$ 13.52$
NODEL S3B STAND. Heavy die-cast base for Model 777 mike. Includes metal scraw ma chine stur for connecting mike adaptar to stand buse.
$\mathrm{Net} \$ 1.9$
RODEL AOS SWIVEL ADAPTFR. Long-1 ife lif! muality swivel connector. Lined with nydon sleeve for scratch-free insertion and rentoval of mike. Net $\$ 3.23$

(For Broadeast) (For General Purpose) New Multi-1mpedance "Small Unidynes" are perfect performers for broadcasting. high quality public address systems. recording. etc. Multi-lmpedance switch on rear of unit quickly chainged to impedance of your choice, l.ou 35-50 ohms, Medium 150-250 ohms, and High Impedance. Model 556 S recommended for studio broadcast, television, etc. Model 55S for any fixed station use such as fire, police. etc. These uni-directional moving coil dynamic microphones are highly resistint to mechanical shock and abnomal atmus:pheric conditions. They reduce reverberation and reflection, decrease random noise energy pickup and al low performer to be up to $75 \%$ farther anay from make than is possible with non-directional microphones. Models 55S and 55fS are diead at rear. Smooth response, $40-150 \mathrm{nO}$ cycles. Fitted with $5 / 8^{\prime \prime}-27$ thread, 11 ts all standard stands. Size: 3-5/16H. 2-3/16 . . 3-1/16D. Satin chrome finish.

MODEL 556 s . Complete with 20 fe. cable. plug. Cannon connector, and live rubber shock isolation unit. Shig. Mit. 4!, 1bs.

Model 55s. Complete with 20 ft. cable and flug. Shpg. Mgt. 3 桨 1 bs . Net $\$ 44.98$

# SHIVI 



## CONTROLLED RELUCTANCE MICROPHONES

THE "GREEN BULLET"

HONEL 520 SHLRE CONTROLLED RELUCTANCE Hicrophone. A magnetic unit, especially desimed to provide quality music \& speech reproduction at moderate cost. The "Green Bullet" is practically immine to the effects of high teaperatures $\&$ humidity. Stabillty assured by unique control of the reluctance of the magnetic system. Mociern metallic green finish wi th plated grilif. Frequency response: $100-700 n \mathrm{CPS}$. Firnisil ed with 7 -ft.single-conductor, shielded cable. Outnut level:-52.5 103. Slipg. Met. 3 lb ,

Net $\$ 11.47$


MODEL 520 SL CONTROLLED RELUCTANCE DISPatcher. ldeally suited for use in dispatching work of all types. Not affecteri by varying conditions of humidity and temperature. A conilact and complete unit combining the 520 "Green Bullet Contm led Reluctance microphone. the ABSA "Grid-To-Talk, Slide-To-Lock" Heavy Duts Suitch and the S36A Desk Stand. Lolls life. Minimum finger fatigite. A $f 1 \mathrm{~mm}$ dommard pressure on the grip-bar locks the sxitch for continuous operatidn. microphone and switch preassembled with 7 -ft. cable. Nirg. Mt. fle lhs.Net $\$ 22$.fit


707A CRYSTAL
MICROPHONE

Good quality rerfurmance at fow cost. Has good response characteristics, is free from peaks. Typical semi-directional plekup. Uses moisture-proof Bimorph crystal. Ideal for low cost P.A systems call systems, amateur phone-transmitters and similar applications. Pearl Grey casith rich satin chrome finish on front grille. Case is heavy die-cast. High impedance. Output -51 D8. $2-3 / 8^{\prime \prime} \mathrm{D}$. standard $5 / 8^{n}-27$ thread. Complete with 7 ft. cable. Shpgo Wgt. $2 / \mathrm{lbs}$. No. 707A

SHURE CABLE TYPE TRANSFORMER


MODEL A86A MIKE CABLE TRANSFORMER. Hith quality transformer for use with good dynamir micraphones. Solves problem of long cuble 1 en: ths. Matches $35-250$ nhm mikes to hid impedance amplifipr infut. Sizt: $15 / 8 x^{2} 7, \delta^{\prime \prime} .2 \mathrm{ft}$ cable. Shp, Wt. 2 lbs

Nur $\$ 10.29$


MODRL A838 "ON-OFF" SWTCH
Plug-in connettion riminates soldering. Quichls installecl. Satin chrome finish.

Net $\$ 5.00$

## ASTATIC


$0 \cdot 104$


JT-30

T. 3

## CRYSTAL MODEL D. 104

MODEL D-104 CRYSTAL MICROPHONE. Close talk ing mike. Output:-48 DR. Reduced RF feedback. Shock-proof mounted, Responsf 30-750n CPS. Grifht chrome finish includes interchangeable plug, connector $5-\mathrm{ft}$. cable. Shpg. ligt. $3^{\circ}$ lbs. Net $\$ 14.47$

## CERAMIC MODEL D-104-C

MoDFL D-104-C Ceramic Element. Same as the 10 - 104 above excent for ceramic el ement which is immune to temperature $\&$ humidity changes. Same performance except for slightly lower output of approximately -58 UB . Shpz. Wigt. 3 1ps. Net $\$ 14.47$ No. 301 replacement crystal cartridge for D-104 microphone.

## JT-SERIES CRYSTAL \& CERAMIC

ased widyy for amatcur, public address : home recording. Avall able in to th wide and voice ranze models. Furnished with concentric cable connec tor. convent ont womil centric cable connec br. conveni ent woim hodel has $10-\mathrm{ft}$. cable. Ceramic model has $5-\mathrm{ft}$. cable. Whod handle may be removed ed rike used on a floor stand. Crystal modnl output level - 52 DB . Ceramic models outhut ahout -fiz DB. Grey with bright chroms rill.

T-3) Crystal, Substantially flat \$9.97 1T-4n "Rising ciluracteristics 9.97 fT-3n-c Ceramic, Substanfially flat 9. Sid

## CRYSTAL MODEL T-3

HONEL T-3 CRYSThL MICFOPHONE. Head may br il ted with ease on 3 wivel mounting and ickup pattem made semi or mon-diroctional. as Jesired. output level -52 Dis. Frequancy respanse uni form from 3 - -10 , non CPS. Interchangeable plug \& socket connector. All chrome finish. Shpg. Ugt. 3 lbs.

T-3 Micrombone with 15 ft .cable Net $\mathbf{\$ 1 6 . 0 8}$

## CERAMIC MODEL T-3-C

MODEL T-3C C RRAMI MICROPHONE. Duplicate of Model T-3 excont for employment of he at ond molsture-immurie coramic clement. nutput level - 62 th with 5 (t. cable. Sllpg. Wgt. 3 lhs. Net $\$ 15.02$ No. 151 roplacement rruatal cartridan for JT-3n and T-3 micrur hrines. Net \$4.12


MOUE1, L-I IAPEL TIPE MICROPIONE DUaldiaphr.asm crystal microplinne was develop ed to meet esperally difficult pickup conditions. Includes lapel-type apritig clip x over-shoulder eord to permit wath latitude of movement. Output level -fig DB. Unl form frequency response from 30 1n. $\operatorname{nnn}$ CPS. Slatuary bronze finssh. 25 ft. cable. Shpor. Wit. 21 bs . Net $\$ 16.08$

READY FOR A NEW RECEIVER?-We'll Trade In Your Old One!


CS- 1
MS-25
MODPL BS-36 PROPFSSIONAL BOOM STAND, New floot stand with boom for studio use. Moving parts are "Velvet-Smooth" in action. Boom extension and counter-weight adjustable for microphone weight. 800 m easily removed if desired to use as regular floor stand. Boon length 72". adjustable vertical extension from 48-72". Base diameter at floor contact points. 17". All tubular sections superchromed. "Snap-On" hangers for mike cable on boom. Shpg. Wgt. 33 lbs.

Net 35.28
MODIL MS-25 STAND. "Full-Grip Velvet Action" heavy base floor stand for 8 tudio or cther applications. No sudden dropping. slipping. or jamming. 筬ear-pronf clutch mechanism. Self-leveling, shockabsorbing base pads. Base diameter $17{ }^{*}$. Height adjustment 37-66". Full chrose plated tubes. base inished in chrone and grey wrinkle. Weight 24 lbs. Shps.


MODEL CS- 1 COLLAPSIBLE STAND. For portble PA installations etc. 3 -point sus. pension base. Tube adjustable $23-62^{\prime \prime}$. $5 / 8^{\prime \prime}-27$ thread. Tubing full chrome plat ed. Base cadmium plated. Beight 5 lba. Shpg. Wgt. 7 lbs.

Net \$ 9.41
MODEL TS-6 BANQUET STAND. Adjustable frof $147_{2}{ }^{\prime \prime}$ to $26^{\prime \prime}$. Base diameter $8^{\prime \prime}$. Chrome tube and base. Shpg. Vigt. 7 lbs. Net 5.29

## "FULL GRIP - VELVET ACTION"

"Full-Grip" clutch mechanism. Will not drop. slip or jam. Heavy bases prevent tipping. Tubing height adjustment 35-6.5. Shock absorbing base pads. Base diametur $10^{\text {n }}$. Heavily chrome plated tubing. Terminate in $5 / 8^{\text {" }}-27$ thread. Net weight 12 1 bs . Shpg. Wgt. 15 lbs.

MODL MS-12C Grey Wrinkle Base Net $\$ 6.17$ MODEL MS-11C Full Chrome Base
7. 54


MODEL SO-1 "SNAP-ON" ATTACHEENT. A quick and safe means of attaching any micraphone to any floor stand. Eliminates need of screwing microphone on. 2 scctions snap on. ball bearing spring sleeve permits mike to be attached or removed instantly. one section attachps to microphone. other is permanently attached to stand. All parts are of brass, heavily chrome plated. Net \$ 1.6


MODAL BC- 1 BRACKET CLAMP. Can be clamped or permanently screwed on or bolted in position. Chrome tube is $6^{\prime \prime}$ long, threaded $5 / 8^{n-27}$. May be used with boom arm. gooseneck, etc. Casting finished in grey urinkle.

Net $\$ 2.06$
"BABY BOOM" ATTACHMENT


HODEL BE-1 "BABY B00M" ARM. Simply attached, makes any floor stand a boom. Universal swivel counterweight. Boom 1 ength $32^{\text {T }}$. Shpg. Figt. 5 lbs. Net $\$ 4.41$

## FIExBLE GOOSE MECK

## 0)

MODEL, $\mathbf{G N}-13$. Can be attached to any mike stand or fixture. Ends have $5 / 8^{n}-27$ male and female threads. $13^{\prime \prime}$ long. Pinish. polished chrome. Shpg. Wgt. 1 lb.

Net \& 1.62


## FLEXIBLE

Microphone Stands


HEXO MIKESTDR GONERAL MOOEL 䍰 - Permits both hands free. Finished in royal grey. Handles anj standara mike up to 4 lbs . in weight. Complete. less microphone. Shpg. get. 5 lbs.

Net $\$ 7.80$
FLEXO MIKESTER FLOOR MOOEL H3 - Same 25 above except on $4 n^{*}$ floor stand. Complete. 1 ess microphone. Shpg. Wgt. 23 lbs.

Net $\$ 15.90$

## EASTERN

MICROPKONE


ACCESSORIES


## SHOCK ABSORBER

NO. 405. Hike $5 / 8^{n}-27$. Stand $5 / 8^{n}-27$. Net $\$ 1.47$

## ADAPTORS

No. 107. Nele $1 / 2^{\prime \prime}$ pipe. Female $5 / 8^{n}-27$ thread. Net 3.59 NO. 112. Male $5 / 8^{\prime \prime}-27$ thread. Fenale $1 / 2^{n}$ pipe.

Net \$ . 88

## SWIVEL

NO. 117. Wale $5 / 8^{n}-27$ thread. Female $5 / 8^{n}-27$.

Net \$2. 21

DUPLEX MICROPHONE MOUNT


MODEL TB-1 DUPLEX MOUNT. Quickly attached to any stand. Permits the use of two mikes on a single stand. Removable desk attachment holds notes or other refer ence. Metal parts finished in chrome and chromitu. Desk is of molded composition. Desk size 9x11". Shpg. Wgt. 2\% 1 bs .

$$
\text { Net } 5.88
$$

model TS-7 banquet stand. For banquet or desk use. Companion unit of Model TB-1. Heavy base is $10^{*}$ in diameter. All parts are chrome plated. Adjustable tube. Easy to keep clean. Shpg. Wgt. ll 1 bs .

Net 5.88
"VELVET ACTION" DESK STANDS


Desk stands for all uses. Teminate in $5 / 8^{n}-27$ thread. $6^{\prime \prime}$. base finished int gunmetal grey shrivel. tubular sections are finished in chrome. Base pads prevent damage to desk or table.
$\begin{array}{lcll}\text { MODEL MEIGHTADJUST. WEIGHT } & \text { NET } \\ \text { DS-5 } & 4^{\text {midided }} & 2 \mathrm{lbs} . & 1.76\end{array}$ 05-7 $\quad 8^{\prime \prime}$ to $13^{\prime \prime} \quad 3$ lbs. 2.94

MICROPHONE STAND ASTATIC

MODFI, "G" STAND. Grip-totalk mike stand for use with Astatic Models D-104 and $\mathrm{T}-3$. Built-in switch operates with light pressure. Complete with socket connector. 8-ft. 2 wire cable. Chrome and grey wrinkle finish. Shpg Wgt. 6 1bs. Net \$ $\mathbf{1 0 . 8 8}$


## SHIDR <br> MODERN

 DESK STANDMODRL S-36A. Streaml ined desk mount with stable support. Fits Shure connectortype aicrophone, concealing plug in base Adapter provided for other type microphones. Removable button for installation of $3 / 8^{\text {" }}$ switch or volume control. pearl grey finish. Base $2_{2}^{\prime 2} \mathrm{H}_{0} 5^{\prime \prime} \mathrm{w} .7^{\prime \prime} \mathrm{L}$. Shpg. Wgt. 1\% lbs. Net 3.53

## TAKE-APART STAND

MODEL S-348. Low cost stand for desk or hand use. One twist of handle locks tube securely in base for use as table stand or releases handle for use in hand Metal base, wood handle. Tube has $5 / 8^{\prime \prime}-27$ thread. Fits most microphones. Height overall $6{ }^{\prime \prime}$ ". base diameter $45^{n}$. Shpg. Wgt. i 1b.

# AUDIO-HILFI TALK - A - PHONE INTERCOM SYSTEMS 

## WIRELESS

LS-5; LS-10 SUPER
LM-5; LM-10 MASTER


Na wiring, cobles, or installation required. Simply plug both units of system in and talk. Quality wireless intercom for use in homes, stores, factories, farms. Operates on $110-120$ volts $A C$ or DC. May be easily moved to any convenient electrical outlet and it is ready to work for you. More stotions may be added at any time, all stotions will receive messages tronsmitted by ony station. Excellent for use as baby sitter. Sufficient volume and sensitivity to receive and handle ony application. "Sonic-Gate Circuit" and exclusive "Squelch" effectively suppress line naises and hum while system is in octuol operation as well as when in standby position. Beautifully styled in sturdy, impact walnut bakelite cabinets. Size: $81 / 4 \times 61 / 4 \times 7 / 2^{\prime \prime}$. System con sists of two units reody to operote. Com plete with instructions and tubes. Shpg $\mathrm{Wg}+18 \mathrm{lbs}$.
MODEL LC 33. Net $\qquad$ . $\$ 69.95$
MODEL LC.17. Additional Stotions.
Net Each.................................... 35.00

## 6 Station Wireless

 System

MULTI-STATION WIRELESS INTERCOM. Up to 6 Master stotions con be used in seporate locations simply by plugging into AC or DC outlet, no installation problems Requires no wiring or cables. Simply push button of desired station and talk. In sys tem of 6 Masters, up to 3 separate private conversations moy be held. Ideal for use where cables and wiring are impractical or not wonted. Any Moster con transmit on any of 6 chonnels, ond receive on channel it elects to use. Conferences may be set up easily. You con begin with 2 Masters and add odditional Masters at ony time. Whare same Wireless locations need not originate calls but must reply, the Wireless Sioff Stotion may be used. They can be called and reply on only ane channel. No wiring or cobles are required on Staffs. Simply plug into convenient $A C$ or $D C$ out let. Masters ond Stoffs operate on 110.120 volts $A C$ or DC. Master size: $12 \times 9 \times 7$ H H . Shpg. Wgt. Moster 13 lbs . Stoff size: $81 / 2 x$ $61 / 4 \times 7 / 2^{\prime \prime}$. Shpg. Wgt. Staff 7 lbs .
MODEL LCM- 8806 MASTER. Net... $\$ 64.00$ MODEL LCS STAFF (Specify channel). Net............................................. $\$ 35.00$

Consists of all Master units. Extreme flexibility of intercommunication whereby any station in system can call any other and carry on a 2 -way conversation. As many as five private 2 -way conversations can be held at the same pime with ten LS-10 Masters. Two private 2 -way conversations can be accommodated of the same time with the LS-5 system. All Master stations are private. Stations cannat listen in on each other, nor can a third unit listen in on o conversation of twa others. Voriable volume, odiustable ot each unit. Stations can be located up to 2000 feet apart. 6 -conduc. tor coble providing for o totol of five units is used with the LS- 5 system and is run from the first unit to the secand only, from the second to the third only, etc., until the last unit in system is reoched. Similarly, on 11 -canductor coble, providing for o total of ten units, is used for inter-connecting the LS-10 system. It is not necessory to run cable between the first and last units in system. Cobinets measure $81 / 4 \times 61 / 4 \times 7 / 2^{n}$. Operates on $110-115$ volts AC-DC. Shpg. Wgt. 8 lbs.
MODEL LS.5. Super selective unit for five stotions, complete with tubes ond eosy-iofollow instructions. Wolnut finish.
Each Station, Net........................ $\$ 28.45$ MODEL LS.10. Super selective unit for ten stations, complete with tubes and easy-tofollaw instructions. Walnut finish.
Each Station, Net......................... $\$ 34.00$
NO. 5506. 6-conductar cable. For interconnecting LS. 5 units as outlined obove. Net Per Foot................................. \$ . 075
NO. 9911. 11-conductor cable. For interconnecting LS-10 units as autlined above. Net Per Foot.................................... \$ . 14

SELECTIVE SYSTEMS


Consists of one Master unit which can be connected with one or more (up to 10) SubStations. The Master station can talk "privately" to any one of the Sub-Stations ar to allat one time. Sub-Stations can be connected "privately" or "non-privately". Has Talk-A-Phone "Silent Feature". Sub-Station whether connected "privately" or "nonprivately" can originate calls to Master station. Sub-Stations can be at consideroble distances from Moster unit. Once a conversation hos been initiated, with a "non-privata" system, persons at SubStation locotions need operate no controls ond can reply from o distance. Sub-Stations do not consume electric current and con be installed mast anywhere. Cobinets measure $81 / 4 \times 6^{1 / 4} \times 7^{1 / 21}$. Shpg. Wgt. Master 8 lbs; SubStation 5 lbs. Master stotion, operates on $110-115$ volis AC-DC.
MODEL LM-5. Master selective stotion for five Sub-Stations, complete with tubes ond easy-to-follaw instructions. Walnut finish. Each Station, Net........................ \$ 26.45 MODEL-LM-10. Master selective stotion for ten Sub-Stations, complete with tubes and easy-to-follow instructions. Wolnut finish.
Each Stotion, Net. $\qquad$ .$\$ 34.00$ MODEL LR 3. Sub-Station unit for LM-5 or LM-10 Master Station. Walnut finish.
Each Station, Net. $\qquad$
NO. 5303. 3 -conductor cable. For use between each LR-3 Sub-Station and the LM-5 or LM-10 Master units. Net Per Foot. $\$ .03$

## OPTIONAL EQUIPMENT

Eorphone for privacy is available on oll Talk-A.Phone models; LS-5, LM-5, LS-10, ond LM-10. ADD to cost - Net....... $\$ 12.00$

## DETERMINING CABLE LENGTHS FOR LS. 5 AND LS. 10 SYSTEMS

To determine cable requirements, for inter connection of Master stations, meosure fram first Master to second Master only. from second Master to third Master only,
ete., until the last unit in the Stotion is reached and total. To connect LR-2 SubStotions, measure from eoch Sub-Station ta neorest Moster only.
stewart warner


Power Megabhore

For the athletic coach, construction foreman, yard boss, and for handling emergeneies. Power Megaphone providesquick, clear projection of voice up to $1 / 4$ mile. Squeeze trigger ond unit operates instantly, no warm-up. Completely partoble and self-contained, no wires or plugain. Weighs less than $5 \frac{1}{2}$ lbs., neek strap makes it convenient to carry. Operates on six ardinary flashlight batteries for as long as three weeks of normal intermittent use for eight hours a day. Horn diameter 81/:". Your vaice speoks with authority with the Power Niegophone.
MODEL G548500 (Standard Madel)
Net........................................ 58.75

## TALK-A-PHONE INTERCOM SYSTEMS AUDIO-HIFI

## "CHIEF" SYSTEMS



CHIEF Moster Siotion
You con tolk to one person in strict privocy or to two, ten, or even more persons of one time! Moster moy tolk with ony other Moster in the system os well os with ell Stoff stotions. Staff stotion moy onswer Master stotions ond originote colls to one, two, or six Master stations, depending on its copocity. Staff stations converse with Master stotions only. Persons of "nonprivate" Staff station may onswer from distonces up to 50 feet without leoving work. Conferences moy be arranged between groups of units. Fowerful rugged amplifier with plenty of power for oll occosions. Availoble with Cradle Phone or Earphone ap additional cost. Stondard finish walnut. All Moster stotions have junction box oftached with $6 \cdot \mathrm{ff}$. coble, complete with pubes and easy-to-follow instructions. Size: $12 \mathrm{~W} \times 90 \times 7$ "H. Masters operate on 110.120 volss $A C$ or DC. Staff stotions do not require source of current. For odditional in. formation, see "Redi.Power" Master units. C.4906. 6-station Master. Shpg. Wgt. 13 lbs. Nef....................................... $\$ 52.50$ C.4912. 12-station Master. Shpg. Wgt. 14 lbs. Nef....................................... 56.25 C.4920. 20-station Master. Shpg. Wgt. 17 lbs. Nef....................................... $\$ 73.50$ C-4930. 30 -station Master. Shpg. Wgt. 20 lbs. Net...................................... $\$ 84.50$ C. 4940 . 40 -station Moster. Shpg. Wgt. 22 Ibs. Net....................................... $\$ 95.50$ C. 4950 . 50 -stotion Master. Shpg. Wgt. 28 lbs. Nef..................................... 107.00

## STAFF STATIONS

FOR CHIEF" SYSTEMS

C. 46 start statlon

C-41 Stall Station
C.41. Staff stations for origination of colls to one Master. $8 \mathrm{~W} \times 7 / 2 \mathrm{D} \times 6 / 1{ }^{\mathrm{N}} \mathrm{H}$. Shpg. Wgi. 5 lbs. Net. $\qquad$ .$\$ 12.95$ C.42. Stoff stotions for origination of colls to two Mosters. $8 \mathrm{~W} \times 7 / 2 \mathrm{D} \times 6 / \mathrm{m}^{\mathrm{n}} \mathrm{H}$. Shpg. Wgt. 5 lbs. Net.................................... $\$ 17.00$ C.46. Push button Stoft stotions for origination of calls to six Masters. $12 \mathrm{~W} \times 9 \mathrm{O} \times 7^{\prime \prime} \mathrm{H}$. Shpg. Wgt. 9 lbs. Net..................... $\$ 38.00$

## CABLE FOR "CHIEF" SYSTEMS

NO. 6212. 6-pair cable for interconnecting C.4906. Net Per Foot...................... $\$$. 14 NO. 6224. 12 -pair cable for inter connecting $\mathrm{C} .4912, \mathrm{C} .4920, \mathrm{C} .5920$, and C .4930 . Net Per Foot...................................... 28 NO. 6204.2-pa ir cable for connecting C.41, C.42, C. 46 Staff units. Net Per Foot $\$ .06$


Moster unit with Cradle Phone Where greoter volume is needed, RediPower Mosters may be included in ony "Chief" system. One or more Redi-Power Mosters con be combined with regulor "Chief" Moster ond Stoff stotions in some system. They ore used to coll o number of stotions simultaneously with sufficient volume, in oddition to their ordinory communications purposes. Avoiloble in both 10 watt and 20 woit sizes. They ore used to callvery noisy locotions singly and hove oll the operotional feotures of o regulor "Chief"Master, plus the odditional feotures of built-in extro power when needed. Self. compensoting amount of valume whether you coll two, ten, or twenty stotions simul. taneously, each one of the stations reo ceives ifs predetermined volume. There is no division of output as you call more stotions at one ifme. Operotes on $110-120$ volts $A C$ or $D C$.
C.RP. 5912 . Redi-Power Universal Moster for 12-stotion copacity. 20 wotts output. Shpg. Wgt. 18 lbs. Net.................... $\$ 94.00$ C.RP.S920. Redi-Power Universal Moster for 20 -station copacity. 20 watts output. Shpg. Wgt. 22 lbs. Net.................. $\$ 105.25$

## TWO-STATION

INTER-COMMUNICATION SYSTEM


Provides voice communicotion between any two points in the home, form, professional office, store, and ather commerciol or private opplicotions. Consists of one Master unit, a Sub-Station, and fifty feet of coble, complete with tubes and instructions, ready to instoll. Additional coble can be obtained for greater distances. Optional operation. Sub-Station con be connected for "privoto" or "non-privote" use. When connected "privotely", the Master unit connot listen in on other stotion. The builtein "Silent Feapure" shuts off, of the Master unit, all sounds originating of Sub-Siotion location when the system is connected "privetely", yet permits the Sub.Station to to originate calls to Master. It con be connected "non-privately", os for use in the home to listen in on the nursery, and in installations where it is desired that the party at the Sub-Station be able to reply at a distance from the unit. Volume can be adjusted from a whisper to full output of the powerful high gain omplifier. Size: $81 / 4 \times 6=1071 / 2{ }^{2}$. Operotes on $110-115$ volis AC-DC. Walnut finish. Shpg. Wgt. 12 lbs.
MODEL LC.2. Net......................... $\$ 29.95$

## DELUXE

COMBINATION


Low cost combinotion system designed for the more flexible instollotinn where more thon one Moster stotion moy be desired whenused in conjunction with Sub-Stotions, Sub-Stations not to originate calls. Masters and Sub-Stotions con be intermixed in ony combinotion desired. Mosters may talk to eoch other ond to eoch Sub-Station in sys. tem selectively. You con hove one or more Sub-Stotions thot are Exclusive to only ane Moster. Masters have option of switching themselves to "private" so that persons of other Masters connot listen in on them; or con switch io "non-private" so they con answer at a distance from Moster without operotion of any confrols. Each Moster hos o volume confrol. Sub-Stations con reply from a distonce without operoting any controls. You can begin with twa stations (ot least one must be a Moster) and odd other units as required. Sub-Stotions connot talk to each other, do not require a source of current. Masters operate on 110.120 volis AC or DC. Cobinets meosure $81 / 4 \times 61 / 1 \times 7 / 2^{\prime \prime}$ Walnut finish. Shpg. Wgt. Moster 7 lbs; Sub-Stotion 5 lbs.
MODEL CL.5. Combinotion Master forfive: spation use, complete with subes and full instructions. Nef.......................... $\$ 32.35$ MODEL CL.10. Combination Master for senstation use, complete with tubes, junction box, ond full instructions. Net...... $\$ \mathbf{4 3 . 5 0}$ MODEL LR.2. Sub-Stotion for use with either of obove Mosters. Net.......... $\$ 9.35$ NO. 6212.6-poir coble for interconnecting CL. 5 Mosters. Net Per Foot.............. $\$$. 14 NO. 6224.12-pair coble for interconnecting CL. 10 Mosters. Net Per Foot............ .28 NO. 6902.2 econductor cable for connecting LR-2 units to CL-5 and CL-10 Mosters. Nei Per Foot. $\qquad$ Avoiloble on CL Moster. 0 EARPHONE. Avoiloble on CL Mosters. ADD to cost................................ $\$ 12.00$

## DETERMINING CABLE REQUIREMENTS

 To interconnect Master stations, meosure from first Master to second Master only, from second Master to third Master only, etc. ond totol. For C. 4920 , use two lengths of 6224 cable and for C. 4930 use three lengths of $6224^{\circ}$ cable. To connect $\mathrm{C}-41$ Stoff stotion, meosure from Stoff stotion to the one Moster to which Stoff stotion originotes colls. To connect C. 42 and C. 46 Staff stotions, meosure a seporate length of coble from Stoff station to each Master stotion to which Staff station originotes calls (for eoch C. 42 or C-46, follow the same procedure.> "CHIEF" OPTIONAL EQUIPMENT

Where privocy is desired on either Master or Staff, Crodle Phone or Earphone may be ordered.
For Crodle Phone ADD to cost. Net $\$ 26.45$
For Eorphone, ADD........................ 12.00
For "Busy Signal" feoture, ADD
per station.......................... and C. 42 Staffs, ADD
7.00

For Executive Grey Finish on C. 41
or all other models shown, ADD...... 2.50

## MASCO

## MIDGETALK



Consists of one Master stotian with on－off pilot light ond one Remote stotion with 50 feet of cannecting cable．Beoutiful mohoga－ ny finish cobinets．Ideal for homes，offices， ond industrial applications．Cobinats are mode of unbreakable $z$ ine castings．Master unit has its own volume control with on－off switch and separote press－to－tolk switch． Remote moy be used for＂privote＂or＂non． private＂operation．Also has its own press． to－talk switch which ollows it to originate a call to the Master．MIDGETALK system may al so be used as o2－woy poging system． Remote station can be used for 2 －woy con－ versation without manual operation．Ample power output of 2.5 wotts．Excellent sen－ sitivity．Natural vaice reproduction．The speokers used are 3＂Alnico V magnet type．Master operates on 117 volts AC or DC．No power needed for Remote stotion． Size： $5 \times 4^{1 / 1 \times 5} \times 1 / 2 \mathrm{H}$ ．U／L opproved．Complete as listed above with full instructions． Shipg．Wgr． $7 / \frac{1}{2} \mathrm{lbs}$ ．
MODEL MIDGE TALK．Nef．．．．．．．．．．．．$\$ 28.19$


FIVESTATION MULTIPLIER．Permits Maseo Midgealk ond Small Talk infercom systems to expand service in simple and economical manner．Up to four additional remotes may be odded．Master can call any one or any group up to five remotes．Five switches on ponel．Remotes can be made private or non－private．Present Master mounts on top of Multiplier．Easy to install． Comple te with 6 ．ft．cable．Size： $6 \frac{1}{4} \times 5^{\prime} \times \times 2^{\prime \prime}$ ． Shpg．Wgr． 2 lbs ．
MODEL MM．5．Net．．．．．．．．．．．．．．．．．．．．．．．．． 7.19
MODEL MTR．Extro remote station for the Midgotolk．Shpg．Wgr． 3 Ibs．Net．．．．．．\＄ 9.41 MODEL ST－1．Extra remote station for the Smoll Talk．Shpg．Wgt． 2 lbs ．Net．．．．$\$ 6.54$

## WHEELER

No batteries or other power source required for these units which will operate up to 25 mileswith No． 16 eable twisted or 15 miles with No．19．As many as twelve phones can be ineorporated in system for graup conversation．They are explosion proof and ore no fire or spark hazard．Excellent addition to kit of TV serviceman crews for orienting antennos，extensively used by power linemen，construction erews，emer－ gency squads of fire，police，utility work－ ers，etc．Carefully compressed molded ex－ terior with strain relief on cords．Magnets of Alnico material．Speech fidelity excel－ lent．Complete with insulated colored clips on end of $5 . \mathrm{ft}$ ．cord．Shpg．Wgt． $1 / 2 \mathrm{Ibs}$ ．
MODEL SPT．102．Nef．．．．．．．．．．．．．．．．．．．．．$\$ 9.62$

＂SMALL TALK＂

## 2－STATION INTERCOM



A sensitive and powerful two－stotion infer－ com system which will save time and steps in any home or business．Very easy to in－ stall．System consists＇of one Moster sto－ tion and one Remote station， 50 feet of interconnecting coble．If desired，one addi－ tionol Remote station may be added to the system by connecting Remotes in parallel． Master has volume control with on／off switch，separate＂press－to－talk＂．switch， and pilot light．Remotes have＂press．to－ talk＂switeh to originate calls to Moster． Remotes can be made＂private＂．or＂non－ private＂．All units use $4^{\prime \prime}$ ．Alnico V speok－ ers． $1 \frac{1}{2}$ watts output．Remotes con answer calls from a distance without operating a switch．Remotes con be left＂open＂．for boby－sitting or dictation，or＂closed＂for privocy but still able to receive colls from Master．Size： $61 / 2 \times 4^{5} / 6^{3} /{ }^{3} \mathrm{H}$ ．All－metal un． breakable cabinets finished in brown hom－ mertone．Operotes on 117 VAC or VDC． $U / L$ opproved．Shpg．Wgt． $6 \frac{1}{2} \mathrm{lbs}$ ．． MODEL ST． 2 SYSTEM．Net．．．．．．．．．．．$\$ 17.64$
MODEL ST． 1 Extro Remote Station．．．． 6.54

## Wheeler

 SOUNDPOWERED INTERCOMM SYSTEMS


## No Batteries

## TWO．PHONE SYSTEM

Consists of two wall－mounted，self－powered phones which can call ooch other．Simply remove instrument from mount，depress lever and bellrings at called station．Uses 2 －wire interconnecting cable．Safo to use onywhere，no fire or shoek hazord，no maintenance．Mode of impact－resistant plas－ tics with corrosion－proof metal ports．Crisp and clear speech．Koiled－Kords on phones． Anyone con install．Complete system，less cable．Shpg．Wgt． 7 lbs．
MODEL SPS．205．Nef．
..$\$ 43.89$
NO．8205． 2 －conductor cable．
Net Por Foot

## Centralab

## PRINTED CIRCUITS

Printed Circuits offer the advantage of compactness．Low price and reliability． Components are bonded to a ceramic plate and coated with moisture－proof phenolic for permanence．Connections are brought out to external leads．

## 000 ＂A MPEC＂ 000

## 3 Stage Amplifier


＂AMPEC＂is a complete miniature 3－stane speech amplifier．One corpact unit，all the components of an audio amplifier． tube sockets，capacitors，resistors and wiring are permanently bonded to a mast－ ef plate，size $1-9 / 32 \mathrm{~W} ., 1-5 / 32 \mathrm{H}$ ． $5 / 16^{\prime \prime}$ thick．Some suggested uses are hearing aids．mike pre－amplifier，signal tracer．sub－miniature radio sets，etc． Contains $2.005 .2 .001,1.04 \mathrm{mfd}$ ． capacitors； 22.2 meg． 21.0 meg 1700 K ， 14.7 meg ，and 11500 ohm resistors， Capacitors are rated at 150 VDC working， 300 vDC flesh．Resistors rated at $1 / 5$ watt．Volume control not furnished． Sugzested type is CPL 316－224．Uses Ras－ theon sub－miniature tube numbers， 2 CK－ $512 A X, 1$ CK－ $525 A X$ ．Operates on＂B＂bat－ teries from 15 to $67!⿳ ⺈ ⿴ 囗 十 丌$ ．＂A＂ $1!\mathrm{V}$ ．Com－ plete instructions are included，

No．PC－200＂AMPre＂，less tubes，batter－ ies and volume control．Net $\$ 8.82$ No．B16－224 Vol．Cont．W／switch． 2.35 No．PC－201＂AMPLCN＂．same as PC－s00 but complete with tubes，liss batter－
ies and volume control．Net \＄14．70


OUTPUT STAGE
FOR AC－DC RADIO RECEIVERS


Cot．No，PC－1 so AUDEI


$R_{1}=6.8$ mixrohms．$R==470,000$ ohms．
$R_{3}=470,000$ ohmis．
＂auder＂is a printed circuit output stage audio detector plate with 7 leads， and furnishes the components guite sen－ erally used in AC－DC sets．Contains 1 6.8 meg． 2470 K resistors， $1.002,1$ .005 and 3 ． 00022 mfd capacitors．Size： $1-5 / 16 \times 7 / 8 \times 1 / 8^{\prime \prime}$ thick．
＂Albet＂no．PC－ 150
Net \＄． 59


## WHIP ANTENNAS

MODEL 100-96S. Stoinless steel whip for mobile use. Tapered, one-piece consfruction. $96^{n}$ long. $\frac{1}{2}$ n -24 thread stud.
Net.. $\qquad$ . $\$ 5.14$
If your order is less than $\$ 10.00$, add $\$ .40$ erofing charge to Madel $100-965$.
MODEL 9-96T. Tapered mobile whip, $96{ }^{\prime \prime}$ long. Silocon-Chrome, codmium plated. $3 /{ }^{\prime \prime}$ " 24 thread stud. Net.

## ALL-BAND ANTENNA

AB/N SERIES. Center loaded oll-band an tennas with high efficiency and flexibility. Simply change coils,for the different bonds; short out coil for 10 meters. Overall length 106". Complete with one cail.

| Model |  | Net |
| :--- | :--- | ---: |
| AB/W15 | 15 Meters | $\$ 11.27$ |
| AB/W20 | 20 | 11.27 |
| AB/W40 | 40 | 11.27 |
| AB/N75 | 75 | 11.27 |
| AB/W160 | 160 |  |
| AB |  |  |

## COILS FOR ALL.BAND ANTENNAS

| M.15 | 15 Meters | $\$ 3.87$ |
| :--- | :--- | :--- |
| $M .20$ | 20 | 3.87 |
| $M-40$ | 40 | 3.87 |
| $M .75$ | 75 | 3.87 |
| $M .160$ | 160 | 7.79 |

## MASTER ROOF.TOP ANTENNA

For palice, fire, toxi; homs, etc. Operotes in 140-165 MC band. Requires $7 / 0^{\text {" }}$ hole for installation. Stoinless steel whip. Complete with $10^{\prime}$ coaxial cable.
MODEL 113. Net
. $\$ 3.88$

## MASTER COAXIAL VHF ANTENNA

Efficient antenna for open type vehicles such as convertible's, station wagons, fire trucks, etc. For $140-165 \mathrm{MC}$ band. Fits Master Mobile mounts. 18" adjustable section. Complete with 10'. 72 ohm cooxiol cable.
MODEL 114. Nef
. $\$ 9.75$
EXTRA WHIP for Models 113 and 114 anontennas.
MODEL 117. Net
.5 .95

## CENTER LOADED ANTENNA SECTIONS

UPPER SECTION, 60" stainless steel whip which mounts into top of coil. For use with Models 666, 333, and HY-Q series.
MODEL 100-605. Net. $\qquad$ . 4.85
LOWER SECTION. 36" long. Mounts on bottom of center loaded coil. Fits Master Mobile mounts.
MODEL 88. Net.............................. 4.85

## MASTER MOBILE MOUNTS

132 SERIES BOOY MOUNTS. All made of finest meteriols. Double tapered spring with swivel base. $3 /{ }^{n}-24$ thread stud maunting far antenna. Moisture-proof rubber gosket.

| Model |  | Nel |
| :---: | :---: | :---: |
| 132 | Standard madel. | \$ 8.57 |
| 132 C | With coaxial connector. | 8.57 |
| 132 X | Heavy duty. | 9.65 |
| $132 \times \mathrm{C}$ | Heavy duty, coox type. | 9.65 |
| 132XX | Extra heavy duty. | 10.63 |
| 13255 | Stainless steel. | 12.69 |
| $13255 C$ | Stainless steel, coax ty | 12.69 |
| $132 \times 55$ | Heavy duty, stoinless steel. | 14.65 |
| 132XSSC | Heovy duty, stainless steal, coaxial fype. | 14.65 |

MODEL 118 COAXIAL CONVERSION KIT. Converts 132 mounts to hove coaxial connector in base. Net. . $\$ .98$

140 SERIES BUMPER MOUNTS. Doubletapered spring. $\frac{1 / 2}{6} \cdot 24$ threod stud mounting for onfenna. Strong brocket.

| Model |  | Nol |
| :--- | :--- | ---: |
| 140 | Standard model. | $\$ 6.81$ |
| $140 x$ | Heovy duty. | 7.79 |
| $1405 S$ | Stainless steel. | 9.46 |
| $140 \times 5 S$ | Heovy duty, stoinless | 10.73 |
|  | steel. |  |

MASTER MOBILE JUNIOR MOUNTS
MODEL 132J BODY MOUNT. Similor to the Model 132 but has slightly smaller spring. Net.
el............................................... $\$ 4.09$
MODEL I32JC BODY MOUNT. Same os the 132J but has coox conne ctor. Net.... $\$ 5.07$ MODEL 140J BUMPER MOUNT. Similor to Model 140 but hos slightly smaller spring. Net............................................5 4.09 MODEL 118 J COAXIAL CONVERSION KIT. Converts 132 J to hove cooxiol connector. Net.

## MASTER MOBILE <br> CENTER LOADED ANTENNAS WITH HY "Q" COILS

Center loaded mobile antennas using the Master Mobile HY "Q" ontenno coils. High efficiency and low loss. Coils for different bonds ore interchangeable. Short out coils far 10 -meter aperotion. Require little or no tuning. Air-spaced coil windings ore protective cooted with Glyptol. Weather-sealed ond extremely lightweight.


## ANTENNAS WITH ONE COIL

| HY-Q AB15 | 15-meter coil | Net $\$ 13.67$ |
| :--- | :--- | :--- |
| HY-Q AB20 | 20-meter coil | 13.67 |
| HY-Q A840 | 40-meter coil | 13.67 |
| HY-Q AB75 | 75 -meter coil | 13.67 |
| HY-Q AB160 | 160-meter coil | 19.55 |
| HY "Q" COILS ONLY |  |  |


| HY-QC75 | 15 meters | Net $\$ 6.81$ |
| :--- | ---: | ---: |
| HY-Q C20 | 20 meters | 6.81 |
| HY-QC40 | 40 meters | 6.81 |
| HY-Q C75 | 75 meters | 6.81 |
| HY-QC160 | 160 meters | 12.69 |

## ALL-BANDER

Variable mobile antenna coil
Continuously variable from 10 meters thru 75 meters with one coil. Will work with $60^{\prime \prime}$ whip. For center or base loading, is nonlinear to maintain HY.Q over full frequency range. Tunes with slider contact adjuster af bottom of coll. Positive slider makes per fect contoct with coil. Lock knob on adjuster provents detuning. Lightweight and weotherproof. Size: $2 \frac{3}{6} \times 13 \frac{1}{4}$ ". Shpg. Wgt. 2 lbs . MODEL 666. Net........... $\$ 14.65$

MODEL 333. HY." Q" MIGHTY MIDGET. Same as Model 666 but tunes from 10 meters thru 40 meters. Size: $21 / \times 61_{4}{ }^{n}$. Shpg. Wgt. 11/3 lbs. Net.................................... $\$ 9.75$

"DROOPING" TYPE GROUND PLANE
For 2-meter operation. Has four "drooping radials and matches 52 ohm coaxial cable. Attachable to side of building. Sturdy construction: spectal alloys used to wi thstand corrosion and weather. Ceramic insuiator, U-bolts and mounting brackets furnished. Shpg. Mgt. 1 lb .
MODEL GP-4 Net $\$ 5.83$

## "MASTERPLANE"

The MASTERPLANE is a "drooping" tyDe ground plane plus four strafght radials to give a low angle of radiation for an almost perfect circle radiation pattern. nutperforms any type of vertical dipole. Matches 52 or 72 ohm coax through threaded fitting at bottom end. Can be used with medium or low povered transmitters from 140-162 Mc. Ideal for amateur 2 meters, CD and defense nets. Has aluminum alloy rods and sleeve and ceramic top insulator. Sleeve measures $36^{\prime \prime}$ from ceramic insulator to base. Easy to install: may be tod or side mounted. Sapg wgt. 2 / 1 lbs.
MODFL 300
Net \$12.69


## MORROW TOP HAT

A copacity hat which increases efficiency of mobile whip antennas. Lower number of furns required on loading coil. Increases effective RF current from top of antenna to ground. Six spikes $9^{\text {n }}$. long serew into hub. Mounts about $10^{n}$ above loading coil. Tempered aluminum. Lightweight. Low wind resistance. Shpg. Wgt. 1 lb .
MODEL TH. Net...


## TELREX

"BEAMED POWER" ARRAYS
No "cut and try" necessary with these precision-built, pre-tuned rotary beoms. Each orray features the special Telrex "Perfect Match" cooxial Bolun and T tronsformer. Calibrated for optimum gain ond balanced uni-lobe pattern. Low SWR, minimum TVI. Designed for RG-8/U but other feed lines may be used. Balun and junction block for feed line fully assembled. Center section of each element mea. sures $1 \frac{1}{2 n}$ " by 12 ft ; telescoping ends $1 /{ }^{1} /$ "; oll dural construction, lightweight and rugged. Mounts on 2" O.D. mounting mast (not supplied). Complete with full instructions for erection, stacking, ond rototing.

## 2 ELEMENT 20 METER BEAM. Tuned ond

 calibrated, 50 ohm impedance. Power gain 5.6 D8. Beam width $50^{\circ}$. Front-to-back ratio 20 DB. $3^{\prime \prime}$ by $6^{\prime \prime} 4^{\prime \prime}$ boom. Weighs 29 lbs.MODEL 502. Net.
f........................ $\$ 97.00$

3 ELEMENT 20 METER BEAM. Tuned and calibrated, 50 ohm impedance. Power goin 8.9 DB. Beam width $30^{\circ}$. Front-to-back ratio 26 DB. 3" by $16^{\prime} 3^{\prime \prime}$ boom. Weighs 49 lbs.
MODEL 503. Net...................... $\$ 120.00$


PRETUNED"MINI.BEAM"
A precision made, compact, lightweight 2. e lement rotary beam for the 20 -meter band. Designed for installotions where space is restricted, the reflector meosures only 19 feet ond the driven element 20 feet. Boom is $2 \times 82^{\prime \prime}$ with $21 / 2^{\prime \prime}$ center reinforcing section and has single $1 \% "$ mounting hole. All dural construction. Compactness is a. chieved through use of $\mathrm{Hi}_{\mathrm{i}}-\mathrm{Q}$ compensating inductors on both the reflector and driven element. Perfect match to 50 ohm cooxial coble is obtained by means of a balance to unbalonce transformer link in the driven element compensating inductor. The "MiniBeom" has a goin of 4.6 DB , ofront. 10 back ratio of 15 DB ar better and a SWR of $1.1: 1$ to 50 ohm line. Eosy to as semble. Weighs only 12 lbs . Con be rotated with o TV antenno rotator. MODEL 520. Net.
. $\$ 55.50$


Will improve the simal strength to your TV receiver. Get clear and noise.free reception from your TV set.
No. 6161 52/300 or $300 / 52 \mathrm{ohm}$ Net \$ 1.65 NO. 6162 \%2/300 or $300 / 72$ ohrol


## MOSLEY ORIGINAL

"VEST POCKET" BEAMS
High gain, compact 20 -meter beams using the special Vest Pocket Beam matched loading coils. Ideal for locations where space is a prablem. Longest element only $21^{\prime}$. Sturdy construction and lightweight; may be rotated with TV rotator. Uses 52 ohm feed line. Elements are hard aluminum alloy tubing with $.058^{\prime \prime}$ wall thickness; center sections are $1 /{ }^{\prime \prime}$ OD, outer sections are $3 /{ }^{3}$ OD. Booms are $615 T$ aluminum qubing, $1 \frac{1}{2} /^{\prime \prime}$ OD, $125^{\prime \prime}$ wall thickness. Each beam complete with coils, pre-cut elements and supparts, insulators, boom and mounting plate, hardware, and easy assembly instructions. Less mast and feed line.
MODEL VPA-20-2. 2-element VP beom. Complete with $6^{\circ}$ boom. Shpg. Wgt. 30 lbs . Ne中........................................... $\$ 55.95$
MODEL VPA-203. 3-element VP beam. Camplete with $12^{\prime}$ boom. Shpg. Wgt. 40 lbs. Net........................................... $\$ 79.95$

## (18) <br> $\alpha=[$ Finn <br> 

## MOSLEY LOADING COILS

 FOR VEST POCKET BEAMMatched sets of factory-made loading coils specifically designed for use in construction of the high gain, compoct Vest Pocket 20 -meter beom described in Moy 1954 QST Magazine. Many 10 -meter beams can be converted to 20 meters by using these coils. Coils are made to fit elements of $1 /{ }^{1 / 2}$ OD aluminum tubing having $.058^{\prime \prime}$ wall thickness. For 52 ohm coax feed line. Sturdy construction and weather-protected. MODEL VP-20-2. Marched coils for 2element 20 -meter VP beams. Shpg. Wgt. 4 lbs. Net..................................... $\$ 16.95$ MODEL VP-20.3. Matched coits for 3element 20 -mater VP beam. Shpg. Wgt. 6 Ibs. Net...................................... $\$ 24.95$

## WEBSTER BAND.SPANNER MOBILE ANTENNA

Allords mobile operation on six bands, 75-40-20-15-11-10 meter bands. No external taps or projections, no plug-in coils. Band change is simple, lop whip is merely raised or lowered to precalibrated setting corresponding to band desired. Factory colibrated mid-bond morkings. F lexible, stoinless steel top whip pushes completely in for storoge or low door clearance. Self cleancontacts in loading inductor. The total weight is less thon two pounds. Overall height with whip fully extended, 9' 9", Niounting stud $1 / 2$ " long, threaded $3 / 24$ SAE. Shpg. V'gt. 4 lbs.
BAND.SPANNER. Nef.... $\$ 29.50$


## ELINCOR

## ALL.ALUMINUM BEAMS

MODEL 400EA. 3-el enent 10 -meter beam with folded dipale driven element. Uses . 1 wave. leagth spacing for the director and . 15 wave 1 ength spacing for the reflector. Complete with an aluminum ladder. hardware and instructions. Gives a much broader response than the regular single dipale beans and allaws bean to be fed directly with 50 ohm coaxial cable. Less cable. Shpg. Wst. 20 lbs.

MODEL 4COEA
Net \$ 37. 51


## five element

 FOLDED DI.POLE EEAMMODEL 200EA for 2 meters. Precut for the middle of the 144 to 148 MC band. Boom is $1^{\prime \prime}$ al uminum tubing Elements are $3 / 8^{n}$ tubing. Fed with RG8u. Complete with hardware and instructions. Less cable. shpg. Wst. 3 lbs. Net $\$ 9.06$
"HY-LITE" BEAMS


## . 3 ELEMENT 10 METER BEAM

model. PD-3Elu. Quick, easy, one man assembly. Element length and spacing fully. adjustable, 11 and . 15 spacing. Dural tubing and ridged al uninum castings'will withstand high winds and gales. Elements are $3 / 4^{\prime \prime}$ and $5 / 8^{\prime \prime}$ di ameter, boom is $1^{\prime \prime}$. "Tn match adjustable for 52 to 300 ohme. Light enough to be operated by most any .TV rotator. completely grounded. Full instructions for length of elements and spacing at different frequencies given. Wi th mast and ' $T$ ' natch. Shp. Wt. 14 Lb. PD-3E10. 3 Element 10 M . Bean Net $\$ 24.95$

## 15 AND 20 METERS



2 and 3 element 15 and 20 meter beams that are easily assembled and installed. All-al uminum construction. " $T$ ". match and $6^{\prime}$ mast included. All elements are $7 / 8^{n}$ and $1^{n}$ diameter, booms, $1^{n}$ diameter. 2 element 20 M . beams use, 1 spacing. 3 element 20 i . beams use .075 and .1 spacing. Both 2 and 3 element 15 M . beams use. 1 and . 15 spacing.
2E20T. 2 Element 20 M . Beam. Shp. Wgt. 22 Lbs. Net $\$ \mathbf{4 7 . 9 5}$ 3K20T. 3 Element 20 m . Beam. Shp. wgt. 28 Lbs. Net $\$ 64.95$ 2E15T. 2 Element 15 M . Beam. Shd. Wgt. 22 Lbs. Net $\$ 45.50$ 3E15T. 3 Element 15 M . Beam. Shp. Wgt. 23 lbs.

Net $\$ \mathbf{5 9 . 0 0}$

## 10 AND 20 METERS STACKED

3 -element 10 and 3 -element 20 meter stacked arrays with two "T" matches. 10 meter elements $3 / 4^{\prime \prime}$ and $5 / 8^{\prime \prime}$ : 20 meter $7 / 8^{\prime \prime}$ and $1^{n}$. Both are close spaced. Shpg. Wgt. apdrox. 50 lbs.
MODEL 6E10-20T
Net $\% \mathbf{9 8 . 9 5}$

WALTER ASHE
RADIO $\mathbf{C O}$.
PHONE CHESTNUT 1-1125
1125. PINE ST., ST. LOUIS 1, M0.


UHF RESONATOR

## 10,15 , AND 20 METER

## WIDE.SPACED BEAYS

High gain, wide-spaced beams with Celta motch;ready for assembly. Booms and elements are made of strong duraluminum tub. ing. All holes ore drilled and element clamp assemblies are properly maunted. Built so that beams need be supported at center of grovity only. Reduction of sizes of elements is made by use of machined aluminum bushings that are drilled and tapped in position. Less mounting clamp which is available separately.
20-METER 3-ELEMENT BEAM. Boom is $23^{\prime}$ long, $21 / 2^{\prime \prime}$ diameter heavy-walled duraluminum in two sections joined by hardwood dowel. Eoch element consisis of 1/2", $1^{1 "}$, and $\mathbf{3}^{\prime \prime}$ tubing. With Delta mareh, hard' wore, and instructions. Less mounting clomp. Shpg. Wgt. 50 lbs .
MODEL RCP-20.3. Net. $\qquad$ \$ 137.50
15-METER 3-ELEMENT BEAM. Boom is $151 / 2^{\prime}$ long, $2^{n}$ diameter heavy-walled duraluminum. Each element consists of $1 \mathrm{~m}, \frac{13 / 1}{}$, and $1 / 2 \mathrm{~m}$ fubing. With Delta match, hardware', and instructions. Less mounting clamp. Shipg. Wgt. 25 lbs.
MODEL RCP-15-3. Net. $\qquad$ .592 .50 10 METER 3-ELEMENT BEAM. Boom is $12^{\prime}$ long, $2^{\prime \prime}$ diameter heavy-walled duraluminum. Each element cansists of $3 / 4^{n}$ and $1 / 2^{2}$ tubing. With Delta match, hardware, and instructions. Less mounting clamp. Shpg. Wg . 15 lbs .

## MODEL RCP-10-3. Net................ $\$ 38.50$

'10-ME TER 5-ELEMENT BEAM. Boom con* sists of $212^{\prime \prime}$ diameter tubing with a $2^{\prime \prime}$ diamater extension at each end. Each element mode of $3 / 4^{n}$ and $1 / 2^{n}$ tubing. With Delta match, hardware, and instructions. Less mounting clamp. Shpg. Wgt. 30 lbs .
MODEL RCP-10-5. Net... $\qquad$ .. $\$ 77.00$
AEAM CLAMP ASSEMBLY. Electro-plated steel plate and heavy aluminum straps mount boom of beam securely to mast.
MODEL 108. For 15 and 20 meter beams and 5 -element 10 -meter beam. Net.. $\$ 11.00$ MODEL 109. For mounting 3 -element 10 meter beam. Net........................... $\$ 9.00$
 Furnished with five elements of $3 / 8^{\prime \prime}$ aluminum. 9-ft. long. Aluminum base measures $5^{\prime \prime}$ square and has two clamps to secure each horizontal element. Threaded pine flange on bottom of base to fit standard $\chi^{\prime \prime}$ pipe. Coax connector inside of flange to run 52 ohm coax through center of pipe. With simple instructions and curves for obtaining correct element lengths from 28-45 NC.

Net \$ 19.95


RADIO SPECIALTIES

## "SHORTBEAM"

 3.ELEMENT PRE.TUNED 20-METER BEAMShortened high gain beam. Elements only 16' long. Ideal for limited area installation. Front-ta-back ratio 20 DB or better. Weighs only 20 lbs . Turns with good TV rotator. Directar spacing .1 wavelength; reflector .15. Elements center-loadad with weatherproofed coils. Beam pre-funed for 20 -meter phone band; instructions for adjusting for CW band. Motches 52 ohm cooxial line. Will hancle full KW. Telescoping elements, $16^{1}$ boom, sturdy element supports, and $18^{\prime \prime}$ mast stub all made of 61 ST aluminum. Complete with coils, hardware, assembly and funing instructions. Shpg. Wgt. 30 lbs . "SHORTBEAM". Nef.................... $\$ 59.95$

## MALLARD <br> mobile antenna base loading coils



Base loading coils for amateur mobile installotions combine all the ruggediness and stalility of base loarkd type coils With extremely Hi-Q and consequent high efficiency. Built to withstand mobile operation abuse. Weatherproof housing of $1 / 4^{\text {w }}$ plexiglass: removable threaded plastic nylon end caps. All metal parts are nichel-plated brass. Basily adjusted. Coils have $3 / 8-24$ threads to fit all standard mounts and whips.
TIPE HI-q 75 COIL. Has two pie-wound colls fur greatest efficiency. Powdered iron core slug. Hi-Q throughout induct ance range. Heavily insulated copper wire treated to resist moisture and fungus rrowth. Net \$ $\mathbf{7 . 9 5}$

THPE HI Q 40 COIL. Same as 75 meter cail except will load through the 40 -meter band.

Net \$ 7.95
TIPE HI-A 20 COIL (illustrated). Heavily plated $1 / 8^{\prime \prime}$ solid copper wire. Heavy flexible copper strap permits exact inductanc adjustment. Net $\$ 8.95$

TYPE HI-Q 15 COIL. Same as 20 meter coil except will load through the $15-m e t e r$ except will load through the 15-meter
band. Net $\$ 8.95$

ADAPEERS FOR PREMAX ANTENNAS Mallerd adapters which enable owners of Premax antennas to use Mnllard bese L,oard Coils. jet of 2 . Net $\$ .50$

## $\mathbf{G}_{\text {ordon }}$

ROTARY BEAM ANTENNA


An invaluable aid to a ham or eagincer interested in figuring rotary bear cal. culatioas. Tells instantly correct spacing. length of elements for any rotary beam. ShpE. Wgt. 802

Net \$ . 98


## NEW GONSET 20 METER

## "BANTAM BEAM"

## ELEMENTS ONLY $161 / 2$ FEET LONG

Extremely compact 2 element 20 meter beam. Weighs only 27 pounds; may be rotated by any gaod TV rotator. Elements measure only $16 \frac{1}{2}$ feat long; boam is 10 feet. Excellent front-to-back ratio and forward gain. Low standing wove ratio. High " $Q$ " inductors. Design of olements requires less coil turns. Ceramic coil and element supports. For 52 ohm cooxial feed line. Will handle a full KW. Adjustable for optimum performance on either phone or CW sections of the band. No additional tuning is necessary in either case; mercly attach the optional element extensions (furnished) if CWoperation is desired. With stub mast, less feed line. Shipg. Wgt. 35 lbs.
MODEL "BANTAM 20". Net.......... $\$ 59.50$

## PREMAX

## Vertical Antenna

A six-section telescoping vertical antenna which is adjustable to a maximum length of $33^{\circ} 9^{\prime \prime}$. Ideal for a 20 meter half wave vertical antenna or for a quarter wave vertical element of a 40 meter ground plane. Meosures only $6^{\prime \prime} 5^{\prime \prime}$ when completely col. lapsed. Made of high-tensile, copper-nickel steel fubing, heov. ily cadmium-plated and highly resistont to corrosion. Positive, simple-to-operate locking device provides secure and efficient electrical contact between sec. tions. Weighs only 20 lbs . and is easily portable. Will withstand ordinary stresses without guying when properly mounted, but guying is advisable against abnormal winds or extreme strains. Bottom section measures 1.50" O.D. and 1.40" I.D. Less base insu. lator. Shpg. Wgt. 25 lbs.
MODEL 136 -M. Nef........ $\$ 17.64$

## PREMAX BASE INSULATOR

Rigid post type heavy dury base insulator for Model $136 \cdot \mathrm{M}$ antenna. Has compression rating up to 10,000 lbs. Metal support is made of rugged galvanized iron. Base of antenna bolts securely to top post which has $1_{1 / 3}^{\prime \prime}$ diameter.
MODEL IPG-44. Net. $\qquad$ \$ 17.64

## CROEN mollea beazing guy ring

Allows antenna masts to be rotated without loosening or resetting guy wires. Roller bearing assures easy turning in any weather, Hay be used with up to 6 guy wires. Cast aluminum construction. Guy wires. Cast aluminum construction. ware. Shps. Wist. 24 Lb .
mollel. Ch-1 gis Rims


## HIGH GAIN

## UHF ANTENNA

Four bow ties stacked for highest gain in weak signal areas. Screen reflector cancels out reflected signals. Completely factory assembled, no loose parts, ready to attach to mast in secands. Complete with mounting brackets. Sturdy construc. tion withstands icing conditions and high winds. Tubular lead-in recommended. Less mast and leadain. Shpg. Wgt. 5 lbs .
MODEL 3034.C. Net
Two-bay stacking kit with interconnesting lines to mount two 3034-C units side-byside. Shpg. Wgt. 2 lbs.
MODEL 3035.C. Nef.
.$\$ 3.82$

## LOW BAND

## VHF YAGIS



5-element low band VHF yagi antennas with two-diameter dipole for 300 ohm match. Types specifically designed to operate on channels 2, 3, 4, 5, or 6. In. creased gain, high directivity. May be stacked. Less mast and lead-in. Shpg. Wgt. 7 lbs,

| Model | Channel | Net |
| :--- | :---: | ---: |
| 1325A.2 | 2 | $\$ 9.41$ |
| $1325 A-3$ | 3 | 8.82 |
| $1325 A-4$ | 4 | 7.64 |
| 1325A.5 | 5 | 7.06 |
| 1325A.6 | 6 | 7.06 |

MODEL 1327 STACKING KIT. For two-bay stacking of 1325 antenna. WHEN ORDER. ING, SPECIFY CHANNEL. Any channel. Net. 2.21

WALIER


# TRAPPER 

## CHANNEL 2-13, Plus UHF



FOR UHF PRIMARYAREAS
HIGH GAIN ONALL VHF
A new departure in antenna design. Covers VHF channels 2-13. For use in any TV area, metropolitan, suburban, or fringe. Extra high gain, freedom from interference. and ghosts. Will stand extreme weather and icing conditions. Designed for per-manence, allaluminum elements, fiberglas insulators. All 15 elements work at all frequencies in both high and low bands at all times. Will work in color TV. Easy to install. 300 ohm impedance. The Trapper will also work on all UHF shannels in primary UHF areas. Tubular lead-in recommended when UHF reception is contemplated. Less lead-in and mast. Shpg, Wgt. lbs.

MODEL 1880 "TRAPPER". Net.... $\$ 10.70$
MODEL 1882. 2-bay stacking kit....... . 88
MODEL 1884. 4-bay stacking kit.......3.09

## HIGH BAND



5 element single channel high band VHF yagi antennas with two-diameter dipole. Easy installation. Matches 300 ohm lead. May be stacked for additional gain. Less mast and lead-in. Shpg. Wgt. 4 Jbs.

| Model | Channel | Net |
| :--- | :---: | ---: |
| 1350.7 | 7 | $\$ 4.70$ |
| 1350.8 | 8 | 4.70 |
| 1350.9 | 9 | 4.70 |
| 1350.10 | 10 | 4.70 |
| 1350.11 | 11 | 4.41 |
| 1350.12 | 12 | 4.41 |
| 1350.13 | 13 | 4.41 |

MODEL 1352 STACKING KIT. For two-bay stacking of 1350 antenna. WHEN ORDER. ING, SPECIFY CHANNEL. Any channel. Net.............................................. \$ 1.06

## "TRINAMIC"

## 3-CHANNEL

 VHF YAGI

Specifically designed to cover channeis 4, 5, 6, twin driven "Trinamic" offers high gain and sharp selectivity. Fully factory assembled, only necessary to swing elements into position and lock them inta place. Ideally adapted to use with rotar. Complete with connecting bars and "U" bolts far mast. Less lead and mast. Shipg. Wgt. 10 lbs .
MODEL 1420-C "TRINAMIC" . Ne† \$ 11.61
10-ELEMENT
LOW BAND
VHF YAGIS
element deluxe low band VHF yagi antennas with two-diameter dipole cut specifically for each channel. High gain, single channel antennas with high front-qo-back ratio. Excellent for fringe areas. Polyethylene insulator. Easy to install. Less mast and lead-in. Shipg. Wgt. 12 lbs.

| Mode1 | Chonnel | Net |
| :--- | :---: | ---: |
| 1310 A .2 | 2 | $\$ 17.93$ |
| $1310 \mathrm{~A}-3$ | 3 | 16.91 |
| $1310 \mathrm{~A}-4$ | 4 | 15.88 |
| 1310 A .5 | 5 | 13.52 |
| 1310 A .6 | 6 | 12.64 |

10-ELEMENT
HIGH BAND
VHF YAGIS


10 -element single shannel high band VHF yagi antennas with two-diameter dipole. Sturdy one-piece crossarm for strength and easy installation. High gain and high frontto-back rotio. May be stasked for additional gain. 300 ohm impedance. Less mast and lead-in. Shpg. Wgt. 7 lbs .

| Model | Chonnel | Net |
| :--- | :---: | ---: |
| 1850.7 | 7 | $\$ 7.35$ |
| $1850-8$ | 8 | 7.35 |
| 1850.9 | 9 | 7.35 |
| 1850.10 | 10 | 7.35 |
| 1850.11 | 11 | 7.35 |
| 1850.12 | 12 | 7.35 |
| 1850.13 | 13 | 7.35 |

MODEL 1852 STACKING KIT. For two-bay stacking of 1850 antenna. WHEN ORDER. ING, SPECIFY CHANNEL. Any chonnel.
Net............................................... $\$ .73$


## "INLINE" VhF ANTENNA

For all VHF channels, 2-13. Cansists of wo braadbanded folded dipales and law band reflector. Minimizes ghosis. Sturdy luminum elements and supports. Com plete with rusiproaf $3 / 4$ " 5 -foot mast, 75 foet twin lead, mounting plate, guy clamp, and instructions. Shpg. Wgt. 6 lbs. MODEL 114.005. Net $\qquad$ .$\$ 11.47$

## MOUNTS WITH UHF ANTENNA

Same as Model 114.005 but has feed-thru most clamp which will permit mounting of UHF entenno on masp above VHF antenna. Accommodates masts $2 / 2^{\prime \prime}$ to $11 / 2^{\prime \prime}$. Less lead. in and mast. Shpg. Wgt. 5 ibs.
MODEL 114.040. Net
$\$ 7.94$

## ADAPTER KIT

For building Model $114-005$ into stocked crroy, includes single boy, connecting rads for symmerrical feed, two box brockets, pwo 5 -faot lengths of $1 / 4 / 4$ mast, guy ring, and standoff insulators. Shpg. Wgt. 6 lbs . MODEL 114.301. Net. $\qquad$ . $\$ 12.05$

## STACKED "INLINE" ANTENNAS

Two-boy stocked arroy for all VHF chon. nels, 2-13. Consists of top and botiom bay, connecting rods, two mast brackets, two $11 /{ }^{n} 5$-foot mosts, guy ring, standoff insulators, and 100 feet tronsmission line. Sup. plied in quick-up assembly form. Shpg. Wigt. 18 lbs.
MODEL 114322. Net................... $\$ 22.64$
Scme as above but less lead.
MODEL 114-302. Net
. .520 .58

## "PIGGY.BACK" VHF ANTENNA

Consists of high band folded dipole and reflector on one plane and low band foldea dipole with refiector underneath. For use on VHF channels 2.13 with single trans. mission line. Moy be oriented to receive signals from different directions. Complete with 75 feet tronsmission lead. Shpg. Wgt. 8 lbs.
MODEL 114-026. Nef $\qquad$ .$\$ 11.47$
Same as above but less lead.
MODEL 1/4.029. Net $\qquad$ .$\$ 10.00$
ANTENNA MAST EXTENSIONS

$11 / 4$ diameter, 5 ff. long. Alloy steel tub. ing. Guy ring and twa clamp type stondoff insulators included.
NO. 114.291. Net. . 1.76
$3 / 4$ diameter, 5-ft. long. Guy wire clamps incluaed.
NO. 114.300 . Nel............................. $\$ 1.76$

## UHF CORNER REFLECTOR

Designed for high goin overall UHF channels 14.33. Has good horizontal and verti. cal directivity characteristics, excellent antenno for use in areas troubled with "ghosts" and inferference. Desiroble in low sigral areas becouse it provides as. cending signal goin of 8.13 DB across UHF ehannels. Sturdily constructed to with. stand high winds and ice loading. Aluminum elements, electro-galvanized reflectors, othar steel parts cad-plated. Light in weight and easy ta assemble. Complete with two U-bolts to take mast up $1011 / 30$ A.atches 300 ohm line. Less mast and 300 ohm line. Shpg. Wg中. 8 lbs.
MODEL 114.058. Net. $\qquad$ . 7.35

## STACKING HARNESS

Provides $13.17 \frac{1}{2}$ DB gain when stacking two 114-058 Corner Reflectors. Shpg. Wgt. 8 oz.
MODEL 114.067. Nef Eoch.............. 1.15

## UHF BO.TY AND REFLECTOR

Completely precssembled uni-directional UHF aritenna designed for all chonnels $14-83$. Has signal gain of $51 / 2$ to 8 DB on alt chonnels. Reflectot minimizes "ghosis". Excellent primory and fringe area anfennc. Moy be stacked easily, each ontenno sup. plied with one stocking rod, two ontennes contain all necessary ports for stacking. Wounts on any most $1 / 4^{\prime \prime} 1011 / 2^{\prime \prime}$. Less mest and 300 chm line. Shpg. Wigt. 4 lbs.
MODEL 114-062. Net.
..$\$ 3.38$

## UHF YAGI ANTENNA

Eight models for all channels listed below. All hove maximum goin due to extra wide spacing. Will stand storms and tigh wind. Engineered to reject signals off bock and sides. Single forward labe with exceliert directional response. Completely ossem. bled. Specify channal coverage desired ofter pari number, os 114.054 (71-83).
For Chennels For Chonnels For Chonnels

| 14.17 | 31.38 | 60.70 |
| :--- | :--- | :--- |
| 18.23 | 39.48 | 71.83 |
| 2430 | 49.59 |  |

MODEL 114-054. Nei Each............ $\$ 2.94$

## YAGI STACKING HARNESS

Especially designed te provide moximum possible gain for each yogi. When used with twa identical 114-C54 yogss will provide up tc 14 DB gain over a folded dipole cut to thot frequency. Constructed of alurtinum wire. Specify yagis with which it is to be used such os 114 -066 (14.17), efc. Shpg. Wgt. 2 los.
MODEL 114-066. Net Eoch.............. S . 59


UHF RHOMBIC ANTENNA
Covers UHF chonnels 14-83. Recammended for areas troubled with raflections which are minimized by narraw horizanal directivity of antenna. Also desirable in signal intensity because of high gain. Hos elements of non-eorrosive oluminum fubing. Withstands high winds and icing. 14-271 Amphenol leod-in recommended. Less mast and lead-in. Shpg. Wgt. 4 lbs.
MODEL 114.060. Net
. 7.94

## STACKED.V UHF.VHF ANTENNA

One ontennofor all channel reception, 2-83. Angle between elements adjustable to three different angles for UHF, VHF, or UHF. VHF. Preassembled for easy installation. Rigid-mounts to mast at two points. Elements of $3 /{ }^{\prime \prime}$. non-corresive oluminum tubing. Amphenol 14.271 leod recommended. Less mast and lead-in. Shpg. Wgt. 3 lbs. MODEL 114-059. Nef
.. $\$ 5.73$

## VHF CONICAL ANTENNA

Broadband, high goin conical antenna providing coverage of oll VHF channels. Lightweight, ell aluminum, entirely preas sembled. Constructed of seamless tubing. Less mast and lead. Shpg. Wgt. 6 lbs. MODEL 114-068. Net $\qquad$
$\$ 7.35$

## COMPLETE WITH ACCESSORIES

Same as above, with masi, siondoff insula. tors, 50 feet 300 chm line, lightning arres. er, and iwin lead conneetors. Shipg. Wgt. 10'ibs.
MODEL 114.076. Nef

## TWO BAY STACKING HARNESS

Designea to stack two Model 114.068 VHF conicals. Shpg. Wgt. 8 oz .
MODEL 114-078. Ne1,
. $\$ 1.62$

## TWO BAY CONICAL ANTENNA

For VHF fringe creo use. Provides up to il DB gain. Complete with stocking hor. ness. Less mast ané leod. Shpg. Wgt. 12 los.
MODEL 114.077. Nep.
. . $\$ 15.26$

## FOUR BAY CONICAL ANTENNA

For ultre tringe long distance reception on all VHF channels. Compleie with stocking harnesses. Less mast and ieod. Shpg. Kigt. 25 libs.
MODEL 114.075. Ner....................\$ 32.31

## FM ANTENNA

All-diectior dauble.folded dipole type. For camplete FM banc, requires no rotating. Sturdy oluminum construction, withstands higin winds and severe icing. Complete with mounting plate and 75 feet of 300 ohm lead, mast. Snpg. Wgt. 10 lbs.
MODEL 114-010. Net

## TV ANTENNAS - ACCESSORIES

## FINCO

## UHF.VHF ALL CHANNEL TV ANTENNAS



Sensotional ontenno thot permits reception of oll channels. VHF ond UHF - up to 150 miles ond more on VHF. Double co-loteral TV antenno uses only ONE lead from orroy. Completely preossembled ond easy to in. stoll, weighs only 8 lbs. Hos 32 driven elements which provide remorkobly high goin, excellent directivity and superior signal-to-noise.rotio. Requires $10-\mathrm{fr}$. most. Constructed of weatherproof oluminum. Less most ond leod. Shpg. Wgt. It lbs.

MODEL 400A. Net $\qquad$


Super fringe orea ontenna with full length electronic screen reflector offording moximum goin ond efficiency in front-to-bock rotio eliminating to o greot extent troublesome reor interference signols ond ghosts. Hos 80 squore feet of high fficiency reflector surfoce. Screen designed for minimum wind resistonce. Aluminum rods ond chonnels with stoinless steel hordwore. Antenno ond screen ore preossembled os one integral unit, mode reody for instollo. tion in a few minutes. Shpg. Wgt. 17 lbs. MODEL $400.5 A$. Net.

## 00.A

Fro-Boc full reflector screen os used on Model 400-SA to convert Finco Models 400 and $400-\mathrm{A}$ to ontenno which will effective. ly minime reor interference ond ghosts.

## AMPHENOL

TELEVISION INSULATORS


Stondaff insulotors for oll TV and FM opplications. Avoiloble in wood screw, mochine screw, ond noil-in types.

FOR FLAT TWINLEAD

| Number | ength | , Type | Ne |
| :---: | :---: | :---: | :---: |
| 66.202 | 31/2" | 14 Wood Scre | \$ |
| 66.204 | $31 / 2$ | 10.32 Machine Screw |  |
| 66-209 | $71 / 2$ | 14 Wood Screw |  |
| $66-210$ | 71/2 | 10.32 Machine Screw |  |
| 66.211 | $31 / 2$ | Noil-in Typ |  |
| FOR 300 OHM TUSULAR TWIN.LEAD |  |  |  |
| 66.214 | 71/2 | 14 Wood Screw | . 0 |
| 66.215 | 31/2 | 14 Wood Screw | 0 |
| 66.216 | 71/2 | 10.32 Machine Screw | . |
| 66.217 | $31 / 2$ | 10-32 Mochine Serew |  |
| 66.218 | 31/2 | Noil-in Type |  |
| FOR COAXIAL CABLES |  |  |  |
| 66.201 | $3^{1 / 2}$ | 14 Wood Serew | 04 |
| 66.203 | $31 / 2$ | 10.32 Mochine Sc | . 0 |
| 66-208 | $71 / 2$ | 14 Wood Screw | . |
| 66.219 | 71/2 | 10.32 Machine Serew | . 0 |
| 66-212 | 31/2 | Noil-in Type |  |
| Polystyrene flat twin-leod insulotors for 300 ohm line. |  |  |  |

## 質 SUPEREX

Radio Ameanas

FERRI-LOOPSTICR. Standard ferri Loopstich replaces old-fashioned 100p. and beosts performance amazingly. 2t times more sensitive than old-fashioned loops. omi-directional. equally sensitive in all positions. Pulls in hard-to-get stations that cannot be heard with loops Unaffected by adjacent metallic or ine ductive elements. Size: 7/16x2-1/4".
TYPE FL
Net : 44
Vari-loopstick. The latest development in the Loopstick. Micrometer adjustment and one hole snap-in mount. Adjustment for maximum efficiency on several stations consecutively. Average effective "Q" is 250, 2' times that of ordinary loops. Omni-directional. Higher signal-to-noise ratio. Unaffected by adjacent metallic or inductive elements. Size: 7/16x2-1/4".
TYPE VL
Net \$ . 59

## 8)

SUPEREX

## ENERGIZED FERRI-LOOPSTICK

Even brond new rodios, still equipped with oldfoshioned loop ontennos, con benefit from this "hot" loopstick. Adds $20 \%$ goin to even the powerful Ferri-Loopstick. $\hat{Q}$ up to 350, will outperform ony coil with o core three times its length. One-hole snopin mount; self-locking vinyl odjustment collor.
TYPE EFL. Nef.

## m. CARITENNA

Miodern replocement for oldfoshioned honk of wire and antenna coil. Boosts sensitiv. ity ond goin up to 25 times. Pulls in hord. to-get stotions.
TYPE VT. Net.
. $\$ .73$


## HAMILTON

TELEMIX
MonFL TV.704. Designed to operate 2 to 4 TV sets from one high gain aerial. Low insertion loss and greatly minitnizes interreaction between sets, Matches 300 ohm aerial and TV sets. Easy to install. Size: $4 \times 4 \times 1^{\prime \prime}$. Operates on UHF. Net $\$ 5.00$ MONEL TV-706. A low loss impedance type TV antenna mixer that will connect un ta six TV sets to one antenna. Maintains sine match and minimizes inter-set interference. Ideal for small apartment buildings. Easy to install either indoor or outroor. Operates on UHF. Net $\$ 6.32$

##  <br> OPEN WIRE LINE



TMPE "OI." OPEN LINE. Efficient TV leadins for UIF or VHF, Extremely low loss. minimum attenuation when wet or in inclement weather. Only $1 / 6$ the loss of 300 ohm flat twin-leud. Sturdy polystyrene insulators spaced $0^{\text {" }}$ apart. Cupper wire with steel core. 100 feet on roll. Shpe, ligt. 3 lbs Net $\$ 4.00$

## TV



## WALSCO

## UHF CORNER REFLECTOR ANTENNA

Designed for UHF all-channel reception. Uni-directional, high gain (10.14 DB) on channels 14.83 . Highly directive, eliminates or minimizes "ghosts", interference. Front-to-back ratio 15:1. All parts preassembled for easy installation. Strong molded insulatar. Campletely weather proof. For use in primary, secondary, or fringe areas. 300 ohm tubular or open line recommended. Less most and line. Shpg. Wgt. single bay 4 lbs .
MODEL 4450 Single Bay. Net........ $\$ 5.85$ MODEL 4452 Dual Stack. Nef.......... 11.73 MODEL 4450.2 2-Bay Stacking Kit..... 2.94


ANTENNA
Cansists of bow-tie ond reflector, High gain on all TV UHF channels 14-83. Eosily stacked. For use in 15.30 mile primary areas. Minimizes "ghosts". Gain: single boy 7 DB, dual 10 DB, four stack 13 DB. Tubular or open line recommended. Less line and mast. Shpg. Wgt. single bay 2 lbs . MODEL 4400 Single Bay. Net........ $\$ 3.23$ MODEL 4402 Dual Stack. Net...........6.88 MODEL 4405.1 2-Bay Stacking Kit..... 47 MODEL 4405-2 4.Bay Stacking Kit.....3.97


DUAL.VEE UHF.VHF ANTENNA
Designed for areas with TV stations on UHF, VHF, or both. Elements adiustoble for UHF, VHF, or both. Completely assembled, only four wing nuts 10 tighten. Strong insulators. High gain on all channels 2-83. Easy to stack. Tubular or open line recom. mended. Less line and mast. Shpg. Wigt. single boy 4 lbs.
MODEL 4100A Single Bay. Net....... $\$ 4.41$
MODEL 4102 A Dual Stack. Net........ 10.44 MODEL 4005-9 Stocking Kit converts
two 4100A to one 4102A. Nel......... \$ 1.70


Wal sco Engal King Conical Antennas have proved to be efficient in fringe areas and high noise centers. High gain on all channels no weak spots. Readily stacked for frirge areas. New insulator desion. Marine type aluminum alloy elements. Complete with haroware, less mast \& lead

No. 4090 Single Bay
Net \$ 5. 44
No. 4005-7 stacking kit to convert 2 single tays to one dual stack. Net $\$ .88$

NO. 4005-8 Stacking $K$ it to canvert 2 dual stacks to one 4 -bay stack.

Net $\$ 3.29$

## URISCD

## "UHF U-INSTALL"

## ANTENNA KITS

Kits coatain everything for average home installution, complete antenna, one 6-ft. mast ( $1 / 1^{\prime \prime} 0 \mathrm{D}$ ), one mast base; one guy wire rijg, 40 feet guy wire, 50 feet 300 ohm tubular lead-in, three screw eyes, two mast stand-off insulators, three wood screw stand- off insulators.

4406 KIT. Single bow-tie and reflector. For primary areas. Includes all parts as 1 isted above. Shpg. lit. 5 lbs. Net $\$ 7.06$

4407 KIT. Dual stack bow-tie and reflector. For fringe (up to 25 miles) areas. Includes all parts as listed above. Shpg. ht. 7 lbs.

Net \$9.41
4456 KIT. Corner reflector antenna. For fringe areas and where ghost rejection and extra high gain are needed. Includes all parts as listed above. Shpg. Hit. 12 lbs.

Net $\$ 11.14$


## WALSCO SCOTTY ANTENNA

Quality antenna designed for primary area use. Adapted for color or black and white reception. Has good goin on all VHF channels and on UHF. Mechanically simple, rugged and dependable. Completely as sembled, simply swing out elements and ighten wing nuts. Two elenent positions $-90^{\circ}$ for VHF reception and $60^{\circ}$ for UHF or UHF. VHF. High-tensile aluminum construction, unbreakable polystyrene insulator. Individually packaged. Less mast and lead-in. Shpg. Wgt. 4 lbs.
MODEL 4010. Nep. $\qquad$ .... $\$ 2.48$
MODEL 4010.2 STACKING KIT........... . 59


TRICRAFT UHF INDOOR ANTENNA
Consists of a two-element array with o plane reflector. Has good front+to-back ratia and has gain of over 7 DB. Its narrow beam in the horizontal plane makes ghost suppression possible by properly orienting the antenna. Meosures only $12^{\text {r }}$ fram side to side; may be conveniently placed on top of the TV set. Covers all UHF chan. nels and provides excellent impedance match over the band. Completely assem. bled with 6-ft. lead-in. Shpg. Wgt. 3 lbs. MODEL 210. Net...
. $\$ 7.61$

## TELCO

INDOOR
UHF.VHF ANTENNA
"Goiden Halo" indoor antenna designed fc quick installations in strong signal areas Gold finish mokes attractive appearance : top of TV set. "Halo" measures only 9 aeross and may be tilted af any angle Weighted base will not tip. Completel ossembled with 3 -ft. lead. Shpg. Wgt. III MODEL 9000. Net.
. 2.3


## TELCO

UHF
WINDOW.TENNA

Ideal UHF antenna where roof installatio is not feasible and where indoor antenn moy not furnish enough gain. Consists s bow tie ontenno and reflector which mount on end of sturdy supporiting brackets. Eas to mount; uses two wood serews to attae brackets to autside of window frame 1 wall near window. Antenna may be rotate and locked in position after direcsion best reception is defermined. Shpg. Wg $31 / 2 \mathrm{lbs}$.
MODEL 9056. Net........................... \$ 4, 4
RADELCO
UHF.VHF
STACKED V ANTENNA


High gain antenna covers all TV channe 2.83. Increases in gain with increasing fr quency, thus compensating for greater li losses and lower receiver sensitivity the high frequency end of the band. Lig and sturdy. Matches 300 ohm line. Shipp pre-assembled. Less mast and line. Shps $\mathrm{Wgt} .31 / 2 \mathrm{lbs}$.
MODEL US.102. Net. $\qquad$
STACKING BARS for the US-102 antennc
MODEL RQ-24. Net........................... $\$$

## ANTENNA KIT

Contains 50 ft. $7 \times 20$ bare copper aerial *ire, one ground clamp. 25 ft . No. $16 R C$ ead-in wire, 2 porcelain insulators, 2 porcelain nail knobs, one window lead-in strid. one lightning arrester and instructions. Shpg. Wgt. 3 lbs . MONF. 307

Net $\$ 1.15$

$12^{\prime \prime}$ lone with Fuhnestock clips at either end. Stipg Met, 4 uz.
No. 611
Single
Net \$ . 08
No. 2611
wublet

AERIAL
SPRING ADJUSTER
Corrects excessive sag of antennas and prevents swingind. Slpy. Wst. $80 z$ M0. 765

Net $\$ .53$

## whecoiter

## GROUND CLAMP

Heavy construction, will nut bend or lop when put on Dipe. Fits pipes $3 / 8^{\prime \prime}$ to $1-3 / 8^{\prime \prime} 0$. D.
Nu, 58 Net Each \$. 16

## GUY

## LOCK



HODPL RK-1. Replaces any old style turn*. buckle and mountang screw. Husky, dositive apring action ratchet and dog. Safety locking pin included. Cable hole large enough for any size guy wire, unlimited take-up. Easily mounted with screw furnished. Shpg. Wht. 8 oz.

Net s . 29

## $\frac{0.0}{42}$

## EAZON

3WA

## Z MATCH ANTENNA CONNECTOR

Makes on ideal junction wherever cooxial cable is used ta center feed doublets. Simple to install, easily waterpraofed. Mechanical design permits natural electrical match when assembled. For RG/8 or RG/11.
TYPE 3WA. Net. $\qquad$ .$\$ 4.60$

## GROUND PLANE ANTENNA JUNCTION

Designed 10 give good low cost junction far feeding a vertical or ground plane antenna. Accommadates either a rigid vertical pipe, rad, or wire for the radiatar. Graund plane radials may consist of wires which terminote at junction with four lug cannectians. May be used on any frequency. Uses caox connector ta terminate feeder.
MODEL GP. Nef.
. $\$ 2.95$
MODEL Q. Double male cannector...... . 70
BRACKET for maunting GP to wood or metal support. Net...

## CHPHEND

## AMATEUR FOLDED DIPOLE

Inexpensive, rugged and easy to install. Onsists of 2 lengths of Amphenol $14-022$ hish strength $\# 16$ copper-clad steel conductur tuin lead for dipole portion. 75 feet of 14-056 standard 300 ohm iwin lead for lead-in portion, high strength laminated " $T$ " block and assembly instructions.

| Number | Band | Net |
| :--- | :---: | ---: |
| $139-010$ | 10 Meter | 5.24 |
| $139-620$ | 20 Meter | 5.88 |
| $139-040$ | 40 Meter | 7.64 |
| $139-080$ | 80 Meter | $\mathbf{1 1 . 0 3}$ |

## RADIART

## SPEE.DEE

 CRIMNEY MOUNTmodel AK-85. Fastest and easiest mourit to install. Consists of two complete mounts which hold masts up to $1-3 / 4^{n}$ in diameter. Simply thread strap through mount, wind strap around chimncy and tiuhten ratchets on mount. Cannot slip. No nuts, bolts, or washers to get lopt. Galvanized strapping included. Mount is made of heavy gauge, zinc-plated stepl. Shpg. Het. 6 lbs.

Net $\$ 2.32$

## B\&W ANTENNA CONNECTOR

haterproof joint for coupling of coaxial cable. Also serves as center insulator for half-wave duublet s. Shpy. Wet. $2{ }^{2} 1 \mathrm{bs}$. 5.85


Micromotch instruments ore destigned to meosure Slonding Wove Rotio ond RF power of tronsmission lines.
Designed for 70 to 300 ohm impedonce lines. Range 3 to 30 MC , power 10 to 1,000 wotts. Size: $71 / 2 \times 41 / 4 \times 41 / 2{ }^{2 \prime}$. Shpg. wot. 4 lbs.
MODEL MM-1. NET. . . . . . . . . ...... . $\$ 32.50$
MODELS MM-2/MM-3/MM-4/MM-5. Unit moy be ploced in cooxial line of ony point or inside of tronsmitter. Indicator unit moy be ploced ot ony distonce from the coupler. . Frequency range 3 to 162 MC. Directivity more than 20 D8. Coupler unit size: $53 / 3 \times 41 / 2 \times 2$; indicotor size: $41 / 4 \times 41 / 4 \times 41 / 2$. Price ineludes coupler and indicotor. Shpg. wot. 5 lbs.
Moden

Mod Not $\begin{array}{llll}\text { MM-2 } & 20-500 \text { Wotts } & 52 \text { Ohms } & \$ 41.25 \\ \text { MM-3 } & 20.500 \text { Wolts } & 72 \text { Ohms } & 41.25\end{array}$ | MM- | 20.500 Walts | 72 Ohms |
| :--- | ---: | :--- |
| MM-4 | 21.500 Watts | 52 Ohms | MM-5 2-500 Wotts 72 Ohms 44.50

lnstruments for measuring RF power ond SWR from 5 to 225 MC, power level up to 1000 watts. MODEL 26i. Coupler unit only equipped with UHF type RF connectors. Con be incorparated directly into transmitter. Capoble of supplying reoding of incident RF power, reflected RF power, RF power to antenno, ond VSWR of load. Complete with instructions. Impedance 52 ohms. MODEL 262. Indicator only. $T$ o bo used with Model 261. May be adiusted from 10 wotys 1000 watts. Nap............................... $\$ 14.50$ MODEL 263. Complete instrument consisting of coupler, equipped with type $N$ connectors, and indicator callbrated directy in wotts. Indicator Quickly seales, or $V S W R$ of ontenna or power to antenno or load, or ohs. Net......................................... $\$ 85.00$
MICROMATCH MODELS AVAILABLE'FOR USE AT FREQUENCIES OF 500 KCS TO 2000 MCS AND POWER LEVELS OF O.I WATT TO 120,000 WATTS.

WRRD

AUTO

ANTENNAS

3 section, $66^{\prime \prime}$. Side cowl mounting. Adaptor kit included. $36^{n}$ coaxial lead. Shpg. Hyt. 2 lbs . dodel SC-6

Net \$ 3. 20
4 sectiun, $1 \mathrm{~m}^{\prime \prime}$. Adaptor kit included. Side cowl mounting. $36^{\prime \prime}$ coaxial lead. Shpt. Kgt. 3 lbs.
mudel sc-8
Net \$ 4.50
3-section side cowl or fender mounting. extends to length of $68^{\prime \prime}$. 1ncludes $34^{\circ}$ conxial lead. Shpg. Wgt. $\mathrm{l}^{\prime}$ : lus. Mudel sc-3A

Net $\$ 2.38$
3 section, $56^{\prime \prime}$. only $3^{\prime \prime}$ " ${ }^{\prime \prime}$ exposed when collapsed. Universal mounting for fender or cowl. Adaptor kit included. $36^{\prime \prime}$ cuaxial lead. Shpg. hgt. 2 los. nociel UCF-3

Net \$ 4. 50
3 section, $56^{\text {n }}$. Universal mounting for coul ur fender. Adaptor kit included. 30" cuaxial lead. Shpz. Hgt. 2.1 bs .
wdel XCF-3B Net $\$ 3.47$
$18^{\prime \prime}$ extrnsiun lead, connectors included. MODFI. C-9

Net \$ . 70

## WRRD

## ACCESSORIES



SELF SUPPORTING BASES
Heavy, weather-prooled metal base for sturdy installation an any angle. Eliminates need far guy wire an mast installations. Aceommodates 11/4" O.D. most Shpg. Wgt. $11 / 2$ lbs.
MODEL C.14. Net.
For use with i" O.D: mast. Shpg. Wgt. 1 lb. 10 az.
MODEL C.11. Net.......................... $\$ 1.26$

## WARD PRODUCTS

CABLECONNECTORS AND
MATCHING TRANSFORMERS


No. W-50. Male sulderless cable connector fur use with RG59/U cable. Silverplated. Net $\$ .35^{\circ}$ No. W-60. Female panel connector. Fits Whe 50 male. Net 3.47 No: W-8U. Female connector, fits \$-50 male. Net 59 No. W-100. Reduces RGll/U or RG8/U cable to take RGS9/II. Net $\$ 1.47$ Mo. T-300. Weatherproof matchine transfunter. 300 to 72 ohms or vice versa.

Net \$ 2.06 No, T-72. Transformer for matching 72

## LIGHTNING ARRESTERS



MODEL AT-105. For flat and oval 300 ohm twin-lead. U/L approved for outdoor or indoor use. No stripping, no impedance change. Nickel-plated brass hardware.

Net \$ . 73
monel. at- 103 UhF lightning arbester. For UHF tubular twin-lead. Lip flange prevents contact washers from ripping twinlead. No stripping, cutting or spreading of line. U/L approved. Made of high dielectric and weather-resistant porcelain. Complete with $4-\mathrm{ft}$. aluminum ground wire and stainless steel universal mounting strap. Shpe. Wgt. 1 lb . Net $\$ \mathbf{1 , 3 2}$

## RMS UHF-VHF



HODCL LA-UH3. UHF-VHF arrester for all indoor or outdoor uses. U/L approved. Mounts flat or to mast. Takes tubular. flat, or open wire line. Net $\$ .87$


## बसागHENO

For flat 300 ohm lead. No cutting of conductors. Molded of high grode phenolic. UA opproved.
MODEL 155.338. Net. $\qquad$ $\$ .88$


Universol lightning arrester for use with flot, tubular, or open wire leod-in. Molded of sturdy phenolic ond hos lowest measur oble loss. Easy to insialt. U/L opproved. Shpg. Wgt. 1 lb.
MODÉL 114.328. Net. $\qquad$ . .5 .88

## H RCA



For VHF. Tokes 300 ohm leod without stripping, cutting, or splicing. Screw cop clomps on lead moking contact. Inside type has strap for mounting on pipe. Outside weath. erproof type has built-in wood screw, U/L approved. .
NO. $215 \times 1$. Outside type. Net $\qquad$ .5 .73 NO. 214X1. Inside type. Net. $\qquad$ .$\$ .65$ For UHF. Works on alf UHF channels, very low loss. Screw cop clamps on lead making contact. For inside or outside use.
NO. 234A1. Wood screw type. Net..... \$ . 90 NO. 235A1. Strop type. Net.............. \$. 82

KENCO All POSITION tV Antenna MOUNT


Providés a wealth of mounting positions on any roof, parapet, side wall or corner of building. No blocking or shimming necessary. Preassembled except for positioning braces. Constructed of heavy gauge steel. Most may be fastened in lowered position. Accommocates masts up to $11 / 2 \mathrm{DD}$. Cffset up to $8{ }^{\prime \prime}$. Shpg. Wgt. $4 / 2 \mathrm{lbs}$.
MODEL 105. Net
. $\$ 2.63$

## - <br> BELDEN "CElluline" <br> \section*{UHF-YHF LEAD.IN}

Cellular folyethylene core and thick polyethylene outer wall make this 300 ohm line absolutely waterproof; no end seal required. Lowest losses possible at UtiF and VHF frequencies. Both conductors are $7 \times 28$ stro.nded "Weldohm" annealed coppercooted steel wire.
NO. 8275. Nel per foot
.. 5 . 05
NO. 8275. Niet per 100 feet. . 4.41

## Tenna.Klip

No. 8899 TENNA-KL.IP. Fast and simple way to fasten antenna to TV set. For use by servicem,n in shop, in homes, and stores. Antenna can be clipped from set to set without loosening screws. Net \$.21

## TUBULAR TWIN-LEAD

## man CMPHENOD

TYPE $\mathbf{1 4 - 2 7 1}$ tubular Twinlead. Superior to flat types of twinlead in uhf applications. Consists of 7 strands ì2s copperweld conductors imbedded in brown nolyethylene forming protective canopy. Outperforms flat type twinlead $3-1$ in wet or inclement weather. Signal trans. fer is unalfected by rain, sleet, ice. or salt spray. 300 olim impedance.

Per ft. Net \$.04 Per 500 ft . Net $\$ 17.64$ Per 100 ft . 3.76 Per 1000 ft . 33.81


NO. 66-213 END SEAL Brown polyethylene plug fot use with 14-271 tubular lead. Tight-fitting, prevents entry of snow. rain. or ice. No reverse loop of lead is necessary. Maintains low-loss of lead.

Net Each $\$ .03$

## 

ThPE 14-056 FLAT THinleait. Standard type leadín for all TV Vrre applications. Made from finest polyethylene which assures minimum RF loss. 300 ohm impedance. Has long serviceable life, unaffected by temserature changes, chemical fumes, etc. No. 14-1156
No. 14-056
Net per foot $\$ .02$
*3. 14-650
Net per 100 feet 1.91
Net per 1000 feet 17,20

## SOUTH RIVER

Chimney

## MOUNT



Mounts on any chlmney, pole or similarly shaped extension by means of straps. Furnished with two 12 ft . lengths of steel banding to encircle chimney. Quick and easy to install. Only tools necessary are,screw drivers and pliers. Hast holder will accommodate up to $1!^{\prime \prime}$ Dia Nay be sawed in half, one section on top of chimney and other on bottom for additional strength Shpg. Wgt. 5 lbs.
MONL SR-10A Net $\$ 3.82$
MODEL SR-10A-ST. Same as above but has stainless steel banding. Net $\$ \mathbf{4 . 9 4}$

## SOUTH RIVER

DUO-MOUNT

## ANTENNA BASE



For installations on chitaneys, poles or similar extensions. Accommojates masts up to $1 \frac{1}{2}$ " 0 . D. Made of strong alloy steel - riveted for long Itfe. Special destgned "U" bolt has complete thread. Grapping teeth ait place of contact with mast prevents turning in high winds. Galvandzed finish. Complete with all accessories, Shpg. Wist. $\&$ los.
MONFL DM-36
Net 2.32
ModEL DM-36-ST. Same as above but has stainless steel banding. Net $\$ 2.91$


Snop-infeoture mokesinserting mast a simple, quick instollation, Kwik-Klip feature enables you to speedily tighten banding. Heovy gauge stainless steel strap. Hat-dip galvanized bracket. $18^{\prime \prime}$ spacing between most holders. Complete with corrier guards. Shpg. Wgt. 6 lbs.
MODEL UM.1. Net.
..$\$ 4.00$


Corner guafd. For all chimneys. mounts. Protects brickwork, nermits uniform tightening of banding. Hill ing of banding. Hill
not rust. Box of six pieces.
MONRL CG
Net $\$ .28$

## SOUTH RIVER

## STEEL BANDING

TYPE A-1. 25-foot roll galvanized heavy duty perforated steel strapping, 唯" wide. Shpg. Wst. 3 lbs.

Net \$ . 73
TYPE A-4. 25 -foot roll stainless steel unperforated strapping. E" "uide. Shpg. Hgt. 2 lbs.

Net \$ 1.38
DUO PIPE MOUNT MODEL P-1


Heavy gauge galvanized steel clamps and banding to fit any pipe up to $6^{6 \prime}$ "U" bolts will take mast up to $\mathrm{I}^{\text {k }}$
3 lbs. 0 . D. Shpg. Wt.

## Alliance Tenna-Rofor

MODEL U. 83
CONTROL UNIT


MODEL T. 10 CONTROL UNIT


Simply set pointer at desired ontenno direction, dial face lights up ond, when the point selected is reached, antenno stops outamatically ond light goes out, Instantly reversible motor with magnetic brake to prevent drifting. Speed of rotation 2 RPM. Positive mechonical stap at end of ratation. Factory lubricated for life. All outside parts are maisture seoled and corrosion resistont. Stoinless steel beoring insert. Fits mosts up $101 \%{ }^{n}$. Moy be used with all TV.FM and omateur orrays weigh. ing up to 20 lbs., use TBB-2 thrust bear ing for heovier laods up to 300 lbs . Simple to install and connect, uses standord 4 . wire cable listed below. Beautiful brown plastic cantrol box trimmed in gold, ivory knob. Size: $7 \times 4^{3 / 1 / 4} \times 4^{n}$. For aperotion on $110-120$ VAC 60 cy . Shpg. Wgr. 14 lbs. MODEL U-83. Nef.

Monual operotion with directional indicator cantral case. Clockwise or caunterclockwise rotation by means of pushbbor switch on top of consral cose. Kototes full 360 degree and has pasitive mechonical stop of end of ratotion. New magnetic brake prevents drifting. Speed af ratation 2 P.PM. Factary lubricated for life. Stoinless steelbearing insert. All autside parts are moisture seoled ond corrosion resis. tont. Fits mast upe to $1 \frac{1}{2 n}$. Will handle arroys up to 20 lbs . Uses TBB-2 thrust beoring for loods up to 300 lbs . When the switch is pressed, onfenno turns ond indicotor shows pasition an campass face dial. Simple and easy to install. Brown plastic contral cose trimmed in ivary and gold, size $61 / 2 \times 21 / 2 \times 4 / 2^{\prime \prime}$. For operation on 110.120 VAC 60 cycle. Shpg. Wgt. 12 lbs .
MODEL T.10. Nef....................... $\$ 22.47$

Strong, sfurdy ratotar mator with remate contral unit that permits operotar ta instontly stop or reverse direction of motor. Signol light indicates when limit of travel has been reached. Instontly reversible through full 360 degrees of trovel. Will hondle oll TV.FM arroys up to 20 lbs. Factory lubricated for life. Uses 4 -wire cable (nat supplied). Shpg. Wgt. 12 lbs. MODEL F.4. Net.. $\qquad$ \$ 18.72
4.WIRE CABLE far Alliance rofotors. NO. 4444. Por ft. Net. $\qquad$ NO. 4444. Per 100 ft . Net.
. .2 .70
THRUST BEARING. Permits increase of weight load capacity to 300 lbs . on oll Alliance rototors. Eosily installed with standord tools. Shpg. Wgt. 3 lbs.
MODEL TBB.2. Net.
.$\$ 2.91$


No. 8625 PEAK MOUNTS. For fastening TV masts to roof peaks. Will hold masts up to $\mathrm{I}_{\mathrm{i}} \mathrm{i}^{\text {" }}$ diam. With hardware. Net $\$ 2.32$ SNAP-IN WALL WOUNTS. Simply snap mast in tighten, and the job is done. Made of heavy steel. zinc-plated. Holds masts up to $1 t$ " diam. Hith hardware.
No. $8306 \quad 6^{6}$ Clearance Net $\$ 1.18$ $\begin{array}{lll}\text { No. } 8312 & 12^{\prime \prime} \text { Clearance } & 2.06 \\ \text { No. } 8318 & 18^{\prime \prime} \text { Clesrancc }\end{array}$ No. 8302 Close all mounts. Brackets With $4^{"}$ clearance. Made of $1 / 8 \times 11^{1 / n}$ stee]. heavily zinc-plated. Holds mast.s up to $\mathrm{in}_{1}{ }^{1 "}$ diam.

Net $\$ .79$ พ. 8630 RIDGE MOUNTS. Allows tall masts to be swung up along ridge of roof. Heavy steel. heavily plated. Adjustable to any angle or flat roof. Holds masts 10 Jiam. Net \$1.91 No. 8645 mast COUPLER. Sturdy 3 -piecc mas $t$ coupler to extend different. size masts together. Couples masts $3_{1}^{\prime \prime}$ to $\mathrm{F}_{1}{ }^{\prime \prime}$ diam. With hardware, Net 5.73 No. 8718 mast clamp assembly. Complete clamp assembly to fasten a cross bar to mast. Serrated edges, will not turn. Rust-proofed.

Net \$ . 44 No. 8132 guy Wire thimbles. Quickly fastens and holds guy wires and cables. Prevents wire from breaking and foosen. ing. Galvanized steel.

Net Each $\$ .04$
TELEVISION GUY Wire
 $3 / 32^{\text {n }}$ diam.) $100-\mathrm{ft}$. coil. Net $\$ .65$ NO. 4804A. Six strands $\# 20$ wire (approx. $1 / 8^{n}$ diam. ) $100-\mathrm{ft}$. coil.

Floating ay rings. made of steel, zinc olated

| Number | Mast Size | Ring 1. D . | Net |
| :---: | :---: | :---: | :---: |
| 8055 | $3 / 4^{\prime \prime} \cdot 1^{\text {n }}$ | $1-1 / 8^{\prime \prime}$ | \$. 13 |
| 8313 | $1-1 / 8^{\prime \prime}$ | 1-1/4" | . 14 |
| 8314 | 1-1/4" | 1-3/8" | . 14 |
| 8315 | 1-3/8 ${ }^{\text {" }}$ | 1-1/2 ${ }^{\text {n }}$ | . 14 |
| 8316 | 1-1/2" | 1-5/8 ${ }^{\prime \prime}$ | 14 |
| 8317 | $2^{\prime \prime}$ | 2-1/8" | . 14 |

No. 8370 U-CLAMPS. Handy clamp to hold and clamp toge ther two mast.s. Holds two masts up to $1^{1,1}$ diam. Net $\$ \mathbf{2 1}$

No. 8123 U-Bolts. Fits masts 3 to $1-3 / 8^{\prime \prime}$ diam. $3^{\prime \prime}$ long. for mounting and extending mast.s or fastening masts to buildings. Steel. zinr-plated. Net $5-12$
No. 8081 GUY WIRE Cl,AMPS. Fast. way for fastening ends of guy wires on towers and masts. Adiusted with serew driver. Galvanized steel. $1 / 8^{n}$ wire size.

Net. .32
NO. 8131 CABLE CLAMPS. Will hold guy wires serurely. Easy to install and use. Galvanized steel. Net. Farh \& . 15

NO. 8057 TUANBUCKLLES. Extra strong cadmium plated turnhuckles for guy wires

No. 8153 BRIDLE RINGS. For tying guy wires, masts. ef.c. Made of henvy steel. gal van ized.

Net Each \$ . 06
NO. 8078 SCREITEYES. Steel cactman plated screw-eyes for TV antennas. Handy for fastenang guy wires. Aet Earh $\$ .03$

## AMPHENOL

## ISO-NET

Iso-Net Isalating Network. Connects UHF ond VHF antenna to receiver with one lead and minimum signal lass. Six terminals, 2-UHF, 2.VHF, 2-Receiver. Highly efficient lumped constonts filter network has less thon $1-1 / 2 \mathrm{DB}$ lass. Weother proof plastic cose, con be mounted on mast or receiver. Complete with U-balt, bracket, hordware.
MODEL 114.061. Net.
$\$ 2.32$

## AMPHENOL TRISONET

An efficient isolating network for coupling a law bond VHF, a high band VHF , ond o UHF ontenno to ane receiver with one lead-in. Little ar no signal lass. Cose provides positive protection from the ole. ments. Complete with "U" balt, brocket, and screws. Shpg. Wgr - 1 lb .
MODEL 114-074. Net.
.$\$ 2.91$

## AMPKENOL TELECOUPLER

Low.loss coupling unit which permits high. ly efficient operation of from 2 10 4 TV sets using anly ane ontenno. Operotes extremely well on both UHF ond VHF frequencies. Mounts an wall, boseboard, bock of sef ar outdaors. Housad in durable grey plostic cose. Mounting screws furnished. Sire. $4^{1 / 4 \times 1 / 2 \times 1 / 9}$. Shipg. Wgt. 8 oz. MODEL 114-088. For 2 sets. Nep..... $\$ 2.21$ MODEL 114.089 . For 2 sets. With graund connection. Net............................ \$ 2.79 MODEL 114.090 . For 4 sets. Net..... $\$ 3.38$ MOOEL 114.091 . For 4 sets. With ground connection. Net........................... $\$ 3.97$


One-plece galvanized steel boom and elements of large diameter heavy wall al uminum alloy to withstand severe wind and ice luads. All metal, nu wounting insulators required. Special clamps permit any element spacing. Single or dual band parasitic arrays up to 4 element 10 meter and 3 element 20 meter may be used, The Jobnsun Rotomatic Rotator is a deluxe heavy duty unit which can be used with any beam but works particularly well with the Johnson antenna assemblies listed beluw. Continuously 'lubricated oversize gears, oilite bearings. Gear ratio 1200 to 1 . Mill support up to 125 lb. arrays. Beam turns $1 \%$ RPM and is is. stantly reversible. completely neatherproofed and not affected by temperature changes. Tilt base permits antenna adjustment from tower. Interference free $1 / 20 \mathrm{HP}$ capacitor motor. The Selsyn directiun indicator accurately fullwhs antenna rotation.
No. 138.112 ROTATOR. Complete with motor drive, mounting base, selsyn and control box, less boom assembly, element kits, or antenna changing relay. Net $\$ 324.00$

No. 138-153 BOOM ASSEMBLY. Length 18 ft . 9 inches.

Net \$ 23.52
No. 138-210-3. 3-element 10 -meter parasitic array. Element kjt only.

Net $\$ 43.03$
No. 138-220.3. 3-element 20 -meter parasitic array. Element kit only.

Net \$ 76.05
No. 138-108. Heatherproof antenna relay for dual band operation. Net $\% 19.21$

N0. 144-16 CABLE. 8-conductor cable for Johnson Rotomatic. Net Per Ft. \$. 26 OTHER JOHNSON ARRAYS AYAILABLE, WRITE FOR CONPLETE DESCRIPTIVE LITERATURE NOW.

## ICA TENNA-SCOPE LOOPS For Midgets or Portables


"NEW DELUXE STYLE"
Adjustable trimmer adapts to any receiver. No ather aerial necessary. Siqs. Wt. 1! 1bs.
Mo. 4380
$\mathrm{Ne}+$ • 1.96
Replacement for midget receivers, eliminates necessity of outdour or indoor antenna easy instalation. Shpg. Wet. 4 OZ
NO. 4385
Net $\$ .81$

# CD.R Rotors 



The ultimate in heavy duty rotators. Handles loods up to 150 paunds, enough power to turn any array. Uses 4 -w ire cable. Has streamlined weatherproof design, cam. pletely weather-sealed, lubricated for life. Heavy duty motor reverses instantly at touch of switch lacated on modern design cantrol bax. Points af compass shown on face of control box for easy orientation. Matar has heavy duty precision cut gears, ball bearings. Positive siop at end of rotation. Reversible clamps hondle 7.11, to $2^{\prime \prime}$ masts. May be used for mast, tawer, or platform m:ounting. Three heavy duty guy wire lugs. For aperation on $110-120$ VAC. Shpg. Wgt. 15 lbs.
MODEL TR-4. Net....................... $\$ 28.78$


Will hondle ontennas or arroys up to 150 lbs. Excellent for TV FM or amateur applicotians. Built-in thrust bearing. Will ac commodate mast up to 2"D. "Perfect-Pattern" composs-type dial instantly furns antenna in ony direction, positive stop at end of rotation. Stotions con be logged on face of control box. Points of composs light up to show position. Rotator mechonism is encased in weatherproof housing, foctory lubricated for life. Uses 8 -conductor cable (not supplied). For use on 110-120 VAC operotion. Shpg. Wgt. 16 lbs .
MODEL TR.2. Net. $\qquad$ . $\$ 26.43$

8-conductor lead for use with TR. 2 rototor. NO. ATX.8. Net Per Foot.............. \$ 06 NO. ATX-8. Net Per 100 Feet .4 .79

THRUST BEARING BRACKET. For use with Model AR.1 and Model TR.11. Increoses weight capacity equal to that of AR- 2 and TR-12. Permits use of the largest TV crrays with these rotators. Shpg. Wgt. 2 lbs.
MODEL TA-6. Nef......................... $\$ 2.91$


TR. 12


Efficient remote cantrol antenna purning device with thrust bearing and plastic cabinet with fingertip cantrol. Cantrol cabinet shows composs paints $\mathrm{N}, \mathrm{E}, \mathrm{S}$ and W. Strong, pawerful motor turns easily and quickly even with 4 -stack orrays; no drifting. Takes antenna mosts up to $1 / 2^{\prime \prime}$ O. D. Instartly reversible, makes complete revolution in 45 seconds. Mechanism encosed in waterproof housing and is lubricoted for life. Jrown plastic control cabinet. Uses 4 -wire cable listed below. For operotian on 110.120 VAC 60 cy . Shpg. Wgt. 12 lbs. MODEL TR.12. Neł..................... $\$ 25.25$

MODEL TR.11. Complete rotator similar to TR- 12 but less thrust bearing. Less cable. Shpg. Wgt. 12 lbs . Net......... $\$ 23.49$


Completely automatic rotator for quiek, occurate positioning of antenna. Turn pointar to desired position and antenna traverses to position selected. Clockwise and counterclockwise revolution, $360^{\circ}$ rotation, makes complete revolution in 45 seconds. Unique brake prevents drifting, Takes ontenno masts to $1 / 2^{\prime \prime}$ O.D., mounts on pipe to $2^{\prime \prime}$ O.D. Powerful thrust bearing included which accommodotes largest TV arrays. Factory lubricated. Control unit is housed in modernly designed cabinet. Rototing mechonism enclosed in weatherproof case for long life. Operates on 110 120 VAC . Shpg. Wgt. $131 / 2 \mathrm{lbs}$.
MODEL AR-2. Less cable. Net..... $\mathbf{\$ 2 8 . 1 9}$

MODEL AR.1. Complete rototor similar to AR-2 but less thrust bearing. For antennas weighing up to 20 lbs . Less cable. Shpg. Wgt. 12 lbs. Net........................... $\$ 26.43$

4-WIRE CABLE. For use with Models AR1, AR-2, TR-4; TR-11, and TR-12 rotators.
NO. 4444. Net Per Foot................. \$ . 03
NO. 444. Net Per 100 Feet............... 2.70

## SPAULDING

## soli Supporting Towers

Self-supporting towers for TV orrays, 10,15 , and short 20 meter ham beams (regular 20 meter beams if guyed), community on. tenno systems, wind generotor supports, ote. All steel, he ovily golvonized inside ond out. All riveted construction, no welds to rust. Tower hos greoter width ond strength at bottom where greotest strength is needed. 8-ft. sections become lighter in weight os the height increoses. Rototors con be installed down inside tower. No wrenches necessary to install, uses $\frac{1}{2}$ " pins ond oircroft elips. All tubing is $1 \frac{1}{4}$ " diameter. Three pypes of boses ovoiloble - bose stubs forinstallation in concrete, hingeup bases which mount in concrete and $s$ wing up with com. plete tower ossembled, and acrew onchor boses having three $4 \frac{1}{2}$ - ft . oorth screw anchors which screw into eorth ond fosten to rigid horizontal frame, no concrete is necessory. Follow monufacturer's instructions for correct instollation. Towers are priced less base.
Model Descriftion Shpg. Wgy. ST. 6464 Ft. Pkg. 275 lbs. ST. 48 48 Ft. Pkg. $160 \mathrm{lbs} . \quad 84.46$ ST. 4040 Ft . Pkg. $127 \mathrm{lbs}, \quad 73.65$ ST. 3232 Fq . Pkg 96 lbs ST. 2424 Ft. Pkg. 72 lbs .

## ACCESSORIES

ST.BIBASE. Set of 3 base stubs to be set in concrete. Shpg. Wgt. 10 lbs . Net $\$ 3.96$ H3-24.32 HINGE.UP BASE for concrete. For 24 and 32 foot towers. Shpg. Wgt. 11 lbs. Net..
H3-40 HINGE-UP BASE for concrete. For 40 foot tower. Shpg. Wi. 11 lbs . Net $\$ 5.85$ H3-48 HINGE.UP BASE for concrete. For 48 foot tower. Shpg. Wr. 11 Jbs. Net $\$ 5.85$ SB-48H SCREW ANCHOR hinged bose. No concrete neces sory. For 40 or 48 foot tower. Shpg. Wgt. 106 lbs. Net.......... $\$ 22.50$ SB-64H SCREW ANCHOR hinged bose. No concrete necessary. For 64 foot tower. Shpg. Wgr. 165 lbs. Nef................ $\$ 30.70$ TW2 "T" WRENCH for screw onchors. Shipg. Wgt. 9 lbs. Net...................... \$ 4.25 GEW. 4 GEAREO ERECTION WINCH for 48 ft . or less. Shpg. Wt. 66 lbs. Net $\$ 29.50$ STA-18. $4^{\text {n }}$ to $18^{\prime \prime}$ adiusiable stond-off bracket. Shpg, Wgt. 12 lbs. Nef....... $\$ 5.95$ TR-2. Rotator mounting plote for C-D or Rodiort TR series rotators. No occessory needed for other bronds, Shipg. Wgt. I lb. Nef...............................................\$ . 90 SIA. Step occessory for top sections. Shpg. Wgt. 2 lbs. Net....................... $\$ .90$ ST.IP. Extro tower leg pin. Net........\$. 15 ST.IPK. Extro leg pin clip. Net....... \$ . 04 ST.GPI. 10 foot erection boom. Shpg. Wgt. 9 lbs. Net..

