"POSTAGE-STAMP"

## MOLDED-IN-BAKELITE MICA CAPACITORS

Wide choice of designs, sizes, mountings, terminals offer the correct Aerovox unit for every application, as listed. Units built of selected mica and foil; to mois-

Type 1467


Compact, size $\frac{2}{3} \frac{\mathrm{in}}{2}$. square, proviled with wire leads. 1000 volts D.C. Test - 500 volts D.C. Wkg. Cap. | List | Net | Cap. |
| ---: | :--- | :--- |
| List | Net |  |
| Price |  |  | $.0005 \quad \$ 0.25 \$ 0.15$. 004 \$0.55 $\$ 0.33$ .00075 .001

.0015 |  | .007 | .90 | .54 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| .002 | .40 | .24 | $.008^{*}$ | 1.00 | .60 |
| .0025 | .45 | .27 | $.009^{*}$ | 1.10 | .66 |
| .003 | .50 | .30 | $.01^{*}$ | 1.20 | .72 | Slize $25 / 32^{\prime \prime} \times 25 / 32^{\prime \prime} \mathrm{x} \quad 9 / 32^{\prime \prime}$ or $\left(53 / 64^{\prime \prime} \times 53 / 64^{\prime \prime} \times 21 / 64^{\prime \prime}\right.$ for units Tolerance $\pm 20 \%$; for $\pm 10 \%$ add $10 \%$ to list prices; $\pm 5 \%$ add $20 \%$ to list price; $\frac{+3 \%}{}$ add $40 \%$ to 11 st mice, $\pm 2 \%$ add $75 \%$ to list price

## Type 1468 <br> 0

Midget size $\frac{5_{4}^{\prime \prime}}{4} \times{ }^{\frac{39}{8 \prime \prime}} \times \frac{3^{\prime \prime}}{18}$ provided with wire leads. 1000 volts Cap. List Net Cap. List Net Mifd. Price Price Mfd. Price Price $.100001 \$ 0.25 \$ 0.15$. $00015 \$ 0.20 \$ 0.12$ .000005 00001
00025 000025 .00005
.00005
.000075 .0001 ard Tolerance $+50 \%$ " ${ }^{\circ} 9 / 32^{\prime \prime}$. Stand. 1) b to list price; $\pm 3 \%$ add $40 \%$ to list price $\pm 2 \%$ add $75 \%$ to liss price

Type 1478


With wire leads. Size $I_{1 \frac{1}{19}} \times \frac{7}{16}$ " - $\frac{3}{1 / \prime \prime} .1000$ volts D.C. Test- 500 rolts D.C. Working. Cap. List NetiCap. Idist Net | Mpit. | $\mathrm{l}^{\text {Pr rice }}$ | Price | Mfid. | Price | Price |
| :--- | ---: | ---: | ---: | ---: | ---: |
| .0005 | $\$ 0.30$ | $\$ 0.18$ | 0015 | $\$ 0.4 .5$ | $\$ 0.27$ |
| .00075 | .30 | .18 | .002 | .50 | .30 | 00075

Type 1441W


With wire leads. Size $1^{\prime \prime} \times 5 / 8{ }^{\prime \prime}$. 1000 volis D.C. Test- 500 volts D.C. Working.


## PORCELAIN-CASED MICA CAPACITORS

 diclectric ah- Types 1991.96 sorption re* $\begin{aligned} & \text { duced to a minimum. Units oper }\end{aligned}$ duced to a minimum. Units oper ate at full load without heating mounting holes, $4^{\prime \prime}$ overall by $3^{\prime \prime}$ high.

Type 1991-2000v. Max. D.C. Cap. List Net Cap List Net | Mifd. | $l^{\text {² rice }}$ | Price | Mfd. | Price |
| :---: | :---: | :---: | :---: | :---: |
| 02 | $\$ 14.75$ | $\$ 8.85$ | Price |  |
| $\$ 18.50$ |  |  |  |  |
| $\$ 11.10$ |  |  |  |  |

Type 1992-3500v. Max. D.C.

$001 \quad \$ 6.50 \quad \$ 3.90 \mid .005 \quad \$ 10.50 \$ 6.30$ | 0015 | 6.50 | 3.90 | .01 | 16.00 | 9.60 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 003 | 8.00 | 4.80 | 09 | 16.00 | 9.60 | |  | 8.01 | 16.00 | 9.60 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 103 | 8.75 | 5.25 | 02 | 18.00 | 11.10 |

Type 1993-5000v. Max. D.C.

| 002 | $\$ 8.75$ | $\$ 5.25$ | .005 | $\$ 10.50$ |
| :---: | :---: | :---: | :---: | :---: |
| 003 | 9.50 | 5.70 | $\$ 01$ | 15.25 |

Type 1994-7000v. Max. D.C.

| 0005 | $\$ 6.50$ | $\$ 3.30$ | .003 | $\$ 10.25$ | $\$ 6.15$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| .001 | 7.25 | 4.35 | .005 | 11.00 | 6.60 | $\begin{array}{lll}0015 & 8.00 & 4.80\end{array}$ $\begin{array}{lll}002 & 9.50 & 5.70\end{array}$

Type 1995-10000v. Max. D.C. $002 \quad \$ 10.25 \quad \$ 6.151015 \quad \$ 14.50 \quad \$ 8.70$ $003 \quad 13.00 \quad 780$

Type 1996-12500v. Max. D.C.

| 00005 | $\$ 8.00$ | $\$ 4.80 .001$ | $\$ 8.00$ | $\$ 4.80$ |
| :--- | :--- | :--- | :--- | :--- | $\begin{array}{llllrl}.0001 & 8.00 & 4.80 & .0015 & 9.50 & 5.70 \\ 000025 & 8.00 & 4.80 & 002 & 11.00 & 6.60\end{array}$

HIGH-VOLTAGE MOLDED-IN-BAKELITE


1000v D.C. Test-600v D.C. Work. Intended for the more critical service of low-powered transmitting circuits, buffer stages, power amplifiers, and laboratory equipinent, etc. Non-magnetic parts are used to reduce r.f. Losses to mimimum, and heavy terminals provide minimum r.f. and contact resistance. Intended for point-to-point wiring, being supported entirely by its soldered connections. $11 / 4$ x $11 / 4$ Cap. List Net|Cap. List Net Mfd. Price Price Mfd. Price Price $.00025 \quad \$ 0.45 \quad \$ 0.27 .005 \quad \$ 0.70 \quad \$ 0.42$ .0003
.00035
.0004
.0005
.001
.0015
.002
iin

+3/4" thic Al-300\% D.C. Working
Types 1455-57


Size $11 / 4^{\prime \prime} \times 1 \frac{5_{3}^{\prime \prime}}{} 2^{\prime \prime} \times \frac{3}{2}^{\prime \prime}$
Types 1455-57, have insulated mounting holes, independent of soldering lugs, for comnections. $11 / 2^{\prime \prime}$ spacing between mounting hole centers. If $1{ }^{6} 6^{\prime \prime}$ spacing is preferred specify Types $1445-47$. Large meter-mounting brackets permitting use of this lype of may be obtained at 45 c added to list price. Specify by adding suffix (A) to type number. Small brackets are also available at 25 c adilitional. Specify by sutfix (E). Both brackets have universal slots for either ets have conversal slots hor eltang hole spacing. Standmounting hole tolence $\pm 20 \%$; for $\pm 10 \%$ add $10 \%$ to list price. $+5 \%$ add $10 \%$ to list price; $20 \%$; $\pm 2 \%$ add $75 \%$.

Type 1455

1000v D.C. Test-600v D.C. Work. Cap. List Net|Cap. List Net | Mrd. | Price Price | Mril. | Price Price |  |
| :--- | :--- | :--- | :--- | :--- |
| .00005 | $\$ 0.70$ | $\$ 0.42$ | 0025 | $\$ 0.90$ |
| 0.54 |  |  |  |  | .0001 .00015 .0002 .00025

.0003 .0003
.00035 .00035 .0005 .001
.0015

.002 $\begin{array}{rr}.70 & .42 \\ .70 & .42\end{array}$ $\begin{array}{r}.42 \\ .42 \\ .00 \\ \hline\end{array}$ | .42 | .003 |
| :--- | :--- | :--- |
| .42 | .004 |
| .42 | .005 |
| .42 | .006 |
| .42 | .008 |
| .42 | .01 |
| .42 | .015 |
| .42 | .02 |
| .42 | .025 |
| .42 | .03 |

## Type 1456

$2500 v$ D.C. Test-1250v D.C. Work $.00005 \$ 1.00 \$ 0.60 .0015 \$ 1.60 \$ 0.96$ $\begin{array}{lll}.0001 & 1.00 \quad .00 & 002\end{array}$ .00015 .0002
.00035
.000 . 0001

Type 1457

5000v D.C. Test-2500v D.C. Work. \begin{tabular}{lllll}
.0075 \& $\$ 1.25$ \& $\$ 0.75$ <br>
000075 \& 1.25 \& .75 \& .0004 \& $\$ 1.65$ <br>
\hline 0005 \& $\$ 0.99$ <br>
\hline

 

000075 \& 1.25 \& .75 \& .000 .5 <br>
0001 \& 1.25 \& .75 \& .001

 

00015 \& 1.30 \& .78 <br>
0002 \& 1.10 \& .84 <br>
\hline 0015
\end{tabular} $\begin{array}{lll}.00025 & 1.50 & .90 \\ .0003 & 1.55 & .0025\end{array}$ .00035

For most critical applications where precise capacity values must be attained and maintained, AEROrox silvered mica units are generally available. Encased in red mold. ed XM bakelite. Similar in external qpearance to standard lakelite molded mica units.

Unique construction. Only plus .0022 per degree F .-a remarkably low temperature coefficient. Excellent retrace characteristics. I'rac. tically no capacity drift with time. Exceptionally high "Q". Mechan ically protected against physical damage and changes in electrical characteristics due to varying atmospheric conditions. Wax impregnated externally. Ideal for use in circuits where inductance and capacity product must remain constant under all operating condi tions. Specifically designed for use in push-hutton tuning, oscillator padding circuits, fixed tuned circuits, and als capacitance standards, etc., where accuracy and stability are of prime importance.

Standard tolerance $\pm 5 \%$. For $\pm 20 \%$ deduct $10 \%$ from price. For $\pm 10 \%$ deduct $5 \%$. For $\pm 3 \%$ add $10 \%$. For $\pm 2 \%$ add $15 \%$. For $\pm 1 \%$ add $25 \%$.


TYPE 1464-1000v. D.C. TEST Size $\frac{3_{3}}{3}$ in. square. Provided with wire leads. ${ }^{*} 600 \mathrm{v}$. D.C. test.




CHARACTERISTIC LETTERS

| Char-acteristic | Q | $\begin{gathered} \text { Temperature } \\ \text { Coefficient } \\ \text { Parts/Million/ } \\ \text { deg. C } \end{gathered}$ | Maximum Capacitance Drift (F-6) | Verification of Characteristics by Production Test |
| :---: | :---: | :---: | :---: | :---: |
| ${ }_{3}$ | Not specifled | Not specified | Not specified | Not reguired |
| $\stackrel{3}{8}$ | [As specifled | Not specified | Not speeifled | Not required |
| I) |  | - 100 to +100 | $\begin{array}{ll}0.5 & \text { ber cent } \\ 0.2 \\ \text { per cent }\end{array}$ | Not required |
| ${ }_{\text {E }}$ | ". | 0 to +100 | 0.05 Der cent | Not required |
| $\stackrel{\text { G }}{ }$ |  | 0 to +50 | 0.02 s ner cent | Required |
| G | . | 0 to - 50 | 0.025 jer cent | Required |

-1000v. D.C. TEST Size $1_{18}^{\frac{1}{18}} \mathrm{x} \frac{7}{18}$ ". Provided with wire leads.

| .0001 | $\$ 0.40$ | $\$ 0.24$ | .0005 | $\$ 0.70$ | $\$ 0.42$ |
| :--- | ---: | :--- | :--- | ---: | ---: |
| .0001. | .45 | .27 | .0007 | .85 | .51 |
| .0005 | .45 | .27 | .00075 | .40 | .54 |
| .00025 | .45 | .27 | .0008 | .95 | .57 |
| .0003 | .55 | .33 | .0009 | 1.00 | .60 |
| .00035 | .60 | .36 |  |  |  |
| .0001 | .65 | .39 |  | 1.10 | .66 |



Extra-heo - Cammercial Cammunication Cam panies

## - Broadensters

- Builders of Quality Radia and Electranic Equipment


## - Amateurs, Experimenters

With these capacitors Aerovox is contributing its share towards narrowing still more the small remaining gap between professional and amateur radio practices.

Due to the normally limited demand for these extra-heary-duty mica capacitors, as well as the considerable number of capacitance and voltage ratings in which they are made, this line is made to special order. However, your Authorized Aerovox Jobber is now able to order these commercial-grade capacitors for you.

Consult your Aerovox Jobber for specifications and quotations.




RMA COLOR CODE
THREE OOT RMA COLOR COOE
used for 300 vocw capacitors whose tolerance is greater fhan tot


SIX OOT RMA COLOR COOE
signifigant figures


| Significant Figure, or No. of Zeros, or Decimal |  |  | Tolerance | Significant Figureor No of Zeros,or DecimalColor Multiplier |  | Ve. | Tolerance |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Black | 0 |  |  | Violet | i | 700 | \%\% |
| Brown | 1 | 100 | $1 \%$ | Gray | 8 | 800 | 8\% |
| Red | 2 | 200 | 2\% | White | 3 | 900 | 9\% |
| Orange | 3 | 300 | $3 \%$ | riold | . 1 | 1000 | $5 \%$ |
| Yellow | 4 | 400 | 1\% | Silver | . 01 | 2000 | 10\% |
| Green | 5 | 500 | $5 \%$ | Nono |  | 500 | $20 \%$ |
| Blue | 6 | 600 | $6 \%$ |  |  |  |  |

## AUTO-RADIO CONDENSERS



GAS GAUGE FILTER CONDENSER

Type 1143.G


| Cap. | List | Net |
| :---: | :---: | :---: |
| Mfd. | Price | Price |
| .05 | $\$ 0.65$ | $\$ 0.39$ |

AMMETER CONDENSERS


|  | Cap. | List <br> Type | Net <br> Mfd. |
| :---: | :---: | :---: | :---: |
| Price | Price |  |  |
| 1160 | .5 | $\$ 0.65$ | $\$ 0.39$ |

OIL GAUGE
FILTER
CONDENSER


Type 1142-0

| Cap. <br> Mfd. | List <br> Price | Net <br> Price |
| :---: | :---: | :---: |
| .25 | $\$ 0.60$ | $\$ 0.36$ |

TUBULAR PAPER CAPACITORS


Type 84
Aerovox cartridge capacitors are especially desirable for use where high grade units are required at low cost. They are compact, noninductively wound and sealed in wax impregnated paper tubes with wax filled ends for longer life ana protection against moisture.

Types and D.C.W. Voltages

| Type 484 <br> 400 v | Type 684 <br> 600 v. |
| :---: | :---: |


| Cap. |  | Sug. <br> Nist <br> Resale <br> Price |
| :--- | :--- | :--- |

Mfils. Price Resale List Resaie

DRAWN-CASE OIL FILLED 'HYVOL" CAPACITORS TYPE 30

For applications requiring superior-grade oll-inpregnated. ollsections encased Non-inductive paper metal case with in a one-plece drawn for hermeti- seal. Absolutely inmer sion-proof terminal assembly. Meets severe onerating conditions encountered in aircraft, police. broadeast. p.a., and other types of communications equidment.

TYPE 430-400 V.D.C.W.

| Cap. <br> Mids. | LxWx H | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| . 05 | $13 / 4 \times 1 \times 3 / 4$ | \$1.75 | \$1.05 |
| . 1 | $13 / 4 \times 1 \times$ | 2.00 | 1.20 |
| . 25 | 1\% $181 \times \frac{18}{6}$ | 2.25 | 1.35 |
| . 5 | $13 / 4 \mathrm{x} \times 7 / 8$ | 2.40 | 1.44 |
| . 75 | $2 \frac{1}{18} \times 11 / 4 \times 8$ | 2.70 | 1.02 |
| 1.0 |  | 2.85 | 1.71 |
| 2.0 | $2 \times 2 \times 11 / 8$ | 3.60 | 2.16 |
| . $05-.05$ | $13 / 4 \times 1 \times \frac{13}{18}$ | 2.75 | 1.65 |
| .1-.1 | $13 / 8 \times 1 \times 18$ | 3.00 | 1.80 |
| . $25-.25$ | $13 \times 14 / 4 \times 7 / 8$ | 3.25 | 1.95 |
| . 5-. 5 | $2 \mathrm{x} 1 \frac{1}{4} \mathrm{x}$ \% 18 | 3.75 | 2.25 |
| 1.0-1.0 | $2 \times 2 \times 18$ | 4.50 | 2.70 |
| .05-.05-. 05 | $1 \frac{8}{4} \times 1 \times \frac{13}{16}$ | 3.50 | 2.10 |
| . 1-.1-.1 | $13 / 4 \times 1 \times 7 / 4$ | 3.65 | 2.19 |
| . $25-.25-.25$ | $21813 \times 7 / 8$ | 4.00 | 2.40 |
| Type 630-600v D.C. Working |  |  |  |
| . 05 | $13 \times 1 \times 8$ | \$2.60 | \$1.56 |
| . 1 | $18 \times 1 \times 18$ | 2.65 | 1.59 |
| . 25 | 134x1 $\times 13$ | 2.80 | 1.68 |
| . 5 | 13/451 $\times 7 / 8$ | 3.00 | 1.80 |
| . 75 |  | 3.20 | 1.92 |
| 1.0 | $2 \times 13 / 4 \times$ | 3.40 | 2.04 |
| 2.0 | $2 \times 2 \times 1 \frac{3}{16}$ | 4.55 | 2.73 |
| . $05-.05$ | $134 \times 1 \times 13$ | 3.30 | 1.98 |
| .1-1 | $13 \times 1 \times 1{ }^{3}$ | 3.35 | 2.01 |
| . $25 . .25$ |  | 3.40 | 2.04 |
| .5-. 5 | $2 \times 18 \times 7 / 8$ | 3.90 | 2.34 |
| 1.0-1.0 | 2 x 11震 | 4.80 | 2.88 |
| . $05-.05-.05$ | 1\%4x1 $\times 18$ | 3.70 | 2.22 |
| . 1-. 1-. 1 | 18/4x $\times 1 \frac{5}{8}$ | 3.80 | 2.28 |
| . $25-.25-.25$ | $2 \times 13 \times 1 / 8$ | 4.30 | 2.58 |
| Type 1030-1000v D.C. Working |  |  |  |
| . 05 | $13 / 4 \times 1 \times 3 / 4$ | \$2.75 | \$1.65 |
| . 1 | $13 / 4 \mathrm{xl} \times 3$ | 2.85 | 1.71 |
| . 25 | $13 / 4 \times 1 \times$ | 2.95 | 1.77 |
| . 5 |  | 3.20 | 1.92 |
| . 75 | $2 \times 13 / 4 \times 7 / 6$ | 3.80 | 2.28 |
| 1.0 | $2 \mathrm{xl} \mathrm{x}_{4} \times 1$ | 4.00 | 2.40 |
| . $05-.05$ | 13/41 $\times 14$ | 3.50 | 2.10 |
| . $1-.1$ | 134.x1 $\times 13$ | 3.60 | 2.16 |
| . $25-.25$ | $2 \frac{1}{1 /} \times 11 / 4 \times$ | 3.80 | 2.28 |
| . $5-.5$ | $\bigcirc \times 1 \% \times 1$ | 4.95 | 2.97 |
| .05-.05-.05 | 13 x1 $\times \frac{13}{16}$ | 3.85 | 2.31 |
| .1-.1-.1 | 13\% $\times 11 / 4 \times 7 / 8$ | 4.15 | 2.49 |
| . $25-.25-.25$ | $2 \times 2 \mathrm{xl}$ | 5.00 | 3.00 |

## UNCASED PAPER CAPACITORS

## Type UC



## Non - inductively

 wound high grade, ultra-compact, uncased sections, wrapped in and wraped in hack varnished puper with pitch and provided with insulated wire leads, eight inches long. Designed for replacement use in filter block repair workTYPE UC200-200 V.D.C.W.
Cap. Size-Ins List Net W.
$\mathrm{x} \quad \mathrm{x} / \mathrm{x}$ Price Pri $\$ 0.65 \quad \$ 0.39$ $\begin{array}{rr}10.65 & \$ 0.39 \\ .70 & .42 \\ 75 & 45\end{array}$

Type 538T- $-500 v$ D.C. Working

Type 638T-600v D.C. Working

TYPE UC1000.1000 V.D.C.W.

## MIDGET

TUBULAR METAL-CASED 'HYVOL" CAPACITORS

Type 38


These units are hermetically-sealed and are exceptionally compact. Orand are exceptionally compact. Or-
iginally designed as alternates for mica capacitors hut have since become a standard item in the Aerovox ail-filled capacitor line. Not only used as ruplacements in exist. ing equipment but are especially suitable for newly-designed equipment particularly where allowable weight of the finished assembly and allotteri space is at a minimum. Despite unusual ultra-small size for oil-impregnated, oil-filled capacitors, constructional and electrical characteristics meet many of the exacting conditions to which molded-in-bakelite mica capacitors are normally subjected. Type 38 units are normally supplied with case insulaten, and are provided
with outer insulating tube.

Type 338T-300v D.C. Working Cap. Size-Ins. List Net Mfds. Dia. - High Price Price


| .002 | $\frac{3}{16} \times 1 \frac{3}{18}$ | .85 | .51 |
| :--- | :--- | :--- | :--- |
| .008 | $\frac{5}{16} \times 1 \frac{3}{16}$ | .85 | .51 |
| .005 | $\frac{5}{51} \times 1 \frac{3}{18}$ | .85 | .51 |
| .008 | $\frac{5}{10} \times 1 \frac{3}{18}$ | .85 | .51 |
| .0075 | $\frac{5}{18} \times 1 \frac{3}{16}$ | .85 | .51 |


| . 001 | $\frac{5}{10} \times 1 \frac{3}{16}$ | \$0.95 | \$0.57 |
| :---: | :---: | :---: | :---: |
| . 002 | $\frac{5}{14} \times 1{ }^{\frac{3}{13}}$ | . 95 | . 57 |
| . 003 | ${ }_{16}^{6} \times 1818$ | . 95 | . 57 |
| . 005 | 浱 $\times 1 \frac{3}{18}$ | .95 | . 57 |
| . 006 | ${ }^{7} 7 \times 1 . \frac{3}{6}$ | . 95 | . 57 |
| . 0075 | $7^{7} 6 \times 1 \frac{3}{16}$ | . 95 | . 57 |
| 01 | $\frac{7}{16} \times 1 \frac{1}{16}$ | . 95 | . 57 | $\begin{array}{rrrrr}.001 & \frac{7}{10} \times 1 \frac{9}{9} & \$ 0.95 & \$ 0.57 \\ .002 & \frac{7}{18} \times 1 \frac{10}{14} & .95 & .57\end{array}$



006
0075
01
Type 838T-800v D.C. Working $001 \quad \frac{7}{1} \times 1{ }^{3} \quad \$ 1.05 \quad \$ 0.63$ .002
.005

TUBULAR CAPACITORS OIL-IMPREGNATED OIL-FILLED Type 89
Immersion-proof, oil
imprewnateil. oil-filled units in handy, space-saving tubular form. Ideal for use in ribrapass functions in transmitters, hirh coltage amplifiers, in r.f. by-pass circuits, intaference eliminators or motors and generators, and in est equipment. Fully sealed gainst oil leakage or moistur enetration. Case is insulated, not maected to the capacitor sec ion. Mounting strap anil oute nsulating tube are supplied.
$\begin{array}{llll}.5 & 43 / 4 \times 17 / 8 \times 11 & \$ 1.55 & \$ 0.93 \\ .0 & 43 / 8 \times 17 \times 1 & 2.30 & 138\end{array}$
$\begin{array}{lllll}1.0 & 4 & 8 \times 178 \times 1 & 2.30 & 1.38 \\ 2.0 & 43 \times 214 \times 17 & 3.80 & 288\end{array}$
 ENERGY-STORAGE CAPACITORS TYPE PX or hirh-speed thash photography, capacitor discharye velding, tlash sigpulsing and other
 mergy storage use during extremely high currents uring short discharge periods. Compact, minimum weight, sol-
der lus terminals, terne plate containers.

### 22.5 WATT SECONDS

 Nomi-nal

| $\begin{aligned} & \text { V.O. } \\ & \text { PEA } \end{aligned}$ | C. Cap. | $\begin{aligned} & \text { Type } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Prict } \end{aligned}$ | Net Price |
| :---: | :---: | :---: | :---: | :---: |
| 1500 | 20 | PX1001 | \$14.00 | \$ 9.80 |
|  | 50.0 | WATT | CONDS |  |
| 2000 | 28 | PX1403 | \$20.00 | \$14.00 |
| 75.0 WATT SECONDS |  |  |  |  |
| 2500 $24 \quad$ PX14D2 <br> 200.00 $\$ 14.00$ |  |  |  |  |
| 100.0 WATT SECONDS |  |  |  |  |
|  |  |  |  |  |
| 2500 | 30 | PX15018 | \$34.00 | \$23.80 |
| $\begin{array}{llllll}4000 & 12.5 & \text { PX20D1 } & 23.00 & 15.40\end{array}$ |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## COMPACT

AEROVOX＂HYYOL＂ OIL－IMPREGNATED OIL－FILLED CAPACITORS
In Round Aluminum Cans Type 05


Convenient round can，provided with ring mounting． High－voltage pil－ lar terminals． Hermetically seal－ ed in leak－proof containers．Very conservative rat－ ings for continu－ ous operation．

| Type 605－600．v D．C．W． |  |  |  |
| :---: | :---: | :---: | :---: |
| Cap． | Size－Ins． | List | Net |
| Mfds． | Dia．－High | Price | Price |
| 1 | $2 \times 23 / 4$ | \＄3．80 | \＄2．28 |
| 2 | $2 \times 23 / 4$ | 4.95 | 2.97 |
| 4 | $2 \times 3{ }^{2}$ | 6.85 | 4.11 |
| Type $1005 \cdot 1000 \mathrm{v}$ ．D．C．W． |  |  |  |
| 1 | x sm | \＄4．20 | \＄2．52 |
| 2 | $2 \times 41 / 4$ | 5.70 | 3.42 |
|  | $21 / 2 \times 43 / 4$ | 7.25 | 4.35 |

Type 1505－1500v．D．C．W．

| Type |  |  |  |  |
| :---: | :---: | :---: | :---: | ---: |
| 1 | $1505-1500 v$. | D．C．W． |  |  |
| 2 | 2 | $\times 33 / 4$ | $\$ 5.30$ | $\$ 3.18$ |
| 2 | 2 | $\times 434$ | 7.25 | 4.35 |
| 4 | $21 / 2$ | $\times 43 / 4$ | 9.50 | 5.70 |


| Type |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2005－2000v．D．C．W． |  |  |  |
| 1 | 2 | $\times 43 / 4$ | $\$ 6.85$ | $\$ 4.11$ |
| 2 | 2 | $\times 51 / 4$ | 7.60 | 4.56 |

## Type $2505-2500$ v．D．C．W．

 $21 / 2 \times 43 / 4 \quad \$ 9.18 \quad \$ 5.49$$\begin{array}{lll}1 & 21 / 2 \times 51 / 4 & 15.00 \\ \text { Type } 3005-3000 v, ~ D . C . W . ~\end{array}$ $\begin{array}{llllll}1 & 21 / 2 & \times & 4 & 3 / 4 & \$ 13.75 \\ 2 & & \$ 58.25 \\ 2\end{array}$

## AEROVOX＂HYYOL＂

VERTICAL－MOUNTING high－voltage
CAPACITORS Type 14

Particularly ap－
 plicable for use in high－voltage filter circuits such as ca－ thode－ray tube pow－ er supplies，high－ voltage by－pass cir－ cuits in transmit ters and high－now ered public address equipment．Type 14 units are made in the standard $13 / \mathbf{y}^{\prime \prime}$ diameter．Grounded can，with one－piece molded－bakelite pillar insulator which provides maximum spacing which provides merminal and can Mounting ring furnished for up－ right or inverted mounting．

## Type 2014－2000v．D．C．W．

| Cap． | Size－Ins． | List | Net |
| :---: | :---: | :---: | :---: |
| Mfds． | Dia．－High | Price | Priee |
| ． 01 | $17 / 821 / 4$ | \＄6．00 | \＄3．60 |
| ． 05 | $13 / 8 \times 21 / 4$ | 6.65 | 3.99 |
| ． 1 | $13 / 8 \times 23 / 4$ | 7.00 | 4.20 |
| ． 25 | $13 / 8 \times 31 / 4$ | 7.60 | 4.56 |
| Type 3014－3000v．D．C．W． |  |  |  |
| ． 01 | $13 / 8 \times 21 / 4$ | \＄7．50 | \＄4．50 |
| ． 05 | $13 / 8 \times 21 / 4$ | 8.00 | 4.80 |
| ． 1 | $1 \% \times 284$ | 8.50 | 5.10 |
| ． 25 | $13 / 8 \times 34$ | 9.50 | 5.70 |

## AEROVOX＂HYYOL＂

OIL－IMPREGNATED OIL－FILLED CAPACITORS
In Round Aluminum Cans －Inverted Mounting

## Type 10

This is an improved de－ sign，replacing the former single terminal type． This new design is phys caly interchangeable with the old．Ideal for crowded assemblies； a logical choice in filter circuits of power supplies，high－gain high－ ficlelity amplifiers，and small trans． mitters．Hermetically－sealed．Has one－piece molded bakelite terminal assembly．Both terminal lugs are insulated from container．

Type 610－600v．D．C．W． $\begin{array}{lll}\text { Cap．} & \text { Size－Ins．} & \text { List } \\ \text { Mfds．Dia．－Hgt．} & \text { Price } & \text { Price }\end{array}$


Type $1510-1500 v$ ．D．C．W

＂HYVOL＂
EROVOX＂HYYOL
VERTICAL－MOUNTING
HIGH－VOLTAGE
 CAPACITORS
IL－IMPREGNATED Type 12

This is an im－ mersion－proof capacitor de－ signed to meet high．voltage operating
requirements． Suitable for such high－voltage circuit applica． tions as in tele－ vision，cathode－ ray tube power supplies．hish－ voltace righ． ers， high－voltage by－pass capacitor． Recommended where long leakage path between terminals is required． Barrier in bakelite top increases insulation and creepage path be－ tween terminals．For certain ap－ plications，the ceramic insulators may be removed if desired．sup－ plied with adjustable mounting ring for vertical mounting．

| Type 2012－2000v．D．C．W． |  |  |  |
| :--- | :--- | :--- | :--- |
| Cap． | Size－Ins． | List | Net |
| Mfds． | Dia．－Hgt． | Price | Price |
| 1.0 | $21 / 4 \times 3 \% / 4$ | $\$ 7.35$ | $\$ 4.41$ |
| 2.0 | $21 / 4$ | $\times 51 / 4$ | 9.10 |


| Type $3012-3000$ v．D．C．W． |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| .05 | $2^{1 / 4} \times 21 / 4$ | $\$ 9.50$ | $\$ 5.70$ |  |
| .1 | $21 / 4 \times 21 / 4$ | 10.00 | 6.00 |  |
| .25 | $2^{1 / 4} \times 31 / 4$ | 11.00 | 6.60 | 10 |
| .5 | $21 / 4 \times 33^{3 / 4}$ | 12.00 | 7.20 | 1 |
| 1.0 | $2^{1 / 4} \times 5^{1 / 4}$ | 15.25 | 9.15 | 1 |

Type 4012－4000v．D．C．W． $\begin{array}{rrrr}.05 & 2^{1 / 4} \times 2 \% & \$ 9.00 & \$ 5.40 \\ 2^{1 / 4} \times 3 \% & 9.50 & 5.70\end{array}$ $\begin{array}{llrr}.1 & 21 / 4 \times 33 & 9.50 & 5.70 \\ .25 & 214 \times 514 & 10.50 & 6.30\end{array}$

Type 6012－6000v．D．C．W． $\begin{array}{llll}.03 & 24 \times 2 \% & \$ 12.00 & \$ 7.20 \\ 05 & 21 / 4 \times 3 \% & 13.50 & 8.10\end{array}$ $\begin{array}{llll}.05 & 21 / 4 \times 38 / 4 & 16.50 & 8.10 \\ .1 & 21 / 4 \times 43 / 4 & 9.90\end{array}$

## Type 7512－7500v，D．C．W

$.01 \quad 21 / 4 \times 31 / 4 \quad \$ 12.00 \quad \$ 7.20$ $.0221 / 431 / \quad 13.00 \quad 7.80$ $\begin{array}{llll}24 \times 3 \% & 13.00 & 7.80 \\ 24 \times 38_{4} & 14.00 & 8.40\end{array}$
$\begin{array}{llll}.05 & 21 / 4 \times 41 / 4 & 15.50 & 9.30 \\ & 21 / 4 \times 43 & 19.00 & 11.40\end{array}$

## AEROVOX＂HYVOL＂ <br> OIL－IMPREGNATED OIL－FILLED CAPACITORS <br> In Rectangular Metal Cans

Type 09


Type 09 （Basic）


Type 09MB
（Mounting lsracket）
 Type 09MS
（Strap Mounting）

Hermetically－sealed in sturdy can， leakproof and seepageproof．High tension pillar terminals fitted with locknuts and soldering lugs．Ex－ ceptionally compact dimensions for given capacity，working voltage－ and safety factor due to use of ＂Hyvol．＂Intended for heavy－duty continuous service in transmitters，

\left.| Type 609－600v．D．C．W． |  |  |  |  |
| :---: | :---: | :---: | ---: | :---: |
| Cap． | Size．Ins． | List | Net |  |
| Mfds． | L．W． | W． | Price |  |
| Price |  |  |  |  |$\right)$

Type 1509－1500v．D．C．W

| 5 | $27 / 8 \times 1 \frac{18}{18} \times 1 \frac{1}{14}$ | \＄6．05 | \＄3．63 |
| :---: | :---: | :---: | :---: |
| 1.0 |  | 6.85 | 4.11 |
| 2.0 | $41 / 8 \times 21 / 2$ | 9.50 | 5.70 |
| 3.0 | $43 / 4 \times 21 / 2 \times 1$ | 11.40 | 6.84 |
| 4.0 | $45 \times 3 \times 1 / 4 \times 1 / 4$ | 12.90 | 7.74 |
| 5.0 | 43／4 $\times 384 \times 13 / 4$ | 13.65 | 8.19 |
| 6.0 | 4 $3 / 4 \times 33 / 4 \times 18 / 4$ | 15.55 | 9.33 |
| 8.0 | $43 / 4 \times 33 / 4{ }^{1 / 2}$ | 19.00 | 11.40 |
| 10.0 | $43 / 4 \times 384 \times 3 \frac{3}{16}$ | 22.50 | 13.68 |
| 12.0 | $43 / 4 \times 3 \frac{3}{4} \times 3 \times 3$ | 25.05 | 15.03 |
| 15.0 | $43 / 4 \times 33 / 4 \times 4{ }^{19}$ | 27.35 | 16.41 |

## Type 2009－2000v．D．C．W．

| ． 1 | $2 \mathrm{x} 1+3 \times 1 \frac{1}{1}$ | \＄6．05 | \＄3．63 |
| :---: | :---: | :---: | :---: |
| 25 | $248 \times 1 \frac{13}{13} \times 1 \frac{1}{16}$ | 6.45 | 3.87 |
| ． 5 | $27 / 8 \times 1 \frac{13}{1 / 5} \times 1 \frac{1}{1 / 5}$ | 6.85 | 4.11 |
| 1.0 | $33682^{1 / 2 \times 1} \frac{3}{10}$ | 8.35 | 5.01 |
| 2.0 | $4 \times 38 \times 1 / 4$ | 9.90 | 5.94 |
| 3.0 | $43 / 4 \times 38 / 4 \times 13$ | 12.15 | 7.29 |
| 4.0 | $37 / 8 \times 38 / 4 \times 21 / 4$ | 13.65 | 8.19 |
| 5.0 | $48 \times 3884 \times 21 / 4$ | 15.20 | 9.12 |
| 6.0 | $4 \% \times 3$ \％$\times 3 \frac{3}{16}$ | 17.85 | 10.71 |
| 8.0 | $45 / 8 \times 33 / 4 \times 3 \frac{3}{\frac{3}{8}}$ | 22.80 | 13.68 |
| 10.0 | $43 / 4 \times 384 \times 4 \frac{3}{19}$ | 28.10 | 16.86 |
| 12.0 | $5 \% \times 3$ \％$\times 4 . \frac{9}{7}$ | 30.40 | 18.24 |
| 15.0 | $6^{1 / 2} \times 3$ 多 $\times 4$. | 88.70 | 22.02 |

amplifiers，etc．Trpe MB bracket is normally supplied as standard equipment，unless otherwise speci fied，on all units having base sizes other than $34^{\prime \prime}$ x $3 \frac{3}{16}$＂and $33^{\prime \prime}$ $x$ 4量＂．Type MS is normally sup plied as standard with these latter base sizes．

Type 2509－2500v．D．C．W．
Mfds．L．W．D．Price Price Cap．Size－Ins．List Net ． $5 \quad 31 / 2 \times 21 / 2 \times 1 \frac{3}{16} \quad \$ 10.65 \quad \$ 6.39$
$1.0 \quad 31 / 4 \times 3 \frac{3}{4} \times 1 \frac{3 / 4}{4} \quad 12.15 \quad 7.29$
$2.0 \quad 4 \% \times 3 \% \times 1 \% \quad 19.75 \quad 11.85$
$4.0 \quad 48 \mathrm{8} \times 3 \frac{3}{4} \times 3 \frac{3}{15} \quad 27.35 \quad 16.41$
$10.063 / 8 \times 344_{4}^{9} 98.3541 .01$

Type 3009－3000v．D．C．W．
$.12 \times 21 / 2 \times 1 \frac{3}{16} \$ 12.90 \$ 7.74$
$\begin{array}{llll}.25 & 21 / 2 \times 21 / 2 \times 1 \frac{3}{16} & 13.65 & 8.19\end{array}$
$\begin{array}{llll}.5 & 37 / 8 \times 31 / 2 \times 1 \frac{3}{16} & 15.20 & 9.12\end{array}$

| 1.0 | $3^{7 / 8 \times 3} 3$ | 3 |
| :--- | :--- | :--- | :--- | :--- |


| 2.0 | $41 / 6 \times 3$ |
| :--- | :--- | :--- | :--- | :--- |
|  | $3 / 4$ |

$\begin{array}{lllll}4.0 & 43 / 4 x^{3} / 4 \times 4 \frac{9}{1} & 33.40 & 20.04\end{array}$

Type 4009－4000v．D．C．W．
． $238 \times 3 \frac{3 / 4}{3 / 421 / 2} \quad 22.80 \quad 13.68$
$.25 \quad 233 \times 3 \pi / 4 \times 2 \frac{1}{4} \quad 24.30 \quad 14.58$
． $5 \quad 37 / 4 \times 3 \% \times 21 / 427.3516 .41$
$1.0 \quad 51 / \times 33 \times 21 / 4 \quad 33.40 \quad 20.04$
$2.0 \quad 51 / 6 \times 33 / 4 \times 4 \frac{9}{15} \quad 42.05 \quad 25.53$
$\begin{array}{lllll}4.0 & 8 & x 3 & 3\end{array} \frac{4}{4} \frac{9}{18} \quad 60.75 \quad 36.45$

Type 5009－5000v．D．C．W．
． $1238 \times 3 \frac{3}{4} \times 2 \frac{1 / 4}{24} \quad 24.3514 .61$
$.25 \quad 33 \times 3 \times 4 / 4 \times 21 / 4 \quad 27.5516 .53$
$\begin{array}{llll}.5 & 4^{1 / 4} \times 3 \frac{3}{4} \times 2^{1 / 2} & 30.4018 .24\end{array}$
$1.0 \quad 4 \frac{3}{8} \times 3 \% \times 4 \frac{9}{4} \times 38.00 \quad 22.80$
$\begin{array}{llllll}2.0 & 6 & \times 3 \\ 3\end{array} \frac{3}{4} \times 4 \frac{9}{18} \quad 48.60 \quad 29.16$

Type 6009－6000v．D．C．W．

| 1 | 3\％$\times 3$ \％$\times 21 / 4$ | 30.40 | 18.24 |
| :---: | :---: | :---: | :---: |
| ． 25 | $4^{5 / 6} \times 3$ 3／4 $\times 2^{1 / 4}$ | 38.00 | 22.80 |
| ． 5 | $43 / 8 \times 3 / 4 \times 4 \frac{10}{10}$ | 43.05 | 25.83 |
| ． 0 | $8 \times 3$ 迷 $\times 4.9$ | 75.95 | 45.57 |

Type 7509．7500v．D．C．W．

| ． 1 | $37 / 8 \times 3 / 4 \times$ | 43.05 | 25.8 |
| :---: | :---: | :---: | :---: |
| ． 25 | ［ $1 / 7 \times 3$ 3 ${ }^{3} \times 21 / 2$ | 45.55 | 2 |
| ． 5 | $51 / 8 \times 83 / 4 \times 4 \frac{9}{18}$ | 49.35 | 29. |

high-VOLTAGE TRANSMITTER TYPE D.C. CAPACITORS

## Type 20

$6,000 \mathrm{v}$. D.C. Work. to $50,000 \mathrm{v}$. D.C. Work.

These capacitors meet the exacting requirements of radio trans mitter service and ouher applications requiring high-voltage, heary duty, transmitter-type oil capacitors. Available in ratings from 6000 allel-section standards of capacitors. Type 20 units are critically checked to close stampards of physical and electrical perfection. Capacitor sections consist of muiti-layered capacitor tissues und high-purity aluminum foil uniformy and accuratels wound under critically-controlled tension, then vacuum-impregnated with Aerovox H wol to insure stability of full-rated capacitance, even at zero temperatures. Welded steel containers finished in non-corrosive, dark grey lacquer. Heavy-duty porcelain insulator assmbly is cork-gasketed and pressure sealed to prevent lakage of oil or entrance of moisture at the terminals Singlesection units rated at 30 KV or less are normally supplied with capacitor section insulater from ground. Additional information on Type 20 nnits rated at 37,500 volts and 50,000 volts, well an wolt doubler units rated at 25.000 volts output is available on application All Type 20 units are built to special order-not carried in stock. Submit full application information when ordering.

Type 6020-6000v. D.C.W. Cap, Case Size-Ins. Mist Not atros. HxtlxD Price Price

| 2.0 | $11 \times 8 \times 1$ | $\$ 136.00$ | $\$ 82.00$ |
| ---: | ---: | ---: | ---: |
| 4.0 | $11 \times 12 \times 1$ | 167.00 | 100.00 |
| 5.0 | $11 \times 12 \times 1$ | 189.00 | 113.00 |
| 6.0 | $13 \times 12 \times 4$ | 212.00 | 127.00 |
| 10.0 | $13 \times 12 \times 6$ | 285.00 | 159.00 |

Type 7520-7500v. D.C.W.

| 0.5 |  |  |  | 0.5 | 11812x4 | 213.00 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $11 \times 8 \times 4$ | \$ 75.00 | \$ 45.00 | 1.0 | 13512x6 | \$26.00 | 195.00 |
| 1.0 | 118884 | 98.00 | 59.00 | 1.5 | 15×12x91/2 | 440.00 | 264.00 |
| 2.0 | 118884 | 151.00 | 91.00 | 2.0 | 15812x91/2 | 524.00 | 314.00 |
| 4.0 | $13 \times 12 \times 4$ | 227.00 | 136.00 | 4.0 | 15x14x18 | 919.00 | 551.00 |
| 8.0 | $13 \times 128$ | 273.00 | 164.00 |  |  |  |  |
|  |  |  |  | Type 25020-25,000v. D.C.W. |  |  |  |
| Type | 10020-10,000v. D.C.W. |  |  | 0.2 | 11×12x4 | \$197.00 | \$118.00 |
|  |  |  |  | 0.25 | 11810x4 | 265.00 | 159.00 |
| 1.0 | $11 \times 8 \times 4$ | \$197.00 | \$118.00 | 0.5 | 13x19x6 | 288.00 | 173.00 |
| 2.0 | $11 \times 12 \times 4$ | 250.00 | 150.00 | 1.0 | $15 \times 12 \times 91 / 2$ | 432. | 259.00 |
| 4.0 | 13×12x6 | 303.00 | 182.00 | Type 37520-37,500v. D.C.W. (Information supplied on application.) |  |  |  |
| 5.0 | 13x19x6 | 331.00 | 200.00 |  |  |  |  |
| Type 12520-12,500v. D.C.W. |  |  |  | Type 50020-50,000v. D.C.W. (lnformation supplied on application.) |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 0.5 | $11 \times 8 \times 1$ | \$167.00 | \$100.00 |  | Type 12 | 20 VD |  |
| 1.0 2.0 | $11 \times 12 \times 4$ | 219.00 | 127.00 | 25,00 | Volts 0 | put (1 | 500 |
| 2.0 | $13 \times 12 \times 0$ | 265.00 | 159.00 |  | 500 Volts) | -Dual | its |
| 5.0 | $15 \times 12 \times 91 / 2$ | 501.00 | 300.00 | nf | tion suppli | on ap | cation |

## COMPACT

HERMETICALLY-SEALED OIL-IMPREGNATED, OIL-FILLED "HYVOL" CAPACITORS

## Type 167

(Terminals on Top)
Compact, oil-
 filled, hermeticfor least space and $m$ in imum weight are essential. Corro-sion-proof metal container. Speproof terminals lesigned for equipment sulijected to severe atmospheric and climatic conditions. Suitable for by-pass and hiter applications in receiver's and low-power transmitters.

Type 416T
400v. D.C. Working

| $\begin{aligned} & \text { Cap. } \\ & \text { Mfds. } \end{aligned}$ | HxWxD | $\underset{\substack{\text { Pricice }}}{\text { P.ist }}$ | $\begin{aligned} & \text { Net } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| . 01 | $11 / 6 \times 15$ | \$2.60 | \$1.56 |
| . 05 |  | 2.65 | 1.59 |
| . 1 | $1 \frac{7}{16} \times 1 \frac{5}{16} \times 14$. | 2.87 | 1.71 |
| . 25 | $1+\frac{1}{6} \times 1 \frac{5}{18} \times 4$ | 2.90 | 1.74 |
| . 5 | $118 \times 15$ | 2.95 | 1.77 |
| 1.0 |  |  |  |

Type 616T
600 v. D.C. Working

| . 01 | 12/6x $\times 15$ | \$2.65 | \$1.59 |
| :---: | :---: | :---: | :---: |
| . 0 |  | 2.80 | 1.68 |
| . 1 |  | 2.90 | 1.74 |
| 25 |  | 2.95 | 1.77 |
| . 5 | $2 \frac{1}{18} \times 1 \frac{5}{18} \times 18$ | 3.05 | 1.83 |
| 1.0 |  | 3.40 | 2.04 |

Type 1016 T
1000v. D.C. Working

| . 01 | $11 / 4 \times 15 \times 18$ | \$2.80 | \$1.68 |
| :---: | :---: | :---: | :---: |
| . 05 | $1, \frac{7}{10} \times 1{ }^{\frac{5}{10} \times 14}$ | 2.85 | 1.71 |
| . 1 | $1{ }_{1}^{\frac{7}{16} \times 1} \times 15$ | 2.95 | 1.77 |
| . 25 | $14.4 \times 1 \frac{5}{16} \times 14$ | 3.05 | 1.88 |
| . 5 | $2{ }^{1} 18 \times 1 \frac{5}{16} \times 18$ | 3.30 | 1.98 |

hermetically-sealed OIL-IMPREGNATED, OIL-FILLED "HYYOL" CAPACITORS Type 18B
(Terminals on Bottom)


Compact, oil-filled, hermeticallysealed units. Type 18 is smaller in height and depth than Type 16 . However, greater width makes Type 18 adaptable for applications where small-sized dual- and triple-section capacitors with three terminals are reguiret. Otherwise, similar to Type 16 with respect to construction and application.

Type 418B
400v. D.C. Working
Sirgle Section Units
Cap.

| Cap. |  | List | Net |
| :---: | :---: | :---: | :---: |
| Mifds. | HxWxD | Price | Price |
| . 05 | $181 \%$ x ${ }^{\text {暏 }}$ | \$2.85 | \$1.71 |
| . 1 | $1 \times 18 / 4 \times 18$ | $\underline{2.95}$ | 1.77 |
| . 25 | $11 / 2 \times 13 / 4 \times 8$ | 3.05 | 1.8 |
| . 5 | $1{ }^{14} \times 13_{4} \times 18$ | 3.15 | 1.89 |
| 1.0 | $2 \times 13 \times 1{ }^{1} \frac{8}{18}$ | 3.50 | 2.10 |
| Dual-Section Units |  |  |  |
| . $05-.05$ | 813/4189 | \$3.65 | \$2.19 |
| .1-.1 | $11 / 8 \times 13 / 4 \times 8$ | 3.75 | 2.25 |
| . $25-.25$ | $14 \times 13459$ | 3.90 | 2.34 |
| .5-. 5 | $2 \times 134 \times \frac{9}{16}$ | 4.25 | 2.55 |
| Triple-Section Units |  |  |  |
| . $05-.05-.05$ |  | \$4.50 | \$2.70 |
| . $1-.1-1$ | $11 / 2 \times 1 y^{1 / 8180}$ | 4.80 | 2.88 |
| . $25-.25-.25$ | $2 \times 13$ x ${ }^{\frac{18}{81}}$ | 5.20 | 3.12 |

## Type 618B

600v. D.C. Working
Single Section Units
$1 \mathrm{xl} \frac{1}{4} \mathrm{x}_{1} \mathrm{P}_{8} \quad \$ 2.90 \quad \$ 1.74$ $\begin{array}{llll}1813 / 4 \times \frac{8}{18} & 3.05 & 1.83\end{array}$ $\begin{array}{llll}11 / 2 \times 13 / 4 \times 18 & 3.15 & 1.89\end{array}$ $114 \times 13 \times \frac{9}{16} \quad 3.35 \quad 2.01$ $\begin{array}{lll}1 \frac{1}{2} \times 18 / 4 \times \frac{9}{18} & 3.65 & 2.19\end{array}$

Dual-Section Units

| .05-.05 |  | \$3.80 | \$2.28 |
| :---: | :---: | :---: | :---: |
| . $1-.1$ | $11 / 2 \times 13 \times 18$ | 3.90 | 2.34 |
| 25-. 25 | $1+8 \times 1 \% \times 18$ | 4.15 | 2.49 |
| .5-.5 |  | 4.50 | 2.70 |

## CUSTOM-BUILT PAPER CAPACITORS TO MEET YOUR SPECIAL NEEDS -



If your paper capacitor needs are most unusual, AEROVOX will work with you in designing and producing special types. With many basic types to draw upon-a wide choice of containers, terminals, mountings, sizes, etc,-we can quickly and economically proluce out-of-the-ordinary capacitors to meet those extraordinary requirements. Address your inquiry to Aerovox Engineering Department. New Bedford, Mass
(4)

"SLIDEOHM" Wire-Wound Vitreous-Enameled ADJUSTABLE RESISTORS

Type 954-50 Watts


Adjustable resistors combining adjustument to any resistance value within unit's range, with positive, permanent non-fluctuating qualipermanent, non-fluctuating qualislideohm Kesistor is provided with Sideohm Resistor is provided with horizontal adjustable contact slider

Type 952-25 Watts
Size $5 / 8 \times 2$ inches
Ranges List Net

1-5000 ....... each $\$ 1.24 \quad \$ 0.74$ $6000-10,000$ …..... $1.43 \quad \$ 0.85$

## Size $3 / 4 \times 41 / 2$ inche日

Ranges List Nel $5-5000$....... each $\$ 1.95$ \$1.17 $\begin{array}{llll}6000-25,000 & \ldots \ldots . . . . . & 2.15 & 1.29 \\ 30,000-50,000 & 2.47 & 1.48\end{array}$ Extra Slider Bands-13c ea., Net 70

Type 956- 75 Watts Size $3 / 4 \times 61 / 2$ inches $5-5000, \ldots .$.
$6000-25,000$ each $\$ 2.54 \quad \$ 1.52$ $\begin{array}{llll}6000-25,000 & \cdots \cdots . . . . . & 2.86 & 1.71 \\ 30,000-50,000 & 1.95 \\ 60000 & 3.25 & \mathbf{2 . 9 5}\end{array}$ $\begin{array}{rr}60,000-70,000 & 3.14 \\ \\ \end{array}$
Type 957-100 Watts
Size $11 / 8 \times 1 / 2$ inches
$5-5000$....... each $\$ 2.86$ \$1.71 $6000 \cdot 25,000$

| each |  |
| ---: | ---: |
| $\$ 2.86$ | $\$ 1.71$ |
|  | 3.25 | 30,000-50,000

3.58 60,000-75,000 ….... 3.90 2.34 Extra Slider Bands-20c ea., Net 12c

Type 958-200 Watts Size 1 1/8 x $101 / 2$ inchea
5-10,000 $\ldots \ldots$. each $\$ 4.29 \quad \$ 2.57$ 15,000-100,000 ….. $5.01 \quad 3.00$ $125,000-150,000 \ldots 5.33 \quad 3.19$ $\begin{array}{llllll} & 952 & 954 & 956 & 957 & 958\end{array}$ Resis. $\quad 25$ Watts 50 Watts 75 Watts 100 Watts 200 Watts Ohms

| Ohms $\begin{array}{r} \\ \\ 1 \\ 3 \\ 5 \\ 10 \\ 15\end{array}$ | $\begin{aligned} & \text { Cur. M.A. } \\ & 5000 \end{aligned}$ | Cur. M.A. | cur. M.A. | Cur. | Cur. M.A. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
|  | 2880 |  |  |  |  |
|  | 2230 | 3160 | 3870 | 4470 | 6320 |
|  | 1580 | 2240 | 2740 | 3160 | 4470 |
|  | 1290 |  | 2240 | 2580 |  |
| 20 | 1115 |  |  |  |  |
| 25 | 1000 | 1410 | 1730 | 2000 | 2825 |
| 50 | 710 | 1000 | 1220 | 1410 | 2000 |
| 75 | 580 | 815 | 1000 | 1150 |  |
| 100 | 500 | 705 | 865 | 1000 | 1400 |
| 150 | 410 | 575 |  |  |  |
| 200 | 355 | 500 | 610 |  |  |
| 250 | 315 | 445 | 550 | 680 | 900 |
| 300 | 290 | 405 | 500 |  |  |
| 400 | 250 | 350 | 430 |  |  |
| 500 | 225 | 315 | 385 | 445 | 630 |
| 750 | 180 | 260 | 315 | 365 |  |
| 800 |  | 250 | 305 |  |  |
| 850 | 170 |  |  |  |  |
| 1000 | 160 | 225 | 275 | 315 | 450 |
| 1250 | 140 | 200 | 245 |  |  |
| 1500 | 130 | 180 | 225 | 260 | 365 |
| 20 co | 110 | 160 | 195 | 225 | 315 |
| 2250 | 105 | 150 |  |  |  |
| 2500 | 100 | 140 | 173 | 200 | 280 |
| 3000 | 90 | 130 | 158 | 180 | 260 |
| 3500 | 85 | 120 | 146 | 170 | 240 |
| 4000 | 80 | 110 | 137 | 160 | 225 |
| 4500 | 74 | 105 | 129 | 150 | 210 |
| 5000 | 70 | 100 | 122 | 140 | 200 |
| 6000 | 65 | 91 | 111 | 130 |  |
| 7000 | 57 | 85 | 103 |  |  |
| 7500 | 53 |  | 100 | 115 | 165 |
| 8000 | 50 | 79 | 97 | 110 |  |
| 8500 | 47 |  |  |  |  |
| 9000 | 44 | 75 | 91 |  |  |
| 10,000 | 40 | 71 | 87 | 100 | 140 |
| 12,000 |  | 64 |  |  |  |
| 15,000 |  | 58 | 71 | 80 | 115 |
| 20,000 |  | 48 | 61 | 70 | 100 |
| 25,000 |  | 40 | 55 | 68 | 90 |
| 30,000 |  | 33 | 50 | 50 | 82 |
| 35,000 |  |  | 43 | 43 | 71 |
| 40,000 |  | 25 | 37 | 37 | ${ }_{5} 6$ |
| 50,000 |  | 20 | 30 | 30 | 50 |
| 60.000 |  |  | 25 | 25 | 42 |
| 70,000 |  |  | 21 | 21 |  |
| 75,000 |  |  |  | 20 | 33 |
| 100.000 |  |  |  |  | 25 |
| 125.000 150.000 |  |  |  |  | 16 |

# 'PYROHM JUNIOR' <br> Wire-Wound Vitreous-Enameled FIXED RESISTORS 

Types 931 and 933



Compact, genuine wite-waund units. Covered with vitreous-enamel. Highest quality materials used throughout. Correctly designed Note these features:

1. Crack-proof refractory tubing for the support. Adequate heat dissipation.
2. Quality resistance wire precisely space wound under tension.
3. Copper terminal band clamped to tubing. Wire ends wrapped about raised ear and brazed to same.
4. Ileavy vitreous-enamel coating for permanent seal against moisture, oxidation and mechanical damage.
5. Pig-tail of stiff wire 2 in . long soldered to terminal band for positive, non-breakable connection.

Type 933-20 Watts Size-Ins. 昜 $\times 2$

## Size-Ins. $\frac{5}{10} \times 13 / 4$ <br> \section*{Ranges}

Type 931-10 Watts
$1-10,000 \quad \ldots \ldots \ldots \ldots . . \begin{array}{ll} \\ 12,000-50,000 & \$ 0.35\end{array}$
30,000 to 50,000 olms, rated at 5 watts.

| Stock Resistance Ranges |  |  |  |
| ---: | :---: | ---: | ---: |
| 1 | 200 | 1750 | 12,000 |
| 2 | 250 | 2000 | 12,500 |
| 3 | 300 | 2500 | 13,500 |
| 4 | 350 | 2750 | 14,300 |
| 5 | 400 | 3000 | 15,000 |
| 7.5 | 450 | 3500 | 16,000 |
| 10 | 500 | 4000 | 17,500 |
| 12 | 600 | 4500 | 18,000 |
| 15 | 650 | 5000 | 20,000 |
| 20 | 700 | 5500 | 22,500 |
| 25 | 750 | 6000 | 25,000 |
| 30 | 800 | 7000 | 30,000 |
| 35 | 850 | 7500 | 35,000 |
| 40 | 900 | 8000 | 40,000 |
| 50 | 1000 | 8500 | 45,000 |
| 75 | 1100 | 9000 | 50,000 |
| 100 | 1200 | 10,000 |  |
| 125 | 1250 |  |  |
| 150 | 1400 |  |  |
| 175 | 1500 |  |  |

Ranges List Net $1-15,000 \quad \ldots \ldots \ldots . . .80 .91 \quad \$ 0.59$ 20.000-50.000 $\quad 1.11 \quad .66$ $55,000-100,000 \quad 1+3 \quad .85$ 25,000-100,000 ohms rated at 7 watts.
Stock Resistance Ranges

| Stock Resistance Ranges |  |  |  |
| ---: | :---: | ---: | ---: |
| $\mathbf{1}$ | 650 | 3000 | 35,000 |
| 3 | 700 | 3500 | 40,000 |
| 5 | 750 | 4000 | 45,000 |
| 10 | 800 | 4500 | 50,000 |
| 15 | 850 | 5000 | 55,000 |
| 25 | 1000 | 6000 | 60,000 |
| 50 | 1200 | 7000 | 65,000 |
| 75 | 1250 | 7500 | 70,000 |
| 100 | 1500 | 8000 | 75,000 |
| 150 | 1750 | 10,000 | 80,000 |
| 175 | 1850 | 12,500 | 85,000 |
| 200 | 2000 | 13,000 | 90,000 |
| 250 | 2250 | 15,000 | 95,000 |
| 300 | 2400 | 20,000 | 100,000 |
| 350 | 2500 | 25,000 |  |
| 400 | 2750 | 30,000 |  |
| 500 |  |  |  |
|  |  |  |  |

Types 1097 and 1098

| Small, noiseless, vibration-proof. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Crack-proof molded casing around molded carbon resistance element. |  |  |  |  |
| Tinned copper pig-tail leads 2 in. |  |  |  |  |
| long. Resists humidity effects. |  |  |  |  |
| Ideal for AVC circuits, high-gain |  |  |  |  |
| amplifiers. RMA color - coded; |  |  |  |  |
| stamped with resistance value. Pre- |  |  |  |  |
| cision tested. Standard tolerance |  |  |  |  |
| 10\%. These types may come thru |  |  |  |  |
| for some time in slightly larger sizes until complete changeover is achieved. |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Rating | g Size | List | Net |
| Types | Wat | In | 0a. |  |
| 98 | 11 | $11 / 4 \times 5 / 8$ | \$.17 | \$. |
| 1097 | 1/2 | $\frac{5}{32} \times 3 / 8$ | 13 | . 08 |

## INSULATED MOLDED CARBON RESISTORS

- Fax

| Stock | Resistance Ranges-Ohms |  |  |  |
| :---: | :---: | :---: | ---: | :---: |
| 10 | 750 | 11000 | 150000 |  |
| 15 | 800 | 12000 | 175000 |  |
| 20 | 900 | 12500 | 200000 |  |
| 25 | 1000 | 13000 | 250000 |  |
| 30 | 1250 | 14000 | 300000 |  |
| 40 | 1500 | 15000 | 400000 |  |
| 50 | 1750 | 17500 | 500000 |  |
| 60 | 2000 | 20000 | 600000 |  |
| 75 | 2250 | 29500 | 750000 |  |
| 100 | 2500 | 25000 | 1 Meg. |  |
| 120 | 3000 | 30000 | $11 / 2 \mathrm{Meg}$. |  |
| 150 | 3500 | 35000 | 2 Meg. |  |
| 200 | 4000 | 40000 | $21 / 2 \mathrm{Meg}$. |  |
| 250 | 5000 | 50000 | 3 Meg. |  |
| 300 | 6000 | 60000 | 4 Meg. |  |
| 350 | 7000 | 65000 | 5 Meg. |  |
| 400 | 7500 | 70000 | 6 Meg. |  |
| 450 | 8000 | 75000 | 7 Meg. |  |
| 500 | 9000 | 100000 | 10 Meg. |  |
| 600 | 10000 | 125000 | 20 Meg. |  |

## TEST INSTRUMENTS



## AEROVOX CAPACITANCE AND RESISTANCE BRIDGE

AEROVOX MODEL 76 Resistance Capacitance Bridge is the new postwar general-utility instrument combining simplicity of operation, remarkable degree of accuracy, and modest price. Extrene ruggedness makes it equally suitable out on the job, in the shop, or in the laboratory

Sloping panel $10^{\prime \prime} \times 6^{\prime \prime}$. Aluminum, etched and anodized. Steel cabinet, black crackle finish. All readings taken from main $4^{\prime \prime}$ dial. Same calibrated scale eliminates trouble and chances for errors in reading. Linear scale, also an exclusive feature, means no crowding at high end to make readings difficult and inaccurate. Both the resistance and the capacitance readings are covered by six overlapping ranges, as aginst two or three in usual service instruments, for maximum sensitivity and accuracy. Positive "magic eye" indicator.

Here is what Model 76 Bridge does: (1) Measures capacitance from 100 numf. to 200 mfd . in six ranges. (2) Measures resistance from 10 ohms to 20 megohms in six ranges. (3) Measures power factor from 0 to $50 \%$. (4) Provides D.S. polarizing potential for leakage measurements, from 0 to 600 V . D.C., continuously variable and calibrated in volts. (5) Checks leakage or insulation resistance.

Instrument is provided with shockproof. color-coded test leads fitted with banana plugs for panel jacks, and with clips. Instructions. Measures $10^{\prime \prime} \times 73 / 4^{\prime \prime} \times 81 / 4^{\prime \prime}$. Weight 8 lbs 3 oz .

## AEROVOX L.C CHECKER

$\star$ This exclusive Aerovox development has no counterpart, much less an equal. Basically, it determines the effectiveness of any capacitance or inductance while actually connected in its circuit. Testing efficiency is greatly increased. Components may be tested singly or in combinations whereby to determine resonant frequency and effectiveness of given circuits. Circuit or systems may be adjusted by this checking means for proper operating efficiency. Certainly a "must" instrument for the radio worker.

## here's a partial listing of what the AEROVOX L-C CHECKER DOES:

It checks capacitance of capacitors at radio frequencies without removing them from circuit. - It checks alignment of r.f. circuits; also tracking of super-het. oscillator. - It checks alignment of broad and narrow band i.f. amplifiers. - It checks the tuning of wave traps and of image-rejection circuits; frequency ranges of receivers; frequency ranges of signal generators; calibration of wave meter. - Identifies harmonics of frequency standard in precision frequency calibration of radio equipment. - It checks natural resonant points of r.f. chokes making sure they are beyond operating range. - It traces resonant absorption trouble in "all-wave" receiver circuits-locating dead spots, etc. - It locates resonant points in shorted windings (unused coils) in multi-range oscillators, etc. - Locates resonant frequency of r.f. coupling chokes, making certain of placement to secure enough gain balance over tuning range of r.f.stage - It checks natural period of antennae and transmission lines in
order to have resonant peaks at certain frequencies. - It checks quartz crystals for frequency, false frequency, operation at harmonics, and for activity. - Checks FM i.f. transformers. - Checks alignment of FM i.f. channels. Checks leakage of paper capacitors. And it checks many other functions when used with auxiliary equipment. This checker operates from AC or from DC 120 volts source. It has a frequency range from 100 KC to 44 MC as follows:


## Model No. 96

 $\$ 44.75$Net, Each

Range: A - $75-225 \mathrm{KC}$

$$
\mathrm{B}-200-600 \mathrm{KC}
$$

$$
\mathrm{C}-550-1650 \mathrm{KC}
$$

$$
\begin{aligned}
& \mathrm{D}-1.5-5 \mathrm{MC} \\
& \mathrm{E}-4.5-14.5 \mathrm{MC} \\
& \mathrm{~F}-13-44 \mathrm{MC}
\end{aligned}
$$

Capacitance Range: . 00025 mfds. 1 mfd .
Inductance Range: $0-500 \mathrm{MH}$
Tube Complement: 6J5G, 25Z5, 6E5, VR105
Accuracy: Capacitance and Inductance $\pm 10 \%$
Frequency Ranges $\mathrm{A}, \mathrm{B}, \mathrm{C}: \pm 1 \%$
Other Ranges: $\pm 2.5 \%$
Dimensions: $101 / 2 \times 71 / 2 \times 51 / 2$
This new model L-C Checker has provisions for determining the insulation resistance of capacitors in addition to the measurements described in bulletin 995A.

Weight: (shipping) 6 lls .

# P <br>  

- This is a postscript. This page contains several new Aerovox products recently introduced and not as yet cataloged. These special-duty capacitors are of particular interest to advanced radio workers, builders of special equipment, experimenters and engineers.
Other new products are being announced from
time to time. Aerovox engineering is keeping abreast of the rapid advances of the racio-electronic art? Therefore, if you do not see what you need in these pages, tell us about. your unusual needs. Aerovox either has a type already developed and in production, or will consider an entirely new type if war: ranted by the anticipated demand.


## LOW-INDUGTANCE MICA CAPACITOR

AEROVOX SERIES 1690 is a molded-inbakelite mica capacitor designed for exceptionally low loss operation at ultra high frequencles. External evidence of tts efficiency is offered by the rounded hardware-round nuts, round washers and spherical lock nuts ellminating sharp edges and corners that cause corona losser. The use of fine threads for the terminal studs insures maximum contact and minimum r.f. resistance. Silver plating of all conducting members minimizes skim resistance. The body is of XM or sellow low-loss bakelite. Internally, the mica stack is designed for a straight-line path for high frequencles.
This type is sereral times larger than the conventional molded-in-bakelite transmitting
micas. Body dimensions are 23 "/alde $\mathbf{I}$ 2-3/16" deep $\mathbf{x} 13 / /^{\prime \prime}$ high, and $43 / 4^{\prime \prime}$ overall between rounded terminal tips.
Units are available in ratings up to 20,000 volts D.C. Test or 10,000 rolts operating. and in capacitance values up to .001 mid . at the highest roltage rating.
This type has been dereloped specifically for lower r.f. resistance and impedance, thereby providing increased KVA ratings for given size. Such units can be adrantageously applied as blocking capacitors in transmission lines, as tank capacitors for high-frequency oscillators, as by-pass capacitors for ultra-high-frequency energy, and as coupling or by-pass capacitors in induction-heating circuits.


## WATER-COOLED MICA CAPACITOR

AEROVOX SERIES 1780 water-cooled mica capacitor is available for extra-heary duty service such as high-power transmitters and induction furnaces. The watercooling feature boosts the KVA rating by a factor of five or more, or conversely, greatly reduces the bulk for given rating.

The higher KVA ratings ate obtained in two ways: First, by exceptional design such as eriticar arrangement and location of mica sections; critical selection of materials; specially-plated parts; large crosssection of conductors; attention to details. Secoud, by the use of a water-cooling system so designed as to provide maximum heat transfer from capacitor to cooling coils.

The mica stacks arc in an oil bath. Cooling coils in the oil luath provide for the efficient transfer of heat. What this cooling system means may be judged from the fact that a unit handling 200 KYA for
aircooled operations steps up to 1000 KVA with water-cooling.

The series-parallel mica stack is designed for uniform current distribution throughout. There is a large factor of safety. Silver-plated hardware minimizes skin resistance. Terminals are furnished with large radii of curvature to minimize and even eliminate corona. The steatite insulator is shaped to hold gradients below corona limits.

Heavy non-terrous welded metal case, hermetically-sealed and grounded. Sidemounted nipples for connecting watercooling hose. Sturdy mounting flanges. l'rovisions for making connectious with high-current-capacity conductors. Fourstud terminal for low-loss connections.

Available in ratings up to 25,000 volts A.C. Test, and in capacitances up to .01 mid .


## ULTRA-HIGH-FREQUENCY CAPACITORS

AEROVOX SERIES 1860 and 1805 are engineered and especially recommended for use in ultra-high-frequency radio equipment such as television and FM transmitter, as well as other miscellaneous applications in the u.h.f. field. In such applications they are readily adaptable for use as fixed-tuning capacitors, bypass blocking, coupling, neutralizing and antenna-series capacitors.

Losses are extremely low, due to the highly refined sulphur dielectric. Corona insses are ayoided by the unique construction design, the grounded case and the terminal on each type.

Series 1860 (not illustrated) is the smaller unit in an aluminum can, intended more for the radio amateur and experimenter, and for low-cost assemblies. It has a suitally plated brass terminal mounted on a mica insulating plate. Available in four types: . 0001 mfd ., $10,000 \mathrm{v} .$. ; $.000025 \mathrm{mfd} ., 10,000$ v.; . 00005,5000 v.; $.00005,10,000$ v. Voltage is Peak Working Volts.

Series 1865 (illustrated) is the larger unit, in a cast aluminum case with steatite insulator supporting the higher-voltage terminal. Available in capacitances from .00002 to .000125 mfd , at 10 . 000 v .


## SERIES 'M' COMPOSITION-ELEMENT CONTROLS

Compactness-yet without sacrificing operating efficiency and long service life. Only $11 / \mathbf{g}^{\prime \prime}$ dia. hy ${ }^{\prime \prime}{ }^{\prime \prime}$ deep (with iwitch, $7 / 8$ " deep)

Utilizes the exclusive Clarostat stabilized element, insuring the control's constancy in all weather and in all climates. Many years of painstaking research and experience are incorporated into the design of Clarostat Series " $M$ " controls, assuring the user of the lest results at all times.

The original Clarostat "Ad-A-Switch" feature makes it possible to adapt any of the Series "A" switches quickly to any M, AM, T and AT controls. Furthermore, for high-voltage television, oscillograph or other elec. tronic circuits, the new Clarostat Series 60 HighVoltage Coupling Unit can be attached to all Clarostat controls (illustrated below) to assure safety at elevated voltages. The cost of this added feature is quite moderate. High-voltage couplers are installed at Dia.: $11 / \mathrm{s}^{\prime \prime}$. Shaft:21/8". Soft factory only.



Standard Packing - 10 (ten) per carton

## SERIES 'T' TAPPED CONTROLS

## With the Original Ad-A-Switch Feature

$\star$ There are many circuits in which the use of a tapped control affiords special functional operation not possible or attainable with any other type of control. These standard units listed herewith permit replacement of tapped units with the assurance that the total overall resistance value as well as the taps satisfactorily substitute for the original.

| $\frac{\text { Cat, No. }}{\text { T-25 }}$ | $\frac{\text { Ohms }}{50,000}$ | Tap No. 1 | Tap No. 2 | Tap No. 3 | Cat. No. | Ohms | Tap No. 1 | Tap No. 2 | Tap No. 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T-38 | 200,000 |  | 25,000 |  | T-103 | 1,000.000 |  | 100,000 |  |
| T-39 | 250,000 |  | 25,000 | 100,000 | T-109 | 1,000,000 |  | 225,000 |  |
| T. 42 | 250,000 |  | 125,000 |  | T-110 | 1.000,000 |  | 170,000 |  |
| T.43 | 250.000 |  | 125,000 |  | T-111 | 1,000,000 |  |  | 200.000 |
| T.44 | 250,000 | 60,000 |  | 50,000 125.000 | T.112 T .95 | 1,000,000 |  | 500,000 |  |
| T-45 T.60 | 250,000 | 30,000 | 60,000 | 125.000 | T-95 $\mathrm{T}-125$ | $1.500,000$ $1,500,000$ | 250.000 | @ 25\% Kotation | 500,000 |
| T-60 T-69 | 350,000 350.000 |  | 25,000 |  | $T-125$ $T .114$ | $1,500,000$ $\mathbf{2 , 0 0 0 , 0 0 0}$ |  | $\begin{aligned} & 350,000 \\ & 100,000 \end{aligned}$ |  |
| T.70 | 350.000 350.000 | 75,000 |  |  | T.115 | 2,000,000 |  | 500.000 |  |
| T-78 | 500.000 |  | 75,000 100,000 |  | T-116 | 2,000,000 |  | 1,000,000 |  |
| T. 80 | 500.000 |  | 100,000 |  | T-118 | 2,000,000 | 20.000 |  |  |
| T-81 | 500 ,000 | 25.000 |  | 100,000 | T-119 | 2,000,000 |  | 200,000 |  |
| T-82 | 500,000 | 25.000 |  |  | T-120 | 2,000,000 |  | 400,000 |  |
| T-88 | 500,000 |  | 50,000 | 200,000 | T-121 | $2,000.000$ | 250,000 |  | 500,000 |
| T-90 | 500,000 |  | 250,000 |  | T-124 T .126 | 2,000,000 | 5,000 | @ $\mathbf{2 5 \%}$ Rotation |  |
| T-92 | 500.000 | 100,000 | 250,000 |  | T. 126 | 2,000,000 | 200.000 |  | 400.000 |
| T.98 | 1.000 .000 | 250.000 |  | 300,000 | T-129 | $2,000,000$ 2,500000 | 15,000 |  |  |
| T-101 | 1,000,000 | - 0.00 | 50,000 |  | T-123 | $2,500.000$ $4,000,000$ | 250.000 |  | 500.000 |
| T. 102 | 1,000,000 | 100,000 | 50,000 | 500.000 | T-128 | 4,000,000 |  | 500,000 |  |

## LIST PRICE $\$ 1.85$ (Without Switch) <br> For Power Switch, see Series SW listed below.

Standard Packing - 10 (ten) per carton


High-Voltage Coupler Fitted to any Clarostat control. at factors. on spectal Cat. No. 60-3-2 3.000 \%. $\$ 1.25$ $\begin{array}{llll}60-3-4 & 10.000 & \mathrm{v} . & 1.85\end{array}$

## THE ORIGINAL "AD-A-SWITCH" FEATURE FOR SERIES "M", "AM', "T" "AT" CONTROLS

Cat. No.
SW-A
SW-A1 Single-Pole Single-Throw
SW-A2 Three-Wity, No "Off" position S.P.D.T........................................................ 75
SW-A4 Four-wire Single-Throw ........................................................................... 75
SW-A4 Four-wire (to control A, B and C voltages) ...................................................................... 75
SW-A5 S.P.S.T. (reverse action)................................................................................. 75



Ad-I-Switch is used in place of usual dust-protection cover, and lurs bent over to hold it in place.