## TUBULARANTENNAMASTS

18 gauge $11 / 4 \mathrm{~m}$ masts. Self-locking feoture revents furning. One exponded end permits stacking. Corrosion-proofed inside and out $\mathrm{N}_{0}$
518
1018

## Alprodeo

## ALUMINUM OR STEEL TOWERS

6-foot sections construeted of oluminum or steel. Aluminum type constructed of lightweight aircraft aluminum weighs only one pound per foot, steel type weighs $11 / /$ pounds per foot ond is hot-dipped golvanized. Two oluminum sections mounted on Bl-WS bose plus 10.ft. most moy be erected os o self-supporting most with height of 24 feet without guying. On toll. er towers, guying is needed only every 30 feet. Sections shipped $2 / 1$ ossembled.

aluminum
T.6W. 6 foot aluminum section. Shpg. Wgt. 6 1bs. Nap............................................ $\$ 7.74$ MK-IW. Mast kif consisting of three trim angles ing antanna mast. Shpg. Wgt. 3 lbs. Net.. \$ I.5S B-IW. Hinged base plate for mounting on verti-8-I W. Hinged bose plate for mounting on vorti-
cal, horizontol, or slop ing surfaces. Shpg. Wgt ${ }_{4}^{\text {col }}$ libs. Net...................................... $\$ \mathbf{W g i z}$ GB.I. Guy bracket for attaching guy wires to tower. Three noeded per guy stotion. Shpg. Wgt, ax. Not Eoch...................................... ${ }^{5} .09$ 5.3W. Stand-off support brocket. Used os walt mount stotionory tie-in. Shpg. Wgt. 3 lbs. Not................................................. $\$ 1.60$ RK-IW. Rotator odapter kit, consisting of $10 \cdot x$
 ing. Shpg. Wgt, If lbs. Nof................. $\$ 7.10$ P.IW. Rotatar adapter plote. Pre-drilled plate ith oceessories to mount most inline or offset rotators inside tower. Shpg. Wgt. 2 lbs.
B HWS Self
B b-WS. Self-supporting bose. Heovy galvonized staol with flat foet that pivot to ony angle.
Hardware furnished. Shpg. Wt. 18 lb . Net $\$ 5,50$

## STEEL

5T.6E. 6-foot steol section, Shpg. Wgr. $101 / 2$ lbs, Not.............................................. s $^{2.60}$ B.1. Hinged base plate. Shpg. W9t. $21 / 2$ lbs. MK.1. Mast kit including top angles and most bracket. Shpg. Wgt. 2 lbs. Net............... 1.55 GB-1. Guy bracket. Three neoded per station. Net Eoch............................................. 3 . 09 S-5. Stand-off support brackef. Shpg. Wgt. 21/2

## TELEVISION SLIP-UP MASTS



Standord Bose. All ongle, full swivel for mounting on flot, verticol, sloping or peok roofs. Antenno con be roioted. Shipg. Wgt. 1 lb .
MODEL MB.1. Net
Special Bose. Permits roof mounting with or without fostening to roof. Hinged, all angle, side, hip, or flat mounting, sturdy construction. Shpg. Wgt. 7 lbs.
MOOEL MB-IR. Net...


## SOUTH RIVER

 UHF ANTENHA MOUNTING AOAPTERPermits mounting of UHF antenno without disturbing present TV ontenna instollation. Fastens quickly to present most with two sets of clamps provided. Slight offsep permits odopter 10
extend 5 feet obove ontenna in use. Mode of one piece, light magnesium tubing. Shpg. Wgt. 3 lbs.
MOOEL UHM-1. Net. $\qquad$ ..$\$ 1.76$


Jiffy installation indoors for all chan. nel VIF television operation. Nickel plated 3 -section telescopic dipoles, rutatable base. Complete with 300 ohm con necting lead. Shpg. Wet. 31 bs
N0. 6470

## TELE-EX-PAND

## CRANK.UP TELESCOP.

IC TOWERS. Designed to install easily ond sofely. Sturdy construction. Will support ony type of TV orroy or small hom beom. Moy be guyed in the open ground or fostened to the house with most clamp. Self-locking feature eliminotes donger of slipping. Mounts on concrete or wood bose. Complete with base, removoble crank, oircraft coble. Duroblé sieel construction. Both types are 20 feet long collopsed. Type M-40 expands to 38 feet and Type M-60 expands to 55 feet. Shpg. Wgt. - M- 40 100 ibs; M-60 145 lbs.
M.40. Net.......... $\$ 59.95$
M.60.................. 93.50


TY. 8 Woll Brocket.. 3.60
Shipped from ond F.O.B. Berwiek, Penno.


## MOSLEY 2. WAY TELEVISION

 ANTENNA SWITCHCouples TV set to either of two ontennas of the turn of a knob. Far UHF and VHF. Low lass, smoll and compoct. Pasitive rotary oction, silver-to-silver contacts.
NO. F.40. Ivary ar brown. Specify. \$ 1.15


261
No. 29.S. Solderless splicer for joining tubular or oval 300 ohm transmission line to standard line or vice versa. Ideal for use in UHF installations where tubular line is used for lead but where the more easily hidden flat type is desired to go into house. Has hole for the discharge of water or accumulated moisture. Clear polystyrene. Net \$. 12 No. 261. Antenna connector. For connecting transmission line to dipole antenna without use of solder, Ideal center tie.


NO, 502. Dual-Match TV coupler. operates 2 TV sets from 1 antenna. Will not interfere with each other. No soldering requitred. Easily installed on baseboard. Net \$ 2.32
NO. 343. Universal TV lead-ín socket. Mounts on metal or wood, serves as line tap or terminal socket for 301 plug. For 300 ohm lead. Transmission lead may enter from sides, top, bot tom or back. Brown or ivory.

Net $\$ .47$
$0=0$


No. 625. 1nsulated wall-thru for any wall up to $13^{n}$. $14^{\prime \prime}$ polystyrene tube and inside and outside wall plates. For use with 300 ohm flat or tubular. caaxial. or open line. Bromn or ivory. Net \$1.15 No. 624. ROOF-TliRU weather-proof roof eritrance for $T V$ or rotator cable. Low. lcss feed-thru bushing and $8 \times 9^{n}$ copper flashing, easily installed in new or old buildings. Permits shorter lead-ins.

Net 3.43
M0. P-20. 3-way TV antenna switch, Ideal for switching 1 antenna to 3 different TV sets or 3 different antennas to 1 TV set. Easy to mount. Brown or ivory.

Net \$2.21


## TV ANTENNA ORIENTOR

Fast, occurate one-mon orientation of any TV ontenna. Is olation network that permits transmission line to corry signol from ontenno to set and simultaneously carry videa signol back to installer, who with on ordinary VOM con set antenna for maximum sigaal. Requires no pawer to operote. No odditional lines needed from set to roof. Complete with set of leads. Shpg. Wgr. 1 lb .
MODEL 903. Nef....


The "Y-TY" eliminotes the donger of lead-in connections breaking of the antenno. Designed to give low loss, per. monent-connections af all types of lead-in and phosing strips to television ontenno elements. Eosy ta install; no soldering. For oll UHF ontenno and mass VHF yogis, c.anicals, and ather types where the distance betwe terminals is $4^{\prime \prime}$ ar less. Shpg. Wgt. 8 oz .
NO. 263.S. Net $\qquad$ S. 47


No. 27S. Transmission line splicer. For connecting odds and ends of 300 ohm line left over. No soldering necessary.

Net \$. 11
N0. 450-1. Ópen wire splicer. Maintains correct wire spacing with no impedance change. No soldering required. Net $\$, 09$ NO. 304. Input adaptor. Used on TV sets which have terminal on rear. Makes quick make and break connection when used with No. 311 socket. Precision molded.

Net . 18


301


311


321

No. 301. Universal transmission line plug for 300 ohm lead. Fits all mosley units. Nolded polystyrene, bronze contacts. Nq soldering required. Net \$. 18 No. 311. Transmission line socket. Mates. with No. 301 plug. 304 adaptor.

Net \$ $.18^{\circ}$
No. 321. Polarized transmission líne connectors. Use in pairs for fool-proof connections. Set of 2 .

Net \$ . 35


F- 10

F. 2PK

No. F-1. Single flush socket with plate for antenna. Fits standard outlet box. Specify brown or ivory. Net $\$ .98$
No. F-10. Antenna socket with 3 -position ant enna switch Switch is constant impedance type. Provides instant change-over to any one of three antennas or may be used to switch one antenna to three different TV sets. Brown or ivory finish.

Net \$ 2.21
No. F-2PK, Similar to F-1 but intended for use where line cannot be concealed in wall. No wall opening needed, will not crush lead.. Easy to install. Com* plete with mating connector. 2 contact. Specify brown or ivory. Net $\$ .97$


F-11

F. 14

F. 9

NO. F.11. Dual flush socket and plate, For 2 antennas. Specify broun or ivory.

Net \$ 1.22
NO. F.14. Combination antenne and rotator sockets. Rotator socket uses \#374 olug. Specify brown or ivory. Net $\$ 1.22$ No. 374, 4-prong plug. Net \$.44 No. F-9. Flush socket mounting brackets for easy installation of any Mosley unit where box is not feasible. Set of four.

Net \$ . 21

## $0 . \because 0$

No, 251. End insulator. Especially designed antenna insulator for 300 ohm dipoles. No soldering, no strain on connection.

TV DEVICES GROUND ROD


Acts an dependable year-round ground stake. Made of copper-plated, heavy gauge steel rod $3 / 8^{\prime \prime}$-OD.


ICA AUTO ANTENNA CONNECTOR
Standard connectors for antenna. Shpg. Wot. 4 oz

ANTENN HIANKS
Net \$ . 08.
consists of 25 ft . of brown cottoncovered flexible antenna for home use. Slyg. Wït. 402
No. 2125
Net \$ . 24

JFD
ADJUSTABLE STAND-OFF INSULATORS
Fit any size mast. for 300 ohm twin lead.

| Number | Length | Net |
| :--- | :---: | ---: |
| Nur-350 | $33^{\prime \prime}$ | $\$ .11$ |
| MT-750 | $73^{\prime \prime}$ | .15 |

## NICHOLS

## no. 8 aluminum

GROUND IIRE


Recomnended for use by National Electrical Code. No. 8

Avallable in values of $52,73,300$ and 600 ohms. Specify.

Net \$ 11.93


## EVEREADY BATTERIES



## MALIORY

## BATTERY CHARGERS



Madern battery chargers using full-wave selenium rectification. Will charge any type of storage battery. All have taper charge feature which prevents overcharg1ng, all models except 6SAC4 have chargIng indicator light. May be used an garage floor. bench. or in car; may also be hung on wall. DC output of units terminates in universal socket on panel. no LC leads are included. See description of R 670 atid R675 assemblies below. All models operate on $110-120$ VAC 60 cy .

NUMBER VOLTS AMPS SI7E WGT, PET $\begin{array}{lllcccc}\text { OSACE } & 6 & 4 & 42 \times 4 \mu \times 42 & 5 / 2 & 10 & \$ 11.07 \\ \text { GSAC6 } & 6 & 6 & 7 \times 5 \times 5 & 7 & 13.04\end{array}$ $\begin{array}{lrrlll}\text { 6SAC6 } & 6 & & 6 & 13.04 \\ 6 S A C 10 & 6 & 10 & 8 \times \mathrm{ch}_{2} \times 6 & 9 & 19.57\end{array}$

R670. Polarized Battery Clip OC Cord Assembly for any above chargers.

Net $\$ 1.27$
R675. Universal Cigarette Lighter Plug DC Cord Assembly for any above chargers. Net \$ 1.46

MALLORY RECTOPOWER SUPPLY


Continuously varioble' DC voltoge power source, duol output of 0.8 or 0.16 volis, 6 or 10 DC amperes output continuous or 14 or 20 DC amperes output intermittent. For use in demonstrating or servising mobile oquipment, cuto sets, laboratory, experimental, production line. Output filtering capocity in mmfd 12,000. Selenium rectifier. Voltmeter ond ammeter on panel. Operates on 117 VAC 60 cycle. Size: $6 \frac{3}{4} \times 10^{3} / 4 \times$ 5/2" ${ }^{10}$. Shpg. Wgt. 14 lbs.
MODEL 12RS6D. Nef...................... 39.15


Hum-free operation from these units. which convert battery farm sets to 110 vac operation.

MODEF, S. Supplies A and B voltages for any 1.4 volt farm radio, 4,5 or 6 tubes. Uses selenium rectifier. Shpg. Wgt. 4 lbs.

Net $\$ 10.88$
MODEL F. Supplies $A$ and $B$ voltages for 4 to 7 tube, 2 volt sets. Shpg. Wgt. 6 1 bs .
66
Net 15.43
heavy duty six volt dC POWER SUPPLY


Continuausly variable and filtered $D C$ power supply with automatic voltage regulating system. Output 0.8 valts DC, 25 omperes continuous, 40 amperes intermittent. Oufput filtering eapacity in mmfd 10,000. Selenium rectifier. Designed for loboratory, experimental, bench testing of auta radio, mobile ham receivers and equip. ment, radia-telephone, etc. Ammeter and volimeter on front panel. Operotes on 117 VAC 60 cycle. Size: $11 \times 10 \% / 2 \times 83 / 4{ }^{4} \mathrm{D}$. Shpg. Wgt. 35 ibs . MODEL 6RS25.). Net
. $\$ 87.71$

## साजD <br> Battery Eliminator and Charger <br> 

MODE, 1050-K. Battery eliminator kit for bench testing and servicing 6 -volt or 12 . volt auto radios. DC output: $0-8$ volts or $0-16$ volts; $6-12$ volt toggle switch. Current rating at $0-8$ volts; 10 amps continuous, 20 amps intermittent. Current rating at $0-16$ volts; 6 amps continuous, 12 amps intermittent. Charges any 6 -volt or 12 -volt battery. Continuous voltage adjustment with variac-type transformer. Separate valtmeter and ammeter. Fused primary, automatic reset overload relay for secondary. Operates on 105-125 VAC, $50 / 60$ cycles, Blue-grey steel hammertone case. size; 10\%x73x8\%. May be wall-mounted. Easy to assemble. Shpg. Figt. 17 lbs.

Net 29.95
MODEL 1050. Same as above but factory wired and tested. Net \$38.95


JFD BATTERY PLUGS

| Number | For | Net |
| :---: | :---: | :---: |
| 701 | 3 pr .45 V "B" | \$ . 09 |
| 704 | $2 \mathrm{pr} .4 \frac{1}{2} \mathrm{~V}$ /A". | . 09 |
| 705 | $3 \mathrm{pr} .45 \mathrm{~V}^{\prime} \mathrm{B}^{\text {" }}$ | . 09 |
| 706 | $2 \mathrm{pr} .12 / 2 V^{\prime \prime} A^{n}$ | . 09 |
| 707 | $4 \mathrm{pr} .1 / 2 \mathrm{~V}^{\prime \prime} \mathrm{A}^{\prime \prime} \cdot 90 \mathrm{~V}^{\prime \prime} \mathrm{B}^{\text { }}$ | . 15 |
| 708 | $2 \mathrm{pr} .6 \mathrm{~V} \mathrm{AA}^{\text {\% }}$. | . 09 |
| 709 | 4 pr. $6 \mathrm{~V}^{\prime \prime} \mathrm{A}^{\prime}$ - $90 \mathrm{~V} \mathrm{VB}^{\prime \prime}$ | . 15 |
| 710 | $2 \mathrm{pr} .71 / 2 \mathrm{VA}$ ". | . 09 |
| 711 | $4 \mathrm{pr} .11 / 2 \mathrm{~V}^{\prime \prime} \mathrm{A}^{\text {n }}$, $63,90 \mathrm{~V}^{\prime \prime} \mathrm{B}^{\prime \prime}$ | . 08 |
| 713 | Mole for XX45 or 467 | . 05 |
| 714 | Femole for $X \times 45$ or 467 | . 06 |
| 715 | 3 pr .45 V "B". Stondard | . 15 |
| 718 | $4 \mathrm{pr} .6 \mathrm{~V} \mathrm{M}^{\prime \prime}$ - $75 \mathrm{~V} \mathrm{VB}^{\prime \prime}$ | . 08 |
| 720 | 4 pr. $6 V^{\prime \prime} \mathrm{A}^{\prime \prime}$ - $90 \mathrm{~V}^{\prime \prime} \mathrm{B}^{\prime \prime}$ | . 08 |
| 723 | $2 \mathrm{pr} .3 \mathrm{~V} \mathrm{MA}^{\text {¢ }}$ | . 06 |
| . 725 |  | . 06 |
| 729 | 2 pr., Large Pins | . 06 |

POWER SUPPLY

## CONTIMUOUSLY YARIABLE

### 0.28 YOLTS AT 15 AMPERES



Specially filtered DC power supply, less thon $1 \%$ ripple of tap load. Continuously variable, $0-28$ volts up to 15 amperes continuous duty, $0-36$ volts up to 6 amperes continuous duty, up to 25 omperes at intermittent loads. $115 \mathrm{VAC} 50 / 60$ eycle input, 730 watts of 28 volts 15 amperes. Less than $1 \% \mathrm{AC}$ ripple of 15 amperes. For use in laboratories, reseorch, schools, testing mobile equipment, telephone circuits, low voltoge devices, efc. D'Arsonval type ammeter and voltmeter. Bridge-fype selenium ectifiers. Superior Powerstot for incrementol voltoge odjustment. Fused input on front ponel. Heavy steel cobinet finished in blue hommerloid, size $141 / 4 \times 141 / 4 \times 9 / 4 / 4 \mathrm{H}$. Shpg. Wgt. 86 lbs .
MODEL NF. Net $\qquad$ . $\$ 191.10$
Similar to Model NF in output ond otherspecifications but has $5 \% \mathrm{AC}$ ripple of 10 omperes; $8 \%$ of 15 omperes. Shpg. Wgt. 75 lbs.
MODEL M. Nef..................................
$\$ 171.50$

## CORNELL-DUBILIER

VIBRATOR Converters


Conservatively rated vibrator converters for all uses. DC inputs from a to 110 volts. Adequately hum filtered. Types 110RT15. 110T22. 110 RT35 are designed for television sets, type $110 \mathrm{PA5}$ is for operating small phono motor. Output on all types.is 110 VAC 60 cy .

| NWMEER | infut | watts | SHPG. ${ }^{\text {\% \% }}$ | HET |
| :---: | :---: | :---: | :---: | :---: |
| 6R5 | 6 VDC | 50 | 13 lbs. | \$28.37 |
| 6R10 | 6 Vuc | 100 | 20 lbs . | 40.25 |
| 12 R 8 | 12 VDC | 80 | 13 lbs . | 28.37 |
| $12 \mathrm{RU15}$ | 12 VJC | 150 | 24 1bs. | 53. 39 |
| 32R8 | 32 VDC | 80 | 15 1bs, | 32.81 |
| 32RU15 | 32 VDC | 150 | 24 l bs, | 49.71 |
| 110PA5 | 110 VDC | 50 VA | 2 lbs. | 16.02 |
| 110 R 10 | 110 VDC | 100 | 12 lbs. | 27.02 |
| 110RT15 | 110 VDC | 150 | 18 lbs. | 43.95 |
| 110 RA 15 | 110 VDC | 150 | 151 bs. | 32.99 |
| 110 T 22 | 110 VDC | 225 | 19 lbs. | 46. 36 |
| 110RT35 | 110 VDC | 350 | 45 lbs . | 84. 18 |

## SUPREME RADIO MANUALS



TELEVISION AND FM

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## TELEVISION AND

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6.37

SHOOTING AND REPAIR. Ghirordi
6.61

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## PHOTOFACI fOLDER SETS



PHOTOFACT FOLDER SETS - Each \$ 1.75
PHOTOFACT VOLUMES 1 THRU 25
PHOTCh
1.00

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Volume 2 - CM-2
Volume $3-\mathrm{CM}-3$
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[^2]
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8.82
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2.65
3.43
2.45
.97
1.76
19.40
22.05
9.70
19.40
22.05
20.58
20.58
20.58
17.64
14.70
6.47
2.35
2.94
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2.35

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## The Gibson Radio Rule



Designed for use in moking of occurate and uniform circuit drowings by students, hams, etc. Allradio symbols included. Postpoid in U.S.A. Net............ \$ . 75
1.76
3.23
3.82 3.23
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The blueprints listed below include the fovorito loboratory-tested circuits which appeored in "Popular Mechonics Magazinet". All blueprints ore complete in every dotail, including parts lists, pictorial ond schematic diagrams. Size: $17 \times 22^{\mathrm{H}}$. Postpaid in U.S.A.
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R-391 - URANIUM SURVEY METER WITH
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R. 388 - NO. 2 PROGRESSIVE ALL.WAVE

R-386 - $160 . \mathrm{METER}$ PHONE TRANSMITTER.
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DIODE CIRCUIT KINKS - Sylvania

ELECTRONIC FLASH BOOKLET
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HOW TO BUILD IT 53.1 . Meis sner $\quad .25$
HOW TO LISTEN TOTHE WORLD. Wilbur
MALLORY ENCYCLOPEDIA - 6th
SELENIUM RECTIFIER HANDBOOK.
Fedaral
WORLD RADIO HANDBOOK

## CABINETS - RELAY RACK PANELS Cab

##  <br>  <br> ER. 223 ER. 225 ER. 227 <br> ER-213 <br> ER-215 ER. 217 <br>  <br> RR. 193 <br> RR.195 <br> 

## TYPE A ENCLOSED RELAY RACKS

Streomlined modern design, Removoble verifal corner mouldings. Mode of $1 / 10$ cold rolled stesl. Topped for 10/32 screw. Ponels fit into recess, edges ore not exposed. Louvred sides. Hinged rear doar. Rock sheif ER-2212 and roller truck RT-412 designed to fit these rocks. Block or grey ripple finish. Rocks shipped knocked down.

Overall Panel Shpg. Ne? Number Size Space Wgt. Each ER. $22343^{1 / 1} \times 22 \times 18 \quad 36 \% \quad 90 \mathrm{lbs} .546 .50$ ER $22567^{\mathrm{J}} \times 22 \times 18 \quad 61 \frac{1}{4} \quad 130 \quad 57.00$ ER. $2278.33_{2}^{1} \times 22 \times 18 \quad 77 \quad 150 \quad 69.00$

## ROUNDED CORNER TYPE

Ideol for tronsmitter or PA systems. Morde of $1 / 4{ }^{\prime \prime}$ steel. Ponels fit into recess. Side louvre ventilotion. Rear doar is hinged. Grey or block ripple finish. Designed to rake ER-2112 rock :he If and RT-411 roller truck.
Number Sizerall Ponelshpg. Net Number Size Space Wgy. Each ER-213 $42 \times 22 \times 16 \frac{1}{2} \quad 361 / 4 \quad 85 \mathrm{lb} . \$ 32.70$ ER. $215 \quad 661 / 2 \times 22 \times 16 \frac{1}{2} \quad 61 \frac{1}{4} \quad 125 \quad 48.60$ ER-217 $82^{1 / 2} \times 22 \times 16^{1 / 2} 77^{4} 145 \quad 58.50$

## TYPE A CHANNEL RELAY RACKS

 For Stondard 19" Rock PonelsOpen type rocks ideal for tronsmitters and PA systems. Constructed of ${ }^{7}{ }^{\prime \prime}{ }^{\prime \prime}$ pressed sieel. Sencurely wilded together. Tapped for $1 \% / 1$, scrow. Supolied with ample mounting screws ond woshers. RR. 195 rock bose 22" deep, RR-193 19" deep. Block enomel finish.
Number Overall Panel Shpg. Net Size Space Wgr. Each
 RR.195 $73 \% \times 20 \times 200.71 \% \times 1955 \quad 20.70$


## ROLLER TRUCKS FOR RACKS

 DELUXE TYPEEspeciolly designad for use on racks. Balf. beoring costers, composition wheels furrished. Rounded corners, chrame prim. Grey finish. Stipg. Wgt. 20 lbs .
Number Size For Rock Net
RT. $41122^{3}, \times 17^{1 / 4}$ ER. $213,215,217 \$ 10.20$
RT. $412223, \times 183$, ER-223, 225, 22711.40


BUD


DELUXE CABINET RACKS
Rounded corners andred-lined chrome trim. Rocessed, hinged door on top with snop catch. Heavy gauge steel. Three larger sizes hove hinged rear door, smaller sizes have welded panel in rear. Adequote ventilation. "Na scratch" extended metal feet. Black or grey wrinkle. Depth $14 \frac{3}{4}$ ", Width $22^{\prime \prime}$, For 19" ponels.

|  | Overall | Panel | Shpg. | N |
| :---: | :---: | :---: | :---: | :---: |
| Number | Height | Space |  | $E$ |
| CR.1741 | $10 \%{ }^{\prime \prime}$ | 81/4" | 28 lbs. | \$ 11.76 |
| CR. 1740 | 12\% | 101/2 | 30 | 13.43 |
| CR-1742 | 14\% | 12\% | 32 | 14.26 |
| CR. 1739 | 151/46 | 14 | 34 | 15.88 |
| CR. 1743 | 19\%/6: | 171/2 | 38 | 18.82 |
| CR-1744 | 281/0. | 261/4 | 48 | 22.05 |
| CR-1745 | 361/4。 | 351/2 | 60 | 24.40 |

## BUD JUNIOR CABINET RACKS

Inexpensive multi -purpose unit. Will accammodote two ponels, $10^{1} / 2 \times 18 \frac{8}{4}{ }^{\prime \prime}$ and $8 \frac{3}{4} \times$ $18 \frac{10}{\prime \prime \prime}$. Ponels ore supplied. fokes chossis up to $10 \times 17^{\prime \prime}$. Rear hinged door with locking device. Block wrinkle finish. Overall height $21 \frac{1}{4}$ ", Depth $10 \frac{1}{2}$ ". Width $19 \%{ }^{\prime \prime}$, Shipg. Wgt. 34 lbs.
MODEL RC.1749A. Not Each........ $\$ 15.63$


DESK TYPE RELAY RACKS
For toble mounting of low and medium powered transmitters and P.A. systoms. Rack has strong chass is for mounting heovycomponents. Shippad knocked down with hardware. Ponels are se; in recess and no edges ore exposed. Block wrinkle finish. Depth 12".

| Number | Helght | Ponel <br> Space | Shpg. | Not. |
| :--- | :--- | :--- | :--- | ---: |
| Each |  |  |  |  |



BUD RACK SHELVES
Heovy power supplies, modulotor units, etc. con be mounted on these rock shelves which ore supported in cabinet by chossis supparting ongles. Heovy gouge steel, block wrinkle finish.

Shpg. Net
Number Width Height Depth Wgt. Each CB.1976 19" 1" $15^{\prime \prime} 7 \mathrm{lbs} .53 .04$ $\begin{array}{llllll}\text { CB-1977 } & 19 & 1 & 12 & 6 & 2.30\end{array}$

## TRUCK CASTERS <br> 

Coster wheels are high grode, hard rubber composition and boll-beoring type.

[^3]
## CAB PANELS - PARTS CABINETS

PAR-METAL

BLANK PANELS - ${ }_{6}$ " STEEL
Uniformly slotted to fit "A" cabinets and "C" racks. Black or grey pipple finish. All panels are 19" wide.

|  |  |  | Shpg. | Net |
| :---: | :---: | :---: | :---: | :---: |
| 8 lock | Grey | Height | Wgo. | Eac |
| 6600 | G-6600 | 11/4 | 2 lbs. | \$.66 |
| 6601 | G-6801 | $31 / 2$ | 3 | . 75 |
| 6602 | G. 6802 | $5 \frac{1}{4}$ | 4 | . 93 |
| 6603 | G-6603 | 7 | 5 | 1.08 |
| 6604 | G.6604 | $8 \%$ | 7 | 1.32 |
| 6805 | G.6605 | 10\% | 8 | 1.59 |
| 6606 | G.6606 | 12\% | 9 | 1.89 |
| 6607 | G.6607 | 14 | 10 | 2.16 |
| 6608 | G.6608 | 15\%/4 | 12 | 2.46 |
| 6609 | G.6609 | 171/2 | 13 | 2.70 |
| 6610 | G-6610 | 19\% | 14 | 3.00 |
| 6611 | G.6611 | 21 | 15 | 3.30 |
| SPE | AKER PA | ELS |  |  |

Designed to fit $19^{n}$ racks. Black or grey ipple finish. Opening covered with steel grill.

Ponel Spkr. Shpg. Net
Block Grey Mgt. Size Wgt. Eoch SP. 875 SG. $875 \quad 8 \frac{1}{4 \prime \prime} \quad$ 6" 4 Ib. $\$ 2.46$ SP. 1050 SG. $105010^{1 / 2} \quad 8 \quad 8 \quad 3.15$ $\begin{array}{lllll}S P & 1225 & \text { SG. } 1225 & 12 \frac{1}{4} & 10 \\ S P & 9 & 3.75\end{array}$

## "HAZ-BIN, JR."


all stefl cabinet

NAME-PLATE HOLDER DIYIDERS FOR SECTIONING

## PLASTIC DRAWER

 METAL STORAGE UNITSA very convenient way to keep small parts such as used by rodiomen, automotive in. dustry, business olfices, hobbyists, sportsmen, and many others. Clear plastic drawers make it easy to find item you are look. ing for. Size: $5^{\frac{1}{4} \times 2^{3} \frac{1}{3} \times 1^{1 / 4} 4^{\prime \prime} \text {. Every drower }}$ has three compartments, plastic dividers included. Cabinet is of all-steel construc. tion, engineered for strength. Baked enamel finish. Every drower has its awn guide, nameplate holder for easy reference to the contents. Connot spill out when remaved but easily token out with a slight lift.
MODEL J-12.12 drawers, 36 compartments. $8 \mathrm{H} \times 6 \mathrm{D} \times 9^{3 n}, \mathrm{~W}$. Shpg. Wt. $51 / 2 \mathrm{Ib}$. Net... $\$ 5.95$ MODEL J.16. 16 drawers, 48 compartments. $8 \mathrm{H} \times 6 \mathrm{D} \times 12^{1 / 2}$ "W. Shpg. Wt. $61 / 2 \mathrm{Ib}$. Net $\$ 6.95$ MODEL J-20. 20 drawers, 60 comportments. $10^{1}{ }_{6}^{1} \mathrm{H} \times 6 \mathrm{D} \times 12^{1 / 2}{ }^{\prime 2}$ W. Shp. Wr. 9 lb . Nei \$ 7.95 MODEL J. 32.32 drawers, 96 compartments. $15 \% / \mathrm{H} \times 6 \mathrm{D} \times 12^{\frac{1}{2} / 2 \mathrm{~W}}$. Shpg. Wgt. 12 lbs .
Net....................................... 512.95 MODEL J.64. 64 drawers, 192 compary. ments. $15 \% \mathrm{H} \times 6 \mathrm{D} \times 25^{\prime \prime} \mathrm{W}$. Shipg. Wgt. $23 / 2$ Ibs. Net................................... 24.95
(3i11)
Standard Relay Rack Panels

| ALUMINUM |  |  |  |  |  | STEEL |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number | Height | Shog. Wgt. | $\begin{aligned} & \text { Net } \\ & \text { Each } \end{aligned}$ |  | Number | Height | Shpg. Wgi. | $\begin{aligned} & \text { Net } \\ & \text { Each } \end{aligned}$ |
| PA.1101 | $13^{1 / 4}$ | 1 lb . | \$.73 |  | PS.1250 | 11/4' | 2 lbs . | \$ . 65 |
| PA.l102 | $31 / 2$ | 1 | 1.06 |  | PS.1251 | $31 / 2$ | 3 | . 73 |
| PA.1103 | 51/4 | 2 | 1.35 |  | PS. 1252 | 51/4 | 4 | . 91 |
| PA. 1104 | 7 | 2 | 1.76 | Made of steel or olumi- | PS. 1253 | 7 | 51/2 | 1.06 |
| PA. 1105 | $83 / 4$ | 21/2 | 2.06 | num. Steel panels made | PS. 1254 | $83 /$ | 71/2 | 1.27 |
| PA. 1106 | 1012 | 3 | 2.44 | af high grade steel \%" | PS. 1255 | 101/2 | 9 | 1.52 |
| PA. 1107 | 121/4 | $31 / 2$ | 2.79 | thick. Aluminum panels | PS.1256 | 121/8 | 10 | 1.81 |
| PA. 1108 | 14 | 4 | 3.12 | made of $1 /{ }^{\prime \prime}$ thick olumi. | PS. 1257 | 14 | 12 | 2.11 |
| PA. 1109 | 151/4 | 41/2 | 3.53 | num. All panels are 19" | PS. 1258 | 153/4 | 13 | 2.40 |
| PA. 1110 | 171/2 | 5 | 3.91 | wide. Furnished in either | PS. 1259 | 171/2 | 15 | 2.65 |
| PA.1111 | 19\% | $51 / 2$ | 4.26 | block or grey wrinkle. | PS. 1260 | 1914 | 16 | 2.94 |
| PA.1112 | 21 | 6 | 4.56 | Specify finish desired. | PS. 1261 | 21 | 17 | 3.23 |



## VENTILATİNG

GRILL PANELS
Made of $\%$ " thick steel. Grill is stamped into ponel itself. All panels are 19" long, furnished in either black or grey wrinkle finish.

|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $\text { PS. } 808$ | $\begin{gathered} \mathrm{Hg}, \\ 5 \% \end{gathered}$ | $33 \times 143 / 4$ |  |  |
| S. 809 | 7 | 4 $\% \times 14 \%$ | 4 | 2.79 |
| PS 810 | 8\% | $3 \% \times 14 \%$ | 51/3 | 3.38 |
| PS. 811 | $10 \frac{1}{2}$ | $5 \% \times 14 \%$ | $61 / 2$ | 3.58 |
| PS. 812 | 121/4 | 7\% $\times 14 \%$ | 7 | 3.82 |

## BUD <br> METAL DOOR RACK PANELS



Useful when accessibility of companents on chassis is important. Door has improved losking device. Made of $1 / 3^{\prime \prime}$ sheet steel. Black ór grey wrinkle finish. Shpg. Wgt. 10 lbs.
Number Length Width Opening Eoch PS.615 $19^{\prime \prime} \quad 10^{1 / z^{\prime \prime}} \quad 15^{\frac{1}{n} \times 6^{\prime \prime}} \quad \$ 4.41$ $\begin{array}{lllll}\text { PS. } 616 & 19 & 12 \% & 15 \% \times 71 / 2 & 4.85\end{array}$


## STAR UTILITY CABINET

Sturdy all-steel cabinets for storing and stocking small parts. Used by technitians hobbyists, workshops, homes, etc. Two sizes available, bath finished in blue ham merloid. Easy to stack, index sard holder in each handle.
NO. 603.4 drowers, $51 / 4 W \times 8 \mathrm{~L} \times 1 /{ }^{1 / n} \mathrm{D}$, ane is plain, three hove removable partitions to make from three to six compartments. Shpg Wgt. 31/2 lbs. Nef............................ $\$ 1.87$ NO. 9.115 .4 drowers, $9 W \times 11 / 2 \mathrm{~L} \times 2^{\prime \prime}$ D. Each drower has three campartments with remov able partitions drower can be used plain if wanted. Shpg. Wgt. 13 lbs. Net......... $\$ 3.67$

## BUD METAL PANELS

These steel panels fit all usual requirements. Black wrinkle finish only.

| Number | Width | Length | Shipg. Wgt. | Net Each |
| :---: | :---: | :---: | :---: | :---: |
| PS. 1200 | $7{ }^{\prime \prime}$ | 8" | $11 / 2 \mathrm{lbs}$. | \$ ${ }^{\text {ach }}$ |
| PS. 1201 | 7 | 10 | 11/2 | . 64 |
| PS. 1202 | 7 | 12 | 11/2 | . 69 |
| PS-1203 | 7 | 14 | 21/2 | . 78 |
| PS 238 | 71/4 | 15 | 21/2 | 1.08 |
| PS 239 | 8 | 10 | 21/2 | . 88 |
| PS 240 | 8 | 12 | 21/2 | . 98 |
| PS. 1204 | 8 | 14 | 21/2 | . 90 |
| PS-1205 | 8 | 16 | 21/2 | . 98 |
| PS. 1187 | 8 | 18 | $31 / 2$ | 1.08 |
| PS 1188 | 8 | 19 | $31 / 2$ | 1.37 |
| P \$ 700 | 9 | 15 | $31 / 2$ | 1.18 |

##  <br> METER PANELS

Allmeter ponels are of $1 /{ }^{\prime \prime}$ thick 3 teel, $5 \frac{3 / 4}{}{ }^{\prime \prime}$ high, 19" wide, available in black or grey wrinkle finish.

|  | No. of | Hole | Shpg. | Nel |
| :---: | :---: | :---: | :---: | :---: |
| Number | Holes | Diom. | Wgr. | Eoch |
| PS. 440 | 3 | $2.334^{\prime \prime}$ | . 3 lbs . | \$ 1.27 |
| PS.441 | 5 | 2.334 | 3 | 1.81 |
| PS. 442 | 3 | 2.835 | 3 | 1.27 |
| PS. 443 | 5 | 2.835 | 3 | 1.81 |

## ENCLOSED

## METER PANEL

Steel panel measures $19 \mathrm{~L} \times 5 / 1 / \mathrm{wW}$. Blank masanite sub-panel mounted behind large cut-out. Meter mounting orea $4 \% \times 15 \%$ ". Gloss insert (not supplied) should be cut $16 \mathrm{Lx4}$ 5.W. Available in black or grey wrinkle. Shpg. Wgt. 4 lbs.
NO. PS.439. Net........................... $\$ 5.73$


INSTRUMENT CASES - PANELS
Sturdy, heovy molded plastic meter cases with highly polished finish. BC- 140 outer dimensions, $5 \% \times 6^{51} / 4^{\prime \prime}$, inner $4^{31} / 33^{1} \times 6^{1 / 21}$. BC. 138 outer dimensions, $31 / \times 6^{1 / \times 2^{\prime \prime} \text {, inner }}$ $3 \frac{1}{2} \times 6^{\prime \prime}$. Matching panels available.
BC. 138 CABINET. Net.... $\qquad$ . 5.79
BP. 137 PANEL for BC.138................ . 4
BC. 140 CABINET
.4
BP. 139 PANEL for BC- $140 . . . . . . . . . . . . .$.


MINIATURE ALUMINUM CHASSIS
Smoll open end oluminum chossis for minio ofure fube opplications or sub-ossemblies. $1 / 4 \mathrm{n}$ flonges on bottom. Shpg. Wgi. I lb.

| Number | D. | w. | H. | $\begin{aligned} & \text { Fins } \\ & \text { Cob. } \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| C8. 1623 | $2^{\text {sm, }}$ | 21/4** | 11/4 | C. 1784 | \$ 29 |
| C8. 1624 | 1\%/4 | 31 | 1 | CU. 883 | . 32 |
| CB. 1625 | 31/4 | 41/2 | 2 | C. 1788 | . 35 |
| CB. 1626 | 23/4 | $4{ }^{1}$ | 1 | CU. 728 | . 35 |
| CB. 1627 | $3{ }^{3 / 4}$ | $4!$ | $1{ }^{1}$ | CU. 729 | . 35 |
| C8. 1628 | 3 | 6 | 14 | C. 1785 | . 41 |
| CB. 1629 | 5\%/4 | 47 | $11 / 2$ | CU. 1098 | . 44 |
| CB. 1617 | 4 | $3:$ | 1 | C. 1602 | 35 |
| C8.1618 | 4 | $41 /$ | 1 | C. 1603 | . 38 |
| C8.1619 | 4 | $5{ }^{\circ}$ | 1 | C. 1604 | . 41 |
| C8. 1620 | 4 |  | 1 | C. 1605 | . 44 |

BUD REMOVABLE TOP CHASSIS
For omoteurs ond experimenters who moke periodic chonges. Width $17^{* \prime}$. Old drilled tops moy be reploced with new ones of low cost.

| Slack | Zinc |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Wrinkle | Plated |  |  |  | + |
| Number | Number | D. | H. |  | Each |
| CB. 196 | C8. 193 | $10^{\prime \prime}$ | 3" |  | 3.23 |
| C8.197 | C8.194 | 10 | 4 |  | 3.58 |
| CB. 251 | C8. 210 | 13 | 3 | 8 | 3.38 |
| CB.252 | C8.211 | 13 | 4 | 8 8! 2 | 4.17 |



8UD OPEN END CHASSIS
U.shaped construction; ends folded over 3 3". For use with various styles and sizes of metal cabinets. Finish is electro-zinc ploting.

| Number | D. |  |  | Fits | Shipg | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | w. | H. | Cab. |  | Eoch |
| C8. 38 | $7^{\prime \prime}$ |  |  | C. 1584 |  | \$ 65 |
| C8. 30 | 5 | 7 | $1{ }^{1 .}$ |  | , | . 59 |
| CB-1 | 7 | 7 |  | C. 973 | 1 | . 73 |
| CB. 39 | 7 | 8 |  | C-1585 | 11/2 | . 82 |
| CB. 996 | $51 / 2$ | 9 | 11/2 | C. 993 | 1 | . 69 |
| CB. 976 | $7{ }^{\prime}$ | 9 |  | $\text { C. } 999$ | $11 / 2$ | . 93 |
| C8-40 | 7 | 10 |  | C. 1586 | 2 | . 88 |
| C8.997 | 7 | 11 |  | C-994, | 2 | . 98 |
|  |  |  |  | C. 1747 |  |  |
| C8.998 | 7 | 13 |  | C. 995 | 2 | 1.14 |
|  |  |  |  | C. 1748 |  |  |
| C8. 34 | $10^{\prime}$ | 14 | 2 | C. 975 | 3 | 1.41 |
| C8. 35 | 7\% | 15 | 2 | C.1190A | $2^{1 / 2}$ | 1.35 |



## TRIANGULAR MOUNTING BRACKETS

Moke convenient supports. Constructed of heovy steel. Block enomet finish. Sold in poirs only.

| Number | Height | Depth | Shpg. <br> Wgi. | Net |
| :--- | :---: | :--- | :---: | ---: |
| Mair |  |  |  |  |



## 8UD STEEL CHASSIS BASES

Mode from one piece of steel, oll corners ore reinforced ond spot-welded. Permits o boftom plote to be oftoched.


## 20\% DEPOSIT REQUIRED ON

C.O.D. ORDERS


## BUD CHASSIS

 SUPPORTING ANGLESSturdy ongles distribute woight on sides of rock ond relieve tension on ponel. Block pointed iteel:" thick. Sold in poirs only.

Number Length width whi. Net $\begin{array}{lllll}\text { SA. } 1349 & 14^{\prime \prime \prime} 2^{\prime \prime} & 3^{\prime \prime} & 5 \mathrm{lbs} . & \$ 1.71 \\ \text { SA. } 1350 & 12 & 3 & 4 & 1.62\end{array}$

## BUD ALUMINUM CHASSIS

Mode from one piece of oluminum. Spotwelded reinforced corners. Folded bottom edges permituse of botiomplote. Aluminum gouges indicoted.

|  |  |  |  |  | Shog. | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number | D. | w. | ${ }^{H}$ | Gauge | Wgo. | Each |
| AC. 430 | 4" | $6 "$ | 3" | 18 | 1 lb . | \$ 1.00 |
| AC. 431 | 4 | 6 | 2 | 18 | 1 | 1.00 |
| AC. 432 | 4 | 17 | 3 | 16 | 2 | 1.79 |
| AC. 402 | 5 | 7 | 2 | 18 | 1 | . 82 |
| AC. 429 | 5 | 7 | 3 | 16 | 1 | 1.03 |
| AC. 403 | 5 | $91 / 2$ | 2 | 18 | 1 | . 97 |
| AC. 421 | 5 | $9{ }^{1 / 2}$ | 3 | 18 | 1 | 1.15 |
| AC. 404 | 5 | 10 | 3 | 18 | 1 | 1.18 |
| AC. 422 | 5 | 13 | 3 | 18 | 1 | 1.23 |
| AC. 433 | 6 | 17 | 3 | 16 | 2 | 1.85 |
| AC. 405 | 7 | 7 | 2 | 18 | 1 | . 97 |
| AC. 406 | 7 | 9 | 2 | 18 | 1 | 1.06 |
| AC. 407 | 7 | 11 | 2 | 18 | 1 | 1.18 |
| AC. 408 | 7 | 12 | 3 | 18 | $1{ }^{1}$ | 1.38 |
| AC 409 | 7 | 13 | 2 | 18 | 1 | 1.23 |
| AC. 411 | 7 | 15 | 3 | 16 | 2 | 2.00 |
| AC. 423 | 7 | 17 | 3 | 16 | 2 | 1.79 |
| AC. 424 | 8 | 12 | 3 | 16 | 2 | 1.68 |
| AC. 425 | 8 | 17 | 2 | 16 | 2 | 1.85 |
| AC. 412 | 8 | 17 | 3 | 16 | 2 | 2.18 |
| AC. 413 | 10 | 12 | 3 | 16 | 2 | 3.85 |
| AC. 414 | 10 | 14 | 3 | 16 | 2 | 2.35 |
| AC. 415 | 10 | 17 | 2 | 16 | 2 | 2.23 |
| AC416 | 10 | 17 | 3 | 16 | 21/2 | 2.53 |
| AC. 426 | 11 | 17 | 2 | 14 | 3 | 2.32 |
| AC. 417 | 11 | 17 | 3 | 14 | 3 | 2.94 |
| AC. 418 | 12 | 17 | 3 | 14 | 3 | 3.12 |
| AC. 419 | 13 | 17 | 2 | 14 | 3 | 2.76 |
| AC. 420 | 13 | 17 | 3 | 14 | 3 | 3.29 |
| AC. 427 | 10. | 17 | 4 | 14 | 4 | 2.91 |
| AC. 428 | 13 | 17 | 4 | 14 | 4 | 3.76 |

## BUD CHASSIS 8OTTOM PLATES

Make excellent dust covers ond protect wiring. Plote hos four formed bosses which prevent shorp edges from scrotching. Mode of steel.

Block Zinc
Wrinkle Plated
Sheg. Nep Whinkle Plated Number Number Width Length Wgi. Eoch

| BP. 705 BP. 706 | $5^{\prime \prime}$ | 7" | b. | \$. 45 |
| :---: | :---: | :---: | :---: | :---: |
| B P 680 BP 667 | 5 | 91/2 | , | . 47 |
| BP. 536 BP. 538 | 5 | 10 | 1 | . 45 |
| 8P-681 BP-668 | 7 | 7 | $11 / 2$ | . 66 |
| B P 6828 8P-669 | 7 | 9 | $11 / 2$ | . 66 |
| 8P-683 8P-670 | 7 | 11 | 112 | . 70 |
| BP. 537 BP. 539 | 7 | 12 | 2 | . 67 |
| 8P-684 BP-671 | 7 | 13 | 2 | . 73 |
| BP-685 8P-672 | 5 | 131/2 | 11/2 | . 59 |
| 8 P .516 BP. 513 | 7 | 15 | 2 | . 73 |
| 8P.541 8P. 540 | 81/2 | 15 | 2 | . 74 |
| B P 1069 B P-1067 | 4 | 17 | 2 | . 59 |
| 8P-686 BP-673 | 6 | 17 | 2 | . 84 |
| 8 P .707 BP .708 | 8 | 10 | 2 | . 73 |
| 8 P .7098 P .710 | 8 | 12 | 2 | . 84 |
| BP 6878 8P 674 | 8 | 17 | 2 | . 88 |
| BP-688 8P-675 | 10 | 12 | 2 | . 88 |
| $8 \mathrm{P}-517$ BP. 514 | 10 | 14 | 2 | . 90 |
| 8 P-689 B P 676 | 10 | 17 | 2 | 1.08 |
| BP 690 BP 677 | 11 | 17 | 2 | 1.08 |
| 8P-691 BP-678 | 12 | 17 | 21,2 | 1.18 |
| BP-692 BP-679 | 13 | 17 | 3 | 1.37 |
| BP. 518 BP-515 | 10 | 23 | 3 | 1.47 |

## Cab

## PAR-METAL

AMPLIFIER
FOUNDATION CHASSIS


SLOPING FRONT

## AMPLIFIER FOUNDATION CRASSIS

Modern streomlined design, finished in slate grey, trimmed with chrome moulding and handles. Front panel removable. Sup. plied complete with chassis and bortom plotes. Screen cover is $66^{\prime \prime}$ high.
Number Chassis Size Shpg: Wgr. Net
$\mathbf{F} .10120 \quad 10 \times 12 \times 3 \times 1$

| F. 10120 | $10 \times 12 \times 3 "$ | 11 lbs. | $\$ 6.90$ |
| :--- | :--- | :--- | :--- |
| $\mathbf{F . 1 0 1 7 0}$ | $10 \times 17 \times 3$ | 13 | 7.80 |

F. 13170
8.85


## ROUNDED CORNER TYPE

## AMPLIFIER FOUNDATION CHASSIS

Professional type, rounded corners on screen cover. Chrome mouldings and handles. Cover finished in grey, chassis in black.


STANDARD AMPLIFIER FOUNDATION CHASSIS
Rounded corners, steel chassis with weldcorners. Cover finished in grey, chassis in block. Chassis drilled for bottom plates.


| Sheg. Wgi. | Net |
| :---: | ---: |
| 7 ibs. | $\$ 2.70$ |
| 8 | 3.00 |
| 9 | 3.75 |
| 9 | 3.75 |
| 10 | 4.50 |
| 12 | 5.40 |

SLOPING FRONT CABINETS

Readily adapted for use in studios, laboroories, etc. Top corners round ond trimmed with chrome moulding. Finished in slote rey. Less chassis.

Por Panel Shpg.
 F. $500 \quad 8 \times 8 \times 8^{\prime \prime} \quad 7 \times 7 \times 2^{\prime \prime} \quad 6 \mathrm{lb} .13 .84$ $\begin{array}{lllll}\text { F. } 501 & 8 \times 10 \times 8 & 7 \times 9 \times 2 & 7 & 4.26\end{array}$ $\begin{array}{lllll}\text { F-502 } & 8 \times 14 \times 8 & 7 \times 13 \times 2 & 8 & 4.59 \\ \mathrm{~F} .503 & 9 \times 18 \times 8 & 7 \times 17 \times 3 & 10 & 6.60\end{array}$
F. $50412 \times 18 \times 1210 \times 17 \times 3 \quad 14 \quad 8.40$


## SLOPING PANEL.

## AMPLIFIER FOUNDATION CABINET

4 " sloping front chassis on which is mounted a removable top cover, Allhave handles mounted on chassis. Chassis $31 /{ }^{\prime \prime}$ high, $9^{1 / 2 "}$ overall heighr. Grey wrinkle cover with chrome trim, chossis finished in black wrinkle.

| Number | ${ }^{\text {Top }}$ | Chassis |  | Shpg. | Ne |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Depth |  |  |  | Each |
| CA. 1980 | 5" | 101 | $8{ }^{\prime \prime}$ | 8 lb .5 | 5.49 |
| CA. 1981 | 7 | 12 | 10 | 9 | 6.40 |
| CA.1982 | 7 | 17 | 10 | 11 | 7.41 |
| CA. 1983 | 10 | 17 | 13 | 13 | 8.09 |



## INSTRUMENT AND RECEIVER

 CABINETSEach cabinet has evenly recessed hinged cover with convenient finger lift. Panel on front of cobinet has self-tapping screws. Louvers provide ample ventilotion. Black wrinkle only. Less chassis. For chassis to fit these cabiners, see listing of open end chassis.

| Number | H. | w. |  | Shpg. | Not |
| :---: | :---: | :---: | :---: | :---: | :---: |
| C. 973 | $7{ }^{\prime \prime}$ | $8{ }^{\circ}$ | $8{ }^{\circ}$ | $6^{2} / 216 \mathrm{l}$. | \$ 3.14 |
| C. 993 | 7 | 10 | 8 |  | 3.41 |
| C. 994 | 7 | 12 | 8 | 7 | 3.92 |
| C. 995 | 7 | 14 | 8 | 8 | 4.12 |
| C. 1190 | 8 | 16 |  | 9 | 5.88 |
| C. 975 | 9 | 15 | 11 | 10 | 5.88 |
| C. 999 | 12 | 18 | 12 | 17 | 8.09 |

All prices and specifications in this cato: log subject to chenge without notice.
miniature
AMPLIFIER
FOUNDATION
Small cabinet can te used when designing - compoct omplifier with miniature fube. Chassis size $5 \times 7 \times 2$ ". Overoll height 6". Perforated metolcoyer. Hondle mokes cabinet portable. Block wrinkle finish. Shpg. Wgt. 2 lbs .
CA.1754, Net Each.
\$ 3.43


BUD STREAMLINED MULTI.PURFOSE CAEINETS
Streamlined metol cabinet finished in grey wrinkle. Bock of cobinet open for ventilo. tion. Less chossis.
Number Use Shp. Net
Number D. W. H. Chassis Wgt. Each C. $17843^{1 / 24} 3^{5 n} 4 \frac{1}{2 \prime \prime}$ CB. 16231 lb. $\$ 1.62$ $\begin{array}{llllll}\text { C. } 1785 & 3 \% & 7 \% & 41 / 2 & \text { CB. } 16232 & 1.89\end{array}$ $\begin{array}{lllll}\text { C. } 1787 & 31 / 21 / 2 & 4^{2 / 2} & \text { CB. } & 1625 \\ \text { 1 } 11 / 2\end{array}$ 1.67
1.71


## BUD SLOPING PANEL CABINETS

Entire front panel removable. Hinged top. Finished in black wrinkle, Less chassis.

|  |  | Chossis N |
| :---: | :---: | :---: |
|  |  |  |
| C. $1584{ }^{\text {7 }} 1 / 1{ }^{\prime \prime}$ |  | $7 \times 6 \times 2{ }^{4} \$ 3.09$ |
| C. 1586 |  |  |
| 89213 | $8{ }^{124} 8$ | $8 \times 12 \times 2^{1 / 2}$ |
| . 1893 | 10 | $10 \times 17 \times 3$ / 6.53 |



## bUD STREAMLINED CAbINETS

Rounded front corners andrecessed hinged top. Overall height $8^{\prime \prime}$. Depth $8^{\prime} /{ }^{\prime \prime}$. Black wrinkle finish only. Less chassis; see listing of open end chassis.

|  | Panel | Cobinet | Shog, | N.t |
| :---: | :---: | :---: | :---: | :---: |
|  | Sizo | Wid | Wat. | Each |
|  | $8 \times 81$ | 101/** | 8 lbs | \$ 3.19 |
| C. 1746 | $8 \times 10$ | 121/2 | $8 \frac{1}{2}$ | 3.92 |
| C. 1747 | $8 \times 12$ | 141/2 | 9 | 4.41 |
| C. 1748 | $8 \times 14$ | $16 \frac{1}{2}$ | $91 / 2$ | 5.05 |
| C. 1790 | $8 \times 16$ | 181/2 | $10^{1 / 2}$ | 5.63 |
| C. 1730 | $12 \times 18$ | 20\%; | 18 | 9.11 |

## DELUXE STREAMLINED CABJNETS

Identical to those listed above except that they have a $\frac{1 / 2 "}{"^{\prime \prime}}$ vertical chrome strip at each side of the panel and are supplied in grey wrinkle enamel only. Less chassis.

|  | Panel | Cabinet | St | er |
| :---: | :---: | :---: | :---: | :---: |
| Number | Sizo | Widith | Wor | Each |
| . 1791 | $8 \times 8{ }^{\text {" }}$ | $10^{1} / 2^{\prime \prime}$ | 7 lbs. | \$ 4.07 |
| C. 1781 | $8 \times 10$ | 121/2 | $71 / 2$ | 4.53 |
| C. 1782 | $8 \times 12$ | $14^{\frac{1}{2}}$ | 8 | 4.85 |
| C. 1783 | $8 \times 14$ | $16^{1 / 2}$ | 9 | 6.06 |
| C. 1792 | $8 \times 16$ | 181/2 | 9 | 6.37 |
| C. 1731 | 12x18 | $20^{\text {sin }}$ | 18 | 10.04 |



BUD METAL CARRYING CASES
Easy grip handle at top. Front and bock ponels removoble. Welded construction. Less chassis. CC types are steel, ACC types are aluminum with etched finish.

| Number | D. | W. | H. | Shog. <br> Wgi. | Ner <br> Each |
| :--- | :--- | :--- | :--- | :--- | :--- |
| CC. 1095 | $5^{\prime \prime}$ | $6^{\prime \prime}$ | $9^{\prime \prime}$ | 4 libs. | $\$ 2.43$ |
| CC. 1091 | 5 | 9 | 6 | 4 | 2.43 |
| CC. 1096 | 6 | 7 | 12 | 5 | 2.84 |
| CC. 1092 | 6 | 12 | 7 | 5 | 2.84 |
| CC. 1097 | 7 | $71 / 4$ | 15 | 6 | 3.53 |
| CC. 1100 | 8 | 10 | 10 | 6 | 3.35 |
| CC. 1093 | 7 | 15 | 9 | 6 | 4.90 |
| ACC. 2095 | 5 | 6 | 9 | 2 | 2.35 |
| ACC. 2091 | 5 | 9 | 6 | 2 | 2.35 |
| ACC. 2096 | 6 | 7 | 12 | 2 | 2.94 |
| ACC-2092 | 6 | 12 | 7 | 2 | 2.94 |



BUD MINIBOXES
Heavy gauge oluminum. Grey hammertone finish. Design permits installation of more components than conventional box. 2 -piece construction, each half forming three sides.

|  |  |  |  | , |
| :---: | :---: | :---: | :---: | :---: |
| CU. 2100 2 ${ }^{1 / n}$ | 21/" | $1{ }^{\text {s, }}$ | 1 lb . | \$. 62 |
| CU. $210131 / 4$ | $21 /$ | 13 | 1 | . 62 |
| CU. 21024 | 21 | $1 \%$ | 1 | . 65 |
| CU-2103 4 | 2\% | 21\% | 1 | . 85 |
| CU-2104 5 | 21/ | 2\% | 1 | . 88 |
| CU. 21055 | 4 | 3 | 1 | . 97 |
| CU. 2106 51/4 | 3 | 21/2 | 1 | . 94 |
| CU'2107 6 | 5 | 4 | 1 | 1.21 |
| CU. 21087 | 5 | 3 | 1 | 1.35 |
| CU.2109 8 | 6 | $31 / 2$ | 2 | 1.97 |
| CU-2110 10 | 6 | $31 / 2$ | 2 | 2.44 |
| CU.2111 12 | 7 | 4 | 2 | 2.88 |
| CU.2112 17 | 5 | 4 | 3 | 3.38 |
| CU.2113 10 | 2 | 18 | 1 | 1.18 |
| CU.2114 12 | 21/2 | 2\% |  | 1.32 |
| CU. 2115 | 2 | 2\% | I | . 82 |
| CU. 2116 4\% | 2\% | 11/2 | 1 | . 85 |
| CU. 2117 3\% | 2\% | 1\%/4 | 1 | . 62 |

BUD HANDY BOXES
Permits easy wiring of small components Assembles with four self-ropping screws. Made of 22 gauge steel. Black wrinkle finish. Shigg. Wgt. 1 lb .
Number Height Width Depth Nel Each $\begin{array}{llllll}\text { H8.1621 } & 21 / 4^{\prime \prime} & 41 / 4^{n} & 11 / 2^{n} & \$ .88\end{array}$ H8. 1622


SLOPING PANEL UTILITY CABINETS
A metal box that can be used for numerous purposes. Open bottom. Black wrinkle enamel. Shipg. Wgr. $1 \frac{1}{2} \mathrm{lbs}$.
Number Height Width Depth Net Each

| Number | Heigh |  |  | Each |
| :---: | :---: | :---: | :---: | :---: |
| C. 1579 | $44^{2 / 3}$ | 5 |  | 1.13 |
| C. 1580 | $4 \frac{1}{2}$ | 6 | 4 | 1.29 |
| C. 1581 | 41/3 | 7 | 4 | 1.56 |

BUD
CHASSIS
MOUFTING
BRACKETS


Heovy gauge steel. Finished in black enamel only. No. MB. 450 and MB. 451 de$s$ igned for chassis height of $4^{n}$. Sold in pairs only.

|  |  | Depth |  | Net |
| :---: | :---: | :---: | :---: | :---: |
| $\text { MB. } 458$ | $\begin{gathered} \text { Heigh } \\ 61 / 4 \end{gathered}$ | $8^{\prime \prime}$ | 2 lbs. | \$. 83 |
| MB. 448 | $81 / 2$ | 10 | 2 | 1.08 |
| M8.459 | 31/2 | 11 | $21 / 2$ | 1.18 |
| M8.449 | 61/2 | 12 | $21 / 2$ | 1.42 |
| MB. 460 | 61/2 | 13 | 3 | 1.32 |
| MB. 450 | $8{ }^{1 / 2}$ | 10 | 3 | 1.57 |
| MB.451 | $8 \frac{1 / 2}{2}$ | 13 | $31 / 2$ | 1.67 |

## METAL UTILITY CABINETS

Useful for all sarts of electronic equipment, monitors, frequency meter s, etc. Two removable sides for easy accessibilify. CU sypes made of cold rolled steel; black wrinkle finish; AU types high grade sheet aluminum, etched finish.

Shpg. Net
Number Depth Widith Height Wgi. Each Depth Widin Heighr

| CU.883 | $2^{\prime \prime}$ | $4^{\prime \prime}$ | $4^{\prime \prime}$ | 1 lb. | $\$ .83$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| CU.728 | 3 | 5 | 4 | $1 \frac{1}{2}$ | .93 |
| CU.729 | 4 | 5 | 6 | 2 | 1.18 |
| CU.1098 | 6 | 6 | 6 | 3 | 1.27 |
| CU.1099 | 5 | 6 | 9 | $31 / 2$ | 1.82 |
| CU.879 | 7 | 8 | 10 | 6 | 2.25 |
| CU. 1124 | 6 | 7 | 12 | 5 | 2.41 |
| CU.880 | 8 | 10 | 10 | 7 | 2.84 |
| CU.881 | 8 | 11 | 12 | 8 | 3.53 |
| CU.882 | 7 | 9 | 15 | 8 | 4.02 |
| AU.1083 | 2 | 4 | 4 | 1 | .88 |
| AU.1028 | 3 | 5 | 4 | 1 | 1.00 |
| AU.1029 | 4 | 5 | 6 | 1 | 1.29 |
| AU. 1039 | 6 | 6 | 6 | 1 | 1.36 |
| AU.1040 | 5 | 6 | 9 | $11 / 2$ | 1.94 |

BUD CHASSIS DECKS
Suitable for use in carrying cases andutiliiy cobinets. Each unit is folded over $1 / 2^{n}$ on front, $11_{2}{ }^{m}$ on side, and made from zincplated steel. Useful for. interstoge shield. ing and supports.

|  |  | Fits | Shpg. |  |
| :---: | :---: | :---: | :---: | :---: |
| Number |  | Cab. | $W_{s t}{ }^{2}$ | $\begin{aligned} & \text { Each } \\ & \$ .51 \end{aligned}$ |
| CB. 522 | 4\%/4 ${ }^{1 / 2 / 10}$ | CU. 1098 | $11 / 2 \mathrm{lb} .$ | \$. 51 |
| C8.523 | 41/4 41/2 | CU-1099 |  | . 6 |
| CB. 524 | 6\% $61 / 2$ | CU-879 | 11/2 | 6 |
| CB. 525 | 5\% 51/2 | $\begin{aligned} & \text { CU-1124, } \\ & \text { CC. } 1096^{\prime} \end{aligned}$ | $11 / 2$ | . 58 |
| C8.52 | B1/4 71/2 | CU-880 | $11 / 2$ | . 90 |
| C8. 527 | 9\% 71/2 | CU. 881 | 2 | . 93 |
| C8. 528 | 7\% 61/2 | CU-882 | 2 | . 73 |
| C8.36 | 61/2 61/2 | CC-1097 | $11 / 2$ | . 65 |
| C8. 37 | 83/2 61/2 | CC. 1100 | 2 |  |

## BUD interstage SHIELDS



Useful on receiver and transmitter chassis for eliminating interstage coupling. Formed ongles on front and bottom punched with mounting holes.
Number Hgt . Depth Shpg. Wt. Net Each

| IS. 246 | $5^{1 / 2 \prime \prime}$ | $7^{\prime \prime}$ | 1 lb. | $\$ .59$ |
| :--- | :--- | :---: | :---: | ---: |
| IS.1247 | $5^{1 / 2}$ | 10 | 1 | .65 |
| IS.1245 | $6^{1 / 2}$ | 10 | $11 / 2$ | .59 |



BUD
MIDGET SPEAKER CASES
Housing for midget $2^{\prime \prime}$ and $3^{\prime \prime}$ speakers. Sire: $4^{\prime \prime}$ wide, $4^{\prime \prime}$ deep, $4^{\prime 2} 2^{\prime \prime}$ high. Black wrinkle finish. Shpg. Wgi. 1 lb .


## BUD STREAMLINED SCOPE AND UTILITY CABINETS

Chassis height on all except CU-1991 and CU. 1992 is $11 / 2^{\prime \prime}$. CU-1991 is designed for $3^{n}$ CR fube and has hinged cover, chassis height $2^{\prime \prime}$. CU- 1992 is designed for $5^{\prime \prime}$ CR pube and also has hinged cover, chassis height $3^{\prime \prime}$. Prices include chassis.

|  |  | Shpg. | Neit |
| :--- | :--- | :--- | :--- | :--- |



## MINIATURE UTILITY CABINETS

WITH ATTACHED CHASSIS
Front and rear panels remavable. Black wrinkle finish.

|  |  | Chassis | Shpg. | Nel |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Number H. | W. | S. | Size | Wgt. | Eoch |

## SLOPING PANEL UTILITY BOXES

Streamlined appearonce. $1 / 4$ flonge around rear opening provides convenient bock cover mounting. Black wrinkle finish.
Uses Shpg. Net Number H. W. D. Chassis Wgt. Each C. $16024^{n} 4^{n} 4^{1 / k^{\prime \prime}} \mathrm{CB}-1617 \mathrm{llb}$. $\$ 1.18$ C. 160345 41/4 CB.1618 11.27 $\begin{array}{lllllll}\text { C. } 1604 & 4 & 6 & 41 / 4 & \text { CB. } 1619 & 11 / 2 & 1.37\end{array}$ C. $16054 \quad 7 \quad 4 \frac{1}{4} \quad$ CB. $1620 \quad 1 \frac{1}{2} \quad 1.47$


BUD STREAMLINED METER CASES

All coses hove sloping front with top cor. ner rounded. No. CM-1241 and CM-1242 have insulators on top for leads to meter; No. CM-1965 and CM-1966 are without insulators. Black wrinkle finish. Shpg. Wgt. $11 / 2 \mathrm{lb}$.

|  | Meter | Hole | Not |
| :--- | :---: | :---: | ---: |
| Number | Size | Diameter | Eoch |
| CM.1241 | $2^{* \prime}$ | $2.334^{\prime \prime}$ | $\$ 1.22$ |
| CM-1242 | 3 | 2.835 | 1.22 |
| CM-1965 | 2 | 2.334 | .93 |
| CM-1966 | 3 | 2.835 | .93 |

## KRYLON ACRYLIC SPRAYS

All Krylon sprays have $100 \%$ acrylic bose (liquid plastic). Applications areunlimited. Weather-proof, water-proaf. Rust, fungus, ond chemical resistant. For interior or exterior uses. Dries in only three minutes. Non-inflommable. No brush needed; just sproy on from 12 oz, pressurized dispenser which has non-clogging sproy valve. Crys. tal Cleor will protect ort work, blueprints, maps, charts, machinery, copper, brass chrome, silverware, leother, electricol oppliances, wiring, etc. Workoble Fixotif is ideal to prevent smudging but con be ernsed. Crystol Clear and Aluminum which are non-conductive protect TV antennas, masts, insulators, ond other hordware. All colors are true colors. White will not dis. color and is perfect for touching up the chipped enamel on oppliances, eff. Shpg. Wgt. 2 lbs.

| Number | Color | Net |
| :--- | :--- | ---: |
| 1302 | CRYSTAL CLEAR | $\$ 1.43$ |
| 1306 | WORKABLE FIXATIF | 1.43 |
| 1401 | BRIGHT ALUMINUM | 1.43 |
| 1501 | TOUCH.UP WHITE | 1.43 |
| 1601 | GLOSSY BLACK | 1.43 |
| 1602 | FLAT BLACK | 1.43 |
| 1603 | MACHINE GREY | 1.43 |
| 1604 | LIGHT GREY | 1.43 |
| 1701 | BRIGHT GOLD | 1.43 |
| 1801 | CHROME YELLOW | 1.43 |
| 1901 | REGAL BLUE | 1.43 |
| 2001 | HUNTER GREEN | 1.43 |
| 2101 | CHERRY RED | $\mathbf{1 . 4 3}$ |



## G.C RADIO SERVICE CEMENT

High grode cement for rodio, television, ond speaker work. Especially suitable for sementing replocement cones and repairing rattling ond torn cones. Vibration-proof, waterproof, and fast drying.
NO. 30.22 oz. bottle w/brush Net $\$ .38$ NO. 30.16 1 pint bottle
2.15

## G.C RADIO SERVICE SOLVENT

Best solvent for loosening cement on speaker cones, fromes, ete., mode 90 dis. solve all iypes of cements. Can also be used os a thinner for G.C cement and other cements.
$\begin{array}{lll}\text { NO. } 31.2 & 2 \mathrm{az} \text {, batile } & \text { Nei } \$ .32 \\ \text { NO. } 31.16 & 1 \text { pint botple } & 1.06\end{array}$

## G.C BAKELITE CEMENT

Prepored for cementing bakelite 10 boke. lite ar bakelite to other materiois. NO. 32.22 oz. bettle w/brush Net $\$ .50$

## G.C TELEVISION HIGH VOLTAGE

 CORONA DOPEUsed to prevent corono sharts on hioh voltage circuits in television sets. Has very excellent high voltage insulating çolities. Eosy to opply, air drying.
NO. 47.2
2 or. botlle
-

## 1510 <br> G.C SPEAKER CEMENT

Regular service cement put up in a handy tube. Prokes a good, general-purpase water. proof glue. Also useful for speakers, cones, coils, etc.
No.34-2 2 oz. tube Net $\$ .35$


## G.C PLASTIC CEMENT

Best grade pyroxilyn cement for cementing all types of plastics. Excellent for the cementing of broken cabinets, knobs, etc. Fost drying.
NO. 32-2A 2 oz. bottle w/brush Net $\$ .38$

## G.C WOOD GLUE

Best quality wood glue for repairing cabinets. Strong and fast drying. Will not injure cobinet finish.
NO. 39-2 2 oz. bortle w/brush Niet $\$ .38$

## G.C RUBBER TO METAL CEMENT

Specially prepored for cementing rubber dial drives to metal shofis, rubber mount. ings to chassis, or for cementing any rubber materiol to metal.
NO. 35-2 2 oz. bottle w/brush Net $\$ .38$

## G.C ACRYLIC CEMENT

Cements lucite, plexigloss, and any ather ocrylie moteriol. Fast drying.
NO. 40.22 oz. bottle w/brush Niet $\$ .38$

## G.C LIQUID SOLDERING FLUX

A quality flux for all types of radio and electrical soldering for capper, bross, stecl, nickel, efc. Makes the solder flow faster and smoother and stick better. Noncorrosive.
NO. 42.2
2 az . botile
Net $\$ .38$

## G.C HOUSEHOLD AND MODEL CEMENT

Fost drying cement suitoble for manyuses. Excellent "household" cement. Also an ideal "model mokers" cement.
NO. 45.2 2 oz. bottle w/brush Net $\$ .29$

## G.C TELEVISION TUBE KOAT

Fast drying conductive coating for recooting outside of television picture tubes that have become scratched or have peeling surface. Also used to coat the inner part of television cobinets to prevent high volt. oge leaks and static discharge.
NO. 49.2 2 oz. bottle Net $\$ .56$

## G.C ELECTRICAL AND RESISTOR CEMENT

Heat-proof cement thot hardens like porce. loin. Used on resistors, flat irons, and appliances.
NO. 27.2 2 oz. bottle Net $\$ .38$

## G.C SCRATCH REMOVER LIQUID

Removes serotches instontly. Simply wipe the liquid with c cloth over the serotches ond ther will disappeor. fiandy bottle 10 hove in rool box.
NO. $917 \quad 2$ oz. hotlle Nei $\$ .32$
G.C NON.STICK IRON TIP COMPOUND

- Made with Graphiter

Frevents iron tips from burning inio solder. ing irons. Soves tips and irons.
NO. 1201
2 cz . botrie
Net S 38


## G.C RADIO CHASSIS CLEANER

Cleans radio chossis, panels, test equipment, etc., without injuring the surface. Excellent far rough wrinkle finish surface. $\begin{array}{lll}\text { NO. } 123.8 & 8 \text { az. battle } & \text { Net } \$ .56 \\ \text { NO. } 123.16 & 1 \text { pint bottle } & .88\end{array}$

## G.C CONTACT AND CRYSTAL

 CLEANERExtra pure cleoner. Fass drying far cleaning contacts ond crystals. Will not injure delicate parts.
NO. 127.2 2 oz. bottle w/brush Net $\$ .32$
G.C LIQUIDOPE

Ideal coil dope for oll-wave coil windings. Clear and fast drying. Gives cails o taugh protective film.
NO. 36.2 2 oz . battle $\mathrm{Net} \$ .38$

## G.C Q.DOPE

Ultro low loss eompound recammended for cooting, doping, scaling, cementing, ond impregnoting coils in VHF and UHF ronges. Q.Dope is pure polystyrene dis. solved in Q.Dope thinner and is moisture. repellent. Con be used to "weld" polysty. rene materiols together. Will not affect coil choracteristics.
NO. 37.2 2 oz. bottle
Ne1 \$ . 38

## G.C GRAFOLINE

"Lubricant for Metallic Contacts"
Insures proper and lasting repoirs for all air-exposed contocts, switches, and wire: wound volume contrals, wherever dust ond dirt offect the quiet action of adjustable rodio parts or controls. Also cleans noisy tube prongs, etc. Increases current capacity of switch contocts and contocts last longer.


Long-losting coloring for signal systems, radio diols, decorotive lighting, etc. In. stant drying. Bright, durable colors of red. green, blue, amber, purple, and solvent. NO. 66.6 Kit of 6 bettles Net $\$ .70$

## G.C LUMINOUS

## LITE.KOAT KIT



Long-life, non-poisonous, luminous coot. ing that glows in the dark. Used on knobs, panels, switch plates, meter boxes, efc. Complete kit with brushes ond thimner.
NO. 184.0 DELUXE KIT Net $\$ 1.97$
G.C COIL DOPE KIT


For high frequency ceils, ultre low less. Canteins 2 az. bottle Polysiyrene Q-Dope, 202 . Thinner, and twe brushes.
NO. 888 KIT
Net $\$ .65$
G.C RUBBING OIL

Rub donn riewly limished or repaired coblo riers 10 prodice rick satin sheen finish.
NO. 163.1t lt oz. bottle Net $\$ .56$


## G.C RUF.KOAT WRINKLE VARNISH

Finish that will air dry and give you a professional wrinkle jab without baking. Easy to use. Available in either black or grey. Specify color.

| NO. 60.2 | 2 oz . battle | Net $\$ .38$ |
| :--- | :--- | ---: |
| NO. 60.4 | 4 oz . can | .65 |
| NO. 60.8 | 8 oz. con | 1.12 |
| NO. 60.16 | 1 pint con | 1.94 |



## G.C FELT.COAT FLOCK FINISH SPRAY KIT

You can do a professional job without any experience when applying flock with the G.C potented gun. It dispributes flock evenly and blows each fibre into the undercoat vertically with great force. Does beautiful job on phono iurntables, cabineis, grilles, instrument coses, tool boxes, toys, ornaments, signs, efc. Kit consists of blower gun, two cans of undercoat, brush, instructions, one con each of brown flock, ivory flock, thinner.
NO. 180-2 DELUXE KIT.
Net \$ 7.61

## G.C FELT-COAT SPECIAL FLOCK

 PATENTED BLOWER GUNNO. 180.3 Blower Gun only Net $\$ 2.80$


## G.C FELT.KOAT FLOCK

Genuine royon flock. Gives a beautiful shiny felt or plush like surfoce. Avoiloble in brown, taupe, blue, block, ivory, red, green, silver, and gold. Specify colar.
NO. 180-5 2 az. sifter can N'et $\$ .79$ NO. $180.7 \quad 1 \mathrm{lb}$. bog 3.53


G-C FLOCK UNDERCOAT
This moteriol is first opplied on surfoce to be flocked, then opply flock.

| NO. 180.4 | 4 oz. can |
| :--- | :--- |
| NO. $180-8$ | 8 oz. con |$\quad$ Net $\$ .71$

## FLOCK SIZING THINNER

| NO. 181-4 | $4 \mathrm{oz} . \mathrm{con}$ | Net \$ . 29 |
| :---: | :---: | :---: |
| NO. 181-8 | 8 oz. con | + $\begin{array}{r}\text {. } 38\end{array}$ |



## G.C COLOR CODING KIT

Complete kit of all stondard RTMA colors: block, brown, red, orange, yellow, green, blue, purple, grey, and white. Brushes ore furnished and calor chart is on box. The moteriols ore brilliant, fast drying locquer enamels.
NO. 677
Net $\$ 1.26$
G.C

SPRAY-KLEEN ELECTRONIC CONTROL Cleaner


Cleans and lubricates cantacts, cantrols, relays, switches, ond ather sliding contact devices in one fost operation. Eliminates noise due to dust, dirt, and corresion on contacts. Just spray onto contacts or control; no need to dismantle chassis to get at the parts. Shpg. Wgt. 1 lb .
NO. 86666 az , sproy type can Net $\$ .98$

G.C CARBON.X
"Far Noisy Carban Cantrals"
A practical method to touch up those worn and noisy spots on carbon volume controls. Simply apply Carbon- $X$ over the bad spots and the job is done. Corbon-X is an elec. trical conductor.
NO. 12052 oz , bottle w/brush Net $\$ .71$

## LIQUID NON.SLIP

"For Radio Drive Cobles ond Belis" Penetroting and fost drying liquid dress. ing. Shrinks fibres, prolongs life of cables belts, ond prevents slipping.
NO. 1211 1/2 oz. botile Net $\$ 21$

## NON-SLIP COMPOUND FOR RADIO DIALS

Powder compound for treoting friction type diol drives such os cords, cobles, ond belis.
NO. $1210 \quad 2$ oz. bottle Net $\$ .32$

## G.C DIAL AND APPLIANCE OIL

A fine free-running oil for lubricoting dial mechanisms, loosening and freeing controls, shafts, etc. Also use on small motors and applionces.
NO. 12472 oz. botile w/brush Net $\$ .24$


Highest quolify ond safe to use - will not explode Quickly removes oils, tors, greases, ond other soils from electrical ports. Will not harm the finest surfoces or finishes of metol, wood, or ocetore ports. Instant drying, leoves no odor or hormful residue. Ideal for cleaning sliding contacts, condenser plotes, chossis, and as o wash for carbon deposits.

| NO. CT. 8 | 8 oz. bottle | Net $\$ .53$ |
| :--- | :--- | ---: |
| NO. CT.G | 1 gallon can | 3.17 |

## G.C SKRATCH STIK

Hondy pocket scratch remover to be used on walnist, mohogony, or ook cabinets - all shodes and colors. Simply run Skratch Stik over o scratch and it will vanish like magic.
NO. 909


WALSCO "NO.OX".
"The Miracle Electranic Contact Fluid". Contoins no solvents; corrosion-dis solving action is entirely chemical. For volume and tone controls, ottenuotars, mixers, reloy contacts, and similar equipment.
$\begin{array}{llr}\text { NO. } 101 & 1 \text { az. botple } & \text { Net } \$ .50 \\ \text { NO. } 102 & 2 \text { oz. bottle } & .94 \\ \text { NO. } 100-16 & 1 \text { pint bottle } & 7.35\end{array}$

## WALSCO CONTACTENE INJECTOR

For applying confoct cleaner, carbon tef, No-Ox, dial oil, etc., to spois which are not ordinorily accessible. Injector needle will permit application of chemicals to most volume controls without unsoldering connections or taking control apart. Made of high quolity moteriols. Comes complete with small gloss viol.
NO. 989 INJECTOR
Net \$ . 44

## G.C MAG.NETIK

## RECORDING HEAD CLEANER

Dissolves oxide scum accumulation on tope recording heods. Cleans recording heod mechonisms on tope and wire recorders. NO. 53.2 2 oz . bottle Nei $\$ .94$

## 

G.C PHONO TURNTABLE MOTOR AND GEAR LUBRICANT
Special lubricant for phonographs and in. sures long life to ports thot ore not lubricoted often. This lubricont will cling to the parts ond will not thin and run os will other lubriconts.
NO. 1223 oz. tube Net $\$ .38$

## G.C LUBE-REX

${ }^{n}$ Prevents Corrosion"
An exceptionally fine contoc cleoner which prevents corrosion and gives losting protection becouse it clings to the metol. Fine for aftenvotors, push-button switches, all-wove switches, contacts, etc. Maisfure-tepellent ond rust preventing. Excellent for use on locks, fishing reels, guns, dial mechanisms, phono geor.

| NO. 1206 | 2 oz. fube | Net $\$ .38$ |
| :--- | :--- | ---: |
| NO. 1209 | 2 oz. bottle | .38 |

## 明偪



## AMPHENOL SILICONE COMPOUND

For insulating transmission lines to elimin. ote surfoce moisture by breaking into isolated drops. Also good for moisture proofing of RF and other electrical connectors, ignition systems, etc. Non-corrosive.
NO. 307-1 loz. fube Net $\$ 1.18$

## AMPHENOL POLYWELD

Pure polystyrene coil dope in solution with " $916^{\prime \prime}$. thinner. For "doping", coating, and sealing in UH ond VH frequencies. Moisture repellent.
NO. 912-2 2 oz, cemens
Net $\$ .35$
NO. 916-2T 2 oz . thinner

## CH CHOKES RF - POWER - HASH




R-100 SERIES. Identical electrically but differ in mounting provisions. R-100 has pigtail leads, $R$ - 1000 has plgtail leads and removable stand-off insulator, R-100S has cotter pin lug terminals and nonremovable stand-off insulator, R-100ST has 6-32 threaded stud at each end. All are rated at 125 MA and avallable in 2.5 5 and 10 millihenry sizes.


R-154 SERIES, For the 20, 40 and 60 meter bands, Inductance 1 Min, DC resistance 6 ohms, DC current 600 MA . Coils wound on steatite core. R-154 has third nounting foot and small insulator.
No. R-154
Net $\$ 2.01$
No. R-154U
1.61

R-50 SERIES. 50 HA chokes available in sizes of $0,5,1$ and 2.5 millihenry. Wound on $1^{\prime \prime}$ long form, diameter 15/32.

No. R-50, Any type
Net $\$ .40$ No. R-50-1. 10 MH , iron core. Net $\$ .61$

R-U0. High current RF choke ( 500 HA ). Available in 2 and 4 microhenry sizes. R-60, Any type

Nct $\$ .40$
R-60, Any type Nct $\$ .40$

R-300 SERIES. Similar to R-100 Series but has higher current capacity ( 300 MA ) All types available in inductance values of $0.5,1.0,2.5$ and 5 millihenry. R-300 Pigtail Leads Net. \$. 44 R-300U Stand-Off Insulator . 48 R-300S Cotter Pin Lug Terminals . 48 R-300St 6-32 Threaded Stud .46

R-152. For use in range between 2 and 4 s:C. Ideal for high power transmitter stages in the 80 meter bana Inductance $4 \mathrm{NH}, \mathrm{DC}$ resistance 10 ohms, DC current 600 MA. Coils honeycomb wound on steatite corc.
No. R-152
Net \$ 2.01
R-33 SERIES. $2-\sec t i o n$ chokes rated at 33 MA, available in $1,10,50,100$, and 750 microhenry sizes.

No. R-33, Any Type
Net \$. 40
R-175A. High reactance throunhout 6-10-15-20-40-80 meter bands. Suitable for parallel or series feed in transmitters with rlate supply up to 3,000 volts modulated or 4,000 volts unmodulated. Inductance 145 uh, distributed cap. 0.6 mmf. DC resistance 5 ohms, DC current 800 MA. Voltage breakdoun to base $12,500^{\circ}$ volts.
NO. R-175A
Net \$ 2. 59

## GRAYBURNE RF CHOKES

New, small. extra efficient RF chokes with Ferrite cores. Size only $1^{1 "}$ long by $3 / 8^{\prime \prime}$ diam. Extra large increase in " $Q^{\prime \prime}$. and reduction of resistance. Lower distributed capacity.


## HIGH-BATIO RF VARI-CHONES

Precision variable Rf' chokes with Ferrite cores. Induction variation as high as 10 to 1. Size: $2^{1} \times 3 / 8^{\prime \prime}$.

Tipe
Description
V-6

V-25
5.5 - 35.0 M Mi

Net
\$. 70

## J. W. MILLER



## OHMITE CHOKES

$\longrightarrow C \begin{aligned} & \text { TOHMITE } \\ & 2144\end{aligned}$
R. P. Plate Chokes. Single-Layer mound on low loss form. All chokes are rated at 1000 MA. exeept Z14 \& Z28 which are rated at 600 MA .
Number
Räge $\underset{\text { Micro- }}{\text { henries }} \begin{gathered}\text { Shpg. } \\ \text { Ngt. }\end{gathered} \quad$ Net

| 2460 | 320-520 | . 20 | 402. | \$. 23 |
| :---: | :---: | :---: | :---: | :---: |
| 2235 | 160-350 | . 84 | 4 | . 23 |
| 2144 | 80-200 | 1.8 | 4 | . 23 |
| 250 | 35-110 | 7.0 | 4 | . 23 |
| 228 | 20-60 | 21.0 | 6 | . 31 |
| Z 14 | 7-35 | 44.0 | 6 | . 48 |
| Z 7 | 3-20 | 84.0 | 11 b . | 1.10 |

P- 300 Parasitic Suppressors. Designed to prevent parasitic oscillations. Non-Inductive, 50 okn resistor $\mathrm{wl}+\mathrm{h}$ choke in parallel.

Net \$ 1.37

## OHMITE POWER LINE CHOKES



POHER LINE CHOKES - Recommended for use in suppressing radio (not audio) frequency interference from diathermy machines.etc.

Number Micro- $\begin{aligned} & \text { Menrics Amp ohms }\end{aligned}$

| $\mathrm{Z}-20$ | 14 | 5 | .15 | 11 lb | $\mathbf{1 . 5 1}$ |
| ---: | ---: | ---: | ---: | :--- | ---: |
| $\mathrm{Z}-21$ | 15 | 10 | .07 | $1 / 6$ | $\mathbf{2 . 5 4}$ |
| $\mathrm{Z}-22$ | 18 | 20 | .045 | 2 | $\mathbf{3 . 6 6}$ |
| $\mathrm{Z}-30$ | 46 | 20 | .085 | 3 | $\mathbf{5 . 5 1}$ |

## MILLEN

HASH FILTERS
No. 77083 - 250 MA hash filter. Net \$1. 14 No. 77866 - For 866 tubes. 500 MA hash filter. Per pr.
No. 77872 - For 872 tubes. Per pr.

## J. W. MILLER

Rectifier Hash Filler Chokes


Dun-lateral wound, use in scries with plate leads of mercury vapor rectifiers to prevent RF hash. 1000 volt insulation. Shpg. Higt. Avrg. 8 oz.

Number NH Res. NA Net $\begin{array}{lllrr}7867 & 4^{4} 3 & 4 \% & 500 & 1.32 \\ 7868 & 23 & 2.3 & 1000 & 1.65\end{array}$ $7868 \frac{2 \%}{2} \quad 1000 \quad 1.65$ No. 7865. Two duo-lateral wound coils on ceramic form. For use with mercury vapor tubes (full wave) 250 HA per tubc. Peak voltage 2500. 3.25 MH per coil. resjstance 15 ohms. Shpg. Higt. 12 oz. Net 1.05

## J. W. MILLER

Unsbielded Iron Core Cbokes


# COILS - I. F. TRANSFORMERS 



Inexpensive series for replacement or building. Wound on bakelite forms. Antenna and RF coils have high impedance SW colls with for GSA7 secondarres. dered is tapped for 6SA7 tube. Hie powdered iron core. Shpg. Wgt. 11 b .

| Number | Type | Net |
| :---: | :---: | :---: |
| 14-1056 | BC Antenna | \% 1.29 |
| 14-1057 | BC RF | -1.29 |
| 14-1058 | BC Osc. | 1.29 |
| 14-1061 | 1.7-5.3 МС Ant. | 1.39 |
| 14-1062 | 1.7-5.3 MC RF. | 1.32 |
| 14-1063 | 1.7-5.3 MC Osc. | 1.32 |
| 14-1064 | 5. 3-16.5 MC Ant. | 1.32 |
| 14-1065 | 5.3-16.5 MC RF. | 1.32 |
| 14-1066 | 5.3-16.5 MC Osc. | 1.32 |

## FM-AM "COMPOSITE" IF

Contains a 456 KC AM and a 10.7 MC FM IF transformer. Each circuit tuned separately. Hie powdered iron core. Size: $1-3 / 8^{\prime \prime}$ square, $2 /{ }^{\prime \prime}$ 'ong Shpg. Wet. 1 lb No. 16-6675

Net $\$ 2.94$

"SLIP-OVER" PRIMARY
No. 14-6852 For $\mathbf{1}^{\prime \prime}$ O. D. Coll Ner \$ . 25
AIRPLANE
TRANSFORMERS
14-1030 Antelana, 195-410 KC
14-1031 Airplane RF $195-410 \mathrm{KC}$
$14-1032$ Oscillator $195-410 \mathrm{KC}$
O.

## 

455 KC NBFM DISCRIMINATOR
For use in adaptors for converting regu lar ham sets with 455 KC I.F. to NBFM. Slipg. Wgt. 1 lb .

NO. 17-3486 Discriminator NBFM Net $\$ 2.23$

## BFOCOIL

Supplies "beat" note necessary for Cl reception. Frequency range $290-650 \mathrm{Kc}$. Peaked at 456 KC . Knob control. Size: $1-3 / 8 \times 3-1 / 2^{\prime \prime}$ high. Shpg. Wgt. 1 ib .
No. 17-6753
Net \$ 1.76

| $242=$ <br> IRON CORE I.F. TRANSFORMER5 |  |  |
| :---: | :---: | :---: |
| Double-tuned with ceramic base. Mica-trimmers, size $1-3 / 8 \times 3$ HH. Shpg. Wgt. 1 lb. |  |  |
| Number | Description |  |
| 16-5728 | 175 KC Input | \$ 1.94 |
| 16-5730 | 175 KC output |  |
| 16-5740 | 456 KC Input | 1.76 |
| 16-5742 | 456 KC Output | 1. 76 |
| 16-8091 | 1500 KC I nput. Inters | 1. 76 |
| 16-8099 | 1500 KC Output |  |



## JAMES MILLEN <br> I.F. TRANSFORMERS

Air-trimmed.

# 62161 



1600 KC Interstage
Number 14-1010 14-102? 14-1004 14-1026 14-1030 14-1041 14-1044 14-2436

14-7413
ANTENNA
COILS


Description Standard Unshielded Midget, Unshielded Standard Shielded Univ. Adj. Unshld. Airplane, $195-410 \mathrm{KC}$ Adj. SI $1.7-5.3$ MC Unshld Midget. $13 / 8^{\prime \prime}$ sq. 2"' high. shiclded. Univ. Adj. Shielded


RADIO FREQUENCY COILS

14-1005
4-1011 standard Shielded
14-1023 Midget Unshielded
4-1027 Univ. Adj. Unshld
14-1042 Adj. SW 1.7-5.3 MC Unshld. 14-1045 Adj. SW 5.3-16.5 MC Unshid. 14-2437 Midget R.F. $13 / 8^{\prime \prime}$ sq. $2^{\prime \prime}$ 14-7558 Univ. Adj. Shi eldea


## OSCILLATOR coils

14-1028 Irilv. AdJ. Unshld..
 1. 29 14-1033 456 for 6SA7 $410 \mathrm{KC} \quad 2.73$ 4-1040 .65 14-1040 Univ. Tap Pri. Unshld. 1.47 14-1043 Md. SW 1.7-5. 3 MC Unshld 1.47 unshld.
14-3732 t75 KC, Unsh1d $\qquad$

14-4034 456 KC, Unshld
14-4242 175 KC Shld.
14-4243 456 KC Sild
4-6590 362 KC Shld
14-6592 370 KC shld.
14-7560 Eniv. Adj. Shld.

## 3/4 INCH SQUARE IF

For repiacement or in construction of small "personal" sets. High gain, ideal for battery sets. Compression type trime $\pi$ mers. Size $3 / 4^{*}$ square by $2^{\prime \prime}$ long. Frequency 456 KC . Shpg. Wgt. 1 lb .
Number
Type
16-6608 16-6669 16-6678
"Battery" Input
Net


IRON CORE PLASTIC I.F.

| Number | Description | Niet |
| :--- | :---: | :---: |
| 16-6662 | 456 KC Input | $\$ 1.47$ |
| $16-6663$ | 456 KC Output | 1.47 |

## PLASTIC I.F. TRANSFORMERS

Found on molded plastic coil form with Trimmers. Size. $14 \times 2 k^{\prime} z^{\prime \prime} h i g h$. Shpg. wi. 1 lb
Number
Description
Net
16-6649
175 KC Input
\$ i. 18

16-6650
16-665!
175 KC Interstage
-1. 18 16-6658 175 KC Output

1. 18 16-6658
1.03 $\begin{array}{ll}16-6660 & 456 \mathrm{KC} \text { Output }\end{array}$

## midget plastic I.f. transformers

Similar to above but only $1-1 / 8^{\text {" }} \mathrm{D} \times 3^{\text {" }} \mathrm{H}$.
Shpg. Wgt. 1 lb .
$\begin{array}{ll}\text { No. 16-6E66 } \\ \text { No. 16-6667 } & 456 \mathrm{KC} \text { Input Net } \$ 1.29\end{array}$
1.86

NATIONAL


## MULTI-BAND TAKK

## Newest model multi-band tank assembly

 with swinging link for use in low-pow er applications. (erid circuits 20 watts input, plate circuits 40 watts inputs Output can be taken fromatts input). shielded can be taken from the variable shielded link when coupling to antenna or next stage. Tank tunes through 80,40 , $20,15,11$, or 10 meters without switching or coil changing. May be also used as a multi-band antenna tuner. Best results will be obtained with tubes using not more than 400 volts plate and drawing not more than 100 HAMONEL MB-40 SL
Net
\$17.75

## 150 WATT TANK

Model MB- $150^{\circ}$ tunes all amateur bands from 80 through 10 meters with 1800 bands tion of the shaft, colls are never changed. Unit is built around a circuit which tunes to two harmonically circuit ed frequencies at the same time cover wide frequency range and yet maintain a Feasonably constant $\mathrm{L} / \mathrm{C}$ ratio. Size, $3^{\mathrm{h}} \mathrm{F} \times 84^{\mathrm{K}} \mathrm{Hx9} 9^{\mathrm{h}}$ long overall. Model $\mathrm{MB}-150$ is for use os the all Model tank in PP or single all-band Dlate ning up to 150 ingle ended stages run-i peak). Ideal for pats input ( 1500 volts eak. Ideal for pair of 807's or 809's or single 820 B . Separate link coupling coll has special clips which adjust to match iapedances up to 600 ohms directly. Output couples into, a higher powered amplifier, antenna or antenna tuning network. Fast band changing is accomp1shed without handling coils mpremoving one of the danger points in the amateur station.
MODPL MB-150
Net 321.36

## JOHNSON

## ROIARY INDUCIOR

Same efficient inductor wear
tank of VIKING I and II as used in final any low and medium powor May be used in switching exciter power rig with bandtuning without changing coils continuous wound for Hi-a changing coils. Variable wound for Hi-Q throughout range with No. 14 tinned copper wire on Steatite form. Maximum inductance 10 microhenries. My. calex end plates. Smooth rotation provided by front and rear bearings. prosi tive rolling contact. Size: $2 / 2 / 2 \times 4^{\prime} L^{2} \times 3^{\prime \prime} H$. Shpg. Hgt. 5 lbs.
TYPE 229-201
Net \$8.67

## AIR CORE I.F.

TRANSFORMERS
Standard for replacement purposes. Doubletuned with ceramic mica-trimmers. Size $13 / 8^{\prime} \times 3^{\prime \prime}$ high. Shpg. Wgt. 1 lb.

Number

Description
$\begin{array}{lrr}\text { Number } & \text { Description } & \text { Net } \\ \mathbf{1 6 - 5 7 0 0} & \mathbf{1 7 5} \text { KC Input } & \mathbf{1 . 4 7}\end{array}$
16-3731 175 KC output
175 KC Output C. T.
$\begin{array}{ll}16-5706 & \text { 262 KC Input } \\ 1.47\end{array}$
$\begin{array}{ll}16-5706 & 262 \text { KC Output } \\ 16-5712 & \mathbf{1 . 4 7}\end{array}$
6-5712 456 KC Input 1.47
16-6133 456 KC Interstage 1.47
16-5714 456 KC Output
$16^{-3736} \quad 456 \mathrm{KC}$ Output C.T.

## Coi BARKER \& WILLIAMSON INDUCTORS



## SMALL INDUCTORS

## MINIDUCTORS

cor use in limited space, can be cut to size. Useful for tank circuit coils, RF chokes, high frequency IF transformers, loading colls, etc. Aver. Shpg. Wt. 8 oz *O. DIA. TP! L. L. NET NO, DIA. TPIP \&. NET
 $\begin{array}{llllllllll}30 n 4 & 1 / 2 & 32 & 2 & .36 & 3010 & 3 / 4 & 8 & 3 & .54 \\ 3002 & 1 / 2 & 8 & 2 & .36 & 3011 & 3 / 4 & 16 & 3 & .34\end{array}$ $\begin{array}{llrlllllll}3002 & 1 / 2 & 8 & 2 & .36 & 3011 & 3 / 4 & 16 & 3 & .34 \\ 3003 & 1 / 2 & 16 & 2 & .36 & 3012 & 3 / 4 & 32 & 3 & .34\end{array}$ $\begin{array}{lllllllllll}3005 & 5 & 8 & 4 & 2 & .45 & 3013 & 1 & 4 & 3 & 60 \\ 3006 & 8 & 8 & 2 & .45 & 3014 & 8 & 8 & 60\end{array}$ $\begin{array}{llllllll}3007 & 5 / 8 & 16 & 2 & .45 & 3015 & 1 & 16 \\ 3 & .60\end{array}$
 -1PI - Tums rer inch.
No. $3906 \cdot 1.10^{\prime \prime}$ long, $2 \vartheta^{\prime \prime}$ diameter. No. 14 Hire. Net \$ 1,30
"TAILOR-MADE" MINIDUCTORS
The following tho coils are the types specificd in Gcorge Grammer's article titled "Tailor-Made" Antcnna Couplers in Hay 1950 QST.

No. 3005-1, $10^{n}$ length of coll material sound with No. 12 tinned pire, spaced 6 turns per inch. $2-5 / 8^{\prime \prime} \mathrm{D}$. Net $\$ 1.50$

No. $3900,10^{\prime \prime}$ length of coll material *ound aith No. 14 tinned wire. spaced 8 turns per inch. 2" Liam. Net \$ 1.50


JUNIOR INDUCTORS For powers up to 75 watts input. Fitted With standard 5 -prong steatitc base. May be used in oscillator, buffer, or final amplifier stage with flate voltages up to 850 .

END LINKED MUDELS


B\&W "BABY" AIR INDUCTORS

25 watts
RATING
Ideal for cronded lasouts, portables and field transmitters. Standard 5 -prong base. Conservatively rated at 25 watts. Size only $1 \frac{1}{2} \times 11^{\prime \prime \prime}$. Any type, Net $\$ 1.26$ Strazht Center End Center 10M-2900 103: C-2907 10NEL-2914 10'ICL-2921 15M-2901 $15 \mathrm{MC}-290815 \mathrm{MEL}-2915$ 15MCL-2922 $20 \mathrm{M}-290220 \mathrm{MC}-2909$ 20YEL-2910 $20 \mathrm{KCL}-2923$ $40 \mathrm{Y}-290340 \mathrm{MC}-291040 \mathrm{MEL}-2917$ 405CL-2929 $80 \mathrm{H}-290480 \mathrm{MC}-2911 \mathrm{BOMEL}-291880 \mathrm{MCL}-2925$


## B\&W TYPE B

 INDUCTORS
## GOR POWERS UP TO ISO WATYS INPUY

All coils equipped with banana type plue. Tipe "B" is for use in oscillator and buffer-doubler stages developing up to 100 watts power. Type "T" especially suited for high powered neutralized buf* fer and final tank stages where powers of 500 watts are developed. Type "HD" is for maximum roker, handles a Kl" with ease, Aver. Shpg, ligt. 2 lbs.

VARIABLE LINK - CENTER TAPPE:N 3221 5BИ $52.31 \quad 3225$ 40BИ 402.73 3222 10BKL $102.31 \quad 3226$ 80BVL $80 \quad 3.12$ $322315 \mathrm{BL} \quad 15 \quad 2.40 \quad 3227160 \mathrm{BV}, 160 \quad 3.45$ 3224 20B1L 202.40
Mo. 3228, Steatite Jack Bar Assembly for end or center link type Bo Net $\$$. 83 No. 3266. Jack Bar and Swinging Link for BLL.

Net 53.44

## FOR POWERS UP TO 500 WATYS INPUT

## YARIABLE LINK - CENTER TAPPEN

 3313 10TLL $102.64 \quad 3318$ 40TV, 403.12 3317 20TVL $202.73 \quad 3320$ 160TVL $160 \quad 3.72$ M) 3321. Steatite Jack Bar A sembly for end or center link tyre T. Net $\$ 1.25$
No. 3366. Base Assembly and Swingins Link for TVL. Net \$ 5.30 Special groun of units with 5 -contact plug bars nowers us to 500 watts input.
variable linh - center tapred
3501 10TVI $104.71 \quad 3504$ 40TVH 404.71 3502 15TVH $154.71 \quad 3505$ 80TV1 804.71 3503 20Tท1 $204.71 \quad 3506160 \mathrm{TVI} 1604.71$ No. 3566. Jack Bar Assembly and Swinging link for type TVI.

Net $\$ 5.16$

FOR POWERS
UP TO 1000

## WATTS INPUT


variarle link . renter tappen
3715 1011DVL $105.37 \quad 3718$ 401fDVL 406.60 $371615 \mathrm{HDL} \quad 156.21 \quad 3719$ 80HDLL $80 \quad 7.41$ 3717 2OHDLL $206.21 \quad 3720$ 160HDVL 1608.67 N0. 3721. Jack Bar Assembly for HD and HUCL. No. 3766. Base Assembly and Swinging Link, for HDVL. Net $\$ \mathbf{6} .8 \mathrm{se}$ " Cx " condenser.

Net $\$ .75$

## BALUN

COILS


Use of two of these cails enables any transmitter (up to 150 wotts input) to matels 75 olm unbalanced transmitter output ta 75 or 300 ahm bolanced entenno feed lines. Equally efficient 80 thru 10 meters. Moy be used with Collins 32V Series and Jahnson Vikings. Need not be maunted in metal box. TWO COILS RE. QUIRED FOR SYSTEM. Full instructions included. Requires $8 \times 10$ mounting plate (not included). Less hardware and insu. lators.
NO. 3975 ( 2 required) Net eoch coil $\$ 3.75$ NO. PS. 239 Undrilled $8 \times 10$ plase........ 88
1.KW BALUN COILS. Turn io poge 5.

farAday SHIELDED LINKS

Effectively reduce hammonic or spurious signal radiations normally transferred by capacity coupling. Help to reduce TV and BC interference. Nos. 3781, 3782. 3783 are for HDVL Series; nos. 3581. 3582, 3583 are for TVL, TVH and BVL series.

| Number | Turns | Net |
| :--- | :---: | ---: |
| 3581 | 1 | $\mathbf{5 . 1 0}$ |
| 3582 | 2 | $\mathbf{5 . 1 0}$ |
| 3583 | Link Armi Assembly | $\mathbf{3 . 1 0}$ |
| 3588 | $\mathbf{2 . 4 0}$ |  |
| 3589 | Link Arm Assembly \& Hinge | $\mathbf{2 . 7 0}$ |
| 3781 | 1 | $\mathbf{3 . 4 0}$ |
| 3782 | 2 | $\mathbf{3 . 4 0}$ |
| 3783 | 3 | $\mathbf{3 . 4 0}$ |
| 3788 | Link Arm Assembly | $\mathbf{2 . 7 0}$ |
| 3789 | Link Arm Assenbly \& Hinge | $\mathbf{3 . 0 0}$ |



Handy plugein links that save money and time. Make sour rig adaptable to practically any impedance.

PLUG-IN LINGS FOR TVR, TVL AND BVL COILS
3550 Arm only
\$. 70
3551 Arm turn link

1. 00

35533 turn link
3556
6 turn link
$\begin{array}{ll}3556 & 6 \text { turn link } \\ 3560 & \text { l0 turn link }\end{array}$
io turn link . 95
plug-in linis for hid coils
3750 Arm only
\$ 1.40 3765 Arm \& hinge 3751 I turn link

1. 80 37533 turn link
1.25 3 3is6 6 turn IInk 1. 2.5 3760 10 turn link 1.75

## TURRET ASSEMBLIES



Wakes possible fast, positive band switching. All units cover $80,40,20,15$. \& 10 meter bands. Effective capacity of approx* imately 50 mmfd . required to tune
M. 3121. 75-WATT 2A "BAND HOPPEPS", May be used for interstage coupling between two beam nower tubes or between beam rower tibes ani triodes. Net \$5.76 NO. 3810. 75-WATT TURRETS. For 1 ink coupled single ended or PP low pover stages Blay be used with voltages up to 850 . Type JTCL. Center tarped, center link.

Net $\$ 11.25$
No, 3811. Type J1EL. Did link. untapped. Net \$ 11.25
No. 3812. 150-HaTT TURRETS supplied in both center and end link models for both single and double ended circuits. hiay be used with voltages up to 1000. Type BCL. Center link, center tapped. Net $\$ 14.01$ No. 3813. Type BEL. End link, untapped.

Net \$ 14.01
No. 3818, Turret pial Plate. Nist \$.30

## TRANSMITTING

## BARKER \&

WILLIAMSON


## TYPE CX

TRANSMITTING

## CONDENSERS



Superior design! only half the length of conventional units. Designed for built-in neutralization. Integral mounting of B\&\% coils reduces lead length. Shpg. Wgt. 7 lbs .

TYPE ${ }^{n} \cdot A^{\prime \prime}=.500^{n}$ AIRGAP

| Type | Capacity |  | Capacity Sections |  | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pers | ction |  |  |  |
|  | Max. | Min. | Max. | Min. |  |
| CX40A | 40 | 18 | 23 | 12 | \$ 23.76 |
| Cx49A | 49 | 21 | 28 | 14 | 27. 36 |
| CX59A | 59 | 24 | 33 | 16 | 29.13 |

TYPE "B" - . 375".AIRGAP
$\begin{array}{llllll}\text { CX45B } & 45 & 17 & 28 & 12 & \$ 23.22\end{array}$
TYPE "C" - . 250" AlRGAP

| CX45C | 45 | 13 | 26 | 9 | $\$ 20.07$ |
| :--- | :--- | :--- | :--- | ---: | ---: |
| $\mathrm{CX62C}$ | 62 | 16 | 34 | 11 | 22.56 | $\begin{array}{llllll}\text { cx95C } & 95 & 22 & 50 & 14 & 22.56 \\ & & & 27.73\end{array}$

TYPE JCX small butterfly typo capacitors sinilar to those 1 isted above. Have only $25 \%$ of the frontal area ef CX types. Ideal for medium powered triode or tetrode stage plate circult applications where modulated plate voltage docs not exceed 1250 .volts $\&$ unmodulated plate voltage does not exceed 1500.
Sections ir
Series, Cap. Cap.per sect.
Number Max. Min. Max. Min.
$\begin{array}{rllllr}\text { JCX-100E } & 50 & 15 & 99 & 23 & \$ 10.80 \\ \text { JCX-50E } & 25 & 10 & 42 & 13 & 8.10\end{array}$
$\begin{array}{llllll}\text { JCX-25E } & 16 & 8 & 25 & 10\end{array}$

## neutralizing plates

N1 - Will neutralize the HY114, HK24, RK31, HK54, TW75 and similar tubes.
N2 - Will neutralize the 75T, 35T, 808, RK35, 852 and similar tubes.
N3 - Will neutralize the 801, T-TZ20, T-TZ40, RK18, HK154, 811, 812, T55, 100TH, 806, 810 and similar tubes.
N4 - Will neutralize the 833, T20n, 805, GLL152, 838, 203A, RK52 and similar tubes. Shpg. Wgt. $3 / 4 \mathrm{lbs} \quad$ Net Per Pair $\$ 3.58$

B \& W PLUG AND JACK BARS

| Number 3914 |  | M\%g. | Used on B8W | Nep |
| :---: | :---: | :---: | :---: | :---: |
|  | Type | Dimen | Inducters | Each |
| 3915 | Jock | $41 /{ }^{\text {n }}$ | B Series | . 60 |
| 3916 | Plug |  | T Sorios | . 45 |
| 3917 | Joek | $6^{1 / 20}$ | .T Serics | 1.00 |
| 3918 | Plug |  | TVH Sorios | . 60 |
| 3919 | Jack | $73 / 4$ | TVH Sorios | 1.10 |
| 3920 | Plug |  | HD Sorios | 1.10 |
| 3921 | Jock | $93 \%$ | HD Series | 1.25 |
| Vactum coniensrr mounting braceets for ic |  |  |  |  |
| Jennings or Eimac vacuun capacitors for use |  |  |  |  |
| with BR ${ }^{\text {d }}$ type Cx condensers. |  |  |  |  |
| No. 3930 | 1 Sing | e Vacuu | m Cond. hount | \$ 1. |
| No. 3930- | 2 Twin | Vacıum | Cond. Mount. | 2. |



## TRANSMITTER COILS

## 75 WATT TRANS苗ITTER COILS

75 Watt coils with polystyrene base, 5 prongs. OEL coils have fixed end link, no tap. OCL colls have fixed center link, center tapped. OLs have adjustable center link, center tapped. OES have adjustable end link, no tap. OEP, same as OES, but use with 6L6, 807, etc. OCP, same as OLS, but for use with 6L6, 807, etc. Average Shpg. Wgt. 11 b .

Fixed Fixed, Adjust. Adjus Gind Center Center End Band Not Link

|  |  | OLS 160 |  | 160 | 2. 22 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| OEL-80 | OCL-80 | OLS-80 | OES-80 | 80 | 1.91 |
| OEL-40 | OCL-40 | OLS-40 | OES-40 | 40 | 1. 88 |
| OE2-20 | OCL-20 | OLS-20 | OES-20 | 20 | 1. 79 |
| OEL-15 | OCL-15 | OLS-15 | OES-15 | 15 | 1. 76 |
| OEL-10 | OCL- 10 | OLS-10 | OES-10 | 10 | 1.71 |
| 02. 6 - | OCL-6 |  |  | 6 | 1. 38 |
|  |  | OCP-10 | OEP-10 | 10 | 1. 71 |
|  |  | $0 \mathrm{CP}-20$ | OEP-20 | 20 | 1. 7 |



## 100 WATT BAND SWITCH ASSEWBLY

For $10,15,20,40 \& 80$ meter bands. XCS-1 designed for push-pull plate or grid circuits. plate neutralization coils are center-tapped $\%$ center linked 200 mmfd . condensers required to tune all bands. XeS-2 for use in single ended plate or grid circuits; coils are end linked. requires 100 onfid. to tume all bands. Shpg Wgt: 3 lbs.

No. $\mathrm{xCS}-1$
No. XES-2
Net \$ 14.11

30 Watt baño smitch assembly
For $10,15,20,40 \& 80$ meter bands. Used in low power oscillators, buffer or ampli. fier stages. power not to exceed 50 watt input. 5-position dial plate furnished. Shpg. Wgt. 2!' Ibs.

No. ONS- 1
Net 8.09

## ICA COIL FORMS

Low-loss coil ribbed forms for transmitting and receiving coils.

| Nunber | Prengs | Dianeter | Height | Net |
| :--- | :---: | :---: | :---: | ---: |
| 2158 | 4 | $1-3 / 8^{n}$ | $2-1 / 4^{n}$ | $\$ .34$ |
| 2159 | 5 | $1-3 / 8$ | $2-1 / 4$ | .39 |
| 2160 | 6 | $1-3 / 8$ | $2-1 / 4$ | .39 |
| 1051 | 4 | $1-5 / 8$ | $3-5 / 8$ | .44 |
| 1052 | 5 | $1-5 / 8$ | $3-5 / 8$ | .44 |
| 1053 | 6 | $1-5 / 8$ | $3-5 / 8$ | .49 |
| 2670 | 4 | $2-1 / 4$ | $4-1 / 8$ | .54 |
| 2671 | 5 | $2-1 / 4$ | $4-1 / 8$ | .54 |

Amphenol 912-A Polystyrene Coil Forms

| A |  | $B\left[\begin{array}{c} c \\ \vdots \\ 1 \end{array}\right]$ | $c\left[\begin{array}{l}\text { ch } \\ 3\end{array}\right.$ |  |
| :---: | :---: | :---: | :---: | :---: |
| Number | Fig. | Sizo | Prongs | Net |
| 24.4P | A | $12 \times 21 / 4$ | 4 | \$ 24 |
| 24.5P | A | $11 / \times 21 / 4$ | 5 | . 24 |
| 24.6P | A | $1 \frac{1}{1} \times 2 \frac{1}{4}$ | 6 | . 24 |
| 24.6 H | B | 3/4 | 6 | . 24 |
| 24 | C | \% | None | . 09 |

JAMES MILLEN
MIDGET COIL FORMS


45004


43001

"quartz e"

Miuget coil forms made of low loss micafilled bakelite. Average shpg. wt. 8 oz

| N0. 45000 | $1^{\prime \prime}$ dia. |  | Net \$ . 39 |
| :---: | :---: | :---: | :---: |
| N0. 45004 | 1 | 4-prong | . 31 |
| N0. 45005 | 1 | 5-prong | .51 |

"quartz $Q^{"}$ blank forms, 5-Drong riugs.
No. $430011^{-5 / 16^{\prime \prime}}$ dia. $2^{\prime \prime}$ long Net $\$ 1.05$
"Quartz Q" blank forms.
No. $470011 / 2^{\prime \prime}$ dia. $1-1 / 8^{\prime \prime}$ long Net $\$ .12$ NO. $470021 / 2 \quad 2-5 / 8$
No. $470033 / 4$
No. $470043 / 4$

## PERMEABILITY TUNED CERAMIC FORMS

Octal base of low loss mi-
ca filled bakelite, polystyrenc $1 / 2^{n}$ dia. coll form, aluminum shielded iron tuning slug for use up to 35 MC .


No. 74001 fith iron core Net $\$ 2.10$ No. 74002 Less iron core
CERAMIC PERMEABILITY

TUNED UNSHIELDED FORMS
No.
c9041 Conper SluE Dia Lgth. Net
69042 Iron Core $\quad 13 / 32 \quad 7 / 32 \quad .84$ 69043 I ron Core $\quad 1 / 4 \quad 3 / 8 \quad .84$ 69044 Copper Slug $3 / 16 \quad 3 / 16 \quad .84$ 69045 Copper" Slug $\quad 1 / 2 \quad 1-1 / 161.05$ 69046 Iron Core $\quad 1 / 2 \quad 1-1 / 16$ L 05 69047 Conper Slug $1 / 4^{*} \quad 3 / 8 \quad 1.05$ 69048 Iron Core $\quad 1 / 4 \quad 3 / 8 \quad 1.05$

## PLUGS AND SOCKETS SEN:

 No.40203 midget 5 -prong plug.
40305 Intermediate size Sveatite
plug, 5-prong.
41205 Midget socket for 40205 plug. . 69 41303 socket for 40305 plug.