## CLAROSTAT

## SERIES "AM" AND "AT" UNIVERSAL PICK-A-SHAFT CONTROLS

 Standard and Tapped for Every Service Need- These universal controls are built to the same exacting specifications as Series "M" and "T". However, instead of having the usual integral shaft, these controls include the Clarostat "lick-A-Shaft" feature wherely a choice of shafts may be used with any of these controls. This ingenious feature elimi-
nates the stocking of special-shaft units. Instead, the Series "AM" or Series "AT" (tapped unit) takes the particular type of shaft desired by merely inserting such a slaft so that the spring washer suajs into the groove provided in the shaft.

One selected shaft furnished FREE with each Pick-A-Slaft control.

## SERIES "AM" OR STANDARD PICK-A-SHAFT CONTROLS

| Cat. No. | Ohms | Curve | Suggested Use |
| :---: | :---: | :---: | :---: |
| AM.5-S | 500 | S | Std. Pot. |
| AM.8.S | 1,000 | S | Sid. L'ot. |
| AM-11-S | 2,000 | S | Std. l'ot. |
| M-15-S | 3,000 | S | Std. Pot. |
| AM-80-S | 4,000 | N | std. Pot. |
| AM-19-S | 5,000 | S | Std. Pot. |
| AM-20-U | 5,000 | U | Ant. \& C - Bias |
| AM-23-S | 7,500 | S | Std. Pot. |
| AM-27-S | 10,000 | S | Std. Pot. |
| AM-29-U | 10,000 | U | Ant. \& C - Bias |
| AM-30-V | 10,000 | V | C Bias lheo. |
| AM-31-W | 10,060 | W | Sc. Grid \& I'hono. |
| AM-81-Z | 10.000 | Z | Ant. Shunt |
| AM-32-S | 15,000 | S | Std. I'ot. |
| AM-33-U | 15,000 | U | Ant. \& C - Bias |
| AM-34-V | 15,000 | V | C Bias Rheo. |
| AM-35-W | 15,000 | W | Sc. Grid \& I'hono. |
| AM-36-S | 20.000 | S | Stı. Pot. |
| AM-3T-U | 20.000 | U | Ant. \& C - Bias |
| AM-40-S | 25.000 | S | Stil. Pot. |
| AM-41-W | 25,000 | W | Sc. Grid \& Phono. |
| AM-72-V | 25,000 | V | C Bias Rheo. |
| AM-42-S | 30,000 | S | stal. Pot. |
| A M-43-S | +0,000 | S | Std. Pot. |
| AM-44-S | 50,000 | S | Std. Pot. |
| AM-45-W | 50,000 | W | sic. Grid \& Phono. |
| AM-46-Z | 50,000 | Z | Audio \& Tone |
| AM-47-S | 75,000 | S | Std. Pot. |
| A M- $+8 . \mathrm{V}$ | 75,000 | V | C Bias Rheo. |
| AM-49-S | 100.000 | S | Std. P'ot. |
| AM-51-Z | 100,000 | Z | Audin \& Tone |
| AM-5 - ${ }^{\text {S }}$ | 200.000 | S | Stc. Pot. |
| AM-55-S | 250,000 | S | Stid. Pot. |
| AM-64-Z | 250.000 | Z | Audio \& Tone |
| AM-57-S | 300,000 | N | Std. Pot. |
| AM-58-S | 500,000 | S | Std. Pot. |
| AM-59-Y | 500,000 | Y | Audio Shunt |
| AM-60-Z | 500,000 | 7 | Audio \& Tone |
| AM-79-Z | 750,000 | 7 | Audio \& Tone |
| AM-61-S | 1,000,000 | S | Stc. Pot. |
| AM-63-7 | 1,000,000 | Z | Audio \& Tone |
| AM-83-S | 2,000,000 | S | dudio \& Tone |
| AM-66-Z | 2,000,000 | 7 | Tone \& AYC |
| AM-67-Z | 3,000,000 | Z | Tone \& ATC |
| AM-68-Z | 4,000.000 | Z | Tone \& AVC |
| AM-69-Z | 5,000,000 | 7 | Tone \& AYC |
| AM-99-Z | 10,000,000 | 2 | Tone \& AVC |

## CLAROSSTAT

## MIDGET (15/16" dia.) CONTROLS



* Yes, sir - Clarostat has it first - the smaller, handier f $^{\prime \prime}$ control for tight spots. And it's a beauty. Note the trim lines. Nothing sacrificed by way of electrical and mechanical sturdiness and dependability. This is an entirely NEW control, developed from scratch, to meet the need of a more compact control of standard performance. Dimensions: $\psi_{5}{ }^{\prime \prime}$ diameter $\times 29 / 64^{\prime \prime}$ deep. With switch, $49 / 64^{\prime \prime}$ deep. $1 / 4^{\prime \prime}$ long, $3 / 8-32$ threaded bushing. Knurled shaft $1^{\prime \prime}$ long beyond bushing. Switch units attached at factory.

| Cat. No. | Resistance | Taper | Cat. No. with Switch | $\left(\begin{array}{c} \text { LIST } \\ \text { (no switeh) } \end{array}\right.$ | price <br> (with switch) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 15/16-64-Z | 250,000 ohms | Audio | 15/16-S-64-Z | \$1.25 | \$1.85 |
| 15/16-60-Z | 500,000 ohms | Audio | 15/16-S-60-Z | 1.25 | 1.85 |
| 15/16-63-Z | $1,000,000$ ohms | Audio | 15/16-S-63-Z | 1.25 | 1.85 |
| 15/16-66-Z | $2,000,000$ ohms | Audio | 15/16-S-66-Z | 1.25 | 1.85 |
| Standard packing 10 (ten) per carton |  |  |  |  |  |

## DUAL SERIES DC CONTROLS

$\star$ The Series DC controls are dual units - two controls of the same resistance values and tapers, connected in tandem for joint operation.

| Cat. No. | Panel Unit | Rear Unit |
| :--- | ---: | ---: |
| DC-34-S | $10,000-\mathrm{S}$ | $25.000-\mathrm{S}$ |
| DC-23-S | $10,000-\mathrm{S}$ | $50,000-\mathrm{S}$ |
| DC- $5-\mathrm{S}$ | $50,000-\mathrm{S}$ | $50,000-\mathrm{S}$ |
| DC- $6-\mathrm{Z}$ | $100,000-\mathrm{Z}$ | $100,000-\mathrm{Z}$ |
| DC-29-S | $250,000-\mathrm{S}$ | $250,000-\mathrm{S}$ |
| DC- $8-\mathrm{Z}$ | $250,000-\mathrm{Z}$ | $250,000-\mathrm{Z}$ |
| DC-10-Z | $500,000-\mathrm{Z}$ | $500,000-\mathrm{Z}$ |
| DC-11-Z | $1,000,000-\mathrm{Z}$ | $1,000,000-\mathrm{Z}$ |

LIST PRICE $\$ 3.10$
Standard packing-Individual carton

## ROTARY SWITCHES

$\star$ Compact, positive contact, bakelite molded and Underwriters' approved. Rated 1 Amp. 250 volt; 3 Amp. 125 volt. The physical dimensions of the switch are as follows:


Diameter $1_{3^{\prime}{ }^{\prime \prime}}$ ", body depth $\frac{9}{16 "}$, lug protrusion $1 / 4^{\prime \prime}$, locking projection on a ${ }^{3} z^{\prime \prime}$ radius, rotation for actuation 30 degrees.

All standard stock numbers have $\$ / 8^{\prime \prime}$ bushing, $11 / 2^{\prime \prime}$ length shaft, and one locking projection.
Cat. No. Switch Description List Prier

8590 Single Pole Single Throw................................................. $\$ 0.60$
8591 Single Pole Bussing Lug ...................................................... 75
8592 Double Pole Single Throw.............................................. . . 75
8593 Single Pole Double Throw ................................................... 75
8594 Single Pole Reversed Action 8595 Four Wire Single Throw ..........................................

Standard packing 10 (ten) per carton.

## POWER RESISTOR DECADE BOX

* A "Must" for Every Laboratory Power resistance measurements under actual load conditions. Just imagine being able to obtain ANY VALUE OF RESISTANCE from 1 ohm to 999.999 ohms IN STEPS OF ONE OHM, and at a POWER


NET PRICE \$90.00*
tories, engineering offices, plants, maintenance and service departments, and in schools.

Finish: Heavy-gauge metal case finished in frosted gray wrinkle. with etched black-and-aluminum front panel.

RATING OF 225 WATTS using a maximum of 1000 volts DC ( 660 volts AC ) !

Intended primarily for laboratory use and development engineering. Simplifies and expedites the selection of correct resistance values for given circuits and functions. These instruments are in daily use in labora-

Dimensions: 13 in. long; $81 / 2$ in. deep; $53 / 4$ in. high. Weight, 11 lbs.

Suggested Uses: Resistance determination. Load Resistance. Meter Multiplier. Calibrating Meters. Providing any desired ohmage as a universal power resistor.

## CLAROSTAT

## SERIES 43 MIDGET WIRE-WOUND CONTROLS

$\star$ A space-saving control of the wire-wound type. Similar in mechanical details and dimensions to the composition-element Series M control (page R-1). Pre-cision-wound alloy wire on bakelite strip. Rotor sweeps over inside face of winding. Special lubricant for minimized frictional drag and wear. Molded bakelite casing-high resistance to leakage. Protective metal cover (as shown in illustration). Only $11 / \mathbf{s}^{\prime \prime}$ dia. Body Depth, $\frac{9}{1 \hbar \prime \prime} ; 7{ }^{\prime \prime}$ deep with switch. $3 /{ }^{\prime \prime}$ bushing. Shaft $11 / 2^{\prime \prime}$ long. All switches perma-
 nently attached at factory.

| Resiatance Ohms | Curren. carrying Capacity in Ma. | Type No. Withont Switch | Type No. With Switch |
| :---: | :---: | :---: | :---: |
| 5 | 630 | 43-5 | $43 \mathrm{~S}-5$ |
| 10 | 450 | $43 \cdot 10$ | $43 \mathrm{~S}-10$ |
| 20 | 320 | 43-20 | $43 \mathrm{~S}-20$ |
| 25 | 280 | $43 \cdot 25$ | $43 \mathrm{~N}-25$ |
| 30 | 260 | 43-30 | $43 \mathrm{~S}-30$ |
| 40 | 295 | 43-40 | 43S-40 |
| 50 | 200 | $43 \cdot 50$ | $43 S-50$ |
| 75 | 165 | 43.75 | $43 S-75$ |
| 100 | 140 | +3-100 | $43 \mathrm{~S}-100$ |
| 150 | 115 | 43.150 | $43 \mathrm{~S}-150$ |
| 200 | 100 | 43-200 | $43 \mathrm{~S}-200$ |
| 300 | 90 | $43-300$ | $43 \mathrm{~S}-300$ |
| 400 | 70 | 43.400 | $435-400$ |
| 500 | 65 | 43-500 | $43 \mathrm{~S}-500$ |
| 750 | 55 | 43-750 | 43S-750 |
| 1,000 | 45 | 43.1000 | 43S-1000 |
| 2,000 | 31 | 43.2000 | 43世-2000 |
| 3,000 | 26 | 43.3000 | $43 \mathrm{~S}-3000$ |
| 4,000 | 92 | 43.4000 | $43 \mathrm{~S}-4000$ |
| 5.000 | 20 | $43 \cdot 5000$ | 43S-5000 |
| 7,500 | 16 | 43.7500 | 43S-7500 |
| 10,000 | 14 | 43-10000 | $43 \mathrm{~S}-10000$ |
| Standard packing - 10 (ten) per |  |  |  |



| Shaft |
| :---: |
| $3 /{ }^{\prime \prime}$ |
| $1 / z^{\prime \prime}$ |
| bushing. |

## SERIES 58 WIRE-WOUND CONTROLS

* Sturdy and reliable in construction yet capable of use for delicate control work, Series 58 Controls are without equal. Noiseless in operation, these units are standard equipment in laboratories. fine instruments, electronic equipment, and especially in the control rooms of radio stations and networks.

The switch is located to operate at extreme counter-clockwise rotation of the shaft. Moving element is insulated from mounting bushing and shaft, and is tested at 500 volts A.C. There is no danger of accidental shock or short-circuit.

| Cat. No. | Resistance in Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Cat. No. | Resistance in Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 58-1 | 1 | \$1.25 | 58-500 | 500 | 1.25 |
| 58-2 | 2 | 1.25 | 58-750 | 750 | 1.25 |
| 58-4 | 4 | 1.25 | 58-1000 | 1000 | 1.25 |
| 58-6 | 6 | 1.25 | 58-2000 | 2000 | 1.25 |
| 58-10 | 10 | 1.25 | 58-3000 | 3000 | 1.25 |
| 58-15 | 15 | 1.25 | 58-5000 | 5000 | 1.25 |
| 58-20 | 20 | 1.25 | 58-7500 | 7500 | 1.25 |
| 58-25 | 25 | 1.25 | 58-10K | 10,000 | 1.25 |
| 58-30 | 30 | 1.25 | 58-15K | 15,000 | 1.25 |
| 58-40 | 40 | 1.25 | 58-20K | 20,000 | 1.25 |
| 58-50 | 50 | 1.25 | 58-25K | 25.000 | 1.60 |
| 58-60 | 60 | 1.25 | 58-30K | 30,000 | 1.60 |
| 58-75 | 75 | 1.25 | 58.40K | 40.000 | 1.60 |
| 58-100 | 100 | 1.25 | 58-50K | 50,000 | 2.25 |
| 58-200 | 200 | 1.25 | 10.75K \% | 75,000 | 3.50 |
| 58-300 | 300 | 1.25 | 10-100K* | 100,000 | 3.50 |
| 58-400 | 400 | 1.25 |  |  |  |

If power switch is desired, the type of switch must be specified (See page R-1). Order as 58S and add to list the price of switch selected. The S.P.S.T. switch is supplied as standard where no type is specified. All switches are permanently fastened to the control at the factory.

Standard packing-10 (ten) per carton.

* These units are $1^{\prime \prime}$ in depth and are the Clarostat Series 10.


## BEAM BENDER

* Simplicity and economy mark use of the Clarostat Beam Bender in connection with television cathode-ray tubes requiring some external means of controlling loose
 ions. Entirely self-contained. Applied without tools. Three spring fingers provide frictional yet adjustable fit on neck of usual $10^{\prime \prime}$ tube. Permanent ring magnets provide magnetic flux proportional to required beam-bending function in the tube. Individually packaged. Cat. No. TV-1 - List Price $\$ 3.00$

* Most replacements for least parts stock? Fastest moving items. No duds. Every item a "must" in evervday servicing. Neatly packed in handsome green steel box with hinged top. Handy as filing cabinet, strong box. odds-and-ends box, etc. Contains 6 ballast tubes; 12 volme controls; 4 AD-A-Switches; 5 Greenohms; Dural Hand-D-Wrench; Authorized Service plaque: Data. A $\$ 30.15$ value for only: Kit No. 5
\$15.07 Net Cost*


## CLAR(O)STAT



## CONSTANT IMPEDANCE CONTROLS

* Self-compeneating volume controls or attenuators known as L-pats and T-pads are essential in eliminating the distortion that arises from the mismatching of impedances in broadeast transmission, sound recorring or public address systems. With Clarostat constant-impedance L-parls and T-pads the input and output imperlances of associated equipment in a circuit can le kept within the limits of a constant required value.

These pads lave a continuous range from 0.5 to $\mathbf{3 0}$ decibels attenuation in $90 \%$ of rotation, the last $10 \%$ affording
infinite attenmation. Employable at either the source or the load in a circuit (see diagrams) these units are readily one-hole mounted. They afford a wide range of uses as mixers, faders, multiple-speaker controls, etc. Such controls can be used as individual volume controls for multiplespeaker systems, without affecting or changing the source impedance.

These units are rated at $21 / 2$ watts when used on DC or constant frequency signals. However, they have succesafully been used up to 10 watts on audio circuits.


Series CIL-58 L-pads are connected as her
shown.

## SERIES CIT Wire-Wound T-Pads



## SERIES CIL

 Wire-Wound L-Pads
db steps are 3, 6, 9 . 12, 15, 18, 21, 24 and 30. Absolutely noiseless and distortlonless in operation.
$\rightarrow$ Developed to meet the need for constant-impelance attenuator capable of handling considerable power without measurable insertion loss, Series CIB attenuators provide linear a ttenuation with ample power-handling capacity.
These units are rated at 10 watts when used on DC or constant frequency sirnals. However, they have successfully been used up to $\mathbf{3 0}$ successfuny been used
watts on audio circuits.

Compact, capable of safely han. dling the rated wattages at any setting of the dial, these units are
ecommended as an output leve control for power amplifiers or as an input attenuator tor individual or group speakers in a public address system. Linear attenuation is provided in steps of 3 decibels up to 30 , with final step to infinity.

Unit is furnished in black baked enamel metal casing, $2^{\prime \prime}$ in diameter by $23 / 4$ " long, equipped with dial plate and bar knob. Not available with power switch. One-hole mounting ${ }^{3 / 8} /{ }^{\prime \prime}$ diameter bushing. Shaft

## CONSTANT IMPEDANCE OUTPUT ATTENUATORS

## POWER RHEOSTATS

$\star$ Exceptionally rugged. Troublefree design. Withstand severe overloading without smoking, burning, charring. Element imbedded in cold-betting cement. Resistance winding supported on insulated metal core for maximum heat conduction and radiation, even at parial rotation settings. Singlehole mounting. Adjustable locking pin firmly anchors unit against bodily rotation. Shaft and bushing insulated from current-carrying anm for safety. 25 and 50 watt sizes.


Series CIB-10 Watts

Cut. No.
CIB-6
CIB-8
CIB-50
CIB-200
CIB-250
CTB-500
CIB-600
Net Price

Resistance in Ohms

Series PW-25-25 Wat+

| Cat. No. | Max. Cur.at Max. Our. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Total | Total | Max. Our. Up to $1 / 6$ |  |
|  | Resis. | Res. | Res. | List |
|  | Ohms | Ainps. | Amps. | Price |
| PW-25-1 | 1 | 5.000 | 7.500 | \$5.85 |
| PW-25-2 | 2 | 3.586 | 5.304 | 5.20 |
| PW-25-3 | 3 | 2.887 | 4.830 | 5.20 |
| PW-25-6 | 0 | 2.041 | 3.062 | 5.20 |
| PW-25-8 | 8 | 1.76R | 2.652 | 5.20 |
| PW-25-10 | 10 | 1.581 | 2.372 | 5.20 |
| PW-25-15 | 15 | 1.291 | 1.936 | 5.20 |
| PW-25-25 | 25 | 1.000 | 1.500 | 5.20 |
| PW-25-35 | 35 | . 845 | 1.268 | 5.20 |
| PW-25-50 | 50 | . 707 | 1.061 | 5.20 |
| PW-25-75 | 75 | . 577 | . 866 | 5.20 |
| PW-25-100 | 100 | . 500 | . 750 | 5.20 |
| PW-25-125 | 125 | . 447 | . 671 | 5.20 |
| PW-25-175 | 175 | .378 | . 567 | 5.20 |
| PW-25-250 | 250 | . 316 | . 74 | 5.20 |
| PW-25-350 | 350 | 267 | 401 | 5.20 |
| PW-25-500 | 500 | . 24 | . 335 | 5.20 |
| PW-25-750 | 750 | . 183 | .274 | 5.20 |
| PW-25-1000 | 1000 | . 158 | . 237 | 5.85 |
| PW-25-1500 | 1500 | . 129 | 194 | 5.85 |
| PW-25-2500 | 2500 | . 100 | 150 | 5.85 |
| PW-25-3500 | 3500 | . 085 | 127 | 6.20 |


| Cat. No. | Total Resis. Ohms | Max. Cur. <br> at <br> Total <br> Kes. <br> Amps. | Max. Our. Up to ${ }^{1 / 3}$ Res. Amps. | List Price |
| :---: | :---: | :---: | :---: | :---: |
| PW-50-0.5 | 0.5 | 10.000 | 15.000 | \$6.50 |
| PW-50-1 | 1 | 7.071 | 10.607 | 6.50 |
| PW-50-2 | 2 | 5.000 | 7.500 | 6.50 |
| PW-50-4 | 4 | 3.536 | 5.804 | 5.85 |
| PW-50-6 | 6 | 2.887 | 4.330 | 5.85 |
| PW-50-8 | 8 | 2.500 | 3.750 | 5.85 |
| PW-50-12 | 12 | 2.041 | 3.062 | 5.85 |
| PW-50-16 | 16 | 1.768 | 2.652 | 5.85 |
| PW-50-22 | 22 | 1.508 | 2.261 | 5.85 |
| PW-50-35 | 35 | 1.195 | 1.798 | 5.85 |
| PW-50-50 | 50 | 1.000 | 1.500 | 5.85 |
| PW-50-80 | 80 | . 791 | 1.186 | 5.85 |
| PW-50-125 | 125 | . 632 | . 949 | 5.85 |
| PW-50-150 | 150 | . 577 | . 866 | 5.85 |
| PW-50-225 | 225 | . 471 | . 707 | 5.85 |
| PW-50-300 | 300 | .408 | . 612 | 5.85 |
| PW-50.500 | 500 | . 316 | . 474 | 5.85 |
| PW-50-800 | 800 | . 250 | . 375 | 6.20 |
| PW-50-1000 | 1000 | . 224 | . 335 | 6.20 |
| PW-50-1600 | 1+100 | 17\% | 265 | 6.20 |
| PW-50-2500 | 2500 | . 14 | 212 | 6.20 |
| PW-50-3500 | 3500 | . 120 | . 179 | 6.50 |
| PW-50-5000 | 5000 | .100 | . 150 | 6.50 |



## TUBE-TYPE WIRE-WOUND RESISTORS

 uperior to others ecivers using tubetype resistors Clarostat has selectal the nust popular values for so-ealled Ini placement needs. Standard retypes are also listed below. following nomenclature applies I'refixes: $K$ denotes 6.3 volt 1.50 ma. No. 40 pilot lamp No. 46 pilot lamp. No. 51 pilot lamp. unit.
Universal
Tube No.
$10^{*} 23-A$
$10^{*} 23-\mathrm{F}$
$10^{*} 23-\mathrm{F}$
$23^{*} 55-\mathrm{A}$
$23^{*} 55-\mathrm{E}$
$23^{*} 55-\mathrm{F}$
$60^{*} 02-\mathrm{A}$
$60^{*} 92-\mathrm{F}$
$60^{*} 92-\mathrm{F}$
$03^{*} 105-A$

* Clarostat developed and pioneered the tube-type resistor for voltage-reduciny purposes ami for sup plying needed voltase for pilot lamp operation in AC-DC receivers. Strictly nor-inflammable, with the resistance element wound on a mica form firmly coured in tlement wound on conmected with thi ccured in the metal tabe and connecten with the ase pronos, the clarostat construction is notably

To simplify servicing of reersal numbers serving most r. sistor tubes of the most popula

In connection with listings, the

L denotes 6.3 volt 250 ma
M denotes 6.3 volt 200 ma .
The numeral indicates total roltage drop across resistance

UNIVERSAL RESISTOR TUBES

culfixes designate:
A-No pilot lamp taps
1B-1 pilot lamp tap for 1 lamp.
© - 1 pilot lamp tap for 2 lamps. D - 1 pilot lamp tap for 2 lamps. $\mathrm{D}-3$ pilot lamp tays for 2 lamps. $\mathrm{E}-3$ pilot lamp taps for 3 lamps.
$\mathrm{F}-1$ pilot lamp tap for 1 lamp.
Q - 1 pilot lamp tap for 2 pilot
lamps. (Tapped sections isolated from main rerlucing body.)
i[ -2 pilot lamp taps fur 2 pilot lamps. (Tapped section isolated from main reducing body.)
The letter " $J$ " following any of the suflixes denotes a shorted connection beween 2 prongs of the titbe, i.e., K-6T-BJ the short is located between Nos. 3 and 4 prongs.

Care must be exercised when replacing any tube whose number ends in " J ", as the shorted pins are not always as in above example. Some are letwen Nos. 6 ant 7 prongs, and others between 5 and 3.
When replacing any plug-in resistor tube with a Clarostat Eniversal type, note prongs missing on replaced tube and cut coff correspondiner prongs on the Universal Replacement tulo.
The numeral inrlicates total voltage frop across resistance unit.

## TELEVISION BALLASTS

* 17A470303 for Motorola Television Set No. VT-71. List Price $\$ 3.00$
**397021 for Emerson Television Set No. 571-606. List Price $\$ 3.00$ * This Emerson ballast tube is used as a protective resistor and any internal failure in the circuit may cause this unit to burn out and therefore this unit is expendable. Standard Packing - 10 (ten) per carton



## GLASOHMS* <br> Glass-Insulated Flexible Resistors

$\downarrow$ This is a new development in resistors which has found instant acceptance in widespread applications.
Glasohms consist of a wire winding on a fibreglass core, with a covering of braided fibre-glass, Each strand of glass is no thicker than usual cotton thread and just as flexible, so that the complete units can be bent or twisted and even knotted without breakage or weakening. Clarostat is the only manufacturer of Glasohms. These units are ideal for resistance boxes, attenuators, voltage-dividers, multipliers, step-bystep rheostats, and for use in point-to-point wiring jobs. Handy, inexpensive and very durable, these units can withstand heavy overloads without damage. There is nothing in them to burn or char. Glasolıms are also suitable for use as miniature heating elements serving in hair curlers, immersion heaters, soldering irons, electrically-heated ovens for crystal oscillators, etc., especially in longer lengths obtained on special orders.
*Registered trade-mark.

## Standard Glasohm Resistors

TYPE FYG - 2-WATT
$1^{\prime \prime}$ Fabric Length with $2^{\prime \prime}$ Pigtails

| Cat. No. | Ohms | Cat. No. | Ohms |
| :---: | :---: | :---: | :---: |
| FYG5 | , | FYG350 | 350 |
| FYG10 | 10 | FYG375 | 375 |
| FYG15 | 15 | FYG400 | 400 |
| FYG25 | 25 | FYG500 | 500 |
| FYG35 | 35 | FYG600 | 600 |
| FYG40 | 40 | FYG700 | 700 |
| FYG50 | 50 | FYG750 | 750 |
| FYG60 | 60 | FYG800 | 800 |
| FYG75 | 75 | FYG850 | 850 |
| FYG100 | 100 | FYG900 | 900 |
| FYG125 | 125 | FYG1000 | 1000 |
| FYG150 | 150 | FYG] 250 | 1250 |
| FYG200 | 200 | FYG1500 | 1500 |
| FYG225 | 225 | FYG1600 | 1600 |
| FYG250 | 250 | FGY1750 | 1751 |
| FGY 300 | 300 | FYG2000 | $\bigcirc 000$ |
| Llst Price........................ $\$ 0.30$ <br> Standard Packing-10 (ten) per carton |  |  |  |
|  |  |  |  |

## AUTOMATIC LINE VOLTAGE REGULATORS

$\star$ To maintain constant line voltage and thus prevent burning out the tubes of a radio receiver or other tube-using device, this handy unit, operating effectively on 110 -volt A.C. or D.C. by simply plugging into the usual socket or outlet, safeguards against line voltage surges or increases even up to 140 volts. At the normal 110 -volt, the resistance of the unit is low and the voltage drop across it is negligible. How aver, as the line voltage inereases the resistance of the unit increases proportionately, with a constant increase in voltage drop across it. This automatic voltage control or ballast action insures a steady, practically constant and always safe operating potential.


Type
No.
0
A
B
C
D
E*

Dimensions are $13 / 4{ }^{\prime \prime}$ dia. $\times 13 / 4{ }^{\prime \prime}$ long.

| Type | Rating |
| :---: | :---: |
| No. | Watts |
| 0 | 50 |
| A | $\mathbf{1 0 0}$ |
| B | $\mathbf{1 5 0}$ |
| C | 200 |
| D | 250 |
| E* | $\mathbf{1 0 0}$ |

Prongs $5 / 8$ " long.
For Use With
Sets Consuming
Up to 60 watt

Up to 60 watts 60 to 100 watts 100 to 150 watts 150 to 200 watts 200 to 250 watts 60 to 100 watts
*Note: For use with 220 -volt receivers
List Price

$$
\text { .................... } \$ 1.75
$$

Standard Packing - 10 (ten) per carton

## FAMOUS GREENOHMS - WIRE-WOUND FIXED POWER RESISTORS

$\star$ The toughest power resistors made. Will dissipate heat without change in resistance value. Will with. stand heavy overloads, humidity, high-heat, and severe heat shock (frequent on-and-off operation). Due to the exclusive CLAROSTAT inorganic-cement coating,
these resistors can be given the tourhest assignments and will come through with flying colors. Greenohms are found in the finest electrical, radio and industrial assemblies - in equipment that must stand up for functions where failure cannot be tolerated.



## GREENOHM JR. WIRE-WOUND RESISTORS

$\star$ Handy, inexpensive, ceramic-cased midget wirn-wound resistors for tight spots, especially with point-topoint wiring, These tiny resistors take the place of more cumbersome and costlier bracket-mounted units. This "junior", version of the well-known Greenolim power resistors features a wire winding on fibre-glass corr, $11 /{ }^{\prime \prime}$ " axial pigtail leads. and a statite protective casing sealed with exclusice Greenolm cold-setting inorganir cement. This resistor will not bister, crack, or change shape. Type C7GJ, $13 / 4^{\prime \prime}$ long by $\mathbf{5}^{5 / 1}$ dia., rated at $i^{\prime}$ watts. Smaller Type C4GJ, $1^{\prime \prime}$ long by ${ }^{\prime}{ }^{\prime \prime \prime}$ dia., rated at 4 watts. In claracteristic Greenohm green, with printed values on casing.


## CLAROSTAT

## FAMOUS GREENOHMS - WIRE-WOUND ADJUSTABLE POWER RESISTORS



SERIES AC-10-FA-10-WATT
Dimensions: $1^{5 \prime \prime}$ dia. $\times 13 / 4^{\prime \prime}$ long

| Ohms | Ohms | Ohms | Ohms |
| :---: | :---: | :---: | ---: |
| $\mathbf{1}$ | 100 | 1000 | 6000 |
| 2 | 150 | 1250 | 7000 |
| 3 | 200 | 1500 | 7500 |
| 5 | 250 | 2000 | 8000 |
| 7.5 | 300 | 2250 | 8500 |
| 10 | 350 | 2500 | 9000 |
| 15 | 400 | 3000 | 10000 |
| 20 | 500 | 3500 |  |
| 25 | 600 | 4000 |  |
| 50 | 750 | 4500 |  |
| 75 | 800 | 5000 |  |

LINT PRICE: All Sizes: \$0.85 Standard Packirg - 10 (ten) per carton

* These power resistors feature the exclusive Clarostat inorganic cement coating and are similar in rugged construction to the fixed types on page R-7. except for the bared section of the winding contacted at any ohmage by the adjustable slicler band. This band is permanently locked in place at the required resistance value by simply tightening a screw.


## GREENOHM KIT

- Here's a simple means of keeping 20 of the most popular 10 -watt power resistors always at your finger-tips. Each Greenohm is held by metal clip on the wall chart. Slide off unit and value appears on wall chart, for liandy reordering.
Cat. No. GK-1
LIST PRICE $\$ 11.00$




## DIMENSIONS

Fixed and Adjustable Greenohms are of the same dimensions, wattage for wattage, as follows:

| Rat | Dia. Lg |
| :---: | :---: |
| - watt | $\mathrm{fr}^{\prime \prime} \mathrm{X}$ 13/4" |
| 20-watt | $\frac{9}{111}{ }^{\prime \prime} \mathrm{x}$ |
| 25-watt | $\frac{9}{18}{ }^{\prime \prime} \times 21 / 2^{\prime \prime}$ |
| 40-wa | $3 / 4^{\prime \prime} \times 31 / 2$ |
| 50 -wa | $3 / 4{ }^{\prime \prime} \mathrm{x}$ |
| 80 -watt | $3 / 4{ }^{\prime \prime} \mathrm{x}$ |
| 100-watt | $11 / 8{ }^{\prime \prime} \mathrm{x}$ |
| 160-watt | $11 / 8^{\prime \prime} \times 81 / 2^{\prime \prime}$ |
| 200-watt | $11 / 8 " \times 101 / 2$ |


| Ohms | Series <br> K-50-NA <br> 3/4" dia. <br> $x+1 / 2^{\prime \prime} 1$ <br> 50-watt | $\begin{aligned} & \text { Series } \\ & \text { K-80-NA } \\ & 3 / 4^{\prime \prime} \text { dia. } \\ & \text { 61/2"1. } \\ & 80-\text { watt } \end{aligned}$ | $\begin{gathered} \text { Series } \\ \text { K-100-WA } \\ 111 / /^{\prime \prime} \text { dia. } \\ \times 611 / 2 " 1_{1 .}^{115-w a t t ~} \end{gathered}$ | $\begin{gathered} \text { Series } \\ \text { K-160-WA } \\ 11 / \mathbf{n}^{\prime \prime}, \\| \mathrm{lia} . \\ \times 81 /{ }^{\prime \prime} 1 \\ 160-\text {-watt } \end{gathered}$ | $\begin{aligned} & \text { Series } \\ & \text { K-200-WA } \\ & 1118^{\prime \prime} \text { dia. } \\ & 101 / 2^{\prime \prime} 1 . \\ & 200-\text { watt } \end{aligned}$ | Ohms | $\begin{gathered} \text { Series } \\ \text { K-50-NA } \\ 3 /{ }^{\prime \prime} \text { "dia. } \\ 4^{11 / 2 " 1} . \\ 50 \text {-watt } \end{gathered}$ | Series <br> K-80-NA <br> $3 / 4$ "dia. <br> x $61 / 2^{\prime \prime} 1$. <br> 80-watt | $\begin{gathered} \text { Series } \\ \text { K.100-WA } \\ 11 / /^{\prime \prime} \text { dia. } \\ \times 61_{2 " 1} 1 . \\ 115 \cdot \text { watt } \end{gathered}$ | $\begin{gathered} \text { Series } \\ \text { K-160-WA } \\ 11 / 1^{\prime \prime} \text { dia. } \\ \times 81 /{ }^{\prime \prime \prime} 1 \\ 160 \text {-watt } \end{gathered}$ | Series <br> K-200-WA <br> $11 / s^{\prime \prime}$ dia. <br> x $10^{1 / 2}{ }^{\prime \prime} 1$ <br> 200-watt |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | \$1.50 | \$1.75 | \$2.00 | \$2.50 | \$3.00 | 5.000 | \$1.50 | \$1.75 | \$2.25 | \$2.65 | \$3.25 |
| 10 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 6.000 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
| 15 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 7.000 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
| 20 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 7,500 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
| 25 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 8.000 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
| 50 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 9,000 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
| 75 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 10,000 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
| 100 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 12,000 | 1.75 | 2.00 | 2.25 | 2.90 | 3.50 |
| 150 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 15,000 | 1.75 | 2.00 | 2.25 | 3.25 | 3.75 |
| 200 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 20,000 | 1.75 | 2.00 | 2.25 | 3.25 | 3.75 |
| 250 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 25.000 | 1.75 | 2.00 | 2.85 | 3.25 | 3.75 |
| 300 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 30.000 | 2.00 | 2.25 | 2.85 | 3.25 | 3.75 |
| 400 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 35,000 | 2.00 | 2.25 | 2.85 | 3.25 | 3.75 |
| 500 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 40,000 | 2.00 | 2.25 | 2.85 | 3.25 | 3.75 |
| 750 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 45,000 | 2.00 | 2.25 | 2.85 | 3.25 | 3.75 |
| 1,000 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 50.000 | 2.00 | 2.25 | 3.00 | 3.25 | 3.75 |
| 1,250 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 60,000 | 2.50 | 2.50 | 3.00 | 3.75 | 3.75 |
| 1,500 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 75,000 | 2.50 | 2.50 | 3.15 | 3.75 | 3.75 |
| 2.000 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 80,000 | 2.50 | 2.50 | 3.15 | 3.75 | 3.75 |
| 2,500 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 100,000 | 2.50 | 2.50 | 3.65 | 3.75 | 3.75 |
| 3,500 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 125.000 |  |  | 4.00 | 4.25 |  |
| 4,000 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 | 150,000 |  |  | 4.25 | 4.25 |  |
| 4,500 | 1.50 | 1.75 | 2.25 | 2.50 | 3.00 |  |  |  |  |  |  |

Standard Packing - Indiviually Boxed.

# LECIVitreots Enameled 

Quality—Accuracy—Dependability—Long Life


# WIRE WOUND ADJUSTABLE TYPES 

The same high quality and construction are used for LECTROHM Adjustable Resistors as are incorporated in LECTROHM fixed units.

These resistors are used for replacing voltage dividers in radio receivers, for radio transmitter power supply, and for general experimental work.

TYPE 13/4EV-10-WATT
DIMENSIONS
TERMINALS
$\frac{5}{18 \prime} \times \frac{3^{\prime \prime}}{16^{\prime \prime}} \times 13 / 4^{\prime \prime}$ TERMINALS .......................................... Type MAXIMUM RESISTANCE........ 10,000 ohms MOUNTING BRACKET Centers 21/4"

| Res. <br> Ohms | Max. <br> M.A. | List <br> Price | Res. <br> Ohms | Max. <br> M.A. | List <br> Price |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 3150 | $\$ 0.98$ | 750 | 115 | $\$ 0.98$ |
| 2 | 2230 | .98 | 800 | 111 | .98 |
| 3 | 1825 | .98 | 1000 | 100 | .98 |
| 5 | 1415 | .98 | 1250 | 89 | .98 |
| $7 . 反$ | 1155 | .98 | 1500 | 79 | .98 |
| 10 | 1000 | .98 | 2000 | 69 | .98 |
| 15 | 815 | .98 | 2250 | 64 | .98 |
| 20 | 707 | .98 | 2500 | 61 | .98 |
| 25 | 630 | .98 | 3000 | 56 | .98 |
| 50 | 447 | .98 | 3500 | 51 | .98 |
| 75 | 365 | .98 | 4000 | 47 | .98 |
| 100 | 315 | .98 | 4500 | 44 | .98 |
| 150 | 258 | .98 | 5000 | 40 | .98 |
| 200 | 223 | .98 | 6000 | 36 | .98 |
| 250 | 200 | .98 | 7000 | 33 | .98 |
| 300 | 182 | .98 | 7500 | 32 | .98 |
| 350 | 160 | .98 | 8000 | 31 | .98 |
| 400 | 158 | .98 | 8500 | 30 | .98 |
| 500 | 141 | .98 | 10000 | 24 | .98 |
| 600 | 129 | .98 |  |  |  |

## TYPE 2SV-25-WATT

DIMENSIONS TERMINALS MAXIMUM RESISTANCE. MOUNTING BRACKET
$\times 2^{\prime \prime}$
Solder Lug

Res Max Lis

| Res. <br> Ohms | Max. <br> M.A. | List <br> Price | Res, <br> Ohms | Max. <br> M.A. | List <br> Price |
| ---: | :--- | ---: | ---: | ---: | ---: |
| 1 | 5000 | $\$ 1.24$ | 1000 | 158 | $\$ 1.24$ |
| 3 | 2890 | 1.24 |  | 1250 | 141 |
| 5 | 2240 | 1.24 | 1.24 |  |  |
| 10 | 1580 | 1.24 | 2000 | 129 | 1.24 |
| 15 | 1290 | 1.24 | 2500 | 112 | 1.24 |
| 25 | 1000 | 1.24 | 3000 | 91 | 1.24 |
| 50 | 707 | 1.24 | 3500 | 84 | 1.24 |
| 75 | 575 | 1.24 | 4000 | 79 | 1.24 |
| 100 | 500 | 1.24 | 5000 | 71 | 1.24 |
| 150 | 400 | 1.24 | 6000 | 64 | 1.43 |
| 200 | 353 | 1.24 | 7500 | 57 | 1.43 |
| 250 | 316 | 1.24 | 10000 | 50 | 1.43 |
| 300 | 288 | 1.24 | 12000 | 44 | 1.43 |
| 400 | 250 | 1.24 | 15000 | 26 | 1.43 |
| 500 | 224 | 1.24 | 20000 | 22 | 1.56 |
| 750 | 182 | 1.24 | 25000 | 20 | 1.56 |

TYPE 41/2MV—50-WATT

| DIMENSIONS.................3/4" $\times 1 / 2^{\prime \prime} \times 41 / 2^{\prime \prime}$ TERMINALS...........................Solder Lugs MAXIMUM RESISTANCE........100,000 ohms MOUNTING BRACKET............Centers 51/2" |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Res. Ohms | Max. M.A. | List Price | Res. Ohms | Max. <br> M.A. | List Price |
| 5 | 3160 | \$1.95 | 3000 | 129 | \$1.95 |
| 10 | 2230 | 1.95 | 4000 | 112 | 1.95 |
| 25 | 1410 | 1.95 | 5000 | 100 | 1.95 |
| 50 | 1000 | 1.95 | 7500 | 81 | 2.15 |
| 75 | 816 | 1.95 | 10000 | 70 | 2.15 |
| 110 | 707 | 1.95 | 12000 | 64 | 2.15 |
| 150 | 677 | 1.95 | 15000 | 57 | 2.15 |
| 200 | 500 | 1.95 | 20000 | 50 | 2.15 |
| 250 | 447 | 1.95 | 25000 | 44 | 2.15 |
| 300 | 408 | 1.95 | 30000 | 41 | 2.47 |
| 400 | 354 | 1.95 | 40000 | 35 | 2.47 |
| 500 | 316 | 1.95 | 50000 | 20 | 2.47 |
| 750 | 258 | 1.95 | 60000 | 18 | 2.86 |
| 1000 | 224 | 1.95 | 75000 | 17 | 2.86 |
| 1500 | 182 | 1.95 | 80000 | 16 | 2.86 |
| 2000 | 158 | 1.95 | 100000 | 14 | 2.86 |
| 2500 | 141 | 1.95 |  |  |  |

TYPE 61/2MY-B0-WATT
DIMENSIONS
$3 / 4^{\prime \prime} \times 1 / 2^{\prime \prime} \times 61 / 2^{\prime \prime}$ TERMINALS Solder Lugs MAXIMUM RESISTANCE......... 100,000 ohms MOUNTING BRACKET..............Centers 71/2" Res. Max. List Res. Max. List Ohms M.A. Price Ohms M.A. Price

| 10 | 2830 | $\$ 2.54$ | 3500 | 152 | $\$ 2.54$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 15 | 2310 | 2.54 | 5000 | 126 | 2.54 |
| 25 | 1790 | 2.54 | 7500 | 103 | 2.86 |


| 50 | 1265 | 2.54 | 7500 | 103 | 2.86 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 100 | 890 | 89 | 2.86 |  |  |


| 100 | 894 | 2.54 | 15000 | 73 | 2.86 |
| :--- | :--- | :--- | :--- | :--- | :--- |


| 250 | 566 | 2.54 | 20000 | 63 | 2.86 |
| :--- | :--- | :--- | :--- | :--- | :--- |


| 400 | 495 | 2.54 | 30000 | 57 | 2.86 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | 400 | 400 | 2.54 | 4000 | 51 |
| .25 |  |  |  |  |  |


| 500 | 400 | 2.54 | 40000 | 44 | 3.25 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 750 | 327 | 2.54 | 50000 | 25 | 3.25 |


| 150 | 327 | 2.54 | 50000 | 25 | 3.25 |
| :--- | :--- | :--- | :--- | :--- | :--- |


| 1000 | 283 | 2.54 | 60000 | 23 | 3.58 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1500 | 231 | 2.54 | 75000 | 21 | 3.58 |
| 2000 | 200 | 2.54 | 80000 | 20 | 3.58 |


| 2000 | 200 | 2.54 | 80000 | 20 | 3.58 |
| :--- | :--- | :--- | ---: | ---: | ---: |
| 2500 | 179 | 2.54 | 100000 | 18 | 3.58 |


| ADJUSTABLE LUGS |  |  |
| :---: | :---: | :---: |
| (0) | Diameter <br> of Resistor | List <br> Price |

TYPE 61/2KV-100-WATT

| DIMEN TERMI MAXIM MOUN | ALS. JM R ING | $\begin{aligned} & \text { SIST } \\ & \text { QACH } \end{aligned}$ |  | $\begin{aligned} & 3 / 4^{\prime \prime} \\ & \text { Sol } \\ & 100,0 \\ & \text { Cente } \end{aligned}$ | $\begin{aligned} & 61 / 2^{\prime \prime} \\ & r^{\prime \prime} \text { Luga } \\ & \text { ohma } \\ & 71 / 2^{\prime \prime} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Res. Ohms | Max. M.A. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Res. Ohms | Max. <br> M.A. | List Price |
| 50 | 1413 | \$2.86 | 15000 | 81 | \$3.25 |
| 100 | 1000 | 2.86 | 20000 | 70 | 3.25 |
| 500 | 447 | 2.86 | 25000 | 63 | 3.25 |
| 1000 | 316 | 2.86 | 30000 | 57 | 3.58 |
| 2000 | 223 | 2.86 | 35000 | 53 | 3.58 |
| 3000 | 182 | 2.86 | 40000 | 50 | 3.58 |
| 4000 | 158 | 2.86 | 50000 | 44 | 3.58 |
| 5000 | $1+1$ | 2.86 | 75000 | 23 | 3.90 |
| 7500 | 115 | 3.25 | 100000 | 20 | 3.90 |
| 10000 | 100 | 3.25 |  |  |  |

TYPE 81/2KY—160-WATT
DIMENSIONS. $\qquad$ $11 / 8^{\prime \prime} \times 3 / 4^{\prime \prime} \times 81 / 2^{\prime \prime}$ TERMINALS ........................ Solder Lug MAXIMUM RESISTANCE....... 100,000 ohm MOUNTING BRACKET.............Centers 91/2

| Res. Ohms | $\begin{aligned} & \text { Max. } \\ & \text { M.A. } \end{aligned}$ | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Res. Ohms | Max. M.A. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 5660 | \$3.58 | 10000 | 126 | \$3.58 |
| 10 | 4000 | 3.58 | 15000 | 103 | 4.16 |
| 25 | 2530 | 3.58 | 20000 | 89 | 4.16 |
| 50 | 1788 | 3.58 | 25000 | 80 | 4.16 |
| 100 | 1266 | 3.58 | 30000 | 73 | 4.16 |
| 500 | 566 | 3.58 | 40000 | 55 | 4.16 |
| 1000 | 400 | 3.58 | 50000 | 43 | 4.16 |
| 2500 | 253 | 3.58 | 75000 | 27 | 4.55 |
| 5000 | 179 | 3.58 | 100000 | 18 | 4.55 |

## TYPE 101/2KV—200.WATT

DIMENSIONS...............11/8" $\times 3 / 4^{\prime \prime} \times 101 / 2^{\prime \prime}$ TERMINALS..............................Solder Luge MAXIMUM RESISTANCE........100,000 ohms MOUNTING BRACKET..........Centers 111/2"

Res. Max. List Res. Max. Lis

| Ohms M.A. Price |  |  |
| :---: | :---: | :---: |
| 50 | 0000 | Ohms M.A. Price |


| 50 | 2000 | $\$ 4.29$ | 10000 | 141 | $\$ 4.29$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 100 | 1414 | 4.29 | 20000 | 100 | 5.00 |


| 500 | 632 | 4.29 | 25000 | 89 | 5.00 |
| ---: | ---: | ---: | ---: | ---: | ---: |


| 1000 | 447 | 4.29 | 30000 | 81 | 5.00 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1500 | 361 | 4.29 | 50000 | 63 | 5.00 |


| 2000 | 316 | 4.29 | 75000 | 51 | 5.00 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 2500 | 283 | 4.29 | 100000 | 28 | 5.00 |

$5000 \quad 200 \quad 4.29$

[^0] types.

# LECMTHM Enameled Vitreous i=EISTORE 

## Quality-Accuracy-Dependability—Long Life

## WIRE WOUND-FIXED TYPES

LECTROHM Resistors are manufactured from the highest quality materials obtainable and are rated according to R.M.A. standards. LECTROHM Resistors are rugged-depend-able-accurate-quality components that will give long trouble-free service.
(Mounting brackets available for $20,50,80$, 100,160 and 200 watt units.)


TYPE 11⁄4L—5-WATT


TYPE $13 / 4-10-W A T T$
DIMENSIONS............... $\frac{5}{18}{ }^{\prime \prime} \times \frac{3}{18}{ }^{\prime \prime} \times 1 / 4^{\prime \prime}$ TERMINALS. MAXIMUM RESISTANCE Brackots 40,000 ohms No Mounting Brackets

| $\begin{aligned} & \text { Res. } \\ & \text { Ohms } \end{aligned}$ $0 \mathrm{hms}$ | Max. <br> M.A. | List Price | Res. Ohms | $\operatorname{Max}_{\boldsymbol{M} . \boldsymbol{A} .}$ | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3150 | \$0.59 | 1500 | 79 | \$0.59 |
| 2 | 2230 | . 59 | 1750 | 74 | . 59 |
| 3 | 1825 | . 59 | 2000 | 69 | . 59 |
| 5 | 1415 | . 59 | 2250 | 64 | 59 |
| 7.5 | 1155 | . 59 | 2500 | 61 | . 59 |
| 10 | 1000 | . 59 | 3000 | 56 | 59 |
| 15 | 815 | . 59 | 3500 | 51 | . 59 |
| 20 | 707 | . 59 | 4000 | 47 | . 59 |
| 25 | 630 | . 59 | 4500 | 4. | . 59 |
| 50 | 447 | . 59 | 5000 | 40 | . 59 |
| 75 | 365 | . 59 | 6000 | 36 | . 59 |
| 100 | 315 | . 59 | 7000 | 33 | . 59 |
| 150 | 258 | . 59 | 7500 | 33 | . 59 |
| 200 | 223 | . 59 | 8000 | 31 | . 59 |
| 250 | 200 | . 59 | 8500 | 30 | . 59 |
| 300 | 182 | . 59 | 10000 | $2{ }^{24}$ | . 59 |
| 350 | 169 | . 59 | 12000 | 20 | . 65 |
| 400 | 158 | . 59 | 12500 | 20 | . 65 |
| 500 | 141 | . 59 | 15000 | 18 | . 65 |
| 600 | 129 | . 59 | 17500 | 17 | .65 |
| 700 | 119 | . 59 | 18000 | 16 | . 65 |
| 750 | 115 | . 59 | 20000 | 15 | . 6 |
| 800 | 111 | . 59 | 22500 | 15 | . 65 |
| 900 | 105 | . 59 | 25000 | 14 | . 65 |
| ${ }^{1000}$ | 100 | . 59 | 30000 | 8 | . 65 |
| - 200 | 91 | . 59 | 40000 | 7 | . 65 |
| -250 | 89 | . 59 |  |  |  |

## LECTROHM

R. F. PLATE CHOKES
( 1000 Milliamps.)


| Amiar |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Amand Meters | 5 | 10 \& 20 | $20 \& 40$ | $80 \times 160$ |
| Microhenries | 5.4 | 35 | 95 | 220 |
| D. C. Ohms | ${ }^{0.85}$ |  |  |  |
| $\underset{\text { Diameter }}{\text { Lig. Overall }}$ | 1/4." | - ${ }^{3 \prime \prime}$ | ${ }^{\text {量" }}$ " |  |
| Diameter | 1/4" | 10\% | 10\% | 4 |

## TYPE 2R-20-WATT

DIMENSIONS ................. $1 / 2^{\prime \prime} \times \frac{5_{1}^{\prime \prime}}{10^{\prime \prime}} \times 2^{\prime \prime}$ TERMINALS MAXIMUM RESISTANCE.............. Solder Lug MAXIMUM RESISTANCE ......... I00.000 ohmis

 | Res. |
| :--- |
| 0 hmm |

| 0 hms | M. A. | Price | Ohms | M.A. | Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 2014 | \$0.91 | 1100 | 131 | \$0.91 |
| 10 | 1114 | . 91 | 1250 | 126 | .91 |
| 1.7 | 1153 | . 91 | 1500 | 115 | . 91 |
| 20 | 1000 | . 91 | 2000 | 100 | .91 |
| 25 | 891 | . 91 | $\pm 500$ | 89 | . 91 |
| 40 | 707 | . 91 | 301010 | 81 | . 91 |
| 50 | 633 | . 91 | 1000 | 70 | . 91 |
| 60 | 5.14 | . 91 | T000 | 63 | . 91 |
| 75 | $51 \%$ | . 91 | 6000 | 57 | . 91 |
| 100 | 448 | . 91 | 7000 | 53 | . 91 |
| 125 | 400 | . 91 | $\because .100$ | 51 | . 91 |
| 150 | 365 | . 91 | 8000 | 50 | . 91 |
| 200 | 316 | .91 | 10000 | 43 | . 91 |
| 250 | 283 | . 91 | 12500 | 39 | . 91 |
| 300 | 2.98 | . 91 | 15000 | 30 | . 91 |
| 330 | 238 | . 91 | 20000 | 21 | 1.11 |
| 400 | $2: 3$ | . 91 | 2.0000 | 21 | 1.11 |
| . 500 | 200 | . 91 | 30000 | 21 | 1.11 |
| 600 | 182 | . 91 | 350010 | 18 | 1.11 |
| 700 | 169 | . 91 | 40000 | 17 | 1.11 |
| 750 | 163 | . 91 | 1.1000 | 13 | 1.11 |
| 800 | 158 | . 91 | 50000 | 11 | 1.11 |
| 1000 | 141 | . 91 |  |  |  |

TYPE $41 / 2 \mathrm{M}$ — 50 -WATT


TYPE 61/2M—80-WATT

| DIME TERM | AMSS. |  |  | Sol | 61/2" Lugs chms |
| :---: | :---: | :---: | :---: | :---: | :---: |
| MAX1 | M R |  |  | 100,0 | ohms |
| MOUN | NG ${ }^{\text {B }}$ | CKET |  | cen |  |
| Res. <br> Ohms | Max. <br> M.A | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Res. <br> Ohmis | $\begin{aligned} & \text { Max. } \\ & \text { M. } A \text {. } \end{aligned}$ | Price |
| 5 | 4000 | \$2.04 | 5000 | 129 | \$2.04 |
| 10 | 2730 | 2.04 | 6000 | 112 | 2.41 |
| 25 | 1730 | 2.04 | 7500 | 101 | 2.41 |
| 50 | 1220 | 2.04 | 8000 | 98 | 2.41 |
| 100 | 865 | 2.04 | 10000 | 86 | 2.41 |
| 200 | $61!$ | 2.04 | 15000 | 70 | 2.41 |
| 250 | 54.5 | 2.04 | 20000 | (i) | 2.41 |
| 500 | 387 | 2.04 | 25000 | 5 | 2.41 |
| 750 | 316 | 2.04 | 30000 | 50 | 2.72 |
| 1000 | -7 | 2.04 | \%900\% | 43 | 2.72 |
| 1500 | 2:3 | 2.04 | 50000 | 39 | 2.72 |
| 2000 | 193 | 2.04 | 60000 | $3{ }^{3}$ | 3.09 |
| 2500 | 173 | 2.04 | 75000 | 31 | 3.09 |
| 3000 | 158 | 2.04 | 100010 | 27 | 3.40 |

TYPE 61/2K—100.WATT

| $\begin{aligned} & \text { DIMEN } \\ & \text { TERMI } \\ & \text { MAXIN } \\ & \text { MOUN } \end{aligned}$ |  | STAN |  | $\times 3 / 4$ 'Sol ion Cent Con | $\begin{aligned} & 61 / 2^{\prime \prime} \\ & \text { Lugs } \\ & \text { ohnis } \\ & \text { 71/2" } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Res. Ohms | Max. <br> M.A. | List Price | Res. 017 ms | Max. M. A. | List Price |
| 2.5 | 21001 | $¢ 2.15$ | 3000 | 180) | \$2.15 |
| 5.1 | 1414 | 2.15 | 5000 | 1411 | 2.15 |
| 35 | 11.5 | 2.15 | Tinoo | 115 | 2.54 |
| 100 | 1140 | 2.15 | 10000 | 100 | 2.54 |
| $1: 10$ | 817 | 2.15 | 1,000 | 80 | 2.54 |
| 2.0 | 632 | 2.15 | 20000 | 70 | 2.54 |
| 500 | 147 | 2.15 | 85000 | 63 | 2.54 |
| 750 | 36. | 2.15 | 30000 | 58 | 2.86 |
| 1000 | 131. | 2.15 | 40000 | 50 | 2.86 |
| 1250 | 280 | 2.15 | 50000 | 44 | 2.86 |
| 1500 | 550 | 2.15 | 60000 | 41 | 3.25 |
| 2000 | $2: 0$ | 2.15 | 75000 | 36 | 3.25 |
| 2500 | $\because 00$ | 2.15 | 100.000 | 31 | 3.58 |

TYPE 81/2K—160-WATT

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Res. Ohms | Max. <br> M.A. | List Price | Res. 0 hms | Max. M.A. | List Price |
| 5 | 5660 | \$2.86 | 4500 | 185 | \$2.86 |
| 10 | 4000 | 2.86 | 5000 | 180 | 2.86 |
| 25 | 2530 | 2.86 | 7500 | 145 | 2.86 |
| 50 | 1788 | 2.86 | 10000 | 125 | 2.86 |
| 75 | 1160 | 2.86 | 15000 | 10.5 | 3.45 |
| 100 | 1260 | 2.86 | 20000 | 90 | 3.45 |
| 200 | 900 | 2.86 | 25000 | 80 | 3.45 |
| 500 | 50 | 2.85 | 30000 | 67 | 3.45 |
| 1000 | 400 | 2.86 | 33000 | 57 | 3.45 |
| 1500 | 330 | 2.86 | 40000 | 50 | 3.45 |
| 2000 | 280 | 2.86 | 50000 | 40 | 3.45 |
| 2500 | 250 | 2.86 | 60000 | 33 | 3.90 |
| 3000 | 230 | 2.819 | 719010 | 48 | 3.90 |
| 3500 | 91.5 | 2.815 | 80000 | $\because 5$ | 3.96 |
| 4000 | 200 | 2.86 | 100000 | 20 | 3.90 |

TYPE 10½K—200-WATT

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Res. Ohms | Max M. A. | List Price | Res. 0 hms | Max. M.A. | List Price |
| 5 | 6310 | \$3.58 | 4500 | 210 | \$3.58 |
| 10 | 4170 | 3.58 | 5000 | 200 | 3.58 |
| 25 | 2830 | 3.58 | 7500 | 165 | 3.58 |
| 50 | 2000 | 3.58 | 10000 | 140 | 3.58 |
| \% | 1635 | 3.58 | 15000 | 115 | 4.29 |
| 100 | 1400 | 3.58 | 20040 | 100 | 4.29 |
| 250 | 900 | 3.58 | 25000 | 90 | 4.29 |
| 500 | 630 | 3.58 | 30010 | 82 | 4.29 |
| 1000 | 450 | 3.58 | 35000 | 71 | 4.29 |
| 1500 | 38.7 | 3.58 | 40000 | $6{ }^{6}$ | 4.29 |
| 2000 | 315 | 3.58 | 50000 | 50 | 4.29 |
| 2i00 | 280 | 3.58 | 60000 | 42 | 4.29 |
| 3000 | 260 | 3.58 | 75000 | 33 | 4.29 |
| 3500 | 240 | 3.58 | 100000 | 25 | 4.29 |
| 4000 | 225 | 3.58 |  |  |  |



## COMPOSITION

"CARBOMITE" M-TYPE RESISTORS
(Actual size as Illustrated)


M2-2 WATT

## M $1 / 2-1 / 2$ WATT

- Meet JAN-R-11 Army-Navy Specification - Low Noise Level; Low Voltage Coefficient - Stamped With Value
- Extra Small Size


## - High Insulation 1000 volt Breakdown

Continental's New "CARBOMITE" bakelite insulated carbon composition resistors are now the standard of Electronic components used in the Radio and Electronic Industries. They meet all specifications of the joint Army-Navy-Jan-R-11 including the toughest of all tests the "Salt water immersion cycling." The "CARBOMITE" M type resistor consists of a solid molded carbon core, outer molded bakelite insulated shell and molded in leads. These resistors being well insulated can be mounted side by side or against any metal surface without shorting or grounding. They are recommended where space limits and insulating quality require a rugged reliable and small resistor capable of withstanding severe service. The lead wires are straight and are tinned with a tin composition heavy enough to give instant soldering with the touch of the heated soldering iron tip. The resistor values are easily identified by the bright non-rubbing off color code bands and the white ink stamped numbers of the value on the body of the resistor. The M2-2 watt, M1-1 watt and the $M 1 / 2-1 / 2$ watt are made in all the standard preferred RMA values as listed in the table below and are packed in quantities of 10 or 50 of each value to the box. Order in these quantities or multiples thereof.


CONTINENTAL D-TYPE


De Luxe Clear Plastic Boxes - Color Code in Each Kit - Strongly Hinged Covers - Values Stamped on Each


These "Pocket-Pac" Kit-Boxes are made of clear durable plastic. The contents can be easily seen thru the walls of the box. A Color Code Indicator and the Box are furnished free with each Kit.

FORTY RESISTOR "POCKET-PAC" KIT VALUES


- Heavy Duty Carbon
- Operate safely on overloads
- Non-inductive

The D-Type resistor with radial leads is made with solid molded carbon rods, copper sprayed on the ends to which are soldered No. 18 copper tinned leads. The soldered contact construction insures a noise-free and stable resistor. They are known as the heavy duty type units because of their size-having a larger radiating area they operate safely on overloads. A baked-on insulation is a protection against shorts to subpanel and wiring.

| Type | Wattage | Size | List Price Tolerance |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\pm 5 \%$ | \$0\% |
| D 4 | 3 Watt |  | $\$ 0.60$ .75 | $\$ 0.40$ .50 |
| D 5 | 5 Watt | $3^{\prime \prime} \times 1 \times{ }^{\prime \prime}{ }^{\prime \prime \prime}$ | . 80 | $\stackrel{.60}{ }$ |
| D 5ST2* | 5 Watt |  | 1.25 | 1.00 |

* D5ST2 units have heavy copper eyeletted and soldered strap terminals $8 / 8^{\prime \prime}$ wide with holes of $2 \mathrm{~g}^{\prime \prime}$ " spacing. The outer holes can be used with either 6-32 screw mounting or solder wire loops, while the inner holes are for $8-32$ screw mounting. The outer section of the terminal can be cut off or bent to any angle desired.


## Precision <br> NTE <br> $A \subset 1$ <br> RESISTORS



X-Type Resistors

## - A new Continental Development!

- Not Wire Wound
- Not carbon!
- Stability of Wire Wound and Equivalent

After several years of research work CONTINENTAL engineers have developed a new resistor involving the metal film principle, having the accuracy of a wire wound unit. Absolutely no carbon whatever is used in the fabrication of these resistors. The metallic resistance film is formed on the surface of a low loss ceramic tube using a patented pyrochemic process.

The metal film thus formed is hermetically sealed by a layer of vitreous enamel specially developed and patented by CONTINENTAL. The ceramic tube with its associated film is then spiralıed to give a long resistance path and to accurately calibrate the unit to value.

Since the ceramic tubes are hollow they allow a larger surface for heat radiation, thus permitting the resistor to withstand overloads of $200 \%$ or better.

The copper-tinned lead terminals are soldered to extremely low resistance metal contact films which in turn are integral with the resistance film, thereby reducing contact resistance to a minimum. This type of construction produces a resistor unit having not only excellent resistance stability but also a negligible noise characteristic.

## ELECTRICAL CHARACTERISTICS OF CONTINENTAL "NOBLELOY X" TYPE RESISTORS

## Voltage

The recommended voltage rating of Continental "NOBLELOY X" type resistors is the maximum r.m.s. voltage which the resistor is expected to withstand in continuous use and is determined from the formula:
$E=\sqrt{\mathrm{WR}}$ Where $\mathbf{E}=$ rated D.C. or r.m.s. A.C. Voltage, $\mathrm{W}=$ watts rating, $\mathrm{R}=$ resistance.
In no case shall the D.C. or r.m.s. A.C. voltage be greater than the maximum voltage shown in the table.

## Load Characteristics

Irrespective of value, Continental "NOBLELOY X" type resistors will not change more than $5.0 \%$ when the load is increased from $2 \%$ of rated wattage to $200 \%$ of rated wattage, and on cooling to room temperature returns to the original value. This is practically the temperature coefficient effect.

## Voltage Characteristics

Voltage coefficient does not exceed $\frac{1}{10}$ of $1 \%$.
Normal Load Life Characteristics (All Values)
The permanent change in resistance will not be more than $1.0 \%$ when the resistor is subjected to a normal life test of 1000 hours.

Overload Life Characteristics (All Values)
The permanent change in resistance will not be more than $2.0 \%$ when the resistor is subject to $200 \%$ of rated wattage for a period of 1000 hours.
Temperature Coefficient (All Values)
The temperature coefficient of resistance will not exceed 0.0005 (. 05 per degree Centigrade) Negative.
Humidity Characteristics (All Values 1.0 Ohm to 15 Megohms)
Continental "NOBLELOY X" type resistors will not change more than $1.5 \%$ when conditioned in an atmosphere of $100 \%$ relative humidity at $40^{\circ} \mathrm{C}$. ambient, for a period of 1000 hours.

## Shelf Life

When stored under normal conditions, the resistance will not change more than $0.1 \%$ during a period of 2000 hours. This is a negligible change.
Noise Characteristic
When tested for noise according to standard R.M.A. procedure, the inherent noise level will not exceed $1 / 4$ microvolt per volt, irrespective of resistance value. This level is equal to wire wounds.

## Finish

All "X" type resistors possess a smooth, uniform coating of a special rubberized enamel capable of resisting deterioration up to and including $400^{\circ} \mathrm{F}$.


## FILTERNOYS Paper Condensers



EE TYPE


CONTINENTAL Carbon Model E condensers are high quality, paper dielectric capacitors built in shapes and sizes equivalent to electrolytic capacitors commonly found in radio receivers. They are flash tested at 3 times their d.c. working voltage and have the advantage of low power factor at 60 cycles. They are noninductive, non-polarized, and are of permanent capacity. No active chemicals are used which could cause corrosion of the foil or leakage. The tabulations below show the actual capacity in microfarads and the rated sizes of electrolytic condensers occupying the same dimensions. Recommended for use on d.c. and rectified a.c. only. Model E, d.c. working volts, 600 ; peak volts, 1000.

## Data and Prices on Type E Condensers

## Cardboard Containers

Furnished with Six-Inch Wire Leads
E-Type-600 Volts d.c.

| Code | Capacity <br> inMfls. | Equivalent <br> Electrolytic | Size | List <br> Price |
| :--- | :---: | :---: | :---: | ---: |
| EE2 | 1.2 | 2 | $43 / 8 \times 13 / 8 \times \frac{11}{16}$ | $\$ 1.35$ |
| EE4 | 2.4 | 4 | $43 / 8 \times 13 \times 18$ | 1.65 |
| EE8 | 4.8 | 8 | $43 / 8 \times 13 \times 11 / 8$ | 2.00 |

Condensers in Metal Cans
Inverted Stud Mounting, Six-Inch Leads
Insulated from Can

| IE4 | 2.4 | 4 | $43 / 8 \times 13 / 8$ Dia. | $\$ 2.00$ |
| :--- | ---: | :--- | :--- | ---: |
| IE8 | 4.8 | 8 | $43 / 8 \times 11 / 2$ Dia. | 2.35 |

## FILTERNOYS FO2GH <br> Most Popular and Universal Plug-in Type FOR ELECTRIC RAZORS

## SUPPRESSION TYPE

Handy plug-in type suppressor with two r-f chokes, two condensers, and a ground lead for use on electrical devices of 300 watts or less, creating interference of intermitten or temporary character, such as a sewing machine motor, small electric washing machines, electric shavers, drink mixers, cash registers, adding ma-
 chines, or electric typewriters. Size $25 / 8^{\prime \prime}$ by $13 / 8^{\prime \prime}$ diameter. 300 -Watt capacity on 120 volts, a.c. or d.c.
Filternoys F02GH . . . . . . . . . . . . . . . . . List Price $\$ 2.00$

## FILTERNOYS GO5D, G01D

Designed to Be Mounted Directly on Small Electrical Devices


Filternoys G05D has two 0.5 Mfd. condensers, one connected to each lead and the other ends grounded to the can at a common point. This Filternoys can be connected across each pair of brushes of generators, motors and the line wires of all stationary electric devices. Rating: 115-230 Volts a.c. or d.c.
G05D-Size $21 / 4 \times 1$,
List Price $\$ 1.50$


Filternoys Diverter G01D -Dual capacitors in a grounded container for any size electric motor operating on 120 v . or less. Through making use of the field coils as chokes, this is a most effective method to silence a noisy a.c. or d.c. motor. Size $1^{7 / 8 " x} 5 / 8^{\prime \prime}$ diameter. Shock Proof.
G01D . . . . List Price $\mathbf{\$ 0 . 7 5}$

## FILTERNOYS F18

Filternoys Diverter F18 is a compact 0.1 mfd capacitor in a conveniently small bakelite plug-in coupler for use across domestic power lines in which
 the neutral wire is grounded. The capacitor diverts interference from the high potential side of the power line to the grounded neutral side. Use on floor or table lamps, cigarette lighters, and the radio.

F18. $\qquad$

ALL SPARK PLUG SUPPRESSORS AND DISTRIBUTOR SUPPRESSORS EACH LIST PRICE \$0.30

CONTINENTAL SUPPRESSORS have been subjected to years of laboratory development and actual road service. They effectively remove noise interference from spark discharge at the plugs and hightension distributor-yet do not in any way affect the motor car ignition system.

They have mechanical strength to stand the most severe service. The resistance value of $10,000 \mathrm{ohms}$ has been scientifically determined. Sparking across the terminals is eliminated by careful shaping of the electrodes and cases.

SPARK PLUG SUPPRESSORS

$\$ 19$


## TYPE

S-19
S-19-A
$\stackrel{\mathrm{S}}{\mathrm{S}-19-\mathrm{A}}$
S-27
$\mathrm{S}-27$
$\mathrm{~S}-27-\mathrm{D}$
$\stackrel{\mathrm{S}}{\mathrm{S}} \mathrm{S} 21$
S-21-D
S-23
S-23-D
$\mathrm{S}-23-\mathrm{D}$
$\mathrm{S}-20-\mathrm{A}$
$\mathrm{S}_{\mathrm{S}-25}^{\mathrm{S}}$

SPARK PLUG CONNECTION
Vertical - Snaps on to spark plug.
Vertical - Rajah special terminal.
Vertical - Snaps on to spark plug same as S-19.
same as S-19.
Vertical - Screws on
Vertical-Screws on.
Vertical-Screws on.
"U", bracket type.
"U"' bracket type.
Elbow - Flexible, snaps on.
Elbow - Flexible, snaps on.
Elbow - Snaps on spark plug.
Elbow - Snaps on spark plug and also fits distributor. A universal suppressor.


## CABLE CONNECTION

Cable terminal snaps on.
Cable terminal snaps on.
Cable terminal snaps on and with a removable ferrule nut for spade terminal.
Cable terminal snaps on.
Cable terminal snaps on and with a removable ferrule nut for spade terminal. Cable terminal snaps on.
Cable terminal snaps on, Cable terminal snaps on.
Cable terminal snaps onCable screws into suppressor. making a moisture proof insulated joint. Cable screws into suppressor, making a moisture proof insulated joint.

## DISTRIBUTOR SUPPRESSORS




T 20

c 1


FORD DISTRIBUTOR
SUPPRESSOR


Brush


Sleeve

T-17: Brush and Sleeve Supplied Together Distributor Type Brush Suppressor of the right resistance to suppress interference

Universal Type: the brush can be inserted in the bakelite sleeve to fit models using

GENERATOR CONDENSERS
from the spark at the rotor. the larger size brush.



GB05F


G805

ALL SPARK PLUG AND DISTRIBUTOR SUPPRESSORS EACH LIST PRICE $\mathbf{\$ 0 . 3 0}$

| Type | Application | Capacity | Size | List Price |
| :---: | :---: | :---: | :---: | :---: |
| GB05 | Generator and coil | .5 mfd . |  | \$0.60 |
| GB05F | Ford V-8 coil | . 5 mfd . | 21/8" ${ }^{\text {x }}$ "/4 | . 75 |

## DISTRIBUTOR CONNECTION

C-11
T-13 Vertical - Snaps in distributor well.
T-20 Vertical - Snaps in distributor well.
T-20-A Vertical - Snaps in distributor well and has a rubber skirt for moisture proof connection.
T-24 Elbow - Snaps in distributor well.
T-25 Elbow - Snaps in distributor well and fits both spark plug or distributor on Chevrolet and other makes.

## WIRT <br> WIRE WOUND FIXED RESISTORS

## WIRE WOUND FIXED RESISTORS

To satisfy the most exacting needs of the Radio and Electronic Industries, Wirt Fixed Wire-wound Resistors are regularly furnished in PHENOCOTE protective coatings, developed and steadily improved over a period of many years in the Wirt Laboratories. The resistor wire is space wound on low loss ceramic tubes. The PHENOCOTE covering is an exclusive organic cement coating offering maximum protection to the resistance winding against the detrimental effects of
 moisture, humidity and electrolysis. Absolutely inert chemically, it will not effect the most delicate windings. It is particularly recommended for fine wire sizes and all applications where the maximum temperature of the unit will not exceed $300^{\circ} \mathrm{F}$. These Resistors are universally used in the Radio, Electronic, Instrument, Public Address and Test Equipment fields.

## TABLE OF SPECIFICATIONS OF FIXED RESISTORS

| Cat. <br> No. | Watts | Sizes Phys. | Resistance Limits (Ohms) | List Price (Ea.) | Accessories <br> Terminals | Mounting Brackets | Mounting Centers | Packing |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PR 1 | 5 | $3 / 8{ }^{\prime \prime} \times 1$ " | 1 to 10000 | \$0.53 | Soldering Lugs \& Wire Leads | None | ...... | 10 to a Box |
| PR 3 | 10 | $3 / 81 \times 18 / 4$ " | $\begin{array}{r} 1 \text { to } 10000 \\ 11000 \text { to } 25000 \end{array}$ | $\begin{aligned} & .59 \\ & .65 \end{aligned}$ | Soldering Lugs \& Wire Leads | None | ...... | 10 to a box |
| PR 4 | 20 | $1 / 2{ }^{\prime \prime} \times 2^{\prime \prime}$ | $\begin{array}{r} 5 \text { to } 15000 \\ 16000 \text { to } 50000 \\ 51000 \text { to } 100000 \end{array}$ | $\begin{array}{r} .91 \\ 1.11 \\ 1.43 \end{array}$ | Soldering Lugs \& Wire Leads | None | ...... | 10 to a box |
| PR 12 | 50 | 3/4"x4" | $\begin{array}{r} 5 \text { to } \quad 5000 \\ 5100 \text { to } 25000 \\ 26000 \text { to } 100000 \end{array}$ | $\begin{aligned} & 1.56 \\ & 1.82 \\ & 2.08 \end{aligned}$ | Soldering Lugs | 2 | 5" | Individual |
| PR 19 | 100 | $11 / 8 " \times 61 / 2^{\prime \prime}$ | 5 to 5000 5100 to 25000 26000 to 50000 51000 to 75000 76000 to 100000 | $\begin{aligned} & 2.15 \\ & 2.54 \\ & 2.86 \\ & 3.25 \\ & 3.58 \end{aligned}$ | Soldering Lugs | 2 | 7" | Individual |
| PR 22 | 160 | $11 / 8 " \times 81 / 2^{\prime \prime}$ | $\begin{array}{r} 5 \text { to } 10000 \\ 11000 \text { to } 50000 \\ 51000 \text { to } 100000 \end{array}$ | $\begin{aligned} & 2.86 \\ & 3.43 \\ & 3.86 \end{aligned}$ | Soldering Lugs | 2 | 9" | Individual |
| PR 23 | 200 | $11 / 8 " \times 101 / 2 "$ | $\begin{array}{r} 5 \text { to } 10000 \\ 11000 \text { to } 100000 \end{array}$ | $\begin{aligned} & 3.58 \\ & 4.29 \end{aligned}$ | Soldering Lugs | 2 | 11 " | Individual |

[^1]
## WIRT wim ADJUSTABLE RESISTORS



WIRE WOUND ADJUSTABLE RESISTORS

WIRT Adjustable Resistors are space wound on low loss ceramic tubes to which the resistance wire is bonded, resulting in dependability and long life. Protection of the windings is afforded by the PHENOCOTE covering which is described fully on the preceeding page. One adjustable Slider Band, screw driver type, is furnished as standard. Bakelite knob type bands can be furnished on special order at slightly higher prices as shown below. These bands are made with small contact buttons located on the inside of the band so that a number of taps may be made without shorting out excessive resistance.