## COILS AND <br> COIL FORMS <br>  <br> ( $+\cos \boldsymbol{2}$

Wound coils and blank forms as used and specified in manyreceivers and converters shown in QST and ARRL Handbook. All ore slug-tuned, ceramic or phenolic insulotion.

FORMS ONLY


WOUNO COILS

| NG. | FREQUENCY | COLOR | NET |
| :--- | :---: | :--- | :--- |
| LS3-1 | 1.0 MC | Brown | .93 |
| LS3.5 | 5.0 MC | Green | .87 |
| LS3.10 | 10.0 MC | White | .84 |
| LS3.30 | 30.0 MC | Oronge | .83 |
| LS3.60 | 60.0 MC | Blue | .83 |
| LSM-1 | 1.0 MC | Brown | .93 |
| LSM5 | 5.0 MC | Green | .87 |
| LSM.10 | 10.0 MC | White | .84 |
| LSM.30 | 30.0 MC | Orange. | .83 |
| LSM-60 | 60.0 MC | Blue | .83 |

## Coi MILLER COILS AND TRANSFORMERS



DELUXE BANK WOUND
Shielded

Number
une with
.000365 condenser

| 242－A | Antenna | 540－1750 | － 1.05 |
| :---: | :---: | :---: | :---: |
| 242－BP | Band Pass | 540－1750 | ． 90 |
| 242－RF | RF | 540－1750 | 1.05 |
| Unsh1el ded |  |  |  |
| Number | Use | Range | Net |
| $241 . \mathrm{A}$ | Antenna | 540－1750 | 4． 75 |
| 241－RF | RF | 540－1750 | ． 73 |

## HIGH GAIN T．R．F．

Similar to above coils，higher gain．Use with ． 000365 condenser．Dimensions， $13 / 8^{\prime \prime}$ diameter，height $2^{\circ}$ ．

| Number | Use | Range | Net |
| :--- | :--- | :---: | ---: |
| 42－A | Antenna | $540-1600$ | $\mathbf{5} .75$ |
| $42-\mathrm{RF}$ | RF | $540-1600$ | .75 |



## E CONOMY T．R．F．

For experimental and low－cost sets．Righ efficlency．Use with． 000365 condenser． rinshicided．Dimensions． $1^{\prime \prime}$ diameter， $23 / 8^{\prime \prime}$ high．

| Number | Use | Range | Net |
| :--- | ---: | ---: | ---: |
| $20-\mathrm{A}$ | Antens | $540-1750$ | $\mathbf{5 . 5 1}$ |
| $20-\mathrm{RF}$ | RF | $540-1750$ | $\mathbf{. 5 1}$ |

## SELECTJR．BAND

8．5－23 MC COILS
Tune＊1th ． 000365 condensers．

| Number | Use | Net |
| :--- | :--- | ---: |
| D－727－A | Antenna | $\mathbf{1 . 0 2}$ |
| DD $727-R F$ | RF | $\mathbf{1 . 0 2}$ |
| D－727－C | OSCillator 455 KC | $\mathbf{1 . 0 2}$ |

12．5－36 7n CoILS


Broadly resonant throughout standard broad－ cast band， $540-1700 \mathrm{KC}$ ．Diameter $1 \mathrm{5} / 8^{\prime \prime}$ ． $21 / 2^{\prime \prime}$ high．

| No． $472-U A$ | Anteana | Net $\$ 1.26$ |
| :--- | :--- | ---: |
| No． $472-U T$ | RF | 1.36 |

． 472 －UT
RF
Nidget Variable Condensers

Split outer plates on rotors permit ac－ curate alignment．RF trimmers on short side of unit．Shaft． $3 / 8^{\prime \prime}$ by $1^{\prime \prime}$ long． Capacity range per section 10 to 365 mufd．


## 9．20．Miller

SUb－Miniature i，f．transformers，offer high gain and bandwidth characteristics high gain and bandwidth characteristics
formerly found in larger assemblics．Size $1 \%^{n}$ square， $11^{n}$ high．

$$
\begin{aligned}
& \text { No. } \\
& 10-\mathrm{C} 1 \\
& 10-\mathrm{C} 2
\end{aligned}
$$

Description

$$
10-\mathrm{C} 2
$$

$$
\begin{aligned}
& 455 \text { KC 1nput } \\
& 455 \text { KC output }
\end{aligned}
$$

$$
\begin{array}{r}
1.30 \\
1.30
\end{array}
$$

Midget Oscillator


For use witn ． 000365 condenser． $510-1600$ KC．Unshielded．Di ameter $\cdot 1^{\prime \prime} \times 1^{\prime \prime}$ 。

| Number | 1．F． | Pad． | Net |
| :---: | :---: | :---: | :---: |
| 5480－K | 175 KC | ． 001 | ＊．69 |
| 5480－C | 455 KC | ． 0004 | ． 68 |
|  | TAPIED MIDGET |  |  |
| Number | 1．F＊ | Pad． | Net |
| 5481－K | 175 KC | ． 001 | \＄． 69 |
| 5481－H | 2 F 2 K kC | － 006 | ． 69 |
| 5481－C | 455 KC | .0004 | ． 69 |

## REPLACEMENT OSCILLATOR

Iuned with． 000365 condenser．540－1700 KC． 455 KC IF．． 0004 padder．Unshiclded． N0． $480 \cdot \mathrm{C}$

Nét $\$ .51$
CART唃HEEL 1．F．TRANSFORMER
N0．1212C．Compact duable turied unshield－ ed IF＇for use where space is limited． Use in all stages．Freq．range 425－500 KC ．


SHIELDED MIDGET R，F，COILS Extremely compact．permeability tuned． shielded coils．For aircraft，marine and broadcast receivers．Frequency ranges ap－ ply when used with a 000365 mid ．tuning condenser．Size． $1-1 / 8^{\prime \prime}$ square， $2^{n}$ high． Spade lug mounting．

| Number | Use | Frcquency | Nct |
| :---: | :---: | :---: | :---: |
| X－320－A | Ant． | 140－425 KC | \＄ 1.65 |
| X－320－RF | RF＇ | 140－425 KC | 1． 65 |
| A－320－A | Ant． | 540－1700 KC | 1.17 |
| A－320－RF | RF | 540－1700 KC | 1.17 |
| X－320－C＊ | 0sc． | 455 KC | 1.32 |
| A－320－C＊＊ | Osc． | 455 KC | 1.17 | ${ }^{\text {＊For }}$ use with ${ }^{\text {＂}} \mathrm{X}^{n}$ coils．． 00012 series padder．

＊＂For use with＂A＂colls，．00uq series padder．

NEGATIVE WUTUAL COUPLING
Use＇in Ki－Fidelity tuners．Shielded．Dimen－ sions， $17 / 8^{\prime \prime}$ diameter．Height $2^{\prime \prime}$ ．
NO．EL． 56
Net $\$ .75$
No．ML－58．Used to eliminate 10 KC whis tle．Range 7500－12．000 cy．Net $\$ 3.96$ CONVERTER OUTPUT TRANSFORMERS For use with UHF and Vif converters to en－ able use of lower frequency recelyers．
Number
Frequency Range
Net
512－QT
512 －男T
．512－XT
500－550
－ 1.44
$\begin{array}{lll}512-\text { WT } & 1400-1600 & 1.44 \\ 512-X T & 2900-3100 & 1.44 \\ 512-\boldsymbol{T H} & 4500-5500 & 1.44\end{array}$
512－YT
PHONO SCRATCH FILTER
NO．EL．59．Will reduce needle scratch in high impedance pickup．Freq．range 2000． to 3000 cy ．


## FM I．F．Transformers

Permeabllity tuned 10.7 MC IF transformer． Ceramic condensers incorporated．
 1452 10．7 MC Discriminator

## FM VARIABIE CONDENSER

NO．1461．Rigidly constructed 3－gang tuning condensers especially designed to work with FW colls．Minimize microphon－ ics．Freq．range 88－108 MC．Capacity 6－26 mefd．per section． $3 / 8^{n}$ shaft．Slpg． Wgt． $1 \frac{1 / 2}{} 1 \mathrm{bs}$ ．Net $\$ 2.70$ SIGNAL FREQUENCY COILS Unique construction permits close induc－ tance control and excellent stability． Tuned with Miller FM variable condenser． solder lug terminals on bottom．



## Iron Core

Transformers
Core of high quality powdered iron．Mich Compression trimmer．Dimensions， $13 / 8^{\circ}$ square， $31 \mathrm{u}^{\prime \prime} \mathrm{hi}$ th．
Number Freq．KCRange Use Ner $612-\mathrm{Cl} \quad 455 \quad 450-475$ Input 1.74 612－C2 455 450－475 Interstage 1．74 612－C3 455 450－475 Pull Wave 1.74 $\begin{array}{lllll}612-C 3 & 455 & 450-475 & \text { Full Wave } & 1.74 \\ 612-C 4 & 455 & 450-475 & \text { Hal f Wave } & 1.74\end{array}$ $\begin{array}{lrrl}612-C 4 & 455 & 450-475 \\ 612-W 1 & 1500 & 1400-1600 \text { Input } & 1.74\end{array}$ 612－12 1500 1400－1600 Interstage 1．74 $\begin{array}{lll}612-\text { H3 } & 1500 & 1400-1600 \text { Full Wave } 1.74 \\ 612-\text { Hi } & 1500 & 1400-1600 \text { hal f Wave } \\ 1.74\end{array}$ 612－15 1500 1400－1600 BFO 1.68

## AIR CORE TRANSFORMERS

Silelded．Dimensions， $13 / 8^{\prime \prime}$ square． $25 / 8$ high．Mica Compression trimmer．

| Number． | Freq． | KC Range | Use | Net |
| :--- | :---: | :---: | :---: | :---: |
| $512-\mathrm{Cl}$ | 455 | $450-475$ | Input | $\mathbf{1 . 4 4}$ |
| $512-\mathrm{C} 2$ | 455 | $450-475$ | Intcrstage | $\mathbf{1 . 4 4}$ |
| $512-\mathrm{C} 3$ | 455 | $450-475$ | Full Fave | $\mathbf{1 . 4 4}$ |
| $512-\mathrm{C4}$ | 455 | $450-475$ | Half Wave | $\mathbf{1 . 4 4}$ |
| $512-\mathrm{C5}$ | 455 | $450-475$ | BFO | $\mathbf{1 . 5 6}$ |
| $512-W 1$ | 1500 | $1400-1600$ | Input | $\mathbf{1 . 4 4}$ |
| $512-W 2$ | 1500 | $1400-1600$ | Interstage | $\mathbf{1 . 4 4}$ |
| $512-W 3$ | 1500 | $1400-1600$ | Full Wave | $\mathbf{1 . 4 4}$ |
| $512-W 4$ | 1500 | $1400-1600$ | Half Wave | $\mathbf{1 . 4 4}$ |
| $512-W 5$ | 1500 | $1400-1600$ | BrO | $\mathbf{1 . 5 6}$ |

##  <br> Miniature I．F． <br> Transformers

For use in＂Personal＂recelvers，T．V． and others where space is limited．Size． $2-1 / 8^{n} \mathrm{H} \times 3 / 4^{\text {n }}$ square．Pemeability tuned． silver mica condensers．Snap ring mount－ ing clip．

| No． | Description | Net |
| :---: | :---: | :---: |
| 12－H1 | 262 KC Input | －1．50 |
| 12－H2 | 262 KC Output | 1．50 |
| 12－116 | 455 KC Input（Dual Diode） | 1． 59 |
| 12－C1 | 455 KC Imput | 1.32 |
| 12－C2 | 455 KC Output | 1.32 |
| 12－C6 | 455 KC Output（Dual Diode） | 1.41 |
| 6203 | 4．5 MC Input or Interstage | 1.65 |
| 6204 | 4．5 HC Discriminator | 1．98 |
| 6205 | 4．5 MC Ratio Detector | 1.98 |
| 1463 | 10．－7－MC Input or interstage | 1．65 |
| 1464 | 10．7 MC Discriminator | 1．98 |
| 1465 | 10．7 MC Ratio Detector | 1．98 |

## TRANSMITTING CONDENSERS

## TINY MITE BUD

TUNING CONDENSERS

TINY MITE
SINGLE SECTION
shpg．Wst．： 1 b ．

Number
Max．Min．Air No．Net Cap．Cag．Gap Pl．Each Mint．Mmid

| LC－1640 | 8 | 2.5 | ． 0177 | 3 | \＄ | 1． 38 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LC－1641 | 15 | 3 | ． 017 | 5 |  | 1.44 |
| LC－16 32 | 25 | 4 | ． 017 | 9 |  | 1． 73 |
| LC－1643 | 35 | 5 | .017 | 13 |  | 1．73 |
| LC－1644 | 50 | 6 | ． 017 | 19 |  | 1． 82 |
| LC－1645 | 75 | 7 | ． 017 | 29 |  | 2.03 |
| LC－1646 | 100 | 9 | ． 017 | 37 |  | 2.15 |
| LC－1648 | 10 | 4 | ． 037 | 7 |  | 1.59 |
| LC－1649 | 1.5 | 5 | ． 037 | 11 |  | 1． 59 |
| LC－1650 | 25 | 5.5 | ． 037 | 17 |  | 1． 88 |
| LC－1651 | 35 | 6 | ． 037 | 21 |  | 2．06 |
| LC－1652＊ | 50 | 8 | ． 037 | 35 |  | 2.94 |
| ［C－1653 | 6 | 3.5 | ． 073 | 5 |  | 1.65 |
| LC＝ 1654 | 15 | 5.5 | ．073． | 15 |  | 2．06 |
| LC－ $1655^{\circ}$ | 25 | 9 | ． 073 | 27 |  | 2.9 |



## JUNIOR

penotes double bearing．


TINY MITE DUAL SECTION

Number
Cap．per Sect．
Nax．Min．Air Pl．Per Nict Mmid．MmId．Gap Sect．Each

| LC－1659 | 8 | 2,5 | $.017^{\circ 4}$ | 3 | 2.59 |
| :--- | ---: | :--- | :--- | ---: | ---: |
| LC－1660 | 15 | 3 | .017 | 5 | 2.88 |
| IC－1661 | 25 | 4 | .017 | 9 | 3.18 |
| LC－1662 | 50 | 6 | .017 | 19 | 3.56 |
| LC－1663 | 100 | 9 | .017 | 37 | 3.94 |
| LC－1664 | 10 | 4 | .037 | 7 | 2.88 |
| LC－1665 | 15 | 5 | .037 | 11 | 3.50 |
| LC－1666 | 25 | 5.5 | .037 | 17 | 3.85 |
| LC－1667 | 35 | 6 | .037 | 21 | 3.85 |

##  <br> 



[^4]＇Number

| JC－1525 | 50 | 4 | 7 | ． $0.51{ }^{\circ 4}$ | （4．41 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| JC－1526 | 100 | 7 | 1.3 | ． 0.51 | 3.15 |
| JC－1527 | 145 | 9 | 19 | ． 051 | 5.50 |
| JC－1528 | 250 | 12 | 33 | ． 0.51 | 6.61 |
| JC－1529 | 340 | 15 | 43 | ． 051 | 7.35 |
| JC－1530 | 25 | 4 | 5 | ． 078 | 4． 70 |
| JC－1532 | 55 | 8 | 11 | ． 078 | 5， 00 |
| JC－1534 | 110 | 10 | 21 | ． 078 | 5． 62 |
| ． $\mathrm{C}=1535$ | 150 | 11 | 29 | ． 078 | 5.88 |
| JC－1536 | 190 | 15 | 37 | ． 078 | 7.35 |
| JC－1537 | 245 | 17 | 47 | ． 078 | 9． 14 |
| JC－1538 | 30 | 5 | 7 | .141 | 5．00 |
| JC－1540 | 55 | 10 | 17 | ． 144 | 5． 48 |
| JC－154 1 | 80 | 12 | 25 | ． 144 | 5.88 |
| JC－1542 | 105 | 15 | 33 | ． 144 | 6． 61 |
| JC－1543 | 18 | 6 | 7 | ． 175 | 5． 00 |
| JC－1544 | 40 | 11 | 15 | ． 175 | 5． 58 |
| JC－1545 | 55 | 13 | 19 | ． 175 | 5． 88 |
| JC－1547 | 100 | 18 | 37 | ． 175 | 6.61 |

## DUAL SECTIO

| Number | Max． Cap． | Min． Сар． | $\begin{aligned} & \text { No. } \\ & \text { Pl. } \end{aligned}$ | Air <br> Gap | Nir Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| JC－175กA | 20 | 3 | 3 | ． 051 ＂ | \＄ 6.91 |
| JC－1551A | 50 | 5 | 7 | ． 051 | 7.41 |
| JC－1552A | 70 | 6 | 0 | ． 051 | 7.64 |
| JC－13．33A | 100 | 7 | 13 | ． 051 | 8.09 |
| JC－15．54A | 145 | 9 | 19 | ． 051 | 8.82 |
| JC－1569A | 200 | 10 | 25 | ． 051 | 9.55 |
| JC－13．ifi | 250 | 12 | 3.3 | ． 051 | 10． 29 |
| JC－1570A | 25 | 4 | 5 | ． 078 | 5． 88 |
| JC－15ina | 55 | 8 | 11 | ． 078 | 6． 61 |
| JC－1573A | 80 | 9 | 15 | ． 078 | 7． 82 |
| JC－1561A | 110 | 10 | 21 | ． 078 | 9.61 |
| JC－1563A | 150 | 11 | 21 | ． 078 | 11.17 |
| JC－1374 | 20 | 5 | 7 | ． 144 | 8.82 |
| JC－1575A | 40 | 8 | 13 | ． 144 | 9.41 |
| JC－1576A | 55 | 10 | 17 | ． 144 | 9.82 |
| IC－1366A | 18 | 6 | 7 | ． 175 | 8.09 |
| JC－156iA | 40 | 11 | 15 | ． 175 | 8.82 |

MASTER
TRANSMITTING CONDENSERS

## 兴解 MILLEN

## MILLEN RECEIVING CONDENSERS

Steatite insulator condelisers as used in Millen Fxcitor．No． 22100 is single－ spaced．No． 22950 is double－spaced．

Number Section Capacity Net $\begin{array}{llcc}\text { 20950 } & 1 & 100 & \mathbf{3 . 1 9} \\ & 1 & 50 & \mathbf{2 . 3 1}\end{array}$

鬲ILLEN MEUTRALIZING CONDENSERS
Telescoping cylinder－type with air di－ electric at high ambicnt temperatures． Peak voltage on No． 15005 is 4000 ，peak voltage on No． 15006 is 6000

Number
Range
Net
15006
$2.8-9.1$
3.54

JOHNSON
MINLATURE ALR VARLADLE CONDENSERS


Sqallest air variables ever built．Used in all types of HF equipment．Available in single，differential，and butterfly types．Single hole mounting．Shaft is slotted for screw driver adjustment or $3 / 16^{\prime \prime}$ knob．Panel mounting space is $3 / 4^{\prime \prime}$ by $5 / 8^{\prime \prime}$ ．Mounting bole $1 / 4^{\prime \prime}$ ．

|  | Capacity | Nunber |
| :---: | :---: | :---: |
| Type | Max．Min． | Plates |


|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 160－102 | 5 M 11 | 5.1 | 1.5 | 5 | 8.93 |
| 160－104 | 9 M 11 | 8.7 | 1.7 | 9 | ． 98 |
| 160－107 | 1511 | 14.6 | 2.1 | 15 | 1． 13 |
| 160－110 | $20 \mathrm{ml1}$ | 19.7 | 2.6 | 21 | 1． 27 |
| BUTTERPLY |  |  |  |  |  |
| 160－203 | 3MB11 | 3.3 | 1.7 | 7 | I． 32 |
| 160－205 | 5MB11 | 5.3 | 2.1 | 13 | 1.47 |
| 160－208 | 9MB11 | 8.5 | 2.7 | 22 | 1.67 |
| 160－211 | 11 MBII | 11.0 | 3.2 | 31 | 1.86 |
| DIPPRRENTIAL， |  |  |  |  |  |
| 160－303 | 6MA11 | 5.6 | 1.8 | 7 | 1.37 |
| 160－305 | 9MA11 | 9.3 | 2.0 | 13 | 1． 52 |
| 160－308 | 15MA11 | 14.8 | 2.3 | 22 | 1.71 |
| 160－311 | 19MA11 | 19.3 | 2.7 | 31 | 1.96 |




TYPE＂F＂DUAL SECTION

## Number Max．per Sect．suacing Net $\begin{array}{lllll}100 \mathrm{FD} 30 & 99 & 13 & .075 & 8.72\end{array}$

Ghpg．Wgt． $3 \frac{14}{2}$ lbs．
On all condensers listed above，tirst part of the type number indicates the capacity per section in Mmid．Last number multi－ plied by 100 is the approximate peak break down voltage．

Compact，low－cost neutralizing condensers．
Peak R．F．breakdown ratings at 2 MC － $N-125,8500 ; N-250.11500 ; N-375.14500$. Shpg．Mgt． $1^{1 / 4} 1 \mathrm{bs}$ ．

|  | Cadacity |  |  | Net |
| :---: | :---: | :---: | :---: | :---: |
| Nunber | Max． | Min． | Spaang | Each |
| N125 | 11.0 | 1.1 | ． $125{ }^{\prime \prime}$ | （3．59 |
| N250 | 10.6 | 1.4 | ． 250 | 6.61 |
| N375 | 10.7 | 1.7 | ． 375 | 8． 43 |



BUD TUNING CONDENSERS

Semi-Circular Type
Approx. Shpg. Hit. 12 oz

| Number | Max. Cap. | $\begin{aligned} & \operatorname{Min}, \\ & \text { Cap. } \end{aligned}$ | No. | $\begin{aligned} & \text { Air } \\ & \text { Gap } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| MC-1870 | 15 | 3 | 3 | . 024 " |
| MC-1872 | 33 | 4 | 5 | . 024 |
| MC-1873 | 50 | 5 | 7 | .024 |
| MC-1875 | 108 | 7 | 14 | . 024 |
| MC-1876 | 140 | 8 | 13 | . 024 |
| MC-1877 | 5 | 2 | 2 | . 060 |
| MC-187? | 15 | 4 | 5 | . 060 |
| MC-1880 | 35 | 5 | 11 | . 060 |
| MC-1881 | 50 | 1 | 15 | . 060 |

MID-LINE THPE
Approx. Shpg, Wist. 12 oz ,

| Number | Max. Сар. | Min. Сар. | No. Pl. | $\begin{aligned} & \text { Ai r } \\ & \text { Gad } \end{aligned}$ |  | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MC-324 | 10 | 2 | 2 | .024" | \$ | 1.47 |
| MC-323 | 25 | 4 | 4 | . 024 |  | 1.59 |
| MC-148 | 50 | 5 | 8 | . 024 |  | 1.82 |
| MC-301 | 75 | 6 | 11 | . 024 |  | 1.91 |
| MC-321 | 100 | 6 | 15 | . 024 |  | 2.09 |
| MC-396 | 140 | 7 | 20 | . 024 |  | 2.21 |
| MC-327 | 5 | 2 | 2 | . 060 |  | 1. 50 |
| MC-311 | 15 | 4 | 5 | . 060 |  | 1.59 |
| MC-319 | 35 | 6 | 11 | . 060 |  | 1.91 |
| MC-312 | 50 | 7 | 16 | . 060 |  | 2.18 |



Approx, Shpg. Wgt. 1 lb .

| Number | $\begin{aligned} & \text { Max. } \\ & \text { Cap. } \end{aligned}$ | Min. <br> Cap. | $\begin{aligned} & \text { No. } \\ & \text { P1. } \end{aligned}$ | $\begin{aligned} & \mathrm{Air} \\ & \text { Gap } \end{aligned}$ |  | $\begin{aligned} & \text { Net } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| WC-1850 | 15 | 3 | 3 | . 024 " | \$ | 1.62 |
| MC-1852 | 33 | 4 | 5 | . 024 |  | 1.62 |
| MC- 1853 | 50 | 5 | 7 | . 024 |  | 1.88 |
| MC- 1855 | 100 | 7 | 14 | . 024 |  | 2.06 |
| MC-1856 | 140 | 7 | 19 | . 024 |  | 2.39 |
| MC-1858 | 190 | 9 | 27 | . 024 |  | 2.53 |
| MC-1859 | 235 | 10 | 33 | . 024 |  | 2.91 |
| MC- 1860 | 300 | 12 | 43 | . 024 |  | 3.12 |
| MC-1861 | 15 | 4 | 5 | .060 |  | 1.82 |
| MC- 1862 | 35 | 5 | 11 | . $\mathrm{n}_{0}$ |  | 2.06 |
| NC-1863 | 50 |  | 15 | . 060 |  | 2.26 |
| MC-1864 | 75 | 9 | 23 | . 060 |  | 2.65 |
| MC-1865 | 100 | 12 | 31 | . 050 |  | 2.88 |
| MC-1866 | 35 | 8 | 15 | .095 |  | 2.38 |
| MC-1867 | 50 | 10 | 23 | 095 |  | 2.70 |
| MC- 1868 | 75 | 13 | 33 | . 005 |  | 3.12 |
| mid-LINE Type |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | Double Bearing <br> Approx. Shpg. Het. 12 oz . |  |  |  |  |  |
|  | Max. | Min. | No. | Air |  | Net |
| Number | Cad. | Cap. | Pl. | Gap |  | Each |
| MC-300 | 25 | 4 | 4 | . 024 " | \$ | 1.83 |
| MC-902 | 35. | 5 | 6 | . 224 |  | 1.88 |
| MC-903 | 50 | 6 | 8 | . 024 |  | 1.97 |
| MC-304 | 75 | 7 | 11 | . 024 |  | 2.06 |
| MC-905 | 100 | 7 | 15 | . 024 |  | 2. 23 |
| MC-906 | 140 | 7 | 20 | . 024 |  | 2.56 |
| MC-308 | 190 | 9 | 27 | . 024 |  | 2.68 |
| MC-903 | 250 | 11 | 36 | -024 |  | 2.91 |
| MC-910 | 300 | 13 | 43 | . 024 |  | 3.26 |
| MC-565 | 15 |  |  | . 0fin |  | 2.06 |
| MC-837 | 35 | 6 | 11 | . 060 |  | 2.35 |
| NC-898 | 50 | 7 | 16 | . 050 |  | 2.70 |
| MC-839 | 75 | 8 | 23 | . 060 |  | 3.09 |
| MC-941 | 100 | 11 | 31 | . 060 |  | 2.94 |
| MC-365 | 35 | 8 | 15 | . 005 |  | 2.44 |
| MC-966 | 50 | 12 | 23 | . 095 |  | 2.65 |
| MC-967 | 75 | 14 | 33 | 095 |  | 3.12 |

MIDGET two GANG


| Number | mid-LINE PLAPES |  |  |  | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cap. per <br> Max. | Sect. Min. | $\begin{array}{ll} \text { Air } & \mathbf{P} \\ \text { Gap } & \mathbf{S} \end{array}$ | $\begin{aligned} & \text { P1.Per } \\ & \text { Sec. } \mathrm{SW} \end{aligned}$ |  |
| MCS29A | 50 | 5 | . 024 " | 7 | \$ 3.20 |
| NC-911A | 100 | 6 | . 024 | 14 | 3.62 |
| MC-912A | 140 |  | . 024 | 19 | 3.91 |
| MC-342A | 20 | 4 | . 060 | 6 | 3.23 |
| NC-313A | 35 | 5 | . 060 | 11 | 3. 70 |
| MC-33CA | 50 | 7. | . 060 | 15 | 4.14 |
| MC-331A | 75 | 8. | . 060 | 23 | 4.32 |
| AC-329A | 35 | 9. | . 095 | 15 | 4.32 |
| SEmi-Circular plates |  |  |  |  |  |
| Number | Cap.per Sect.Max. Min. |  | $\begin{array}{ll} \text { t. Air } \\ \text { a. } \end{array}$ | P1.Per Sec. S\% | Net |
| MC-1883A | - 50 | 5 | . $024{ }^{*}$ | 7 | \$ 3.09 |
| MC'-1882A | 100 | 7 | . 024 | 14 | 3.44 |
| MC-1884A | 20 | 4 | . 060 | 6 | 3.26 |
| MC-1885 ${ }^{\text {A }}$ | 35 | 5 | . 060 | 11 | 3.50 |
| NC-1887A | 50 | 7 | . 060 | 15 | 3.91 |
| MC-1888A | 75 | 8 | . 060 | 23 | 4.06 |
|  | three gang |  |  |  |  |
|  |  |  |  |  |  |
| Number | $\begin{aligned} & \text { Cap.p } \\ & \text { Max. } \end{aligned}$ | $\begin{array}{r} \text { er } \mathrm{Sec} \\ \mathrm{Mir} \end{array}$ | $\begin{array}{lll} \text { t. } & \text { Air } \\ \text { in. } & \text { Gap } \end{array}$ | Pl.per Sec. SH | Net |
| MC-886 | 20 |  | . 06010 | - 6 | \$ 5.88 |
| MC-887 | 35 | 6 | . 060 | 11 | 6.47 |
| MC-888 | 100 | 6 | . 024 | 14 | 7.11 |
| MC-880 | 140 | 7 | . 024 | 19 | 7.82 |

FEES-THROUGH \& BASE MOUNTED Neutralizing coanensers


Approx. Shpg. Wgt. 11 b .


UNIVERSAL NEUTRALIZING \&
H. F. TUNING COND.


Approx. Slipg. Wgt. 2 lbs.
Number Plate Dia Cay. Min. Net

| $\mathrm{NC}+1000$ | $127 / 32$ | 11 | 1 | \$ 2.53 |
| :---: | :---: | :---: | :---: | :---: |
| $\mathrm{NC}-1001$ | $213 / 16$ | 24 | 2 | 3.68 |
| NC-1002 | $43 / 4$ | 27 | 6 | 5. 15 |

compact neutralizint cond.


Approx. Slipg. \$gt. 12 oz .

## Number NC-1928 N-1929 NC-1930

| Cap. Range | Overall | Net |
| :---: | :---: | :---: |
| MIFO | licıght | Each |
| 75-4 | 2 13/16 | \$ . 82 |
| 1-6 | $27 / 16$ | 1.47 |
| 2-12 | $37 / 16$ | 1.91 |

## TRANSMITTING COILS - CONDENSERS Con

H. F. COILS AND COIL FORMS
 COIL FORMS
Mica-filled bakelite coil forms may be wound os desired to provide a permeability tuned coil. Form winding length is $11 / 1 \mathrm{~m}^{\prime \prime}$. form winding diameter is $1 / 2^{\prime}$. Slug size: $1 / 0 x^{1 / 2}$ " long.
$\begin{array}{ll}\text { XR-50 } & \text { Iron slug. } \\ \text { XR } 51 \text { Brass slug. } \$ 1.04\end{array}$ XRS1 Brass slug.
1.04

Ceramic slug-tuned coil forms. 70 series $11 / 14^{\prime \prime}$ high, $1 /^{\prime \prime}$ diam. 60 series $11 / 16^{m}$ high, $1{ }^{11}$ diam.
XR. $70^{\circ}$ Grooved for No. 19 wire, iron slug.
1.32

XR.71 Same with brass slug. $\quad 1.32$
XR. 72 Not grooved, winding length ${ }^{\prime \prime}$, iron slug.
1.32

XR. 73 Same with brass slug. $\quad 1.32$
XR. 60 Grooved for No. 26 wire, iron slug.
XR 61 Same with brass slug.
XR. 62 Not grooved, winding length $11 /{ }^{\prime \prime}$, iron slug.
1.32

XR 63 Same with brass slug.
1.32

Permeability tuned ceramic coil forms for high frequency applications. Base silver. plated bross, core is brass or iron. Sup. plied with two nylon rings to separate coils if more than one is wound on same form. Small holes in rings can be used to secure leads.

| TYp: | Core | Length | Diom. | , |
| :---: | :---: | :---: | :---: | :---: |
| XR-80 | Brass | 11/4" | \%\%*" | \$ . 87 |
| XR-81 | Iron | 1\% | 3\% | . 87 |
| XR.82 | Brass | 1\% | 1\%4 | . 87 |
| XR 83 | Iron | 1\% | 17\%4. | . 87 |
| XR.90 | Brass | 1\% | $3 / 5$ | . 87 |
| XR.91 | Iron | 1\% | \% | . 87 |
| XR-92 | Brass | 13\% | 3 | . 87 |
| XR.93 | Iron | 13/. | 3/8 | . 87 |



XR.10A


## TRANSMITTER COIL FORMS

Has winding length of $3 \frac{1}{4}$, winding diameter of $21 / 2^{\prime \prime}$ (26 sums). For 20 and 40 meters.
NO, XR-10A, Net.
$\$ 1.14$

## BUFFER COIL FORM

Unglazed steatite form. Winding length of $2 \%$ " $11 /{ }^{\prime \prime}$ diameter. Holes for mounting ond for leads.
NO. XR-13. Net
\$. 86
SHIELDED OSCILLATOR COIL
Shielded oscillator coil which tunes to 100 KC with , 00041 mfd . 2 separate inductances, closely coupled. Excellent for interrup. tion frequency oscillator in super-regenerative receivers. No. OSR

Net $\$ 2.07$

## ISOLANTITB

PADDING CONDENSERS

natanan


TYPETMS TRANSMITTING CONDENSERS

## SINGLE STATOR

Capacity

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Number | max. | Min | PV | ap | Ne |
| TMS- 100 | 1010 | 9.5 | 1000 | . $026^{\prime \prime}$ | - 2.99 |
| TMS-150 | 150 | 11 | 1000 | .026 | 3.22 |
| TMS-250 | 250 | 13.5 | 1000 | . 025 | 3.80 |
| TMS-300 | 300 | 15 | 1000 | . 026 | 4.37 |
| TMSA-35 | 35 | 8 | 2000 | . 065 | 4.49 |
| TMSA-50 | 50 | 11 | 2000 | . 065 | 5.06 |
| DOUBLE STATOR |  |  |  |  |  |
| TMS-50-0 | 500 | ${ }_{60}$ | 1000 | .02E" | - 3.45 |
| TMS-100-3 | 1000 | 7 D | 1000 | . 026 | 3.68 |
| TMS-125-13 | 1250 | Q ${ }^{\text {d }}$ | 1000 | . 026 | 3.8 |

TYPEST
TRANSMITTING CONDENSERS


St type condensers have straight-line plates. $180^{\circ}$ rotation. Single bearing and dou;ple bearing models available.

| OOUBLE BEARING MONELS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TYPE | Max. | MIN. | No. | A1蒝 |  |
| NuTber | CAP. | CAP. | plates | gap | NET |
| ST-35 | 35 | 6 | 8 | . 026" | \$2. 13 |
| ST-50 | 50 | 7 | 11 | . 026 | 2. 19 |
| ST-75 | 75 | 8 | 15 | . 026 | 2.30 |
| ST-100 | 100 | 9 | 20 | . 026 | 2.42 |
| ST-140 | 140 | 10 | 27 | . 026 | 2.65 |
| ST-130 | 150 | 10.5 | 29 | . 026 | 2.65 |
| STH-200 | 200 | 12 | 27 | . 018 | 2.88 |
| STII-250 | 250 | 13.5 | 32 | . 018 | 3.11 |
| STH-300 | 300 | 15 | 39 | . 018 | 3. 34 |
| STH-335 | 335 | 17 | 43 | . 018 | 3.57 |

SPLIT STATOR DOUBLE BEARING mODELS
510-50 50-50 5-5 11-11.026 4.14 STHD-100 100-100 5/2-5/2 14-14 .018 4.49 single bearing models

| STHS-15 | 15 | 3 | 3 | .018 | 1.90 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| STHS-25 | 25 | 3.25 | 4 | .018 | 2.15 |
| STHS-50 | 50 | 3.5 | 7 | .018 | 2.42 |



Excellent condensers for VHF work. Ideal for mixer-oseillator units. Ball bearings front andreor for easyrotation and freedom from bocklash. Brackets for mounting miniature tube sockets. Isolantite end plates. Mount to chassis with spade bolts. $1 / 4^{\prime \prime}$ shaft coupling allows two or more to be ganged, shaft extension of rear.

## DOUELE SPACED MODELS

| Type | Section | Max. Cap. | Min. Cap. | Net |
| :---: | :---: | :---: | :---: | :---: |
| VHF-1D | 1 | 6.75 mmf | 3.0 mmf | - 3.74 |
| VHF-20 | 2 | 6. 75 | 3.0 | 7.46 |
|  | SINGLE | SPACED | MODELS |  |
| Type | section | Max. Cap. | Min. Cap. | Net |
| VHF'-1S | 1 | 22.5 mmf | 3.0 mmE | (3.74 |
| VHF-2S | 2 | 22.5 | 3.0 | 7.46 |

TYPE TMC
TRANSMITTING CONDENSERS


Designed for power stoges where peak val. tages do not exceed 3000 volts. Rigid rame for mounting on panel, chassis, or standoff insulators, Air gap .077".

SINGLE STATOR MODELS

| N Copacity |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| TMC. 50 | 50 | 10 | $7{ }^{\text {a }}$ | $\$ 4.14$ |
| TMC. 100 | 100 | 13 | 13 | 4.89 |
| TMC. 150 | 150 | 17 | 21 | 6.04 |
| TMC. 250 | 250 | 23 | 32 | 6.56 |
| TMC. 300 | 300 | 25 | 39 | 7.02 |
| DOUBLE STATOR MODELS |  |  |  |  |
| TMC.50D | 50.50 | 9.9 | 7.7 | \$ 5.00 |
| TMC.100D | 00-100 | 11.11 | 13.13 | 6.84 |
| TMC.200D | 200-200 | $81 / 2 \cdot 181 / 2$ | 25.25 | 8.34 |
|  |  |  | N |  |


"APC" MICROS FOR HF, VHF, IF,ETC.
Breakdown valtage 600 valts. Isolontite base. Approx. Shpg. Wgi. 402.

| Mnfd. <br> Capacity |  |  |  |
| :---: | :---: | :---: | ---: |
| Number | Max. | Min. | N1. | Ret

## BUTTEAFLY CAPACITOR

Designed for VhF and UHF applications. Approximately $13 / 8^{\prime \prime}$ square. Approx. Shpg. Wst. $8 \circ \mathrm{oz}$

| Mmfd. |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Cap. | per Section | Net |
| Number | Max. | Min. | Each |
| BFC- 12 | 14.5 | 3.5 | \$1.65 |
| BFC- 25 | 27.5 | 5.0 | 188 |
| BFC- 38 | 40.5 | 6.3 | 2. 18 |
|  | M I | CR 0 |  |
| cap | CII | ORS |  |

For tuning or trimming on VHF. Isolantite Single hole or panel mount. Approx. Shpz Wgt. 4 oz.

| Mmfd. <br> Capacity |  |  |  | No. |
| :--- | :---: | :---: | ---: | ---: | Net

matysal
miniature CONDENSERS


Ainiature variables of low loss construction. designed for VFO's, MFF converters, ctc. Low minimum capacits. $180^{\circ}$ rotation. strai sht line plates. Size, base $1{ }^{\prime \prime} x^{\prime \prime}{ }^{n}$.

| Number | Capacity | Plates | Net |
| :--- | :---: | :---: | ---: |
| UM-15 | 15 | 6 | 1.17 |
| UM-35 | 35 | 12 | 1.32 |
| UM-50 | 50 | 16 | 1.43 |
| UM-75 | 75 | 22 | 1.67 |
| UM-10n | 100 | 28 | 1.84 |

## "hYPASS" CAPACITORS

| BIG HELP IN REDUCING TVI |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $\rightarrow 1 \times 1 x^{2}$ |  |  |  |  |
|  |  |  |  |  |
| Used for suppressing automotive interference in mobile work, etc. current ratIngs; 47P15-47P162 amps., 47P13-47P14 |  |  |  |  |
| Numies | Mfd. | Wrar. V. | Size | Net |
| 48P9 | . 1 | 250 AC | $3 / 4 \times 1-3 / 4$ | \$ 1.53 |
| 48 P 18 | . 5 | 50 DC | 1 1 1+13/16 | 2.23 |
| 46P8 | . 005 | 600 DC | 1/4×1-1/2 | 1. 26 |
| 46 P 12 | . 002 | 600 DC | 1/4×1+1/2 | 1.26 |
| 47P6 | . 01 | 600 DC | 1/2x1-1/4 | 1.38 |
| 47 P 12 | . 005 | 1000 DC | 1/2×1-1/4 | 1.41 |
| 47 P 13 | . 01 | 1000 DC | 1/2×1+1/2 | 1. 53 |
| 47P 14 | . 005 | 2500 DC | 1 $\times 1.1 / 2$ | 1.70 |
| 47 P 15 | . 01 | 2500 DC | 1 $\times 1-1 / 2$ | 1.82 |
| $47 \mathrm{P16}$ | . 002 | 5000 DC | 1 $\times 1-1 / 2$ | 1.88 |
| 80P3 | . 1 | 250 AC | 3/4×1-7/8 | 1.73 |

## dOORKNOB CERAMIC



High voltage ceromic capocitors of molded plastic. Non-flommable and moisfure resistont. As sortment of interchangeable screw terminols to fit all sets. Copocity of both types is 500 mmfd .

| Number | Work V. | Size | Nef |
| :--- | :---: | :---: | ---: |
| 20DK.T5 | 20,000 | $1 \times 1 / 37$ | $\$ 1.09$ |
| 30DK.TS | 30,000 | $13 / 18 \times 1 / 4$ | 1.76 |



HIGH CAPACITY
LOT VOLTAGE
Aluminum can, outer insulating tube. Dc. signed for filter circuits, eliminates all hum. Shpg. Wgt. 8 oz .

| Nunber | Cap. | Surge | W0rk | Net |
| :---: | :---: | :---: | :---: | :---: |
| HLV-206 | 2000 | 10 | 6 | \$ 2.23 |
| HLV-2015 | 2000 | 20 | 15 | 2.76 |
| HLY-2025 | 2000 | 40 | 25 | 3.38 |
| TYPE ${ }^{\circ} \mathrm{CL}$ |  |  |  |  |

Separate leads, 475 volt working, 600 volt surae. Shpg. hat. $80 z$.

Numuer Mfd. Dian. Length Ne

| $\mathrm{CL}-8$ | 8 | 1 | $3 / 8^{\prime \prime}$ | 4 | $7 / 16^{\prime \prime}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | 1.62


| $C L-16$ | 16 | 1 | $1 / 2$ | 4 | $7 / 16$ | 1.85 |
| :--- | ---: | :--- | :--- | :--- | :--- | :--- |
| $C L-88$ | $8-3$ | 1 | $1 / 2$ | 4 | $15 / 16$ | 2.47 |



Can type replacement for old sets. Work 450 volts, surge 525 . Can nearative. Shpg. hst. 6 oz.

Capacity
Net

SPRAGUE ATOMS


Smell. dependable dry electrolytics for all service reguirements. Guaranteed to have low leakage and lons shelf life. Nill withstand high temperatures. high ripple current, and hish surges. Easy to mount.

| DLAL, UNITS, common NEGATIVE |  |  |  |
| :--- | :---: | :---: | ---: |
| Number | Capacity | Voltage | Net |
|  |  |  |  |
| TVA-2434 | $30-30$ | 150 | $\$ 1.06$ |
| TVA-2445 | $40-40$ | 150 | 1.09 |
| TVA-2450 | $50-30$ | 150 | 1.15 |
| TVA-2460 | $80-30$ | 150 | 1.29 |
| TVA-2740 | $40-40$ | 450 | 2.00 |


| SEPARATE SECTIONS, 1 LEADS |  |  |  |
| :---: | :---: | :---: | :---: |
| TU-220 | 20-20 | 150 | \$ 1.21 |
| TU-420 | 40-20 | 150 | 1. 29 |
| Tบ-88 | 8-8 | 450 | 1. 26 |
|  | TRIPLE | UNITS |  |
| TVA-3415 | 20-30/20 | 150-150/25 | \$ 1. 21 |
| TVA-3419 | 30-30/100 | 150-150/12 | 1.35 |
| TVA-3427 | 40-40/100 | 150-150/25 | 1. 44 |
| TVA-3430 | $50-30 / 20$ | 150-150/25 | 1. 38 |
| TVA-3433 | 50-30/200 | 150-150/25 | 1. 62 |
| TVA-3440 | 20-20-30 | 150 | 1. 29 |
| TVA-3444 | 30-30-30 | 150 | 1.38 |
| TVA-3451 | 40-40-40 | 150 | 1. 44 |
| TVA-3455 | $80-40-20$ | 150 | 1. 62 |
| TVA-3716 | 12-12/20 | 0-4.9/25 | 1.35 |

## SPRAGUE MOLDEN TFLECAP HIGH-TEMPERATURE TUBULARS TYPE TYM $-6000 \& 10,000 \mathrm{VOLT}$

| Number | Mfci, | TVDC | Size | Net |
| :--- | :--- | :---: | :---: | ---: |
|  |  |  |  |  |
| TVM-356 | .0005 | 6000 | $1 / 2 \times 1-1 / 2$ | $\$ .79$ |
| TVM-216 | .001 | 6000 | $5 / 8 \times 1-7 / 8$ | .79 |
| TVM-256 | .005 | 6000 | $5 / 8 \times 1-7 / 8$ | .79 |
| TVM-351 | .0005 | 10000 | $5 / 8 \times 1-7 / 8$ | .88 |
| 12TM-225 | .00025 | 12500 | $5 / 8 \times 1-7 / 8$ | 1.00 |

SPRAGUE VITAMIN " $Q^{*}$ 6000 VOLT TUBULARS

| Srallest ultra-dcperdablc, high cararitance units for $85^{\circ}$ C operation made poss. iole by Vitamin " $Q$ " impregnation. Designed to minimize corona. Exclusive intcrnal humidity barrier and heavy ol:ter wax coating. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Number | Mrd. | WVDC | Size |  | Net |
| TVQ 119 | .01 | 6000 | 15/16x2 |  | . 82 |
| TVQ-136 | .03 | 6005 | $1 \times 2{ }^{\prime}$ |  | 88 |
| TVQ-156 | . 95 | 6000 | 1-3/16x3 |  | . 34 |

## SPRRGUE <br> RESONANT PAPER E SF์KAGUE a) CAPACITORS

Stabilize any AC-DC "squealer" receiver. Stop selt-oscillation, permitting "on-thenosc ${ }^{n}$ alicmant. Very low impedance at 465 KC intermediate frequenc $\mathrm{f}^{\circ}$. By-pass unwanted $1 F$ sisnals.

Number Mid.
$\begin{array}{lllll}79 P E 1 & .05 & 400 & 1 / 2 \times 1-1 / 8 & \$ .29\end{array}$ $72 P_{5} 5$

MOLDED TELECAPS

| Cap. | 6no Net | 400 Net | 200 | Net |
| :---: | :---: | :---: | :---: | :---: |
| Mfd. | VDC Ea. | VDC Ea. | VDC | Ea. |
| . 0001 | 6TM-Tt \$. $\mathbf{1 5}$ |  |  |  |
| . 00025 | GTM-T25.15 |  |  |  |
| . 00004 | 6TM-T4 , 15 |  |  |  |
| . 0005 | 6TM-T5 . 15 |  |  |  |
| . 011 | 6TM-D1 - 15 |  |  |  |
| , 0015 | FTM-D15 . 15 |  |  |  |
| 002 | FTM-D2 . 15 |  |  |  |
| . 0022 | 6TN-D22 . 13 |  |  |  |
| . 013 | 6TM-D3 . 15 |  |  |  |
| , 004 | 6TM-D4 . 13 |  |  |  |
| . 0047 | 6TM-D47. 13 |  |  |  |
| . 015 | 67M-D5 . 15 |  |  |  |
| . 006 | 6TM-LE . 15 |  |  |  |
| . 0ne8 | 67M-DE8. 18 |  |  |  |
| . 01 | 6TM-St . 18 | 4 TN-S1 \$. 15 |  |  |
| .015 | 6TM-\$15.18 |  |  |  |
| . 02 | 6ThM-S2 . 18 | 4TM- 22.15 | 2TM-S2 | \$. 15 |
| . 022 | $6 \mathrm{TM}-\mathrm{S} 22 \cdot 18$ | 4TM-S 2.15 |  |  |
| .03 | ETM-S3 . 21 |  | * |  |
| . 04 | 67M-54.21 |  |  |  |
| . 047 | 67M-S47. 24 | 4TM-547.18 | 2TM-S47 | . 15 |
| . 05 | 6TM-SE . 24 | 4TM-S5 . 18 | 2TM-E5 | -15 |
| . 06 | 6TM-S6. 24 |  |  |  |
| . 068 |  | 4TM-S68.21 |  |  |
| . 1 | 6TN-P1 . 26 | 4TN-P1.21 | 2TM-P1 | . 21 |
| . 15 | 大T1-P2-32 | 4TM-P15.21 | 2TM-P15 | .21 |
| . 22 |  | 4TM-P22. 24 | 2 MP 22 | 24 |
| . 25 | 6TM-P25.32 | 4TM-P25.24 | 2TM-P25 | 24 |
| .47 |  |  | 2TM-P47 | 35 |
| . 5 | 6TM-P5.47 | 4 TM -P5 . 35 | 2TM-PS | . 35 |
| 1.0 | TC-13 .73 |  | 2TM-M1 | .53 |
| TC trne | waxed cardho | oard case. |  |  |




- BLUE BEAVER* TUBULAR DRY ELECTROLYTICS

| Number | Capacity | DCW | Net |
| :---: | :---: | :---: | :---: |
| ER 102A | 10 | 25 V. D.C. | \%. 59 |
| BR. 202 A | 20 |  | . 54 |
| BR 252A | 25 |  | . 59 |
| BR 502A | 50 |  | . 65 |
| BRH 251A | 100 | 25 V. D.C. | \$. 79 |
| BRH 2525A | 250 |  | 1.00 |
| BRH 255A | 500 |  | 1.35 |
| BR 550 | 5 | 50 V. D.C. | \$. 59 |
| BR 105 | 10 |  | . 59 |
| BR 205A | 20 |  | . 59 |
| BR 255A | 25 |  | . 62 |
| BR 505 | 50 |  | .71 |
| BR 415 | 4 | 150 V. D.C. | 8. 59 |
| BR 815 | 8 |  | . 62 |
| BR 1215 | 12 |  | . 65 |
| BR 1615 | 16 |  | . 68 |
| BR 2015A | 20 |  | .71 |
| BR 3015A | 30 |  | .76 |
| BR 4015A | 40 |  | . 79 |
| BR 50.15A | 50 |  | .82 |
| BR 8015A | 80 |  | . 94 |
| BR 445 | 4 | 450 V.D.C. | \$.68 |
| BR 845A | 8 |  | . 73 |
| BR 1245A | 12 |  | . 79 |
| BR 1645A | 16 |  | . 82 |
| BR 2045A | 20 |  | . 91 |
| BR 3045A | 30 |  | 1.00 |
| BR 4045A | 40 |  | 1. 06 |
| .BR 850A | 8 | 500 V. D.C. | 5. 76 |
| BR 1650A | 16 |  | . 88 |
| DUAL SECTIONS |  |  |  |
| COMMON NEGATIVE |  |  |  |
| Number | Capacity | D. C. W.V. | Net |
| BRRD 2115 | 20-10 | 15\% | \$.91 |
| BERD 2215 | 20-20 | 1.50 | . 97 |
| BBRD 4215 | 40-20 | 150 | 1. 03 |
| BERD 8045 | 8-8 | 4.50 | 1,00 |
| BBRD 16845 | 8-16 | 450 | 1. 18 |



Tupe UP twist-prong basc electrolytic ca= pacitors are small, conveniertly-mounted. round can-type electrolstic units furnished with bakelite and mctal mounting washers. Terminals are tinreu for soldering Excellent for all service, enaineering ans development purposes.

| Number | cone | capacitr | DC*V | NET |
| :---: | :---: | :---: | :---: | :---: |
| UP1M-15 | A006 | 1000 | 15 | \$1.50 |
| UP2M-15 | A007 | 2000 | 15 | 2.03 |
| UP1M-25 | $\mathrm{A}_{0} 13$ | 1000 | 25 | 2.09 |
| UP3015 | 1018 | 30 | 150 | . 91 |
| TP5015 | A020 | 50 | 150 | . 97 |
| (P8015 | 4023 | 80 | 150 | 1.09 |
| 1 P 2025 | A027 | 20 | 250 | . 94 |
| tP8040 | A042 | 80 | 400 | 1.73 |
| UP1045 | A043 | 10 | 4.50 | . 91 |
| UP1545 | A045 | 15 | 450 | 1.00 |
| LP2045 | A046 | 20 | 450 | 1.06 |
| UP3045 | A047 | 30 | 450 | 1.15 |
| LP4045 | 1048 | 40 | 450 | 1.21 |
| 1 1P8045 | A051 | 80 | 450 | 1.79 |
| 1 12050 | A053 | 20 | 500 | 1.09 |

DUAL SECTION UNITS

| UPI 1M-15 | B004 | 1000-1000 | 15 | 2.59 |
| :---: | :---: | :---: | :---: | :---: |
| LP 4015 C | -- | 40-20 | 150/25 | 1.00 |
| ITP1045C | 8063 | 10-20 | 450/25 | 1.00 |
| IP2045C | B064 | 20-20 | 450/25 | 1.18 |
| (P4045C | B065 | 40-20 | 450/25 | 1.44 |
| 1 P 2215 | B009 | 20-20 | 150 | 1.00 |
| LP3215 | B010 | 30-20 | 150 | 1.03 |
| [P3315 | B011 | 30-30 | 150 | 1.09 |
| LP4215 | PO12 | 40-20 | 150 | 1.06 |
| $1 P 4315$ | EO 13 | 40-30 | 150 | 1.09 |
| UP3315 | B015 | 50-30 | 150 | 1.18 |
| UP4415 | 8014 | 40-40 | 150 | 1.12 |
| UP8415 | BO 18 | 80-40 | 150 | 1.35 |
| UP1145 | B0.37 | 10-10 | 450 | 1. 12 |
| UP2245 | B040 | 20-20 | 450 | 1. 50 |
| UP3345 | B043 | 30-30 | 450 | 1. 79 |
| (P4445 | B045 | 40-40 | 450 | 2.03 |


| 1P2215C | C043 | 20-20/20 | 150/25 | 1.29 |
| :---: | :---: | :---: | :---: | :---: |
| [P4215C | C048 | 40-20/20 | 150/25 | 1.35 |
| UP5515C | C058 | 50-50/20 | 150/25 | 1.56 |
| UP2245C | cop9 | 20-20/20 | 450/25 | 1.79 |
| LP4445C | C107 | 40-40/20 | 450/25 | 2.32 |
| UP22215 | COO4 | 20-20-20 | 150 | 1.38 |
| [P44415 | C009 | 40-40-40 | 150 | 1.53 |
| UP150145 | C025 | 15-15-10 | 450 | 1. 73 |
| LP4215C10 | CO49 | 40-20/100 | 150/25 | 1.47 |
| QUADRUPLE SECTION |  |  | UN1TS |  |
| UP55515C | D029 | 50-50-50/20 | 150/25 | 2.09 |
| UP:245cC | D089 | 20-20/20-30 | 450/25 | 2.12 |
| UP111145 | 0009 | 10-10-10-10 | 450 | 1.97 |
| UP22245 | D013 | 20-20-20-20 | 450 | 2.76 |



Type oc capacitors. Hormetically sealed in round aluminum containers, provided with 4-pin octal base. May be readils removed ana replaced in standard octal socket.

| Number | Capacity | DC Volts | Net |
| :--- | :---: | :---: | ---: |
| QC- 2215 | $20-20$ | 150 | 2.47 |
| QC-4415 | $40-40$ | 150 | 2.59 |
| QC-22215 | $20-20-30$ | 150 | 2.85 |
| QC-44415 | $40-40-40$ | 150 | 3.00 |
| QC-1045 | 00 | 450 | 2.38 |
| QC- 2045 | 0 | 450 | 2.53 |
| QC-4045 | 40 | 450 | 2.68 |
| QC-8045 | 80 | 450 | 3.26 |
| QC-1145 | $10-10$ | 450 | 2.59 |
| QC- 2245 | $20-20$ | 450 | 2.97 |
| QC-11145 | $10-10-10$ | 450 | 3.40 |
| QC-33145C | $30-30-10 / 20$ | $450 / 50$ | 4.03 |



DYKANOL
TRANSMITTING
CAPACITORS
TYPE TJU
Wi'h in ivatial mounting siran. H. V. pourr supply condensers impregnated with Dykanol "G". Ave, Shpg. Kgt. 2 1hs.

Number rapacjty R.C.W.V. Nift

| TJU 6010 | 1 | 600 | V. D.C. |  | 3.41 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TJU 6020 | 2 |  |  |  | 4.20 |
| T.JU 6040 | 4 |  |  |  | 5.35 |
| T,JU 6050 | 5 |  |  |  | 6. 14 |
| T,JU 606n | 6 |  |  |  | 6.64 |
| T.JU 6 (180 | 8 |  |  |  | 7.94 |
| T.JU 6100 | 10 |  |  |  | 8.91 |
| TJU 10019 | 1 | 1000 | V.D.C. |  | 3. 7.3 |
| T.H) 100 m | 2 |  |  |  | 4.8.5 |
| T.TV 10040 | 4 |  |  |  | 6. 14 |
| TJU 10050 | 6 |  |  |  | 8. 26 |
| TJU 10n80 | 8 |  |  |  | 8.91 |
| TJU 15005 | . 5 | 1500 | V.D.C. |  | \$ 3.73 |
| TJU 15010 | 1 |  |  |  | 4.38 |
| TJU 15030 | 2 |  |  |  | 6. 14 |
| T.JU 15040 | 4 |  |  |  | 8. 26 |
| T.JU 15060 | 6 |  |  |  | 10.02 |
| TJU 15080 | 8 |  |  |  | 12.29 |
| TJU 20010 | 1 | 2000 | V.D.C. |  | \$ 5.35 |
| TJU 30030 | 2 |  |  |  | 6.32 |
| TJU 27040 | 4 |  |  |  | 8. 91 |
| TJIt 2008n | 8 |  |  |  | 14. 73 |
| TJU 25003 | . 5 | 2500 | $V, D, C$. |  | \% 6.79 |
| TJU $2 \mathbf{5 0 1 0}$ | 1 |  |  |  | 7. 76 |
| TJU 25020 | 2 |  |  |  | 12.61 |
| T JU 250.10 | 4 |  |  |  | 17.64 |
| Tulu 3rons | . 5 | 3000 | V.D.C. |  | \$ 9.88 |
| T.JU 30010 | 1 |  |  |  | 11.82 |
| T.JU 30020 | 2 |  |  |  | 14.73 |
| T.JU $300+0$ | 4 |  |  |  | 21.67 |
| TJU 40005 | . 5 | 4000 | V.D.C. |  | 13.52 |
| TJU 40010 | 1 |  |  |  | 17.06 |
| TJU 40020 | 2 |  |  |  | 22.94 |
| TJU 40040 A | 4 |  |  |  | 39.31 |
| TJU 50010 | 1 | 5000 | V. D, C. |  | 20.00 |
| TJU 5002n | 2 |  |  |  | 30.58 |



Compact H. V. filters for P.A. systems. poner supplied, etc. Can is megative. in sulated washer swplied. Avg. Shp. Wt. 2 ibs.

| number | Capacity | D. C. W. V. | Net |
| :---: | :---: | :---: | :---: |
| TLA 6020 | 2 | 600 | -2.70 |
| TLA 6070 | 4 | 6015 | 3.70 |
| T1, 10017 | 1 | 1 non | 2.47 |
| TLA 10020 | 2 | 1000 | 3.20 |
| TLA 1500. | . 5 | 1500 | 2.94 |
| TLA 15010 | 1 | 1500 | 3.30 |
| METAL PAP | $\begin{aligned} & \text { CASED } \\ & \text { ER CAPA } \end{aligned}$ | $\begin{aligned} & \text { ANOL } \\ & \text { RS } \end{aligned}$ | , |

Completely sealed. Non*induetively wound, fill oll needs for RF, AF, byposs, AF coupling. Meet. MILC25A requirements. 600 VDC warking.

| Number | Cop. | Size | Ner |
| :---: | :---: | :---: | :---: |
| DYR-6005 | . 05 | $11 / 461 \times 3 / 4$ | \$1.71 |
| DYR-6010 | , 1 | $111 / 88 \times 1 /$ | 1.73 |
| DYR-6025 | . 25 | $113 / 46^{1} \times 1 / 6$ | 1.82 |
| DYR-6050 | . 5 | $111 / 4 \times 1 \times$ | 1.94 |
| DYR-6100 | 1.0 | $2 \times 11 \times 1 / 6$ | 2.20 |
| DYR 6200 | 2.0 | $2 \times 2 \times 1 \frac{1}{4}$ | 2.94 |

## (86) NEED NEW TEST EQUIPMENT?-We'll Trade In Your Old Unist!

## CAPACITORS OF HIGH QUALITY

|  |  |  |
| :---: | :---: | :---: |
| MCLDED MIDGET MICA CAPACITORS |  |  |
| Suirable for most ony electronic applica tion, used in low voltoge radio receiving applications, schools, experimental labs |  |  |
|  |  |  |
|  |  |  |
| etc. Standard tolerance 20\%. Sizes: 1 W |  |  |
|  |  |  |
|  |  |  |
| Type | Copocity | Net |
| 5W.5V5 | . 000005 | \$. 15 |
| 5W.5Q1 | . 00001 | . 15 |
| 5W-5Q2 | . 00002 | .15 |
| 5W-5Q25 | . 000025 | . 15 |
| 5W.5Q3 | . 00003 | . 15 |
| 5W.5Q4 | . 00004 | . 12 |
| 5W-5Q5 | . 00005 | .12 |
| 5W-5Q7 | . 00007 | . 12 |
| 5W.5T1 | . 0001 | . 12 |
| 5W.5T15 | . 00015 | .12 |
| 5W-5T2 | . 0002 | . 12 |
| 5W.5T25 | . 00025 | . 15 |
| 5W.5T3 | . 0003 | . 15 |
| 5W-5T4 | . 0004 | .15 |
| 5W. 5 T5 | . 0005 | . 15 |
| 1W.5T6 | . 0006 | . 15 |
| 1W.5T7 | . 0007 | . 15 |
| 1W.5T8 | . 0008 | . 15 |
| 1W.5T9 | . 0009 | . 15 |
| 1W.5D1 | . 001 | . 18 |
| 1W.5D15 | . 0015 | . 18 |
| 1W-5D2 | . 002 | . 24 |
| 1W.5D25 | . 0025 | . 26 |
| 1W-5D3 | . 003 | . 29 |
| 1W.5D4 | . 004 | . 32 |
| 1W-5D5 | . 005 | . 35 |
| 1D.5D6 | . 006 | . 44 |

Condensers listed below are 300 VDC

| warking, 600 VDC test. |  |  |
| :--- | :--- | ---: |
| ID3D7 | .007 | .53 |
| 1D3D8 | .008 | .59 |
| 1D3D9 | .009 | .59 |
| 1D.351 | .01 | .70 |

## MOLDED MIDGET SILYER MICA

 CAPACITORSEspeciolly odapted for use in circuits where accuracy and stability of capacity is important. 500 VDC working, 1000 VDC
 $3 / 10^{"}, 1 R 13 / 10^{x 11} 10^{10} / 6^{\prime \prime}$. Low lass red plostie case. Standord talerance $5 \%$, closer tolerances on special order.

| Type | Copocipy | Nel |
| :--- | :--- | ---: |
| 22R.5V5 | .000005 | .23 |
| 22R.5Q1 | .00001 | .23 |
| 22R.5Q2 | .00002 | .23 |
| 22R.5Q25 | .000025 | .23 |
| 22R.5Q3 | .00003 | .23 |
| 22R.5Q4 | .00004 | .23 |
| 22R.5Q5 | .00005 | .23 |
| 22R.5Q7 | .00007 | .23 |
| 22R.5T1 | .0001 | .23 |
| 22R.5T15 | .00015 | .26 |
| 22R.5T2 | .0002 | .26 |
| 22R.5T25 | .00025 | .26 |
| 5R.5T3 | .0003 | .32 |
| 5R.5T4 | .0004 | .38 |
| 5R.5T5 | .0005 | .41 |
| 1R.5T7 | .0007 | .50 |
| 1R.5T8 | .0008 | .56 |
| 1R.5T9 | .0009 | .59 |
| 1R.5D1 | .001 | .65 |
| 1R.5D15 | .0015 | .79 |
| 1R.5D2 | .002 | .79 |
| 1R.5D25 | .0025 | 1.06 |
| 1R.5D3 | .003 | 1.21 |
| 1R.5D4 | .004 | 1.26 |
| 1DR.5D5 | .005 | 1.32 |



CAPACITOIBS

## INDUSTRIAL

## and

 TRANSMITTING DC RECTANGULARSPlassican A element, mineral oil impregnated in sturdy lead caoped steol containers. Smaller, ightor, and more economical than paper capa Typo AOC rectongulor ypa Hormetically seal, type aOCO flattened ion. Conservatively on C6C CIM C2H Melllinellor on types C6C, C1M, C2M. Mesallized gloss stondoffs on all others. Mounting brockets $\$ .45$

| 600 DCV |  |  | 3000 DCV |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Number | Cap. | Net | Number | Cop. | 1 |
| OC6C1 | 1.0 | \$2.65 | AOC3M1 | 1.0 | \$8.54 |
| AOC6C2 | 2.0 | 3.19 | АоС3m2 | 2.0 | 10.87 |
| AOC6C4 | 4.0 | 3.96 | AOC3M4 | 4.0 | 15.02 |
| AOC6C8 | 8.0 | 5.98 | 4000 | DCV |  |
| A0C6C10 | 10.0 | 6.71 | AOC4M1 | 1.0 | 0 |
| 1000 | DCV |  | AOC4M2 | 2. | 23.38 |
| AOC1M1 | 1.0 | 2.83 | AOC4M4 | 4.0 | 35.59 |
| AOC1M2 | 2.0 | 3.80 | 5000 | DCV | - |
| AOClma | 4.0 | 4.62 | AOC5M1 | 1.0 | 23.38 |
| AOC148 | 8.0 | 6.53 | AOC5M2 | , | 29.08 |
| 2000 | DCV |  | 7500 | CV |  |
| AOC2MI | 1.0 | 4.16 | A0C75CI | 1.0 | 34.93 |
| AOC2M2 | 2.0 | 4.81 | 10 | DCV |  |
| AOC2M4 | 4.0 | 6.53 | AOC10M1 | 1.0 | 62 |



Temperofure range $-60^{\circ} \mathrm{C}$ to $+125^{\circ}$ C. The mollost and ASC quency AC ApG are ideal for DC and low fre condensers for bypass; coupling uses in tight condensers for byposs; coupling uses in TV, asci
8 oz.


Number Cop. Nep Number Cou Cap. Nei ASG103-8C.01 \$.88 ASG102.5M .001 $\$ 3.82$ ASG203-8C.02 .94 ASG202.5M .002 3.94 A5G503.6C.05 1.03 A5G502.5M .005 4.09 A5G104.6C. 1 1.15 A5G103.5M .01 ASG254-6C. $25 \quad 1.32$ A5G203.5M . 02 ASG504.6C.5 $\quad 1.53$ ASG503.5M $\quad .02$

1000 DCV A5G502-1M.005 . 88 ASG104-5M .1 ASG103.1M.01. .94 A5G102-8M . 001 ASE203.1M.02 1.00 AS6202-8M $.002 \quad 4.12$ ASG503-1M.05 1.09 ASG502-8M .005 4.26 A5G104.1M.1 1.27 A5G103-8M . 01 A5G254.1M. $25 \quad 1.47$ A56203-8M . 02

2000 DCV A5G202.2M. 002 ASG502.2M.005 1.12 10,000 DCV $\begin{array}{lllll}\text { ASG103.2M.01 } & 1.21 & \text { ASG501.10M.0005 } & 4.29 \\ \text { A } 56102.10 \mathrm{M} .001 & 4.41\end{array}$ $\begin{array}{llll}\text { A } 50203-2 M .02 & 1.47 & \text { A5G202-10M.002 } & 4.41 \\ \text { A } 5 G 503.2 M\end{array}$ ASG503.2M.05 1.65 A5G502.10M.005 ASG104.2M.1 1.88 ASG103.10M.01 $\begin{array}{rrr}\text { ASG254.2M.25 } & 2.18 \text { ASG203.10M. } 02 \\ 3000 \text { DCV } & \text { ASG303.10M } 03\end{array}$ (5G102-3M. ASG $202.3 \mathrm{~m} .002 \quad 3.03$ A5G $501,000 \mathrm{DCV}$ $\begin{array}{llll}\text { ASG } 205-3 M .005 & 3.18 & \text { ASG102.15M.001 8.00 } & 81\end{array}$ $\begin{array}{llll}\text { ASG103.3M.01 } & 3.29 & \text { A5G } 202.15 \mathrm{M} .002 & 9.11 \\ \text { ASG203.3M.02 } & 3.44 & 20.000 \text { DCV } & \end{array}$ A5G503.3M.05 3.62 A5G501.20M.0005 11. $\begin{array}{lll}\text { A } 5 G 104.3 \mathrm{M} .1 \\ & 3.82 \text { A5G102-20M.00\% } 12.05 \\ 30.000 \mathrm{DCV}\end{array}$

A5G501.30M.0005 13.23
Vacuum Fixed Capacitors


TYPE W - WALNUT SERIES
A miniature type vocuum condenser raled of 20,000 peok volis. Ferrule type plug-in caps. 4 $204^{n}$ long. $21 / 4^{n}$ diam. ( 100 mmfd , $4 y^{n}$ long; 20 amps).
W. 25 mmid. Nei Eoch............................ $\$ 14.62$


## AMPHENOL CONNECTORS



## JONES 

Terninals are of .032 brass, cadmium wlated. Gakelite strips are furnished with hole in either right or left end for fastening cable with clamp or lachus twine. 161 series fit type lif barraer strips listed above. Specify left ur strips listed abov
right when ordering.

| Nunber | Nont. Net | Number cont. | Net |  |  |
| ---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| $2-161$ | 2 | $\$ .08$ | $12-161$ | 12 | $\$ .45$ |
| $3-161$ | 3 | .13 | $13-161$ | 13 | .49 |
| $4-161$ | 4 | .16 | $14-161$ | 14 | .54 |
| $5-161$ | 5 | .20 | $15-161$ | 15 | .57 |
| $6-161$ | 6 | .24 | $16-161$ | 16 | .61 |
| $7-161$ | 7 | .28 | $17-161$ | 17 | .64 |
| $8-161$ | 8 | .31 | $18-161$ | 18 | .69 |
| $9-161$ | 9 | .34 | $19-161$ | 19 | .72 |
| $10-161$ | 10 | .38 | $20-151$ | 20 | .75 |
| $11-151$ | 11 | .42 |  |  |  |

## BARRIER TERMINAL STRIPS



Number Cont, Net Number ount. Net

| $1-141$ | 1 | $\$ .12$ | $11-141$ | 11 | $\$ .78$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $2-141$ | 2 | .19 | $12-141$ | 12 | .84 |
| $3-141$ | 3 | .24 | $13-141$ | 13 | .92 |
| $4-141$ | 4 | .32 | $14-141$ | 14 | .98 |
| $5-141$ | 5 | .38 | $15-141$ | 15 | 1.05 |
| $6-141$ | 6 | .44 | $16-141$ | 16 | 1.12 |
| $7-141$ | 7 | .52 | $17-141$ | 17 | 1.19 |
| $8-141$ | 8 | .58 | $18-141$ | 18 | 1.25 |
| $9-141$ | 9 | .65 | $19-141$ | 19 | 1.31 |
| $10-141$ | 10 | .72 | $20-141$ | 20 | 1.38 |

Jones " $w$ " Solder Terminal for use with 141 barrier strips, Net Each \$.035
Jones "Y" Solder Terminal for use with 141 barrier strips. Net Each $\$ .035$
MIILILIN
SAFETY TERMINALS TERMINAL STRIPS
Hi-Volinge SaIety ispe
No. 37501
No. 37001

Mo. 37501. Low loss mica-filled bakelite.
Net $\$ .63$
N0. 37001. Black or red bakelite safety terminals. Black \$.45-Red \$.48 No. 37302 Steatite 2 terminal Net . 69 Nu. 37303 Steatite 3 teminal wiv. 37304 Steatite 4 terminal Nio. 37305 Steatite 5 terminal No. 37104 Steatite 6 termanal

## l. C. A. TERMINAL STRIPS

Black bakelite base with terminals spaced
1/2" apurt.
Number
2420

## PLUGS AND SOCKETS

"300" SERIES

## JONES

"400" SERIES

Phosphor vronze "Knife-switch" type contacts, ra'ed at 45 volts at 5 amps. Polar1 zed. Shpe. Mrt. \& oz.

| PLUG |  | $\begin{aligned} & \text { CABLE CLAMP } \\ & \text { IN CAP } \end{aligned}$ |
| :---: | :---: | :---: |
| Number | Contacts | Net |
| P-3n2-CCT | 2 | \$ . 39 |
| P-3n3-CCT | 3 | . 42 |
| P-3n4-CCT | 4 | . 46 |
| P-306-CCT | 6 | . 51 |
| P-308-CCT | 8 | . 56 |
| P-310-CCT | 10 | . 63 |
| P-312-CCT | 12 | . 69 |
| SOCKET |  | $\begin{aligned} & \text { CABLE CLAMP } \\ & \text { IN CAP } \end{aligned}$ |
| 3-302-CCT | 2 | \$ . 40 |
| 3-303-CCT | 3 | . 43 |
| -304-CC5 | 4 | . 46 |
| S. 306-CCT | 6 | . 54 |
| , 5 -308-CCT | 8 | . 62 |
| 5-3117-CCT | 10 | . 70 |
| 3-312-CC'T | 12 | . 79 |
| PLUG |  | $\begin{gathered} \text { WITH } \\ \text { ANGLE } \end{gathered}$ |
| dumber | Contacts | Net |
| F'-302-AB | 2 | \$. 17 |
| P-303-AB | 3 | . 21 |
| P-304-atb | 4 | . 24 |
| F-306-AB | 6 8 | . 28 |
| - ${ }_{\text {P-308-AB }}$ | ${ }_{8}^{8}$ | . 33 |
| P-312-AB | $\bigcirc 12$ | .39 .43 |
| SOCRET |  | $\begin{gathered} \text { WITH } \\ \text { ANGLE } \end{gathered}$ |
| S-302-AB | 2 | - . 19 |
| ᄃ-3n3-AB | 3 | . 22 |
| S-304- AB | 4 | . 25 |
| ㄷ.306-AB | 6 | .31 |
| 盛-308-AB | 8 | . 39 |
| 退 310 - AB | 10 12 | . 46 |

heavy duty type for circuits not exceeding 110 volts at 10 amps. Polarized, Average Slipg. Ugt. 6 oz .

pug


Chassis type with angle brackets



## Con CONNECTORS－CLIPS－GRID CAPS

## MUELLER TEST CLIPS



WEE－PEE．WEE Ne， 8 g


No． 45 PEE WEE No．45．C Solid Copper


No． 85 or $85-\mathrm{C}$ Clit with


CO．HS－STEEL ALLIGATOR CLIP
WITH INSULATED HANDLE Colors，Red of tieck
 NET BLT DUET 88 13＂Mhos．Br AMPS EACH $\$ .19 \$ 1.27 \$ 10.78$ $\begin{array}{lllllll}45 & 1_{2}^{1} & \text { Steel Cad．}- & .07 & .49 & 4.12 \\ 45 C & 1_{2} & \text { Sol．Cop．} & .11 & .78 & 6.47 \\ 488 & 2 & \text { Steel Cad，} & 08 & 54 & 4.51\end{array}$ $48 \mathrm{C} \quad .2$ Sol．Cop．：．$\quad .13$ ． 88 7．51 $\begin{array}{lclllll}50 \mathrm{C} & 2 & \text { Sol．Br．} & -\quad .25 & 1.76 & 14.70 \\ 51 \mathrm{C} & -24 & \text { Sol．Br．} & - & .19 & 1.27 & 10.78\end{array}$ 27 zn Sol．Braz． 2 Steel Cad，$\quad 11$ ． 118 6．57 $\begin{array}{lllllll}27 \mathrm{C} & 22 & \text { Sol．Cop．} 20 & : 19 & 1.27 & 11.27\end{array}$ $24 A \quad 2-7 / 8$ Steel Lead $25,16 \quad 1.08 \quad 9.31$ $24 \mathrm{C} \quad 2-7 / 8$ Sol．Cop． $50 \quad .28 \quad 1.96 \quad 16.66$
$\begin{array}{lllllll}21 A & 4 & \text { Steel Lead } 50 & , 30 & 2.06 & 17.64 \\ 21 C & 4 & \text { Sol }\end{array}$
$21 \mathrm{C} \quad 4 \quad$ Sol．Cop． 100
$85 \mathrm{C} \quad 2-1 / 8$ Sol．Cop．
60＊＊＊ 2 Steel
60S＂： 2 Steel
60CS＊＊ 2 Steel Con
GOBS． $2=3 / 8$ Sol．Co
fUCHS． $2-3 / 8$ Sol．Cop．－
$\begin{array}{lll}22 & 2 & \text { Steel Cad．} \\ 11 A & 6 & \text { Steel Lead }\end{array}$
$\begin{array}{llllll}110 & 6 & \text { Steel Lead } 100 & .82 & 5.78 & 49.00 \\ 110 & \text { Sol．Cop．} 200 & 1.37 & 9.60 & 82.32\end{array}$ $33 \mathrm{C} 7 \%$ Sol．Cop． 3002.65 18．62 158． 76
－Insulated Handle Screw Connection．
＊Screw Connection．
－Solder Connection．
RUBBER INSULATORS FOR CLIPS


|  |  | POET | NET | MET |
| :--- | :---: | ---: | ---: | ---: |
| FNUEEA | FOR CLIF | EACH | 10 | 100 |
| 13 | 11 | $\$ .72$ | $\$ 4.90$ | $\$ 42.14$ |
| 23 | 21 | .39 | 2.65 | 22.54 |
| 26 | 24 | .25 | 1.76 | 14.70 |
| 29 | 27 | .17 | 1.18 | 10.69 |
| 35 | 33 | 2.72 | 11.76 | 100.94 |
| 47 | 45 | .07 | .49 | 4.12 |
| 49 | 48 | .10 | .69 | 5.88 |
| 62 | 60 | .07 | .49 | 4.12 |
| 87 | 85 | .07 | .49 | 4.12 |
| 93 | 88 | .05 | .34 | 3.24 |

## ILA ALLIGATOR CLIPS

 WITH PHONE TIP JACKHas standard phone tap jack $2 n$ insulated sleeve．Takes shone tip or solderless ip．

NO．525－R
Ked
Net Each
NO． $525 . \mathrm{B}$
Black

## CANNON ELECTRIC CONNECTORS

Cannon connectors feature the convenient latchlock device to hold connector tight． Light in weight．Polarized to el iminate error．Extensively used for microphones and similar connections．Contacts are 15 ampere．Zinc shell，finish bright nickel．

## Line cable type



Number


XL－3－11

| Type | Contacts | Net |
| :--- | :---: | ---: |
| Female | 3 | $\$ .91$ |
| Male | 3 | .88 |

（i）

## RECEPTACLES E

Number Type Contacts Net XL－3－13 Female

3

## Rational

## GRID AND PLATE CAPS

NO． 12



SPP． 3
SPP． 9

No．SPP－9．Ceramic，［or 9／16＇Di am．Net $\$ \mathbf{2 4}$ No．SPP－3，Ceramic，for $3^{\prime} 8^{\prime \prime}$
no．8，lur $1 / 4^{\prime \prime} \mathrm{Clip}$
No．12，for 9／16＂ Cl ip
No．24．for $3^{\prime} 8^{\prime \prime} \mathrm{Cl}$ 保

|  | MILLER |  |
| :---: | :---: | :---: |
| 36011 | CAPS | 360012.4 |

No． 36011 ，Snap－Lock Type，insulated．
Tor $9 / 16^{\prime \prime}$ cap．
Ceramic， $9^{\prime} 16^{\prime \prime}$ cap．
No．36001．Ceramic， $9^{\prime} 16^{\prime \prime}$ cap．
No． 36002 ．Ceramic， $38^{\prime \prime}$ cap．
No． 3600 4．Ceramic， $1 / 4^{\text {＂cup．}}$
$3 A_{1}$ CINCH 3 AL
69

$$
-31
$$

PANEL MOUNT RECEPTACLES

## Number



Contacts
Net
$\begin{array}{llll}\text { XL－3－13N } & \text { Female } & 3 & \$ .91 \\ X L-3-14 N & \text { Male } & 3 & .85\end{array}$
STEEL SHELL LINE CONNECTORS

Similar to types listed above but have steel shell which is built for rugged service．Will fit any of above recep－ taches．
Number Type Contacts Net $\begin{array}{llcr}\text { XL－3－11SC } & \text { Female } & 3 & \$ 2.00 \\ \text { XL－3－12SC } & \text { Male } & 3 & 1.97\end{array}$
AILEEN TWIN I，EAD I LUG
Made of black bakelite for 300 ohm twinlead．Designed for ant－ ateur and television．Hill fit Millen Nu． 33102 socket．Pins spaced ． $1955^{\prime \prime}$ ．Shpg．Hgt． 4 u\％．
No． 37412 Plug
No． 33102 Socket for above


$1 \mathrm{C}-490$


TC－107 TC－ 108 TC－488 listed here are grid caps \＆heat radiators fur every type of tube，both transom thing 8：receiving．Good contact on wis assur－ ed by tate spring action and tooling
Number Vescr．Net Ea Net 10 Net 100

| TC－490 | Cup $5 / 8^{\prime \prime}$ | $\$ .07$ | $\$ .65$ | $\$ 6.25$ |
| :--- | :--- | :--- | :--- | :--- |
| TC－ 107 | Cap $3 / 8$ | .02 | .15 | 1.32 |
| TC－108 | Metal Tube | .02 | .13 | 1.08 |

TC－108 Metal Tube ．02 ． 13 1．08
$S_{17 e}$

No．Lead Fits Tubes Net Era
TC－488 ．052＇3C24，24． 24 G, ， $3 \mathrm{~T}, 27$ 8

C－489 ． 072 1H257B，484． 8001
$\begin{array}{cccc}\text { TC－} 1924 & 125 & \text { HK57．} & 15271\end{array}$
TC－1920． 375 4－125A． 150 TH．2－150D． 250R．250TII．250TL，EtC IC－ $1025125304 \mathrm{TH}, 304 \mathrm{TL}$
TC－1921． 57 n ZB60．HF6n，HF100．111H． 211！，2O3H．HF 175，etc． hl．4C8，HLa63．HL．460 HF20n，IF 20 1．梅 300

52
.47 .41
.41
.47
.47
.59
.53
76
47 WALTER ASHE RADIO CO．

## CONNECTORS - BINDING POSTS

High quality binding posts of phenolic construction. Used in labs, schools, and industry. Offers complete insulation. Current capacity 30 amps, working volpage 1000. Removable head. Takes up 10 No. 12 wire in center hole. Has banana jack in head. Takes apen or closed lug under head, Fits panel up $101 / \mathbf{y}^{\prime \prime}$. Brass core and nuts. Calors: red or black. Specify.
NO. DF-30. Net Eoch $\qquad$ . 5.40 NO. DF-30. Net per 100.

## EBY

BINDING POSTS NO. 37
NO. 37 ENSIGN. Molded bokelite knob and base. Non-removable head, brass insert, no marking, b/3z thread. Shpg. Wgt. 2 oz. Net. NO. 14 SERGEANT. All merol binding posi. Non-removable head. is thread. Net... $\$ .29$ NO. 8127 BINDING POST KNOB ONLY. Topped for $\% / 32$ screw. Shpg. Wgt. 1 oz. Nef................................................... $\$ .06$

ICA BINDING POSTS


617
618
620

rypes 622*623. Nolded, knurled grlp, nonremovable top. Standard recentacle for banana plug on top. Hole uider screw top for wire or phane tip.

No. 622 - Red
Net Each \$ . 24 Nu. 623-Black
iypes 617-618. Bakelite body with removtible head. $9 / 16^{\text {d }}$ dianeter head with $8 / 32$ brass threaded insert, nickel-plated screw and knurled nut.

Na. 617 - Red
Net Fach \$. 15
Na. 618-Black
No. 62 . All metal binding post. Nickelplated, brass fimash.
ket Fach 5. 21

## MILLEN

RIGHT ANGLE DRIVE \& COUPLINGS


10412
$39001 \quad 39002 \quad 3900539006$
 Mounts on standulf rods, panel bushine or tapped holes in frame. Shpg. H6t. $3 / 4$ lbs. Nu. (1012
Hi 39001 "truly flexibler isolantite ling. Fur hal shatt. Net \$.48
w. 3 non2 - Steatite " coupling

Nu. 39005 - Universal Joint. nun-
insulated.
Au. 3400 G - Slade actiun. Steathte
"cuublans.

## JOHNSON INDUCIOR CLIPS

804 世毣; 860
235.804 is ploted phosphor branze and is deigned to make conncetion to edgowise wound nductors. $235-860$ takes wire from 20 to 10 without maving and shorting adjacent turns. NO. 235.804. Not................................... 5 . 22 NO. 235.860

## 



## (68)



TYPE FWH TERMINAL STRIP. Insulators are maldea R-39 with serrated bases; will arip thinnest panel. Net.
.$\$ .76$
TYPE FWJ JACK ASSEMBLY. Same insulators as on FWH strip. Has banana jacks. Wet.
. 5.62
TYPE FWT BANANA PLUG. Will fit into FWJ. Jack on top will oscept additional FWT. Mica-filled bakelite body. Leads can be brought tirect from plug above or thraugh hole at bot-om. Net...


Flexible couplings with glazed steatite insulation which fits $1 / \$$ shafts.

- X-2 Leakase Path 2-1'2
.86
* deluxe insulated flexiblie coupling deFiened for caupling $1 / 4^{\prime \prime}$ shafts. Mill fondie a maxmum radial misalignment of

16" also $2^{u}$ maxamun angular masalignrent.

Net \$ 1. 33
$7 \mathrm{x} \cdot 23$
Sume is $\mathrm{TX}-23$, non-insulated.
TX -25
Net \$ 1.35
$f$ non-flextble rigid coupling with steaifte insuation. l" dam. Fits $l^{\prime}+$ Nhat?
TX-8
Net \$ 69
A very compact insulated coupling free from bachlimsk. Insulation is "canras bakelite. $1-1, \mathbb{E S O}^{\prime \prime}$ diam. Fits $1 / t^{*}$ shatt. TV-10

Net $\$ .46$
A non-insulated coupling identical to TX-10 except all metal construction. thenes good electrical connection between couplrd shafts.
TX-22
Net \$ 46
This small insulated flexible caupling frovides higt electrical efficiency when used to isclate circuits. Insulation is steatite. 1-5/8 diam. Fits $1 / 4$ shaft. Tx-9

Net \$ . 86


## समझन $\%$

## QWIK CONNECTORS



Slight thumb prossuro on button quickly discon. neets. Polorized to prevent mismating. For mike uses, etc. Available in 3 or 4 contacts, Goldplated contacts.

| 3 CONTACT |  |  |
| :---: | :---: | :---: |
| No. | Type | Net |
| 91-853 | Male Piug | \$.91 |
| 91.854 | Femalo Plug | 1,12 |
| 91.855 | Mole Receptacio | . 68 |
| 91.856 | Femalo Receptaclo 4 CONTACT | 1.35 |
| 91.857 | Malc Plug | . 91 |
| 91-858 | Female Plug | 1.23 |
| 91.859 | Male Recepraclo | . 68 |
| $91-860$ | Femalo Receptocle | 1.50 |

bub couplings. panel bearings, rou


Number

$$
\begin{array}{lll}
\text { SE- } 1019 & 1 & t^{\prime \prime} \text { coupling } \\
\text { SF:- } 1050 & 3 & 8^{\prime \prime} \text { coupling }
\end{array}
$$

Ste-1031 lit to 3 8" couplin
SE- $1052 \quad 1 / 4$ male to $1 / 4$ fenate SE- $10.53 \quad 3.8$ female to $1^{\prime}+$ male SE- $105 \mathrm{~F} \quad 1 / 4$ temale to $3^{\prime} 8$ male SE- $1056 \quad 1+\times 6$ sliaft

INSUIATED
SE- 1206 I f" coupling
SE. $12073^{\prime} 8^{\prime \prime}$ coupling
SE- $12081+$ to 38 couplins
sF- $120 \mathrm{~m} 1^{1}+$ trale ta $1 / 4$ fermale
SE- 12in 38 temale to 14 mald
SE- 1211 1ot fomale to 38 male St- $10351+x 6$ fiber shaft
SE- $797 \quad 1 / 4 \times 12$ laber shat
SE-1978 1' $+x 6$ bakelate shaft
SF. $19781+x 12$ bakelate shat
PB-530 Bearing wath bax " brais shaft \&
PB-531 Bearing with $\mathrm{l}_{4} \times 3^{\prime \prime}$ bruns shait
PB-572 B $\mathrm{B}-\mathrm{ar}^{2} 1 \mathrm{n}_{\mathrm{c}}$ onls

pursenstive type, works in all circuats reguiring maneral crystal.

Apliros. Net Nunber Type Shps.nt. Each
7002 Fixed Detector 3 oz $\$ .65$
7003 Open type hulder,
nith crystal.
T010 Open type holuer,
3 122. . 27
3 uz. . 17
7068 Closed tspe hulder,
with crystal. 3 u . 41
Sonsitive crystal
only.
2 07. . 13
7000, Cpen type deswetor germits fine senaltive adjustments over enthre surfare of crystal. Bakelite base. Shos. list. 1 lb .
idet $\$ 1.14$
7001. Loud clear signals, no dist urtion ar nuise. Supersensitive enclosed crystal Bakelite base. shpg. Mat. 11 lb .
C CLOCKS－CALL LETTER PINS－FUSES

BUSS Fuses and Holders


7 Size： $1 / 4^{\prime \prime} \times 11 / 4^{\prime \prime}$

|  |  | Net | Net Per |
| :---: | :---: | :---: | :---: |
| Number | Amps | Each | Bux－ 5 |
| ACC（3kG） | $\begin{aligned} & 1 / 8,1^{\prime} 4,3 / 8 \\ & 1 / 2 \text { or } 3^{1 / 4} \end{aligned}$ | $\$ .09$ | \＄．37 |
| AūC（ 3 Aü） | $1,11 / 2,2$ or 3 | 3.04 | － 18 |
|  | 5.6 or $71 / 2$ | .03 | ． 13 |
| Arsc（3AG） | In or 15 | ． 02 | ． 10 |
| ACC（3A ${ }^{\text {c }}$ ） | 25 or 30 | ． 03 | ． 13 |
| －Size： $1 / 4^{\prime \prime \prime} \times 1^{\prime \prime}$ |  |  |  |
| AOX（ 8 AG） | $\begin{aligned} & 1 / 4,3 / 8,1 / 2 \\ & \text { or } 3 / 4 \end{aligned}$ | \＄．07 | ．$\$ .32$ |
| AGX（8AG） | 1．11／2．9 or 3 | $3 \quad .06$ | ． 27 |
| Aưk（ 8 AT） 5 or 2 ？ $.03$ <br> $\square$ SIE 4 <br> SIE 9 $\square$ |  |  |  |
|  |  |  |  |
| SFE－ 4 | $4 \quad 5 / 8$ | \＄．03 | \＄．13 |
| SFE－6 | 6 3／4 | .03 | ． 13 |
| SFE－ 9 | $9 \quad 7 / 8$ | ． 03 | ． 13 |
| SFE－14 | 14 1－1／16 | ． 03 | ． 13 |
| \＆FE－20 | 20 1－1／4 | ． 03 | ． 13 |
| SFES -30 | 30 1－7／16 | ．04 | ． 18 |
| FASt ACTING INSTRUMENT FUSES |  |  |  |
|  |  |  |  |
|  |  |  |  |
| $\Rightarrow \mathrm{MJB}-1$ | 1／200 1／200 | ． 18 | ． 79 |
| $7 \mathrm{MJB}-1$ | 1／100 1／100 | ． 12 | ． 53 |
| 1）MJB－1 | 1／32 1／32 | ． 12 | ． 53 |
| （－3）M | 1／16 1／16 | .09 | ． 39 |

## BUSS FUSETRONS， $1 / 4 \times 11 /$ Inch

TYPE mDL．Avoid needless blows from starting currents or surges．Fuse link operates only at high overloads
$0{ }^{\circ}$
1／100．1／32： $1 / 16,1710,15 / 100$.
2／10． $3 / 10.4 / 10,1 / 2,6 / 10$ ，
8．$/ 10$ ，1 any
1－1／4，1－6／10，2，2－1／2，2－8／10，
3．2．4，5，6．25．8，10，15， 20.
25． 30 2mp S Net Excil：$\$ 12$
Box of 5 ． 35

## 苟荨

BUSS Twin－Clips
No．4121．Buss twin clips，bridge the blown pigtail fuse without cutting or unsoldering pigtajls．No soldering iron needed．Clips are made of spring bronze． nickel－plated．Strong spring clip pres． sure assures good contact．Takes any $1 / 4 \times 1^{\prime \prime} 1^{11}$ ordiznary or Fusetron fuse．

Net per pair \＄，09


NO． 8618 TV SNAP－IN FUSE Clips．To replace soldered in burned out fuses without soldering．Snap fuse clip over burned out fuse end in－ sert new fuse．Insulated．

## No． 8618

FUSE HOLDERS FUSE BLOCKS


## 2400－HOUR CLOCK

WORLD．WIDE TIME


An ideal clock for the ham or anyane deal ing in 2400 －haur time．A quick and accur－ ate woy to read the time anywhere in the warld in the various international time $z$ anes．Motor is synchronous self－starting type．Case is $10^{\prime \prime}$ in diometer，grey wrinkle finish．Chrame－plated bezel．Hands are black，red sweep secand hand．For opera－ tion on 110 volt AC 60 eycle．Shpg．Wgt． 6 lbs.
MODEL TD．2400．Neł．．．．．．．．．．．．．．．．．．．$\$ 15.00$

## 24 HOUR CLOCK



PENNWOOD 24．HOUR CLOCK
24－hour clock ideal for amateur contests and ony uses where the right time is re－ quired of a glance．Hos separote dials for haurs，minutes，and seconds．Self－starting molor．Size： $7^{7} \times 3^{7} \times 4^{11}$ ．Operates on 110 ． 120 VAC 60 cycle．Shpg．Wgt． 3 lbs．
MODEL $100-\mathrm{J} .24 \mathrm{H} / 4 / 4$ Ebany．Net．．．．．$\$ 16.20$

## TIME－ALL APPLIANCE TIMER



Makes Appliances Fully Automatic A 24－hour time control switch for the home or business．Controls radios，fons，colfee makers，heaters，lights，roasters，refriger－ atars（defrost），and almast any other kind of electrical appliance．Has manual control that permits temporary or permanent on－olf control of appliances．Minimum＂ON＂time one－half haur；maximum 23 hours．Minimum ＂OFF＂．time one hour；maximum 231／2 hours． Appliances plug into receptocle on timer． Handles up to 1650 watts．Holes in back of case for wall mounting．Complete with 6－ft．cord set and instructions．Atfractive grey plastic cose，size $5 \times 4 \times 2 / 2^{n}$ ．For 110 ． 120 VAC 60 eycle operation．Shpg．Wgt． 2 lbs．
MODEL A211．Ne中
..$\$ 7.97$
LINE FUSE HOLDER
Bakelite body line fuse， $19^{\prime \prime}$＇14 wire． Complete with fuse．

| HRLI | SFE 20 amp fuse | Net $\$ \mathbf{. 2 0}$ |
| :--- | :--- | ---: |
| HWI | SFE 14 amp fuse | .20 |
| Hinh | SFE 9 amp fuse | -20 |

ALTO－METAL PRODUCTS CALL LETTER ${ }^{\text {amp }}$ LAPEL BUTTONS


8－61．Standard lapel button of 4 or 5 letters 8－6 E Standard lapel bunn．．．．．．．．．．．．．．．．．．．．\＄ 1.35 B．62．Either type as listed，up to 8 lelters． B63 2 lines，BC or ham call and affiliation Nop Each．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 32.00 B．64．Microphone with Up to 4 letter call． Net Esch．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．$\$ 2.00$ SPECIFY PIN OR BUTTON TYPE．

## GOLD PLATED SILHOUETTE CALL LETTER PINS

arimian wipai mana B． 72 B－71 8.71

Gold－plated call letrers silhovetred on an ena： meled block bor．B． 72 for 4 or 5 leptor colls－ W2AMP XYY Price includos 5 letters only． W2 AMP XXYL．Prico includos 5 lepters only． Additional lotters，doshes，orc．－$\$ .20$ ontro for eoch choracter on each pin．Specify pin or 20 Extro Characters－Net Each．．．．．．．．．．．．．．
WRITE FOR QUANTITY DISCOUNT．
AUTO LICENSE CALL PLATES

## W8ENH EKRBM

1．A 5
STYLE 1．A．For auto liconse piates，size 23 kn $81 /{ }^{2} 2$ lug mounting，up to $51 / 2^{n}$ letters． Nef．．．．n．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 3.00 STYLE 2．A．Same as above bul with network or affiliated call on side．Topal of 10 lesters． Net．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 53.50

## CALL LETTER

 MICROPHONE PLATES

RCA． 77 WE．633A WE－639A SHURE 55
RCA．77．Top plote．
NaI
Net 39.50 RCA． 77 ．Side plotes，per poir． 4.50 WE－633A 10.00 WE－639．Top and side plotes complete． 14.00 SHURE 35 ．Top and side plares，＂14．00 WE． 630 A
E．V 725，726，730，AND 731．Top and E．V 630 AND 635 保
14.00

E．V 630 AND 635
10.00

E．V 950 ．Top plore and side plotes
CA－14．Top plote．
RCA－44－Side plares，per poir．
RCA．74．Top plato．
9.50

RCA． 74 5． 1 | 4.50 |
| :--- |
| 9.50 |

25\％DEPOSIT REQUIRED ON ALL ORDERS FOR ALL CALL LETTER PINS，MICRO． PHONE PLATES，AND AUTO LICENSE CALL PLATES．ORDERS ARE NON．CANCELLA BLE．DELIVERYEIGHT TO TWELVE WEEKS

[^5]
## CRYSTALS AMATEUR-GERMANIUM

## SYLVANIA

## germanium diodes



Crystal diodes give superior performance at HF. Used for detectors, restorers in TV sets and $F M$ discriminators.

| 1 N34 | General purpase diode, single unit. | 80 |
| :---: | :---: | :---: |
| 1 N34A | (Glass) | 90 |
| 1N35 | Twin-matched diode IN34's. | 4's. 2.20 |
| 1 N38 | 100 V back voltage. | 1.80 |
| 1N39 | 200 V back voltage. | 3.95 |
| 1N54 | Low leval, high efficiency. | cy. 1.10 |
| 1N55 | 150 V diode. | ¢ 2.20 |
| 1N56 | High conductivity. | 1.05 |
| 1N58 | 100 V diode. | 1.30 |
| 1 N82 | 700 MC mixer. | . 90 | VARISTORS


| IN4O | 12.25 |
| :--- | :--- |
| IN41 | 11.50 |
| IN42 | 17.25 |

BOOK - FORTY USES FOR THE GERMANIUMDIODE
.25

## 



Electrical stability is insured by welding the platinum whisker directly to the germaniun pellet preventing loss of contact due to vibration or shock. Size. $1 / 4^{\prime \prime} \times 1 / 2^{\prime \prime}$. Life expectancy 10,000 hours under rated conditions.

Number
1N-48
General purpose
N-51 General purpose IN-52 General purpose IN-63 General purpose IN-64 Televisiun type diode IN-65 Television type diode IN-69 (G5K) To JAN Specs. IN-70 (G5L) TO JAN Specs. N-72 Mixer


PNP
GERMANIUM JUNCTION TRANSISTORS
Junction transistors in glass and plastic case. size only $1 / 2^{\prime \prime}$ by $1 / 4^{\prime \prime}$, wire leads. Connections are made directly to leads, ro sockets necessary. Used for voltage amplifiers and many other applications, are extremely rugged and compact. Nead no filament supply and consume only $1 / 1000$ as much current as vacuum tube doing similar work. Exceptionally lon: life, 70,000 to 90,000 hours. approximately 10 jears. Shpg. lit. 3 oz .
AVERAGE CAIN CHARRACTERISTICS ( $30^{\circ} \mathrm{C}$ )

|  | CK-721 | CK-72 |
| :---: | :---: | :---: |
| Collector Voltage (V) | -1.5 |  |
| Collector Current (MA) | -0.5 |  |
| Base current* (UA) | -6.0 | -20 |
| Cur. Amp. Factor ${ }^{\circ}$ | 40.0 |  |
| Power Gain* (DB) | 38.0 | 30 |
| Noise. Factor ${ }^{\text {( }}$ (KC) ( NB ) | 22.0 |  |

TYPE CK-721 TRASSISTOR Net $\$ 7.90$ THPE CK-732 TRASSISTOR 4.50


TYPE AX.2. Highly stable, low drift plated crystal: mounted in dust-proof holders. Pins have .093" diameter, spaced on .486" centers. Atvise if we moy supply crystals at closest frequency from our stock for immediate delivery. Approx. Shpg. Wgt. 12 ez. 4X-2.3500-4000 KC. Nef................ $\$ 2.95$ AX.2.70D0-7425 KC............................. 2.95 AX.2. 8000-9000 KC....................... 2.95

ABOVE CRYSTALS AVAILABLE IN EXACT FREQUENCY AT SAME PRICE WITH DELIV. ERY WITHIN FOUR TO SIX WEEKS.
AX-2. 14-14.50 MC ( $\pm 10 \mathrm{KC}$ ). Net.... $\$ 3.95$
KY.3. 100 KC frequency standard. Low drift. Pins have .093" diameter, spaced at A86". Nef...................................... $\$ 8.50$

CF-3. 455 KC single signal filter erystal unit. For If filter in receivers. Pins have $.125^{\prime \prime}$ diameter, spoced at $.750^{\circ}$. Nei $\$ 5.00$

## mosLey <br>  <br> CRYSTAL HOLDER ADAPTERS

vo. $75-5$ receives $3 / 4^{17}$ spaced crystal nolder and will tht octal socket. Shpg. Higt. 202.

Net $\$ .35$
10. 5-75 receives $1 / 2^{\prime \prime}$ spaced crystal aolder and fits any $6-\mathrm{prong}$ socket. Shpg. xgt. 2 oz .

Net \$ . 35

##  <br> AMPHENOL CRYSTAL SOCKETS For 3 /"pin spacing.

33-2T For $1 / 8^{n}$ prongs Mica $\$ .10$
33-3T For $5 / 32^{\prime \prime}$ prongs Mica , 10 33 For $1 / 8^{\text {" }}$ prongs Bakelite .06

## Precisian Orystals



Low drift, high activity and stability. 1/2" pin spacing. Accuracy: . 01 or better. Advise when ordering if we may supply closest frequency from stock fur immediate shipment.

## AMATEUR BANDS

| TYPE | GAND |  | NET |
| :--- | ---: | ---: | ---: |
| $Z .2$ | $160,80, ~ 40$ Meters | $\$ 2.89$ |  |
| $Z-3$ |  | 20 Meters | $\mathbf{3 . 8 7}$ |

ABOVE CRYSTALS AVAILABLE IN EXACT FREQUENCIES AT THE SAME PRICES AND REQUIRE FOUR TO SIX WEEK-S DELIVERY.

SPECIAL CRYSTALS OUTSIDE AMATEUR BANDS SUITABLE FOR CONVERTERS, EX PERIMENTAL, ETC.

| TYPE | RANGE | NET |
| :--- | :---: | ---: |
| 2.XP | $1600-12000 \mathrm{KC}( \pm 5 \mathrm{KC})$ | 3.87 |
| 2.PP | $12001-25000 \mathrm{KC}( \pm 10 \mathrm{KC})$ | 4.90 |

FOR EXACT FREQUENCIES OUTSIDE THE HAM BANDS, SEE COMMERCIAL LISTING.

## CAP CRYSTALS

2374 KC 4507.5 KC

4325 KC .4585 KC
Net Each \$3.87

## MARS CRYSTALS

| 2220.0 KC | 4020.0 KC | 4085.0 KC |
| :--- | :--- | :--- |
| 2258.0 KC | 4025.0 KC | 5500.0 KC |
| 2310.0 KC | 4080.0 KC | $5760.0 . \mathrm{KC}$ |
| 2360.0 KC |  |  |

Above Freguencies, Net Each \$ 3.87

## COMMERCIAL

Commercial crystals.005\% tolerance, . $486^{\prime \prime}$ pin spacing. Delivery eight to twelve weeks upon receipt of your order. Specify frequency
TYPE RANGE NET Z.1 Fundamental $900.1600 \mathrm{KC} \quad \$ 9.70$ Z-1 Fundamental $1601-12000 \mathrm{KC} \quad 8.05$ Z-1 Harmonic $12001-30000 \mathrm{kC} \quad 9,70$

## AIRCRAFT

Z-1 3023.5 KC (.005\%) Net $\$ 3.87$
For other frequencies, see Commercial types.

## CRYSTALS FOR RADIO CONTROLLED OBJECTS

Z-9A 27.255 MC (.04\%) Net $\$ 4.90$

## DUAL FREQUENCY STANDARD

## VALPEY



Unit incorporates two separate quartz erystols entirely independent of each other but designed that frequency stability and zero frequency odjustment are equal on 100 and 1000 KC. Separate oscillators may be used, thus furnishing 100 and 1000 KC signals simulianeously.
MODEL DFS. Net.
$\$ 8.95$

## EBY TRANSISTOR SOCKET <br> [8]

Low loss phenolic casting, 3 contacts of beryllium copper silver-plated tin-dipped to focilitate soldering. Supplied with push on mounting bracker.
NO. SM3. Net................................. $\$ .27$

## DIA DIALS - NAME PLATES



10035


No. 10035 Disl * Provision for adaing two small controls on siue knobs. Escutcheon renovable wi ulout disturbing dial mechanismi
 Hiet $\$ 6.75$

No, 10039 Dial - Ratio $8: 1$. Size: $4 \times 31{ }^{4}$ " Soaller version of No. 10035 . Shog. Wt. 2 dbs. Net $\$ 3.00$

30
MILLEN SHAFT LOCNS FOI 3 . ${ }^{\prime \prime}$ shafts
No. 10061 - Biounting nut for potentiometer etc. Nít \$. 42
No. 10062 . ith knurled knob control. Net $\$ .51$


Vernier indicator type wh ch may be used on cundensers which rotate cluckwise or counter-clockwise. 0-100-0. Large finger arip kinob for shaf c . Complete mith 1 . . dicator elabling teadangs uf $1 / 10011$ duvislun.

| Number | Diameter | Shpg. Mgt. |  | Net. |
| :---: | :---: | :---: | :---: | :---: |
| D-1895 | $23 / 4^{\prime \prime}$ | $1 \mathrm{~V}_{1} \mathrm{lbs}$, | \$ | 1. 32 |
| 4.1097 | $4{ }^{\prime \prime}$ | di'lus. |  | 1. 76 |

BUII

UO FRIGTION.DRIVE VERNIIR DIAL


Callurated $0-100$ clockwise, $360^{\circ}$ elossy tlack enamel. White rim \& numerals. For ta" shalt. Includes sangle line lndicator and Hack whtel knub. SHwg. Kgt. 1': dbs

| Number |  | Disfieter | $N \in t$ |
| :---: | :---: | :---: | :---: |
| D-1944 |  | $23 / 4^{\prime \prime}$ | \$1.76 |
| U-1945 |  | 4 | 2.00 |
| L-1419 | Vermier | Dial Drive | . 44 |



| 308 | $31 / 4$ | les* | \$ 1.27 |
| :---: | :---: | :---: | :---: |
| 309 | $31 / 4$ | no | 1.22 |
| 310 | $21 / 4$ | ligs | 1.13 |
| 311 | $21 / 4$ | N0 | 1.05 |
| 312 | 158 | $\mathrm{Y} \in \mathrm{S}$ | 78 |
| 313 | 158 | no | 73 |
| 314 | 118 | lies | 78 |
| 315 | $11 / 3$ | No | 69 |

HAND BHEEI.S WITH SCALE

|  | Hheed | Scale |  |
| :---: | :---: | :---: | :---: |
| Number | Slze | Suze | Net |
| 300 | $31 / 4$ | $51 / 4$ | \$ 2.94 |
| 301 | $21^{\prime} 4$ | 358 | 2.30 |
| 320 | $15 / 8$ | 3 5/8 | 1.91 |
| 321 | $11 / 8$ | $21^{\prime} 8180^{\circ}$ | 1.67 |
| 322 | 113 | $\because 18270^{\circ}$ | 1. 67 |



Locate fubb where you wish; bottom, top or sides.

No, 231. Size, $2^{4 \prime \prime} \times 4^{3 n}$. Antique bronze fin ish, Ratio 13:1 if $360^{\circ}$. 2 band. Shpg. Wgt 11 b. Net \$5.56

No. 232. Same as above but $29 / 16^{n} \times 61 / 16^{n}$. Ratio 16:1. Shpg. Wet. 2 lbs. Net $\$ 5.85$ No. 233. Same as above but $35 / 32^{\prime \prime} \times 65 / 8^{\circ}$. Ratio 18:1. Shpg. Hyt. 21 L s Net $\$ 6.29$

No, 234, Outside dimensions of escutcheon: $31 / 16 \times 87 / 16^{\prime \prime}$. Inside: $17 / 8 \times 7 \mathrm{~s}^{\text {" }}$. Antique bronze finish. Scal es: 6. 18 MC. $55-1700$ MC. $100-0$. SHeg. Hyt. 2t: ios.

Net $\$ 6.41$


BLACK BAKELITE for $1 / 4^{\prime \prime}$ shaft PLAIN KNOB

| Number | Size | Net |
| :--- | :---: | ---: |
| C537 | $11 / 8$ | .26 |
| 6538 | $13 / 8$ | .28 |
| 6539 | $15 / 8$ | .34 |
| 6540 | $23 / 8$ | .48 |
|  | POINTER KNOB |  |
|  |  |  |
| 6566 | $11 / 8$ | $\$ .41$ |
| 6571 | $13 / 8$ | .53 |
| 6574 | $15 / 8$ | .54 |
| 6.359 | $23 / 8$ | .71 |

KNOB AND SKIRT

| 6545 | $11 / 2$ | .41 |
| :--- | :--- | ---: |
| 6548 | $13 / 4$ | .41 |
| 6549 | $21 / 16$ | .53 |
| 6550 | 3 | .65 |


| $\therefore$ |
| :--- | :--- |

Rectangular control plates caliurated 0.10 in $300^{\circ}$. S1ze: 2-1/4×1-11/10 ${ }^{+1}$.


Precisiun test dial. Calibrated in debrees thruugh 360, Etched on heavy brass with bluck eraduations and figures on hard-spun chromium backizround. Hub has two set screws and fits $3 / 8^{\prime \prime}$ shalt. Dıwheter of dial is $6^{\prime \prime}$, indicator $1 \mathrm{~s} 1 / 2^{\prime \prime}$,


Chrone Silver

Number Degrees Size Calibration Net

| 2294 | 18 no | $2^{\prime \prime}$ | $0 \cdot 100$ |  | 5.57 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2005 | $32.5{ }^{\circ}$ | 2 | 0-100 |  | . 57 |
| 2206 | $180^{\circ}$ | $3^{15}$ | 0-100 |  | . 90 |
| 2297 | $325^{\circ}$ | $31 / 2$ | 0-100 |  | . 90 |
| 2208 | $180^{\circ}$ | 4 | 0-100 |  | . 98 |
| Blach Satin Finish |  |  |  |  |  |
| 2236 | $180^{\circ}$ | 2 | 0-100 |  | \$.36 |
| 2213 | $130^{\circ}$ | 2 | 100-0 |  | .36 |
| 2:34 | 325 | 2 | 0-100 | . | . 36 |
| 2232 | $180^{\circ}$ | $3^{\prime \prime}$ | 0-100 |  | .46 |
| 2230 | $325^{\circ}$ | 31/8 | 0-100 | - | . 46 |

## CRINAMME



Alumanum Single foriauntal Plates $23 / 16^{\prime \prime} \mathrm{H} . \mathrm{C}^{2} 5 / 8^{\prime \prime} \mathrm{H}$

| Number | Marking | Nrt |
| :---: | :---: | :---: |
| 410 | Without title 0-10 | \$. 29 |
| 411 | Tune 0-10 | . 29 |
| 412 | Gunin 0.10 | 29 |
| 413 | Master Guin 0-10 | . 29 |
| 414 | Hecord 0-10 | . 29 |
| 415 | Micruphone 0-10 | . 29 |
| 416 | Microyhone 1, 0-10 | . 29 |
| 417 | Microphone 2. 0-10 | . 29 |
| 422 | Cain 5-0-5 | . 29 |
| 423 | Increase with Arrow | . 29 |
| 424 | fadio-Micro. 5-0-5 | . 29 |
| 425 | Record-Macro. 5-0-5 | . 29 |
| 426 | Vulume 0-10 | . 29 |
| 427 | F'ader 5-0-5 | . 29 |
| 4.8 | Eass 5-0-5 | . 29 |
| 424 | Treble 5-0-5 | . 29 |
| 430 | Exparisiun 0-10 | . 29 |
| 446 | Hhong 0-10 | . 29 |
| 447 | Buss 0-10 | . 29 |
| 448 | Treule 0-10 | 29 |
| 440 | "Indicatur" | .97 |

Alumbum sinele Yertical plates $25 / 8^{\prime \prime}$ if $-23 / 16^{\prime \prime}$.

## Number

Marking

| 435 | "Indicator" | .97 |
| :--- | :--- | :--- |
| 436 | Gain $0-10$ | .29 |
| 437 | Guin $5-0-5$ | .29 |
| 438 | Skitch $1-2-3$ | .29 |
| 434 | Tunt $0-10$ | .29 |
| 442 | Eass $0-10$ | .39 |
| 443 | Treble $0-10$ | .29 |
| 444 | Phuno $0-10$ | .29 |
| 445 | Attenuator | .29 |
|  |  |  |
|  |  |  |

Aluminum Louble Horizontal Plates $23 / 16^{\prime \prime} \mathrm{H}-5^{\text {" }} \boldsymbol{\omega}$

## Number Marking

418 Tone 0-10; Gain 0-10 \$.62
419 Record 0-10; Micro 0-10 . 62 420 H1ciu 1, $0-10$; Nicro 2,0-10.62

Aluminum Quadruple Plates $23 / 13^{\prime \prime} H-91 / 2^{\prime \prime} W$

421 Micro 0-10: Records 0-10
Master Guin 0-10; Tone 0-10


ANN DIAL - Original National design for the benefit of experimenters who build their own and desire direct calibration. 5 blank logging scales with $0-100$ read-
 lbs.

Net $\$ 3.80$
'ICN DIAL, - Similar to ACN dial but is illuminated at top with two pilot lights. Dial window is blanked out in semicircular shape to prevent shadow-casting Dial scales are the same as ACN. Size:


Net $\$ 6.90$
SCN DIAL - Provides the same dial scales as Model ACN but Sinaller size. Size: 4-7/16"Hx6-1/4 W. Shpg. Wgt. 2 lbs.

Net \$ 3.45

- HCN DIAL - For use in mobile installations. small converters, etc. Mounts on standard $3-1 / 2^{\text {Hi }}$ rack panel if desired. Has 3 calibrating scales and $0-100$ logging scale. Size: $2-3 / 4^{H} \mathrm{Hx} 3-7 / 8^{n}$ 中. Shpg. Wgt. 2 lbs.

Net $\$ 3.11$
BM DIAL = Smaller version of B dial for use where space is limited. "Fixed drive use where For $1 / 4^{10}$ shaft. $3^{n}$ diameter. Available in scale 1 or 5 , specify scale wanted. Shpg. Wgt. 1 lb. Net $\$ 2.42$

B DIAL - "Velviet Vernier" dial type B has a compact variable ratio of 6.1 minimum, 20-1 maximum drive that is emooth and trouble.free. Elack bakelite case. For $1 / 4^{n \prime}$ shaft. $4^{\prime \prime}$ diameter. Available for $1 / \pm$ shart. 4 diameter. Net $\$ 3.11$ FRK KYOB - Black batelite knob 2-3/8" In diameter.

Net \$ . 66
KRP-P KNOB - Black bakelite knob. $1_{4}{ }^{n}$ long and $h_{2}$ wide, Equipped with pointer. Fits ${ }^{\prime \prime}$ shaft.

Net \$. 28
HRS KNOBS. $1-3 / 8^{\prime \prime} D$. Chrome-plated evel skirts. For th shafts. Black or grey. HRS-3 $0=10,300^{\circ}$ rotation. Net $\$ .58$ HHS- 4 Single etcred line. .58 HPS-5 $0-10$ thru $130^{\circ}$.

HRT KNOB - 3lack or grey color plastic with chrome appearance circle. For 'i shaft. Size $2-1^{\prime} 8^{\text {मे }}$ ciameter. Net $\$ .86$

HRT $\because$ KNOB - smaller version of the RRT knot, Size $1=7 / 16^{\prime \prime}$ an Glarcter. Avail. able in Llack or erey, Net $\$ .38$

RSL - Rotor shaft lock for AMT. PHA, TVC
etc, condensers. fur ${ }_{n}$ shaft. Net $\$ .66$
SL - Nickel-plated brass bushing, ${ }^{n}$ diameter. For ${ }^{\prime \prime}$ shaft.

Net $\$ .21$
ONL - Lockink device which clamps on rim Uむ O, K, L and in dials. Brass nickelplated.

Net \$ . 38
ODD - Vernier pincli drive for 0, L or

K DIAL - Same as 0 dial except less knoh complete with ODD vernier arive. Scale 2 only. Shpg. Wgt. X lb.

Net $\$ 1.73$
N DIAL - A $4^{\prime \prime}$ satin chrome metal dial with a decinal vernier. Planetary drive has ratio of 5-1, contained within bociy of the dial. For $y^{\prime \prime}$ shaft. Available in $2,3,4$ or 5 scale, specify scale wanted Shpg. Kgt. 2 lbs.

Net $\$ 5.18$

PIM-0 DRIVE MFCHANISM - Micrometer dial reads direct to one part in 500. Divi sion 11 nes are approximately $1 / 4^{n}$ apart and drive at midpoint of the rotor is through a pre-loaded worm gear with 20-1 ratio. Each rotor is individually in* sulated from the frame, each has 1 ts own individual rotór contect Drive shaft parallel to panel. Two TX-9 couplings supplied. Shpg. Figt. 3 lbs. Net $\$ 25.74$

NPW-0 DRIVE MIDCHANISM - Similar to Model PW-0 but drive shaft is perpendicular. One TX-9 coupling is supplied. Shpg. \$gt. 3.1 bs.

Net $\$ 20.45$
0 DIAL - $3.2^{\text {T }}$ diameter, scale 2, with HPN knob, fits $/^{\prime \prime}$ shaft. Shpg. Wgt. ib.

Net \$ 1.15

AM DIAL - Original "Velvet Vernier ${ }^{\text {" }}$ mechanism in a metal skirted dial $3^{n}$ in diameter. Ratio 5-1. For shaft, Available in 2. 3, 4. 5 or 6 scale, specify scale wanted. Shpg. Hgt. 1 lb .

Net $\$ 2.59$
HRP KNOB - Same as KRP-P but has no pointer. Fits $!_{4}^{\prime \prime}$ shaft. Net $\$ 21$ HR KNOB - Same as HRS without chromes plated akirt. Black or gres. Net $\$ .35$ HRB KNOB - 1deal for bandswitching. For ! 4 " shaft.

Net \$ . 32

R KNOS - Calabrated $0-10$ in $180^{\circ}$. For 1 5/8" D. Black bakelite knob. For 4 shaft.

Net \$ . 69
AN VEKNIFR MECHANISU - Ratio 5-1, has insulated output shaft coupling for $1_{1}$ shatt. Drive shaft tits 3/16 knob.

Net \$ 2.07
AVD VEDNIER MECHANISM - Similar to AN mechanism but output shaft coupligg is not insulated.

Net $\$ 1.90$

## NATIONAL DIAL SCALES

Scale Division Rotation

|  |  |
| :--- | :--- |
| $0-100-0$ | $180^{\circ}$ |
| $0-100$ | $180^{\circ}$ |
| $100-0$ | $180^{\circ}$ |
| $150-0$ | $270^{\circ}$ |
| $200-0$. | $360^{\circ}$ |
| $0-150$ | $270^{\circ}$ |

## F. F.JOFINSON

KNOBS AND DIALS


Distinctive line of matching knobs and dials. Tough, seratch resistant black phenolic used for all molded parts. Metal dial scales have etched satin chrome finish. Brass inserts fit "4" shaft.

## KNOBS

| Number | Size | Net |
| :---: | :---: | :---: |
| 116.220 | 11" Biack | \$ 29 |
| 116.260 | 15.8. Black | . 39 |
| 116.280 | 23/3 Black | . 59 |
|  | SPINNER KNOBS |  |
| 116.226 | 1." Black | \$ . 56 |
| 116.266 | 15** Black | . 67 |
| 116.286 | $2^{3}{ }^{3}$ " B lack | . 82 |
|  | SKIRTED KNOBS |  |
| 116.221 | 1/1/m Dia., 11/2 Skirt | \$ .54 |
| 116-261 |  | . 67 |
| 116.281 | $2^{2}{ }^{2}$ " Dia., 3n Skirt | . 82 |

## $116.281 \quad 2^{3}{ }^{\prime \prime}$ "Dia., 3" Skirt <br> INSTRUMENT KNOBS

May be used as finger knob or mounted through panel. $11 / 16^{16}$ long.
116.214 .1
For $1 / 4^{\prime \prime}$ Shaft
$\$ .33$
116.214.2 For $1 / 10$ " Shaft
DIALS
$1_{2}^{1 \cdot / 4}$ bevelled satin chrome scale with $1_{1 / 4}^{1 / 4}$ knob.
116-222.1 100.0 over $180^{\circ}$. \$.56
$116.222-210-0$ over $270^{\circ}$.
$116.222-3 \%$ over $180^{\circ}$.
$16-222-4$ On-Off over $60^{\circ}$. . 56
116-222.5 Line Indication.
$116.262 \quad \begin{array}{ll}2, / 2 \\ 0.100 \text { ove } 180^{\circ} .\end{array} \quad 1.40$
$116.2824^{\text {" }}$ satin chrome scale 0.100 over $180^{\circ}$.
2.00

## VERNIER DIALS

$116.2652 \frac{1 / 4 \prime \prime}{4}$ satin chrome scale 0.100 over $180^{\circ}$ with 3.1 friction vernier drive. \$3.00
116.285
$4^{\prime \prime}$ satin chrome scale
0.100 over $180^{\circ}$ with $5-1$
friction vernier drive. $\quad 3.60$


A positive, calibrated drive for gear reduction assemblies and rotary variable inductors. Available with and without lock. Spinner knob, black phenolic escutcheon. Counter will record up to 99 turns. Vernier dial calibrated $0-100$ over $360^{\circ}$, waking possible accurate $r$ turn to any predetermined setting.

MODLL 116-208-1 1 ith Lock Net $\$ 10.88$ HODEL 116-208-4 Less Lock
9.60

## NATIONAL

## SHAFT LOCK



Fits notentioneter. rheostat shafts Locks i" shaft.

No. SL
Net \$ . 36

## DI DIAL CABLES－KNOBS－DECALS



Easily applied decals for all electronic and allied applications．A professional job is assured with their use．only a dish of water and scissors needed to apply．Sets available in colors as indie． cater．

ALPHARETS－White，Black；or Gold
AUO10－White
CUMOUNICATIONS RECEIVER－White
DIALS ．White or Black
INSTRURENT－White
OSCILOSCOPE－White or Black
TELEVIBION ．White or Black
TRANGITTER－White or Black
Facula tubes ．White or Black
VAcuuM TUBE VOLTEETER ．White
wopsstap ．White or Black
Any above sets．
Net \＄ 1.35
SERVICE SET＝White or Black Net $\$ .40$ SIGN G（Call Letters）hate or Black

Net .95
AIRCRAFT SET．Available in thite．or Black．Especially designed for aircraft electrical，cabin instrument panel．

Net 235


TOGGLE SNITCH PLATES－ $1 \cdot 1 / 8^{n}$ VIa．

| 272 | Off－On | Micro－Phonu |
| :--- | :--- | ---: |
| 573 | .18 |  |
| 581 | Lo－Hi | .18 |
| 592 | Phono－Padto | .23 |

582 Ptono－Radio


ROUND CONTROL PLATE E
25 Volume $1 \star^{n}$ Din．
f． 18
－26 Off－Tune Cunt rel .18


HORIZONTAL SEITCH PLATES
Size，5／8x1－1／2
275 off－On
Size，11／16x1－11／16 278 off -On ． 12


No． 599 －Two speed type．Slow ratio 5： 1. test ratio $1: 1$ ．Fits $\mathrm{A}^{\prime \prime}$ driver shat．Shot． Mat． 8 oz．

Net $\$ 2.70$

IC INTERCOM ENOS
No． 1154 －Walnut， $2^{\text {n }}$ lone Net $\$ .25$

## gee－Lar radio knobs




Push－On Type for $1 / 4^{\text {t }}$ Shafts Walnut or Ivory

| Walnut or |  |  |  |
| :--- | :---: | :---: | :---: |
| Ivory |  |  |  |
| 20 | $3 / 4$ | $\$ / 4$ | $\$ .08$ |
| 50 | $3 / 4$ | $1 / 2$ | .08 |
| 90 | $15 / 16$ | $7 / 16$ | .08 |
| 250 | $3 / 4$ | $7 / 16$ | .08 |
| 270 | $3 / 8$ | $5 / 8$ | .08 |

IVORY AUTO RADIO KNOBS 800SS Brass Set screw type for $1 /{ }^{\prime \prime}$ shaft，reducer for $3 / 16^{\prime \prime}$ shaft furnished free wi th each knob． Number Shaft Diameter Height Net $\begin{array}{ccccc}800-\mathrm{SS} & 1 / 4 & 7 / 8 & 7 / 8 & .23 \\ 810-\mathrm{SS} & 1 / 4 & 13 / 16 & 11 / 16 & .20\end{array}$


A front knob for dual controls． $1-5 / 16^{n}$ 0．D．Plated gold finish inlay．Used with No． 8533 rear knob．
8530 Fits $1 / 4^{n}$ knurled shaft．\＄． 26 8531 Fits $1 / 4^{\text {n }}$ flatted shaft． 8532 Fits． $202^{\text {n }}$ flatted shaft．． 29

NO．8533．Rear knob for dual controls． $1 \cdot 5 / 8^{n} \mathrm{D}$ ．Fur ． $265^{n} \mathrm{D}$ rear keyway shaft．

Net $\$ .17$
N0．8534．Oumbination assembly duad dun－ my type control knob．Fits $1 / 4^{\text {n }}$ flatted shaft． $1-5 / 8^{\circ} \mathrm{D}$ ．Plated gold danish inlay．

Net 3.44


8535


8536


N0．8535．Dual tuner bar knob．Front bar knob for use on dual controls and tuner． $2^{\prime \prime}$ long．Plated gold finish inlay．May be used with No． 8536 and others．For $1 / 4^{\prime \prime}$ shaft．

Net $\$ .3 f$
N0．8536．Rear dual tuner knob．Used with Nu． 8535 knob and others． $1-5 / 32^{n} \mathrm{D}$ ． Fits $3 / 8^{n}$ Lated shalt．Net 17

NO．8537．Channel indicator plate for use on sets with condenser ty tuner． Marked channels 2－13．Fits $3 / 8^{n}$ shaft． NET 黄


No．8538．Front panel hob 1－3／16＂D． Fats． $202^{\circ} \mathrm{b}$ flatted shaft．Net \＄． 13

N0．8539．Rear channel knob．Mates with No． 8538 front knob．Center hole for


N0．8540．Combination dual dummy knob． One knob combination of Nos．8538－8539． $14^{" D}$ ．Fits $y^{\text {＂}}$ knurled shalt．Net $\$ .26$


GEE．LAR
BAR KNOBS
1000．55
Bakelite set screw type bar knobs which fit standard $1 / 4^{\prime \prime}$ shafts．Choice of four col－ or：Walnut，Black，Red，or Ivory．SPECI． FY COLOR．
NO．1000．SS． $11 /{ }^{\prime \prime}$ long．Ne f．．．．．．．．．．．．．．．$\$ .13$
NO．905．SS． $21 / 4^{n}$ long．
． 18

## MALLORY

SWITCH PLATES


For $1200 \mathrm{~L}-1300 \mathrm{~L}$ series switches．Available with marking of＂ $1-2$＂to＂ $1-12^{\prime \prime}$ or．marking of：＂Oft 1－3＂to off 1－10＂．Specify switch number．Net Bach 12
For 3100J－3200J switches．Available with marking of＂ $1-3$＂to＂ $1-18$＂or marking of ＂off 1－2＂to＂off 1－16＂．Specify switch t．ye number．Net Each $\$ .12$

## WALSCO

## POPULAR DIAL CORD

Top quality dial cord made with high ab－ rasion－resistant Nylon over fiberglass core．Each package contains approxi－ matey 10 feet．


2
Tool to aid in replacing old and slippedrofl cables．
NO，5096．Net．
.50

## DIAL CORD

DRESSING STICK
Rubbing on cord prevents slipping．
NO．1212．Net．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．S ． 15

A dual purpose unit which mill 1 unction as both dial lock a position indicator． N．DL－1947

Net ．此
G．C BRASS DIAL PULLEYS

Handy assorted idler dial pulleys．Seq－ ural sizes included for replacements．An envelope of eight assorted dial pulleys．
NO． 6057

PHONE CHESTNUT 1－1125
II25．PINE ST．．ST．LoUIS I．MO．

## SCINTILLATRON



GUN.TYPE SCINTILLATION COUNTER, Offers much greater Gommo Roy sensitivity than the finest of single Geiger tube caunt. ers. Designed so that even untroined pere sonnel can easily use is. Uliro high sensitivity for aerial survey or search from mobile equipment. Temperofure ond heightproof, operates from $35^{\circ} \mathrm{F}$. to $110^{\circ} \mathrm{F}$. and ot heights over 15,000 feet. Six operoting ranges: $25,5,1, .25, .05$, ond .025 MR/HR. Tropicalized, woter-prooled and shockproofed shroughout for use ony where in the world. Meter on back of probe cose. Tube protected from shack, heat, and moisture. Complete unit may be used when held in hand or bottery box con be held on belt. Uses three flashlight cells, 1.671/2 and 2 . 30 volt botteries. Amplifier, power supply, and sube ore plug-in fype for easy servicing without returning to foctory. Accurocy $45 \%$ of $3 /$ full scole reading. Probe size $21 / 16^{x}$ $111 / 2^{\prime \prime}$. Complete with tubes, botteries, shoulder strop, calibroted rodioactive somple, and detailed opergtional instructions. Shpg. Wgt. 10 lbs.
MODEL DS.234. Net.

..$\$ 467.00$

## GEIGER COUNTER



Completely redesigned. compact ceiger Cunter. Welghs only 5 lus. Uses standard luw cost batteries. Has three scale sergitivity meter and neon count indicator. Meading may be taken from uraniuh and keadium ore suecimens. Sensitive to Gam. thorium ore specimens. seurdy waterproof an und Beta radialion. Sturdy waterprove construction. heady to uperate. complete will headphunes. batteries. carryink belt, 6 ore specimens, Government Pruspecting fur Urandum" book. all instruc* pectisg rur Shem. Net. 8 bus. Net $\$ 98.50$

## MODEL DG-7

## DETACHED PROBE

The ultamate in low cost. lightweight all purpose Geiger counters. Circuit is especially desisned for capacity of counal cable assuring complete fidelity n all cave. ussuring completel alized unvil readings. It is tropicalized. funnus-resistalst, and waterproor. haking a lose analysis of specimens. Hay also be sud as laboratory instrument. Very sed as thas all features accurate calibration. Has all featires of Model DG- 2 plus the detachable prube. Complete with same accessorices as $D G-2$ ylus probe and cable. Shpge ligt. 101 bs .

## Detectron

DRILL HOLE TYPE


DRILL HOLE TYPE GEIGER COUNTER. All-purpose counter which will moke radioactive meosurements in drill holes down to depth of 1000 feet. Detecting tube is securely housed in water-proofed probe, weighted so it will not floot and topered to prevent cotching on obstructions. Ruggedized and tropicolized. Uses stondard lightweight botteries ( 900 volts). Eosy-to-read sensitivity meter adiustoble to zero. Complete with 100 feet coble, earphones, batteries, corrying strap, two probes, detoiled instructions, ond colibroted radiooctive somple. Additionol coble ovailoble at $\$ .15$ per fool. Size: $41 / 4 \times 7^{1 / 4} \times 7^{71}$. Corrying weight 10 lbs . Shpg. Wgt. 15 lbs.
MODEL DG.9. Net..
.$\$ 250.00$

## "CLAIMSTAKER"

DG-5

the detectron "claimstaier". A new ino expensive Geliger counter with sufficient sensisivity to detect all radioactive materials. uses new printed circuit. Small in size. 1 yxax6: light in weight. wibs Small enough to carry in your pocket. As deposit is approached, the pocket. As a deposit is approach, bharp sensitive phune produces clicks. Complete with uraniup ore sampl batteries and phone. Shps. Wgt. 3 lbs. CLALMSTAKFR IGG-5

Net \$ 37.50

## "SEARCHMASTER"



GEIGER COUNTER. Sensitive to both Beta and Gammo radiotion os well os to X-rays ond cosmic roys. Used by prospectors, minerol enthusiosts, rockhounds, etc. Eosy to operote, unit is completely self-contoined.Uses Geiger sube No. IB85, 2.45 volt " $B$ " botteries, $1.11 / 2$ volt "A" battery. Heodphone sef and plug. Blue Hommertone cose, size $31 / 2 \times 4 \times 9 / 2^{n}$. Camplete, reody to operote. Corrying weighs 5 lbs. Shpg. Wgi. 7 lbs.
MODEL SEARCHMASTER, Nef..... $\$ 55.50$

## SCINATRON



ECONOMY SCINTILLATION COUNTER. Ideal unit for the prospector who needs more thon a Geiger counter. Defecting ele. ment is $1 x / 2^{\prime \prime}$. Thallium Activoted Sodium lodode Crystol coupled to an RCA Multiplier Tube, completely shock mounted and mognetically protected. Operotes aceurately on six ronges of $25,5,1,25, .05$, and 025 MR/HR. Will perform well at temperatures from $35^{\circ}$ to $110^{\circ} \mathrm{F}$. and of heights obove 15,000 feat. Three controls, zero set, ronge, ond time constarit. Plug-in circuitry. Woter-proofed, tropisolized, and hock-proofed. Uses three floshlight cells, $1.671 / 2$ and 2.30 volt batteries. Complete with tubes, batteries, shouldar strop, de tailed instructions, colibroted radium sample for field calibration. Size: 41/4x7/4x 7 n . Corrying weight 6 lbs . Shpg. Wt. 10 lbs . MODEL DS. 222 SCINATRON. Ne! $\$ 289.00$


MODFL 27. A new easier-to-operate metal detector specilically designed for detecting placer gold nuggets and other small metal objects. Locates objects $3^{\prime \prime}$ to $\gamma$ below surface. Excellent balance of instrument will not tire operatur. May be easily unassembled and stored in shall space. To operate, turn on switch. small space. and instru make one simple when exploring ment is ready to work. When exploring. probe is passed over a metallic object, instrument responda with a loud clear tone. Metered model responds sharply with a strong reading. veighs only 9 lb . Therefore, it is easy to use in exploring walls, cliffs, and rugged terrain. Model 27 will penetrate earth, rock, Model 27 will penetrate cement asphalt etc. to water, ice. cement. asphalt. etc. to detect object sought. Cmplete with head phones, batteriea. and conplete instructlons. Shpg. Wgt. 15 lbs.
MODLL 27 Deluxe Type with meter 110.06

WALTER ASHE
RADIOCO.
STORE HOURS
9:00 A. M. to 5:30 P. M.
'Mondoy througb_Saturday


## WALSCO HARDWARE

STELL machine screws. Ahli the ztandard s.zes comin No. 6, 8. 10 screws $\cdot 1 / 4^{\text {n }}$ to $1^{\text {" }}$ long.

| Number | Size | Cont. Pe 8. 29 Box | Number | Cont. Per <br> $\$ 1.06$ Box |
| :---: | :---: | :---: | :---: | :---: |
| 8000 F | Assorted | 35 | 8000N | 200 |
| 2063 F | 6/32x3/8 | 40 | 8063 N | 225 |
| 8066P | 6/32 $\times 3 / 4$ | 30 | 8066 N | 175 |
| 8083 F | $8 / 32 \times 3 / 8$ | 30 | 8083 N | 175 |
| 80865 | 8/32×3/4 | 25 | 80867 | 140 |
| 8106 F | 10/32 $\times 3 / 4$ | 20 | 8106 N | 115 |

NO. 8002F SMALL MACIINE SCREW AND WUT ASSORTWENT, Special assortment of extra mall screms (No. and 4) and nuts for lastenang small parts to re place rivets, etc. 40 assorted screws and nuts box.
SREET METAL AND SELF-TAPPING SCREWS. Those Serews cut their own threads in either metal o- plastic. Just drill a hole and drive in the screws - nu nut or tapping required. For mounting barts tu chassis replacing rivets and eyelets, etc.

|  |  | Cont. Per |  | Cont. Prr |
| :---: | :---: | :---: | :---: | :---: |
| Number | Size | \$. 29 Bux | Number | \$1.06 Bux |
| 8366F | 6x3/4 | 20 | --.... |  |
| 8384F | 8x1/2 | 20 | -..-- |  |
| 8406 P | 10x3/4 | 12 | -300w |  |
| 8300F | Assorted | 25 | 8300 N | 125 |
| 8364 | $6 \times 1 / 4$ | 30 | $836{ }^{\text {\% N }}$ | 150 |
| 83645 | $6 \times 1 / 2$ | 25 | 8364 N | 150 |

RACK SCREWS AND CUP WASHERS. For munting punels in racks and cabinets. fastrning reccrd players and recording chassis, ttc, oval head screns are nickel olated as are cup washers. Cunt. Per Number Slie and washers \$.29 Box 8005 Assorted screws and Nashers 8273F $\quad 10 / 32 \times 3 / 4$ Screws 7810 F No. 10 Washers (9/16" 0.D.)

NO. 8502F STANDARD WOOD SCREW ASSORTMEMT. Handy assortment. Contains round ard flat head screws of popular sizes in brass and steel. 25 scress per box.

Net $\$ .29$
NO. 8500F SMALL ESCUTCHEON AND MOOD SCREW ASSORT MENT. Assortment contains extra sma:l sizes of hard-to-get wood screws. For jastening rame plates, escutcheons. and numerous other oevices. 25 assorted screws per bux.

No. 7560F ESCUTCHIDON PIN ASSURTMENT. B:asS 1inishtu pins in various sizes and lensths from $1 / 4^{\prime \prime}$ to 1". 100 assorted pins per bon.

Net $\$ .29$
NO. 8550F PHONOGRAPH PICKLP SET SCREWS. NarTUH head steel screws. Antique bronzed finish. Fur all pepular pickups and recordiny heads. 12 assorted phanu set screws jer box.

Net \$. 29
STEEL EET SCREES. Hardened steel set screws in uyular sizes for radio knobs, recora chanzers, hume and automobile radios. Screws Nut

| ט- |  | Her Box | Per Box |
| :---: | :---: | :---: | :---: |
| Number | Size | fer mox | P 29 |
| 8605 F | Assorted | 15 | - |
| 86234 | 6/32 3 / 16 | 15 | 29 |
| 8633F | 8/32×3/16 | 15 | 2 | 964F - 10/32x $/ 4$

No. 8570F SPADE BOLTS. For at taching cundensers coils, cans, and similar stems. Stud size 6/32. Hole size for No. C screw. 15 assorted bults per box.

NO. 8250F ORMAMENTAL HEAD SCREDS. AJtique bronze finish. rosette head. For mount
 w. 7525F RIVET ASSORTMLNT. in brass. copper and
 1ow, suls and sylic rivets in aluminum. Sizes range irom $1 / 15$ to tox.

Net 3.20
No. 75 10F EYELET AssortMant. Brass eyelets of var-
 [-_ NO. 7565F TWIN-LEAD WIRING NALLS. For attachine 300 unm leads to walls, matcings, etc. 40 nails hear. No alfect on impedarce ol the per box.
NO. 7380F SMALL COTTER AND HAIR PISS. Assor.tnent of popular sizes uf cotter and hadr pins. 50 per box.

Machins Screw NuTS. Walsco nuts ar
precision made and cadmium plateu.

| * | Machine strew nuts. Walsco nuts ar precision made and cadimium plateú. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Size | Cont. Per \$. 29 Box | Number | $\begin{aligned} & \text { Cont. Per } \\ & \$ 1.06 \text { Box } \end{aligned}$ |
|  | 8800F | Assorted | 30 | 8800N | 175 |
|  | 8806F | 6/32 | 35 | 8806N | 200 |
|  | 8804F | 8/32 | 30 | 8808N | 200 |
|  | 8810 F | 10/32 | 30 | 8810 N | 175 |
|  | Brass, nickel olated. |  |  |  |  |
| 8 | 8846 N | 6/32 | ** | -*..- | 150 |
|  | 8848N | 8/32 | ** | *-*** | 100 |
|  | 8850 N | 10/32 | -- |  | 80 |


|  | $\begin{aligned} & \text { No. 8943F KNRLEN THME NUTS, BRASS. } 8 \text { nuts. size } \\ & \text { Net } \$ .29 \text {. } \end{aligned}$ |
| :---: | :---: |
|  | N0. 8960F spleb Muts. 30 assorted speed nuts. ${ }^{\text {Net } * 20}$ |


| $8-9$ | No. 8933F IING NUTS. is nuts, $6 / 32$. Made of steel and plated. Net \$ . 29 |
| :---: | :---: |
|  | Special mountimg nuts. Various kinds of nuts used on volume controls. swatches, jacks, potentiumeters, etc. Nuts are cadmium or nickel plated. |
| 0 | NO. 8950f ACORN NuTS. These PAL type steel nuts are self-locking and bright cadmium-plated. 10 assorted nuts per box. |
|  | mith. Wastigis. Steel washers, cadmium-plated, in standard sinall slzes. |



NO. 7750F SPRING (FRICTION) EASHERS. Used in record changers, autonatic tuning assemblites, ttc. Many popular sizes of phosphor bronze and spring stetl washers. 12 assorted spring washers to a box

Net $\$ .29$
No. 7760F INOX FDIT WASHERS. Tough brown felt with

- $1 / 4^{m}$ hole to fit standard shafts, O.D. $3 / 4^{\text {m }}$ and

|  | No. 7820F insulating wasters. High grade vulcanized fabre or ghenolic material. Used tu insulate parts from chassis, etc. Overall thickness $1 / 32^{\prime \prime}$. 35 assorted extruded and flat washers. Net $\$ .29$ no. 7825F. K8 insulated washers. <br> Net \$ . 29 |
| :---: | :---: |
|  | metal. and ingulating spacers. Assorted spacers of variuus lengths with hole size to accommudate No. 6 and No. 8 screws. |
|  | RETAINING RINGS AND "C" WASHERS. A necessity in the servicing of volume controls, record changers, etc. Rings are tempered spring steel. Washers are annealed. Assortment contains sizes fur shafts from $1 / 8^{\prime \prime}$ to $5 / 16^{\prime \prime}$ diameter. <br> Net <br> Number <br> Description <br> Per Box <br> 7770F <br> 25 Assorted Rings and Washers <br> *. 29 <br> $7774515{ }^{\circ} \mathrm{C}^{\prime \prime}$ Hashers for $1 / 4^{\text {" }}$ Shaft <br> .29 |
|  | CABLE CLAMPS, Heayy gauge steel, cadrium-plated. 3/8" wide. Available in 3 sizes for cables from $1 / 8^{n}$ to $5 / 16^{n}$. <br> Cunt. Per <br> Number - For Cables |

## Hea HEAD C. F. CANNON <br> HEADSETS


DC. Shpg. Higt. V' l bs. MO. AM-25-2


A new headset with Alnico $V$ magnet. Sinall in size, light in meight, cunstruc ted of durable plastic. Excelrent response justable spring stetl headband and $4, / \mathrm{ft}^{\prime}$. cord. Diaphragm diam.
$1-7 / 8^{n}$. Shpg. Wet. 1/2 lus.
Mo. AM-15-2 2000 ofmis DC Net $\$ 2.35$ Fio. AM-15-1 1000 ohms single phone. Shpg. Hyt. 1 lb, Net $\$ 1.18$


The
Brandes
SUPERIOR

A rugged high quality headset. Has outside tcrminal connections and polished aluminum cases. Durable blach plastic caps with double sol envid colls, two ith cach ruceiver. Chrome steel mabnets $1 / 4^{\prime \prime}$ dia., diaphragi $2-1 / 8^{\prime \prime}$ dia. Black steel htiadbuad. $4^{\prime \prime}-1$ t. curd. 2,000 ohms DC. Slyp. Wet. $1 \% 1 \mathrm{bs}$.

Nu. BS-2
Net \$ 2. zu

Cannon-Ball Headsef

## The Dixie



A very popular and serviceable headset. Outside terminal connections. Pulished aluminum cases and black bahelite caps. Double cuils, two in each receiver. Magnet size ${ }^{2}{ }^{\prime \prime}$. Black steel headbanu $4^{\prime \prime}=\mathrm{ft}$ Cord. 2,000 ullms DC. Shpg, Het. 1': lbs.

No. CD-2
Net \$ 2.06
featherweight headset


24,000 ohn impedance precision built phones. Very light weight. Shpg. Kgt. 1 1 b .

No. 107
Net \$ 6.47


THE ACME
A superior headset in the lightweight low price field. 2000 ohms D.C. $4^{14}$ flexible cord. Sha lit. 2 Lb .
No. 25 Net, $\$ 1.97$


Single earphone on ajustable handle. 1000 ohms resistance. 4500 ohm impedance. Shipg. ligt. 12 oz .
No. 120
Net $\$ 4.85$

\%ociel 200A pair. General purpose phones 100-10000 CPS, High impedance, high sensitivity. 5 ft , cord, adjustable headband. Fing. hyt. 12 oz. Net $\$ 10.39$


Model 202 A single phone. Same as above but one phone. Shipg. Wet. 8 oz .
$\qquad$
TRIMM


## INDIVIDUAL VOLUME CONTROL

Individual volume control for Individual volume control for
Inearing aid Installations. learing aid installa tions.
10,000 ohm cuntrol. Shpg. Wgt. 1 b .

1. C. A. HEADPHONE CUSHIONS


Minimize car plone fatigue. Shyg. Hist. 12 uz. Fo. 195 Net Per Pair \$. 82


## TRIMM

 PHONE PLUGNo. 512. Flat type, non-protruding, Body molded of black plastic.


MONOSET 4625


TWINSET
3775


EARSET
4680
Now lightweight receivers to replace old style phones, comfortable to wear. Kgt. 1.2 oz. Ideal for ham radio, etc. Type 4625 with ear pluss, type 3775. new model, receiver rests 11 ghtly at tenples sound arms pipe signals into ear. Both models are complete with standard corc and plug. Shpg. Kgt. 8 oz .
N. 4625
2000 ohms
Net \$ 7.76 N. 3775 . 1000 ohms 10.14

Midget earpiece receiver for fitting on the ear. Adjustable for use with either ear. An ideal unit for hospitals, portable radius, hearing alds, secretarial dictation, etc. Unit is securely mounted on the ear; head may be moved freely Without dislodging earplece. With 5 -ft. cord and standard plug. Single earplece.
Nu. 4680
2000 ohms
Net \$ 7.06

## PILLOW

## SPEAKER



Improved Model "R" Pillow Speaker per-. mits private radio listening in homes, hospitals, etc. Can be attached to any radio or applifying system or wherever radio or applifying system or wherever
radio listening is provided. Size, $\left.2!\right|^{\prime \prime}$ radio listening is provided. Size, $2 /{ }^{2 / 4}$
diameter, $5 / 8^{\prime \prime}$ thick. Fasy to install. One piece housing, sealed diaphragm. Easy to sterilize. complete wath $5-f$. cord and standard phone plue. Impedance 2.000 ohms.

Nu. 4530 Shpg. hgt. 12 oz . Net $\$ \mathbf{6 . 7 0}$
No. 8110 Deluxe Pillow Speaker. Impedance 3.2 ohms. Practically unbreakable, sturdily made. Size: $3-3 / 4 \times 1-1 / 8^{\prime \prime}$. Cumplete with cord and phone plug.
M. 8110

Net $\$ 6.00$

## MALLORY phone plugs



| number |  | NET$\$ .38$ |
| :---: | :---: | :---: |
| 75 | 2-woy bakelite shell |  |
| 75N | 2-woy metal shell | . 59 |
| 75A | 2 -way metal shell with |  |
|  | builrin coble clomp | . 97 |

## HEADPHONE CORDS



Extra-flexible bronze tinsel. Well insuluted. All cords 5 ft . long. Shpg. Mgt.
6 oz.

| Wumber | Type | Net |
| :--- | :--- | ---: |
| $\mathbf{8 1 6}$ | Single, tips both ends | $\mathbf{8 9}$ |
| $\mathbf{8 1 6}$ | Single, tips and lugs | .49 |
| $\mathbf{8 8 1}$ | Double, tips both ends | .65 |
| $\mathbf{8 8 3}$ | Double, tips and lugs | .65 |

## INSULATORS OF ALL TYPES

## STANDOFF INSULATORS



All insulators listed below made of highly vitrified, low absorption porcelain. Com plete with hardware.

Plain standofis

| Number | Height | Net |
| :---: | :---: | :---: |
| 405 | $5 / 8 \prime$ | \$.08 |
| 966 | 1 | . 10 |
| 866 | $11 / 2$ | 14 |
| 4275 | $23 / 4$ | . 68 |
| +450 | $41 / 2$ | . 6 |
|  | Jack Standofis |  |
| 966-J | 1 " | \$. 14 |
| 866-J | $11 / 2$ | 58 |
| $4275-3$ | 2 $3 / 4$ | . 88 |

## BIRNBACH STEATITE BUTTON


birnbach steatite button
May be used as binding post or small standof1. Extends $1 / 4^{\prime \prime}$ above and below panel.
No. 45
FEDTHRU INSULATORS
$18 \cdot 36{ }^{n}$
$H 14 \cdot 36^{n}$
G-C FYDEROID


No. $560=.010^{\prime \prime}$ - 240 sņuare inches.
Net $\$ .32$
assortej saturated sleeving Kit


An assortment of ${ }^{\prime \prime}$ liz 1 engths of saturated sleeving. 26 lenatiss to the kit. Sizes include from No. 17 wire to $3 / \mathrm{s}^{\prime \prime}$ I. D.
No. 550 - Kit 26 leng ths
Net * 29

CONE STANDOFF INSULATORS

| $\left[\begin{array}{r} 0 \\ 0 \\ 3 \\ 0 \end{array}\right.$ | (Stectite) |  |
| :---: | :---: | :---: |
| Number | Height | Net |
| 430 | 5/8' | 3. 19 |
| 431 | $!$ | . 24 |
| 432 | i. 1/2 | . 42 |
| 433 | $23 / 4$ | . 82 |
|  | JACK TYPE |  |
| 431-J | $1{ }^{\prime \prime}$ | \$ . 28 |
| 432-J | $11 / 2$ | . 56 |
| +33-J | $23 / 4$ | 1.00 |

METAL BASE INSULATORS


Desizn-d to replace conventional porcelain insulators there there is danger of base cracking when fastened down. Cadmium plated base.


Cones are 2*" high. 4237 and 4238 have suiificient insulating bushings to insulate rod thest goes through wall.

$$
\begin{array}{lll}
4237 & 15^{\prime \prime} \text { Roud with bushings } \\
4238 & 206
\end{array}
$$

AERIAL SPRING ADJUSTER


Prevents swinging and swaying of antennas, Takes. up slack.


Use for bringing lead or feeders through wal 1. $12^{\prime \prime}$ insulated brass rod.

No. 1-742

## BUD

FEEDER SPREADERS


Lucite, with clamps on end to hold 12 to 18 gauge wire.


Hizh tensile strength sinooth glaze porce. 1ain.
 STAND-OFFS
"T" type standoff with $7^{1}$ :" wood screw. Polyethylene insulators. For UHF and VHF. No, 8809

Net \$ . 15
TELCO T.TYPE STAND.OFFS
"T" type mast standoff insulator. Stainless steel strap is adjustable for any size mast. polyethylene insulatur tor LHF or VHF. 7!: lone,

So. 8359
Net $\$ .21$
"LUCITE" FEEDTHRU INSULATORS
Sare as above but for fetdine leads
throug chassis, shmeld, etc.


| Number | Diam. | Het. <br> above <br> Panel | Hgt. <br> Beluw <br> P wlel | $\mathrm{N} \in \mathrm{C}$ |
| :---: | :---: | :---: | :---: | :---: |
| I-1909 | 1/2' | 1/4' | 1/4" | 3. 44 |
| I-1910 | $1 / 2^{\prime \prime}$ | $1 / 2^{\prime \prime}$ | 1/4" | . 50 |
| 1-1911 | $1 / 2^{\prime \prime}$ | $1{ }^{\prime \prime}$ | 1/4" | . 56 |
| I-1912 | 3/4"' | $1{ }^{1 / 2}{ }^{\prime \prime}$. | 1/2"' | . 94 |
| I-1913 | 3/4' | $2{ }^{\prime \prime}$ | 1/2" | 1.06 |

ANTENNA INSULATORS
"Your trade-in's worth more at the WALTER ASHE STORE"

## Ins INSULATORS FOR EVERY PURPOSE

## TELEVISIONINsulatoas



Sta loff insulators for all TV and Fil applications. Avallable in wood screw, machine screw, and hail-in types.

## FOR FLAT TMIN-LEAD

| Number | Lencth | Txpe | Net |
| :---: | :---: | :---: | :---: |
| 66-202 | $32^{\prime \prime}$ | ${ }^{3} 14$ mood Screm | \$. 03 |
| 66-204 | 3 K | /10-32 Wachine Screw | . 04 |
| 66-209 | $7 \%$ | \$14 Wood Screw | . 05 |
| 66-210 | T | * 10-32 Machane Screw | . 05 |
| 66-211 | $3^{\text {t }}$ | Nail-in Type | 04 |

FOR 300 OHM TUBULAR TWIN-LEAD

| 66-214 | 72 | \#14 Hood Screw | 05 |
| :---: | :---: | :---: | :---: |
| 66-215 | 32 | 71 1 Hood screw | . 03 |
| 66-216 | 7 T'2 | * 10-32 Machine Screw | 05 |
| 66-217 | $3_{2}$ | *10-32 Machine Scre\% | . 04 |
| 66-218 | 32 | Nall-in Type | . 04 |
|  | F0R | COAXIAL. CABI, ES |  |
| 66-201 | $3_{2}^{\prime}$ | fly wood screw | . 04 |
| 66-263 | $3:$ | 710-32 Machine Screw | . 04 |
| 66-208 | 7: | P14 Hood Screw | 05 |
| 66-219 | 7 | (10-3? Machine Screw | . 66 |
| 66-212 | $3:$ | dail-1t Type | 5 |

*66-909. Polystyrene flat twin-lead insulators for 300 ohm Jine. Net Euch \$.0\$

## JFD "ADJUSTA" <br> STAND-OFF INSULATORS

Etrap insulatur with new type nut. fias six tull threads, cannot slip, buckle or bend. Fur 300 uhm lead. Polyethylene inserts assure low loss reception.

| Number | . Length | Net |
| :--- | ---: | ---: |
| MT-350 | $3-1 / 2^{\prime \prime}$ | $\$ .11$ |
| MTT-750 | $7-1^{\prime} 2^{\prime \prime}$ | .15 |

KNOX RADIO INSULATORS
PORCELAIN PORCELAIN AIRPIANE
INSUI.ATOR INSUL.ATOR


No. 500

## Fide

No. 2!'
Heavy duty strain, length $2^{2} 4^{\prime \prime}$, brown glazed porcelain. Slug. hit. 8 oz
M. 500 insuthtuR

Ne. . 1
Brown porcelain strain insulator, lenuth 2. 2-1/2 Shpy Wist, 402

Net \$.06
Airplane type. Mhite glazed porcriain. Length I-3'4". Shp w. Met. \& 07.
M0, $4 \div 2$
Net $\$ .0 \%$

STANDOFF INSULATORS
A size lur ald requirements. Guud insulation. Mudern appearance $1 / 2^{\prime \prime}$ diamptel insulution supplied with 6-32 seressio 3 diametrr supplted wath 10-32 screws.
Nunver $r$
fitluth


| 1-1904 | $11^{\prime \prime}$ | 1'2" | \$. 41 |
| :---: | :---: | :---: | :---: |
| 1-1890 | $2{ }^{\prime \prime}$ | 1,2' | 44 |
| I-1905 | $23^{\prime} 4^{\prime \prime}$ | 1/2' | 30 |
| 1-1879 | $11^{\prime \prime}{ }^{\prime \prime}$ | 3/4 | 44 |
| I-1906 | $214^{\prime \prime}$ | $3{ }^{4}$ | 59 |
| I-1907 | $41 / 4^{\prime \prime}$ | $3^{\prime} 4^{\prime \prime}$ | 73 |
| I-1909 | f) $1 / 4$ " | $34^{\prime \prime}$ | . 03 |

STANDOFF INSULATORS


Ló: loss steutite standoff insulators nich el plated caus and bases. Mg t .8 uz .

Numb
ES-1 $\quad 1 / 2 \times 13 /$
$18^{4}$
CS-2 $1 / 2 \times 27 / 8^{\prime \prime}$
GS-3 $3 / 4 \times 27 / 8^{\prime \prime}$
GS-4 $\quad 3 / 4 \times 47 / 8^{\prime \prime}$
K-44 $3 / 4 \times 67 / 3^{\prime \prime}$
Tationgal Insulators

Threaded polystyrene bushing with remove able. . 093 conductor molded in $1 /{ }^{\prime \prime}$ diameter, 32 thread.
Type TPB Bushing Per 12 Net each $\$ .08$

Low loss steatite spreaders have $6^{\prime \prime}$ line spacing. ( 60 on ohs impedance with No. 12 wire).

AA-3
AA-3 Steatite aircraft insulator, Net $\$ .41$ AA-6 Steatite low loss insulator. . 62

Cone type stand-off insulators made of low loss steatite. Tapped hole in each end as follows. GS-5 8-32 tap $7 / 16^{\circ}$ deep: GS-6 \& Gs-7 10-24 tap 11/16" deep; GS-10 6-32 tap 1/4. deep and GS-10S as noted above


Low loss steatite stand-off insulators and are also useful as lead-through bushings. GS-8 Not \$ 62


Prices listed are per pair and include nickel-plated spindles, lugs, and harduare Ideal fur lead-in purpóses at high vultage

X5-3
$2-3 / 4^{\prime \prime}$, Hole
4. 13

XS-4
$3-3 / 4$ Hole
4.98

These big low loss bowls tave an extremely lung leakage path ata a 54" tlange tur bolting in place. Steatitt insulation.

XS-5 = Hithout fittinss. Net Each \$ 5.65

UNIVERSAL FEED-TIRU BUSHING
WALSCO
Accommodates all types of twin-lead, flat and tubndar, cuaxiul, rotatur cable, and nas mrovisinn for terminating open ware litik. $15^{\prime \prime}$ lonte, fits wall up to $14^{\prime \prime}$. Easy to cut donn. Requires $3 / 4^{\prime \prime}$ thole, Nate of palystyrente. Bromn ur ivory.
10. 1551

Aut \$ 1.17

> G-C INSULATING CAMBRIC


Ury yellow varnished cambric for field culls, transformers, chukes, resisturs, No. 549 ROLL, uver ? 30 sq. in. Net \$. 30
(1) und

Steatite bushings. Prices include male and female bushings with metal fittings.
$\begin{array}{ll}\mathrm{XS}-7 & 3 / 8^{\prime \prime} \text { hole } \\ \mathrm{XS}-8 & 1 / 2^{\prime \prime} \text { hole }\end{array} \quad$ Net .42
Prices listed are per pair, including metal fittings. Steatite insulation.

| XS-1 | $1^{\prime \prime}$ hole | Net ${ }^{83}$ |
| :---: | :---: | :---: |
| Xs-2 | 1':" hole | Net.93 |



AMPHENO
POLYSTYRENE SHEETS

| $\cdots$ | 19-0628 | Sive $4 \times 8 \times 1 / 16^{\prime \prime}$ | Net \$ .17 |
| :---: | :---: | :---: | :---: |
| M. | 19.0938 | + $\times 6 \times 3,32$ | . 20 |
| M. | 19-1258 | $4 \times 8 \times 1 / 8$ | 4 |
|  | 19-1878 | $4 \times 8 \times 3 / 16$ | .30 |
| No. | 19-2508 | $4 \times 8 \times 1 / 4$ | 40 |

## POLYSTYRENE TUBING <br> AND RODS

polystyrene rods polystyrene tuaing
Sliz O D Per Fuut
" WALL

| Size 0. D. | Per fuot | sive O.U. |  | Net |
| :---: | :---: | :---: | :---: | :---: |
| 1/8" | \$ . 03 | 1/4" |  | . 10 | $\begin{array}{llll}3 / 16 & .07 & 1 / \frac{1}{2} & .10 \\ 1 / 4 & .12 & 5 / 16 & .14 \\ 5 / 16 & 3 / 8 & .18\end{array}$

$3 / 8$

$1 / 2$ 3/8 $1 / 2 \quad .26$ | $3 / 4$ | .31 |
| :--- | :--- | $\begin{array}{llll}5.8 & .72 & 1 & .35 \\ 3 / 4 & .98 & .35 \\ 7 / 8 & 1.39 & \end{array}$ 1.39 rods ore one foing and

## RATOMO FIBRE RODS

Fiore rocis having pericct insulation uadities at low cost. Cun be shaped tu tit your individual needs for miscellaneous touls, aliunmerit equipitent, coup ling units, etc. Used by radio and TV「en who almays need a rod that can be shajed ae an ifistrument or tuol. Hilb outlast average $G$ aligreprent toul several times uver. Used in sehools, laoutatories for designing rudio and TV equiument and riany other uses. All sizes ure $12^{\prime \prime}$ an lenzth. Sizes fron. $1 / 9^{\prime \prime}$ to $1 / ?^{\prime \prime}$.
Size Net Euch Size Net Each

| $1 / 8$ | .32 | $3 / 8$ | $\$ .49$ |
| :--- | :--- | :--- | :--- |
| $3 / 16$ | .32 | $7 / 10$ | 59 |

UALTER
RADIO 60.
PHONE CHESTNUT 1-1125 II25. PINE ST., ST: LOUIS I, MO.


TYPE 7818. All-wave interference filter designed to be connected between radio receiver and power outlet. Eliminates noise from appliances such as senillg machines, food mixers, vacum cleaners, etc. 150-watt capacity, operates on etc. $150-10 C 115$ V. Size $2,4 \times 4^{\prime \prime} \mathrm{L}$.

Net
TYPE 7815. Sinilar to 7818 but designed for larger appliances such as refrigerators, etc. Useful for TVI elimination when inserted in iv receiver line cord. Handes up to 550 watts. Size $24 \times 4^{\mathrm{m}} \mathrm{L}$. Net'\$ 4.62
TYPE 7813. All-wave filter designed for $A C-D C$ sets. Plugs in between set and power outlet. Size $24 \times 5{ }^{\text {"LL }}$. Ne Net \$ 4.95
TYPE 7817. Electric shaver filter. Absorbs interference radiated from shaver and prevents noise from being heard in receiver, Shaver plugs into filter, filreceiverto outlet. Volts 115. watts 50. Size $1-1 / 8 \times 3^{71} \mathrm{~L}$. $\qquad$ Net $\$ 1.65$
TYPE 7816. All-purpose line filter of the capacity type which eliminates nolses from household appliances such as sweepers, heat pads, dryers, mixers, fractional HP motors, etc. 115 volts, 660 watts. Size $1,4 \times 24^{1 i}$.

TYp: 7812. Teletype radio interference filter. Desigred for use on small brusk type universal motors. Easily installed uirectly on motor, terminals. Consists of tho duo-1ateral wound chokes and dual condenser. Ground teminal. Prutected against molsture. Carries up to $1 / 2$ anp. up to $220 \mathrm{~V} A C-1 C$. Size $1-3 / 8 \times 3$ " $\mu$.

Net $\$ 2.31$

## HIGH. PASS FILTERS

Heips to eliminate interference caused by amateur transmitters, Short wave stations, X-ray, diathermy, appliances, etc. Mini= mizes noise, streaks. sound bars or herringbone patterns. Morks on all channels, no tuning required. Installed easily in antenna lead-in at receiver. Size; 11', $\times 2 \times 3)^{11}$ high.

:tumber
G167 For 92 chm line \& 3 20
6168 For 300 ohm liñe 3.30

SPRAGUE "HYPASS"

## CAPACITORS

for rbduction of tyi

- $\pi x+2$

$-45$
11


Used for suppressing automotive inverference in mobile work, etc. Current ratinss: 47P15-17P16 2 amps., 47P13-47P1t 3. amps., 47P12 4 amps., $48 P 920$ amps.. 48 P 1840 amps. 18 . 80 P 320 amps. Case gnd.
Nุunber Nfd. Work: V.
Size
Net

| 48P9 | . 1 | 250 | AC | 3/4×1-3/4 | +1.53 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 48 P 18 | . 5 | 50 | DC | 1×1-13/16 | 2.23 |
| 46P8 | . 005 | 600 | DC | $1 / 4 \times 1 \cdot 1 / 2$ | 1. 26 |
| 46 P 12 | . 002 | 600 | DC | 1/4×1-1/2 | 1.26 |
| 47P6 | . 01 | 600 | DC | $1 / 2 \times 1.1 / 4$ | 1.38 |
| 47 P 12 | . 005 | 1000 | DC | 1/2x1-1/4 | 1.41 |
| 47P13 | . 01 | 1000 | DC | 1/2x1-1/2 | 1.53 |
| 47P14 | . 005 | 2500 | DC | 1×1-1/2 | 1. 70 |
| 47P15 | . 01 | 2500 | DC | 1x1-1/2 | 1.82 |
| 47P16 | . 002 | 5000 | DC | 1×1-1/2 | 1.88 |
| $80{ }^{1} 3$ | . 1 | 259 | AC | $3 / 4 \times 1-7 / 8$ | 1. 73 |

## BARKER A WILLIAMSAM

LOW-PASS

## FILTER

Two new low pass filters for use at the transmitter for reducing or eliminating TV1. Either will handle 1 kw of RF power TV1. Either will handexcessive. Circuitwise they consist of two "M" derived end sections and four sectiors: of the copstant " $K$ " type. Measured attenuation is better than 85 db throughout all TV chan. nels and over 100 db on channel 2. Connels and over heavy gauge copper sheet, structed of heavy gauge copper sheet, need of repairs, user can repair himself. MOUHL $425 \quad 520 \mathrm{hms} \quad$ Ne: $\$ 14.85$ HONFL 42675 Ohms 14.85

## REGENCY HICH PASS



MONFL UP-45. Hith pass filter wath cola $s \operatorname{tant}$ " $k$ ". Cut-off frequency of approximately 45 sic in 300 ohm 1 ine balanced. For use at TV set to minimize interfertrice. Attenaation at 29 mc is approximately 20 db , at 14 mc 40 db or more. Cunnects between twin-lead and receiver. Full instructions included for $\begin{gathered}\text { Net } \\ \$ .97\end{gathered}$
wAVE TRAPPERS


Designed for use in recuction of unwantud signals of certain types encuuntered in FH $\star$ TV reception. Completely enclused $1: 1$ tasily mounted metal case. Trimmer auljustments on top. For insertion in antema ments in at the receiver. Shat. HgL. 2 lus.

| Number | Range | $\mathrm{N}+\mathrm{L}$ |
| :--- | ---: | ---: |
| $15-7510$ | $6-13 \mathrm{MC}$ | $\mathbf{3 . 5 3}$ |
| $15-7511$ | $13-27 \mathrm{MC}$ | 3.53 |
| $15-7512$ | $27-54 \mathrm{MC}$ | $\mathbf{3 . 5 3}$ |
| $15-7513$ | $54-108 \mathrm{MC}$ | 3.53 |
| $15-7514$ | 108.216 MC | 3.53 |

## TV AND FM WAVE TRAPS

New high-Q series resonant wave traps help to eliminate interfer ence and undesirable images in
TV and Fm receivers. Very effective when tuned to frequencs of interfering signals. Superimposed pictures from different stations may be prevented. For Fil recelver use, cross talk from
 interfering stations is greatly reduced, hounted in al uminumí shields designed for easy connection direct to antenna twin lead. "L" type bracket for attachment to receiver chassis or cabinet. Screw driver adjustment through top of shield. Size: $1-3 / 8 \times 1-7 / 8 \times 3-3 / 8^{n}$ high

| Number | Band | KC Range | Net |
| :--- | :--- | :--- | ---: |
| $813-B C 1$ | Broadcast | $900-1600$ | $\$ 2.55$ |
| $813-B C 2$ | Broadcast | $500-900$ | 2.55 |

SHIELDED BROADCAST-HAM WAVE THAP昜
Series 812 shielded. Elimimate interfer ence from amateur and broadcast stationso Connect in series with antenna.

| Number | Band | KC Range | Net |
| :--- | :--- | :--- | ---: |
| $812-\mathrm{BC1}$ | Broadcast | 1200.1600 | $\$ \mathbf{1 . 2 6}$ |
| $812-\mathrm{BC} 2$ | Broadcast | $800-1200$ | $\mathbf{1 . 2 6}$ |
| $812-\mathrm{BC} 3$ | Broadcast | $500-800$ | $\mathbf{1 . 2 6}$ |
| $812-\mathrm{B}$ | Amateur | 80 M | $\mathbf{1 . 2 6}$ |
| $812-\mathrm{C}$ | Amateur | 40 M | $\mathbf{1 . 2 6}$ |
| $812-\mathrm{D}$ | Anateur | 20 M | $\mathbf{1 . 2 6}$ |
| $812-\mathrm{E}$ | Amateur | 10 M | $\mathbf{1 . 2 6}$ |



1F-4-Plug-in type. Rating: 110 vDC 5 amps. Net $\$ .73$ 1F-5 - Same as above but for low intensity interference. Net \$.73 IF-6. 110 VAC-DC. 5 amp rating. Same us above, with ground connection. Net $\$ 1.15$ 1F-20 - Wall plug-in type. 110 VAC-DC, 5 amp.

Net $\$ .50$
IF-2A. Fluorescent 11 ght quietones. Capa-
citive-inductive filter for fluorescent lighting. 110 VAC-DC.

MILLEN WAVE TRAPS
Number
Net

| 79010 | 30 MC Wave Trap | 1.05 |
| ---: | ---: | ---: |
| 79020 | 14 MC Wave Trap | $\mathbf{1 . 0 5}$ |
| 79040 | 7 MC Wave Trap | 1.05 |
| 79080 | 3.5 MC Wave Trap | 1.05 |
| 79100 | 1.7 MC Wave Trap | 1.05 |

## SPRAGUE

## FILTERS FOR FLUORESCENT

 LAMPS

3-section delta-connected filter especially designed for fluorescent fixtures. Only one required for each offendins fixture. Also effective on make-break governor-type notors. U/L approved. Fur use on 110-220 AC-DC. Size: $1 \times y_{2}^{\prime \prime}$ 。 TYPE IF-37

## Int INTERFERENCE FILTERS - TVI FILTERS

Eipico<br>or new york<br><br>FILTERS<br>FOR<br>TVI



One filter should so into the antenna. another between the driver and a high power tinal is reconmended. $4^{n}$ mC cutoff, over 75 DB harmonic at tenuation. Filters may be used with either 52 or 72 ohm coax input and output. For use at other impedances, an antenna tuning network should be used. Good for poner up to a tull kis. fundamental attenuation is negligable. No affect on antenma perforsm ance.
MODFL TVD-62. For 52 or 72 olim coax. Kit of parts. Net $\$ 15.95$ monel TvD-62. Completely wired and tested. Net $\$ \mathbf{1 8 . 9 5}$
MOAEL TVD-104. Diaxal for use on paired RG8/U or RG58/U or approximately 100 ohm cuax. kit of parts. MODEL TVD-104 Compl Net 22.95 tested. 10 . Combletely wired and


Finsentlal lifters designed to install directly in the antoma coil of the tele Vision recesver. 40 MC cut-off, no attentation to signills above 40 wh. Will work on any manufactured set, does not alfict pacture strength or quality.
model TVR-300. For 300 ohm twin lead. Mod of parts. Net TH-300. Completely 1.98 ested. Net 3 as MUDEL TVR-62. For coaxial cable. kit of parts. Net $\$ 1.98$ MODEL TVR-62. Completely wired and tested.

Net $\$ 3.98$


RF that feeds back thruugh AC 1 ines is a cominon source of TVI. These line filters will eftectively minimize this type of interference. Minimum of installation wurk.
MODFL TYL-1KW. For total maximum power frum line of 1 kW . Kıt of parts.

Net 11.95
MODEL. TVL-1KW, Completely wired and tested. Net $\$ 15.95$ MONEL. THL-2. 5kw. For total maximum yower from line of 2.5 KH 110 or 220 . Kit of marts. $\quad$ meorl tvi-2.5KW. Completely $\$ 18.95$ MOOFL TVL-2.5KW. Completely wired and
tested. $\quad$ Net $\$ 24.95$


This filter provides 75 DB or more attenuation of transmitter harmonic and spurlous uutput above 54 MC . Will handle a full $\mathrm{KW} 100 \%$ modulated. Low inductance Teflon insulated capacitors, minimum insertion luss. Characteristic impedance of filter is 52 ohms. Equipped with coaxial input and output connectors.
MOAE1.250-20
Net \$13.50

## BUD TVI FILTERS



TYPE IIF-600 HI-PASS FIL.TER. FOr use on TV receivers to elimalute or ininluize slancis excitation or harmoncs from short uave, amateur stations. dfathemy, d-ray atil ignition noises. Rejects signals frim 0-42 NC. Pucture strength and quality is not uffected. Easily installed.


Net \$3.50
TYPE LF-601 LO-PASS FIITTRR. For use at transmitter to elminate or reduce harmonics which canse TVI. Minimum attomas thon of 85 LB on all frequencies above 5f NIC, minimum of 93 DB above 70 MC . Rejection is adjustable from 60-90 he. fectlolt is adjustable from 60-90 ac.
thit will handle a full kw. Cutoff frequency is 42 MC . Insertion loss less than 1 DB. Can be used with 52 ohm or 72 whm coux. All capacitors are variable. Imlividually shielded inductances. Shic Net $\$ 13.23$

## R. L. Drake Filters



HIGH PASS TV RECEIVER FILTERS
Two soction high pass filters for uso in 300 ohm antonna load to roceivers.
NO. TV-300-50HP. For TV sots with 20 MC lF's. Not............................................... $\$ 2.91$ NO. TV. 300 -MP. For sats with 20 MC and 40 MC'IF's. Net........................................ $\$ 3.50$ NO. UHF. 300.HP. Constont-K typo high poss filser. Atrenvates RF interforonco causod by images and spurious signals from VHF.TV sta. UHF cions, ascillators of other TY recoivers and UHF converters, signals of IF frequencios,
ete., in the region below 450 MC . Net.... $\$ 1.91$

LOW PASS TRANSMITTER FILTERS
Two section M-dorived filtors. 44.5 MC cutoff frequancy. For all bands, 10 io 160 meters. For coox or twin hoad. Rated of 1 KW
NO. TV. 300 LP. For 300 ohms. Nat..... $\$ 12.69$ NO. TV.52-40-LP. For 52.72 ohms.......... 12.69

DRAKE
HALF DAVE FILTERS

Bond poss type filters, ottenvate all frequen. cies oursido band for which they ore designod. For use in 300 ohm leod and opon lines, 200-600 hm. Rated KW.
NO. TV. 300-10HW for 10.11 M . Net....... $\$ 10.73$ NO. TV. $300-15 \mathrm{HW}$ for 15 M . 10.73 NO, TV. 300.20HW for 20 M . 10.73

## DRAKE

LN-5
Inductube
Line Filter


Made up of Drake developed INDUCTUBE elements, effective even on UHF TV band. Very effective moise reducer. Plug into 115 V. AC-DC. Dlug TV or radio set into filter. Will handle up to 500 watts.
No. LN-5 LINE FILTER
Net $\boldsymbol{5}, 70$

Ememeran


SWITCHCRAFT ADAPTERS
Shielded odopters which provide convenient interchange of equipment between vorious wiring devices.
No.
332 Phone jock input to femole mike ${ }^{1}$ connectors output. $\$ 1.03$
334 RCA type jack input to female
mike connector output. 86
336 Phone jock input to RCA type phono plug output.
338 Male mike connector input to RCA type phono plug output.
342 Duol purpose binding post/ bonano jack input to phone plug output.
344 RCA type phono jock input to phone plug output.
346 Tip jock input to phone plugg

## SWITCHCRAFT



No.
Description
Net
240 2-conductor, black tenite handle. . 44
270 2-conductor, metal shell. . 62
260 3-conductor, black tenite handle. . 70
2903 -conductor, metal shell.
.82

## SWITCHCRAFT <br> T.17B MIKE "LITTELPLUG"

No. 486. JAN type PJ-068 (PL-68) for use with T- 17 B mikes. 3 -conductor. Net $\$ 2.12$

## E. F.JOLiNSON <br> 0.5.

NYLON TIP JACKS
Completely insuloted jock, body molded from low-loss nylon. Beryllium contoct recessed for maximum voltage breakdown. Low capocity to ponal. 11,000 volt breakdown. Withstonds high temperature ond humidity. Tokes standord pin plug. Mounts in " $\%$ "." hole. NP bross nut furnished.

| Number | Color | Ner |
| :--- | :--- | :--- |
| $105-601-1$ | White | $\$ .25$ |
| $105-602-1$ | Red | .25 |
| 105.603 .1 | Block | .25 |
| 105.604 .1 | Green | .25 |

## Mu PIUGS <br> 7576 NuMBER NLlABER TYPE 75 75N 2 -way metal shell 7542 way metal shell, cable clamp | 757 |
| :--- |
| 764 |
| .99 | 764 3-way metal shell, cable clamp $\mathbf{1 . 1 3}$

00 2-way extension, fibre shell \$.76 100 N -nay extension. metal shell 100A n-way extension, metal shell, built-in cable clamp

* TRIMM*FLAT.PLUG"


Non-protruding type. For close-in to panel usc. Fits standard phone tips. No. 512

Net \$ . 45
ica portable line jacks

## Com

- 5
$2+\operatorname{coc}-1$
No. 1911. Sinale open circui : bakelite cap. Size $1-5 / 8 \times 3 / 4^{\prime \prime}$. Net , rach \$ . 49 No. 1913. Single open circuit, shicldied cap. Size $2-1 / 8 \times 11 / 16^{n}$. Net Each 8.82

No. 1903. 3-way portable mike jack. bakelite cap.
No. 1904. 3-way portable mike jack, barrel is shielded.

Net Each $\$ .98$


## CINCH

110.250 VOLT SOCKET

Rated 15 ambs 110 V. . 10 amps 250 V. High diclectric bakelite. User on radio chassis and amplificers as auxiliary socket for tuncrs. changers. etc. Nounts in $25 / 64^{\prime \prime} x$ 25/32" hole.
NO, $2 R 2$
Net \$. 15

## EL-menco

## fused Plug

0. 2. Fuses both sides of line, Takes 1h," standard fuses.


Tapmaster ONE-PIEC
RUBBER RUBEER
135. A one-picce rubber cube tap. 3 outlets. Unbreakable. Not Each $\$ . .25$ Lots of 10 Net Ench .23

## REPLACEMENT PLUGS

102 Soring action brass contacts. Black rubber handle, grip cap. Hiole slif 375. Net Fach .10
Lots of in Net Fiach 09 No. 865. Streamlined AC plag. Easy to assemble. No exposed screms ur wires.

## MALLORY

IUNIOR
Frame supports the spring stack at right angles with

JACKS short springs. Requires only $1-5 / 16^{1 \prime}$ space back of panel for mounting. Nounts in $7 / 16^{\prime \prime}$ drameter hole in wanels up to $1 / 4^{\prime \prime}$ thick. rits all standari Mallory
$\qquad$


MIDGET PHONE JACKS



## SHIELDED EXTENSION JACK



Cadmium plated brass shelt. 2- $7 / 16^{\prime \prime}$ 1ons with black bakelite insert. This is line type socket for No. 2383 RCA type plug. No. 81r.

Net Each \$. 19
RCA TYPE PIIONO PLUG AND JACK


## No. 2383

Plug
Net 0.05
*. 2385
MOTOROLA TYPE
ANTENNA PLIG AND JACK
PLUG has $1 / 8$ " pin. Fits
 No. 81F' llange jack. No, 138 Net Each $\$ .09$ 3.3 JACK mounts with screws or rivets. shielded recoptacle for 13 B plus. M0. 81F Net Each $\$$

## ICA GRIP-RITE

MOLDED PHONE TIP PLIGS
Angle type fits stanlard jack. Lead enters through bottom. Made of catalin Oolors: Red or Plack. M. 868 Red

Net. 27 No. 869 Rlack


> SINGLE JACKS AND PLEGS

## (1) JACKS

## Plugs

34rks of mo!ded bakelite. mount in $3 / B$ hnles. May also be used as feed-through. Culors: Black, Red.
M. 78-1P for . $080^{\prime \prime}$ Phone Tip Net $\$ 0.0$

No. $78-1 \mathrm{~S}$ For $3 / 32^{\prime \prime}$ Plug .05
M. 78-1M For $1 / 8^{" 1}$ Plug

No. 78-LL For $5 / 32^{*}$ PLug



TIP JACKS
For phone tip jacks. Mount in ! ${ }_{4}^{\text {" hole. }}$ No. 202 Insulated Net $\mathrm{E}_{\mathrm{n}}$, 12 No. 107 Non-Insulated $\qquad$ black, yellow Type 202 available in red. black, yellow and sreen.

PHONE PINS
For use with tip Jacks listed above. No. 200 lnsulatcd handle Net $\underset{n}{ }$. 14 No, 1 n6 fon-1nsulated Ne, 108 standard phone tip " " . 02 lyye zoo avalable in red, black. yellow and green.

BANANA PLUGS ASD JACKS


| 212 | Insulated Handle | $\mathbf{1 8}$ |
| :--- | :--- | ---: |
| 103 | Non-Insulated | .12 |
| 392 | Giant Ins. | .41 |
| 397 | Girnt Mon-Insulated | .29 |

$\begin{array}{rrr}397 & \mathbf{~ G i a n t ~ N o n - I n s u l a t e d ~} \\ \text { Type } 212 \text { available in red, black, jellow, }\end{array}$ and green; 392 in red and black.

## BANANA JACKS

Insulated
109 Non-Insulated $\quad .08$
293 Giant Jack .26
349 . Non-Insulated Giant Jack .20 and green; 393 in red and black.

## GIMM JACK PANELS

## 

Jack panels for all applications. Used for terminating progran lines, micro* phone lines, amplifiers, equalizers, etc. for use with standard "twin" type patch cords. Reinforced bakelite panels fit $19^{\circ}$ racks.
No. 96-01, 12 pairs jacks. 1-3/9" wide, depth 3-1/4".
NO. 96-02. 24 pairs jacks. $2-1 / 8^{H}$ wide. Net $\$ 48.22$

## PATCH CORDS

## PLUGS

$\square$ 5 o. 506 standard threc circuit, Twin" plug. interchangeable with $K$. E. 241, A. D.C. PJ-1, etc. " 840 " Series patch cords avall able in various length cords with 506 plu . on cither end as listed below.
on clther end as histed was

| Number | _ Cord | Length. |  | Net |
| :---: | :---: | :---: | :---: | :---: |
| 840-1-PP | 1 | Ft. | \$ | 7.06 |
| $84 \cap-2-P P$. | 2 | 0 |  | 7.33 |
| 840-3-PP | 3 | " |  | 7.91 |
| $84 n-4 \cdot P P$ | 4 | " |  | 8.20 |
| 840-5-PP | 5 | " |  | 8.47 |
| 840-6-PP | 6 10 | " |  | 9. 98 |
| 840-10-PP | 10 | $\cdots$ |  | 2.73 |

"Your trade-in's worth more at the WALTER ASHE STORE"

## Key ELECTRONIC - SEMI-AUTOMATIC KEYS

## VIBIRIILEX

## BUGS

"SUPER DE LUXE"

"GUPER DELUXE" New patented adjustaple main spring affords wider range of speed than ever obtained before. 24k gold-plated base top, polished chromium machine parts. coloriul red switch knob, finger \& thumb piece. Precision machining throughout. Jewel movement. Shpg. Wgt. 5 lbs.

Net $\$ 29.95$
THE Improved "ORIGINAL"

"ORTGINAL" Single lever style;" 2 pairs of $3 / 16^{\prime \prime}$ contact points. Wt. $3_{2}^{\prime \prime}$ lbs. Very efficient machine, complete with cord and wedge, Finish: Polished chrome parts with black base. Circuit closing switch. Shpg. Wgt. 5 lbs. Net 17.95
ORIGINAL DELUXE* Same as above but with chrome base and patented jewel movement.

Net $\$ 22.50$
"'LIGHTNING BUG"'

"Ligitiving aug" one of the latest models by Vibroplex, Very essy to use, smooth quality at all speeds. May be slowed to 10 ${ }^{W} P$ M. $3 / 16^{\prime \prime}$ contacts. Wt. $3^{\text {u/ }}$ lbs. Complete with cord and wedge. Black base, polished chromium parts. With circuit closing switch. Shpg. Wgt. 5 lbs , Net 15.95

## THE ''CHAMPION' ${ }^{\prime}$



- Cllallelon" Por radio usc only. Incxpensive bug mith exceptional scnding qualities. Higl quality bug at low price. $3 / 16^{\prime \prime}$ contacts. Wt. $3 \stackrel{4}{5}$ lbs. Wi thout switch. cord \& wedge. Black base, chrone top parts. Shpz. Wgt. 5 lbs.

Net 12.95.

## CARRYING CASE


"VIBROHINY CABRYIMG CANE" for all Vibroplex bugs. Cloth lined. outside finished in simulated black morocco. Reinforced corners. Will keep bug free from dust. dirt \& moisture. Has lock \& key. Shp. Wh, 1

Net 5.75


## PRACTICE KEY

Inexpensive practice key. All parts except base are nickel plated. Adjustable key arm spring, smooth bearings. $1 / /^{\prime \prime}$ coin sil. ver contacts. Phenolic base. Shp. W. 1 lb. NO, 114.300. Net. $\qquad$ .${ }^{\$ 1.71}$

## PHENOLIC BASE KEY

High quality black phenolic base key. $1 /{ }^{\prime \prime}$ contacts. Adjustable bearings. NP metal parts. No switch. Shpg. Wgt. 1 ib. NO. 114.301. Net.
. 1.91

STANDARD KEYS


Heavy die-cast base. Smooth adjustable bearings. $1 /{ }^{\prime \prime}$ coin silver contocts. Provision for plugging in semi-automatic keys. Shpg. Wgt. I lb.
NO, 114310. Black wrinkle, no switch. Nel......................................... $\$ 2.55$ NO. 1143103. Block wrinkle with switeh. Nef................................................ $\$ 2.94$

## Bronthe

HIGH SPEED STANDARD KEYS
High speed hand key, spring tension, con. toct spacing and bearings fully odiustable. Brass base and binding posts. Contacts .072" . Shpg. Wgt. 1 lb .
NO. 114-100. Polished brass, no switch. Net............................................. $\$ 4.80$ NO. 114.1003. Polished bross $\mathrm{w} / \mathrm{s}$ witch. Net.............................................. 5 . 5.44

## CONSTANT FREQUENCY BUZZER



Fully odiustable. Coin silver contacts. Uses two dry cells or "C" battery. Shpg. Wgt. 1 lb .
NO. 114.400. Net. $\qquad$ . $\$ 1.57$


Electro-timed rhythm assures perfectly spaced and uniform dots, dashes, intervals. Adjustable speed control conforms to any operator's skill. May also be used as a monitor which moduces a clear tone and may be adjusted both for volume and tone. Built-in $2^{\text {n }}$ dynamic speaker. Has kcying relay Fith 2 amp contacts for directly keying transmitter. Completely shielded. Feather touch paddle. Contacts protected from dust. Sizc: $111^{\text {" }} \times 4^{\underline{\prime \prime}{ }^{n} \times 9^{\text {N }} \mathrm{H} \text {. }}$ For 115 volt $A C$ or $D C$ operation. Shpg. Wgt. 9 bs.

Net $\$ 30.95$

## heavy duty keys

Heavy die-cast base, chrome-plated key orm, brass connector strips under bose. 1/"' coin silver contacts. Navy type knob. Adjustable steel bearings. Shipg. W. 2 lbs. NO.114.320 Black wrinkle base. Net $\$ 4.02$ NO.114.321 Polished chrome base..., 5.00


## TELEGRAPH SOUNDER

Designed for instont response, brass sounder provides a clear resonant tone. Bar frame is steel, black enamel finish. Brass bridge ond adiustment screws. Mahogany wood base, brass binding posts, rubber mounting feet. Shpg. Wgt. 3 lbs.
NO. 114.112. 4 ohms. Net,
$\$ 6.57$
NO. 114.113. 20 ohms.
6.81


Telegraph practice set for iwo-way opera. tion. Bor frame steel, black enameled bridge. Brass sounding bor, black lac. quered steel sounder plate. Adiustable, nickel plated key arm, brass binding posis, wood base with rubber feet. Shpg. W4. 3 Ib,' NO. 114.110. 4 ohms. Net................ $\$ 9.31$ NO. 114.111. 20 ohms.......................... 9.55


Constant frequency buzzer and key on $4 \times 8^{\prime \prime}$ molded bakelite base. Use singly or in pairs for code practice. Shpg. Wgt. 2 lbs. NO. 114.450. Net........................... 4.16


Entire vibrating section rototable through 45. Turn to position which best suits your hand. Dot contact as sembly will make firm dots for 12.15 seconds on one impulse. Heavy duty pure silver contocts. Adjustoble poddle. Sends $10-60$ WPM. Lucise knobs, paddles, and insulating ring. Com. plete with eord and wedge. Shpg. Wt, 5 lb , Net............................................. $\$ 16.75$

## ELICO

flictronic
augs


Full description of these units, wired ond kit form, on page 13.

## EASY-TO-BUILD RADIO KITS KIT

## ARKAY RADIO KITS



## 3 WAY PORTABLE

moncs. 3w10-n. New molern, superhet circuit with plenty of selectivity and sensitivity. All low drain tubes, 1 - 1 R5, 1-1U4, 1-1U5, 1-3V4. Operates on selfcontained long-life batterics or 117 V . AC or DC. Built-in loop antenna, pawerful Alrico V speaker. Tunes $A \mathrm{M}$ stations $550-1600 \mathrm{KC}$. Handsome leatherette case size $10 \% \times 7 \times 6 / \%$ D. Large easy-to-read dial complete pictorial. schematic, and step-by-sten instructions included. Complete with case. tubesoand all parts. less batteríes. Shpg. Wgt. 6 lbs. Net \$ 19.95 C-5 7\% V. "A" Battery $\mathrm{N}-60$ G0 V. "B" Battery
2.77


## ONE BAND KIT

Streambined modern AC-DC radio kit. Five tubes including rectifier. Tuning range 550-1600 KC. All modern superheterodyne features. simple and easy to construct. Easy to tune alrplane dial. Moused in beautiful brown bakelite case. size $9 \times 5 \mathrm{x}$ 5. Uses one each $12 \mathrm{SA7}$, $12 \mathrm{SK7}$. $12 \mathrm{SQ7}$. 50L6. $3575.4^{\text {" Alnica }}$ V PM speaker. 117 V $\mathrm{AC} / \mathrm{DC}$. Camplete with tubes; picturial. schematic and step-by-step instructions for easy assembly. Shpg. Vigt. 6 lbs . MODEL S-5E Net $\$ 14.95$

## TWD-BAND KIT

Hich quality two band superhet kit. Covers 550-1600 KC and 6-18 MC. $5^{\text {H Alnico V }}$ PM speaker. Easy to assemble and operate. instructions and schematics included. Airplane dial. Brown bakelite cabinat. size $12 \times 7 \times 7$. Oderates on 117 V AC/DC. Complete with following tubes: 12BE6. 12BA6, 12AT6. 50B5, 35H4. Shpg. Wgt. 9 Ibs.

## moder s.5x

Net \$ 18.95

## ONE AND TWO BAND KITS



New superheteradyne circuits available in sirgle band and two band models. Use new style high gain colls. New avc circuit. Complete with AInico V PM speaker. slide rule dial, tubes, and handsame bakelite brown cabinet. Size. $11^{\prime} \times 8^{1} \times 0^{\prime \prime} 3^{n}$. Both models use one each, 12 SA7. 12 SK7. 12SQ7. 50L6, 35Z5. Operate on 117V AC/DC Shipg. Wht. 8 lbs.
Model. T-5. Covers broadcast band, $550-$ 1700 Kc .

Net \$ 16.95
MODEL T-5X. Covers broadcast band. 550 -
1700 kic. and shortwave band. 6-18 MC.
Net \$ 19.95


## CRYSTAL RADIO SET

A proctical beginner's caurse iń radia, camplets with illustroted building and operoting instructions. Each erystal individually tested to high standard. Base and coil form of plastic. No soldering of norts required. No batteries required. Set needs anly headphones and aerial to operofe. Less phones.
MODEL 102. Né...
.$\$ 1.45$

## MINIATURE TUBE SET

Beginner's second step in radia education. A camplete one-qube funer and amplifier. Designed around a 1L4 high Mu pentade tube all ready to assemble. Operates from: botteries - no soldering required. A real performer. Complete with all parts and tube, less betteries and phanes. Uses $1 / 2$ vali dry cell and $22 / 2$ ar 45 valt battery. MODEL 200. Nef.
$\$ 2.92$


## MEISSNER BEGINNER KITS

## TWO.TUBE BATTERY KIT

2 -tube regenerative grid leak detectar with resistance coupled pentade audio stage. Uses 1-1T4 \& 1-3V4 type tubes. Shipped with coils to cover broadcast band of 520-1530 KC. Additional coils avallable to cover the following frequencies: $175-540 \mathrm{KC}, 1350-5.4 \mathrm{MC}, 3.5-8 \mathrm{MC}$. 7. 9-18.5 MC \& 15-34 MC. Requires $4^{\prime \prime}$ volts A batteries \& 180 volts $B$ batteries. For use with phones having imped. ance of 2000 ohms or more. Kit is easily assembled from detailed pictorial diagram with simplified schematic. Size: $7{ }^{3} \| \times 43_{3} H \times 4^{\prime \prime}$ " $D$. Complete with broadeast coils. tubes, etc. Less batteries, headphoue. wire and solder. Shpg. Wat. 2 tbs MOMEL T2RK

Net $\$ 10.29$

## THREE.TUBE AC.DC KIT

A 3-tube beginner's kit consisting of a regenerative grid leak detector with resistance coupled pentode audio stage. tises 1-6BI6, 2-50B5 tubes. Complete with coils to cover the broadcast range. See alditional coils listed below for other frequencies. For use with headphones of
 Operates on $105 / 125$ volts $A C-D C$. Easily assembled. Tubes, nictorial diagram and simplified schematic, and hardware included. less wire, solder, and phones. Shys. Wigt. 2/2 lbs.
MODFI. T3BK
Net \$ $\mathbf{1 2 . 3 5}$

PLUG-IN COILS FOR.T2BK OR T3BK Number Frequency Range Net Each 18-3500 $\quad 170-540 \mathrm{KC} \quad \$ 1.76$ $\begin{array}{lll}18-35111 & 540-1500 \mathrm{KC} & 1.76 \\ 18.3502 & 14-4.5 \mathrm{KC} & 89\end{array}$ $\begin{array}{lll}18-3502 & 1.4-4.5 \mathrm{MC} & .89 \\ 18-3513 & 3.2-8.2 \mathrm{MC} & 89\end{array}$ $18.35 \% 4$ - $8.2-8.2 \mathrm{mC}$ | $18-35) 4$ |  |
| :--- | ---: |
| $18-35195$ | $8-18 \mathrm{MC}$ |
| $15-34 \mathrm{MC}$ |  |

$18 \cdot 35 \cdot 35$


## RADIO CONTROLS

TRANSMITTER. Operates an "examinationfree" 27.255 MC frequency. Campletely self-cantained. For use with impulse-type rodio remote-controlled devices used in madel aircraft, baots, efc. Uses two 3 V 4 qubes. Uses two $671 / 2$ volt " $\mathrm{B}^{\prime}$ batteries Eveready 467 ar equal and one $11 / 2$ valt " $A$ " Eveready 742 or equal. Antenna is mode up of three lengths of oluminum tubing. Unit is factory tuned for optimum performance. Weighs only four lbs, with batteries. Size: $3 \times 4 \times 9^{\prime \prime}$. Complete with crystol, tubes, antenna, less botteries. Shpg. Wgi. 3 lbs. MODEL *27" LC. Net.................. $\$ 34.95$

RECEIVER. Operotes on 27.255 MC in conjunction with Model LC tronsmitter, Batteries required: $671 / 2$ volt "B". Eveready 457 or equal; $11 / 2$ valt "A", two pen-cells in porallel. Uses one 3V4 tube, Sigmo 4.F odjustable reloy. Fiberglas indestruetible base, size $21 / 2 \times 13 / 4 \times 21 / 1^{\prime \prime}$. Weighs only four oz. Detailed instructions included. Complete with tube less batteries. Shpg. Wgt. 2 lbs. MODEL "27" LR. Net.................. $\$ 24.95$

ESCAPEMENT. Self-neutrolizing designed for use with above equipment. Gives reliable performone from fully wound motor to los ${ }^{\text {f few }}$ furns. Weighs only $1 / 202$., operates as low as 1.5 volis, guaranteed for 25,000 operotions, uses $\frac{1 / 3 \prime \prime}{\prime \prime}$ flap rubber. Size: ${ }^{7} x^{7} / 4 \times x_{8}^{5 m}$. Tested and adjusted. Shpg. Shpg. Wgt. 8 oz.

> MODEL PSN. Net.
.$\$ 5.95$


## EXPERIMENTERS MULTI.PURPOSE KIT

10 kits in 1, designed for schaals, begin ners, and advanced students, experiment ers, etc. Kit consists of parts to build any one of the following at a time - Broadeas Receiver, Phano or Mike Amplifier, Phone Oscillator, Home Broadcasi Station, Code Practice Oscillator, Capacity Operates Reloy, Signal Trocer, Electronic Timer Electronic Switch, Photo Cell Reloy. Gooe way to actually learn circuitry by doine the work. Complete with all parts an tubes (1-12SF5, 1-35L6, 1.35Z5) less heod phone, phato cell and socket. wire anc splder. Operates on 117 VAC. Shpg. Wgt 4 lbs.
MODEL 10.1. Nef...


## 7-INCH SCOPE

OSCILLOSCOPE KIT. $7^{7 "}$.push-pull scope with boosted vertical sensitivity, 10 MV RMS/inch. Frequency response: Vertical omplifier, flat 2 DB 10 CPS to 1 MC. Hori-- ontol omplifier, 10 CPS to 500 KC . Sensitivity: Vertical amplifier, .01 valts Rlids per inch. Horizontal amplifier, 3 volts RMS per inch. Wide ronge, multi-vibrator type, sweep frequency generator 15 CPS to 100 KC . Bolonced ond linear sweep. Intensity modulation, externol sync inputs; sawtoath and line frequency outputs - all on front panel. Internal retroce blanking. Excellent for oll TV, rodio, ond industrial uses. Portable case, size $16 \times 15 \times 10^{\prime \prime}$. Como plete kit of parts ond rubes, instructions. For use on 110.120 VAC 60 cycle. Shpg. Wgi. 35 lbs .
MODEL 470-K. Net. $\qquad$ . 579.95
MODEL 470 . Some as above but completely foctory wired and rested. Net... $\$ 129.50$

## 5" Push-Pull Oscilloscope

OSCILLOSCOPE KIT. Wide range high sensitivity, push-pull deflection scope for FM, TV, ond AM alignment. Sensitivity 05 to 1 volts per inch. Wide ronge, flat from 5 CPS to 500 KC with full goin setting, useful to $21 / 2$ MC. Wide range, multi-vibrator, sweep circuit from 15 CPS to 75,000 CPS. Direct connection to plotes of CR tube , ovailable at rear of cobinet. $Z$ axis intensity modulation feature included. Size: $81 / 2 \times 17 \times 13^{3} \mathrm{H}$. Complete with $3.65 \mathrm{~N} 7,2$. $655,2-5 \mathrm{Y3}$, and 5BPI tube. Operates on 110.120 VAC 60 cycle. Complete with all assembly instructions, diogram, fubes, parts, cobinet, and panel less solder. Shpg. $\mathrm{Wg}^{2} .30 \mathrm{lbs}$.
MODEL 425-K. Net..................... $\$ 44.95$ MODEL 425. Some os above but completely wired and tested. Net...............\$ 79.95


Cathode ray*tube checker kit. Checks oll size picture and scope fubes, electrostatic or magnetic deflection types in set or carton. Neon lomp indicotes shorts ar open elements. Bridge measure. ment of peak beam current. Bolancing control shows tube condition. Operotes from 105-125 VAC. Complete with cobles. Size:

MODEL 630.K. Net.
.. $\$ 17.95$
MODEL 630. Same as above but foctory wired ond tested. Net.. $\qquad$ \$ 24.95

VTVM KIT. AC/DC RANGES: 0.5-10-100$500 \cdot 1000$. Electronic ohmmeter ranges from .2 ohms io 1000 megohms in five steps. Features include zero center for TV discriminctor alignment. DC input impedance 26 megahms. $4 / 2^{\prime \prime}$ meter. Double triode balanced bridge circuit assures stable performance, Partable steel case. Complete with all tubes, ports, instructions, less solder. Size: $9 / 2 \times 6 \times 5{ }^{\prime \prime}, 110-130 \mathrm{VAC} 50 / 60$ cycle. Shpg. Wgt. 10 lbs.
MODEL 221-K. Nef...................... $\$ 25.95$ MODEL 221. Same os above but foctary wired ond tested. Net.................. $\$ 39.95$

VTVM KIT. Large $71 / 2$ rugged meter. Uses 1\% multiplier resistors. Has 15 useful ranges. AC/DC RANGES: 0-5-10-100.5001000 ( 30 KV with HVP.1 probe), Meosures to 200 MC with P. 75 probe. 5 ohms ronges from 2 ohms to 1000 meg . DB scole. Has double-triade bolanced bridge circuit. 26 megs. DC input impedance. Uses one each 6SN7, 6H6, $6 \times 5$. 3-color rub-proof ponel; steel cose, size $131 / 4 \times 9 \times 6^{\prime \prime}$. Operotes on $110-130 \mathrm{VAC} 50 / 60$ cycle. Shpg. Wgt. 10 lbs.
MODEL 214-K. Net...................... $\$ 34.95$
MODEL 214. Same as obove but factory wired ond tested. Net.................. $\$ 54.95$


TUBE TESTER KIT. A modern up-to-the. minute tube tester kit, easy to build ond operote. Tests all conventional tubes, octal, loctol, navol, and pilot lamps. Hos switch for individual testing of all elements. Two grid caps for convenience. Protective overload bulb. Blank spare sockes and adopter for new future tubes. Short and open element test. Illuminated "no back. lash" roll chart. Hand-rubbed panel, heavy gauge steel case with handle. Truly o real buy. Operates on $110-120 \mathrm{VAC}, 60$ cycle. Complete with all ports, tube, case, and panel, les s solder. Size: $121 / 2 \times 9 / 2 \times 0^{\prime 2} / 4^{\prime \prime}$, Shpg. Wgt. 12 lbs .
MODEL 625.K. Net...................... $\$ 34.95$
MODEL 625. Same os above but factory wired and tested. Net.................. 5 49.95
PICTURE TUBE ADAPTER. For use with Model625. Tests all picture tubes accurote. ly and is complete with socket and neces. sary cable. Not necessary to remove fube from set. Shpg. Wgt. 2 lbs.

PEAK.TO.PEAK VTVM KIT. Camplete with new dual-purpose UNI.PROBE, eliminales changing probes, one probe does all the work. A half turn of probe selects DC or $A C$ Ohms. hieasures directly P.P vaifoge of complex and sine waves, 0-4.14-42. 420-1400-4200. DC/RMS sine voltage ranges, 0-1.5-5-15-50-150-500-1500, reads up to 30,000 valts with HVP probe. Resis. tonce, 0.2 ohms to 1,000 megs in seven ronges. Large 41,2" meter. Zero center for TV-FM discriminator circuit. One zero adiustment for oll functions ond renges. Frequency response is 30 CPS to 3 MC (up to 250 MC with PRF probe). Uses $1 \%$ pre. cision ceromic resistors. Size: $7 \times 5 \times 1$ "D. Grey wrinkle case with sotin finishetched panel. Operates on 110-130 VAC 50/60 cycle. Shpg. Wgt. 10 lbs.
MODEL 232.K. Net. $\qquad$ . $\$ 29.95$
MODEL 232. Same as obove but factory wired and tested. Net.................. $\$ 49.95$

## Vacuum tube voltmeter

WITH BIG $7 y_{2}$ INCH METER. Has all the outstanding feotures andodvontages of the Model 232 -K plus extra convenience and reodobility of the larger meter. Shpg. Wgt. 10 lbs .
MODEL 249.K. Neł........................ $\$ 39.95$
MODEL 249. Same os above but foctory wired ond rested. Net................... 59.95

STEEL COUNTER DISPLAY CASE. FOR use with Model 625. Easily slips into counter case when removed fram corrying case. Shpg. Wgt. 8 lbs.
MODEL TTC.ו. Net..
\$ 14.95

osCilloscope voltage calibra. TOR KIT. Complete kit of ports for making accurote calibrator. Square wave output of power-line frequency with full scole readings of .1.1-10-100 volts peak-1o-peak. Amplitude variable from zero on eachrange. $5 \%$ accuracy dial reading. $10^{\circ}$ accuracy resistors. Regulated power supply. Binding posts on panel for quick connections. Blue. grey hommertone case, size $7^{\prime} 2 \times 5 \times 4^{\prime} 2^{\prime \prime}$. Operotes on 105-125 VAC 50/60 eycie. Shpg. Wgt. 4 lbs .

## MODEL $195-\mathrm{K}$. Nef.

$\qquad$ .512 .95
MODEL 495. Some as above but factory wired and rested. Net................... $\$ 17.95$

## EICO TEST EQUIPMENT KITS



साजग


511


565-555

566.556

## V-O-M KIT

VOLT-OHM-MILLIAMMETER KIT. Uses germonium crystal for AC. UCV RANGES: 0.5-50-250-500-2500. ACV RANGES: 0.10 $100-500 \cdot 1000$. OUTPUT: $0.10-100-500$. 1000. DCHA: 0-1.10.100. DC AAPS: 0.1.10. OHIAMETER: $0.500 \cdot 100,000.1 \mathrm{meg}$. DB ranges fram -8 to +55 . Camplete with in. structions and batteries, less leads and
 MODEL 511 -K. Ne †........................ $\$ 14.95$ MODEL 511. Same as obove but factary wired and tested. Net.................... $\$ 17.95$


AUDIO GENERATOR KIT. Provides slo. ble sine and square woves for every oudia and TV applicatian. Complete sine wove coverage fram 20-200,000 cycles in faur ranges individually calibrated on panel. Complete square wave coverage from 60. 10,000 cycles. $1 \%$ occuracy frequency se. lectar resistars. 0.100 linear reference scale. High power autput with Wien bridge oscilla'or. Improved cathode follower oupput circuit for stability. Continuously variable pawer output: 100 mw into rated load. Only ${ }_{0}^{*}$ distartion. Tubes used: $1-6 \times 5,1$. 6SJ7, 2-6K6, 1-6SN7. Operates on 115 VAC $50 / 60$ cycle. Size: $11 \frac{1}{4} \times 7 \frac{1}{4} \times 7 \frac{1}{2^{11}}$. Shpg. Wgt. 2016 s.
MODEL 377.K. Ne9........................ \$ 31.95
MODEL 377. Same as above but factary wired and tested. Net.................... $\$ 49.95$


SIGNAL GENERATOR KIT. A complete deluxe TV.FM.Ald signal generator for all service and alignment requirements. 1\% occurccy. Covers frequencies from 75 KC to 150 MC . Large easy-torread dial with microcycle bandspread vernier funing. Voltage regulated. Complete with all parts, panel, cose, tubes, instuctions, ond assembly information, less wire and solder. Shpg. Wgt. 21 lbs .
MODEL 315.K. Ne $\qquad$ .$\$ 39.95$
MODEL 315. Same as obove but complete. ly factory wired and tested. Net.... $\$ 59.95$

## Ohms/Volt Multimeter KITS

MULTI-ME TER KIT. 20,000 ahms per valt sensitivity. 31 full scale ranges. DC.AC. OUTPUT VOLTS: $0 \cdot 2.5-10 \cdot 50-250-1000$. 5000. DC CURRENT: 0.1100 va, 10.100.500 MA, 10 amps. OHM $1 \mathrm{~S}: ~ 0-2000,200 \mathrm{~K}, 20$ meg. 5 DB ranges fram -12 to +55 . Large $41 / 2^{\prime \prime}$ 50 ua meter mavement. Hand calibrated and tested rectifjer. Bakelite case, size 63/3x $5^{1}{ }_{4} \times 3^{\prime \prime}$. Shpg. Wgt. 3 lbs.
MODEL 565-K. Ne $\qquad$ ........... \$ 24.95 MODEL 565. Same as above but factary wired and tested. Ne 1................... $\$ 29.95$
MULTI.METER KIT. 20,000 ahms per valt. Same os Madel $565 \cdot \mathrm{~K}$ but has $1 \%$ precisian resistors.
MODEL 555.K. Nef....................... $\$ 29.95$
MODEL 555. Same as above but factory
wired and tested. Net.................. $\$ 34.95$
MULTI.METER KIT. 1000 ohms per valt sensitivity. Large $4 / 2^{\prime \prime \prime} 400$ va meter move. ment. Has 38 full scale ranges. DC.AC. OUTPUT VOLTS: 0.1-5-10.50*100.5005000. DC.AC CURRENT:0.1.10 MA, 0..1.1 amp. OHMS: $0.500,100 \mathrm{~K}, 1$ meg. 6 DB ranges fram -20 to +69 . Dual rectifier. Bakelite cose, size $6^{3 / 4} \times 5^{1} / 4 \times 3^{n}$. Shpg. Wgt. 3 lbs .
MODEL 566.K. Nef $\qquad$ .$\$ 14.90$
MODEL 566. Same as obove but factory wired and tested. Net.................... $\$ 18.95$
MULTi.METER KIT. Same as Model 566-K but has $1 \%$ precision resistors.
MODEL 556.K. Net. $\qquad$ . $\$ 16.90$
MODEL 556. Some as above but factory wired and tested. Net................... $\$ 23.50$


MULTI.METER KIT. 31 ranges. DC.AC VOLTS: 0.1.5-10-50-100.500-5000. DC.AC CURRENT:-0.1-10 MA, O-.1.1 amp. OHMS: $0.500,100 \mathrm{~K}, 1$ meg. 6 DB ranges from -20 $10+69$. Large 400 va meter movement. Dual rectifier has separate low and high AC calibration. Bokelite case, size $61 / 4 \times 3^{3 / 4} \times 2^{\prime \prime}$. Shpg. Wgt. 2 lbs .
MODEL 536-K. Ne
.$\$ 12.90$
MODEL 536. Same as obove but foctory wired and tested. Net..................... $\$ 14.90$
MULTi.METER KIT. Same as Model $536 \cdot \mathrm{~K}$ but has $1 \%$ precision resistors.
MODEL 526-K. Net........................ $\$ 13.90$
MODEL 526. Some as obove but foctory wired and tested. Not................... $\$ 16.90$


FLYBACK TRANSFORMER AND YOKE TESTER KIT, Quick and positive tests on flybocks ond yokes in or out of sep. Operotes on the extremely sensitive grid dip principle, shows up even one shorted furn. Seporate calibration for aip core or iron core units. Tests confinuity of yokes, coils, speokers, switches, etc. Operotes on 110.130 VAC $50 / 60$ cyclo. $41 / 3^{n}$ meter. Grey wrinkle case, size $7 \times 5 \times 4^{n}$, Sotin fin. ish etched panel. Shpg. Wgt. 7 libs.
MODEL 944.K. Net. $\qquad$
MODEL 944. Same as above but factory .wired and tested. Net.................... \$ 34.95


BAR GENERATOR KIT. Portoble lightweight instrument which will produce series of horizontal or vertical bars on TV screen when connected to TV set antenna posis. Shows overall picture size, vertical and horizontal sync circuit stability. Operotes on channels 3, 4, or 5 . 16 vertical bars, 12 horizontal bors. Panels witch for selec. tion of pype of operation. Output voltage 100,000 misrovolts. Operates from 105.125 VAC. Size: $71 / 2 \times 5 \times 41 / 4^{n}$, Shpg. Wgt. 7 lbs .
MODEL 352.K; Ne ....................... $\$ 14.95$
MODEL 352. Some as abeve but fociory wired and tested. Nef.................... \$ 19.95


BATTERY ELIMINATOR AND CHARGER KIT. For bench testing and servicing of 6 and 12 volt auto rodios. Chorges all 6 and 12 volt batteries. DC output 0.8 valis, 10 amps continuous or 20 omps intermittent. 0.16 volts, 6 amps continuous, 12 omps intermittent. Continuous voltage odjustment with Variac type fransformer. Seporate voltmeter ond ommeter. Fused primary, automatic reset overload relay for second. ary. Blue hammertone steel cobinet, size $10,2 \times 7^{3 / 4} \times 8^{1 / 4 n}$. Moy be wall mounted. Oper. otes on 105.125 VAC $50 / 60$ cycle. Shpg. Wgt. 17 lbs.
MODEL 1050.K. Net. $\qquad$ . $\$ 29.95$ MODEL 1050. Same as above but factory wired and tested. Net.................... $\$ 38.95$

RESISTANCE.CAPACITANCE BRIDGE AND RCL COMPARATOR KIT. Lotest bridgetype instrument directly reods 0.5 ohms to 500 megohms resistonce ( 4 ranges) $10 \mathrm{mmfd}-5000 \mathrm{mfd}$. copocitance ( 4 ranges), and power factor. Kit includes precision calibroting resistor. Unique comporotor ronge for $R, C$, ond $L$ comparis on measurement ogoinst external stondard. Leokoge testing of all capocitors' at rated DC work. ing valtage with internal 500 VDC source. Electron-ray fube as both bridge bolance and capocitor leakage indicator. Operates on 117 VAC 60 cycles. Size: $10 \times 8 \times 4^{3 / 4^{n}}$ Shpg. Wgt. 10 lbs .
MODEL 950B.K. Net. $\qquad$ .. $\$ 19.95$
MODEL 950 . B. Same os obove but factary wired and tested. Nef.................. $\$ 29.95$


DELUXE SIGNAL TRACER KIT. 5-fube tronsformer-operoted instrument for TV, FM, and. AM troubleshooting. Uses one fully shielded probe and ground lead which serves for all RF, audio, noise tracing. Seven 5 -woy binding posts on ponel for connection as test speoker, amplifier, or output fransformer, ond connection to VTVM or scope. For use in locoting noisy or intermittent components. Visual ond aural indication in signal tracing. Uses Magic-Eye tube for visual indicotions. Operates on 105.125 VAC. Size: $9 \times 10 \times 5^{\prime \prime}$. Shpg. Wgt. 10 lbs .
MODEL 147-K. Net....................... $\$ 24.95$
MODEL 147. Some as above bút faciory wired and tested. Net................... \$ 39.95


MULTI-SIGNAL TRACER KIT. Engineered for oudible trocing of IF, RF, FM video ond oudio circuits. Self-contoined speaker. Front ponel jocks for VTVM use. Response is over 200 MC . Diode probe for stoge by stoge goin included. Moy also be used for one-way small PA or intercom system. Complete with 6SJ7, 6K6, $6 \times 5$ tubes, di. ode probe, oll parts, panel, and case, less solder. Size: $10 \times 8 \times 4^{3 / 4}$. Operates on 110 . 125 VAC, 60 eycle. Shipg. Wgt. 9 lbs.
MODEL $145 \cdot \mathrm{~K}$. Net..
MODEL 145. Some wired and iested. Net............ but foctory

ELECTRONIC SWITCH KIT. Enobles observation of two potterns an one scope simultoneously, compore valtage ond current omplitudes, woveforms, frequencies ond phose relationships, set up reference levels, check distortion, etc. Continuously varioble switching rates from less than 10 CPS to over 2,000 CPS in three ranges. Usefulos square wave generotor over some range. Both patterns ore adjustable seporately and moy be superimposed or separoted. Operates on $105-125$ VAC. Size: $6 \times 8 \times 6^{\prime \prime}$. Shpg. Wgt. 7 lbs .
MODEL $488 . \mathrm{K}_{1}$ N $\qquad$ . $\$ 23.95$ MODEL 488. Same as above but factory wired and tested. Net.................... $\$ 39.95$


RTMA RESISTANCE SUBSTITUTION BOX KIT. Rapidly substitutes wide range of resistonce values in an operating circuit to determine size required for best performonce, determines value of badly burned or otherwise illegible resistors by substi. qution. Range from 15 ohms to 10 megohms. in decode multiples $15,22,33,47,68$, and 100 ohms, Resistors ore 1 woft $10 \%$ toler. ance. 5-way jock-top binding posts. Size: $33 / 4 \times 61 / 2 \times 31 / 2^{12}$. Shpg. Wgt. 3 lbs.
MODEL $1100-K$. Nef...................... $\$ 5.50$
MODEL 1100. Some as obove but factory wired and tested. Net..................... $\$ 9.95$


## E/CD



CONDENSER DECADE KIT. Capocitance range from 100 mmf to 0.111 mfd in steps of 100 mmf . All capocitors are precision silver mica, $1 \%$ accuracy. 5 -woy binding pasts take practicolly any type test lead connection. 500 volt roting at any copacity seffing. Blue-grey hammertone case, size $9 \times 31 / 2 \times 31 / 2^{4}$, Shpg. Wgt. 3 lbs.
MODEL $1180-K$. Net. $\qquad$ . .514 .95 MODEL 1180. Same as above but faciory wired and tested. Net.................... $\$ 19.95$
RESISTANCE DECADE BOX KIT. Supplies resistance values from $0.99,999$ ohms with $1 / 2 \%$ precision. Five seporote switches with ten positions on each. Binding posts fermitinstont substitution of octuol equiv. alent component for the resistance volue indicated. Sturdy steel case, size $3 / 1 / 2 \times 12 x$ $3^{\prime \prime}$, Shpg. Wgt. 3 Jbs.
MODEL 1171-K.Nef. $\qquad$ . . 19.95
MODEL 1171. Some as obave but foctory wired and tested. Net................... \$24.95

# E/CD PROBES 

##  <br> OSCILLOSCOPE PROBES

MODEL PD. Direct probe for TV vaveform tracing in low $Z$ or low frequency circuits. Eliminates stray pickup and signal reradiation.
MODEL PD. Kif farm. Nef....
. 2.75
MODEL PD. Wired and tested. $\qquad$
MODEL PLC. Law capacity prabe for TV wavefarm tracing in high $Z$, high frequency or wide band circuits. Eliminates distortion from overloading ar frequency discrim. ination.
MODEL PLC. Kif form. Nef............ 3.75
MODEL PLC. Wired and tested...

5.75

- 

MODEL PSD. Demodulator probe for signal pracing and checking of TV and radio RF and If stages; for stage-by-stage alignment; and for locating hum modulation, ratio defector marking and marker generafor calibrotion. Demodulates amplitudemodulated carriers-between 150 KC and 250 MC.
MODEL PSD. Kit form. Net..
.$\$ 3.75$
MODEL PSD. Wired and tested..
. 5.75


## VTVM PROBES

MODEL PTP.11. Peak-to-peak probe for direct reoding of peok-to-peak voltages directly on DC scales of Eico or otherVTVM with input of 11 megohms.
MODEL PTP-11. Kit form. Net.......\$ 4.95 MODEL PTP.11. Wired ond tested.... 6.95
MODEL PTP.25. Same as above but for $V$ TVM with input of 25 megohms.
MODEL PTP.25. Ki+ form. Nef...... $\$ 4.95$ MODEL PTP.25. Wired and tested... 6.95 MODEL PRF 11. RF probe for meosurements up to 250 MC on Eico or other VTVM with input of 11 megohms. Accuracy $\pm 10 \%$. MODEL PRF.11. Ki4 form. Net....... $\$ 3.75$ MODEL PRF-11. Wired and tested.... 4.95 MODEL PRF.25. Same as obove but for VTVM with input of 25 megohms.
MODEL PRF.25. Kit form. Net....... $\$ 3.75$ MODEL PRF.25. Wired and tested.... 4.95


MODEL HYP.2. High voltoge probe for measurements up to 30,000 volts DC. For Eico Madels $2!4-221$ VTVM. 740 megohm resistor supplied. Wired only. Nef.... $\$ 4.95$ MODEL HVP-1. Rugged, heavy duty model of HVP.2. Complete with 740 megohm re$s$ istor for Eico 214-221. Wired only. Net
We can supply HVP-1 and HVP- 2 probes for most any model and brand of VTVM or VOMA. Space does not permit listing. Send us your requirements.

## PCEESSE Test Equipment <br> IN KIT AND WIRED FORM



7" TUBE CATHODE RAY OSCILLOSCOPE KIT. VERTICAL: Flat $\ddagger 11 / 2$ DB through 5 MC with sensitivity of less than 10 uv PP, constant resistance, sharting bar at inputs 1 and 2 converts push-pull ta single-ended normal or reverse phase; push-pull DC amplifiers throughaut input and output, internal electranic mixing. POSITIONING: Bridge type on vertical and horizantal. MORIZONTAL: Frequency compensated attenuator in amplifier, push-pull output. SYNC: External, internal plus or minus 60 or 120 cycles. SWEEP RATE: From 1 cycle to 80 KC in 5 ranges. MAGNIFIER: 10 times. CALIBRATION: Internal square wove calibrafor and potentiometer for use os VTVM on peak-toopeak measurements. SCREEN: Filtered, dge-lighted seale. INTENSITY MODULATION: $Z$ through modulation amplifier. Size: $11 \times 14 \times 17^{\prime \prime}$. Fused circuit. Deep etched aluminum panel. Operotes from 105.120 VAC. Complete with all tubes and components. Shpg. Wgt. 33 lbs .
MODEL 300.K. Nef....................... $\$ 94.95$
MODEL 300. Some os obove but factory wired ond tested. Net................. $\$ 199.50$

81/2" TUBE CATHODE RAY OSCILLO. SCOPE KIT. Same general specifications as Model 300 but has anode intensifier and frequency synchronization control to elim. inote horjzontol jitters, plus full voltage regulotion for stobility. Size: $11 \times 14 \times 19^{\prime \prime}$. Complete with oll fubes, components, and detailed construction instructions. Shpg. Wgt. 35 lbs.
MODEL 308-K. Nef.................... $\$ 129.50$
MODEL 308. Some os above but factory wired and tested. Net................. $\$ 229.50$


VACUUM.TUBE.VOLTMETER KIT. Easy. to-read $41^{\prime \prime}$ rugged meter. Burnout proof circuit. Ceramic precision resistors, $1 \%$ or better. Deeply etched panel-with roised numerols. True zero alignment scale for TV and FM discriminators. AC and DC voltage ranges: $0.5-25 \cdot 250-500 \cdot 1000$. Resistance: .2 ohms 101 billion ohms in 5 ranges. DB: -20 to +55.25 megohm input imped. ance on DC. Complete with test leads and internal battery. Operates on 105.125 VAC. Fully detailed 3-color instruction book. Size: $9 / 2 \times 6 \times 5^{n}$. Shpg. Wgt. 10 lbs .
MODEL 909-K. Net...................... $\$ 25.98$ MODEL 909. Same as above but factory wired ond tested. Net................... $\$ 37.50$ MODEL 912 RF PROBE. Permits reading of frequencies up to 250 MC on Model 909. Net.......................................... $\$ 4.25$ mits DC voltage reodings up to 30,000 on Model 909 . Nep.
. 56.98


TRANSISTOR KIT. For schools, experimenters, laboratories, etc. Complete with parts to build one-stoge audio omplifier, two-stoge RC coupled audio amplifier, twostage transformer coupled amplifier, multivibrators, audio oscillator, RF oscillator, signal trocer, tuned signal tracer, etc., as separate experiments. Each experiment is explained in detail with the complete transistor story. (Batteries, mike, speaker, or headphones not included.) Kif includes electrolytic condensers, coils, potentiometer, tronsformer, two fransistors, one germonium diode, chossis, terminal strips, wire, resistars, and condensers. Detailed instruction book iocluded. Shpg. Wf. 3 lbs. MODEL T.1. Nef......................... $\$ 17.95$


VACUUM.TUBE.VOLTMETER KIT. Voltoge regulated. Lorge $71 / 2^{\prime \prime}$ meter movement. Ceramic precision resistors, $1 \%$ or betfer. Special seporate 5 VAC scole for accuracy. Frequency ronge up to 250 MC with No. 912 Accessory Probe. Zero alignment scale for discriminafors. Burnout proof circuit. 25 meg input impedonce. AC and DC voltoge ranges: $0-5 \cdot 25 \cdot 250-500 \cdot 1000$. Resistance: .2 ohms to. 1 billion ohms in 5 ranges. DB: -20 to +55 . Detoiled 3 -color instruction book. Atfractive steel cabinet with handle. Size: $11 \times 8 \times 5^{\prime \prime}$. Operates on 105.120 VAC. Shpg. Wgt. 11 lbs.
MODEL $9071 . K$. Net...
MODEL 9071. S N a MODEL 9071. Same as above but factory MODEL 912 RF PROBE. Extends range of Model 9071 to 250 MC. Net............ $\$ 4.25$ MODEL 999.W HIGH VOLTAGE PROBE, Extends range of Model. 9071 io 30,000 VDC. Net:.................................... . 8.98

## MUTUAL CONDUCTANCE AND EMISSLON

 TUBE TESTER KIT. New type rotary $s$ witches allow connection to each element individually. Positive short test. No back. lash roll chert. Checks all types of tubes quickly and accurately. Also checks picture and CR tubes with included adopter. Complete with detailed instruction book. Sturdysteel case with deeply etched alum. inum panel. Size: $14 \star 16 \times 5^{n}$. Shpg. Wgt. 3 C lbs.MODEL 111.K. Nef...
.. \$ 69.9!
MODEL 111. Same as above but factor) wired and tested. Net................. $\$ 139.91$

RADIO CONTROL KITS


RC.222R


RCEU

## FOR HOBBY MODELS

Transmityer, receiver, and escapement units for controlling hobby model plones roilroads, boots, ete. TRANSMITTER KIT employs 3A4 tube and operates on 27.255 MC. Three-section telescopic antenno supplied, extends from 34" to $90^{\prime \prime}$. No coil winding to be done, coils are supplied wound and ready for assembly. Unit can be held in one hond, weighs only 2 lbs .6 oz. less batteries. Power input approximately 2.7 watts. Case size: $6 \times 6 \times 3 \frac{1}{4}$ ". Re. quires one $1 \frac{1}{2} \mathrm{~V}$ "An battery two $671 / 2 \mathrm{~V}$ " $B^{\prime \prime}$ botteries. RECEIVER K ${ }^{\prime} f$ uses RK61 or XFGI in self-quenching super-regenera. tive circuit. Small and compact, mounted on bakelite strip $27 / \times 1 / 2 \times 1 \frac{1}{40} D$. Weighs only $31 / 2$ oz. with volume control. Requires two $1 \frac{1}{2} \mathrm{~V}$ " $A$ " batteries, two $22 \frac{1}{2} \mathrm{~V}$ " $B$ " botteries.

TRANSMITTER KIT. Less botteries, with full instructions. Shpg. Wgt. 5 lbs. MODEL RC 333 T . Net. $\qquad$


RECEIVER KIT. Less botteries, with full instructions. Shpg. Wgt. 2 lbs.
MODEL RC-222R. Net. $\qquad$
ESCAPEMENT UNIT. For use with obove units, completely assembled. Shpg. Wgt. 1
MODEL RCEU. Nef.
. $\$ 3.60$
COMB INATION OFFER: Consists of Model RC-333T Tronsmitter and Model RC.222R Receiver, less Escopement Unit. MODEL RC 333TR. Net. $\qquad$ . 33.15
915. 1/2V Batrery for Receiver. Net... $\$$. 08
412. 22 Z 2 V Bottery for Receiver......... . 88
964. 11/2V Battery for Transmitter........ . 23
477. $671 / 2 \mathrm{~V}$ Battery for Transmitter.... 1.81

## ONE-TUBE KIT

plus rectifier


One tube plus rectifier AC-DC radio kit. Complete $k$ it of parts furnished with simple ossembly and operating instructions and diagrams. Covers the broadcast band. Anyone without previous knowledge or skill con construct in short time. For use with headphones (not supplied). Uses 1. 35Z5, 1-12SJ7GT. Complete with all parts, less qubes.