TABLE OF SPECIFICATIONS OF ADJUSTABLE RESISTORS

| Cat. No. | Sizes |  | Resistance Limits (Ohms) | List Price (Ea.) | Accessories |  |  | Mounting Centers | Packing |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Watts | Phys. |  |  | Terminals | Brackets Mounting | Slider <br> Bands |  |  |
| AR 3 | 10 | $3 / 87 \times 13 / 4{ }^{\prime \prime}$ | 1 to 10000 | \$0.98 | Soldering Lugs | None | 1 | $\ldots$ | Individual |
| AR 7 | 25 | 3/4"x2" | $\begin{array}{r} 1 \text { to } 5000 \\ 6000 \text { to } 15000 \\ 20000 \text { to } 25000 \end{array}$ | $\begin{aligned} & 1.24 \\ & 1.43 \\ & 1.56 \end{aligned}$ | Soldering Lugs | 2 | 1 | $3 "$ | Individual |
| AR 12 | 50 | $3 / 4$ "x4" | $\begin{array}{r} 5 \text { to } \quad 5000 \\ 7000 \text { to } 25000 \\ 30000 \text { to } 50000 \\ 60000 \text { to } 100000 \end{array}$ | $\begin{aligned} & 1.95 \\ & 2.15 \\ & 2.47 \\ & 2.86 \end{aligned}$ | Soldering Lugs | 2 | 1 | 5" | Individual |
| AR 15 | 75 | $3 / 4{ }^{\prime \prime} \times 6^{\prime \prime}$ |  | $\begin{aligned} & 2.54 \\ & 2.86 \\ & 3.25 \\ & 3.58 \end{aligned}$ | Soldering Lugs | 2 | 1 | 7" | Individual |
| AR 19 | 100 | $11 / 8^{\prime \prime} \times 1 / 2^{\prime \prime}$ | $\begin{array}{r} 5 \text { to } 10000 \\ 15000 \text { to } 50000 \\ 75000 \text { to } 100000 \end{array}$ | $\begin{aligned} & 2.86 \\ & 3.25 \\ & 3.90 \end{aligned}$ | Soldering Lugs | 2 | 1 | $7^{\prime \prime}$ | Individual |
| AR 22 | 160 | $11 / 8{ }^{\prime \prime} \mathrm{XS}^{1 / 2 \prime}$ | $\begin{array}{r} 5 \text { to } 10000 \\ 15000 \text { to } 50000 \\ 60000 \text { to } 100000 \end{array}$ | $\begin{aligned} & 3.25 \\ & 4.15 \\ & 4.65 \end{aligned}$ | Soldering Lugs | 2 | 1 | $9^{\prime \prime}$ | Individual |
| AR 23 | 200 | $11 / 8^{\prime \prime} \times 101 / 2^{\prime \prime}$ | $\begin{array}{r} 5 \text { to } 10000 \\ 15000 \text { to } 100000 \end{array}$ | $\begin{aligned} & 4.29 \\ & 5.01 \end{aligned}$ | Soldering Lugs | 2 | 1 | 11" | Individual |

Extra Adjustable Slider Bands are obtainable and priced as follows:

| Wattage Size | Screw | Driver Type |  |
| :--- | :---: | :---: | :---: |
| $10,25,50,75$ | $\$ 0.26$ | List Price Each | $\$ 0.39$ |
| $100,160,200$ | .33 | List Price Each | .50 |

When ordering state: Quantity, Catalogue Number and Resistance Value.

# WIRT MINIATURE RHEOSTATS and POTENTIOMETERS 

## MINIATURE RHEOSTATS AND POTENTIOMETERS

General: WIRT Metal Housed Rheostats and Potentiometers are rugged and compact affording high quality and dependability in operation. Due to size and construction these controls are moderately priced. Housings are made of tinplated steel. Highest quality resistance wire is space wound on specially treated $\downarrow$ laminated phenolic strips. The Phosphor Bronze contact-arm is grounded to the metal casing and all terminals are silver plated. Switches cannot be furnished. These Rheostats and Potentiometers are adaptable to a wide varieity of uses in the Radio Instrument, Electronic and Test Equipment fields. The types available are listed below:
Cat. No. WC801-Two Terminal Rheostat, 2 Watt rating. Resistance Range: 5 ohms to 10,000 ohms with linear winding and standard tolerance of $\pm 15 \%$. Diameter is $11 / s^{\prime \prime}$ and thickness $1 / 2^{\prime \prime}$. Shaft is Cadmium plated steel, grounded to housing. $5 / 32^{\prime \prime}$ from end of bushing and slotted for screw driver adjustment. Brass mounting bushings, $3 / 8^{\prime \prime}-32 \times 1 / 4^{\prime \prime}$ long are standard. Each control is equipped with one $9 / 16^{\prime \prime}$ hex mounting nut. List Price
$\$ 0.90$ Each Cat. No. WC802-Three Terminal Potentiometer. 2 Watt rating. Resistance Range: 5 ohms to 10,000 olms with linear winding and standard tolerance $\pm 15 \%$. All other specifications are the same as those listed under the WC801 control shown above. List Price
\$1.25 Each
Cat. No. WC803-Sensitivity Control, 2 Watt rating. Resistance Range: 5 ohms to 12,000 olms with linear winding and standard tolerance of $\pm 15 \%$. Diameter is $11 / 8^{\prime \prime}$ and thickness is $1 / 2^{\prime \prime}$. A slot is provided in the Rotor mechanism allowing for screw driver adjustment from front only. List Price $\$ 0.50$ Each Cat. No. WC804-Sensitivity Control. Identical with WC803 Control, except provided with an opening in back of control to permit screw driver adjustment from either front or back. List Price
\$0.55 Each
Cat. No. WC807-Miniature Sensitivity Control, 1.5 Watt rating. Resistance Range: 5 ohms to 3000 ohms with uniform winding and standard tolerance of $\pm 15 \%$. A slot is provided in the Rotor mechanism allowing for screw driver adjustment from either front or back. List Price
$\$ 0.50$ Each
Cat. No. WCB507-Insulating Bushing for $3 / 8^{\prime \prime}$ Brass bushing and used with
Cat. Nos. WC801 and WC802 Controls. List Price
$\$ .095$ Each
Cat. No. WCW508-Insulating Washer for $3 / 8^{\prime \prime}$ Brass bushing and used with Cat. Nos. WC801 and WC802 Controls. List Price
\$0.075 Each
 industrial use for control of voltage and to regulate speed or heat it can be wound with a maximum resistance of 300 ohms and can dissipate up to 20 watts with maximum resistance setting. It is adjustable to 8 positions. List..... $\$ 5.00$ Each

## VARIABLE VOLTAGE REGULATOR



Cat. No. 211 - Variable Voltage Regulator is wound with high quality alloy wire on an insulated metal core with the winding encased in Di-El-Ite. It can be used as a Radio Voltage Regulator where the Receiver draws not more than 65 watts. For industrial use it can be wound up to 600 ohms maximum and will dissipate up to 8 watts. It is adjustable to 5 positions.
List Price
$\$ 3.00$ Each
Cat. No. 211-B-Regulator has air-cooling features which promote rapid heat dissipation. When used as a Radio Voltage Regulator the Receiver must not draw more than 150 watts. In

## UTILITY CABINET

Cat. No. UC-Utility Cabinet is constructed of bass wood with corners dadoed and glued for strengtli; varnished and rubbed to give a beautiful finish. It has six drawers, each one liaving three removable partitions. The upper five drawers are $1^{\prime \prime}$ deep and the lower one is $11 / 2^{\prime \prime}$ deep. Overall dimensions of the cabinet are $7^{\prime \prime}$ wide by $55 / 8^{\prime \prime}$ deep by $9^{\prime \prime}$ high, Drawer guides, bottom and partitions are made of three ply laminated wood to prevent warping. Knobs are of wood and securely fastened, It is ideal for the storage of such parts as resistors, condensers, bolts, nuts, washers, small tools, etc. List.
$\$ 8.00$ Each


# SUPPRESSORS and SWITCHES 



## AUTO RADIO IGNITION SUPPRESSORS

Wirt Suppressors are made with moulded black bakelite housings. All metal parts are made of rugged unfinished brass. Terminals are securely fastened to casings and sealed with special moisture and neat resisting dielectric cement. Resistor pills are sprayed with zinc and then double impregnated with a special moistureproofing compound. Resistance value of all standard types is 10000 ohms $\pm 20 \%$; for FV8 types 50000 ohms $\pm 20 \%$. The distributed capacity is less than 1.5 mmf . Resistance values will not change more than $7 \%$ after being submerged in water for 100 hours. Test by sparking 1800 times per minute at 10,000 volts for 100 hours produces resistance change of not more than $3 \%$. Wirt Suppressors are impervious to heat, oil, moisture and mild acids, and will not change in resistance more than $10 \%$ in 50,000 miles of operation.

| Cat. No. Type | List Price |
| :---: | :---: |
| S914-Bracket-Standard | \$0.30 Each: |
| S916-Bracket-For FV-8 | . 30 Each |
| S915-Distributor-Slip Fitting | . 30 Each |
| S918-FV-8 Brush-Years 1933-34-35 | .30 Each |
| S922-FV-8 Brush-Years 1936 to 1940 | .30 Each |
| S921-Universal Screw-Standard | . 30 Each |
| S923-Universal Screw-For FV-8 | . 30 Each |
| S924-Snap-011 Plug | . 30 Each |
| S926-Cable-Screw Fitting | . 30 Each |

## WIRT ROTARY AND SLIDE SWITCHES

## Rotary Switches

General: Wirt Rotary Switches are of the quick break type, have positive contact, are rugged and neat in appearance. They are constructed with tin plated steel housings. The outside diameter of the switch is $11 / 8^{\prime \prime}$ and thickness $1 / 2^{\prime \prime}$. Standard bushings are of brass, $3 / 8^{\prime \prime}-32 \mathrm{x} 3 / 8^{\prime \prime}$ long. Steel shafts are $5 / 8{ }^{\prime \prime}$ from end of bushing, and made with a flat. Wiping contacts and terminals are silver plated. Terminals are securely fastened in place. Activating spring is positive in action. One $9 / 16^{\prime \prime}$ hex. nut is furnished. These switches are successfully used in conjunction with Radio, Phonograph, Signal and Instrument Circuits.
Cat. No. Type List Price
SW711 -SPST Rotary Switch, 3A-125V-AC-DC 2 Terminals $\$ 0.90$ Each SW711A-SPDT Rotary Switch, 3A-125V-AC-DC 3 Terminals 1.00 Each

## Slide Switches

General: All Wirt Slide Switches are compact and sturdy. Housings are made of steel and are cadmium plated. The plysical dimensions of the switches lave been standardized, width $35 / 64^{\prime \prime}$, length $1-13 / 32^{\prime \prime}$ and mounting centers $11 / 8^{\prime \prime}$. Standard buttons are of black bakelite. All contacts and terminals are silver plated. Switches SW723 and SW725 are supplied with a dot which indicates the "On" position. These switches are used in the Radio, Signal, Phonograph and Instrument industries.

## Cat. No.

## Type

List Price
SW723-SPST Slide Switch, .75A-125V-AC-DC, 2 Terminals $\$ 0.31$ Each SW724-SPDT Slide Switch, .75A-125V-AC-DC, 3 Terminals .37 Each SW725-DPST Slide Switch, .50A-125V-AC-DC, 4 Terminals .44 Each SW726-DPDT Slide Switch, .50A-125V-AC-DC, 6 Terminals . 55 Each

## MALLORY CONTROLS - LIST PRICES

| Mallory Cat. No | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Mallory <br> Cat. No | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Mallory Cat. No. | $\underset{\text { Prist }}{\text { List }}$ | Mallo Cat. | List | $\begin{aligned} & \text { Mallor } \\ & \text { Cat. } \end{aligned}$ | List Price | Mallory Cat. No. | $\underset{\text { Priste }}{\text { List }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mállory Page 3 |  | Mallory Page 5 |  | Mallory Page 6 |  | Mallory Page 7 |  | Mallory Page 9 |  | Mallory Page 10 |  |
| Mallory Control Deals |  | 1 $1 / 8^{\prime \prime}$ Dia. • Fixed Shaft Controls |  | SM309 $\$ 2.50$ <br> SM310 1.85 <br> SM311 2.50 <br> SM312 2.50 <br> SM313 2.50 <br> SM316 1.85 <br> SM317 2.50 <br>   |  | TM2 | \$1.85 | 11/2" Dia. • Fixed |  |  SRP282 <br> SRP286 $\$ 1.85$ <br> SR 1.85 |  |
| $\begin{aligned} & \text { U1485 } \\ & \text { R1485 } \\ & \text { M1485 } \end{aligned}$ | $\begin{array}{r} \$ 24.75 \\ \begin{array}{r} 24.75 \\ 24.75 \end{array} \end{array}$ |  |  | TM | 1.85 1.85 1.85 | Shaft • Carbon Controls |  |  |  |
|  |  | MR14 | \$1.25 |  |  | TM234 | 1.85 1.85 | SRP290 | 1.85 |  |  |
|  |  | MR18 | ${ }_{1} 1.25$ |  |  | TM238 | 1.85 |  |  | SRP900 | 1.85 1.85 |
|  |  | MR19 MR20 | 1.25 1.25 |  |  | TM239 | 1.85 1.85 1.85 | ${ }_{\text {F12 }}$ | \$1.25 | SRP960 | 1.85 |
|  |  | MR21 | 1.25 |  |  | TM241 1.85 <br> TM242 1.85 <br> TM243 1.85 |  | $\mathrm{H}_{\mathrm{J}}{ }^{\text {d2 }}$ | 1.25 1.25 | SRP961 1.85 |  |
| Mallory Page 4 |  | MR22 MR24 | 1.25 <br> 1.25 |  |  | 11/8" Dia. - Fixed | K 1.25 |  |  |  |
|  |  | MR28 | 1.25 | Shaft - Special Application • Dual |  |  |  | TM244  <br> TM245 1.85 |  | K12  <br> $\mathbf{M}$ 1.25 <br> $\mathbf{Y}$ 1.25 |  | Special Dual Controls |  |
| The Mallory Midgetrol |  | MR33 1.25 <br> MR34 1.25 <br> $\mathbf{M R 3 5}$ 1.25 |  |  |  | TM246 1.85 <br> TM247 1.85 |  | $\underset{\mathbf{Z} 12}{\mathbf{Z}}$ |  |  |  |  |  |
|  |  | Application • Dual Controls | DRP114 $\$ 3.10$ |  |  |  |  |  |  |  |  |  |
| U12 |  |  |  | MR35 1.25 <br> MR36 1.25 <br> 1887  |  |  |  | TM2488 1.85 <br> TM249 1.85 |  | UC501 1.25 <br> UC502 1.25 |  | DRP114 ${ }_{\text {DRP115 }} \begin{aligned} & \text { \$3.10 } \\ & 3.10\end{aligned}$ |  |
|  |  | MR37 1.25 <br> 1.25  |  | SMD500 $\$ 3.75$ |  | $\begin{array}{ll}\text { TM249 } & 1.85 \\ \text { TM250 } & 1.85 \\ \text { TM251 } & 1.85\end{array}$ |  | DRPP116. ${ }^{3.10}$ |  |  |  |  |  |
| U18 | 1.25 1.25 | MR39 1.25 <br> MR40 1.25 |  |  |  | TM250 1.85 <br> TM251 1.85 |  | UC502  <br> UC503 1.25 |  | DRP117 |  |  |  |
| U20 | 1.25 | $\begin{array}{ll}\text { MR40 } & 1.25 \\ \text { MR41 } & 1.25\end{array}$ |  | SMD502 3.75 <br> SMD503 3.75 <br> SMD504 3.75 |  | $\begin{array}{ll}\text { TM250 } & 1.85 \\ \text { TM252 } & 1.85 \\ \text { TM254 } & 1.85\end{array}$ |  | UC504 1.25 | 1.25 | DRP122 ${ }^{3} \mathbf{3 . 1 0}$ |  |  |  |
| U21 | 1.25 | MR42 <br>  |  |  |  | TM257 1.85 <br> 1.85  |  | UC505 |  | DRP169 ${ }^{\text {DR }}$ |  |  |  |
| U22 | 1.25 | MR44 1.25 |  | SMD504 SMD505 SMD506 | 3 <br> 3.75 <br> 3.75 | $\begin{aligned} & \text { TM25 } \\ & \text { TM25 } \\ & \text { TM26 } \end{aligned}$ | 1.85 1.85 1.85 | UC507 | ${ }_{1}^{1.25}$ | ${ }^{\text {DRPP221 }}$ | ${ }_{3}^{3.10}$ |  |  |
| U28 | 1.25 | MR45 1.25 <br> MR48 1.25 |  | SMD506 SMD507 | 3.75 3.75 3 |  |  | UC508 | 1.25 1.25 | DRP222 | ${ }_{3.1}^{3.1}$ |  |  |
| U39 | 1.25 | MR50 1.25 <br> MR51 1.25 |  | SMD508SMD509 | $\begin{aligned} & 3.75 \\ & 3.75 \end{aligned}$ | 11/8" Dia. • Plug-In |  | UC510 1.25 |  | DRP244 ${ }^{\text {D }}$ |  |  |  |
| U34 | 1.25 | $\begin{aligned} & \mathbf{M R 5 3} \\ & \mathbf{M R 5 5} \\ & \mathbf{M R 5 7} \end{aligned}$ | $\begin{aligned} & 1.25 \\ & 1.25 \\ & 1.25 \end{aligned}$ |  |  |  |  | $\begin{array}{ll}\text { UC511 } & 1.25 \\ \text { UC514 } & 1.25\end{array}$ |  | DRP302 ${ }^{3.10}$ |  |  |  |
| U35 | 1.25 |  |  | SMD510 SMD511 | 3.753.753.753.75 | Shaft • Double Tapped Controls |  |  |  | DRP304 | 3.10 |  |  |
| U36 | 1.25 1.25 |  |  |  |  | Controls |  | $\mathrm{Y}^{\mathbf{Y} \mathbf{M 1 0 M P}}$ | 1.25 | DRP306DRP311DRP318 | 3.753.103.10 |  |  |
| U40 | 1.25 |  |  |  |  | SMD512 |  | Y25MP | 1.25 |  |  |  |  |
| U412 | 1.25 1.25 | 11/8" Dia. • Fixed Knurled Shaft Controls |  |  |  |  |  | $\begin{array}{ll}\text { DTM } 2823 \\ \text { DTM283 } & 1.85 \\ 1.85\end{array}$ |  | $\begin{aligned} & \mathrm{Y} 200 \mathrm{MP} \\ & \mathrm{Y} 250 \mathrm{MP} \end{aligned}$ |  |  |  |
| U43 | ${ }_{1}^{1.25}$ |  |  | 1/8" Dia. • Plug-In Shaft Controls |  | DTM287 1.85 <br> DTM  <br> DTM 299 1.85 <br> 185  |  |  |  |  |  |  |
| U44 | 1.25 1.25 1.25 |  |  | 11/2" Dia. • Fixed | Mallory Page 11 |  |  |  |  |  |  |  |
| U46 | 1.25 |  |  |  |  | UM114 \$125 | $\begin{aligned} & \text { DTM291 } \\ & \text { DTM293 } \\ & \text { DTM296 } \end{aligned}$ |  | Shaft - Single \& |  |  |  |
| U50 | 1.25 | MK400 <br> MK401 <br> MK403 | $\begin{array}{r} \$ 1.25 \\ 1.25 \\ 1.25 \\ 1.25 \end{array}$ | UM118 ${ }^{\text {UM12 }}$ |  |  |  |  |  | 1/1/2" Dia. • Fixed Shaft - Wire-Wound Controls |  |  |
| U51 | 1.25 |  |  | UM120 |  | DTM296 |  | Double Tapped Controls |  |  |  |  |  |
| U54 | 1.25 |  |  | $\begin{array}{ll}\text { UM120 } & 1.25 \\ \text { UM121 } & 1.25\end{array}$ |  | Mallory Page 8 |  |  |  |  |  |  |  |  |  |
| U55 | 1.25 |  |  | UM124 | $\begin{aligned} & \begin{array}{l} 1.25 \\ 1.25 \\ 1.25 \end{array} \end{aligned}$ |  |  | TRP601 \$1. |  |  |  |  |
| U57 | 1.25 |  |  | UM128 |  | Mallory Page 8 |  | TRP603 1.85 |  | A $\quad \$ 1.25$ |  |  |
| 0651.25 |  | 11/8" Dia. - Fixed |  | UM129 | . 25 | Universal and Special |  |  |  | ${ }^{\text {B }}$ | 1.25 |  |
|  |  | Shaft • Single Tapped Controls |  | UM134 | 1.25 | Plug-In Sh | Is for Use | TRP605 | 1.85 | ${ }^{\text {C12 }}$ | 1.25 |  |
| $\begin{array}{ll}\text { UT425 } & 1.85 \\ \text { UT427 } & 1.85 \\ \text { UT4 }\end{array}$ |  |  |  | UM137 1.25 <br> UM138 1.25 |  | with Types UM, TM, |  | TRP606 | 1.85 | ${ }^{\text {D }}$ | 1.25 |  |
|  |  | Controls |  |  |  | and DTM Controls |  | TRP608 | 1.85 |  | 1.25 |  |
| UT429 ${ }^{\text {UT431 }}$ |  | MRT420 \$1.85 |  | UM1140 1.25 <br> UM141 1.25 |  |  |  | TRP609 1.85 |  | ${ }_{\text {E7 }}$ |  |  |
| UT443 | 1.85 | $\begin{array}{ll}\text { MRT425 } & 1.85 \\ \text { MRT426 } & 1.85\end{array}$ |  |  |  | SS1 $\quad \$ 0.30$ |  | TRP612 1.85 |  | F $\quad 1.25$ |  |  |
| UT458 | 1.85 | MRT426 | 1.85 1.85 | UM144 ${ }^{\text {U }}$ I25 |  | SS3 . 45 |  | TRP613 | 1.85 | ${ }_{\mathrm{G}}$ |  |  |
| $\begin{array}{ll}\text { UT451 } & 1.85 \\ \text { UT454 } & 1.85\end{array}$ |  | MRT428 1.85 |  |  |  | TRP614 | 1.85 | G7 1.25 |  |  |  |  |  |
|  |  | $\begin{array}{ll}\text { MRT430 } & 1.85 \\ \text { MRT431 } & 1.85 \\ \text { MRT436 } & 1.85\end{array}$ |  | UM147 ${ }^{\text {U }}$ 1.25 |  |  |  | SS5 |  | TRP616 | 1.85 | $\begin{array}{ll}\text { G7 } & 1.25 \\ \mathrm{H} & 1.25\end{array}$ |  |
|  |  | MRT436 1.85 <br> MRTT438 1.85 <br> MRT  |  | UM150 1.25 <br> UM151 1.25 |  | SS6 |  | TRP617 | 1.85 | ${ }_{0}$ | 1.25 |  |
|  |  |  |  | UM151 | 1.25 | SS11 | . 45 | TRP619 | 1.85 | R | 1.25 |  |
| Attachable |  | MRT443 | 1.85 | UM156 | 1.25 | - | . 45 | TRP620 | 1.85 | S | 1.25 |  |
| Midgetrol S | tches | MRT445 | 1.85 | UM158 | 1.25 | SS15 | . 45 | TRP622 | 1.85 | $\stackrel{\square}{\text { U }}$ | 1.25 |  |
|  |  | MRT447 | 1.85 | UM159 | 1.25 | SS16 | . 30 | TRP623 | 1.85 | V | 1.25 |  |
|  |  | MRT448 | ${ }_{1}^{1.85}$ | UM161 | 1.25 | SS18 | . 30 |  |  | X | 1.25 1.25 |  |
| US26 | . 60 | MRT450 | 1.85 | UM162 | 1.25 | SS19 | . 65 |  |  |  |  |  |
| US26T | . 75 | MRT451 | ${ }_{1}^{1.85}$ | UM165 | 1.25 | ${ }^{\mathbf{S S S} 21}$ | . 45 | Mallory | age 10 | UC500 | 1.25 |  |
| US28 | . 75 | MRT460 | 1.85 | UM180 | 1.25 | - | . 30 |  |  | A400P | 1.25 |  |
|  |  |  |  |  |  | ${ }^{\text {SS24 }}$ | . 30 | 11/2" Dia. - F |  | ${ }^{\text {A550P }}$ | 1.25 |  |
|  |  |  |  |  |  | SS25 SS26 | . 30 | Shaft - Speci |  | ${ }_{\text {A1MP }}$ | 1.25 1.25 |  |
| getrol A | essories | Mallory $P$ | age 6 | Mallory | ge 7 | SS27 | . 30 | Application C | ntrols | ${ }_{\text {A AMP }}$ | 1.25 |  |
| (rol |  |  |  |  |  | ( | . 65 |  |  | A5MP | 1.25 |  |
|  |  | 1/8" ${ }^{\prime \prime}$ Dia. |  |  |  |  |  |  |  | ${ }_{\text {A10MP }}$ | 1.25 |  |
| UE500 | $\$ 0.25$ | Shaft - Specia |  | Shaft • Single | Tapped | (ess | .30 .30 | SRP142 | 1.85 <br> 1.85 <br> 18 | A20MP | 1.25 |  |
|  |  | Con |  |  |  |  |  | SRP179 | 1.85 | Uiversal |  |  |
| Mallory Midg | etrols | SM300 |  | TM220 | $\$ 1.85$ 1.85 | Attachab | witches | SRP188 | 1.85 | Dual Controls |  |  |
| or Special Ap | ications | SM302 | 2.50 2.50 | TM223 | 1.85 1.85 | for 11/8" ${ }^{\prime \prime} \mathrm{Dia}$ | Controls | SRP239 | . 60 |  |  |  |
|  |  | SM303 | 1.85 | TM224 | 1.85 |  |  | SRP241 | . 60 | CE | \$3.10 |  |
|  |  | SM304 | 2.50 2.50 | TM225 | 1.85 | M-23 |  | SRP251 | 1.85 | GG | 3.10 3.10 |  |
| SU41 | 1.50 |  | 2.50 | TM227 | 1.85 | M-26 ${ }^{\text {M-26T }}$ | . 75 | SRP261 | 1.85 | GK | 3:10 |  |
| SU50 | 1.50 1.50 | SM307 SM308 | 1.85 1.85 | TM238 | 1.85 | M-27 | . 75 | $\mathrm{SRP263}^{\text {a }}$ | 1.85 | LM | 3.10 3.10 |  |
| SU67 | 1.50 | SM308 |  | TM230 | 1.85 | M-28 | . 75 | SRP269 | 1.85 | MM | 3.10 |  |

## MALLORY CONTROLS AND RESISTORS • LIST PRICES

$\star$ Complete descriptions of these parts will be found on the following pages.



## You Get This Cabinet at no Extra Cost When You Purchase the Confrols and Switches af Your Regular Discount

- Treat yourself to a neat, heavy-duty stock cabinet, and simplify your inventory at the same time, with a Mallory Control Deal! Here's how:

You buy a carefully selected assortment of 15 fast-moving controls and 9 popular AC switches all at your regular price. Then, you get the handsome steel cabinet shown above at no extra cost to you! This cabinet contains 15 compartments for your controls, and a roomy drawer to hold your switches, extension shafts, idler pulleys and other accessories. A special built-in rack holds your Mallory Radio Service Encyclopedia which is purchased separately. And a hinged lid snaps shut to hold the controls in place during service calls.

When you use a Mallory Control Deal you get maximum coverage with minimum stock. In more than 9 out of 10 service jobs you will have on hand the control you need. And you can see at a glance which controls you immediately need to re-order.

Best of all-the revolutionary new Mallory Midgetrol is now available in a Mallory Control Deal. And a Mallory Midgetrol improves performance in any set where a $11 / 8^{\prime \prime}$ control was originally used. With your Mallory Midgetrol Deal you get, in addition to the cabinet, extra spring clips, extra U-clips, extra idler pulleys and extra extension shafts. Get started today with the Mallory Midgetrol. Order your deal today!

FAST-MOVING SELECTIONS
0 F
MALLORY MIDGETROLS
AND
MALLORY 1 $1 / \mathbf{s}^{\prime \prime}$ CONTROLS

## MALLORY MIDGETROL SELECTION

(Order by Catalog Number U-1485)

| 4 U-48 | 1 U-55 | 2 UP-10 |
| :--- | :--- | :--- |
| 3 U-53 | 1 U-39 | 5 Extra |
| 2 U-50 | 1 | U-41 |
| 2 U-44 | 9 US-26 | 5 Extra U Clips |
| 1 U-18 | 4 UE-50 | Web Remov- <br> ing Tool |

4 U-48
1 U-55
2 UP-10
Extra
Sprang
1 Web Remov-
ing Tool

## MALLORY MR SELECTION

(Order by Catalog Number R-1485)

| 4 MR-48 | 1 MR-18 | $5 \mathrm{M}-26$ |
| :--- | :--- | :--- |
| 3 MR-53 | 1 MR-55 | $3 \mathrm{M}-27$ |
| 2 MR-50 | 1 MR-39 | $1 \mathrm{M}-28$ |
| 2 MR-44 | 1 MR-41 |  |

## MALLORY UM SELECTION

(Order by Catalog Number M-1485)

| 4 UM-154 | 1 UM-118 | 2 M-27 |
| :--- | :--- | :--- |
| 3 UM-161 | 1 UM-163 | 1 M-28 |
| 2 UM-147 | 1 UM-142 | 5 SS-25 |
| 2 UM-156 | 3 M-26 | 1 SS-14 |
| 1 UM-140 |  |  |


| You will use your | Admiral | Capehart | Emerson | R.C.A. | Trav-ler |
| :---: | :---: | :---: | :---: | :---: | :---: |
| MALLORY | Airline | Colonial | Fada | Scott | Truetone |
|  | Allied | Continental | Hallicrafter | Sentinel | Warwick |
| COntrol dea | Atwater Kent | Crosley | Motorola | Sonora | Westinghouse |
| for all of these | Belmont | Delco | Patterson | Spiegel | Wilcox-Gay |
| Radio Sets | Brunswick-Mersman | Detrola | Philco | Stewart-Warner | Zenith |
|  | Cadillac | Dewald | Pilot | Stromberg-Carison | Zephyr |



# THE MALLORY MIDGETROL 

APPLICATION: For volume and tone control in audio circuits. Tapped controls provide tone compensation when required. Special controls are for use as recommended in the Mallory Radio Service Encyclopedia.
DESCRIPTION: A very small diameter control ( $15 / 16$ ) to service radio sets requiring small parts. Available in full line of resistances, tapers, and taps. Special resistance element gives ample safety factor for current-carrying ability. New type contact makes control smoothest and quietest on market by laboratory tests.
SHAFT DESCRIPTION: New Type flat shaft easily cut to any required length with a pair of side snips. Clips furnished with each control permits its use with all three knob types-Set Screw, Push-On, and Knurled.
ACCESSORIES: One hex nut, one lock washer, one U-clip and one spring steel clip furnished with each control. Idler pulleys, extension shafts and AC switches are available when needed as listed hereon.
PACKAGING: One control plus accessories and complete instructions in each display carton.

## Attachable Mallory Midgetrol Switches



Entirely designed and manufactured by Mallory especially for use with Mallory Midgetrals. be aftached without disassembling control.

| Catalog <br> Number | Description |
| :--- | :--- |
| US-26 | Single pole-single throw |
| US-26T | Single pole-single throw <br> Has dummy terminal |
| US-27 <br> US-28 <br> US-23 | Single pole-single throw <br> Four pole-single throw <br> shorting |

## Accessories

UE-50 Shaft-Extends shaft length on each Mallory Midgetrol an additional $4^{\prime \prime}$ with each extension. Two self-tapping screws furnished with each extension.

UP-10 Pulley - Fits over the Mallory Midgetrol flat shaft to permit its use as an idler for the dial cord where necessary.

| Catalog Number | Resistance | Taper* | Tap At |
| :---: | :---: | :---: | :---: |
| U-12 | 5 M | 1 |  |
| U-14 | 5M | 4 |  |
| U-18 | 10M | 1 |  |
| U-19 | 10M | 2 |  |
| U-20 | 10M | 4 |  |
| U-21 | 15M | 1 |  |
| U-22 | 15 M | 2 |  |
| U-24 | 20M | 1 |  |
| U-28 | 25M | 2 |  |
| U-29 | 25 M | 4 |  |
| U-33 | 50 M | 1 |  |
| U-34 | 50M | 2 |  |
| U-35 | 50 M | 4 |  |
| U-36 | 75M |  |  |
| U-39 | 100M | 1 |  |
| U-40 | 100M | 2 |  |
| U-41 | 100M | 4 |  |
| U-42 | 150M | 1 |  |
| U-43 | 200M | 4 |  |
| U-44 | 250M | 1 |  |
| U-45 | 250M | 2 |  |
| U-46 | 250M | 4 |  |
| U-48 | 500 M | 1 |  |
| U-50 | 500 M | 4 |  |
| U-51 | 750 M | 1 |  |
| U-53 | 1 Meg . | 1 |  |
| U-54 | 1 Meg . | 4 |  |
| U-55 | 2 Meg . | 1 |  |
| U-56 | 2 Meg . | 4 |  |
| U-57 | 3 Meg . | 1 |  |
| U-65 | 5 Meg. | 1 |  |
| UT-420 | 250 M |  | 50 M |
| UT-425 | 350 M |  | 70M |
| UT-427 | 500 M |  | 100M |
| UT-429 | 500 M |  | 50 M |
| UT-431 | 500 M |  | 225 M |
| UT-443 | 1 Meg . |  | 450 M |
| UT-450 | 2 Meg . |  | 125M |
| UT-448 | 2 Meg . |  | 250 M |
| UT-454 | 2 Meg . |  | 400 M |
| UT-451 | 2 Meg 。 |  | 900 M |

## MALLORY CARBON controls



## I $1 / 8^{\prime \prime}$ Dia. . Fixed Knurled Shaft Controls

APPLICATION-For volume or tone control in audio circuits.
DESCRIPTION-1/8" carbon control using same element as type MR.
SHAFT DESCRIPTION-Furnished with a $3^{\prime \prime}$ accurately finished, permanently attached knurled shaft for use in replacing original controls of this shaft construction.
ACCESSORIES-One hex nut and one lock washer furnished with each control. AC switches available as a special item. (See page 8).
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog Number | Ohms Resistance | Taper |
| :---: | :---: | :---: |
| MK400 | 250 M | 1 |
| MK401 | 500 M | 1 |
| MK402 | 1 Meg. | 1 |
| MK403 | 2 Meg. | 1 |


§External adjustable resistor included

## 1 $1 / \beta^{\prime \prime}$ Dia. • Fixed Shaff - Single Tapped Controls

APPLICATION-For control of volume with tone compensation in audio circuits.
DESCRIPTION-11/8" carbon controls with a single tap. Available in a wide range of resistances. Taps are accurately located. Uses Mallory's special resistance element insuring quiet, long life and an excellent safety factor in current-carrying capacity.
SHAFT DESCRIPTION-An accurately finished channel shaft is permanently attached; measures $3^{\prime \prime}$ from lock ring.
ACCESSORIES-One hex nut, one lock washer and one shim furnished with each control. AC switches available as a special item. (See page 8.)

PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog Number | Overall Resistance | Tap Resistance | Catalog Number | Overall Resistance | Tap <br> Resistance |
| :---: | :---: | :---: | :---: | :---: | :---: |
| MRT420 | 250 M | 50 M | MRT460 | 1 Meg. | 500 M |
| MRT425 | 350 M | 70 M |  | 1 Meg. | 500M |
| MRT428 | 500 M | 5M | MRT445 | 2 Meg . | 5 M |
| MRT426 | 500 M | 15M | MRT446 | 2 Meg . | 15 M |
| MRT427 | 500 M | 100 M | MRT447 | 2 Meg . | 60 M |
| MRT430 | 500 M | 150 M | MRT450 | 2 Meg . | 125 M |
| MRT431 | 500 M | 225 M | MRT448 | 2 Meg. | 250 M |
| MRT436 | 1 Meg . | 125 M | MRT454 | 2 Meg. | 400 M |
| MRT440 | 1 Meg . | 200 M | MRT449 | 2 Meg . | 600 M |
| MRT438 | 1 Meg . | 300 M | MRT451 | 2 Meg . | 900 M |
| MRT443 | 1 Meg. | 450 M |  | 2 Meg . | 500M |

## MALLORY CARBON CONTROLS



## 1 $1 / 8^{\prime \prime}$ Dia. . Fixed Shaft - Special Application - Single \& Dual Controls

APPLICATION-Special single and dual controls to be used as recommended in the Mallory Radio Service Encyclopedia.
DESCRIPTION - Type SM are single and type SMD are dual $11 / \mathrm{s}^{\prime \prime}$ diameter carbon controls. Both types are made in a wide range of resistances and tapers and with taps for special applications. The controls and their shafts are designed to exactly replace the original equipment control. Switches are provided as indicated.
SHAFT DESCRIPTION-Type SM have fixed shafts while type SMD have fixed concentric shafts. Each shaft varies according to the requirements of the control and its recommended application.

ACCESSORIES-One hex nut and one lock washer furnished with each control.

PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog Number | Ohms <br> Resistance |  | Tap at |
| :---: | :---: | :---: | :---: |
| SM300 $\dagger$ | 350 M |  | 75 M |
| SM301 $\dagger$ | 2 Meg . |  | 500 M |
| SM302 $\dagger$ | 500 M |  | No Tap |
| SM303* | 6 Meg . |  | No Tap |
| SM304 $\dagger$ | 1 Meg . |  | 200 M |
| SM305 $\dagger$ | 1 Meg . |  | 875 M |
| SM306 $\dagger$ | 1 Meg . |  | 550 M |
| SM307* | 2 Meg . |  | 250 M |
| SM308 | 1 Meg. |  | 200 M |
| SM309 $\dagger$ | 2 Meg . |  | 600 M |
| SM310 | 2 Meg . |  | 125M |
| SM311 $\dagger$ | 1 Meg . |  | 300 M |
| SM312 $\dagger$ | 250 M |  | No Tap |
| SM313 $\dagger$ | 250 M |  | No Tap |
| SM316 | $\begin{aligned} & 350 \mathrm{M} \\ & 2.25 \mathrm{Meg} . \end{aligned}$ |  | 35 M |
| SM317 $\dagger$ |  |  | 500 M \& 1 Meg . |
| Catalog | Res. | Res. |  |
| Number | Front | Rear | Tap At |
| SMD500 $\dagger$ | 2 Meg . |  | No Tap |
| SMD501 $\dagger$ | 2 Meg . | 1 Meg . | Front 500M |
| SMD502 $\dagger$ | 250M | 1 Meg . | Rear 250 M |
| SMD503 $\dagger$ | 2 Meg . | 1 Meg . | Front 500M |
| SMD504 $\dagger$ | 250 M | 500 M | Front 50M |
| SMD505 $\dagger$ | 250 M | 1 Meg . | Rear 300M |
| SMD506 $\dagger$ | 500 M | 1 Meg . | Rear 200M |
| SMD507 $\dagger$ | 500 M | 350 M | Rear 70M |
| SMD508 $\dagger$ | 30M | 1 Meg . | Rear 450 M |
| SMD509 $\dagger$ | 2 Meg . | 500 M | Front 900M |
| SMD510 $\dagger$ | 1 Meg . | 500 M | Front 300M |
| SMD511 $\dagger$ | 1 Meg . | 350 M | Rear 70M |
| SMD512 $\dagger$ | 1 Meg . | 350 M | Rear 70M |

$\dagger$ Includes SPST switch permanently attached to control.
*AC Switch available as special item. (See page 8).


## 1 $1 / 8^{\prime \prime}$ Dia. • Plug-In Shaft Conirols

APPLICATION - For volume or tone control in audio circuits.
DESCRIPTION-1/8" carbon control, available in a wide range of resistances and tapers. Has an excellent safety factor in current-carrying capacity accomplished by the use of Mallory's special resistance element, which also insures a long, quiet life.
SHAFT DESCRIPTION-The control is provided with a socket which will take 30 different types of shafts insuring maximum flexibility of stock. One SS-1 4" channel shaft furnished with each UM control. (See page 8 for other universal and special plug-in shafts available.)
ACCESSORIES-One hex nut, one lock washer, one shim, one lock ring, and one SS-1 shaft furnished with each control. An external variable resistance is furnished where required, as indicated below. AC switches available as a special item. (See page 8.)
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog Number | $\begin{gathered} \text { Ohms } \\ \text { Resistance } \end{gathered}$ | Taper | Catalog Number | Ohms Resistance | Taper |
| :---: | :---: | :---: | :---: | :---: | :---: |
| UM1148 | 5 M | 4 | UM144 | 150 M | 1 |
| UM1188 | 10 M | 1 | UM147 | 250M | 1 |
| UM119 | 10 M | 2 | UM150* |  |  |
| UM120 | 10 M | 4 |  |  |  |
| UM121 | 15 M | 1 | UM149 | 250M | 4 |
| UM122 | 15 M | 2 | UM151 | 350 M | 1 |
| UM124 | 20M | 1 | UM154 | 500M | 1 |
| UM1288 | 25 M | 2 | UM157* |  |  |
| UM1298 | 25 M | 4 |  |  |  |
| UM133 | 50 M | 1 | UM156 | 500 M | 4 |
| UM13488 | 50 M | 2 | UM158 | 750 M | 1 |
| UM135 | 50 M | 4 | (UM161* | 1 Meg . | 1 |
| UM137 | 75 M | 1 | UM162* |  |  |
| UM138 | 75M | 2 | UM160 |  |  |
| $\begin{aligned} & U M 140 \\ & \text { UM143* } \end{aligned}$ | 100 M | 1 | UM159 <br> UM181 $\ddagger$ | ${ }_{1}^{1} \mathrm{Meg}$. | $\begin{gathered} 4 \\ \text { Spec. } \end{gathered}$ |
| UM141 | 100M | 2 | UM163 | 2 Meg . | 1 |
| UM142 | 100 M | 4 |  |  |  |
| UM180 $\ddagger$ | 100 M | Spec. | UM165 | 3 Meg . | 1 |

*Clutch type controls-no provision for attachable awitch.
§External adjustable resistor included.
$\ddagger$ Right hand switch action.


All Mallory plug-in shafts are now made with a small ring as shown in the drawing above. That's why they can't wobble or work loose-why they fit as securely as a fixed shaft.


## 1 $1 / 8^{\prime \prime}$ Dia. • Plug-In Shaft • Single Tapped Controls

APPLICATION-For use as a volume control with tone compensation in audio circuits.

DESCRIPTION-1 $1 / \mathrm{s}^{\prime \prime}$ carbon controls with a single tap. Available in a wide range of resistances. Taps are accurately located. Uses Mallory's special resistance element insuring quiet, long life and an excellent safety factor in current-carrying capacity.

SHAFT DESCRIPTION-The control is provided with a socket which will take 30 different types of shafts insuring maximum flexibility of stock. One SS-1 4" channel shaft furnished with each TM control. (See page 8 for other universal and special plug-in shafts available.)

ACCESSORIES-One hex nut, one lock washer, one lock ring, one shim, and one SS- 1 shaft furnished with each control. AC switches available as a special item. (See page 8.)

PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog Number | Overall Resistance | Tap <br> Resistance |
| :---: | :---: | :---: |
| TM220 | 250 M | 50 M |
| TM221 | 250 M | 110 M |
| TM222* |  |  |
| TM225 ${ }^{\text {TM }}$ | 350M | 70M |
| TM228 | 500 M | 5 M |
| TM226 | 500 M | 15 M |
| TM233 | 500 M | 60 M |
| \{TM224* | 500 M | 100 M |
| TM230 | 500 M | 150 M |
| SM231 | 500 M | 225 M |
| TM232* |  |  |
| TM234 | 1 Meg . | 65 M |
| TM236 | 1 Meg . | 125 M |
| TM240** | 1 Meg . | 200 M |
| TM238 | 1 Meg. | 300M |
| TM239* |  |  |
| TM242* | 1 Meg . | 450M |
| TM243 |  |  |
| TM244 | 1.5 Meg. | 200 M |
| TM245 | ${ }_{2} \mathrm{Meg}$. | 5 M |
| TM246 | 2 Meg . | ${ }_{60 \mathrm{M}}^{15}$ |
| TM250 | 2 meg 2 | 60 M $\mathbf{1 2 5 M}$ |
| TM248 | 2 Meg . | 250 M |
| TM254 | 2 Meg . | 400 M |
| TM249 | 2 Meg . | 600 M |
| TM251 | 2 Meg . | 900 M |
| TM252* |  |  |
| TM257 | ${ }_{3}^{2} \mathrm{Meg}$. | ${ }_{900 \mathrm{M}}^{1 \mathrm{Meg}}$. |
| TM261 | 5 Meg . | 1 Meg . |

[^2]

## 11/8" Dia. • Plug-In Shaft • Double Tapped Controls

APPLICATION-For use as a volume control with tone compensation in audio circuits.

DESCRIPTION-1 $1 / \mathrm{s}^{\prime \prime}$ carbon controls with double taps. The basic resistance element of this control is the same as the element in MR controls. Taps are accurately spaced.

SHAFT DESCRIPTION-The control is provided with a socket which will take 30 different types of shafts insuring maximum flexibility of stock. One SS-1 $4^{\prime \prime}$ channel shaft furnished with each DTM control. (See page 8 for other universal and special plug-in shafts available.)

ACCESSORIES-One hex nut, one lock washer, one lock ring, one SS-1 shaft, and one shim furnished with each control. AC switches available as a special item. (See page 8.)
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog <br> Number | Overall <br> Resistance | Tap Resistance |  |
| :---: | :---: | :---: | :---: |
|  |  | Tap 1 | Tap 2 |
| DTM282 | 250M | 50 M | 100 M |
| DTM283 | 500 M | 100M | 200 M |
| DTM287 | 1 Meg . | 50 M | 100M |
| DTM 289 | 1 Meg . | 250 M | 500 M |
| DTM291 | 1.5 Meg . | 225 M | 500 M |
| DTM293 | 2 Meg . | 5M | 500 M |
| DTM 295 | 2.25 Meg. | 250 M | 500 M |
| DTM296 | 2.25 Meg. | 500 M | 1 Meg . |
| DTM 298 | 3 Meg . | 100M | 1.5 Meg. |

## SPECIAL!

## MALLORY LITERATURE DEAL

See Mallory Literature Page for full information.

# MAllory plug-in shafts - attachable switches 

Universal and Special Plug-In Shafts
for Use with Types UM, TM, and DTM Controls


KEY TO SHAFT CHART-*These Plug-In Shafts are designed as exact replacements for applications requiring a given predetermined length with special coupling slots or tongue or an insulated coupler. None of these require any cutting or special adjustment. **These Plug-In Shafts are of universal length and designed for many applications.


For Use With MR, MK, UM, TM, MRT, DTM Controls

| Catalog Number | Circuit Arrangement |
| :---: | :--- |
| M-26 | Single-Pole-Single-Throw <br> *M-26T |
| Single-Pole-Single-Throw |  |
| M-27 | Double-Pole-Single-Throw |
| M-28 | Single-Pole-Double-Throw |
|  | Four-Pole-Single-Throw, Shorting |

*Has dummy terminal identified by red dot.

## Explanation of Mallory Tapers

- Taper Number 1 is a modified logarithmic left hand taper in the carbon type of control and an approximation to this logarithmic taper in the wire-wound type. This taper should always be used in shunt circuits, as in usual antenna and audio circuits, or where only the center and left hand terminals are used.
Taper Number 2 is a right hand logarithmic taper in the carbon and an approximation in the wire-wound type. Used in series circuits, as in cathode voltage controls, or where only the center and right hand terminals are used.
Taper Number 3 is a combination left and right hand taper. Has a limited use in circuits where the control must perform both as a shunt and as a series circuit control as in combination antenna shunt plus bias circuits. This is the most common use for such a taper.
Taper Number 4 is a linear taper. Strictly speaking it is not a "taper" although commonly referred to as such. A linear "taper" is used wherever a control should be such that voltage change is proportional to the degree of rotation.
Taper Number 4A is a modification of the regular linear taper Number 4.
Taper Number 7 is made ouly in the wire-wound type of control and is a form of left hand taper. This taper is desirable for the antenna shunt plus bias control, wherein greater attenuation is obtained by increasing the bias voltage. The slight left taper then suffices to gradually reduce the signal to zero volume by the shunting action in the antenna circuit.




## 11/2" Dia. . Fixed Shaft • Carbon Controls

APPLICATION-For volume or tone control in audio circuits.
DESCRIPTION-1 $1 / 2^{\prime \prime}$ carbon control made available in a range of resistances and tapers to satisfactorily cover the field. Mallory's exclusive element curing process is used in the manufacture of these controls, as well as in the $11 / 8^{\prime \prime}$ dia. line.
SHAFT DESCRIPTION-A fixed channel or slotted shaft is provided, measuring $3^{\prime \prime}$ from lock ring, except as indicated below.
ACCESSORIES-One hex nut, one lock washer, and one shim furnished with each control. An external adjustable resistor is furnished where required, as indicated below. AC Switch available as special item. (See page 11.)
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog <br> Number | Ohms Resistance | Taper | Catalog Number | Ohms <br> Resistance | Taper |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Y5MP | 5M | 4 | Y200MP | 200M | 4 |
| F128 | 7500 | 1 | M | 250 M | 1 |
| UC501 \$ | 10M | 2 | UC511 $\dagger$ |  |  |
| Y10MP | 10M | 4 | UC509 § | 250M | 2 |
| H12§ | 15M | 1 | Y250MP | 250 M | 4 |
| $\mathbf{Y}$ § | 20M | 1 |  |  |  |
| ${ }^{J} 8$ | 25M | 2 | UC503 | 750 M | 1 |
| Y25MP | 25M | 4 | UC514 $\dagger$ | 1 Meg . | 1 |
| K12 | 50 M | 1 |  |  |  |
| K \% | 50 M | 2 | UC504 | 3 Meg . | 1 |
| Z12 | 75 M | 1 | UC505 | 4 Meg . | 1 |
| Z ${ }_{8}$ | 75 M | 2 | UC506 | 5 Meg . | 1 |
|  |  |  | UC507 | 5 Mex. | 2 |
| UC510 ${ }_{8}$ | 100M | 2 | UC508 | 9 Meg. | 1 |
| UC502 | 150M | 1 |  |  |  |

§External adjustable resistor included.
$\dagger$ Has slotted shaft for automobile receivers.



## 1 $1 / 2^{\prime \prime}$ Dia. • Fixed Shaft - Single \& Double Tapped Controls

APPLICATION - For volume control with tone compensation in audio circuits.

DESCRIPTION-1 $1 / 2^{\prime \prime}$ carbon controls made available in a wide range of resistances, single and double tapped as indicated.

SHAFT DESCRIPTION-An accurately finished shaft is permanently attached, measuring $3^{\prime \prime}$ from lock ring.

ACCESSORIES-One hex nut, one lock washer, and one shim furnished with each control. AC switches available as a special item. (See page 11.)

PACKAGING-One control, plus accessories and complete instructions per display carton.

Single Tapped

| Catalog <br> Number | Overall Resistance | Tap Resistance | Catalog Number | Overall <br> Resistance | Tap Resistance |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TRP601 | 40 M | 8M | TRP610 | 1 Meg . | 30M |
| TRP602 | 60 M | 4M | TRP608 | 1 Meg . | 200M |
| TRP617 | 60M | 12M | TRP6609 $\dagger \dagger$ | 1 Meg . | 500 M |
| TRP623 | 250 M | 50 M | TRP612 | 2 Meg . | 15 M |
| TRP603 | 250 M | 110M | TRP618 | 2 Meg . | 250M |
|  |  |  | TRP613 | 2 Meg . | 400M |
| TRP604 | 350M | 20M | TRP620 | 2 Meg . | 900M |
| \{TRP605 | 350 M | 70 M |  |  |  |
| [TRP614† |  |  | TRP615 | 3 Meg . | 900M |
| TRP616 | 500 M | 60 M |  |  |  |
| TRP606 | 500 M | 100M |  |  |  |
| TRP607 | 500 M | 225 M |  |  |  |

$\dagger$ Has slotted shaft for automobile receivers.
$\dagger \dagger$ Special taper for fader service.

Double Tapped

| Catalog Number | Overall <br> Resistances | Tap Resistance |  |
| :---: | :---: | :---: | :---: |
|  |  | Tap 1 | Tap 2 |
| $\begin{aligned} & \text { TRP622 } \\ & \left\{\begin{array}{l} \text { TRP621 } \\ \text { TRP624 } \end{array}\right. \end{aligned}$ | $\begin{aligned} & \quad 44 \mathrm{M} \\ & 2.25 \mathrm{Meg} . \end{aligned}$ | $\begin{array}{r} 7 \mathrm{M} \\ 250 \mathrm{M} \end{array}$ | $\begin{array}{r} 14 \mathrm{M} \\ 500 \mathrm{M} \end{array}$ |

$\ddagger$ No provision for switch.

## MALLORY SPECIAL CARBON AND WIRE-WOUND CONTROLS


(SRP262 Illustrated)

## l $11 / 2^{\prime \prime}$ Dia. . Fixed Shaft • Special Application Controls

APPLICATION-For special applications, as recommended in Mallory Radio Service Encyclopedia.
DESCRIPTION-1 $1 / 2^{\prime \prime}$ carbon or wire-wound controls, as indicated, available in a variety of resistances and constructions to meet the special requirements necessary in replacement, as recommended in Mallory Radio Service Encyclopedia.
SHAFT DESCRIPTION-A special shaft is permanently attached. It is machined to the exact dimensions necessary to meet replacement requirements.
ACCESSORIES-One hex nut, and one lock washer furnished with each control.
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog <br> Number | Ohms Resistance | Type Element |
| :---: | :---: | :---: |
| SRP134 | 4500 | W, W. |
| SRP142 | 2900 | W. W. |
| SRP152 | 60 | W. W. |
| SRP153 | 13M | W. W. |
| SRP154 | 50 M | Carbon |
| SRP179 | 125M | Carbon |
| SRP185 | 1500 | Carbon |
| SRP188 | 32 M | Carbon |
| SRP213 | 250 M | Carbon |
| SRP239 | 450 | W. W. Strip |
| SRP241 | 6M | W. W. Strip |
| SRP245 | 32 M | Carbon |
| SRP251 | 350 M | Carbon |
| SRP261 | 100 M | Carbon |
| SRP262 | 1500 | W. W. |
| SRP263 | 32M | Carbon |
| SRP269 | 10M | Carbon |
| SRP282 | 350 M | Carbon |
| SRP286 | 250 M | Carbon |
| SRP289 | 50 M | Carbon |
| SRP290 | 1 Meg . | Carbon |
| SRP900 | 20 M | Carbon |
| SRP901 | 10M | Carbon |
| SRP960 | 800 | W. W. |
| SRP961 | 10M | Carbon |

$\dagger$ Right hand switch action.



## Special Dual Controls

APPLICATION-For special applications, as recommended in Mallory's Radio Service Encyclopedia.
DESCRIPTION-Special controls of wire-wound and /or carbon construction available in a range of resistances and types as required by recommendations of Mallory Radio Service Encyclopedia. They are designed to provide exact physical and electrical characteristics of the original control.
ACCESSORIES-One hex nut and one lock washer furnished with each control.
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog <br> Number | Ohms Resistance |  | Type Element |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Front | Rear | Front | Rear |
| DRP114 | 250 | 5 M | W. W. | W. W. |
| DRP115 | 3800 | 3800 | Carbon | Carbon |
| DRP116 | 25700 | 10000 | W. W. | W. W. |
| DRP117 | 500 | 2500 | W. W. | W. W. |
| DRP119 | 3M | 10M | W. W. | W. W. |
| DRP122 | 645 | 10M | W. W. | W. W. |
| DRP169 | 7500 | 10 M | W. W. | W. W. |
| DRP221 | 10M | 100M | Carbon | Carbon |
| DRP222 | 75 M | 32 M | Carbon | Carbon |
| DRP240 | 250 M | 10M | Carbon | Carbon |
| DRP244 | 25M | 6M | Carbon | Carbon |
| DRP250 | 50 M | 1M | Carbon | Carbon |
| DRP302 | 100 M | 250M | Carbon | Carbon |
| DRP304 | 1 Meg . | 3 Meg . | Carbon | Carbon |
| DRP306* | 5 M | 10 M | W. W. | Carbon |
| DRP311 | 150 M | 250 M tapped | Carbon | Carbon |
| DRP318 | 250M | $\begin{aligned} & 160 \mathrm{M} \\ & 3 \mathrm{Meg} . \end{aligned}$ | Carbon | Carton |

*Includes Switch.


## 11/2" Dia. • Fixed Shaff • Wire-Wound Conirols

APPLICATION-Used as bias controls and voltage dividers in bridge circuits and test instruments.
DESCRIPTION-Rugged resistance strip and contactor assemblies are completely enclosed in a dustproof case. Will carry 4 watts of power.
SHAFT DESCRIPTION-Furnished with a fixed channel-type shaft, measuring $3^{\prime \prime}$ from lock ring.
ACCESSORIES-Mallory Dial Plate No. 396 is available for use with these controls. One hex nut, one lock washer, and one shim furnished with each control. An external variable resistor is furnished where required, as indicated below. Has adjustable stop plate for bias feature, as indicated below. AC switches available as a special item. (See this page.)
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog <br> Number | Ohms <br> Resistance | Taper | Catalog <br> Number | Ohms Resistance | Taper |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Q | 2 | 4 | D12§ | 3000 | 1 |
| R | 6 | 4 | D § | 3000 | 2 |
| S | 10 |  | A3MP§ | 3000 | 4 |
| T | 20 | 4 | D7 ${ }^{\text {S }}$ | 3000 | 7 |
| U | 30 | 4 | A4MP8 | 4000 |  |
| V | 60 | 4 | E | 5000 | 2 |
| W | 100 | 4 | A5MP§ | 5000 | 2 |
| X | 200 | 4 | E7§ | 5000 | 7 |
| A400P | 400 | 4 | F 8 | 7500 |  |
| A | 500 | 1 | F78 | 7500 | 7 |
| A550P | 550 | 4 | G | 10000 | 2 |
| B | 1000 | 1 | A10MP§ | 10000 | 4 |
| UC500 | 1000 | 2 | G75 | 10000 | 7 |
| A1MP | 1000 | 4 | $\mathrm{H}_{8}$ | 15000 | 2 |
| C128 | 2000 |  | H78 | 15000 | 7 |
| C§ | 2000 | 2 | A20MP § | 20000 | 4 |
| A2MP§ | 2000 | 4 |  |  |  |

8Have exclusive Mallory adjustable bias feature, providing 500 ohms in 100 ohm steps in all values over 1,000 ohms.

## Dimensions1/2/2" Dia. Wire-Wound Controls

NOTE: Controls having taper numbers 1, 2 and 7 are intended primarily for replacement in radio receivers. Be sure to check the taper curve and its effect (see chart on page 31) before ordering for other uses.


(Type LL Illustrated)

## Universal Dual Controls

APPLICATION-See "General Use" column below.
DESCRIPTION-Consists of two $11 / 2^{\prime \prime}$ Dia. wire-wound or carbon controls driven by a single shaft.
SHAFT DESCRIPTION-Furnished with fixed channel shaft; measuring $21 / 2^{\prime \prime}$ from lock ring.
ACCESSORIES-One hex nut and one lock washer furnished with each control. AC switches a vailable as a special item. (See this page.)
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Cat. No. | Ohms Resistance |  | Taper |  | Type Element |  | General Use |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Front 2 M | Rear | Front | Rear | Front | Rear |  |
| CE | 2M | 5M | I | IV | W. W. | W. W. | Ant. Shunt and Bias |
|  | 10 M | 5 M | VII | IV | W. W. | W. W. | Ant. Shunt Bias or |
| GG | 10M | 10M | VII | IV | W. W. | W. W. | Ant. Shurit Bias or |
| GK | 10M | 50M | I | IV | Carbon | Carbon | Ant. Shunt Bias or |
|  |  |  |  | IV | Carbon | Carbon | Bias or Screen |
| LL | 100M | 100M | 1 | I | Carbon | Carbon | Audio Shunt in Push Pull |
| LM | 100M | 250M | I | I | Carbon | Carbon |  |
| M M | 250M | 250M | 1 | 1 | Carbon | Carbon | Screen or RF Shunt <br> Audio Shunt in Push Pull |



For use with standard Universal Controls, Carbon and Wire-Wound types, TRP Tapped Controls, and Universal Dual Controls.

Cat. No. 6-9-Single-Pole-Single-Throw
*6T-Single-Pole-Single-Throw
7 -Double-Pole-Single-Throw
8-Single-Pole-Double-Throw
13-Three-Pole-Single-Throw Shorting
14-Four-Pole-Single-Throw Shorting
*Has dummy terminal identified by copper rivet.

# MÄLlory variable potentiometers 

 T \& L PADS

## 1 Watt • Carbon • Potentiometers

APPLICATION-For use in test and other instruments, and special applications.
DESCRIPTION-1 $1 / 2^{\prime \prime}$ heavy-duty carbon-type control with a nominal one-watt rating. No. 4 linear taper.
SHAFT DESCRIP'ION-A short shaft is provided with a milled screw-driver slot for easy and quick adjustment. Shaft will also take standard knobs.
ACCESSORIES-One hex nut furnished with each control.
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog Number | Ohms Resistance |
| :---: | :---: |
| B5MP | 5,000 |
| B10MP | 10,000 |
| B25MP | 25,000 |
| B50MP | 50,000 |
| B100MP | 100,000 |
| B250MP | 250,000 |
| B500M | 500,000 |
| B1000MP | 1 Meg. |

Tand LPad

## Attenuators



APPLICATION-For controlling the level of low impedance audio circuits and for volume control of microphones, talking picture amplifiers, and many varied sound amplifying and audio distribution systems.
DESCRIPTION-A high quality "T" and "L" pad that may be used with audio amplifiers having a peak audio rating of 15 watts. These attenuators have a continuous DC dissipation rating of 4 watta in any position. Bushing $3 / 6^{\prime \prime}$ Dia. by $3 / \mathbf{y}^{\prime \prime}$ long.
SHAFT DESCRIPTION - $2^{\prime \prime}$ long shaft, grooved at popular leng ths for easy cutting.
ACCESSORIES-No. 366 Bar Knob, No. 395 Dial Plate with matched rotation, one nut and one lock washer furnisherl with each control.
PACKAGING-One control, plus accessories and complete instructions per display carton.

| "T" Pad Attenuators | "L"' Pad At tenuators |  |
| :---: | :---: | :---: |
| Catalog Number | Catalog <br> Number | Ohms <br> Impedance |
| T6 | L6 | 6 |
| T8 | L8 | 8 |
| T15 | L15 | 15 |
| T50 | L50 | 50 |
| T200 | L200 | 200 |
| T250 | L250 | 250 |
| T500 | L510 | 500 |
| T2000 | L2Ju? | 2000 |



## 2 Waft . Wire-Wound • Potentiometers

APPLICATION-For use in test and special instruments, bias control and bridge circuits, etc.
DESCRIPTION-1 $1 / 16^{\prime \prime}$ diameter amall resistor that will dissipate 2 watts over the entire element for continuous operation. No. 4 linear taper. Contact arm is grounded. Total rotation $284^{\circ}$; effective electrical rotation $266^{\circ}$.
SHAFT DESCRIPTION-A short shaft with a milled screw-driver slot is provided for quick and easy adjustment. Shaft will also take standard knobs.
ACCESSORIES-Dial Plate No. 393 is available for use with these controls. One hex nut furnished with each control.
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Potentiometer <br> Catalog <br> Number | Rheostat* <br> Catalog <br> Number | Ohms <br> Resistance | Carrying <br> Capacity <br> in Amps. |
| :--- | :---: | :---: | :---: |
| C6P | C6R | 6 | .58 |
| C10P | C10R | 10 | .45 |
| C15P | C15R | 15 | .37 |
| C20P | C20R | 20 | .32 |
| C30P | C30R | 30 | .26 |
| C40P | C40R | 40 | .22 |
| C50P | C50R | 50 | .2 |
| C100P | C100R | 100 | .14 |
| C200P |  | 200 | .1 |
| C400P |  | 400 | .07 |
| C1MP |  | $1 M$ | .045 |
| C3MP |  | $3 M$ | .025 |
| C5MP |  | $5 M$ | .02 |
| C6MP |  | 6 M | .018 |
| C10MP |  | 10 M | .014 |
| C15MP |  | 15 M | .011 |

*"Open" or "off" position counter-clockwise.

## ASK YOUR DISTRIBUTOR ABOUT...

# "GOOD SERVICE FOR GOOD BUSINESS" 

The Mallory Business-Building Plan that effectively helps you get<br>new customers and hold<br>the ones you have!



## 4 Waft - Wire-Wound Potentiometers and Rheostats

APPLICATION-Used on bias controls and voltage dividers in bridge circuits and test instruments.
DESCRIPTION-Precision wire-wound potentiometers and rheostats with a 4 -watt rating for use in instruments where reliability is paramount. Rugged construction. Rheostats feature "off" position (no connection) type of construction, saving the cost of a switch. Furnished with insulated contact arm. Potentiometers have three terminals. Rheostats have two terminals. Total rotation $294^{\circ}$; effective electrical rotation $279^{\circ}$. No. 4 Linear Taper.
SHAFT DESCRIPTION-A short shaft is provided with a slot for easy screw-driver adjustment. Shafts will take standard knobs.
ACCESSORIES-No. 395 Dial Plate is available for use with these controls. One hex nut furnished with each control.
PACKAGING-One control, plus accessories and complete instructions per display carton.

| Potentiometer Catalog Number | Rheostat* <br> Catalog Number | Ohms Resistance | Carrying Capacity in Amps. |
| :---: | :---: | :---: | :---: |
|  | M05R | 1/2 | 2.80 |
| M1P | M1R | 1 | 2.00 |
|  | M2R | 2 | 1.4 |
| M3P | M3R | 3 | 1.15 |
|  | M4R | 4 | 1.00 |
| M6P | M6R | 6 | . 82 |
| M10P | M10R | 10 | . 63 |
| M15P | M15R | 15 | . 52 |
| M20P | M20R | 20 | . 45 |
| M25P | M25R | 25 | . 40 |
| M30P | M30R | 30 | . 37 |
| M40P | M40R | 40 | . 32 |
| M50P | M50R | 50 | . 28 |
| M60P | M60R | 60 | . 26 |
| M75P | M75R | 75 | . 23 |
| M100P | M100R | 100 | . 20 |
| M200P |  | 200 | . 14 |
| M400P |  | 400 | . 10 |
| M500P |  | 500 | . 09 |
| M600P |  | 600 | . 082 |
| M1MP |  | 1M | . 063 |
| M2MP |  | 2M | . 045 |
| M3MP |  | 3M | . 037 |
| M4MP |  | 4 M | . 032 |
| M5MP |  | 5 M | . 028 |
| M10MP |  | 10 M | . 020 |
| M15MP |  | 15 M | . 016 |
| M20MP |  | 20 M | . 014 |
| M25MP |  | 25 M | . 013 |
| M50MP |  | 50 M | $.009$ |
| M70MP |  | 70 M | . 0075 |



## 7 Watt - Wire-Wound Pofentiometers

APPLICATION-Suitable for precision instruments such as resistance bridges and where a control of medium currents or voltages is required.
DESCRIPTION-Supplied with grounded contact arm. $310^{\circ}$ total rotation; $299^{\circ}$ effective electrical rotation. Will dissipate 7 watts. No, 4 linear taper.
SHAFT DESCRIPTION-A short shaft with a milled screw-driver slot is provided for easy adjustment. Shafts will also take standard knobs.
ACCESSORIES_No. 399 Dial Plate is available for use with these controls. One hex nut is furnished with each control.

PACKAGING-One control, plus accessories and complete instructions per display carton.

| Catalog <br> Number | Ohms <br> Resistance | Carrying <br> Capacity <br> in Amps. |
| :--- | :---: | :---: |
| E5MP | 5 M | .042 |
| E10MP | 10 M | .03 |
| E20MP | 20 M | .021 |
| E25MP | 25 M | .019 |
| E50MP | 50 M | .0135 |
| E75MP | 75 M | .011 |
| E100MP | $\mathbf{1 0 0 \mathrm { M }}$ | .0095 |
| E125MP | 125 M | .0085 |
| $\mathbf{E 1 5 0 M P}$ | 150 M | .0078 |

## MALLORY TECHNICAL MANUAL

- This simply written, practical book bridges the gap between radio theory and practice. Designed for the radio serviceman, engineer, amateur or experimenter who wants the latest technical information . . . presented so that he can easily apply it to everyday problems. Contains page after page of information profusely illustrated. It's worth far more than its price.
*"Open" or "Off" position counter-clockwise.


Shafts • Couplers • Bushings
Cat. No.
Description
EC240-Universal Combination Extension Shaft Coupling and Reducer:
Will couple two $1 / 4^{\prime \prime}$ shafts or one $1 / 4^{\prime \prime}$ shaft and one $3 / 16^{\prime \prime}$ shaft.

Universal Insulated Shaft Couplers:
Designed to connect fixed shaft controls to remote drive couplings popular in automotive radio equipment.
EC256-Slotted Insacup.
EC257-Square Insert Insacup (Motorola type).

EB247-Universal Extension Bushing:
Designed to screw on the present bushing of Mallory controls and switches, so that the body of the control or switch will be held $5 / 8$ " away from the mounting surface. For example, it is used with the correct Universal Control to service Philco Models 28, 29, 45 and 45 C .

UB241-Universal Bushing and Nut:
Designed to accommodate $1 / 4^{\prime \prime}$ shaft wherever a panel bushing is desired. Includes one No. 232 nut.


## Wrench for Volume Control Nuts

## Cat. No. <br> Description

178-For all standard Volume Control Hexagon Nuts, $1 / 2$-inch and $9 / 16$-inch diameters.


## Adjustable Mounting Brackets

| Cat. No. | Description |
| :---: | :---: |
| RB248 | $13 /{ }^{\prime \prime \prime}$ Mounting Centers |
| RB249 | $2 / 12^{\prime \prime}$ Mounting Centers |



## Hexagon Shoulder Nuts

| Cat. No, | Description |
| :--- | ---: |
| $\mathbf{2 5 5}$ | For $3 / 4^{\prime \prime}$ Panels |
| A11260-12 | For $1 / 2^{\prime \prime}$ Panels |
| A11260-2 | For $1 / 4^{\prime \prime}$ Panels |

## MALLORY cONTROL HARDWARE



Universal Extension Shafts

| Cat. No. | Description |
| :---: | :---: |
| RS242* | $4^{\prime \prime}$ long x $1 / 4^{\prime \prime}$ dia. $\times^{1 / 32}{ }^{\prime \prime}$ flat |
| RS243* | $4^{\prime \prime}$ long $\times 1 / 4^{\prime \prime}$ dia. $\mathrm{x}^{3 / 32}$ "flat |
| RS244* | $4^{\prime \prime}$ long $x^{3 / 16}{ }^{\prime \prime}$ dia. $x^{1 / 64 " ~ f l a t ~}$ |
| RS245* | $2^{\prime \prime}$ long $\mathrm{x} 1 / 4^{\prime \prime}$ dia. with $3 / 32^{\prime \prime}$ slot |
| RS246* | $2^{\prime \prime}$ long $\times 1 / 4^{\prime \prime}$ wide $x^{3 / 32}$ " thick |

*Packed 5 to Envelope.


SHAFT DIMENSIONS

No. RS 242


No. RS 243


No. RS 244


No. RS 245


No. RS 246

Web Removing Tool

| Cat. No. | Description <br> 201 <br> Special tool for removing web from <br> web type knobs to adapt them for <br> use with the Mallory Midgetrol. |
| :---: | :---: |

FS 250


FS 252


FS 253

## Universal Flexible Coupling Shafts

| Cat. No. | Marking |
| :---: | :---: |
| $\mathbf{3 6 9}$ | 0 to 100 |
| $\mathbf{3 9 1}$ | Increase <br> Volume <br> $\mathbf{3 9 3}$ |
| $\mathbf{3 9 5}$ | 0 to 10 |

0 to 10

Cat. No.
FS250
FS251

FS252

FS253

Dial Plates
For Controls, Rheostats and Potentiomefers


$21 / 4^{\prime \prime}$


## THE MALLORY INDUCTUNER*

A continuously and infinitely variable inductance unit that supplies the need for a method of tuning the wide range of frequencies covered by the television-FM band. Provides unequaled simplicity, performance, and stability In service. For more complete information turn to Page 9, Mallory Special Components, of this catalog.

Inductuner*-Registered trade mork for Maliory variable inductance tuning devices. Manufactured and sold under one or more of the following Paul Ware and Mallory patents: 2,163644, 2,163645, 2,163646, 2,163647, 2,260877, 2,377789,2,377790. Other patents applied for.

## MAlLORY fixed resistors



5 Watt-Fixed Vitreous Enamel Resistors-Tube Size $5 / 16^{\prime \prime} \times 1^{\prime \prime}$

Packaged 10 per Display Carton

| Catalog Number | Resistance Ohms | Current Milliamperes |
| :---: | :---: | :---: |
| HHJ1 | 1 | 2230 |
| HHJ1.5 | 1.5 | 1820 |
| HHJ2 | 2 | 1580 |
| HHJ3 | 3 | 1290 |
| HHJ4 | 4 | 1117 |
| HHJ5 | 5 | 1000 |
| HHJ 7.5 | 7.5 | 811 |
| HH, 10 | 10 | 707 |
| HHJ 12 | 12 | 644 |
| HHJ15 | 15 | 577 |
| HHJ20 | 20 | 500 |
| HHJ25 | 25 | 450 |
| HHJ30 | 30 | 408 |
| HHJ35 | 35 | 378 |
| HHJ40 | 40 | 353 |
| HHJ50 | 50 | 316 |
| HHJ75 | 75 | 257 |
| HHJ100 | 100 | 223 |
| HHJ125 | 125 | 200 |
| HHJ150 | 150 | 182 |
| HHJ 200 | 200 | 158 |
| HHJ250 | 250 | 141 |
| HHJ300 | 300 | 129 |
| HHJ350 | 350 | 119 |
| HHJ400 | 400 | 112 |
| HHJ450 | 450 | 105 |
| HHJ500 | 500 | 100 |
| HHJ600 | 600 | 91 |
| HHJ700 | 700 | 84 |
| HHJ750 | 750 | 81 |
| HHJ800 | 800 | 79 |
| HHJ900 | 900 | 74 |
| HH.J 1000 | 1000 | 70 |
| HHJ 1100 | 1100 | 67 |
| HHJ 1200 | 1200 | 64 |
| HHJ 1250 | 1250 | 63 |
| HHJ1500 | 1500 | 57 |
| HHJ 1750 | 1750 | 53 |
| HHJ2000 | 2000 | 50 |
| HHJ2250 | 2250 | 47 |
| HHJ2500 | 2500 | 45 |
| HHJ3000 | 3000 | 40 |
| HHJ3500 | 3500 | 37 |
| HHJ4000 | 4000 | 35 |
| HHJ4500 | 4500 | 33 |
| HHJ5000 | 5000 | 31 |

*Westock these high resistance
values only in the more eco-
nomical low temperature
enamel coating because oper-
ating voltages normally
encountered rarely exceed the
values listed.

10 Watt Fixed Vitreous Enamel
Resistors-Tube Size $5 / 16^{\prime \prime} \times 1^{3 / 4}{ }^{\prime \prime}$
Packaged 10 per Display Carton

| Catalog <br> Number | Resistance Ohms | Current Milliampers |
| :---: | :---: | :---: |
| $1 \mathrm{HJI}^{\text {d }}$ | 1 | 3150 |
| $1 \mathrm{HJV}^{2}$ | 2 | 2200 |
| 1 HJ 3 | 3 | 1800 |
| 1 HJ 4 | 4 | 1580 |
| $1 \mathrm{HJ5}$ | 5 | 1400 |
| 1 1HJ 7.5 | 7.5 | 1150 |
| 1 HJ 10 | 10 | 1000 |
| 1 HJ 12 | 12 | 910 |
| 1 HJ 15 | 15 | 812 |
| $1 \mathrm{HJ20}$ | 20 | 707 |
| 1HJ25 | 25 | 630 |
| 1HJ30 | 30 | 575 |
| 1HJ35 | 35 | 530 |
| 1HJ40 | 40 | 500 |
| $1 \mathrm{HJ50}$ | 50 | 447 |
| 1HJ75 | 75 | 360 |
| $1 \mathrm{HJ100}$ | 100 | 315 |
| $1 \mathrm{HJ125}$ | 125 | 280 |
| $1 \mathrm{HJ150}$ | 150 | 260 |
| 1 HJ 200 | 200 | 220 |
| 1HJ225 | 225 | 210 |
| 1 HJ 250 | 250 | 200 |
| 1 HJ 300 | 300 | 180 |
| 1 HJ 350 | 350 | 170 |
| $1 \mathrm{HJ}^{\text {d }} 400$ | 400 | 158 |
| $1 \mathrm{H}^{\text {d }} 450$ | 450 | 150 |
| 1 HJ500 | 500 | 141 |
| 1HJ600 | 600 | 130 |
| 1 HJ 700 | 700 | 120 |
| 1 HJ 750 | 750 | 115 |
| $1 \mathrm{HJ800}$ | 800 | 112 |
| 1H.J900 | 900 | 105 |
| 1HJ1000 | 1000 | 100 |
| 1 HJJ 1100 | 1100 | 95 |
| 1 HJ 1200 | 1200 | 91 |
| $1 \mathrm{HJ1250}$ | 1250 | 89 |
| 1HJ1500 | 1500 | 81 |
| 1HJ1750 | 1750 | 75.5 |
| 1HJ2000 | 2000 | 70 |
| 1 HJ 2250 | 2250 | 66.5 |
| 1 HJ 2500 | 2500 | 63 |
| $1 \mathrm{HJ3000}$ | 3000 | 56 |
| $1 \mathrm{HJ3500}$ | 3500 | 53 |
| $1 \mathrm{HJ4000}$ | 4000 | 50 |
| $1 \mathrm{HJ4500}$ | 4500 | 47 |
| $1 \mathrm{H}^{1} 5000$ | 5000 | 45 |
| $1 \mathrm{HJ6000}$ | 6000 | 40 |
| 1 HJ 7000 | 7000 | 38 |
| 1 HJ 7500 | 7500 | 36 |
| $1 \mathrm{HJ88000}$ | 8000 | 35 |
| $1 \mathrm{HJ8500}$ | 8500 | 34 |
| 1 HJ 10000 | 10000 | 31.6 |
| 1 HJ 11000 | 11000 | 30 |
| 1 HJ 12000 | 12000 | 29 |
| 1HJ12500 | 12500 | 28 |
| 1HJ13500 | 13500 | 26 |
| 1HJ14300 | 14300 | 24.5 |
| 1HJ15000 | 15000 | 23 |
| 1HJ16000 | 16000 | 22 |
| 1HJ17500 | 17500 | 20 |
| 1 HJ 18000 | 18000 | 19.5 |
| 1HJ20000 | 20000 | 17.5 |
| 1 HJ 22500 | 22500 | 15.5 |
| 1HJ25000 | 25000 | 14 |
| 1HJ30000 | 30000 * | 11.5 |
| $1 \mathrm{HJ35000}$ | $35000 *$ | 10.5 |
| 1 HJ 40000 | 40000* | 10 |
| 1 HJ 45000 | 45000* | 9.5 |
| 1HJ50000 | 50000* | 9 |

20 Watt-Fixed Vitreous Enamel Resistors-Tube Size $1 / 2^{\prime \prime} \times 2^{\prime \prime}$
Packaged 10 per Display Carton

| Catalog Number | Resistance Ohms | Current Milliamperes |
| :---: | :---: | :---: |
| $2 \mathrm{HJ5}$ | 5 | 2000 |
| $2 \mathrm{HJ}^{\text {d }} 0$ | 10 | 1415 |
| 2HJ15 | 15 | 1153 |
| 2HJ25 | 25 | 895 |
| 2HJ50 | 50 | 633 |
| 2 HJ 75 | 75 | 517 |
| $2 H J 100$ | 100 | 447 |
| 2HJ150 | 150 | 365 |
| 2HJ200 | 200 | 316 |
| 2HJ250 | 250 | 283 |
| 2HJ300 | 300 | 258 |
| 2HJ400 | 400 | 224 |
| 2HJ500 | 500 | 200 |
| 2HJ750 | 750 | 163 |
| 2HJ1000 | 1000 | 141 |
| 2HJ1250 | 1250 | 126 |
| 2HJ1500 | 1500 | 115 |
| 2HJ1750 | 1750 | 107 |
| $\mathbf{2 H J 2 0 0 0}$ | 2000 | 100 |
| 2HJ2250 | 2250 | 94 |
| 2HJ2500 | 2500 | 89 |
| 2 HJ 2750 | 2750 | 85 |
| $2 \mathrm{HJ3000}$ | 3000 | 81 |
| 2HJ3500 | 3500 | 75 |
| 2HJ4000 | 4000 | 71 |
| 2HJ4500 | 4500 | 66 |
| 2 HJ 5000 | 5000 | 63 |
| 2HJ6000 | 6000 | 57 |
| 2HJ7500 | 7500 | 51 |
| 2HJ10000 | 10000 | 44 |
| 2HJ 12500 | 12500 | 40 |
| 2HJ15000 | 15000 | 33 |
| 2 HJ 20000 | 20000 * | 25 |
| 2HJ25000 | 25000 | 20 |
| 2HJ30000 | 30000 | 16.7 |
| 2HJ35000 | 35000 | 14.3 |
| 2 HJ 40000 | 40000* | 13.3 |
| $2 \mathrm{HJ50000}$ | 50000* | 11.8 |
| 2HJ75000 | 75000* | 9.7 |
| 2 HJ 100000 | 100000 * | 8.3 |

50 Watt-Fixed Vitreous Enamel Resistors-Tube Size $3^{\prime \prime} \times 4 / 2^{\prime \prime}$
One Resistor to a Display Carton

| Catalog <br> Number | Resistance <br> Ohms | Current <br> Milli- <br> araperes |
| :--- | :---: | :---: |
| 5HJ10 | 10 | 2240 |
| 5HJ25 | 25 | 1415 |
| 5HJ50 | 50 | 1000 |
| 5HJ100 | 100 | 707 |
| 5HJ250 | 250 | 447 |
| 5HJ500 | 500 | 316 |
| 5HJ750 | 750 | 258 |
| 5HJ1000 | 1000 | 224 |
| 5HJ1500 | 1500 | 183 |
| 5HJ2000 | 2000 | 158 |
| 5HJ2500 | 2500 | 141 |
| 5HJ5000 | 5000 | 100 |
| 5HJ7500 | 7500 | 81 |
| 5HJ10000 | 10000 | 70 |
| 5HJ12500 | 12500 | 63 |
| 5HJ15000 | 15000 | 57 |
| 5HJ20000 | 20000 | 50 |
| 5HJ25000 | 25000 | 40 |
| 5HJ30000 | 30000 | 33 |
| 5HJ40000 | 40000 | 25 |
| 5HJ50000 | 50000 | 20 |
| 5HJ75000 | 75000 | 13 |
| 5HJ100000 | 100000 | 10 |

## MALLORY fixed And AdJUSTABLE RESISTORS



100 Watl-Fixed Vitreous Enamel Resistors-Tube Size $1^{1 / 8^{\prime \prime} \times 6 / 2^{\prime \prime}}$

One Resistor to a Display Carton

| Catalog Number | Resistance Ohms | Current Milliamperes |
| :---: | :---: | :---: |
| 10HJ25 | 25 | 2000 |
| 10HJ50 | 50 | 1414 |
| 10H.J75 | 75 | 1155 |
| 10HJ100 | 100 | 1000 |
| 10HJ150 | 150 | 815 |
| 10HJ250 | 250 | 632 |
| 10HJ500 | 500 | 447 |
| 10H.J750 | 750 | 365 |
| 10HJ1000 | 1000 | 316 |
| 10HJ1500 | 1500 | 258 |
| 10HJ2000 | 2000 | 223 |
| 10HJ2500 | 2500 | 200 |
| 10HJ5000 | 5000 | 141 |
| 10HJ7500 | 7500 | 115 |
| 10HJ 10000 | 10000 | 100 |
| 10HJ15000 | 15000 | 80 |
| 10HJ20000 | 20000 | 70 |
| 10 HJ 25000 | 25000 | 60 |
| 10HJ30000 | 30000 | 50 |
| 10HJ40000 | 40000 | :37 |
| 10HJ50000 | 50000 | 30 |
| 10HJ75000 | 75000 | 20 |
| 10 HJ 100000 | 100000 | 15 |

200 Watt-Fixed Vitreous Enamel Resistors-Tube Size $1 / 8^{\prime \prime} \times 10^{1 / 2} 2^{\prime \prime}$

One Resistor to a Display Carton

| Catalog <br> Number | Resistance <br> Ohms | Current <br> Milii- <br> amperes |
| :---: | :---: | :---: |
| 20HJ25 | 25 | 2830 |
| 20HJ50 | 50 | 2000 |
| 20HJ75 | 75 | 1635 |
| 20HJ100 | 200 | 1414 |
| 20HJ250 | 250 | 894 |
| 20HJ500 | 500 | 632 |
| 20HJ750 | 750 | 515 |
| 20HJ1000 | 1000 | 447 |
| 20HJ1500 | 1500 | 365 |
| 20HJ2000 | 2000 | 316 |
| 20HJ2500 | 2500 | 283 |
| 20HJ3000 | 3000 | 258 |
| 20HJ5000 | 5000 | 200 |
| 20HJ7500 | 7500 | 163 |
| 20HJ10000 | 10000 | 141 |
| 20H.J20000 | 20000 | 100 |
| 20HJ30000 | $\mathbf{3 0 0 0 0}$ | 80 |
| 20HJ40000 | 40000 | 62 |
| 20HJ50000 | 50000 | 50 |
| 20HJ75000 | 75000 | 33 |
| 20HJJ100000 | $\mathbf{1 0 0 0 0 0}$ | 25 |
|  |  |  |

10Watt-Adjustable Vitreous Enamel Resistors-Tube Size $5 / 16^{\prime \prime} \times 1^{3 / 4}{ }^{\prime \prime}$

One Resistor per Display Carton

| Catalog Number | Resistance Ohms | Current Milliamperes |
| :---: | :---: | :---: |
| 1AV1 | 1 | 3150 |
| 1 AV 2 | 2 | 2200 |
| 1AV3 | 3 | 1800 |
| 1AV5 | 5 | 1400 |
| 1AV7.5 | 7.5 | 1150 |
| 1 AV10 | 10 | 1000 |
| 1AV15 | 15 | 812 |
| 1 AV 20 | 20 | 707 |
| 1 VV25 | 25 | $6: 30$ |
| 1 AV50 | 50 | 447 |
| 1AV75 | 75 | 360 |
| 1AV100 | 100 | 315 |
| 1AV150 | 150 | 260 |
| 1 1V200 | 200 | 220 |
| 1AV250 | 250 | 200 |
| 1AV300 | 300 | 180 |
| 1AV350 | 350 | 170 |
| $1 A V 400$ | 400 | 158 |
| $1 A V 500$ | 500 | 141 |
| 1AV600 | 600 | 130 |
| 1 AV750 | 750 | 115 |
| 1 AV800 | 800 | 112 |
| 1 AV1000 | 1000 | 100 |
| 1AV1250 | 1250 | 89 |
| 1AV1500 | 1500 | 81 |
| 1AV2000 | 2000 | 70 |
| 1 AV2250 | 2250 | 66.5 |
| 1 1V2500 | 2500 | 63 |
| 1 AV3000 | 3000 | 56 |
| 1 AV3500 | 3500 | 53 |
| $1 A V 4000$ | 4000 | 50 |
| 1 AV4500 | 4500 | 47 |
| 1 1V5000 | 5000 | 45 |
| 1 AV6000 | 6000 | 40 |
| $1 A V 7000$ | 7000 | 38 |
| 1 AV7500 | 7500 | 36 |
| 1 AV8000 | 8000 | 35 |
| 1 AV8500 | 8500 | 34 |
| 1 AV9000 | 9000 | 33 |
| 1AV10000 | 10000 | 32 |

25 Watt-Adjustable Vitreous Enamel
Resistors-Tube Size $5 /^{\prime \prime} \times 2^{1 / 21}$
One Resistor Per Display Carton

| Catalog Number | Resistance Ohms | Current Milliamperes |
| :---: | :---: | :---: |
| $2 \mathrm{AV1}$ | 1 | 5000 |
| 2 AV 3 | 3 | 2890 |
| 2AV5 | 5 | 2240. |
| 2 AV 10 | 10 | $1580{ }^{\circ}$ |
| $2 \mathrm{AV15}$ | 15 | 1290 |
| $2 A V 25$ | 25 | 1000 |
| $2 A V 50$ | 50 | 707 |
| $2 A V 75$ | 75 | 575 |
| 2AV100 | 100 | 500 |
| 2AV150 | 150 | 400 |
| 2AV200 | 200 | 35.3 |
| 2AV250 | 250 | 316 |
| 2AV300 | 300 | 288 |
| 2AV400 | 400 | 250 |
| 2AV500 | 500 | 224 |
| 2AV750 | 750 | 182 |
| 2AV1000 | 1000 | 158 |
| 2AV1250 | 1250 | 141 |
| 2AV1500 | 1500 | 129 |
| 2AV2000 | 2000 | 112 |
| $2 A V 2500$ | 2500 | 100 |
| 2AV3000 | 3000 | 91 |
| $2 A V 3500$ | 3500 | 84 |
| 2AV4000 | 4000 | 79 |
| 2AV5000 | 5000 | 71 |
| 2AV6000 | 6000 | 64 |
| $2 A V 7500$ | 7500 | 57 |
| 2AV10000 | 10000 | 50 |
| 2AV12000 | 12000 | 42 |
| 2AV15000 | 15000 | 33 |
| 2AV20000 | 20000 | 25 |
| 2AV25000 | 25000 | 20 |

## MAlLory adjustable resistors



50 Watt-Adiustable Vitreous Enamel
Resistors-Tube Size $5 / 8^{\prime \prime} \times 4 \frac{1}{2 \prime \prime}$
One Resistor per Display Carton


80 Watt-Adjustable Vitreous Enamel
Resistors-Tube Size $5 /^{\prime \prime} \times 61 / 2^{\prime \prime}$
One Resistor per Display Carton

| Catalog <br> Number | Resistance Ohms | Current Milliamperes |
| :---: | :---: | :---: |
| $8 \mathrm{AV10}$ | 10 | 2830 |
| 8 AV 15 | 15 | 2310 |
| 8 8V25 | 25 | 1790 |
| $8 \mathrm{8AV50}$ | 50 | 1265 |
| 8AV100 | 100 | 894 |
| 8AV250 | 250 | 566 |
| 8AV300 | 300 | 517 |
| 8AV400 | 400 | 495 |
| 8AV500 | 500 | 400 |
| 8AV750 | 750 | 327 |
| 8AV1000 | 1000 | 283 |
| 8AV1500 | 1500 | 231 |
| 8 8V2000 | 2000 | 200 |
| 8AV2500 | 2500 | 179 |
| 8AV3500 | 3500 | 152 |
| 8AV5000 | 5000 | 126 |
| 8AV7500 | 7500 | 103 |
| 8AV10000 | 10000 | 89 |
| 8AV15000 | 15000 | 73 |
| 8AV20000 | 20000 | 63 |
| 8AV25000 | 25000 | 50 |
| 8AV30000 | 30000 | 42 |
| 8AV40000 | 40000 | 31 |
| 8AV50000 | 50000 | 25 |
| 8AV60000 | 60000 | 21. |
| 8AV75000 | 75000 | 16.5 |
| 8AV80000 8AV100000 | 80000 100000 | 15.5 12.5 |
|  |  |  |



100 Watt-Adjustable Vitreous Enamel
Resistors-Tube Size $1 / 8^{\prime \prime} \times 61 / 2^{\prime \prime}$
One Resistor per Display Carton

| Catalog <br> Number | Resistance <br> Ohms | Current <br> Milliamperes |
| :--- | :---: | :---: |
| 10AV50 | 50 | 1413 |
| 10AV100 | 100 | 1000 |
| 10AV500 | 500 | 447 |
| 10AV1000 | 1000 | 316 |
| 10AV2000 | 2000 | 223 |
| 10AV2500 | 2500 | 200 |
| 10AV3000 | 3000 | 182 |
| 10AV4000 | 4000 | 158 |
| 10AV5000 | 5000 | 141 |
| 10AV7500 | 7500 | 115 |
| 10AV10000 | 10000 | 100 |
| 10AV25000 | 15000 | 80 |
| 10AV20000 | 20000 | 70 |
| 10AV30000 | 25000 | 60 |
| 10AV35000 | 30000 | 50 |
| 10AV40000 | 35000 | 43 |
| 10AV50000 | 40000 | 37 |
| 10AV75000 | 50000 | 30 |



200 Watt-Adjustable Vifreous Enamel Resistors-Tube Size $11 / 8^{\prime \prime} \times 101 / 2^{\prime \prime}$

## One Resistor Per Display Carton

| Catalog <br> Number | Resistance <br> Ohms | Current. <br> Milliamperes |
| :--- | :---: | :---: |
| 20AV50 | 50 | 2000 |
| 20AV100 | 100 | 1414 |
| 20AV500 | 500 | 632 |
| 20AV1000 | 1000 | 447 |
| 20AV1500 | 1500 | 365 |
| 20AV2000 | 2000 | 316 |
| 20AV2500 | 2500 | 283 |
| 20AV5000 | 5000 | 200 |
| 20AV10000 | 10000 | 141 |
| 20AV20000 | 20000 | 100 |
| 20AV25000 | 25000 | 80 |
| 20AV30000 | 30000 | 62 |
| 20AV50000 | 50000 | 50 |
| 20AV75000 | 75000 | 33 |

## Extra Adjustable Clips

Type No. 1V-For 10-Watt Variohms*
Type No. 3V-For 25, 50, and 80-Watt Variohms
Type No. 6V - For 100 and 200-Watt 11/8" Variohms
*Reg. U.S. Pat. Off.
$\dagger$ Will be discontinued when present stocks are exhausted.

## ERIE BUTTON STYLE SILVER MICA CAPACITORS

These are midget silver-mica capacitors, for use where compact size, minimum external inductance, and high internal


STYLE CB series resistance are essential. Erie button silver-mica capacitors are unmatched for V.H.F. and U.H.F. work. "Q" at I MC is not less than 1000 above 100 mmf; not less than 700 between 50 and 100 mmf ; not less than 500 below 50 mmf . Type 370-CB has ring type metal shell with three soldering ears. High potential terminal at either end for feed-thru connection. Type 370-FA is fastened to chassis with $3-48$ screw.


SPECIFICATION CHART

| Style | Capacity | Tolerance | List Price |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { 370CB } \\ & \text { and } \end{aligned}$ | 15 | $\begin{array}{r} 20 \% \\ 10 \% \\ 5 \% \end{array}$ | 1.10 1.25 1.85 |
| $\begin{aligned} & \text { 370CB } \\ & \text { and } \\ & 370 \mathrm{FA} \end{aligned}$ | 25 | $\begin{aligned} & 20 \% \\ & 10 \% \\ & 5 \% \end{aligned}$ | 1.10 1.25 1.85 |
| $\begin{aligned} & \text { 370CB } \\ & \text { and } \\ & \text { 370FA } \end{aligned}$ | 50 | $\begin{array}{r} 20 \% \\ 10 \% \\ 5 \% \end{array}$ | .80 .90 1.30 |
| $\begin{aligned} & \text { 370CB } \\ & 370 \mathrm{FA} \end{aligned}$ | 100 | $\begin{array}{r} 20 \% \\ 10 \% \\ 5 \% \end{array}$ | .80 .90 1.30 |
| $\begin{aligned} & \text { 370CB } \\ & \text { and } \\ & 370 F A \end{aligned}$ | 150 | $\begin{array}{r} 20 \% \\ 10 \% \\ 5 \% \end{array}$ | .80 .90 1.30 |
| $\begin{aligned} & \text { 370CB } \\ & \text { and } \\ & \text { 370FA } \end{aligned}$ | 200 | $\begin{aligned} & 20 \% \\ & 10 \% \\ & 5 \% \end{aligned}$ | $\begin{aligned} & .90 \\ & 1.00 \\ & 1.45 \end{aligned}$ |
| $\begin{aligned} & \text { 370CB } \\ & \text { and } \end{aligned}$ | 250 | $\begin{array}{r} 20 \% \\ 10 \% \\ 5 \% \end{array}$ | 1.00 1.10 1.65 |
| $\begin{aligned} & \text { 370CB } \\ & \text { and } \end{aligned}$ | 300 | $20 \%$ $10 \%$ $5 \%$ | 1.10 1.25 1.85 |
| $\begin{aligned} & 370 C B \\ & \text { and } \\ & \text { 370FA } \end{aligned}$ | 400 | $\begin{aligned} & 20 \% \\ & 10 \% \\ & 5 \% \end{aligned}$ | 1.10 1.25 1.85 |
| $\begin{aligned} & 370 C B \\ & \text { and } \\ & 370 F A \end{aligned}$ | 500 | $\begin{array}{r} 20 \% \\ 10 \% \\ 5 \% \end{array}$ | 1.10 1.25 1.85 |
| $\begin{aligned} & 370 \mathrm{CB} \\ & \text { and } \\ & 370 \mathrm{FA} \end{aligned}$ | 750 | $\begin{array}{r} 20 \% \\ 10 \% \\ 5 \% \end{array}$ | $\begin{aligned} & 1.75 \\ & 2.00 \\ & 2.90 \end{aligned}$ |
| $\begin{aligned} & \text { 370CB } \\ & \text { and } \\ & \text { 370FA } \end{aligned}$ | 1000 | $\begin{array}{r} 20 \% \\ 10 \% \\ 5 \% \end{array}$ | $\begin{aligned} & 2.20 \\ & 2.50 \\ & 3.50 \end{aligned}$ |

## ERIE CERAMICONS

## STYLE K



STYLE 335

## STYLE L



ERIE CERAMICONS* are small fixed capacitors consisting essentially of a ceramic dielectric with silver electrodes which are fired on at a very high temperature. Erie Ceramicons are outstanding because of their excellent high frequency characteristics, small size, rugged construction and availability in a wide range of capacity values.

Physical dimensions of styles illustrated are:
Style K length $.562^{\prime \prime}$ diameter . $250^{\prime \prime}$ Style 334 length $1.213^{\prime \prime \prime}$ diameter $.415^{\prime \prime}$ Style L length $.812^{\prime \prime}$ diameter . 250" Style 335 length $1.650^{\prime \prime}$ diameter $.415^{\prime \prime}$

Style M length $1.328^{\prime \prime}$ diameter . $340^{\prime \prime}$

## "GP" General Purpose CERAMICONS

"GP" general purpose Ceramicons are ideally suited for such applications as coupling and by-passing, in circuits where temperature coefficient is not important - in other words for all receiver applications except in frequency determining circuits. Working voltage - 500 volts D. C. Use Erie "GP" Ceramicons as replacements for molded mica and paper tubular capacitors.

SPECIFICATION CHART

| Style | Capacity (MMF) | Tolerance | List Price | Style | Capacity (MMF) | Tolerance | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GP1K | 10 | $20 \%$ | . 25 | GP2K | 330 390 | $20 \%$ $20 \%$ | 25 25 |
| GP1K | 12 | $20 \%$ | . 25 | GP2K | 390 470 | 20\% | 25 |
| GP1K | 15 | $20 \%$ | . 25 | GP2K | 500 | $20 \%$ | . 25 |
| GP1K | 18 | 20\% | . 25 | GP2K | 560 | $20 \%$ | . 25 |
| GP1K | 25 | 20\% | 25 | GP2K | 680 | $20 \%$ | . 25 |
| GP1K | 27 | $20 \%$ | . 25 | GP2K | 750 | $20 \%$ | 25 |
| GP1K | 33 39 | $20 \%$ | . 25 | GP2L. | 1,200 | $20 \%$ | . 25 |
| GP1K | 39 47 | $20 \%$ | . 25 | GP2L | 1,500 | 20\% | . 25 |
| GP1K | 50 | 20\% | . 25 | GP2M | 1,800 | $20 \%$ | . 25 |
| GP1K | 56 | 20\% | . 25 | GP2M | 2,000 | $20 \%$ | . 25 |
| GPIK | 68 75 | $20 \%$ | . 25 | GP2M | 2,200 | 20\% | . 25 |
| GP1K | 100 | $20 \%$ | . 25 | GP2M | 2,700 | $20 \%$ | . 25 |
| GP2K | 120 | 20\% | . 25 | GP2M | 3,000 | 20\% | . 25 |
| GP2K | 150 | 20\% | . 25 | GP2M | 3,300 4,700 | $20 \%$ | . 25 |
| GP2K | 180 | 20\% | . 25 | GP2M | 5,000 | $20 \%$ | . 30 |
| GP2K | 220 | $20 \%$ | . 25 | GP2M | 5.600 | $20 \%$ | . 30 |
| GP2K | 250 | 20\% | . 25 | GP2-334 | 6,800 7500 | $20 \%$ | . 30 |
| GP2K | 300 | $20 \%$ | . 25 | GP2-335 | 10,000 | $20 \%$ | . 30 |

## NPO Zero Temperature Coefficient CERAMICONS

NPO zero temperature coefficient Ceramicons are highly recommended for frequency applications where no capacity change with change in temperature is desired. " $Q$ " for NPO Ceramicons above 30 mmf is 1000 or higher. Below 30 mmf " $Q$ " decreases slightly as capacity decreases. Working voltage - 500 volts D.C. Can be used as replacements for silver mica condensers.

## SPECIFICATION CHART

| Style | Capacity (MMF) | Tolerance | List Price |
| :---: | :---: | :---: | :---: |
| NPOK | 1.5 | $10 \%$ | .50 |
| NPOK | 3 | $10 \%$ | .50 |
| NPOK | 3.3 | $10 \%$ | .50 |
| NPOK | 4.7 | $10 \%$ | .50 |
| NPOK | 5 | $10 \%$ | .50 |
| NPOK | 6.8 | $10 \%$ | .50 |
| NPOK | 8.2 | $10 \%$ | .50 |
| NPOK | 10 | $10 \%$ | .50 |


| Style | Capacity (MMF) | Tolerance | List Price |
| :---: | :---: | :---: | :---: |
| NPOK | 20 | $10 \%$ | .50 |
| NPOL | 25 | $10 \%$ | .50 |
| NPOL | 33 | $10 \%$ | .50 |
| NPOM | 50 | $10 \%$ | .55 |
| NPOM | 75 | $10 \%$ | .55 |
| NPOM | 100 | $10 \%$ | .55 |
| NPO-334 | 150 | $10 \%$ | .60 |
| NPO-334 | 175 | $10 \%$ | .60 |

*"Ceramicon" and "GP" are registered trade names and refer to ceramic dielectric condensers manufactured by Erie Resistor Corp.

# Negative Temperature Coefficient CERAMICONS ${ }_{\circledR}$ <br> N080 and N750 units provide temperature compensation to eliminate drift. 



SPECIFICATION CHART

ERIE TUBULAR TYPE N750 CERAMICONS

| Style | Capacity (MMF) | Tolerance | List Price |
| :---: | :---: | :---: | :---: |
| N750K | 5 | $10 \%$ | .50 |
| N750K | 10 | $10 \%$ | .50 |
| N7501 | 47 | $10 \%$ | .50 |
| N750L | 75 | $10 \%$ | .50 |
| N750L | 100 | $10 \%$ | .50 |

ERIE TUBULAR TYPE N080 CERAMICONS

| Style | Capacity (MMF) | Tolerance | List Price |
| :---: | :---: | :---: | :---: |
| NO80-331 | 10 | $10 \%$ | .60 |
| N080.331 | 22 | $10 \%$ | .60 |
| N080-338 | 33 | $10 \%$ | .60 |
| N080-338 | 47 | $10 \%$ | .60 |
| N080.338 | 62 | $10 \%$ | .60 |




## ERIE FEED-THRU CERAMICONS

This very practical feed-thru capacitor is highly recommended for bypassing R.F. to ground in feed-thru applications. Wire terminals are sufficiently rugged to serve as tie points for several connections, for supporting other circuit elements, and long enough for point to point


STYLE 362 wiring.

## SPECIFICATION CHART

| Style | Capacity (MMF) | Tolerance | List Price |
| :---: | :---: | :---: | :---: |
| 362 | 1500 | $20 \%$ | 1.00 |

## ERIE TUBULAR TRIMMERS

Here is a compact, economical tubular trimmer that is


STYLE 532 ideal for applications calling for a low minimum capacity and a high ratio of maximum to minimum capacity. Has molded plastic dielectric. Can be mounted on panels having a thickness of $.040^{\prime \prime}$ to $.065^{\prime \prime}$

## SPECIFICATION CHART

| Style | Capacity Range (MMF) | List Price |
| :---: | :---: | :---: |
| $532-08$ | $0.5-5$ | .55 |
| 532 | 1.8 | .55 |

## ERIE CERAMICON TRIMMERS



Erie Ceramicon trimmers give maximum stability and ease of adjustment. Capacity change is constant per degree of rotation. Silver electrodes are fired on to ceramic rotor and base. 360 degree rotor completely covers entire track on stator thus preventing dust and other foreign matter from affecting characteristics of the unit.

SPECIFICATION CHART

| Style | Capacity Range (MMF) | Temperature Coefficient | List Price |
| :---: | :---: | :---: | :---: |
|  | 1.5-7 | NPO | 1.50 |
|  | 3.12 | NPO | 1.50 |
| TS2A | $4-30$ | N500 | 1.50 |
|  | 7-45 | N500 | 1.50 |
| TD2A |  | NPO | 2.50 |
|  |  | NPO | 2.50 |
|  | $\begin{array}{lll}3.12 & \because & \because \\ 4.30 & \because & \because\end{array}$ | N500 | 2.50 |
|  |  |  |  |
| 557 | $\begin{aligned} & 3.12 \\ & 5-25 \\ & 8-50 \end{aligned}$ | NPO | 1.25 |
|  |  | NPO | 1.25 |
|  |  | N750 | 1.25 |

## ERIE SUPPRESSORS



Erie Suppressors use a special resistance element that is superior because of its low voltage coefficient. These suppressors effectively eliminate ignition interference in auto radios, and in nearby F.M. and Television home sets. Erie Suppressors have a resistance value of 10,000 ohms. Style L-4 fits spark plugs, style L-7 for distributor cables.

SPECIFICATION CHART


STYLE S-5

| Style | List Price |
| :---: | :---: |
| S-5 | .30 |
| L-4 | .30 |

## TYPE BTS INSULATED FILAMENT RESISTOR

( $1 / 2$ watt)
$13 / 32^{\prime \prime}$ x $1 / 8^{\prime \prime}-470$ ohms to 22 meg 350 volts max.

List 17 d

## TYPE BTA INSULATED FILAMENT RESISTOR

(1 watt)
$23 / 32^{\prime \prime} \times 1 / 4^{\prime \prime}-330$ ollms to 22 meg 500 volts max.

List 25

## TYPE BT-2 INSULATED FILAMENT RESISTOR

(2 watt)

$1334^{\prime \prime} \mathrm{x} 21 / 04^{\prime \prime}--470$ oh mis to 22 meg 500 volts max

List 50


TYPE BT INSULATED FILAMENT RESISTORS are completely insulated with bakelite and unexcelled for stability, low-noise- level, low voltage coefficient and mechanical strength. Insulation breakdown of Type BTS is 750 rolts to ground; all other type BT's, 1000 volts. Standard tolerance $\pm 10 \%$. Special tolerance $\pm 5 \%$ at slightly higher cost
TYPE BW INSULATED WIRE WOUND RESISTORS are furnished with the same bakelite insulation as BT resistors. The wire resistance element is wound tightly around a special insulated core. Standard tolerance $\pm 10 \%$. Special tolerance $\pm 5 \%$ at slightly higher cost.

Type BW-1/2 Insulated Wire Wound Resistor<br>( $1 / 2$ watt)<br>$5 / 8^{\prime \prime} \times 3 / 86^{\prime \prime}-0.47$ to 820 ohms List $17_{C}$

Type BW-1 Insulated Wire Wound Resistor<br>(1 watt)<br>$11 / 4^{\prime \prime} \times 1 / 4^{\prime \prime}-0.47$ to 4.700 ohms List $25_{\phi}$

## Type BW-2 Insulated Wire Wound Resistor <br> (2 watt)

$13 / 4$ " $\times 21 / 34^{\prime \prime}-1.0$ to 6,800 ohms
List 50

## STANDARD RANGES

Standardization pays dividends! It can he an important profit factor for you, too

The great majority of radio parts manufacturers were quick to see the advantages in standardization and adopted the RMA Preferred Ranges some years ago. IRC las pioneered standardization of resistors because close contact with the radio industry has convinced us that such standardization is not only desirable but absolutely essential to carry out the tremendous development and production program of the industry.
This IRC policy will help servicemen prepare for better, faster and more profitable business.

Type BT and BW Resistors, in 10\% tolerance, are carried in stock in the RMA ranges listed below. Figures in heavy type are the standard RMA $10 \%$ tolerance values. Using $10 \%$ tolerance BT's and BW's, these 93 ranges give complete coverage of all values with the smallest resistor stock. Standardization of your stock on these values is recommended for economical, complete coverage, faster turnover nore profit for you!

However, the intermediate values listed below also are carried in the IRC stockroom, so that every RMA value is available to servicemer, when desired.

## JOBBERS' STOCK IN PREFERRED RMA RANGES

| Ohms | Ohms | Ohms | Ohms | Ohms | Ohms | Ohms | Megs | Megs | Megs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.47 | 3.0 | 18 | 110 | 680 | 4,300 | 27.000 | 0.1 | 0.62 | 3.9 |
| 0.51 | 3.3 | 20 | 120 | 750 | 4,700 | 30,000 | 0.11 | 0.68 | 4.3 |
| 0.56 | 3.6 | 22 | 130 | 820 | 5,100 | 33,000 | 0.12 | 0.75 | 4.7 |
| 0.62 | 3.9 | 2. | 150 | 910 | 5,600 | 36.000 | 0.13 | 0.82 | 5.1 |
| 0.68 | 4.3 | 27 | 160 | 1,000 | 6,200 | 39,000 | 0.15 | 0.91 | 5.6 |
| 0.75 | 4.7 | 30 | 180 | 1,100 | 6,800 | 43,000 | 0.16 | 1.0 | 6.2 |
| 0.82 | 5.1 | 33 | 200 | 1,200 | 7,500 | 47,000 | 6.18 | 1.1 | 6.8 |
| 0.91 | 5.6 | 36 | 220 | 1,300 | 8,200 | 51,000 | 0.20 | 1.2 | 7.5 |
| 1.0 | 6.2 | 39 | 240 | 1,500 | 9.100 | 56,000 | 0.22 | 1.3 | 8.2 |
| 1.1 | 6.8 | 43 | 270 | 1.600 | 10,000 | 62,000 | 0.24 | 1.5 | 9.1 |
| 1.2 | 7.5 | 47 | 300 | 1,800 | 11,000 | 68,000 | 0.27 | 1.6 | 10.0 |
| 1.3 | 8.2 | 51 | 330 | 2.000 | 12,000 | 75,000 | 0.30 | 1.8 | 11.0 |
| 1.5 | 9.1 | 56 | 360 | 2,200 | 13,000 | 82,000 | 0.33 | 2.0 | 12.0 |
| 1.6 | 10 | 62 | 390 | 2,400 | 15,000 | 91,000 | 0.36 | 2.2 | 13.0 |
| 1.8 | 11 | 68 | 430 | 2,700 | 16,000 |  | 0.39 | 2.4 | 15.0 |
| 2.0 | 12 | 75 | 470 | 3,000 | 18,000 |  | 0.43 | 2.7 | 16.0 |
| 2.2 | 13 | 82 | 510 | 3,300 | 20.000 |  | 0.47 | 3.0 | 18.0 |
| 2.4 | 15 | 91 | 560 | 3,600 | 22,000 |  | 0:51 | 3.3 | 20.6 |
| 2.7 | 16 | 100 | 620 | 3,900 | 24,000 |  | 0.56 | 3.6 | 22.0 |

## BASIC KIT

Designed to meet your day-to-day resistor requirements, the IRC Basic Kit provides a wide variety stock in carefully selected values. Assortments are so arranged that a shortage of stock in one range can usually be compensated for by using two other ranges in series or parallel. Additional adjustable bands are included for use in making up bleeder sections.
The Basic Kit is sturdily constructed of heavy-gauge steel, and beautifully finished in blue and yellow. Hung on your wall or set on your service bench, the Basic Kit saves countless trips for supplies and provides your shop with a neat, carefully selected general purpose resistor stock.

The IRC Basic Kit is factory-packed with the following wide-variety resistor stock:
13TS - 10 each- $1,000,2.200,4,700,10,000,15,000,22,000$, $27,000,47.000,75,000$ ohm; 0.1 mes., 0.22 meg., 0.47 meg., 1.0 mer., 2.2 meg., 10.0 mes. 5.0 mer.
BTA - 5 each- $470,1,000,1,500,2,200,3,600,4,700,22,000$, 36.000, 75,000 ohm

10 each- $10,000,15,000,47,000 \mathrm{ohm} ; 0.1 \mathrm{meg} ., 0.24 \mathrm{meg}$. $0.47 \mathrm{meg} ., 1 \mathrm{meg}$
BW- $1 / 2$ - 10 each- $100,150,220,330,470,560$ ohm
BHT- 2 -5 each- $1,000,2,200,4,700,10,000,22,000,47,000 \mathrm{ohm}$; 0.1 mer.

BW-1 —5 each-47, 82, 100, 270 ohm.
BW-2 -5 each-47, 82, 100, 270 ohm.
AB — 2 each— $100,250,500,750,1,000,1,500,2,500,5,000$, 10,000 ohm 2 each- $15,000,25,000 \mathrm{ohm}$.
ABA - 2 each- $100,250,500,1,000,1,500,2,500,5,000$, $10,000 \mathrm{ohm}$.
EI'A - 1 each- $1,000,1,500,2,500,5,000$ ohm.
FS - 1 each- $10,000,25,000$ ohm
ESA - 1 each-1.600. $1,500,2,500,5,000 \mathrm{ohm}$.
1 each: $10,000,25,000,50,000$ ohm.
6 " X -3" Rands.
MW-2J-2 each—10, 20, 50, 100 ohm.
M1034-2 each.
All-Metal Cabinet Furnished at No Extra Cost List Price: \$160.53


## Serviceman's Special Assortment

## Available in Basic Kit

The Basic Kit is also available stocked with a special "Serviceman's Assortment." This assortment contains a complete stock of $1 / 2,1$ and 10 watt resistors, plus a selection of controls, shafts and switclies. The heavy-duty power wire-wound resistors are not furnished in this assortment-leaving space in the compartments and drawers for capacitors, lamp bulbs, solder, small tools and spare parts.
The "Serviceman's Assortment" is factory-packed with the following:

> 60-BTS resistors
> 15 -BTA resistors
> $60-\mathrm{BH} \mathrm{W}^{1 / 2}$ resistors
> $20-1 \mathrm{WW}-1$ resistors
> 22 -AB power resistors 2 ——
12
42
switch

List Price:

4-D13-133 controls
1-D13-133X control
1-D13-137 control
1—D13-137 X contro
1-D13-139 control
1-"' "II", shafts
$\$ 99.54$


The sturdy, IRC Resist.O-Cabinet is specifically desimned to hold resistors systematically and rafely without the bending of leads It puts an end to "cigar box contusion!" Its four "non-spill" drawers have seven ample-sized compartments in each which readily accommodate resistor sizes from $1 / 2$ to 10 watts.

Attractively finished in blue, yellow and silver. Ohm's Law formulas neatly and permanently lithorraphed on top of cabinet for handy reference. Cabinet measures 11 long, b1/2 high and 5 ta deep. Bases of Resisto-O-Cabinets are arranged for stacking so that several cabinets may be used to increase stock capacity. This handy Resist-O-Cabinet is FREE with the purchase of any of the three well-balanced IRC resistor assortments listed. (Cabinet is not sold separately.)

## ASSORTMENT No. 1-59 Resistors

Type BTS-One each $1,000,4,700,10,000,27,000,47,000$ ohms: 0.1 mes, $0.27,0.47$ megs.

Type BTA-One each $39,000,68,000$ ohms; $0.15,0.22$ megs. Two cach $1,000,1,500,2,200,2,700,4,700,15,000,27,000$ ohms $1.0,2.2$ megs. 'Three each $10,000,47,000$ ohms; 0.1 meg, 0.27 . 0.47 megs.

Type AB 10 Watt-One each $1,000,1.500,2,500$, 5,000 olimn. Two each 10,000 and 25,000 ohms.
Type ABA, 10 Watt Adjustable-One each 1.000, 2,500, 5,002, 10,000 .

List price of Resistors, $\mathbf{\$ 2 2 . 8 7}$
(Cabinet furnished at no extra charge)

## ASSORTMENT No. 2-100 Resistors

Type BW- $1 / 2$ —Two each $47,100,270$ ohms.
Type BTS-Two each $3,300,6.800,33,000,68,000,82,000$ ohms $0.22,0.33$ megs. Three each $470,1,500,15,000,22,000,39,000$ ohms; $0.15,1.0,2.2$ megs. Five each $2.200,2,700,27,000$ ohms: 0.27 megrs. Six each $1,000.4,700,10,000,47,000$ ohms; 0.1 0.47 megs.

```
List price of Resistors, $17.00
```

(Cabinet furnished st no extra charge)

## ASSORTMENT No. 3-83 Resistors

Type BW-1—Two each 47, 100, 270 ohms TYPE BTA-Two each $470,1,500,2,700,3,300,6,800,33,000$ $39,000,68,000$. 82.000 ohms; $0.15 .0 .22,0.33,1.0,2.2$ megs Three each $15,000,22,000,27,000$ ohms. Five each $1,000,2,200$ $4,700,10,000,47.000$ ohms; $0.1,0.27,0.47$ megs.

List price of Resistors, $\$ 20.75$
(Cabinet furnished at no extra charge)


## Check this fast-selling stock!

The IRC Volume Control Cabinet is factory-packed with the following 18 Type D All-Purpose Controls, switches and special shafts.


Switches: 5-No. 41 S.P.S.T.; 1-No. 42 D.P.S.T.
Shafts: 1-Type B Auto Radio; 4-Type E knurled and slottedwith thin web

IRC VOLUME CONTROL CABINET<br>For the Modern Service Shop

This handy stock of IRC Type D Universal Controls, quickly attached switches and easily installed shafts is factory-packed in an attractive all-metal cabinet. Proved by IRC Service Records to be a selection of the most popular controls-you can actually service over $87 \%$ of all replacements right from this cabinet. Here is your answer to speedier, more efficient ser-vicing-reduction of costly exact-duplicate inventories -and modern appearance for your shop.

Cabinet measures $141 / 2^{\prime \prime}$ long, $73 / 8^{\prime \prime}$ high and $41 / 2^{\prime \prime}$ wide. It is handsomely finished in yellow, blue and silver and provides separate compartments for controls and three handy drawers for switches, special shafts and spare parts. Each compartment and drawer is individually marked for identification. The hinged front cover snaps securely shut. The cabinet is furnislied at no extra charge when factory- packed with the IRC controls, switches and shafts listed on the left. It is not sold separately.

## ORDER YOUR IRC VOLUME CONTROL CABINET TODAY

List Price: $\$ 30.90$

## NEW IRC ALL-PURPOSE KIT

Here's how to sharpen the appearance of your shop without an additional outlay of cash! 9 "hot-number" IRC $1 / 2,1$ and 2 meg . controls are available pre-packed in the All-Purpose Kit with 4 switches and 4 special shafts. Every one a fast mover . . . and you pay only the standard net cost of the merchandise. At no extra cost you receive this attractive 12 compartment utility cabinet.
Buy your "hot-number" controls this way each week and accumulate a shelf of these neat cabinets-each pre-packed with the following IRC merchandise:

IRC Control

|  | Type No. |  | Resistance |
| :--- | :--- | :---: | :---: |
| Purpose |  |  |  |
| 5 | D13-133 | 500,000 | A |
| 1 | D13-133X | 500,000 | B |
| 1 | D13-137 | 1.0 | A |
| 1 | D13-137X | 1.0 | B |
| 1 | D13-139 | 2.0 | A |

Purpose: A-Tone or Audio Circuit control; B-Tapped for tone compensation.

## SWITCHES

## $\begin{array}{ll}\text { \#41 } & \text { S.P.S.T. } \\ \text { \#42 } & \text { D.P.S.T. }\end{array}$

## SHAFTS

1 Type "A" double-flatted tap-in shaft is included with each con-trol-plus:
3 Type "E" with universal knurl for special type push-on knobs. 1 Type "H" with universal groove for many Delco, RCA, Sears•Roe luck and Westinghouse models.

Sturdy utility cardboard cabinet measures $73 / 4$ " $73 / 4$ " $\times 41 / 2^{\prime \prime}$. It is attractively finished in yellow, blue and silver, and provides 4 drawers with 12 compartments. Ideal stocking arrangement for miscellaneous parts hardware, knobs, capacitators, shafts
 and dial fittings.

Cabinet furnished at no extra cost.
List Price $\$ 16.20$

## THE IRC ''CENTURY'' LINE 114 IRC CONTROLS THAT SOLVE $90 \%$ OF YOUR REPLACEMENT PROBLEMS



For miscellaneous service needs, i1 all-purpose controls are available for use with the pophar TIRC taprin shafts. An 1 shaft is included with each control and shafts
Each D) Control accommodates any of the eleven Tap-in Shaft types shown. Shaft fats may be located in any position. A few extra shafts greatly increase the uility of your D Control stock at a small investment, Of unusual convenience is the "Double-Flated" A shaft, included with each 15 Control. Accommodates popular push-on knobs
requiring either $\frac{1}{32 "}$ or $\frac{3}{32^{\prime \prime}}$ flats and all set-screw knobs without filing of shaft or use of inserts. Dimensions: $11 / 8{ }^{\prime \prime} \times \frac{17}{3}{ }^{\prime \prime}$. Single Control-Without switeh

List $\$ 1.25$ Tapped Control-Without switel

List $\quad 1.85$
I'rices include Shaft A packed with each control
Easily Installed "Tap-in' Shafts
Type B, M-List $\$ 0.45$
Types E, F, G, H, J, K, L, N-List $\$ 0.30$

## 70 UNIVERSAL TYPE D CONTROLS with 11 easily installed Tap-In Shafts

| Resistatice Ohms | Tap | $\begin{aligned} & \text { IRC } \\ & \text { Stock No. } \end{aligned}$ | Taper | Usual Application | Resistance Ohnis | Tap | $\begin{gathered} \text { IRC } \\ \text { Stock No. } \end{gathered}$ | Taper | Usual Application |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 500 | - | D11-103 | A | Potentiometer Yoltage Divider | 250 M | 60M-120M[ | D18-130XX | Spec. |  |
| 1 M | - | D11-108 | A | Potentiometer Voltage Divider | 350 M |  | D13-132 D17-132X | $\begin{gathered} \mathrm{C} \\ \text { Spec. } \end{gathered}$ | Tone or Audio Circuit Contrel Audio Control with Tone Tap |
| 2 M | - | D11-110 | A | Potentiometer Yoltage Divider | 350 M | 35 M | $\begin{aligned} & \text { D17-132X } \\ & \text { D18-132X } \end{aligned}$ | spec. <br> H | Audio Control with Tone Tap Audio Control with Tone Tan |
| 3 M | - | D11-112 | A | Potentiometer Voltage Divider | 350 M 500 M | 75 M | $\begin{aligned} & \text { D18-132X } \\ & \text { D11-133 } \end{aligned}$ | $\begin{aligned} & H \\ & A \end{aligned}$ | Audio Control with Tone Tap <br> Potentiometer Voltage Divider |
| 4M | - | D11-113 | A | Potentiometer Voltage Divider | 500 M | - | D11-133 D13-133 | $\stackrel{1}{C}$ | Tone or Audio Circuit Control |
| 5 M | - | D11-114 | A | Potentiometer Voltage Divider | 500 M | 125 M | $\begin{aligned} & \text { D13-133 } \\ & \text { D13-133 } \end{aligned}$ | C | Audlo Control with Tone Tap |
| 5M | - | D13-114 | C | * Antenna Control | 500 M |  | D14-133 | D | R.F. Plate Control |
| 5M |  | D14-114 | D | *Anteniza C Bias Control | 500 M |  |  | Spec. | Audio Control with Tone Tap |
| 7,500 | - | D11-115 | A | *Antenna Grid Bias Control | 500 M | 25M | $\begin{aligned} & \text { D17-133X } \\ & \text { D } 8.133 X \end{aligned}$ | Spec. | Audlo Control with Tone Tap |
| 10 M | - | 211-116 | A | * Antenna Grid Bias Control | 560 M | 250 M | $019-133 x$ | Spec. | Audio Control with Tone Tap |
| 10 M |  | D13-116 | D | * Antenna Control ${ }^{\text {A }}$ Arid Bias of 2 Tubes | 500 M | $100 \mathrm{M}-200 \mathrm{M}$ | D18-133 $\times$ X | Spec. | Audio Control with 2 Tone Taps |
| 10 M |  | D16-116 | F | * Antenva Grid Bias of 1 Tube | 1.0 meg . | - | D11-137 | A | Potentlometer Voltage Divider |
| 13M | 3.1 | D18-117X | If | I. F. Shunting Control | 1.0 meg. | - | D13-137 | C | Tone or Audlo Circuit Control |
| 15M |  | D14-118 | D | * Antenna Grid Jias Control | 1.0 meg. | 250M | D13-137X | H | Audio Control with Tone Tap |
| 15 M | - | D16-118 | F | *Antenna Grid Bias Control | 1.0 meg. |  | D14-137 | D | Tone Control |
| 20M | - | D16-119 | F | * Antenra Grid Bias Control | 1.0 meg. | 35M | D17-137X | Spec. | Audio Control with Tone Tap |
| 25 M | - | D11-120 | A | Potentiometer Voltage Divider | 1.0 meg. | $50 \mathrm{M}-100 \mathrm{M}$ | D17-137XX | Snec. | Audio Control with 2 Tone Taps |
| 25 M | - | D14-120 | D | *Grid Bias Control | 1.0 meg. | $\begin{gathered} 160 \mathrm{M} \\ 250 \mathrm{M}-500 \mathrm{M} \end{gathered}$ | D18-137X <br> D18-137XX | Spec. Spec. | Audio Control with Tone Tap Audio Control with 2 Tone Taps |
| 25 M | - | D16-120 | F | Antenna Control | 1.0 meg. | $\begin{gathered} 250 \mathrm{M}-500 \mathrm{NI} \\ 500 \mathrm{n}! \end{gathered}$ | $\begin{aligned} & \text { D18-137XX } \\ & \text { Dig-137X } \end{aligned}$ | Spec. <br> Spec. | Audio Control with Tone Tap |
| 30M | 6 M | D18-122X | H | Audio Control with Tone Tap | 1.0 mea. |  | D19-137X DVC-539X | Spec. <br> Spec. | Audio Control for fading one |
| 44 M | 7M-14M | D18-123XX | Spec. | Audio Control with 2 Tone Taps | 1.0 meg. | 500 M | DVC-539X | Spec. | rader control for fading one circuit into anotlier |
| 50 M | - | D11-123 | A | Potentiometer Voltage Divider |  |  |  |  |  |
| 50 M | 一 | D13-123 | C | Tone Control | 2.0 meg. | 500M | $\begin{aligned} & \text { D13-139 } \\ & \mathrm{n} 12-139 \mathrm{x} \end{aligned}$ | H | Audio Control with Tone Tap |
| 50 M | - | D14-123 | D | * Antenna Grid Bias Control | 2.0 meg. | 50. | D15-139X | Spec, | Audio Control with Tone Tap |
| 75 M | - | D13-125 | C | Tone Control | 2.0 meg . | 500 5-1.0meg | D13-139XX | Spee. |  |
| 75 M | - | D14-125 | D | *Grid Biss Control | 2.0 meg . | 500.151 .0 meg | D17-139X | Spec. | Audio Control with 2 Tone Ta |
| 100 M | - | D11-128 | A | Potentiometer Voltage Divider | 2.0 meg. | 150 M | D17-139X D18-139 | Spec. | Audio Control with Tone Tap Audio Control with Tone Tap |
| 100 M | - | D13-128 | C | Tone or Audio Circuit Control | 2.0 meg . | 1.0 mea . | D18-139X | Spee | Audio Control with 2 Tone Taps |
| 200 M | - | D11-129 | A | Potentiometer Voltage Divider | 2.0 meg. | $250 \mathrm{M}-500 \mathrm{M}$ | D18-139x ${ }^{\text {d }}$ | Spec. | Audio Control with 2 Tone Taps |
| 200:1 | - | D14-129 | D | *Grid Bias Control | 2.0 meg. | 50 M | D19-139X | Spec. | Audio Control with Tonc Tap |
| 250 M | - | D11-130 | A | Potzntiometer Voltage Divider | 3.0 meg. | - | D13-140 | C | Alidio Control <br> Potentiometer Voltage Divider |
| 250 M | - | D13-130 | C | Tone or Audio Circuit Control | 5.0 meg . | - | D11-141 | A | Potentiometer Voltage Divider |
| 250 M | 125 M | D13-130X | Spec. | Audio Control with A.V.C. Tap | 7.0 meg . | - | D11-142 | A | Potentiometer Voltage Divider Potentiometor"Voltage Diviler |
| 250 M |  | D14-130 | D | *Gid Bias Control | 10.0 meg. | - | D11-143 | A | Potentiometer Voltage Divider |
| 250 M | 25 M | D17-130X | Spec. | Audio Control with Tone Tap |  |  |  |  |  |
| 250 M | 60 M | D18-130X | H | Audio Control with Tone Tap | Supplied | ith 270 ohm | W1/2 (1/2 W | In | ted Wire Wound Resistor. |
| R-44 |  |  |  |  |  |  |  |  | Copyright by U. C. P., Inc |

## VOLUME CONTROLS Preferred for Performance

THE IRC ''CENTURY'' LINE

## 114 QUALITY CONTROLS THAT OFFER YOU THESE EXCLUSIVE FEATURES

METALLIZED ELEMENT - harder, smoother, moisture-proof, permanent.

- FIVE FINGER CONTACTOR-assures positive, more uniform contact.


## 16 POPULAR DS TYPES

## With Fixed Shafts



These sixteen numbers have been the most frequently called for and are furnished with fixed shaft for convenient, easy use. Dimensions: $11 / 8^{\prime \prime} \times \frac{17}{32}{ }^{\prime \prime}$
Single Control-Without
switch......................... List $\$ 1.25$
Tapped Control-Wi1loout switch....................... List $\$ 1.85$

| Resistance Ohms | Tap | $\begin{gathered} \text { I R C } \\ \text { Stock No. } \end{gathered}$ | Taper | Usual Application |
| :---: | :---: | :---: | :---: | :---: |
| 10 M | - | DS11-116 | A | Antenna Grid Mias Control |
| 10M | - | DS14-116 | 1) | * Antenna Grid Bias of 2 T |
| 25M | $\square$ | DS14-120 | D | *Grid Bias Control |
| 50 M |  | DS11-123 | A | l'otentiometer Toltage Divider |
| 100 M |  | DS11-128 | A | Potentiometer Yoltage Divider |
| 100 M |  | DS13-128 | C | Tonc or Audio Circuit Control |
| 250 M | - | DS11-130 | A | Potentiometer Coltage Divider |
| 250M |  | DS13-130 | C | Tone or Audio Circuit Control |
| 250 M | 123M | DS13-130X | Spec. | Audio Control with AlC Tap |
| 250 M | 60 M | DS18-130X | H | Audio Control with Tone Tap |
| 500 M |  | DS13-133 | C | Tone or Audio Circuit Control |
| 500 M | 125.9 | DS13-133X | H | Audio Control with Tone Tap |
| 1.0 meg. |  | DS13-137 | C | Tone or Audio Circuit Control |
| 1.0 meg. | 250 M | DS13-137X | H | Audio Control with Tone Tap |
| 2.0 meg. |  | DS13-139 ${ }^{\text {d }}$ | C | Tone or Audio Circuit Control |
| 2.0 meg. | 500以 | DS13-139X | H | Audio Control with Tone Ta |

## 9 TYPE J CONTROLS FOR SPECIAL APPLICATIONS

For a wide variety of sets with specific requirements, you'll find these nine numbers extremely usefil. To play safe your stock should include at least one of each

## 8 DUAL CONTROLS



Eight popular Dual Con. rols are incluled in 112C's new Century Line. Here is small lut carefully selected group of "duals" that will speed many an mportant repair job Standard No. 20 series switches can be attached. $11 / 4^{\prime \prime} \times 1^{1 / 4 \prime}$ 。
List Price $\$ 3.10$ each

| 1 R C Stock No. | Vnit | Resistance Ohms | Taner |
| :---: | :---: | :---: | :---: |
| 35-1620 | Panel | 10,000 25,000 | C |
| 61-1623 | Panel Rear | $\begin{aligned} & 10,000 \\ & 50,000 \end{aligned}$ | F |
| 33-2828 | Panel Rear | 0.1 meg . 0.1 meg . | C |
| 33-3030 | Panel Rear | 0.25 meg. 0.25 meg. | C |
| 33-3333 | Panel | 0.5 meg 0.5 meg . | $\stackrel{C}{C}$ |
| 33-3737 | Panel lear | 1.0 meg . <br> 1.0 meg . | C |
| 33-3939 | Panel <br> Rear | 2.0 meg . 2.0 meg. | C |
| 31.4141 | Panel Rear | 5.0 meg . <br> 5.0 meg . | A |

- SILENT SPIRAL CONNECTOR--a positive connection between contactor and its terminal.
- STEEL COIL SPRING THRUST WASHER eliminates shaft wobble and end-play


## 8 CLUTCH-TYPE DC CONTROLS



## With Tap-in Shafts

Practical for auto radio use and many other applications. Controls have friction clutch drive-urm and are equipped with a special shaft for use where either a slotted or tongued trpe shaft is required. Instructions tell how to cut shaft for either application. Switches cannot be used with friction clutch controls. Size same as Type D.

$$
\text { List Price } \$ 1.85 \text { each }
$$

| I R C Stock No. | Resistance Ohms | Resistance to Tap |
| :---: | :---: | :---: |
| DC13-130 | 250 M | - |
| DC18-130X | 250M | Tap 50M |
| DC13-133 | 500 M |  |
| DC13-133X | 500 M | Tap 125M |
| DC13-137 | 1.0 meg. |  |
| DC13-137X DC13-139 | $\underline{1.0} 2.0$ meg. | Tap 250M |
| DC13-139X | 2.0 mer. | Tan 500 M |

## 2 TYPE S SPECIAL POWER CONTROLS

## With Tap-in Shafts

Designed for power requirements of plate circuit tone controls, Type S Controls should be used where the audio output exceeds 2 watis. $11 / 4$ " in diameter, they employ the Tap-in Shaft feature. Use No. 20 series switches listed below.

| List Price $\$ 1.25$ each |  |  |
| :---: | :---: | :---: |
| IR C Stock No. | Renistance Ohms | Trper |
| S11-128 | 0.1 meg. | $A$ |
| S13-128 | 0.1 meg. | C |

QUICKLY ATTACHED SWITCHES

|  | For D and DS Controls | For S and Dual Controls | List |
| :---: | :---: | :---: | :---: |
| Sl', ST | No. 41 | No. 21 | \$0.60 |
| DP., ST | No. 42 | No. 22 | 0.75 |
| SP., DT | No. 43 | No. 23 | 0.75 |
| Three Point | - | No. 24 | 0.75 |
| Four Point. | No. 45 | No. 25 | 0.75 |
| SP', DT. at clockwise position. | No. 47 | No. 26 No. 27 | 0.75 0.75 |

## 8 STANDARD TAPERS

A—Used as potentiom. eter or rheostat in any circuit where uniform resistance change is re* guired.
B-A semi - logarithmic curve used as tone conrol or audio circuit control.
C-A logarithmic curve. Used as audio circuit control or antenna shunt control.
D-Tapered at both ends to provide control of grid bias and antenna circuit Used where control of grid bia is of prime importance in conrolling volume
$E$-Userl as a rheostat in cathode circuit to control grid bias. F-Tapered at both ends to pro ide control of grid hias and an enna circuit. Used where control of grid bias is ersential in con trolling volume. Generally used where the control changes the

grid bias of only one or two tubes. Must not be used with heavy currents.
G-A locarithmic curve with very gradual change in resistance from left terminal. Used as audio circuit control or antenma shunt control.
H-A tapped logarithmic curve used as audio level control for automatic bass compensation.

TYPE W WIRE WOUND CONTROLS


A dependable wire wound control of uniform resistance change for power requirements up to 2 watts. Tight, uniform windings assure utmost accuracy. Spiral Spring Connector between rotor arm and center terminal eliminates noise. Diameter $11 / 4$ ": (lepth behind panel $\frac{9}{16 "}$; shaft length $215^{\prime \prime}$ from control face. Illustration shows cover removed. although covers are supplied with controls.

List without switch, $\$ 1.25$

| IRC Control No. | Resistance Ohms | Max. <br> Current <br> (Amps.) | IRC Control No. | Resistance Ohms | Max. <br> Current <br> (Amps.) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| W-2 | 2 | 1.000 | W-100 | 100 | . 142 |
| W-3 | 3 | . 815 | W-200 | 200 | . 100 |
| W-5 | 5 | . 630 | W-300 | 300 | . 083 |
| W-6 | 6 | . 560 | W-400 | 400 | . 071 |
| W-8 | 8 | . 500 | W-500 | 500 | . 063 |
| W. 10 | 10 | . 450 | W-750 | 750 | . 052 |
| W. 15 | 15 | . 370 | W-1000 | 1000 | . 045 |
| W-20 | 20 | . 320 | W-2000 | 2000 | . 032 |
| W-25 | 25 | . 285 | W-3000 | 3000 | . 026 |
| W-30 | 30 | . 260 | W-4000 | 4000 | . 022 |
| W-40 | 40 | 225 | W-5000 | 5000 | . 020 |
| W-50 | -0 | 200 | W-7500 | 7500 | . 016 |
| W-60 | 60 | . 183 | W-10000 | 10000 | . 014 |
| W-75 | 75 | .164 |  |  |  |

## Television Focusing Controls

| W20×10 | 20 | ohms-center tap |
| :--- | :--- | :--- |
| Wil0x5 | 10 | ohms-center tap |

## Type W Switches

| No. 51-S. P., S. 'T. | $\begin{gathered} \text { List } \\ \$ 0.60 \end{gathered}$ |
| :---: | :---: |
| No. 52-D. P., S. T. | . 75 |
| No. 53-S. I', I). T. | . 75 |
| No. 54-Three I'oint | . 75 |
| No. 55-Four I'ont | . 75 |
| No. 56 - S. P', D. T. at clockwse postion. | . 75 |
| No. $57-\mathrm{S}$. '., S. T.. with dummy lug | . 75 |

## Plain and Insulated Shaft Couplers

For use with standard controls to meet special shaft requirements. Two set screws give rigid connection. TYPE C2-Insulated coupler for use with square type shaft used by Motorola.

List \$0.30
TYPE C3-Plain roumler to couple $1 / 4$ " shafts: insert allows coupling of $1 / 4$ " shaft to $\frac{3}{18} "$ shaft. List $\$ 0.30$

## INDUSTRY RED BOOK

IRC control replacements are fully listed in the new "Radio Industry Red Book of Replacement Parts." The correct IRC control replacement for any receiver manufactured from 1938 to 1948 is included Installation notes are given


## 9 IRC TYPE J CONTROLS FOR MANY SPECIAL REQUIREMENTS!

IRC sales records show that these 9 most popular special controls will handle nearly one-third of your requirements for exact duplicate controls. The group inchudes concentric duals, and special shaft units. For a more complete stock, carry at least one of each:
DJ.4-2.0 meg ( $\operatorname{tap} 500 \mathrm{M}$ ohms) $/ 1.0 \mathrm{meg} . \mathrm{RCA}$ : RC-351, A, 13, C, D, E, l', M, R, RC-352, A, B, C, RC-386, B ch. Sears-Roebuck: 126.208 Ch. Westinghouse Elec. Supply: WR-264. List $\$ 3.75$

DJ-5—2.0 meg $/ 1.0$ meg. Zenith: 5637, 5803 Chassis (Dual Con. trol).

List \$3.75

J-15-32M ohms. Stewart-Wamer: 1 -100A, B, E, (AC), 950 series ( 10 ). List $\$ 1.85$
J-107-10M/503L ohms. General Electric: T"41. Graybar: G13-678. Pilot: K-117. RCA: R14, R15, RE17, 42 (Radiola), 48 (Rudiola). Westinghouse Elec. \& Mfg.: WR-4.
J.127—3800/3800 ohms. RCA: R32, RE45, R52, RE75, 145. List $\$ 3.10$
J-296-225M/5M ohnis. Philco: 70, 70A below B22,000, 90, 90A (Two 45's), 270, 270A, $370,470,470 \mathrm{~A}, 570$. List $\$ 3.10$
J. $777-350 \mathrm{M}$ ohms. Chrysler: C1423. Ford: TO, FT9, FT9X, F1440, F1442. Graham: G1418, G1435. Lincoln: L1420, L1424, L1425, 1.1427, 1.1429, L1460. Nash: T12-NT 12X, NT 12 X2. T15 NT 15 , NT15N, N1418, N1433 H, N1434 H, N1514. Packard: Pl417, P151 . Philco: 811 PA, PB, PV, $816,817,818,821 \mathrm{P} .821 \mathrm{PV}$, $826,827,827 \mathrm{~K} .828,828 \mathrm{~K}$. Reo: R1415. Studebaker: T12-ST12, 115-ST15, S1431, S1437, S1516. Willys Overland: W1419.

List $\$ 1.85$
J.823-150M/250M ohms (Tap 125 M ohms). General Elec.: A.82, A-86, A-87 List \$3.10

J-843-350M ohms (tap 75M ohms). Chrysler T10-CT10. Til. CT11, (1450, C1452. DeSoto: T10-CT10, T11-CT11. Dodge: T11CT11. Hupmolile: HT11X. Lincoln: LT 14 X 3 . Packard: T14-1PT14. P1429. 1'1430, P1432 IT, P1439. Pierce-Arrow: T14-MT14X4. Reo: T11-CT11, T14-R14X.

List \$1.85

## EXTENSION SHAFTS

These shafts attach to regular shafts, thus extending length to any needed size, and frequently make it possible to use standard controls for "special" jobs

Shaft No. 441-4" $\times 1 / 4^{\prime \prime}$ dia. $\times{ }^{17}$ " flat................................. $\$ 0.40$
Shaft No. 442-4" $4^{\prime \prime} x^{1 / 4}$ "dia. $x \frac{33^{\prime \prime}}{32^{\prime \prime}}$ flat 40
Shaft No. 443-4 $4^{\prime \prime} \times \frac{9^{\prime \prime}}{1^{\prime \prime}}$ dia. $\times \frac{3^{\prime \prime}}{3^{\prime \prime}}$ flat............................ .40
Shaft No. 444-8" $x$ x $1 / 4^{\prime \prime}$ "dia. $x$ " $3_{8}^{\prime \prime}$ flat for $4^{\prime \prime}$ length..... 40

## SLEEVE BUSHINGS



TYPE S1-For use with standard controls.
TYPE S2--To provide bearing for switching mechanism.
List ................... $\$ 0.45$ \$0.30
TYPE S3-For use with standard controls to set control back from chassis or mounting bracket. $11 / 2^{\prime \prime}-1 / s^{\prime \prime}$ dia. for $1^{\prime \prime}$ unthd- $3 /$ " $^{\prime \prime}$ dia. for $1 / 2^{\prime \prime}$ 32 thd- 344 flat. List $\$ 0.60$

TYPE S4---For use with standard controls to provide $\frac{9}{18}$ dia. hushing. $15 /{ }^{\prime \prime}$--thd $\frac{7}{1 / 14}$ 28 full length- 1.375 dbl flat. List $\$ 0.60$
TYPE S5-For use with standard controls to provide $1 / 2^{\prime \prime}$ dia. bushing. $2^{1 / 4} \mathbf{4}^{\prime \prime}-1 / 2^{\prime \prime}-28$ full length- 437 flat.

List $\$ 0.60$

## POWER RESISTORS IBC

'PREFERRED FOR PERFORMANCE'
Nut only do these famous resistors excel electrically, but their "eli-mate-proofed" cement coating provides the most dependable protection yet devised for resistors for heavy duty work. Both fixed ande adjustable types are available. Mounting Brackets are packed with all resistors from 25 watts and up. One Adjustable Band is furnished with each adjustable resistor. The new Type X Band (deseribed below) is included as standard on units of 25 watts and above. Extra bands supplied at prices indicated.

FIXED TYPES




## TYPE X BANDS

| Resistor | Band | List |
| :--- | :---: | :---: |
| DHA | "X2", | $\$ 0.20$ |
| EPA.ESA | "X3", | .20 |
| HAA•HOA- | "X4"" | Lis5 |
| Resistor | Band | List |

STANDARD BAND
$\begin{array}{lc}\text { Resistor Band } \\ \mathrm{ABA} & \text { "A " }\end{array}$

## PRECISION Wire Wound RESISTORS

IRC Precision Wire Wound Resistors are scientifically designed and constructed of highest quality materials to combine the utmost in accuracy with dependability. Winding forms are of a non-hyroscopic ceramic having high insulation qualities, high mechanical strength and low-coefficient of expansion. Because of the special sectional construction which permits the winding of adjacent sections in opposite directions, a noninductive windiner is made possible. Minimum tempervire coefficient of $.002 \%$ per temper ature coeflable on all tegree
Precisions at no exsed by the leading instrument manufacturers for dependable precision meter multipliers and
 rain eontrols. $1 \%$ accuracy is stand gain eontrols. $1 \%$ accuracy is standard. Closer tolerances available an for $1 / \frac{\%}{/ n}$ tolerance. add $10 \%$ : tor $1 / 4 \%$ accuracy, add $1 / 10 \%$ and $1 \%$ for $1 / 10$ of $1 \%$, add $25 \%$ to list prices. Tolerances of $1 / 10$ of $1 \%$ are measured to new Intermational Ohm, and so in

TYPES WW3, WW4, WW5
$0.1,0.2$ and 1. ohm
$10,25,50,100,200,250,300,500,1,000,1,500$,
List

10, 2, 2,000 and 2,500 ohms................................................................
1.70
$4,000,5,000,7,500,10,000,12,500$ and 15,000 ohmis.
$20,000,22,500,25,000,30,000,40,000$ and 50,000 ohms 60,000 and 75,000 ohms.
0.1 megohm
0.125 and 0.15 megohms
0.175 and 0.2 megohms.
0.225 and 0.25 megohins
0.3 megohms
0.4 megohms
0.6 megohms
0.75 megrohm
0.0 merohins
1.0 megohma

Note Minum sotoct ranure: WW-1 ohm WW5-0.6 megohms Maximum stock rance: WVY- 0.15 megotime; WW $4-0.5$ megohins.

TYPE WW2
0.6 megohms
0.75 megohms
0.9 megohms
1.0 megohms
1.5 merohms
2.0 merohms
2.5 megohms

## ALL-METAL RHEOSTATS



PR-25 (25 Watts) $1 \frac{21^{\prime \prime}}{3}$ diam. Depth behind panel, 敲"

PR-50 (50 Watts) $23 / 8$ " diam. Depth
behind panel, $13 /{ }^{\prime \prime}$

Operating frmperatures are cut almost in half by the unique, all-metal alumi. num construction of these new IRC Rheostats. They dissipate heat more rapidly-crive ample safety factor. Ratings based on hottest spot temp. rise of only 140 degrecs $C$. with max. load distributed over entire element. Witb full load applied to as little as $25 \%$ of element, rise is only 160 degrees C. Exclusive IRC Spiral Connector gives positive contact betwean rotor arm and center terminal

| PR-25-25 Watts |  |  | PR-50-50 Watts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | Max. m.a. | List Price | Ohms | Max. <br> m.a. | List Price |
| 1 | 5,000 | \$5.85 | 0.5 | 10,000 | \$6.50 |
| 2 | 3,450 | 5.20 | 1 | 7,070 | 6.50 |
| 3 | 2,880 | 5.20 | $\stackrel{7}{4}$ | 5,000 3,520 | 5.85 |
| 6 | 2,040 | 5.20 | 4 | 3,520 2,880 | 5.85 |
| 8 | 1,770 | 5.20 5.20 | 8 | 2,500 | 5.85 |
| 10 | 1,580 | 5.20 5.20 | 12 | 2,040 | 5.85 |
| 15 | 1,290 1,000 | 5.20 | 12 | 1,770 | 5.85 |
| 25 35 | 1,000 $8+5$ | 5.20 | 22 | 1,500 | 5.85 |
| 35 50 | 845 709 | 5.20 5.20 | 35 | 1,190 | 5.85 |
| 75 | 575 | 5.20 | 50 | 1,000 | 5.85 5.85 |
| 100 | 500 | 5.20 | 80 | 790 | 5.85 |
| 125 | 445 | 5.20 | 125 | 630 | 5.85 |
| 175 | 375 | 5.20 | 150 | 575 | 5.85 |
| 250 | 315 | 5.20 | 225 300 | +70 407 | 5.85 5.85 |
| 350 | 267 | 5.20 | 300 | 415 | 5.85 |
| 500 | 222 | 5.20 | 500 800 | 250 | 6.18 |
| 750 | 173 | 5.20 5.85 | 800 1,000 | $\stackrel{2}{9} 23$ | 6.18 |
| 1,000 | 155 | 5.85 | 1,000 1,600 | 177 | 6.18 |
| 1,500 | 129 | 5.85 5.85 | 1,600 2,500 | 140 | 6.18 |
| 2,500 | 100 | 5.85 6.18 | 2,500 3,500 | 120 | 6.50 |
| 3.500 | 84 70 | 6.18 | 5,500 | 100 | 6.50 |
| 5,000 | 70 | 6.18 | 8,000 | 79 70 | 6.50 |
|  |  |  | 10,000 | 70 | 6.50 |

## Type NAB Parasitic Suppressors

1RC Type NAB Non-Inductive Wire Wound Resistors are designed for use, one in each grid of audio driver or power amplifier tubes when paralleled, to prevent parasitic oscilla
 tinns. 10 watts.