MODEL 7001B. Net
$\$ 7.35$
Kit of fubes for above. Nef.............. 1.70
TWO-TUBE KIT
PLUS RECTIFIER


Two sube plus rectifier $A C-D C$ radio kir. A more elaborate kit thon Model 7001B. Has much greater signal strength. Also permits use of 4" PM speaker which is supplied with kit. Covers the broodeast and shortwove bands, 550.1650 KC and 6.18 MC. Easy to assemble ond operote and, when finished, you hove a pwobond set. Complete with easy-to-follow instruc. tions, wiring diagram, ond operoting monual. Excellent opportunity for one with no previous knowledge to learn fundamentals of radio. Uses $1.125 . \mathrm{J} 7,1.50 \mathrm{~L} 6,1.3525$, Complete with all parts,' less tubes.
MODEL 7001C. Net. $\qquad$ \$ 11.76 Kit of tubes for above. Nef................ 2.71

## "little miraclen Kit



Onerlube portoble battery radio kit. Easy to build and assemble, requires only screw. driver, pliers, soldering iron. Smooth iuning from 550 KC to 1650 KC . Regular variable condenser ond Lisz-wound coil. The carton is the cabinet. Highly sensitive egenerative defector circuit, good selectivity and volume. Full instruetions and diagrams included. Uses 3 V 4 "\&ube. Complete with all parts, headphone, antenno wire, tube, ond cobinet. Uses one flash. light cell ( $1 / 1 / 2 \mathrm{~V}$ ), $1.22 \frac{1}{2} \mathrm{~V}$. (Evereody 412 or Burgess U.15). Size: $10 \times 51 / 2 \times 3^{\prime \prime}$. Less batteries, solder, and hook-up wire. Shpg. Wgt. 2 lbs.
MODEL 7501. Net........................... \$ 7.20

## SIMPSON



Model $25 \mathrm{DC}, 3^{\prime \prime}$ Round Case－Flange diam．
 Scal e lensth． 2 日＇ $6^{\prime \prime}$ ．Bakelite case．Shpg． ygt． 2 lbs ．

Model 27．3＂Rectengular Case．hidth 3＇＂ lieight， $3^{1}=\cdots$ ．Mounts in round hole．Body diam，2牟＂，Bakelite casc．Shpo，Wot． 2 lbs．

| Range | Round Mondel 25 | Square Model 27 |  |
| :---: | :---: | :---: | :---: |
| ก－1 | ＂ | ＂ | \＄ |
| 0－1．5 | ＊ | ＂ |  |
| 0－3 | $\cdots$ | ＂ |  |
| 0－5 | ＂ | ＂ |  |
| 0－10 | ＂ | ＂ |  |
| 0－15 | ＊ | ＂ |  |
| 0－20 | － | ＂ |  |
| ก－25 | ＂ | ＂ |  |
| 0－50 | ＂ | ＊ |  |
| 0－75 | ＂ | ＂ |  |
| ก－10n | － | ＂ |  |
| 0－150 | ＊ | － |  |
| 0－200 | ＂ | ＂ |  |
| n－250 | ＂ | ＂ |  |
| 0－300 | － | ＂ |  |
| 0－500 | ＂ | ＊ |  |
| 0－750 | ＂ | ＂ |  |
| 0－1000 | ＊ | ＂ |  |



## DC VOLTMETERS

| Range | $\begin{aligned} & \text { Round } \\ & \text { Model } 25 \end{aligned}$ | Square <br> Model 27 | Net <br> Each |
| :---: | :---: | :---: | :---: |
| 0－3 | ＂ | ＂ | \＄8．67 |
| 0－5 | ＊ | ＂ | 8.67 |
| 0－10 | ＂ | ＂ | 8.67 |
| 0－15 | ＊ | ＂ | 8.67 |
| 0－25 |  |  | 8.67 |
| 0－50 | ＂ | ＂ | 8.67 |
| 0－100 |  |  | 8.67 |
| 0－150 | ＂ | ＂ | 8.67 |
| 0－200 | ＂ | ＂ | ＊． 67 |
| 0－250 | ＂ | ＂ | 8.67 |
| 0－300 | ＂ | ＂ | 8.67 |
| 0－500 | ＂ | ＂ | 8.67 |
| 0－750 | ${ }^{\prime}$ | ＂ | 8.67 |

METERS IIISTES AGOVE HAVE INTERNAI，RES－ ISTORS．TIOSF，LISTED IHELOW HAVE，EXTER－ NAI．1\％CARROFILM RESISTORS．

| $0-1000$ | $"$ | $"$ | 12.49 |
| :--- | :--- | :--- | :--- |
| $0-1500$ | $"$ | $"$ | 12.49 |
| $0-2000$ | $"$ | $"$ | 12.49 |
| $0-2500$ | $"$ | $"$ | 12.49 |
| $0-3000$ | $"$ | $"$ | 12.49 |
| $0-4000$ | $"$ | $"$ | 12.49 |
| $0-5000$ |  |  | 12.49 |

REPLACHENT CASES

| 2＂Prund | Nict \＄ 1.32 |
| :---: | :---: |
| $こ ゙$ Rectangular | 1.32 |
| S＂Rewnd | 1． 4.4 |
| 3＂Protamsulat | 1.4 |

$20 \%$ DEPOSIT REQUIRED ON
C．O．D．ORDERS


Model 55 AC， $3^{n}$ Round case－Flange dians．
 Scale length $29 / 16^{\prime \prime}$ ．Bakelite cese．Shpg． wis． 2 lbs．

Model 57 AC． $3^{\prime \prime}$ Rectonmular case，Width $3^{\prime \prime}$ foright 3 vin＂．Mounts in round hole．Body


IC JOLTMETERS

| Rance | Found Model 55 | Scuare Sodel 57 | Net |
| :---: | :---: | :---: | :---: |
| 0－3 | ＊ | ＊ | ¢ 7.84 |
| 0－5 | ${ }^{\prime}$ | ＊ | 7.94 |
| $n-10$ | － | ＊ | 7.94 |
| $0-15$ | － | － | 7.94 |
| n－35 | － | ＊ | 7.94 |
| 0－50 | ＊ | － | 7.94 |
| 0－100 | ＂ | ＂ | 7.94 |
| n－150 | ＊ | ＊ | 9.41 |
| ก－300 | － | ＊ | 9.41 |
| $0-500$ | ＊ | $\cdots$ | 13.23 |
| A9 MII，İ AMWETERS |  |  |  |
|  | Fumtad | Squarc | Net |
| Ranbe | Wodel 55 | Nodel 57 | Each |
| 0－10 | ＊ | － | \＄ 7.94 |
| ก－15 | ${ }^{\prime \prime}$ | ＊ | 7.94 |
| 0－25 | ${ }^{\prime}$ | ＊ | 7.94 |
| 0－50 | ＊ | － | 7.94 |
| n－10n | ${ }^{\prime \prime}$ | $\cdots$ | 7.94 |
| 0－250 | ＊ | － | 7.94 |
| 0－500 | ＂ | ＂ | 7.94 |
| If IHMETERS |  |  |  |
|  | kound | Simari | Hocis |
| Redte | Murucl 55 | Model 57 | Net． |
| 0－1 | ＊ | － | \％ 7.94 |
| 0－2 | ＂ | － | 7.94 |
| ก－3 | ＊ | ＊ | 7.94 |
| $0-5$ | ＊ | ＂ | 7.94 |
| 0－10 | ＂ | － | 7.94 |
| 0－1．5 | ＊ | － | 7.94 |
| 0－25 | ＂ | ＂ | 8.23 |
| 0－50 | ＊ | － | 9.11 |



SIMPSON


## RADIO FREQUENCY

 AMMETERSIntrrnal Thermocouple
Model $353^{1 / 2}$＂Round bakelite case．Slpg． Wgt． 21 bs

Model 37， $3^{\prime \prime \prime}$ Square bahelite cast．Shpy．解t． 21 bs


Copper oxide rectifier type．Hi gh power level in． 6 NH .50 ohm line． $3^{1 \prime \prime \prime}$ rectangu－ lar casc．

MO DELL 47
General purpose tope
-10 to +6 DB .5000 olams
Net $\$ 12.05$
High Speed Type
-10 to 0 （ DB， 5000 ohms Net $\$ 12.94$

## Low Specd Type

-10 to $+6 \mathrm{DB}, 500 \mathrm{ohms}$ $\qquad$
UU METERS
Available in Vlu or Per Cent scales．


Model 125 DC．2＂Round casc－2 3／8iv Square． Mounts in round hole，Body dian， $23 / 16^{\circ \prime}$ ． Shpg．Fgt． 21 bs．

Model 127 DC． $2^{\prime *}$ Rectangular case． $23 / 8^{*}$ Square．Mounts in round hole．Body diam． $23 / 16^{\prime \prime}$ ．Shpg．Fít． 2 1bs．

## DC HILLIAMMETERS

|  | Round | Square | Net |
| :---: | :---: | :---: | :---: |
| Range | Model 125 | Model 127 | Each |
| 0－1 | － | － | \＄7．50 |
| 0－1．5 | － | － | 7.50 |
| 0－3 | ${ }^{*}$ | ＊ | 7.50 |
| 0－5 | ＊ | ＊ | 7.50 |
| 0－10 | － | ＂ | 7.50 |
| 0－15 | ＊ | ＂ | 7． 50 |
| $0-20$ | ＊ | ＂ | 7.50 |
| 0－25 | ＊ | － | 7.50 |
| 0－50 | ＊ | ＊ | 7.50 |
| 0－75 | ＊ | － | 7.50 |
| 0－100 | ＊ | ＂ | 7． 50 |
| 0－150 | － | － | 7.50 |
| 0－200 | ＂ | － | 7.50 |
| 0－250 | ＊ | ${ }^{\prime}$ | 7.50 |
| n－30n | － | － | 7． 50 |
| 0－50n | ＊ | ＊ | 7． 50 |
| 0－750 | ＊ | $\cdots$ | 7.50 |

## MET

## SIMPSON

## THREE INCH

## ILLUMINATED

Simnson Illuminated meters use the mellod patented by them and are not found on any other make of instrument. The oldfashioned hav or shining a light through a translucent dial has caused many cases where the heat from the bulb will make the dial fade buckle, and discolor. Simpson employs a single bulb and Lucite cone to transmit light to the face and wive sufficient illumination to be read with ease wh no danger of failure duc to heat. Neoprene seal on conc.

RECTANGULAR ILLUMINATED


MODEL 27 DC MILLIAMMETERS

| Range | Net | Ronge | Net |
| :--- | ---: | ---: | ---: |
| $0-1$ | $\$ 10.00$ | 0.100 | $\$ 10.00$ |
| $0-10$ | 10.00 | 0.150 | 10.00 |
| 0.15 | 10.00 | $0-200$ | 10.00 |
| $0-25$ | 10.00 | $0-300$ | 10.00 |
| 0.50 | 10.00 | 0.500 | 10.00 |

MODEL 27 DC VOLTMETERS

| $0-10$ | 10.14 | $0-1000^{*}$ | 13.96 |
| :--- | :--- | :--- | :--- |
| $0-50$ | 10.14 | $0-2000^{*}$ | 13.96 |
| 0.150 | 10.14 | $0-3000^{*}$ | 13.96 |
| $0-300$ | 10.14 | $0-4000^{*}$ | 13.96 |
| 0.500 | 10.14 | $0-5000^{*}$ | 13.96 |
| *Hove external Cerbofilm resistors, others |  |  |  |
| have internal resistors. |  |  |  |



MODEL 57 AC VOLTMETERS

| Range | Net | Range | Ne* |  |
| :--- | ---: | :---: | ---: | :---: |
| 0.10 | $\$ 9.41$ | $0-150$ | $\$ 10.88$ |  |
| $0-15$ | 9.41 | $0-300$ | 10.88 |  |
|  |  |  |  |  |
| MODEL 57 RF AMMETERS |  |  |  |  |
| $0-1$ | 11.76 | $0-3$ | 11.76 |  |
| $0-2$ | 11.76 | $0-5$ | 11.76 |  |

## BUD

 STREAMLINED METER CASES

All cases hove sloping front with top corner rounded. No. CM-1241 and No. CM-1242 hove insulators on top for leads to meter. Block wrinkle linish only. Shpg. Wi. $1 / 2 \mathrm{lb}$.

|  | Meter | Hole | Heq |
| :--- | :---: | :---: | ---: |
| Number | Size | Domerer | Eoch |
| CM.1241 | $2^{\prime \prime}$ | $2.334^{\prime \prime}$ | $\$ 1.22$ |
| CM.1242 | 3 | 2.835 | 1.22 |
| CM.1965 | 2 | 2.334 | .93 |
| CM.1966 | 3 | 2.835 | .93 |

[^6]
## TRIPLET/

## Meters

MODEL 227T
2 INCH DC MILLIAMMETERS
Reesangular flush mounting. $2 \frac{3 / 3}{}{ }^{n}$ square. Body diameter $2 \frac{3}{32}$ ". Body depth 1". Shpg. Wgt. 2 lbs.

| Range | Range | Range | Range |
| :--- | :--- | :--- | :--- |
| $0-1$ | $0-15$ | $0-100$ | $0-300$ |
| $0-1.5$ | $0-25$ | 0.150 | $0-500$ |
| $0-5$ | 0.50 | $0-200$ | 0.750 |
| $0-10$ | 0.75 | $0-250$ | $0-1000$ |
| Any above. | Net Each.................... $\$ 7.35$ |  |  |

MODEL 327T
3 INCH DC MILLIAMMETERS
3" reetangular molded case. Body diameter $23_{4}{ }^{\prime \prime}$. Body depth $1^{\prime \prime}$. Flush mounting.

| Range | Range | Ronge | Range |
| :--- | :--- | :--- | :--- |
| 0.1 | 0.15 | 0.150 | $0-500$ |
| 0.1 .5 | 0.25 | 0.200 | 0.750 |
| 0.3 | 0.50 | 0.250 | 0.1000 |
| 0.5 | 0.75 | 0.300 |  |
| 0.10 | 0.100 | $0-400$ |  |
| Any above. | Nei Each.................... 8.33 |  |  |

MODEL 3375
3 INCH AC VOLTMETERS
$3^{\prime \prime}$ s quare molded case. Body diameter $2 \frac{1}{4}$ ". Body depth 1". Flush mounting.
Range 0-10
Net Each \$ 8.33
0.15
8.33

SHURITE

PANEI. TYPES


With rectangular case for flush mounting. Case size: $2^{5}, \times 2^{9} 1_{16}{ }^{\prime \prime}$. Requires $2 \frac{3}{3} z^{m}$ hnle formounting. DC meters are polarized -vone solenoid type, AC meters ore double-vane repulsion type with jeweled beoring. Shpg. Wgt. 1 lb .

MODEL 950 DC MILLIAMMETERS

| Ronge | Net | Ronge | Nef |
| :--- | :---: | :---: | :---: |
| 0.10 | $\$ 1.96$ | 0.150 | 1.57 |
| 0.15 | 1.62 | $0-200$ | 1.57 |
| 0.25 | 1.57 | 0.300 | 1.57 |
| 0.50 | 1.57 | 0.400 | 1.52 |
| 0.100 | 1.57 | 0.500 | 1.52 |
| MODEL 950 DC VOLTMETERS |  |  |  |
| 0.3 | 1.57 | $0-100$ | 2.01 |
| 0.5 | 1.57 | 0.150 | 2.11 |
| 0.10 | 1.62 | 0.300 | 3.04 |
| 0.15 | 1.71 | 0.500 | 3.97 |
| 0.25 | 1.76 | 0.750 | 4.70 |
| 0.50 | 1.86 |  |  |


| MODEL 950 DC AMMETERS |  |  |  |
| :--- | :---: | :---: | :---: |
| 0.1 | 1.57 | 0.15 | 1.67 |
| 0.3 | 1.57 | 0.25 | 1.96 |
| 0.5 | 1.57 | $0-50$ | 2.25 |

0.10
MODEL 950 AC VOLTMETERS

| 0.10 | 2.65 | 0.150 | 3.32 |
| :---: | :---: | :---: | :---: |
| 0.15 | 2.65 | 0.300 | 3.77 |
| 0.50 | 3.14 |  |  |
|  | MODEL 950 AC | AMME TERS |  |


| 0.1 | 2.65 | 0.15 | 2.65 |
| :--- | :--- | :--- | :--- |
| 0.3 | 2.65 | 0.30 | 2.94 |
| 0.5 | 2.65 | 0.50 | 3.14 |
| 0.10 | 2.65 |  |  |



MODEL 701 DC Milliammeters
3 $1 / 4$ INCH METAL FLUSH TYPE A.CCURACY WITHIN $\mathbf{2 \%}$

| Range | Div. | Net <br> Each | Range | Div. | Net <br> Each |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $0-1$ | 50 | $\$ \mathbf{5 . 2 5}$ | $\mathbf{0 - 1 0 0}$ | 50 | $\mathbf{\$ 4 . 9 3}$ |
| $0-2$ | 40 | $\mathbf{4 . 9 3}$ | $0-150$ | 60 | $\mathbf{4 . 9 3}$ |
| $0-5$ | 50 | $\mathbf{4 . 9 3}$ | $0-200$ | 40 | $\mathbf{4 . 9 3}$ |
| $0-10$ | 50 | $\mathbf{4 . 9 3}$ | $0-300$ | 60 | $\mathbf{4 . 9 3}$ |
| $0-15$ | 60 | $\mathbf{4 . 9 3}$ | $0-500$ | 50 | $\mathbf{4 . 9 3}$ |
| $0-25$ | 50 | $\mathbf{4 . 9 3}$ | $0-800$ | 40 | $\mathbf{4 . 9 3}$ |
| 0.50 | 50 | $\mathbf{4 . 9 3}$ | $0-1000$ | 50 | $\mathbf{4 . 9 3}$ |

## VIBRATING REED

FREQUENCY METER


JBi

MODPL 31-FX. Used extensively in radio, clectronics, tel ephone and industrial applications. Consists of five vibrating reeds which are accurately calibrated to but one frequency. Range $58-62$ cy.. For operation on 110-130 VAC. Molded bake. Ifte case. size $3_{2}^{\prime \prime \prime} 0$. D. Mounts in 2 $11 / 16^{\circ "}$ hole. Shpg. WEt. 2 lbs.


Net $\$ 23.18$


ELAPSED TIME METER
MODEL 31-EX. Records operating time of $A C$ electrical and electronic eguipment. Registers up to 9999.9 hours in $1 / 10$ hour steps. then automatically resets. $1 / 10$ ths shown in red numerde s. others in black. Excellent for recording running time of tube Life, TV eguipment. maintenance schedules, machinery overhaul, etc. Molded bakelite case, size overall 3: ", Hole sice $2 \rightarrow 11 / 16^{n}$. Shog- Wt. 2 lbs

110-130 VAC, 60 cy .
Net \$ 15.63 $220-240$ VAC. 60 cy .
16.71

## Conant Laboratories

 METER RECTIFIERS

For rerlacoment and construction. ComFlcte mstructions wimeluded. Slipg. Tist. G OZ.

|  | interehttilnt |  | CONT. |  | net |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| trfe | votis | a.a | VALTS | $\cdots$ |  | Arh |
| T | 20 | 60 | 10 | 30 | $\$$ | 1.50 |
| 解 | 20 | 60 | 10 | 30 |  | 2.06 |
| IIS | 10 | 60 | 5 | 30 |  | 1.50 |
| H | 10 | 60 | 5 | 30 |  | 1.18 |
| 13 | 20 | 10 | 10 | 5 |  | 2.06 |
| BIS | 10 | 10 | 5 | 5 |  | 1.50 |
| [1T | 20 | 10 | 10 | , |  | 1. 50 |

# WORNER PHOTO-ELECTRIC APPARATUS Pho 



## WORNER FOTOLECTRIC ANNOUNCER

## Automatically Announces

 The Entrance or Passing of Any Object|  |  |
| :---: | :---: |



## THE FOTOLECTRIC KITS

For Electronic Experimental Work Mowl. 69 AMPLIF1ER hIT. Designed or eaperimental work by teach$n$ any source of light that providea a change of light density. Relay rated at 5 ampere, 110 wlt AC uperation. shpg. Wgt. MODFL. 39 LIGIIT SOURCE KIT. fouipped with special 50-xatt bulh in well designed optical ksstem tu project diffused beam 35 feet. Complete with cord and Hiug. Ideal for use with Model G9 Annllifier. Easy to assemble. Shys. W.t. A 1 bs . Net $\$ 6.43$

ELECTRONICALLY OPERATED RELAY MODEL 64


MIDEL 64, all «cunat deal unl ful pitace thenlls :ny andustrinl ayblicatom where ewt is a factur. Hesighed for usw with biotoredl and Fariter Lany wists. Will i sht h 550 times net minato. Contains spirt ra 1 ay with somp cont iacts. Size: Srinho HEt. 10 lus. Net $\$ 49.6 \approx$

MODEL 63. Fspecially designed for use
 damp units. Electronicalls uperated re-
libe will - petate alsw tran laght sumre finits such its daylizht. artiticial




MODPL 434. Cutbines Mondrl b3 and Tame Irlay (idrcuat giving delay trom zoro to 45 seounds. Ner \$ 110.25 MOHEL 63B. Same as sudel fis with additional amplification to operate on less tional amplification to operate chanje of light. Net $\$ 110.25$

## EXCITER LAMP \& PHOTO-CELL

 RECEIVER UNITSFor Use With Models 63, 63.A, 63.E and 64 Electronically Operated Relay's

(3)


Model 33
The Exciter Lamp unit is designea to project the light beam and the Photocell receiver is designed to pick up the beam and convert its light into electrical energy through the electronicalls operated relay unit. for use in damp surroundings, Models 33 and 23 can hי made natrr-prouf at a slight adilition MOnFI 33 EXCITER 1.AnP is stendard ful omeral application and is most gemerally recormenden, Its light bean courers at distance 1 ron a few inches to 05 feet 1 rom Exciter hamp to Photo-Cell. Hear's duty, cast iron unit with $1,2^{\prime \prime}$ condurt littings. Grey finisls. Sife: $4^{4} \times 2 \times 3^{3} \times 2^{3} 3^{4}$. Shps. Xét. 5 lbs. Net $\$ 9.93$ Monel 23 Photo.cfli, RECEIVER is ancihoered for use with hodel 33 Exciter
 MNIFIL 31 EXCITER LAMP is standard whers a Jigntw height cane is practical. It: light bean covers a distance frum al and
 wrinhle 1atish, fass $1,2^{\prime \prime}$ knockout. G-5,8m2a1-3.4". Shrg, Wit. \& lbsio

MODEL 21 PHOTO-CHLL RECEIVER neared for use with Mudel 31 Eacher Lamp, Si \% $\boldsymbol{s}^{\prime} ; 6-5 / 8 \times 2 \times 1-3 / 4^{\prime \prime}$. Shpg. Wgt. 4 lbs. Requires amylifier. Net \$ 12.49 No. 1130 Replacement [iulb fir .Wodel 33 :

## MASTER AMPLIFIER




WORNER BURGLAR ALARMS MODEL 5000 SERIES
MODFL, 5000 SERIES, Consists 1 \& 1 Eht
bource and amplifier unat. besigneri for intcrior ust where single bedme is desir ed. Aly interruption of this beam oper at es electrical warnine device. Light beam mas be reflected by use of marrurs. Light source is equipped with sp+cialls engineered lenses, infra-red liltars 110 VAC operation. Amplificrs equippe aith kinob cuntrolling on/off swatch lock controlled harmang sipnal. phor, jack for meter to test plate current. Complete with tubes. lenses. sensitivits whtrol. 5 amp spit relay. shpog. Wet, 10 1b:-

## $5100 \quad 100$ Fout Systum 66.15 <br> WORNER BURGLAR ALARM MODEL 7000 SERIES

MOPEL 7000 SERIPS. Consists of one ar
 trays or uthers. Light surure ls equi pad witil ramuvable intra-red tll whith ancludes all vasible lanhe. Anmb licr mas 'ack to m sthsitivity control, ahot rublay 5 arbs.
kith systom consists of amplifice ariu Ilfit suurce, susg. Wet. :0 1 hs .

| Number | Tree |  | Net |  |
| :---: | :---: | :---: | :---: | :---: |
| 7100 | 10 s | Fuot sysctim | \$ | 61.74 |
| 7150 | 150 | Fuot System |  | 79. 38 |
| 7250 | 250 | Fuot System |  | 106. 57 |
| 7500 | 500 | Fuot system |  | 165.34 |

## PIL PILOT LIGHTS AND ASSEMBLIES

## PILOT LIGHTS

|  |  |  |  |  | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| NET | NET |  |  |  |  |
| EACH | PER 10 | vol ${ }^{\text {S }}$ | AMP. | bast | 日EAD |
| \$. 12 | \$. 80 | 6-8 | . 15 | SC | Brown |
| . 12 | . 80 | 6-8 | . 15 | Bay. | Brown |
| . 12 | . 80 | 2. 5 | . 50 | SC | White |
| . 13 | . 87 | 3. 2 | . 50 | SC | Green |
| . 12 | . 80 | 2.5 | . 50 | Bay. | White |
| . 12 | . 80 | 6-8 | . 25 | Bay. | Blue |
| . 13 | . 87 | 3.2 | - 50 | Bay. | Green |
| . 12 | . 80 | 6-8 | . 25 | SC | Blue |
| . 16 | 1.07 | 2.0 | . 06 | . SC | Pink |
| . 16 | 1.07 | 2.0 | . 06 | Bay. | Pink |
| . 12 | . 80 | 6-8 | . 20 | SC | Pink |
| . 17 | 1.13 | 2.9 | .17 | SC | Pink |
| . 11 | . 73 | 6-8 | . 20 | Bay. | Pink |
| . 11 | . 73 | 6-8 | . 40 | Bay. | Pink |
| .30 | 2.00 | 28 | . 17 | Bay | White |
| 1.30 | 2.00 | 28 | . 17 | SC | White |

## MINIATURE LAMPS <br> Candelabra base


. 6 Candelabra Base, 110 V. 6 Watts $\$ .18$ .7 Candelabra Base, 110 V. 7 Watts 15

 - 16 meets government specs JAN-Ia for 1. SCBM means single contact bayonet niature. DCBC means double contact fonet candelabra, cs means candelabra "ow. MS means medium screw. Figures in ;. column indicate necessary series ;istor, others have intermal resistor ,

## ARGON GLOW LAMPS

ynn lamps are used priueipally in the ild of fluorescence. They produce a limed amount of near ultraviolet in the in Angstron region. Also used in many tographic apnlications and for indica-

nber Fig. Watts Volts Liase Res. No G $\quad 1 / 4 \quad 105 / 125$ UCRC $\quad 15000 \$ \$ .65$ 1/4 105/125 cs lut. (i) 105/125 DCDC 3500 105/125 MS Int. . 75

## PILOT STGNLD LIGHT

ASSEMBLIES


305


105

HOBIZONTAL MOUNTED 1/2" JE日EL
Horizontal mounting asscmbly completc with $1 / 2^{n}$ jewel. Mounts in single $11 / 16^{\prime \prime}$ holc. Jewel is removable and allows access to lamp from front. Complete with red, green, amber or clear jewel. Fits pancl thickness to $1 / 4^{n}$. Bright nickel finish. Less bulb.

| No. | For Bulb | Net |
| :--- | :--- | ---: |
| 305 | Miniature Bayonet | $\mathbf{\$ . 3 2}$ |
| $305-\mathrm{S}$ | Miniature Screw | $\mathbf{. 3 2}$ |
| 25 | Jewel, bushing and mount- |  |
|  | ing nut. | $\mathbf{. 2 3}$ |

## HORIZONTAL MOUNTED $1^{n}$ JEWEL

Single hole horizontal mount assembly for $1^{\prime \prime}$ jewel. Mounts in $1^{\prime \prime}$ hole, holder is of polished chrome. Bulb is replaceable from front of panel. Complete with red, green, amber or clear faceted jewch Less bulb. U/L approved.
No.
For Bulb
Net
$95-\mathrm{B}$ Miniature Bayonct \$.83
$95-\mathrm{M}$ Miniature Screw .83
$95-\mathrm{C}$ .83
75Al Jewel, bushing and nut
.54
VERTICAL MOUNTED $1 / 2^{\prime \prime}$ JEEEL.
Vertical single hole mounting, complete with $1 / 2^{"}$ jewel. Mounts in $7 / 16^{\text {" }}$ hole. Choice of red, green, amber or clear faceted jewel. Fits panel thickness to $1 / \mathbf{4}^{\prime \prime}$. Bright nickel finish. Less bulb.
No. For Bulb
105 Miniature Screw
Net
.21
105-B Miniature Bayonet
$\$ .21$
16 Jewel Asscmbly only with nut. . 15
10-C slotted bracket assembly for adjustment to lamp center Otherwise as above. S. C. cancel abra base.


Pilot lamp sockets in a varicty of typos for all amplications. Luss are tinned for easy soldering. Sockets cad plated.
5-07 Miniature screw. lug suspend \$. 07 6-07: Candelabra base, lug suspend . 11 7-076 Miniature bayonet, lug suspen . 08 5-02 Down-clip, miniature screw 6-02 Down clip, candelabra
7-02 Down clip, miniature bayonet 5-01 Lp clip, miniature screw 6-01 Up clip, candelabra
$7-01$ up clip, miniature bayonet
5-05 Adustable slide, min. screw
6-05 Adjustable slide, candelabra
7-n5 adiustable slitue, min. bayonct

## NEON LAMP Assembly

Panel assembly for NE-51 ncon bulb. Built-in 50 K resistor for 110 volt. Mounts in $11 / 16^{n}$ holc. liess bulb. Colors; redt, amber. clfar. Specify color desired. NO. 95408 Net $\$ .97$

## PILOT LAMP INSTALIER

['sifful tool for removing or installane pilot light, no broken glass hatard. No. It- 73
$151 / 410$
पनाए


PUTS LIGHT RIGHT WHERE you tant it

The ideal lamp for factory benches. office desks, laboratories, home workshops, hant shacks. Double-arm extends $36^{n}$. Attractive bronze finish. White porcelain reflector. Two bolts clamp base to surface up to $3^{n}$ thick. Remove bolts for screw mounting. Uses two T8, 15-watt fluorescent tubes. Operates on 105-125 60 cy. AC. Shpg. Wgt. 10 lbs. Less tubes.
MODEL 4303
Net Each \$14.21
Lots of 3.
Net Each \$13.27
T-8 TUBES for 4303 Lamp, Net Each \$. 65

## "OMNI-GLOW"

NEON-TYPE PILOT LIGHTS


Completely enclosed in plastic case. Low in cost and will burn up to 12.000 hours over voltage ranges of $75-150$ volts. Requires $1 / 2^{\prime \prime}$ mounting hole. $4^{\prime \prime}$ tinned leads. Complete with bulb and locknut.
NO.
No. 1010A1
No.
Red
Net \$ . 53
No. 1010A3
Anber
.53
.53
.53

HIDE ANGLE LUCITE LENS
E. F. JOHNSON

$5 / 8^{n}$ threaded jenel. For single contact miniature bulb, 47. 49, etc. Mounts in 11/16" hole. Red, amber, green, or clear. Specify color jewel. Less bulb.
No. 147-1142
Net \$ . 67

## JOHNSON

PANEL LIGHT

## No. 147-330

 For front pancl lighting. Polished NP hood. Mounts in ${ }^{\prime \prime}$ "hole. For miniature screw base bulb. Less bulb. Net $\$ .73$


## CLIP-IN SOCKET

4-605 Bayonct Base $\$ .12$
4-606 Miniature Screw . 12
4.607 Candelathra Base . 15

## WALTER ASHE RADIO CO.

## STORE HOURS:

9:00 A. M. to 5:30 P. M.
Monday through Soturday

# RELAYS FOR MOST APPLICATIONS 

## PR Series <br> HEAVY DUTY POWER RELAYS

PR SERIES. Hoovy dury powor reloys dosignod for powor circuits acrosstho-lino, storting, up to one H.P., hoater loads up to 20 amps, romoto broak-in of transmitrors, ete. $1 / 4$ " silver conrocts. SPECIFY VOLTAGE.

| Type PRIA | 115 VAC 50.80 CYCLE COLL |  |  |
| :---: | :---: | :---: | :---: |
|  | Contacts | Position | Nef |
|  | SPST | Normal Opon | \$ 3.50 |
| PR5A | SPDT |  | 3.80 |
| PR7A | DPST | Normal Opon | 4.25 |
| PRIIR. | DPDT |  | 5.70 |
| 220 VAC 50.60 CYCLE COIL |  |  |  |
| PR1A | SPST | Normal Opon | 4.15 |
| PR5A | SPDT |  | 4.45 |
| PR7A | DPST | Normal Opon | 4.90 |
| PRIIA | DPDT |  | 6.35 |
| 6 VDC COIL |  |  |  |
| PRID | SPST | Normol Open C COIL | 3.50 |
| PRID | SPST | Normal Open | 3.50 |

## LK Series latching relays

ThPF: LK17A. Electrical latch. electrical release relay with high shock and vibration resistance. For multiple circuit switching of power loads. $1 / 8^{*} 5$ ampere contucts. 4 PDt. 115 VAC $30 / 60 \mathrm{cy}$. coil.

Net $\$ 6.90$

## Potters Prinumfield <br> AP Series RACHET OR IMPULSE relays

TYPE AP17.t. Ratchet. or impulse relay. Will actate on 20 uS impulses. Accurate and positive cam action with no overtravel. 5 ambere. $3 / 16^{\prime \prime}$ silver contacts. 4PDT contacts. 115 VAC $50 / 60$ cy. coil.

\section*{KL Series <br> muttiple contact

## RELAYS

## RELAYS

ret $\$ 9.00$
,
will wis. Multiple contact relays that will withstand high shock and vibration. High dielectric phenolic insulation make these units suitable for RF and AF power switching. 5 mmp silver contacts. 115 VAC $50 / 60 \mathrm{cy}$. coil.

| TYPE | COMPAFTS | NTT |
| :--- | :---: | ---: |
| KLIAA | 3PUT | $\$ \mathbf{4 . 3 0}$ |
| KLI7A | HPITT | $\mathbf{J . 8 0}$ |

COIL BOBBIN KIT
24 assortad moldad phonolic 1000 volt RMS bobbins, 3 eoch of 8 diffarent sizes. Coro diametor from $/ 1 / 2$ " to 740 ".
TYPE 75A047. Not...

## Advance



Antenna Relay - DPDT. 115 VAC coil. Low loss insulation for 1 KH RF power switching. Shyg. Wgt. 1 lb .

No. AT/:C/115VA
Net \$ 7.74

## AntBNAA LATCHING RELAYS

DPDT : ${ }^{\circ}$ pure silver contacts. Operates with 2 push buttons. Shifts antenna immedlately and locks. No current drain hhen push button not depressed. Handles 1 KH RF. Shpg. Higt. 1 lb .

No. AL/2C/15VA 115 VAC Net $\$ 10.17$

## MIDGET RELAY

CoIL. 115 Y.A.C.
Double Pole-Double Throw


With all switching above zround. relays, have an armature hinge of beryilium copper assuring positive cortact in any position and proventino misalignment. tominated Jidenolic insulation. All metallic parts are cadnfum or nickel-plated. $1 / 8^{\prime \prime}$ pure silver contacts are rated at 1. 今a - 115 VAC (non-inductive). Sipgo ligt. It.

No. MG/2C/115A LPDT Rel ay
Net \$ 2.74

## OYERLOAD RELAYS

115 VAC clectrical riset coll. Resets by push button.

| TIPF, | RREARS | NET |
| :--- | :---: | ---: |
| OE $/ 2 \mathrm{~B}$ | $250-500 \mathrm{MA}$ | $\$ \mathbf{1 0 . 3 3}$ |
| OF/2B | $500-1000 \mathrm{MA}$ | $\mathbf{1 0 . 3 3}$ |
| OH/2B | Mechanical Reset |  |
| OJ/2B | $500-500 \mathrm{MA}$ | $\mathbf{7 . 9 4}$ |
|  | $500-1000 \mathrm{MA}$ | $\mathbf{7 . 9 4}$ |

Coaxial Relay - Fur use in switching 52 or 75 ohm coaxial from transmitter to receiver. $U^{\prime \prime}$ pure silver contacts. Rating of 880 watts at 100 MC . Approx. Shpe. hat. 8 oz

No. CB/1C/11:A 115 VAC Coil Net $\$ 9.78$ Nu. CB/1C/6VD 6 VDC coil 9.78 Same as above but with DPDT auziliary contacts.

No. CB/1C2C/115VA 115 VAC Net $\$ 12.13$ No. CB/1C2C/60 $\quad 6 \mathrm{VDC} \quad 12.13$

## MIDGET ANTENNA RELAY

FOR 300 OHM LINE


Double Pole-Double Throw
An offichent. 3 Ho whm transmit/receive re 1av - whli-insulated tor RF applications: Silicone ghes material used for insulation on armature and stationary contact assemblies. Propor line spacing is maintained by solder luzs exterding from armature blaits in front. Rated on reasinably flat lines $u$ to 50 watts RF inumt. fivallable with coils fur jls vac or 6 vic. Shus. Wit. 1/:21b.

No. $A \mathrm{~A}$, , $2 \mathrm{C} / 115 \mathrm{VA} 115 \mathrm{VAC}$ wil. Net $\$ 3.21$ © ANTR GVD 6 ITC cuil 3.21


TIME DELAY

## RELAYS

DPDT adjustable range of delay, 10-60 seconds. ${ }^{\text {" }}$ pure silver contacts rated at 10 amps .115 VAC coil. Shpg. Wgt. 1 1 b .
No. DW/2C/11EVA
Net \$ 9.20

LM Series

## PLATE CIRCUIT RELAYS



LW SFRIES. High grade medium cost plate circuit relays for electronic emptrnls, photo-electric, etc. Silver, $\delta$ ampere contacts. Sensitivity realdustable by tail spring nat. Specify coll wantod.

| TYPE | centacts | HESISTANCR. | $\cdots$ | н |
| :---: | :---: | :---: | :---: | :---: |
| 1.M5 | SPIT | 2500 | B. 3 | \$ 2. $\mathrm{xl}^{1}$ |
| 1 MS | splut | 5000 | 1.7 | 2. 0.3 |
| 1.45 | SPDT | 10,000 | 3.3 | 3. ${ }^{\text {a }}$ |
| L.MI 1 | npit | 2.000 | 9.1 | 4. 20 |
| L.M11 | DPDT | 5000 | 6.3 | 4.33 |
| LM11 | 1PDT | 10.00\% | 4.5 | 4. 70 |

## LS Series PIATE CIRCUIT RELAYS


ts
IS SERIES. Similar to Tybees Lam but sarnsitivity adjustment is made hy bending tail spring hook. Silver $\overline{\mathrm{J}}$ amp cuntacts

| Yob | contact: | RLStstantif | - | C |
| :---: | :---: | :---: | :---: | :---: |
| LS5 | SPIT | 2500 | 0.0 | \$ 2.25 |
| 5 | SPUT | 5000 | 6.3 | 2.35 |
| LS5 | SPIT | 10.000 | 4.5 | 2.53 |

## MR Series <br> MEDIUM DUTY <br> POWER RELAYS

## 15

MR
R SERIES. Wedium duty pown relays for ham keyint circuits. sagnal tevjecs, burglar alarms, sign contruls, fotc. Particularly adantable to multiple pamel mounting. AC types operate on $\&$ VA and DC types on 2 watts. 8 amb silver conlacts. Specify cosl mantod.

110 vole ac 60 CVCIE COIL

| ¢5 | costarts | -n.timant | 1; $\dagger$ |
| :---: | :---: | :---: | :---: |
| MR1A | SPST | Normal Oprell | \$ 2.25 |
| MR5A | SPIT | -..--- | 2.46 |
| MR7A | [PST | Normal Opron | 3. 20 |
| MR11A | DPDT |  | 3.63 |

6 YOLT AC bo cyCIE: COIt

| MR1A | SPST | Sioratil 0 ¢eth | 2. 25 |
| :---: | :---: | :---: | :---: |
| misa | SPDT | -.--** | 2.41 |
| MR114 | IRIT | ------ | 3.63 |
| 6 Vomit me coil. |  |  |  |
| MR111 | SPst | Nurmal Ofon | 2.23 |
| Mr.sn | sprt | - | 2.41 |
| 4 H 110 | injot | -.+--* | 3.65 |

## KR Series

## SMALL-LGHT DUTY



AR SPRIES. Satall, light duty relays. Lasidned for use where size and weibht are imoortant. Withstand high showk and brataon. Suitable for RF atad power AF smitehins. Coin silver 5 ambert contacts. Sisa: $1-12^{\prime} 16 \times 1^{1} \times 11^{\prime \prime}$. Specify coll volt. 110 VOLT AC 60 CICLE COII

| tyrg | CC:-n-T. | P! |
| :---: | :---: | :---: |
| NT34 | STOT | \$2.20 |
| WRila | DPDT | 2. 7.3 |
| WR141 | 3 ¢ ${ }^{\text {at }}$ | 3. 50 |
| 6 VOLT DC COIL |  |  |
| kRSD | spilt | 2. 14 |
| KR117 | [plot | 2.6\% |
| *R14ll | :3起 | 3.44 |

## Federal

## MINIATURE SELENIUM RECTIFIERS



Compact miniature selenium rectifiers used for replacing power transformer and rectifier tubes. Eliminates long warm-up periads in receivers. Dry and campoct, easy to reploce. Approximote rectifier voltoge drop, 5 volis. Maximum RMS input voltage 130 . Moximum inverse peak voltoge 380.

Plate NetEach NetEach

| Numbe | cm | Size | 1.5 | 68 |
| :---: | :---: | :---: | :---: | :---: |
| 1159 | 20 | " Rnd. | \$.91 | \$ . 82 |
| 1002A | 65 | $1^{\prime \prime}$ Sq. | . 88 | . 80 |
| 1003A | 75 | 1 Sq ¢ | 1.09 | . 98 |
| 1004A | 100 | $1^{11 /} \times 1{ }^{1 / 33^{n}}$ | 1.21 | 1.09 |
| 1101A | 100 | $1 \times 3{ }^{1 / 2}$ | 1.12 | 1.01 |
| 1005A | 150 | $11 \% \times 1 \%$ | 1.32 | 1.19 |
| 1006A | 200 |  | 1.85 | 1.66 |
| 1028A | 250 | $1{ }^{1 \%} / \%^{\prime 2} \mathrm{Sq}$. | 1.85 | 1.66 |
| 1090A | 300 | $11 \% / 2^{2} \mathrm{Sq}$. | 1.94 | 1.75 |
| 1023 | 350 | 11.4 Sq. | 2.41 | 2.17 |
| 1130 | 400 | $2^{\text {² }} \mathrm{S}$. | 2.50 | 2.25 |
| 1179 | 500 | $2^{\text {" }} \mathrm{Sq}$. | 2.59 | 2.33 |


$\qquad$ Conant Laborototion
Instrument Rectifiers
For replacement and construction, Complete instructions included. Shrg. Wgt. 6 oz .

| TYPE | intermittent |  | conr. |  | ¢ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | valts | ma | volts | 1.4 |  |  |
| T | 30 | 60 | 10 | 30 | \$ | 1. 50 |
| ${ }^{\prime}$ | 20 | co | 10 | 30 |  | 206 |
| HS | 10 | ${ }^{6}$ | 5 | 30 |  | 1. 50 |
| ¢ | 10 | 60 | 5 | 30 |  | 1. 18 |
| B | 20 | 10 | 10 | 5 |  | 2. 06 |
| BHS | 10 | 10 | 5 | 5 |  | . 50 |
| $\underline{\text { BT }}$ | 20 | 10 | 10 | 5 |  | . 50 |

## EBY <br> SENSITIVE RELAY <br> 

Uounted as an integral part of the relay, is an SPOT switch with sterling silver contacts, Rated to carry 2.5 amps at 115 wils AC. At 115 rolts tic. 15 amps .

| Vo.ER-12-2 | 2.500 Ohms | Net $\$ 3.67$ |  |
| :--- | ---: | ---: | ---: |
| Vo. ER-12-5 | 5.000 Ohms |  | 3.82 |
| *. Er-12-10 | 10.000 Ohms |  | 3.97 |



YODEL DKC.GE. Opens and grounds lead to receiver in transmit pasition. Also hos External SPDT contoets. Pure silver conlacts rated of $750-1000$ watts. 115 VAC 50 cycle coil. Net....................
. $\$ 12.25$


AUTOMATIC ELECTRIC

R-51 antenna changeover relay. dPdt. Kn silver contacts, Metal parts cadmiumplated. Mycalpx base plate. Fungus resistunt. 11 S VAC cuil. Shpe. Het. 21 bs .

Net. \$ 5.17

## GURARDIAN RADIO RELAYS



Contact capacity up to 1 KW at any frequency up to and including 28 MC on AF and RF circuits. 1 II VAC GO cy. coil. SPST. Approx. Shpg. Wgt. 6 oz . Net $\$ 2.82$


K-320 Relay will follow key or bug at highest MPM obtainable. Clean keying. Contact points can handle 5000 watts on II5 VAC 60 cy. or in $A C$ primary circuit of power supply up to 1 KW . Approx, Shpg. Wgt. 4 oz, Net \$ 3. 20
BREAK IN
relay


DPDT. II5 VAC coil. Contacts handle 1500 watts. Mtg. Screws furnished. Approx. Shpg Hgt. 11 oz .
Type B-100
Net \$ 7.64

## time delay relay



Compact, sturdy, economical time del ay re1 ay adjustable for any period between 10 : 60 seconds. Contact capacity 1250 watts on 115 VAC. After contacts close, themostat blade is cut out of circuit. All terminals insulated from ground. Mounted in enclosed metal box. Size: $5-1 / 8 \mathrm{~L} \times 3-1 / 16 \mathrm{~K} \times 2-7 / 16^{\prime \prime} \mathrm{H}$, Shog. Wit. 8 oz.
Type T-110
Net Each \$ 9.20

## adjustable with

electrical
RESET
X-3nn-ER -. Positive nrecise protection against current surges and overloads. Remote panel instal lation of the control potentiometer. Operates on 250 to 750 milliamperes, auxiliary contacts for pilot light.indication. Resct relay can be operated from any point. Rated at $30 n 0 \mathrm{~V}$. Approx. Shyg Ngt. 13 oz. Net $\$ 6.53$
x-100 - Rdjustable overioad Relay gives positive protection against current surges and continuous overloads. Replaces expen: sive, time-wasting fuses. Provides flexible control of curmit flow. Rated at 1500 watts on $115 \mathrm{VAC}, 60 \mathrm{cy}$. of any inductive power supply deliverigg up to 1 KW . SPST. Approx. Shpg. Mgt. 12 oz. Net $\$ 10.14$


CONTACT SWITCH

ASSORTMENT

Contact switch parts assortment. Parts and instructions for marking switching combinations up to 4PDT. Less frame.

No. 200-3 Standard No. $200-\mathrm{M} 3$ Midget

Net $\$ 1.32$


## SIGMA

HIGH
SENSITIVITY
RELAY
High resistonce reloy for use in model air. plone work or wherever extreme sensitivity is required. 8000 ohm coil operates on .5 to 2 MA , contocts carry up to 2 amps . Light in weight ( $21 / 40 \mathrm{oz}$ ), smoll in size ( $18 / 613 / \mathrm{A}^{x}$ $11 / 4)$.Shpg. Wgt. 10 oz.
MODEL 4F. 8000 S. Net.
. $\$ 5.29$



STANDARD 3 TERMINALS
No. Res. Niet Nio. Res. Nel $2180 \quad 135 \$ 1.26 \quad 2187300 \$ 1.21$ $\begin{array}{llllll}2181 & 160 & 1.26 & 2188 & 330 & 1.2 \ell\end{array}$ $2182180 \quad 1.26 \quad 2189350 \quad 1.2 \ell$ $\begin{array}{llll}2183200 & 1.26 & 2190390 & 1.2 \epsilon \\ 2184220 & 1.26 & 2450450 & 1.81\end{array}$ $\begin{array}{lllll}2185 & 250 & 1.26 & 2197560 & 1.81\end{array}$ $\begin{array}{llll}2186290 & 1.26 & 2157960 & 1.81\end{array}$

TAPPED 4 TERMINALS

| Number | Res. | Top | Nei |
| :--- | ---: | ---: | ---: |
| 2176 | 160 | 24 | $\$ 1.46$ |
| 2195 | 165 | 30 | 1.46 |
| 2177 | 180 | 25 | 1.46 |
| 2178 | 200 | 25 | 1.46 |
| 2179 | 200 | 40 | 1.46 |
| 2174 | 280 | 40 | 1.46 |
| 2164 | 360 | 80 | 1.81 |
| 2166 | 430 | 80 | 1.81 |
| 2156 | 510 | 80 | 1.81 |
| 2196 | 560 | 80 | 1.81 |
| 2158 | 960 | 80 | 1.81 |
| 2165 | 1950 | 360 | 2.91 |

## REPLACEMENT LINE CORD

 FOR MOTOROLA SETS$\begin{array}{lcr}\text { Number } & \text { Res. } & \text { Nel } \\ 2198 & 1100 \& 280 & \$ 2.19\end{array}$ UNIVERSAL AC.DC RESISTANCE LINE CORDS Number Res. Net 2175 220-300 \$ 1.81

STEP.DOWN LINE CORDS No. Drop Current Nei $2191220 \mathrm{~V} .110 \mathrm{~V} .3 \mathrm{amps} \$ 2.19$
2192220 V .110 V .15 omps

## 1RC INSULATED <br> RESISTORS

RTMA Preferred Values

| OHES | RTMA Preferred Values |  |  |
| :---: | :---: | :---: | :---: |
|  | OHTS | OH： 4 | MEGS |
| 0.27 | 33 | 3． 300 | ก． 27 |
| 0.33 | 39 | 4． 700 | ก． 33 |
| ก． 30 | 47 | 5．600 | 0.39 |
| 0.47 | 56 | 6． 800 n | 0.47 0.56 |
| 0.56 | 68 | 8，20n | 0．68 |
| 0.68 | 82 | 10.000 13 | ก． 82 |
| 0． 82 | 100 | 12．000 | ก．82 |
| 1.0 | 120 | 15．000 | 1.0 |
| 1.2 | 150 | 18．000 | 1.5 |
| 1.5 | 180 | 22．000 | 1.8 |
| 1． 8 | 220 | 27.000 | 1.8 |
| 2.2 | 270 | 33． 000 | 2． |
| 2.7 | 330 | 30.000 | 2． 1 |
| 3.3 | 390 | 47，000 | 3.3 |
| 3.9 | 470 | 56， 000 | 3.3 |
| 4．7 | 560 | 68，000 | 4． 7 |
| 5.6 | 680 | 82.000 | 5.9 |
| 6．B | 820 |  | 6.8 |
| B． 2 | 1，000 | MES | 8．2 |
| 10 | 1． 200 |  | 10．0 |
| 12 | 1.500 | 0.1 | 12.0 |
| 15 | 1． 800 | ก． 12 | 15.0 |
| 18 | 2． 200 | 0.15 | 18.0 |
| 22 | 2.700 | 0.18 | 22.0 |
| 27 | 3.300 | ก． 22 |  |

## COEPOSITION RESISTORS

RC BT type resistots sct new perform ance standords for insulated lixed com position units．They are particularly sulted to the rigorous requirements of television．The filament type resist－ ance element is combined with exclusive construction features to provide a re－ sistor of extremely low operating tegn－ perature and excellent power dissipa－ tion in a tightly compact，fully insu－ lated unit．Mossture－sealed in molded bakelite．No possibility of grounding．保 11 ass－R－11 salt water immersion west insul ation breakdonn voltage test test，insulation floshover vibration． high altitude flasho

WIRE WOUND BESISTORS Type $B$ are exceptionally stabie，Inex pensive wire wound resistors，Especial－ ly developed for low range requirements Size and appearance is similar to the composition types．Small and completely insulated．Molded bakelite housing seals out moisture．

10\％TOLEBANEE COMPOSITION TIPE TYPE BTS．（JAN－RC10－RC20）．1／2 watt from composition．Available Tolerance $10 \%$ ． Size： $13 / 32 \times 1 / 8$ ．Net Each $\$ .10$ Lots of 100 ．Onc value，fint thach 06 TPE BTA．（JAN－RC30）． 1 watt compo：i－ tion．Avallable in values from 100 ohms to 22 megohms．Tolerance $10{ }^{*}$ r．Slze： 33 ＇32xl 4．Net Each \＆． 15 Lots of 10 ．One value，Net Each ．ON TIPE BTB．（JAN－RC40）， 2 watt como ohms ton．Avallable in values from 3 sime to 22 megonms．Tolerance $10 \%$ Net Each $\$ .20$

\％TOLERANCE COMPOSITION TYPE． TYPE BTA．（JAK－RC30）． 1 watt coppost－ ton．Available in values irum 100 nhmis to 22 mesohms．Tolerance
23＇32x1＇4．Not Fach \＄．30 Lats of ino，One value，Net Each ． 1

BW EIRE MOUND RESISTOKS
T：PE BW－1＇2．（JAN－R－18t－RU3），1－H2Lt comnesition．Avallable in salues fom 0.27 ohms to 820 ohms．Tulnrance $\$ 19$ in Lots of 100 ，One valuc．itt Each ，06

TIPE BW－1．（JAN－R－184－RU4）， 1 vatt con－ fosition．Avallable in values from 0.47 ohans to $\$ 700$ ohms．Tolerance 10 m, Sizc． $1-1 / 4 \times 1 / 4.100$ ，Net Each $\$ .25$ TVPE BW゙2，（JAV－R－184－RU6）． 2 watt com－ TIPEA Avallable in values from 1.0 position．Avallable tolerance $10 \%$ ．S1ze：

 $-3^{\prime} 4 \times 21 / 64,$| Net Each |
| :--- |
| Lots of 100 ．One value，Net Each | $\mathbf{1 2}$

\section*{5\％TOLERANCE IBE TOUND TYPE} TIPE RUM－1．（IAN－K－184－R（＇4）， 1 watt com－ position．Avallable in values irom 0 ． 17 ohms to 4700 ohms．Tolerance S\％．Sizc． | $1-1 / 4 \times 1$＇ 4, |
| :--- |
| Lots of 100 ，One value，Net Each $: \mathbf{3 0}$ |
| 18 |

HOTE： 100 LOT PEICE APPLIES TO PURCHAEE OP ONE VALIEE ONLY，


## IRC <br> RESIST－O－CABINETS



Aain available in laree stecl cabinets new 1RC Resist－0－Cabincts provide the per－ ay to bock resistors．4－draxci cabl hets have 28 rampe 1 dentifled compartments
 Blue，to shop．Drawers have non－spill feature cabincts are desagned for stackallâ．Mcasur－ ing $53^{\prime} 8^{\prime \prime} \times 5 \quad 15 / 16^{\prime \prime} \times 10$ 7／8＂．Resist－O－Cabl－ ing are supplied in three fastmoving assortments $-1 / 2$ watt． 1 wat＇t $\&$ Combination． Combination assortment includes，new 1RC close－tolerance Precistors．No extra charie s made ior cabinct when purchased with any 1 the 3 Resist－0－Cabinets．

RESIST－0－CABINET ASSORTMENT A
Consists of 100 BW $1: \&$ BTS watt resistors． －17 ohm， $3-109$ olin， $2-220$ olim， $2-270 \mathrm{ohm}$ ， － -470 chm $3-3300$ olim． $5-470 n$ nhm， 5 ． n noo clam，3－22．non thm．3－27，0no olim．3－ 3．non ohm，6－47，तn ohm， $3-56,000$ ohm， $2=$ 680n ohm，6－0． 1 mes．5－0． 32 mck，6－0． 27 ， $3=0,33 \mathrm{mc}, 6-0.47 \mathrm{mc}$ ． $6=1$ ．त mes． $5-$ 2．2 mez，2－3．3 meg，3－4． 7 meg．2－10，0 meg． Smpe，Vigt． 5 lios．
assorthent 4
Net $\$ 11.76$
HESIST－0－CABINET ASSOKTMEST
Consists of 83 Bh－1 \＆BTA 1 watt resistors， $2-47$ ohm，3－100 ohm，2－150 ohm，2－22n ohm． 2－0 ohm，2－470 olim，5－10no ohm，2－1500 ohm －2รก0 ohm，2－2700 ohm，2－330n ohm，3－27nn
 ahm．5－47．กnn ohm．2－68，non ohm． $5-0.1$ mes． 2－0．15 mes， $2-0.22 \mathrm{meg}, 5-0.27 \mathrm{meg} .5-0.47$
 meg，5－1．0 wo
het， 5 lbs．

Net $\$ 14.64$
COMBINATION RESIST－0－CAEIVET ASSORTMENT＊ 6
Consints of 91 insulated resistors $\&$ close Range $\%$ watt 1 watt 2 watt CH

| 47 nlins | 1 | 1 | 1 | － |
| :---: | :---: | :---: | :---: | :---: |
| 100 whens | 1 | 1 | 1 |  |
| 150 ohms | 1 | 1 |  |  |
| 230 ohms | 1 | 1 |  |  |
| 270 chms | 1 | 1 |  |  |
| 470 ohens | 1 | 1 | t |  |
| 1．000 ohms | 3 | 2 |  |  |
| 1．500 ohms | 1 | 1 |  |  |
| 2． 200 ohms | 1 | 1 |  |  |
| 2.700 olins | 1 | 1 |  |  |
| 3，300 nlums | 1 | 1 | 1 |  |
| ＋．70n ohms | 2 | 1 | 1 | 1 |
| in．non ohms | 3 | 2 | 1 | 1 |
| 15，on＇olums | 1 | 1 |  |  |
| 23．nm ohms | 1 | 1 | 1 |  |
| 27.0 nn whms | 1 | 3 |  |  |
| 33.000 ohals | 1 | 1 |  |  |
| 33，onn dums | $t$ | 2 |  |  |
| 47.300 oluns | 3 | 3 |  |  |
| eis．nnm ohms | 1 | 1 |  |  |
| 0.1 mcg | 3 | 2 |  | 1 |
| ก． 15 meg | 1 | 1 |  |  |
| 0． 23 mies | 3 | 1 |  |  |
| 0.27 mr 吕 | 3 | 1 |  |  |
| 0.47 meg | 3 | 2 |  |  |
| 1.0 mrg | 3 | 2 |  | 1 |
| 2． 2 meg | 2 | 1 |  |  |
| 4.7 meg | 1 | 1 |  | 1 |
| S．0 mput |  | W， t ， |  |  |

## IRC PRECISTORS

## DEPOSITED CARBON RESISTOR

GUARANTEED ACCURACY $\pm 1 \%$


Carbon precision resistors．Guaranteed accuracy $1 \%$ at $25^{\circ} \mathrm{C}$ ．Momentary peat of 6， 000 volts without breaking down．Individu－ ally factary packed in capped plastic tubs． Shps．Wet． 3 oz ．

TO MAINTAIN ORIGIIAL Value of peecisio：

UMMIt LOAD ON PREESTOR TO witwin 15／16＂x9／32＂ $21 / 16 \times 9,32$

| 15 | $1 / 4 \mathrm{Watt}$ | $1 / 2 \mathrm{Hat}=$ |
| :--- | :--- | ---: |
| $\%$ | $1 / 2 \mathrm{Watt}$ | 1 Hat： |

Type DCF－over－all body size，including
sops， $15 / 10^{\prime \prime}$ lang $\times$＂／32＂diameter


Type DCH—over－all body size，ineluding caps， 21／6＂long $x$ 9／3＂diameter

| \％ | HEGOHMS | Wet Each |
| :---: | :---: | :---: |
| 3 | 0.5 | \＄． 71 |
| 3 | 1.0 | ． 71 |
| צ | 2.0 | ． 71 |
| 응 | 3.0 | ． 71 |
| － | 5． 0 | ． 71 |
| 8 | 10.0 | ． 71 |
| \％ | 15.0 | ． 76 |
| is | 20.0 | ． 76 |

IGNITION SUPPRESSORS


1RC PRECISION


Non－inductive up to 50,000 eycles． $1 \%$ escur acy listed below．
For $\%$ accuracy odd $5 \%$
For＂is\％accuracy add $255^{\circ}$ ．
WW：4J


Brand naw IRC development in precision res：stors Meusures onls $13 / 32^{17}$ long by 9,3 ＝＂D． 30 stock values， 10 ohms to． 15 meg．Small siap makes it particularly valuablp in malitary research and devel－ opmert．Kaplois single winding but in＝ duc ance is hedd to minimum because of srall sizie of unit．Hattage rating 0.15. Acciracs 1r．Fumshhed with wire leacis．

| posistarice |  | Resistance | ， |
| :---: | :---: | :---: | :---: |
| 10 0ins | \＄ 1.20 | 5，000 | ＋ 1.05 |
| 25 | ． 96 | 7.500 | 1.05 |
| 50 | ． 96 | 10.000 | 1.05 |
| 200 | ． 96 | 12，500 | 1.05 |
| $\stackrel{00}{0}$ | ． 96 | 15，000 | 1.15 |
| 250 | ． 96 | 20.000 | 1． 15 |
| 500 | ． 96 | 25.000. | 1． 15 |
| 507 | ． 96 | 30.000 | 1． 15 |
| 1． 000 | ． 96 | 40.000 | 1.27 |
| 1，500 | ． 96 | 50.000 | 1.27 |
| 2，00） | 1.05 | $\bigcirc 0.000$ | 1．39 |
| 2，500 | 1.05 | 75，00n | 1.49 |
| 3． 000 | 1.05 | 0.1 Mextohm | 1． 49 |
| 3．503 | 1.05 |  |  |
| 4.000 | 1.05 |  |  |

## Little Devil

## RESISTOR ASSORTMENTS <br> 

Three new Ohmite resistor assortment for every service and lab need．The cat inets are made of sturdy plastic and ca be stacked easily．Five drawers，eigh compartments to each drawer．Cabinet $9^{n}$ long． $4-3 / 4^{\prime \prime}$ hign， $5-1 / 4^{\prime \prime}$ deep．N charge is made for cabinet，you pay onl the regular price for the resistors． 1 $1 / 2$ wat t resistors in CAB－10， 1251 wa resistors in CAB－2 and 1252 watt resis tors in $\mathrm{CAB}-3$ ．

| Number | Type |  | Ne |
| :--- | ---: | ---: | ---: |
| CAB－10 | $1 / 2$ Hatt Assortment | $\mathbf{\$ 1 4 . 7}$ |  |
| CAB－2 | 1 | Watt Assortment | $\mathbf{1 8 . 5}$ |
| CAB－3 | 2 Watt Assortment | $\mathbf{2 4 . t}$ |  |

## QUANTITIES AND

 RESISTANCE VALUES| quaktity |  | OHMS | quaktity |  | OHMS |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $N \text { ? }$ 署䍐 |  | $\begin{aligned} & \text { 읃 } \\ & \text { 彩 } \end{aligned}$ |  |  |
| 1 | 1 | 10 | 5 | 3 | 1000 |
| 1 | 1 | 15 | 1 | 1 | 1500 |
| 1 | 1 | 21 | 1 | 1 | 2200 |
| 1 | 1 | 47 | 3 | 3 | 2700 |
| 5 | 1 | 100 | 10 | 5 | 4700 |
| 1 | 1 | 150 | 1 | 1 | 6800 |
| 3 | 1 | 210 | 10 | 10 | 10.000 |
| 1 | 1 | 330 | 3 | 3 | 15.000 |
| 3 | 1 | 470 | 5 | 5 | $22.000^{-}$ |
| 1 | 1 | 680 | 10 | 10 | 27,000 |

NEW OHM＇S LAW CALCULATC $\pm x_{\pi}^{2}+x^{2}$

The new re－designed Ohmite Ohm＇$s$ Law Calculator now has scales for solving parallel resistence problems and a standard slide rule Porstpaid in USA

Cardboard Type．Net \＄． 25

## Res

OMMITE BROWN DEVIL

MIRE EOUND



| nhm＇s | Max． ATps． | Ohms | $\begin{aligned} & \text { لax. } \\ & \text { whips. } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 11.4 | 5． 1081 | 75 | ． 365 |
| 1. | 3． 160 | 100 | ． 316 |
| 1.2 | 2． 8 20 | 125 | ． 283 |
| 1.3 | 2． 714 | 150 | ． 258 |
| 1.5 | 2.580 | 200 | ． 223 |
| 2. | 2.235 | 225 | ． 217 |
| 3. | 1．825 | 250 | ． 300 |
| 4. | 1． 580 | 300 | ． 182 |
| 5. | 1． 114 | 350 | ． 16 |
| 7.5 | 1． 155 | 4 ¢ | ． 158 |
| 10 | 1． 000 | 4.80 | ， 149 |
| 12 | ． 910 | $50 \%$ | ． 141 |
| 15 | ． 816 | 600 | ． 129 |
| 211 | ． 707 | 700 | ． 11.4 |
| 25 | ． 632 | 750 | ． 115 |
| 30 | ． 575 | 800 | ． 111 |
| 3.5 | ． 535 | 700 | .105 |
| 40 | ． 500 | 1.000 | ． 10 n |
| 50 | ． 447 |  |  |

Any above values，Net Ea，\＄． 44

| 1.100 | .095 | 2,500 | .063 |
| :--- | :--- | :--- | :--- |
| 1.200 | .091 | 3,000 | .050 |
| 1,250 | .089 | 3,500 | .051 |
| 1,500 | .079 | 4,000 | .047 |
| 1,750 | .054 | 4,500 | .045 |
| 2,000 | .069 | 5,000 | .043 |
| 2,250 | .064 |  |  |

Any ubove values，Net Fa，\＄． 47

| 6． 010 | ． 038 | 8，000 | ． 031 |
| :---: | :---: | :---: | :---: |
| 7．000 | ．034 | 8.500 | ． 029 |
| 7，500 | ， 332 | 10.000 | ． 026 |
| Any above values，Net 「u．，34 |  |  |  |
| 11．000 | ． 024 | 15，000 | ． 019 |
| 12，000 | ． 023 | 16，000 | ． 018 |
| 12．500 | ． 022 | 17，500 | ． 017 |
| 13．500 | ． 021 | 18， 000 | ． 017 |
| 14，300 | ． 020 | 20，000 | ． 016 |
| Any above values，Net Ea，\＄．61 |  |  |  |
| 22,500 | ． 015 | 25，00n | ． 014 |
| Any above values，Net Ea，\％． 64 |  |  |  |
| $\begin{aligned} & 30,000 \\ & 35,0 \mathrm{~m} \\ & 40,000 \end{aligned}$ | ． 008 | 45，000 | ． 006 |
|  | ． 007 | 50.000 | ． 006 |
|  | ． 007 |  |  |
|  |  |  |  |
| 20 Watt iskow i neilit． |  |  |  |
|  |  |  |  |
| Ohmis | Mar Aups． | Ohms | Hax． Anlus． |
| 20， 000 | ． 024 | 65， 0 0 0 | ．007 |
|  |  | 70，000 | ． 007 |
| Net fir． | \＄． 71 | 75，000 | ． 007 |
|  |  | 80，000 | ． 007 |
| 25，000 | ． 020 |  |  |
| $3 \mathrm{~S}, \mathrm{MO}$ | ． 017 | Net bix．\％ | 1．08 |
| 35，000 | ． 015 |  |  |
| 40,000 | ． 01.4 | 85，000 | ． 006 |
|  |  | 90.000 | ． 006 |
| Net Bra． | \＄．80 | 95，000 | ． 006 |
|  |  | 100， 000 | ． 006 |
| 45，000 | .013 |  |  |
| 50,000 | .012 | Net Fit，\＄ | 1． 24 |
| 55,000 | ． 008 |  |  |
| 60， 000 | ． 008 |  |  |
| Net Bra． | \＄．33 |  |  |




|  | $\stackrel{C}{C}$ |
| :---: | :---: |
| $\omega$ w w | 5 |

． 3 W．ITTS－TYPE 3hT
Hire mund．Ceramic Coated Sirce 1－7／32 $\times 15 / 32$
$\qquad$总

| 管 |  |
| :---: | :---: |
| 产 |  |


| 10 HatTS－TYPE 10 N 1 T Non－Inductive，Mire hound Cormise Guted insulatam Size 1－27／32 X 15 32 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms Stax，Y／A Sut foth |  |  |  |  |  |
| 5 | 14i4 | \＄． 59 |  |  |  |
| 10 | 10017 | ． 59 |  |  |  |
| 15 | 8311 | ， 39 |  |  |  |
| ：1010 | 307 | ， |  |  |  |
| 25 | 436 | ． 39 |  |  |  |
| 30 | 575 | ． 39 |  |  |  |
| 40 | 500 | ． 39 | INSULATED |  |  |
| 50 7.5 | 417 345 | ． 79 | COMPOSITLON RESISTORS |  |  |
| 100 | 38.5 | .38 .59 |  |  |  |
| 150 | 250 | ． 59 | WM |  |  |
| 200 | 223 | ． 39 |  |  |  |
| 250 | 200 | ． 59 | $==-5$ |  |  |
| 300 | 182 | ． 59 |  |  |  |
| 400 | 158 | ． 59 |  |  | MECOLits |
| 500 | 141 | ． 59 | OPNS | OHMS |  |
| 600 | 129 | ． 39 |  |  |  |
| 700 | 119 | ． 59 | 2.7 | 560 | 0.1 |
| 750 | 115 | ． 59 | 3.3 ＊ | 6：80 | 0，12 |
| 800 900 | 112 | ． 59 | 3.9 － | $8: 0$ | 0.15 |
| ＋900 | 105 | .59 .59 | 4.7 ． | 1，000 | 0.15 |
| 1，250 | 89 | ． 68 | 5.6 ， | 1． 300 | 0． 22 |
| 1．500 | 81 | ． 68 | 6，8．8． | 1.500 1.800 | 0.27 |
| 1． 750 | 55 | ． 68 | ${ }_{10}^{8.2}$ | 1．800 | 0，33 |
| 2． 000 | 70 | ． 68 | 10 | －， 300 | 0.39 |
| 2， 500 | $(3)$ | ． 73 | 15 | 2，700 | 0.77 |
| 3，000 | 57 | ． 73 | 18 | 3,300 3.900 | 0.56 |
| 4.000 | 50 | ． 73 | 22 | 3.900 4,700 | 0.68 0.82 |
| 5.000 | 44 | ． 76 | 27 | 5，600 | 0.82 1.00 |
| 6． 000 | 41 | ． 76 | 33 | 6， 800 | 1，2 |
| 7,500 8,000 | 36 | ． 85 | 39 | 5． 200 | 1，5 |
| 8.000 9.000 | 3.3 | ． 85 | 47 | 10，000 | 1． 8 |
| 9.0000 10.000 | 33 | ． 85 | 56 | 12.000 | 2．＊ |
| 10.000 | 32 | 1．12 | 68 | 15．030 | 2.7 |
|  |  |  | 82 | 13.000 | 3.3 |
|  |  |  | 100 | 22，000 | 3.15 |
|  |  |  | 120 | $\cdots, 000$ | 4.7 |
|  |  |  | 150 | 33.000 | 5.9 |
| Ohnts | Max．MA | Net bucrin | 180 | 39，000 | 6.8 |
|  |  | \＄． 44 | 230 | ＋7．000 | 9．2 |
|  |  |  | 270 | 56． 000 | 10.0 |
| 15. | $\begin{array}{r} 1000 \\ 830 \end{array}$ | ． 44 | 330 | 68， 000 | 12.0 |
| 20 | 707 | ．+4 | 390 470 | 82,000 | 15．0 |
| 25 | 630 | ． 4.4 | 470 |  | 18.0 |
| 30 | 575 | ． 44 |  |  | 22.0 |
| 40 | 500 | ． 44 | ＊Available in one watt only |  |  |
| 50 | 447 |  |  |  |  |  |  |

Individually marked ${ }^{\prime \prime}, 1$ and 3 watt composition resistors wilich may be used at their full watt
agu ratings at $70^{\circ}$ centagrade， （ $158^{\circ} \mathrm{F}$, ）ambieat temerature． Meut requirements of $\mathrm{JAN}-\mathrm{R}-11$ ． All units marked with resistanc valurs，wattage rating and cul－ or coding．
$1^{\prime 2}$ watt size， $3 / 8^{14}$ L．． $9 / 64^{\prime \prime}$ IJ． Masimum voltage 350．taleranct $10 \%$ Valutos $t$ rom 10 uhns to 20


1 watt siro＇ $9 / 16^{\prime \prime} \mathrm{L} . . \mathrm{T}^{\prime 3} 3 \mathrm{~S}^{11} \mathrm{H}$
 lifeghms．Nr．t wath \＄．IV Lots of 100，Not＂ach

3 watt size． $11 / 16^{\prime \prime} \mathrm{L} \cdot \mathrm{s}^{\prime} 10^{\prime \prime} \mathrm{D}$ ． Maximua voltase 1000 ．tuleranca $10 \%$ ．Vulues frum 10 uhtms to 22 meguhms．

Net Fach $\$ .20$ Lots of 100 Net Each $\cdot 12$

NOTE： 100 LOT PRICF APPLIES TO
PURCIASE OF ONF：VAL．UF ONLY．

## OHMITE RHEOSTATS - TUBE SHIELDS Rhe

VITREOUS ENAMELED
Consistuction of ceramic and metal. All models have insulated shafts Current carrying capacitics shown are for use in free air.

MODEL " $\mathrm{H}^{3 \prime}$ - 25 WATT
Diameter, $19 / 16^{\prime \prime}$. Depth belaind panel,
$13 / 3^{\prime \prime}$. Shaft, $1 / 4^{\prime \prime}$. Knub supplipd. Shpe. Het. 11 l .

| Number | Ohms | Arips | Net |
| :--- | ---: | ---: | ---: |
|  |  |  |  |
| 0140 | 1 | 5.000 | $\mathbf{4 . 1 4}$ |
| 0141 | 2 | 3.540 | $\mathbf{3 . 6 5}$ |
| 0142 | 3 | 2.880 | $\mathbf{3 . 6 5}$ |
| 0143 | 6 | 2.040 | $\mathbf{3 . 6 5}$ |
| 0144 | 8 | 1.770 | $\mathbf{3 . 6 5}$ |
| 0145 | 10 | 1.580 | $\mathbf{3 . 6 5}$ |
| 0146 | 15 | 1.290 | $\mathbf{3 . 6 5}$ |
| 0147 | 25 | 1.006 | $\mathbf{3 . 6 5}$ |
| 0148 | 35 | .845 | $\mathbf{3 . 6 5}$ |
| 0149 | 50 | .707 | $\mathbf{3 . 6 5}$ |
| 0150 | 75 | .575 | $\mathbf{3 . 6 5}$ |
| 0151 | 100 | .500 | $\mathbf{3 . 6 5}$ |
| 0152 | 125 | .445 | $\mathbf{3 . 6 5}$ |
| 0153 | 175 | .375 | 3.65 |
| 0154 | 250 | .316 | $\mathbf{3 . 6 5}$ |
| 0155 | 350 | .267 | $\mathbf{3 . 6 5}$ |
| 0156 | 500 | .222 | $\mathbf{3 . 6 5}$ |
| 0157 | 750 | .182 | $\mathbf{3 . 6 5}$ |
| 0158 | 1,000 | .155 | $\mathbf{4 . 1 4}$ |
| 0159 | 1,500 | .129 | $\mathbf{4 . 1 4}$ |
| 0160 | 2.500 | .100 | $\mathbf{4 . 1 4}$ |
| 0161 | 3.500 | .084 | $\mathbf{4 . 3 4}$ |
| 0162 | 5,000 | .070 | $\mathbf{4 . 3 4}$ |

MODEL "J" - 50 WAT ${ }^{2}$
Diameter $25 / 16^{\prime \prime}$. Depth behind panel $13 / 8^{\prime \prime}$ Shat $1 / 4^{\prime \prime}$. Knob supplied. Shpg. het. 1 lb.

| Number | Olums | Amps | Net |
| :---: | :---: | :---: | :---: |
| 0308 | 0.5 | 10.000 | \$ 4.60 |
| 0309 | 1 | 7.070 | 4.60 |
| 0310 | 2 | 5.000 | 4.60 |
| 0311 | 4 | 3.530 | 4.14 |
| 0312 | 6 | 2. 880. | 4. 14 |
| 0313 | 8 | 2. 500 | 4. 14 |
| 0314 | 12 | 2.040 | 4.14 |
| 0315 | 16 | 1.760 | 4. 14 |
| 0316 | 22 | 1.500 | 4. 14 |
| 0317 | 35 | 1.190 | 4. 14 |
| 0318 | 50 | 1.000 | 4. 14 |
| 0319 | 80 | . 790 | 4. 14 |
| 0320 | 125 | .. 630 | 4.14 |
| 0321 | 150 | . 575 | 4. 14 |
| 0322 | 225 | . 470 | 4.14 |
| 0323 | 300 | . 408 | 4. 14 |
| 0324 | 500 | . 316 | 4.14 |
| 0325 | 800 | . 250 | 4.34 |
| 0326 | 1,000 | . 224 | 4.34 |
| 0327 | 1.600 | . 176 | 4.34 |
| 0328 | 2,500 | . 141 | 4.34 |
| 0329 | 3,500 | . 119 | 4.60 |
| 0330 | 5,000 | . 100 | 4. 60 |
| 0331 | 8.000 | . 079 | 4. 60 |
| 0332 | 10.000 | . 070 | 4.60 |

## OHMITE

## RHEOSTATS

MODEL "N" - 300 MATT
Diameter $6^{\prime \prime}$. Depth behind panel $23 / 8^{\prime \prime}$. Shaft $3 / 8^{\prime \prime}$. Knob supplied. Shpg. Hgt. I

| number | Ohms | Amps | ! |
| :---: | :---: | :---: | :---: |
| 0650 | 1 | 17.320 | \$ 12 |
| 0 C 51 | 2 | 12. 240 | 12 |
| 0652 | 3 | 10.000 | 12 |
| 0653 | 4 | 8. 060 | 12 |
| 0 C 54 | 5 | 7. 750 | 12 |
| 0655 | 7.5 | 6. 320) | 12 |
| 0650 | 10 | 5.480 | 12 |
| 0657 | 15 | 4. 470 | 12 |
| 0658 | 25 | 3. 460 | 12 |
| 0659 | 50 | 2.450 | 12 |
| Occo | 75 | 2.000 | 12 |
| 0661 | 100 | 1. 730 | 12 |
| 0662 | 150 | 1.410 | 12 |
| 06 fl | 200 | 1. 220 | 12 |
| 0664 | 300 | 1. 000 | 12 |
| 0665 | 400 | . 866 | 12 |
| 0666 | 700 | . 655 | 12 |
| 0667 | 900 | . 578 | 12 |
| 0068 | 1.200 | . 500 | 12 |
| 0669 | 1,500 | . 447 | 12 |
| 0670 | 1,750 | . 414 | 12 |
| 0671 | 2,500 | . 346 | 12 |

MODEL "R" - 500 watt
Diameter $8^{\prime \prime}$. Depth behind panel $21 / 8^{\prime \prime}$
Siaft $3 / 8^{\prime \prime}$. Knob supplied. Sipg. hot.
hiart 3/8'. Knob supplied. Shpg. Mgt. 1

| Number | Ohtts | Amps |  |
| :---: | :---: | :---: | :---: |
| 0849 | 1.0 | 22.300 | $\mathbf{\$ 1 7}$ |
| 0850 | 1.5 | 18.200 | $\mathbf{1 7}$ |
| 0851 | 2 | 15.800 | $\mathbf{1 7}$ |
| 0852 | 2.5 | 14.100 | $\mathbf{1 7}$ |
| 0853 | 3 | 12.000 | $\mathbf{1 7}$ |
| 0854 | 4 | 11.200 | $\mathbf{1 7}$ |
| 0855 | 5 | 10.000 | $\mathbf{1 7}$ |
| 0856 | 8 | 7.900 | $\mathbf{1 7}$ |
| 0857 | 12.5 | 6.300 | $\mathbf{1 7}$ |
| 0858 | 10 | 5.600 | 17 |
| 0859 | 25 | 4.470 | $\mathbf{1 7}$ |
| 0860 | 40 | 3.540 | $\mathbf{1 7}$ |
| 0872 | 50 | 3.160 | $\mathbf{1 7}$ |
| 0861 | 80 | 2.520 | $\mathbf{1 7}$ |
| 0862 | 125 | 2.000 | $\mathbf{1 7}$ |
| 0863 | 175 | 1.690 | $\mathbf{1 7}$ |
| 0864 | 250 | 1.410 | $\mathbf{1 7}$ |
| 0865 | 325 | $\mathbf{1 . 2 4 0}$ | $\mathbf{1 7}$ |
| 0866 | 500 | $\mathbf{1 . 0 0 0}$ | $\mathbf{1 7}$ |
| 0867 | 750 | .817 | $\mathbf{1 7}$ |
| 0868 | 1,000 | .707 | $\mathbf{1 7}$ |
| 0869 | 1,500 | .577 | $\mathbf{1 7}$ |
| 0870 | 2,000 | .500 | $\mathbf{1 7}$ |
| 0871 | $\mathbf{2} 500$ | .447 | $\mathbf{1 7}$ |

RHEOSTAT TANDEM COUPLING $K$ Consists of steel "U" frame, mica wasl coupling and Allen wrench. Used to coup two Ohmite rheostats together.
No. 6532 For models "H", "J" Net $\$ \frac{1}{2}$
NO. 6533 For models "G". "K". "L"

Dianecer $4^{\prime \prime}$. Depth behind panel $2^{\prime \prime \prime}$. Shaft $1 / 4$ ". Knob supplied. Shpg. "gt. 1 lb .
Numbe

| 0524 | 0.5 | 17.300 | $\mathbf{8 . 7 2}$ |
| :--- | :---: | ---: | ---: |
| $n 525$ | 1 | 12.301 | $\mathbf{8 . 7 2}$ |
| 0526 | 2 | 8.650 | $\mathbf{8 . 7 2}$ |
| 0527 | 3 | 7.070 | $\mathbf{8 . 7 2}$ |
| 0528 | 5 | 5.480 | $\mathbf{8 . 7 2}$ |
| 0529 | 7.5 | 4.470 | $\mathbf{8 . 7 2}$ |
| 0530 | 10 | 3.880 | $\mathbf{8 . 2 5}$ |
| 0531 | 15 | 3.163 | $\mathbf{8 . 2 5}$ |
| 0532 | 25 | 2.450 | $\mathbf{8 . 2 5}$ |
| 0533 | 35 | 2.070 | $\mathbf{8 . 2 5}$ |
| 0534 | 50 | 1.735 | $\mathbf{8 . 2 5}$ |
| 0535 | 75 | 1.415 | $\mathbf{8 . 2 5}$ |
| 0536 | 100 | 1.225 | $\mathbf{8 . 2 5}$ |
| 0537 | 150 | 1.000 | $\mathbf{8 . 2 5}$ |
| 0538 | 200 | .865 | $\mathbf{8 . 2 5}$ |
| 0539 | 250 | .775 | $\mathbf{8 . 2 5}$ |
| 0540 | 350 | .655 | $\mathbf{8 . 2 5}$ |
| 0541 | 500 | .548 | $\mathbf{8 . 2 5}$ |
| 0542 | 750 | .447 | $\mathbf{8 . 7 2}$ |
| 0543 | $\mathbf{1}, 250$ | .346 | $\mathbf{8 . 7 2}$ |
| 0544 | $\mathbf{1}, 800$ | .288 | $\mathbf{9 . 1 8}$ |
| 0545 | 2,250 | .259 | $\mathbf{9 . 1 8}$ |
| 0546 | 3.000 | .224 | $\mathbf{8 . 1 8}$ |
| 0547 | 4,500 | .132 | $\mathbf{9 . 6 2}$ |
| 0548 | 7,500 | .141 | $\mathbf{1 0 . 1 0}$ |
| 0549 | 10.000 | .122 | $\mathbf{1 1 . 0 1}$ | t

72
72
72
72
72

MUDEL "K*" 160 WATT
Dianeter 3 1/8". Depth behind panel $13 / 4^{\prime \prime}$ Fnatt 1/4". Knob supplied. Shpg. Hgt. 1 lb .

| Numbers. | Ohtas | Arps | Ne't |
| :---: | :---: | :---: | :---: |
| 0440 | 0.5 | 14.100 | \$ 6.88 |
| 0441 | 1 | 10. 004 | C. 88 |
| 0442 | 2 | 7.070 | 6. 88 |
| 0443 | 3 | 5.750 | 6.88 |
| 0444 | 5 | 4.470 | 6.88 |
| 0445 | 7.5 | 3.650 | 6. 44 |
| 0446 | 10 | 3. 160 | 6.44 |
| 0447 | 16 | 2. 500 | 6.44 |
| 0448 | 25 | -2. 000 | 6. 44 |
| 0449 | 50 | 1. 410 | 6. 44 |
| 0450 | 75 | 1. 150 | 6. 44 |
| 0451 | 100 | 1. 000 | 6. 44 |
| 0452 | 200 | . 707 | 6.44 |
| 04.53 | 300 | . $575{ }^{\circ}$ | 6. 44 |
| 0454 | 400 | . 500 | 6.44 |
| 0455 | 500 | . 447 | 6. 44 |
| 0456 | 750 | . 365 | 6.44 |
| 0457 | 1.000 | . 316 | 6.88 |
| $\bigcirc 458$ | 1,500 | . 258 | 6.88 |
| 0459 | 2,000 | . 224 | 6.88 |
| 0460 | 2.500 | . 200 | 6.88 |
| 0461 | 5,000 | .141 | 7. 33 |
| 0462 | 7. 500 | . 115 | 7.81 |
| 0463 | 10.000 | .100 | 8. 25 |

HODEL "H." = 150 WATT

## Mational

CIR.


HX. 29
Popular sockets with steatite insulation Contact grips tube prong for entire length. Metal ring for ${ }^{\prime \prime}$-position mounting. All have $1-27 / 32$ mounting centers except.ClR-8 has $\mathrm{l}_{2}^{\prime \prime}$ mounting centers.

| Number |  | Net |
| :--- | ---: | ---: |
| CIR-4 | 4-prong | $\mathbf{\$ 3 5}$ |
| CIR-5 | 5-prong | $\mathbf{. 3 5}$ |
| CIR-6 | 6-prong | $\mathbf{. 3 5}$ |
| CIR-8 | 8 Octal | . .35 |

Low loss wafer socket with steatite insulation. for the popular 829 \& 832 tubes. No. HX-29


C. 5

XLA
Exceptionally good contaets with high current capacities. Low loss steatita insulation.
No.

## xC-4

$x C-5$
$x c-5$
$x C-6$
Low loss socket for 654 and 950 series acorn tubes for frequencies as high as 600 WC. Bypass condensers may be compact $1 y$ mounted between contacts and chassis. No. XLA


Heavy duty metal she suckets for tubes hav XU 4-pin base.
ǐo. $\mathrm{Xib}_{\mathrm{i}}-10$
Net \$1
No. $\mathrm{XH}-50$
For 50 vatters


NO. 1549 Coil Shield, $3 \times 3^{2<} \mathrm{H}_{\text {. }}$ Net $\$$ NO. 1552 Metal tube grid can shield. NO. 1729 Fom fit GT/G shield. NO. 1545 Shield for 807 tube.

## Soc SOCKETS REPLACEMENT-INDUSTRIAL

## NHPHENO

## Replacement Sockets


egular " $s$ " sackets, assembled with reainer ring to steel mountifg plate with lotted holes to fit mounting centers rom $1-1 / 2$ to $1-7 / 8^{\prime \prime}$. Black eakelite.

## 3-RS-4

3-RS-5 $3-\mathrm{RS}-6$
3- RS - 7 C
3-RS-7L
3-RS-7S

## 3-RS-8

3-RSS-8L
3-RSS-9
3-RS-11

## CMTHENOD

steatite
Bounting centers $11 / 2^{\prime \prime}$ to $17^{\prime \prime}$.

## Nuaner

Contacts
Net
f9-RSS
49-Risis
49-RSS6
43-RSS7S Shall
49-RSS7L Larse
49-RSS8 Octal


Magnal Socket - Has $11 / 16^{n}$ pin circle for cathode ray \& television tubes, Mounts in i $5 / 8^{\prime \prime}$ hole. Steatite.
No. 49-SSIlL 11 Contact. Magnal Net \$ 72
TV \& CR SOCKETS


Designed fur television viewing tubes. oscilloscopes \& other cathode-ray tubes.

Duodecal Socket for max. of 12 equally spaced pins on a circle-diam. of $1.063^{\prime \prime}$
No. 59-402
Net \$. 92
Diheptal Sockets for a max. of 14 equally suaced pins on a circle diam, of $1.750^{\prime \prime}$.

Number
59-415 Small for 2.050 " D. tube base Net 59-4 17 Medium for 2.250" D. tube base . 98

INDUSTEIAL SOCEETS SERIES 146
7-PIN EINIATORE BUTTON SOCKET


146-111. 7 prong industrial type miniature socket for tubes such as $3 \mathrm{Q4}$. 3S4, etc.

$$
\text { Net } \$ 1.47
$$

octal industrial socket


146-103. Octal industrial socket mounts above or below chassis.

Net \$ . 93
146-104. Same as 103 with molded-in thread ed inserts for tie points.

Net $\$ \mathbf{L} \mathbf{2 8}$
OCTAL HIGH VOLTAGE SOCKET


146-1n1, Octal high voltage socket. Mounting holes 136" D.

Net \$. 66
SOCKET FOR CARTRI DGE PHOTOTUBE


146-121. Sucket lor cartridge type phototube such as 921. .922, etc.

## CMIPमINOD



MINIATURE

## AND

PIN SOCKETS
Used for television. Fit, suto radios, port ables, etc. 7 pin sochets twount in 5/8" chussis hole. Moulting centers 7/8". Serew holes $1 / 8^{\prime \prime} .9$ pin sockets mount in $3 / 4^{*}$ chassis hole. Mounting centers $11 / 8^{\prime \prime}$. Rivet holes .095".

Bottom Mounting - No Tube Shield Base

## Number

Net
147-502 7 Pin, Black Bakelite \$. 15 147-505 7 Contact Mica*Filled Bakelite . 15 147-501 7 Contact Steatite . 31 59-410 9 Contact Mica-Filled Bakelite. 24

Top Mounting - With Tube Shield Base
Number
Net
147-913 7 Contact Mica-Filled Bakelites. 24 147-925 7 Contact Steatite
59-407 - Contact Mica-Filled Buk
Tube Shields ond Sprng Assemblies


Sturdy, steel shell. cadmium plated to resist rust and corrosion. Stainless steel spring.


Transmitting type steatite tube sockets with Amphenol Cloverleaf contacts. Mownting centers. $156^{n}$, Slotted.

| Number | Type | Net |
| :--- | :---: | ---: |
| $148-101$ | 4 Prong | $\$ .97$ |
| $148-105$ | Small 5-Pin | $\mathbf{9 7}$ |
| $148-107$ | Small $6-$ Pin | $\mathbf{i 0 0}$ |
| $148-111$ | Octal Socket | .94 |

Magle Eye Assembly


For 6 prong magic eye tube, Includes 1 megohm target plate resistor \& 5 wire, color coded cable 22", Mounting bracket. Conplete with escutcheon \& hardmare. Tube nut included.

No. 58-MEAG Complete Assembly
Net $\$ .89$
octal magic eye assemaly


Similar to No. 58-meA6 shown but for octal type magic eye tubes. Complete with 8 wire, color coded cable, $22^{\prime \prime}$ long, escutcheon $\&$ hardware. Tube not included.

No. 58-MEA8 Complete Assembly
Net \$ . 89

## SOCKETS RECEIVING - TRANSMITTING Soc

## CINCH

C1NCII U.AFER GLASS TUBE SOCKETS

1\%" Mounting Centers


Laminated bakelite sucket. Pusitive grip contucts.

| Number | Description | Net |
| :---: | :---: | :---: |
| 4HX | 4 Prong | \$. 09 |
| 5HY | 5 Prong | . 09 |
| 642 | 6 Prong | . 10 |
| 7 HU | 7 Prune (Small) | . 10 |
| 7HA | 7 Prung (Large) | . 10 |
| WAFER OCTAL |  |  |
| "8W1 | $15 / 16^{\prime \prime}$ Mountits Centers | \$. 10 |
| 842 | $11 / 2^{\prime \prime}$ Mountins Centers | . 10 |

8LuL . $1 \% \%^{n}$ Mounting Ceuters Net $\$ .10$


MOLISED DCTAL
15/16" Mounting Centers
High dielectric black bakelite. Sturdy press-on saddle with 4 ground lugs. Nounts in $1 / 16^{\prime \prime}$ chassis hole.

8AB Black
Net \$ . 10
SUB - MINIATURI:
HEARING ADO SOCKET


Used for hearing aids, etc. Mica-filled low luss bakelite. Fits Ray theon type CK series. 4 prong tubes use Nu. 2 H5 5 prone socket.

| Number | Description | Net |
| :--- | :--- | ---: |
| $2 \mathrm{H5}$ | 5 Prong | $\$ .28$ |
| 2 H 6 | 6 Prong | .29 |
| 2 H 7 | 7 Prong | .30 |

8 PRONG SUB-MINIATURE
Sockets for 8 prong sub-miniature tubes such as 1TG, 1AD5, 1E8. 1AC5.

No. 54A136RG
Net * . 48


## J SLot Tube Shield

Steel shield with tube securing spring. For 7 pin miniature sockets. $2 y^{\prime \prime}$ high.
Nu. 7St
Net $\$ .19$


Number
12-4
12-5
$12-6$
$12-7-\mathrm{NO}$
12-8

MINIATURF.
SOCKETS is nolded in one piece of solid bakelite. Phosphor bronze contacts. cad plated. Mounting centers $1-11 / 1^{\prime \prime}$ centers $1-11 / 16$.
Contacts

| 4 |  |
| :--- | ---: |
| 5 | .29 |
| 6 | .30 |
| 7 Cumb. | .32 |
| 8 Octia] | .34 |
|  | .35 |



7 pin. Laminated bakelite, $7 / 8^{\prime \prime}$ munting centers. Has center shield and ground strap. 11/16" wide.

No. 49-2
Net $\$ .07$
9 pin. 1-1/8" mounting centers. $1^{\prime \prime}$ wide.
Nu. 49-22.
Net \$ . 09


## SOCKET.TURRET



A new and undque terminal structure on which circuit components assuciated with the thbe may be connected directly in the socket. Saves space and simplifies construction. $\qquad$
FOR OCTAL TUBES
Mica-filled socket, steel saddle with $1-5 / 16^{\prime \prime} m \mathrm{me}$. centers, 4 ground lugs. Requires $1^{\prime \prime}$ diameter socket hole.

| Nunber | lleight | Terninal | Net |
| :--- | :---: | :---: | ---: |
| $8-0-9 T$ | $2^{n}$ | 9 | $\$ .50$ |
| $6-0-6 T$ | $1^{13}$ | 6 | .46 |

FOR MINIATURE TUBES
Maca-filled miniature 7 -pin sockets, $7 / 8$ " nitg. centers, requires $5 / 9^{\prime \prime}$ socket hole. Number Hel ght Terminal Net $\begin{array}{lllr}8-M-9 T & 2^{11} & 9 & \$ .59 \\ 6-M-6 T & 1 / 2 & 6 & .53\end{array}$

## FOR NOVAL TUBES

Mica-filled 9-pin noval sockets, 1-1/8" mtg. centers, requifes $3 / 4^{\prime \prime}$ socket hole. Number lieight Terminal Net

| $8-\mathrm{N}-9 \mathrm{~T}$ | $2^{\prime \prime}$ | 9 | $\$ .62$ |
| :--- | :--- | :--- | :--- |
| $6-\mathrm{N}-6 \mathrm{~T}$ | $1^{1 / 2}$ | 6 | .56 |

## SHIELD BASES FOR ABOVE



To be used with miniature and notal socket turrets. These fasten above chassis with same screws to attach to socket.

| Number | Socket | Net |
| :--- | :--- | ---: |
| S-7 | 7-prong Miniature | \$.08 |
| S-9 | 9-prong Noval | .09 |

## E B Y

SADDLE TYPE TOP MOUNT MINIATURE SOCGETS


No. 8326
Net \$ . 26
9 pin ceramic. 1-1/8" mountir.g centers.
No. 9735
Net \$. 44

## COLOR TV CRT SOCKET



TV socket designed for new type color multi-gun TV picture tubes. Unwired, complete with mounting plate and contaets.
No. COL-1
Net \$2.06

## E. F. JOHNSON



Number
Description
Net
123-209 + Pin-Wide space
$\$ 1.08$
12s-210 4 Pin-Regular space
123-211 Jumbo. 50 watt, base mtg.
124-213 Eiriac Tubes
1.08
1.37

122-237 7 Pin Giant-RCA 813
122-247 7 Pin 826, 828, etc. Lubes
122-275 G1ant 5 pin-4-125. RK-48

1. 42

122-101 7 Pin-826-829-832 tubes
1.28
1.96

TRANSMITTING TUBE SOCKETS


For 866. etc. type tutes. Good porcelult insulation, heavy contacts.
No. 434
No. 435
50 watt
10 watt
Net $\$ \begin{aligned} & 1.38 \\ & 1.09\end{aligned}$

JAMES MILLEN
socket

Socket for 391. Dual contact bayonet socket.

33991 Black Bakelite Net $\$ .51$
33992 Mica-Filled Bakelite .63

## JAMES MILLEH

CRySTAL SOCKETS


|  | Pin | Pin |  |
| :--- | :---: | :---: | ---: |
| Number | Spacing | Dianeter | Net |
| $\mathbf{3 3 0 0 2}$ | $3 / 4 "$ | $.125^{\prime \prime}$ | $\$ .36$ |
| $\mathbf{3 3 1 0 2}$ | -487 | .095 | .36 |
| $\mathbf{3 3 2 0 2}$ | $1 / 2$ | .125 | .36 |
| $\mathbf{3 3 3 0 2}$ | $1 / 2$ | .050 | .24 |

## MINI-SPRING FOR MINl-TUBES

Guard springs which give support to the tube in 2 Mays. Maintains a direct ways. Maintains a direct axial pressure downards
plus a sidewlse support which leeps tube upright and perpendicular to the chissis. Spring action is constant and permanent. If equipment has incained chassis or tubes are mounted upside down or lorizontal. these springs will keep tube
 cirmly seated in socket.

Net

.08
.08
.08
.08

## Centralab


$\qquad$ MINIATURE

## ROTARY SWITCHES

Steqtite insulated rotary switches small suze, with adjustable stop. Double waping, silver plated spring brass clips und contacts. $1-7 / 8^{\prime \prime}$ shaft.
mon. Total

| SMORT. SHORT. POLLS | POS. | SIC. | SIC. NГT |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| PA-2000 PA-2001 | 1 | $2-12$ | 1 | 1 | $\$ 1.47$ |
| PA-2002 PA-2003 | 2 | $2-6$ | 1 | 2 | 1.53 |
| PA-2004 PA-2005 | 2 | $2-12$ | 2 | 1 | 2.20 |
| PA-2006 PA-2007 | 3 | $2-5$ | 1 | 3 | 1.62 |
| PA-2008 PA-2009 | 3 | $2-12$ | 3 | 1 | 2.94 |
| PA-2010 PA-2011 | 4 | $2-6$ | 2 | 2 | 2.29 |
| PA-2012 PA-2013 | 4 | $2-12$ | 4 | 1 | 3.67 |
| PA-2014 PA-2015 | 5 | $2-3$ | 1 | 5 | 1.67 |
| PA-2016 PA-2017 | 5 | $2-12$ | 5 | 1 | 4.41 |
| PA-2018 PA-2019 | 6 | 2 | 1 | 6 | 1.67 |
| PA-2020 PA-2021 | 6 | $2-5$ | 2 | 3 | 2.35 |
| PA-2022 PA-2023 | 6 | $2-6$ | 3 | 2 | 3.69 |
| PA-2024 PA-2025 | 6 | $2-12$ | 6 | 1 | 5.14 |
| PA-2026 PA-2027 | 8 | $2-6$ | 4 | 2 | 3.82 |
| PA-2028 PA-2029 | 9 | $2-5$ | 3 | 3 | 3.09 |
| PA-2030 PA-2031 10 | $2-3$ | 2 | 5 | 2.50 |  |
| PA-2032 PA-2033 | 10 | $2-6$ | 5 | 2 | $\mathbf{4 . 5 6}$ |
| PA-2034 PA-2035 | 12 | 2 | 2 | 6 | 2.50 |
| PA-2036 PA-2037 | 12 | $2-6$ | 6 | 2 | 5.29 |
| PA-2038 PA-2039 | 15 | $2-3$ | 3 | 5 | 3.23 |
| PA-2040 PA-2041 | 18 | 2 | 3 | 6 | 3.23 |

## 

Pr-2042 $\qquad$ 1 2-10 tions)

MINIATURE S ITCHES WITH $60^{\circ}$ INIDEXING
$\begin{array}{llllll}\text { PA-2043 } & 1 & 2-6 & 1 & 1.47 \\ \text { PA-2045 } & 2 & 2-6 & 1 & 1 & 2.20\end{array}$
PA-2045

## MEDIUM DUTY

## ROTARY POWER SWITCH

## JV 9000 SERIES

## STEATITE INSULATION

utstanding medium duty switches with leむvy steatite insulation. Rated 750 watts doltage breakdown 30No RMS volts to grounc iolid coin silver contacts. Floating :quare shaft construction. Excellent accu--aç, with long life needed in transmitt$r$ s, industrial, laboratory and many other pecial applications. Set-serew type adustaole stop. On order only.
Poles
yirort. Non- Per Por 'rotal Total No. Net Type Short. Sect Sect. Poles Pos Each
 $\vee \vee-9002 \mathrm{JV}-9003$ $\begin{array}{ll}\mathrm{V}-9004 & \mathrm{JV}-9005 \\ \mathrm{~V}-9006 & \mathrm{~N}-9007\end{array}$ V-9008 JV-9009 $\mathrm{V}-9010 \mathrm{JV}-9011$ $\begin{array}{cc}V-9010 & J V-9011 \\ V-9012 & J V-9013\end{array}$ V-9014 JV-9015 $V-9016$ JV-9017 V-9018 JV-9019

TRANSMITTER SWITCHES


For all ham If.F. uses. All have four masitions, not apart. Adjustable stup ard knob includer. Shps. Vgt. 1 Lts.


## SELECTOR SWITCHES

Non-shorting types with steatite insula-
tion for high frequency circuits. 6-watt rating, spring brass silver plated contacts. Adjustable stop. Complete with bar knob and hardware. Slipg. Wigt. 1 lb .
Number Poles Positions Sections Net
$\begin{array}{llllll}2501 & 1 & 2 & \text { to } 6 & 1 & \$ 1.32 \\ 2503 & 1 & 2 & \text { to } & 11 & 1\end{array}$
$\begin{array}{lllll}2503 & 1 & 2 \text { to } 11 & 1 & 1.32 \\ 2505 & 9 & 5 & \text { to } 5 & 1\end{array}$
$\begin{array}{lllll}2505 & 2 & 2 & \text { to } 5 & 1 \\ 2507 & 3 & 2 & 1.32 \\ & \text { to } 3 & 1 & 1.32\end{array}$
$\begin{array}{lllll}2511 & 3 & 2 & \text { to } 3 & 1 \\ & 2 & 2 \text { to } 6 & 2 & \mathbf{2 . 0 6} \\ & 3 & 2.06\end{array}$
$\begin{array}{lllll}2513 & 2 & 2 \text { to } 11 & 2 & 2.06 \\ 2515 & 4 & 2 \text { to } 5 & 2 & 2.06 \\ 2.06\end{array}$
$\begin{array}{llllll}2517 & 6 & 2 & \text { to } & 3 & 2 \\ 2521 & 3 & 2 & \text { to } & 6 & 2 \\ 2.06 \\ & 3 & 3 & 2.04\end{array}$
$\begin{array}{lllll}2521 & 3 & 2 & \text { to } 6 & 3 \\ 2523 & 3 & 2 & \text { to } 11 & 3 \\ 2525 & 6 & 2 \text { to } 5 & 3 & 2.94 \\ 25\end{array}$

## TONE SWITCHES



Designed to be used as step tone controls but may also be used for intercom systems, off-on, speaker, light duty band chance, etc. Spring brass silver plated contacts, laminated phenolic insulation.

| Number | Type | Shorting |
| :--- | :--- | :--- |
| 1460 | SPDT | Yes |
| 1463 | SPDT Sp. Ret. No |  |
| 1461 | SP 3 Pos. Yes |  |
| 1462 | DPDT | Yes |
| 1464 | ISPDT Sp. Ret. No |  |
| 1465 | SP 4 | Pos. with SPST Sw. |
| 1433 | DP 3 Pos. Yes |  |
| 1483 | SP 3 PoS. Rear Seat Spkr |  |

Ner
1460 SPDT Mes
1461 SP 3 pos. yos
1462 DPDT Yes
1465 SP 4 Pos, with SPST Sw.
1483 SP 3 Pos. Rear Seat Spkr.


## LEVER ACTION <br> SWITCHES

## UNIVERSAL

## FLAT SWITCHES


lese new switches may be used for any iplication from SPST to 4PDT. Complete th bar knob \& hardware. Guaranteed miniim life 150000 cy . Heavily silver plated "ass contacts. Shpg. Hist. $\delta \mathrm{oz}$.
mber
50
51
$\begin{array}{lr}\text { Tipe } & \text { Net } \\ \text { Positive } & \mathbf{5 . 3 9} \\ \text { Spring Return } & \mathbf{1 . 0 3}\end{array}$

MALLORY SWITCHES


Multi-Section
Rofary Switches

| HON. |  | No.0F | tival | PCSt |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SHORT. | Short. | gancs | รกLes, | pro | NTT |
| 1311. | 1211L | 1 | 1 | 11 | \$.91 |
| 13151. | 12151. | 1 | 2 | 5 | 97 |
| 13131. | 1213L. | 1 | 3 | 3 | 1.015 |
| 13121. | 12121. | 1 | 4 | 2 | 1.1: |
| 1321L | 1:211. | 2 | 2 | 11 | 1.3.5 |
| 13251. | 1225L | 2 | 4 | 5 | 1.55 |
| 1323L | 1223L | 2 | 6 | 3 | 1.65 |
| 1322L. | 1222L | 2 | 8 | 2 | 1.73 |
| 1331L | 1231. | 3 | 3 | 11 | 1.82 |
| 1335L | 12351. | 3 | $f$ | 5 | 1.94 |
| 1341L. | 12411, | 4 | 4 | 11 | 2.32 |
| 1345I. | 1245L | 4 | 8 | 5 | 2. 70 |
| 1351. | 12511 | 5 | 5 | 11 | 2.88 |
| 1356L | 1256L. | 5 | 10 | 6 | 3. 5\% |
| 13611. | 12612 | 6 | 6 | 11 | 3. 41 |
| 1366L | 12661. | 6 | 12 | 6 | 4.35 |

## 

For RF. low power transmitters. laborntories, experimental uses, etc. All types are non-shorting. *Has "off" nosition which precedes first josition.

|  | no.or | CIRCUIT |  |  |
| :---: | :---: | :---: | :---: | :---: |
| typr | ganges | PER GANG | POSITIONS | Mrt |
| 172C | 1 | 1 | 2-11 | \$ 1.32 |
| 173C* | 1 | 2 | 2-5 | 1. 32 |
| $174{ }^{\circ}$ | 1 | 3 | 2-3 | $1.3 \%$ |
| 176 C | 2 | 1 | 2-11 | 2.06 |
| 1770** | 2 | 2 | 2-5 | 2.06 |
| 1780' | 2 | 3 | 3-3 | 2.06 |
| 180 C | 3 | 1 | 2-11 | 2.94 |
| 1810 | 3 | 2 | $2-5$ | 2.94 |


|  |  |  | Single Section |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Rotary Switches |  |  |
| NON - |  |  |  | ADJ. |  |
| SHORT. | SMORT. | POLES | Pas. | STOFS | NET |
| 3215 J | 3115J | 1 | 5 | No | S.6K |
| 32112 J | 31112 J | 1 | 12 | No | . 68 |
| 3222J | 3122J | 2 | 2 | No | . 68 |
| 3223J | 3123J | 2 | 3 | No | . 68 |
| 3226J | 3126.J | 2 | 6 | Nor | . 68 |
| 3234 J | 3134J | 3 | 4 | No | . 71 |
| 3242J | 3142 J | 4 | 2 | No | . 71 |
| 3243J | 3143J | 4 | 3 | No | . 71 |
| 32117 J | 31117.J | 1 | 17 | Yes | 1.06 |
| 3229J | 3129.5 | 2 | 9 | Yes | 1.04; |
| 3236J | 3136J | 3 | 6 | Yes | 1. 15 |
| 3263 J | 3163.J | ${ }_{5}$ | 3 | Yes | 1.15 |



Push-Eutfon Switches

| Wat r | DESCRIPTION | tıf 7 |
| :---: | :---: | :---: |
| 2001 | S. P. Make Contict | S. 77 |
| 2002 | S. P. Break Coritact | . 77 |
| 2003 | SPDT | 82 |
| 2004 | 2-Pole, Make 2 Contacts | . 94 |
| 2005 | 2-Pole, Break 2 Contacts | . 94 |
| 2006 | 2-Pole. D. T. | 1.15 |
| 2007 | 2-Pole, Buke 2-Break 1 | 1. 013 |
| 2008 | 0,7 - Maki berore Break | 1. 29 |

## ACRO

| Nuruber | Type | Base Slze | Net |
| :--- | :--- | :--- | ---: |
| 2351 | SPST | $\mathbf{1 - 5 / 8 \times 1}$ | $\$ .25$ |
| 2361 | SPPT | $2-5 / 8 \times 1$ | .30 |
| 2371 | DPST | $1-3 / 4 \times 1-1 / 2$ | .43 |
| 2381 | DPPDT | $2-5 / 8 \times 1-1 / 2$ | .53 |

## bakelite knife switches



| Number | Tipe | Base Size | Net |
| :---: | :---: | :---: | :---: |
| 1216 | SPST | 2-3/4x1 | \$. 34 |
| 1217 | SP'dT | 3-1/2x1 | . 54 |
| 1218 | DPST | 2-5/3x1-7/8 | . 73 |
| 1219 | DPDT | 3-1/2×1-7/8 | .885 |
| 1360 | 3PST | 2-5/8×2-1/2 | 1. 2011 |
| 1220 | 3 PbT | 3-1/2x2-1/2 | 1.313 |
| 1221 | $4 F S T$ | 2-5/8×3-1/4 | 1. 64 |
| 1222 | 4 PDT | 3-1/2×3-1/4 | 1.96 |
| 1364 | 5 PDT | 3-1/2x3-15/16 | 2.34 |

## FM and RECORD.PLAYER SWITCH No. 1740



Recommended for quickly attaching phonoEraphs. FM \& Television units, etc. tc sudio of sct. Replacement for RCA 9824A. Shipg. Mgt. 11 b .

No. 1740
Net \$ 1.32

## (a) Mallory

## 24-Position Tap Switch

For test equipment applications, etc. Two section, 24 points each section. 2" shaft Complete with knob and dial plate. NO. 13124 LL. Net.

## 

Tap Change Switch


8 position single pole continuous shitch. Markings 1-2-3-4-5-6-7-8. or impu dafic ${ }^{\circ}$ $0-2-4-8-16-250-500$. Shpg. "it. $80 z$.

| Number | Harkine | Net |
| :--- | :---: | :---: |
| $36-1$ | $1-8$ | $\$-5 z$ |
| $36-2$ | Impedance | sis |

## Acro SNAP

## Switches


$M \mathrm{~V}$ Surta

## FEATURING THE PATENTED

 ROLLING SPRING PRINCIPLEAcro and MU Switches for the 1001 applications requiring small spap-action wilts which use a oindmur of pressure to actuate. Extensively used in instruments industry and experiments. Acro Rolling Spring Switches are simple in construction, consist of Rolling Spring. Actuat. ing Blade and Contact Blade. Contacts where listed as EPD may be used also as Where or normaily open or normally closed 1CMB1-2ANX


2403-1A
Model 1CMD1-2AXX, SPDT. Coin ssitch. Operating force, $20-27$ grams, release force 12 grams, miniaum. Phenolic base, contacts of fine silver. Size, $1-5 / 8 \mathrm{Lxih}$ d $9 / 32^{n}$ thick. Rated at 3 amps 125 VAC. Net \$1.37
liodel 2MD3-1A. SPDT, Long lived precision switch of small size which has been Sion switch of small size which has been
tested and approved under Air force Spec. tested and approved under Air Force Spec.
AN-S-39B. Size, $1=13 / 64 \mathrm{~L} \times 53 / 64 H \times 9 / 32^{\prime \prime}$ AN-S-39B. Size, $1-13 / 64 L \times 53 / 64 H \times 9 / 32^{\prime \prime}$
thick. Fuur 3/32n wounting holes. Jhenol ic case. sllyer contacts. beryllium springs. Operating force, G-lo oz. release force 3 oz . ininimum Rated at 10 anlps 125 volts. 5 amps 250 volts $A C$.

Net $\$ 1.3$


Hodel 2MOBD. SPUT. Small size ( $1-11,32^{\prime \prime}$ by $1-1 / 64$ overall) with high current capacity ( 12 amps 125 VAC. 6 amps 25 ( $\mathrm{VAC})$. Lends itself readily to mountine in multiples for actuating by cams. Operating force $6-10 \mathrm{oz}$. release lorce 2 oz. minimum. Net $\$ .83$

Model 1Mdi-1A-a18. SPDT. Similar to Model 2hD3-1A but has mounting bracket with hinged leaf. Operating force 3-6 oz Release force $1^{t / 2}$ oz. minimum. Net $\$ 1.96$


Nudel rDiA. SPDT. Pin plunger type switch iur all general applications. Size, $1-15 / 16 \times 11 / 64 \times 27 / 32$ H. Operating force 3-10 oz. . release torce 4 oz . minimum. Kated 10 amps 125 VAC, 5 omps 250 inum. Kated 10 amps 125 VAC, 5 amps 250
Vac.

Model RD-5L. STDT. Similar to Model RD1A But has lear actuator made of staituluss stepl for long life. int $\$ 1.37$


Model Rol-2m. EPbT. Sindlar to abore but by cams etc end of leaf for opersilion

Hodel RD-1P. SPDT. Panel mount tyic Switch for use where actus ing device cannot be accurately controlled. OtherWise similar to above models. Sleeve and button extend approximately $15,16^{\prime \prime}$ abow case. Cumplete with tio luck nuts

Not \& 2.

MU tetal clad sitches for use on chíne tools, as safety devicus, linit a control spitches. Have $3 / 4$ feral thread for connection to condult. Pea therprouf. splashprouf.


Model MHB-206. SPDT. Plunger type. rated at 20 anps 125 VAF 15 amps 230 VAC $1 / 2$ HP 115/230/460 VAC. Size overall, $3 x 2 \frac{1}{2} x$ 1". Two "tilrough screws" fo: mounting.

NLI 3.72
Model MHB-225. SPDT. Same as above but has waterproofed rubber cap around pin plunger.

Net $\$ 5.05$


Model MHES-234. SPITT. Same as Model MHB206 but with roller action plunger for use with cams. $\qquad$ Netger for
Net 6.84

Model MH3-213, SPDT. Similar to above switches but has lever action to operate blunger with roller on end of lever. Has langed base for mounting in addition to screw mount.

Nut $\$ 4.17$

model MLE-302. SPDT. Salall. high current type for general use. Rated at 20 amps 125 VAC. $1 / 2 \mathrm{HP}$ or 15 amps 230 VAC. Lever actuates pin plunger with low operating force. Phenolic case: sizm. $1-7 / 8 \times 21,32 \times 1$ "H. Phenolic case: sizu.
 Model UB-323. SPDT. Super inidget type for all miniature applications. May be mounted by means oi strap or bracket. Phenolic case is only $11 / 16^{" ~ i n ~ d l a m e t e r, ~}$ $9 / 32^{n}$ thick. hill carry up to 10 amps 115 VAC. 5 amps 230 VAC. Extremely short travel on plunjer required. $3^{\prime \prime}$ In ad ait common tipmenal. Net. $\$ .64$

Model QI-301. SPDT. Same as above but Without leat.
bocicl CSG. SUST. Norinally onen. Rated 6 anus 125 vaC. Devfloped lof coln machlme use. $3^{\text {a }}$ actuatins shalt requires less than ant bram lorce. Unit is tightly enclosed moing it highly resistunt to dust. temprimture, humidity and vibra-
 tacts, Available $1 n$ clocinise or cotnter clocknise rotation.
CSC-10 (Clockuis
CSCO-200 Couster clocknise Met. \$ 1.18

## Swi SWITCHES OF MANY TYPES

## ARROW HART \& HEGEMAN SWITCHES


liki Our Net Net
No. No. Type Rating Per 10 Eacl
20994-M 232 SPST 3A®250V \$ 3. 79 \$. 42
21350-J 233 SPDT 1AE250V $4.80 \quad .54$
20902-N 234 DPST 1A 250 V 6. $89 \quad .77$
20905-BK 235 DPDT 1A\&250V T .92 . 88

Figure "B" Ball Handle 1" Shank
$31615 \cdot \mathrm{~K} \quad 236$ SPST 3A世250V $\$ 4.80$ 1661 SPDT 1A@250V 5.83 . 63 30902-Q 238 DPST 1 A0250V 7.92 . 88


Figure "C" Bat handle 13/32" Siank
0994-Hi 240 SPST $3 A 8250 \mathrm{~V} \$ 3.79 \$ .42$ 1350.FJ 241 SPDT LAQ250V 5.05

:0902-AJ 242 DPST | $3 A 1250 \mathrm{~V}$ |
| :--- |


Figure "D" Momentary Contact Toggle Swi tches. Bat Handle, $13 / 32^{\text {" }}$ Shank.

H\&\& Our Net Net
No. No. Type Rating Per 10 Each 0054-S 244 SPST 3 AR250V $\$ 6.06 \quad \$ .67$ 1827-Q 245 SPDT 1AÉ250V 7.00.78 0907-11 246 DPST 1A 250 V 9.16 1.02 1858-X 247 DPDT LA\&250V $10.20 \quad 1.13$ 3Aㄹ125V ur numbers 244 and 246 are "Normal off".

"igure "E" Momentary Push Button Switch. $9 / 16^{n}$ Shank
HKH Our Net Net
391-E 248 SPST 1AP125V \$4.26 $\$ .47$ Push to Make
391249 SPST 1 A 125 V 4.26 . 27 Push to Break
igure "E" Momentary Contact Slow Make uick Break switch. One circuil is "ON" hile other is nurmally "OrF". Pushing utton reverses circuit. Rated 1 A 125 V .
©11 No. 3392-A Our No. 250 Net Each \$. 78 Net per 10 6.99

Figure "F" Ball Handle Power Switches
ated at 12 Amps at 125 Vults or 6 Amps t 250 Volts and 1 H.P. at 250 Volts.
? No. Our No. Type Per lo Net $\begin{gathered}\text { Net } \\ \text { Each }\end{gathered}$

| 3600 | 251 | UPST | $\$ 8.37$ | $\$ .93$ |
| :--- | :--- | :--- | ---: | ---: |
| 3607 | 261 | SPST | 8.37 | .93 |

Similar to types 251 and 261 but push button type. Each set of contacts rated at 12 Amps 125 Volts or 6 Amps at 250 Volts. For use on relay rack doors and cabinets as safety switches, etc.
Heli No. Our No. Type Per 10 Each
$80630 \quad 252$ DPST $\$ 12.40 \quad \$ 1.3 \pi$
Figure " H " Ball Toggle Power Switch. $W 111$ handle 5 Amps at 250 volts or 10 Amps at 125 volts. Bakelite body. $3 / 8^{\prime \prime}$ shank, screw connections. SPST.

Hell No. 80323-B Our No. 253 Net Each \$. 75 Net per 106.74

Figure "I" Heavy Duts Ball hindle Toggle Switch with neutral center. Extra heavy DPDT contacts for use in transmitters. n.ctors, etc. Fast break reduces tendency to arc. Rated at 5 Amps at 250 Volts or 10 Arps at 125 volts or $3 / 4 \mathrm{~h} . \mathrm{P}$. at 250 V .

IRHCN No, 80638 Our Nu. 258 Net Each $\$ 2.87$
Net per $10 \quad 25.90$
Figure "I" DPST Power Switch. Heary duty type will carry 20 Amps at 250 volts ur 40 Amps at 125 volts or $1-1 / 2 \mathrm{H} . \mathrm{P}$. at 250 Valts.
hat No. 80421 Our No. 259 Net Each $\$ 1.93$
Net per $10 \quad 17.40$ OFF-ON Plate for 80421 Suitch Not .07


Figure "J" Center-Off Position Switches rated at 6 Amps at 125 Volts or 3 Amps at 250 volts. Type 262 has two separate sections not connected to each other.
hictl No. Our No. Type Net. 10 Net Each

| 82021 | 262 | 2 Cir. | $\$ 10.10$ | $\$ 1.12$ |
| ---: | ---: | ---: | ---: | ---: |
| 82022 | 263 | SPDT | 9.64 | 1.07 |
| 82024 | 264 | DPDT | 10.80 | 1.20 |

Fig. "K". Laminated body. 3/8" threaded. shank. $1-1 / 8^{\prime \prime}$ shaft.

|  |  |  | Ne: T | nit |
| :---: | :---: | :---: | :---: | :---: |
| Hath HO. | OHr mo. | TYPE: | PLCR 10 | TACH |
| 1561-BS | 234 | SPSTI | \$ 4.70 | \$.53 |
| 1565-4 | 255 | SPUT | 6.30 | 70 |
| 1572-4lt | 250 | UPST | 7.82 | . 87 |
| 1375-AB | 257 | UPVT | 8.70 | 97 |

Nickel-plated switch plates for H\&月 toggle switches.

| $\begin{aligned} & \text { "OFF-0N" } \\ & \text { "H1-LO" } \end{aligned}$ |  | Net Each | 3.03.03 |  |
| :---: | :---: | :---: | :---: | :---: |
| SLIDE | Number | Tsuc |  | Net |
| SWITCHE 5 | SW-723 | SPST |  | . 12 |
| -373 | SW-72-4 | SPDT |  | . 13 |
| $7{ }^{-7}$ | SK-725 | DPST |  | .21 |
|  | sin-726 | DPDT |  | . 21 |

## OHMATE

## POWER

## TAP SWITCHES

Non-shorting, highcurrent, power switches. All-ceramie insulation with large, solid, silver-to-silver contacts. "Slow-break quick make" action especially designed for alternating current. Switch shafts are "dead". Used in switchboards, welders, chargers, motor controls, X-ray, fransmifters, efc. Switches are single pole, rotary, multiposition units but are available two or three in tandem on order. $U / L$ approved. Also available in $50 \mathrm{amp}, 300$ volt and $100 \mathrm{amp}, 300$ volt types.

$$
\text { MODEL } 111
$$

AC current rating 10 omperes, 150 volts. Diameter $13 / 4$, depth behind pane: $13 / 4^{\prime \prime}$. $1 / 4{ }^{\prime \prime}$ shaft. For $1 / 4{ }^{n}$. panel maximum.

| Stock | Total |  |
| :--- | :---: | ---: |
| Number | Roporion | Net |
| 111.11 | $300^{\circ}$ | $\$ 2.72$ |
| 111.10 | $270^{\circ}$ | 2.67 |
| 111.9 | $240^{\circ}$ | 2.67 |
| 111.8 | $210^{\circ}$ | 2.57 |
| 111.7 | $180^{\circ}$ | 2.57 |
| 111.6 | $150^{\circ}$ | 2.46 |
| 111.5 | $120^{\circ}$ | 2.46 |
| 111.4 | $90^{\circ}$ | 2.39 |
| 111.3 | $60^{\circ}$ | 2.39 |
| 111.2 | $30^{\circ}$ | 2.39 |

MODEL 212
AC current rating 15 amperes, 150 volts. Diameter $21 / 4$ ", depth behind panel $13 / 4^{\prime \prime}$. $1_{4}^{\prime \prime \prime}$ shaft. For $1 / 4{ }^{m}$. panel maximum.

| Stock | Total |  |
| :--- | :---: | ---: |
| Number | Rototion | Net |
| 212.12 | $330^{\circ}$ | $\$ 6.88$ |
| 212.10 | $270^{\circ}$ | 6.65 |
| 212.8 | $210^{\circ}$ | 6.44 |
| 212.6 | $150^{\circ}$ | 6.19 |

AC eurrent rating 25 amperes, 300 volts. 150 VAC between taps. Diameter $35 / \mathrm{k}$, depth behind panel $2 \frac{1}{4}$. $1 / 4^{\prime \prime}$. shaft. For $1 / /^{\prime \prime}$ panel maximum.

| Srock | Total <br> Number | Rotation |
| :--- | :---: | ---: |$\quad$ Net

## Federal

Anti.CAPACITY Switch


Positive uction, silver y!ated phosphur bronze springs \& contacts. Shyg. Higt. 8 oz.
Number Description Net

| 1425 | DPDT 6 Spring | $\$ 2.53$ |
| :--- | :--- | ---: |
| 1424 | 4PDT 12 Spring | 2.84 |

Cutler-hammek
\#zou spit switch. Center-off mosition.
Not bath \$ . 36
Net Par $10 \$ 5.04$

## (128) NEED NEW TEST EQUIPMENT?-We'll Trade In Your Old Units!

## MERIT TV REPLACEMENT COMPONENTS TEL

HORIZONTAL OLTPUT AND HI-YOLTAGE TRANSFORMERS


HORIZONTAL "SYNC." TRANSFORMERS


## I.f. TRANSFORMERS - PERMEABILITY TUNED

| Number | Function | Freq. MC | Mounting | Net |
| :---: | :---: | :---: | :---: | :---: |
| TV-100 | 1st Pix Amp. | 25.3 | , | \$ 1.62 |
| TV-101 | and Pix Amp. | 22.3 | 1 | 1.23 |
| TV-102 | 3 rd Pix Amp. | 25.2 | 13 | . 47 |
| TV-103 | 4th Pix Amp. (det) | 23.1 | 3 | . 47 |
| TV-104 | 1st Snd. Amp. | 21. 25 | 1 | 1.29 |
| Ti-105 | 3nd Snd. Amp. | 21.25 | A | 1.29 |
| TV-106 | Sound Discrim. | 21.25 | A | 1. 53 |
| TV-107 | Onverter | 21.8 | A | 1.62 |
| Ti-108 | Input Amp. | 4.5 | 1 | 1.62 |
| TV-109 | Sound Discrim. | 4.5 | 1 | 1. 76 |
| TV-110 | Snd. Ratio Det. | 4.5 | . 4 | 1.94 |
| Tv-111 | Sud. Ratio Det. | 21.25 | 1 | 1.94 |
| TV-112 | Tunable chuke | 21-25 MC | 3 | . 59 |

width-linearity coils


## TRAPS-PERMEABHITY IUNED

Number Function Freguency Size ikwiting diet
TV-150 Cathode Trad 21.25 IC $1_{2}^{\circ} \times 1^{1} z^{n} \quad$ B $\quad \$ 1.18$


- Includes Condenser


## DEFLECTION YOKES

| Number | Net | Number | Net | - |
| :---: | :---: | :---: | :---: | :---: |
| MD-13 | S 5.29 | MDF 73 | 55.88 |  |
| MDF. 70 | 5.88 | MDF. 74 | 5.88 |  |
| MDF-71 | 5.88 | MDF. 90 | 8.82 |  |
| MDF. 72 | 5.88 | MD. 12 | 5.29 |  |

## TV AUTO TRANSFORMER

Picturo tube brightener. Supplius
12.6 valts. Toppod at 9.45 volts and
6.3 volts. Input 6.3 volts.


PEAKING COILS
Inductanc
Number Microhenries Color Code Shunt Res. Neg. Net

| TV-180 | 36. | B1ack | - - | E | \$. 27 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TV-181 | 03. | Red | ----- | E | . 27 |
| TV-182 | 120. | Blue | 22 K | E | . 27 |
| TV-183 | 180. | Hhite | 39K | E | . 27 |
| TV-184 | 180. | Yellow | ------ | E | - 적 |
| T-185 | 250. | Grecu | ----- | E | . 29 |
| TV-186 | 73. | ----- | 1) Mes. | E | . ${ }^{\text {a }}$ |
| 1V-187 | 250. | ----- | 22K | E | . 29 |
| TV-188 | 500. | ----- | 10 Meg . | E | . 29 |
| TV-189 | 0.8 | Orange | ---* | E | . 29 |



TEIEVISION MEPI.ICEMENT POWER TRANSPORMERS F1GURE "C"
 l'ramary 115 VAC, CU cycle.

| NUP:MPIR | SEC. VOLTJ | DCA A | RECT. FIL. | FIL. WIND. | NET |
| :---: | :---: | :---: | :---: | :---: | :---: |
| P-3045 | 120 | 50 |  | 6. $3 \mathrm{~V}-2 \mathrm{~A}$ | \$ 2.94 |
| P-3046 | 120 | 25 |  | 6.3VCT-. 5A | 1.91 |
| P-3071 | 360-360 | 180 | $5 V-3 A$ | 6. $3 \mathrm{~V}-9 \mathrm{~A}$ | 13.23 |
| P-3072 | 360-360 | 180 | $5 \mathrm{~V}-3.4$ | 6.3V-9A | 12.49 |
| P-3069 | 350-350 | 225 | 5V-3A | 6. $3 \mathrm{~V}-10 \mathrm{~A}$ | 13,23 |
|  |  |  |  | $6.3 \mathrm{~V}-2.7 \mathrm{~A}$ |  |
| P-3070 | $350-350$ | 225 | 5v-3A | 6. $3 \mathrm{~V}-10 \mathrm{~A}$ | 12.49 |
|  |  |  |  | $6.3 V-2.7 A$ |  |
| P-3039 | 360-360 | 250 | $5 V-2 A$ | $6.3 V-2.7 \mathrm{~A}$ | 14.70 |
|  |  |  | $5 V-3 A$ | 6.3V-9A |  |
| P-3063 | 360-360 | 250 | $5 \mathrm{~V}-3.8$ | 6. $3 \mathrm{~V}-9 \mathrm{~A}$ | 13.23 |
|  |  |  |  | $6.3 \mathrm{~V}-1.2 \mathrm{~A}$ |  |
|  |  |  |  | $5 \mathrm{~V}-2 \mathrm{~A}$ |  |
| P-3061 | 362-362 | 295 | $5 Y-6 A$ | 12. 6VCT-5A | 16.17 |
|  |  |  |  | 5V-2A |  |
| P-3073 | 322-322 | 180 | $5 V-3 A$ | 6. $3 \mathrm{~V}-10 \mathrm{~A}$ | 16.17 |
|  | 205-205 | 70 |  | $6.3 V-2.74$ |  |
| P. 3066 | 375-375 | 170 | $5 V-3 A$ | 12. GVCT- 5A | 14.70 |
|  | 325-325 | 130 | $5 V-3 A$ | 6.3V-2.6A |  |
|  |  |  | 5V-2A |  |  |
| P-306 7 | 400-400 | 220 | $5 V-3 A$ | 6. $3 \mathrm{~V}-10 \mathrm{~A}$ | 14.70 |
|  | 212-212 | 90 | $5 \mathrm{~V}-3 \mathrm{~A}$ | 6.3V-2.6A |  |
|  |  |  | $5 \mathrm{~V}-28$ |  |  |
| P-3077 | 300-300 | 250 | $5 \mathrm{~V}-3 \mathrm{~A}$ | 6.3V-9A | 10.77 |
| P-3078 | 360-360 | 2-3 | $5 \mathrm{~V}-3 \mathrm{~A}$ | 6. 3A-9. | 13.82 |
|  |  |  |  | 6. 3V-1.5.4 |  |
|  |  |  |  | 6. 3 or 5V-2.7A |  |
| P-3079 | 140 | 300 |  | 6, 3V-9A | 8.67 |
|  | tap 117 |  |  | 6.3V-2A |  |
|  |  |  |  | 6.3V-9A |  |
| P-3076 | 270-270 | 300 | $5 \mathrm{~V}-3 \mathrm{~A}$ | $6.3 \mathrm{~V}-6.5 \mathrm{~A}^{*}$ | 14.11 |
|  | 180-180 | 200 |  | 6. $3 V-6.5 \lambda^{*}$ |  |
| "Cin be used in sersios for 12,6V. |  |  |  |  |  |
| REPLACEMENT TY FILTER CHOKES |  |  |  |  |  |


| NUMBER | HEPRIES | SiA | Cims DC | INSULATION | MTG. | HET |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C-2973 | 1. 5 | 10 | 95 | 1500 | A | \$ 1.03 |
| C-2994 | 1.5 | 200 | 90 | 1500 | A | 1.32 |
| C-2995 | 8.0 | 100 | 37.5 | 1500 | A | 1. 76 |
| C-2991 | 2.0 | 250 | 53 | 2000 | A | 2.59 |
| C-2996 | 1.0 | 300 | 60 | 1500 | $\lambda$ | 2.0 |

## VERTICAL OUTPUT TRANSFORMERS

Number Turns Ratio ti. H. D. Murnting Net

| A-3035 | 10-1 | 3-1/8 ${ }^{\text {\# }}$ | 2-11/16 ${ }^{\text {H }}$ | 2-1/2 ${ }^{\text {H }}$ | LV | \$ 3.68 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A-3036 | 10-1 | 2 " | 3-1/4" | $2^{\prime \prime}$ | A | 2.50 |
| A-3037* | 11.4-1 | $2^{\text {" }}$ | $3-1 / 4^{\text {H }}$ | 1-5/8" | A | 2.50 |
| A-3038 | 10-1 | 2-1/4" | 3-11/16 ${ }^{\prime \prime}$ | 2-1/4 ${ }^{\prime \prime}$ | A | 3. 23 |
| A-3039 ${ }^{\text {a }}$ | 18-1 | 2-1/4" | 3-11/16 ${ }^{\text {\# }}$ | $2-1 / 8^{17}$ | A | 3. 23 |
| A-3080 | 25-1, 50-1 | $2^{\prime \prime}$ | 3-1/4 ${ }^{\text {n }}$ | $2^{\prime \prime}$ | A | 3.53 |
| A-3081 ${ }^{\text {- }}$ | 30-1, 50-1 | 2-1/4" | 3-11/16 ${ }^{\text {H }}$ | 2-1/4 $4^{14}$ | A | 3.82 |

BLOCKING OSCILLATOR TRANSFORMERS
Number Turns Ratio hi.

| A-3000V | 1-4.2 | 1-3/8" | 2-3/3 ${ }^{\text {" }}$ | 1-1/4 ${ }^{\text {m }}$ | A |  | 1.36 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A-3001V | - | 1-5/8 ${ }^{\prime \prime}$ | 2-13/16" | 1-1/2 ${ }^{\text {" }}$ | A |  | 2.35 |
| A-4000V | 1-4.2 | 1-3/4 ${ }^{\text {" }}$ | 2-5/16 ${ }^{\text {" }}$ | I $-1 / 2^{\text {m }}$ | J |  | 1.91 |
| A-3002H | 2-1 | $1-3 / 8{ }^{\prime \prime}$ | $2.3 / 8^{\prime \prime}$ | '1-1/4" | A |  | 1. |
| A-40024 | 2-1 | 1-3/4 ${ }^{\text {n }}$ | 2-5/16 ${ }^{\text {\# }}$ | 1-1/2" | J |  | 4 |
| A-4003V | 1-4.2 | 1-8/16 ${ }^{\text {" }}$ | 1-3.16" | 1-3' $13^{\prime \prime}$ | JL |  | 1. 91 |
| A-3004V | Philco | 32-8304-8 | 1-42 |  |  |  | 1.62 |

"yn Vertical "un
68
50
50
23
23
.53
3.82

- duto Transformer
1). Wluantinc* Nct
"Pri/Sec 1. 1-2.08-Pri/Sec 2, 1-1.


FOCUS COILS


Number Depth Tube Size Equivalent MA DC Res. stic. Net MF-1. $1-15 / 32^{\circ} 10^{\prime \prime}-12^{\prime \prime} \quad$ RCA 202DI $100 \quad 247 \quad P \quad \$ 4.85$ $\begin{array}{cccccccc}\text { MF-2 } & 1-3 / 16^{\prime \prime} & 16^{\prime \prime} & \text { RCA } 20202 & 100 & 470 & \text { S } & \mathbf{6 . 4}\end{array}$ $\begin{array}{lllllrrr}\text { MF-3 } & 1-15 / 32^{n} & 10^{n}-12^{n} & \cdots \cdots \cdots & 100 & 360 & \text { P } & 4.8 \\ \text { MF-4 } & 1-3 / 16^{n} & 14^{n}-20^{n} & \cdots \cdots \cdots & 75 & 1000 & S & 6.4\end{array}$




## VHF TELEVISION BOOSTER

Superior performing VHF coscode booster for allchannels 2 - 13 . Works with sets with cascode front end. Accurate trocking on all channels. Large, easy-to-read single funing knab. 300 ohm input and oupput. Ceramic switches. Tubes: 1-6J6, 1-12AT7. TV set plugs into booster, booster into woll socket. Operates on 117 VAC 50/60 cycles. Brown bakelite cabinet. size $4 / 2 \times$ $61 / 2 \times 41 / 2^{\prime \prime}$. Shpg. Wgt. 4 lbs.
MODEL DB-550. Net.................... $\$ 22.05$

## ASTATIC

"SCANAFAR"


MODEL CT-1. Two-stage booster for VIF channels 2-13. Excellent bandw idth. Uses a neutralized 636 driving a push-pull dual triode grounded grid circuit. Bal. anced, cascaded clrcuit provides added signal strength with low noise level. Has input and output connections for 72 and 300 ohms. Attractive metal cabinet finished in brown Hammerlin with gold trim. Size: $6 \% \times 4 \% \times 5^{n}$. Complete with seltrim. Size: 6 rium rectifier and tubes. For operation enium rectifier and tubes. For wgt. 51 b .
an $110-120$ VAC 60 cy . Shpe. Wit N Net $\$ 20.38$

## RMS PIX-EYE

MODEL TE-5. Plugs into picture tube socket for instant spotcheck of brightness control circuits, contrast control circuits. video circuits. low voltage circuits, filament voltage circuits. No need to remove chassis from cabinet. Also checks picture tube for shorts, intermittents, open circuits. Speeds television servicing.

Het $\$ \mathbf{5 . 8 5}$
G-C INTERLOCK CABLE CORD


Replacement cord for RCA, Philco, fiallicrafters. Admi ral, and many others. Fits into socket in rear of chassis. Regular molded rubber plug on other end.

No. 8200
Net \$ 44
AC INTERLOCK PIUG


Mounts on TV receiver cabinet. Serves as male socket for female plug end of AC sufety cord.
NO. BR-75
Net \$ . 13

## "The Standard Turer"



## SUPER CASCODE TUNER, Nominally set

 of factory of $22: 3 \mathrm{MC}$ but con be adjusted to ony frequency within the range of 19-26 MC. Inereased sensitivity for fringe oreo reception. Readily adoptoble for UHF. Low noise foctor. Long shaft can be cut to desired length. Uses 1-6BQ7, 1-6J6. Perfect tracking on all channels 2-13. Complete with fubes. Shpg. Wgt. 4 lbs .MODEL TV.2232. Net.................. $\$ 24.01$
MODEL TV.6532. Same os above but for TV sets in 41 MC IF ronge. Net.... $\$ 24.01$

## PERFECTION ION TRAPS

SINGLE PIELD ION TRAPS to be used on bent-gun type TV picture tubes. Simple to install and adjust. Net $\$ .49$

DOUBLE FIELD ION TRAPS to be used an straight-gun type TV picture tubes. Simple to instali and adjust. Net $\$ .99$

## PERFECTION

B. 0 . Eliminator

B. O. Eliminator. Eliminates B.O.. (Barkhausen Oscillation) vertical black bars which appear in picture. Device clamps around horizontal sweed output tube and dark bars usually leave. Net \$.73


Autoratic voltage regulating action produces steadier TV pictures by maintaining 110 AC or DC line voltage at a constant level. Protect the TV set by assuring safe operating potential that prevents the damage of tube and parts from line voltage surges. Simply plue the reguletor into wall outlet and the TV set line cord into the regulator itself.
No. 93-7
300 Watts
Net \$ 1.76

N0. 93-8 375 watts $\quad 1.76$

## PLASTIC TUBE MASKS



For convorsion and custom-builr installations. Mado of finest unkrookable cleor Acrylic. Pre. cision optical perfection. Framed in quality gold loaf finish. Provido onti-static distortionfree pictures ond sorves as protoctive shicld ree pictur
for tube.
for tube.
Number
T105.14
T 105.16
T105.16R
T105-17
T105.19R
T105.20
T 105.21

For Tube
14"Roct.
18" Roct.
18" Round
17" Rect.
19" Round
$20^{\prime \prime}$ Roct.

Net
5.56
5.56
6.61
6.61
7.03
7.61
7.61
10.88
10.88
11.08


## UHF CONVERTER

Can be installed in five manutes. Simple accurate tuning throughout the entire UHF bond. Converts any VHF TV receiver to iune ALL UHF chonnels $14-83$. Slide rule dial. Front control furns TV set off-on, permits changeover from UHF to VHF. No strips or switches necessary. Connect UHF ond VHF antennas to converter, connect lead (furnished) between converter and receiver, set receiver to chonnel 5 or 6 and tune UHF. Furnished with built-in UHF antenna which works in same high signal areos; hawever outdoor UHF antenno is recommended for best results. Attrastive moroon plastic cabinet. For operation on $110-120$ VAC $50 / 60$ eycle. Shpg. Vigt. 8 lbs.
MODEL 88. Neभ............................ $\$ 22.48$


## ANTENNA-MOUNTED TV BOOSTERS

Mounts at antenno ahead of lead-in. Selftuning, amplifies all VHF chonnel signals. No manual puning necessary. Up to 3000 feet of wire may be used. Single lead-in corries power up, brings amplified signal down. Weatherproof amplifier mounts easily an mast, junction contral box easily hidden in TV set. Uses four tubes for separote high and low band 2-stage amplifiers. Input and output 150-300 ohms. Operates on 105-125 VAC 60 eycles. Complete with tubes, less lead-in. Shpg. Wgt. 11 Ibs.
MODEL 3010. Net.
.$\$ 51.74$

## STANCOR <br> CR TUBE BOOSTER


modfl. P-8192. Adds montis of life to any dim electro-magnetic Ck tube, regnrdless af size, when dimming is due to law cathode emission. Easy to install. Two positions, Hi and Low. 15" leads supplied. No AC cannection required, no connections to solder. Does not change Cr tube space requirements. Two levels
 Shipg. Wgt. 11 b .

Net \$ 2.89

## TELEVISION KITS - TEST INSTRUMENTS TEl

## "Universal"



## TELEVISION KIT

MODEL 5116. Brand rew model of the famous Tech-Waster 16 -tube $A C-D C$ kit which includes such features as two knob. iront panel control which automatically synchronizes pictury and sound, improved 12 channel tuner, latest type hi-gain stagger-tuned I.F. system, sufficient high voltage for tubes up to and including $17^{\prime \prime}$ on AC. Mayiroum signal even in fringe areas. New AGC system with special delas network for steady pictures regardless of varying transmission conditions. Complete factory pre-wired. aligned and tested 1.F. Synchro-Strip. This saves much of the work and worry of alignment heretofore present in other kits. Ideal for radio and trade schools. No special tools required for construction, helpful step-by-step, pictorial and schematic diagrams included in eyery kit. Beam power acdio output. $4 \times 6^{\prime \prime} \mathrm{PM}$ speaker.. Ciassis is srall in size, $17 \times 14$ $x \neq$ ", light in weight and shockproof. Complete with tuner and all tubes, all hardware, tube mounting for picture tube, all instructions, less picture tube. wire and solder. For operation on $110 /$ $120 \mathrm{~V} . \mathrm{AC}-\mathrm{DC}, 40 / 60 \mathrm{cy}$. Shyg. Hot. 30 lbs.

If.SS PICTURE TURE
Net $\$ 99.95$

TECH-MASTER


DELUXE KIT
America's finest television kit. The Yorld famous RCA 630 type circuit now further improved by Tech-Master engineers. Features include keyed AGC circuit whici minimizes or eliminates "airplane flutter" and other annoying interierence, advanced type 12 channel turret tuner for positive lock-in, improvel picture brilliance with new liigh Swcep voltage multiplier system. Truly on excellent lit for the discriminating buser who wants the best or for the ravio and television schuol where uniformity and simplicity of construction are paranount. Every hit is iurnished with complete step-by-step instructaons. pretorial and schematic diagrans: An speriul rools ure needed. Sensltivity al an an makes this an excellent receiver for trabe areas. Proper electromenctic deflectiun tut any tube reguiring 53 to 73 despees notizontal deflection. Any pletire turn 1 rona $17^{\prime \prime}$ to $24^{\prime \prime}$ nas be uspa. (Universal mounting bracket supplited.) Complete with 29 tubes, speaker, ail instruct ions (less kinescupe, wire, alda suiacr). Saze$213, \mathrm{H} \times 153 \mathrm{n}$. For $105 / 125$ VAC 60 cy. Shyg. Wht. 65 lbs .
model giar-dzt deluxe kit. All principal corponents mount cu.

Net \$ 139.50

Bhe Retbon


## WIRED CHASSIS

## 29 TUBES

## INCLUDING RECTIFIERS

LESS PICTURE TUBE
Custom-built TV chassis with automotic focus designed for use with new lowvoltage electrostatic self-focus tubes sueh as $17 \mathrm{TP4}, 21 \mathrm{MP4}, 24 \mathrm{BP4}$, etc. Completely wired, aligned and tested, with all parts and tubes (less kine), quality PM speaker. Ready foruse. Uses basic 630 type circuit features plus automatic saund picture synchronizatian. Advanced, cascode 12. channel (VHF) turret tuner. 5 micravolt sensitivity. 16 KV 2nd anode valiage. Double-time constant AGC. Automatic background control. Operates on 117 VAC $50 / 60$ cycles. Size: $213 / 3 \times 161 /{ }^{\prime \prime} \mathrm{D}$. Shpg. Wgi. 55 lbs.
MODEL C.30. Net.
.$\$ 149.50$

TECH.MASTER CHASSIS AND KITS ARE AVAILABLE WITH BUILT-IN UHF CON. VERTER WHICH TUNES CHANNELS 14 . 82 AT EXTRA COST OF $\$ 36.95$ NET.

# SIMPSON 



NEW

## "MIDGETESTER"

Compact as a pack of eigarettes. Smallest practicol voif-ohmmeter conmercially availFits into your shirt pocket. Size only ${ }^{11}$ thick, $4 \frac{1}{2}$ " long, $2^{3 / 41}$ wide. Attractive polished styrene case. $A C$ and $D C$ voltage ranges, 0-3.12-60-300-1200 at 10,030 ohms per volt. Resistance, $0-10,000$ ohms, 0 100,000 ohms, 0.1 megohm, $0-13$ megahms: Complete with test leads ond instructions. Shpg. Wgt. 3 lbs.
MODEL 355. Neq.


## NEW SIMPSON

 WHITE DOT GENERATORFor moking linearity adjustments of black and white TV and linearity and convergence adjustments on color TV receivers. Vertical and horizontal synchronization assures correct aspect rotio. Has ample attenuation, 300 dim RF output. Pasitive or negotive video ourput, excellent for occurote and fast checking fransient response of video amplifiers. Housed in ottractive grey hammerloid case, size $\left.8 \times 8^{\prime} 2 \times 1\right\}^{\prime \prime}$. Operotes on 117 VAC 50/60 eycle. Complete with shoulder strop and operating instructions. Shpg. Wgt. 15 lbs.
MOOEL 434. Nef........................ $\$ 144.55$


RF SIGNAL GENERATOR
WR-49A


Compact and lightwerght signal generator with builtein DC blocking condensers in probe rip. Used for olignment and signal tracing in $A M . F M$ receivers, alignment of low frequency If amplifors in TV receivers and signal iracing and roubleshooting in TV. Six ranges: 85-200 KC. $200.550 \mathrm{KC}, 550.1600 \mathrm{KC}, 1.6 .4 .8 \mathrm{MC}, 4.7 .14$ MC, 13.30 MC . Coarse and fine RF atfenvaror controls. $1 \%$ accuracy Jial calibration. Size: $71 / 2 \times 101 / 2 \times 6$ "D, Blue.grey hammeroid case wilh satin-aluminum panel. Operates on 117 VAC. Complete with output cable, subes, and instruc. tions. Shpg, Wgt, 10 lbs.
MODEL WR.49A. Ne

## Tes CATHODE RAY OSCILLOSCOPES

## THE HICKOK ELEGTIGICI IUSTRUUENT COUPAXY



MODEL 665. New flickok $5^{\prime \prime}$ scope with all the needed characteristlos for accurate TV alignment and service work. Frequency range: 0.5 cycles to 700 KC , down 3 DB . Amplifier: Push-pull, vertical sensitivity 20 MV RMS per inch. Horlzontal, 30 MV RMS per inch. Vertical Input Impedance: $15 \mathrm{MMF}, 2.2$ megohms. Horizontal Input Impedance: 52 MMF, 0.1 megohms. Sweep Oscillator Range: 18 CPS to 50 KC . Witlistands shock, vibration. humidity. Uses $5 U P 1 \mathrm{CR}$ t 1 je, 1-1V2, 1-6Xt. I-6AB4. 3-12A「7, 1-6J6. Blue Hammertex steel case, $13 \mathrm{H} \times 174 \mathrm{D} \times \mathrm{g}_{2}^{\prime 2}$ "h. 23 lbs. net: Shpg. Wge. 30 1bs. moner 663

NET $\$ 129.50$


## НІскок

## wiof range

5" Labobatory
Oscillograph

For tae industrial and professtonal engineer, a versatble scope tor observation of transient or regular recurring phenomena. Vertical amplifier has flat freq. res. of $0-4.5 \mathrm{MC}$ within 3 DB with sensitivity of $25 \mathrm{mV} / 1$. Vertical sensitivity switch to increase to $10 \mathrm{mV} / 1$ with res, of $0-1 \mathrm{MC}$. Horizontal andilft. er freq. res. $0-200 \mathrm{KC}$, sensitivity 50 MV/1. Recurrent and driven sweep of 2 cy . to 30 KC . Sweep speed up to $0.75^{n}$ per microsecond. Expandable sweed, 6 times. Fixed freq. speeds of 30 and 7875 for observance of uaveforms. Sync at 60 or 120 cy External or Internal sync. Builtin peak-to-peak calibrating voltages of $100 ; 10 ; 1$, and 1 volts. Sawtooth sweed output available. Phase control 0-900. $Z$ axds modulation. Shoch mounted. Mu metal shielded, calibrated scale for calibrating voitages. Supplied with SUP1. For $105 / 125$ vac 60 cy, Size: $142 \times 11 \times 19$. Slupg. Wgt. 44 lbs.
MODEL 640
NET \$355.00


MODEL 670

OSCILLOGRAPH

Tailored to the exacting requirements of modern TV servicing. Designed with DC amplifiers to provide perfect square Wave response on low frequencs, even down to DC. Direct coupled, balanced, (push-pul1) amplifiers for horizontal and vertical deflection. Sensitivity . 01 ( 10 MV ) RMS per inch. Recurrent linear sweed; 3 cy . to 50 KC . Fixed sheep frequencies: 30 cy and 7875 cy . FREQURNCY RANGE: Vert. Amp. . DC to 500 KC , down 3 db . Usable to beyond 2 MC ; pulse rise time 0.6 microsec. Horiz. Amp, $0-100 \mathrm{kC}$; pulse rise time 3.8 microsec. Demodulator circuit fo: viewing modulation on RF slgnal. Reversing switches for both hordzontal and vertical deflection. Negative and positive synchronizing. Provision for direct connection to hordz. and vertical plates of CR tube. Portable steel case, size $9 \% \times 12 \% \times 18^{n} \mathrm{D}$. For operation on 105-125 VAC $50 / 70 \mathrm{cy}$. Shpg. Hgt .35 lbs.
HOUEI 670 NET $\$ 244.00$

## hickok crystal demodulator probe

Then used with any CRO, enables user to trace a modulated RF signal at any frequency up to 500 MC through a radio or television receiver from the antenna post to the detector or discriminator. Complete instructions with undt. Shpg. Higt. $1 \frac{1}{\mathrm{~b}}$.
MODEL 34 PROBE
Net \$ 9.80

## HICKOK TELEVISION PROBE

For use with any scope to reduce the capacity induced through long leads to receiver. Reduces loading to approximately 15 mafd., thereby not usually arfecting clrcuit. Non-frequency discriminating. Shpe Wet. 1 lb .
MODEL TYP-1 IPROBE
Net \$ 12.60

## JACKSON 5.INCH OSCILLOSCOPE FOR VHF.UHF.COLOR

High sensitivity, wido band scopo, 018 RMS volts por ineh. Corroct color responso. Flat with in 1 DB from 20 cycles througt 4.5 MC . This foature neesssory for ovaluating color
burst signal and lovel of eolor chrominenea signal. With burst signal and lovel of eolor chromineneo signal. With bandwidth of 20 eycles through 100 KC , the sensitivity
ronges ore $.018,18,1.8$ RMS volts per ineh. Wide band rongos ore . 018 , $18,1.8$ RMS volts per inch. Wido band position 20 cyclos through 4.5 MC , has sensitivity ronges
of $25,2.5,25 \mathrm{RMS}$ volis por inch. Intornal horizontal sync. of $25,2.5,25$ RMS volis por inch. Intornal horizontal sync. Horizontol swoep expansion, four times sereen width. Pushpull horizontal omplifiers have sensitivity of 0.40 RMS volts per inch. Vertical input impedance: 1.5 megohms,
shuntod by 20 mnfd . Horizontal input impedance shuntod by 20 mmfd . Horizontal input impedance: 1.1 meg. ohms. Vertieal polarity reversal switeh. Return troee blanking, Synchronizing input control: four positions; internal positive, intornal negative, external, 60 eycle. Seope is suitable for all TV color and black-white systems, FM and AM. Oporeres on 117 VAC 60 cyclos. Sizo: $13 \times 10 \frac{1}{4} \times 15 / 4 / \mathrm{WW}$. Finish: steel.grey Ham.R. Tex. Shpg. Wgt. 32 lbs .
MODEL CRO.2. No
MODEL CR.P Demodulation Probo. Not................... $\$ 9.75$ MODEL 10 LCP Low Capacity Cathode Follower


जाज口

## BIG 7-INCH SCOPE KII



MODEL $470-\mathrm{K}$. Big 7 inch scope kit for all servicing needs, schuols, 1aboratorles, etc. Frequency Response: Vertical amplifier, 10 cycles to $1 \mathrm{MC}, 2 \mathrm{DB}$. Horizontal amplifier, 10 cycles to 200 KC $\pm 0 \mathrm{DB},-4 \mathrm{DB}$ at 500 kc . Buth amplifiers have cathode follower input, push-pull output. Sensitivity: Vertical, 0.01 volts RMS per inch. Horizontal, 0.3 volt RMS per inch. Sweep Range: 15 cycles to 100 KC in 4 overlapping ranges. In. ternal Voltage Calibrator allows direct reading of peak-to-peak voltage on calibrated screen. Kit is complete with separate construction and instruction manual, all parts, tubes, including CR tube Blue-grey steel case, size $10 \times 15 \times 15^{\prime \prime} \mathrm{D}$. operates on $105-125$ VAC $50 / 60 \mathrm{cy}$. Shpg. Rgt. 35 lbs.

Net $\$ 79.93$
MODEL 470. Sane as above but factory wired and tested.

Net $\$ 129.50$


## HIND <br> 425 SCOPE KIT

MODEL $425-\mathrm{k}$ OSCILLOSCOPE KIT. Wide range, high sensitivity. push-pull deflection scope for FM, TV, \& AM allgnment. Sens tivity 05 to 1 volts per inch. Wide range, flat from 5 CPS to 500 KC with full gain setting, useful to $2^{1 / 2} \mathrm{HC}$, Hide range, multi-vibrator, sweep circuit from 15 CPS to 75,000 CPS. Direct connection to plates of $C R$ tube avallable at rear of cabinet. $Z$ axis intensity modulation feature included. Size: $8^{1 /} \times 17 \times 13^{\prime \prime}$ H. Complete with 3-6SN7, 2-6J5, 2-5Y3, and 5BP1 tubes. Operates on 110-120 VAC. 60 cy . Complete with all assembly instructions, diagram, tubes, parts, cabinet and panel. Less solder. Shpg. Hgt. 30 lbs.

Net \$44.95
MODEL 425 - Same as above but completely wired and tested. Nert $\$ 79.95$

SEE PAGES 108, 109, 110 , AND 111 FOR COMPLETE LINE OF EICO KITS AND WIRED TEST EQUIPMENT

## Simf150n <br> OSCILLOSCOPE

CALIBRATOR


MOUEL 276. Adants your scope for voltise measurements by comparative methods. Continuously variable calibrating voltage supplied, indicated by $4 / 2^{\prime \prime}$ meter, shows RMS values 0.06 V to 90 V , weak values from 0.1 V to 125 V , and peak-tu-peak values from 0.2 V to 250 V . Bakelite case, $5^{3}$, 7 x $31 /{ }^{\prime \prime}$. For $105-125 \mathrm{VAC} \cdot 50 / 60 \mathrm{cy}$. Shpg. lit.
51 ls .
NET $\$ 28.91$

PHONE GHESTNUT A -1125
1125 PINE STi., ST. LOUIS. 1, MO.

# (BG) <br> oscilloscopes 

W0-88A

## 5" SCOPE



MHEL WO-88A. New $5^{\text {t }}$ scone for General purpose Industrial and Television servic. ing. Vertical amplifier response flat from $0-100 \mathrm{KC}$, sensitivity 25 MVPI rms. Useful beyond 1 MC. Horizontal sensitivity 0.6 volts ms. Calibrating voltage, 0.35 volts. sweep frequency 15 CPS to 30 kC. (4 ranges). Positive and negative sync facilities. Frequency compensated attenuators. Direct coupled push-pall writical amplifier, Complete with Direct Probe and Cable. I.ow-Capacitance Probe, Clip. Ground Lead, Green filter graph screen. tsers 1-fixt. 1-12au7. 2-GAUG. 1-1V2. 2-12AT7. 1-5UP1, Size, 9W, x13: $\times 16$ ™ $^{\text {mid }}$. Operates on $105-125$ VAC 60 cy . Net weight 25 lus., Shpes.
MOUPI. WO-88A SCOPE
$\$ 149.50$


WO-56A
7" SCOPE

MODEL MO-56A. New $7^{\prime \prime}$ scope tube model with identical vertical and horizontal amplifiers direct coupled for flat response down to DC. Push-pull throughout. Peak-to-peak calibrating vultage source. Frequency response of both amplifiers flat within -2 DB from 16 to 500 KC useful beyond 2 MC . Cre tube well shiclded. inal controls for coarse and fine tuninis Ideal for TV service, hus pre-set fixed positions for TV vertical and horizontal haveforms. "plus and minus" sisnc. Line frequency sweep and sync $w i$ th phasing. weflection sensitivity: Vertical. Mrl rims 10.6 w ith direct probe. Horizontal. MIPI rnis 21.2 without cable and probes. Variable sweep frequency 3 CPS to 30.000 . Uses 4 -6BH6. 5-12AUT. 1-6X4. 1-1V2. anl TJP 1 scope tube. Complete with Dirfet Probe and cable, Low-Capacitance Probe, Ground Lead. Clip. Gruph Screen. Operates on 105-125 VAC 60 cy . Case finished in blue-grey hammeroid. size 13-3/8H.

MORFI. WR-56A SCOPF:
\$274.50

## SYLVANIA

Designed for use with any scope to guickly and accurately measure peak-to-peak voltages, voltsge uf wavefurms, etc. May be used us a calibrated voltage source. Eliminates need for peak reading voltmeters. Output is a 60 cy . square topped, calibrated and adjustable symmetrical
 wave. Output impedance, 100,000 ohms. Calibrated step attenuator multiplicer $.001 / .01 / .1 / 1 / 10$. For $105 / 125 \mathrm{VAC} 60 \mathrm{cy}.$. Iused, Pearl grey cabinct. size $1 l^{\text {la }} \times 5 \mathrm{x}$ 4id. Shug. Hit. 8 los.

MODEL 300
NET
$\$ 44.50$

400

III-Purposer

Oseillomerope

 sithe, wde-bud soup derterdexpert
ally for servicing TV receivers. Accurately shows any TV pulse, waveshape or signal on $7^{\prime \prime}$ screen, HIG: VERTICAL SENSITIVITT: 0.01 volts RMS ( $10 \mathrm{~N}: \mathrm{V}$ ) per inch. Vertical response flat from 10 cy, to 2 MC . useful to 4 MC . Square wave response to 50 Kc . Usable with any crystal. direct special probe or with lead supplied Hard-tube multivibrator sweep circuit: Iinear sweeds from 15 cy . to 50 KC; rapid return trace. Direct 24 volts Rus per inch $P$. to $P$. Hor. ump. 0.5 volt RMS per inch P. to $P$. Direct 26 volts RMS per inch P. to P. POYER SUPPLY: 117 V $50 / 60$ cy. . 200 watts. Fuse protected. SIZE: $17 \mathrm{H} \times 11-3 / 8 \mathrm{Hx} 17-3 / 4^{\mathrm{H}} \mathrm{D}$. FINISH: Pearl grey mar-resistant crackle finish. Panel grey with green, baked-on-enamel letters. Shpg. 4it. 45 lbs .
montl. 400 NET $\$ 249.50$

## PRECISION

 izuntal amplifier. In black ripple heavy game steel case. Size: 8 m $\times 14^{\text {lox }} \times 18$. Includes light stield. calibrating mask. anti instruction manual. For $110-120$ Vac $50 /$ fio cy. operation. shpg. ingt. ff lis. MONT: ES• 300A

Net \$ 170.23
SFRIES SP-5. Oscilloscope Test Probe Seto Fur TV signal tracing. alignment. trouble shooting and waveform analysis. for use with Precision ES-500 and ES-500A scopes. Set consists of shielded Master cable and four different detachable probe heads. 1-High impedunce. Low Capacity. 2-Signal Tracing, Crystal Prohe. 3 -hes istive. Isolating Probe. + -Shiclded Uirect Probe. Cahles. instructions. in vinyl plastic rase. Net $\$ 23.03$

PRECISION OSCILLOSCOPES


5" general purpose scope. Push-pull vertical and horizental drive, vertical 20 millivolis per inch sensitivity, horizontal 50 millivolts per nch sensifivity. I volt pealefo-peak regulated oltage calibrator. Vertical feequency response 20 eyeles to 500 KC within 2 DB . Vertical quore wave response from 20 cycles to 50 KC aternal linear swoep 10 eycles to 30 KC Buils in 60 cycle sine-sweep phasing control. Beam modulation input terminal of front of panol. All four deflection plates directly accessible of rear. Removable, calibrated screen. Complete with all tubes including SUPF CR. Operates on 117 VAC. Size: $81 / 4 \times 14 / 2 \times 16 / 2^{m}$. Shpg. Wgt. 30 lb . MODEL ES-520. Net.................................. $\$ 124.95$


7" high sensitivity, wide band scopo with response $D C$ to 5 MC . Rush-pull vertical and horizontal DC amplifiers. Narrow band verrical sensitivity 5 MV per inch, wide band 100 MV . Vertieal frequency re sponse: nariow bond 3 DB or botter at 500 KC , wide bend 3 DB or better at 5 MC. Frequency-compensaied, cathode fotlower, step-atienuatop decads input on both $V$ ond H amplifiers. Builtoin, pressoto-calibrate, 1 volt peok-toepeok voltage source. V pattern revolt peaktoep ok voltage source. Pat on both narrow and wide bend. Horizental sensitivity 100 MV per inch, 3 DB or better from $D C$ to I MC. Beam modulation input terminal. All tour deflection plates directly available at rear. Built-in 60 CPS phosing and tlanking con. trols. Operates on 117 VAC. Complete with all tubes including 7VPI CR tube. Size: $10^{1 / 2 \times 141 / 2 \times}$ $18 \mathrm{j}^{\prime \prime}$. Shpg. Wgt. 48 lbs .
MODEL ES.570. Nop..
.$\$ 269.50$

A complete signal source for the adjustment and troubleshooting of all color circuits in color television receivers operating on the NTSC approved color system. All component generators and power supplies are built-in. No external signal sources are required. This means perfect adjustment even when no color telecasts are avoilable. Crystal controlled 4.5 MC oscillator, crys. tal controlled color burst oscillator, nodrift synch signals, eight overlapping color bors, builtoin white dot and cross hatch generator. Operotes on channels 3-6. Complete with 21 tubes, cables, 4.5 and 3.58 MC crystals, and instructions. Operates on 105-125 VAC 50/60 cycles. Size: $181 / 2 \times 9 / 2 x$ $101 /{ }^{\prime \prime D}$. Shpg. Wgt. 23 lbs.
MODEL 712. Net........................ $\$ 343.00$

JACKSON


COLOR BAR AND WHITE DOT GENERATOR

## Tes TUBE TESTERS - COMBINATIONS

## FIrcioar

## DYNAMIC MUTUAL CONDUCTANCE TUBE TESTERS

PORTABLE MODEL


The popular radio and TV technicians model tube tester tests all latest tubes on "Good- Bad" scale and al so reads mutual conductance in micromhos. Tubes are tested under actual operating conditions Has life test feature. Also checks for noise and gas. Easy-to-operate roll chart. Sturdy, portable carrying case finished in black leather with removable cover. Size: $16 \frac{1}{4} \times 18-3 / 8 \times 7^{12}$. For $105 / 125$ 'VAC 60 cy . Shpg. Kgt. 33 lbs.
mone s33-AP NET \$185.80

## NEW COMBINATION



MODEL 605-A. Same fine tube tester as Model 600-A but also includes handy multitester with the following scales, ACDC volts $0-10 / 100 / 500 / 1000$ : DC sensitivIty $20000^{\circ}$ ohms per volt. AC 1000 ohms per volt. Resistance: 0.1 ohn to 100 megohms (center scale 25,2500, 500000 ohms). Inductance: to 70 henries. Capacitance: Microfarads: 50, 5. as 10 w as . 0001 . Current: DC $10 / 100 / 500$ MA, Also excellent for leakage test of electrolytics and checks for hum in any stage of receiver. Net weight 17 lbs. Dark red leatherette case with removable lid. Size 163,3 . xll" $x 7$ " D. For operation on $110-130$ VAC. Shpg Wgt. 27 Ibs.
moon gos-a cominatiov $\$ 189.50$
HICKOK MODEL CRT-I ADAPTER A cathode ray tube tester adapter which plugs into any late model Hickok tube tester and gives accurate readings of CRT condition. Applies separate voltages to each element of tube. In small handy case. Complete with cables. Shpg. Higt. 2 1bs.
MODEL CRT-1
Net \$ 9.90

PROFESSIONAL TYPE


Highest accuracy professional laboratory type tube tester. Checks all types of tubes including "ruggedized" under actual operating conditions. Reads mutual conductance directly in micromhos. Line voltage and DC grid bias metered at all times. Kas provision for insertion of plate MA for measuring ip in conjunction with Gm . Choice of one of three AC signals, $0.25,0.5$ and 2.5 volts can be injected into control grid. This permits more accurate testing of high gain tuber. Separate rectified voltages applied to each element of tube. Sensitive Gas Content test. Noise test. Accurate life expectancy feature. Separate AC meter provides line voltage rating at all times. Permits perfect matching of tubes. strong, portable carrying case, size. $163 \times 18=3 / 8 \times 7 \%$. For operation on $105 / 125$ Vac co cys shipg. WEt. 39 los.
mooz s39^ NET \$287.00

## SMALL PORTABLE


monfl 600-A. New lighter weight portable using dynamic mutual conductance method of testing tubes. Excellent for portable handling. Scale readings in micromhos or "Engl ish" Good-Bad scale. Efficipnt Gas test. Tests tubes under simulated operating conditions. Tests all latest type tubes. Fany-to-operate roll chart. Case has removable hinged lid, case covered in attractive dark red leatherette. Net
 Operates on $110-130$ VAC 60 cy . Shpg. IVt. 25 lbs .
wonal qoo-A tibe tistrx $\mathbf{\$ 1 6 4 . 0 0}$

## SYLVANIA

TUBE TESTERS


MODELS 219 (COLNTER) AND 220 (PORTABLE) TUBE TESTERS. Sylvania's new model tube tester for counter or portable will test any tube now on the market. Simplified operation and controls enable user tc quicly and accurately test tubes. All elements are placed as under actual test conditions by means of "Dynamic" tube testing method. New voltage control prevents tube damage. Switch numbers corres pond to pin numbers. New ohmmeter type indicator for shorts and leakage, shortind tube reads theplace ${ }^{\text {F }}$. New double size power transformer. For operation on 105/ $125 \mathrm{VAC}, 60 \mathrm{cy}$. Shpg. Wgt. ${ }^{2 \Omega}$ lbs.


MODEL 1000 PLATE, CONDUCTANCE TUBE TESTHR Ceaturing fast testing in cenverient ohms readings for leakage ani shorts. Tests any recelving tube by pase conductance readings on easy-to-read dinl. Tests are made under conditions simulating actual working conditions of tube. Multi-position toggle switch for selecting proper voltages for plate, screan and bias. Each tube element individually conrected to proper potential. New styde rolb chart. Lugeage-style carrying case, $16 \times 12 \times 6$ ". For 105-125 VAC 50/co cycled. Not weight 15 Jbs, Shpg. Kigt. 23', : bs.

MODFL 1000 NET $\$ 132.30$

## TalpLert



MODEL 3413A
tube tester

MODEL 3413-A. Modern tube tester fir all servicing uses. Tests all type $;$ of tubes including a pin, miniature hearins aid, pilot lights, etc. "Open" and "short" test for all elements on all tubes. \$position lever switches for all tube connections. Illuminated roll shert. New easv-to-read 6" meter with "GOOD-BAD" scale showing tube values. Appliance $\operatorname{con}^{2}$ inuity check. Metal case, siz" 1 少x $11 x_{1}:=$. Removable hinged lid. For 117 VAC $50 / t 0$ cycles. Shpg. $\$ \mathrm{~g} t .20 \mathrm{bs}$.

NET
$\$ 77.91$
MOMEL B. V. ADAPTER for testieg TV picture tubes in Model 3 $113 A$ Tube Tester.

Net $\$ 4.1$


CRT TUBE TESTER. Tests all magneticdeflected tubes, in the set or out of the sep. Will handle 7" to 30" pypes. Tests for quality byemission method on "Good-Bad" scale. Tests for interelement shorts and leatoges up to 5 megohms. Teit for open elements. Self-contained built-in power supply, no other insprument needed. Oper. otes from 110 VAC. Size $31 / 2 \times 5 \div \times 2 \%$ " Shfg. Wgt. 3 lbs.
MODEL TV 40 . Net.
. 15.53

SUPERIOR INSTRUMENTS

TV-11


Checks every type of recelvin: tube now available. Uses the estuolished emission mertwod of tusting for quality, will show shorts, leakages to 5 megohns. Nerk sel 1cleanins lever action sattches for indiidual element testifi. Built-in roll chart provides complete data. Nex lane control for variation between 105-130 VAC. Noise test: phono jack on front panel for plugging an either phones or axicrnal amplafier. Wis be used as Conam orr Laxabe Checher. Relaation tup crocillatur in this model will detert inute. Beautiful hand-rubbed oak cabiret with cuper. Sire: $11^{1} \times 13 \times \mathrm{f}$. Shyo. Wot. 15 lb :
M01F2. TV-II
NET \$46.55


MODEL 203P. Accurate, dependable readings by means of emissiun method. Completely flexible suitching arrangement by means of four position bever-tjpe swltches. Tests all t wos including Novalis and new sub-miniatures. Individual suchets for all type buses. Tests all tipes from. 7.5 to 117 volts. Shurts and leakige tests. Tersts all cold cathode magar eye. volt age regulatur and ballast tubes. line vultage cuntrol compensates tor variatiuns from 105-135 vults. lland-rubbed sho carrying case
maill mist NET \$46.55


lieteis ards rable of uperataun mith Shums condition of tube nicrumho and "resect-suod" Lubes fur ads cuntent. Detects shortud and upen clements. Checks all tubes nu eurrent and provision tor tubes of the luture. Tests tubes tor noase and RF'. lustrument fuse on panel. Checks indsvidual sections of multi-clesment tubes. Built-iu rull chart for ensy, quich tubttesting. Hand-rubled uak corryims can 4; Hit. 1816
mople 2utip
NET $\quad \$ 81.83$

## PRECISION APPARATUS

CR-30
CATHODE RAY
TUBE TESTER
PRECHSION CR-30 CAT DOH: HAY TUBE TESTER minch rests all Ty nacture thbes mag static, scopre tubes and industrad types TV weture tubes maj be tusted whiln $1 n$ stalled in the by means of cunnect-
 ing cables. Tests fant selection suitch system. Internal roltade rembated brage type VTby Hicro-lane voltwoe adjust namt meter monitured at frlament supply, assuring corract voltag" at all tames. Isolated sumer suppls. $4.5 \mathrm{~g}^{\prime \prime}$ full wision meter. haith speed roller tube chart. haidmood nortuble case with removade cover. Toul and test cable compartment. Size: 17ha 133, 6 h. For $105^{\prime} 105$ VAC. Shan. Wht. 22 1bsi.
MOOFI, CR-30
NET $\$ 102.65$

$$
10.12 \mathrm{P}
$$

MODEL 10-12p. L'ses * lic "electranamac" principie ul tube checking whach will whecurately evaluate the overall ructit of atube. Thas system alll lind bad tubes *hach many other testers mill pass as
 "okus". Free poant lever relement selec tion fur all "lements. Frec point interdement short chech. Srparate test on multi-section tibes. Tests ballast tubes and priot lamps. Line voltage adjustment. Fuse on pancl. Tests radio $A, B$, and $C$ jatteries under load. Isolated power supply. $4-5 / 8^{\prime \prime}$ fubl vision 50 microump neter. Portable hardwood case, size 133. 15140 m. Fur 105125 vac. Shpg. W.t. 23
10.
worl iv-12 NET $\$ 105.35$


Picture tube adapter cable Rode 10.12 10.15 10.20 20.22 $10.54,612$ 614. 620, 654, 910, 912, 914, 915, 920, 922

MODEL PTA. Net..... 86.61
MODEL © 12 P "Cathude Conductance" lret mont. lever operated tube and battery
 topes or tubers 11: whlo.. Fate.t.,

 tubes wid i dout lams. Wicsoline adyust
 t.rret. Easy-to-aperate toll ehart. Fanel tiounted tust. liardecou portablí Case, $51 \% 12 \times 13 \times 6$. For $10=1 \geqslant 5$ VAC 60 3. Shyg. Wot. $1^{\text {n }} 16$.
mumbe 612 F NET $\mathbf{\$ 7 7 . 9 1}$
MODEL G54P. Sam, tubu testur as dex crabirt in whel giep aith aduation ot 5 hev range's at 20,000 hms P $V$ up tur 6,000 bolts. 5 AC and out. put voltage ranges
 1. 000 ohms $P / 4$. G uC current ranges $0-$ 1 1.0 macruamp to 12 uny s. Onms, $0-60$ mef. 5 DB ranges. "Safety" 6.000 volt pin achs. 1r accuracy resistor $4-5.8^{n}$ wide angle meter. lsulated power supply. llardwoud portable casc. si\%e 12x13xt. Fur 10.5125 Vac. Shag. hit 20 lbs
Mord 65w NET \$107.55 movel 10-54P. Salle tuio checher as utscraped an Model $10-$ tion $G$ DC voltafe ranges at 20,000 ohms 1'/V up to 6,000 volts. 6 voltage ranges up to 6.000 rolts at 1.000 olimas F/V. $G$ output ranges
 60 microams to 12 amps. 6 lub ranges ano 4 resistance ranges to 60 neg. Uses 1 bre wound and netallized ösistors. A complete portable laboratory. Hardwood
 with batteries and hign voltage tost leads. Fir 105125 FAC . ShEs. Hgt. 25 l is Mour. fu-sw NET \$136.71

incerpmorate: Danime hpplí.'s voltage evith are also emtloyed. T sts tuves unforkl wrathan emathontive ripice indexed. 10,125 VAC, 50 (1.00 Che
$\$ 102.41$ CB-48 colnter mar.. Conver : 648-B betch

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Shorts and hath reststance leakiage 2.3

tulaes whelt may come rut in tian futhre
Simplithed, bullt-in rall chart with one war fren sujplement sorvica buchaded.



## "Your tradesin's worth moredrato ithe WALTER ASHE STORE"



FAMOUS MODEL 260
MODFL 260. Nut of the finest hi eh sansibtrugy, molctied bikelite sub-panel aisstrmparts are expused. dll figures and symbols are moldiod intu a heavy baktolite pantl and filled with durable white for lons wear and lopibility. DC grid roadangs as low as 2 mirroamperes and up to 10 amps. Resastance readings up to 20
Feegs and as low as $1 / 5$ ohm. 6 DC runges at 20,000 ohms per volt: $2.5,10,{ }^{\prime} 50 / 250 /$ $1000 / 5000$. $A C$ woltage ranges: same as UC tht at 1000 onths per volt. Output: 2.5/ Michuanperus le: 1(10. Amperes uC: 10.
 0-2000 (12 Ghms center), 0-200,000 ( 1300 ohms renter), $0-20$ meegulims $(120,1000$ oims (eenter). Complo-ti with test lands and

Moofl. 260 NET $\$ \mathbf{3 8 . 1 7}$
MODFI. 2UURT. Samw above but mounted in housing of heaty mulded bakelite and Jerphantly fastumid lu position. Flirk
of the finger rolls tup up and instrumeont is ready for survire, Complenta with monfl 2Gort NET \$45.96

HIGII VOLTAGE PROBE, Extends ranges of $2 f 0$ or 2 fiort to 25,000 VDC. Complete *1th instructions. Shpg. Hit. $\begin{aligned} & 8 \text { oz. } \\ & \text { Net } \$ \mathbf{9 . 7 5}\end{aligned}$ MODFL 1818. I eathar carrying cast for standard 260.

Net \$ C. 62
MOHFL, 4:336, Fver-Pady Neolite Carrying Casc for Models 200 and 303 . When cover roady for instant usu. Marle of top gradn MOMFL O-00837 1, FANS. Replacemant test loads for usn with Mosiel 260 and similar 1 nstraments. Has alligator clips on one and, elbok terminals on other (tester)
Net Per pair $\$ 1,23$

## ROTO-RANGER <br> AC-DC Volt-Ohm-Milliammeter

 with rotating dials

High voltage Prube tu permit readings up to 30,000 volts $0 C$ on Model 221 Ruto Ranger.

MODEL 262. AC-DC Volt-Ohm-Milliammeter 20,000 ohms per volt UC, 5000 oheis per volt AC, 7 inch dial - 7 inch case. 33 easy-to-read scales. Accuracy 35 DC, 5: AC of full scale reading. DCV: $0-1.6 / 8$ 800 . AF Output $V: 0-3 / 8 / 40 / 160$. LB: -8-11/-.5-19/-14.5-33.5/-26.5-45.5. Ohnt $0-500$ ( 4.5 ohms center), $0-5000$ ( 45 ohmis center). $0-50,000$ ( 450 ohms center), 0 500.000 ohms ( 4500 ohms center), $0-5$ mogs ( 45,000 ohms center), 0-50 més ( 450,000 ohms center). De current: .0-1. F/ $16 / 160 \mathrm{MA}, 0-1.6 / 16 \mathrm{amps}$. Sturdy portable case. Complete with leads, instructions. Net weisht 4 lbs, Shpg. Wgt. Net \$ $\$ 8.31$

## 100,000 OHMS PER VOLT

 MODFL 269. AC-DC Volt-Ohm-3ticroammpter, Ultra-sensitive instrument for hi th v tage measurements, TV receivers, labura tory research, other electronic work 33 useful ranges, accuracy of $3 \%$ DC. $5 \%$ $A C$, full scale deflection. 7 inch dial features extra lons scale. Ranges: icv; $0-1.6 / 8 / 40 / 160 / 400 / 1600 / 4000$. ACV; $0-3 /$ 8/40/160/800. AF Output Voltage; 0-3/g/ 40/160. DB; -8-11, -.5-19, -14.5-33.5, $-26.5-45.5$. Ohms; $0-2000$ ( 18 ohms center) $0-20,000$ ( 180 uhms center), $0-200,000$ ( 18,000 ohms center), $0-20$ megs ( 180,000 ohms center), $0-200$ megs ( 1.8 megohm Cfnter). DC Current: $0-1.6 / 16 / 160 \mathrm{MA}$, 0-1. 6/16 amps. Sturdy nortable case. Complete with test leaus. Net weight 4 lus. Shpg. Kgt. 6 1 bs . Net $\$ 86.24$ MOMEL 5262. Carrying case for Models 262 and 269. Shpg. Wgt. lif lbs. Net $\$ 9,75$
## "Micro-Tester" Portable

Volf-Ohm-Milliemmeters



MODEL 379


MODEL 240
soulel 230. Rocket size voma. AC \& DC volts $0-10 / 250 / 1000$. DCMA: $0-10 / 50 / 250$. Resistance: $0-1000 / 100,000$. Complete with test leads and self-contained batteries. Shps. Hyt. 4 lus. Net $\$ 24.43$
Model 240. Pocket size AC \& DC Volt-ohmMilliammeter. ACV: $0-15 / 150 / 750 / 3000$. DCV: $0-15 / 75 / 300 / 750 / 3000$. AC \& DC volts 1000 ohms per volt. DCMA: $0-15 / 150 / 750$. Resistance: $0=3000 / 300,000$. Complete with leads and self-contained batteries. Shpg. Wet. 4 1bs. Net \$25.82

MODEL 379 Battery Tester Actually places the battery under a proper loud during the test. $1 \%$ accuracy resistors. Tests all radio and hearing aid batteries. 10 ranges from $1^{11}$ - volts to 90
Nolts, $\$ 23.22$

No. 4299 OARRVING CASF, for Models 230,
$240,379$.

Triplett' 3 latest adrancement in portable multi-meters, A beautiful streamlined astrument in a complotw insulated mulded case providing AC-UC bolts. DC micromps, milliamps, amperes, ohms, mest ohms, DB \& output readings. Uses famous Red Dot lifetime Guarantee $5^{1 / 20} 0-50$ microampere, 250 HV instrument. Selector switch is of exclusive Triplett design which keeps out dirt \& retains contact alignment pemanently. Uses precision filmor wirt wound resistors. Easy grip kmob for switch ing ranges. Scale is $43 / 8^{\prime \prime}$ long at top arc. Connections are made by means of banana jucks. 6 DC voltage ramges at 20000 ohm S PV: $0-3 / 12,60 / 300$ ' $^{\prime} 1200 / 6000$. G AC voltage ranges (same as DCV) at 5000 olmas PY. 6 UB ranges from $-3 n$ to +70 . DC inicruaups: O-6n at 250 MV . $3 \mathrm{DC} \pi \mathrm{millianp}$ rangan $0-1.2^{\prime} 12^{\prime} 120$ at 250 3V. DC anperes: $0-12$ at 250 NV. 4 olimes scales: $\mathrm{n}-100 \mathrm{n}$ in. 000 olms, 0-1'100 megohms. G output ranges: Same as ACV ranges. Heighs only 4 lds, complete with batteries. Complrete with mooel. 630

NET
$\$ 38.71$

## WITH MIRROR SCALE

Same instrument as adove but has mirrored scale for easipr reading \& better accuracp Accuracy of $1^{1 \%} \%$ on all DC ranges except 6000 volt range, accuracy on $A C$ or $D C$ GOOD volt range 3 t . Accuracy of \%io on all $A C$ ranges except लhoo volt range. Accuracy of lis on all resistance scales when used with full batters. Complete with instructions and luads. Shpg. Kgt. 0 lbs.
MOBEL 630-A
Net $\$ 48,41$
Hodel 639 Black Leather Carrying Case for fi30 Scrius instruments. Vet is. 33

## WIDE RANGE MIRROR-SCALE

\#idest range tester of
its type with brand new
n25. reatures - Long 5. $6^{\prime \prime}$ mirror scale for better reading accuracy.
ranges. DCV Ranges: 1. $25 / 5 / 25 / 125 / 500 / 2500$ at 20000 OPV. DCV RANGES: 0-2.5/10/50/250/1000/ 5000 at 10000 OPV. ACV Ranses: $0-2.5 / 10 / 50 / 250 /$ $1000 / 5000$ at 10000 OPV .
 $0-50$. DCNA: 0 . LC M1e roamps. 0-10. Ohms: $0-2000 / 200000$. Megohms: $0-40$. DB: 7 ranges, $\mathbf{- 3 0}$ to +69 . $6^{\prime \prime}$ Red Dot Lifetime guarantee meter. Insulated black molded case with removable strif handle. Size: $24 \times 55^{\prime \prime} \times 6^{\prime \prime}$. Complete nith batteries and leads, Shpg. Wg

MOND, 625-NA NET
$\$ 48.51$
TRIPLETT MODEL, 629. Lnather carrying case for 625-NA Tester. Net $\$ 6.37$ TRIPLETT MODEI, 79-T-70, High Ybitage test probe $(30,000$ VDC for use with models 630-630A-625NA). Probe is $11-3 / 4^{\prime \prime}$ long. with $48^{\prime \prime}$ hi-voltage wire lead with banana plug at tester end. Net \$ 14.21

## 136

## VOLT－OHM－MILLIAMMETERS

## Нrčoк

## VOLT OHM MILLIAMMETER



Pocket Size
HIGH SENSITIVITY

MODEL 450
Men model VOMA in cetra than compact un－ breal：able．insulated shockproot case． Large 5 ucate cazed meter． 20 ，ono ehmes per volt on DC； 5,000 ohms fer volt on AC．Ranges： $2.51^{\prime} 50^{\prime} 250 / 1000 / 5000$ ． Al so measures output．DC current： $0-50$ microamperes， $0-2.5 / 10 / 50 / 250 / 1000 \mathrm{MA}$ ． $0-10$ anps．Ohms： $0-10000^{\prime} 10000$ and $0-1 /$ 100 me ．DB：-30 tu +55 in 5 ranges．
 leads and instructions included．Shpr． Hgt． 5 lbs．
monll 450
NET
$\$ 46.50$

monel 370 ac aymeter．Self－contained curreat transformer， 60 cy ．Rances： $0-1 /$ 2：／5／10， 25.

Net $\$ 19.55$
MODEL 371 to voltmiter，Ranges： $0-150 /$ 300／600．

Net \＄ 18.03
MOMFL 372 OHMMETER．Ranges： $0-500 ' 5000 /$ 50000 Mís meg＇s meg／50 meg．self－contalned battorics． NCt $\$ 24.99$

MOHHL 373 DC MIJ，LIAMMETER，Ranges： $0-1 /$ s in 25 in＇10n 2 2n＇sno $100 n$ ．Net $\$ 19.55$

MOIEL， 374 DC MIRROMDIFTER．Rances： $0-50 /$


Net 22.54
monel 375 nc whitide Rangrs； $0-1 / 2: / 5 /$
10 2．$\quad$ Net $\$ 19.55$
Monti， 376 an Vmbtiter．Rectifler type． $\begin{aligned} & \text { Ranges：} 0-5 1^{n} \\ & 25^{\prime} / 30 100^{\prime} 250,500, \\ & \text { Net } 1000 . \\ & \$ 19.55\end{aligned}$

MOMPL 377 DC VOITMITHR．IOnC OPV．Ranges $0-1$ 2．5＇5／10／23 $50^{\prime} 100 / 250 / 500 / 100 n$ ．

Net \＄ 19.55
 current transformer．Ran $\times$ ： $0-5 / 25 / 100 /$ 25n． 1000 ． Net $\$ 22.15$

YONFT， 4299 CARRIIVG CUSE．
Nitt $\$ 5.39$

## उTC ECOMOMD LLE：

102 POCKET METER


An cxecretional buy in a has－ dy，all around quality $\mathrm{m}_{\text {－}}$ trument with reatures found anly in much thisher priced instemments． $3^{\prime \prime}$ square meter． I MA D＇arsonval type meter．
accurate．Case 1 is of mold ai buhratc．rounden
came zero adjustment $\qquad$ 1 stance ranken．RANGES：${ }^{\circ}$ A．V
 eno，300n．DC current ranjes： $0-6 / 30120$ A：0－1．2 Aps．AC current ranges： $0-30^{\prime}$ To＇60n MA．Rest tance：0－1000 1 m ？

MOUEL 102 （1 n Ns lats）$\$ 14.60$

## 103 YOLOMETER

An excellent value
for all arousd use． tor all around use． 1 MA D＇arsonval type．
$\therefore$ accurate．Casc is
Fif molded bakelite． rounded corners Eane zero adjustinent for both resist ance
 c－12：120／600， 1200 E000．DCV： $0.6 / 60 / 300^{\prime} 600,3000$ ．DB FANGES：-4 to 464 DB in 5 range：．DC current rangeu： $0-6^{\prime} 30^{\prime} 120$ MA：0－1．2 Arp． AC current runges： $0-30 \quad 150 / 600 \mathrm{MA}$ ． sistance： $0-1000$ ohns， $0-1$ megohns．Size

yกnel 103 （Lass leals）$\$ 18.37$
ronel 103－s－samc as above but with －lastic carrying strap．

104 VOLOMETER A fine instrument
：or use by engacers， laboratory men，tea－ －hers，servicemen． ＂tc．Hani 4＇$^{1}$＂square neter， 50 microan
ansitivily．Casic sensitivity．Casc ${ }^{2}$
nf finlded bakelito ounded comers．mitiz arrying stran．Dev RANGES：（ 20 ，NOC OPW） －6／6n／300＇60n＇zann
 nc current ranges
$0-f^{\prime} 60$＇ 600 VA． $4 C$
 Rent anges：0－30 ，0－3 Amps．Resistance：0！27k． 200k， $0 / 30$ meg．DB ranges：-4 to $\$ 67$ かった． 3 lbs．
THOLL 104 （Irss 1 raris）$\$ 26.41$
 POCRET TESTER 666．HH

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anew instrument with Timplett＇s ex．land －ne losed selector satch of maldicd cor ontaet alsfinent pemanentlv．Stall
 Ths．with batenimes）．Uses $3^{\prime \prime}$ Red fat Lut ．We Guarantere unstrument．n－．．nn micromi neter． 250 MV .6 ACV \＆HeV tanges at 1001
 －no，at 2 an wiv．ne amps：$n-1$ ，at 2 ar wh． Hame：$n-300 n / 3 n 0, n o n(2 n-300 n$ at cinta cale）．Meahms： 0.3 （2flann nhms（eantri walr）．Complete with 50 ＂ 1 ead．s．batterics e instructions．
Finde？gifi－R
NET \＄25．97
pieter lifrtime suarantecd．poisitive motre lion ranie change skitela ac a in vole
 Ohn：PV．LCWA： $0-10 / 100$ 500．Olims：$n-200 \mathrm{~m} /$ qonono．In uteractive bahelate case． $31 / 16^{\prime \prime} \times 5$ 7／8＂x2 $9 / 16^{\prime \prime}$ ．Complete with Mulol finimit NET \＄24．01


656－1

## Tes



WV-77A

## "JUNIOR"

## VOLTOHMYST

High input rosistance on all range 11 megs foz $5 \times, .02$ to 2 megohms for AC . Flat frequ-ncy response from 30 CPS to 3 MC, 50 KC to 250 MC with WG-264 acces a rat prote (listad below at extra cost) Larg" durable 4':" "asy-to-read plastic moter case fraccuracy resistor. Com-
nimeny shimped metal case. Free from line voltage fluctuations. Polarity rerrs switrh. Zarn centering for TV-FW discriminator alignment. Cubles have lilp-on probes. Measures DC from 50 MV (1) 1200 volts. AC voltage from 100 MV to 1200 volts (RMS). Wide range ohmmeter. mensures resistance from. 2 ohms to onc billion ohrs. Convenient to carry, small size, $8 \mathrm{H} \times 5=3 / 8 \mathrm{Wx} 4^{2} \mathrm{D}$. For $105 / 125 \mathrm{VAC}$ Complete with tubes. battery, probes and cables. Shig. wit. 6 lbs.
monet, wv- T:A
NET \$47.50


WV.97A
SENIOR
VOLTOHMYST
Frequency :espanse flat fram 30 CPS to 3 MC on oll ranges up to 1400 volis peak-ta peok. lieosures oll complex waveform voltages in TV. $4^{1}$,", 200 microompere mavement, electronically protected from domage by overload. Pointer may be zero-centered far discriminator and bias circuits. DCV Ronges: 0.1.5-5-50-150-500-1500. ACV Panges; Peak-To-Peak, 0-4.14-42-140-420. 1400-1200. RMS: 0-1.5-5-15-50-150-5001500. OHMASE TER: Seven Ranges; 0-1000 megohms, Eenter scole values; 10,100 , $1000,10,000$ ohms, $0.1,1,10$ megohms. TUBES: 2-6AL5, 1.12AU7. Operates from 105.125 VAC 50/60 CPS. SIZE: $7^{7} \times 5^{3}$ 43 "D. Case finished in blue-grey hommeroid, satin aluminum panel. Complete with WG. 218 Direct Probe and Coble, WG-222 DC Direct Prabe, Ohms lead and probe, ground leat with alligator clip, slip-an olligapar elfp, instruetian book, and rubes. Shpg. Wgt. 7 lbs
MODEL WV-97A. Ne.................. . 67.50

MASTER VOLTOHMYST


A larger deruxe version of the famous Nodel $W V-97 A$. Features a new large meter measuring approximately $8-1 / 2^{\mathrm{n}} \mathrm{H}$. Has new current scales from microamperes to amperes, birect measurement of peak-to-seak values of unsymmetrical complex waves from n. 2 volt th 20 no volts. Measures jeak-to-prak values of symmetrical cum plex wave forms from 0.2 volt to $\$ 200$ volts. RMS values of sine waves from 0.1 vult tu 1500 volts. DC voltages from 0.2 to 1500 volts, Resistince, 0.2 ohms to 100 megohms. Current, 10 microamperes to 15 meres, DC. An excellent instrument for signal tracing in TV receivers. Sturdy 200 microampere meter movement is accurate within 2 en. Complete with direct frobe and cable, DC probe, ohms probe and cable, Positive current cable. Nega tive current cable. (iround cable. Size,
 aray hameroid, satin-aluminum panel. Operates on 105-125 VAC $50 / 60 \mathrm{cy}$. Shpg. Hgt. 10 lbs.

Net $\$ 112.50$

## MODFL WV-87A

PROBES


WG-289
290


## SIMPSON

MODEL 303

## VACUUM TUBE

 VOLT-OHMMETER wouedi 3 n3 vivi: A companion inst rument all neccssary ranges for complete radi, Nicint and laboratory aplications (3n,000 V. wit:1 Hiv probor), input resistance 10 megohtus fnr all ranges. polarity reversin"̈ svitah. oiMS, leno, 100.nm/ $1 \mathrm{mc} / \mathrm{g} / 10 \mathrm{mct} / \mathrm{mon} \mathrm{meg}$. AC YOLTS, $1.2,12 /$
 in 5 ranges frem -2n to fa3 DB, way bo used as oalvancmeter for fald discriminator allgnement. Mensures he witasion volts maximum -with accesisury HF crystal probe), frequercy, flat $y_{0}$ kC to 100 w . Cumplete with becy probe, ACy'ohms moner.
 Fudel 303

NET \$66.64
YODEL 303-RT, Sanc as above but nounted

igh voltage p:obe. For readin' voltab ip to $30,00 n$ or. wrydel 303 . Niet 59.73 High Frequency probe. For signal trarin.


VTVM

KIT
AND
WIRED


MOWH: 10t. Gacmum tubr vollmeter. Availltble in wirad ur kit form. Brecially disigned tor field alignment of radiu amo TV. All functions and ranges completeld electronic = meter cannot burn out. Use dual-triode bi_lanced bridge circuit. S $A C-D C$ voltage ranges: $n-11^{\prime}: 10 / 100 / 30 n /$ 10n0, (30,00n VDC with HVp aceessory frobe). 5 resistance ranges: $1 \mathrm{k} / 10 \mathrm{~K} / 100 \mathrm{~K} /$ 10 meg. 1000 घeg. 5 nf rangus: -24 to $\pm 55$. Zeru caiter position fur FM disicriminator alimnment. las-s precisiun resistors for voltage muleifliers. Fortnble bakel
Hgt. 5 lbs.

MOREL 106 k
$\$ 23.42$

HODEL 106. hired and tested.
35. 18

MONEL RFT $\qquad$ obe, usif(11) to 200 : HC . Net $\$ 6 . \mathrm{Ml}$



NEW JACKSON "TELE.VOLTER" SUPER VACUUM TUBE VOLT-OHM-METER
Portoble or bench style VTVM designed to measure $A C$ volts, $D C$ volts, resistance. 7" sloping front meter with carefully domped hairline pointer. Uses only one probe for all scales and all frequencies, built-in switch on probe changes probe from $D C$ to $A C$ or ohms. Reads directly oll AC voltages, in RIBS, peak and peak-ro-peak values. 1 volt scale plus calibrated zero center makes it easy to read those less. than-one-volt measurements. Wide frequency response, essentially flot to 4.5 MC thru $0-100$ scoles. DC seales: 0-1-5.10-50 100-500-1000. AC RMS seales: 0.1.5-10. 50-100-500-1000. Resistance: 0-1000 10,000-100,000 ohms, 0-1-10-100-1000 meg. ohms. Identi-Lites, two lighted windows show position of function switch and range. Grey hammertone cabinet, size $8^{3} \times 8^{1,1} \times 7^{1,}$ "t Operates on 105.125 VAC 50/60 cycle. Complete with probe, clip, ond ground lead. $N$.ef weight 10 lbs . Shpg. Wgt. 14 lbs. MODEL 709 "TELEVOLTER". Ne† $\$ 93.10$

20\% DEPOSIT REQUIRED ON C.O.D. ORDERS

## SYLVANIA



MODEL $221 Z$. Extremely sensitive multirurnose vacuum tube voltmeter for use in all TV. FM, and AM servicing in mide range measurements of voltage, resistance and current. Accurate RF voltage measurements up to 300 MC in 5 ranges, $3 / 10 / 30 / 100 / 300$ volts. DC voltage measurements up to 1.000 volts with plus or minus polarity on 6 scale ranges. (Measures 10.000 or 30,000 volts with accessory probes 11 sted below). Measures AC voltage in 6 ranges up to 1,000 volts, DC current up to 10 amps in 7 ranges, and resistance up to one blllion ohms. Has large zero center $4^{1 / 2}$ " illuminated meter. Mike type panel connectors on test leads. RF probe has ground cllp and detachable extension tip. Grey metal cabinet with handle. size $11 L_{11} \times 8$ 当Wx70. fror $105 / 125 \mathrm{VAC}$, fuse nrotected. Complefe with RF rmbe and test leads. Shyg wht. 17 1bs.
MODLL 2212
NET
$\$ 99.50$
TYPE 225 Prober Extends range of 221 Z to 3i, 000 volts DC. $\qquad$ $\mathrm{Net} \$ 12.50$

TYPE 223 PRORE, Extendes range of 2212 to 10, 000 volts DC.

## NEW

SIMPSON

## VTVM



I icredibly accurate vacuum fube volt neter with large, easy-foreod 7" meter. AdjustA.View handle permits instans bench level viewing ongle. Hos zero center adjustment for diseriminotor alignment. DC voltage range: $0 \cdot 1.6 \cdot 8 \cdot 40 \cdot 160-400-1600,10$ megs input impedance, 1 meg isolation in probe. $A C$ voltage range: $0.3-8-40-160-80 \mathrm{C}, 60$ cyele input impedance 260,000 ohms, input c Jpocitance 200 mmfd . AC peok.to peak probe 20 volis maximum. Frequency range flat 20 KC to 100 MC . Input capacity 4 mmfd. Decibels: -12 to +45 in four ronges Resistance: $0.1000-10,000-100,000$ chms 0.1-10.1000 megs. Operates on 105.125 VAC. Size: $715 / 3 \times 6 \times 2^{15} / 1 s^{\prime \prime}$. Complete with DCV probe, ACV ohms probe, ground lead, and instruction manual. Shpg. Wgt. 7 Bs.
MODEL 307. Nef........................... $\$ 85.75$
MODEL 5262. Neolite carrying coste for Model 307. Neヶ................................ $\$ 9.75$


## Tappory

## VOM VTVM

Combination VTVM and VOM. Two fundamental units built into one case. 34 RAN. GES: VOM, $A C$, and $D C$ voltage rarges; $0.3 .12 \cdot 60 \cdot 300-1200, \mathrm{DC}$ at 20,000 ohms per voli, AC at 5,000 ohms per volt. DC Miero. amips: 0.60 at 250 MV . DC Milliamperes: $0.1 .2 \cdot 12$ at 250 MV . DC. Amperes: 0.1.2-12 of 250 MV . DB: $-30,+4 ;+16,+30,+44$; +55. Resistance: $0.1500-15,000$ ohms, 0 1.5 .150 megohms. VTVM, DC voliage: 0 . 1.2.6.30-120, galvanometer center mark "-j+" for discriminator alignment. One switch selects any function of either $V^{\top} V M$ or VOM. Self-contsined batteries for soth VTVM and VOM. 51/2" Red Dot Liferime Guarantee Metor. Sturdy, molded case, size $3 \frac{1}{32} \times 5^{\frac{1}{2} \times 7 \frac{1}{2}}$. Complete with leads and probe. Shpg. Wgt. 6 lbs.
MODEL 631. Net $\qquad$ .553 .31 NO. 639. Leather Carrying Case for the Madel 631. Nef............................... $\$ 8.33$ NO. T-79-70. 30,000 VDC Probe for the Mcdel 631. Net........................... $\$ 14.21$

## TRIPLETT

TELEPHONE SERVICE INSTRUMENT


## PREGISION APPARATUS

## VACUUM TUBE

## VOLTMETERS

## MODEL EV- 20

MODEL EV. 30. VTVM and multirange test set with true zero center on all ranges. Direct reading high frequency scales. Also has complete standard 1000 ohms $P / V$ functions. Has 48 ranges. 6 zero conter VTvM ranges, $13+1 / 3$ megs constant input resistance, 3/12/30/120/300/1200. 6 reslstance ranges from 0 2000 ohms to 2000 megohms. 4
 bigh frequency VTVM ranges, $0-120 \mathrm{~V}$ coses RF-10A Probe). 6 AC-DC and output ranges at 1000 ohms P/V, $0-3 / 1200 \mathrm{~V}$. 8 DC current ranges, 0.300 mjcroanps to 0.12 amp . 6 DB ranges from minus 20 to flus 63 DB. $4!$ " meter. complete with test probe. leads, and battery. Black rirple finished cabinet. size $10 \% \times 66^{1} \times 5$. Shpg. Wgt. 11 lbs.
mone ev-30 NET \$68.35

RF-10A RF PRORE for use with EV. 10A and EV-20 VTVM! s. Nat $\$ 14,11$

## EV-10A VTVM

NODEL EV-10A. Megohm meter with zero center UTVM. $7^{\text {" meter. } 4 \mathrm{high}}$ frequency scales plus 1000 ohms P/V functions. 8 VTHM ranges to 6000 V DC.' HF ranges to 120 V (Requires RF-10A Probe) resistance ranges to 2000 megohms. $8 \mathrm{AC} \cdot \mathrm{DC}$
 and output voltage ranges tc 0000 V at 1000 ohms P/V. 8 DC current ranges to 12 amps. 8 DB ranges from minus 20 to plus 77 DB. Complete with cables. Harduood portable case. size $10!5 \times 12 \times 6$. Shpg. wit. 18 lbs.
MOEL EV.IOA P NET $\$ 100.45$

TV-4 PRORE. Increases. DC VTVM rarges of Models EV-10A and EV- 20 to read up to $60,000 \mathrm{~V}$ DC. Shpg. Wt. 2 lbs . Net $\$ 14.45$

TELEPHONE SERVICE INSTRUMENT. Tailor despocially for the requirements of telophone scrvice. Special ranges and metor characterisfies for checking ascillator activity in low AC ranges of corrier oquipment, high and low pass ilters, relaycoils, resistors, shorts, batterios, inging supply goneratars, otc. 20 RANGES: DC Volts $0 \cdot 0.3-3 \cdot 12-60 \cdot 300-600$ at 20,200 ohms per volt. AC Volts 0-3-12-60-300-600 of 3000 shms per volf. DC Milliamperes $0 \cdot 0.08 \cdot 1.2 \cdot 12$. 20 of 150 MY : Ohms $0.1,000 \cdot 10 ; 000-100,000$ 22.220.2200 at center scalo). Megohms 0.1.10 22,000-220,000 of center scalol. 54\%" Red Dot meter with Lifotime Guarantec. One switch, ceessed with parel, soleets any rango. Blaek molded coso, sizo $71 / \times 5^{1 / 1 \times 31 \% ", ~ c o m r l o t e ~ w i t h ~}$ trop handles and removable shouldor strap. Black malded panal with engraved whitc mark. ings. Weighs only 4 lbs. Complete with batrer ios, 50 " tost leads and alligator slips. Shpg. | es, 50 lbs. |
| :--- |
| $\mathrm{Wg}^{2}$. |

MODEL 630.T. Net........................... $\$ 51.45$
LEATHER CARRYING CASE for Model $630 . \mathrm{T}$. MODEL 639. Not................................. $\$ 8.33$

an иucrowe НІс

Triplesthielded to reduce leokage. Aligns all VHF chanmels (2.13) on fundamentals. High . 3 volis oupput. Permits signal aptenuation from 3 to 300,000 microvolts. FM range, 0.50 MC , IF heferodyned output. Low band fundamental out put 50-90 MC. High band 170-220 MC. Sweep deviation 0-15 MC $\ddagger 3$ MC. Sinusoidal horizontal sweep output voliage for scope 1.5 volis AC RMS. Output impedance of terminal of output cable 90 ohms. Operates on 117 VAC. Steel case, size $13^{\frac{1}{4} \times 8 \times 16^{\prime} / 2} \mathrm{~W}$. Shpg. Wgr. 38 Ibs. MODEL 695. Net....................................... 265.00

Universal Television Alignment


## SIGNAL

## GENERATOR

MODEL 610A
An unequaled instrument for aliging television reccivers. Affords visual alignment af any TV channel frum 59 to 216 MC . Not necessary for station to be on air. At ten'uates the output to very low signal. Crysta? trequency may be modulated or un-- odulárod. Has markor signals of 19-31 MC. \& 3n-48 MC. Narkor modulatic.n: $40 n \mathrm{cy}$. Ah at sane output voltage: 75 volts max. out pit impedarce: X1, X10, X10n-5 uhms. Xih20 ohms X10k-75 olmis. Hus standby sultell to kerp filaments lit. ready for immediat. usin, Sweep width to 15 MC. Swecp frequency Tanes: 0-40 MC, 35-75 MC, 75-115 MC and '150-230 MC. Attractively cased in blut hammertone with satin chrome fini shed bomcl. Size: $14^{*} \times 1 \mathrm{f}^{\mathrm{L}} \mathrm{K}^{*} \times 8^{\circ}$. Fir $105 / 125$ VAC $50 /$ $60 \mathrm{c} \because$. operation. Shpt.

MoDF1. 610.1
NET $\mathbf{\$ 2 1 9 . 0 0}$
No. 75 Andrter. Termination mad for


Crystal Controlled Microvolt


A universal, ull-band MV signal generat* or with hibler acturacy and low loss. Cuvers trequency range of 125 KC to 1 IN MC and 150 MC to 220 MC all on fundamentils. Ias modulated and unaodilated outrut. $=$ to 100,000 w. Temperature compensatert. 1000 KC erystal oscillator. ar acciracy. AF nutput $0-2 Y$ at $40 n c y$. or too cy. modulated on RF carrier. 3 output impedances. calibrated $8^{n}$ dial
with over $100^{\circ}$ of scale. DB ranges -10 to 39. Attractive blue liamertex case, size $16^{1} \times 131 / 4 \times 7$. AlI test leads included. Fur $105 / 125$ VAC $60 \mathrm{cs}$. Shing. Wigt. 36 lhs.
mone 2ax NET \$296.00 Shpg. Wgt. 37 lbs.
MODEL 650C. Nep.

[^7]Video Generafor FOR COLOR


Compaitiblo for color or block ond whitn TV. Quickly localizes and accurately identifies trouble in ony section of a TV receiver. Xtal controlled timer circuit delivers video pulses of $60-90-15750$ cycles and 315 KC singularly or in combination, positive and negative output, Pulses are locked together ond ore crystal. controlled. RF oscillotor covers channels $2-13$ on fundamentals. AC meter on panel to check line fluctuations. Easy to odiust color sets by means of white dots. Provides means for accur. ate adjustments of focus, convergence purity afe adjustments of focus, convergence, purity pectratio RF ean be externallymodulated with video frequencios from 5 cyales to 4 MC with video lrequencies from cycles to 4 MC with sarioble percontago modularion on oflchannels teol por 105-125 VAC leods included. Operates on 105-125 VAC.
.$\$ 318.90$

Universal Crystal Controlled


MONFL 288-X. Hiph nutput AM-FV Generator crystal controlled. Usuble in TV alimnment as a marker oscillator. RF unmodulated or internally amplitude modulated at 400 cycles, or internally frequency mondulated. KF variable from 110 KC . t 0 110 MC on AM . yll fundamental, and 110 ke to 160 MC on Fal, in 7 bands. Variable AF output, $0-15,000$ cycles. Outputs continuously variable with multiplier and I inear controls. DR meter: -10 to $\pm 38$ in 3 ranges. for 117 VAC. Test leals inclutad. Blue finish stepl case. size $13^{\text {bix }}$



SUPERIOR
TELEVISION BAR GENERATOR


New TeIevisinn Bar Generator puts an actual bar pattern on any TV receiver screen when station is not on air. Only 2 simple stens, connect generator to antenna post of receiver and plug in line cord. provides linear pattern to adjust vertical linearity, height, and centering; horizontal drive, width, peaking, linearity and contering. Internal vertical and horizontal sweep signals. Pruvides signal for testing video ampifi. ers. Channels 2-5 (7-13 by hamanics). Complete with leads and operating in= structions. For uperation on $105 / 125 \mathrm{VAC}$ Shpg. Wst. 12 lbs .
ty bar genfator NeT $\$ \mathbf{\$ 9 . 1 5}$
= MC SIGNAL GENERATOR

instrumont containing generotors for RF, Audio, Squaro Wave, Bar, Crystal Mark. or. Frequency range in 5 bonds, 18 cycles- 108 MC on fundamentals, to 216 MC on 2nd harmonic. Bar genorator for TV adfustmont of horizonpal ond vortical alignment. Crystal morker and amplitudo control. Constant RF output impedance. Stepped RF attonuator. AF oscillator sine wave output from 18 cycles 10300 KC . Voriable porcontage of modularion. Excollent all-around shop instrument. Operates on 117 VAC. Shpg. Wgt. 20 Ibs.
MODEL 700. Net.
.554 .78

## RMS

## TV BAR GENERATOR


monfil B4R-1. Portable bat generatot for
 athle. Permits accurate linearity adiustmonts withrivt test pattern and withobe need for stution to bo on the air. Pro*ides adjustable number of hars acrobs the screen. Produces both vertical or horizontal bars for easier alignment. Size: 64x $4_{4}^{4} \times 26_{2}^{n}$. For pperation on 117 VAC. Shpg. Vgt. 3 lbs. Net $\$ 14.64$

## SIGNAL GENERATORS FOR TV-FM-AM Tes

## PRECISION APPARATUS

## MULTI-BAND SIGNAL

## AND MARKER

## GENERATOR



Montl E-200C. S1gnal and marker gemerator for TV, FYt, and A.t alignment. Fronuency cowragn: Direct. reading in
bands from 85 kc to $5 \pm 0 \mathrm{MC}$. Fundamental.s to 30 MC. Exceptional stability and ac curacy on all binds. fir " engine-turned tuning dial. 1000 noint vernier scale.
 put cable connectors. Four types of signolls: I'mmotulated RF, 400 cV . Modul. RF Externally modulated RF. $4 n 0$ eycle audio output. Darect reading AbC AGC substituthon roltage, $0-50$ volts DC. ijirect reading variable modulation, $0-100 \%$ continuously adjustable. Well shielted portable steel case, size, $101 \times 12 \times 6^{\prime \prime}$. Complete with tubes. output cable, and manual.
monel e-zooc NET \$76.93

## WIDE RANGE SWEEP

## SIGNAL GENERATOR

MODEL E-400


This n'west developiment from precision is a ramou \& wide band sumen signal generacy range: $2-500$ Ne. contimous darect
 required. F':cr. Range: FH-TV band width. Ramme \& whte band for fol \& TV. variable \& comthamens direct reading, $0-1000 \mathrm{kC}, \mathrm{n}-10$ MC. Addtional coverage: in zero band Milth (mmod.) $\begin{aligned} & \text { mectrmic beat. } 40-12.5 \mathrm{MC} \text { absolute ven. }\end{aligned}$ IFses lifig frequcucy TV-Vidco test probe. Plasing control is continuously variable Lor use with scope, Separate output termin al providets synchronized swnet. Completely shillded, - imatinatistrays. Complete Wilh lands. End instructiontio For 110 bal
monal fi-400 NET \$136.95

CROSS HATCH

GENERATOR


Honed. 485. New synchrunized crosshatch attorn generator. Provides a symchrone lzed sitnal, modulated on carrier freg rencies of channels $2,3,4,5$, and 6 which can be tuned and sent through reeniver on test. Whan teceiver is promerly adjusted, signal will show equally paced lines in vertical. horizontal. or russhatch patterns on picture tube. All satterns are lecked in place with sync fillses in transmitted wave forms. Hori ontal and vertical linearity, hold. height, width, and drive adjustments may be made when no siznal is available from station. Kandiome grey case. size 11-x $33^{1} \times 99^{\prime \prime}$. Complete $w_{1}$ th all cables and operating instructions. For $105-125$ vAC opcration. Shpg. Mast. 15 lbs.
monel 485 NET \$144.55
JACKSON
Sweep and Marker Generator

MODEL TVG-2


Anobl TVG-2. New TV signal generator for cll scrvice and alıgnment purposcs. 3 range speep oscillator 2-38 MC. 38-108 F゙C. 174-216 HtC . all on fundamentals. I arge accuratcly calibrated dial with TV channcls clsarly indicated. Electrical nechanical sweer adjustable from. 1 MC through 18 MC in 7 steps. Calibrated rarker coverage 4 NC through 216 MC showing TV 1. F. s. Crystal oscillator for \#arker or calibrator, \& MC through 20 MC . Variable output. Audible or metered too cy. modulaticn. 60 cy. sine wave timing with phase control fur uscilloscope timing. Provision lor insertion of video signal to modulate external marker outfut. Output impcdance 30 olms. Complete with cables. Steel grey Ham-R,Tox cabiI"Nt. size $13 \times 81419-1 / 3 \%$. For $105 / 125 \mathrm{VAC}$

Nulw tvg-z NET \$240.10

FM-TV GENESCOPE

FOR COLOR TV


Modern servicing instrument for TV.FM.AM, cortain tests in color TV. Supplics all nocesary signal sources for propop olignment. Incorporates high sensifivity scape and high requency erystal probe for signal tracing. CR ubo mounied vortically and viowed by mirror. Marker genorator frequencios: Fundomental and 2nd harmonic, Band A; 3.3-15.6 MC, Band B; 15.76 MC, band C; 75.250 MC . Unmodulotod or amplitude modulaied $30 \%$ af 400 cycles. 400 cyele audio signal. Output attenuated by two contrals. FM generotor frequencies: Band $A$. $2-120 \mathrm{MC}$, Band B ; $140-260 \mathrm{MC}$. (dial marked for harmonic use for UHF). Swoep width continuously variable, 0.15 MC . Swoep rate $60 \mathrm{cy}-$ cles. Scope sonsitivity: ( 480 only) Vertical, 3.60 cychorizontal, 70 MVPI. Swoeps: Lincor, tat to 200 K Sino Wave, 80 cyelos; Response, lar to 200 KC . Completo with 5 cope cables, impedance matching output cable, HF erystal insiructions. Operates on 117 VAC . Size: $22 \times$ $14 \times 7^{1} ;$ TiO. Shpr. Wgt. 35 lbs. $22 \times$ MODEL 480 GENESCOPE. Net........... $\$ 465.50$

## TV-FM SIGNAL GENERATOR



Some instrument as Model 480 but docs not in Wgit. 29 lbs. MODEL 479.
.. .5318 .50


CHROMATIC AMPLIFIER
Increoses the number of tests on color secoiv. ers when using Models 479.480 for servicing, such os testing and Q demodulator circuits, and the $Y$ amplifier. Provides video signal boosi of over 40 fimes. Flap within $1 D B$ from 8 KC to 4.5 MC . May also be used with low goin scopes to service all low goin video cur. struction book.
MODEL 406. Net..................................... \$ 24.45
CHROMATIC PROBE
All color TV tests frequencies are available from Models 479-480 when used with the Chromotic Probo. Replaces standard output cable supplied with Models 479.480. Sweep signal extends from 8 KC to 4.5 MC . Camplete with CHROMATIC PROBE. Nes...................... $\$ 9.75$

Tes SPECIAL TEST INSTRUMENTS

SPRAGUE TO-4
TEL-OHMIKE


CAPACITOR-RESISTOR-ANALYZER, FOR use in radio, TV service, by schools, labs, experimenters, etc. Hos push buttons for instont range selection. Resistonce bridge measures from 2.5 ohms to 25 megohms at line frequency. Capacitance bridge measures up to 2000 mfd in five overlopping ranges. Leokage current of electrolytics measures directly on meter with exact rote of vol:oge up to 600 . Continuously odjustable power supply. Mogic eye rube simplifies bridge balancing for copacionce, re: sistance, and power factor meosurements. Capacitors discharge on releose of push button. Power factor of electrolytics meosured by Wien bridge up to $55^{\circ} \%$ in three ranges. Modern cose finislied in two-tone grey. Size: $8^{1} 1 \times 11^{1} 2 \times 6^{\prime \prime}$. Operates on 117 VAC SO 60 cycle. Shpg. W3r. 17 lbs .
MODEL TO.4. Net....................... $\$ 72.03$


KWIK-TEST

## CAPACITOR CHECKER

Zuich Lly ond easily indicotes oren, short. cd, or intermittent capocitors withour re. moving them from the circuir. Checks all types of copacitors, paper, mico, electrolytic, and ceramic from 30 mmfd to 2000 n:fd. Will indicote defect even though caracitor under test has resistor as low as (0 ohms in parallel. Push o button ond riagic eye shows condition of capaciter. Complete with test leads. Operates on 117 V', 50 co cycle. Size: $9 \times 6 \times 5^{\prime}$, D. Grey vpinhle finish steel cose. Tubes: $\mathfrak{i} 1626$, 1.1629. Shipg. Higt. 8 lbs.

MODEL KT.1. Net..
. $\$ 33.81$


mouta. CR-5. For use wath Jackison 11,5-715. Wand TR-7. Fur use with Sylvania 139-
$140-213-$

## CORNELI-DUBILIER

CAPACITOR TEST INSTRUMENTS


CAFACITOR-RESISTOR BRIDGE
Capaciten-Resistor Cridge which quickly ond accu;ately measures importont charocteristics of all types of capocitors ond resispors. Derects copocitor defects such os OPENS, SHORTS, INTERMITTENTS. Checks zapacities from .00001 mfd to 1000 mfd in $\angle$ scole ronges (.00001-.005, .001$.5, ~ 1-5(.0,20.0-1000 \mathrm{mfd})$. Checks power factor of electrolytics. Checks leakoge. Resistanee scale ranges 2: 100 ohms to 50,000 , i0,000 ohms to 5 megohms. Selfcontained power supply. Uses hiogic Eye for visurl indicotion. Enomel finish metol cose, size $5^{1}>7: 10^{\prime \prime} \mathrm{W}$. Operates from 110 125 VAC 50,60 eycle. Shpg. Wgt. 13 lbs. MODEL 8F-60. Nief..................... \$ 41.99


CAPACITOR BRIDGE


 MODEL EN. Ne:........................... $\$ 24.45$

CAPACITOR DECADES
May be Ised in grould of three decades bilits. Fach decaude is turnished pith callibration chart. Accuracy of cols-3 and clac-3 is 3 , whers 5i. Model CliA-5 is nisu dirlectrac, wthers are wil-pater dieloctric. Rated voltage. 600 k : : AC.

11.12




## INDUSTRIAL DEVICES

yוM- Vol.t Vot.turtye



## 

Hent er., ete, blow lum lafo, 2500 has. Comile ${ }^{-}$. Mith heavily insulated $12^{\prime \prime}$ test loads. liahtweight. imact resistant rase and dial pham, thurunghy insulat

## Simpion <br> CAPACITY BRIDGE




or cominsime ralculations to mahis




 finrates on 115 vac. $50 / 60$

MODEL 381. Net

## PRECISION <br> ELECTRONICS



## SIGNAL TRACERS



MODEL 201A. Net.

## WITH METER





MODEL 251A. Net...
TR1p
LOAD.CHEK
APPLIANCE TESTER


 scale $0-130$. Hack molded case, size gax
Nobel 660 NET
$\$ 28.91$

## TEST LEADS - TEST INSTRUMENTS TES

## TEST LEADS  high voltase heavy duty test leads which

 safely test up to 10,000 volts for use on TV, high voltage amplifiers, transmitters, etc. Low voltage drop. Larce diameter bakelite handles with. Large Heavy duty red and black cable. $6^{n}$ prod on one end of $43^{\prime \prime}$ lead, $2^{\prime \prime}$ prod on other No. 475Net \$ 3.28
High voltage heavy duty test leads for measuring up to 15,000 volts DC, Thick walled bakelite handles with finger guards, $6^{\prime \prime}$ nrobes, $98^{\prime \prime} 1$ eads. No. 4317

Net \$2.94
Slim handles with phono needle points, extra flexible rubber-covered kinkless ite. Insulated for 5,000 volts. $4^{\text {n/ }}$ Tenite probes with $48^{\text {n }}$ red and black leads. No. 382 - Wi th phone tips Net $\$ .71$ No. 381 . With suade terminals. .71 NO. 379 . With alligator clips. .71


Slim handles with solderless plugs, $43^{\prime \prime}$ ext l'a flexible tost lears wi th $q^{n}$ handles. Insulated for 5,000 volts. Mire is - 03-kinkino

Mo. 355 - With phone tips. Net $\$ .71$
M. 356 - With spade terminals N. 356 - Hith spade terminals. 71

Pencil-type test leads with finger-grip molded tips. Al! connections are soldercd. Rivets nrovide casy removal of wire landles are $5^{n}$ long. leads $48^{\pi}$ long.
NO. 373
Net $\$ 1.32$
Slim-linc test leuds with long vinyl inSulated shaft. Red and black Tenite handles. $48^{\prime \prime}$ leads. Molded phone tip plub on other end.
.438
Net $\$ 1.03$
Unhreakable test prods with shock-proof rubber handles. One end has standard meedle point tips. $48^{\prime \prime}$ leads.

No. 332 - Kith non-insulated phonc tips. No. 331 - Hith insulated solderless \$.73 Net $\$ .82$

## ICA PHONO. NEEDLE POINT TEST PRODS

Phono reedle po:nt test prods omly. Removable chuch. supplied in black or red No. $389{ }^{5}$ and $7^{\prime \prime}$ long.
40. 3898 Red, $5^{\prime \prime}$ Long

Net $\$ .26$

## SOLDERLESS PLUG TEST PRODS

solderless plug test prods with solderess plug chuck. Slim Tmite handles in 0. NON



## SIMPSON FIELD STRENGTH METER

AODEL 488 measures TV signals in all 10cations, and is particularly usceul in fringe areas where the 50 microvolt scale is of prime importance to measure low signal strength. The additional ranges of 500,5000 , and 50,000 nicrovolts extend the instruments usefulness in higher signal strength areas. 4ty casy-to-read meter. Shoulder strap included, Meter is excellent for orienting antennas, adjustment of boosters, antenna comparison, etc, Size: $8 \times 11 \times 88^{\prime}: "$. Fur $105 / 125 \mathrm{VAC}$. Shrg wgt. 15 lbs .

## HODFL 488

Net $\$ 112.70$


Industrial hithuments:

## WHEATSTONE

 BRIDGEFor laboratory, school and industrial use. Has ratic dial settings of .001in resistence $100-1000$ as well as builtin resistence standards of $1-10-100$-1000
 Switches. Hoving coil galvanometer, seng sitivity 1 microamp per MM Binding posis wor connections. Case is of hardwood with removable cover. Complete with inMODEL RN.1. Net 12 lbs .
MODEL RN.1. Net...
..$\$ 135.24$


## SIMPSON

APPLIANCE
TESTERS


390 Volt-Amp-Watimeter

397
392
HoDEL 390 for $50 / 60$ cy. AC current, Volts AC, $0-150,0-300$, Amperes $0-3$, 5-15. Hatts. 0-300/600/1500/3000. Comlete with break-in plug, leads ard instruction book. Shipg. Mot. 5 lbs.
No. 4399 Carrying Case. Net $\$ 38.71$

## A.C.-D.C. Volt Watmeters

M0DELS 391 and 392 designed for the simultancous reading of volts and satts. Renges of buth madels. AC Volts: $0-130$. D-260. Model 301 wat tage scales $0-1500$ and $0-300 \mathrm{C}$, Model 392 wattaze scales 0 -
100 J and $0-5000$ watts. 1009 and $0-5000$ watts. Shps. Mitt. Elbs.
HODFL 391 HODFL 391 Net $\$ 392.40$
HODEL 34.30
No. 3413 carrying Case.
Net \$ 5.39

## JFD TEST LEADS

 WITHBANANA PLUGS
NO. 3-3. $5^{\prime \prime}$ long heary-duty, high luster -ast phenolic prod handles. Have phonoveedles on large prods, banana nlugs on small prods. $54^{\text {H }}$ leads, black and red. Net $\$ 1.23$
40. 3.12. $5^{n}$ long prods similar to above but have senior solderless phone plugs on large prods, banana plugs on small Ineter) prults. $54^{\prime \prime}$ loads. black andi red

## JAMES MILLEN



## GRID DIP METER

One of the most versotile instruments ever developed. A highly stoble, colibroted RF oscillotor unit with a $2^{\prime \prime}$ meter to reod grid current. Fre. that it moy be used os o probe. Operotes on 115 VAC 50/60 cy. or moy be used with botteries $270^{\circ}$ colibroted drum diol provides 7 direct read. ing scales plus an odditional universol direct readquency range 1.5 to 300 uncersol scole. Freronges. Eoch ronge hos individual plugein pping or extended ronge hos individuol plug-in probe $3 \frac{3}{14} \times 33 / 6 "$
4 -in-1 instrument:

1. Grid Dip Oselllotor
2. Oscilloting Detector

4 . Ingnol Generotor
Mony applicatians of thin Wovemetep
Mony applicatians of this grid dip meter.
2. Determining fer tuned circuits.
2. Determining frequency of tronsmitter tuned Tronsmitter power off.
4. Findingitter neutralizotion.
4. Finding of porositic oscillotions.
5. Pretuning wove trops.
6. Indicotion of circuit $Q$

RF chokes. RF chokes.
8. Meosurement of inductonce ond copocity.

10 Adjusurement of ontenno resonont frequency. 11 Tuning beom of tuned feeders.
Complete with 7 inductors, rock, tube, ond in
MODEL 90651 I. NET.
$\$ 61.50$
ADDITIONAL COILS FOR ABOVE

| Number | Fieq. Range | Nep |
| :--- | :--- | ---: |
| 46702 | $225-2000 \mathrm{KC}$ | $\mathbf{N 6 . 7 2}$ |
| 46703 | $500-1050 \mathrm{KC}$ | $\mathbf{6 . 7 2}$ |
| 46704 | $325-600 \mathrm{KC}$ | $\mathbf{6 . 7 2}$ |
| 46705 | $220-350 \mathrm{KC}$ | $\mathbf{6 . 7 2}$ |



Highly sensitive, accurotely colibroted. Hos enumeroble uses in the laborotory, service shop, ond ham shoek. Incorporates mony feotures. Con be used os o grid dip oscillotor, signol generator, or obsorption wove meter. Moy also be used to moke meosurements of copocity, inductonce, eireuit " $Q$ ", and as a means of determining other factors in electrical eircuits Com. plete instruction book enclosed with instrument. Self-contoined power supply oparotes from 110 volits AC. Covers 1.75 to 260 MC in five colibroted overlopping bands. 500 microamp meter with adjustable control. Wedgershaped for ease of getting into tigh; ploces. Uses 955 ocorn.type tube. Size: $3 \times 3 \times 7$ " Finished in hommeroid grey.
Weight 2 lbs. Shipg. Wit MODEL 600 .

# Tes QUALITY TEST INSTRUMENTS BARKER \& WILLIAMSON 



## FREQUENCY METER

MODFL 300. As accurate and convenient teanc of making direct measurements of taknown audio frequencies up to 30,000 cy. Integral power supply. Useful for checiing of audio oscillators or tone fenerators. Housed in black crackle. steel cabinet. Carrying handle. FREQUENCY RANGE: $0-30,000 \mathrm{cy}$. in 6 ranges. SENSITIVITY: Minimum . 25 volts input. WAVE FORM: Will operate on any wave form with peak ratios of less than 8 to 1. CALIBRATION: When referenced against 60 cy . line frequency, all other frequencies Hill fall within 5\%. SIZE: $13 \times 7 \times 7 / 59^{\prime \prime \prime}$ ". For 110 VAC $50 / 60 \mathrm{cy}$. operation. Shpg. Mgt. 16 1bs.

MOOES 300
NET $\$ 126.00$

## LINEAR DETECTOR

## MODEL 404

Mdel 404 provides combined RF detection and audio bridging circuit for use with any Jistortion meter. Measures distortion or noise in AM carriers or in balanced or unbal anced audio circuits. Operating range 400 IC to 30 MC . Input: single-ended; in pedance 10,000 ohms. Bridging impedance: 6,001 ohms; insertion loss 1 DB . Frequency essentially. flat from 20-50.000 CPS. Includes a bridging transformer, vacuum tube rect.fier, and 40 DB pad adjustable in 10

montr sou NET \$85.00


AUDIO SIGNAL GENERATOR


Audio signal generator with builroin DC block ing capacitars in prabe. Variable audio signal and separate 60 eycle signal, variable in ampliiude ovailable an front panel. Four frequency rorges: II-110 CPS, 110-1100 CPS, 1.1-11 KC, $11-100 \mathrm{KC}$. Continuously tunable. Separate high and low output terminals. Volioge regulated oscillator pawer supply. Frequency stability $\leq 3 \%$ or better. Used for checking frequency re sponse, intermodulation distortion, etc. Oper. etes on 117 VAC. Size: $7 \times 1012 \times 6^{+b}$. Complete with tubes, output cable, instruction boak, Blueqray hammeroid cose with satinealuminum panel. Shpg. Wgt. 12 Ibs.
MODEL WA.44A. Nef............................ $\$ 87.50$

MODEL 400

## DISTORTION METER

Model 400 is a Sensitive instrument having a wide range of applications in the audio frequency measurements field. Ideal for measuring low level eudio voltafe and determining noise and harmonic content of same. Variable frequency selective filter provides a single frequency suppression circuit for the frequency range of 30 to 15,000 cy. Small size, light weight, and outstanding performance make this instriment an ideal unit for either laboratory or field work. Panel is of $1 / 16^{7}$ reverse etched aluminum. FREQUENCY RANGE: (a) Disturtion meter, for fundanentals from 30 to 15,000 cy.. measuring harmonics to 45,000 cy. (b) As a voltmeter and DB meter from 30 to 45,000 cy. SENSITIVITY: (a) Noise and distortion measurements, minimum input .3 volts. (b) Vol toneter, full saale readings of $.3,1, .03, .01$, and .103 volts. calibration: for distortion measurements: $\pm$. 5 DB. For voltage measurements: $\pm 5 \%$ of full scale at 1000 cy . SIZE: 123x7hx9"。. For 110 VAC, $50 / 60 \mathrm{cy}$. operatiun. Shpg. Wst. 16 lbs.

MODCL 400
NET $\$ \mathbf{1 6 8 . 0 0}$

## SINE WAVE CLIPPER

MODEL 250


MODER. 250 does the work of a square have generator costing many times more. Frovides a clipped sine wave for examining transients and frequency response of audio circuits. Designed to be Jriven by audio oscillator. Includes input terminals, output level control, and function selector switch. Speeds circuit amalysis.

## MOMEL 250 NET $\$ 10.00$ <br> SUPERIOR <br> SIGNAL <br> GENERATOR <br> 

MODLL 660-A. Provides complete voverage for AM-FM-TV alignment. Generates radio frequencies from 100 KC to 60 MC on fundamentals and from 60 MC to :20 MC on jowerful harmonics. RF avallable senarately or modulated by the internal uudio oscillator. Built-in 400 cycle sine wave audio uscillator. AF osellator circuit has over one voll output. 5 step ladder type attenuator. Complete with cuaxial cable test lead, instructicns. Size: 6x6 $\times 9^{\text {" }}$. Shpg. Wist. 141 hs Net $\$ 42.09$

MODEL 200

## AUDIO OSCILLATOR

MONEL 200. Ideal for use in distortion and frequency measurements. Caliorated frequencles between 30 and $30,000 \mathrm{cy}$. No yero reset or line calibration is required. Self-contained power supply. Housed in black crackle, steel cabinet, carrying handle. VOLTAGE OUTPUT: 10 volt into a 500 ohm load. Have form: RMS harmonics at 3 volts on 500 ohm load less than $1 \%$ on all frequencies between 50 and $15,000 \mathrm{cy}$. FREQUENCY RESPONSE: Better than $\pm 1$ DB from $30-15,000 \mathrm{cy}$. with 500 ohm load. STABILITY: Better than 1\%. CALIBRATION: $\pm 3 \%$ of scale reading. SIZE:
 tion. shpg. Wgt. 16 lbs.
Mool zmo NET $\$ 138.00$

## PRECISION

SINE.SQUARE WAVE
SIGNAL GENERATOR


Audio-video, sine-square wave signal generofor Continuously variable sine and square wove ronges 20-200 CPS, 200-2000 CPS, 2000-20,000 CP\$. 20 KC to 200 KC sine wave onty. Outputt
2000 ahms, $0-20$ volis max., flat within I DB. Distortion: less than $1 \%, 20$ CPS through 209 KC. Accuracy: $1 \%$ or 1 cycle. Four fixed high frequency square wave steps: $50 \mathrm{KC}, 100 \mathrm{KC}$ 250 KC, 500 KC. Direct-roading dial and panel af heavy gauge otched anodized aluminum. Oper ates on 117 VAC. Size: $101 / 3 \times 12 \times 6^{\prime \prime}$. Complete with pubes, caaxiol output cable, and operating manual. Shpg. Wgi. 20 tbs.
MODEL E-300. Net.
.$\$ 171.00$

## NEW

## V.O-M

High Sensitivity
Multi-Range Test Set


High sensitivity multierange test set with it ranges. 20,000 ohms per volp DC, 5,000 ohms per valt $A C$. $8 A C$ and $D C$ valpage ranges: 0 -1.2-3-12-60-300-600-1200-6000. 8 AC outpus ranges same as $A C$ volts. 7 DC current ranges:
$0.60-300$ microamperes, $0.1 .2 \cdot 12-120.600$ Mí $0-12$ amperes. 5 resistance ranges: 0-200-2000 200,000 ohms, $0.2 \cdot 20$ megohms. 8 DB ranges -20 to 477 . Extra large $5^{\prime \prime \prime} /{ }^{\prime *}$ rugged meter, 40 microamperes sensitivity, 2\% accuracy. Pasitive contact jocks and plugs. Camplete with botteries, test leads, operating monual. Size: $5 \% \times 7 \times 3^{1 / \prime \prime}$. Shpg. Wgr. 5 lbs.
MODEL 120. N
PHONE CHESTNUT 1-1125
1125. PINE ST.. ST. LOUIS 1. MO.