## Center Tap Insulated Wire Wounds

Completely enclosed in molded bake lite and capable of standing high temperatures. Due to hirh power rating these resistors may be used in
 balancing circuits for radio receivers or transmitters. Thev will carry up to flve watts if mounted on chassis, using the detachable mounting bracket and heat-dissipating chassis, usip: metal strip; or two and one-half watts if mounted from heat or May be mounted anywhere without danger to units from heat or grounding. Dimensions: Length of molded unit 10 ohins, 0 ohms, 50 ohms, 75 ohms, 100 ohms and 200 ohms. Type MW-2J-Center Tap Resistors

## Type MC and MCB Suppressors

Type M-1034-25,000 ohms, overall resistince, tapped at $7,500,10,000$, 12,500 and 15,000 olims. 18 watts rating attached fiat to chassis, 9 watts
 free air rating. Used as bleeder in any power supply up to 600 volts. Sealed in bakelite and insulated for 1,000 volts to ground. Rracket supplied.
M-1034-IRO Bleeder Resistor
List $\$ 1.25$ each


IRC Suppressors are designed for the elimination of ignition noise in automobile and motorboat radio installa-tions-and oil burner interference in home receivers.

Either Tyre
List 30c


## OHMITE RHEOSTATS

## All-Porcelain - Vitreous-Enameled

The design and construction of these sturdy, compact Ohmite Rheostats insure permanently smooth, gradual, close control. The wire is wound over a porcelain core, bonded to porcelain base, and permanently locked in place by special Ohmite Vitreous Enamel. Nothing to smoke, char, shrink, or shift. Dissipates heat rapidly. Insulated shafts and bushings. Copper graphite contacts. Ratings are for "free air" use. Time-proved through long trouble-free service in countless installations the world over. Underwriters' Laboratories Listed.


MODEL "H" 25 Watt
Diameter $19{ }^{\prime \prime}{ }^{\prime \prime}$. Depth behind panel $13 / /^{\prime \prime}$

| Stock No. | Ohmis | Max. Nils. | List l'rice | Stock No. | Ohms | Max <br> Mils | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0140 | 1 | 5,000 | \$5.85 | 0152 | 125 | 445 | \$5.20 |
| 0141 | 2 | 3,540 | 5.20 | 0153 | 175 | 375 | 5.20 |
| 0142 | 3 | 2,880 | 5.20 | 0151 | 250 | 316 | 5.20 |
| 0143 | 6 | 2,040 | 5.20 | 0155 | 350 | 267 | 5.20 |
| 0144 | 8 | 1,770 | 5.20 | 0156 | 500 | 222 | 5.20 |
| 0145 | 10 | 1,580 | 5.20 | 0157 | 750 | 182 | 5.20 |
| 0146 | 15 | 1,290 | 5.20 | 0158 | 1,000 | 155 | 5.85 |
| 0147 | 25 | 1,000 | 5.20 | 0159 | 1,500 | 129 | 5.85 |
| 0148 | 35 | 845 | 5.20 | 0160 | 2,500 | 100 | 5.85 |
| 0149 | 50 | 707 | 5.20 | 0161 | 3,500 | 84 | 6.18 |
| 0150 | 75 | 575 | 5.20 | 0162 | 5,000 | 70 | 6.18 |
| 0151 | 100 | 500 | 5.20 |  |  |  |  |

MODEL "J" 50 Watt

| Stock No. | Ohms | $\begin{aligned} & \text { Max. } \\ & \text { Mils. } \end{aligned}$ | $\begin{aligned} & \text { Iist } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohins | Max. Mils. | $\begin{aligned} & \begin{array}{l} \text { I.ist } \\ \text { Price } \end{array} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0308 | 0.5 | 10,000 | \$6.50 | 0321 | 150 | 575 | \$5.85 |
| 0309 | 1 | 7,070 | 6.50 | 0322 | 225 | 470 | 5.85 |
| 0310 | 2 | 5,000 | 6.50 | 0323 | 300 | 408 | 5.85 |
| 0311 | 4 | 3,530 | 5.85 | 0324 | 500 | 316 | 5.85 |
| 0312 |  | 2,880 | 5.85 | 0325 | 800 | 250 | 6.18 |
| 0313 | 8 | 2,500 | 5.85 | 0326 | 1,000 | 22.4 | 6.18 |
| 0314 | 12 | 2,040 | 5.85 | 0327 | 1,600 | 176 | 6.18 |
| 0315 | 16 | 1,760 | 5.85 | 0328 | 2,500 | 141 | 6.18 |
| 0316 | 22 | 1,500 | 5.85 | 0329 | 3,500 | 119 | 6.50 |
| 0317 | 35 | 1,190 | 5.85 | 0330 | 5,000 | 100 | 6.50 |
| 0318 | 50 | 1,000 | 5.85 | 0331 | 8,000 | 79 | 6.50 |
| 0319 | 80 | 790 | 5.85 | 0332 | 10,000 | 70 | 6.50 |
| 0320 | 125 | 630 | 5.85 |  |  |  |  |

## DIRECTION INDICATOR POTENTIOMETER-MODEL RB-2



A compact, low cost unit which is used in a simple 6 volt potentiometer circuit as a transmitting element, to indicate, remotely the position of a rotary beam antenna, or other device. The indicating meter can be any ordinary 0-1 M.A., 0-1.5 M.A. or 0-2 M.A. direct current milliammeter (with marked scale). The potentiometer is $2-5 / 16^{\prime \prime}$ in diameter and extends $13 / 8^{\prime \prime}$ behind the mounting surface. Single hole mounted by means of a 3/8-32 threaded bushing. Complete $360^{\circ}$ rotation.

Stock No. RB-2, Potentiometer
List Price
. $\$ 8.13$

MODEL "K" 100 Watt

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohms | $\begin{aligned} & \text { Max. } \\ & \text { Mils. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { P'rice } \end{aligned}$ | $\begin{aligned} & \text { Sturk } \\ & \text { No } \end{aligned}$ | Ohrus | $\begin{aligned} & \text { Max. } \\ & \text { Mils. } \end{aligned}$ | $\underset{\substack{\text { Iist } \\ \text { Price }}}{ }$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0140 | 0.5 | 14,100 | \$9.75 | (145: | 200 | 707 | \$9.10 |
| 0441 | 1 | 10,000 | 9.75 | 0453 | 300 | 575 | 9.10 |
| 0442 | 2 | 7,070 | 9.75 | 0454 | 400 | 500 | 9.10 |
| 0443 | 3 | 5,750 | 9.75 | 0455 | 500 | 447 | 9.10 |
| 0444 | 5 | 4,470 | 9.75 | 0456 | 750 | 365 | 9.10 |
| 0445 | 7.5 | 3,650 | 9.10 | 0457 | 1,000 | 316 | 9.75 |
| 0446 | 10 | 3,150 | 9.10 | 0458 | 1,500 | 258 | 9.75 |
| 0447 | 16 | 2,500 | 9.10 | 0459 | 2,000 | 224 | 9.75 |
| $0 \cdot 48$ | 25 | 2,000 | 9.10 | 0460 | 2,500 | 200 | 9.75 |
| 0449 | 50 | 1,410 | 9.10 | 0461 | 5,000 | 141 | 10.40 |
| 0450 | 75 | 1,150 | 9.10 | 0462 | 7,500 | 115 | 11.05 |
| 0451 | 100 | 1.000 | 9.10 | 0463 | 10,000 | 100 | 11.70 |

MODEL "L" 150 Watt

| Diameter 4". Depth behind panel $2^{\prime \prime}$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohms | $\begin{aligned} & \text { Max. } \\ & \text { Mils. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohms | $\begin{aligned} & \text { Max. } \\ & \text { Mils. } \end{aligned}$ | List Price |
| 0524 | 0.5 | 17,300 | \$12.35 | 0537 | 150 | 1,000 | \$11.70 |
| 0525 | 1 | 12,300 | 12.35 | 05.38 | 200 | 865 | 11.70 |
| 05.26 | 2 | 8,650 | 12.35 | 0539 | 250 | 775 | 11.70 |
| 0527 | 3 | 7,070 | 12.35 | 0540 | 350 | 655 | 11.70 |
| 0528 | 5 | 5,480 | 12.35 | 0541 | 500 | 548 | 11.70 |
| 0529 | 7.5 | 4,470 | 12.35 | 0542 | 750 | 447 | 12.35 |
| 0530 | 10 | 3,880 | 11.70 | 0543 | 1,250 | 346 | 12.35 |
| 0531 | 15 | 3,163 | 11.70 | 0544 | 1,800 | 288 | 13.00 |
| 0532 | 25 | 2,450 | 11.70 | 0545 | 2,250 | 259 | 13.00 |
| 05.33 | 3.5 | 2,070 | 11.70 | 0516 | 3,000 | 22.4 | 13.00 |
| 0534 | 50 | 1,735 | 11.70 | 0517 | 4,500 | 182 | 13.65 |
| 0535 | 75 | 1,415 | 11.70 | 0518 | 7,500 | 141 | 14.30 |
| 0536 | 100 | 1,2:5 | 11.70 | 0519 | 10,000 | 122 | 15.60 |

MODEL " $N$ " 300 Wat

| Diameter 6 ". Depth behind panel $2 \% / 8{ }^{\prime \prime}$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohms | $\begin{aligned} & \text { Max. }^{2} \\ & \text { Mils. } \end{aligned}$ | l.ist Price | Stock No. | Ohms | Max. Mils. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| 0650 | 1 | 17,320 | \$17.55 | 0661 | 100 | 1,730 | \$17.55 |
| 0651 | 2 | 12,240 | 17.55 | 0662 | 150 | 1,410 | 17.55 |
| 0652 | 3 | 10,000 | 17.55 | 0663 | 200 | 1,220 | 17.55 |
| 0653 | $!$ | 8,660 | 17.55 | 0064 | 300 | 1,000 | 17.55 |
| 0654 | 5 | 7,750 | 17.55 | 0665 | 400 | 866 | 17.55 |
| 0655 | 7.5 | 6,320 | 17.55 | 0666 | 700 | (i55 | 17.55 |
| 0656 | 10 | 5,480 | 17.55 | 0667 | 900 | 578 | 17.55 |
| 0657 | 15 | 1,170 | 17.55 | 0668 | 1,200 | 500 | 17.55 |
| 0658 | 25 | 3,460 | 17.55 | 0669 | 1,500 | 447 | 17.55 |
| त659 | 50 | 2.450 | 17.55 | 00670 | 1,750 | 414 | 17.55 |
| 0660 | 75 | 2,000 | 17.55 | 01871 | 2,500 | 346 | 17.55 |

## OTHER OHMITE RHEOSTATS

Ohmite Rheostats are also available in Model G, 75 Watt; Model P, 225 Watt; Model R, 500 Watt; Model T 750 Watt; and Model U, 1,000 Watt units, in many resistance values. Special Rheostats with tapered windings, etc., can be supplied; also Special Rheostats for Model Train Control. Cages and other accessories also available. For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

## RHEOSTATS•RESISTORS•TAPSWITCHES

## OHMITE DIVIDOHM RESISTORS

## OHMITE FIXED RESISTORS



All-Porcelain Vitreous-Enameled


You can adjust the resistance or secure odd resistance values quickly with these Dividohms; easily put on more taps where needed. Ideal voltage dividers. With one adjustable lug and with mounting brackets.

Extra-sturdy, wire-wound, all-porcelain resistors with the perinanent protection of Ohmite Vitreous Enamel. Widely used for heary duty applications to assure continuous trouble-free service. With mounting brackets.


For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

## Popular OHMITE "BROWN DEVIL" RESISTORS



5 Watt—1" $^{\prime \prime} \times 5 / 16^{\prime \prime}$ Core Size | Ohms | Mils. | Ohms | Mils. | Ohms | Mils. |
| :---: | :---: | :---: | :---: | ---: | ---: | ---: |
|  | 2,236 | 125 | 200 | 1,250 | 63 |
| 1.5 | 1,820 | 150 | 182 | 1,500 | 57 |
| 2 | 1,580 | 200 | 158 | 1,750 | 53 |
| 3 | 1,290 | 225 | 149 | 2,000 | 49 |
| 4 | 1,120 | 250 | 141 | 2,250 | 46 |
| 5 | 1,000 | 300 | 129 | 2,500 | 44 |
| 7.5 | 818 | 350 | 120 | 3,000 | 39 |
| 10 | 707 | 400 | 112 | 3,500 | 36 |
| 12 | 645 | 450 | 105 | 4,000 | 33 |
| 15 | 575 | 500 | 100 | 4,500 | 31 |
| 20 | 500 | 600 | 91 | 5,000 | 29 |
| 25 | 447 | 700 | 84 | 6,000 | 26 |
| 30 | 408 | 750 | 81 | 7,000 | 24 |
| 35 | 378 | 800 | 79 | 7,500 | 22 |
| 40 | 353 | 900 | 74 | 8,000 | 21 |
| 50 | 316 | 1,000 | 70 | 9,000 | 19 |
| 75 | 258 | 1,100 | 67 | 10,000 | 18 |
| 100 | 224 | 1,200 | 64 |  |  |

List Price, 1 to 1,000 ohms.
List Price, 6,000 to 5,000 ohms.

10 Watt—1 $9 / 4^{\prime \prime} \times 5 / 16^{\prime \prime}$ Core Size | Ohms Mils, | Ohms Mils. | Ohms Mils. |
| :---: | :---: | :---: |
| 1 | 3,160 |  |

| 1 | 3,160 | 350 | 169 | 6,000 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 2,235 | 400 | 158 | 7,000 | 34 |
| 3 | 1,825 | 450 | 149 | 7,500 | 32 |
| 4 | 1,580 | 500 | 141 | 8,000 | 31 |
| 5 | 1,414 | 600 | 129 | 8,500 | 29 |
| 7.5 | 1,155 | 700 | 119 | 10,000 | 26 |
| 10 | 1,000 | 750 | 115 | 11,000 | 24 |
| 12 | 910 | 800 | 111 | 12,000 | 23 |
| 15 | 816 | 900 | 105 | 12,500 | 22 |
| 20 | 707 | 1,000 | 100 | 13,500 | 21 |
| 25 | 632 | 1,100 | 95 | 14,300 | 20 |
| 30 | 575 | 1,200 | 91 | 15,000 | 19 |
| 35 | 535 | 1,250 | 89 | 16,000 | 18 |
| 40 | 500 | 1,500 | 79 | 17,500 | 17 |
| 50 | 447 | 1,750 | 74 | 18,000 | 17 |
| 75 | 365 | 2,000 | 69 | 20.000 | 16 |
| 100 | 316 | 2,250 | 64 | 22,500 | 15 |
| 125 | 283 | 2,500 | 63 | 25,000 | 14 |
| 150 | 258 | 3,000 | 56 | *30,000 | 8 |
| 200 | 223 | 3,500 | 51 | *35,000 | 7 |
| 225 | 217 | 4,000 | 47 | *40,000 | 7 |
| 250 | 200 | 4,500 | 45 | * 45,000 | 6 |
| 300 | 182 | 5,000 | 43 | *50,000 | 6 |
| List Price, 1 to 1,000 ohms . . . . . . . . . . . $\$ 0.58$ |  |  |  |  |  |
| List Price, 1,100 to 5,000 ohms . . . . . . . . . . . 6.8 |  |  |  |  |  |
| List Price, 6,000 to 10,000 ohms . . . . . . . 72 |  |  |  |  |  |
| List I'rice, 11,000 to 20,000 ohms . . . . . . . 80 |  |  |  |  |  |
| List I'rice, 22,500 \& 25,000 ohms . . . . . . . . 86 |  |  |  |  |  |
| List Irice, 30,000 to 50,000 ohms . . . . . . . . 97 |  |  |  |  |  |

High quality, small size, wire-wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-ceramic, vitreous enameled. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free servicetheir wide use in all climates of the world-prove their complete reliability and economy. All units can be conveniently mounted by means of their $1 \frac{1}{2 \prime \prime}$ tinned wire leads. The standard resistance tolerance is $\pm 10 \%$.

The all-welded construction of the 5 watt unit makes it possible to extend the resistance range to 10,000 ohms, an unusually high value for a vitreous enameled stock unit.

20 Watt-2" $\times 7 / 16^{\prime \prime}$ Core Size

| Ohms | Mils. | Olims M | Mils. | Ohms. | Mils. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 $\begin{aligned} & 10 \\ & 50 \\ & 50 \\ & 75\end{aligned}$ 7 | $\begin{gathered} 2,000 \\ \text { and } \\ \text { and } \\ \hline 9.216 \\ 516 \end{gathered}$ |  |  |  |  |
| $\begin{aligned} & 100 \\ & \text { and } \\ & \text { 20050 } \\ & 300 \end{aligned}$ | $\begin{aligned} & 447 \\ & \text { and } \\ & \text { sef } \\ & 258 \end{aligned}$ |  | $\begin{aligned} & 94 \\ & 8.9 \\ & 8.8 \\ & 8.8 \\ & 81 \end{aligned}$ |  | ${ }_{13}^{14}$ |
| 350 $\substack{350 \\ 5050 \\ 7050}$ 700 |  | 3,500 $\substack{3,200 \\ \text { tition } \\ 6,000}$ | 75 <br> $\substack{76 \\ 6 \\ 6 \\ 57 \\ 57}$ |  | 7 |
| $\begin{gathered} 750 \\ 850 \\ 8,200 \\ 1,200 \end{gathered}$ |  |  |  |  | 6.0. 6 |

List Price, 5 to 1,000 ohms
List Price, 1,200 to 5,000 ohm. . . . . . . . . $\$ 0.75$
List Price, 6,000 to 10,000 ohms
List Price, 12,500 to 20,000 ohms
List Price, 25,000 to 40,000 ohms
List Irice, 45,000 to $60,000 \mathrm{ohms}$
List Price, 65,000 to 80,000 ohms
List Price, 85,000 to 100,000 ohms
with a low temperature enamel

OHMITE "LITTLE DEVIL" RESISTORS


Ohmite "LITTLE DEVILS" are full $1 / 2$ Watt, 1 Watt and 2 Watt Insulated Composition Resistors and can be used at their full wattage ratings at $70^{\circ} \mathrm{C}$. $\left(158^{\circ} \mathrm{F}\right.$.) ambient temperature. They meet requirements of specification JAN-R-11. All units are color coded. Each resistor is marked with the resistance value, wattage rating and the Ohmite trade-mark. "LITTLE DEVILS" are available from stock in $1 / 2,1$ and 2 watt sizes with $\pm 10 \%$ or $\pm 5 \%$ tolerance. The standard RMA values, 10 ohms to 22 megohms can be furnished.

| $\pm 10 \%$ Tolerance - RMA Values |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Ohms | Ohms | Ohms | Ohms | Megohms |
| *2.7 | 68 | 1,800 | 47,000 | 1.2 |
| *3.3 | 82 | 2,200 | 56.000 | 1.5 |
| *3.9 | 100 | 2,700 | 68,000 | 1.8 |
| *4.7 | 120 | 3,300 | 82,000 | 2.2 |
| *5.6 | 150 | 3,900 | 0.1 Meg. | 2.7 |
|  | 180 | 4,700 | 0.12 Meg . | 3.3 |
| *8.2 | 220 | 5,600 | 0.15 Meg . | 3.9 |
| 10 | 270 | 6,800 | 0.18 Mes | 4.7 |
| 12 | ${ }^{330}$ | 8,200 | 0.22 Meg . | 5.6 |
| 15 | 390 | ${ }^{10.000}$ | 0.27 Meg . | 6.8 |
| 18 | 470 | 12,000 | 0.33 Meg . | 8.2 |
| 22 | 560 | 15.010 | 0.39 Meg. | 10.0 |
| 27 | 680 | 18,000 | 0.47 Meg . | 12.0 |
| 33 | 820 | 22,000 | 0.56 Meg. | 15.0 |
| 39 | 1,000 | 27,000 |  | 18.0 |
| ${ }^{47}$ | 1,200 | 33,000 | 0.82 Mer. | 22.0 |
| 56 | 1.500 | 39,000 | 1.00 Meg. |  |
| *1 Watt Size Only. |  |  |  |  |
| Type | Size |  | $\underset{\substack{\text { Maximum } \\ \text { Volts }}}{\text { and }}$ | List <br> Price |
|  |  |  |  | \$0.17 |
|  |  |  | ${ }_{1000}$ | . 23 |

New! 1.25 "LITTLEDEVILS" IN PLASTIC CABINET


Serviceman's assortment of 125 Ohmite "Little Devil," $1 / 2$-watt, insulated composition resistors, in the 40 values ( 10 ohms to 10 megohms) most frequently used by servicemen. The assortment is offered at the price of the resistors alone-the cabinet is furnished without extra cost!
Stock No. CAB-1 Net Price, \$12.50

All others Type 842-A 2 Pie- $1 / 2$ Watt Size $9 / 6^{\prime \prime}$ 9/6"

## PRECISION RESISTORS



High quality, $1 \%$ tolerance, 1 watt non-inductive, piewound units for meter multipliers, lab. equipment, etc.

| Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 0.1 to 500 | \$1.11 | . 225 to .25 Meg . | \$3.38 |
| 1,000 to 2,500 | 1.17 | . 3 megohm | 3.71 |
| 4,000 to 10,000 | 1.30 | . 4 megohm | 3.90 |
| 12,500 to 15,000 | 1.43 | . 5 megolim | 4.42 |
| 20,000 to 50,000 | 1.76 | . 6 megolim | 5.53 |
| 60,000 to 75,000 | 2.08 | . 75 megohm | 5.85 |
| .1 megohm | 2.41 | . 9 megohm | 6.18 |
| .125 megohm | 273 | 1.0 megolmm | 6.83 |
| 15 to . 2 merohm | 3.06 | 1.5 megolm | 9.75 |

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

## 2 WATT MOLDED COMPOSITION POTENTIOMETER-TYPE AB



The Type AB Potentiometer is an exceptionally high quality unit designed especially for industrial, laboratory, radio service and other uses where reliability is particularly important. Because the resistor element is molded, the unit has an exceptionally large safety factor. The power rating of 2 watts is unusual for a unit of such small size. The unit has a very low noise level and low voltage coefficient. It will pass the Army-Navy 200 hour salt spray test, specification AN-QQ-S-91. The unit is 1 $1 / 16^{\prime \prime}$ diameter and extends $9 / 16^{\prime \prime}$ behind the panel. The standard shaft length is $2^{\prime \prime}$ including the $3 / 8^{\prime \prime}$ long mounting bushing. A SPST switch, to be attached to the back of the control, can be supplied extra.

| Total Resistance$\pm 10 \%$ Except as Noted | Resistance Rotation Characteristics (Taper) |  |  |
| :---: | :---: | :---: | :---: |
|  | Type U Linear Stock No. | Type A Clockwise Log. Stock No. | Type B Counterclock. Log. Stock No. |
| 50 Ohms | CU 5001 |  |  |
| 100 Ohms | CU 1011 |  |  |
| 250 Ohms | CU 2511 |  |  |
| 500 Ohms | CU 5011 |  |  |
| 1,000 Ohms | CU 1021 |  |  |
| 2,500 Ohms $5,000 \mathrm{Ohms}$ | CU 2521 |  |  |
| 5,000 Ohms | CU 5021 |  |  |
| 10,000 Ohms | CU 1031 |  | CB 1031 |
| $25,000 \mathrm{Ohms}$ | CU 2531 |  | CB 2531 |
| 50,000 Ohms | CU 5031 |  |  |
| .10 Meg . | CU 1041 | CA 1041 |  |
| .25 Meg . | CU 2541 | CA 2541 |  |
| ${ }_{1} .5 \mathrm{Meg} .0$. $+20 \%$ | CU CU 1052 | CA 1052 |  |
| 1.0 Meg. $\pm 20 \%$ | CU 2552 | CA 2552 |  |
| 5.0 Meg . $\pm \mathbf{2 0 \%}$ | CU 5052 |  |  |

Type AB Potentiometer
List Price $\$ \mathbf{3 . 0 0}$
Stock No. CS-1, Switch only for above unit (supplied unmounted)

List Price .90

## NON-SHORTING TYPE ROTARY POWER TAP SWITCH



Single-pole, multi-position switch with all-ceramic insulation, silver-to-silver contacts and "slow-break" action designed especially for alternating current. Switch shaft is electrically "dead". A.C. rating 10 amps., 150 volts. Diameter $13 / 4^{\prime \prime}$ -Depth behind panel $11 / 8^{\prime \prime}$ Shaft diameter $1 / 4^{\prime \prime}$ - Recommended knob, stock number 4500 (round type) or 4516 (bar type).

| Number <br> of Taps | Total <br> Rotation | Stock <br> Number | List Price <br> Less Knol |
| :---: | :---: | :---: | :---: |
| 11 | $300^{\circ}$ | $1111-\mathbf{1 1}$ | $\mathbf{3 . 9 0}$ |
| 10 | $270^{\circ}$ | 1110 | $\mathbf{3 . 7 7}$ |
| 9 | $240^{\circ}$ | $111-9$ | $\mathbf{3 . 7 7}$ |
| 8 | $210^{\circ}$ | $111-8$ | $\mathbf{3 . 6 4}$ |
| 7 | $180^{\circ}$ | $111-7$ | $\mathbf{3 . 6 4}$ |
| 6 | $150^{\circ}$ | $111-6$ | $\mathbf{3 . 5 1}$ |
| 5 | $120^{\circ}$ | $111-5$ | $\mathbf{5 . 5 1}$ |
| 4 | $90^{\circ}$ | $111-4$ | $\mathbf{3 . 3 8}$ |
| 3 | $60^{\circ}$ | $111-3$ | $\mathbf{3 . 3 8}$ |
| 2 | $30^{\circ}$ | $111-2$ | $\mathbf{3 . 3 8}$ |

## OHMITE R.F. PLATE CHOKES



The new series of seven Ohmite single layer wound solenoid radio frequency plate chokes covers the entire frequency range of 3 to 520 megacycles. The new chokes replace the former series of chokes, Z-0, $Z-1, Z-2$, and $Z-3$ with units that accomplish the same results but are much smaller in physical size with one exception, the new Z-7 choke, which is identical to the former $Z-3$, the number only having been changed.
The four highest frequency chokes are wound on low power factor plastic cores while the other three units are wound on steatite tubes. Windings are insulated and protected by a moisture-proof coating. The single layer winding is designed to avoid adverse harmonic effects within the recommended operating range and also prevents breakdown from high r.f. potentials.

| Stock Number | Operating Range Megacycles | Microhenries | Core Dimension | List Price |
| :---: | :---: | :---: | :---: | :---: |
| Z-7 | 3 to 20 Mc . | 84.0 | $6^{\prime \prime} \times{ }^{\prime \prime} 16{ }^{\prime \prime}$ | \$1.56 |
| Z-14 | 7 to 35 Mc . | 44.0 | $2^{\prime \prime} \times{ }^{\prime \prime}{ }^{10}{ }^{\prime \prime}{ }^{\prime \prime}$ | . 68 |
| 7-28 | 20 to 60 Mc . | 21.0 | $13 / 4{ }^{\prime \prime} \times$ x $16_{16}{ }^{\prime \prime}$ | .44 |
| 7-50 | 35 to 110 Mc . | 7.0 | $7 / 8^{\prime \prime} \times 9 / 32^{\prime \prime}$ | . 33 |
| Z-1.14 | 80 to 200 Mc . | 1.8 | $84^{\prime \prime} \mathrm{x}^{3} \mathrm{SH}_{6 \prime \prime}^{\prime \prime}$ | . 3.3 |
| Z-235 | 160 to 350 Mc . | 0.84 | $8{ }^{8 \prime \prime} 4^{\prime \prime} \times{ }^{3} 106^{\prime \prime}$ | . 33 |
| Z-460 | 320 to 520 Mc . | 0.20 | $1 / 2^{\prime \prime} \times 5 / 2^{\prime \prime}$ | . 33 |

Non-magnetic Brackets Furnished with Z-7.
All chokes 1000 ma . rating except $Z-14$ and $Z-28$. These are rated at 600 ma .

## OHMITE POWER LINE CHOKES <br> 

Prevents high-frequency currents of radio transmitters, diathermy and therapeutic equipment from going out over the power lines and interfering with nearby radio receiving sets. Used as a filter in connection with two grounding condensers of 0.1 microfarad capacity each. The $\mathrm{Z}-20$ Choke is also used at radio receivers to keep out interference. All chokes consist of two single-layer windings on a single ceramic core-insulated and protected by moisture-proof coating. Recommended for use in suppressing radio (not audió) frequency interference.

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Microhenries | Current <br> Rating | Total D.C. Resistance Ohms | Lgth. | Tube Dia. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Z-20 | 14 | 5 Amperes | 0.15 | 4 " | ${ }^{98}{ }^{\prime \prime}$ | \$2.15 |
| Z-21 | 15 | 10 Amperes | 0.07 | $61 / 2^{\prime \prime}$ | 3/4" | 3.58 |
| 2-22 | 18 | 20 Amperes | 0.045 | 81/2" | $11 / 8{ }^{\prime \prime}$ | 5.20 |

## NEW OHM'S LAW CALCULATOR

Pocket Size


Solves Ohm's Law problems with only one setting of the slide. No decimal points to cause confusionall values are direct reading. Requires no slide rule knowledge.
Ohmite Ohm's Law Calculator. . . NET Price $\mathbf{\$ 0 . 2 5}$

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

# SHALLCROSS MANUFACTURING CO. 

 COLLINGDALE, PENNSYLVANIA
## SHALLCROSS AUDIO ATTENUATORS



## These Shallcross Features Mean $\checkmark$ better performance $\checkmark$ bigger value

- Off position attenuation well in excess of 100 db.
- $25 \%$ to $50 \%$ fewer soldered joints.
- Noise level ratings that are factual. ( 130 db or more below zero level).
- Non-inductive Shallcross precision resistors used throughout assure flat attenuation to and beyond 30 kc .
$\sqrt{ }$ Types and sizes engineered for all needs. Attenuation accuracies of $1 \%$, resistor accuracies of $0.1 \%$, on special order.

Shallcross Andio Attenuators are available in either variable or fixed units, the former often being referred to as a "control" and the latter, as a "pad".
Controls are available with as few as 5 steps or as many as 52 steps with an altenuation as small as $0,1 \mathrm{db}$ per step. The total attenuation for a single control does not exceed about 125 db since such high attenuation approaches the noise level of the switching mechanism,
The complete story of Shallcross attenuators may be found in Shallcross Engineering Bulletin \#4, copies of which are available on request. Specifications and prices are given below for a few of the most popular variable attenuators.
IMPEDANCE: 150, 500, 250/500, 600 ohms, except potentiometers, which are 100,000 and 250,000 ohms.
RESISTORS: All non-inductively wirewound, $\pm 5 \%$ tolerance, except types preceded with " C ", which are composition selected to $\pm 5 \%$.
ATTENUATION: Increases for counter-clockwise rotation of knob end of shaft.
FREQUENCY RESPONSE: Flat over entire audio range.
SWITCII MECHANISM: Multi-leaf wiper arms collector rings and contacts available in tarnish resistant silver alloy or brass, Noise level -130 db .
DETENT: Indexing mechanism available on any unit for $\$ 0.50 \mathrm{lish}$. Bark of panel depth is then increased $5 / 16^{\prime \prime}$,
DIALS: $\$ 1.00$ list each additional.
KNOBS (VA-16906) : $\$ 0.50$ list each additional.
120.2A3
88.00 silver
$\mathbf{- 0 . 0 0}$ brass
7.00 brass

C720-2A3
$\$ 8.00$ silver
7.00 brass

Ladder allenuator, 20 steps, 2 db per step, tapered on last 3 steps to off. MOUNTING: single hole, $3 /{ }^{3 / 2}-32$ threaded bushing or two hole, $6-32$ serew, $13 / 8^{\prime \prime}$ centers. DIMENSIONS: $13 /^{\prime \prime}$ diameter, $133^{\prime \prime}$ bark of panel depth. CONTACT SPACING: $15^{\circ}$.
Potentiometer, 20 steps, 2 db per step, tapered on last 3 steps to off. MOUNTING: single hole, $3 /{ }^{\prime \prime}$ " -32 threaled bushing or two hole, $6-32$ screws, $13 /{ }^{\prime \prime}$ centers. DIMENSIONS: $13 / 4^{\prime \prime \prime}$ diameter, $134^{\prime \prime}$ back of pianel depth. CONTACT SPACING: $15^{\circ}$.


132-1.5B3 $\$ 13.50$ silver 12.00 brass

430-1C1 $\$ 21.00$ silver $\$ 21.00$ silver
19.00 brass

432-1.5C3 $\$ 21.00$ ailver 19.00 brass

420-2B2 $\$ 16.00$ silve 14.00 brass

C820-2B2 $\$ 16.00$ silver 14.00 brass

Ladder attenuator, 32 steps, 1.5 ab per step, tapered on last 3 steps to off. MOUNTING: two hole. 6-32 or 8.32 screws, $11 / /^{\prime \prime}$ or $11 / 2^{\prime \prime}$ centers. DIMENSIONS: $21 / 8^{\prime \prime}$ diameter, $133^{\prime \prime}$ back of panel depth. CONTACT SPACING: $10^{\circ}$
Bridged T attenuator, 30 steps, 1 db . per step, 30 db total. MOUNTING: two hole, $6-32$ or $8-32$ screws, $11 /{ }^{\prime \prime}$ " or $11 / 2^{\prime \prime}$ centers. DIMENSIONS: $21 / 2^{\prime \prime}$, diameter, $13 /{ }^{\prime \prime \prime}$, back of panel depth. CONTACT SPACING:
$11 / 4^{\circ}$, $111^{\circ}$
Bridged T attenuator, 32 steps, 1.5 db per step, tapered on last 5 steps to off. MOUNTING: 1 wo hole, 6.32 or $8-32$ screws, $11 / 4^{\prime \prime}$ or $11 / 2^{\prime \prime}$ centers. DIMEN. SIONS: $21 / 2^{\prime \prime}$ diameter, $2-5 / 16^{\prime \prime}$ back of panel depth, CONTACT SPACING: $10^{\circ}$.
Bridged T attenuator, 20 steps, 2 db per step, attenuation finear with off on last step. MOUNTING: two hole, $8-32$ or $6-32$ screws, $11 / 4^{\prime \prime \prime}$ or $11 /{ }^{\prime \prime \prime}$ centers. DIMENSIONS: $21 /{ }^{\prime \prime}$ diameter, $13^{3} /^{\prime \prime}$ back of panel
depth. CONTACT SPACING: $15^{\circ}$.
Dual potentiometer, each section 20 steps, 2 db per Step, attenuation linear with oft on last step, MOUNT. ING: two hole, $6-32$ or $8-32$ screwh, $11 / 4^{\prime \prime}$ or $11 / 2^{\prime \prime}$ centers. DIMENSIONS: $21 /{ }^{\prime \prime}$ diameter, ${ }^{1}$ panel depth. CONTACT SPACING: $155^{\circ}$.

## SHALLCROSS V.U. METER RANGE EXTENDING ATTENUATORS

IMPEDANCE: Available with input impedances of 3900-7100.7500 ohms, Output impedance is 3900 ohms to match Weston Type 30 B or General Electric Type DO 61 V.U. meters.
TOLERANCE: $\pm 1 \%$ except "C" types which are $\pm 5 \%$,
INSERTION LOSS: Zero.
DETEN' : All units supplied with indexing mechanism; back of panel depth includes detent.

C35-4A4
$\$ 12.00$ silver
11.00 braas

C35-4A5
$\$ 12.00$ silver
11.00 brass
$320-2 \mathrm{C} 4$
$\$ 21.50$ silve
$\mathbf{2 0 . 5 0}$ braps

### 320.2 C 5

$\$ 21.50$ silver 20.50 brags

412-23:
$\$ 16.50$ silver
14.50 brass
$412-2185$
$\$ 16.50$ rilver
14.50 brass

T attenuator, +4 to +24 V.U., 5 steps, 4 V.U. per step. MOUNTING: single hole, $3 /{ }^{\prime \prime}{ }^{\prime \prime} 32$ thireaded bushing. DIMENSIONS: $13 / /^{\prime \prime}$ diameter, $2-1 / 16^{\prime \prime}$ back of panel depth, CONTACT SPACING: $30^{\circ}$.
T attenuator, +4 to +20 V.U. and OFF, 5 steps, 4 V.U. per step. MOUNTING; single hole, $3 / \mathbf{g}^{\prime \prime}-32$ threaded bushing. DIMENSIONS: $13 / 4$ " diameter $3-1 / 16^{\prime \prime}$ back of iranel deplth. CONTACT SPACING: $30^{\circ}$.
T attenuator, +4 to +44 V.U., 20 steps, 2 V.U. per step. MOLNTING: iwo hole, $8-32$ screws, $1 / 2^{\prime \prime}$ centers. DIMENSIONS: $21 / 2^{\prime \prime}$ diameter, $2-1 / 16^{\prime \prime}$ back of panel
depth. CONTACT SPACING: $15^{\circ}$.
T attenuator, +4 to +42 V.U. and OFF, 20 steps, $11 /$ in $^{\prime \prime}$ centers. DIMOUNTING: two hole, 8-3: screws, back of panel depth. CONTACT SPACING: $15^{\circ}$.
Bridged $T$ attenuator, +4 to +28 V.U.. 12 steps, 2 V.U. per step. MOUNTING: two hole. 8 - 32 screws, $11 / 2^{\prime \prime}$ centers. DIMENSIONS: $21 / 8^{\prime \prime}$ diameter, $2-1 / 16^{\prime \prime}$ back of panel depith. CONTACT SPACING: $12^{\circ}$.
Bridged $T$ altenuator, +4 to +26 V.U. and OFF, 12 steps, 2 V.U. per step. MOUNTING: iwo hole, 8-32 screws, $11 / 2^{\prime \prime}$ centers. DIMENSIONS: $21 / 8^{\prime \prime}$ diameter, $2-1 / 16^{\prime \prime}$ back of panel depth. CONTACT SPAC-
ING: $12^{\circ}$.

## SHALLCROSS MANUFACTURING CO. COLLINGDALE, PENNSYLVANIA

SHALLCROSS AKRA-OHM RESISTORS

RESISTORS
VARIABLE ATTENUATORS


LIST PRICES—Standard BX Types, $\pm 1 \%$ Tolerance

| Resistance Range to and incluling | $\begin{gathered} \text { Types } \\ \text { BXI10. BN116, } \\ \text { BXI60 } \end{gathered}$ | $\begin{aligned} & \text { Types } \\ & \text { BX196 } \end{aligned}$ | $\begin{gathered} \text { Types } \\ \text { BXi83A } \end{gathered}$ | $\begin{gathered} \text { Types } \\ \mathrm{BX100}, \mathrm{BX} 140, \\ \mathrm{BX} 193 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 0.5 ohins to |  |  |  |  |
| 1000 ohrne | \$2.15 | \$1.65 | \$1.00 | \$1.40 |
| Up to 5000 ohms | 2.30 | 1.75 | 1.05 | 1.50 |
| Up to 10,000 ohms | 2.40 | 1.85 | 1.15 | 1.60 |
| Up to 15,000 ohms | 2.50 | 1.85 | 1.25 | 1.60 |
| $\mathrm{U}_{\mathrm{p}}$ to 30,000 ohme | 2.60 | 2.00 | 1.40 | 1.75 |
| $\mathrm{U}_{\mathrm{p}}$ to 50,000 ohms | 2.70 | 2.00 | 1.55 | 1.75 |
| $\mathrm{U}_{\mathrm{p}}$ to 75,000 ohms | 2.90 | 2.25 | 1.75 | 2.00 |
| Up to 100 M | 3.20 | 2.50 | 2.00 | 2.25 |
| Up 10125,000 | 3.35 | 2.60 | 2.15 | 2.35 |
| $\mathrm{U}_{\mathrm{p}}$ to 150,000 | 3.55 | 2.75 | 2.15 | 2.50 |
| Up to 200.000 | 3.85 | 3.05 | 2.40 | 2.75 |
| $\mathrm{U}_{\mathrm{p}} 10250.000$ | 4.15 | 3.35 | 2.65 | 3.00 |
| Up to 300.000 | 4.45 | 3.65 | 2.90 | 3.25 |
| $\mathrm{U}_{\mathrm{p}}$ to 400,000 | 5.10 | 4.20 | 3.15 | 3.75 |
| $\mathrm{U}_{\mathrm{p}}$ to 500.000 | 5.70 | 4.75 | 3.65 | 4.25 |
| Up to 600,000 | 6.00 | 5.05 | 4.40 | 4.50 |
| $\mathrm{U}_{\mathrm{P}}$ to 700,000 | 6.15 | 5.20 | 4.50 | 4.60 |
| $\mathrm{U}_{1}$ to 750.000 | 6.35 | 5.40 | 4.65 | 4.75 |
| $\mathrm{U}_{\mathrm{p}}$ to 900.000 | 6.65 | 5.70 | 4.90 | 5.00 |
| $\mathrm{U}_{\mathrm{p}}$ to 1 megohm | 6.95 | 6.00 | 5.15 | 5.25 |
| Up to 1.5 megohms | 9.80 | 8.25 |  |  |
| Up 102 megohms | 14.15 | 11.25 |  |  |
| Up to 2.5 megohms | 16.40 | 14.00 |  |  |
| Up to 3 megohms | 18.40 | 16.75 |  |  |
| $\mathrm{U}_{\mathrm{p}}$ to 4 megohms | 22.40 | 21.25 |  |  |
| $\mathrm{U}_{\mathrm{p}}$ to 5 megohms | 26.40 | 25.75 |  |  |
| Upio 6 megohma | 30.40 |  |  |  |
| Up to 7 megohms | 35.40 |  | L TOLE | NCE |
| $U_{\text {p }}$ to 8 megohms | 40.10 | Resistor | ser tole | can be sup- |
| Up to 9 negohms | 45.40 | plied at h |  | list prices as |
| Up to 10 megohms | 50.40 | $\begin{aligned} & \pm 1 / 2 \%, \text { ad } \\ & \pm 1 / 4 \%, \text { ad } \\ & \pm 2 / 10 \% \end{aligned}$ |  | $\%$, add $25 \%$ <br> \%. add $50 \%$ |

 sperities "without BX". Following price reductions will be made from the list price for resistors furnighed without vactinm impregnation

I'rices shown are for Manganin Wire used in resistances to 1,000 ohms and for Nickel-Chrominm-Iron Wire used in resisiances ahove 1,000 ohms.

TYPES BX183A AND BX193-士 $1 \%$ IN COMMON VALUES—IN STOCK

In addition to the popular standard types listed here, Shalloross Akra-Ohm Resisturs are made in a complete line of standard and special designs for precise electronic equipment de. manding great stability and long life even under difficult conditions of tenperature and humidity. Shallcross achievements include the development of really practical hermetically-sealed
units; BX processed resistors "tropicalized" against moisture and fungus; the use of spun glass insulated wire for apolications where con siderable power nust be dissipated; bifilar weund resistors, 1000 ohms or less, for exacting instrument use; heavy-luty surge resistors; accurate heavy-duty power resistors, and vari ous others. Write for the Shalleross "Engineering Data" walt and tile Chart.

ACCURATE FIXED WIRE-WOUND TYPES (JAN R93) PRICES ON REQUEST,

| Shalleross Type | $\begin{aligned} & \text { **JAN } \\ & \text { Style } \end{aligned}$ | Wattage | $\underset{\text { Ohms }}{\text { Maximum }}$ | Std. <br> Terminal | Mounting | Dimensions Length-Diam. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100 | R1321 | 1 | 750,000 | \#8 screw | 5 amp. fuse clip | $21 / 16^{\prime \prime} \times 9 / 16^{\prime \prime}$ |
| 110 | R1322 | 2 | 2 Meg . | \#3 screw | 5 amp. fuse clip |  |
| 116 | R314 | 1 | 2 Meg . | Suhder lugs | \#to screw |  |
| 140 | R 311 | 0.5 | 350,000 | Solder lugs | \#6 screw | 11/4" $\times 11 / 16^{\prime \prime}$ |
| 160 | R $\mathrm{H}_{12}$ | 1 | 500,000 | Solder lugs | \#6 serew | 19/16" $\times 11 / 16^{\prime \prime}$ |
| 183 A | R BII | 0.5 | 300,000 | Soder lugs | \#6 screw | $5 / 8^{\prime \prime} \times 1 / 2^{\prime \prime}$ |
| 193 | RH12 | 1 | 400,000 | Solder lugs | \#6 screw | $1^{\prime \prime} \times 1 / 2^{\prime \prime}{ }^{\prime \prime}$ |
| 196 | $R 1313$ | 1 | 1 Meg. | Solder lugs | 46 screw | $11 / 4^{\prime \prime} x^{3} 3 / 4^{\prime \prime}$ |
| $\triangle 1196$ | R1313 | , | 1 Mex. | Solder luiss | \#6 screw | $11 / 4^{\prime \prime} \times 7 /{ }^{\prime \prime}$ |

* Based on use of . 001 '" $^{\prime \prime}$ diameter nickel chromium wire. Simaller wire sizes will greatly increase maximum allowable resistance on any form.
** JAN style refirs to Joint Army-Navy Speciticalion R93. Price depends on wire size and specification.
$\triangle$ Hermetically sealed. Other sizes available.
SEND FOR RESISTOR ENGINEERING CHART FOR COMPLETE DATA


# SHALLCROSS MANUFACTURING CO. GOLLINGDALE, PENNSYLVANIA 

## SHALLCROSS DECADE RESISTANCE BOXES

The large asoortment and witle ramge of resistance available makes the Shallcross line resistance available makes the Shallcross line
of Resistance hoxes unione in the instrument
field. They are used extensively an lathoratory ot andards, AC and DC Bridge and ratio arms, voltage divider, etc.

| 0.1 ahm..... |  | Accuracy adjustment of Resistors as follows: |  |  |  |  |  |  | 0.1\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | . $25 \%$ | all ol | ers. |  |
| No. | No. Biala | $\mathrm{OH}_{\mathrm{m}}$ Steps | Ohms Total Renistance | Price | No. | No. Dials | Ohan <br> Steps | Ohms Total [Resistance | I'rice |
| 543 | 1 | 0.1 | 1 | \$13.50 | 821 | 3 | 10 | 11.100 | 839.50 |
| 54. | 1 | 1.0 | 10 | 13.50 | 822 | 3 | 100 | 111.000 | +1.50 |
| 545 | 1 | 10 | 100 | 13.50 | 82.3 | 3 | 1.000 | 1.110.000 | 58.00 |
| 546 | 1 | 100 | 1,000 | 13.50 | 821 | 3 | 10.000 | $11.100,000$ | 91.00 |
| 517 | 1 | 1.000 | 10.000 | 16.50 | 825 | 4 | 1 | 11,110 | 51.00 |
| 548 | I | 10.000 | 100.000 | 19.50 | 826 | 4 | 10 | 111,100 | 50.00 |
| 549 | 1 | 100.000 | $1.000,000$ | 27.00 | 827 | 4 | 100 | 1.111.000 | 69.30 |
| 550 |  | 1,000,000 | 10.000 .000 | 50.00 | 828 | 4 | 1,000 | $11,110.000$ | 105.50 |
| 817 | 3 | . 01 | 11.1 | 45.00 | 8285 | 5 | 0.1 | 11.111 | 62.50 |
| 817 A | 4 | . 01 | 111.1 | 56.50 | 829 | 5 | 1 | 111,110 | 67.50 |
| 81713 | 5 | . 01 | 1,111.1 | 71.00 | 830 | 5 | 10 | 1.111 .100 | 81.00 |
| 818 | 3 | 0.1 | 111 | 86.50 | 8.31 | 5 | 100 | 11.111.000 | 117.00 |
| 819 | 4 | 0.1 | 1.111 | 48.00 | 832 | 6 | 1 | 1.111 .110 | 91.50 |
| 820 | 3 | I | 1.110 | 36.50 | 833 | 6 | 10 | 11.111.100 | 127.50 |



## UNMOUNTED DECADE RESISTANCES



In response to a demand from engineers, manufacturers and physicists who design and construct their own electrical measuring instruments, we have made the Shallcross Unmounted Decade Resistances available. They are of the same construction as those used in the popular Shallcross Resit:lance Decades described above and consist of ten Shalleross Resistors mounted on a ceramic instrument switch.

SPECIFICATIONS

| Type No. | Yotal Hesistance Ohms | $\qquad$ <br> Ihesistance Ohms | Suitch No. | Accuraty | Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 435 | 1.0 | 1 | 536 | $1.0 \%$ | 89.00 |
| 436 | 10 | 1.0 | 5.31 | 0.25\% | 9.00 |
| 437 | 100 | 10 | 531 | 0.1 | 9.00 |
| 438 | 1,000 | 100 | 531 | 0.1 | 9.00 |
| 439 | 10.000 | 1.000 | 531 | 0.1 | 12.00 |
| 4.40 | 100.000 | 10,000 | 531 | 0.1 | 14.00 |
| 441 | 1 Meg. | 100.000 | 5.31 | 0.1 | 22.50 |
| 142 | 10 Meg . | 1 Meg. | $5: 31$ | 0.1 | 45.00 |

Mounting: Single $3 / 8^{\prime \prime}$ Hole Moumting-l'anels Up to $3 / 16^{\prime \prime}$ Thick. Any of the ahove may be ohlained with aluminum dust cover and shieid at $\$ 1.50$ additional cost.


## SHALLCROSS AKRA-OHM PRECISION RESISTORS

for "Miniaturization" applications UNUSUAL ACCURACY IN SMALL SPACE

These new Shalleross Okra-Ohm WireWound Precision Resistors have been designed to meet the needs of mod. ern, miniature equipment. Standard tolerance is $1 \%$. Closer tolerances can be furnished on special order.
The units offer unusually high and accurate resistance values in small space and are light enough to be sus. pended by their own tinned copper leads, or may be secured with mount. ing screw.

| Type | Sectionn | Size | Walls | Maximum Remintance per stertion Olimes | Minimum Remistance ber mection <br> () $h_{1 \mathrm{~ms}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 136 | I | $18 / 83^{\prime \prime} \times 1 / 4^{\prime \prime}$ | 0.25 | 150.000 | 1. |
| 137 | 2 | $45644^{\prime \prime} \times 1 / 4{ }^{\prime \prime}$ | 0.25 | 150.000 | 1. |
| 133 | 3 | 11/82" ${ }^{\prime \prime}$ x 3/8' ${ }^{\prime \prime}$ | 0.25 | 550.000 | 1. |
| 134 | 1 | 144' ${ }^{\prime \prime}$ x $3 / 8^{\prime \prime}$ | 0.25 | 375.000 | 1. |



## SHALLCROSS ROTARY SELECTOR SWITCHES

Like ot her Shalleross instrument components, these Rotary Selector Switehes ure designed to cover a very wide field of application in both shorting and nonshorting types, and can be moditied to control a variety of circuits. Details on any type for practically any application on request. Suffixes B and $S$ denote Brass and Silver contacts and contact arms.

## SWITCII PRICES

| Poles | Positions | Contact Plate Material | Shorting | Non-Shorting | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 11 | Steatite | 4605-13 | 4610-13 | $\$ 3.10$ |
| 2 | 11 | Steatite | 4620.13 | 1615-13 | 6.95 |
| 1 | 11 | Steatite | 4605-S | 4610.5 | 3.40 |
| 2 | 11 | Steatite | 4620-S | 4615 -S | 7.55 |
| 1 | 12 | Bakelite | 5550-13 | 5620-T3 | 3.60 |
| 1 | 12 | Bakelite | 5550-S | $5620-\mathrm{S}$ | 3.90 |
| 1 | 15 | Steatite | 5610.13 | $4225-13$ | 4.00 |
| 2 | 15 | Steatite | $5615+13$ | 4980-13 | 7.45 |
| I | 15 | Steatite | 5610-S | 4225 -S | 4.50 |
| 2 | 15 | Steatite | 5615-5 | 4980.5 | 8.45 |
| 1 | 18 | Bakelite | 5155-13 | 5625-13 | 4.85 |
| 1 | 18 | Bakelite | $5155-\mathrm{S}$ | 5625 -S | 5.40 |
| 1 | 24 | Bakelite | $5630-\mathrm{B}$ | $5570-13$ | 6.20 |
| 1 | 24 | Bahelite | 56.30-S | $5570-\mathrm{S}$ | 6.80 |
| 1 | 36 | Bakelite | 4815-13 | 4850 - ${ }^{\text {S }}$ | * |
| 1 | 36 | Bakrlite | 1815-S | 4850-S | * |
| I | 48 | Bakelite | $16.40-13$ | 850.5 | * |
| I | 48 | Bakelite | 4640-S |  | * |
| 1 | 60 | Bakelite |  | 5035-13 | * |
| 1 | 60 | Bak+lite |  | 5935-S | * |
|  | Large Rotating Tap Switel-12 Brass Contact, mumber 2240-2 Shorting only |  |  |  | * |
|  | * Irices on application. |  |  |  |  |

# SHALLCROSS MANUFACTURING CO. <br> COLLINGDALE, PENNSYLVANIA 

SHALLCROSS D-C BRIDGES


Resistance range 0.0001 ohm to 11.11 megohms

## SPECIFICATIONS

ACCURACY- $0.3 \%$ betweet 1.0 ohn and .Illlmegohms. Below and alouve this range- $2 \%$
GAIVANOMETER-Built-in-sensitivity $\mid$ micro-ampere per millimater division.
RIIEOSTAT ARM-Fonr decades-I. 0 ohm steps in Whemistone and 1.0 micro-ohm steps in Kelvin rampes.
IRESIST NCE: BOX——Binding posis allow using rhoustat as hasistance Box.
SEI'ARATESKEYS-l'rovided for battery ame qalvamomeler circuits. CASE-Carrying type with removable cavirr (an illastrated) and compariment for $41 / 2$ volt hattery (not supplied) for Wheatstone range measurements.
DIMENSIONS-I,ength $12^{1 / 4^{\prime \prime}}$, width $101 / 8^{\prime \prime}$, height $61 / 2^{\prime \prime}$.
WLIGHT-Approx. 9 liss. Price $\$ 195.00$.


No. 637
KELVIN WHEATSTONE BRIDGE

Resistance range 0.001 ohm to 11.1 megolims
SPECIFICATIONS-Sime as No. 6:38-2 except:
ACCUlzACY- $1.0 \%$ between 1.0 ohm and 1.0 megolum; $2.0 \%$ above 1.0 megohm; and $3.0 \%$ below 0.1 ohm

GALVANOMETER-Sensitivily 1.0 micro-ampere per millimeter division. Built-in.
RILEOSTAT AnM-Three decades- 10 olm steps in Wheatstone and 10 micro-ohm sleps in Kelvin ranges.
CANNOT be used as liesistanee Box.
DIMENSIONS—lenglh $10^{\prime \prime}$. width 93/4". height $53 / 4^{\prime \prime}$.
HEIGIIT-Approx. T Ihs, I'rice $\$ 140.00$

No. 630 WHEATSTONE BRIDGE


Resistance range from 0.1 ohm to 11.1 megohins

## SPECIFICATIONS

ACCURACY- $1.0 \%$ hetween 10 ohms and 1.0 megohm- $2 \%$ over 1 megohm. COMPDNENT RESISTORS- $0.1 \%$ accurate except 1 ohm, which are 0.25
IRHEOSTIT AISB-Three decades-varial, le in 10.0 ohm steps. RESISTANCE BOX-Binding posts ullow using rheostal as Mesistance Box
CAM SWITGII-Provided for battery and galvanometer circuits. CASE-Carryimg type with removable cover and compartment for batteries and leads (not supplied).
DIMINSIONS-Length $10^{\prime \prime}$, widuh $93 / 4^{\prime \prime}$, height $51 / 4^{\prime \prime}$.
WEIGIIT-Approx. 6_lhs. I'rice $\$ 110.00$.

No. 629
FAULT
LOCATION BRIDGE


Resistance range (0.1 ohm io 11.11 mogohmes

## SPECIFICATIONS

ACCURACY-COMIONENT RESISTORS- $0.1 \%$ accurate except 1.0 ohm, which are $0.95 \%$

GAINANOMRTRAR--Huilt-in-sensitivity 1.0 micro-ampere per mm. division.
HIIEOS'TAT AIKM-Four decades-I 1.110 ohms-variable in 1 ohm
SLeps. DIO DIAL-Marked 0.00 ], 0.01, 0.1, 1.0, 10.0. 100 and 1000 for resistance measurements and Varley tests. M1. II 10, M 100 and M 1000 for Murray tests.
SEI'AR ITE KE, S-I'rovided for baltery and galvanometer circnits. CASE- Carrying type with romovable cover, concealed compartment for $1 \frac{1}{2}$ voll hallery (not supplied).
IBINDING IPOSIS -Provided for use of external malvanometer where rexpired.
DIMENS1ONS-Length $10^{3} 8^{\prime \prime}$, width $8^{5 / 8^{\prime \prime}}$, height $55 / 8^{\prime \prime}$.
WEIGH'I-Approx. 7 lbs . Price $\$ 130.00$.

VOLTAGE DIVIDERS (DECADE POTENTIOMETERS)

| No. | Dials | Total Resistance | Price | No. | Dials | Total Resistance | Priee |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 835 | 4 | 10.000 ohms | \$100.00 | 8.45 | 3 | 1.000 ohms | \$74.00 |
| 836 | 4 | 100,000 ohims | 110.00 | 846 | 3 | 10,000 ohms | 79.50 |
| 8:37 | 4 | 1,000 ohms | 95.00 | 850 | 3 | 100.000 ohms | 92.50 |

WARD LEONARD and RHEOSTATS

## VITROHM RING TYPE RHEOSTATS



The core and base of Ward Leonard Ring Type Rheostats are made of the highest grade ceramic materials. The resistance wire is wound toroidally on the core, and is coated with a tough, heat resistant, acid resistant, crazeless vitreous enamel.
The contact is a special alloy and is of large area to avoid sticking, nitting, local heating, or oxidation when setting remains fixed for a long period of time.

## Watt Ratings

Based on continuous operation in free air with a temperature rise not to exceed $300^{\circ} \mathrm{C}$, which is within the limits specified by Underwriters' Laboratories and NEMA.

| 25 W <br> Type | ATTS 25R |  | nsions <br> $-190^{\circ}$ <br> -13復" <br> $-1$ <br> 11/8" | 50 W Type | ATTS <br> 50R | $\begin{gathered} \text { Dime } \\ \text { A } \\ \mathbf{B}- \\ \mathbf{C}= \\ \mathbf{D}- \end{gathered}$ | $\begin{aligned} & \text { nsions } \\ & 23 / 16^{\prime \prime} \\ & 1810^{\prime \prime} \\ & 11 / 8^{\prime \prime} \\ & 11 / 2^{\prime \prime} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | Current m. a. | Approx. No. of Steps | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Ohms | Current m. a. | Approx <br> No. of Steps | List Price |
| 0.5 | 7070 | 27 | \$5.85 | 0.5 | 10000 | 30 | \$6.50 |
| 1 | 5000 | 27 | 5.85 | 1 | 7070 | 49 | 6.50 |
| 2 | 3540 | 27 | 5.20 | 2 | 5000 | 49 | 6.50 |
| 3 | 2880 | 27 | 5.20 | 4 | 3540 | 59 | 5.85 |
| 6 | 2040 | 81 | 5.20 | 6 | 2880 | 108 | 5.85 |
| 8 | 1770 | 90 | 5.20 | 8 | 2500 | 113 | 5.85 |
| 10 | 1580 | 90 | 5.20 | 10 | 2230 | 150 | 5.85 |
| 15 | 1280 | 103 | 5.20 | 15 | 1810 | 150 | 5.85 |
| 25 | 1000 | 103 | 5.20 | 25 | 1415 | 188 | 5.85 |
| 35 | 840 | 108 | 5.20 | 35 | 1190 | 119 | 5.85 |
| 50 | 707 | 137 | 5.20 | 50 | 1000 | 188 | 5.85 |
| 75 | 574 | 137 | 5.20 | 75 | 812 | 188 | 5.85 |
| 100 | 500 | 171 | 5.20 | 100 | 707 | 225 | 5.85 |
| 150 | 407 | 171 | 5.20 | 150 | 574 | 225 | 5.85 |
| 250 | 316 | 240 | 5.20 | 250 | 447 | 300 | 5.85 |
| 350 | 267 | 274 | 5.20 | 350 | 374 | 338 | 5.85 |
| 500 | 223 | 308 | 5.20 | 500 | 316 | 375 | 5.85 |
| 750 | 181 | 308 | 5.20 | 750 | 256 | 450 | 6.18 |
| 1000 | 158 | 390 | 5.85 | 1000 | 223 | 450 | 6.18 |
| 1500 | 128 | 376 | 5.85 | 1500 | 181 | 570 | 6.18 |
| 2500 | 100 | 520 | 5.85 | 2500 | 141 | 570 | 6.18 |
| 3500 | 84 | 520 | 6.18 | 3500 | 119 | 713 | 6.50 |
| 5000 | 70 | 520 | 6.18 | 5000 | 100 | 713 | 6.50 |
|  |  |  |  | 7500 | 81 | 855 | 6.50 |
|  |  |  |  | 10000 | 70 | 998 | 6.50 |

Number of Steps
Each turn of resistance wire on the core of a Vitrohm Ring Type Rheostat constitutes a step of change in the resistance value.

Vitrohm Ring Type Rheostats are made with three terminals with no "off" position, and can be used as potentiometers or rheostats, as desired. Rheostats with an "off" position can be furnished on special order.


## Heavy Duty Rheostats <br> Pressed steel plate type.

300 watts -1 to 2500 ohms, 20 steps, $6^{\prime \prime}$ diameter. 500 watts -1 to 5000 ohms, 33 steps, $8^{\prime \prime}$ diameter.

| $\begin{aligned} & 100 \\ & \text { Typ } \end{aligned}$ | ATT 100 | $\begin{aligned} & \text { Dimensions } \\ & \text { A }-3 \% \\ & B-1 \% \\ & C-11 / 8 \\ & D-11 / 2 \end{aligned}$ |  |
| :---: | :---: | :---: | :---: |
| Ohms | Current m. a. | Approx. No. of Steps | List Price |
| 0.5 | 14100 | 41 | \$9.75 |
| 1 | 10000 | 41 | 9.75 |
| 2 | 7070 | 41 | 9.75 |
| 3 | 5740 | 72 | 9.75 |
| 5 | 4470 | 82 | 9.75 |
| 7.5 | 3640 | 82 | 9.10 |
| 16 | 3160 | 72 | 9.10 |
| 15 | 2560 | 156 | 9.10 |
| 25 | 2000 | 196 | 9.10 |
| 50 | 1415 | 274 | 9.10 |
| 75 | 1150 | 313 | 9.10 |
| 100 | 1000 | 274 | 9.10 |
| 200 | 707 | 313 | 9.10 |
| 300 | 574 | 353 | 9.10 |
| 400 | 500 | 392 | 9.10 |
| 500 | 447 | 392 | 9.10 |
| 750 | 364 | 464 | 9.10 |
| 1000 | 316 | 470 | 9.75 |
| 2000 | 223 | 595 | 9.75 |
| 2500 | 200 | 744 | 9.75 |
| 5000 | 141 | 893 | 10.40 |
| 7500 | 115 | 893 | 11.05 |
| 10000 | 100 | 1041 | 11.70 |


| Ohms | Current m. a. | Approx. <br> No. of <br> Steps | List Price |
| :---: | :---: | :---: | :---: |
| 0.5 | 17320 | 43 | \$12.35 |
| 1 | 12240 | 43 | 12.35 |
| 2 | 8660 | 43 | 12.35 |
| 3 | 7070 | 54 | 12.35 |
| 5 | 5470 | 107 | 12.35 |
| 7.5 | 4470 | 107 | 12.35 |
| 10 | 3870 | 107 | 11.70 |
| 15 | 3160 | 107 | 11.70 |
| 25 | 2440 | 204 | 11.70 |
| 50 | 1730 | 245 | 11.70 |
| 75 | 1415 | 286 | 11.70 |
| 100 | 1224 | 367 | 11.70 |
| 200 | 866 | 326 | 11.70 |
| 300 | 707 | 408 | 11.70 |
| 400 | 612 | 408 | 11.70 |
| 500 | 547 | 489 | 11.70 |
| 750 | 447 | 489 | 12.35 |
| 1000 | 387 | 620 | 12.35 |
| 2000 | 273 | 775 | 13.00 |
| 2500 | 244 | 775 | 13.00 |
| 5000 | 173 | 930 | 13.65 |
| 7500 | 141 | 1240 | 14.30 |
| 10000 | 122 | 1240 | 15.60 |

## VITROHM PLAQUE RESISTORS <br> 

Vitrohm Plaque Resistors are flat in form. The resistance
 wire is arranged on a rectangular ceramic base to give the lowest obtainable values of inductance and distributed ca pacitance. Inductance at frequencies up to 1000 kilocycles and distributed capacitance up to 5 megacycles are so low in valuc that they are negligible.
Vitrohm Plaque Resistors are rated 20,40 , and 125 watts with full ventilation. Since full ventilation is usually impossiblc to attain, the watt rating should be decreased to compensate for the reduction in ventilation, A single plaque resistor mounted on a panel should operate safely about $80 \%$ of the full watt rating.

20 WatTS
40 watts
125 WATTS
TYPE 20P TYPE 40P TYPE 125P

| Ohms | Current <br> m. a. | List <br> Price | Current <br> m. a. | List <br> Price | Current <br> m. a. | List <br> Price |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.64 | 5590 | $\$ 1.95$ | 7910 | $\mathbf{5 2 . 8 0}$ | 14000 | $\$ 3.90$ |
| 1.00 | 4470 | 1.95 | 6320 | 2.60 | 11200 | 3.90 |
| 1.6 | 3540 | 1.95 | 5000 | 2.60 | 8800 | 3.90 |
| 2.5 | 2830 | 1.95 | 4000 | 2.60 | 7050 | 3.90 |
| 4.0 | 2240 | 1.95 | 3160 | 2.80 | 5600 | 3.90 |
| 6.4 | 1770 | 1.95 | 2500 | 2.60 | 4400 | 3.90 |
| 10 | 1415 | 1.95 | 2000 | 2.60 | 3500 | 3.90 |
| 16 | 1120 | 1.95 | 1580 | 2.60 | 2800 | 3.90 |
| 25 | 895 | 1.95 | 1260 | 2.60 | 2200 | 3.90 |
| 40 | 705 | 1.95 | 1000 | 2.80 | 1770 | 3.90 |
| 50 | 630 | 1.95 | 895 | 2.60 | 1580 | 3.90 |
| 64 | 560 | 1.95 | 790 | 2.60 | 1400 | 3.90 |
| 100 | 445 | 1.95 | 630 | 2.60 | 1120 | 3.90 |
| 160 | 355 | 1.95 | 500 | 2.60 | 880 | 3.90 |
| 250 | 285 | 1.95 | 400 | 2.60 | 705 | 3.90 |
| 400 | 225 | 1.95 | 315 | 2.60 | 560 | 3.90 |
| 640 | 175 | 1.95 | 250 | 2.80 | 440 | 3.90 |
| 1,000 | 140 | 1.95 | 200 | 2.80 | 350 | 3.90 |
| 1,600 | 110 | 1.95 | 160 | 2.60 | 280 | 3.90 |
| 2,500 | 90 | 1.95 | 125 | 2.60 | 220 | 3.90 |
| $\mathbf{4 . 0 0 0}$ | 70 | 1,95 | 100 | 2.60 | 177 | 3.90 |
| 5,000 | 65 | 1.95 | 90 | 2.60 | 158 | 3.90 |
| 6,400 |  |  | 80 | 2.80 | 140 | 3.90 |
| 10,000 |  |  | 65 | 2.60 | 112 | 3.90 |

## VITROHM FIXED RESISTORS

| 5 WATTS |  |  | No Mounting Brackets |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | Current m . a. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Ohms | Current <br> m. a. | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ |
| 1 | 2230 | \$0.52 | 350 | 119 | \$0.52 |
| 1.5 | 1820 | . 52 | 400 | 112 | . 52 |
| 2 | 1580 | . 52 | 450 | 105 | . 52 |
| 3 | 1290 | . 52 | 500 | 100 | . 52 |
| 4 | 1117 | . 52 | 600 | 91 | . 52 |
| 5 | 1000 | . 52 | 700 | 84 | . 52 |
| 7.5 | 811 | . 52 | 750 | 81 | . 52 |
| 10 | 707 | . 52 | 800 | 79 | . 52 |
| 12 | 644 | . 52 | 900 | 74 | . 52 |
| 15 | 577 | . 52 | 1000 | 70 | . 52 |
| 20 | 500 | . 52 | 1100 | 67 | . 52 |
| 25 | 450 | . 52 | 1200 | 64 | . 52 |
| 30 | 408 | . 52 | 1250 | 63 | . 52 |
| 35 | 378 | . 52 | 1500 | 57 | . 52 |
| 40 | 353 | . 52 | 1750 | 53 | 52 |
| 50 | 316 | . 52 | 2000 | 50 | . 52 |
| 75 | 257 | . 52 | 2250 | 47 | . 52 |
| 100 | 223 | . 52 | 2500 | 45 | . 52 |
| 125 | 200 | . 52 | 3000 | 40 | . 52 |
| 150 | 182 | . 52 | 3500 | 37 | . 52 |
| 200 | 158 | . 52 | 4000 | 35 | . 52 |
| 250 | 141 | . 52 | 4500 | 33 | . 52 |
| 300 | 129 | . 52 | 5000 | 31 | . 52 |

20 WATTS
Type 20F
Size $2^{\prime \prime} \times{ }^{\circ}$ 苗

| Ohms | Current m. a. | List Price | Ohms | Current m. a. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 4480 | \$0.91 | 2500 | 90 | \$0.91 |
| 3 | 2580 | . 91 | 2750 | 85 | . 91 |
| 5 | 2000 | . 91 | 3000 | 80 | . 91 |
| 10 | 1410 | . 91 | 3500 | 76 | . 91 |
| 15 | 1150 | . 91 | 4000 | 70 | . 91 |
| 25 | 900 | . 91 | 4500 | 67 | . 91 |
| 50 | 630 | . 91 | 5000 | 63 | . 91 |
| 75 | 510 | . 91 | 6000 | 55 | . 91 |
| 100 | 450 | . 91 | 7000 | 53 | . 91 |
| 150 | 365 | . 91 | 7500 | 51 | . 91 |
| 175 | 340 | . 9.1 | 8000 | 50 | . 91 |
| 200 | 320 | . 91 | 10000 | 40 | . 91 |
| 250 | 285 | . 91 | 12500 | 32 | . 91 |
| 300 | 258 | . 91 | 15000 | 27 | . 91 |
| 350 | 240 | . 91 | 20000 | 20 | 1.11 |
| 400 | 220 | . 91 | 25000 | 16 | 1.11 |
| 500 | 200 | . 91 | 30000 | 13 | 1.11 |
| 650 | 175 | . 91 | 35000 | 11 | 1.11 |
| 700 | 169 | . 91 | 40000 | 10 | 1.11 |
| 750 | 160 | . 91 | 45000 | 9 | 1.11 |
| 800 | 155 | . 91 | 50000 | 8 | 1.11 |
| 850 | 153 | . 91 | 55000 | 7 | 1.43 |
| 1000 | 141 | . 91 | $6000{ }^{*}$ | 10.8 | 1.43 |
| 1200 | 130 | . 91 | 65000* | 10.5 | 1.43 |
| 1250 | 125 | . 91 | 70000** | 10.0 | 1.43 |
| 1500 | 115 | . 91 | $75000 *$ | 9.5 | 1.43 |
| 1750 | 107 | . 91 | 80000** | 9.3 | 1.43 |
| 1850 | 104 | . 91 | 85000** | 9.1 | 1.43 |
| 2000 | 100 | . 91 | 90000* | 8.8 | 1.43 |
| 2250 | 94 | . 91 | 95000* | 8.6 | 1.43 |
| 2400 | 91 | . 91 | 100000* | 8.4 | 1.43 |
| *Operated at Low Temperature. Rate |  |  |  |  |  |

100 WATTS
Type 100F
Size-61/2" $\times 1 \frac{1}{8^{\prime \prime}} \quad$ Mounting Centers-71/4"

| Ohms | Current <br> m. a. | List <br> Price | Ohms | Current <br> m. a. | List <br> Price |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 10000 | $\mathbf{\$ 2 . 1 5}$ | 2500 | 200 | $\$ 2.15$ |
| $\mathbf{2}$ | 7070 | 2.15 | 3000 | 180 | 2.15 |
| $\mathbf{3}$ | 5770 | 2.15 | 3500 | 170 | 2.15 |
| $\mathbf{4}$ | 5000 | 2.15 | 4000 | 160 | 2.15 |
| $\mathbf{5}$ | 4470 | 2.15 | 4500 | 150 | 2.15 |
| 10 | 3160 | 2.15 | 5000 | 141 | 2.15 |
| 25 | 2000 | 2.15 | 7500 | 115 | 2.54 |
| 50 | 1410 | 2.15 | 10000 | 100 | 2.54 |
| 75 | 1150 | 2.15 | 15000 | 80 | 2.54 |
| 100 | 1000 | 2.15 | 20000 | 70 | 2.54 |
| 125 | 895 | 2.15 | 25000 | 60 | 2.54 |
| 150 | 815 | 2.15 | 30000 | 50 | 2.86 |
| 250 | 630 | 2.15 | 35000 | 43 | 2.86 |
| 500 | 447 | 2.15 | 40000 | 37 | 2.86 |
| 750 | 365 | 2.15 | 50000 | 30 | 2.86 |
| 1000 | 316 | 2.15 | 60000 | 25 | 3.25 |
| 1250 | 285 | 2.15 | 70000 | 21 | 3.25 |
| 1500 | 260 | 2.15 | 75000 | 20 | 3.25 |
| 2000 | 225 | 2.15 | 100000 | 15 | 3.58 |



Wire wound resistors, sturdy construction, using low tempera ture coefficient materials. Coated with Ward Leonard's own crazeless Green Enamel.
10 WATTS
Type 10F


50 WATTS
Type 50F
Type 25F
Mounting Centers-25/8"

| Ohms | Current m. a. | List Price | Ohms | Current m. a. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 5000 | \$1.04 | 2000 | 112 | \$1.04 |
| 2 | 3535 | 1.04 | 2500 | 100 | 1.04 |
| 3 | 2890 | 1.04 | 3000 | 90 | 1.04 |
| 4 | 2500 | 1.04 | 3500 | 85 | 1.04 |
| 5 | 2235 | 1.04 | 4000 | 80 | 1.04 |
| 10 | 1580 | 1.04 | 5000 | 70 | 1.04 |
| 15 | 1290 | 1.04 | 6000 | 65 | 1.17 |
| 25 | 1000 | 1.04 | 7500 | 53 | 1.17 |
| 50 | 710 | 1.04 | 8500 | 47 | 1.17 |
| 75 | 580 | 1.04 | 10000 | 40 | 1.17 |
| 100 | 500 | 1.04 | 12000 | 33 | 1.17 |
| 150 | 410 | 1.04 | 15000 | 27 | 1.17 |
| 200 | 354 | 1.04 | 20000 | 20 | 1.43 |
| 250 | 315 | 1.04 | 25000 | 16 | 1.43 |
| 300 | 289 | 1.04 | 30000 | 13 | 1.43 |
| 400 | 250 | 1.04 | 35000 | 11 | 1.43 |
| 500 | 224 | 1.04 | 40000 | 10 | 1.43 |
| 750 | 182 | 1.04 | 50000 | 8 | 1.43 |
| 800 | 177 | 1.04 | 60000 | 6.7 | 1.63 |
| 850 | 170 | 1.04 | 70000 | 5.7 | 1.76 |
| 1000 | 158 | 1.04 | 75000 | 5.3 | 1.95 |
| 1250 | 140 | 1.04 | 80000 | 5 | 1.95 |
| 1500 | 129 | 1.04 | 100000 | 4 | 2.47 |

160 WATTS
Type 160F
Size-81/2" $\times 11 / 8^{\prime \prime} \quad$ Mounting Centers-91/4"

| Ohms | Current m.a. | List Price | Ohms | Current m. a. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 12650 | \$3.77 | 2500 | 252 | \$2.86 |
| 2 | 8940 | 3.45 | 3000 | 230 | 2.86 |
| 3 | 7300 | 3.25 | 3500 | 215 | 2.86 |
| 4 | 6320 | 3.06 | 4000 | 200 | 2.86 |
| 5 | 5650 | 2.86 | 4500 | 185 | 2.86 |
| 10 | 4000 | 2.86 | 5000 | 178 | 2.86 |
| 15 | 3265 | 2.86 | 7500 | 146 | 2.86 |
| 25 | 2525 | 2.86 | 10000 | 126 | 2.86 |
| 50 | 1785 | 2.86 | 15000 | 105 | 3.45 |
| 75 | 1460 | 2.86 | 20000 | 90 | 3.45 |
| 100 | 1265 | 2.86 | 25000 | 80 | 3.45 |
| 150 | 1035 | 2.86 | 30000 | 67 | 3.45 |
| 200 | 894 | 2.86 | 35000 | 57 | 3.45 |
| 250 | 800 | 2.86 | 40000 | 50 | 3.45 |
| 500 | 565 | 2.86 | 50000 | 40 | 3.45 |
| 750 | 460 | 2.86 | 60000 | 33 | 3.90 |
| 1000 | 400 | 2.86 | 75000 | 26 | 3.90 |
| 1500 | 326 | 2.86 | 80000 | 25 | 3.90 |
| 2000 | 280 | 2.86 | 100000 | 20 | 3.90 |

WARD LEONARD

## ADJUSTABLE RESISTORS -- ADJUSTOHMS

Adjustohm Resistors are for use in any application where it is necessary or desirable to have one or more intermediate resistance values; or in circuits that need to be changed from time to time to meet varying electrical conditions.