## Genferl ceweit ALIGNMENT TOOLS

## AND WRENCHES

## G-C DUPLEX ALIGNMENT

 SCREW DRIVERLow inductance metal tip on both ends. one end is $7^{\prime \prime}$ and other end is $7 / 32^{\prime \prime}$. Insulated.

No. 5001
Net $\$ \mathbf{5 0}$
G-C "strato" tuning tand

3 rass cylinder on one end and iron core on other end. By inserting iron core end you increase the inductance and inserting brass end lowers inductance.
№. 5002
Net \$ . 65
G-C RCA ALIGNING TOOL
Made of $1 / 4 "$ bone fibre, narrow screw driver on one end and screw nib inserted on other end.

No. 5003
Net \$ . 50
G-C no-metal insulating ADJUSTEENT SCEBW DRIVER

Nade of black bone fibre. Ends can be reground. $7^{n}$ long.

No. 5004
Net \$. 26

## G-C insulaten <br> HEX FRENCH \& DRIVER

Combination hex wrench $\&$ insulated screw driver. The screwdriver may be extended 7-13".
No. 5005
Net \$ . 50
G-C NON-EXTENSION TYPE WRENCH DRIVER

Same as above except screw driver is permanently attached in wrench. Length not adjustable. Overall length $6^{\prime \prime}$.

Ni). 5007
Net \$. 26
G.C tlligator arencil ALIGNING TOOL
$\underset{\mathrm{E}}{\mathrm{E}}=$
Warle of $7 / 32^{\prime \prime}$ bone fibre with alligator on one end and $y^{\prime \prime}$ metal hex wrench on other end.
No. 5012
Net $\$ .32$

## G-C RRENCH \& SCREM DRIVER

 ALIGNER TOOLMade of $7 / 32^{\prime \prime}$ bone fibre with $x^{\prime \prime}$ hex wrench on one end and screw driver with metal nib on other end.

No. 5013
Net $\$ .56$
 Consists of serew driver with metal nib. " ${ }^{\prime \prime}$ hex prerech slotted and $5 / 16^{\prime \prime}$ hex wrench on other end.

No. 5014
Net \$ . 39

zone fibre, combination tool. Consists of screw driver with metal nib. $5 / 16^{\prime \prime}$ hex wrench, $1 /{ }^{\prime \prime}$ hex wrench slotted, with. metal screw driver on one end.

No. 5015
Not \$ . 97
G-C No. SOSt ALIGNMEST TOOL


Bone fibre combination too: Consists of screw driver with metal nib, $5 / 16^{n}$ hex wrench. $\psi^{n}$ hex side wrench and $\|^{*}$ hex end wrench slotted.

No. 5016
Net \$ 97
G-C DUPLEX INSULATED WRENCH ALIGNMENT TOOL


Made of bore fibre with "i" hex metal wrench on one end and $5 / 16^{\text {n }}$ hex metiol wreach on other end.
No. 5017
Net \$ . 82

## INSULATED ALIGNING WRENCHES

Made of vone fibre tubing hexed full length inside, so end of wrench can be cut off when worn out.
No. 5053
$\%^{\prime \prime \prime}$
Net \$ . 22

## G-C ALIGNMRN SCREM DRIVER

Heparran
Low inductance metal tip screw diviver. Completely insulated. $y^{\prime \prime}$ dia.. $6^{\prime \prime}$ long.

No. 5000
No. 5000 Net $\$ 26$

## angMTENOD

Neutralizing tool for UHF alignment. Large and has metal tip for TV adjustthent. No hand capacity.

No. 55
Net $\$ .15$

## G-C NE-O-LITE TESTER

llandy, inespensive lester that every radioman should have for testing AC lines, nolarity of AC or DC, testing fur blowil fuses, tracint: ground line in AC, as an Rr* indicator simark plug testir. and 101 other uses. Can bu used on co vac to 500 vac or ic.
No. 5100
Net \$. 35

## NEW ZENITH NYLON HEX WRENCH

Nylon hex wrench alignment tool. liex on both ends, one end undercut for iron core tuners to reach bottom sluz in coils.

No. 8606
Net 3.32
1, SIPECTION LITE

Operutes on 110 volts AC or DC. Fime for servicing rakios or redrigeraturs in the hard-tu-zet jaces.
No. 705
$\mathrm{Net} \$ 1.32$
G.C SLUG SAVER.ADJUSTING TOOL For Standard and other tuners. Prevents slug from falling out and getting lost.
NO. 9087. Not................................... 5 . 59

## UMLSCO

ALIGNMENT TOOLS


TV OSCILLATOR AIIGNOENT TOOLS Cot. Jio.

2518 Fur Philco Receivers \& 1.03 2522 For Receivers, "Standard Coil" Front Fnds
-ALSCOTVI.F.
ALIGNMENT SCREW DRIVER
Standard tools for all TV and FW sets. Nade of new flexible low-loss plastic with thin precision screwdriver tips. Made vith thin $\left(7 / 32^{n}\right)$ polystyrene handle, $7^{n}$ long. special tool on one end for dressing wires and finding loose connections or shorts. Other end has low capacity screw driver tip.

Cat. No.
Net
2512 Mire Dressing \& Align-
ment Tool
\$. 36
TALSCO "K-TRAN" ALIGNEENT TOOL 2516 - 81, $^{\prime \prime}$ long, for ${ }^{16}$ studs \$.65 2517 - $3^{\text {" }}$ long, for ${ }^{7} 6$ Studs 2519 . $7^{11}$ long. 1 end for $\$ 6$ Studs; other end for $\$ 4$ Studs.
$2521-8_{2}^{\prime \prime}$ long. slotted type,
for "6 studs65

TIRE DRESSING ALIGNMENT TOOL For adjustment of all miniature (K-Tran) I.F. transformers. Made of tough bone fibre. One ent is machined to fit ${ }^{\text {He }}$. Tran" slot; other end is equipped with low capacity metal screw driver tip.

Cat. No.
Net
2515 " K -Tran" Alignment
Tool
$\$ .48$

## SERVICE TWEEZERS

No. 572 - Small precision tweezer with nerrow pointed enc's especially sui table for delicate mork. 4y" long. Shng. Wit. 3 oz.

Net \$ . 35

## 

No. 570 - Self-closing tweezer with crossover action. $66^{\prime \prime}$ long. serrated blunt points. Shpg. Hgt. 3 oz . Net $\$ .62$

## ————ror

No. 571 - Heavy duty twecere with slidiclock features. $6{ }^{\prime \prime \prime}$ long, serrated blunt points. Shpg. Hgt. $30 \%$.

Net $\$ .76$

## N0. 375 THEEZEK KIT

iio. 575 - Matie of durable leatherettr. Contains one each of the above listul tweezers.

Net \$ 2.69

## INSPECTION MIRROR

luanction airror to see in the chassis and inspect coils, parts, and connections Long handle. shpg. wgt. $40 \%$ No. 56,90

## Too PUNCHES - NUT \& SCREW DRIVERS



GREENLEE

## PUNCHES

TPFF 730 cuts smooth round holes in meta1. bakelite or hard rubber up to $1 / 8^{\prime \prime}$ thirk. Operates simply with ordinary wrench. Shpg. Hgt. 11 b .

| Nnt | Size | Nr t |
| :---: | :---: | :---: |
| \$ 2.16 | 1-1/4" | + 2.47 |
| 2.16 | 1-3/8" | 2.83 |
| 2. 16 | 1-1/2 ${ }^{\text {" }}$ | 3. 19 |
| 2. 16 | 1-5/8" | 3.69 |
| 2.34 | $1-3 / 4^{\prime \prime}$ | 4. 18 |
| 2.47 | 1-7/8" | 5. 22 |
| 2.47 | 2" | 5.62 |
| 2.47 | $2-1 / 4^{\prime \prime}$ | 6.12 |
| 2.47 |  |  |
| REPPLACP | SWREWS |  |



TYPE, 732 quickly and easily cuts holes for heyed radiu sockets. Ordinary wrench supplies drive nower. Drive screw fits $1 / 2^{m}$ hole.
\$3. 73
1-17/64
$\$ 4.27$ 4.00
1-21/64 ${ }^{n}$
. 19

TYPE 733 " $U$ " punch simplifies and sproctis the work of making $1 / 2^{1 \prime}$ D-shaped openings. Used for tube sockets, etc. Drive

SQUARE


## वयमझताण

## EOR PUNCHES

For cutting holes for Amphenol sockets. keyed

NO. LDI $1-11 / 64^{\prime \prime}$ hole Net $\$ 7.06$
No. L102 $1-21 / 64^{\prime \prime}$ hole 7.06

(1) CIRCLE CUTTERS Adjustable

No. 5A square Shunt
Net \$ 1.95 heavy duty tonl for hatim or electric drill. Cuts holes $1^{\text {n }}$ to $5^{\text {th " }}$ in sterl ind

Ao. 5B $5 / 16^{\prime \prime}$ Routhe Shank
1.95
1.95

ECONOMY STYLE
vo. 4 Cists holes $7 / 8^{\prime \prime}$ to $4^{\text {" dua }}$
(URLSCD
vo. 8600F. Asst. o! 4 small-slize hex wren an screxs No. 4 to $1 / 4^{\prime \prime}$ set serems and No. 781. Asst of 3 medium-size hex wrenches for $1 / 4$ to $7 / 16^{\prime \prime}$ screws and <ap vo. 860zF. Assit. Ul 4 simall-sizo spl 1 mu (c)

## SMALL TOOLS - KRAEUTER PLIERS Too

## HYRTO TOOLS

Chi-Hytron Test Adanters facllitate testing for memsurjos voltage, resistance, gain, etc. No need to turn chass is unside down. Simply remove tube, insert adapter, replace tilbe in adapter. All contacts of tube are now accessible for testims crrcuits.

Sil-27 7-Pin miniature \$ 1.45
sil-28 8-Pin Octal 2.2.5
SH-29 (1-1)is Miniature 1.75
MITRON TUBE LIFTER

lifts any type of tube out of its socket. Sll-21 Het \$ 15

HYTRON PRORING TMEEZERS


Made of rich, tongh polyptyrene. Safe to use. Excollent for probing fur shurts, internittents, onens, etc. Net $\$ .35$


NEH SH-23 HYTPON TUBE POLALR. Pull or insert 7-pin miniature tubes the easy way. Adjusts automatically to varying tube diameters. Tube puller works by suction and friction on (of) of tube.

Net \$. 75

## HYTRON SOLDERING AIO

soldering aade vasy... Sast! yo more jattling with bulky long-nose pliers to unsclder those nicely wrapped, mechanic "lly solid joints. No more patching leads snipped short. Jytron Soldering tid rakes jot a cincl. No, SH-20

Net \$ . 49


HYTRON SOLDER DISPENSER
Your thumb on control wheel feeds solder as you need it. Retracts casify when iob is done. Handy pocket clip. Complote with 20 lengths of $.050^{\prime \prime}$ solder.
NO. SH-32. Net.
No. SH-32. Nef......................................... $\$ .98$ 7-9 PIN TUBE STRAIGHTENER
Combination 7 and 9 pin straightence for minialure pubes. Works safoly and quickly, avoid broken tubes.
NO. SH. 79 TWIN STRAIGHTENER, Not \$ 1.06

AMO NINIATURE TUBE PULLER Desibued to prevont tube breakthy und burnt fingers. For removang miniaturis tubes
No. $\mathbf{3 0 9 3}$ 7-Prong Net $\$ 1.06$ NO. 8106 9-Prong
1.06

G-C TURE INO PARTS ENTRACTOK
Shillinlly constructex af Epring stefol, candium plated. lias rubber cushion on the pron..s. A haady tool io have :Trombl.

Nint $\$ .97$


N $=0.4$

GOCNMOH IUNALER
Simply silip the G-C puller belif hi the knob of pull it off. Sives time
NO. 1063 KNOR PUA,FRS
$40 \rightarrow 3$

EXTRA LONG



## THIN NOSE COMBINATION



ELECTRICIANS' SIDE
CUTTING PLIERS


CHAIN NOSE PLIERS


WIRE STRIPPING diagonal cuiping plier needie nose pliers 2612


## Number

| 4501 | N" with cutter | \$ 1.96 |
| :---: | :---: | :---: |
| 451 | $5^{\prime \prime}$ with cutter | 2. 20 |
|  | $6^{\prime \prime}$ with cutter | 2. 30 |
| 64.3 | 5 " | 1.59 |
| 46 | $6^{\prime \prime}$ Doluxe | 1. 37 |
| 16 | $6{ }^{\text {" }}$ standard | 80 |
| 825 | $s^{\prime \prime}$ with cutter | 2.70 |
| 1781 | $77^{\prime \prime}$ with cutter | 2.83 |
| 177 | $7^{\prime \prime}$ nu cutter | 2.17 |
| 826 | $\epsilon^{\prime \prime}$ with cutter | 2.92 |
| 1611 | 5 "no cutter | 2, 09 |
| 18:00 | $4 "$ with cutter | 1.96 |
| 1830 | $5^{\prime \prime}$ with cutter | 2.69 |
| 1835; | $\mathrm{G}^{\prime \prime} \mathrm{i}^{\prime \prime}$ with cutter | 2.29 |
| 18:30 | \%" with cutter | 2. 50 |
| 1836 | 8" with cut ter | 2.83 |
| 827 | $\mathrm{T}^{\prime \prime}$ " with cutter | 3. 25 |
| 837 | $7^{\prime \prime}$ no rutter | 2, 83 |
| 2612 | (\%2." with cuttur | 2.83 |
| 1661 | $6 "$ with cutter | 2. 50 |
| 1643 | 5 " | 1.83 |

## G-C THIN NoSE PLIERS

An excrlient tool for the radio man for strimging and holding radio dial cable, soldering wires, holding parts, starting screws, nuts, etc. Notched jaws grip small abjects 11 mily.
No. 5192 Straight Nose Pliers
Net \$. 59
fo. 5193 Curved Nose pliers
Net \$. 59

## GRILLE CLOTH

Culur:: Replace that old worn firum rille cloth with one of these sparkjing types.
Number Size Net


| $1: 2 \times 21^{n}$ | $\$ .88$ |
| :---: | ---: |
| $1218^{n}$ | .+4 |
| $12 \times 12^{n}$ | .+1 |
| $24 \times 13^{11}$ | .79 |
| $18 \times 13^{n}$ | .53 |



## JEWELERS PLIERS

Smoll lightirwe ight precasion pliers designed tor fine clase wark as required by jewelers, holby crafters, model builders, inventars, and skilled technicians. These $4 \frac{4}{2}$ " pliers are drop forged from fine steel. Mochined, ground, carefully heat-treated and palished. Shfg. "gt. 5 az.

NO. 81. DIAGONAL CUTTERS for fine clase work. Net............................. \$ 2.50 NO. 82. END CUTTING NIPPERS for fine close work. Net............................. \$ 3.00 NO. 83. CHAIN NOSE PLIERS - no cutters. 11/t" smacth jow. Net............. \$ 2.42 NO. 84. FLAT NOSE PLIERS - no cupters. $1 \%$ " smath jaw. Nef............. $\$ 2.50$ NO. 85. ROUND NOSE - ROUND JAH no cutter. IH/3" smooth jow. Net...... \$ 2.50

## INDUSTRIAL PLIERS



Mo. 710-10". Industrial type pliers with tungue-n-groove joint. Forged fins and grooves allow 5 parallel adjustments of
 city has a range from $3 / 16^{\prime \prime}$ to $1-5 / 8^{\prime \prime}$. Polislied finish. Overiell length $10^{\circ}$.

Nut \$ 2.37

## LONG NOSE PLIERS



No. 422. Long nose slde cutting plier. Econumy tool for TV. radlumen, electrlcidus, miaistenance men, etc. $5^{3, n}$ long.

Net \$. 69

## DIAGONAL CUTTING PLIERS



N0. 425. Diagonal cutting pller. Good sharp cutting edge for rudio and electric wires. $4^{3}{ }^{n}$ long.

Net \$. 69
walsco ornamental metal grille


Used in many of the very finest custom installations. Grille is heavy metal. richly plated in "brushed brass", and lacquered for enduring rich gold eflect.

|  | atr |  | 0.15 |
| :---: | :---: | :---: | :---: |
| 382 | $12 \times 18^{\prime \prime}$ | , | 1.76 |
| 384 | $18 \times 24$ |  | 3.23 |
| ${ }^{386}{ }^{*}$ | $24 \times 36$ |  | 6.14 |
| $387 *$ | 24 x 48 |  | 8.109 |
| 388* | $36 \times 48$ |  | 11. 46 |
| * Not stocked, | spectal |  |  |

## Too TOOLS FOR THE WORK BENCH

PLIER AND WRENCH KIT
Oxwall
SOCKET WRENCH SET ratchet hand́le


Plier and wrench kit. Mode of high grode steel with polished heads. Ideal for car, home, and gifts. Kit consists of $7^{\prime \prime}$ lines. man slip-joint plier, $6^{\prime \prime}$ adjustable wrensh, $5 \frac{3 / 4}{}{ }^{\prime \prime}$ diagonal plier, $5 \frac{3}{4} /{ }^{n}$ lang nose plier. Heat sealed plastic case. Shpg. Wgt. 2 lb . NO. 4014. Net. $\qquad$
INTERCHANGEABLE
SCREWDRIVER SET


6-piece magnetized interchangeable screw. driver set. Hardened and tempered steel blades. Aluminum screw chuck. Unbreak. able, shockproof, non-inflammable amber plastic handle. Heat sealed plastic case. Sizes: $1 /{ }^{n} \times 3^{1 / 0^{n}}, 3 /{ }^{n} \times 3^{1 / 2 m}, 1 / 4^{n} \times 51 / 2^{n}$, Phillips $1 \frac{1}{16^{\prime \prime}} \times 4^{1 / 4 /^{\prime \prime}}, 22^{1010} \times 4^{1 / /^{\prime \prime}}$. Shpg. Wg'. 8 oz. NO. 3918 M . Net.

## SCREWDRIVER SET



Magnetized screwdriver set consisting of drivers, $3^{3 /} \times 8^{n \prime}, 1 / 4^{\prime \prime} \times 6^{n}, 1 / 4^{\prime \prime} \times 11^{\prime \prime}, 1 / 3^{n} \times 3^{1 / 2^{\prime \prime}}$, $3 / 16^{4} \times 5^{5}$, "Phillips $1 / 4^{\prime \prime} \times 4^{4}$. Unbreokable', shockproof amber plastic handle. Hordened tempered tool steel blades. Complete with metal wall rack holder. Shpg. Wgt. 2 lbs. NO. 3796. Net.

## TUBE PIN STRAIGHTENER

 Precision steel dies for the straightening of pins on fragile minioture tubes. Quickly aligns pins that hove been bent.
v0. 5191. For 7-pin miniatures. Net... 8.73 40. 8105. For S-pin miniotures........... . 73

## TUBE GIZMO

## 4-IN-1 TOOL

A handy little gadget - four tools in one. Use it to pull allminiature tubes. Specially hardened nylon-bakelite pin aligning dies for straightening pins on 7 -pin and 9 -pin qubes. Also use it as a rubber-cushioned fube tapper. Pure India rubber is used.
MODEL TG.4. Net.. $\qquad$
WRENCH FOR H\&H KNURLED NUTS


Speciol deop cavity accommodates knurled nuts as used on $\mathrm{H} \& \mathrm{H}$ switches. Knurled surface is tapered.
NO, 3480. Net....
. $\$ 1.87$

## $20 \%$ DEPOSIT REQUIRED ON C.O.D. ORDERS



WA BREAST DRILL
Works smoothly. Hardwood handle with solid steel frame. $1 / 4^{n}$ capacity chuck.
Net.
$\$ 2.94$

## WA HAND DRILL

A light hand drill for small work. Solid handle with plain finished frame and chuck nut. Takes drill bits $0^{\prime \prime}$ to $3 / 15^{\prime \prime}$. Length 91/4". Shpg. Wgi. 1 lb. Net................. 1.57

## GENERAL

DRILL AND WIRE GAUGE
Made of heovy gauge hardened and tempered steel. Carefully inspected, oiled, and individuolly wropped. Easy to reod, deep clear numerals. Numbered from 1 to 60 for any drill. $23 / W_{x}$ 6\%/L. Net......................\$1.17

SIX INCH STEEL RULER

$6^{\prime \prime}$ stainless steel rule with depth gauge pocket clip. Width ! $4^{n}$. Reads 32 nds and 64ths.
NO. 301. Net

## HANDY TOOLS - WIRE STRIPPERS Too

## CARBON STEEL <br> TAP AND DIE SETS



Heat treated, Clean, accurate threads. Made of high carbon alloy steel. Packed in finished mahogany case. One plug tap and solid dies furnished in following sizes: 4-36. 6-32. 8-32, 10-32, 1/4-20.


## WALDEN WORCESTER SPINTITE WRENCHES



Deluxe Spintite sets containing all popular radio and ignition size tools. Hrench sizes: $3 / 16,1 / 4,5 / 16,11 / 32$. $3 / 8,7 / 16 \& 1 / 2^{n}$. Screw driver: $1 / 8 \times 4^{n}$ $3 / 16 \times 4^{n}$. $1 / 4 \times 4^{n}$. Reaner $1 / 16-3 / 16$. $6^{\text {n }}$ long nose plier. $5^{\text {n }}$ diagonal cutter neutralizing tool and thiversal handle. neutralizing tool and Univers NO. 3800B15

Net $\$ 16.07$
Same as above but less pliers and neutralizing tool.
NO. 3800A12
Net $\$ 6.09$


## VISE

No. 149. A practical vise of good construction. AttracWidth of ive and finely made to $1-3 / 4^{n}$. Shpg. hgt. 2 los.

Fo. 149
Net $\$ 1,20$


## JEWELER'S

## SCREWDRIVER SET

Consists of one jemelers seren driver body and tive replaceable screw driver blades, sizes 0,1 . 2, 3, 4. Enclosed in plastic container. Shpg. kigt. $80 z$ No. 605-S

Net $\$ 1.13$

## SEWELERS SCRE責DRIVERS

## 

Precision thade of steel tubing and rquipped with tempered steel blades and free-wheeling swivel head. Removable blades are held firmly in place by tha readed chucks. Set of six, consists of No. 0, 100; No. 1, .080; No. 2, .070; No. 3, 055 ; No. 4, 040; No. 5, . 225.
M. 600-8. Sue of six.



Standard speedex wire stripper Fast operating precision made hand tool ior stripping insulation from all types of wire. Very easy to oderate. Strins 750 to 1000 wires der hour. All blades are interchangeable and easlly replaced.

No. 73312 to 20 Nire
Net $\$ 288$ Mo. 733 A It to 30 \#ire
3.88 No. 733H For 300 whes TV and F3
transmission line. 3.88

AUTOMATIC SPEEDEX IRE STRIPPER Similar to standard models excent has "stay upen feature" with new specdex "Trig-D-Matic" action. Auto naticelly holds jaws open until wire is removed and prevents bending or crushing of fine mires.
No. 74
12 to 20 Wire
Net \$ 4.8 No. 744A 14 to 30 Wire
No. 744 for 300 obm transmission line. 4. 85

## G-C SPEEDEX WIRE STRIPPER KIT

Wire stripper complete with 7 different size blades put up in a spec. ially designed permanent steel box. For wires No. 8 to No. 30. Helps keep all parts together in ore kit. Available with automatic or standard model strippers.

No. 733-K standard stripper Kit with
clades. Net \$ 9.
No. 744-K Deluxe Automatic stripper
Kit with blades. Net $\$ 10.14$
G-c SPEEDEX RRPLftement blanes身
Fit standard and automatic models. Blades interchangeable.

| Number | Size. | Number | Sizu |
| :---: | :---: | :---: | :---: |
| $3 \%$ | 12-30 | 3\%-F | 14-18 |
| 3W-1 | 14-30 | 31-F | 10-14 |
| 3W-8 | 10-18 | 3W-G 18 P. O.S. J. |  |
| 3W-C | 8-10 |  |  |
| 3W-D | 16-22 |  | lin |

Ans size.
Net \$.97

## G-C IRE STRIPPER

5-in-1 tool. Hardened stect, use as wire strip. per. scraper, cutter. screx driver and wire winder.

Net \$ 20


## WALSCO PROTECTO-TUBE


ssuthrite tubina designed for insulating handl "is of pliers, screwdriver blad"s, "uble ronnector ends, test prods. etc. Mill not crack or shatter. Fusily : flifed. Kit contains 12 ft . assorted sizes and colors, expanding solution and instructions.
No. $\mathbf{k}-18$


Burn propano gos, heat up to 2300 degrees. Disposablo eylinder holds enough fuel to burn up to 15 hours. Lights instantly of rouch of o match, ovon af 30 degrees below zoro. Burns in any positian, Selfesealing valve prevents lonkage, thus bupner moy be safely pemoved at any time during life cycto. Used for electrical work, plumbing, wood rofinishing, soldoring. tinning, metal working, poinf removing, home repairs, ar eny uso whoro high heat is nooded. MASTER TORCH with TX.l pencil flome burner for medium duty work. Non-elogging orifice. Fully looded toreh waighs $2^{1 / 4} \mathrm{lbs}$. Cylinder sizo $10^{\prime \prime}$ long by $2^{314}$ " diamater. Overall langth 17". Complate with cylindar and burner. Shpg. Wht, 4 lbs. NOT MAILABLE.
MODEL TX.10. Net.............
Raplocooble eylindor. NOT MAILABLE.
NO. TX-9. Net....................................... 1.45 NO. TX-1. Paneil flamo burner. Net........ 3.75 NO. TX.2. Uiility burnor for heavy duty work. Net.......................................................... $\$ 3.75$ Flomo Sprooder oftochment for uso with TX. 2 burnor provides wide flamo for burning off old point, furnifure finishing, floor loying, etc. BANTAM TORCH with pracision tip for all small flamo usos in jowalry ropairs, radio work. gun ond rackla repairs, otc. Fully loaded unit woighs only 22 oz. Size: $7^{\text {H }}$ high, $2^{3 / 8 / 4}$ diametor. Shpg. Wgt. 3 lbs. NOT MAILABLE.
MODEL TX.IOI. Not.............................. $\$ 3.70$
Roploceoblo cylindor. NOT MAILABLE
NO. TX.109. Nef.................................. 1.12 COMPLETE TORCHES AND REPLACE. MENT CYLINDERS SHIPPED BY TRUCK OR EXPRESS ONLY

## GENERAD

Automatic center pisich

No. 79 Automatic, push the punch. Adustable, light or heavy impressions. Spectiy. Replaceable points made of temperid alloy steel. $1 / 2^{\text {ni }}$ dia, by $5^{\text {" long. Shr he }}$ Wgt. 5 oz , Net 2.95 Fxtra points Fet jach . 30
GEE-LAR AUTOMATIC CENTER PUNCH
-
Handy center punch for panel and lay-out work. For use by servicemen, mechanics. and engineers. Also handy for starting screws. Push on handle and center mark snaps in.

Net \$ 1.62
Roflacement point for above. Net \$ . 29
NO. 701 STEFL SPEAKER SHIMS. Extra flexible Suedisti steel shims for centerini voice coils 4 sizes in kit. Nint

NO. 702 FIBRELOIB SPEVKEH SHIMS. Touch and thexible f1breloid shims, 5 sicis in kit.

## PLASTIC PLIERS

Not a substitute for metal fliers but very useful for specialized johs on radios, appliances. cte. Light in welatht - only $1^{1 / 2}$ oz. Absolutely shockprooi and non-magnetic. 6000 volt break do แn.

Not guarunteed against breakage.
No. lips

## Too SOLDERING GUNS - PENCILS - LUGS

## WELLER

## SOLDERING GUNS



Trons moy be usod for soldering jobs, homecroft, plastic tile eutting, removing hardened putty, heat sealing, eie. Duol spotlights for cosy locating of work at tip. High impoct hous. ing. Streamlined dosign caso, husky transformer. soconds. Madels D-550 and D.440 aro dual soconds. Madels m-Ssols and shipg. wgt. 4 lbs.; standord dury models $=$ shpg. wgt. 3 Ibs.

HEAVY DUTY MODELS
MODEL D.550. Heot 200/275 Wotts. Not $\$ 11.71$ Lots of 3, Not Each............................... 10.54 Lots of 12, Net Each. 9.96 MODEL 5-500. Heot 250 Wotts. Net....... $\$ 9.75$ Lots of 3, Net Each................................... 8.77 Lots of 12, Not Each.

STANDARD DUTY MODELS
MODEL D.440. Heot 100/150 Watts. Net $\$ 10.73$ Lots of 3, Net Each............................... 9.66 Lots of i2, Net Each............................................... 9.12 MODEL S-400. Heat 135 Watts. Not....... $\$ 8.77$ Lots of 3, Net Each.......................................................... 7.46


Compactly designed iron which heots to operating tamporaturo in 5 sceands, over 100 watts. Trigger switch, instantly off or on by lingertip coso. Tip fits casily into tight ploces. Two pro-focusod spotlights illuminate work of tip. May olso be uscd for cutting and smoothing with oceossory tips. Operates on 120 VAC 60 eyclo only. U/L approved. Shpg. Wgt. 3 lbs. MODEL 8100. Net Each. 5.83
5.19 Lots of 3.11, Net Each Lots of 12 or more, Not Each................... 4.94 NO. 7333 REPLACEMENT 2.2 VOLT BULB. Fits oll Woller soldering irons. Not Each $\$ .15$


## REPLACEMENT TIPS

Number
LDERING TIP. For Models B, Nel 7135 50LDERING TIP.For WS. 100 WD. ${ }^{\text {. } 25}$ 135, 5 -400, D.440, 8100 . (Pkg. OL 2 I $250, \$-500, \mathrm{D}-550,8250 \mathrm{~A}$. (Pkg. of 2)
UTTING TIP. With tip nuts. For WS. 100, WD. $135,5.400$, D-440, 8100.

6120 SMOOTHING TIP, With tip nuts. For WS.100, WD.135, S.400, D.440, 8100.

6130 CUTTING TIP. With tip nuts. For WS-200, WD-250, S.500, D.550, 8250
6140 SMOOTHING TIP. With tip nuts, For WS-200, WD-250, S.500, D-550, 8250 A .
7323 REPLACEMENT SWITCH. For all 7324 REPLACEMENT SWITCH. For all


## "QUICK-HOT"

## SOLDERING GUN

U/L approved gun which heats in $21 / 2$ seconds to working tomporaturo. Cools quickly when trigger is roleased. Built-in spotlight angled to focus on work at tip. Extra lang narrow tip oasy to got into tight places. Tip has stecl nose and is proctically indostruetiblo. Gun weighs only ibs. Heat-proof, shock 120 VAC 50/60 cose. o.ft. cord. Operahos. Wg t. $2^{1 / 2} \mathrm{lbs}$.
MODEL 199. Not Eoch.
. $\$ 5.83$ Lors of 3.11, Not Each......................... 5.19 $\begin{array}{ccc}\text { L ots of } 12 \text { or more, Not Each................. } 4.94 \\ 1984 \text { REPLACEMENT TIP.................. } & 35\end{array}$ 1984 REPLACEMENT TIP


Heavy duty iron which heots to working tompor oture in $3-5$ soconds, 250 watts. Periect bal ance. Built-in spotlight focusos on work of tip. Longrooch tip fits into fightest corners. In oddition to all typos of soldoring, gun moy bu usod for ongraving, wood burning, plastic tilo euping, ote. Operotos an 120 VAC $50 / 60$ cycle. U/L opproved. Shpg. Wgt. 5 lbs.
MODEL 250. Net Eoch..
9.71 Lors of 3.11. Not Each............................ 8.64 ofs of 12 or more, Net Eech................... 8.20 $25 A 4$ REPLACEMENT STANDARD TIP.. $25 \times 20$ FERALOY LONG LIFE $\$ 0 L D E R$.
ING TIP.
25CI PLASTIC TILE CUTTING TIP........ 35

"RESIN-FIVE" CORE SOLDER
The better solder for television, all radio and electronic parts, and household use. "Resin-Five" Flux is more active and stable than any rosin flux yet it is non-corrosive and non-conductive. Small tin, household size, Net $\$ \mathbf{1 7}$ 1 lb. roll "Resin-Five" core solder. $40 \% \mathrm{tin}-60 \%$ lead, $3 / 32^{n}$ dia. I 1 b . roll "Resin-Five" core solder.
$40 \%$ tin- $60 \%$ lead, $1 / 16^{\prime \prime}$ dia. 1.10 5 ih. roll "Resin-Five" coré solder. $40 \%$ tin- $60 \%$ lead, $1 / 16^{\prime \prime}$ did 1 lb. roll Resin-Five ${ }^{\text {n }}$ dia,
5 1b. roll "Resin-Five" core solder
50\% tin-50 ${ }^{\circ}$ lead. $1 / 16^{\prime \prime}$ din. 6.20
1 lb . roll acid core solder. 40/60 1.07 5 3b. rull acid core solder, $40 / 60 \quad 5,15$ solder paste, 2 oz . tin

## UNGAR

Electric
Soldering Pencil


Widely usod in sorvico work, home workshops, production lines, laborotories, etc. Tips ovailoble in three wattoges.

| $231 / 2 \mathrm{WATTS}$ |  |  |  |
| :---: | :---: | :---: | :---: |
| No. | Type | Tip Temp. | Net |
| 536 | Pramid | $700^{\circ}$ | \$.86 |
| 539 | Chiscl | $700^{\circ}$ | . 86 |
| 540 | Plastic Marking | $700^{\circ}$ | . 86 |
| 535* | Heoting Unit | $650^{\circ}$ | . 86 |
| $371 / 2$ WATTS |  |  |  |
| 1235* | Meating Unit | $750^{\circ}$ | 1.06 |
| 1236 | Pyramid | $800^{\circ}$ | 1.06 |
| 1239 | Chisel | $800^{\circ}$ | 1.06 |
| 471/2 WATTS |  |  |  |
| 4035* | Hoating Unit | $850^{\circ}$ | 2.35 |
| 4033 | Chisel | $900{ }^{\circ}$ | 2.35 |
| 4039 | Chisel | $1000{ }^{\circ}$ | 2.35 |
| 4036 | Pyramid | $1000^{\circ}$ | 2.35 |
| *Tiplets for use with 535-1235-4035 heating units. Interchangeable, serew-in typo. |  |  |  |
| 331 Peneil Tip. \$.12 |  |  |  |
| 3320 | sot Tip. |  | .12 |
| 333 C | isol Tip. |  | . 12 |
| $776$ | andle with cord se long. | for all pip | . 90 |

## Ungar electric pencil AND SOLDERING SET



MODEL 217. Soldering set for hobbyists. home craftsmen, radio men, etc. For use on wood, plastic, leather, foil, cork. fixcellent for delicate soldering jobs in meters and small nlaces. Complete with handle and cord set, detachable 30 watt threaded heating unit, six interchangeable tins, 5 sheets metallic embossiog foil, abrasive cloth, instructions for all homecrafts. and lllus trated catalog of plaques and projects. Sheg. Wit. 1 lb .

MONFL 217 Fle:TRIC PFNCIL SET Net $\$ 2.29$

## WALSCO TERMINAL LUGS



Packaged in attractive clear plastic containers. All are tinned and ready to use. for $k 6$ and 88 screw.
No. Qty. Net Fig No. Qty. Net 7110-F $20 \quad \$ 29 \quad 1 \quad 7118$-N $125 \$ 1.06$ $7120-\mathrm{F} 25 \quad .29 \quad 2 \quad 7128-\mathrm{N} 140 \quad 1.116$ $\begin{array}{llllll}7130-\mathrm{F} & 25 & .29 & 3 & 7138-\mathrm{N} & 115 \\ 71.06\end{array}$ $\begin{array}{llllll}7130-F & 20 & .29 & 4 & 7148-N & 100 \\ 7150-F & 15 & .29 & 5 & 7158-N & 100 \\ 7 & 1.06\end{array}$
$\begin{array}{llllll}7100-\mathrm{F} & 15 & .29 & 5 & 7158-\mathrm{N} & 100 \\ 7160-\mathrm{F} & 35 & .29 & 6 & 7168-\mathrm{N} 250 & 1.06\end{array}$
$\begin{array}{lllll}7170-F & 25 & .29 & 7 & 7179-N\end{array} 140 \quad 1.06$

## American Beauty

 Electric soldering irons

World famous for many years, these i runs Hive construction features which assure cifticient and long if fe. Heating el unman core is made of solid sect rod. Nickelchromium heating clement is wound arourtu the core and bound wi th patented compresssion winding. Every iron is supplied with long lasting self-flexible heater cord. feat insulating stands are supplied with all irons. Operates from cither AC or DC current.
Number Wattage Sip 6 Lot Single $3128 \quad 60 \quad 11 \mathrm{~b} . \$ 3.51 \quad 3.67$ $\begin{array}{lrlrl}3128 & 10 n & 2 & 5.51 & 3.67 \\ 3138 & 200 & 3 & \mathbf{6 . 5 3} & \mathbf{5 . 8 3} \\ 3158 & 20.83\end{array}$ $\begin{array}{rrrrr}3158 & 200 & 3 & 6.53 & 6.83 \\ 3178 & 300 & 4 & 8.61 & 9.60 \\ 3198 & 650 & 6 & 11.16 & 11.66\end{array}$

## NEW ANGLE TYPE

## SOLDERING IRON

No. 3128-A. New ANGLE-TYPE iron for production uses, service, TV and all-around uses. A companion iron to No. 3128, with new angle feature. Rated at 60 watts, operates on $105-125$ volts $A C$ or DC.

$$
6 \text { Lot. Net Each } \begin{array}{r}
\text { Net } \\
4.00 \\
3.83
\end{array}
$$

COPPER TIPS


- Chisel type tip. All others are pyramid

American Beauty


## temperature

## STAND



Thermostat control regulator 10 r irons
while at rest, Thermostat thy be set at any desired temperature. Handles up to 660 watts. For AC only. Shag, hist. $2^{2}$ Lbs.
NO. 475. Net


DELUXE MODELS


MODEL 326. 125-watt iron witt. $3 / 8^{\prime \prime}$ adjustable plug tip. Nichrome element. cooling fins keel y handle cool. With stand. $13^{\text {" }}$ lung. Shag. Wet. 21 liss . With $\begin{array}{rrr}\text { Nit t } & \mathbf{4 . 1 2} \\ \text { Extra Tip } & .35\end{array}$


MOUEI. 325. 100-watt iron with $3 / 8^{n}$ adjustable plug tip. Standard radio iron. Nichrome element. Wi th stand. $13^{\prime \prime}$ long. Shes. Wet. 1', lbs. Net \$ 3.82 Extra Tip . 35 ECONOMY MOTELS


MODEL 315. 60-watt iron with $3 / 8^{\prime \prime}$ screw an tip. For light work. Nichrome-Porcelain element. With stand. Gun metal finisth. $11 \mathrm{~h}^{\prime \prime}$ long. Shag. "gt. 1 lb .

Net \$ 1.47
Extra Tip


MONEI. 316. 100 -watt Iron with $3 / 8^{\prime \prime}$ screw on tip. Excellent for all arcund work. Nichrome-Porcelaib element. Width stand. Shag. Met. 11 b . Net $\$ 2.00$ Extra Tip 1.06 MIDGET IRONS


Mow 350 . 35 -hat midget soldering iron with $1 / 8^{\prime \prime}$ straight tip and extra tip bent at $45^{\circ}$ angle. For continuous duty. Nickel chromium element. $7^{n}$ long. weighs Go\%. Complete with 6-ft. cord, plug, and stand. Shag. light. 1 lb. Net $\$ 3.53$

Extra Tip


NODE 1 400. Small continuous duty goWat iron "isth $1 / 4^{"}$ plugin tip. Only $\mathbf{s}^{\prime \prime}$ long. weight's 8 oz. Nickel chromium heatins element. fir t. cord. Stand included.
 Extra Tip $\quad .24$
drake "pee he" iron for portable use


Month 360. Widget 35 -watt soldering iron for rallin and TV work. Complete with 3/15" tip. 5-fi. U/L approved curd. Shpt. Hgt. I lb. Nit \$ 2.94

HATE SOLIFF POTS

monas. zee. Heavy duty production-typo 300 -watt solder mos. Nichrome element wound directly around cast iron well.
 solder. Complete with detachal, co rs. plat and bale handle. For tho volt. deMOMFI. 100. Standard: duty $1500-$ ant molder pots. Nickel chromium clement word ta ceramic core. Well size. $1^{1 \underline{2}}{ }^{n}$ dan. $1^{n}$ deeps. Holds 1 lb , solder. Complete with detachable cord and plug. Shes. like. 3 los. Net $\$ 5.56$

## PHILLIPS "FL AS*

SOLDERING GUNS TV
FLASH MODEL 75. Operates directly from 1 volt AC or DC line. Lightweight (6 oz.), peple Ir balanced. Coal protected grip, ideal to cor in kit, fast heating, fast cooling. Ships. We
FLASH MODEL SF-100. Pistol grip switch handle. Oparatos from 6.12 volts starogo be fiery or slepdown transformer, Modal HD. 52 Shag. Wg1. 1 lb. Net.................................. 32. MODEL HD. 520 TRANSFORMER. Net.... S 4. Extra Tip for SF-100. Nat....
Carbon Element for SF -100...
Carbon Element for SF. $100 . .$.
X-121 - Assortment of 3 Tips
Y-121 - Assortment of 4 Tips............................

## PHILLIPS <br> "VERSA-TOOL"

Latest model of this popular tool which he interchange able tip ossomblies. Has $1 / 33^{\prime \prime}$ pone point for fino soldering jobs and 3 "." pyramid $t$ for heavy duty soldoring. 2-position fingort switch, gives light only in first position, he
and light in second position. 250 watts. Fuss and light in second position. 250 watts. Pus circuit protocts all internal clements. Heats comfortably. Shag. Wit. 5 Ib .
MODEL 250. Net.
..$\$ 10.1$

## KWIKHEAT

THERMOSTATIC SOLDERING IRON


## 225 -WATTS

Builtin thermostat. Working temperatur in 90 seconds. Tips easily replaceable (oft. heater cord. Fir $100 / 125$ volts $/$ only. Shag. Tight. $1^{\prime \prime} 21 / \mathrm{s}$,
MODEL 300 with No. 1 Tip. Net Each $\$ 9$

Lots of 3. Net Each 8.


Any above styles, Net Each...........\$1.1

## KWIKHEAT JUNIOR



Mongol. 200. With thermostatic conf rely WeIghs only 8 oz. complete With to l

 $t$ ion. Heat $700^{\circ} \mathrm{F} .12 \mathrm{~g}$ long with ill
ere rates on $100-125 \mathrm{VAC}$ only, 150 watts Comingete with tip, cord, and rest. Shes Hit. 2 lbs. Net $\$ 5.8$ Lots of 3. Net Each 5. 1
No. 2051 Replacement Tip.

## Too SANDERS－SPRAY GUNS－DRILLS

## WEN STRAIGHT LINE ACTION

## Electric

 SANDER－POLISHERhANDY • LIGHT • QUIET

ndor apolisher with straight aline action．Sands id polishos with tho grain up into cven the ghtest corners ond producos mirror－smooth， issages．Fits the hond perfectly，shocs and psages．Fits the hond periectly．Solfitighten－ 9 pod： 14,400 strokes por minuto．Travel of e＂idla $1 / 4$ loodod．Sanding aroat of it（ 133 squaro inch）．Working woight： 2 a $2 / 2 \times$ ssortmont of sonding shaces and polishing oth included．Oparatos on $110-120$ VAC 60 ，Shpg．Wgt． 4 lbs
JDEL 202．Nc + Each． its of 3－11．Not Each
.10 .46 its of 12 or moro，Not Each．．．．．．．．．．．．．．．．．．．．．．．．． 8.30

空

por power vibrator sander－polisher which de． ors 14,400 strokes per minute．Now motor sign affords stroightalino sanding with the b．Fits up into tighesp cornors．Sanding area squaro inch．Plastic case fits hand per－ ：tly．Operates on 110.120 VAC 60 cycla． 1.5 ：tly．Opergtes on $110-120$ VAC 60 cycle． 1.5 $x$ with handle， 12 shoots papor， 2 polishing sths．Shpg．Wgt． 5 lbs
JDEL 303．Not Each．
is of 3－11，Nat Eoch． $\qquad$ .$\$ 12.71$ its of 12 or more Nof Each

## TWIST DRILLS

th speed，short len；ith drilis，Utility pe for all uses．Made with short utes，proper heat treatment to insure ximum life．May be used on serew chines，turret lathes，hand or breast ills，Finest quality

| Net | Size | Net |
| :---: | :---: | :---: |
| \＄．24 | 9／32 | \＄．70 |
| ． 24 | 19／64 | ． 75 |
| ． 24 | 5／16 | ． 83 |
| ． 27 | 21／64 | ． 91 |
| ． 30 | 11／32 | ． 97 |
| ． 31 | 23．64 | 1． 10 |
| .33 | 3／8 | 1． 15 |
| ． 35 | 25／64 | 1． 25 |
| ． 39 | 13／32 | 1.40 |
| ． 40 | 27／64 | 1.47 |
| ． 42 | $7 / 16$ | 1.36 |
| ． 49 | 20／64 | 1.71 |
| ． 52 | 15／3\％ | 1．78 |
| ． 56 | ： $11 / 1 / 4$ | 1． 50 |
| ． 65 | 1／： | 2．01 |

## CHAMPION SPRAY GUNS

－All Metal Construction
－Completely Electric
－Needs No Compressor


Complerely self－contained spray gun．No com－ pressor neoded，powgrful vibrotor housed righi in the handic．Dovolops over 90 lbs．pressure， sufficient powor to spray any typo of paint， lacquor，varnish，oils，deodorants，chemicals， insecticides，onamals，ote．No nozzle adjust－ ment，lust one controlknob．All－metal consirue－ tion．Non－corrosive piston and cylinder．Will spray from opon ior，lorge or small container． Easy to eloan and operate．Hausing is rust－ proot．Pistol－trigger action control．Motor oporatos at 1200 strokes per minulo．Operates on 117 VAC only，Complete with U／L aparoved 8 －ft．cord and plug and 25 oi，glass jar．Nos woight $3^{3 / 4} \mathrm{lbs}$ ．Shpg．Wgt． 5 lbs
MODEL 5J．81．Not．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 9.77 MODEL SS．81M．Same as obove but has pol． ishod aluminum canmispor．Net．．．．．．．．．．．．．．\＄ 11.73

## ITTERDATJunh 



## 

 WART HOG All Purpose BitCuts．Saws，Reans－Sheet Metal，anole iron pipe，wood，plastic，etc，Python will operate in stainless steel when used in fast $1 / 4$ drill．slow drill press，lathe or milling machine．Wart Hog for lighter met－ al．wood．etc．Drills ghn starting hole， then use as saw or veamer．Fits $\frac{1 / 4}{}$ chuch． Withstands severe continuous use withol＇t breaking．Ideal to cut transfomer holes in chassis，woodworking，etc．Resharbened oy manufacturer free of charge．
Python Bits， $3_{3}^{\prime \prime \prime}$ long．Net Each $\$ 3.87$ Python Bits， $3^{\prime \prime}$＂long． 3 for 11.27 Python Bits． $2-3 / 8^{\prime \prime}$ long．Net Each 2.89 Python Bits， $2-3 / 8^{\text {＂}}$ long． 3 for 8.33 Wart Hog Bits， $3^{\prime \prime}$＂1 long．Net Each $\mathbf{3 . 8 7}$ Wart ho：Bits． $3^{3 \prime}$＂long， 3 for 11.27 Wart to $\begin{array}{llll}\text { Wart ho，Bits，} & 2-3 / 8^{n} \text { lono－} 3 \text { lor } & 8.33\end{array}$

## DRILL SETS

## hang it

4
！amis brall set cuntalns con most ronula sizns of dilils finssled 112 gellow or rozal blue lacquer．Has die cast holes，cach ipark－ ed with proper dridl size．Following drill sizes are included： $1 / 16^{\prime \prime} .5 / 64^{\prime \prime} .3 / 32^{\prime \prime}$ ． 2／64＂， $1 / 8^{n \prime} .9 / 64^{11}, 5 / 32^{\prime \prime} \cdot 3 / 16^{n!} 7 / 32^{\prime \prime}$ Nuluber
77 1バン1）Nort
？


## 17 AT <br> 1 POWER TOOLS

## ELECTRIC DRILLS

## 1／4－INCH


if inch clectric drill with gear－tyoc chuck Palm－grip with instant relogsc，lock－typo trig ger switch built into handle．Powerful tool ideal for bonch work or home workshop．Dy． nomically balanced armoture and procision－cu gears．Forced ventilation．Selfthubricating bronzo bcarings．Spacd：No－lood， 1600 RPM full－load， 900 RPM．Capacity： $1^{\prime \prime \prime}$ in stecl， $1 /{ }^{\prime \prime}$ in hardwood．Complete with 6－ft．cord．Opar－ ates on 117 volts $A C$ or $D C, U / L$ approvod． Shpg．Wgi． 4 lbs．
MODEL 1950－G．Not．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 16.40

## 1／2－INCH



1／3 inch clectric drild with precision gear ifypo chuck．Aluminum alloy dio－costings for hous－ ings and handlos combine strongth and light weight．Precision，dynamically balanced arma turo，hoot－trooted alloy stecl gears in grease tight housing，oil－retaining bronzo bearings． Farced ventilation．Instant－reloosc，lock－typo trigger switch built into side handle．Capacity 1／2＂in sicol， $1^{\prime \prime}$ in har dwood．Specd：No－load， 450 RPM；full－lood， 300 RPM．Complote with 7 －ft．cord．Operates on 117 volts AC or DC． U／L approved．Shpg．Wgi．II Ibs．
MODEL：510．Not．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 28.95

## POWERHOUSE DRLLL

## －antit

## \＄9오

No house or shop can afford to be with－ out an clectric drill at this price will outperform many nther drills sell： ing for much more． $110-120$ volt $\mathrm{AC}-1 / \mathrm{C}$ 50／f0 cy． $1 / 10$ HP motor．No load specd 1200 RPM．full load speed－ 700 RPh com－ fortable srip with dependable instant action switch．sturdy key－less three jaw $1 / 4^{\prime \prime}$ capacity chuck．Weighs only $310 \%$ Armature is dynamically and statically balanced for vibrationless operation． bie cast albilmum handle and gear casce．



## IINEAR STANDARD AUDIO TRANSFORMERS

## UTC

## LOW IMPEDANCE TO GRID TRANSFORMERS



TPPE LS-10. Law impedance mike, pickup. or multiple line to grid Primary 50. 125/150, 200, 250, 333. 500.600 ohms. secondary 60,000 ohms in 2 sections. Plus or mimus 1 DS 20 20,000 CPS. Maximusi level plus 10 LB. LS- 1 cast.

Net \$ 14.70
TYPE LS-10x. Sane as above, but has 50,000 ohm secondary. LS- 1 case.

Net $\$ \mathbf{1 8 . 6 2}$
TYPE LS-12. LOW impedance mike, pickup. or multiple dine top.p. grids. Prinary 50. 125/150. 200. 250, 333, $500 / 000$ uhms. Secondary 120.000 ohms in 2 sections. Plus or minus $1 \mathrm{DB} 20-50.001$ CPS. Maximum level plus 10 DB LS- 1 case. Net $\$ \mathbf{1 6 . 6 6}$

TYPE LS-12X. Same as above, but has 80,000 ohas overall, split secondary. LS-1 case.

Net \$ 19.60
TYPE LS. 14. Luw impedance mike, pickup, or parallel mixer to grid. Primary $2.5,5.5,10.15,22,30,32,60$ ohms. Secendary 60.000 ohms in 2 sections. Plus or minus 1 DB 20-20.000 CPS. Maximua level plus 10 DB . LS- 1 case.

Net $\$ 17.64$
TIPE LS-14X. Same as above, but has 50,000 olyms secondary. LS- 1 cuse.

Net $\$ 19.60$
TYPE LS-15X. Three isolated lines or pads to one or tho gradis. Primary 30.50, 200, 250 ohms each primary. Sécordary 60.000 ohms overall, in two sections. Plus or minu. 1 DB 20-20,000 CPS. maximum level plus 10 DB. LSS-1 case.

Net \$ 19.60
TYPE Ls-18. High level multiple line to p.f. grids. primiary 50. $125 / 150,200,250,333,500 / 600$ ohms. Secundary 50,000 ohms overall in 2 sections. Plus or minus 1 DB $20-20.000$ CPS. Maximut level plus 20 UB. LS- 2 case.

Net \$ $\mathbf{1 5 . 6 8}$

## INTERSTAGE AUDIO TRANSFORMERS

TYPF. LS-19. Single plate to p.p. grids Lake 2A3, 6L6. etc. Split secondary. Primary 15,000 ohms. Secondary 95,000 ohms: 1.25:1 each side. Plus or minus 1 DB $20-20,000$ CPS Maximum level plus 12 DB. LS- 1 case.

Net \$ 15.68
TYPE LS-20. Single plate to single grid. Frimary 15.000 whms. Secondary 60.000 ohns; 2:1 turn ratio. Plus or manus 1 DB $20-$ 20.000 CPS . Naximum level plus 10 DB .' LS- 1 case.

Net $\$ 16.66$
TYPE Ls-21. Single plate to D.D. grids. Split pri. and sec. Primary 15,000 ohms. Secondary 135.000 ohms: 3: 1 overall. Plus or minus 1 DB 20-20,000 CPS. Maximum level filus 10 DB . LS-1 case.

Net $\$ 14.70$
TYPE LS-40. Sinele plate to D.D. grids. Solit secondery. Pramary 15, 000 unms. Secondary 135,000 olms; 3: 1 overall. Plus or manus 1 UB 30-20.000 CPS. Maximum level plus 12 DE. LS- 1 case.

Net \$ 17.64
TYPE LS-22. P.P. plates tó D.D. grids. Split pri. and sec. Primary 30.000 ohms plate to plate. Secondary 80,000 ohms; tum ratio 1,6:1 overall. Plus or mimus 1 DB $20-20.000 \mathrm{CPS}$. Maximum level plus 18 dB. LS- 2 case.

Net \$ 21.56
TYPE LS-25. P.P. plates to D.D. grids. Mediumb level. Split pri. and sec. Primary 30.000 ohms plute to plate. Secondary 50,000 ohms; turn ratio $1.3: 1$ overall. Plus or mints 1 DB $20-20,000 \mathrm{CPS}$ Maximum level plus 15 DB. LS- 1 case

Net $\$ \mathbf{1 8 . 6 2}$
TYPE LS-26. Bridging 1 ine to 1 or 2 grids. Primary 5.000 ohms. Secondary 60,000 in 2 sections. Plus or minus 1 DB $15-20,000$ CPS Maximum level plus 15 UB. LS- 1 cas". Net \$ 17. G4 LS-1 CASE, 3-1/8Lx2-5/8"x3-1/4"H. MOUNTING 1-15/16"x2-7/16". StIPG. WGT. 5-1/2 LRS.
LS- 2 CASE, $4-7 / 16 \mathrm{~L} \times 3-1 / 2 \mathrm{~W} \times 4-3 / 16^{\prime \prime}$ II. MOUNT1NG $2-11 / 16^{n} \times 3-11^{\prime} 16^{n}$. SIPG. WGI. 9 LRS.

|  | CLASS A INPUT TRAISFORMERS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| THE | APrildction | に, | C.45\% | "T. | $\therefore \mathrm{it}$ T |
| S-1 | 1 plate to 1 prid | 3": 1 | G-2 | $2{ }^{2} 1 \mathrm{l}$. | 3.82 |
| S- 2 | 1 plate to 2 erids | $\text { 2: } 1$ | G-2 | $2{ }^{19}$ | 4.90 |
| S-3 | 1 plate to 1 or 2 grids compact type | $\text { 2: } 1$ | C-1 | 2 | 3.63 |
| S-4 | 1 plate to 2 grids wide range response | 1.1 | G-3 | 3 | 5. 59 |
| S.: 5 | Single or double button mike or line to 1 grid hum-bucking type | 16: 1 | 6. 2 | $2{ }^{\prime \prime}$ | 3.92 |
| S-C | Single or double button mike or line to 1 grid. compact type | 16: 1 | C. 1 | 2 | 3.63 |
| S. 7 | Single plate \& carbon mike | 3: 1 | C-2 | 2 | 5.39 |

## E

THORDARSON


Inpul Transformers $\underset{\text { Tree nev }}{ }$
troe ben

## Single Plote to Single or Push-Pull Grids

 Hibe Casf Ratio MTG. Centers net| T-20A16 | Bati | 1:2 | 2 | \$ 1.76 |
| :---: | :---: | :---: | :---: | :---: |
| T-24) | rav | $1: 2$ | $17 / 16$ | 3.82 |
| T. 30A22 | BAH | 1:3 | $27 / 8$ | 2.94 |
| T- 20, 2 \% | FGV | 1:3 | $23 / 8$ | 3.82 |

T-20A25 has split secondary. num-bucking coil and core. T-20A16\& T-20A17 have ware leads. Primary current is 3 MA Avert ge Shps. Higt. $1^{1}$ ibs.

Low Impedance Source (Microphone, Line or Mixer) to Single or Push.Pull Grids

| TiPE | CASE | $\begin{aligned} & \text { TURAS } \\ & \text { RATIO } \end{aligned}$ | application | MTC. <br> ctrs. | NET |
| :---: | :---: | :---: | :---: | :---: | :---: |
| T-20.200 | BAH | 1: 10 | Line or mic to single or PP grids | $2 "$ | \$ 2.06 |
| T-20 W1 | FGV | 1: 20 | 1.ine or mic to SEl.grid | $23 / 8$ | 3. 53 |
| T-2102 | FGV | 1: 20 | Line or mic to PP grids | $23 / 8$ | 3.82 |
| T-3/45 | RTV | 1:10 | liine or mic to single or PP grids | $15 / 16$ | 8.82 |
| T-20103 | BAH | 1:3. 25 | Single plate \& mic or line to grid | $23 / 8$ | 2.94 |
| T-20.014 | bait | 1:80 | Voice soil or mic to grid | 2 | 1. 7 |

For coupling a single source to the grid or grids oi a Class " $\mathrm{A}^{n}$ amplifier stage. Response ior T-20A0n, T-20A03 \& T-20A04. 250-3500 CPS. T-20A01, T-20A02 \& T-20A05 response. 60-7500 CPs Average Shpg. Kgt. $1^{1 / 4}$ los.

## Interstage Transformers

T-20A29. Universal interstage transformer for auto radios. Has


Primary Current 8 Ma
$\begin{array}{llll}T-2 J A 19 & \text { BAHK } & 1: 3 & 3 / 8\end{array}$

| T- zuA25 RTV | $1: 1.41$ | $15 / 16$ | 7.3 |
| :--- | :--- | :--- | :--- | :--- |

Push-Pull Plates to Pu'sh-Pull Grids
r-31A24 FG
Expander-Compressor Feedback Control type casp.

APPLICATION WEIGHT
$\begin{array}{lll}\text { Feedback } & 1 / 2 & \$ 8.8:\end{array}$
T- TAAS RTV


## STANCOR

## PUSH-PULL INPUT



Inpe A. 63C - Pushopull input transformer. Single plate ( 700 to 15 , no ohms to push-pull class "A" grids. Ratio 3: 1. Max pri. U.C. 10 MA . Mounting A. Measures $15 / 8^{\text {a }} \mathrm{H} \times 27 / 8^{*} \mathrm{~W}^{\prime} \times 1^{1 / 2}$ * Shpg Kgt. 0.7 lbs.

Net $\$ 1.7$

## PUSH-PULL INTERSTAGE

TIPE A-4155 - Push-pull inter-stage transformer. (7000 15,000 ohms) to push-pull class "A" grids. Ratio 3: 1. Max.pri
 shive. Kot. 11 b .
fipfr A-47i4 - Push-pull inter-stage transformer. Pusti-dul plates ( 7000 to 20.000 ohos) to parallel or push-pull grids Ratio 3:1. Max. pri. D.C. 10 MA. Mounting S. Measures $25 / 16^{\circ}$ $\times 27 / 8^{\circ} \mathrm{H} \lambda 13 / 4^{*}$ D. Sitpg. Mgt. 1.2 lbs . Net $\$ 2.7$

## INTERCOMMUNICATOR AND TRANSCEIVER

TYPE A-3833 - For transcelver input microphone \& Dlate to gric Primary impedance, 205000. Secondary impedence. 60000 ohums. 5 Hatts nax. rating Style $A$ mounting. Measures $15 / 8^{\prime} \mathrm{Hx} 2$ 7/8'w $21^{\prime \prime} \cdot \mathrm{D}$. Shpp. hit. 0.7 lbs . Net $\$ 2.5$

## MICROPHONE PICKUP OR LINE TO GRID

1 MPEDANCE SHPG.
TIPE APPLICATION H RI. SEC.RATLO MTG. WI, NEI
A-4705 S. B. mic to s.grid 200/70 80000 1:20 A $0.4 \$ 1.8$ A-4706 S. B. mic to s.grid $100 \quad 6 m 00 \quad 1: 24.5$ A $\quad 0.5 \quad 1.9$ A-4 ius J. B. mic to $\mathbf{s}_{0}$ grid $200 \mathrm{CT} \quad 57000 \quad 1.17$ J $0.7,25$

## Tra

 MODULATION TRANSFORMERS
## U T C unversal modlation transformers

Sccondary carrius class Curreat. Any modulatur tubes to atas RF load.

| Tire | $\begin{aligned} & \text { AUHIO } \\ & \text { 'OWER } \end{aligned}$ |  | $\begin{gathered} \text { SHPG. } \\ \text { HI. } \end{gathered}$ | AEr |
| :---: | :---: | :---: | :---: | :---: |
| S. 18 | 12 watts |  | 3 | \$ 5.88 |
| S-19 | 30 matts |  | 4 | 7.84 |
| S-20 | 55 watts | 8 | ¢ | 12. 74 |
| S-21 | 110 watts | $\cdots$ | 10 | 17.64 |
| 8. 22 | 250 watts |  | 23 | 27.44 |

CG varimatch modillation units
H'lll match any modulator tubes to an RF load. Combination taped windings atiord extremely wide range in impedance matching. Primary impedances from 500 to 20,000 ohm. ; jecondary imedances 30,000 to 300 ohms.
 HATTS INPLI MOHCLIU SHPG


| YPE | VARIMATCH PRISARY | $\begin{aligned} & \text { DRIVER TRANSFORMERS } \\ & \text { TUPICAL } \\ & \text { OUIUUT CASE SHPG. } \\ & \text { TUBES NO. WT. NET } \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| C-51AX | All single tubes like: 6C5, 30,49. 53.79. 89. G46. 45. 46.2A3 | $\begin{aligned} & 19,30,49,79, \quad \text { RC- } 87 \\ & 89,2 \mathrm{A3}, 45,4 \mathrm{G}, \\ & 6 L 6,42,59 \end{aligned}$ | 3 | \$ 7.84 |
| C-53AX | $\begin{aligned} & \text { P.P. tube like: } \\ & 45.59 .2 A 3.6 B 5 \text {. } \\ & 6 L 6 \end{aligned}$ | $\begin{aligned} & 46.4-46.841, \quad \text { PC- } 112 \\ & 210.801,8 K-18, \\ & 800.203 \mathrm{~A}, 838, \\ & 805,50 \mathrm{~T} .830 \mathrm{~B} \end{aligned}$ | 4 | 8.82 |
| CG-59 AX | $\begin{aligned} & 50,200,500 \\ & \text { ohin line } \end{aligned}$ | $\begin{array}{ll} 805,838,203 \mathrm{~A}, & \text { RC- } 112 \\ \mathrm{ZD}-120,10 \cap \mathrm{TH}, & \\ 800,55 \mathrm{~T}, \mathrm{RK}-18 & \end{array}$ | 4 | 9.80 |
| CG-238 $2 \times$ | $\begin{aligned} & 4-2 A 3,4-45 . \\ & 4-50,2-211 A . \\ & 2-845 \end{aligned}$ |  | 20 | 17.64 |
| C. 512 | $\begin{aligned} & 50.200 .500 \\ & \text { olum line } \end{aligned}$ |  | 20 | 17.64 |



157 Imp. Jmpedonce from Level No. 6SN1 pull 6C5, 30,000.45 primary $20-20,000+25$ DB LS. 2 6SN7 or similar olims impedonce plares to A plote turn ratio 2A3's, 6L6's, 5881's
plote Pri. to Sec.
Net $\$ 19.60$

## STANCOR modulation

Multh-tappou units to correctly match outprit of modulator stase to lumi. Match a11 cummon irpediances of class " $B$ " mudulator (2,000 to 20,000 olums) to class " $c^{\text {" }} 10 a d$ of 2,000 to 20,000 ohms.




## Multi-Match Modulation (M) Transformers

For matching standard, medium \& high poner modulator tubes. lastructions included. All are PUV case style. T-21mGo and T-21M66 case style KTV.


## THORDARSON Driver (D) Transformers

TVPE CASE TIBE TIBE PRI. 2 PER HGT. AET APPLICAT. APPLI, I, SEC. SIBE

T-30in5 B4ti $1-30,1-49,156,19,2.4: 1 \quad 5 \quad$ ly $\quad \$ 2.06$ 1-C65, 1G6, 2-30. 1G6,
1-lit (sgl. (Class B)
Ulate)
T-20176 BAH 1-GN7,6AG, 1-6N7, GAG, 5.2:1 15 \% 2.06 53.6J5, 53.
(Sil.plate) (Class B)
T-20117 FGV 1-89, GFf, $792-46.59 \quad 2.5: 1 \quad 30 \quad 1\} \quad 3.23$
etc. triode (Class B)
1-C65, 1-6F6 2-GF6, 25LG
(Syl, plate) Class AB2
T-20vis GGV 2-6Fの etc. 4-6L6, Cluss AS2
1-6AC, 53, 2-6N\%, 2-807
6N7. (S61. (Class B) $4: 1 \quad 40 \quad 2 / 2 \quad 3.00$
or PP pri.)
T-20179 FGV 1-GNT or 2-fi7, etc. 5. 2: 1 30 11 4.12
triode. GNT 2-filf
-LC. trade (Class AR2)
GBG, triude (PP Class
6ff. (Sgl. B Grids)
or PP Pri.
T-301K0 GGV 2-2A3,45, 203A, T20 3.2:1 100 2\% 5.29 6 L 6 (PP T55.805. ('ri) 1007 Th , etc.
(Class B)
T-20181 GGV PP845, etc. PP805,833 $5: 1 \quad 100$ 4 (Pp Pri.) etc. (PP
 CiC6, (1? etc. (PP 4:1
T-20183 FUV Pri, 500 (Class B Grids)
Pri. I ine. Ratio $1: .75 .1: 85$,
$1: 1,25.1: 1.4,1: 1.75$,
$1: 2,1: 2.25,1: 2.5$.
$1: 2.75,1: 3 \quad 20$ watt capacity 22.34

## OUTPUT TRANSFORMERS

## UTC



## LINEAR STANDARD

outpur AUDIO TRANSFORMERS



TYPE LS-52. Ior p.p. 245. 6VG, 245 A prime. orimary 8,000 ohms. Seccinciary $500,333,250,200,125,50,30,20,15,10.7 .5,5$, $2,5,1.2$ ohms. 15 watts. LS- 2 case.

TYP: LS.54. Same as above but has secondary of $30,20,15,10$. 7.5. 5, 2.5, 1.2 ohms.

THPE LS-55. For p. f. $2 \mathrm{AB}^{\prime} \mathrm{s}, 6 \mathrm{~A} \mathrm{C}^{\prime \prime} \mathrm{s}, 300 \mathrm{~A}^{\prime} \mathrm{s}, 275 \mathrm{~A}^{\prime} \mathrm{s}, 6 \mathrm{~A} 3^{\prime} \mathrm{s}$, $51 \mathrm{G}^{\prime} \mathrm{s}$ CAS7G. Primary 5,000 and 3,0u0 ohms plate to rlate. Spcondary 500, 333, 251, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2. 5, 1. 2 ohms. 20 watts. LS-2 case. Net $\$ \mathbf{1 8 . 6 2}$

TYPE LS-57. Same as above but has secondary of $30,20,15,10$, 7.5. 5, 2.5. 1.2 ohms,

Net $\$ 14.70$
ThPE LS-58, Fur p.p. parallel 2A3' s. 6A5G' s, $300 A^{\prime} \mathrm{s}, ~ \mathrm{GA} 3^{\prime} \mathrm{s}$. Primury 2500 and 1500 ohms plate to plate. Secoldary 500, 333, 250 $200,125,50,30,20,15,10,7.5,5,2.5,1.2$ ohms. 40 watts. L5-3 case.

Net $\$ 37.24$
THPE LS-60A. Fus p.p. 2A3's, 6A3's, 6B4C's fixed bias, cathode bllower urave. Primary 4600 ohms plate to p!ate. Secundary 15 , 10. $7.5,5,3.75,2.5,1.2$ ulms, 30 watts, l.S-3 case Net $\$ 23.5 \%$ TYPE LS-62A. Same as above but has secondary of 500,125 ohms. Net $\$ 19.60$

TyPE. 1.S-61. For p.p. GFC, class 8 46's. CAS7c. $807-T R$, 1614. TR. Primary 10.00 ) $4 n$ d 6,000 ohms plate to plate. Secondary 500, 333, $230 ; 200.125,20,30,20,15,10,7.5,5,2.5,1.2$ vhms. 15 Hutts. LS-2 case.

TYPE LS-63. Same as abuve but has secondary of $30,20,15,10$, 7.5. 5, 2.5. 1.2 ohms. 15 watts. LS-2 case.

Net $\$ 1+70$
TYPE LS.6L. For D. D. 6L6's self bias. Primary 9,000 whms plate to plate. Secondary $500,333,250,200,125,30,30,20,15,10$, 7.5.5. 2.5. 1.2 ohms. 30 watts. LS-3 case. Net $\$ 29 .+4$

TYPE LS-6L3. Same as above but has secondary of 30. 20. 15, 10, T.5. 5, 2.5, 1.2 ohins.

Net \$ 19.60
TYPE LS-6L4. For p.p. 6LG's fixed bias or p. p. parallel 6Lf's self bias. Primary 3800 and 4500 ohns plate to plate. Secundary $500,333,250,200,125,50,30,20,15,10,7,5,5,2.5,1.2$ ohms. 55 watts. LS- 3 case. Net $\$ 44$. 10
ALL HAVE FREQUENCY RESPOUSE OF 25-20, 000 CPS EXCFYT LSS-60: AYI LS-6ZA WHICH HAVE RESPUSE OF $20-20,000$ CPS, PLIS OK MIM.S. 2 IB

 IAPBN. P.P. TIPICIL MAS. EISE.SHPG.
TYPE OIHS, OIER\&Li. JIBFS WATIS NU. WI. NEF



## UTC

UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL
(Secandary impedances: 500, 15.8.2 ahms)

| $\begin{array}{ll} \text { TIPE } \\ \text { HIM. PRI, } \\ \text { HATS IBP, } \end{array}$ | TYPICIL TUW:S | CI. 158 | CASt: |  |  | N1. 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S- 14 Single Tubes: <br> 10 H. 2500 ohms | 2A3, GA3, CA5, 6B4. <br> CL6. 6YG. 25LG. 35 L 6 | \& | C-? | $\because$ | * | 3.58 |
| 4000 ohnus | $\begin{aligned} & 31,43 .+5,48,6 v 6 . \\ & 12 A 5.12 A 6 \end{aligned}$ | 4 |  |  |  |  |
| 7000 ahms | $\begin{aligned} & 33.47,+2,+7,5^{\prime}, 89, \\ & 2 A 5,6 A C 5,6 F 6,6 h 6 . \\ & 6 N 6,7 B 5 \end{aligned}$ | A |  |  |  |  |
| 10000 ohms | $\begin{aligned} & 37.38,+1,165,3 \mathrm{C5}, \\ & \mathrm{CAH}, \mathrm{CN7} \end{aligned}$ | A |  |  |  |  |
| S-15,P.P. Tabes: |  |  | G. 2 | $\because$ | \$ | 5.39 |
| 124.4000 onims | 616. 25L6 | ${ }^{\text {AB }}$ |  |  |  |  |
| 50 O 0 hlus | 45. 2A3, 6A3, 6A5. 6B4 | ${ }^{\text {AB }}$ |  |  |  |  |
| 10000 thms | 30.144. 6AC5C, GB5. | ${ }^{\text {AB }}$ |  |  |  |  |
|  | $\begin{aligned} & 19,49,53,79,8^{9}, \text { CAG, } \\ & 6 \times 19,6 \times 7,617 \end{aligned}$ | B |  |  |  |  |
| S. 163000 olvas 3011. | $\begin{aligned} & +5,+8,2 A 3,6 A 3,6 A 5 \text {, } \\ & 6 B 4,25 \mathrm{LC} \end{aligned}$ | AB | $\mathrm{C} \cdot \mathrm{H}$ | 4 | \$ | \$ 6.86 |
| 6000 ohms | +2.2A5, 6F6 triades | AB |  |  |  |  |
|  | 46.59, Parallel 53. | B |  |  |  |  |
|  | 646, 6N7 |  |  |  |  |  |
| 9000/10000 | 42, 45, 2, 5 , 6AC5, 6B5. GF6, GLG, G10 | AB |  |  |  |  |
| S - 173800 or.ms | Cl. $\mathrm{C}^{\prime} \mathrm{s}$ | AB2 | G.5 | c | \$ | 8.82 |
| is h. 45005000 | 4-61.0's | ABI |  |  |  |  |
|  | 46, 1608.309 | B |  |  |  |  |

## MATCHING TRANSFORMERS


 GC. wr :1matiar tube
 $4{ }^{\mathrm{tb}(1) 1}$
 fino

## densen <br> TRANSFORMERS

## ADJUSTABLE IMPEDANCE



TYPE "ZY"


TYPE ' $2 X$ "

TYPE ZX. Impedance values: vaice cail, 4500, $7000,10,000$, and 14,000 ahms. All except vaice cail are center-tapped for push-pull tubes. Uncased type. Pin-tip adjustment. Mauntable on speaker.


TYPE ZY. Same as iype ZXexcept matches line impedances. Impedonces: $500,1000,1500,2000$ and vaice cail. Ne center tap available. Cased type. Pintip adiustment. Mauntable on speaker.

POWER
SIIP
त-205 \& 25.0 P15-N, P15-N1, P15-P, P12-N. $+\$ 8.33$
 P12-G4, P12-S,P12-Sh1, P10-Q. P1O-R, P8-P.P8-Q, JRP- 70



## 3 <br> CHICAGO STANDARD

## TRANSISTOR TRANSFORMERS

Smallest iron core audio transformers ever buitt, vesigned primarily for transistor amlications but can be used wherever low pouer is involsed, useful range, thelow 1 mu level. Constructed of extremely fine wire, wound on molded hylon tabbans, special nichel alloy steel laminations, The's $14 \cdot 1$, h lass than $1 / 10$ ounce, are only $3 / 8 x$ $3 / 8 \times 3 / 8^{n}$ in swr. Fivi typers availablo.

| Aulication | Pri. <br> Imp. | $\begin{aligned} & \text { scc. }^{2} \mathrm{c} \\ & \text { Imp. } \end{aligned}$ | $\begin{aligned} & \text { Pri. DC } \\ & \text { ies. } \end{aligned}$ | Sec. <br> res. | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Interstage | 20000 | 1000 | 1075 | 285 | \$7. 20 |
| netput or Match. | 1000 | 50 '60 | 120 | 0 | 13.17 |
| H1-ITM, Miko In. | 200000 | 1000 | 4000 | 195 | K. 09 |
| Interstabr | 31010 | 1000 | 1350 | 20.5 | 6.47 |
| Output or satch. | 500 | 50/60 | 70 | 9 | 6i. 17 |

## Pa <br>  <br> STANCOR HIGH FIDELITY TRANSFORMERS

New Stancur high fidelity output transformers which have excellent frequency response of 20-20,000 CPE within plus or minus 1.0 DB. Extremely low percentage of inter-modulation distortion over entire freeuency range and at ans Dower level. Maximum \&udio watts 50. Wounting C. Size: $3_{2}^{\prime} \times t^{\prime} \cdot x t^{1} H$. Shpl. Het. bi' 1l: B .


## PUSH-PULL PLATES TO VOICE COIL



## STANCOR-WILLIAMSON

## ULTRA-LINEAR AMPLIFIER KIT

New modol Ulira-Linear version of the Iamous Stancor*Williamson Ampli= er. Audio power 25 watts. Uses newly developed Stancar Utra-Lincer sulput transformer sype A-8072 which has sereen raps for UL application. - lat to 40,000 CPS al 1 watt, 10 watts, 20 watts. Recommended powe consformor and choke listed below. Pre-fabricated twopiece chassis is iecessary paris can bo had by eqpuesting bullefin 479.
 PYPE C. 1411 Chot
14.70 YPE WM. 8 Chass is
,

 Voice Coil - Low Level

Average Slipg. Vigt. 3 lbs,

| TYPE | CASE | PRIMARY |  | SEC. | Hatts | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T-22S45 | В AH | 1500-3000 |  | 3. 2-4 | 3 | + 1,76 |
| T- 22sini | BAII | 3000-6000 |  | 3. 2-4 | 3 | 2.06 |
| T- 2ex 42 | ВАН | 6000-12000 | C. T. | 3. 2-4 | 3 | 2.06 |
| T-22448 | B/ A $^{\text {H }}$ | 12000-25000 | c. T. | 3.2-4 | 3 | 2.06 |
| T-20256 | Rall | $800 \mathrm{n} / 10000$ | C. T. | 3.2-4/6-8 | 8 | 2.94 |
| T- 22808 | BAK | $50 \mathrm{~m} / 7000$ | c. T. | 3. 2-4/6-8 | 8 | 2.94 |
| T-2030 | ВАН | 2500/100\% | c. T. | 3. $2-4 / 6-8$ | 8 | 2.94 |

## Special Duty Output to Line ond Voice Coil High Level

Avernge Sing. Kot. 3 1bs,

| TJPE. | CASE | PRIMARY | SECONDARY W | Watts | NET |
| :---: | :---: | :---: | :---: | :---: | :---: |
| T-22S64 | GGV | $10000 \mathrm{C.T}$ | 3.2-4/6-8/15/250/500 | 25 | \$5. 59 |
| T-22\%66 | GGV | soon C. T. | 3. 2-4/6-8/15/250/500 | 25 | 5. 59 |
| T-23S68 | GGV | 6.300 C. T. | 3.2-4/6-8/15/250/50n | 25 | 5. 29 |
| T-22870 | GGV | 5000 C. T. | 3. $2-4 / 6-8 / 15 / 250 / 500$ | 25 | 5. 29 |
| T-23072 | G6V | $3 \mathrm{non} \mathrm{C.T}$. | 3.2-4/6-8/15/250/5n0 | 25 | 5.29 |
| T-22.58 | GGV | 3300 C. T. | 3.2-4/5-8/15/250/50n | 60 | 7.64 |

Universal Tubes to Multiple Voice Coil Average Shog. Wht. 210 si

| TiPs | case | PRIBARE |  | SECONIARy | Watiss | AFF' |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T-2.3nd | Blilf | 14000-2500 | c. T . | 1-3n | 2: | \$ 4.70 |
| 1-2:362 | P1al | 4000-1500 |  | 1-30 | 8 | 2.94 |
| 1-2sinst | HALI | 140(0)-2000 |  | 3.2-4/6-8 | 3 | 2.35 |
| 1-22N\% | BAH | 14000-2000 |  | 3.2-4/6-8 | 6 | 2.6.5 |
| T-2>3\% | BAS | 1400\%-2000 |  | 3.2-4/6-8 | 8 | 2.94 |

## Matching-Line or Lines to Voice Coil

| TYPE CASE | Avelogge Shp PRIMAR | ngt. 2 lbs. SECONDARY | HAT | S NET |
| :---: | :---: | :---: | :---: | :---: |
| T-22.830 B ${ }^{\text {PH }}$ | 500-600 | 3. 2-4/6-8/15 | 8 | \$3.23 |
| T-22S82 BHH | 2000-500 | 3. $2-4 / 6-9 / 15$ | 25 | 5. 00 |
| T- 22883 BAH | 20m-500 | 3.2-4/6-8/15 | 15 | 3. 53 |
| T-22S84 8AH | 2000-500 | 3. $2-4 / 6-8 / 15$ | 5 | 3. 23 |
| T-22885 bali | 2000-500 | 3. $2-4 / 6-8 / 15$ | 3 | 3.23 |

"24" SERIES SERVICE LINF: TUBE TO VOICE COLI.
TYPICAI. PRI.PRI.
HTG.
TYPE CASE APPLICATIONS IMP.MA. KATTS CTRS. WGT. NET
 7A5, 2535, 25Lf 6, 35L6, 5035, 50A5. 50L6, 70L7, etc.
$\begin{array}{llllllll}\text { TS-24S.51 BAII } 31.45,50,71 A, 3 S 4 & 5000 & 40 & 5 & 2 & 1 / 2 & 1.18\end{array}$ 6A5G, 6YG. 7C5. 35LG, etc.
 105, 1S4, 2A5, 6AC5. to GF6, GKG, GNG. GV6, 10000 -tc.
 Cr7. atc.
Simli riza reblacment transfomers for midests, size ouly $2-1 / 8 W \times 1$ bx $1-3 / 161 \%$. Slups. Wgt. $80 \%$


UNIVERSAL, MATCHING-LINE OR I.INES TO vOICE COIf,
TYPE CASE PRIMATY SECONDIRY WATTS SIZE
 1000-500 6 to 8 : 2 (1x $1-5 / 812$
TS-24862 BHA $3000-2500$ - Pri. as 500 . Sec. $10 \quad 3-3 / 8 \% \times 2 \% \mathrm{Bx} \quad 3.82$ 2000-1500-.06 to 8. Pri. as 3 it 1000 5hC icco. sex. ic to 16 , nte.

TYPICAI, JRJ. PRI. SEC. MAX.
CYPE CASF APPIICATIUNS IAP. MA. IMP. WATTS WT. NET
 Pull Plates $103,14 n \mathrm{CT} 29$ olims
 Pull Plates 10M.14K CT 22 olms

## FILAMENT - MIKE TRANSFORMERS Tra

## THORDARSON

Filament<br>(F)<br>Transformers


T) De Bay



Type Bis

117 volt. $50 / 60$ cycle primaries. T-21F02 l.as 7500 ins. RMS. T-2 1F20 and T-21F05 have $10,00 n$ ins RMS. All others have 1600 ifis. RMS.

| TYPE | CASE | Vol.ts | AllP S. | 1. BS . | N FTT |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 5 | 1 | \$ 2.94 |
| T- 21500 | BAV | 2.5 CT | 10 | 1 | 3.53 |
| T-21FD1 | EAV | 2.5 CT | 10 | 1 | 4.70 |
| T-21FD 2 | CAV | 2.5 CT | 10 | 2. | 4.70 |
| T-21FU3 | Rav | 5 CT | 3 | 1 | 2.94 |
| T-21FO4 | CAV | 5 CT | 8 | 24, | 4.41 |
| T-2154 | cav | 5 CT | 15 | $\mathrm{Fr}_{3}$ | 6.76 |
| T-21F05 | CAV | 5 CT | 3 | 2 | 4. 70 |
| T-21F06 | CAV | 5 CT | 13 | 21 | 4.41 |
| T-21FO7 | CAV | 5. CT | 21 | 51 | 7.06 |
| T-21Fus | BAV | 6.3 CT | 1 | $\lambda$ | 2.06 |
| T-21F 10 | BAH | 6. 3 CT | 3 | 1 | 2.94 4.70 |
| T-21F11 | CAV | 6.3 CT | 6 | 24 | 4. 70 |
| T-21F12 | Chy | 6.3 CT | 10 | 2 | 4.41 |
| (Tupped Secondary) |  |  |  |  |  |
| T-21F5 | 3AV | 7.5 CT | 4 | ${ }^{17}$ | 3.82 |
| T-21F16 | CAV | 7.5 CT | 8 | 23 | 4. 70 |
| T-21F17 | CAV | 7.5 CT | 12 | 4 | 6. 4.70 |
| T- 21F $18^{\text {d }}$ | CAV | 10 CT | 5 | 24, | 4. 70 |
| T-215 | CAV | $\text { or }{ }^{10} \mathrm{CT}$ | 12 | 54 | 7.06 |
| (Topped Primary) |  |  |  |  |  |

STANCOR FILAMENT TRANSFORMERS

fILAMENT TRANSFORMERS WITH SINGLE SECONDARY TIPE NOLTS AMPS INSEL. MTG. HI. NET

| P-6133 | 2.5 CT | 5.0 | 7500 | S | 1.5 | \$ 3.35 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1-3060 | 2.5 Cl | 10.0 | 10000 | 8 | 2, 5 | 4.06 |
| $p^{3}-3026$ | 5.0 ci | 3.0 | 2500 | C | 2.4 | 4.41 |
| $\mathrm{P}-\mathrm{C} 135$ | 5.0 CT | 10, 0 | 2500 | N | 3.0 | 4.15 |
| P-6468 | 5.0 CT | 30.0 | 2500 | D | 4.3 | 9.55 |
| $\mathrm{r}-6137$ | 5.25 CT | 13.0 | 2500 | N | 5.2 | 6.82 |
| P-6134 | 6. 3 CT | 1.2 | 2500 | A | 0.8 | 1. 70 |
| $\mathrm{P}-5014$ | 6.3 CT | 3.0 | 2500 | $B$ | 2.0 | 3.03 |
| $\mathrm{P}-30 \mathrm{CH}$ | 6.3 cr | 6.0 | 2500 | 8 | 2.4 | 3.67 |
| P-630 | 6.3 CT | 10.0 | 2500 | N | 3.4 | 4.41 |
| $p-3016$ | 10.0 CT | 4. 0 | 2500 | ${ }^{1}$ | 3, 3 | 4.50 |
| P-4,94 | in. 0 CT | 5.0 | 2500 | c | 4. 8 | 5.35 |
| P -617 | 10.0 CT | 8.0 | 2500 | N | 4.9 | 5.47 |
| P-8130 | 12.6 CT | 2.0 | 1500 | A | 1. 4 | 3.03 |
| P-6469 | 25.2 CT | 1.0 | 1500 | A | 1.4 | 2.88 |

fILAMENT TRANSFORMERS WITH MULTIPLE SECONDARY

| $\mathbf{P}-5009$ | 5.0 | CT | 3.0 | 2500 | C | 4.5 | $\$ 7.85$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


|  | P- | 6.3 CT | 6.0 | 2500 |  | C |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | 5.0 | CT | 4.0 | 2500 | C | 3.8 |

 unit for tube checker. Secondary volts $1.1 / 1.4 / 1.5 / 2.0,2,5 / 3.0$ 3 3/5 (6 3/7 0/7,5/12/25/30/35/50/70/85'110/117. Pramary
 kst. 2.41bs.


## MICROPHONE CABLE TRANSFORMERS



UTC cable transfomers are desi ined to be 1 nserted in the cable circuit \& are rugetedy constructed ta withstand mechanical ubuse. Cable connections (supplied less cable) are made tiruluth spring strain reliel to terminal buards inside end caps. $1^{\prime \prime \prime}$ diameter. $2 y t^{\prime \prime} 10 \mathrm{ng}$, $/$ lb.

TyP: MC- 1 - Primary tapped $30 / 50$ \& $20 \mathrm{n} / 250$ olsms, secondary to grid. standard fidelity

Net $\$ 8.82$

TYPF, MC- 2 - Primary tapped $30 / 50$ \& $200 / 250$ ohms, secondary to grid. hifl tidelity.

UTC
PHOTO FLASH TRANSFORMERS
Can be used for eithir standard (Anglo type) ur trigger (Sylvania type) multiple flash bulbs. Carcuat deatails ancluded with transfurmer.


TIPE PF-1 - Primary for 115 V. $50 / 60 \mathrm{cy}$. Seconuarles lur puner supply dilivertng $22^{\circ} 0$ V. INC tu cunctenser up ta 100 mf $\mathrm{d}_{\text {. }}$ (3n info. charges in 4 Sec.) Compund sealed in C-3 case $21 / 8 x 20 x$ 2s:" lulgh. Height 2 lbs.

Net $\$ 6.86$
TYPE PF-2 - Por portable photollasin service. Primary tapped tor 4 volt or fi volt battery (full ware vibrator). Secundary for power supply delivering 2200 volts $D C$ to condenser up to E0 mfd. ( 30 mld . charges in 8 Sec. \%ith 6 volts ur 14 Sec. with $\&$ volts). Compound sealed in fi-3 cuse. Meaglat 2 lbsi

Net $\$ 6.86$
THPE PF-3 - Trigeger transformer 15 KV peati. 7/8 0. U. $\times 3^{* \prime}$ jons Weight $20 \%$.

Ne.t $\$ 4.90$

MICROPHONE CABLE TRANSFORMERS THORDARSON PHOTO-FLASH POWER SUPPLY TRANSFORMERS


Ropid change 1 rom high to low impedance. Shielding minimizes hum puckup. Cumpact - rugsed - inconspicuuns.

TYPE TASE PRIPEDANCE SEC RATIO KGT. NET

| [-2AHU | 2 | $30-60$ | 50.000 | $1: 31.6$ | $3 / 4 \$ 17.64$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T-5AAH | 2 | $200-250$ | 50.000 | 1.14 .2 | $3 / 4$ | 17.64 |

TIDE T-22R42. Case BAV - Power Transfomer. Pri. 117 V. rol cy Suc. $2250 \mathrm{VK}-1.5 \mathrm{MA} .2 .5 \mathrm{~V} 01.75 \mathrm{~A}$ Wt. 21 bN.

THPE T-22R43. Case BAV - Puwer Transtionmer. Prl. 117 V. on cy or 4 V . V1b. -sic 11 OOVVAC-1.5 MA DC. Wt. $1^{1}$. ibs. $\mathrm{Ne}^{2} \mathrm{t} \$ 7.35$

TMPE T-22R44. Case Rali. 1:mataon Trinsfommer. Pri. 2on V.


## Tra

## CBS－HYTRON FILTER REACTOR TUBE

TYP： 6216 is an electron tube of beam power design with 9 Din miniature base．When used in appropriate circuits it will replace iron core filter choke rated at 12 henry， $100 \mathrm{MA}, 350$ ohms．Designed for military airborne or ve－ hicular service．Especially rugged．May also be used as wide band video amplifier，VH＇class C amplifier and mul－ tiplier．class A or R amplifier，pass tube in electronic voltage regulated supply，passive switching tute with low cut－off voltage．etc．Filament $6.3 \mathrm{~V}, 1.2$ amps．Complete

## 

| 9rpe cav | Type Bu |  | Tree вым | Typo nTV |  | Type ccy | ttv |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | MAx． |  |  |  |  |
| TYPE | Cast | HENRIES | MA | MA | INS． | RES． |  |  |
| － 2 zaC 30 | BAH | 350 | 5 | 25 | $2 \mathrm{n} \times$ | 5500 | $\mathrm{r}^{\prime \prime}$ | － 2.94 |
| r－aucs 1 | BAH | 35 | 15 | 25 | 12m0 | 1850 | 1 | 1.47 |
| To anc3z | BAHi | 8 | 40 | 65 | 1200 | 450 | 1 | 47 |
| ［－4）C3 | RAli | －12 | 80 | 100 | 2000 | 375 | 14 |  |
| 「－zars 4 | GGV | 8 | 150 | 200 | 2700 | 145 | $2{ }^{2}$ | 3．82 |
| f－20C55 | gov | － | 200 | 300 | 2700 | 75 | $3^{\prime \prime}$ | 4.70 |
| f－20rs | GGV | 7 | 3 m | 375 | 3500 | 60 | （\％ | 6.47 |
| ¢－20C57 | PLV | 10 | 500 | 6 m | 7500 | 65 | 26 |  |

## TUNED AUDIO CIRCUIT REACTOR

Splatter（C）Suppressor Choke
YP
－20c6
30 C 82
CASE
KrV APPLICATIO．

Ns．Mir．NET K．V Inductance．2－1．5 Hy． $9000 \quad 7 \$ 14.70$ KTV Inductance $2-1$ － 500 MA DC
BHH Inductance． $2-1$ ．

## Band Pass Speech Filter

# PE CASE 

APPLICATION
NET － 20173 RTV
spe 4


SMOOTHING ChOKES FOR D．C．POWER SUPPLIES． Rating
TYPE IADCEANCE DC RES．RMS MTG．SUPG．AKT

| （－1603 | 160 hy a sn NA | 598 | 1500 | A | 1.1 | \＄1．44 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C－1305 | 8.0 hy o 75 MA | 290 | 1500 | L | 1.0 | 1.79 |
| C－1602 | 15．0 hy－ 75 MA | 400 | 1500 | A | 1． 7 | 1.91 |
| C－100 1 | 10． 5 hy elin MA | 225 | 3000 | A | 2.3 | 2.62 |
| （－20） | 3.5 hy a 130 HA | 100 | $200 n$ | A | 1.0 | 1．82 |
| C－1421 | 7． 4 h． $\mathrm{O}_{1} 140 \mathrm{MA}$ | 165 | 3000 | C | 2.5 | 3.62 |
| C． 2314 | 2． 3 his 150 ma | 60 | 1500 | A | 1．0 | 1.88 |
| （－1）10 | 7．0 hy 0150 MA | 200 | 1500 | A | 2． 2 | 2.91 |
| C－14111 | $4.0 \mathrm{hy}{ }^{\text {a }} 175 \mathrm{MA}$ | 100 | 3000 | c | 2.4 | 3.70 |
| C－2325 | 2.0 hy 200 MA | 60 | 1500 | A | 0 | 2.26 |
| C－2326 | 1.0 hy 300 mA | 43 | 1500 | A | 2.0 | ． 36 |
| C－1＋11 | 4.5 hy amo tha | 80 | 3000 | c | 3.5 | 4.20 |
| C－1703 | 4.0 hy a 250 mA | 60 | 3000 | B | 4.2 | 5.35 |
| C－1412 | 4.0 hy a 250 ma | 60 | 3000 | c | 4． 3 | 6.14 |
| C－2308 | 8．© hy a3no ma | 80 | 3000 | c | 7.8 | 8.09 |
| C－1413 | 8.0 hy aznoma | 80 | 5000 | D | 7.8 | 8.09 |
| C－ 1414 | 7． $5 \mathrm{hy} \mathrm{a}_{400}^{\mathrm{MA}}$ | 60 | 5000 | L | 11.8 | 11.64 |
| C－1415 | f． 0 hy 0.500 MA | 75 | 7500 | FS | 23.7 | 26． 93 |

## SWINGING CHOKES

varying inductance for input section of d．c．power supplies


| c－1：18 | 13．5－3． 5 | 15－150 | 130 | 2000 | C | 2． 3 | \＄ 3.73 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 12－2 | 17．5－175 | 100 | 3000 | C | 2． 4 | 4.17 |
| C－1＊1 | 12－2 | 20－200 | 80 | 3000 | C | 3.5 | 4.76 |
| （ -16.45 | 12－2 | 20－200 | 00 | 5000 | C | 4． 5 | 5.47 |
| （－1702 | 12－2 | 25－250 | c） | 3000 | B | 4． 3 | 5.47 |
| C－1．102 | 12－2 | 25－250 | 60 | 3000 | C | 4． 3 | 6.14 |
| （－172） | 20－4 | 30－300 | 80 | 3000 | N | 7.2 | 7．82 |
| （－2：307 | 20.4 | $30-300$ | 80 | 3000 | C | 7． 0 | 8.91 |
| $\mathrm{C}-1104$ | 17－3 | 40－400 | 60 | 5000 | 11 | 11.7 | 11.64 |
| C－140\％ | 16－4 | $50-500$ | 75 | $750 n$ | FS | 24.3 | 23.33 |

## a <br> UTC CHOKES <br> 

TYPA SHRV．INDUC．CURRENT UHBS INS．NO．WT．NET

| $\bigcirc 33$ | Audio | 500 Hy ． | 5 | MA | f000 | 1500 | V | G－2 | $3:$ | \＄3．72 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S－24 | P．P． <br> Choke | $500 \mathrm{Hy} \text {. }$ C.T. | 3 | A $\mathrm{A}^{\text {A }}$ | 4000 | 1500 | V． | G－2 | 2ij | 4.41 |
| S－25 | Filter | 30 Hv. | 30 | MA | 900 | 1500 | V ． | G－2 | 23 | 3． 43 |
| S－26 | Filter | 15 Hy ． | 60 | MA | 230 | 1500 | V ． | （i＝ 3 | \％ | 3．43 |
| $\mathrm{S}=27$ | filter | 30 Hy ． | 75 | MA | 350 | 1500 | V ． | G－4 | ， | 4.41 |
| S－2 | Filter | 20 Hy | 100 | M | 350 | 1500 | $V$. | G－4 | 4 | 4.41 |
| S－29 | Filter＂ | 10 liY． | 17.5 | MA | 95 | 1500 | $V$ ． | G－4 | 4 | 4.41 |
| S－301 | Suingin | 5／25 Hy． | 175 | MA | 95 | 1500 | $V$ ． | C－4 |  | 4.41 |
| S－31 | Piltor | 20 Hly ． | 225 | LA | 120 | 2700 | $V$ ． | G－5 | c | 5． 88 |
| $\mathrm{N}=3$ | SWangan | 5.5 ＇25 Hy． | 335 | MA | 120 | 2700 | V． | G－5 | 6 | $5.8 \times$ |
| S－3：3 | Filter | 20 125． | 300 | UA | 901 | 4000 | V ． | G－7 | 10 | 8．3．3 |
| S－34 | Suintin | 55／515． | 3111 | MA | 91 | 4000 | $v$. | G－7 | 10 | 8.33 |
| S－35 | Filter | 20 Hy． | 400 | MA | 8.5 | 5000 | V． | G－8 | 14 | 11.76 |
| S． 36 | Sxingin | g $5^{2} 3.515$ | 400 | 3R | 85 | 5000 | $V$ ． | （i－8 | 11 | 11.76 |
| S－7 | Filler | 20 16． | 550 | MA | 60 | 6000 | $V$. | G－8 | 14 | 13．72 |
| 心－： | Swingin | 55／25 liy． | 5511 | M／ | （\％） | frino | $v$. | （i－8 | 14 | 13.72 |

## Save Money With a Surpicisé Trade－In Allowance on Your Used Test and Communication Equipment

woy ro get thot new rest equipment or communicotions equipment you＇ve been wanting，and ot amaringly big soving，too！ Simply tell us what factory built units you hove to trade．giving make and model number，indicate what new models you want．Then watch us fly into action ond make you a＂Surprise＂Offer that＇s sure to pleose．Don＇t deloy．Get yauy trade－in deol working right now！

STANCOR
FILTER CHOKES


W．MILLER K．F．＇riousformer for II＇Pouer Supfly مower stipply transfurmer for use with TV rernivers 36 for volt．No． 4.55 for voliges to 4000 ir．No． ctilser tripler circu， 000 bC（or 30，0no bC in wolta －ctiffer ad fr oseillator carcuit uses one or mare gVe －6Yo in parallel．Lons ripple content in vutpat．Cir－ it diagram swplied with each coil．

4525
4526
IVRF＇to 30 kV

## DUAL TONE CONTROL COMPONENTS

YPE T－20C74 REACTOR．Used in tone cumpensating system in rder to attenllate or boost indepindently bass or truble保 fin $2=1068 \mathrm{x}$ dual hum－bucking control． 22 hys induct $\mathrm{Ne} \cdot \mathrm{t} \leqslant 3.33$
YPE R－1068X DUAL CONTROL．Fur use with reactor listed above． haft length $3 / 8^{\circ}$ ．Cumplete with diagram，list oi parts tor a

Net $\$ 2.35$

## THORDARSON trevision tansfobmers

V－24SR6 Verticul．scanning output trunsformer．Case CAV．Si\％ V－24AB7 Vertical blucking uscillator transiurmer．Cast Hali．
－24A88．Same as TV－24A87．Fully enclosed and pottod．alt V－2489 Hurizontal blucking uncill tor transfurier． ＊＊）Hurizontal blocking uscillator transfurmer．Case BAL， －24200．Sant as TV－24A89．Fully enclosed and potted wit eads．Cast TTV．size $2<\pi \times 1^{1} \leq \mathrm{D} \times \mathrm{D}-1 / 8 \mathrm{H}$ ．Shy．Wt． 11 b ．Net．$\$ 2.65$



## UT C <br> combined plate and fllament

RECTIFIER FII.. FIL. CASE SHPG. tYPE VOLTHGF FIL. NU. 1 No. 2 No. MT. NeT S-34 490-4ク0-0-400-490 175 HA
S. 40 5:5-425-n-425-525 250. Min

S-41 600-0-600
200 MA 200 MA $525 \cdot 6 n 0$ 300 V/A
$525-0-525$ 450 MA 4n-ก-40, 200 Ma
2.5VCT G. 3 VCT

G-7 $\quad 10 \quad \$ 14.70$
$5 \mathrm{~V} \cdot-2 \mathrm{t}$


5 V. $-3 A$
6.3VCT 6.3VCT $6-7$ 10 14.70 7.5 V .
tapped 6. 3 VCT G-7 10 14.70
G. 3V. -3 A 2 A
7.5
$\begin{array}{lllll}\text { tapped } & 6.3 V C T & 6-8 & 14 & 16.66\end{array}$ c. 3 V . -3 A 3A

S-43 525-0-525


## THORDARSON



POHER TRANSFORMERS FOR SELEMIUM RECTIFIERS
TPPE T-26R32. Secondary, AC volts 120. 50 MA LC. C. 3VCT . 5A. $2^{\prime \prime}$ mounting senters. Shpg. Wgt, 1 lb .

Net \$ 2.35
TIPE T-22RI2. Secondary. AC vults 135, 75 UA UC, $6.3 y 1$, EA. quantine Centers $3-1 / 8^{n}$ Shse. Net. 1-1/2 1bs. Net 3.23

## Universal and Special Duty to Line

TYPR CASE PRIMARY SECONDARY WATTS NHT

| T-22St6 | Bit | 14000-3000 С. T. | $500 \cdot 600$ | 25 | * |
| :---: | :---: | :---: | :---: | :---: | :---: |
| T-22N0 | FGt | 20000 c.T. | 125/200/500-601CT | 3 | 3.53 |
| T-22NH: | RTV | 20000 C.T. | 125/200/500-600CT | 101)B | 7.35 |

## STANCOR

## TUBE TO LINE

TYPE APPLICATION MPEDACE PRI, AUDIO MEMS SHPG. WATS MTG. WT. NET


## 家

UT C

PLATE, CRYSTAL, PHOTOCELL,
and bridging to line
TYPE I.S-27. single plate to multiple line, Primary 15,000 ohms. Secundary $50,125 / 150,200,250,333,500 / 600$ ohns, Plus or minus 1 DB 30-15,000 CPS. Maximum level plus 15 DB . Hum level minus 74 DB .

Net \$ 17.64
TPE LS-50. Single plate to multiple line. Primary 15,000 ohms. Secondary in, 125/150, 200, 250, 333. 500/000 ohms. Plus or minus 1 UB 20-20, (100 CPS. Maximum level plus 15 DE. Hum level minus 74 DB .

Net \$ $\mathbf{1 5 . 1 9}$
TYPE, 1.S-51. Push pull low level plates to multiple line. Primary 30,000 ohns plate to plate, secondary $50,125 / 150,200,250,333$, $500 / 600$ chms, Plus or minus 1 DB $20-20,000$ CPS. Maximum level plus 16 DB. litum level minus 74 DB

Net \$18.62
TYPE LS-38. Crystal microphone or pickup to multiple line, with internal equalizer. Primary 100,000 ohms. Secondary 50, 125/150. 200, 250, 333, 500/600 ohms. Equalized for crystal. Maximum level plus 10 DB . Hum level mizus 74 DB . Net $\$ 19.60$

TIPE LS-39. Photocell, high-mu triode, diode or overbiased detector to multiple line. Primary 100,000 ohms. Secondary $50,125 /$ 150. 200, 250. 333, 500/600 ohms. Plus or minus 1 DB 20-20.000 olims maxinum level plus 10 DR Hum level minus 74 DB . Net $\$ \mathbf{1 7 . 6 4}$

TYPE LS- 150. Bridging from 50 to 500 ohm line to line. Primary 4,000 ohms bridging. Secondary $50,125 / 150,200,250,333,500 /$ 600 ohms. Plus or minus 1 DB $15-30,000$ CPS. Maximum level plus 15 DB . Hum level minus 74. DB.

Net $\$ 17.64$
TIPF LS- 151. Bridging from 50 to 500 ohm line to line. Primary 16,000 uhms bridging, Secondary $50,125 / 150,200,250,333,500 /$ 600 ohms. Plus or minus 1 DB $15-30,000$ CPS. Maxımum level plus 18 DB. Hum level minus 74 DB .

Net \$15.68

## MIXING TRANSFORMERS

tyPE APPI.ICATION
PRI. SEC. MAX. CASE SHPG.
 impedance mike, 150, 200, 150, 200,
pickup, or $250,333,250,333$ maltigle line 500/600 500/600 to multiple ohiss ohms
L.S-30X As above As above as above + 15DB LS-1 4 is. 18.6

LS 31 Tiree isolated $30,50, \quad 50,125 \%+15 \mathrm{DB}$ LS- 1 17.64 1 ines or pads 200,250 150,200, to multiple ohms ea. 250,333 .
line. primary $500 / 600$
ohms.
L.S-3]X As above As above As above + 14 DB LS-1 $4 \quad 21.36$ LS-32 Mixiug, low 2.5,5.5,50,125/ + 150B LS-1 \& 21.56 impedance mike. 10, 15, 22, 150, 200. pléhup, or 30,38,60 250, 333. parallin mix- ohms $500 / 600$ er to multiple 1 ine. $\qquad$ All are +1 db from $20-20$, 000 cy .
ALL TYPES ARE LS- 1 CASE, SIZE $3-1 / 8 L \times 2-5 / 8 \omega \times 3-1 / 4^{\prime \prime} H$. MUUNTING 1-15/16" $\times 2-7 / 16^{n}$. SUPG. WGT. 5-1/2 LiSS.

0U T C hybrid and repeat coils

PRI, \&SEC. $\pm 1 \mathrm{db}$ MAX. CASE SHPG. IMPEII. Irom JEVGL NO. WT. NET

Lis- 130 Line to line $500 / 60$ ohms for isolating split baianced \& ur $500 / 60 \mathrm{C}$ ohms balanced cir- splat cuits: balanc
ed for max
reduction cruss talh (70DB)
LS- 1411 Three sets $500 / 600$ ohms ol bal anced winciangs for hybriu service
LS-142 center-tupped. Linte to lane $500 / 600$ ohos
\& t( phsh 500 'fon uhins pull grids 60, noo olims for hybrid survice.
LS-143 hiag evifcien 5nn/60n ohms Efficicent + 25 DB LS-2 $9 \cdot 14.70$ cy ring \& $500 / 600$ ulims
talk repeat
coil. fur low
Irec. ringing.
$30-\quad+19 \mathrm{DB}$ LS $=1 \quad 4$ \$19.6t 20.000



## THORDARSON

## Plate（P）Transformers

## THORDARSON

Unicasal Replercmont
Power（R）Transformers
RECE FII，

|  | SECOADMRY |  |  | I． | ， 1 |  | MTG． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TIPE | 106．5 | CM． | V | A． | $V$ ． | 4. | CrR |  | NET |
| T－2apron | 250－0－250 | 40 | 5 | 2 | 6.3 CT | 2 | $2 \times 2$ | $1 \%$ | \＄4．30 |
| T－23al 1 | 275－0－275 | 50 | 5 | 2 | 6．3CT | 2.5 | 2x2l | 21 | 4． 70 |
| T－2 2tuc | 300－0－300 | 70 |  | 2 | 6．3CT | 3 | 2xํ | 2, | 5.88 |
| T－2314 4 | 30n－0－300 | 90 | 5 | 2 | 6．3CT | 3.5 | 2 ${ }^{1} \times 2{ }^{3}$ | 3 | 6.17 |
| T－2．3015 | 301－0－300 | 120 | 5 | 3 | 6．3CT | 5 | 2P4 $\times 34$ | $4{ }^{\prime \prime}$ | 6． 76 |
| 7－22896 ${ }^{\text {（ }}$ | 325－0－325 | 150 | 5 | 3 | 6．3CT | 5 | $2{ }^{2} \times 31 / 1$ | 5 \％ | 7.06 |
| 1－8spui | 350－0－350 | 200 | 5 | 3 | 6．3CT | 6 | 3x3发 | 7 | 8.82 |
| T－2348 | 250－0－250 | 40 | 5 | 2 | 2．5CT | 4 | 24．20 | $1 \sqrt{17}$ | 4.70 |
| T－23809 | 275－0－275 | 50 | 5 | 2 | 2．5ct | 7.5 | 2x ${ }^{\text {d }}$ | 21 | 5.29 |
| T－2か10 | $325-0.325$ | 85 | 5 | 2 | 2．5CT | 9 |  |  |  |
|  |  |  |  |  | 2．5CT |  | $2{ }^{16} \times 31 \%$ | 3＇2 | 8.23 |
| T－2．2．11 | 325－ก－325 | 120 | 5 | 3 | 2.5 ST | 12.5 |  |  |  |
|  |  |  |  |  | 2．5CT | 5 | I＇x $3^{1}$ | $5^{\prime \prime}$ | 8.82 |



 T－22R32 350－0－350 $110 \quad 5 \quad 2 \quad 6.3$ CT 3 2゙さx2 $11 / 165 \%$ T－22R33 $375-0-375$ 16n $5 \quad 3$ G． 3 CT $3 \quad 3 \times 3$ 9／10 Tit 9.41 1－22134 385－0－385 $225 \quad 5 \quad 3 \quad 6.3$ CT $5 \quad 3 \times 3$ 9，＇16 10 11．76

 frimary $116 \mathrm{VaC} .50 / 60 \mathrm{Cy}$ ，Hiv Chse
 SEC，VOLTS DCVI WGT．NET


## THORDARSON

television reblachient and fxpfitimental
Pouler（R）Transformers
TV－22R40．Case gGV．AC yolts 1800，DCMA 2．Rect．fil．2．5V－ 1．8A，fil．no． $26.3 \mathrm{~V}-.6 \mathrm{~A}$ ，tapped at $2.5 \mathrm{~V}-2$ ．1h size $3-5 / 324 \mathrm{~m}$ $3+0 \times 3-13 / 16 \mathrm{H}$ ．Shpg．Wit． 6 lbs．

Net $\$ 10.58$
TV－24R91．Case GGV．AC volts 1800 ，dCMa 4．Rect．fil． 2.5 V － 1．75A．Size $2-5 / 84 \times 2-7 / 8 \mathrm{~L} \times 3-1 / 8 \mathrm{H}$ ．Shpg．Watt． 3 lbs．Net $\$ 7.35$

TV－24R92．Case GGV．AC rolts 2400 ，DCMA 10，Rect．fil． $2.5 \mathrm{~V}-$ 1． $\mathbf{7 5 A}$ ．Size $3: 3 \times 3-7 / 8 \mathrm{Dx4}$ ！di．Slipg．Het． 6 lbs ．Net $\$ 9.41$

TV－24R94．Case AGF．AC rolts 350－0－380，DCHA 210 or AC volt：



TV－24R98，Cose AGF．AC volts 3j0－0－359．DCMA 175．Bect．fil． $5 \mathrm{~V}-2 \mathrm{~A}$ and $5 \mathrm{~S}-3 \mathrm{~A}$ fil，no． $26.3 \mathrm{~V}-7 \mathrm{~A} ;$ fil． 110.3 6． $3 \mathrm{~V}-9 \mathrm{~A}$. Siza


Net \＄11．if
NEK UNIVEKSAL REPLACEMENT
TELEVISION POHER TRAASFORMEH
Thronth the use of a ulti－t mped high voltage secondary＂ind－ 1ng rated at 295 MA ，it is possible to cover a wide range of bug voltage secondaries．Tho 5 －volt rectifiers and tour f． 3 y ． windings make this transformer adaptable to practically any circuit．Covers over 90 of present and proposed TV sets．lon U／L approved color codpd leads，universal mounting brackets． dual internal shielding．color coded diagran printed on triths－ iormer．Primary， $117 \mathrm{VAC} 50 / 60 \mathrm{cy}$ ．If secondary $420-0-420$ ．
 s $\mathrm{V} . \& 3$ amiss．，and four 0.3 V ． 113 amph，sizo $3-3 / 4 \mathrm{x}:-1 / 2 \mathrm{x}$ $4-6 / 8{ }^{\prime \prime} 0$ ．Shps．Wgt． 13 Lus．TMP：T－26RNO

Net $\$ 14.76$

## Variable D．C．

Power Supply Component

[^8]

E． 5105 2000．1750．1500 $500 \mathrm{ll} 15-230 \mathrm{VAC}, 60 \mathrm{cy} .30 \mathrm{lbs} . \$ 44.50$
E． $5706 \quad 2500 \quad 500 \quad 115-230 \mathrm{VAC}, 60 \mathrm{cy} .34 \mathrm{lbs} .42 .50$
E． $5707 \quad 3000 \quad 650 \quad 115-230 \mathrm{VAC}, 60 \mathrm{cy} .40 \mathrm{lbs} .59 .00$

# REGULATING 

## U T C step down auto-transformers

Hith 6 -ft. cord and female recentacle. $22 C-240$ to $110-130$ volts - $50 \cdot 60 \mathrm{cscle}$.


TIPE
$R-41$
$K-42$
$B-4 B$
$3-14$
8.5 watt capacity

125 watt cuparity
175 watt capacity
250 watt crpacity

| $\operatorname{sinf}_{W I}$ | N1:T |
| :---: | :---: |
| 4 | \$ 5.59 |
| 5 | 6. 17 |
| $5^{\prime \prime}$ | 6. 81 |
| (3) | 8. |

## ISOLATION TRANSFORMERS



I deal for isolating line neise, AC-DC sets, etc. Excellent clectrostatic shlelding. 2000 -volt breakdow test. $6-\int t$. cord and inmale recoptacle. Fur operation on $11^{n}$ inn tac 6 n cycle.

| TtPe. | RITIVG | SHiPC. HI | N:T |
| :---: | :---: | :---: | :---: |
| R-73 | 100 watts | 41 bs . | \$8.33 |
| (2- 3 | 250 watts | 12 | 14.70 |
| 10-5 | 600 watts | 20 | 23.52 |
| H-76 | 1200 vatts | 30 | 38.22 |

## UTC

VARITRAN
CONTROL LNITS

Dasiuned for 115 or 230 volt service. Output voltages 0-130 and $0-260$ voits. As voltaze is reduced, motabe is reduced correspondinly. Maximum current can be taken at ans point from 0 to 20 solts and from 95 to 130 volts.


## STANCOR

AC-DC VIGRATOR POHER TRANSFORMER
THEP-lilgG - Secundary AC volts 350-n-350. C volts DC or 117 folts AC urimary invut Filament - 6.3 yolts = 2.25 amps. tbpe

 f. 9 lius

## SUPERIOR POWERSTAT

VARIABLE VOLTAGE TRANSFORMERS


TYPE 20
fig. 1. Smallent in physical and electrical size of entire POHERSTAT tine. 5 terminals permit connecting for clockwise or counter-clockwise rotation for increasing voltage to or above line toltate. Input 115 VAC 60 cy ., single phase. output $0-13$ : or $0-115$ volts. $3.0 \mathrm{mps}, 0.4 \mathrm{KVA} .300^{\prime} 60 \mathrm{cy}$. Size $3^{3} \mathrm{x} \times 3^{3}$, Shpg. $\mathrm{V}_{\mathrm{o}} \mathrm{t}$. $\mathrm{G} / \mathrm{bs}$.

## YPES 11G-216

FIG. 2. Type 116 may be used for either wall or bench mounting Ous on-off switch, input cord-plug, fuse in the output lead, protective screcning around unit, Input 115 VAC $50 / 60 \mathrm{cycle}$. silagle phase; output $0-135$ volts, T: anps, 1.0 KVA. Output voltage can be limited to line voltage. Size overall, 6:H, 5-7/3 dia. shpg. Hzt. 12 lbs .