Adjustohm Resistors are built of the highest grade low temperature coefficient materials, and are coated with Ward Leonard's tough crazeless Vitreous Enamel.

10 WATTS

| Ohms | Current m. a. | List Price | Ohms | Current m. $\mathbf{a}$. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3160 | \$0.98 | 750 | 115 | \$0.98 |
| 2 | 2235 | . 98 | 800 | 110 | . 98 |
| 3 | 1825 | . 98 | 1000 | 100 | . 98 |
| 5 | 1415 | . 98 | 1250 | 89 | . 98 |
| 7.5 | 1155 | . 98 | 1500 | 81 | . 98 |
| 10 | 1000 | . 98 | 2000 | 70 | . 98 |
| 15 | 815 | . 98 | 2500 | 63 | . 98 |
| 20 | 707 | . 98 | 3000 | 58 | . 98 |
| 25 | 630 | . 98 | 3500 | 53 | . 98 |
| 50 | 450 | . 98 | 4000 | 50 | . 98 |
| 75 | 365 | . 98 | 4500 | 47 | . 98 |
| 100 | 316 | . 98 | 5000 | 45 | . 98 |
| 150 | 258 | . 98 | 6000 | 41 | . 98 |
| 200 | 224 | . 98 | 7000 | 38 | . 98 |
| 250 | 200 | . 98 | 7500 | 36 | . 98 |
| 300 | 182 | . 98 | 8000 | 35 | . 98 |
| 350 | 169 | . 98 | 8500 | 34 | . 98 |
| 400 | 158 | . 98 | 9000 | 33 | . 98 |
| 500 | 142 | . 98 | 10000 | 30 | . 98 |
| 600 | 129 | . 98 |  |  |  |

50 WATTS
Size- $41 / 2^{\prime \prime} \times 84^{\prime \prime}$ Mounting Centors 51/"

| Ohms | Current m. $\mathrm{a}^{2}$ | List Price | Ohms | Current m. a. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 7070 | \$1.95 | 3000 | 130 | \$1.95 |
| 2 | 5000 | 1.95 | 3500 | 120 | 1.95 |
| 3 | 4080 | 1.95 | 4000 | 110 | 1.95 |
| 4 | 3535 | 1.95 | 4500 | 105 | 1.95 |
| 5 | 3160 | 1.95 | 5000 | 100 | 1.95 |
| 10 | 2235 | 1.95 | 6000 | 91 | 2.15 |
| 25 | 1415 | 1.95 | 7000 | 85 | 2.15 |
| 50 | 1000 | 1.95 | 7200 | 83 | 2.15 |
| 75 | 815 | 1.95 | 7500 | 82 | 2.15 |
| 100 | 707 | 1.95 | 8000 | 79 | 2.15 |
| 150 | 575 | 1.95 | 9000 | 75 | 2.15 |
| 200 | 500 | 1.95 | 10000 | 71 | 2.15 |
| 250 | 445 | 1.95 | 12000 | 64 | 2.15 |
| 300 | 408 | 1.95 | 15000 | 58 | 2.15 |
| 400 | 353 | 1.95 | 20000 | 48 | 2.15 |
| 500 | 316 | 1.95 | 25000 | 40 | 2.15 |
| 750 | 258 | 1.95 | 30000 | 33 | 2.47 |
| 800 | 250 | 1.95 | 40000 | 25 | 2.47 |
| 1000 | 224 | 1.95 | 50000 | 20 | 2.47 |
| 1250 | 200 | 1.95 | 60000 | 17 | 2.86 |
| 1500 | 180 | 1.95 | 75000 | 13 | 2.86 |
| 2000 | 160 | 1.95 | 80000 | 12 | 2.86 |
| 2250 | 150 | 1.95 | 100000 | 10 | 2.86 |
| 2500 | 141 | 1.95 |  |  |  |

160 WATTS
Size-81/2" $\times 11^{\prime \prime}$

| Ohms | Current <br> m. a. | List <br> Price | Ohms |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | | Current |
| ---: | ---: | ---: | ---: |
| m. a. | | List |
| ---: |
| Price |

25 WATTS
Size-2* $\times 8 / 8^{\prime \prime}$ Mounting Centers-25/8"

| Ohms | Current m. a. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Ohms | Current m. a. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 5000 | \$1.24 | 1250 | 140 | \$1.24 |
| 2 | 3535 | 1.24 | 1500 | 129 | 1.24 |
| 3 | 2890 | 1.24 | 2000 | 112 | 1.24 |
| 5 | 2230 | 1.24 | 2250 | 105 | 1.24 |
| 7.5 | 1825 | 1.24 | 2500 | 100 | 1.24 |
| 10 | 1580 | 1.24 | 3000 | 90 | 1.24 |
| 15 | 1290 | 1.24 | 3500 | 85 | 1.24 |
| 20 | 1115 | 1.24 | 4000 | 80 | 1.24 |
| 25 | 1000 | 1.24 | 4500 | 74 | 1.24 |
| 50 | 710 | 1.24 | 5000 | 70 | 1.24 |
| 75 | 580 | 1.24 | 6000 | 65 | 1.43 |
| 100 | 500 | 1.24 | 7000 | 57 | 1.43 |
| 150 | 410 | 1.24 | 7200 | 56 | 1.43 |
| 200 | 354 | 1.24 | 7500 | 53 | 1.43 |
| 250 | 315 | 1.24 | 8000 | 50 | 1.43 |
| 300 | 289 | 1.24 | 8500 | 47 | 1.43 |
| 400 | 250 | 1.24 | 9000 | 44 | 1.43 |
| 500 | 224 | 1.24 | 10000 | 40 | 1.43 |
| 750 | 182 | 1.24 | 12000 | 33 | 1.43 |
| 800 | 177 | 1.24 | 15000 | 27 | 1.43 |
| 850 | 170 | 1.24 | 20000 | 20 | 1.56 |
| 1000 | 158 | 1.24 | 25000 | 16 | 1.56 |

75 WATTS
Type 75A
Size-61/2"×3/4" Mounting Centers-71/4*

| Ohms | Current m. a. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Ohms | Current m. a. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 8660 | \$2.54 | 3000 | 158 | \$2.54 |
| 2 | 6120 | 2.54 | 3500 | 146 | 2.54 |
| 3 | 5000 | 2.54 | 4000 | 137 | 2.54 |
| 4 | 4330 | 2.54 | 4500 | 129 | 2.54 |
| 5 | 3870 | 2.54 | 5000 | 122 | 2.54 |
| 10 | 2740 | 2.54 | 6000 | 111 | 2.86 |
| 15 | 2235 | 2.54 | 7000 | 103 | 2.86 |
| 25 | 1730 | 2.54 | 7200 | 102 | 2.86 |
| 50 | 1220 | 2.54 | 7500 | 100 | 2.86 |
| 75 | 1000 | 2.54 | 8000 | 97 | 2.86 |
| 100 | 866 | 2.54 | 9000 | 91 | 2.86 |
| 200 | 612 | 2.54 | 10000 | 87 | 2.86 |
| 250 | 550 | 2.54 | 15000 | 71 | 2.86 |
| 300 | 500 | 2.54 | 20000 | 61 | 2.86 |
| 400 | 433 | 2.54 | 25000 | 55 | 2.86 |
| 500 | 387 | 2.54 | 30000 | 50 | 3.25 |
| 750 | 315 | 2.54 | 35000 | 43 | 3.25 |
| 800 | 305 | 2.54 | 40000 | 37 | 3.25 |
| 1000 | 274 | 2.54 | 45000 | 33 | 3.25 |
| 1250 | 245 | 2.54 | 50000 | 30 | 3.25 |
| 1500 | 224 | 2.54 | 60000 | 25 | 3.58 |
| 2000 | 195 | 2.54 | 70000 | 21 | 3.58 |
| 2250 | 183 | 2.54 | 80000 | 19 | 3.58 |
| 2500 | 173 | 2.54 | 100000 | 15 | 3.58 |

200 WATTS
Size-101/2" $\times 11 / 8^{*}$ Mounting Centers-111/4"

| Ohms | Current <br> m. a. | List <br> Price |  | Ohms |  | Current <br> m. a. |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | Price |  |  |  |  |  |



## WATT RATINGS

Nominal watt ratings for Adjustohm Resist. ors apply when the entire resistor is in the circuit. For most practical purposes the watt rating for each part of the resistor is approxi mately proportional to the amount of the resistance that is in the circuit.

Mounting brackets are furnished with all Adjustohm Resistors, except the 10 -watt size, Type 10A.

Price of resistor includes brackets and one adjustable band.

100 WATTS
Type 100A
Size-61/2" $\times 1 \frac{1}{8}{ }^{\prime \prime}$ Mounting Centers-71/4"

| Ohms | Current m, a. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Ohms | Current m. a. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 10000 | \$2.86 | 2500 | 200 | \$2.86 |
| 2 | 7070 | 2.86 | 3000 | 180 | 2.86 |
| 3 | 5770 | 2.86 | 4000 | 160 | 2.86 |
| 4 | 5000 | 2.86 | 4500 | 150 | 2.86 |
| 5 | 4470 | 2.86 | 5000 | 114 | 2.86 |
| 10 | 3160 | 2.86 | 6000 | 130 | 3.25 |
| 25 | 2000 | 2.86 | 7500 | 115 | 3.25 |
| 50 | 1410 | 2.86 | 10000 | 100 | 3.25 |
| 100 | 1000 | 2.86 | 15000 | 80 | 3.25 |
| 200 | 707 | 2.86 | 20000 | 70 | 3.25 |
| 250 | 630 | 2.86 | 25000 | 60 | 3.25 |
| 400 | 500 | 2.86 | 30000 | 50 | 3.58 |
| 500 | 447 | 2.86 | 40000 | 37 | 3.58 |
| 750 | 365 | 2.86 | 50000 | 30 | 3.58 |
| 1000 | 316 | 2.86 | 60000 | 25 | 3.90 |
| 1500 | 260 | 2.86 | 75000 | 20 | 3.90 |
| 2000 | 225 | 2.86 | 100000 | 15 | 3.90 |

## ADJUSTABLE BANDS

Each Adjustohm Resistor is fur. nished with one Screw - Driver Type Adjustable Band Terminal (at right in il lustration).
Additional
band terminals are available. See list in the accompanying table.

| Size of Resistor | Screw Driver Туре |  | Bakelite Knob Type |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Cat. No. | Price | Cat. No. | Price |
| 10 Watts | 507-685 | \$0.13 |  |  |
| 25 Watts | 507-686 | . 13 | 507-691 | \$0.20 |
| 50 Watts | 507-688 | . 13 | 507-693 | . 20 |
| 75 Watts | 507-688 | . 13 | 507-693 | . 20 |
| 100 Watts | 507-690 | . 20 | 507-695 | . 33 |
| 160 Watts | 507-690 | . 20 | 507-695 | . 33 |
| 200 Watts | 507-690 | . 20 | 507-695 | . 33 |

## DISCOHM RESISTORS

18 WATTS Type 18D


Discohms are flat refractory discs having resistance wire arranged to minimize the values of inductance and distributed capacitance.

Discohm Resistors are especially useful in equipments where space is limited and where a power resistor having low value of inductance and distributed capacitance is requirc

They are mounted by means of ; No. 8 wood screw or bolt through the countersirk hole cast in the refractory base. Two or more units can be mounted together to obtain various resistance values and watt ratings.

Discohm Resistors are rated at 18 watts with free ventilation. A single Resistor mounted on a panel should operate safely at $80 \%$ of the full watt rating or $90 \%$ of the full current rating.

| Ohms | Current <br> m. a. | List <br> Price |
| ---: | ---: | ---: |
| 1.0 | 4240 | $\$ 1.95$ |
| 1.6 | 3350 | 1.95 |
| 2.5 | 2680 | 1.95 |
| 4.0 | 2120 | 1.95 |
| 6.4 | 1680 | 1.95 |
| 10 | 1340 | 1.95 |
| 16 | 1060 | 1.95 |
| 25 | 850 | 1.95 |
| 40 | 670 | 2.21 |
| 64 | 530 | 2.21 |
| 100 | 420 | 2.21 |
| 160 | 335 | 2.34 |
| 250 | 268 | 2.34 |
| 400 | 212 | 2.34 |
| 640 | 168 | 2.34 |
| 1000 | 134 | 2.34 |
| 1600 | 106 | 2.34 |
| 2500 | 85 | 2.34 |
| 4000 | 67 | 2.34 |

## VITROHM STRIP RESISTORS

Vitrohm Strip Resistors lend themselves readily to applications where space is limited, such as aircraft control circuits, radio instruments, and similar apparatus. Vitrohm Strip Resistors are built on a strong flat reinforced core that has no sharp angular surfaces, providing a smooth continuous form of the resistance

| LENGTH (Inches) |  | RESISTANCE |  | Watt Rating |
| :---: | :---: | :---: | :---: | :---: |
| Resistor Body | Mounting Holes | Min. Ohms | Max. <br> Ohms |  |
| $11 / 4$ | 2 | 0.45 | 6,300 | 30 |
| 2 |  |  |  | 40 |
| $31 / 2$ | 41/4 | 0.70 | 35,000 | 55 |
| $43 / 4$ | $51 / 2$ | 1.00 | 50,000 | 65 |
| 6 | $63 / 4$ | 1.40 | 66,000 | 75 | winding. The resistors are vitreous enamel coated.

Each unit is fitted with
 a self - sustained mounting bracket and spacer, the end pieces being riveted to a metal strip that passes through the core and serves as a conductor for the internal heat generated while the resistor is in service.

FLUORESCENT LAMP RESISTORS


Ward Leonard Fluorescent Lamp Resistors are designed for use in buorescent lamps operating on direct current. They meet the requirements of lamp and fixture manufacturers and are listed as standard by the Underwriters' Laboratories, Inc., and by the New York City Department of Water Supply, Gas and Electricity.
Ward Leonard Fluorescent Lamp Resistors are mounted in well-ventilated metal enclosures for installation on standard fixtures. They are made for use on 115 -volt, 120 -volt and 220 -volt circuits and in various resistance values to meet the requirements of the lamps with which they are to be used.

Long, flexible asbestos covered leads facilitate connections.

## Plug-In Type

## For Portable Fixtures

Ward Leonard also provides a Fluorescent Lamp Resistor in a me-
 tal enclosure for use with portable lamps operating on 120 -volt circuits. It is fitted with a plug on one end for inserting into the line receptacle and a receptacle on the other end into which the plug on the figure is placed.

The Plug-In Resistor is made for use on 15 -watt and 20 -watt lamp fixtures.

## LINE VOLTAGE REDUCERS

Ward Leonard Line Voltage Reducers protect radio sets, soldering irons, Christmas tree lamp strings, and other electrical appliances within the ratings of the Reducers, from high line voltage.
Line Voltage Reducers consist of a resistor network encased in a perforated metal enclosure provided with standard parallel prongs on one end and a standard receptacle on the other. Connection is made by plugging the Reducer into a receptacle and then inserting the plug on the appliance in the receptacle on the enclosure.

| Catalog Number | Length Inches | Resis. Ohms | Load | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 507-109 | $11 / 2$ |  | For 35-65 watt 115 volt radio set on $115-140$ volts. | \$2.28 |
| 507-109A | $11 / 2$ | 10. | For $65-130$ watt 115 volt radio set on $115-140$ volts | 2.28 |
| 507-109B | $21 / 4$ | 4.5 | For 130-285 watt 115 volt radio set on 115-140 volts. | 2.73 |
| 507-109H | $51 / 4$ | 300. | For 60-watt 115 volt radio set on 230 volts ........... | 3.58 |



## AUTOMATIC



AMPERITE is an automatic rheostat designed to keep the current in a circuit at a definite value, for example, 0.5 amps. Should the supply voltage increase, the Amperite will automatically increase in resistance enough to take up the increase in supply voltage - keeping the voltage on the load constant.

PRICES: The moper AMPERITE Replacement may be determined by looking up the number under column "FOR" and noting, corresponding Amperite in the column "USE AMPERITE". Numbers in "FOR" column run consecutively and then alphabetically.
$\star$ The letter code in the center column is interpreted as follows:
a-For 110V. A.C.-D.C. Sets................ List Price $\$ 1.25$ b-For 2 V . Battery Sets... C-For 110 V . A.C. Sets........
r-For 110V. A.C. Sets having............................... 2.25 s-For s-For special apparatus.

## A C. - D. C. SETS


$\begin{array}{lllll}80 & 100 & 120 & \left.140 \quad \begin{array}{l}\text { and } 2 \\ \text { and } \\ \text { replace } 150-90 \% \text { oftal bases will }\end{array}\right)\end{array}$ so-called ballasts or resistors used in AC.-D.C. sets. No extra resistor required.
Pilot Lights-None, one or two of either 0.150A or 0.250A can be used with same Amperite. Should a pilot light burn out. the set will continue to operate properly without any damage to the Amprrite, tubes or other parts. The patented starting resistor in the Amperite prevents overloading and prenature burning-out of tubes and pilot lights. In some sets the hallast socket is purposely wired in such a way that the Pilot Tight Resistors of standard ballasts would be burned out if inserted. In such sets special Amperites are required, as shown in table. Avoid burnouts-use proper Amperite. <br> \section*{AMPERITES <br> \section*{AMPERITES <br> <br> FOR 2-VOLT BATTERY SETS} <br> <br> FOR 2-VOLT BATTERY SETS}

Two-volt tube fllaments are delicate and easily overloaded. Keeping the tube flaments at thefr proper voltage with a real regutator like Amperite invarlably results in considerably more battery ${ }^{\text {land }}$ tube life. The same Amperite can be used for dry cell, alr cell, or 2 volt storage battery operation. The proper Amperite is determined by the total filament-curreut draln of the set. e.g.-for 0.5 A use Amperite 5 F 1 , etc.

For A.C.-D.C. Sets The Amperite Regulators are designed to pass only $0.3 A$ through tube filaments. Filament voltages will be kept within $\pm 5 \%$ with line voltage variations of 85 to 140 volts. Due to the fact that Amperite is a real regulator, 2 types of Amperite with four prones



## RESISTORS by RESISTORS, INC. RESISTORSHAHAC.

Chicago 16, Illinois


#### Abstract

Resistors by RESISTORS, INC. - the choice of engineers and hams alike - enjoy wide acceptance because they are wound right - rated right - merchandised right. The complete range of fixed and adjustable resistors assures you maximum profits and service. Resistors are attractively packaged for eye appeal, a decided sales aid. Silver soldered connections - selected materials —precision fabrication. RESISTORS' Resistors are designed and produced under close personal supervision.


FIXED RESISTORS

5 WATT
TYPE $11 / 4$ F - FIXED
1 thru 10,000 Ohms
$\frac{\$ .50}{10 ~ W A T T}$
TYPE $13 / 4 M-$ FIXED
1 thru 50,000 Ohms
$\$ .56$


10 WATT
TYPE $13 / 4 \mathrm{M}$ - CENTER TAPPED 10 to 200 Ohms
$\$ .72$

Prices do not include mounting brackets


ADJUSTABLERESISTORS
(Supplied with mounting brackets)

10 WATT - TYPE $13 / 4$ MA - ADJUSTABLE 1 thru 10,000 Ohms... ..... \$. 85
25 WATT - TYPE 2BA - ADJUSTABLE
1 thru 5,000 Ohms ..... 1.35
6,000 thru 15,000 Ohms ..... 35
50 WATT - TYPE $41 / 2 C A$ - ADJUSTABLE
thru 5,000 Ohms ..... $\$ 1.91$
6,000 thru 25,000 Oms. ..... 2.13
30,000 thru 50,000 Ohms. ..... 2.42
80 WATT - TYPE 61/2CA - ADJUSTABLE
1 thru 5,000 Ohms ..... $\$ 2.48$
6,000 thru 25,000 Ohms. ..... 2.85
30,000 thru 50,000 Ohms ..... 3.55
100 WATT - TYPE 61/2RA - ADJUSTABLE
1 thru 5,000 Ohms. ..... \$2.85
6,000 thru 25,000 Ohms ..... 3.20
30,000 thru 50,000 Ohms ..... 3.90 ..... 3.55
60,000 thru 100,000 Ohms
160 WATT - TYPE $81 / 2 R A$ - ADJUSTABLE
1 Ohm. ..... $\$ 4.68$
2 Ohm ..... 4.33
3 Ohm. ..... 3.98
4 Ohm. ..... 3.77
5 thru 10,000 Ohms ..... 3.55
12,000 thru 50,000 Ohms. ..... 4.12
60,000 thru 100,000 Ohms ..... 4.55
200 WATT - TYPE 101/2RA - ADJUSTABLE Ohm.. ..... $\$ 5.47$
2 Ohm. ..... 5.19
3 Ohm.. ..... 4.84
4 Ohm. ..... 4.55
5 thru 10,000 Ohms. ..... 4.26
12,000 thru 100,000 Ohms. ..... 4.98

## STANDARD ADJUSTABLE LUG - SCREW DRIVER TYPE


For 10 Watt
For 25 Watt.13
For 50 and 80 Watt. ..... 20
For 100,160 and 200 Watt . .....  20


## R. F. PLATE CHOKES

| Type L- | \$ . 33 |
| :---: | :---: |
| Type L-2 | 1.04 |
| Type L-3 | 1.56 |
| Type L-4 | 2.15 |

POWER LINE CHOKES
Type L-10
$\$ 2.15$
Type L-11.
3.58

Type L-12.
5.20


Manufactured by RESISTORS, INC., Chicago IG, IIIInois


TYPE 2462-F-Designed
for relatively low watt age requirements. Resistance wire is wound upon a heat resisting phenolic strip. The wound strip is rigidly attached to a refrac. tory base. Contact arm of beryllium copper gives uniform pressure, smooth action and long life


TYPE M (Style 2879 3TC)-Rugged and com pact. Has exceptional heat dissipatian. Re sistance wire is wound on a pure mica form, in a refractory base and embedded in vitre. ous enamel, bonding winding and base to gether. A small area of winding is free of enamel for contact purposes. Smooth action metallic contactor.


TYPES B.50, C. 100 , D-150, E-300 and F-500 embody the latest developments. Contact system separates current handling and contact pressure. Coppergraphite contact brush in porcelain holder travels on inside of winding. Wound ring and contact system as. sembled to metal base -gives great rigidity, lower panel temperatures.

TABLES OF SIZES AND RATINGS OF RHEOSTATS

| TYPE 2462-F-10 W. RHEOSTAT |  |  |  | TYPE M-25 WATT RHEOSTAT |  |  |  | TYPE B-50 WATT RHEOSTAT |  |  |  | TYPE C-100 WATT RHEOSTAT |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock No. | Total Ohms | Max. Amps.* | $\begin{aligned} & \overline{\text { List }} \\ & \text { Price } \end{aligned}$ | Stock No. | Total Ohms | Max. Amps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Total Ohms | Max. Amps.* | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Stock No. | Total Ohms | Max. Amps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| 0101 | 1 | 3.16 | \$3.85 | 0201 | 0.50 | 7.06 | \$4.90 | 0301 | 0.50 | 10.0 | \$6.50 | 0401 | 0.50 | 14.2 | \$9.75 |
| 0102 | 1.5 | 2.58 | 3.85 | 0202 | 0.75 | 5.77 | 4.90 | 0302 | 0.75 | 8.16 | 6.50 | 0402 | 0.75 | 11.6 | 9.75 |
| 0103 | 2.5 | 2.00 | 3.85 | 0203 | 1.0 | 5.00 | 4.90 | 0303 | 1.0 | 7.06 | 6.50 | 0403 | 1.0 | 10.0 | 9.75 |
| 0104 | 5 | 1.42 | 3.85 | 0204 | 1.5 | 4.08 | 4.20 | 0304 | 1.5 | 5.77 | 6.50 | 0404 | 1.5 | 8.16 | 9.75 |
| 0105 | 7.5 | 1.16 | 3.85 | 0205 | 2.5 | 3.16 | 4.20 | 0305 | 2.5 | 4.48 | 5.85 | 0405 | 2.5 | 6.34 | 9.75 |
| 0106 | 10 | 1.00 | 3.85 | 0207 | 7.5 | 1.82 | 4.20 | 0307 | 7.5 | 2.58 | 5.85 | 0407 | 7.5 | 3.46 | 9.75 9.10 |
| 0107 | 15 | 0.815 | 3.85 | 0208 | 10 | 1.58 | 4.20 | 0308 | 10 | 2.22 | 5.85 | 0408 | 10 | 3.16 | 9.10 |
| 0108 | 25 | 0.634 | 3.85 | 0209 | 15 | 1.29 | 4.20 | 0309 | 15 | 1.82 | 5.85 | 0409 | 15 | 2.58 | 9.10 |
| 0108 | 25 | 0.634 | 3.85 | 0210 | 25 | 1.00 | 4.20 | 0310 | 25 | 1.41 | 5.85 | 0410 | 25 | 2.00 | 9.10 |
| 0109 | 50 | 0.448 | 3.85 | 0211 | 50 | 0.706 | 4.20 | 0311 | 50 | 1.00 | 5.85 | 0411 | 50 | 1.42 | 9.10 |
| 0110 | 75 | 0.366 | 3.85 | 0212 | 75 | 0.577 | 4.20 | 0312 0313 | 75 100 | 0.816 | 5.85 585 | 0412 | 75 | 1.16 | 9.10 |
| 011 | 100 | 0.316 | 3.85 | 0213 | 100 | 0.500 | 4.20 | 0313 0314 | 100 150 | 0.706 | 5.85 5.85 | 0413 | 100 | 1.00 | 9.10 |
| 0112 | 150 | 0.258 | 3.85 | 0214 | 150 | 0.408 | 4.20 | 0315 | 250 | 0.488 | 5.85 5.85 | 0414 | 150 | 0.816 0.634 | 9.10 9.10 |
| 0113 | 250 | 0.200 | 3.85 | 0215 | 250 | 0.316 | 4.20 | 0316 | 500 | 0.316 | 5.85 | 0416 | 500 | 0.448 | 9.10 |
| 0114 | 500 | 0.142 |  | 0216 | 500 | 0.222 | 4.20 | 0317 | 750 | 0.258 | 6.18 | 0417 | 750 | 0.366 | 9.10 |
| 0115 | 750 | 0.142 | 3.85 | 0217 | 750 | 0.182 | 4.20 | 0318 | 1000 | 0.222 | 6.18 | 0418 | 1000 | 0.316 | 9.75 |
| 0115 | 750 | 0.116 | 3.85 | 0218 | 1000 | 0.158 | 4.90 | 0319 | 1500 | 0.182 | 6.18 | 0419 | 1500 | 0.258 | 9.75 |
| 0116 | 1000 | 0.100 | 3.92 | 0219 | 1500 | 0.129 | 4.90 | 0320 | 2500 | 0.141 | 6.18 | 0420 | 2500 | 0.200 | 9.75 |
| 0117 | 1500 | 0.081 | 3.92 | 0220 | 2500 | 0.100 | 4.90 | 0321 0322 | 5000 7500 | 0.100 0.082 | 6.50 6.50 | 0421 | 5000 7500 | 0.141 0.115 | 10.40 11.05 |
| 0118 | 2500 | 0.0:3 | 3.92 | 0221 | 5000 | 0.070 | 4.90 | 0323 | 10000 | 0.070 | 6.50 | 0423 | 10000 | 0.100 | 11.70 |

"Thru all or any part of winding.
Diameter: $13 / 4^{\prime \prime}$
Depth Behind Panel: $3 / 4^{\prime \prime}$
Mounting: Single $3 / 8^{\prime \prime}$ Diameter
Hole.
Standard Bushing for Panels up
to $3 / 16^{\prime \prime}$.
*Thru all or any port of winding Diameter: 15/8".
Depth Behind Panel: 13/8"
Mounting: Single $3^{3 / 4}$ Diameter Mountin
Hole.
Standard Bushing for Panels up to $3 / 16^{\prime \prime}$.
*Thru all or any part of winding. Diameter: 21/4"
Depth Behind Panel: ${ }^{\prime \prime}$
Mounting: Single $3 / 8^{\prime \prime}$ Diameter Hole.
Standard Bushing for Panels up
to 3/16"
*Thru all or any parf of winding. Diameter: 31/8"
Depth Behind Panel: 13/4".
Mounting: Single $3 / 8^{1 / 4}$ Diameter Hole.
Standard Bushing for Panels up to $1 / 4^{\prime \prime}$


[^3]| TYPE E-300 WATT RHEOSTAT |  |  |  |
| :---: | :---: | :---: | :---: |
| Stock No. | Total Ohms | Mox. Amps* | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| 0601 | 1.0 | 17.25 | \$17.55 |
| 0602 | 1.5 | 14.15 | 17.55 |
| 0603 | 2.5 | 10.95 | 17.55 |
| 0604 | 5.0 | 7.75 | 17.55 |
| 0605 | 7.5 | 6.32 | 17.55 |
| 0606 | 10 | 5.48 | 17.55 |
| 0607 | 15 | 4.47 | 17.55 |
| 0608 | 25 | 3.46 | 17.55 |
| 0609 | 50 | 2.45 | 17.55 |
| 0610 | 75 | 2.00 | 17.55 |
| 0611 | 100 | 1.73 | 17.55 |
| 0612 | 150 | 1.41 | 17.55 |
| 0613 | 250 | 1.09 | 17.55 |
| 0614 | 500 | 0.775 | 17.55 |
| 0615 | 750 | 0.633 | 17.55 |
| 0616 | 1000 | 0.548 | 17.55 |
| 0617 | 1500 | 0.449 | 17.55 |
| 0618 | 2500 | 0.346 | 17.55 |


| TYPE |  |  |  |
| :--- | :---: | :---: | ---: |
| F-500 | WATT RHEOSTAT |  |  |
| Stock | Total | Max. | List <br> No. |
| Ohms | Amps | Price |  |
| 0701 | 1.0 | 22.3 | $\$ 25.35$ |
| 0702 | 1.5 | 18.2 | 25.35 |
| 0703 | 2.5 | 14.1 | 25.35 |
| 0704 | 5.0 | 10.0 | 25.35 |
| 0705 | 7.5 | 8.17 | 25.35 |
| 0706 | 10 | 7.07 | 25.35 |
| 0707 | 15 | 5.77 | 25.35 |
| 0708 | 25 | 4.47 | 25.35 |
| 0709 | 50 | 3.16 | 25.35 |
| 0710 | 75 | 2.58 | 25.35 |
| 0711 | 100 | 2.23 | 25.35 |
| 0712 | 150 | 1.82 | 25.35 |
| 0713 | 250 | 1.41 | 25.35 |
| 0714 | 500 | 1.00 | 25.35 |
| 0715 | 750 | .817 | 25.35 |
| 0716 | 1000 | .707 | 25.35 |
| 0717 | 1500 | .577 | 25.35 |
| 0718 | 2500 | .447 | 25.35 |

[^4]
## Shoft.

RATING-CURRENT RATINGS SHOWN FOR ALL RHEOSTATS ARE
FOR USE IN FREE AIR. WHEN UNITS ARE ENCLOSED VALUES SHOULD 8E REDUCED ABOUT $50 \%$.

DATA ON NON-STOCK RHEOSTATS-SPECIAL SHAFTS AND BUSHINGS; VALUES INTERMEDIATE TO THOSE LISTED; TARERED WIND. INGS; TANDEM ASSEMBLIES, ETC., FURNISHED UPON REQUEST.

## （2）HARDWMCK－MIN FIXED VITREOUS ENAMELED RESISTORS WITH MOUNTING BRACKETS

Five stock sizes fill a great variety of applications．
Ratings are in accordance with NEMA standards，being based on a temperature rise of $250^{\circ} \mathrm{C}$ ．in free air
Dala on types，sizes and values not listed herein，and for resistors with intermediate taps，special mountings，etc．，furnished upon request

TABLE OF RATINGS

| 25 WATT SIZE <br> Type 2P5 <br> $2^{\prime \prime}$ Long $\times 5 /$ B $^{\prime \prime}$ O．D． <br> Mounting Centers $21 / 2^{\prime \prime}$ |  |  | 40 WATT SIZE <br> Type $31 / 215$ <br> $31 / 2^{\prime \prime}$ Long $\times 3 / 4^{\prime \prime}$ O．D． <br> Mounting Centers 4 |  |  | 80 WATT SIZE <br> Type $61 / 2 L 5$ <br> $61 / 2^{\prime \prime}$ Long $\times 3 / 4^{\prime \prime}$ O．D． Mounting Centers 7 |  |  | 160 WATT SIZE <br> Type $81 / 2 \mathrm{FX} 5$ $2^{\prime \prime}$ Long $\times 11 / 8^{\prime \prime}$ O．D． ounting Centers $93 / 8^{\prime}$ |  |  | 200 WATT SIZE <br> Type $101 / 2$ FX5 <br> $101 / 2^{\prime \prime}$ Long $\times 11 / 8^{\prime \prime}$ O．D． Mounting Centers 113／8＂ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock No． | Ohms | List Price | Stock No． | Ohms | List Price | Stock No． | Ohms | List <br> Price | Stock No． | Ohms | List Price | Stock No． | Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| 1001 | 5 | \＄． 80 | 2001 | 5 | \＄1．37 | 3001 | 5 | \＄2．03 | 4001 | 5 | \＄3．47 | 5001 | 5 | \＄3．75 |
| 1002 | 10 | ． 80 | 2002 | 10 | 1.37 | 3002 | 10 | 2.03 | 4002 | 10 | 2.48 | 5002 | 10 | 2.70 |
| 1003 | 25 | ． 80 | 2003 | 25 | 1.37 | 3003 | 25 | 2.03 | 4003 | 25 | 2.48 | 5003 | 25 50 | 2.70 2.70 |
| 1004 | 50 | ． 80 | 2004 | 50 | 1.37 | 3004 | 50 | 2.03 | 4004 | 50 | 2.48 | 5004 5005 | 75 | 2.70 2.70 |
| 1005 | 75 | ． 80 | 2005 | 75 | 1.37 | $30 C 5$ | 75 | 2.03 | 4005 | 75 100 | 2.48 | 5005 | 75 100 | 2.70 2.70 |
| 1006 | 100 | ． 80 | 2006 | 100 | 1.37 | 3006 | 100 | 2.03 | 4006 | 150 | 2.48 | 5007 | 150 | 2.70 |
| 1007 | 150 | ． 80 | 2007 | 150 | 1.37 | 3007 | 250 | 2.03 | 4008 | 250 | 2.48 | 5008 | 250 | 2.70 |
| 1008 | 200 | ． 80 | 2008 | 200 | 1.37 | 3008 | 500 | 2.03 2.03 | 4008 | 500 | 2.48 | 5009 | 500 | 2.70 |
| 1009 | 250 | ． 80 | 2009 | 250 | 1.37 | 3009 | 1000 | 2.03 | 4010 | 750 | 2.48 | 5010 | 750 | 2.70 |
| 1010 | 500 | ． 80 | 2010 | 500 | 1.37 | 3010 | 1500 | 2.08 | 4011 | 1000 | 2.48 | 5011 | 1000 | 2.70 |
| 1011 | 750 | 80 | 2011 | 750 | 1.37 | 3011 | 2000 | 2.08 | 4011 |  | 2.48 | 5012 | 1500 | 2.70 2.75 |
| 1012 | 1000 | ． 80 | 2012 | 1000 | 1.37 | 3012 | 2500 | 2.08 | 4012 | 1500 | 2.53 | 5013 | 2000 | 2.75 2.75 |
| 1013 | 1500 | ． 86 | 2013 | 1500 | 1.45 | 3013 | 3000 | 2.08 | 4013 | 2000 | 2.53 | 5013 | 2000 | 2.75 |
| 1014 | 2000 | ． 86 | 2014 | 2000 | 1.45 | 3014 | 4000 | 2.08 | 4014 | 2500 | 2.53 | 5014 | 2500 | 2.75 |
| 1015 | 2500 | ． 86 | 2015 | 2500 | 1.45 | 3015 | 5000 | 2.08 | 4015 | 3000 | 2.53 | 5015 | 3000 | 2.75 |
| 1016 | 3000 | ． 86 | 2016 | 3000 | 1.45 | 3016 | 7500 | 2.25 | 4016 | 5000 | 2.53 | 5016 | 5000 | 2.75 |
| 1017 | 3500 | ． 86 | 2017 | 4000 | 1.45 | 3017 | 10000 | 2.25 | 4017 | 7500 | 2.75 | 5017 | 7500 | 2.95 |
| 1018 | 4000 | ． 86 | 2018 | 5000 | 1.45 | 3018 | 15000 | 2.47 | 4018 | 10000 | 2.75 | 5018 | 10000 | 2.95 |
| 1019 | 5000 | ． 86 | 2019 | 7500 | 1.58 | 3019 | 20000 | 2.47 | 4019 | 15000 | 2.95 | 5019 | 15000 | 3.13 |
| 1020 | 6000 | ． 94 | 2020 | 10000 | 1.58 | 3020 | 25000 | 2.67 | 4020 | 20000 | 2.95 | 5020 | 2000 | 3.13 |
| 1021 | 7500 | ． 94 | 2021 | 12500 | 1.75 | 3021 | 30000 | 2.67 | 4021 | 25000 | 3.03 | 5021 | 25000 | 3.25 |
| 1022 | 10000 | ． 94 | 2022 | 15000 | 1.75 | 3022 | 35000 | 2.67 | 4022 | 30000 | 3.03 | 5022 | 30000 | 3.25 |
| 1023 | 12000 | 1.00 | 2023 | 20000 | 1.75 | 3023 | 40000 | 2.67 | 4023 | 40000 | 3.03 | 5023 | 40000 | 3.25 |
| 1024 | 15000 | 1.00 | 2024 | 25000 | 1.95 | 3024 | 50000 | 2.81 | 4024 | 50000 | 3.13 | 5024 | 50000 | 3.36 |
| 1025 | 20000 | 1.00 | 2025 | 35000 | 1.95 | 3025 | 60000 | 2.81 | 4025 | 75000 | 3.36 | 5025 | 75000 | 3.55 |
| 1026 | 25000 | 1.13 | 2026 | 50000 | 2.14 | 3026 | 75000 | 3.00 | 4026 | 100000 | 3.55 | 5026 | 100000 | 3.75 |

## ADJUSTABLE VITREOUS ENAMELED RESISTORS WITH MOUNTING BRACKETS

Embodying features originated by Hardwick，Hindle，Inc．，resulting in a Resistor possessing the meny advantages of Vitreous Enamel Construction，plus an adjustable feature．
The winding is closely and evenly spaced，assuring ample insulation between turns．Where the winding appears exposed in the track，its underside is tightly embedded in the enamel，the upper surface only being exposed for contact with the adjustable band．
All sizes of Adjustable Resistors listed herein are furnished complete with mounting brackets and with one adjustable contact band．

## TABLE OF RATINGS

 $2^{\prime \prime}$ Long $\times 5 / 8^{\prime \prime}$ O．D．
Mount．Centers $21 / 2^{i}$ 6001

| 6001 | 1 | $\$ 1.56$ |
| :--- | ---: | ---: |
| 6002 | 2 | 1.56 |
| 6003 | 3 | 1.56 |
| 6004 | 5 | 1.56 |
| 6005 | 10 | 1.56 |
| 6006 | 20 | 1.56 |
| 6007 | 25 | 1.56 |
| 6008 | 50 | 1.56 |
| 6009 | 75 | 1.56 |
| 6010 | 100 | 1.56 |
| 6011 | 200 | 1.56 |
| 6012 | 300 | 1.56 |
| 6013 | 400 | 1.56 |
| 6014 | 500 | 1.56 |
| 6015 | 750 | 1.56 |
| 6016 | 800 | 1.56 |
| 6017 | 1000 | 1.56 |
| 6018 | 1250 | 1.58 |
| 6019 | 1500 | 1.58 |
| 6020 | 2000 | 1.58 |
| 6021 | 2500 | 1.58 |
| 6022 | 3000 | 1.58 |
| 6023 | 3500 | 1.58 |
| 6024 | 4000 | 1.58 |
| 6025 | 5000 | 1.58 |
| 6026 | 6000 | 1.70 |
| 6027 | 7000 | 1.70 |
| 6028 | 8000 | 1.70 |
| 6029 | 10000 | 1.70 |
| 6030 | 15000 | 1.75 |
| 6031 | 20000 | 1.75 |
| 6032 | 25000 | 1.89 |


| ozo <br>  <br>  <br>  <br> NNNNNNNNNNNNNNNNNN－ーーーーーーーーーーーーーーー <br>  |  |
| :---: | :---: |
|  <br>  <br>  <br>  응ㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇun抎心 <br>  a |  |


| 100 WATT SIZE <br> Type K－100 <br> 6 $1 / 2^{\prime \prime}$ Lng．x $11 / 8^{\prime \prime}$ O．D． <br> Mount．Centers 73．8＂ |  |  | 160 WATT SIZE <br> Type K－160 <br> $8^{1 / 2 "}$ Lng．$\times 1 \frac{1 / 8^{\prime \prime}}{}$ O．D． <br> Mount．Centers 93／8i |  |  | 200 WATT SIZE <br> Type K－200 <br> $101 / 2^{\prime \prime}$ Lng．$\times 1 / 1 / 8^{\prime \prime}$ O．D． <br> Mount．Centers $113 / 8^{\prime \prime}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9001 | 5 | \＄2．97 | 9030 | 5 | \＄4．45 | 9060 | 5 | \＄4．72 |
| 9002 | 10 | 2.97 | 9031 | 10 | 3.45 | 9061 | 10 | 3.64 |
| 9003 | 25 | 2.97 | 9032 | 25 | 3.45 | 9062 | 25 | 3.64 |
| 9004 | 50 | 2.97 | 9033 | 50 | 3.45 | 9063 | 50 | 3.64 |
| 9005 | 100 | 2.97 | 9034 | 100 | 3.45 | 9064 | 100 | 3.64 |
| 9006 | 250 | 2.97 | 9035 | 250 | 3.45 | 9065 | 250 | 3.64 |
| 9007 | 500 | 2.97 | 9036 | 500 | 3.45 | 9066 | 500 | 3.64 |
| 9008 | 1000 | 2.97 | 9037 | 1000 | 3.45 | 9067 | 1000 | 3.64 |
| 9009 | 1500 | 3.05 | 9038 | 1500 | 3.50 | 9068 | 2500 | 3.70 |
| 9010 | 2500 | 3.05 | 9039 | 2500 | 3.50 | 9069 | 5000 | 3.70 |
| 9011 | 5000 | 3.05 | 9040 | 5000 | 3.50 | 9070 | 10000 | 3.92 |
| 9012 | 10000 | 3.22 | 9041 | 10000 | 3.70 | 9071 | 15000 | 4.12 |
| 9013 | 15000 | 3.42 | 9042 | 15000 | 3.92 | 9072 | 20000 | 4.12 |
| 9014 | 20000 | 3.42 | 9043 | 20000 | 3.92 | 9073 | 25000 | 4.20 |
| 9015 | 25000 | 3.64 | 9044 | 25000 | 4.00 | 9074 | 30000 | 4.20 |
| 9016 | 30000 | 3.64 | 9045 | 32000 | 4.00 | 9075 | 40000 | 4.20 |
| 9017 | 40000 | 3.64 | 9046 | 40000 | 4.00 | 9076 | 50000 | 4.30 |
| 9018 | 50000 | 3.78 | 9047 | 50000 | 4.12 | 9076 | 75000 | 4.53 |
| 9019 | 75000 | 3.97 | 9048 | 75000 | 4.30 | 9077 | 75000 | 4.53 |
| 9020 | 100000 | 4.13 | 9049 | 100000 | 4.53 | 9078 | 100000 | 4.72 |
| ADJUSTABLE CONTACT BANDS |  |  |  |  |  |  |  |  |
| SCREW <br> TYPE |  |  | Diameter of Resistor |  | Stock No． |  |  | List Price |
|  |  |  |  | $\begin{aligned} & 3 / 8^{\prime \prime} \\ & 1 / 8^{\prime \prime} \end{aligned}$ |  | $\begin{aligned} & 1791-6 \\ & 1793-4 \end{aligned}$ |  | $\begin{array}{r} .20 \\ .25 \end{array}$ |
| $\begin{aligned} & \text { BAKELTTE } \\ & \text { TYPE } \\ & \text { KNOB } \end{aligned}$ |  |  |  | 5／8＂${ }^{\prime \prime}$ |  | $\begin{aligned} & 791-6-X \\ & 793-4-X \end{aligned}$ |  | $\begin{array}{r} .30 \\ .40 \end{array}$ |



The standard method of mounting Blue Ribbon Resistors is by means of an aluminum thru-bar, which is in intimate contact with the entire internal surface of the ceramic core. The presence of this thru-bar distributes the heat generated by the Resistor uniformly along its enire fength, sulbstantially spreading the hot spot normally encountered in tubular resistors with conventional mounting Mounting studs riveted to the ends of the thru-bar further tend to conduct the heat to the mounting surfaces. These mounting studs are also designed to act as spacers when two or more units ar stacked.

In comparison with tubular units of equivalent wattage rating Blue Ribbon Resistors have the following advantages: Higher wattage rating per unit space re quirement. Substantial reduction in depth bohind mounting surface. Ease and ecan omy of mounting-either singly or stacked. Lower Inductance, Light weight Resistor and mounting integral unit cannot rotate or become loose.

## BLUE RIBBON RESISTORS

## TABLE OF RATINGS

| TABLE OF RATINGS |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TYPE 11/4"B 30 Watt Rating ${ }^{*}$ Mounting Centers $2^{\prime \prime}$ |  |  | TYPE 2" B 40 Watt Rating* Mounting Centers 23/4' |  |  | TYPE $31 / 2^{\prime \prime}$ B 55 Watt Rating* Mounting Centers 41/4 |  |  | TYPE 6" B 75 Watt Rating* Mounting Centers 63/4' |  |  |
| Stock No. | Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stack No. | Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Ohms | List Price |
| B101 | 5 | \$1.53 | B201 | 5 | \$1.61 | B301 | 5 | \$1.85 | B601 | 5 | \$2.30 |
| B102 | 10 | 1.53 | B202 | 13 | 1.61 | B302 | 10 | 1.85 | B602 | 10 | 2.30 |
| B103 | 15 | 1.53 | B203 | 15 | 1.61 | B303 | 15 | 1.85 | B603 | 15 | 2.30 |
| B104 | 25 | 1.53 | B204 | 25 | 1.61 | B304 | 25 | 1.85 | B604 | 25 | 2.30 |
| B105 | 50 | 1.53 | B205 | 50 | 1.61 | B305 | 50 | 1.85 | B605 | 50 | 2.30 |
| B106 | 100 | 1.53 | B206 | 100 | 1.61 | B306 | 100 | 1.85 | B606 | 100 | 2.30 |
| 107 |  |  | B207 | 150 | 1.61 | B307 | 150 | 1.85 | B607 | 150 | 2.30 |
| B107 | 150 | 1.53 | B208 | 250 | 1.61 |  | 250 | 1.85 | B608 | 250 | 2.30 |
| E108 | 250 | 1.53 | B209 |  |  | B309 | 500 | 1.85 | B609 | 500 | 2.30 |
| B109 | 500 | 1.53 | B210 | 500 | 1.61 | B310 | 1000 | 1.85 | B610 | 1000 | 2.30 |
|  |  |  | B210 | 1000 | 1.61 | B311 | 1500 | 1.85 | B611 | 1500 | 2.30 |
| B1I\% | 1000 | 1.53 | B211 | 1500 | 1.61 | B312 | 2500 | 1.85 | B612 | 2500 | 2.30 |
| Elll | 1500 | 1.53 | B212 | 2500 | 1.61 | Б313 | 5000 | 1.96 | B613 | 5000 | 2.41 |
| E112 | 2500 | i. 53 | B213 | 5000 | 1.72 | B314 | 10000 | 2.17 | B614 | 10000 | 2.61 |
| [113 | 5000 | 1.65 | B214 | 10000 | 1.93 | B315 | 15000 | 2.26 | B615 | 15000 | 2.70 |
| 6114 | 10000 | 1.65 | B213 | 15303 | 2.02 | B316 | 25000 | 2.48 | B617 | 50000 | 3.30 |

"This rating based on a maximum temperature rise of 250 degrees $C$. with the Resistor mounted horizontally on a $10^{\prime \prime} \times 10^{\prime \prime} \times .040^{\prime \prime}$ steel plate supported horizontally $1 / 2^{\prime \prime}$ above a wooden surface.
When Resistors are mounted on a non-metallic base the nominal watt rating should be reduced by approximately $15 \%$.
All stack numbers in each type listed above are available with adjustable feature complete with one movable contact band.

## 10 and 20 WATT FIXED VITREOUS ENAMELED RESISTORS

Designed particularly for radio service and replacement use-conservatively rated-wound upon Steatite Tube-combination lug and pigtail terminal connections - Hardwick, Hindle vitreous

enamel insulation, insuring permanence of value and proof against moisture. 10 watt and 20 watt sizes available in the range of resistance values shown.

| TABLE OF RATINGS |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 WATT <br> $13 / 4^{\prime \prime}$ Long $\times 33^{\prime \prime}$ O.D. |  |  |  |  |  | 20 WATT <br> $2^{\prime \prime}$ Long $\times 1 / 2^{\prime \prime}$ O.D. |  |  |  |  |  |
| Stock No. | Ohms | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Stock No. | Ohms | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Stack No. | Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Ohms | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| Alo1 | 1 | \$ 58 | A119 | 1500 | \$ 63 |  | 5 | \$ 75 | A219 |  |  |
| A102 A103 | 3 5 | .58 .58 | A120 | 2000 | . .63 | A202 | 10 | $\begin{array}{r}\$ .75 \\ .75 \\ \hline 75\end{array}$ | A220 | 4000 5000 | \$.78 |
| A104 | 5.5 | . 58 | A121 | 2500 | . 63 | A203 | 25 | . 75 | A221 | 6000 | . 88 |
| A105 | $10^{7.5}$ | . 58 | ${ }_{\text {A }} 122$ | 3000 | . 63 | A204 | 50 | . 75 | A222 | 7500 | . 88 |
| A106 | 15 | . 58 | A123 | 4000 5000 | . 63 | A205 | 75 100 | .75 75 | A223 | 10000 | . 88 |
| A107 | 25 | . 58 | A125 | 7500 | . 72 | A207 | 150 | . 75 | A224 | 12500 | . 94 |
| A108 | 50 | . 58 | A126 | 10000 | . 72 | A208 | 200 | . 75 | A225 | 15000 | . 94 |
| A109 | 75 | . 58 | A127 | 12500* | . 80 | A209 | 250 | . 75 | A226 | 25000** | 1.08 |
| Alli | 150 | . 58 | A128 | 15000* | . 80 | A210 | 400 | . 75 | ${ }^{\text {A22 }} 228$ | $35000{ }^{*}$ | 1.08 |
| A112 | 200 | . 58 | A129 | 20000* | . 80 | A211 | 500 | . 75 | A229 | 40000* | 1.08 |
| A113 | 250 | . 58 | A130 | 25000* | . 86 | ${ }_{\text {A2 }}{ }^{\text {A2 }} 12$ | 1000 | . 75 | A230 | 60000* | 1.25 |
| Al14 | 400 | 58 | A131 | 30000* | . 97 | A214 | 1250 | . 78 | ${ }^{\text {A231 }}$ | 7000** | 1.25 |
| A115 | 500 | 58 | A132 | 35000* | . 97 | A215 | 1500 | 78 | A232 | 7500** | 1.46 |
| A116 | 750 | . 58 | A133 | 40000* | . 97 | A216 | 2000 | 78 | A233 | 75000** | 1.46 |
| A117 | 1000 | . 58 | A134 | 45000* | . 97 | A217 | 2500 | 78 | ${ }^{\text {A }} 934$ | 80000* | 1.46 |
| A118 | 1250 | . 63 | A135 | 50000* | . 97 | A218 | 3000 | 78 | A235 | 10000** | 1.69 1.69 |

* Low Temperature Enamel.


## MADE TO ORDER PRODUCTS

In oddition to the standard line of resistor and rheostat products, which are in stock for immediate shipment, Hardwick, Hindle, Inc., is always pleased to receive orders for made to order products, such as, Non-inductive vitreous enameded resistors, Radio frequency chokes, Power line chokes and Soldering Iron controls. Non-inductive resistors are available in three standard sizes; 25,

## 50 and 100 watt.

Radio frequency chokes and Power line chokes are also avallable in three standard sizes
Soldering iron contrals and Photographic lamp controls are made to order in ten different sizes.
Data on the above products can be furnished upon request.


## ALPHA WIRE PRODUCTS



CONSTRUCTION: Single conductor, extra flexible stranded tinned copper, cotton serve, insulated with special low loss SIC rubber compound, braided tinned copper shield, cotton serve, tough black rubber jacket overall.

## CRYSTAL MICROPHONE CABLE

GENERAL PURPOSE: Low loss design for use with crystal, rib. bon. dynamic and velocity microphones, photo-electric cells. Use No. 1248 FOR LAPEL MICROPHONES and phonograph pickups.

| No. | Put-up | Size | Strond | Mox. Capocity <br> PerFt. Between <br> Cond. \& Shield | O.D. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 1248 | 100 Ft. Spool | 20 | $26 / 34$ | 40 mmf. | $.175^{\prime \prime}$ |
| 1249 | 100 Ft. Spool | 20 | $26 / 34$ | 30 mmf. | $.245^{\prime \prime}$ |

## SHIELDED MICROPHONE CABLE

GENERAL PURPOSE: Adaptable for all indoor and outdoor crystal, carbon and condenser microphones as well as public address systems.

| No. | Put-up | Size |  | Mox. Copocity Per Ft. Between Cond. \& Shield | Conds. | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1250 | 100 Ft . Spool | 20 | 2 | 70 mmf . | 38 mmf . | . $270^{\prime *}$ |
| 1250/18 | 100 Ft. Spool | 18 | 2 | 75 mmf . | 40 mmf . | . $300{ }^{\prime \prime}$ |
| 1251 | 100 Ft. Spool | 20 | 3 | 65 mmf . | 38 mmf. | .305" |
| 1252 | 100 Ft . Spool | 20 | 4 | 65 mmf . | 36 mmf . | .345" |
| 1253 | 100 Fr. Spool | 20 | 5 | 60 mmf . | 32 mmf . | .350" |
| 1254 | 100 Ft . Spool | 20 | 6 | 60 mmf . | 30 mmf . | . $375^{\prime \prime}$ |
| 1255 | 100 Ft . Spool | 20 | 7 | 60 mmf . | 30 mmf . | . $380^{\prime \prime}$ |
| 1255/8 | 100 Ft . Spool | 20 | 8 | 60 mmf . | 30 mm | . 40 |

CONSTRUCTION: Each conductor No. 20.10/30 stranded tinned copper, $1 / 64^{\prime \prime}$ rubber, color coded cotton braid, conductors twisted, tinned copper shield overall.

1262-1263-1264—Same specifications except with cotton braid over shield.

## SHIELDED MULTIPLE CONDUCTOR CABLE

GENERAL PURPOSE: For indoor permanent or portable P.A. systems, photo electric cell circuits, sound recording and auto radios.

TINNED SHIELD OVERALL

> Moximum Copocity

| No. |  | Put-up | Conduc. | Moximum C Per Ff. Be Cond. \& Shield | city Conds. | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1256 | 100 | Ft. Spool | 2 | 60.5 mmf . | 32 mmf . | .215" |
| 1257 | 100 | Ft. Spool | 3 | 54.0 mmf. | 29 mmf . | . $240^{\prime \prime}$ |
| 1258 | 100 | Ft. Spool | 4 | 48.0 mmf. | 26 | 270 |

COTTON BRAID OVER SHIELD

| 1262 | 100 Fr. | Spool | 2 | 60.5 mmf. | 32 mmf. | $.225^{\prime \prime}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1263 | 100 Fr. Spool | 3 |  | 54.0 mmf. | 29 mmf | $.245^{\prime \prime}$ |
| 1264 | 100 Ft. | Spool | 4 |  | 48.0 mmf. | 26 mmf. |
|  |  | $.275^{\prime \prime}$ |  |  |  |  |

## Eriont

CONSTRUCTION: Two conductors twisted, each \#24 16/36 tinned cop. per, .015" vinyl insulation, color coded, very fine tinned copper shield overall.

## SHIELDED TWISTED PAIR CABLE

GENERAL PURPOSE: Where small diameter is required for sound recording, photo electric cell circuits, public address systems, etc.

| No. | Put-up | Conductors | O.D. |
| :---: | :---: | :---: | :---: |
| 1261 | 1000 Ft. Spool | 2 | $.115^{\prime \prime}$ |

## ALPHA WIRE PRODUCTS

## SHIELDED DUPLEX SPEAKER CABLE

GENERAL PURPOSE: For P.A. systems, photo-electric cell circuits, master control sound systems, etc.

| No. | Put-Up |  | TINNED SHIELD OVERALL |  |  | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Conductors | Maximum Capa Betwe Cond. \& Shield | city Perft. <br> Conds. |  |
| 1265 | 500 | Ft. Spool | 2 | 65 mmf . | 23 mmf . | .250" |
|  |  | WAXED | COTTON | BRAID OVER | SHIELD |  |
| 1266 | 500 | Ft. Spool | 2 | 65 mmf . | 23 mmf . | .280* |



CONSTRUCTION: Two conductors twisted, each No. 18-16/30 stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, paper wrap over both conductors, close tinned copper shield overall.
CONSTRUCTION: Same as $\rightleftharpoons 1265$
except with waxed cotton braid over shield.

## SHIELDED TRANSMISSION LINE

GENERAL PURPOSE: For inter.communication, short wave, P.A. systems, etc.

TINNED SHIELD OVERALL

| No. | Put-up | Max. Capacity Perft. | O.D. |
| :--- | :--- | :---: | ---: |
| 1267 | 500 Ft. Spool | 25 mmf. | $.135^{\prime \prime}$ |
|  | WAXED COTTON BRAID OVER SHIELD |  |  |
| 1268 | 500 Ft. Spool | 25 mmf. | $.165^{\prime \prime}$ |

Surge impedance is one-half the above when using shield as common conductor in dual transmission line.


CONSTRUCTION: Two conduc. tors twisted, each No. 20 solid tinned enameled copper, insulated, color coded, shielded braid overall.
CONSTRUCTION: Same as \#1267 except with waxed cotton braid over shield.

## ARMORED DUPLEX SPEAKER CABLE

GENERAL PURPOSE: For P.A. systems, oil burner installa* tions, automotive wiring, etc.

No.
Put-up

500 Ft . Spool
1272
$.132^{\prime \prime} \times .182^{\prime \prime}$
$\qquad$


CONSTRUCTION: Two conductors parallel, each No. 18-16/30 stranded tinned copper, rubber insulated, color coded, lacquered cotton braid, gal vanized steel armor overall.

## INTER-COMMUNICATION CABLE 3 CONDUCTORS

## (1 SHIELDED - 2 UNSHIELDED)

GENERAL PURPOSE: This cable is ideal for general wiring from station to station where a shielded single conductor is es* sential to eliminate cross talk.



CONSTRUCTION: Three conduce tors, each conductor No. 22 stranded tinned copper wire, vinyl plastic in. sulation, color coded; one conductor tinned copper shield and two conductors unshielded; cutton braid over. all.

## LEAD SHEATHED CABLE

GENERAL PURPOSE: For P.A. systems, communications, traffic control, mines, railroads and many other uses where severe moisture conditions are encountered. For all outdoor use including underground and underwater.

| No. | Put-up |
| :---: | :---: |
| 1271 | 1,000 Ft. Reel <br> ALL PRICES AND SPECIFICATIONS SUbject ro C |
| S-2 | NOTE: See Page S-12 for ALL ALPHA Prices |

## ALPHA WIRE PRODUCTS



CONSTRUCTION: Each conductor solid tinned copper wire, two cotton reverse serves paraffined, color coded, conductors twisted into pairs, then covered with an impregnated double paper wrap, and everall a cotton braid saturated with a moisture-proof, flame retarding, rodent-proof compound.

## BRAIDED COMMUNICATION CABLE

## (TWISTED PAIRS)

GENERAL PURPOSE: For interior use designed for connecting inter-communication systems, annunciators, telephones, etc.

| No. | Put-up | Size | Pairs | 0.D. |
| :--- | :--- | :--- | :--- | :--- |
| $1276 / 2$ | $1,000 \mathrm{Ft}$. Reel | 22 | $2(4$ Conductors $)$ | $.185^{\prime \prime}$ |
| $1276 / 3$ | $1,000 \mathrm{Ft}$. Reel | 22 | $3(6$ Conductors $)$ | $.210^{\prime \prime}$ |
| 1276 | $1,000 \mathrm{Ft}$. Reel | 22 | $6(12$ Conductors $)$ | $.240^{\prime \prime}$ |
| 1277 | $1,000 \mathrm{Ft}$. Reel | 22 | $10(20$ Conductors $)$ | $.300^{\prime \prime}$ |
| $1277 / 13$ | $1,000 \mathrm{Ft}$. Reel | 22 | $13(26$ Conductors $)$ | $.360^{\prime \prime}$ |
| $1277 / 15$ | $1,000 \mathrm{Ft}$. Reel | 22 | $15(30$ Conductors $)$ | $.380^{\prime \prime}$ |
| $1277 / 25$ | $1,000 \mathrm{Ft}$. Reel | 22 | $25(50$ Conductors $)$ | $.445^{\prime \prime}$ |



CONSTRUCTION: Similar to Com. munication System Cable above, but with lead antimony sheath instead of cotton braid over the twisted pairs.


CONSTRUCTION: Each conductor solid bare copper wire, thermo-plastic insulation, color coded, conductors twisted, waxed cotton braid overall.

## LEAD-COVERED COMMUNICATION CABLE

 (TWISTED PAIRS)GENERAL PURPOSE: For use indoors, outdoors, underground and in pipes for connecting inter-commnication systems, annun. ciators, telephones, etc.

| No. | Put-up |  | Size | Pairs |  |  | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1289 | 1,000 | Ft. Reel | 22 | 6 | (12 | Conductors) | .375" |
| 1291 | 1,000 | Ft. Reel | 22 | 10 | $(20$ | Coinductors) | .450" |
| 1293 | 1,000 | Ft. Reel | 22 | 15 | $(30$ | Conductors) | .510" |
| 1295 | 1,000 | Ft. Reel | 22 | 25 | (50) | Conductors) | . $5660^{\prime \prime}$ |

## INTER-COMMUNICATION CABLE (BRAIDED)

GENERAL PURPOSE: Designed for interior use for connecting inter-communication systems, annunciators, thermostat controls of oil burners, air conditioners, etc.

| No. | Put-up | Size | Conductors | O.D. |
| :--- | :--- | :--- | :--- | :--- |
| 1274 | 500 Ft. Spool | 18 | 2 | $.150^{\prime \prime}$ |
| 1275 | 500 Ft. Spool | 18 | 3 | $.165^{\prime \prime}$ |
| $1275 / 4$ | 500 Ft. Spool | 18 | 4 | $.180^{\prime \prime}$ |
| $1275 / 5$ | 500 Ft. Spool | 18 | 5 | $.200^{\prime \prime}$ |
| $1275 / 6$ | 500 Ft. Spool | 18 | 6 | $.220^{\prime \prime}$ |



CONSTRUCTION: Each conductor 19 solid tinned copper, $1 / 64^{\prime \prime}$ tele. phone compound lubber, heavy cot. ton braid with specially treated compound to make it weather-proof for resistance against rain, snow, hail and cold.

## OUTDOOR INTER-COMMUNICATION WIRE

GENERAL PURPOSE: For outdoor and indoor use or in any damp location, for connecting communication systems, telephones, etc.

| No. | Put-up | Size | Conductors | O.D. |
| :--- | :--- | :---: | :---: | :---: |
| 1279 | $500 ~ F t . ~ S p o o l ~$ | 19 | 2 | $.200^{\prime \prime}$ |
| 1280 | 500 Ft. Spool | 19 | 3 | $.300^{\prime \prime}$ |

## 3en ruchern

CONSTRUCTION: Two conductors twisted, each No. 20 solid tinned sopper, insulated, color coded.

## UNSHIELDED TRANSMISSION LINE

GENERAL PURPOSE: For short wave, inter-communication, annunciator systems, etc., where shielding is not required.

| No. | Put-up | O.D. |
| :--- | :---: | :---: |
| 1269 | 500 Ft. Spool | $.125^{\prime \prime}$ |

## ALPHA WIRE PRODUCTS

## MULTI-CONDUCTOR FLEXIBLE CABLE

(RUBBER JACKETED)

GENERAL PURPOSE: For indoor and outdoor speakers, per. manent or portable P.A. systems, sound recording and auto radios.

| No. | Capacity Per Ft. <br> Between <br> Conductors |  |  |  |
| :--- | :--- | :---: | :--- | :--- |
| 1244 | 100 Ft. Spool | 2 | 22 mmf. | O.D. |
| 1245 | 100 Ft. Spool | 3 | 20 mmf. | $.250^{\prime \prime}$ |
| 1246 | 100 Ft. Spool | 4 | 18 mmf. | $.300^{\prime \prime}$ |
| 1247 | 100 Ft. Spool | 5 | 17 mmf. | $.320^{\prime \prime}$ |
| $1247 / 6$ | 100 Ft. Spool | 6 | 16 mmf. | $.370^{\prime \prime}$ |
| $1247 / 8$ | 100 Ft. Spool | 8 | 16 mmf. | $.400^{\prime \prime}$ |
| $1460^{\prime \prime}$ |  |  |  |  |

## MULTI-CONDUCTOR FLEXIBLE CABLE

## (COTTON BRAID)

GENERAL PURPOSE: For connecting speakers, analyzers, re. mote control units, P.A. systems or wherever a multiple circuit hook-up is required.

| No. | Put-up |  | Conductors | Capacity Between Conductors | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1182 | 100 | Ft. Spool | 2 | 31.5 mmif . | .135* |
| 1183 | 100 | Ft. Spool | 3 | 31.0 mmf . | . $170^{\prime \prime}$ |
| 1184 | 100 | Ft. Spool | 4 | 30.0 mmf . | .180" |
| 1185 | 100 | Ft. Spool | 5 | 29.5 mmf . | . $205^{\prime \prime}$ |
| 1186 | 100 | Ft. Spool | 6 | 29.2 mmf . | .225" |
| 1187 | 100 | Ft. Spool | 7 | 28.8 mmf . | . $240{ }^{\prime \prime}$ |
| 1188 | 100 | Ft. Spool | 8 | 28.5 mmf. | .255" |
| 1189 | 100 | Ft. Spool | 9 | 27.9 mmf . | . $275^{\prime \prime}$ |
| 1190 | 100 | Ft. Spool | 10 | 27.6 mmf . | . $310^{\prime \prime}$ |
| 1192 | 100 | Ft. Spool | 12 | 27.0 mmf. | $.340^{\prime \prime}$ |

CONSTRUCTION: Each conductor No. 20-26/34 flexible stranded tinned
copper, cotton wrap, 1/32" "Hi-TenNo. 20-26/34 flexible stranded tinned
copper, cotton wrap, 1/32" "Hi-Tension" rubber, color coded, conductors sion" rubber, color coded, conductors
twisted, cushioned with cotten fillers, cotton wrap, tough black rubber jacket overall.


## RUBBER SHEATHED SERVICE CORD

## (UNDERWRITERS APPROVED)

GENERAL PURPOSE: For amplifiers, sound systems, speakers, vacuum cleaners, electric tools, washing machines, refrigerators, appliances, trouble lights, garage lamps or wherever a rough usage power line is required.


Also Available with Additional Conductors.

## TYPE POSJ-E-Z STRIP LAMP CORD

## (UNDERWRITERS APPROVED)

GENERAL PURPOSE: For line cord on radios, lamps, electric clocks, food mixers and other small devices.

| No. | Put-up | O.D. |
| :--- | :--- | :--- |
| 1966 | 100 Ft. Spool | $.235^{\prime \prime} \times .130^{\prime \prime}$ |
| 1967 | 250 Ft. Spool | $.235^{\prime \prime} \times .130^{\prime \prime}$ |

Standard Colors: Brown, Black and Ivory


CONSTRUCTION: Two conductors parallel, each conductor No. 18-41/34 extra flexible bare copper, color coded cotton serve, $40 \%$ tough rubber jacket overall. Slit in jacket to permit "E-Z" separation.

## ALPHA WIRE PRODUCTS

## 

CONSTRUCTIUN: Very flexible tinned soft annealed copper, concen. tric strand, cotton wrap, $3 / 64^{\prime \prime}$ "Su. per Hi-Tension" rubber, satin finish.


CONSTRUCTION: No. $18 \cdot 65 / 36$ tinned soft annealed copper, concentric strand, cotton wrap, 7/64" "Su. per Hi-Tension" rubber, satin finish.

KINKLESS TEST LEAD WIRE
GENERAL PURPOSE: As test leads in analyzers, oscillators and all other types of testing apparatus or wherever an EXTRA FLEXIBLE insulated wire is required.
D.C. Insulo.

Volroge tion Resistonce
( 60 C wn PerFt.

| No | Put-up | Size | Strond | (60 Cycles) | (Megohms) | O.D. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 1633 | 100 Ft. Spool | 20 | $41 / 36$ | $10,000 \mathrm{~V}$. | 710 | $.140^{\prime \prime}$ |
| 1635 | 500 Ft . Spool | 20 | $41 / 36$ | $10,000 \mathrm{~V}$. | 710 | $.140^{\prime \prime}$ |
| 1636 | 500 Ft. Spool | 18 | $65 / 36$ | $12,000 \mathrm{~V}$. | 800 | $.150^{\prime \prime}$ |

## Heavy Duły Type

GENERAL PURPOSE: For television, therapeutic equipment, analyzers, oscillators, etc., or wherever a heavy duty EXTRA FLEXIBLE high voltage line is required.

| No. |  | Put-up | Voltage Breakdown (60 Cycles) | D.C. Insulation Resistance Per Ft . (Megahms) | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1637 | 100 | Ft. Spool | 22,000 V. | Over 1,000 | .245" |
| 1638 | 500 | Ft. Spool Stock C | $22,000 \mathrm{~V}$ <br> Red and B | $\begin{aligned} & \text { Over } 1,000 \\ & \text { ack } \end{aligned}$ | .245" |

## TINNED COPPER SHIELDING

GENERAL PURPOSE: For shielding speaker leads, iead-ins, am. plifier wires, auto radio installations. Also for bonding.

| No. | Put-up | I.D. |
| :--- | :--- | ---: |
| 1229 | 50 Ft. Spool | $1 / 8^{\prime \prime}$ |
| 1230 | 50 Ft. Spool | $3 / 16^{\prime \prime}$ |
| 1231 | 50 Ft. Spool | $1 / 4^{\prime \prime}$ |
| 1232 | 50 Ft. Spool | $3 / 8^{\prime \prime}$ |
| 1233 | 50 Ft. Spool | $5 / 8^{\prime \prime}$ |
| 1234 | 50 Ft. Spool | $3 / 4^{\prime \prime}$ |
| 1235 | 50 Ft. Spool | $1^{\prime \prime}$ |

## 

CONSTRUCTION: No. 1200 - 24 gauge flexible stranded copper conduc. tor, vinyl plastic insulation, close tinned copper shielded braid overall.
No. 1201 same as No. 1200 plus cotton braid over shield.
No. 1202 same as No. 1200 except two conductor with shield overall.

## SHIELDED PHONO AND GRID WIRE

GENERAL PURPOSE: Extreme flexibility and limpness make this an ideal wire for phonograph pick-up arm cable and grid wire.

| No. | Put-up | Insulation | 0.D. |  |
| :---: | :---: | :---: | :---: | :---: |
| 1200 | 1000 Ft. Spool | $.010^{\prime \prime}$ | $-080^{\prime \prime}$ |  |
| 1201 | 1000 Ft. Spool | $.010^{\prime \prime}$ | $.095^{\prime \prime}$ |  |
| 1202 | 1000 Ft. | Spool | $.010^{\prime \prime}$ | $.080^{\prime \prime} \times .115^{\prime \prime}$ |



CONSTRUCTION: Single conductor No. $20 \cdot 10 / 30$ stranded tinned copper, insulated with low loss rubber compound, white silk braid, tinned copper shield overall.

## SHIELDED LOW LOSS CABLE

GENERAL PURPOSE: For auto radios, lead-ins, short wave receivers and for grid leads in the input stages of P.A. amplifiers.

| No. | Put-up | Copacity Per Ft. | O.D. |
| :--- | :---: | :---: | :---: |
| 1241 | 100 Ft. Spool | 26.6 mmf. | $.225^{\prime \prime}$ |

## 

CONSTRUCTION: Stranded tinned copper, low loss insuiation, highly lac. quered braid, close tinned copper shield overall.

## SHIELDED HOOK-UP AND LEAD-IN WIRE

GENERAL PURPOSE: To reduce interference caused by motors, high tension wires, x-ray machines or other apparatus that radiates electrical impulses. Ideal for grid-lead use.

| No. | Put-up | Size | Strand | O.D. |
| :---: | :---: | :---: | :---: | :---: |
| 1194/22 | 1000 Ft . Spool | 22 | 7/30 | .105" |
| 1194 | 1000 Ft . Spool | 20 | 10/30 | .110" |
| 1196 | 1000 Ft . Spool | 18 | 16/30 | .145" |
| 1197 | 1000 Ft. Spool | 16 | 26/30 | .160" |
| 1198 | 1000 Ft . Spool | 14 | 41/30 | . $180^{\prime \prime}$ |

## ALPHA WIRE PRODUCTS


STRANDED


SOLID
CONSTRUCTION: Single conductor, stranded and solid tinned copper wires with thermoplastic (Vinylite) insulation. High dielectric strength; $80^{\circ} \mathrm{C}(176 \mathrm{~F})$ aciá, alkali, oil and moisture resistant. Underwriters approved.
Standard Colors: Black, Red, Green, Yellow, Light Blue, Brown, White, Orange, Slate, Purple, Tan, Pink and Dark Blue

## PLASTIC SRIR HOOK-UP WIRE

GENERAL PURPOSE: For radio, radar, electronic devices, transmitters, aircraft instruments, fluorescent fixtures, rectifiers, electrical toys, etc.

Volt. D.C.Insu-
Break- Iation Resis-
Insula- dawn tancepertif.

| No. | Put-up | Size | Strond | tion |  |  | O.D |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1551 | 1000 Ft. Spool | 22 | $7 / 30$ | 1/64" | 8000 | 5000 | .065" |
| 1552 | 100 Ft . Spool | 22 | 7/30 | 1/64" | 8000 | 5000 | . $065^{\prime \prime}$ |
| 1553 | 1000 Ft. Spool | 20 | 10/30 | 1/64" | 8000 | 5000 | . $072^{\prime \prime}$ |
| 1554 | 100 Ft . Spool | 20 | 10/30 | 1/64" | 8000 | 5000 | .072" |
| 1555 | 1000 Ft. Spool | 18 | 16/30 | 1/64" | 8000 | 5000 | .087 ${ }^{\prime \prime}$ |
| 1557 | 1000 Ft . Spool | 16 | 26/30 | 1/64" | 8000 | 5000 | . $100^{\prime \prime}$ |
| 1561 | 1000 Ft. Spool | 22 | Solid | 1/64" | 8000 | 5000 | .060 ${ }^{\prime \prime}$ |
| 1562 | 100 Ft. Spool | 22 | Solid | 1/64" | 8000 | 5000 | .060 ${ }^{\prime \prime}$ |
| 1563 | 1000 Ft. Spool | 20 | Solid | 1/64" | 8000 | 5000 | .066 ${ }^{\prime \prime}$ |
| 1564 | 100 Ft. Spool | 20 | Solid | 1/64" | 8000 | 5000 | .066" |

## TYPE WL HOOK-UP WIRE

GENERAL PURPOSE: For aircraft instruments and lighting and power, radio, electronic devices, radar, transmitters, rectifiers, etc.

| No. | COTTON BRAID |  |  |  | D.C. Insulation Resistance pertt. (Megahms) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1480 | 1000 Ft . Spool | 22 | 7/30 | 1000 | 200 | .090 ${ }^{\prime \prime}$ |
| 1481 | 1000 Ft . Spool | 20 | 10/30 | 1000 | 200 | . $100^{\prime \prime}$ |
| 1482 | 1000 Ft . Spool | 18 | 16/30 | 1000 | 200 | .115" |
| 1483 | 1000 Ft . Spool | 16 | 26/30 | 1000 | 200 | . $130^{\prime \prime}$ |
| 1484 | 1000 tr. Spool | 14 | 41/30 | 1000 | 200 | . $150^{\prime \prime}$ |
| 1485 | 1000 Ft. Soool | 12 | 65/30 | 1000 | 200 | .170' |

GLASS BRAID

| 1490 | 1000 Ft. Spool | 22 | $7 / 30$ | 1000 | 200 | $.085^{\prime \prime}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1491 | 1000 Ft. Spool | 20 | $10 / 30$ | 1000 | 200 | $.095^{\prime \prime}$ |
| 1492 | 1000 Ft. Spool | 18 | $16 / 30$ | 1000 | 200 | $.110^{\prime \prime}$ |
| 1493 | 1000 Ft. Spool | 16 | $26 / 30$ | 1000 | 200 | $.125^{\prime \prime}$ |
| 1494 | 1000 Ft. Spool | 14 | $41 / 30$ | 1000 | 200 | $.145^{\prime \prime}$ |
| 1495 | 1000 Ft. Spool | 12 | $65 / 30$ | 1000 | 200 | $.165^{\prime \prime}$ |

## LACQUERED HOOK-UP AND LEAD-IN WIRE

## (HIGH GLOSS LACQUERED BRAID)

GENERAL PURPOSE: For point to point soldering connections on transformers, amplifiers, panel hook-up, etc., where a low loss dielectric is required. It is not a pushback wire but will strip easily.

Valt. D.C.Insu-
Break- Iation Resis-

| No. | Put-up | Size | Strọnd | insula. tion | down ( 60 cycles) | tonce (Mego | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1513 | 100 Ft . Spool | 20 | 10/30 | 1/64" | 7000 | 290 | . $090{ }^{\prime \prime}$ |
| 1515 | 500 Ft . Spool | 20 | 10/30 | 1/64" | 7000 | 290 | .090 ${ }^{\prime \prime}$ |
| 1523 | 100 Ft . Spool | 18 | 16/30 | 1/64" | 7000 | 300 | . $110^{\prime \prime}$ |
| 1525 | 500 Ft . Spool | 18 | 16/30 | 1/64" | 7000 | 300 | . $110^{\prime \prime}$ |
| 1533 | 100 Ft Spool | 18 | 16/30 | 1/32" | 8500 | 460 | 12 |
| 1535 | 500 Ft . Spool | 18 | 16/30 | 1/32' | 8500 | 460 | .125' |
| 1543 | 100 Ft . Spool | 16 | 26/30 | 1/32" | 8500 | 460 | 14 |
|  |  |  |  | /32 |  |  |  |

## ALPHA ${ }^{\circ}$ WIRE PRODUCTS

## "CL" PUSHBACK WIRE

| GENE <br> colors <br> toys, e <br> No. | AL PURPOS circuit iden <br> Put-up | Size | Strond | up wire adar, elec Volt. Breakdown ( 60 cycles) | in various tronics, ele D.C. Insulation Resistonce perft. (Megohms) | right trical O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1460 | 1000 Ft Spool | 22 | 7/30 | 1000 | 200 | .065' |
| 1460 Q | 100 Ft . Spool | 22 | 7/30 | 1000 | 200 | .065" |
| 1461 | 1000 Ft Spool | 20 | 10/30 | 1000 | 200 | .070" |
| 1461 Q | 100 Ft. Spool | 20 | 10/30 | 1000 | 200 | .070 ${ }^{\prime \prime}$ |
| 1462 | 1000 Ft . Spool | 18 | 16/30 | 1000 | 200 | .082" |
| 1462Q | 100 Ft. Spool | 18 | 16/30 | 1000 | 200 | .082 ${ }^{\prime \prime}$ |
| 1463 | 1000 Ft. Spool | 16 | 26/30 | 1000 | 200 | .093" |
| 1463 Q | 100 Ft. Spool | 16 | 26/30 | 1000 | 200 | .093" |
| 1464 | 1000 Ft. Spool | 14 | 41/30 | 1000 | 200 | .105" |
| 1464 Q | 100 Ft . Spool | 14 | 41/30 | 1000 | 200 | .105" |
| 1465 | 1000 Ft. Spool | 22 | Solid | 1000 | 200 | .060" |
| 14659 | 100 Ft . Spool | 22 | Solid | 1000 | 200 | .060" |
| 1466 | 1000 Ft. Spool | 20 | Solid | 1000 | 200 | .065" |
| 1466 Q | 100 Ft. Spool | 20 | Solid | 1000 | 200 | .065" |
| 1467 | 1000 Ft. Spool | 18 | Solid | 1000 | 200 | .075" |
| 1467Q | 100 Ft . Spool | 18 | Solid | 1000 | 200 | .075 ${ }^{\prime \prime}$ |
| 1468 | 1000 Ft. Spool | 16 | Solid | 1000 | 200 | .085" |
| 1468 Q | 100 Fr. Spool | 16 | Solid | 1000 | 200 | .085 ${ }^{\prime \prime}$ |
| 1469 | 1000 Fr. Spool | 14 | Solid | 1000 | 200 | .095" |
| 1469Q | 100 Ft Spool | 14 | Solid | 1000 | 200 | .095* |



CONSTRUCTION: Single conductor, stranded and solid tinned copper, heavy wrap of cellulose acetate, cotton braid with flameretarding lac. quer.

Standard Colors: Black. Red, Green, Yellow, Blue, Brown, White and Orange

## LACQUERED PRIMARY WIRE

GENERAL PURPOSE: For automobile head, taii, side, dashboard lamps, horn, spotlight, instrument leads and general high volt. age and primary voltage applications.

| No. | Put-up | Size | Strand | Rubber | O.D. |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1989 | 100 | Ft. Spool | 18 | $16 / 30$ | $1 / 64^{\prime \prime}$ | $.110^{\prime \prime}$ |
| 1991 | 100 | Ft. Spool | 18 | $16 / 30$ | $1 / 32^{\prime \prime}$ | $.125^{\prime \prime}$ |
| 1995 | 100 | Ft. Spool | 10 | $26 / 30$ | $1 / 32^{\prime \prime}$ | $.140^{\prime \prime}$ |
| 1997 | 100 | Ft. Spool | 14 | $41 / 30$ | $1 / 32^{\prime \prime}$ | $.170^{\prime \prime}$ |
| 1999 | 100 | Ft. Spool | 12 | $19 / 25$ | $1 / 32^{\prime \prime}$ | $.190^{\prime \prime}$ |
| 1983 | 100 | Ft. Spool | 10 | $19 / 23$ | $1 / 32^{\prime \prime}$ | $.208^{\prime \prime}$ |

## 7 MM LACQUERED CABLE

GENERAL PURPOSE: For high voltage leads in television receivers, cathode-ray tubes, oscilloscopes, etc.

| No. | Put-up | 0.D. |
| :---: | :---: | :---: |
| 1981 | 100 Ft. Spool | $.275^{\prime \prime}$ |



CONSTRUCTION: Single conductor No. 16-19/29 stranded tinned copper, rubber insulated, cotton braid highly lacquered.

CONSTRUCTION: Stranded soft annealed tinned copper, insulated with rubber, over which is a highly lacquered braid. Oii, heat, and moisture resistant.

## 7 MM SHIELDED IGNITION CABLE

GENERAL PURPOSE: For automotive and aircraft ignition sys:ems requiring grounding to overcome interference.

| No. | Put-up | O.D. |
| :--- | :---: | :---: |
| 1193 ft. spool | $.300^{\prime \prime}$ |  |

Al.l. PRICES AND SPECIFICATIONS SIBJECT TO CHANGE WITHOUT NHTICE

## ALPHA WIRE PRODUCTS



CONSTRUCTION:: Two conductors parallel, each conductor 7/28 bare copper flexible stranding, low loss polyethylene plastia insulation, smooth satin finish. Standard color: brown.

TELEVISION AND FM TWIN-LEAD CABLE
GENERAL PURPOSE: For use especially in television and FM as the lead-in from the antenna to the receiver.

| No. | Put-up | Impedance (Ohms) | Capacity Per Ft. |  | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1150 | 1000 Ft. Spool | 300 | 4.5 mmf . | .070" | x .395" |
| 1151 | 1000 Ft. Spool | 150 | 9.5 mmf . | .060" | x $.190^{\prime \prime}$ |
| 1152 | 1000 Ft. Spool | 75 | 20.0 mmf. | .070" | x . $120^{\prime \prime}$ |



CONSTRUCTION: Conductors flat parallel, each conductor $7 / 30$ strand ed copper with one conductor bare and other conductors tinned. Durable rubber insulation.

## ROTARY TV-FM CABLE

GENERAL PURPOSE: Designed for use with TV or FM antenna rotators.

| No. | Put-up |  | Conductors | O.D. |
| :--- | :--- | :--- | :---: | :---: |
| 1150,3 | 1,000 Ft. Spool | 3 | $.085^{\prime \prime} \times .265$ |  |
| 1150.4 | 1,000 Ft. Spool | 4 | $.085^{\prime \prime} \times .345^{\prime \prime}$ |  |



CONSTRUCTION: Stranded galvan. ized steel wires with great tensile strength.

## GUY WIRE

GENERAL PURPOSE: To prevent sway of F.M., T.V. and radio receiver masts, poles or towers.

| No. | Put-up | Strand. | Breaking <br> Strength | O.D. |
| :--- | :---: | :---: | :---: | :---: |
| 1168 | 1,000 Ft. Spool | $6 / 18$ | 650 Lbs. | $.156^{\prime \prime}$ |
| 1169 | 1,000 Ft. Spool | $6 / 20$ | 470 Lbs. | $.105^{\prime \prime}$ |
| 1170 | 100 Ft. Coil | $6 / 20$ | 470 Lbs. | $.105^{\prime \prime}$ |
| 1171 | 50 Ft. Coil | $6 / 20$ | 470 Lbs. | $.105^{\prime \prime}$ |



CONSTRUCTION: Single conductor No. 22 solid copperweld, polyethylene insulation, bare copper shield, black vinyl plastic jacket overall.

## CO-AXIAL CABLE (RG-59U)

GENERAL PURPOSE: Co-axial cable is ideal for television, FM and facsimile reception. Is suitable for very high frequency and ultra high frequency ranges.



CONSTRUCTION: 6 feet E-Z Strip cord (Type POSJ-64), molded-on rubber plug attached to one end, TV molded-on rubber connector attached to other end.

## TELEVISION POWER CONNECTOR CORD

GENERAL USE: For replacement of worn out or damaged TV cords.

$$
\frac{\text { No. }}{2126} \frac{\text { Lenath }}{}
$$

## ALPHA E-Z STRIP LINE CORD

This is the modern and ideal power supply cord for replacement on radios, lamps, fans, etc. It is made of E-Z strip rub. ber parallel cord (UN. DERWRITERS APPROVAL) with a small unbreakable soft rubber attachment plug. Free end stripped and tinned ready to attach.

| No. |  | No. |
| :--- | :--- | :--- |
| $2106-6 \mathrm{Ft}$. | $2109-9 \mathrm{Ft}$. | $2112-12 \mathrm{Ft}$. |

Cords Available in Any Length

## GLASS INSULATOR



Will withstand great strain. No.
2020 100

## NAILKNOB



A 2 piece knob of glazed porcelain and a heavy nail for secure holding.

No.
Per Carton
2031
100

## ALPHA WIRE PRODUCTS

## AERIAL KITS

Alpha Aerial Kits are designed to meet the requirements of the various types of radio installations. Each kit is complete and boxed attractively.

$$
\text { No. } 301
$$

50 Ft. 7 Strond Copper Aeriol 25 Ft. Leod-in Wire 2 No. 2022 insulotors
2 No. 2031 Nail Knobs
No. 2012 Ground Clamp
1 No. 2002 Leod-in Strip

No. 304
$\begin{array}{ll}75 & \text { Fr. } 7 / 24 \text { Copper Aeriol Wire } \\ 25 & \text { Ff. Lead-in Wire } \\ 1 & \text { No. } 2001 \text { Lightning Arrester } \\ 1 \text { No. } 2002 \text { Leod-in-Strip } \\ 2 \text { No. } 2031 \text { Noil Knobs } \\ 1 \text { No. } 2012 \text { Ground Clomp } \\ 2 \text { No. } 2022 \text { Insulotors }\end{array}$


## PHOSPHOR BRONZE AERIAL WIRE

GENERAL PURPOSE: Recommended especially for ship, short wave and transmitting aeriais where high tensile strength is required.

| No. | Put-up | Strand | Breoking Strengt | O.D. |
| :---: | :---: | :---: | :---: | :---: |
| 1160 | 500-Ft. Spool | 7/22 | 420 Lbs. | . $075^{\prime \prime}$ |
| 1161 | 500 Fr . Spool | $7 / 20$ | 650 Lbs. | .100" |
| 1163 | 500 Fr. Spool | 7/18 | 1000 Lbs. | .122" |
| 1164 | 500 Ft . Spool | 7/16 | 1600 Lbs. | .150 ${ }^{\prime \prime}$ |
| 1165 | 500 Fr . Spool | 7/14 | 2140 Lbs. | .190" |
| 1166 | 500 Fr. Spool | 7/12 | 3670 Lbs. | .240" |



CONSTRUCTION: 7 strands Phos. phor Bronze.

## LEAD-IN AND GROUND WIRE

GENERAL PURPOSE: Lead-in, ground, hook-up, all purpose wire.

| No. | Put-up | Size | Strand | Insulation | 0.D. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 1114 | 1000 Ft. Spool | 20 | $10 / 30$ | $1 / 32^{\prime \prime}$ | $.105^{\prime \prime}$ |
| 1114 E | 500 Ft. Spool | 20 | $10 / 30$ | $1 / 32^{\prime \prime}$ | $.105^{\prime \prime}$ |
| 1131 | 500 Ft. Spool | 18 | $16 / 30$ | $1 / 32^{\prime \prime}$ | $.125^{\prime \prime}$ |



CONSTRUCTION: Stranded tinned or solid tinned copper conductor, insulated with live free stripping rubber, jet black waxed finish overall.



All Alpha Aerial Wire is pure electrolytic copper properly annealed to assure required flexibility and tensile strength.

## AC-DC ANTENNA WIRE

GENERAL PURPOSE: Ideal replacement wire for universal midgets, indoor aerials and loop antennas.

| No. | Put-up |
| :---: | :---: |
| 1281 | 25 Ft. Disc |
| 1282 | 100 Fr. Spool |
| 1283 | 500 Ft. Spool |
| 1284 | 1000 Ft. Spool |



CONSTRUCTION: Single conductor No. 24-16/36 stranded bare copper, extra flexible, covered with dark brown braid or plastic.

## ALPHA WIRE PRODUCTS

## TINNED COPPER BUS-BAR WIRE

GENERAL PURPOSE: Winding of coils, antennas, point to point, bus bar, etc.

| No. | Put-up | Size | O. D. |
| :--- | :--- | :---: | :---: |
| 292 | 1000 Ft. Spool | 10 | $.103^{\prime \prime}$ |
| 289 | 1000 Ft. Spool | 12 | $.082^{\prime \prime}$ |
| 286 | 1000 Ft. Spool | 14 | $.065^{\prime \prime}$ |
| 295 | 1000 Ft. Spool | 16 | $.051^{\prime \prime}$ |
| 296 | 1000 Ft. Spool | 18 | $.040^{\prime \prime}$ |
| 297 | 1000 Ft. Spool | 20 | $.033^{\prime \prime}$ |
| 298 | 1000 Ft. Spool | 22 | $.025^{\prime \prime}$ |



## DIATHERMY CABLE

GENERAL PURPOSE: Its extreme flexibility and tough rubber jacket give it long life. This cable is used as a lead on therapy apparatus, charging cable, battery lead, underground cable, etc.

| No. | Put-up | O.D. |
| ---: | ---: | :--- |
| 1623 | 100 Ft. Spool | $.300^{\prime \prime}$ |
| 1625 | 1000 Ft. Reel | $.300^{\prime \prime}$ |



CONSTRUCTION: Single conduc tor extra flexible Nio. 14-104/34 copper, paper serve, 3/64" ASTM performance grade rubber, double cotton braid, $.040^{\prime \prime}$ oi! resistant neoprene rubber jacket.

## TWISTED PAIR TRANSMISSION LINE

## (WEATHERPROOF BRAID)

GENERAL PURPOSE: For inter-com. hook-up. Also suitable for low loss coupling between antenna and receiver as doublet style twisted lead-in.

| No. | Put-up | Copacity Bet. Conds. Per Fif. | Frequency (KC) | Power <br> Foctor <br> Per Cent | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1146 | 500 Ft . Spool |  |  |  |  |
| 1148 | 100 Ft . Coil | 21.8 mmf | 3,500 | 3.75 | .175" |
| 1149 | 50 Ft . Coil |  |  |  |  |
| 1135 | 500 Ft . Spool | 21.8 mmf . | 3,500 | 3.75 | . $190^{\prime \prime}$ |



CONSTRUCTION No. 1146: Two conductors No. 22.7/30 stranded tinned copper, $1 / 32$ " "Hi-Tension" rubber, color coded, conductors twisted, cotton braid overall, saturated weather-proof finish.
CONSTRUCTION No. 1135: Two conductors No. 18.16/30 stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cotton braid overall, saturated weather-proof finish.

## PHOSPHOR BRONZE DIAL CABLE



CONSTRUCTION: Made of 42 strands ( $6 \times$ $7 \times$.004) genuine phosphor bronze wire with a linen center for extra flexibility. Is guaranteed not to warp or stretch.


| No. | LIGHT |  | O.D. |
| :---: | :---: | :---: | :---: |
|  | Put-up | Tensile Strength |  |
| 1697 | 25 Ft. Spool | 22.5 lbs . | .036 ${ }^{\prime \prime}$ |
| 1698 | 100 Ft . Spool | 22.5 lbs. | .036 ${ }^{\prime \prime}$ |
| 1699 | 500 Ft . Spool Longer Lengths | $22.5 \mathrm{lbs}$ ilable. | .036" |
|  | EXTRA-T |  |  |
| No. | Put-up | Tensile Strength | 0.D. |
| 1700 | 25 Ft. Spool | 18 lbs. | .027 ${ }^{\prime \prime}$ |

all prices and specifications subject to chance witholt notice.

## ALPHA WIRE PRODUCTS



| No. | Approx. <br> I.D. |
| :---: | ---: |
| 20 | $.034^{\prime \prime}$ |$|$| $.038^{\prime \prime}$ |  |
| :---: | ---: |
| 19 | $.042^{\prime \prime}$ |
| 18 | $.047^{\prime \prime}$ |
| 17 | $.053^{\prime \prime}$ |
| 16 | $.059^{\prime \prime}$ |
| 15 | $.066^{\prime \prime}$ |
| 14 | $.076^{\prime \prime}$ |
| 13 |  |

Tolerances: Sizes:
0 to 2-plus or minus . $005^{\prime \prime}$ 3 to 13-plus or minus .004" 14 to 20 -plus or minus .002"
Lengths-Standard 36'

## FLEXIBLE VARNISHED TUBING AND SLEEVING

RADIO VARNISHED TUBING - (Spaghetti). A sleeving with a heary coat of varnish, in high gloss vivid calars. Average dielectric strength: 4,000 volts.

SATURATED SLEEVING - A fibre yarn sleeving saturated with high grade insulating varnish. Cuts clean and has a smooth interior wall. Average dielectric strength: 2,000 volts.

MAGNETO VARNISHED TUBING-The production of this type of tubing is under rigid control so as to insure a maximum in quality. It is thoroughly impregnated with a varnish of maximum insulating value. It is resistant to heat, oil, gas and acids. Colors are bright and vivid. Average dielectric strength: 7,000 volts.

| No. | Approx. <br> 1.0 |
| ---: | ---: |
| 12 | $.085^{\prime \prime}$ |
| 11 | $.095^{\prime \prime}$ |
| 10 | $.106^{\prime \prime}$ |
| 9 | $.118^{\prime \prime}$ |
| 8 | $.133^{\prime \prime}$ |
| 7 | $.148^{\prime \prime}$ |
| 6 | $.166^{\prime \prime}$ |
| 5 | $.186^{\prime \prime}$ |
| 4 | $.208^{\prime \prime}$ |


| Na. | Approx. <br> I.D. |
| :---: | ---: |
| 3 | $.234^{\prime \prime}$ |
| 2 | $.263^{\prime \prime}$ |
| 1 | $.294^{\prime \prime}$ |
| 0 | $.330^{\prime \prime}$ |
| $3 / 8^{\prime \prime}$ | $.375^{\prime \prime}$ |
| $7 / 16^{\prime \prime}$ | $.438^{\prime \prime}$ |
| $1 / 2^{\prime \prime}$ | $.500^{\prime \prime}$ |
| $5 / 8^{\prime \prime}$ | $.625^{\prime \prime}$ |

Standard Colors: Black, Red, Yellow, Green and Brown Sizes follow the B \& S System of gauging wires. For instance, a No. 10 tubing will fit over a No. 10 bare wire or any wire with an insulation of which the O.D. is equivalent to No. 10 $B$ \& $S$ gauge. If in doubt, it is best to submit a sample of the wire or product to be covered.

Longer Lengths Available.

## SPACHETTI TUBING



A superior varnished tubing for radio work. It will retain its dielectric and flexibility indefinite. ly. Takes up to No. 14 wire.

Colors: Black, Red,
Yellow, Green and
Brown
No. 2091 - $36^{\prime \prime}$ Lengths


## ALPHA WIRE PRODUCTS

## NOTE: USEFUL INFORMATION FOR ORDERING

- All tests on specifications are approximate and subject to normal manufucturing tolerances.
- Lengths other than those regularly listed can be furnished.
- Other wires and cables made to specifications.
- Use the following symbols alongside catalog number for other than standard put-ups.

| COILS | COILS | COILS | SPOOLS | SPOOLS | SPOOLS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25 Ft......... H | $100 \mathrm{Ft}. . . . . . . . . K$ | 500 Ft........ ${ }^{\text {B }}$ | 25 Ft.........N | 100 Ft......... Q | $250 \mathrm{Ft} . . . . . .$. D |
| 50 Ft......... Z | 150 Ft..........L | 1000 Ft........C | $50 \mathrm{Ft} . \therefore \ldots . .$. . ${ }^{\text {c }}$ | 150 Ft.......... | $500 \mathrm{Ft} . . . . . . . . E$ |
| $75 \mathrm{Ft} . . . . . . . . . . J$ | 200 Ft.........M | $250 \mathrm{Ft} . . . . . . . . . ~ A ~$ | $75 \mathrm{Ft} . . . . . . . . . \mathrm{P}$ | $200 \mathrm{Ft} . . . . . . . . S$ | $1000 \mathrm{Ft} . \ldots . \mathrm{F}$ | G - LONGER LENGTUS ON SPOOLS OR REELS

The constant development of nev and improved designs and manufacturing processes results in continually changing specifications. In every case where Alpha wires shipped are different in specifications from those shown in this catalog, an improvement will be noted.


ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

## BELDEN - FM antenna systems



| Trade Number | $\dagger$ Pkg. | DESCRIPTION |
| :---: | :---: | :---: |
| 8304 | 1 K | 1-75' 7×22 Beldenamel Antenna Wire 8005 <br> 1 -35' 16 Stranded Lead-in Wire 8201 <br> 1 -Arrester 8896 <br> 1-'Type "C" Ground Clamp 8897 <br> 1-12" Lead-in Strip 8890 <br> 2-Antenna Insulators 8103 <br> 2-Porcelain Nail-on-knobs 8102 <br> 1-Stand-off Insulator 8104 <br> 1-Instruction Sheet |
| 8305 | 1 K | 1-75' $7 \times 22$ Bare Copper Antenna Wire 8000 <br> $1-35^{\prime} 16$ Stranded Lead-in Wire 8201 <br> 1-Arrester 8896 <br> 1-Type "C" Ground Clamp 8897 <br> 1-12" Lead-in Strip 8890 <br> 2-Antenna Insulators 8103 <br> 2-Porcelain Nail-on-knotss <br> 8102 <br> 1—Stand-off Insulator 8104 <br> 1-Instruction Sheet. |
| $8309$ | 1 K | 1-50' $7 \times 24$ Bare Copper Antenna Wire 8002 <br> $1-25^{\prime} 18$ Stranded Lead-in Wire 8200 <br> 1-Arrester 8896 <br> 1-Type "C" Ground Clamp 8897 <br> 2-Antenna Insulators 8103 <br> 1 -Porcelain Nail-on-knob 8102 <br> 1-Stand-off Insulator 8104 <br> 1-Instruction Sheet |

## litz wire

$8817 \quad 100^{\prime} \mathrm{s}$ For rewinding antenna pricoils. $5 \times 44$ Celenamel with wrap of nylon.

## arresters • ground clamps • lead-in strips • insulators

| Trade Number |  |  | description |
| :---: | :---: | :---: | :---: |
|  | 8895 | ı | Belden doublet type bakelite ar rester. Listed ns approved b Tester. Listed rters |
|  | 8896 | ik | Belden single- type bakelite ar Undervititers |
|  | 8892 | 25 K | Ground clamp-8/4" ${ }^{\text {long }}$ |
|  | 8897 | 25 K |  |
| 3 - | 8104 | 10k | $7{ }^{\prime \prime}$ Stand-off insulator |
|  | 8890 | 1 K | $12^{n}$ Single lead-in strip-rulber insulated- clips both ends |
| 13 - | 8126 | 10 K | $3^{\prime \prime}$ Stand-off insulator fur flat transmission line |
| $0)=$ | 8102 | 10k | Porcelain nail-on-knols |
|  | 8103 | 10k | $\underset{\text { Porcelain insulators, } 21 / /^{\prime \prime} \text { over-al }}{\text { Iength }}$ |

†CK-Coiled in carton K-Carton CR-Crate reel S-Spool C-Coil SK-Spooled in carton

# BELDEN • aerial wire • lead-in wire <br> shielded lead-in wire 

|  | Trade <br> Number | Length and | Size | DESCRIPTION | Stranding | Insulation, Thickness (inches) | Finished 000 (inches) (inches) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Kisk | 8206 | 250' S | 18 | Tinned copper, flexible stranding; rubber insulation; tinned copper braid shield | $7 \times 27$ | .040" | . 155 |

## lead-in wire

| $\longrightarrow$ | 8200 | $\begin{array}{r} 100^{\prime} \mathrm{s} \\ 500^{\prime} \mathrm{s} \\ 1000^{\prime} \mathrm{s} \end{array}$ | . 18 | Tinned copper, flexible stranding; rubber insulation | 7x27 | . 040 | . 126 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 8201 | $\begin{gathered} 50^{\prime} \mathrm{CK} \\ 100^{\prime} \mathrm{s} \\ 250^{\prime} \mathrm{s} \\ 500^{\prime} \mathrm{s} \\ 1000^{\prime} \mathrm{s} \end{gathered}$ | 16 | Tinned copper, flexible stranding; rubber insulation | $7 \times 25$ | . 040 | . 135 |

## voice coil lead wire



## 8127

$10^{\prime * * *} \quad 25$
Bare copper wire braided
$32 \times 40$
. 024
***Packaged 10 ft on card, 5 cards in carton.
indoor aerial wire-extra flexible


|  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| StRANDED bare copper |  |  | Stranded beldenamel |  |  | SOLID TINNED COPPER <br> (Bus Bar Wire) |  |  | SOLID BELDENAMEL |  |  |
| Trade Number | $\begin{gathered} \substack{\text { Lennfit } \\ \text { Prackere }} \end{gathered}$ | size | Trade Number | $\begin{gathered} \text { Lenthe } \\ \text { tractage } \\ \text { Prase } \end{gathered}$ | sito | Trade Number | $\begin{gathered} \text { SBus Bar } \\ \text { Lenghin } \\ \text { tracherese } \end{gathered}$ | Sita | Trade Number | $\begin{gathered} \text { Lenglih } \\ \text { tpachsere } \\ \hline \end{gathered}$ | Site |
| 8000 |  | 7x22 | 8005 | $\begin{gathered} 750^{100} \\ 1000^{c} \mathrm{ck} \end{gathered}$ | 7x22 | 8011 | $100{ }^{\prime} \mathrm{ck}$ | 12 | 8008 | $\begin{aligned} & 100{ }^{100} \text { ' cK } \\ & 200^{\prime} \\ & 50^{\prime} \end{aligned}$ | 12 |
|  |  |  |  |  |  | 8012 | $100{ }^{\prime} \mathrm{ck}$ | 14 |  |  |  |
| 8002 |  | 7x24 | 8006 | ${ }^{10000^{\prime} \mathrm{c}}{ }^{\text {ck }}$ | $7 \times 20$ | 8013 | $100^{\prime} \mathrm{ck}$ | 16 | 8009 | ${ }_{500}^{100}{ }^{\text {cosk }}$ | 14 |



[^5]
## BELDEN • auto and aircraft radio wires and shielding

Belden supplies a complete line of auto radio wires and shielding to handle every wire requirement in installation and servicing.

In installations of this type, the use of the correct wire is particularly important. Applications are indicated in the listings below.

| ILlustration and color | Trade Number | $\begin{aligned} & \text { Lengths } \\ & \text { and } \\ & \text { †Package } \end{aligned}$ | A.W.G. | general construction | Stranding | Finished Cable (inches) | Nominal Capacitance Per Ft (mmi) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 8664 | $100^{\prime} 5$ |  | $.013^{\prime \prime}$ Tinned steel wire, solid; cellulose yarn braid; polyethylene insulation; tinned cop. per braid shicld; black vinyl plastic jacket | solid | . 250 | 14.5 |
| Belden <br> Black | 8667 | 100 s | 16 | Tinned copper, flexible stranding; rubber insulation; cotton braid; lacquer coating | 19×29 | . 280 |  |
|  | 8665 | $100^{\prime}$ S | 19 | Stainless steel alloy, flexible stranding; rubber insulation; glass yarn web braid; neoprene jacket; tinned copper braid shield; neoprene jacket | $\begin{aligned} & 6 \times .013^{\prime \prime}+ \\ & 1 \times .011^{\prime \prime} \\ & \text { steel } \\ & \text { alloy } \end{aligned}$ | . 365 |  |
| Black, Blue, Green, Red, Yellow, White | 8833 | $\begin{array}{r} 100^{\prime} 5 \\ 1000^{\prime} 5 \end{array}$ | 18 | Tinned copper, flexible stranding; paper wrap; rubber insulation; cellulose acetate yarn braid; lacquer coating | $16 \times 30$ | . 136 |  |
| Black With One White Tracer | 8652 | $100^{\prime} \mathrm{S}$ | 16 | Tinned copper, flexible stranding; cellophane wrap; rubber insulation; black cotton braid with one white tracer; lacquer coating | $19 \times 29$ | . 140 |  |
| Green With Two White Tracers <br> Red With Three White Tracers | 8651 | 100's | 14 | Same as 8652 except green cotton braid with two white tracers | $19 \times 27$ | . 165 |  |
|  | 8650 | 100 S | 12 | Same as 8652 except red cotton braid with three white tracers | $19 \times 25$ | . 195 |  |
|  | 8656 | $100^{\prime} \mathrm{S}$ | 16 | Tinned copper, flexible stranding; cellophane wrap; rubber insulation; cotton braid; blue lacquer coating; tinned copper braid shield | $19 \times 29$ | . 170 |  |
|  | 8655 | 100. s | 14 |  | $19 \times 27$ | . 195 |  |
|  | 8654 | $100^{\prime} \mathrm{s}$ | 12 |  | $19 \times 25$ | . 225 |  |
|  | 8660 | $\begin{gathered} 50^{\prime} \mathrm{SK} \\ 250^{\prime} \mathrm{S} \end{gathered}$ |  | Tinned copper braid in form of tubing | 96x34 | 13/64 ID |  |
|  | 8668 | $\begin{gathered} 50^{\prime}, 5 \mathrm{~K} \\ 250^{\prime} \mathrm{S} \end{gathered}$ |  |  | $120 \times 34$ | 1/8ID |  |
|  | 8661 | $\begin{gathered} 50^{\prime}, 5 K \\ 250^{\prime} \mathrm{S} \end{gathered}$ |  |  | $192 \times 34$ | 3/8 I D |  |
|  | 8669 | $\begin{array}{r} 50^{\prime} 5 \\ 250^{\prime} 5 \end{array}$ |  |  | 336x34 | 1/2 ID |  |
|  | 8662 | $\begin{array}{r} 50^{\prime} 5 \\ 250^{\prime} 5 \end{array}$ |  |  | 576x34 | 25/32 ID |  |
|  | 8657 | 50' CK |  | Tinned copper braid shield over fabric loom |  | 3/16 ID |  |
|  | 8658 | $50^{\prime} \mathrm{CK}$ |  |  |  | 5/16 ID |  |
| $\dagger \mathrm{CK}$-Coiled in carton K-Carton | CR--Crate reel | S-Spool |  | C-Coil SK-Spooled in carton |  |  |  |

## BELDEN - microphone cables

Performance and appearance are the outstanding features built into Belden microphone cables. Polyethy'ene insulation is used for outstanding dielectric properties and vinyl plastic jackets for protection.

Dielectrically, Belden microphone cables have low capacitance, high insulation resistance, and low attenuation at audio frequencies. In addition, they provide resistance to physical abuse, aging, and moisture.

## plastic microphone cable

ILLUSTRATION AND APPLICATION

## rubber microphone cable

| For crystal ribbon and carbon microphones | 8410 | $\begin{gathered} 25^{\prime} \text { CK } \\ 50^{\prime} \mathrm{CK} \\ 100^{\prime} \mathrm{S} \\ 500^{\prime} \mathrm{S} \\ \text { Black } \end{gathered}$ | 25.1 | Tinned copper and tinned steel, flexiblestranding; celluloseyarn braid; waxed; rubber insulation; rayon braid; tinned copper braid shield; rayon wrap; black rubber jacket | $3 \times 33$ copper plus $4 \times 33$ steel | .245 | 33. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 8412 | $\begin{aligned} & 25 \prime \mathrm{CK} \\ & 50^{\prime}, \mathrm{CK} \\ & 100^{\prime} 5 \\ & 500^{\prime} 5 \\ & \text { Black } \end{aligned}$ | 20-2 | Tinned copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled with fillers; rayon braid; tinned copper braid shield; cotton wrap; black rubber jacket | $26 \times 34$ | .280 | ***63. |
|  | 8423 | $\begin{gathered} 50^{\prime} \mathrm{CK} \\ 250^{\prime} \mathrm{S} \\ \text { Black } \end{gathered}$ | 20-3 | Tinned copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled; rayon braid; tinned copper braid shield; cotton wrap; black rubber jacket | $26 \times 34$ | . 280 | ††54. |

**Between one conductor and other conductor connected to shield.
Nominal capacitance between conductors only, 16 mmf per foot.
***Between one conductor and other conductor connected to shield.
Nominal capacitance between conductors only, 36 mmf per foot.
$\dagger \dagger$ Between one conductor and other conductors connected to shielu.
Nominal capacitance between conductors only, 41 mmf per foot.
shielded multiple conductor cables
Belden multiple conductor cables are developed for long service life, excellent mechanical and electrical characteristics, and unuorm quality. These cables are used for a multitude of applications including power and interconnecting cords on radio receivers, electronic devices, speakers, analyzer test equipment, remote control circuits, and press-to-talk microphone circuits.

| ILLUSTRATION | Trade Number | Lengths $\dagger$ Packare and Colar | A.W.G. and No. Condrs. | GENERAL CONSTRUCTION | Stranding | Nom. Insulation Thick. (inches) | Nom. Jacket Thick. (inches) | $\begin{gathered} \text { Fln- } \\ \text { Ished } \\ \text { Cable } \\ \text { OD } \\ \text { (inches) } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | *8424 | $\begin{gathered} 50^{\prime} \mathrm{CK} \\ 250^{\prime} \mathrm{S} \\ \text { Black } \end{gathered}$ | 20-4 | Tinned copper, flexible stranding; cotton wrap; rubber insuLation, color coded; conductors cabled; rayon braid; tinned copper braid shield; cotton wrap; black rubber jacket | $26 \times 34$ | . 020 | . 040 | .305 |
|  | 8425 | $\begin{gathered} 50^{\prime} \text { CK } \\ 250^{\prime} \mathrm{S} \\ \text { Block } \end{gathered}$ | 20-5 | Same as 8424 except five conductors | $26 \times 34$ | . 020 | . 040 | . 335 |
|  | 8426 | $\begin{array}{r} 100^{\prime} 5 \\ \text { Black } \end{array}$ | 20-6 | Same as 8424 except six conductors | $26 \times 34$ | . 020 | . 040 | . 355 |
|  | 8427 | $\begin{gathered} 100^{\prime} \mathbf{S} \\ \text { Black } \end{gathered}$ | 20-7 | Same as 8424 except seven conductors | $26 \times 34$ | . 020 | . 040 | .370 |
|  | * Also | d as mic | phone | cable. |  |  |  |  |
| $\dagger$ CK-Coiled in carton K-Carton | -Crate r | - |  | - C-Coil SK-Spooled in | carton |  |  |  |

## BELDEN • multiple conductor cables

## RUBBER-JACKETED PORTABLE CORD

| illustration | Trade Number | Lengths tPackage and Color | $\begin{aligned} & \text { A.W.G. } \\ & \text { and } \\ & \text { No. } \\ & \text { Gon. } \\ & \text { drs. } \end{aligned}$ | GENERAL CONSTRUCTION | Stranding | $\begin{aligned} & \text { Insula- } \\ & \text { tion } \\ & \text { Thick. } \\ & \text { (inches) } \end{aligned}$ | Jacket Thick. (inches) | $\begin{gathered} \text { Fin- } \\ \text { ished } \\ \text { Cable } \\ \text { O.D. } \\ \text { (inches) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 8452 | $\begin{aligned} & 1000^{s} \\ & 500^{\prime} \mathrm{S} \\ & \text { Black } \end{aligned}$ | 18-2 | Bare copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled with fillers; cotton wrap; black rubber jacket | $41 \times 34$ | 1/64 | 1/32 | . 245 |
|  | 8453 | $\begin{aligned} & 100^{\prime} \mathrm{s} \\ & 500^{\prime} \mathrm{s} \\ & \text { Block } \end{aligned}$ | 18.3 | Bare copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled with fillers; cotton wrap; black rubber jacket | $41 \times 34$ | 1/64 | 1/32 | . 275 |
|  | 8454 | $\begin{gathered} 100^{\prime} \mathrm{S} \\ 500{ }^{\prime} \mathrm{s} \\ \text { Black } \end{gathered}$ | 18-4 | Same as 8453 except four conductors | $41 \times 34$ | 1/64 | 1/32 | . 265 |
|  | 8455 | $\begin{gathered} 1000^{\prime} \mathbf{s} \\ 250, \mathbf{s} \\ \text { Black } \end{gathered}$ | $\begin{aligned} & 20-3 \\ & 18-2 \end{aligned}$ | Bare copper, flexible stranding; cotton wrap; rubber insulation; color coded; conductors cabled with fillers; cotton wrap; black rubber jacket | $\begin{aligned} & 26 \times 34 \\ & 41 \times 34 \end{aligned}$ | 1/64 | 1/32 | . 285 |
|  | 8462 | $\begin{aligned} & 100^{\prime}, 5 \\ & 250^{\prime} 5 \\ & \text { Brown } \end{aligned}$ | 18-2 | Bare copper, flexible stranding; cotton wrap, color coded; parallel conductors with rubber insulation and jacket integral | $41 \times 34$ | 1/32 |  | $\begin{array}{r} .123 x \\ .223 \end{array}$ |
|  | 8888 | $250^{\prime} \mathrm{s}$ <br> Black | 18-2 | One bare and one tinned copper conductor, flexible stranding; parallel conductors with vinyl plastic insulation and jacket integral | 41x34 | 1/32 |  | $\begin{array}{r} .114 x \\ .231 \end{array}$ |

Flexible, light weight and small diameter.
Applications include control, annunciator, and communications circuits.
BRAIDED PLASTIC-INSULATED CABLE
(See intercommunications cables, page 12, for shielded types.)

|  |  |  | Tinned copper, flexible strand- | $7 \times 30$ | .010 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

# BELDEN <br> transmission line cables 




Belden transmission cables are available for every receiving and low power transmitting antenna application. Coaxial, twisted pair, and parallel type lines are represented. These cables are designed to meet exacting electrical requirements and are mechanically strong, weather re-
sistant, and give long service life. Cables constructed with polyethylene insulation are especially suitable for very high frequency (VHF) and ultra high (UHF) range where the losses in ordinary types of transmission line cables are excessive.
TR ANSMISSION LINE CABLE APPLICATIONS

| 72-Ohm cable for use with receiving and low power transmitting |
| :--- |
| leads. |


| lent low frequencies. Also for heavy-duty high-voltage |
| :--- |

frequencies.

## BELDEN - hookup and lead wires

There is a Belden hook-up and lead wire construction for every service requirement-for receivers, transmitters,
amplifiers, rectifiers, aircraft radio, geophysical instruments, and in all other types of electric equipment.


* Measurements for d-cinsulation resistance were made by neans of a megolim bridge at ano volts on specimens in mercury after subjection
to $90 \%$ relative humidity and 100 F for 24 hours
**Measuremenis for insulation breakdown were made on specimens in mercury by application of gradually increasing 60-cycle a-c potential.


# BELDEN - hook-up and lead wires 

## R-F PUSH-BACK WIRE CELLULOSE ACETATE braid Waxed



## DISPLAY ASSORTMENT



PLASTIC INSULATED
General-use hook-up wire and as leads for radio components such as transformers, chokes, and controls. Furnished in the eight following colors: Block, Blue, Green, Red, Yellow, White, Brown, and Orange. SPECIFY COLOR.
Wires with $1 /$ on $^{\prime \prime}$ plastic insulation are designed for use within the chassis of radio receivers, amplifiers, instruments, controls, and other electronic devices. Wires with $025^{\prime \prime}$ plastic insulation are designed for use inside or outside the chassis but withir the radio cabinet. The operating temperature limit for these wires is $80 \mathrm{C}(176 \mathrm{~F})$.

| 8901 | $\begin{aligned} & 25^{\prime} \cdot \mathrm{CK} \\ & 100^{\prime}, \mathrm{SK} \\ & 1000^{\prime} \mathrm{S} \end{aligned}$ | 20 | Tinned copper, solid; vinyl plastic insulation <br> Colors: Block, Yellow, Blue, White, Green, Brown, Red, Orange | solid | . 015 | . 066 | 5000 | 8000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8909 | $\begin{aligned} & 25^{\prime} \mathrm{CK} \\ & 100^{\prime} \mathrm{SK} \\ & 1000^{\prime} \mathrm{S} \end{aligned}$ | 20 | Tinned copper, solid; vinyl plasticinsulation <br> Colors: Black, Yellow, Blue, White, Green, Brown, Red, Orange | solid | . 025 | . 086 | 5000 | 12000 |

DISPLAY ASSORTMENT
8858
Contents: 6 Rolls 8909. Size 20 solid vinyl plastic. One each Block, Blue, Green, Red, Yellow, and White.

| 8905 | $\begin{aligned} & 23^{\prime} \mathrm{CK} \\ & 100^{\prime} \mathrm{SK} \\ & 1000^{\prime} \mathrm{S} \end{aligned}$ | 20 | Tinned copper, flexible stranding; vinyl plastic insulation <br> Colors: Black, Yellow, Blue, White, Green, Brown, Red, Orange | 10x30 | . 015 | . 075 | 5000 | 8000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8913 | $\begin{aligned} & 25^{\prime} \\ & 100^{\prime} \mathrm{CK} \\ & 1000^{\prime} \mathrm{S} \end{aligned}$ | 20 | Tinned copper, flexible stranding; vinyl plastic insulation <br> Colors: Block, Yellow, Blue, White, Green, Brown, Red, Oronge | $10 \times 30$ | . 025 | . 093 | 5000 | 12000 |

## DISPLAY ASSORTMENT

Contents: 6 Rolls 8913 Size 20 flexible; vinyl plastic. One each Black, Blue, Green, Red, Yellow, and White.
8859
8859
†CK—Coiled in carton K-Carton CR-Crate reel S-Spool C-Coil SK-Spooled in carton

[^6]
## BELDEN - intercommunicating and sound system cables



# BELDEN • instrument and lead wires 

photoelectric cell cable

|  | Trade Number | $\begin{gathered} \text { Leneths } \\ \text { tPack age } \\ \text { and } \\ \text { Color } \end{gathered}$ | A.W.G. | general construction | Stranding | $\begin{gathered} \text { Finished } \\ \text { Cable. } \\ \text { O.D. } \\ \text { (inches) } \end{gathered}$ |  | $\begin{aligned} & \text { Nominal } \\ & \text { Capactiance } \\ & \text { Per Ft } \\ & \text { (mmi) } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Aclders | 8221 | $\begin{gathered} 100^{\circ} \mathrm{s} \\ \text { Black } \end{gathered}$ | 25 | Tinned copper and tinned steel, fexible stranding; cellulose yarn braid, polyethylene insulation; tinned copper braid shield; black vinyl plastic jacket | $\begin{aligned} & 3 \times 33 \text { copper } \\ & 4 \times 33 \text { steel } \end{aligned}$ |  | . 240 | 20 |
| phonograph pickup arm cable |  |  |  |  |  |  |  |  |
|  | 8431 | $\begin{aligned} & 100^{\prime} \mathrm{S} \\ & \text { Brown } \end{aligned}$ | 24 | Tinned coppér, flexible stranding; rubber insulation; tinned copper braid shield; fine brown cotton braid | 16x36 | . 010 |  | .085* |
| $\square=0$ | 8014 | $\begin{aligned} & 25^{\prime} * * \\ & \text { s00' } \mathrm{Sk} \\ & \text { Chrome } \end{aligned}$ | 25 | Tinned copper, flexible stranding; chrome vinyl plastic insulation <br> Packaged 25 ft on card, 5 cards | $\begin{array}{r} 13 \times 36 \\ \text { in carton } \end{array}$ | .010 |  | . 044 |
| cathode-ray tube lead cable |  |  |  |  |  |  |  |  |
|  | $8869$ | $\begin{gathered} 25 \text { ' } 5 \\ 100^{\prime} \mathrm{s} \\ \text { Red with } \\ \text { Two } \\ \text { White } \\ \text { Tracers } \end{gathered}$ | 20 | Tinned copper, flexible stranding; polyethylene plastic insulation, red cotton braid with 2 white tracers; lacquer coating | $7 \times 28$ | . 035 | . 145 | 10000 |
|  | 8868 | $\begin{gathered} 25^{\prime} \text { S } \\ 100^{\prime} 5 \\ \text { Red } \end{gathered}$ | 20 | Same as 8869 except heavier insulation and solid red braid | $7 \times 28$ | 1/16 | . 205 | 20000 |
| test prod wire |  |  |  |  |  |  |  |  |
|  | 8899 | $\begin{gathered} +14^{\prime} \mathrm{CK} \\ 100 \mathrm{~K} \\ 1000^{\prime} \mathrm{s} \\ \text { Red } \\ \text { Black } \end{gathered}$ | 18 | Tinned copper, extra flexible stranding; cotton wrap; rub. ber insulation | $65 \times 36$ | . 043 | . 140 | 5000 |
| $\qquad$ | $8898$ | $\begin{gathered} 100^{\prime} 5 \\ 500^{\prime} \mathrm{S} \\ \text { Red } \\ \text { Block } \end{gathered}$ | 18 |  | $65 \times 36$ | . 088 | . 230 | 10000 |
|  | *Suggested values. |  | $\dagger \dagger 7^{\prime}$ Red and $7^{\prime}$ Black |  |  |  |  |  |

## magnet wire



## BELDEN - replacement and extension cords

each cord bears Underwriters' label of approval

| - | Trade Number | $\begin{aligned} & \text { Lengths } \\ & \text { tPackage } \\ & \text { and } \\ & \text { Color } \end{aligned}$ | A.W.G. | CONS | AL ction | Stranding | Insulation Thickness (inches) |  | Voltage* <br> Rating (volts) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1701 | 1 K | 10 Ft Brown | Extension Cord-Size 18, Type POSJ-64. Extraflexible all-rubber parallel lamp cord. Both ends unbreakable rubber. Does not mar floors or furniture. Safe for use on table tops. |  |  |  |  |  |
|  | 1702 | 1 K | $\begin{aligned} & 15 \mathrm{Ft} \\ & \text { Brown } \end{aligned}$ |  |  |  |  |  |  |
|  | 1705 | 1 K | 6 Ft Brown |  |  |  |  |  |  |
|  | 1751 | 1 K | 25 Ft Black | Extension Cord-Size 18, Type SV. All-rubber portable cord with Belden molded-on all-rubber connector and Belden unbreakable soft rubber plug. |  |  |  |  |  |
|  | 1725 | 1 K | 7 Ft 6 In. <br> Brown | Replacement Cord-Size 18, Type POSJ-64. Extraflexible all-rubber parallel lamp cord with Belden unbreakable soft rubber plug; opposite end stripped and tinned-ready for easy attachment. For lamps, radios, small appliances. |  |  |  |  |  |
| $0^{2}$ | 1749 | 1 K | 6 Ft 3 In. Black | Replacement Cord-Size 18, Type SV. All-rubber portable cord with Belden unbreakable soft rubber plug; opposite end stripped and tinned-ready for easy aitachment. For amplifiers, test equipment and small appliances. |  |  |  |  |  |
|  | 8874 | 1 K | 6 Ft Brown | Television Power Supply Connector Cord. Original equipment on most television sets. Size 18, Type POSJ-64. Extra-flexible all-rubber parallel lamp cord with Belden molded-on all-rubber connector and Belden unbreakable soft rubber plug. |  |  |  |  |  |
|  | 8125 | 10 K |  | Male Connector-Flush mounting for use with 8874 cord connector set. |  |  |  |  |  |
| headphone cords | 8872 | 1 K | $\begin{gathered} 5 \mathrm{Ft} \\ \text { Brown } \end{gathered}$ | Headphone Set, Pin tips all ends. 5 Ft of extra-flexible moisture-resistant rubber insulated tinsel cord. Over-all durable brown cotton braid. "Y" arm sections 15 ", coupled in series. |  |  |  |  |  |
| $\square$ | 8873 | 1 K | $5 \mathrm{Ft}$ Hrown | Headphone Set, Spade tips 4 phone ends. Pin tips plug end. ${ }_{5} \mathrm{Ft}$ of extra-flexible moisture-resistant rubber insulated tinsel cord; over-all durable brown cotton braid. " $Y$ " arm sections 15 ", coupled in series. |  |  |  |  |  |
| $A C \cdot D C r e s i s t a n c e ~ c o r d ~$ | Trade Number |  | Resistance (ohms) | Color Marker | Voltage Diop at 0.3 <br> Amps. | *Sum of Tube Voltages for |  |  |  |
|  |  |  |  |  |  | 110 Volt Line | 115 Volt L |  | Volt Line |
|  | 8920 | 1 K | 135. | Green ${ }^{\text {- }}$ | 40.5 | 69.5 | 74.5 |  | 79.5 |
|  | 8921 | 1 K | 165. | Yellow | 49.5 | 60.5 | 65.5 |  | 70.5 |
|  | 8976 | 1 K | 180. | Orange | 54. | 56. | 61. |  | 66. |
|  | 8929 | 1 K | 220. | Blue | 66. | 44. | 49. |  | 54. |
|  | 8977 | 1 K | 250. | Grey | 75. | 35. | 40. |  | 45. |
|  | 8922 | 1 K | 290. | J3lack | 87. | 23. | 28. |  | 33. |
| To determine the proper ac-dc line cord, add the filament voltages of the individual tubes in the receiver. From the chart at right, select the nearest figure under the heading SUM OF TUBE VOLTAGES in the column headed by the available power supply. Length 6 ft . Size 18. | 8923 | 1 K | 330. | Brown | 99. | 11. | 16. |  | 21. |
|  | 8924 | 1K | 560. | White | **84. | 26. | 31. |  | 36. |
|  | 8925 | 1 K | 960. | Red | ***72. | 38. | 43. |  | 48. |
| *When line voltages other than those shown must be used, subtract sum of tube vollages from available line voltage to obtain voltage drop. The nearest figure in "Voltage Drop"" column gives proper ac-dc cord to use. <br> **Voltage drop at 0.175 amps . ${ }^{* * * V o l t a g e ~ d r o p ~ a t ~} 0.75 \mathrm{amps}$. |  |  |  |  |  |  |  |  |  |

## BELDEN • Price List




# RADIO AND THLEVISION WIRE PRODUCTS 

## P-A WIRES and CABLES <br> HOLLYWOOD MICROPHONE CABLES (Shielded-Jacketed)

Substantially made to withstand rough usage. Special low capacity color coded conductors. Braided with tinned copper shield. Tough weatherproof polished jacket overall.
Single Conductor -- unusually low capacity. Can be used up to 100 ft . with high impedance ribbon microphones and up to 50 ft . with crystal microphones.


Two Conductor, for low impedance microphones and transmission lines.

| 1152 | 2 | 100 | 312 | \$105.00 |
| :---: | :---: | :---: | :---: | :---: |
| 1153 | 2 | 250 | 312" | 102.00 |
| 2152 | 2 | 500 | 产2" | 100.00 |
| 1154 | 3 | 100 | $3^{12}$ | 130.00 |
| 1155 | 3 | 250 | 稿" | 127.00 |
| 2153 | 3 | 500 | 121" | 125.00 |
| 1156 | 4 | 100 | */8' | 160.00 |
| 1157 | 4 | 250 | \%/8' | 157.00 |
| 2154 | 4 | 500 | \%/8" | 155.00 |

## LAPEL MICROPHONE CABLE



Similar to No. 2101 except smaller in diameter.

| 1160 | 1 | 100 | $.175^{\prime \prime}$ | $\$ 75.00$ |
| ---: | ---: | ---: | ---: | ---: |
| 1161 | 1 | 500 | $.175^{\prime \prime}$ | 72.00 |
| 2160 | 1 | 1000 | $.175^{\prime \prime}$ | $\mathbf{7 0 . 0 0}$ |

## SHIELDED CABLES

## 

These cables are recommended for sound recording equipment and P.A. systems where a flexible shielded cable is necessary. Each conductor consists of multistrand copper wire cotton served, rubber covered and braided with color-coded cotton. Conductors No. 20 gauge unless otherwise specified.

| $\begin{aligned} & \text { Cat. } \\ & \hline \end{aligned}$ | Put-Up |  | List Price per M ft. |
| :---: | :---: | :---: | :---: |
| 1114 | $100^{\prime}$ | Spool 2 Conductor | \$ 78.00 |
| 1115 | $250{ }^{\prime}$ | Spool 2 Conductor | 75.00 |
| 1116 | $100^{\prime}$ | Spool 3 Conductor | 108.00 |
| 1117 | $250{ }^{\prime}$ | Spool 3 Conductor | 105.00 |
| 1118 | $100{ }^{\prime}$ | Spool 4 Conductor | 135.00 |
| 1119 | 250 | Spool 4 Conductor | 132.00 |
| 1120 | $100^{\prime}$ | Spool 5 Conductor | 161.00 |
| 1121 | $250{ }^{\prime}$ | Spool 5 Conductor | 158.00 |
| 1122 | $100^{\prime}$ | Spool 6 Conductor | 183.00 |
| 1123 | $250{ }^{\prime}$ | Spool 6 Conductor | 180.00 |

SHIELDED CABLES-COTTON BRAID OVERALL

| Cat. <br> No. | Put-Up | List Prico <br> per Mft |
| :--- | :--- | ---: |
| 1124 | $100^{\prime}$ Spool 2 Conductor | $\mathbf{9 8 . 0 0}$ |
| 1125 | $250^{\prime}$ Spool 2 Conductor | 95.00 |
| 1126 | $100^{\prime}$ Spool 3 Conductor | 135.00 |
| 1127 | $250^{\prime}$ Spool 3 Conductor | 132.00 |
| 1128 | $100^{\prime}$ Spool 4 Conductor | 163.00 |
| 1129 | $250^{\prime}$ Spool 4 Conductor | 160.00 |
| 1130 | $100^{\prime}$ Spool 5 Conductor | 193.00 |
| 1131 | $250^{\prime}$ Spool 5 Conductor | 190.00 |
| 1132 | $100^{\prime}$ Spool 6 Conductor | 223.00 |
| 1133 | $250^{\prime}$ Spool 6 Conductor | 220.00 |

## RADIO BATTERY CABLE AND DYNAMIC SPEAKER EXTENSION CABLE

Multi-conductor cables having flexible conductors with overall heavy cotton braid. Individual conductor consists of stranded copper, rubber covered with color-coded cotton braid. Suitable to all types of P.A. Systems. Conductors No. 20 gauge.

| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | 1'ut un in spool | List Price per Mit. | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Put up in spool | List Price per Mit. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 228 | 3 Wire-100 Ft. | \$ 70.00 | 241 | 7 Wire-100 F't. | \$137.00 |
| 219 | 4 Wire-100 Ft. | 85.00 | 222 | 8 Wire-100 Ft. | 153.00 |
| 221 | 5 Wire-100 Ft. | 100.00 | 223 | 9 Wire-100 Ft. | 170.00 |
| 231 | 6 Wire-100 Ft. | 120.00 | 224 | 10 Wire-100 Ft. | 188.00 |

## SHIELDED LEAD-IN AND GROUND WIRE

These products are made of flexible stranded copper conductors insulated with a substantial wall of high grade rubber with an overall of close tinned copper shield. They are most frequently used as a shielded down lead to ground out interference noises.

No. 20 1/32" R.C. ${ }^{\text {List Price }}$ Po. 18 1/32" R.C. ${ }_{\text {Pist Price }}^{\text {Price }}$ 1143-50 F4. Coil..... $\$ 1.80$ 1146- 50 Ft. Coil..... $\$ 2.10$ $\begin{array}{llllll}1144-250 & \text { Ft. Spool.... } & 8.00 & 1147-250 & \text { Ft. Spool.... } & 9.10 \\ 1145-1900 & \text { Ft. }\end{array}$ $1145-1900$ Ft. Spool.... $30.00 \quad 1148-1000$ Ft. Spool..... 35.00

## 300-OHM TELEVISION DOWN-LEAD

 insulated with weatherresistant poly-ethylene

| Put-Up | $\underset{\substack{\text { List Price } \\ \text { Ea. }}}{\text { and }}$ |
| :---: | :---: |
| 100 ft . spool | \$3.70 |
| 250 ft . spool. | 9.00 |
| 500 ft . spool. | . 17.50 |
| 1000 ft . spool | . . 34.00 |
| Mill Reel, | $\begin{aligned} & \text { MFt. } \\ & \mathbf{3 0 . 0 0} \end{aligned}$ |
| about 2500 |  |

about 2500 ft .

## RG-59U COAXIAL CABLE



## < CON||SH <br> RADIO AND TELEVISION WIRE PRODUCTS

## INTERCOMMUNICATION CABLES



Conductors are No. 22 solid tinned copper insulated with either vinyl plastic or double cotton impregnated braid-cabled in color-coded twisted pairs-with overall cotton braid.

| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Put-Up | Width | List Price per Mft. |
| :---: | :---: | :---: | :---: |
| 1225 | 2 Pair | , 18 ") | \$54.00 |
| 1226 | 6 Pair | X. $\mathrm{I}_{6 \prime \prime}^{\prime \prime}$ ) | 153.00 |
| 1227 | 13 Pair | x. ${ }^{\frac{18}{\prime \prime}}$ ) | 325.00 |
| 1228 | 26 Pair | ( $5 / 8{ }^{\prime \prime}$ ) | 640.00 |

## TWO CONDUCTOR SHIELDED CABLE



Consists of two No. 20 solid tinned copper plastic insulated conductors, color-coded and twisted with overall close tinned copper shield.
No. 1230
$\$ 45.00$

## three conductor cable

3 Conductors are No. 20 solid tinned copper, plastic insulated, color-coded, twisted, with overall treated cotton braid.
No. 1231 $\qquad$ $\$ 42.00$

## THREE CONDUCTOR (One Shielded)

Consists of a twisted pair of No. 20 solid tinned copper plastic insulated wires, and a single No. 20 solid tinned copper plastic insulated and shielded, all twisted, with over-all dry cotton braid.
No. 1232 ........................................................... $12332^{75.00}$


## flexible Cords (Fixture Wires - Lamp Cords)

Fixture wires often used as all-purpose radio and lead-in wire. Lamp cords used for power supply and extension cords. Colors: Brown, Black, Ivory.


## AERIAL WIRE <br> Stranded bare wire - Copper

| No. | Ft. | Size | List Price |
| :--- | :---: | ---: | ---: |
| 40 A | 75 -ft. coil | $7 / 22$ | $\$ 1.07$ |
| 40 | 100 -ft. coil | $7 / 22$ | 1.40 |
| 40 B | 1000 -ft. spool | $7 / 22$ | 14.00 |
| 42 A | 75 -ft. coil | $7 / 24$ | .75 |
| 42 | 100 -ft. coil | $7 / 24$ | .95 |
| $42 B$ | 1000 -ft. spool | $7 / 24$ | 9.50 |

## LEAD-IN WIRE

STRANDED—Rubber Covered

| No. | Ft. | Saze | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | No. | Ft. | Size | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 300 | $50^{\prime}$ coil | 18-3. ${ }^{\prime \prime}$ | \$ . 60 | 302 | $500^{\prime}$ spool | 18-321 | \$5.50 |
| 301 | $100^{\prime}$ spool | 18-3/ ${ }^{\prime \prime}$ | 1.10 | 303 | $100{ }^{\prime}$ spool | 18-932 | 10.50 |

## LEAD-IN WIRE

| No. | Ft. | Size | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | No. | Ft. | Size | $\underset{\text { Price }}{\text { List }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 320 | $25^{\prime}$ coil | 18-3 ${ }^{\text {84, }}$ | \$ . 32 | 330 | $25^{\prime}$ coil | $20-3^{3 \prime}{ }^{\prime \prime}$ | \$ .28 |
| 321 | $50^{\prime}$ coil | 18-3*" | . 57 | 331 | $50^{\prime}$ coil | 20-3 ${ }^{\text {- }}$, ${ }^{\text {a }}$ | . 51 |
| 322 | $500{ }^{\prime}$ spool | 18 -永" | 5.25 | 332 | $500{ }^{\prime}$ spool | 20-34. ${ }^{\text {\% }}$ | 4.75 |
| 323 | 1000' spool | 18-3, ${ }^{16}{ }^{\prime \prime}$ | 10.00 | 333 | 1000 spool | 20-64 | 9.00 |

## TWISTED PAIR DOWNLEAD

Two conductors, each No. 22 stranded copper, 1/32" rubber-covered (one black, one red), twisted and covered with overall black weatherproof braid.

No. 122-List Mft.

$\$ 30.00$
"NOFLAME-COR'"-
The Television
Hook Up Wire


For the first time a hook-up wire for the trade with Underwriters' Label attached. The famous "NoFlame-Cor" wire is approved for $90^{\circ} \mathrm{C}-600$ volt usage.

| SOLID |  |  |  | Sthanded |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. | size | Put-un | $\begin{aligned} & \text { L/ast } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { Cata } \\ & \text { No. } \end{aligned}$ | Slze | Put-up | ${ }_{\text {Each }}^{\text {List }}$ |
| 470 | 22 | 100'spool | \$2.25 | 473 | 22 | 100' spool | \$2.45 |
| 471 | 20 | "1 | 2.55 | 474 | 20 |  | 2.80 |
| 472 | 18 | * | 3.15 | 475 | 18 | ، | 3.40 |

## RADIO HOOK-UP WIRE

## "CORLAC" HOOK-UP WIRE

Special under-insulation makes this hook-up wire moisture-proof and gives voltage break-down of 3100 volts (as per certified report of Electrical Testing Laboratory, N. Y. C.). Excellent push-back in waxed finish. Tinned copper conductors.


## AC-DC ANTENNA WIRE

Flexible Bare copper conductor with brown cotton braid.

| 661 | 1000 Ft. Spools | $\$ 10.00$ |
| :--- | ---: | ---: |
| 661 A | 25 Ft on Fibre | .33 |

## TEST LEAD WIRE

A super flexible conductor covered with heavy live rubber. Will not wear, kink or crack. Made in Black and Red. Mention color when ordering. O.D.-140".

| 1140 | 100 Ft . Spools | $\$ 3.00$ |
| :--- | ---: | ---: |
| 1141 | 500 Ft. Spools | 13.00 |
| 1142 | 1000 Ft Spools | 25.00 |



## A BIRNBACH <br> Birmbach ACCESSORIES



## THE NEW MODEL No. 6000 CHIMNEY MOUNT ANTENNA BASE

Installation men hase for years shown their preference for Birnbach Products - now, once again Birnbach slows the way. The New Birnbach Climney Mount Antenna Base No. 6000 has received a ruady and sensational acceptance. Its ease of installation, its unusual durability, rersatility, and last but not least its very low price have all added up now once again, as in the past, that lirnliach has shown the way to quality at a low, low price.
Here it is ... The New Birnbach Chimney Mount Antenna Base Model 6000 for . . . FM - TELEVISION - AMATEURS

## A Few of Its Many Features:

- Simple - One Man Operation

Sharply reduces installation time and cost.

- No Drilling

No special tools - no special equipment.

- Fits All Chimneys and adaptable for posts, corners of buildinge, etc.
- Two Seperate Sections

Longer distance between sections allows maximum mast support.

- Base Castings Made of Strong CorrosionResistant Die Cast Aluminum Alloy highest possible tensile strength.
- Easily Installed at Highest Elevation.
- Fits Masts $5 / 8^{\prime \prime}$ to $11 / 2^{\prime \prime}$ O.D.
- Complete With All Hardware ${ }_{2}^{2} 12$-ft. steel strapping, etc., ALL COMILETELS RUST-RESISTANT.
- Simple Instructions.

No. 6000 - Complete
List Price $\$ 5.50$ Per Pair

## WOOD SCREW ANCHOR

Especially desizned to give permanent anchorace in any kind of masomry for insulated ribbon, coaxial or similur type standolls. Threaled to take No. 10 Wool Screws and to fit $3 / \mathbf{s}^{\prime \prime}$ dia. hole. After partially insert. ins the threaded end of the standoff into this wood screw anchor and then using a pair of pliers to dig deeprr into the anchor you have positive assurance of a permanent troublefree installation. Rustproof, galvanized steel. Free tanping tool with each 100 anchors.
No. 7039
Standard Package 100
List Price $\$ 11.00$ per C


## MACHINE SCREW ANCHORS

These anchors are tapred for $1 / 4^{\prime \prime}$ machine serew bolts. Takes a $1 / 2^{\prime \prime}$ dia. hole and comes with a $3 / 4^{\prime \prime}$ loner bolt. Gives permanent anchorage. Used for fastening wall mounts brackets and pipe straps to any type of masonry. Free tamping tool with each 100 anchors.
No. 7040 Stand. Pack. 100 List Price $\$ 20.00$ per C

## ANCHOR BOLT ASSEMBLIES

This is the standard anchor used by installation compunies for fasteniug wall mounts and pipe straps to masonry. Camot pull out. Rustproofed. The $1 / 4$ " bolt comes with anchor and nut complete. Hole dia. $1 / 2^{\prime \prime}$. A vailable in $\underline{Q}^{\prime \prime \prime}$ and $3^{\prime \prime}$ lengths of holt. Designed to rive permanent anchorage. Corrosion-proof. Fee tamping tool with each 100 bolts.
No. 7041-2"
No. $7041-2^{\prime \prime}$
No $7042-3 "$
Standard Package 100 List Price $\$ 15.00$ per $C$ Standard Package 100 List Price $\mathbf{1 5 . 0 0}$ per C

## PIPE HANGER

Made of palvanized steel, this pipe hanger can be used for fastening poles, masts and other objects to walls, toots, pahles, etc.
No. 7038 Stand. Pack. 100 List Price $\$ 0.10$ ea.


## LAG BOLTS

For permanently holding hrackets, etc., in place. Made of galvanized steel, this sturly bolt serews easily into wood, brick, etc. Available in four sizes: $1^{\prime \prime}, 11 / \mathbf{2}^{\prime \prime}, 2^{\prime}$ $3^{\prime \prime}$. Specify size.
No. 7043 Stanl. Pack. 100 List Price $\$ 9.00$ per $C$

## EYE BOLT ASSEMBLIES

Designed for permanent anchoring of guy wires, cables, brackets, etc., in brick or masonry. Cannot pull out. Made of $1 / 4^{\prime \prime}$ material. Overall length $21 / 2^{\prime \prime}$. Dia. of eye $3 / 8^{\prime \prime}$. Hole_dia. $3 / 8{ }^{\prime \prime}$. Rustproofed. Use tamping tool No. 7046 .
No. 7044 Stand. Pack. $100 \quad$ List Price $\$ 18.00$ per C

## PIPE BOLT ANCHORS

Used to mount pipe poles or antenna masts directly onto brick or masonry. Cannot pull out. Made of $1 / 4$ " stock for $1 / 2^{\prime \prime}, 3 / 4^{\prime \prime}$ :and $1^{\prime \prime}$ pipe. A very useful and superior bolt. Rustproofed. Use tamping tool No. 7046.

No. 7045 Stand. Pack. $100 \quad$ List Price $\$ 28.00$ per C

## TAMPING TOOLS



Special Tamping Tool for anchoring eye bolts and pipe bolts. No. 7046.

List Price $\$ 4.75$ ea.

Tamping Tool for $1 / 4$ " anchor bolts.
No. 7047
................................................. List Price $\$ 2.00$ ea.

## 3 IN 1 TOGGLE BOLTS

Strongest toggle boit obtainable. Used for bolting or mounting to wood, hollow concrete, tile partitions or plaster walls. Can be used with nut end or screw end in wall. Bolt dia. $1 / 4^{\prime \prime}$. Bolt length $3^{\prime \prime}$. Rust proofed. No. 7048 Stand. Pack. 100 List Price $\$ 22.00$ per C

## STAR DRILLS

Made of hand-tempered and hand-forged high-grade tool steel for hand drilling in brick, stone and concrete. Standaril package 12. No. 7049- $3^{\prime \prime \prime}$ " $\times 8^{\prime \prime}$ long. List Price $\$ 0.85$ ea. No. 7050-1/2" $\times 8^{\prime \prime}$ long List Price .90 ea.

# A. Biruleact TV-FM ANTENNA <br> BIRNBACH <br> Birnuach ACCESSORIES 

## NEW ALL CHANNEL INDOOR TELEVISION ANTENNA

Can be Used on All Television Sets
 Fle For Television-coners Antimni rision Channels ( $1-13$ ) and biM No problem to install inmoors. handor rugs, or any our pitaren any rere, in atio on anu televigion sulw ft. 300 -th lum 10 sheat fert included. Individually hoxed No. 7031

List Price $\$ 2.95$ ea

## For Television (TV)

The flexilite folded dipole antenna for Television is perfect for indoor use. This anlemat can he placed in attics or in apartment houses: it catl be placed under rugs, behind large conches, behind drapes covering wimlows, etc. This acrial can be orjented for hest reception over all delevision stations. The new Bjrubach indoor Television Antemma should prove a real st-ller for bou. Transition loss measures 2.85 bis in television banul.
No. 7027 -Flexible Folded Dipole Antenna for Television (TV).
List Price (Individually Boxed)
$\$ 1.95$ ea. -List Price (Individually Boxed)
1.50 ea.

## For Frequency Modulation (FM)

The flexible folled dipole antenna for FM is excellent for all FM recevers. With the new FM Converters am lluners now on the market pou call elljoy a very hacrative sale on this low-priced antenna. Losses in line measure .85 DB per 100 feet ut 100 Ml
No. 7026-Flexible Folded Dipole Antenna for Frequency
Modulation (FM).
List Price (Individually Boxed)
$\$ 1.65$ ea.
For ahove antemas with 50 ft . lengths of 300 ohin Transmission Line ald $\$ 2.00$ to the list price
An attractive display card furnished to aid you in the sale of our two new products.


## GUY WIRE CABLE CLAMPS

(VIBRATION-PROOF)
New Vibration-I'roof Luck Clamps for positive grip on guy
wire. Veather-proofed throughout. Standird packase No. 762

List Price $\$ 0.20$.

## KNIFE SWITCHES

Made of special nickel-plated spring brass on a porcelain base. kerew terminals pocated conveniently for easy connec-



[^7]

## U BOLT

Useful for mountilg poles to steel phates, wooden sections, etc, Nuts and washers supplied. $21 / 4$ " overall; $1 / 4$ " thead length: $1 / 2^{\prime \prime}$ distance between legs, $1 / 4-20$ size thread.
No. 7035 ... Standard Package 50... List Price $\$ 0.30$ ea,

## TELEVISION LOOM

This is" Non Metallic Ionm is used for the protection of twin lead and Coax Cable on teleloom over that mart of the twin lead or coax cable which comes in contact with any slid'ty enges such as corners of buiblings, fire escapos, ete. Use frletion
 No $1015-100 \mathrm{ft}$

List Price 5.25 ea .

## PERFORATED HANGER STRAPPING



Can be used and adapted for mounting Antenna Masis to birious odd shaned objects; channeys, towers. etc. Made of $3 / 3^{\prime \prime} x .003$ gaivantzed steel
strap. pough that flexble. No.