Het \% 23.011
Type 21G. Similar to Niodel 116 but input voltage is 230 vic 50 in cycle. simble plase. Output $0-270$ volts, 3.0 amps, 0.8 kVA.

TYPES 1160 - 216 U
FIG. 3. Uneascd models oi Types 116 and 216. Output receptacle, on-off switch, inuut cord-plug, fuscs and screening are nor supplica. These aro reant to bach-ol-panel mounted. Pating: we same as cafed tupe. Supt. Hit. 12 bs.
Fyne 116 U - For 115 VAC operation. Type 2164 - For 230 Vac operition
TYPES $1156 \mathrm{~B}=1256 \mathrm{~B}$
FIG. 4. Trpe 1156 B . Input 115 VAC $50^{\prime} 60 \mathrm{cy}$. . output $0-135$ VAC.


FIG. 4. Tire 1256 B . Inrut $115^{\prime 2} 230$ VAC $50^{\prime} 60 \mathrm{cy}$. Output $0-270 \mathrm{VAC}$ 28 amps, 3.27 KVa . Size: $15-1 / 8^{\prime \prime} \mathrm{D}, 8-3^{\prime} 9^{\prime \prime} \mathrm{H}$. Shpg. hgt, 80 lbs,

## TYPE UCIM

HIG. 5. A compact portable source of variable AC voltage. Ha retered infut and output hityo output receptacles and pal"o oinding posts which suppls voltage as regulated by knob. Excel lent for laboratory and industrial uses, radio and TV servicin Continuously variable output 0-135 volts. Housed in sturdy blac crackle metal case. Complute with $6-1 t$. cord and plug. renewabl



Type 136 . Input 120 vac. 5060 cy. . single phase

inet $\$ 50.0$
Tym 236. Input $2+0$ VAC sin fon cy.. sin to phase



Wills a need where a relatively low pover con- TYPE 11 tro! is resuired. Rutation of the brush tap de livers any desired ACV output voltage from 7. He to, or above lilue woltage, un to lor. Stepless. Thsils inszallea in buck-or-tanel po ition, sinte hole mounting. RATING: InpHe, 120 volts-601e hole me ousp. Output $0-190-13$ ) volts 1.23 cycles-one phase. Output, $0-1-0-132$ vorts, 1.25 nmperes, $150 / 165$ VA. Net weight 1 lb. $130 \%$. Size, $3^{\prime \prime}$ (iat., 2-1/10" deep. Shp. Wgt, 3 lhb. tipe 10 porristat

## ISOTAP ISOLATION TRANSFORMER

monel. Mo-25A. Made particularls for te evision acrvicing. Combination hi-1 isolation transforner. Consisti, of a ol VA auto transfor er bandine and a 275 isolated secondary winding. Primary 1 l toltage range is 105-130 volts. 7 pos tion rotary switch. Size $5-3 / 4 \mathrm{~h}$, * 5 hi $4-3 / 8$ " D. Shpg. Wigt. 14 Lbs. Net $\$ 17$.

## Tra REGULATING TRANSFORMERS

## SOLA CONSTANT VOLTAGE TRANSFORMERS

# STANDARD units <br>  

LOW HARMONIC
DISTORTION
Designed for use with equipment that requires a stabilized source of undistorted voltage. Less than 3 harmonic distortion in the output voltage wave. Output voltage is essentially sinusoidal. Operation is automatic and intantaneous, requires no maintenance. OO cy. uperation.

| OUTPJT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| number | CAPACITY IN V.A. | $\begin{aligned} & \text { INPUT } \\ & \text { VOLTS } \end{aligned}$ | output <br> volts | $\begin{gathered} \text { Shpg. } \\ \text { WT. } \end{gathered}$ | NET |
| 5003 | 60 | 95-125 | 115 | 35 | 35. 00 |
| 5004 | 120 | 95-125 | 115 | 45 | 44.00 |
| 5005 | 250 | 95-125 | 115 | G0 | 70.00 |
| 5006 | 500 | 95-125 | 115 | 70 | 105.00 |
| 3008 | 1000 | 95-125 | 115 | 160 | 175.00 |
| 5010 | 2000 | 95-125 | 115 | $32 n$ | 310.80 |

Sola C. V. transformers provide a snooth flon of carefully rezu- lated power to electrical equipront automatically without manual adjustments. Designed to 槒intain their output constant to within plus or minus $1 \%$ for a total primary variation of $30 \%$. Load circuit is isolated both electrically and physically from input.

Enclosure
TYPE
Mo. YOLT YOLTAGE SHPG.

| 12 | 301002 | 15 | 95-125 | 6. 3 | 6 | 20.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 301003 | 15 | 95-125 | 115.0 | 6 | 20.00 |
| 1 | 30488 | 15 | 95-125 | 6.0 | 8 | 16.00 |
|  | 30492 | 15 | 95-125 | c. 3 | 8 | 16.00 |
|  | 30498 | 15 | 95-125 | 115.0 | 8 | 16.00 |
| 2 | 30804 | 30 | 95-125 | 115.0 | 14 | 18.00 |
|  | 30805 | 60 | 95-125 | 115.0 | 15 | 25. 60 |
|  | 30806 | 120 | 95-125 | 115.0 | 20 | 33.00 |
|  | 30888 | 150 | 95-125 | 115.7 | 25 | 40.00 |
| 21 | 30881 | 25 | 95-125 | 6. 3 | 14 | 17.00 |
|  | 30882 | 50 | 95-125 | 6.3 | 15 | 24.00 |
| 22 | 30885 | co | 95-125 | 115.0 | 14 | 25.00 |
|  | 30886 | 120 | 95-125 | 1150 | 18 | 33.00 |
| 3 | 30807 | 250 | 95-125 | 115.0 | 31 | 52.00 |
|  | 30,4807 | 250 | 190-250 | 115.0 | 31 | 52.00 |
|  | 30808 | 500 | 95-125 | 115.0 | 43 | 81,00 |
|  | 304808 | 500 | 190-250 | 115.0 | 43 | 81.00 |
| 4 | 30809 | 1000 | 95-125 | 115.0 | 115 | 135.00 |
|  | 301809 | 1000 | 190-250 | 115.0 | 115 | 135.00 |
|  | 30811 | 2000 | 95-125 | 115.0 | 215 | 245.00 |
|  | 304811 | 2000 | 190-250 | 115.0 | 215 | 245.00 |

## SOLA VOLT A.c. Voltace supply with Hrrmonic Filter

ndjustaose regulated AC voltage supplies with harmonic filters. kach unit is provided With attached input cord and plug: line onoff switch; one standard receptacle for a fixed regulated 115 volts, other standard receptacle is for a variable regulated out. cut of $0-130$ volts. A pair of jacks with regulated variable output of $0-130$ volts for connecting instruments with plugs or wire type leads is on panel. Any or all outpurs may be used simultaneously within total maximur rating, All outlets are regulated $\pm 1 \%$ Total harmonic distortion is less than $3 \%$. Regulated response 1.5 cycles or less. Units are self-protected against_short circuits. exctpt for the rotor of the auto transformer

ADJUSTABLE
REGULATED
 there are no moving parts, no manual adjustments ald no tures or zther expendable parts. Portability is a featuge which adapts these units for use in shop or laboratory. Size 50105. $7_{2} H_{x l} \mathbb{N}^{\prime}: H x$ $12-5 / 8^{\prime \prime} \mathrm{D}$; size 50106 . $7^{\prime}$ : $\mathrm{M}^{\prime} \times 12^{\prime} \mathrm{H} \times 14-3 / 8^{\prime \prime} \mathrm{D}$.


| 50105 | $95-125$ | 115 | $v$ | $0-130$ | V | 250 VA | 3 A |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{3 0} 106$ | $25-125$ | 115 v | $\mathrm{n}-120 \mathrm{v}$ | 500 VA | 7 SA | 70 | 110.00 |

## "TeleVolf" FOR TV SETS

Eliminates fluctuations in line voltage. Automatically shuts off or on when set is turned off or on. Set plugs into transformer. Type 720: may be operated over rouge of $1 \% 5 \mathrm{VA}$ to 300 VA ; Type 7201 operates over range of 110 VA to 180 VA .


OUTPUT CAPACITY INPUT OUTPUT MIRES IN V.A. VOLTS VOLTS
H. NBPG. $\begin{array}{lllllll}7201 & 180 & 95-130 & 115-120 & 8-1 / 8-4 \%-7 \% & 19 & \$ 27.60\end{array}$


## CAPACITOR TYPE

Type CVf transformers deliver filament and olate voltages regulated within $+3 \%$ or loss, with line voltage yariations of $100-130$ volts. Type with line formers are furnished complete with capacitors and capacitor mounting brackets. Provide a compact regulated source of plate and filanent windings on the Type CVE same cord. No adjustments or maintenance. Operation 7100 Series is automatic and instantaneous. All operate frums orm-inn rolts on cyele.
OUTPUT DC INPUT
Naiber Chpacity
IN V.A.
VOLTS T0
FILAMENT RINDINGS
SIPG
NET 7104 7106

7107
42

275 VDC 2.5A CT
2.0A

54
\$ 10.15
75
385 VDC 3 0A
$8 x$
12. 00

107210
80 VIC $\quad$ 1 4.0 A
3.0A
19. 64

## RAYTHEON

 Voltage Stabilizers

A precision bullt unit which provides maximum voltage stabllization with minimum variation in output voltage. Cumpletely automatic, no adjustments to make. Delivers controlled ourput voltage to plus or minus $1 / 2 \%$ of their full rat ang. Hill stabilize input voltages varying as much as $15 \%$ from numinal valur. will correct varying input voltage within $1 / 20$ th of a second. Cannot be damaged by overlogd. 1nput 95-130 VAC so csele.

| TYPF: | CAPACITY HATTS | SIET: | SHIPG. WGT. |  | N:T |
| :---: | :---: | :---: | :---: | :---: | :---: |
| VR-6110 | 15 | 5. $\times 2.4 \times 34$ |  |  |  |
| VR-6111 | 30 | T. $2 \times 3-3 / 8 x+-1 / 8 \mathrm{H}$ | 6 libs. | \$ | 16.00 |
| VR-6112 | 60 | 7 $\mathrm{H}_{1} \times 3-3 / 8 \times 4 \times 2$ | $10^{2}$ |  | 25.00 |
| VR-6113 | 130 | $7 \mathrm{~T} \times 3-3 / 8 \times 6 \mathrm{H}$ | 18 |  | 33.06 |
| VR-6114 | 250 | 12-3/8×5 $\times 77^{4} 1^{\circ}$ | 30 |  | 52. 60 |
| VR-6115 | 500 | 12-3/8×5×9H | 50 |  | 81.00 |
| VR-6116 | 1000 | $14 \times 131 / 49^{1 / \mathrm{H}}$ | 130 |  | 31.00 35.00 |

$\pi$

## VR-6110

RR-6111
VR-6113
VR-6114

## MALLORY VOLUME CONTROLS



| Number | Net 5453 | Number 852 | $\begin{array}{r} \text { Nef } \\ \mathrm{U}=0.870 \end{array}$ |
| :---: | :---: | :---: | :---: |
| 246 | $U_{53} 4546$ | 853 | Uso 859 |
| 247 | 4.54 | 854 | \$ 2.88 |
| 248 | Uss 4548 | 859 | 2.78 |
| C248 | 5.03 | 6859 | 3.23 |
| 249 | Uso 4549 | W859 | 2.88 |
| 270 B | Uso 271HD | 860 | U'so 870 |
| 271 HO | 5.38 | 866 | Use 859 |
| 273 C | 5.38 | 888 | Use 870 |
| 2730 | 5.38 | 869 | Use 859 |
| 294 | 2.88 | 870 | 2.88 |
| F294 | 4.20 | 6874 | 2.88 |
| 298 | 3.73 | 901 M | Uso 859 |
| 500 P | U se 859 | 902 M | Use 859 |
| 501 P | Use 859 | 903 M | 2.44 |
| 505P | 2.88 | 952W | Uso 953W |
| 506P | 3.73 | 953W | 4.53 |
| 507P | Uso 859 | 954 | 4.53 |
| 508P | Use 859 | 1100 | 2.88 |
| 509P | 2.44 | 1501 | Uso 4501 |
| 716 | 4.53 | 61501 | Use G4501 |
| 725 C | 5.03 | T4000 | Use T4003 |
| G725C | 5.85 | T 4002 | 6.29 |
| 742 | 4.53 | T4003 | 5.76 |
| 743 | 4.53 | 4501 | 3.73 |
| 748 | 4.53 | C4501 | 4.06 |
| 6749 C | 5.85 | 4502 | 4.06 |
| W759 | 4.85 | 4546 | 4.53 |
| 825 C | 4.06 | 4548 | 4.53 |
| 826 C | 3.73 | 4549 | 4.53 |
| F826C | 4.53 | C4549 | 5.03 |
| G826C | 4.53 |  |  |



MALLORY
VIBRAPACKS Vibropack

MALLORY VIBRATORS

Portablo power supply with buittin noise sup* prossion oquipmont. Typo VP. 555 H also includes on officient low froquoncy hum filtor. Type VP-557 incorporatos first inpup filter condonser only. Others do not ineludo high voltage hum filter. Usod extensively for furnishing "B" power for partable, aircraft, larm and marine
transmitters and receivers. Eosy to install. transmitters
Shpg. Wgit 8 lbs.

| Type | Input | Voltoge Oufput | M.A. Oufput | Net |
| :---: | :---: | :---: | :---: | :---: |
| VP-551.SR | 8.3 | $\begin{aligned} & 125-150 \\ & 175-200 \end{aligned}$ | 100 | \$ 18.23 |
| VP.552-SR | 6.3 | 225-250 | 100 | 20.29 |
|  |  | 275-300 |  |  |
| VP.553-TR | 6.3 | 125-150 | 100 | 22,34 |
|  |  | 175-200 |  |  |
| VP.554H.TR | 6.3 | 225.250 | 100 | 23.52 |
|  |  | 275-300 |  |  |
| VP-555H-TR | 6.3 | 300 | 200 | 47.01 |
| VP-557.TR | 6.3 | 400 | 150 | 47.01 |
| VP-G556-SR | 12.6 | 225-250 | 100. | 21.17 |
|  |  | 275-300 |  |  |

## ATTENUATORS


besigneci to provid. a simple mothod of controlling the lovel of low bopodance audiu c-ireuits, and for volume control of allied equipment. DC dissipation rating. $\&$ watts. May be used with anylifier having

## MIDGETROLS



SINGLE MIDGETROLS
Round shaft controls for replacoment use in audio, rone, similareircuits of electronic oquip Shaft $2^{\prime} "^{\prime \prime}$ long, $1 / 4^{\prime \prime}$ dia. Easily eut to desired length. Powor rating: linear taper $1 / 2$ watt others $1 /$ watt

| No. | Ohms | Toper | No. | Ohms | Taper |
| :---: | :---: | :---: | :---: | :---: | :---: |
| U3 | 1 M | 2 | U40 | 100M | 2 |
| U4 | 1 M | 4 | U41 | 100M | 4 |
| U5 | 1500 | 2 | U415 | 125M | 4 |
| U6 | 2M | 4 | U42 | 150 M | 1 |
| 47 | 2500 | 2 | U43 | 200m | 4 |
| U8 | 3 M | 4 | U44 | 250 M | 1 |
| U12 | 5 M | 1 | U45 | 250 M | 2 |
| U14 | 5M | 4 | U46 | 250 M | 4 |
| U18 | 10M | 1 | U48 | 500 M | 1 |
| U19 | 10M | 2 | U 50 | 500 M | 4 |
| U20 | 10M | 4 | U51 | 750 M | 1 |
| U21 | 15 M | 1 | U53 | 1 Mog. | 1 |
| U22 | 15 M | 2 | U54 | 1 Mag. | 4 |
| U24 | 20M | 1 | U155 | 1.5 Mag . | 4 |
| U26 | 20M | 4 | U 55 | 2 Mag. | 1 |
| U28 | 25 M | 2 | U 56 | 2 Mag. | 4 |
| U29 | 25 M | 4 | U255 | 2.5 Mag . | 4 |
| U33 | 50 M | 1 | U 57 | 3 Mog . | , |
| U34 | 50 m | 2 | U 59 | $3 \mathrm{M}=9$. | 4 |
| U35 | 50 M | 4 | U65 | 5 Mcg . | 1 |
| U36 | 75 M | 1 | U67 | 5 Mog . | 4 |
| U39 | 100 m | 1 | U82 | 10 Meg . | 4 |

SINGLE TAPPED MIDGETROLS
No. Ohms Top At No. Ohms Top Ai UT-420 250 M 50M UT-4431 Mog. 450 M UT-425 $350 \mathrm{M} \quad 70 \mathrm{M}$ UT- 4502 Mog .125 M $\begin{array}{llll}\text { UT. } 429 & 500 \mathrm{M} & 50 \mathrm{M} & \text { UT-448 } 2 \mathrm{Mog} . \\ \text { UT-427 } & 500 \mathrm{M} & 100 \mathrm{M} & \text { UT } 4542 \mathrm{Mog}\end{array}$ $\begin{array}{lllll}\text { UT-427 } & 500 \mathrm{M} & 100 \mathrm{M} & \text { UT-454 } 2 \mathrm{Mog} . & 400 \mathrm{M} \\ \text { UT-430 } & 500 \mathrm{M} & 150 \mathrm{M} & \text { UT-449 } 2 \mathrm{Mog} . & 600 \mathrm{M}\end{array}$ UT. 431500 M 225 M UT. 4512 Mog .900 M UT-440 1 Meg. 200 M UT. 4573 Meg . 900 M UT-438 1 Meg 300M
Any type, Net Eoch \$ 1.09


Midgefrol Swifches
For all * U* Controls

NO. US. 26 SPST | Nat $\$ .35$ |
| :--- |
| .34 |
|  |
| .35 | NO. US-26T

NO. US. 27 SPST. ST NO. US 27
NO. US 28 DPST
 Corben Coufrols




| ATTFMLSTORS |  | OHMS |
| :---: | :---: | :---: |
| NO. | NET | IMP. |
| T2 | \$ 2. 50 | 2 |
| T4 | 2.30 | 4 |
| T6 | 2. 50 | 6 |
| T8 | 2.50 | 8 |
| T15 | 2.50 | 15 |
| T.10 | 2.50 | 50 |
| T100 | 2.50 | 100 |
| 1210 | 2.50 | - 200 |
| T230 | 2.50 | 250 |
| T 560 | 2.50 | 500 |
| T600 | 2.50 | 600 |
| T1000 | 2.50 | 1000 |
| T2040 | 2.50 | 2000 |
| T3000 | 2.50 | 3000 |

DUAL CONCENTRIC MIDGETROLS


Front Saction
Dosignod to exactly duplicato original oquip. ment quiekly and oasily. Both types $11 / 10$ " dio., carbon oloment. US26 switch attaches eosily. Necessary har

| FRONT SECTION |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Ohms | Toper | No. | Ohms | ap |
| UF13L | 1000 |  | UF54L | 50M | 4 |
| UFI3R | 1000 | 2 | UF753L | 75 M | 4 |
| UF 152L | 1500 | 4 | UF 15A | 100 M | 1 |
| UF 152R | 1500 | 2 | UF15R | 100 M | 2 |
| UF23L | 2000 | 4 | UF15L | 100 M | 4 |
| UF 23R | 2000 | 2 | UF254A | 250 M | 1 |
| UF252L | 2500 | 4 | UF254L | 250 M | 4 |
| UF252R | 2500 | 2 | UF55A | 500 M |  |
| UF33L | 3000 | 4 | UF55R | 500 M | 2 |
| UF33R | 3000 | 2 | UFSSL | 500 M | 4 |
| UF53R | 5000 | 2 | UF16A | 1 Meg. |  |
| UF53L | 5000 | 4 | UF16L | 1 Mog. | 4 |
| UF73R | 7000 | 2 | UF155A | 1.5 Mog. |  |
| UF14L | 10 M | 4 | UF15SL | 1.5 Mog. |  |
| UF14R | 10 M | 2 | UF26A | 2 Meg , |  |
| UF253R | 25M | 2 | UF26L | 2 Mog . | 4 |
| UF253L | 25 M | 4 | UF25SL | 2.5 Mog. |  |
| UF34A | 30 M | 1 | UF46A | 4 Mog . |  |
| UFSAA | 50 M | 1 | UF106L | 10 Mog . |  |
| Any type, Net Eoch \$ 1.18 |  |  |  |  |  |
| REARSECTION |  |  |  |  |  |
| URI3L | 1000 | 4 | UR15L | 100m | 4 |
| UR152L | 1500 | 4 | UR254A | 250 M | 1 |
| UR23L | 2000 | 4 | UR254L | 250 m | 4 |
| UR352L | 3500 | 4 | UR354A | 350 M | 1 |
| UR352R | 3500 | 2 | URSSA | 500 M | 1 |
| URS3R | 5000 | 2 | UR35L | 500 M | 4 |
| UR53L | 5000 | 4 | UR 16A | 1 Mog . | 1 |
| UR14R | 10 M | 2 | UR 16L | 1 Meg. | 4 |
| UR 14L | 10 M | 4 | UR26A | 2 Mag . | 1 |
| UR253L | 25 M | 4 | UR26L | 2 Meg . | 4 |
| UR54L | 50 m | 4 | UR255L | 2.5 Meg - | 4 |
| UR753L* | 75 M | 4 | UR36A | 3 Mag . | 1 |
| URISR | 100M | 2 | UR 56L | 5 Meg . | 4 |

Any typo, Not Eoch \$.59
NO. DS.36. 3" oxtonsion shaft, Used to couple front and roar Midgatrol section togethor to make singla shaft, dual cantrol for scope, etc.
SINGLE TAPPED CONTROLS FRONT SECTION


## ECONOMY

P.A. CONTROL

Designed primarily for inexpensive sounst equipment including all types of tading \& mixing systems. All units thave metal shatt $17 / 8^{\circ \prime}$ irom end of $3 / 8^{\prime \prime}$ buslanas. limited to input applications. haximun now ror ratin. tor all units of 1 walt.

| $M X-140$ | 50 | "Delta-T" Pud | $\$ 2.94$ |
| :--- | :--- | :--- | :--- |
| $W X-147$ | 200 | "Delta-T" Pad | 2.94 |
| $M X-148$ | 500 | "Delta-T" Pad | 2.94 |
| $M X-149$ | 600 | "Delta-T" Pad | 2.94 | MX-149 $600 \quad$ "Delta-T" Pad

## Vol VOLUME CONTROLS - SWITCHES

OHMITE

## 2 WATT MOLDED COMPOSITION POTENTIOMETER-TYPE AB



DUAL TYPE


Exceptionally high quality variable resistance controls available in $2^{\prime \prime}$ round shaft or scremdriver shaft with lock nut. Designed for industrial, laboratory, and other uses where reliability is important. May be used as rheostat or potentiometer, Power rating 2 watts. low noise level. Unit is dustproof, splashproof and unaffected by heat, cold, moisture or length of service. shown are $10 \%$ tolerances with exception of 5 meg. 2.5 mee. and 1 mee which are $20 \%$.

|  | Linear | Taper |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Ohms | Lock | 2" | A Taper | B Taper |
| Res. | Shaft | Shaft | 2"Shaft | 2"Shaft |
| 50 | CLU-5001 | CU-5001 |  |  |
| 100 | CLU-1011 | CU-1011 |  |  |
| 250 | CUU-2511 | CL-2511 |  |  |
| 500 | CLU-5011 | CU-5011 |  |  |
| 1.000 | CLU-1021 | CU-1021 |  |  |
| 2, 500 | CLU-2521 | CU- 2521 |  |  |
| 5.000 | CLU-5021 | CU-5n:? |  |  |
| ${ }^{10} 0007$ | CLU-1031 | CU-1031 |  | CB-1031 |
| 25.000 | CLU-2531 | CU-2531 |  | CB-2531 |
| 50,000 | CLU-5031 | CU-5031 |  | CB-5031 |
| , 10 Meg | CLU-1041 | Cl-1041 | CA-1041 |  |
| . 25 | CLU-2541 | CU-2541 | CA- 2541 |  |
| . 5 | CLU-5041 | CU-5041 | CA-5041 |  |
| 1.0 | CLU-1052 | CU- 1052 | CA-1052 |  |
| 2.5 | CLU-2552 | $\mathrm{CU}-2552$ | CA-2552 |  |
| 5.0 | CLU-5052 | CU-5052 |  |  |
| Net | \$ 2.50 | \$ 1.91 | \$ 2.21 | ( 2.21 |

No. CS- 1
Dual units wath $2^{n}$ round shaft. 1ndependent electricul connections. Linear taper. All ure 10\% tolerance except CCU- $10 \leftrightarrows 2$ whach is 20\%.

| RESISTANCE |  | TYPE number |
| :---: | :---: | :---: |
| 10,000/10,000 |  | CCV-1031 |
| 25,000/25, 000 |  | CCU-2531 |
| 50, 000/50,000 |  | CCU- 5031 |
| . 1 Mer/. 1 Neg |  | CCU-1041 |
| . $25 \mathrm{Mek} / .25 \mathrm{Meg}$ |  | CCU-2541 |
| . 5 Mreb/ 5 Meg |  | CCU-5041 |
| 1.0 Meg/ 1.0 Meg |  | CrU- 1052 |
| Any above tiple. | Net | Each \$ 5.73 |

## OHMITTE

## DIRECTION INDICATOR

 POTENTIOMETER-MODEL RB-2( (1)Cumpact unit used in 6 V potentiometer circuit as a transmitting element. to indicate remotely pusition of
rutary bcem. Indicating meter can be 0-1, 0-1.5 or 0-2 DCHA (with marked scale). Potentlumeter attuches to beam mechanism, $360^{\circ}$ rutation. 2-5/16" dia. Oumplete instructions included.


## Clarostat

## WIRE-WOUND CONTROLS

## CLAROSTAT 10 SERIES

4 wolts, hinoor taper wiro wound controls. Molded phenolie case, size $11 / 3)^{\prime \prime}$ diam, and bi deep. 2 ,


| Type | Res. | Nez |
| :--- | :---: | ---: |
| $10-1$ | 1 | $\$ 1.09$ |
| $10-2$ | 2 | 1.09 |
| 10.4 | 4 | 1.09 |
| 10.6 | 6 | 1.09 |
| $10-10$ | 10 | 1.09 |
| 10.15 | 15 | 1.09 |
| $10-20$ | 20 | 1.09 |
| $10-25$ | 25 | 1.09 |
| 10.30 | 30 | 1.09 |
| 10.40 | 40 | 1.09 |
| $10-50$ | 50 | 1.09 |
| $10-60$ | 60 | 1.09 |
| 10.75 | 75 | 1.09 |
| 10.100 | 100 | 1.09 |
| 10.200 | 200 | 1.09 |
| $10-300$ | 300 | 1.09 |
| $10-400$ | 400 | 1.09 |


| Type | Res. | Net |
| :--- | ---: | ---: |
| 10.750 | 750 | 1.09 |
| $10-1,000$ | 1,000 | 1.09 |
| $10-1,500$ | 1,500 | 1.09 |
| $10-2,000$ | 2,000 | 1.09 |
| $10-2,500$ | 2,500 | 1.09 |
| $10.3,000$ | 3,000 | 1.09 |
| $10.5,000$ | 5,000 | 1.09 |
| $10-7,500$ | 7,500 | 1.09 |
| 10.10 K | 10 K | 1.09 |
| 10.15 K | 15 K | 1.09 |
| $10-20 \mathrm{~K}$ | 20 K | 1.29 |
| 10.25 K | 25 K | 1.29 |
| 10.30 K | 30 K | 1.68 |
| $10-40 \mathrm{~K}$ | 40 K | 1.68 |
| $10-50 \mathrm{~K}$ | 50 K | 1.68 |
| $10-75 \mathrm{~K}$ | 75 K | 2.06 |
| 10.100 K | 100 K | 2.06 |

## LOUDNESS CONTROL



A continuously compensated control which boosts lows and highs as volume is reduced yet maintains depth and brilliance even at whisper level. Control consists of 3 variable resistance units which operate from one common shaft. Easy to install, renuires only three connections Complete instructions included. Depth behind panel $13^{\prime \prime \prime}$ (no switch), 2-5/16" with suitch.
TYPE LC- 1 Cont rol less Switch Net $\mathbf{8 5} \mathbf{8 5}$ TYPE 76-1 SPST Swateh
.35 TYPE 76-2 DPST Switch .35


2 watts. Diam. $11 / 4 \mathrm{~m}$. Shaff length $2^{1 \% / 4 "}$. Less swarts. Shpg. Wgt, 8 az

| No. | Ohms | No. | Ohms | No. | Ohms |
| :---: | :---: | :---: | :---: | :---: | :---: |
| W-2 | 2 | W-30 | 30 | W. 500 | 500 |
| W. 3 | 3 | W. 40 | 40 | W. 750 | 750 |
| W. 5 | 5 | W. 50 | 50 | W. 1000 | 1000 |
| W-6 | 6 | W. 60 | 60 | W. 2000 | 2000 |
| W. 8 | 8 | W. 75 | 75 | W. 3000 | 3000 |
| W. 10 | 10 | W. 100 | 100 | W-4000 | 4000 |
| W-15 | 15 | W. 200 | 200 | W. 5000 | 5000 |
| W-20 | 20 | W-300 | 300 | W-7500 | 7500 |
| W. 25 | 25 | W. 400 | 400 | W-10000 | 10000 |
| Any type, Net Eoch..............................S. 73 |  |  |  |  |  |
| . SP \$T \$wi |  |  |  |  |  |

## COMDENIDOL



Tue CRL COMPENTROL is a volume centrol and special Printed Electronic circuit designed to compensate for the loss of highs and lows when music is played thru TV, radio sets ( 5 tubes or more. $A C-D C$ ). audio amplifiers, and radio-phono combinations at normal listening level. This control will boost highs and lows even at whisper level, making for better listening. Easy to install. Available in 1 meg. and $1 / 2$ meg. sizes. with or without switch. Ideal for high fidelity uses. Cl-60 Plain type. $1 / 2$ Heg, Net $\$ 2.45$ C1-60S Switch type, $1 / 2$ Meg. 2.94 Cl-70 Plain type. 1 Meg.
2.94
2.45 cl-70S Switch type, 1 Meg.

## Centralab

## BLUE SHAFT RADIOHMS

Model "B" Blue Shaft Radiohms are small. compact controls which will fill every service, industrial and experimental need. Only $15 / 16^{\prime \prime}$ in diameter. Element rated at $1 / 2$ uatt, $3^{\prime \prime}$ fluted mill shaft.

| No. | Ohms | Taper | No. | Ohms | Tape |
| :---: | :---: | :---: | :---: | :---: | :---: |
| B-4 | 500 | Cl | B-44 | 150000 | C2 |
| B-5 | 1000 | Cl | B-46 | 200000 | C1 |
| B-6 | 2000 | C1 | B-50 | 250000 | Cl |
| B-7 | 2500 | C1 | B-51 | 250000 | C 2 |
| B-8 | 3000 | C 1 | B-58 | 500000 | C4 |
| B-10 | 5000 | C 1 | B-59 | 500000 | Cl |
| B-13 | 6500 | C1 | B-60 | 500000 | C2 |
| B-14 | 10000 | C1 | B-68 | 1 Meg . | C5 |
| B-15 | 10000 | C2 | B-69 | 1 Meg . | Cl |
| B-16 | 10000 | c6 | B-70 | 1 Meg. | C2 |
| B-18 | 10000 | C4 | B-75 | 2 Meg. | Cl |
| B-20 | 15000 | C6 | B-76 | 2 Meg. | C2 |
| B-22 | 20000 | Cl | B-77 | 2 Meg . | C5 |
| B-24 | 20000 | C6 | B-83 | $2^{15} 5 \mathrm{Meg}$. | C1 |
| B-26 | 25000 | C 1 | B-84 | 3 Meg. | C1 |
| B-31 | 50000 | C1 | B-85 | 3 Meg. | C2 |
| B-32 | 50000 | C2 | B-86 | 4 Mes. | Cl |
| B-35 | 75000 | C1 | B-87 | 5 Meg. | C1 |
| B-40 | 100000 | C1 | B-89 | 7 Meg. | C7 |
| B-41 | 100000 | C2 | B-98 | 10 Meg . | Cl |
| Any above controls, |  |  |  |  |  |
| Except E-60 and B-70 |  |  | Nit \$ |  |  |

BLLE SHAFT TAPPED CO:TROLS
Nu. Ohms Taper Tap No. Ohms Taper Tap BT-53 250K Cl1 125K BT-73 1 Meg C13 30nK BT-55 250K C13 75K BT-74 1 Heg ClG 10nK BT-57 350K Cl2 70K BT-78 2 Neg Cll 1 Meg RT-65 500K C11 250K BT-79 2 Meg C12 400K BT-66 500K C12 100K BT-80 2 Meg C13 600K BT-67 500K C13 150K BT-81 2 Meg C15 200K BT-71 1 Heg Cll 500k BT-82 2 Meg C16 1 Meg

Any above controls.
Net \$ 1.05


Two regular Radiohms are mounted in tandem on a single shaft which rotates buth sections. Switch types are not furnished, 2ating $1 / 2$ watt. Shaft, $3^{n}$ long from end of $3 / 8^{\prime \prime}$ bushing. Universal fluted full length rill.

Nio. $K B-1$
No, $K B-2$
SPST
Net \$ . 29
No. KB-2 DPST
.29
.35

CRL BLUE SHAFT TAPERS
C-1. Linear. uniform resistance change irom either end.
C-2. Semi-log (audio) $10 \%$ center. Volume or tone.
C-4. Modified lug with 200 center, Volume or tone.
C-5. RH modified log $20 \%$ center. Reverse of C-4. Decreases with clockwise rotation. C-6. Modified log with 40 center. Volume control or antenna shunt and "C" bias. C-7. Symmetrical-straight line, siuw rosistance change at either end. Tunp contrul. C-11. Taper tapped at $50 \%$ rotation, $50 \%$ resistance. Used as tone control ur in TV. C-12. Taper tapped at $37 \%$ resistance. Volume control with tone taj. $\mathrm{C}=13$. Taper tapped at $50 \%$ rotation, $30 \%$ resistance. Volume control with tone taf. C-15. Taper tapped at 50 rotation. $10 \%$ resistance. volume control with tunn tip. C-16. Taper tapped at $52 \%$ rotutiun, $50 \%$

## TRANSMITTING \& RECEIVING LINE WIR

## BELDEN transmission line cables

8275
## CELLULINE

## UHF.VHF LEAD-IN

Collular polyothylene core and thick polyotlylene outer wall mako this $\mathbf{3 0 0}$ ohm lino absolutely woterproaf; no end soal required. Lowest lossos possible af 7 20 conductors ore $7 \times 28$ strandod "Weldohm" annealed eoppereos
Per Foot, Net.................................................................. 41
 1000 Fi, Coil................................................. 44.10

## 8204

TyPE 8204. 2-conductor \#18 wire. For use with douhlet receiving antenna. Tinned copper $7 \times 2$ f flexible stranding. Low loss rubber insulation. White cotton hraid. whather-resistant.
 100 Fi. Spoot. 500 Fi. Spool

## 8205

Tipl: 8205 . 2-conductor $n 22$ cable: Tinned copper $7 \times 30$ flexible stralding. For use with doublet receiving antenal. Rubler insulation. Black cotton braid, weatherresistant.
25 Fi. Coilod and Carioned. Nef................ 5.73 100 Ft. Spool 1.50 500 Fi. Spool.

## 

TYPE 820. 2-conductor 118 wire. For use with doublet receiving antenna at low frequencies to reduee noise pickup. Tinned copper $7 \times 26$ flexible strandias. Low loss rebber insulation. Tinned couper braid shield. White cotton bruid, weather resistant compound.
15 Fi. Coiled and Cartoned. Net............... $\$ 1.06$ 50 Fi. Coiled and Cartoned. 2.94 500 Fi. Spool...

## Federal "PIPELINE"

Tipe TV-1185. Federal's new "Pipeline of the Air". Contains most of field inside "silver" polyethylene sheath, ntilizing deat-air space between comper frads and reducing usual joss of reception cansed by show, ice. and moisture on line. Very effective where wather conditions canse rapid deterimation of ortinary libe. Row sisissalt laden air and air poldutpd hy
chomical or fas vapors. $7 / 428,300$ uhg imb nedance, rxeellent for the sit:nals.
Por Foot Not.
Por 100 Fect.
.5. 04


Now 300 ohm shielded add balaned TV leadin. Minimizes noise, snuw, and ghosts dhe to transmission line pickup. fetter pictures under all weather conditions. Minimizes anto and electrical interferences.
Por Foot Not.
Pur 100 Feot

## 300 OHM <br> 8225

TYPE 8225. 3no ohn transmission lead for receiving antennas for TV and FM. Exceptionally low losses at high frequencies. Bare copper, flexible stranding; conduct ors are parallel. Polyethylene plastic insulation. 2 conductor $420(7 \times 29)$.

50 Ft. Coil...

500 Fi. Spool....................................................... 2.16
1000 Ft. Spool........................................ 18.77

## ULTRA-WELDOHM <br> 

TTPE 8235. UHF transmission calle. 300 ohm cable, 20 gauge, $7 \times 28$ stranded copluer cuated steel wire which can be handled easily without destroying electrical characteristics, easily stripped, may be twisted without distortion to get proper :ine balance. Low wet loss, withstands rain and snow. Resists sun, oxidization and winl. covered with heavy brown sol id polyethylene plastic insulation.
Per Foot. Not............................................ 8.05 100 Ft. Spool. 22.05

## WELDOHM

8230
No. 8230. Extra strong 300 ohm impedance TV lead-in wire. Ideal for long runs from antenna to receiver. "Weldohm" copper cuated steel wire, flexible stranding. Polyethylene plastic insulation. Parailel conductors. Size 20 ( $7 \times 28$ ). Over $21 / \mathrm{times}$ flex 1 ite and over $1!\%$ times break strength of copper equivalent.
Per Foot. Net.
.53
.1 .18
50 Ft. Coil. 1.76

75 Fi. Coil....
100 Ft . Coil. 1.76

100 Ft. Coil................................................. 2.16
1000 Ft. Spool 18.77

## extension cords <br>  <br> 1751 <br> 170517011702

Si\%e 18 , type Posd - G.t. Extra-1boxiblu brown ull-rubber parallel 1 aunf (י)d. Rult chas unbruakble rubier. bues hot mat fluors or furniture. Sile for ase on tabl top in Ural\& rxater's ilag type blue curd set lamel.
Typerinn $\quad$ fit. Net $\$ .99$ Tyle 1701

10 ft . 1.08 T3u® 172

15 ft 1.22
sive 18. type SV, Black all-rubber port able curd with Belden molded-tn rubber connee wit aind Belden unbreakuble soit rubory plat Underwriter's flaz tyne blar cord sret label.
Typ… 1751
$20 \mathrm{ft} . \quad \mathrm{NrOt} \$ 1.28$

## television

## GUY WIRE

80
fiich, ardde, extra strength tussod sceel buy witu, completely oalvinizmilo prevert rust ward curansian.

| Nuator ${ }^{+}$ | $\therefore 18$ | Lenstli | $\mathrm{N} \cdot \mathrm{Cl}$ |
| :---: | :---: | :---: | :---: |
| 420 | 4.20 | $10{ }^{1}$ | \$ . 65 |

100 - $\quad .65$

TWIN LEAD $\underset{14}{\infty}$

Amplienol Twin-Lead is made from the finest materials available. Brown pigmented polyethylene dielectric assures minimum RF loss and more constint impedance. Remains flexible and tinaffected by chemical fumes and temperature changes throughout lone and serviceable life. For TV, Ham and all experimental uses.
NO. 14.056. 300 ohm. Per Foat Neq........... \$. 02
NO. 14.056. 300 ohm . Per 100 Feot........... 1.91 NO. 14.056. 300 ohm. Per 500 Feet............ 9.56 NO. 14.056. 300 ohm. Per 1000 Foct......... 17.20

NO. 14.079. 150 ohm. Per F oot Net........... $\$ .02$ NO. 14.079. 150 ohm. Per 100 Feet,.......... 1.80

NO. 14-080, 75 ohm. Por Foot Net............. $\$ .02$ NO. 14-080. 75 ohm. Per 100 Feot............. 1.80
"CENTURY" TWIN.LINE. 300 ohm impodanco. Heovy 100 mil wob thicknoss providos oxtra strength, ideal for usos roquiring long runs. $7 / 28$ baro copper conductors.
NO. 14 -100. Net Per Foot.......................... $\$ .03$ NO. 14 +100. Ne Per 100 Foot................... 2.65 NO. 14.100. Net Per 1000 Feet................. 24.99

300 OHM TRANSMITTING TUBULAR LINE. Roted at 1 KW RF power. Conduetors are 7/26 copper wire, insulation brown polyethylenc.
NO. 14.076. Not Per Foot.
NO. 14-076. Not Por 100 Feot.................... 6.23
"HEAVY DUTY" TWIN-LINE, 300 ohm impod onco. Heavy 185 mil wob thiekness ond uses 7/26 bare coppor eonductors. Larger conductors hove lowor losses than smaller line. Excollont for fringe area roception and low powor amateur transmittor.
NO. 14-185: Nep Peg Foot
5.07
6.23

NO. 14-185. Not Per 100 Feot
TUBULAR TWINLEAD


TYPF 14-271 TUBULAR THINLEAD, Superior to flat types of twinlead in all UHF applications. Consists of 7 strands $\# 28$ copperweld conductors imbedded in brown polyethy lene forming protective canopy. Outperforms flat type twinlead 3-1 in wet or inclement weather. Signal transfer is unaifected by rain. sleet. ice or salt spruy. 300 ohm impedance.
Por Foot Not..
.......... 5.04
Pr 500 F
Per 1000 Feet
17.64
33.81
1 KW
75 OHMLEAD


No. 1-4-(i23. 75 ohm twin-1ead for transmit. ting rated at 1 KW RF power. Copper-clad conductors for extra strength.
Per Foot Not.
Por 100 Feot.
$\$ .06$
5.71

## 300 OHM <br> COPPER.CLAD

NG. 14-020. 300 ohm extra strength twinlead with copper-clatl conductors.
Per Foot Nor..
.5 .05
.4 .94
RGCABLES

[onaxial cathles for all purposes. low-loss flexiule polywthylene inner jacket. Conger shielded vinjl outer jacket.
Type Impedance Nef Per Foot Per 100 Feef
RG.8/U
RG.11/
RG.11/U
$\begin{array}{ll}R G .22 / \mathrm{U} & 95 \\ \text { RG-58/U }\end{array}$
$\begin{array}{ll}\text { RG-58/U } & 53.5 \\ \text { RG-59/U } & 73\end{array}$
13.23
12.42

## microphone cables

plastic microphone cable
Porformance ond long servico life are the outstanding features of Belden Microphone Cables. Thoy are resistont to physical abuse, aging, and moisture. In oddition, they havo low capacitance, high insulation resistanco, and low aftenuation of oudio froquencies.


#### Abstract

TYPE 8411. For lapel microphone. 251 conductor $3 \times 33$ tinned copper $-4 \times 33$ tinned steel. Flexible stranding. Cellulo se yarn braid. Polyethylene insulation. Tinaed copper braid shield. Chrome vinyl plastic jacket. 49 muf nowinal capacitance per $f t$. 15 Ft, Coilod and Cartonod, Not .5 .67 25 F1. Coilod and Cartonod. 1.03

00 F1. Coilod and cartoned. 100 Ft. Spool. 500 Ft. 3.53


##  <br> For eryatal tribluon and carbon

TYPE 8401. For crystal, ribbon and carbon microphones. 25 1-cunductor $3 \times 33$ tinned copper- $4 \times 33$ tinned steel stranding. Cellulose yarn braid. polyethylene insulation. Tinned copper braid shield. Clurome vinyl plastic jacket. 25 mmf numinal cauacitance 15 Fi. Coilod and Chartoned. Net. .5 .81 25 Ft. Coiled and Cartoned 1.25 0 Ft. Coilod and Cartoned 2.35 500 Ft . Spaol 4.41
20.58

## 

TYPE 8422. For carion microphones. $\$ 222$ 2 conductor wire. $16 \times 34$ tinned copper. flexible stranding. Polyethylene insulation. Color coded: conductors cabled with fillers: rayon braid; tinned copper braid shiel d; chrome vinsl plastic jacket.
15 F1. Coilod and Cortoned. Net................ 25 F1. Coilod and Cortoned........................... 1.62 50 Ft. Coilod and Cartoned. 1.62
3.19

100 Ft. Spool. 6.03 500 Fp . Spool. 29.40

## shielded multiple conductor



TYPE 8424. Intercomecting power cable for all electronic uses. Also used as microphone cable. 4 -conductor $\$ 20$ wire. $26 \times 34$ tinned copper, flexible stranding. Cotton wrap. Rubber insulation. Color coded. Conductors cabled. Rayon braid. Tinned copper braid shield, Cotton wrap. Black rubber jncket.
15 Fi, Coilod and Cortoned. Nef................ $\$ 1.62$

100 Fs. Spool.
250 F1. Spool................................................ 23.15
TYPE 8425. Samo os 8424 oxcopt 5 -conductor. I5 Ft. Coiled and Cartoned. Net................ \$ 1.86 0 Ft. Spool.
1.86 00 F. Spool 11.03

250 Ft. Spoal........................................................... 26.82
TYPE 8426. Some os 8424 except $6 \cdot$ conductor. 15 Fi. Coiled and Cartenod. Net................ $\$ 2.16$ Fi. Spool..................................................... 6.91 250 Fi. Spool. 13.52
33.07

TYPE 8427. Same os 8424 excopt 7-conductor. 15 Fi, Coilod and Cartoned. Net................ $\$ 2,30$ 50 Ft. Spool.. 7.45 00 Ft. Spool
rubber microphone cable


TYPE 8428. Heavy duty studio mike cable Tinned cupper, flexible stranding, cotton urap. 2 conductors $\$ 18$ ( $41 \times 34$ ). . 295 diam. Tinned copper braid shield. rayon braid, cutton wrap, black rubber jacket overall. 15 Fi. Coiled and Cartonod. Not $\qquad$ .$\$ 1.57$
2.35 25 Fi. Coiled and Cartoned. 50 Ft. Coiled and Cortoned.......................... 4.35 100 Fi. Spool. 4.56
8.82 500 Fi, Spool. 43.37


TYPE 8410. For crystal, ribbon and carbon microphones. $25 \cdot 1$-conduc tor wire. $3 \times 33$ tinned copper-4x33 tinned steel. flexible stranding. Cellulose yarn braid; waxed; rubber insulation; rayon braid; tinned copper braid shield; rayon wrap; black rubber jacket. 33 maf nowinal capacitance 15 Fi. Coiled and Cortoned. Not................\$1.25 25 Fi. Coiled and Cortoned.............................. 2.06 50 Fp. Coiled and Cortoned.................................. 3.77 100 Ft. Spoo! 3.77 500 Ft. Spool

8412
TYPE 8412. For carbon microphones. $2^{-}$ conductor 20 wire. $26 \times 34$ tinned copper. flexible stranding. Cotton wrap. Rubber insulation. Color coded. Conductors cabled with fillers. Ravon braid. Tinned copprr braid shield. Cotton wrap. Black rubiser 15 Fi. Coiled and Cortoned. Not.............. \$ 1.18 25 Fi. Coiled and Cartoned......................... 1.86 0 Fi. Cailed and Cartaned
500 Ft . Spool
7.06
. .33 .81


TYPE 8423. For carbon microphones. 3 conductor $\# 20$ wire. $26 \times 34$ tinned copper. flexible stranding. Cotton wrap, Rubber insulation. Color cuded. Conductors cabled. Rayon braid. Tinned copper braid shield. Cot ton wrap. Black rubber jacket.
15 Fi. Coiled and Cartoned. Nat............... $\$ 1.42$
50 Fi. Coiled and Cartoned............................ 4.12
100 Ft. Spool.
8.09
1985

250 Ft. Spool.
19.85
38.22
rubber-jacketed portable cord


8472

TYPE 8472. Underwriters type SJ. $65 \times 34$ stranded bare copper. Cotton wrap. 2 conductor \$16. $1 / 32^{\prime \prime}$ rubber insulation, ca bled with fillers. Cotton wrap. $1 / 32^{\prime \prime}$ rubber facket overall. . 325 nominal diameter 25 Ft. Coiled and Cartoned. Not............... $\$ 1.71$ 50 Ft. Spoal................................................ 3.09 100 Ft. Spool. 5.98 250 Ft. Spool...................................................................................

## $\int_{1 \rightarrow 2}$

8452
TYPE' 8452. Underwriters type SV. $41 \times 34$ stranded bare copper. Cotton wrap. 2 conductor ह18. 1/64" rubber insulation, cabled with fillers. Cotton wrap. $1 / 32^{\text {" }}$ rub= ber jacket overall. . 245 nominal diameter.
15 Ft. Coiled and Cartanod. Net................. 8.81 25 Ft. Coiled and Cortoned. 1.32 50 Ft. Coilod and Cortoned. 2.35

100 Ft. Spool.
500 Ft. Soool.

## Belden

## BROADCAST

## AUDIO CABLE

## ——

Designed to eliminate cross-talk in audiu equipment. Twu $\$ 22$ solid enameled conduct ors, cotton wrap, cotton braid waxed, tinned copper spiral urapped shield, one 122 tinned solid copper wire parallel to twin pair under shield. . $025^{\text {" }}$ tubed grey vinyl "easy-to-strip" jacket. . 195" nom. diam.
Per Faot Net.
.5 .05
100 F. Spool................................................ 4.56
500 Fi. Spool................................................ 22.05

## multiple conductor

plastic-insulated cable
 8446844784488449

Ileal for speaker anstallations, intercom uses, etc. Tinned copper, flexible stranding; vinyl plastic insulation. color coded Overall tubed brown vinyl plastic jacket. Types $8446,8447,8448 \& 8449$ have 2 conductors of 18 intranded ( $16 \times 30$ ). All cthers are 22 strinded (7X30).

| Type | Cond. 25 | Ft. C | Ft. $C$ | 0 Ft. Corl |
| :---: | :---: | :---: | :---: | :---: |
| 8443 | 3 | \$.73 | \$ 2.35 | \$ 10.29 |
| 8444 | 4 | . 88 | 2.79 | 12.49 |
| 8445 | 5 | . 96 | 3.38 | 15.43 |
| Type | Cond. 15 | Ft. Co | F\%. C | 0 Ff , Coil |
| 8446 | 6 | \$ . 88 | \$ 5.15 | \$ 24.25 |
| 8447 | 7 | . 98 | 5.58 | 26.46 |
| 8448 | 8 | 1.03 | 6.03 | 28.67 |
| 8449 | 9 | 1.13 | 6.61 | 31.61 |



Black rubber jacketed eable which may be used for some ratary beams or other uses whero sturdy cable is required. Stranded bare copper con* ductors; cotion wrap with rubber insulotion. Cablod with fillers.
TYPE 8454. 4 conductors 18 gauge.
15 Ft. Coiled and Cartonod. Net................ $\$ 1.13$
50 F1. Coilod and Cartonod.
100 Ft. Spoal 3.33

500 Ft. Spoo 6.27
29.40

TYPE 8455. 5 conductors, 2 of 18 gauge, 3 of 22 gaugo.
15 Fi. Coiled and Cartonod. Nof............... $\$ 1.25$
 .6 .61
cathode-ray tube lead cable ㅂ․․ .
TYPE 88c8. Designed for high voltage leads to cathode ray tubes in TV receivers and oscilloscopes. $\% 20$. $7 \times 28$ stranded timed copper conductor. Polyethylene insulation. Forking voltage 20000. puncture voltase 54000 volts.
25 Fr . Coilod
100 Ft . Spool...
5.88

## BELDEN

phonograph pickup cable

## 8431

TYPE 8431. No. 24 single conductor cable os. pocially dosignod for use as phonogroph pickup arm cable. Extreme flexibility and limpness with small diamotor. Tinned eoppor $16 \times 36$ floxiblo stronding: Rubber insulation. Tinnod eopper broid shiold. Fine brown cotton braid.
10 Ft . Pockago. Net
15 Ft. Packago. 25 FF. Coilod
100 Fp . Spool.

## intercom cables



TIPE 8it3. Ideally suited for statiun-tnstation intercom and extension wiring (unshielded). 12-conductor $\$ 22$ cable. Tinned copper, solid stranding. Vinyl blastic insulated. Color coded. Oonductors cabled in pairs. overall broun cotton braid. Grey vinyl covering.
Por Foot. Nor.
100 Ff . Spool...
5.07

100 Fi . Spool.
30.13


8482
8483
dror use with inside intercoms, thernostats, ctc. Solid bare copper, vinyl plastlc insulation. Available in 2 conductors or 3 conductors, color coded.

|  |  | $\mathrm{Ne} \ddagger$ Per | Net Per | Net Per |
| :---: | :---: | :---: | :---: | :---: |
| Type | Cand. | Ft. | 100 Ft | 1000 Ff . |
| 8482 | 2 | \$.015 | \$ 1.35 | \$ 10.88 |
| 8483 | 3 | . 02 | 1.80 | 15.88 |



50 Ft. Roll, Not...................................... $\$ .49$ 75 Fi. Roll.... 1000 F Roll

## lead-in wire

## 8200

TYPE 8200 . Tinned copper, flexible stranding rubber insulation. Akg - 18. Stranding: 7x27. Insulation thickness: . 040 '.
Per Foor. Not.
100 Fr. Spool..
500 Ft . Spool.
1000 Ft . Spaol.

## shielded lead-in wire

## - $\quad=8206$

TYPE $8=06$. Timed copprr. flexible strandin : rubber insulation; tinned copper braid shield. AhG - 18 . Stranding: T,27. Insulation thichness: . 040': Nom. dra. 15 Fq . Coited ond Cortoned. Net. 50 Fq . Coilod and Cartoned.
100 Fi. Spool.

BUS BAR WIRE

Solid tinned tro ft. lengths.

| Nunber | Size | Net Each |
| :--- | :--- | ---: |
| 2010 | $\# 10$ | $\$ .08$ |
| $2 n 13$ | 812 | .06 |
| $2 n t 5$ | 114 | 05 |

## auto and aircraft

## Belden <br> 8667 <br> 

## hook-up and lead wires

 SRIR HOOK-UPThermoplastic Insulated JAN-C-76 $8529=8523=\square$

SRIR HOOKUP WIRES. JAN spees C.76. 1000 volts, . $018^{11}$ vinyl thermoplostic insulation. Colors: black, brown, red, orango, yollow, green, blue, violot, groy, whito
TYPE 8529. No. 20 solid. . $069^{\prime \prime}$ nom. diam. 26 25 Fp. Coilod ond Cartonod. Net..................\$. 26
 TYPE 8523. No. 20 strandod. $10 \times 30$ tinnod coppor conductors. . $075^{\text {n }}$ nom. diam.
25 Ft. Coilod and Cortonod. Nat................... $\$ .29$ 1000 Ft. Spool..

## cellulose braid lacquered

## 8945

TYPE 8945. in solid. Cellulose braid Jacquered hookup and lead wire. Used on RF circults where low loss properties are required. Furnished in bluck, blue, freen. red, yellow or white. Specify col or when ordering. 1000 VAC breakdonn vol tage.
25 Ft. Coiled and Carioned. Net.................5. 44



TYPE 8947. " 18 hookup wire. Furna shed if black, blue, green. red. yelion \& white. 15×30 stranding. 1000 ViC breakdown.
25 Ft. Coiled and Cartonod. Net.................. S. +46
1000 Ft. Spool..................................................... 13.23


## $86508651 \quad 8652$

TYPE 8650. AWG - 12. Nom. dia. . 200. Stranding: 19x25. Same as 8652 except red cotton braid with three white tracers.
Por Foor Net.
.15 .05
4.70
TYPE 8651. AKG - 14. Stranding: $19 \times 27$. Nom. dia. 170. Same as 8652 except green cotton braid with two will te tracers.
Pcr Foot Not..
..$\$ .04$
.3 .53

TYPE 8.52. AHG - 16. Tinned eupper. flexible stranding; cellophane brap: rubber insulation; black cotton braid with one white tracer; lacquer coating. Stranding: 19x29. Num. dia. . 140.
Por Foot Net.

## shielded hook-up wire

8885
TYPE 8985. \#20 single conductor wire for use in circuits where shielded grid return is required and to shicld a circuit conductor from stray fields. 4000 vol ts breakdom. Tinned copper $10 \times 30$ flexible stranding. Rubber insulation. Cellulose acctate yam braid. Fungus-resistant lac quer coating. Tinned copper braid shield.
15 Fi. Coilod and Cartoned. Not.
25 Fi. Coilod and Cartoned
100 Fr . Spool
5.47
.84
$500 \mathrm{Ft} . \mathrm{spool}^{2}$
2.58

## 

## Slieldad Mesws-Dury Honk E'p Wire

TYPE 8656. iff tinned copper. flexible stranding. $19 \times 29$. Cellophane wrap: rubber insulation; cotton braid; blue lacquer coating; tinned copper braid shield overall.
Por Foot Not.................................................... .05
100 Fq .

## Wir ANTENNA WIRE - EXTENSION CORDS

BIRNBACH
MAGNET WIRE
SPECIALSPOOLS

| $\mathrm{S}_{12} \mathrm{I}_{1}$ | Plam <br> Ehatiel | twirox. Duable Cutton | Length Wouble Silk | Net Per |
| :---: | :---: | :---: | :---: | :---: |
| 161 | 1112. |  |  | \$. 49 |
| 12 | 15 | 7 ft . |  | . 49 |
| 14 | 34. | 20 | 11 ft | . 49 |
| 16 | 34 | 34 | 19 | . 49 |
| 18 | 56 | 44 | 23 | . 49 |
| 20 | R | 56 | 29 | . 49 |
| 22 | 112 | 75 | 37 | . 49 |
| 24 | 184 | 97 | 56 | 49 |
| 27 | 244 | 116 | 71 | . 49 |
| 28 | 401 | 131 | 90 | . 49 |
| 30 | 525 | 158 | 112 | . 49 |
| 32 | 675 | 180 | 124 | . 49 |
| 34 | $\bigcirc{ }^{(1)}$ | 195 | 131 | . 49 |
| 36 | 1275 | 205 | 142 | . 49 |
| 38 | 1725 | 240 | 115 | . 49 |
| 4 C | 1950 | 285 | 125 | . 49 |

## BIRNBACH

SOLID TINNED WIRE

| Type | Gauge | Length | Ner |
| :--- | :--- | :--- | :--- |
| 1402 | 10 | $100 \%$ | $\$ 3.62$ |
| 1406 | 12 | 100 | 2.20 |
| 1410 | 14 | 100 | 1.47 |
| 1414 | 16 | 100 | 1.18 |

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5 Files (Hald 5 yrs. issues)
1.50

CQ
1 File (Holds 1 yrs, issues) $\quad \$ .40$
2 Files (Haid 2 yrs. is sues)
5 Files (Hold 5 yrs. is sues) $\quad 1.50$
SHIPPING WEIGHTS
1 file or 1 set of files, any iype
2 sets
5 sets
5 seis
10 sois

## JFD OPEN WIRE LINE



Get brighter, sharper pictures, only $1 / 6 \mathrm{th}$ the loss of standard 300 ohm lead. lias sturdy polystyrene insulators spaced $6^{\prime \prime}$ apart. Copper wire with steel core has 400 lb. breaking point tensile strength. 100 feet on roll. Shpg. ht. 3 lbs . Net $\$ 4.00$

## AC RIPFLEX CORD



Rubber covered Ripflex AC Line Cord Brown. POSJ type.

Per foot
Per 250 ft. roll
Net \$.03

## AC LINE CORD



Replace those old frayed and worn cards witl this new one. Ready to attach to appliance or radio set. Cord is 6 ft . lons with standard male plug on other enc.
Nio. 885
Net §. 38
TAPMASTER CORD SETS

"TAPMASTFR" extension cord sets consist of sprine action" plug. "Tapmaster" 3-way cube tap and U/L approved rubber line cord. Cube tap is unbreakable. made of live rubber and cannot be damaged by stepoing on 14 .
No. 810-6 6-fl. Cord Net \$.57
No. 810-9 $\quad 9-\mathrm{ft}$. Cord
No. 810-12 12-ft. Cord

## TV CORD

Replacement cord for RCA. Philco lialli crafters. Admiral and many others. Fits crafters. Admiral and many others. Fits into socket in rear of chassis. molded rubber plug on other cnu. No. 8200

Net Each \$ . 44

## radex slipback hookup wires



100 ft. spools. solid \& stranded. Push back high dielectric strength. Color; 81 ach. Red, Blue. Yellaw. Grfen \& white.
No. 382 19 Sa. Solid Net $\$ 2.06$ No. 38318 Ga. Siranded 2.20

## alliance 4 Conductor Cable

for TENNA-ROTOR

## For use kith antenna rotators suct as Alliance. etc.

Per foot

## RECEIVING TUBES

TUBES MAY BE ASSORTED FOR QUANTITYPRICES

| tube type | Net Ea. Net Ea. 1408428 fo 90 |  | TUBE TYPE 5U4GR | Net Es. Net Ea. <br>  |  | $\begin{array}{\|l} \hline \text { TUBE TTPE } \\ \hline 6 E 5 \end{array}$ | Net Ee. Net E. 1 te 2425 te 84 |  | TUBE TTPE <br> 788 | Nes E. Net Es. 1 te 2425 te 90 |  | $\begin{aligned} & \text { TUBE TYPE } \\ & \text { I SNZ } \end{aligned}$ | Net Es. Net Es. 1 to 24 25 to |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OR2 | 1.32 | 1.20 |  | 1.03 | . 93 |  | 1.26 | 1.14 |  | 1.32 | 1.20 |  | 1.56 | 1.40 |
| OR3/VR75 | 1.33 | 1.21 | 5 5 8 | 1.82 | 1.64 | 655 | 1.29 | 1.17 | $7 \mathrm{C5}$ | 1.26 | 1.14 | 1407 | 1.53 | 1.37 |
| OR4G | 1.47 | 1.32 | 5V4G | 1.50 | 1.35 | 6F5GT | 1.09 | . 98 | 7C6 | 1.09 | . 98 | 14R7 | 1.97 | 1.77 |
| 0 O 2 | 1.46 | 1.31 | 5V6GT | 1.18 | 1.06 | 656 | 1.44 | 1.29 | $7 \mathrm{C7}$ | 1.26 | 1.14 | 1457 | 1.91 | 1.72 |
| OB3/VR90 | 1.33 | 1.21 | 5W4GT | 1.03 | . 93 | 6F6G | 1.18 | 1.06 | 7E5/1201 | 1.65 | 1.48 | 14W7 | 1.97 | 1.77 |
| OC3/VR105 | 1.33 | 1.21 | 5×4G | 1.18 | 1.06 | 6F6GT | 1.18 | 1.06 | 7E6 | 1.71 | 1.54 | 14Y4 | 1.41 | 1.27 |
| OD3/VR150 | 1.33 | 1.21 | 5Y3G | . 79 | . 71 | 6 F 7 | 2.29 | 2.07 | 7E7 | 1.88 | 1.69 | 19 | 1.97 | 1.77 |
| OY4 | 2.82 | 2.54 | 5Y3GT | . 21 | . 64 | 6F8G | 2.29 | 2.07 | 7F7 | 1.4 | 1.29 | 19BG6G | 3.53 | 3.18 |
| 024 | . 97 | . 87 | 5Y4G | 1.00 | . 90 | 6G6G | 1.67 | 1.50 | $7{ }^{78}$ | 1.91 | 1.72 | 19.16 | 1.44 | 1.29 |
| 0246 | . 97 | . 87 | 523 | 1.18 | 1.06 | 6H6 | 1.06 | . 95 | 7G7/1232 | 1.76 | 1.59 | 1978 | 1.82 | 1.64 |
| 183 | 1.47 | 1.32 | SZ4 | 1.94 | 1.74 | 6H6GT | 1.23 | 1.11 | 7H7 | 1.29 | 1.17 | 1978 | 1.82 | 1.6 |
| 1R4P | 2.38 | 2.15 | 683 | 2.29 | 2.07 | 6 J 5 | . 88 | . 79 | $7 \mathrm{J7}$ | 2.06 | 1.85 | 24n | 1.59 | 1.43 |
| 1月5GT | 1.23 | 1.11 | 6 A6 | 1:62 | 1.46 | 6.55GT | 1.06 | . 95 | 7K7 | 1.85 | 1.67 | 2586 | 2.09 | 1.88 |
| 176 | 2.12 | 1.90 | 687 | 1.62 | 1.46 | 6 J 6 | 1.38 | 1.24 | 717 | 1.76 | 1.59 | 25RC5GT | 1.71 | 1.54 |
| 1R7GT | 1.44 | 1.29 | 6 A8 | 1.59 | 1.43 | 6 J 2 | 1.35 | 1.22 | 7N7 | 1.38 | 1.24 | 25AV5GT | 2.12 | 1.90 |
| 1 ACS | 1.76 | 1.59 | 6A8G | 1.62 | 1.46 | 6.J7G | 1.47 | 1.32 | 707 | 1.53 | 1.37 | 25AX4GT | 1.62 | 1.46 |
| 17ps | 1.76 | 1.59 | 6A8GT | 1.62 | 1.46 | ${ }^{6 J J J G T}$ | 1.50 | 1.35 | 7R2 | 1.97 | 1.77 | 258155 | 1.62 | 1.46 |
| $1 \mathrm{AX2}$ | 1.56 | 1.40 | 6AB4 | 1.06 | . 95 | 6J8G | 2.18 | 1.96 | 757 | 1.91 | 1.72 | 25B06GA | 2.29 | 2.07 |
| 183GT | 1.44 | 1.29 | 6AB5/6N5 | 1.67 | 1.50 | 6K5GT | 1.41 | 1.27 | 7V7 | 1.97 | 1.77 | 25806GT | 3.53 | 3.18 |
| 184P | 2.38 | 2.15 | 6 AB7 | 2.12 | 1.90 | 6K6GT | . 97 | . 87 | 7W7 | 1.97 | 1.77 | 25CD6G | 3.00 | 2.70 |
| 185/255 | 2.06 | 1.85 | 6ACSGT | 1.82 | 1.64 | 6K7 | 1.23 | 1.11 | 7X7/XXTM | 1.94 | 1.74 | 2516 | 2.29 | 2.07 |
| $1 \mathrm{C5GT}$ | 1.53 | 1.37 | 6 AC7 | 1.82 | 1.64 | 6K7G | 1.41 | 1.27 | 7Y4 | 1.06 | . 95 | 2516GT | 1.09 | 98 |
| $1 \mathrm{C6}$ | 1.97 | 1.77 | 6AD7G | 2.29 | 2.07 | 6K7GT | 1.38 | 1.24 | 724 | 1.06 | . 95 | 25w4GT | 1.21 | 1.09 |
| 1 CzG | 1.97 | 1.77 | 6AF4 | 2.03 | 1.83 | $6 K 88$ | 1.79 | 1.62 | 107 | 2.29 | 2.07 | 25W6GT | 1.50 | 1.35 |
| 1 DSGP | 2.38 | 2.15 | 6AF6G | 1.67 | 1.50 | 6K8GT | 1.62 | 1.46 | 12 A 6 | 1.76 | 1.59 | $25 \% 5$ | 1.76 | 1.59 |
| 1D7G | 2.12 | 1.90 | 6AG5 | 1.18 | 1.06 | 6L5G | 1.62 | 1.46 | $12 \mathrm{A7}$ | 2.29 | 2.07 | 2525 | 1.06 | . 95 |
| 1 D8GT | 2.47 | 2.22 | 6AG7 | 2.06 | 1.85 | $6 \mathrm{L6}$ | 2.56 | 2.30 | 12A8GT | 1.62 | 1.46 | 2526 | 1.53 | 1.37 |
| 1 ETGT | 2.38 | 2.15 | 6RH4GT | 1.53 | 1.37 | 6L6G | 1.82 | 1.64 | 12AH7GT | 1.79 | 1.62 | 2526GT | 1.06 | . 95 |
| 158 | 1.76 | 1.59 | 6AH6 | 2.29 | 2.07 | 6L6GA | 1.97 | 1.77 | 12 ALS | . 94 | . 84 | 26 | 1.32 | 1.20 |
| 154 | 1.62 | 1.46 | 6RJ4 | 2.82 | 2.54 | 6 L 7 | 1.71 | 1.54 | 12A05 | 1.09 | . 98 | 27 | 1.03 | . 93 |
| 175G | 1.62 | 1.46 | 6 AK5 | 2.47 | 2.22 | 6L7G | 1.94 | 1.74 | 12AS5 | 1.26 | 1.14 | 30 | 1.32 | 1.20 |
| 156 | 2.38 | 2.15 | 6 6R6 | 1.38 | 1.24 | 6N6G | 2.29 | 2.07 | 12AT6 | . 85 | . 77 | 31 | 1.62 | 1.46 |
| 1 176 | 2.38 | 2.15 | 6AL5 | . 88 | . 79 | 6N7 | 1.73 | 1.56 | 12AT7 | 1.53 | 1.37 | 32 | 2.18 | 1.96 |
| $1 \mathrm{C4GT}$ | 1.50 | 1.35 | 6AL7GT | 2.35 | 2.11 | 6N7GT | 1.67 | 1.50 | 12AU6 | . 97 | . 87 | 32L7GT | 1.88 | 1.69 |
| 1G5G | 1.85 | 1.67 | 6AM4 | 2.82 | 2.54 | 6P5GT | 1.41 | 1.27 | 12AU7 | 1.29 | 1.17 | 33 | 1.97 | 1.77 |
| 1 G6GT | 1.76 | 1.59 | 6AM8 | 1.71 | 1.54 | 607 | 1.41 | 1.22 | 12AV6 | . 85 | . 27 | 34 | 2.06 | 1.85 |
| 1 H 4. | 1.35 | 1.22 | 6AN8 | 1.67 | 1.50 | 607G | 1.23 | 1.11 | 12AV7 | 1.76 | 1.59 | 35/51 | 1.38 | 1.24 |
| 1H5GT | 1.15 | 1.03 | 6स05 | 1.06 | . 95 | 607 GT | 1.23 | 1.11 | 12AW6 | 1.41 | 1.27 | 35A5 | 1.29 | 1.17 |
| 1H6G | 1.97 | 1.77 | 6896 | . 97 | . 87 | 6R7 | 1.65 | 1.48 | 12AX4GT | 1.41 | 1.27 | 3585 | 1.23 | 1.11 |
| 186GT | 1.97 | 1.77 | 6Ra7GT | 1.85 | 1.67 | 6R7GT | 1.56 | 1.40 | 12AX7 | 1.35 | 1.22 | $35 C 5$ | 1.09 | . 98 |
| 116 GT | 1.97 | 1.77 | 6AR5 | 1.06 | . 95 | 6S4 | 1.03 | . 93 | 12AY7 | 2.47 | 2.22 | $35 L 6 \mathrm{GT}$ | 1.09 | . 98 |
| 114 | 1.23 | 1.11 | 6AR8 | 2.26 | 2.03 | 657 | 1.91 | 1.72 | 12AZZ | 1.47 | 1.32 | 3504 | . 71 | . 6 |
| 126 | 1.62 | 1.46 | 6AS5 | 1.15 | 1.03 | 657G | 1.97 | 1.27 | 1284 | 1.41 | 1.27 | 3574 | 1.96 | . 95 |
| 1LA4 | 1.65 | 1.48 | 6AS2G | 4.77 | 4.77 | 658GT | 1.56 | 1.40 | 128A6 | 1.06 | . 95 | 3573 | 1.06 | . 95 |
| 1LA6 | 1.56 | 1.40 | 6AS8 | 1.76 | 1.59 | 6587 | 1.23 | 1.11 | 12 Baz | 1.53 | 1.37 | 3524GT | . 88 | - 79 |
| 1184 | 1.65 | 1.48 | 6AT6 | . 85 | . 77 | 6SA7GT | 1.23 | 1.11 | 12ED6 | 1.18 | 1.06 | $3525 G T$ | . 73 | . 66 |
| $1 L C 5$ 1106 | 1.56 1.56 | 1.40 1.40 | $68 T 8$ $68 U 4 \mathrm{GT}$ | 1.59 1.59 | 1.43 1.43 | ${ }_{6 S 877}^{6587}$ | 1.71 | 1.54 | 12826 12856 | 1.09 | . 88 |  | 1.62 | 1.46 |
| 1LC6 1LD5 | 1.56 1.56 | 1.40 1.40 | 6AU4GT | 1.59 1.91 | 1.43 | 6SC7 6SD7GT | 1.26 1.97 | 1.14 1.77 | ${ }^{128 F 6}$ | .91 1.50 | .82 1.35 | 37 38 | 1.09 1.35 | 1.98 |
| 1LE3 | 1.56 | 1.40 | 6Av6 | . 97 | . 87 | $65 \times 5$ | 1.09 | . 98 | 12BK5 | 1.56 | 1.40 | 39/44 | 1.62 | 1.46 |
| 11.6 | 1.56 | 1.40 | 6avSGT | 1.88 | 1.69 | 6SF5GT | 1.15 | 1.03 | 12BG6GA | 2.23 | 2.01 | 41 | 1.15 | 1.03 |
| 1 LH 4 | 1.56 | 1.40 | 6AV6 | . 85 | . 77 | 6SF7 | 1.38 | 1.24 | 128Y7 | 1.56 | 1.40 | 42 | 1.15 | 1.03 |
| 1LN5 | 1.56 | 1.40 | 6AX4GT | 1.38 | 1.24 | 6SG7 | 1.35 | 1.22 | 12B27 | 1.62 | 1.46 | 43 | 1.21 | 1.09 |
| 1N5GT | 1.41 | 1.27 | 6AX5GT | 1.09 | . 98 | 6SH7 | 1.38 | 1.24 | $12 \mathrm{C8}$ | 2.12 | 1.90 | 45 | 1.23 | 1.11 |
| 1 PSGT | 1.62 | 1.46 | 6B4G | 1.88 | 1.69 | 6SJ7 | 1.06 | . 95 | 12 FSGT | 1.12 | 1.01 | 4523 | 1.06 | . 95 |
| 105GT | 1.79 | 1.62 | 685 | 1.97 | 1.77 | 6SJ7CT | . 97 | . 87 | $12 \mathrm{H6}$ | 1.18 | 1.06 | 4525GT | 1.06 | . 95 |
| 184 | 1.56 | 1.40 | 686G | 1.44 | 1.29 | 6SK7 | 1.06 | . 95 | $12 J 5$ | 1.03 | . 93 | 46 | 1.76 | 1.59 |
| 1RS | 1.32 | 1.20 | 687 | 1.97 | 1.77 | 6SE7GT | 1.18 | 1.06 | 12J5GT | 1.06 | . 95 | 47 | 1.76 | 1.59 |
| 154 | 1.47 | 1.32 | 688 | 2.06 | 1.85 | 6SL7GT | 1.41 | 1.27 | 12J7GT | 1.50 | 1.35 | 49 | 1.62 | 1.46 |
| 155 | 1.09 | . 98 | 6B8G | 2.12 | 1.90 | 6SN7GT | 1.26 | 1.14 | 1287GT | 1.38 | 1.24 | 50 | 3.03 | 2.72 |
| 174 | 1.23 | 1.11 | 68 A 6 | 1.06 | . 95 | 6SN7GTA | 1.38 | 1.24 | $12 \mathrm{k8}$ | 1.85 | 1.67 | 50A5 | 1.29 | 1.17 |
| 1 TSGT | 1.65 | 1.48 | 6BA7 | 1.53 | 1.37 | 6507 | . 91 | . 82 | 12K8GT | 1.65 | 1.48 | 5085 | 1.09 | . 98 |
| 1 16 | 1.76 | 1.59 | 68C4 | 2.44 | 2.20 | 6S07GT | 1.03 | . 93 | 12L6GT | 1.12 | 1.01 | 50c5 | 1.09 | 98 |
| 1 U | 1.21 | 1.09 | 6BC5 | 1.15 | 1.03 | 6SR7 | 1.09 | . 98 | 1207GT | 1.23 | 1.11 | 50C6G | 1.94 | 1.74 |
| 1U5 | 1.06 | . 95 | 68 Cz | 1.88 | 1.69 | 6SR7GT | 1.06 | . 95 | 12S8GT | 1.56 | 1.40 | 50L6GT | 1.09 | . 98 |
| 1 V | 1.50 | 1.35 | 68D4A | 9.75 | 9.75 | 6S57 | 1.41 | 1.27 | 12SA7 | 1.23 | 1.11 | $50 \times 6$ | 1.29 | 1.17 |
| $1 \mathrm{~V}_{2}$ | . 88 | . 79 | 6BD6 | 1.18 | 1.06 | 6ST7 | 1.65 | 1.48 | 12SA7CT | 1.23 | 1.11 | 50Y6G | 1.06 | . 95 |
| 182A | 1.56 | 1.40 | 6BE6 | 1.09 | . 98 | 6SV7 | 1.94 | 1.74 | 12SC7 | 1.47 | 1.32 | 50Y6GT | 1.26 | 1.14 |
| $1 \times 28$ | 1.56 | 1.40 | 6BF5 | 1.29 | 1.17 | 6527 | 1.44 | 1.29 | 12585 | 1.15 | 1.03 | S0Y7GT | 1.23 | 1.11 |
| 2 23 | 2.47 | 2.22 | 6BF6 | . 91 | . 82 | 6 T 4 | 2.18 | 1.96 | 12SP5GT | 1.23 | 1.11 | 53 | 1.56 | 1.40 |
| $2 \mathrm{A5}$ | 1.35 | 1.22 | 6BG6G | 3.06 | 2.75 | 6T7G | 1.97 | 1.77 | 12587 | 1.41 | 1.27 | 55 | 1.35 | 1.22 |
| 276 | 1.65 | 1.48 | 6BH6 | 1.35 | 1.22 | 6TB | 1.79 | 1.62 | $125 \mathrm{G7}$ | 1.38 | 1.24 | 56 | 1.12 | 1.01 |
| 287 | 1.62 | 1.46 | 68J6 | 1.15 | 1.03 | 6U4GT Use | 6Rx4G | T | 125177 | 1.50 | 1.35 | 57 | 1.23 | 1.11 |
| 287 | 2.00 | 1.80 | ${ }_{68175}$ | 1.44 | 1.29 | 6U5/6G5 | 1.21 | 1.09 | 125.37 | 1.18 | 1.06 | 58 58 | 1.23 | 1.11 |
| 2E5 | 1.62 | 1.46 | 6BK5 | 1.56 | 1.40 | 6U7G | 1.41 | 1.27 | 12SJ7GT | . 97 | . 87 | 59 | 2.18 | 1.96 |
| 2v2 | 2.94 | 2.64 | 6BK7A | 1.97 | 1.77 | 6U8 | 1.67 | 1.50 | 12SK7 | 1.18 | 1.06 | KT66 | 3.50 | 3.50 |
| 3 A 2 | 1.71 | 1.54 | 6BL7GT | 2.00 | 1.80 | 6V3 | 2.29 | 2.07 | 12SK7GT | 1.18 | 1.06 | 70L7 6 T | 3.88 | 3.49 |
| 3 A 3 | 1.71 | 1.54 | 68N6 | 1.71 | 1.54 | 6V6 | 1.94 | 1.74 | 12S17GT | 1.56 | 1.40 | 71A | 1.41 | 1.27 |
| 3ARGT | 2.82 | 2.54 | 6806GA | 2.23 | 2.01 | 6V6GT | 1.06 | . 95 | 12SN7GT | 1.26 | 1.14 | 75 | 1.18 | 1.06 |
| 3als | 1.03 | . 93 | 6B06GT | 2.09 | 1.88 | 6W4GT | 1.00 | . 90 | 12Sa7 | 1.03 | . 93 | 76 | 1.00 | . 90 |
| 3AU6 | 1.09 | . 98 | 6807A | 1.91 | 1.72 | 6W6GT | 1.32 | 1.20 | 12S07GT | 1.03 | . 93 | 77 | 1.26 | 1.14 |
| 38C5 | 1.18 | 1.06 | 6BX7GT | 2.00 | 1.80 | 6x4 | . 79 | . 71 | 12SR7 | 1.18 | 1.06 | 78 | 1.26 | 1.14 |
| $3 \mathrm{BE6}$ | 1.21 | 1.09 | 68Y5G | 1.91 | 1.72 | $6 \times 5$ | 1.82 | 1.64 | 12V6GT | 1.06 | . 95 | 79 | 1.62 | 1.46 |
| 38N6 | 1.71 | 1.54 | 68Y6 | 1.09 | . 98 | ${ }_{6 \times 8} \mathbf{8 1 5}$ | . 82 | . 74 | 12W6GT | 1.50 | 1.35 | 80 | . 91 | . 82 |
| 3876 | 1.18 | 1.06 | ${ }_{6}^{6827}$ | 2.03 | 1.83 | $6 \times 8$ | 1.59 | 1.43 | $12 \times 4$ | . 79 | . 71 | 81 | 2.82 | 2.54 |
| $3 \mathrm{CB6}$ | 1.26 | 1.14 | $6 \mathrm{C4}$ | . 85 | . 77 | ${ }^{6 Y 6 G}$ | 1.38 | 1.24 | 1223 | 1.53 | 1.37 | 82 | 1.62 | 1.46 |
| 31.4 | 1.76 126 | 1.59 | ${ }_{6}^{6 C 5}$ | 1.15 | 1.03 | 6275G | 1.50 | 1.35 | 1484 | 1.56 | 1.40 | 83 | 1.56 | 1.40 |
| 304 $3056 T$ | 1.26 | 1.14 | ${ }_{6}^{6 C 5 G T}$ | 1.23 | 1.11 | 7A4/RX2. | 1.18 | 1.06 | 14AS | 2.29 | 2.07 | 83 V | 2.00 | 1.80 |
| 3 3054 - | 1.65 | 1.48 | ${ }_{6}^{6 C 6}$ | 1.47 | 1.32 | $7 \mathrm{7a5}$ | 1.47 | 1.32 | 14R7/1287 | 1.29 | 1.17 | $84 / 624$ | 1.06 | . 95 |
| 354 | 1.23 | 1.11 | 6C8G | 2.29 | 2.07 | 7A6 | 1.23 | 1.11 | 14RF7/XXD | 1.41 | 1.27 | 85 | 1.35 | 1.22 |
| 3V4 | 1.23 | 1.11 | $6 \mathrm{CB6}$ | 1.15 | 1.03 | 7A7 | 1.29 | 1.17 | 1486 | 1.29 | 1.17 | 89 | 1.35 | 1.22 |
| SA05 | 1.21 | 1.09 | 6CD6G | 2.76 | 2.49 | 7A8 | 1.23 | 1.11 | 1488 | 1.29 | 1.17 | 117L7/M7GT | 3.88 | 3.49 |
| 58 Na | 1.85 | 1.67 | 6CF6 | 1.26 | 1.14 | 7an7 | 2.70 | 2.43 | $14 \mathrm{C5}$ | 1.76 | 1.59 | 117N7GT | 2.82 | 2.54 |
| ${ }_{5 A W 4}$ | 1.59 | 1.43 | 6CL6 | 1.82 | 1.64 | 7AF7 | 1.41 | 1.27 | $14 \mathrm{C7}$ | 1.41 | 1.27 | 117P7GT | 2.82 | 2.54 |
| 5R24 | . 1.91 | .82 1.69 | 6CR6 | 1.21 | 1.09 | 7AG7 | 1.44 | 1.29 | 1486 | 1.71 | 1.54 | 11723 | . 97 | . 87 |
| 5BK7A 516 | 1.88 | 1.69 | 6CS5 | 1.21 | 1.09 1.88 | ${ }^{784}{ }^{\text {7 }}$ | 1.44 | 1.29 | $14 E 7$ | 1.88 | 1.69 | 11724GT | 1.71 | 1.54 |
| 5T4 | 2.94 | 2.64 | 6D6 | 1.47 | 1.38 | ${ }_{785}$ | 1.18 | 1.06 .98 | 1477 | 1.44 | 1.79 | ${ }^{117736 G T}$ | 1.73 | 1.56 |
| 578 | 1.79 | 1.62 | 6D8G | 1.97 | 1.77 | 786 | 1.18 | 1.98 | 14 Fr | 1.91 | 1.72 | 1273 1280 | 1.59 | 1.43 |
| 5 SG | . 91 | . 82 | 6DC6 | 1.38 | 1.24 | 787 | 1.18 | 1.06 | 14 Jz | 2.06 | 1.85 |  | 1.59 | 1.43 |

## SPECIAL PURPOSE TUBES



MANUFACTURERS

$\begin{array}{ll}\text { RAY } & \text { Ravihcon } \\ \text { SYL } & \text { Sylvania } \\ \text { TAY } & \text { Taylor } \\ \text { TUN } & \text { Tung-Sol } \\ \text { UE } & \text { United Electronics } \\ \text { VIC } & \text { Victoreen }\end{array}$

| TUBE TYPE | MFR. | NET EACH | TUBE TYPE | MFR. | NET EACH | TUEE TYPE | MFR. | NET EACH | TUBE Type | MFR. | NET EACH |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C1. | GE | 8.69 | 4-250A/5D22 | RCA | 41.25 | 10SP4 | RCA | 64.50 | 304TL | EIM | 60.50 |
| 085 | SYL | 5.05 | 4-400A | EIM | 60.50 | 10Y | RCA | 3.90 | SA309 | SYI | 6.10 |
| 024 | RAY | 1.00 | 4-1000R | EIM | 132.00 | 1276 | RCA | 1.63 | 315AW | AMP | 38.60 |
| 1 AD4 | RAY | 2.05 | 4832 | AMP | 12.00 | 12AY7 | RCA | 3.00 | 343A | AMP | 350.00 |
| $18 \mathrm{C4}$ | RAY | 1.65 | 4 C 33 | RCA | 182.75 | 12DP7A | RCA | 72.50 | IP400 | GE | 41.20 |
| 1824R | SYL | 28.75 | 4C35 | SYL | 28.75 | $12 \mathrm{~K} \mathrm{~S}^{\text {I }}$ | RCA | 1.75 | 414 | GE | 120.00 |
| 1835A | SYL | 6.90 | 4132 | RAY | 27.50 | $12 L 8 G T$ | RCA | 2.35 | GL415 S | Same as | 5550 |
| 1885 | VIC | 2.50 | 4E22/8001 | RCA | 24.50 | 12SA2Y | RCA | 1.30 | 441 | GE | 4.50 |
| $1 \mathrm{C21}$ | RCA | 3.85 | 4E27A/5-125 |  |  | 12SG7Y | RCA | 1.40 | 450TY | EIM | 77.00 |
| 1021 | SYL | 5.65 |  | EIM | 35.75 | $12 S P 7$ | RCA | 47.40 | 450TL | EIM | 77.00 |
| $1 P 21$ | RCA | 50.00 | 4X150A | EIM | 48.00 | 12SW7 | RCA | 1.40 | 498 | AMP | 500.00 |
| $1 P 22$ | RCA | 14.75 | 4×500月 | EIM | 121.00 | 12SX7GT | - RCA | 1.75 | SS501 | SYL | 14.40 |
| $1 P 28$ | RCA | 22.00 | 4×500F | EIM | 93.50 | $12 S Y 7$ | RCA | 1.60 | 502A | RCA | 1.85 |
| $1 P 29$ | RCA | 2.95 | 5BP1A | RCR | 23.80 | 168DP2 | RCA | 55.00 | 502RX | RAY | 2.10 |
| $1 P 37$ | RCA | 2.85 | 5C22 | SYL | 43.75 | FG17 | Same as | 5557 | 503AX | RAY | 2.05 |
| $1 P 39$ | RCA | 1.75 | 5CP1A | RCA | 27.00 | KY-21A | EIM | 13.25 | 504R | AMP | 175.00 |
| 1840 | RCR | 2.60 | 5CP2A | RCR | 31.40 | RX-21A | EIM | 9.00 | 506RX | RAY | 1.50 |
| 1 P 41 | RCA | 2.80 | 5CP11A | RCA | 31.40 | PJ22 | GE | 2.50 | 510AX | RAY | 2.25 |
| $1 P 42$ | RCA | 11.00 | 5CP12 | RCA | 31.40 | $25 T$ | EIM | 9.00 | CK512AX | RAY | 2.15 |
| 2A4G | RCA | 2.40 | 5FP4A | RCR | 41.75 | 2686 | RCR | 3.10 | CT522AX | Use CX | 6088 |
| 2AP1A | RCR | 10.85 | 5FP7A | RCA | 27.50 | 26A7GT | RCA | 6.55 | 525AX | RAY | 3.60 |
| 28P1 | RCA | 11.00 | 5FP14 | RCA | 29.50 | $26 \mathrm{C6}$ | RCA | 2.10 | 526AX | RAX | 1.90 |
| 2BP11 | RCA | 12.50 | 5R4GY | RCR | 1.89 | $26 \pm 6$ | RCR | 2.85 | 528AX | RRY | 1.58 |
| 2C21/1642 | RCR | 1.90 | 5UP1 | RCA | 19.65 | FG278 | GE | 26.00 | CK539DK | REY | 2.55 |
| 2C39A | EIM | 25.00 | 5UP7 | RCA | 25.40 | HY312 | HYT | 5.50 | 571AX | se 5886 |  |
| $2 \mathrm{C40}$ | RCA | 24.00 | 5 SP11 | RCR | 25.40 | FG33 | Same as | 5720 | 573AX U | Use 6029 |  |
| $2 \mathrm{C43}$ | RCA | 21.50 | 5 WP11 | RCA | 87.00 | 35T | EIM | 10.50 | CK574AX | RAY | 2.25 |
| $2 \mathrm{C52}$ | RAI | 11.30 | 5WP15 | RCA | 102.00 | 35TG | EIM | 16.00 | 575A | RCA | 21.00 |
| $2 \mathrm{C53}$ | NU | 15.00 | 5ZP16 | RCA | 100.00 | TZ40 | TAY | 4.50 | 5798 | RCA | 15.00 |
| 2 D 21 | RCA | 2.00 | 6RB7Y | RCA | 1.95 | T55 | TAY | 9.50 | 615 | HYT | 2.25 |
| 2D21W | RCA | 3.15 | 6ACTW | RCA | 3.75 | FG57 | Same as | 5559 | 627 | RCA | 22.00 |
| 2E24 | RCA | 4.65 | 6AC7Y | RCA | 1.85 | 61 | RAY | 3.30 | 629 | RCA | 13.00 |
| 2E25A | MYT | 5.85 | 6AG7Y | RCA | 2.00 | RT-66 |  | 3.50 | 672A | ROA | 35.00 |
| 2 2 26 | RCR | 3.85 | 6A.J5 | GE | 3.50 | FG67 | Same as | 5728 | 673 | RCA | 21.00 |
| 2E30 | HYT | 2.60 | 6AK5W | RCA | 3.38 | IY69 | HYT | 5.50 | 676 | RCA | 55.00 |
| 2 E 31 | RAY | 2.12 | 6AK5W | RAY | 3.05 | V70D | UE | 9.50 | 677 | RCA | 55.00 |
| $2 \mathrm{C32}$ | RAY | 2.12 | 6AL5W | RCA | 2.80 | 75TH | EIM | 13.25 | 703 Use | e 716 |  |
| 2535 | RAY | 2.17 | 6AN5 | RAY | 3.65 | 75TL | EIM | 13.25 | 216 | R8Y | 18.00 |
| $2 E 36$ | RRY | 2.17 | 6AR6 | RAY | 5.75 | FG81A | GL | 18.00 | 2729 |  | 2.99 |
| $2 \times 21$ | RCA | 144.00 | 6AS6 | RCA | 3.43 | 89Y | RAY | 1.35 | 250TI | EIM | 137.50 |
| $2 \mathrm{G21}$ | RAY | 2.20 | 6RS6W | RAX | 4.75 | FG95 | Same as | 5560 | 800 | RCR | 11.50 |
| $2 G 22$ | RAY | 2.20 | $6 D 4$ | SYL | 2.85 | FG97 | GE | 25.00 | 8018 | RCA | 5.60 |
| $2 H 21$ | GE | 100.00 | 684 | RCA | 6.40 | 100TH | EIM | 18.25 | 802 | RCA | 5.15 |
| 2.350 | RCA | 192.00 | 6.34 | RCA | 8.05 | 1007L | EIM | 18.25 | 803 | RCA | 24.30 |
| 21026 | RCA | 78.50 | 6 L 4 | RCR | 6.60 | EF100 | AMP | 17.50 | 804 | RCR | 17.50 |
| 2V3G | RCA | 5.25 | 6L6Y | RCA | 2.40 | 105 | RCA | 48.00 | 805 | RCA | 13.50 |
| 2x2A | RCA | 4.35 | 6SA7Y | RCA | 1.30 | FG105 | GE | 49.50 | 806 | RCA | 34.25 |
| 3 34 | RCA | 1.20 | 6SJTY | RCA | 1.25 | 1148 | HYT | 2.25 | 807 | RCR | 2.50 |
| 3 A5 | RCR | 1.30 | 6SETW | RCA | 3.44 | RX120 | RAY | 29.00 | 807W | SYL | 12.85 |
| 3AP1A | RCA | 19.50 | 6SETY | RCA | 1.25 | 152TH | EIM | 28.75 | 808 | RCR | 12.85 |
| RE3-824W | RAY | 11.25 | 6SNZGTY | RCR | 1.40 | 152TL | EIM | 28.75 | 809 | RCR | 4.20 |
| 3825 | RCR | 5.90 | 6SNTWGT | RAY | 2.45 | 172 | RCA | 65.00 | 810 | RCA | 16.25 |
| 3828 | RCA | 9.45 | 6V6GTY | RCA | 1.25 | FG172 | GE | 74.00 | 8117 | RCA | 5.00 |
| 3BP1A | RCA | 16.50 | 6V6Y | RCR | 1.90 | 203A | HCA | 13.75 | 812A | RCA | 5.00 |
| 3 C 23 | RCA | 12.50 | 7BP7A | RCR | 40.00 | 207 | RCA | 240.00 | 813 | RCR | 18.00 |
| $3 \mathrm{C33}$ | RCA | 21.25 | 7C29 | GE | 130.00 | 211 | RCA | 13.75 | 814 | RCA | 14.25 |
| 3 D 22 | RCA | 16.40 | 7CP1 | RCR | 30.75 | 212 | RAY | 35.75 | 815 | RCR | 8.65 |
| 3 E22 | RCR | 8.30 | 7CP4 | RCA | 33.00 | 212E | AMP | 104.00 | 816 | RCR | 1.65 |
| 3E29 | RCA | 20.25 | 7D21 | GE | 320.00 | 217C | RCA | 21.17 | 826 | RCA | 12.50 |
| 3FP7A | RCA | 23.00 | 7.JP1 | RCA | 23.50 | 220c | AMP | 365.00 | 8278 | RCA | 195.00 |
| 3JP1 | RCR | 20.50 | 7MP? | RCA | 38.00 | 222A | AMP | 300.00 | 828 | RCA | 15.00 |
| 3.JP7 | RCA | 23.50 | 7MP 14 | RCA | 40.00 | 228A | AMP | 325.00 | 8298 | RCA | 16.25 |
| 3KP1 | RCA | 16.70 | 7NP4 | RCA | 600.00 | FG235A | Same as | 55552 | 8308 | RCR | 11.50 |
| 3KP11 | RCA | 18.60 | 70P4 | RCA | 39.50 | 242C | GE | 15.50 | 8328 | RCA | 12.90 |
| 3MP1 | RCR | 22.50 | 7TP4 | RCA | 54.00 | 250THI | EIM | 33.00 | 833A | RCA | 49.50 |
| 3RP1 | RCA | 16.45 | 7WP4 | RCA | 630.00 | 250TL | EIM | 33.00 | 834 | RCR | 14.50 |
| 3x250083 | EIM | 198.00 | 81821 | RCA | 1300.00 | 2518 | RMP | 300.00 | 836 | RCR | 9.00 |
| 4-65A | RCR | 20.00 | 9C21 | RCA | 922.00 | 255B | AMP | 145.00 | 837 | RCA | 5.80 |
| 4-65A | CIM | 20.00 | $9 \mathrm{C22}$ | RCA | 1300.00 | FG258A | Same as | 55553 | 838 | RCA | 13.75 |
| 4-125月 | EIM | 30.25 | 9 C 24 | GE | 570.00 | 2668 | AMP | 210.00 | 841 | RCA | 4.35 |
| 4-125A/4D21 | RCA | 30.25 | 9C25 | HCA | 1080.00 | FG271 | Same as | 5551 | 842 | RCA | 4.05 |
| 4-250A | EIM | 41.25 | 10 KP 7 | RCA | 55.00 | 304TH | EIM | 60.50 | 843 | RCR | 2.60 |

## SPECIAL PURPOSE TUBES

ABBREVIATIONS<br>Manufacturers

$\begin{array}{ll}\text { RAY } & \text { Rovtheon } \\ \text { SYL } & \text { Svlvania } \\ \text { TAY } & \text { Tavlor } \\ \text { TUN } & \text { Tung.Sol } \\ \text { UE } & \text { United Electronics } \\ \text { VIC } & \text { Vieloreen }\end{array}$

| tube type | mer | net each | tube type | mer. | net each | ture type | mpr. | net each | tube type | mfr. | net each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 845 | RCA | 13.75 | R1111 | SYL | 6.30 | 5638 | SYL | 12.85 | 6073 | RCA | 3.40 |
| 846 | RCA | 250.00 | R1111M | SYL | 15.15 | 5641 | SYL | 8.35 | 6074 | RCA | 3.85 |
| 849 | RCA | 138.00 | R11308 | SYL | 16.55 | 5644 | SYL | 12.00 | 6080 | RCA | 6.00 |
| 849 A | AMP | 135.00 | R1131C | SYL | 16.55 | 5651 | HCA | 2.24 | 6082 | RCA | 5.30 |
| 851 | RCA | 340.00 | 1229 | SYL | 6.40 | 5652 | HCA | 6.55 | CK6088 | RAY | 2.60 |
| 8578 | RCA | 218.50 | 12312 | HYT | 5.50 | CK5654 | RAY | 3.15 | X6090 | SYL | 2.30 |
| 860 | RCA | 34.50 | 1247 | SYL | 6.00 | 5662 | GE | 3.20 | 6110 | SYL | 12.85 |
| 861 | RCA | 178.25 | 1269 | HYT | 5.50 | 5663 | GE | 1.90 | CK6111 | RAY | 9.00 |
| 862A | RCA | 1322.00 | 1608 | RCA | 7.90 | 5671 | RCA | 1250.00 | CK6112 | RAY | 9.40 |
| 864 | RCA | 5.00 | 1609 | RCA | 14.50 | 5672 | RAY | 1.60 | 6146 | RCA | 4.90 |
| 865 | RCA | 11.50 | 1610 | RCA | 2.50 | 5674 | GE | 100.00 | CK6151 | Ray | 8.75 |
| 866A | RCA | 2.45 | 1612 | RCA | 3.00 | 5675 | RCA | 13.55 | 6159 | RCA | 4.90 |
| 866A | TAY | 1.95 | 1613 | RCA | 2.45 | 5676 | RAY | 1.90 | 6161 | RCA | 115.00 |
| 866.JR | TAY | 1.65 | 1614 | RCA | 2.55 | 5677 | RAY | 3.70 | 6166 | RCA | 905.00 |
| 868 | RCA | 2.85 | 1616 | RCA | 8.65 | 5678 | Ray | 1.60 | 6173 | RCA | 12.10 |
| 869B | RCA | 138.00 | 1619 | RCA | 2.50 | 5679 | SYL | 1.35 | 6174 | RAY | 3.40 |
| 872A | RCA | 8.20 | 1620 | RCA | 6.25 | 5690 | RCA | 9.35 | 6181 | RCA | 835.00 |
| 874 | RCA | 3.10 | 1621 | RCA | 1.95 | 5691 | RCA | 8.45 | 6197 | RCA | 2.55 |
| 878 | RCA | 12.75 | 1622 | RCA | 2.50 | 5692 | RCA | 8.15 | 6198 | RCA | 345.00 |
| 880 | RCA | 510.00 | 1623 | RCA | 4.05 | 5693 | RCA | 6.40 | 6199 | RCA | 55.00 |
| 884 | RCA | 1.85 | 1624 | RCA | 4.00 | 5694 | RAY | 3.75 | 6211 | RCA | 2.55 |
| 885 | RCA | 2.00 | 1625 | RCA | 2.65 | 5696 | RCA | 1.90 | 6217 | RCA | 70.00 |
| 889A | RCA | 210.00 | 1626 | RCA | 1.85 | 5702 | RAY | 5.85 | 6417 | RCA | 1.93 |
| 889RA | RCA | 295.00 | 1629 | RCA | 1.40 | CK5702WA | RAY | 9.30 | 8000 | RCA | r4.50 |
| 891 | RCA | 237.00 | 1631 | RCA | 3.10 | 5703 | RAY | 2.20 | 8002 | GE | 160.00 |
| 8918 | RCA | 385.00 | 1632 | RCA | 3.25 | 5704 | RAY | 2.85 | 8003 | RCA | 14.00 |
| 892 | RCA | 237.00 | 1633 | RCA | 1.95 | 5713 | RCA | 176.00 | 8005 | RCA | 8.55 |
| 892 R | RCA | 385.00 | 1634 | RCA | 1.40 | 5718 | RCA | 5.95 | 8008 | RCA | 8.20 |
| 893A | RCA | 664.00 | 1635 | RCA | 2.00 | 5719 | RCA | 5.85 | 8008 | GE | 8.20 |
| 893AR | RCA | 1212.00 | 1644 | RCA | 3.10 | 5720/FG33 | GE | 23.00 | 8012A | RCA | 15.50 |
| 895R | GE | 1300.00 | 1654 | RCA | 5.95 | 5722 | SYL | 6.40 | 8013A | RCA | 10.30 |
| 8988 | HCA | 1322.00 | 1816P4 | RCA | 47.00 | 5728/[G67 | ECA | 23.00 | 8020 | RCA | 24.00 |
| 902A | RCA | 12.50 | 1850A | RCA | 565.00 | 5734 | RCA | 18.00 | 8025A | RCA | 12.35 |
| 905A | RCA | 65.25 | 1904 Same | as 5728 | 8/7G67 | 5742/P.J7 | GE | 14.50 | 9001 | RCA | 3.95 |
| 908A | RCA | 24.40 | 1945 | RCA | 135.00 | 5744 | RAY | 2.50 | 9002 | RCA | 2.80 |
| 912 | RCA | 155.00 | 1946 | RCA | 10.90 | CK5744WA | RAY | 8.75 | 9003 | RCA | 3.75 |
| 913 | RCA | 15.50 | 1947 | RCA | 13.15 | 5762/7C24 | RCA | 195.00 | 9004 | RCA | 2.80 |
| 914A | RCA | 145.00 | 1949 | RCA | 11.30 | 5763 | RCA | 1.93 | 9005 | RCA | 4.05 |
| 917 | RCA | 4.65 | 1950 | RCA | 7.80 | 5770 | RCA | 995.00 | 9006 | RCA | 1.90 |
| 918 | RCA | 3.10 | 2000T | EIM | 275.00 | 5771 | RCA | 543.00 |  |  |  |
| 919 | RCA | 4.65 | 2050 | RCA | 1.85 | 5783 | RAY | 5.60 | SHIPPING OF |  |  |
| 920 | RCA | 4.15 | 2051 | RAY | 1.90 | CK5783WA | RAY | 7.90 |  | ING O |  |
| 921 | RCA | 2.95 | R4330 | SYL | 14.40 | 5784 | RAY | 7.50 | SPECIAL PURPOSE TUBES |  |  |
| 922 | RCA | 2.60 | 5513 | GE | 275.00 | CK5784WA | RAY | 11.85 |  |  |  |
| 923 | RCA | 2.35 | 5514 | HYT | 4.95 | 5786 | RCA | 87.50 | Transmitting and special purpose tubes will be shipped by |  |  |
| 924 | RCA | 3.30 | 5516 | HYT | 7.95 | 5787 | RAY | 7.50 |  |  |  |
| 925 | RCA | 2.85 | 5517 | RAY | 3.40 | 5794 | RCA | 10.95 |  |  |  |
| 926 | RCA | 2.95 | 5518 | GE | 525.00 | 5819 | RCA | 55.00 | pareel post only when express service is not available. |  |  |
| 927 | RCA | 3.00 | 5527 | RCA | 150.00 | 5820 | RCA | 1200.00 |  |  |  |
| 928 | RCA | 3.35 | 5550 | RCA | 45.00 | 5822 | RCA | 130.00 |  |  |  |
| 929 | RCA | 1.50 | 5551 | RCA | 72.00 | 5823 | RCA | 1.32 |  |  |  |
| 930 | RCA | 2.45 | 5552 | RCA | 110.00 | 5824 | GE | 3.35 |  |  |  |
| 931 A | RCA | 8.60 | 5553 | RCA | 239.00 | 5825 | RCA | 13.00 | GST ON THE AIR |  |  |
| 934 935 | RCA | 3.40 | 5554 | RCA | 171.50 | 5826 | RCA | 1300.00 |  |  |  |
| 935 954 | RCA | 7.80 | 5555 | RCA | 333.50 | CK5829 | RAY | 4.80 |  |  |  |
| 954 | RCA | 6.95 | 5556 | RCA | 13.50 | 5840 | RCA | 8.85 | FOR OMLY |  |  |
| 955 | RCA | 3.95 | 5557 | RCA | 8.80 | 5876 | RCA | 13.55 | 94145 |  |  |
| 956 | RCA | 7.00 | 5558 | RCA | 14.00 | 5879 | RCA | 1.75 |  |  |  |
| 957 | RCA | 4.90 | 5559 | RCA | 19.50 | 5881 | TUN | 3.50 |  |  |  |
| 958A | RCA | 7.50 | 5560 | RCA | 28.00 | 5886 | RAY | 4.50 |  |  |  |
| 959 | RCA | 8.00 | 5561 | RCA | 37.90 | 5889 | RAY | 11.30 |  |  |  |
| 991 | RCA | . 87 | 5563 | RCA | 47.00 | 5890 | RCA | 44.00 |  |  |  |
| 10007 | EIM | 137.50 | 5581 | RCA | 2.25 | 5893 | RCA | 19.40 |  |  |  |
| 1005 | RAY | 1.00 | 5582 | RCA | 4.30 | 5915 | RCA | 1.20 | With The Amazing New |  |  |
| 1006 | RAY | 5.85 | 5583 | RCA | 3.70 | 5946 | RCA | 115.00 | WALTER ASHE |  |  |
| 1007 | RAY | 1.10 | 5584 | RCA | 4.15 | 5963 | RCA | 11.40 |  |  |  |
| 1012 | RAY | 3.10 | 5588 | RCA | 120.00 | 5964 | RCA | 1.50 | NOVICE STATION KITS |  |  |
| 1013 | Same as | 5517 | 5592 | RCA | 1229.00 | 5965 | RCA | 2.55 |  |  |  |
| 1017 | RAY | 11.30 | 5593 | GE | 87.50 | 6012. | RCA | 5.55 | SEF H MSIDF TRONT COVER |  |  |
| 1024 | RAY | 3.60 | 5610 | GE | 2.25 | CK602.1 | RAY | 9.10 |  |  |  |
| 1027 | Use 6174 |  | 5618 | RCA | 4.12 | 6026 | RCA | 2.95 |  |  |  |
| 1089 | RAY | 5.30 | 5634 | SYL | 12.85 | 6029 | RAY | 4.50 |  |  |  |

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## TELEVISION <br> PICTURE TUBES

| Type | Net | Type | Nel | Type | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $3 \mathrm{KP4}$ | \$ 18.00 | 1 6WP4A (Sylvania) | \$ 25.50 | $21 A P 4$ | \$ 45.50 |
| 5TP4 | 55.00 | 16ZP4 | 25.50 | $21 E P 4$ (RCA) | 32.30 |
| 7DP4 | 28.00 | 17AVP4 | 22.50 | 21EPA (Sylvania) | 36.00 |
| $7 \mathrm{JP4}$ | 19.50 | 17BP4A (RCA) | 21.50 | $21 E P 4 A$ (RCA) | 32.30 |
| 8AP4A (GE) | 18.15 | 178P4A (Sylvania) | 23.75 | 21EPAA (Sylvania) | 36.00 |
| 10BP4A | 14.50 | 178P48 | 27.75 | $21 E P 48$ | 40.25 |
| 10FP4A | 26.00 | 17CP4 | 31.00 | $21 F P 4$ | 37.50 |
| 10 HP 4 | 22.75 | 17GP4 | 38.00 | $21 F P 4 A$ (RCA) | 33.70 |
| $10 \mathrm{MP4A}$ | 14.50 | 17HP4 (RCA) | 22.50 | 21FP4A (Sylvania) | 37.50 |
| $12 \mathrm{KP4A}$ (RCA) | 29.50 | 17HP4/17RP4 (Syl) | 25.00 | $21 F P 4 C$ | 41.50 |
| 12KP4A (Sylvania) | 22.25 | 17HP4B | 29.25 | $21 \mathrm{MP4}$ | 48.00 |
| 12LP4A | 18.25 | 17JP4 (RCA) | 22.50 | 21 WP4 | 50 |
| 12UP4A | 30.25 | 17JP4 (Sylvania) | 23.75 | $21 W P 4 A$ | 35.75 |
| 12UP4B | 30.25 | 17LP4 (RCA) | 22.50 | $21 \times P 4$ | 33.00 |
| $12 \mathrm{VP4A}$ | 18.25 | 17LP4 17 VP 4 (Syl) | 25.00 | $21 \times P 4 A$ | 37.25 |
| $14 \mathrm{BP4}$ | 20.00 | 17LP4A | 29.25 | $21 \mathrm{YP4}$ (RCA) | 33.00 |
| 14CP4 | 20.00 | 170P4 (RCA) | 21.50 | $21 \mathrm{YP4}$ (Sylvania) | 34.50 |
| 14EP4/14CP4 | 20.00 | 170P4 (Sylvanio) | 23.75 | $21 Y P 4 A(R C A)$ | 35.75 |
| $14 \mathrm{HP4}$ | 20.00 | $17 \mathrm{TP4}$ | 31.00 | 21 YP4A (Syivania) | 38.50 |
| 16AP4A (RCA) | 34.50 | 17YP4 | 23.75 | $212 P 4$ | 33.00 |
| 16AP4A (Sylvania) | 31.00 | 19AP4A | 39.60 | $212 P 4 A(R C A)$ | 31.75 |
| 16DP4A | 29.25 | 19AP4B (RCA) | 44.00 | 212P4A (Sylvania) | 33.00 |
| 16EP4A | 38.20 | 19AP4B (Sylvanio) | 39.60 | 21ZP4B (RCA) | 34.50 |
| 16EP4B | 38.20 | 20CP4 (RCA) | 27.00 | 21ZP4B (Sylvania) | 37.25 |
| 16GP4 (RCA) | 34.50 | 20CP4 (Sylvanio) | 30.25 | $24 A P 4$ (GE) | 90.00 |
| 16GP4 (Sylvania) | 31.00 | 20CP4A | 30.25 | 24BPA (Rauland) | 90.00 |
| 16GP4B (RCA) | 34.50 | 20 | 34.50 | 24CP4 (Sylvania) | 51.50 |
| $16 \mathrm{GP4B}$ (Sylvania) | 31.00 | 20 CP | 34.50 30.25 | 24CP4A (RCA) | 63.25 |
| $16 \mathrm{JP4A}$ | 25.50 | 20DP4 | 30.25 30.25 | 24CP4A (Sylvania) | 55.50 |
| $16 \mathrm{KP4} 4$ (RCA) | 21.75 | $20 \mathrm{DP4B}$ | 34.25 34.50 | 24DP4A | 57.00 |
| 16KP4 (Sylvonia) | 23.50 | 20DP4C | 34.50 | $24 \mathrm{VP4A}$ | 55.50 |
| 16KP4A | 27.50 | $20 \mathrm{HP4}$ | 31.50 | 27EP4 | 95.00 |
| 16LP4A (RCA) | 30.00 | 20HP4A $20 L .44$ | 31.50 | 27GP4 | 85.00 |
| 16LP4A (Sylvania) | 25.50 | $20 \mathrm{HP4C}$ | 35.50 | $27 \mathrm{MP4}$ | 107.00 |
| 16RP4 (RCA) | 21.75 | 20HP4D | 35.50 | 27NP4 | 85.00 |
| 16RP4 (Sylvania) | 23.50 | $20 \mathrm{MP4}$ (RCA) | 40.50 | 27RP4 | 95.00 |
| 16TP4 (RCA) | 21.75 | 20MP4 (Sylvania) | 31.50 | 15 GP 22 (RCA) Colar | 235.00 |
| $16 T P 4$ (Sylvonia) $16 \mathrm{WP4A}$ (RCA) | 23.50 30.00 | $214 . P 4$ A | 35.75 | 15 GP 22 (RCA) Color | 235.00 |

## GENERAL <br> ELECTRIC

## FIVE-STAR TUBES

Designed for all critical operations ineluding industrial and military, police depart. ments, radio and TV stations, etc. Extreme reliability and longer life ore due to specially designed and heavy duty elements, heavier filament wire, stronger supports, and double micas. All have less danger of internal shorts and ore extremely resistant po shock and vibration.

| Type | Prototype | Net |
| :---: | :---: | :---: |
| GL. 5654 | 6 AK5 | \$ 3.00 |
| GL. 5670 | 2C51 | 4.85 |
| GL. 5686 | ... | 3.30 |
| GL.5718A | --. | 5.95 |
| GL.5719A | -.. | 5.85 |
| GL. 5725 | 6AS6 | 3.25 |
| GL. 5726 | 6 AL5 | 1.45 |
| GL. 5727 | 2D21 | 2.70 |
| GL. 5749 | 6BA6 | 2.00 |
| GL. 5750 | 6BE6 | 2.50 |
| GL.5751 | 12AX7 | 3.35 |
| GL. 5797 | ... | 13.50 |
| GL. 5798 | . . | 17.45 |
| GL.5814A | 12AU7 | 3.25 |
| GL. 5840 | .-. | 8.85 |
| GL. 5896 | -.- | 7.25 |
| GL. 5899 | . - | 8.90 |
| GL. 5902 | - - | 9.00 |
| GL. 6005 | 6AQ5 | 3.55 |
| GL. 6021 | -.. | 9.10 |
| GL. 6072 | 12AY7 | 4.55 |
| GL. 6087 | SY3GT | 5.25 |
| GL-6111 | ... | 9.00 |
| GL. 6112 | . . | 9.40 |
| GL. 6134 | 6 AC7 | 5.45 |
| GL. 6135 | 6 Cd | 1.90 |
| GL. 6136 | 64U6 | 2.20 |
| GL. 6137 | 6SK7 | 2.20 |
| GL. 6201 | 12AT7 | 4.15 |
| GL. 6202 | $6 \times 4$ | 3.17 |
| GL. 6203 | ... | 3.97 |
| GL. 6265 | 68H6 | 4.00 |
| GL. 6386 | -.. | 7.15 |


| AMPERITE BALLAST TUBE. <br> AC. Ne\&................................................... 1.76 |  |  |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| BK-29-8 | K-42.C | K-80-8 | L.55-1 |
| BE-29.D | K-42-D | K-82-8 | M.30-H |
| BIT32-D | K.49-7 | K-86-B | M-42-8 |
| BIS.36-B | K.49-8 | K-90-R | M.49-8 |
| BK-3,6-D | K.49-C | K-90-8 | M-55.8 |
| BK.36.H | K-49.D | K.92.A | M.55.1 |
| BK-42-B | K.49.H | L, 42-8 | M-80-8 |
| BR-49.B | K.55-A | 1.42-C | M-86892.9 |
| BK-49.C | K-55-8 | 1.42-D | 10.610 |
| BK.55-B | R-55-C | $1.49 \cdot \mathrm{R}$ | 100-37 |
| BK-67-BJ | R-55-CPR | L.49.B | 100.70 |
| BL.42-D | K-55-D | 1.49.C | $100-76$ |
| BM.49-8 | K.55.1 | 1.49-1 | 100.77 |
| BM.55-8 | 56.67.R | L.49.1 | $100 \cdot 79$ |
| K-26J218 | K-67-B | L-55-8 | 115.78 |
| K-36.D | K-67-BJ | L.55.CJ | 5459 |
| K.42-A | K-72.B | L.55.CPR | 28602 |
| M-42-7.J | K-74.3 | L.55.C | 43×106 |
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