## TELE-RAY FILTERS FOR BETTER TELEVISION IMAGE VIEWING

## Outstanding Feafures

- Scientifically compounded, optically perfected filtering for all
- Engineered to give a stereoscopic, life-like eifect t,o the Televisiu screet
- Instantly and easily attached by special arlhesire
- Picture Contrast increased ive emminalion of unwanted light softens grays - sharpens blacks
- Image becomes sharp and clear with increased detai] in room
- Glare fromition
- Glare from screen eliminated with resulting restfulness to eves
- Unbreakable.
- Bevelled edges (Super Quality)

Both gauges have the correct rigidity for volr viewime pleusure and are guaranteed not to bend or buckle under the most exteme operating conditions
Not to be confused with any cheap imitations of these quality crigineered products.

- Works on all Television sets
- Individually packed with simple instructions.
 No. List Price No. (isereled Edges) $7051-7^{\prime \prime}$ tuhe size Each $\$ 1.50 \quad 7056-7^{\prime \prime}$ tube size Each $\$ 3.25$ 7053-12" tube sin Each 2.00 7057-10" tulse size Each 4.25 $7054-15^{\prime \prime}$ tube size Each 3.25 7058-1 $2^{\prime \prime \prime}$ tube size Each 7.00 $7055-20^{\prime \prime}$ tuhe size Each $8.00 \quad 7069-10^{\prime \prime}$ tube size Each 8.50


Call be used for sceuring guy wire. Made of steel galvanized. When hammered in itt an angle will remair secure uniler any condition, an angle win reNo.
7036 Standardl'acliage $\quad$ List Price

BRIDLE RING


Ruggedy constructed. Will stand up under maxiNom strain. Matle of gilvanized steel. No.
7037

Standard fockage List Price

## GUY SCREW ANCHOR

Deslgned to be atded to existing masts where guy wires are necessary. By drilling at i/4" hole through mast. Secure uny size gity wire. distimon. Complete with hut and washer No. 1971....... Standard Package $50 . .$. . . List Price $\$ 0.10$ ea.

## $\sqrt{3}$

## INSULATED WIRING NAILS

'erfected for twin leat indors. The minimum of metal, in the head and wide Tbrebohrd fiving firm suphort oo blastie hand creates an cention. Fully insulated. Standard pachage 100 to a box 1000 to No. T42-White or Brown

List Price $\$ 7.50$ per M

# 4 BIRHBACH ACCESSORIES 

## LEADIN STRIPS <br> 

Covered with a heary cotton braid, weather-proofed No. Lgth. Std. Pkg List Price 611 -Black 12", .....50....... $\$ 0.11$ 613-White 12' 50

Screw Terminal Leadin Strip


Locks the wire together with the strip in a secure connection assuring perfect contact. Ifas Weather-proof covering
over a copper strip with cadmium ulated terminals. Available in white or hlack.



COPPER STRAP CLAMP

## 

Will take \%s" $^{\prime \prime}$ to $2^{\prime \prime}$ l'jpe.
No. 600 -Std. pkg. 50. Ea. $\mathbf{\$ 0 . 1 0}$ List

## ADJUSTABLE FLEXIBLE PIPE CLAMP

This outstanding justable sipe clamp, ilts 3 all masts and moles from This clamp. when place 1 under the Birnbach free floating guy ring prorides an excellent an-
chor for attaching guy
 wires.
No. 627-Std. pkg. 50. Ea. $\$ 0.25$ List

## SADDLE GROUND

 CLAMPSThese ground clamps have a hard nointed screw which digs through rust and makes a positice contact. Fits a $3 / 8$ " to 2" pipe.


No.
Std. I'kg. Each
625-Heary Saddle Clamp.50.. $\$ 0.20$

## FLOATING GUY WIRE RING

This free floating ring
Masts and telescopes easily over smaller up ger mast, and rests on No


Each 7034—Sind. Pkg. 100 ...List $\$ 0.25$

MAST Stondoff ASSEMBLY
For fast mounting o win lead. Lead slins easily into sturdy insulated insert. This assembly a round all size masts Standard package 50 No. 628


Standaril Package 9
TV-FM GUY WIRE KIT
A compuct and complete kit. Do not. allow vour new television installation to be destroyed ly the first windstorm. A necessary aldition for successtul television survice. Assures a trouble-free and eflicient installation with a minimum of effort and cost. Simple and complete directions with each indisidually boxed kit. Contains 50 ft. 6 strands heavy NK. 20 puy wire. 3 No. 665 screw eres. 3 Birnbuch No. -63 turnl uckles, 3 Birnbach No. 664 Springs, 6 BirnBoxed.

List Price, Each $\$ 3.40$ A "Natural" for your' customer's Television pleasure

## GUY WIRE

Finest quality guy wire obtainable. Constructed of high tensile streneth galvanized steel stranded twisind wire. Ideal for geving up television transmitter, receiver masis and poles. Alade of 6 strands vo. 20. Fully weather-proofed. A real necessity for television iustillers.

$$
\begin{array}{cc}
\text { No. } & \\
19-\quad 25 \mathrm{ft} . \text { coil } \\
20-50 \mathrm{ft} . \text { coil } \\
221-100 \mathrm{ft} . \text { coil } \\
220-500 \mathrm{ft.} \text { spool } \\
1220-1000 \mathrm{ft} . \text { spool }
\end{array}
$$

450 ltos. Tensile Strength

| No. |  | List Price |
| :---: | :---: | :---: |
| 19- | 25 ft . coil | Each \$0.44 |
| 20 | 50 ft . coil | Each . 88 |
| 221- | 100 tt. coil | Each 1.76 |
| 220- | 500 ft . spool | Each 8.38 |
| 1220-1 | 000 ft spool | Each 16.75 |

## GUY WIRE

This low priced guy wire can be used on short runs and where maximum tensile strength is not required. It has 4 strands of So. 20 high tensile
 twisted steel gavanized wire. Fully weather-proofed. 225 lbs. Tensile Streng'th.

No.

$221 \mathrm{~A}-100 \mathrm{ft}$-.................................................................................... 1.25
220A-500 lt.
1220A- 1000 ft .
Each 6.25
Each 12.00

## DOUBLET LIGHTNING ARRESTERS

This Arrester is of the air gap type which is the accepted means of protecting double antemnas from lightninf. Insialtation in structions are printed on the bos. No. 2650-Doublet Lightning Arrester
Sti. Pkg. 25............. $\$ 0.50$ Std. Pkg. $25 \ldots \ldots \ldots \ldots$............. $\$ 0.5$ No 2650-Std. I'kg. 50.Ea. \$0.56 Lis

List Price Each $\$ 0.10$ | Each |
| :--- |
| Each .15 | Each . 25

## INSULATED STANDOFFS

TWIN LEAD TYPE
This insulated twin lead standof is quality engineered and is constructed of low loss insulating material. These sturdy insulators are slotted to take the 300 ohm ribhon twie line and are soldy held hy the eye of the cadmin-plated steel screns. The No. 1 are machice ser $10 / 32$ thread.

| No. |  | Standard Package |  | Price |
| :---: | :---: | :---: | :---: | :---: |
| 1963-3" |  | 100 | Each | \$0.10 |
| 1965-3" | Ms. | . 100 | Each | . 15 |
| 1964-7" |  | 100 | Each | . 15 |
| 1967-12" |  | 25 | Each | . 25 |

SCREW EYES - bAKELITE EYES
Standard Package 100.
50.
25.

## TURNBUCKLES

Constructed of rustproofed galvanized steel. Used to take up any slack in guy wire. Convenient. durable. dependable. Standard Package 100

No.
$963-3^{\prime \prime}$
$964-17^{\prime \prime}$
$964-1$
"



$\qquad$

Each $\$ 0.27$ List Price

# Birnbach HOOK-UP WIRE 

SPECIAL SPOOL ASSORTMENT \$1.10 LIST PRICE

| No. | Ft. | Size | Type | No. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3000 | . 65 |  | Solid I'ushback | $3013 .$ | Ft. | Size | Type |
| 3001. |  | 20 | Solid Pushback | 3014 |  |  | Solid Leadin |
| 3002. |  | 18 | Solid Pushbaek | 3015. |  |  | Stranded Leadin |
| 3003. | 35 | 16 | Solid Pushback | 3016. |  |  | Stranded Lacquered |
| 3004. |  | 14 | - Solid Pushback | 3017. |  |  | White Ac-DC Wire |
| 3005. | U | 22 | Strandad Pushback | 3018 |  |  | K゙inkless Wire |
| 3006. | 45. | 20 | Stranded Pushback |  |  |  | Twisted Lamp Cord |
| 3007. | 40 | 18. | Strandel Pushhack |  |  |  | Aingle Fix. Wire |
| 3008. | 30. | 16. | Stranded Pushback | 3021 |  |  | Parallel Sllk |
| 3009. | 20 | .1. | Stranded Pushback | $3022$ | $10$ |  | Vht. Brn. Zip Corl |
| 3010 | . 50 | 18. | . Colored Rubber | 3023 |  |  | solid Tinned |
| 3011 | . 35 | .16. | . Colored IRubber | 3024. |  |  | Bell Wire |
| 012 |  | 4. | . Stranded Leadin |  |  |  | -shimdea Wire |

FREE DISPLAY One Display is given with each initial order for 100 spools. Facti Display made of strong. re-inforced steel, mahogany crackle finish with attractive 3 color Display at toj. Space provided to indicate YOUk

FINTRA IUSPLAY TACKS AVALIAIBLAFAT \$3.25 FACH. NET
Heivht - "24" Width - 12 米"



COLORS:

|  | COLORS: |
| :--- | :---: |
| Black | Red |
| Gray | Yellov |
| Trown | Purple |
| White | Green |
| Mlue | Orange |
| Dk. Blue | Pink |
|  |  |
|  | Tan |

Note: For 25.000 feet of on color. deduct $10 \%$ of

## Thermoplastic Synthetic Insulated Radio and Electronic Hook-up Wire (Fungus Proof)

 * SPECIFICATION JAN - C-76Type SRIR—1000 Volt

| Approx. <br> AWG <br> Cat. No. | Navy Standard Conductor Designation |  | Conductor Construction | Nom. Wall | $\begin{aligned} & \text { Max. } \\ & \text { O.D. } \end{aligned}$ | List Price Per M Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7024 - 24 Stranded |  | (16) | 16 wires .005" |  |  |  |
| 7000-2* Solld | 3/5 | (1) | . 0253 solid | . 015 " | .062" | $\$ 16.50$ 12.50 |
| 7001-29 Stranded |  | (i) | - wires 010 | . 015 " | . $0666^{\prime \prime}$ | 12.50 16.00 |
| 7002-20 Solic |  |  | . 032 solil! | 015 " | . $0688^{\prime \prime}$ | 15.00 15.00 |
| 7003 - 20 Stranded | 1 | (10) | 10 wires . 010 | . 015 " | .07 ${ }^{\text {. }}$ | 19.50 |
| 7004-18 solid | $11 / 2$ | (1) | . 0403 solid | . 015 " | . 076 " | 19.00 |
| 7005-18 Stranded | $11 / 2$ | (16) | 16 wires . 010 | . 015 " | . 083 " | 22.50 |
| 7007-16 Stranded |  | (26) | 26 wires . 010 | .015"' | .096 ${ }^{\prime \prime}$ | 37.50 |
| 7011-12 Stranded |  | (65) | 4 l wires 010 | . $018^{\prime \prime}$ | . $120{ }^{\prime \prime}$ | 55.00 |

The above jtems meet all requirements of Army-Navy joint specification JAN-C-76, growth is required.

## SPECIFICATIONS

-Electrical Preat A-Dielcetric Properties: A-Dieleetric strength C-Creepage resistance

II-Mechanical Properties: A-Low temperature theximilty C-Resistance to heat deformation D-Ahrasion resistance
E-Low moisture absornt

III-Chemical and Other Properties: A-lResistance to common solvents C-Fungus resistunce

## SHIELDED LEAD-IN WIRE

Used to prevent the pickup of interference or man-made statle. Consisis of a stramied tinned conper coniluctor with a wall of live rubher over which a tinned copper luald is woven.

No. 20-1/64"
 $810-500 \mathrm{Spool} .105$. . 090 . . $\$ 25.00$

No. 18-1/64"
807-25 Coil ..125... 100. \$ 1.30 809—100 Spool .125...100.. 5.00 803-250 Spool .125...100.. 12.50

No. 16-1/32"
$825-25$ Coll $\quad$. $90 \ldots 145 \ldots \$ 1.75$ 851 - 100 Spool . 90...145.. 6.50 802-250 Spool . 90.. .145. 15.00

$$
\text { No. } 14-3 / 64^{\prime \prime}
$$

804-25 Coil .. 95.. 185..\$2.25 806-100 Snool . 95...185.. 8.50 801 -250 Spool . $95 \ldots 185 \ldots 22.50$

## RADEX SLIPBACK HOOKUP WIRES

Ithas a covering of rubber over a cotton wrap and is then copered with a bright cotion insulation to fray or hunch up whation. This construction will not cause the strength and will whthstand all climatic changes without breakdown high dielectric



## BIRNTEX SLIPBACK WIRE

This wire is constructed of quality materials and carefully insulated with a cotion wrap over which a coiton braid is closely woven. and then siturated with parafin.


SOLID COLORS:-Red, Black, Green, Blue, Yellow, White,
TRACER COLORS:-Red, Black, Green, Blue, Yellow, Brown,


# A. Birnbach CABLE and TRANSMISSION LINE COAXIAL CABLE 

## PA and COMMUNICATING

 SYSTEM CABLES

## Shielded Twisted

 PairConstructed of solld cotton wrap color coded cotton fraid twisted pair waxed, and bare copper braid woven orerall.

## No.

 $82100 \mathrm{Ft} . . . .2^{2} \ldots . .125 \ldots . .$. . $\$ 6.75$ 823-100 Ft. ...... 19....... $145 . . .$. . 8.00 824-500

## Armored

Speaker Cable Constructed of 2 No. 18 ductors 1 rubber color coded cotton braid waxed, pater wrap and closely armored.
No Size 0.D. List Priee $1110-100 \mathrm{Ft} . . .18 \frac{1}{6} 4 . \ldots .{ }^{2} 155 \times .260^{\prime \prime} . . \$ 10.00$ 1111-250 Ft. ... $188 \frac{1}{4} \cdot \ldots .{ }^{2} 155 \times 260^{\prime \prime} . .20 .00$



Rubber Shielded Microphone Cable Consists of individual flexthle tinned copper conductors, each insulated with a heary wan easy jdentiffcation. A woren orer all conductors, and then colton wrapped. A 132 wall of tough rubber is placed overall. It is a weathermoof cable. ideal for out

|  | No. Conds. Ft, |  | 8 ize | Cap. bet. Shield \& Cond. mmfds. | Cap. bet. Conds. mmids. $0 . D$ |  | List <br> Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 772 | 2 | 100 | 20 | 55 | 31 | . 270 | \$ 15.00 |
| 1772 | 2 | 250 | 20 | 55 | 31 | . 270 | 35.00 |
| 773 | 2 | 100 | 20 | 58 | 33 | . 305 | 19.50 |
| 1773 | 3 | 250 | 20 | 58 | 33 | . 305 | 48.75 |
| 774 | 4 | 100 | 20 | 48 | 28 | . 345 | 22.50 |
| 1774 | 4 | 250 | 20 | 48 | 28 | . 345 | 59.75 |
| 775 | 5 | 100 | 20 | 51 | 29 | . 395 | 27.50 |
| 1775 | 5 | 250 | 20 | 51 | 29 | . 395 | 68.75 |
| 776 | 6 | 100 | 20 | 45 | 27 | . 405 | 32.00 |
| 1776 | 6 | 250 | 20 | 45 | 27 | . 405 | 80.00 |
| 777 | 7 | 100 | 20 | 49 | 27 | . 420 | 35.00 |
| 1777 | 7 | 250 | 20 | 49 | 27 | . 420 | 87.50 |

## RUBBERS. J.

CABLE


Consists of individual flexible timed copper
condutiors, each insucondurtors, carch insu-
ated with a heary wall of colored rubber for easy identification. A $1 / 32$ wall of tough polishe rubber is placed overall. It is a weathernroof calle. iden for outd

| Cat. | No. <br> Conds. | Ft. on <br> Spool | O.D. | List <br> Priee |
| :---: | :---: | :---: | :---: | :---: |
| 788 | 2 | 100 | .250 | $\$ 12.00$ |
| 789 | 2 | 250 | .250 | 28.25 |
| 790 | 3 | 100 | .300 | 15.25 |
| 791 | 3 | 250 | .300 | 35.00 |
| 792 | 4 | 100 | .325 | 19.50 |
| 793 | 4 | 250 | .325 | 45.00 |
| 794 | 5 | 100 | .370 | 24.00 |
| 796 | 6 | 100 | .400 | 30.00 |
| 797 | 6 | 250 | .400 | 70.00 |
| 798 | 7 | 100 | .400 | 35.00 |
| 749 | 8 | 100 | .460 | 40.00 |

FM and TELEVISION TWIN LEAD 300 OHM TRANSMISSION WIRE


Has full thickness insu lation throughout Yolyethylene insulation resists oll. acids and the efrects of attenua. tion. Reduces distortion.
R.M.A. STANDARD

Conduttors, Bare Copper.........7/No. 28 AVG Insulating Material
Weight per 1000 ft
Weight per 1000 ft. . . . . . . . . . . . . . . . 1400 lhs.
Impedance.
attenuation in Decibels per 100 ft . 50 MC
100 MC
0.68
0.85
 No. $7030-1000 \mathrm{ft}$. spools. . . . List Price 40.00 ea. $50-\mathrm{ft}$. and $100-\mathrm{ft}$. coils individually hoxedt

## COPPERWELD ANTENNA WIRE

(STRETCHLESS)


Has steel core covered with copper heavily strength - several times that of entmeled conber wire,
ideat R.F. resistance.
Por
transmitting jdeal for transmitting
doublet and directional sutema spstems. Whll maintain frequency characteristics of intentia


SPECIAL LENGTIIS AVAILABLE ON ORDER

## 

Crystal Microphone Cable
For use with crystal They are desirned for Low caparity and low losses. Constructed of tinned stranded conductor with a wall of low capacity rubber and closely woven shield and tough rubber wall overall.
 per Ft.
Size mmfds.


| No. | Ft. | Size | per Ft. mmfds. | O.D. | Lis |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 872 | 100 Crysta? | 20 | 37 | . 270 | \$12.0 |
| 1872 | $\underline{050}$ ¢ hystal | 20 | 37 | . 270 | 28.5 |
| 870 | 100 Laje] | 20 | 60 | . 175 | 9.0 |
| 1870 | 250 lapel | 90 | 60 | . 175 | 22.5 |
| 871 | 100 Lapel | 20 | 50 | . 155 | 9.0 |
| 1871 | 250 Lapel | 20 | 50 | . 155 | 22.5 |


bralded with cotton, color ber compouth conper hield is woven overall. Used to prevent interference frotn being picked un.

$$
\begin{gathered}
\text { Call. } \\
\text { bet. } \\
\text { Shicli \& bet. } \\
\text { Cond. Conds. }
\end{gathered}
$$

| 972 | 2 | 100 | 20 | 76 | 61 | .205 | $\$ 9.50$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 973 | 3 | 100 | 20 | 90 | 50 | .210 | 11.00 |
| 974 | 4 | 100 | 20 | 62 | 35 | .285 | 14.00 |
| 975 | 5 | 100 | 20 | 6.1 | 43 | .290 | 17.00 |
| 976 | 6 | 100 | 20 | 95 | 48 | .300 | 20.00 |

976
977
978
979
980

## heavy duty s. J. CABle



73 OHM COAXIAL CABLE RG.59/U
Constructed of No. 22 solid plain copperweld with . 146 O.D. Dielectric insulation, then with copper inner shield and Black Vinyl jacket. Uverall O.D. is .242. Nominal impedance 73 ohms. Nominal capacitance 21 mmf . per ft. Permits prak receiver performance without distoritou. Meets all requirements for Television ant FM range.
Attenuation (Mc) $\quad 10 \quad 30 \quad 100 ~ 300 ~ 400$ $\begin{array}{llllllll}\text { D13 per } 100 & \mathrm{ft} \text {. } \ldots \ldots . . & 1.0 & 2.0 & 3.8 & 7.0 & 7.9\end{array}$ No.
907-100 ft. Spool............................. $\$ 15.00$
$908-250 \mathrm{ft}$. Spool ................................ 36.00

SHIELDED TRANSMISSION CABLE $\rightarrow \begin{aligned} & \text { Twisted, shiclded } 2- \\ & \text { cond. } 72 \text {-nhnu trans- }\end{aligned}$ cond. 72 -ohm trans mission catse. Weath terference. A matching stub is recommenderd with
this cable in phice of 300 -ohm line. 2 -cond. No. 22 strands, shielded.
No. 1978- $100 \mathrm{ft} . . . . .$. List Price $\$ 10.50$ ea No. $1978-100$ 角.

List Price $\$ 10.50 \mathrm{ca}$
Commercial Type Twisted Pair
(No. 18 STRANDED)
This cable is used extensively as original
equipment of mister equijment of master
antenna systems. It is constructed of ${ }^{2}$ - 0 . 18 tinned stranded conductors insulated with a sperial grade of rubher color coded and covered with a shite weatherproof cotton braid.


|  |  |  |  | BATTERY C | BLE |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Constructed of | ividual |
|  | 4.4 |  |  | rubber insulated | ramted |
|  | - |  |  | conductors, cotton | aided |
|  |  |  |  | and color coded. | closely |
|  |  |  |  | wasen cotion bra | overill |
|  | No. Conds | Ft | Size | O.D. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
|  |  |  |  |  |  |
| 172 | 2 | 100 | 20 | 0.200 | \$6.00 |
| 173 | 3 | 100 | 20 | - .205 | 8.00 |
| 174 | 4 | 100 | 20 | 0 . 260 | 10.00 |
| 175 | 5 | 100 | 20 | - . 300 | 12.00 |
| 176 | 6 | 100 | 20 | - . 320 | 14.50 |
| 177 | 7 | 100 | 20 | - 340 | 17.50 |
| 178 | 8 | 100 | 20 | - 370 | 20.50 |
| 179 | 9 | 100 | 20 | - 400 | 23.00 |
| 180 | 10 | 100 | 20 | 0.410 | 25.00 |
| 182 | 12 | 100 | 20 | - 430 | 30.00 |
|  | 11 Ca | es | ble | in Suecial Len |  |



Constructed of individual tinned stranded copper vith a wall of rubber and covered with a colored cotton braid

|  |  |  |  |
| :---: | :---: | :---: | :---: |
| No. |  |  |  |
| No. Conds. | Ft. | Size |  |
| 1972 | 2 | 100 | 20 |
| 1973 | 3 | 100 | 20 |
| 1974 | 4 | 100 | 20 |
| 1975 | 5 | 100 | 20 |
| 1976 | 6 | 100 | 20 |
| 1977 | 7 | 100 | 90 |

Shieldi Cap.
Cond. Conds.
List No. $\mathrm{Con}^{\mathrm{N}}$

| 972 | 2 | 100 | 20 | 120 | 65 | .215 | $\$ 10.5$ |
| ---: | :--- | :--- | :---: | :---: | :---: | :---: | :---: |
| 973 | 3 | 100 | 20 | 86 | 49 | .240 | 15.0 |
| 974 | 4 | 100 | 20 | 103 | 46 | .293 | 18.0 |
| 975 | 5 | 100 | 90 | 73 | 38 | .312 | 21.00 |
| 976 | 6 | 100 | 20 | 70 | 36 | .330 | 25.0 |
| 977 | 7 | 100 | 20 | 68 | 35 | .350 | 28.00 |
|  |  |  |  |  |  |  |  |

Diathermy Cable Specially designofl for use with electrotherany
apparatus. It is exapparatus. It is ex-
tremely flexible wih a
flexible jacliet to with. spoctal grade of toukh live rexiril.

|  | Breakrown Voltage |  |  |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Ft. | 60 Cycles A | D. |  | Price |
| 756 | 100 Spool | 20.000 | . 300 |  | 14.00 |
| 757 | 1000 Ree1 | 20,000 | . 300 |  | 126.00 |

# B. DIAL and MAGNET WIRE 



## DIAL CABLE

## 42 Strand

 Phosphor Cable Constructed of the finest phosphor bronze wire ter. Due to its high tensile strensth, it will not stretch.No. 1025- 95 , Spool List Price $\$ 1.20$ each No. 1050 - 50 ' Sbuol List Price 2.25 each No. 1051-100' Spool List Price 4.00 each
No. $1052-1000^{\prime}$ Spool List Price 33.00 each
Phosphor Bronze (Light Cable) A lower guality eable than No. 1025, but a cable that wil give good servi a bratied l'hosphor Bronze cable. No. 1053-- 25' Spool List Price $\$ 0.66$ each
No. 1054 - $50^{\prime}$ Spool List Price No. 1055- $100^{\prime}$ Snoul List Price 2.50 each No. $1056-1000^{\prime}$ Spoul List Price 18.50 each
Extra Heavy Linen Dial Cable Made of the tinest linen for replacement on all receivers, same as used for lhilco. It is extra heavy for except fonal long servlee.
No. 1057 - 25 , Spool List Price $\$ 1.30$ each No. 1058 - $50^{\prime}$, Spool List Price $\$ 1.30$ each No. 1059 - 100 ' Spool List Price 4.50 each No. 1060-1000' Spool List Price 36.00 each

## Heavy Linen Cable

This brajited cable is used for ruphacement Nor nll Phileo Receivers. 2025 Spool List Price $\$ 1.30$ each No. 2050- 50 , Nroul List Price $\$ 2.50$ each No. 2051-100' Syool List Price 4.50 each
No. 2052-1000' Spool List Price 36.00 each

## Light Linen Dial Cable (Silk Core)

High quallty linen cable used on many recolvers specially treated to prevent slipping.
No. $3025-2)^{\prime}$ Spool List Price $\$ 1.20$ each
 No. $3050-50^{\prime}$ Spool List Price 2.25 each
No. 3051 - $100^{\prime}$ Spool List Price 4.00 each No. $3051-100^{\prime}$ Spool List Price 4.00 each
No. $3052-1000^{\prime}$ Npool List Price 25.00 each

## Extra Light Linen Cable

 It is a strons extra thin linen cable for reNo. 4025-- 5 , Snool List Price 50.75 inen No. $4050-50^{\prime}$ Snool List Price 1.40 each No. 4051-100' Snool List Price 2.50 cach No. 4052-1000' Spool List Price 18.50 eaclı

SPRING WIRE CLIPS They will hold ${ }^{a}$ Wire, up to No. 10
B\&S Gauge, in secure contact. All clips are brass nickel-plated. List Price No._Spring Clip Lendth Std. Pkg. PerC


## ALL RUBBER LAMP CORD

This cord is an all rubber covered Insulated parallel cord which can be separated hy starting with a inife. Connects easily and cannot fray. Sanitary and neat

GOLORS: Black, White, Brown
570-100 Spool....... 18....... \$ 4.25


## BUS BAR WIRE

Used to hook up all types of trans. mitters, espectally ultra short wave equinment, Made of hard drawn con-
per. tinnerl. straightened. and eut per. tinnerl. straightened. and
2 ft. lengths.
 2012 -No. 12 Square Tinned. . . 6.75

2013 No. 12 Rnund Tinned. . 0.00 | 2014 -N. 14 Snuare Tinned., . | 5.10 |
| :--- | :--- |
| $2015-N o . ~$ | 14 Round Tinned. . |

## MAGNET WIRE

Special Spools - \$0.56 List Price
On attractico spools, eren sizes from 14 to 40 Inelusive, in Double Cotton. Piain Enamel, and Double Silk frere is a ridy will eaeh initial order for 100 spools. Each Display mis of with attractive 3 color Display at top. Space provided to indicato ropr force steel. malogany craekle finish Extra Display Racks avallable at $\$ 3.50$ each, Net.

LENGTH OF WIRE OF SPECIAL SPOOLS

| Size | Plain <br> Enamel | Doublo <br> Cotton | Double Size |  | Plain |  | DoubleCottor | Double |  | Size | Plain |  | Double |  | Doublo |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B\&S |  |  | Silk | B\&S |  |  |  |  |  |  |  |  |  |  |  |
| 12. | 15 ft . | 9 ft . | ft. | 22. | 112 | ct |  |  |  |  |  |  |  |  | Silk |
|  | 26 ft . | 20 ft . | 11 ft . | 24. | 184 |  | 97 ft | 56 | ft. |  | 675 |  | 105 |  | 24 ft . |
|  | 34 ft | 34 ft | 19 ft . | 26. | 244 | ft . | 116 ft | 71 | ft. |  | 19 |  | 1206 |  | 131 ft |
|  | 56 ft . | 44 ft | 23 ft . | 28 | 401 | ft . | 131 ft | 90 | ft. |  | 1725 |  |  |  | 142 ft |
|  | 86 ft | 56 ft . | 20 ft . | 30 | 525 |  | 158 ft . |  | ft . |  | 1950 | ft |  |  | 125 ft . |

$1 / 4$ LB., $1 / 2$ LB., 1 LB., Double Cotton (White)



MAGNET WIRE—Approximate Feet and List Prices

## Plain Ename





Double Silk (Green)
 Price ft. f1. Price
50
81.08 $\begin{array}{rrr}16 & 20 & 39 \\ 18 & 50 & .3 \\ 20 & 80 \\ 22 & 127 \\ 24 & 201 \\ 26 & 320 \\ 28 & 507 \\ 30 & 805 \\ 32 & 1282 \\ 34 & 2037 \\ 36 & 3921 \\ 38 & 5139 \\ 40 & 8143\end{array}$

 | 50 | $\$ 1.08$ | 12 | 12 | $\$ 0.57$ | 24 | $\$ 1.12$ | 49 | $\$ 2.12$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 80 | 1.10 | 14 | 19 | .60 | 39 | 1.15 | 78 | 2.15 |
| 126 | 1.12 | 16 | 31 | .65 | 62 | 1.25 | 125 | 2.27 |
| 201 | .16 | 18 | 49 | .72 | 99 | .31 | 198 | 2.50 |
| 320 | .21 | 20 | 78 | .83 | 157 | .62 | 314 | 3.05 |
| 508 | 1.27 | 22 | 123 | .96 | 247 | 1.87 | 495 | 3.35 |
| 806 | 1.33 | 24 | 105 | 1.06 | 390 | 2.06 | 781 | 4.00 |
| 1280 | 1.66 | 26 | 303 | 1.28 | 606 | 2.50 | 1212 | 4.90 |
| 2030 | 1.75 | 28 | 478 | 1.43 | 056 | 2.81 | 1912 | 5.31 |
| 3220 | 2.00 | 30 | 739 | 1.62 | 1479 | 3.12 | 2958 | 6.25 |
| 5128 | 2.18 | 32 | 1136 | 2.18 | 2972 | 4.25 | 4545 | 8.50 |
| 8150 | 2.73 | 34 | 1712 | 2.81 | 3494 | 5.50 | 6849 | 10.60 |
| 2887 | 2.98 | 36 | 26.51 | 4.37 | 5102 | 8.50 | 10204 | 16.25 |
| 992 | 3.47 | 38 | 3770 | 6.25 | 7541 | 11.85 | 15082 | 22.50 | Price

$\$ 2.12$
2.15

## BIRACO TUBING (Extruded)



It is 0 extruded tubing made of the new synthetic plastle materlal. Extremely flexible and when stretched heat and will not support combustlon vine only soften strength:-750 will not flow at $425^{\circ} \mathrm{F}$. Its dlelectric when wet. It is not aftected by on dry and $3 \overline{50} 0$ volts most coal tar solvents and petroleum solvents. Resists acids, altalles in concentrations up to $30 \%$ by welght. Available in eontinuous lengths. Dieleetrle strength10,000 volts.


## SERVICE CORDS

Constructed of all rubber Underwriters Approved lamp end and and plus on one end and with the other
end all ready for use.
COLORS: Black or Brown
 8 819-B

## VARNISHED TUBING

Provldes quality insulation for wires used on radio outs sman is clectrical cquipment and instruments. Th flexibie and pervious on oh. acid and water. It is highl tric strength 5000 not rrack after aging. Average dielee COLORS: Black, Re


## BIRACO \& VARNISHED TUBING IN HANDY PACKAGES

ture iLBING and varnished TUBING are also araigh on convenicnt paper spoois in a varicty of lengths to mect practically every demand Fut un in handy packages to fill the requirements of scrvicemen and manufacturers. Wide assortment of colors. TUBING



## $A$ Bimhach ACCESSORIES


are particularly well sulted for uso in testing breakdown voltages up to 1200 volts. The prods and the tip liandles
are made of black and red bakelite with arc made of black and red bakelite with
enectal designed tips for application. Epectial designed ${ }^{\text {tips for application. }}$
The prods are "' $^{\prime \prime}$ long and $1 / /^{\prime \prime}$ dia. and have a guard ring near the metal tip to prevent accidental touching of the exposed metal part. Extra, heary
kinkless test lead wire $7 / 32^{\prime \prime}$ dia. kinkless test lead wire $7 / 32^{\prime \prime}$ dia,
15 used tiroughout. The leads arc $60^{\prime \prime}$ Is use
long.
No.
56 .

List Price
562-Migh Voltage Test Leads $\$ 5.00$

instrument $48^{\prime \prime}$ long is used to connect the prods with the insurated red and black cast phenolle solderless thps.
Either needlepoint of solderless Either needlepoint or solderless tip
arailable. arailabl

| NO |
| :---: |
| 560 |

560 -Solderless prod test leacas. $\$ 1.75$
561 -Needleminit prod test leads 1.75

## Bakelite

Pencil
Type
Leads
Red and handles. itic handles,
$6^{\prime \prime}$ lonk and
$5 / 16^{\prime \prime \prime}$ In dia. 5/16" In din. black bake-
phone tips. Heary kinkless wire is used together with the Birnbach Scrulok system of solderless wire
The $\begin{gathered}\text { connection. } \\ \text { Universal } \\ \text { needle } \\ \text { and } \\ \text { phone }\end{gathered}$ tip prod have the same dimensions as the standard phone tip and are useful for Miercing insulation without damage. vent breakage and should it become broken ran be readily replaced. Acailable only in combination of needlenoint prods and insulated phone tips.
Lengtil overall $60^{\prime \prime}$.
${ }_{40 \mathrm{~B}}^{\mathrm{Mo}}$-Bakelite Pencll Tyno Test ${ }_{\text {List }}$ 439-Nead ionint proil Tip... $\$ 2.50$ 439- Nectlepoint
Replacement

## Test Leads

## (Bakelite Handles)

Have $4^{\prime \prime}$ red and black ran be replaced when Hroken slmply by loosening the knurled collar. Arailable with either mhone tips or spade lugs. No.ength orerall List Price ${ }_{4420-\text { Phone Tin Test }}^{\text {Leads }}$ N1. $121 / 2$ 4421 - Leads inado Lug Test
Leads ..... $1.121 / 2$

Standard Test Leads

## Same as a

## 

${ }_{422}$ _Phone Tip Tcst Leads. List Price
${ }_{423}{ }^{422 \text {-Phone }} \operatorname{Tin}$ Thace Lug Test Leads..... $\$ 1.00$

Insulated Solderless Phone
 Insulated
 itted ${ }^{\text {to }}$ solderless phone tips. The wire can solderless phone tips. The Wire can
be easily attachod by threading through be easily attache thandle and tightening
the hole the the green, and yollow.
No. 409—Insulatcd Sr Solderless


## Insulated <br> Phone Tip

$=\mathrm{Fr}$
The insulated
long, $\frac{s^{\prime \prime}}{16}$ dia.
Conncetion is made by thread-
ing wire through ing wire tiroush threaded bushing
 (see drawing).
Colors: red. black, green and yellow. 412-Scrulok Pin Tip.



Ideal for replacement on headset. speaker and extension cords.
No. $402-\mathrm{Std} . \mathrm{Pkg}$. 100


## No. 407 Insulated

## Tip Jack

Has a ${ }^{\frac{7}{18}}$ Insulated to and mounts in a sit dia. hole. The specially designed bronze springs hold the Colors:-red, black, yellow and green. Std. Pkg. 100 No. Eren. Sta. List Price 407-Insulated Phono


## Kinkless Test Lead Wire

Abraston resisting live rubber that will not kink or break down in serviec. No. 20 has 41 strands and No. 18 has 66 strands of No. 36 tinned annealed copper wire.


|  |  |
| :--- | ---: |
|  |  |
| No. | F |
| 60 | 2 |
| 61 | 10 |
| 62 | 50 |
| 64 | 2 |
| 66 | 10 |
| 67 | 50 |
| 63 | 2 |
| 68 | 10 |
| 69 | 50 |

No. 411 Bakelite Pencil Test Prods

## Tho hav bac so ne tip ma lit co wit to So the oni No only.

 nosceprods ach Sorulok solderless needlepoint nde of baketo and are $6^{\prime \prime}$ long and $\frac{5}{6 " \prime}^{\prime \prime}$ dia. The connection is madc by threading the wire through the handle and securing the needlenoint tin by locking the the handle. Avaflable in red or black

41 -Bakollto Pencll Test Prods $\begin{gathered}\text { List Price }\end{gathered}$

## Solderless Tip Prod

 Made op mhenolic res-
in. A solder-
less nhone tip Is threaded at end permitting replacement of tip, Avallable in redi or black


## Needlepoint Test Prod

## A threaded

## shank needle- point chuck

point chuck
is theaded tho end of handie.
Made of highly polished cast plenolic handle. Available in red or black. handl
NO
344



SCRULOK Needlepoint Test Prods
These insulated
prods have the
Scrulok solder-
less system of
Wire connec-
tion. Wire is
casily attached
without solder-
ing. An extra heavy needle is fitted into the tip. Colors:-black or red.
No.
417-Needlejoint Test Prod,
418-Needlepoint Test Prod
5" IIandle . . . . . . . . . . . . 50
Headset
Phone
Cords

These cords are closely woven and are fery replacement of worn headset cords. Standard cords are listed which will mateh practically all headsets manufactured. We will be flad to quote on cords having special terininal reguirements.

No.
104 - 5 ft . Pin ${ }^{105} 5 \mathrm{ft}$ Spade Tips

$108-8 \mathrm{ft}$. Pin \& Eye Tips
$109-10 \mathrm{ft} . \mathrm{Pin} \& E y \mathrm{Tips}$

AC-DC Resistance Cords


Designed for replacement of the internal voltage dropping resistor on the present and older type of AC-DC sets. It consists of a line cord into which a The clement has been incorporated. the voltage to that needed for the fllament of the tubes.



## Speaker Extension

 Cords Constructed of stranded annealed coppe wire insulated with rubber over whicl a brown mercerized cotton bratd is tached bakelite connector.No
List Priee
160 - 10 ft . Cord. ........ each $\$ 1.50$
 $23-50 \mathrm{ft}$. Cord..........eaelt 3.50
$124-100 \mathrm{ft}$ Cord........each 6.50 151-Bakelite Extension Cord.
Connetor only.... each $\quad .60$

to grip all
kinds of wire securely. The insutated kinds of wire securely. The insutated
handle is $3 / 8 / 2$ dia. and $/ 4 /$ long and comes in red or black.
No. Length Pkg. Plice No. 310


The teeth mesh correctly permitting good eontact to be made. The No. $27-\mathrm{S}$ is a solld conper clip with a brass screw deslgned for high Prequency work.
Sturdily constructed. Standard PackSturdily constructed. Standard Package 50.
gth. Spread ea.

29-Medium.
27-large wee
27R-Copper $17.11 / 2^{\prime \prime}$. $3 / s^{\prime \prime}$. . 17
red or black. .

# Birnleach WIRE, AUTO CABLE and ACCESSORIES 

7 MM HIGH TENSION CABLE


Useful in redreing interference from auto secondary circuits. Also used as photo electric cell leads and wherespr a low loss shielded lead is required.
No. List Price
Per $100^{\prime}$
1600-7 MM. High Tension Cable....... $\$ 10.00$
$781-7$ MM. Shielded Secondary Wire 16.00

## DISTRIBUTOR SUPPRESSOR

Designed to be inscrted in the distributor of Ford V-S. Unit consists of a resistor brush which replaces the regular brush.
No. 365.................................List Price $\$ 0.35$

## AUTO ANTENNA <br> CONNECTOR

Permits quick connection of the auto antenna leadin to the receiver.
No.


List Price
366-Auto Connector $\qquad$ C

## FUSED ANTENNA CONNECTOR

This commector takes a standard $3 \wedge G$ automobile fuse. Used in auto radio power supply cables.

## No.

367-Fused Connector
List Price

HIGH VOLTAGE LACQUERED WIRE
Recommended for use as leads for wiring hirh voltage
devices, and transmitter power supplies. Constructed of timned stranded comper conductor structed of thand stranded copper conductor laequered cotton braid.

| No. Ft. | Size | Puncture Voltage | 0.D. | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 2810-100 | ... $10{ }^{\frac{1}{2} 2}$ | 9500 | . 225 | \$10.50 |
| 2812-100 | $\ldots 12 \frac{1}{32}$ | 9500 | 192 | 7.00 |
| 2814-100 | $\ldots 14 \frac{1}{32}$ | 9500 | 167 | 4.75 |
| 2816-100 | $\ldots 16{ }^{1}$ | 9500 | 153 | 4.00 |
| 2818-100 | $\ldots 18 \frac{1}{32}$ | 9500 | 145 | 3.50 |

## SHIELDED YARNISHED

 CAMBRIC WIRE
## Used where an oil <br> and water resistant

wire with a shielded
covering is required. Constructed of tinned stranded conductor with 2 layers of varnished camloric and a lacquered cotton braid with a tinned copper shield overall.
Capacity per

List
No. Ft. Size Ft. mmfds.O.D. Price
1800-100 .....16.....142 ....... $145 \ldots . .10 .50$
$1818-100$.....18..... 102....... $131 \ldots . .9 .50$
$1820-100 \quad \ldots . .20 \ldots .100 \ldots \ldots .125 \ldots . \quad 8.75$

## SHIELDED GRID LEAD WIRE

IIigh insulation of

of this wire win of duce the loss in shicelded grid eircuits.
Constructed of timed stranded conductor with a rubber insulation, waxed cotton braid with closely woven shield overall.

Capacity per List
No. Ft. Size Ft.mmfds. O.D. Price
 820-100 ..... $20 \frac{1}{52} \ldots \ldots . .70 \ldots . . . . . .150 \ldots . .1 .50$

| SOLID TINNED WIRE |  | SOLID ENAMEL WIRE |
| :---: | :---: | :---: |
| SOFT DRAWN | No. 18 |  |
| No. 10 | 1416- $\quad 25 \mathrm{ft}$ toil ... $\$ 0.33$ |  |
| No. ${ }^{\text {N00 }}$ - $25 \mathrm{ft.coil}$ List Price | 1418 - $100 \mathrm{ft}$. coil $\ldots . .1 .10$ | 597- 25 ft coil ..... $\$ 1.50$ |
|  | 1419-1000 ft. spool . 11.00 | 697- $50 \mathrm{ft.coil}$..... 2.50 |
| 1402-100 ft. coil .... 5.00 | No. 20 | 1497-1000 ft. spool ....44.00 |
| 1403-1000 ft. spool .. 46.00 | 1420- 25 ft . coil .... . 30 |  |
| No. 12 | 1421- 50 ft coil... .80 | 192 - ${ }_{25}{ }^{\text {No. }} \mathrm{ft}$. |
| 1404- 25 ft. coil .... . 85 | 1422-100 ft.coil $\ldots . .1 .00$ | 292 二 $\quad 250 \mathrm{ft}$. coil.... 1.70 |
| 1405- $50 \mathrm{ft}$. coil ... 1.60 | 1423-1000 ft. spool . 10.00 | 492 - $100 \mathrm{ft}$. coil.... 2.75 |
|  | No. 22 | 492A-1 $150 \mathrm{ft}$. coil.... 4.15 |
| 1407-1000 ft. spool .. 28.00 | 1424-1/4 lb. spool … .75 | $492 \mathrm{~B}-200 \mathrm{ft}$. coil.... 5.50 |
| 1408- $\quad \begin{gathered}\text { No. } 14 \\ 25 \mathrm{ft} \text { coil }\end{gathered}$ | $1425-1 / 2 \mathrm{lb}$, spool ... 1.20 | $1492-1000 \mathrm{ft}$. spool. 27.50 |
|  | 1426-1 lb. spool .... 2.25 |  |
| $1409-150 \mathrm{ft.coil}$ co. 1.10 1410 $100 \mathrm{ft}$. coil | No. 24 | No. 14 |
| 1410-100 ft. coil $1 . . . \begin{array}{r}20.00 \\ 1411-1000 ~ f t . ~ s p o o l ~\end{array}$ | 1427-1/4 lb. spool .... 82 | 190 - $25 \mathrm{ft}$. coil.... . 50 |
| 1411-1000 ft. spool .. 20.00 | 1428-1/2 lb. syool | 290 - $50 \mathrm{ft}$. coil.... 1.00 |
| No. 16 | 1429-1 1b. spool .... 2.65 | 490 - 100 ft . coil.... 1.80 |
| 1412- 25 ft. coil ... 42 | No. 26 | $490 \mathrm{~A}-150$ <br> $490 \mathrm{ft}-200 \mathrm{ft}$. coil.... 2.70 <br> 1.60 |
| $\begin{array}{r}1413-50 \mathrm{ft.} \text { coil } \\ 1414-. . \\ 100 \mathrm{ft} \text { coil } \\ \hline\end{array}$ |  | $1490-1000 \mathrm{ft}$. spool 18.00 |
| $1415-1000 \mathrm{ft}$. spool.. .11 .00 | 1432-1/2 1 lb . spool | No. 15 |

## RAYON BRAID LACQUERED WIRE

Constructed of stranded
tinned copper conductor for easy soldering,

## 

 with heavy wall of liverublon braid is wich
rayon braid is woven. A high gloss lacquered finish over braid. Conductor consists of 16 strands of No. 30 .

|  |  | Puncture |  | List |
| :---: | :---: | :---: | :---: | :---: |
| No. | Ft. | Voltage | Size | Price |
| 3425- | 25 Coil | . 9000 | 18 \% | \$1.00 |
| 3450- | 50 Coil | . 9000 | $18 \frac{1}{32}$ | 2.00 |
| 3460-1 | 00 Coil | 9000 | $18 \frac{3}{3}$ | 4.00 | 3600-500 Spool ...9000....... 18 M..... 18.00 Colors: Black, red, green, yellow, brown, blue

## VARNISHED CAMBRIC WIRE

Widely uscd in automotive wiring because of oil and waterproof con-
struction. Consists of tinned stranded conductor with two layers of varnished cambric over which a lacquered cotton braid is woven.
No. Ft. Size Voltage O.D. Price

3416-100 .....16..... $1000 \ldots .$. . $108 \ldots \$ 6.75$ $3418-100$ ….. $18 \ldots . .1000 \ldots . . .107 \ldots 5.75$
$\qquad$

## No. 340

## WHEEL STATIC ELIMINATOR

An effective means of reducing static created by the front wheels. Installation is made by placing the broad base of the spring against the hub alp and the cone point into the hole of the axle No. 340 -Std. Pkg. 50
 List Price.
$\$ 10.00$ per 100

## PHONO-PICKUP WIRE

Small diameter-ideally suited for replacement in pickup arms of any make.

| No. | Ft. | Size | List <br> Price |
| :---: | :---: | :---: | ---: |
| 1822 A | 100 ft. Spool | 22 | $\$ 6.00$ |
| 1822 B | 500 ft Spool | 22 | 28.00 |
| 1822 C | 1000 ft. Spool | 22 | 52.50 |



## BIRNBACH IGNITION FILTERS

These Ignition Filters completely eliminate all ignition and high tension circuit interference, making clear auto radio reception a certainty. The only ignition filters having a copper wound inductance, which accounts for the low resistance of 120 olms for the Ignition Filter. Less gasoline is consumed than when high resistance filters are used.
No. List Price
350-Ignition Filter-Bracket Type.... $\$ 0.85$
351-Irnition Filter-Cable Type. 85
352-Distributor Filter
353-Ignition Filter-Screw Type
359-Ignition Filter-Slip-on Type
.85

BIRNBACH MASTER FILTER
Eliminates all ignition interference and does away with the necessity of having a separate filter for each purk plug a namely, narnely, the Distribut type for and the Colule nto distributor head and the Cable type to be placed into the distributor lead where it is impossible to insert it into the distributor head.


## No.

List Price
each
354-Cable or Distributor Type............ $\$ 3.50$

## AUTO NOISE FILTER



These are especially designed for the elimination of noise created by generator commutator, electrical windshield wiper, horn, and especially dome tail, and stop light cables. Connections made by bolting down the flance of container to chassis. The long insulated lead with a convenient screw lug is connected to the source of interference.
No.
List Price
355—Auto Noise Filter-1/4 Mffl.....ea. $\$ 0.75$
356 -Auto Noise Filter- 1 Mfd.....ea. $\quad .75$

## A. Birnhach PLUGS and JACKS

## giant plugs



398
397


398

Large area of contact is one of the outstanding features of these jacks and plugs. The No. 400 series of packages have a nickel silver contact spring secured over a full length central pin, making these 404A plugs non-collapsible and assuring a low resistance contact. Capacity 5 amperes. Standard Package 100.


BANANA PLUGS

## No. 403 BANANA JACK



Accurately milled and has a precision reamed hole to help maintain the tight and smooth action of the plug. It is made of brass nieked Standard Package 100 .

| No. |  | $A$ | $\mathbf{B}$ | Cist Price |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 403 | Jack | $1 / 2$ | $3 / 3$ | $1 / 4-28$ | $\$ 0.12$ |



INSULATED BANANA JACKS


391


406

The No. 391 Jack is very popular with the electric therapeutic manuracturers. The $1 / 2$ metal part of the metal plug when inserted Mounts in a s" dia. hole on a panel up to 3 " thick The No 406 Jack las a ${ }^{7}{ }^{\prime \prime}$ dia. insulated top it fits into a $\mathrm{I}^{\prime \prime}$ dia hole insulated top. It fits into a $\frac{5}{1}{ }^{\prime \prime}$ dia. hole and takes up to a ${ }^{\text {plete with insulating shoulder washer nut }}$ and lug. List Price
 Std. Pkg. List Price



## GIANT JACKS

Minled with the central hole being reamed to size to insure a tight fit with all Giant Plugs. The No. 394 and No. 399A have a $10-32$ thread apped at the end pernitting connection $t$. me made. They are all made of brass and nickel

e made. Thcy are all made of brass and nickel


L:3: Price 399A...Jack ......25.......13/8' 3/8-2 each $\$ 0.30$
 395....Jack
each . 30
No. 392 INSULATED GIANT PLUG
Made so that no projecting edges are exposed, thareby protecting the user from unnecessary contact. Connection is made by soldering into the Handle is $17 \%^{\prime \prime}$ long by $6 /{ }^{\prime \prime}$ dia. - length overall $3^{\prime \prime}$. Colors: red or black.


## No. 393 INSULATED GIANT JACK

Designed to leave no metal part exposed on the pancl. The $3 / 3-24$ brass nickel plated sleeve has a $10-32$ threaded hole at the end under the head Efther assembly available complete with nut insulaing shoulder washer lock-washer and lug Lenth overall 13", Colors: red or black.
393 -Insulated Giant Jack under head lug.
List Price 393A-Insulated Giant Jack end lug

## HARD RUBBER INSULATED GIANT PLUG

Especially designed for use with diathermy ables. It has a $5 / \mathrm{s}^{\prime \prime}$ dia. hole in the handl to take the largest cable. It is made han $3^{\prime \prime}$ long by $7 \mathrm{~h}^{\prime \prime}$ dia. Orerall lencth is $4 \frac{3}{16}$
No. 342 -IIard Rubber Insulated Plug
No. 341 Insulated Banana Plug


This plug consists of our No. ${ }^{404 \mathrm{~A} \text { plug with a }}$ ther handle $1 / 8$ long by $1 / 2$, da. a theraneutic apparatus and test equip
No. 341 -Insulated Banana 1 Plug......

## No. 404 Insulated Banana Plug



The plug is for experimental test leads because of Its Scrulok solderless eonnection and the nonollapsible special alloy springs assembled on a pin preventing eollapse of the plug spring. "he " long. Colors: red. black. yellow and green No. 404 -Insulated Banana I'lug. ......Std. Pkg. 50 . . . . . . . . ist Price $\mathbf{\$ 0 . 2 0}$

## No. 604 BANANA PLUG



Made of solid brass nickel-plated, with the end being slotted. The cast phenolic handle is $1^{\prime \prime}$ Iong by ${ }^{3 / 8}$ wire to the plug. Colors: red, blaek, yellow and green No. 604 -plug. . . . . . . . . . . . . Std, Pkg. $50 . . .$. ............ . List Price $\$ 0.19$

## No. 605 HANDLE JACK



Consists of a banana jack inside an insulated sleeve. Connection is made by soldering to the end of the jark. Handle is made of cast phenolice resin $3 / s^{\prime \prime}$ dia. by $11 / 4^{\prime \prime}$ long. Colors: red. black. yellow and green. . Stist Price $\$ 0.25$
TINNED LUGS


# Birnbach INSULATORS 

STEATITE CONE STANDOFF INSULATORS
Made of low absorption high tensile strength porcelain with a smooth glaze．All heights except the No． 430 are ayailable with a Jack or a threaded hole top． Range of sizes are adequate for all needs．They are available only in a white glaze and come com－ plete with ccrews，metal and
Height Std．

| No． | Height <br> A | Std． Pkg． | B | C | Threa <br> D | $\text { ed Holes } M$ | Mounting | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 430 | 5／8＂ | 100 | 5／8＇ | C＂ | 6－32 |  |  | each |
| 431 | 1＂＇ | 50 |  | 1／2＂ | $8-32$ | 6－32 | 等＂， | \＄0．20 |
| 431 J | $1 "$ | 50 | $1^{1 d^{\prime \prime}}$ | 1／2＂ | $8-32$ | No． 430 Jack |  | ． 35 |
| 432 | $11 / 2 \prime$ | 50 | $7 / 8$ | \％／8＇ | 10.32 | No． 10.32 | k | ． 55 |
| 432 J | 11 亿＂， | $5{ }^{\circ}$ | $7 / 8$ | 5／8＇ | 10.32 | No． 403 Jack | －${ }^{\frac{1}{7 \prime \prime}}$ | ． 75 |
| 433 | 2\％＂ | 25 | $1^{1 / 4 \prime \prime}$ | \％＂＇ | $1 / 4-20$ | 1／4－20 | 年高 | 1.00 |
| 433 J | 23 ＂ | 25 | $11 /{ }^{\prime \prime}$ | 3／4＇ | $1 / 4 \cdot 20$ | No． 395 Jack | k ${ }_{8}^{2 \prime}$ | 1.20 |



The six now corrugited type feedthu insulators haw more than twiee the leakage path of the straizht type becatuse of in－ creased surface of the corruri－ tions and recummends itself where a stribelt side insulator of ergual height is not satisfactory because of its shorter leakage
 path．Brass nickel－plated hard－
 ware and cork monting washers supplied．


## HIGH VOLTAGE FEEDTHRU INSULATOR

This insulator has been designed to meet the demand for an insulator having high dielectric amd mechanical strength．The extra long leakige path is made possible by the corrurations on the top insulator．The bottom slecere taper from a base dia．of $1 \mathrm{a}_{\mathrm{i}}$＂where the electric stress is greatest．

## METAL BASE INSULATORS



4451， 4176
 Designed to replace conventional porcelain of the base is due to eracking when fast ened eracking whin fast ened
down．Extremely long leakage paths due to the eorruyated surface is one of the important characteristics．They are made from high tensile strength low absorption porcelain smoothly elayed all over． Supplied with nickel－plated brass
 cadmium plated drawn stecl bases．

## Mounting Screw

## Height Base Dimen


 List Price





## ＂LUCITE＂FEEDTHRU INSULATORS

These feedtliru insulators are ideal for bringing high frequency leads thru a pancl．They are made of genuine Dupont Lucite．Because of its low loss at high frequency， it is well adapted to insulated elements of high frequency circuits．The $1 / 2$＂dia．insulators have brass mickel plated 0.32 hardware and the $3 / 4$＂have $10-32$ hardware． Height above Insulator Mtg．Bottom

| No． | Height above | Insulator | Mtg． | Bottom | $\mathcal{P}_{\text {List }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 377 | 1／4 | 1／2＂ |  | ．．． $1 / 4$ | Price |
| 378 |  | 1／2 |  |  | ．\＄0．35 |
| 379 |  |  |  |  | ． 50 |
| 475 | $11 / 2$ | 3／4 |  |  |  |
| 476 | 2＂ | 34 | －${ }^{7}{ }^{4}$ | 1／2＂ | 1.25 |

## A. Birnbach insulators

## STEATITE PILLARS

These (steatite) pillar insulators have great tensile strength with extremely low losses at very ligh frequencies and are glazed on the outside to decrease surface leakage. They arc tapped on both ends and are supplied complete with nickelplated mounting base and top hardware.


| No. | $\underset{A}{\text { Height }}$ | Std. Pkg. | B | Hardware | $\begin{gathered} \text { Base Dia. } \\ C \end{gathered}$ | D | Price each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 450 | 1 1' | 10 | $1 / 2$ " | 6-32 | $11 / 8$ ", | 7/8", | \$0.50 |
| 450 J | $1^{\prime \prime}$ | 10 | 1/2", | No. 403 Jack | $11 / 8$ ", | \%" | . 60 |
| 451 | $11 / 2{ }^{\prime \prime}$ | 10 | 3/2", | 6-32 | $11 / 8 \prime \prime$ | 7/1" | . 65 |
| 451 J | $11 / 2$ "' | 10 | $1 / 2$ ", | No. 403 Jack | $11 / 8{ }^{11}$ | \%" | . 65 |
| 452 | $21 / 2$ ", | 10 | 1/2" | N0.6-32 Jack | $11 / 8$ | 78 | . 85 |
| 452 J | $21 / 2 \prime \prime \prime$ | 10 | 1/2" | No. 403 Jack | 1 | ${ }_{1}{ }^{78} 8^{\prime \prime}$ | 1.15 |
| 453 | $21 / 2 \prime \prime$ | 5 | 3/" | No. 395 Jack | 1 1 1 \% | ${ }^{1}{ }_{1}^{176 \prime \prime}$ | 1.35 |
| 453 J | $2^{21 / 2 "}$ | 5 5 | 3/" | No. 395 Jack | 1 1 H\% | - ${ }^{19^{\prime \prime}}$ | 1.50 |
| 454 | 4"' | 5 5 | 3/4 | No. 395 Jack | $1{ }^{160}$ | $1{ }^{\frac{3}{8} \mathrm{I}^{\prime \prime}}$ | 1.60 |

## LUCITE SPREADERS

They are made of Dupont Lucite rod whell has a very low loss at radio freguencles. It is water clear and has very low
end of the spreader locks the wire in position.

## LUCITE SPREADERS

No. Wire-Spacing Std. Pkg. Eaci 436..... $2^{\prime \prime}$..... . 25 ..... $\$ 0.45$



## LUCITE RODS

## FEEDER SPREADERS

 of highly vitrifled, low absorption, lifig tensile strength porcelain with a smooth while glaze overall.


## ANTENNA INSULATORS Sicsin

These Antenna Insulators have exceptional low moisture absorption. The leakage path is long and the cross section is small and consistent with the strength required A smooth white glaze overall prevents the accumulation of dirt or ice.


| No. | Std. Pkg. | List Price |
| :---: | :---: | :---: |
| 668-41/4" long | 25 | ach \$0.30 |
| 470-7' ${ }^{\prime \prime}$ long | 10 | each 9.90 |
| 471-12" 10 ng | 5 | ch |
| 468-41/2" long | ter |  |

## LEADIN INSULATORS



Each cone is $23 / 4$ " high and made of low absorption, highly vitrified glazed porcelain. The Nos. 4237 and 4238 Leadin Insulators have sufficient insulating bushings to insulate the rod that goes through the wall. In addition, 2 bushings are included, $1 / 4^{\prime \prime}$ and $1 / 2^{\prime \prime}$ long, allowing completc insulation of the threaded , rod of any length in multiples of $1 / 4 \mathrm{\prime} \mathrm{\prime}$. They come complete with brass nickel-plated hardware and lead and cork washers to permit a water-tight seal.


List Price
4235-10" Rod... 2.00

4237-10" Rod with bushings 2.85

These specially designed steatite buttons are intended for use to simplify wiring and to be used as a binding post or a binding post insulator, or as a standoff insulator. Attention is called to the uniqueness of the design which prevents ither section of the insulator from turning in respect to the special screw. The specially designed screw locks both sections.

threaded steatite pillars will facilitate assem-
bly because of the one lole monnting and parallel mounting surfaces. They are made of glazed Steatite with threaded holes on both sides.

| No. | Height | Dia. | Threaded Hole | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 443 | 1/2 | 1/2" | $0 \cdot 32$ |  | \$0.10 |
| 444 |  | 1/2" | -6-32 |  | . 10 |
| 445 |  |  | ... 6-32 |  | . 30 |
| 446 |  |  | 6.32 |  | . 35 |
| 447 | 21/2" |  | 6-32 |  | . 40 |
| 448 | $21 / 2$ " |  | 1/4-20 |  | . 60 |
| 449 |  |  | . $1 / 4-20$. |  | . 95 |

## AIRPLANE INSULATORS

Used on mobile antenna installations, particularly on aircraft, as they are shaped for the least air resistance. They are made of white glazed low absorption porcelain.

| low absorption porcelain. |  | List Price each $\$ 0.15$ each |  |
| :---: | :---: | :---: | :---: |
| No. Length | Std. Pkg. |  |  |
| 474-11/2" | 100. |  |  |

## STEATITE AJRPLANE INSULATORS

A very small compression type insulator with small wind resistance. It is $11 / 2^{\prime \prime}$ long and $1 / 22^{\prime \prime}$ dia.
No. 463-Std. Pkg. 25, List Price $\$ 0.35$

## TUBE CLAMPS

These tube clips will be found extremely desirable when mounting resonant lines or ele ments of directive beam antennas. They are made of hard drawn aluminum and are available for $55^{\prime \prime}, 3 / 8^{\prime \prime}, 1 / 2^{\prime \prime}, 3 / 4$ and $1^{\prime \prime}$ dia. tubes. The $55^{\prime \prime}, 38^{\prime \prime \prime}$, and $1 / 2$, have a clearance hole for No, 10 screw and the $3 / 4$ " and $1^{\prime \prime}$ dia. clamps have holes for $1 / 4$ " belts.


| Cat. No | To Fit Tube |  | st P |
| :---: | :---: | :---: | :---: |
| $51-\mathrm{Clamp}$ | ... 1/4" Dia. |  | \$0 |
| 52-Clamp | s"' Dia. | ch |  |
| 53-Clamp. | 3/8" Dia. | $\mathrm{cl}_{1}$ | . 18 |
| 54-Clamp. | 1/2" Dia. |  | . 18 |
| 55-Clamp. | 3/4" Dia. |  | . 30 |
| 56-Clamp. | ${ }^{\prime \prime \prime}$ ", Dia. |  | . 40 |
| 57-Clamp | 7/8" Dia |  |  |

## FLEXIBLE SHAFTS

At times there is difficulty getting the controls to the proper position on the pancl. With couplings and these flexible shatts, locations can be made with ease on an offset and angles up to 90 degrees. The fiexible hafts are made of phosphor bronze and fitted into $1 / 4$ " dia. hubs. bronze and fitted into $1 / 4$ List Price Cat. No.
553-Flexible Shaft, ${ }^{3 \prime \prime}$ long
554-Flexible Shaft, 6 " long
each $\$ 0.60$
each .85

## TRANSMITTING TUBE SOCKETS

Improved design and additional features of the Birnbach transmitting sockets has increased their popularity and are accepted as standard. The 50 watt socket has extra heary side-wiping phosphor bronze contact sprind with the filament spring having double contact to safely carry the heary duren. The tube base is supported by the current. The tube base is supported by the highly polished nickel-plated brass shell set in a highly vitrified low absorption porcelain base which is ground flat to prevent breakage. And milled nuts are used.
Cat. No.
434-50 Watt Socket.
List Price
435-50 w
each $\$ 1.70$
cach 1.25


## RCA ELECTRONIC COMPONENTS

## TELEVISION ANTENNAS

COMPLETELY NEW DESIGN - BUILT TO LAST RCA 12-CHANNEL TELEVISION ANTENNA TYPE 204A1
BASED UPON YEARS OF FIELD EXPERIENCE

- Easily Assembled - Ruggedly Constructed - Uni-Directional Here's an RCA "Leader" to meet the majority of your cveryday antenna needs. Engineered and developed by RCA for plus-value service, RCA-204A1 is intended for use in most receiver locations where both high and low-frequency stations are in the sane general direction. Unique RCA "V" attachments provide uniform directional characteristics for all 12 channels.

RCA-204A1 12-Channel Television Antenna is simple in design and appearance. Sturdily built of aluminum, it will withstand high winds, sleet, and ice. Designed for use with 300 -ohm transmission line, the 204 A 1 rates " $A$ " for antenna achievement:- for over-all performance and unusually flat response over each of the two television bands. It can be readily combined with any of the RCA Stacking Kits for fringe or other difficult reception areas.
Supplied with all necessary hardware and sturdy $5 \mathrm{ft} x$ $11 / 4^{\prime \prime}$ a luminum mast which may easily be extended by addition of RCA-207A1 antenna mast sections. Completely illustrated instructions for installations are included.

## RCA "HIGH-LOW" TELEVISION ANTENNA ARRAY - TYPE 206A1

FOR 12-CHANNEL TELEVISION RECEPTION Here's an antenna that you can depend upon for optimum performance in locations where high and low-channel stations are widely separated. Sturdily built to provide long. dependable service, the 206 Al will withstand severe weather conditions.

RCA-206A1, thoroughly tested for over-all performance characteristics, provides superior reception. When used with 300 -ohm transmission line, it requires no external transformers nor matching stubs.
Comes complete with harness, all necessary hardware and sturdy $5 \mathrm{ft} \times 1 \mathrm{I} / 4^{\prime \prime}$ aluminum mast which may be easily extended by addition of RCA-207A1 antenna mast sections. Completely illustrated instructions included.


## ANTENNA ACCESSORIES

## Bright Picture Transmission Line

Especially designed for Television and FM. Special chemical-resistant plastic finish insures continued flexibility even in extreme heat or cold. Ultralow loss-less than 0.8 db per $100^{\circ}$ at 50 Mc ; less than 1.2 db per $100^{\circ}$ at $100 \mathrm{Mc} .4 .5 \mu \mu \mathrm{f}$ per foot capacitance. Propogation velocity $83 \%$. Extra strong-supports a mile of its own weight (75 ibs.) before breaking. Stock No. 201A1. Sugg'd List Price: $\$ 47.50$ per $1000^{\prime}$.

## Antenna Mounting Brackets

For use with RCA Antennas Stock \#225A1 and \#226A1. Readily adjustable to permit mounting on any roofregardless of overhang. Can be attached to brick, stone or wood. Entire bracket is plated with bright zinc, preventing rusting and subsequent staining of building surfaces. Special angular supports eliminate sagging. Stock No. 227A1. Sugg'd List Price: $\$ 7.50$ per pair.

## Twin-Lead Lightning Arrester

For use with FM and TV antennas. Easy to installcutting or stripping of transmission line is unnecessary. Fits any $1 / 2^{\prime \prime}-2^{\prime \prime}$ pipe. Continually dissipates static surges. Does not unbalance line. Brown plastic case. Stock No. 206X1. Sugg'd List Price: $\$ 1.10$.


# (d) 



THE JOHNSON

| COMPLETE "Q" SYSTEMS |  |  |  |
| :---: | :---: | :---: | :---: |
| Cat. <br> No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Band (Meters) | ante |
| 137-2Q | 57.00 | 2 |  |
| 137-6Q | 10.50 | 6 |  |
| 137-10Q | 9.75 | 10 | 1 |
| 137-14Q | 14.00 | 14 | para |
| 137-20Q | 16.50 | 20 | frec |
| 137-40Q | 28.00 | 40 |  |
| ALUMINUM "'Q" TUBING |  |  |  |
| Cat. No. | List Price | Band (Meters) | Length |
| 136-ST10 | \$4.50 | 010 | 2-8'6' ${ }^{\prime \prime}$ |
| 136-ST14 | 7.50 | 014 | $3-8^{\prime} 6^{\prime \prime}$ |
| 135.ST20 | 9.50 | 020 | 4-8'6'" |
| 136-ST40 | 18.00 | 040 | $8-8{ }^{\prime} 6^{\prime \prime}$ |

## 'Q' SUSPENSION ASSEMBLY

Includes new type insulator and all necessary hardware for connecting " $Q$ '" matching section to antenna and transmission line. Insulator may also be used to bring off "Zepp" feeders from the flat top.

## Cat. No. <br> List Price

 136-106-Antenna Feeder Insulator only... . 60

## FEEDER INSULATORS

Nos. 136-122, -124 and 126 are conventional eeder spreaders of high grade low absorption porcelain Silicone impregnated

Cat. No. List Price Lg.
$\begin{array}{rrr}136-122 & \$ 0.16 & 2^{\prime \prime} \\ 136-124 & .23 & 4^{\prime \prime} \\ 136-126 & 30 & 6^{\prime \prime}\end{array}$ $\begin{array}{ll}1366-124 & .23 \\ 136 & .30 \\ 10\end{array}$ ${ }_{136.31}^{136126}$

580\% or finest water repellent characteristics. No. 136-122 is provided with notches for $11 / 2^{\prime \prime}$ line spacing. All have $3 / \mathrm{g}^{1 / 2} 2^{\prime \prime}$ cross section. No. 136-31 is a glazed porcelain transposition insulator which permits crossing transmission lines at frequent inter-: vals to prevent radiation and provide $2^{\prime \prime}$ line spacing.

136-122, -124,-126
 " AND JOHNSON "Q" BEAM he consistent results obtained by the thousands of users of the JOHNSON Q antenna system are due to the extremely high efficiency of this famous antenna. Applications include half-wave doublet, either horizontal or ver"al, harmonic or "long wire" radiator, radiator-reflector, radiator director,

解 Be and others. THNSON Q Beam is a special application of the $Q$ system. It consists and frequency of the two bands desired. For example if you want a $Q$ Beam to operate on 10 and 20 meters, order two JOHNSON Qs for 20 meters.

The -20 Q and -6 Q use aluminum tubing for the radiating portion as well as for the matching section. The 136-35 Jack Strip and 136-36 Plug Strip make an ideal feeder connection at the trans mitter $w^{-h} n n$ the antenna is suspended.

## "Q" SPACING BARS

Used for spacing tubing in matching transformer applications. Spacing is continuously variable from $7 / 8^{\prime \prime}$ to $35 / \mathbf{a}^{\prime \prime}$.
No. 136-33-Spacing Bar. $\qquad$ List Price $\$ 0.60$

## ENAMELLED COPPERWELD ANTENNA WIRE

OHNSON Enamelled Copperweld Antenna Wire will not stretch nor sag. Prices are per 100 feet. Carried by most suppliers in bulk, it is available from the factory in any specified length.

|  | Cat. No. | List Price | B\&S <br> Gaug | t.per $\mathrm{lb} \text {. }$ | Breaking Strength |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ENME2 ${ }^{\text {a }}$ | 144-348 | \$4.45 | 10 | $341 / 2$ | 1130 lbs . |
| PURE COPPER WELOED TOCORE 5 | 144-350 | 3.25 | 12 | 54 | 720 lbs |
|  | 144-352 | 2.20 | 14 | 85 | 400 |

## INSTANT CRYSTAL SELECTOR



126-220-1 Ten frequencies with a twist of the knob with extra position for $E C O$. Accommodates all crystals with $1 / 2^{\prime \prime}$, spacing. With adaptors also takes 6 upright $3 / 4^{\prime \prime}$ spaced crystals, plus 4 with $1 / 2^{\prime \prime}$ spacing. Bracket permits vertical or horizontal mounting.
Cat. No. List Price 126-220-1-Instant Crystal Selector................ 55.80 126-120-1-Crystal Mounting Board only.......... 3.10 5

## ANTENNA INSULATORS

These insulators include both wet and dry process porcelain. The $36-107$ and $136-112$ are wet process and are 1" in diameter.
The Commercial Type is $11 / 2^{\prime \prime}$ in diameter, for use where much greater strength is necessary. The 136.104 is dry process $5 / 8^{\prime \prime}$ square, for servic
types is not reauired.
types is not required. These JOHNSON antenna insulators have long leakage
paths. low capacity and their freedom from moisture abpaths, low capacity and their freedom
The 136-151, $-152,-153$ are wet process porcelain and are $11 / 2^{\prime \prime}$ in diameter. End fittings are of non-corrosive aluminum clloy.


## 

136-107, 136-112


136-151, -152,-153

## JOHNSON UNIVERSAL ROTOMATIC ANTENNA ARRAY



New direction indicator and Beam control is Selsyn motor operated.


Heavy-duty drive unit is self-lubricating and fully enclosed.

Available with Parasitic or Phased Driven Elements.
Enjoy more QSOs - work more DX with the new JOHNSON Universal Rotomatic Beam.

The new symmetrical unidirectional beam employing phased driven elements is easy to tune - performs beautifully.

DeLuxe Models of the parasitic or phased arrays are available for two-band operation, employing two separate sets of elements but only one iransmission line.

## NEW JOHNSON PARASITIC ARRAY

When you see it you will realize it's in a class by itself! New, unique design allows an infirite variety of element lengths and spacing. Perfect impedance matching on two bands - any impedance from 50 to 600 ohms - coaxial or open wire line.

## NEW ROTATOR AND DIRECTION INDICATOR

The heavy-duty drive unit will take rain, sleet and high winds in its stride - will turn on the coldest mornings. Rotation is instantly reversible, $360^{\circ}$ at $11 / 2$ RPM. Motor control and antenna relay switch are contained in the selsyn indicator case.

The elements, rotator, direction indicator, etc., may all be purchased separately.
See your JOHNSON Jobber for Rotomatic catalog (includes prices)

## ROTOMATIC FEATURES

## V New Anienna Array

The entire unit is so sturdy that it will withstand heavy icing and high winds.
Two-band operation with Deluxe model. Two arrays fed with same transmission line, switched by low-loss RF relay.

## $\sqrt{ }$ New Matching System

New matching system permits efficient wide band operation and freedom to move about from the low to the high end of the bands. In addition either open wire line or coaxial cable may be used
$\sqrt{ }$ New Heavy Duty Drive Uni Powerful, smooth, continuous rotation either direction at $11 / 2$ RPM.
Mechanism is self-1ubricating and fully enclosed in weatherproof housing.

Universal bracket for mounting on pole or platform. May be driven with $1 / 20 \mathrm{HP}$ motor or larger rated at 1750 RPM.
$\sqrt{ }$ New Direction Indicator and
Beam Control

Selsyn motor controlled indicator. Indicating arrow glides through $360^{\circ}$, in either direction, over a map with compass graduations Stop beam anywhere instantly.

## JIFFY-RIG TELEVISION ANTENNAS

Taco Jiffy-Rig Antennas are the answer to the quickest installations without any electrical or mechanical sacrifice. These antennas come completely assembled, and are readied for installation by merely opening up and tightening a few screws. Elements are all securely
locked in place when antenna is installed.
For performance curves and field patterns on all Taco antennas, refer to Catalog No. 30. Tests are made on all models at the thoroughly equipped Taco laboratories and testing grounds in Sherburne, N. Y.


## LAZY X ANTENNA TYPE 950

First introduced by Taco in 1940, this antenna has a single forward lobe for both high and low channels. It has a high front-to-back ratio, high gain, and broad coverage. Available either as a stacked or single antenna. Stacked antenna has approximately twice the gain of single. Outstanding characteristic is stability of impedance and gain over far greater frequency range than most other types. Matches popular 300 ohm lead-in and receiver input.

CAT. No. 950-Stacked Lazy X Antenna for channels 2-13, 2 X Antenna-Reflectors, connecting line between antennas, bakelite terminal panel, mast swivel bracket, 2 five-foot mast sections. (Shipping Wt. : 11 lbs.) List Price $\$ 41.50$ CAT. No. 951_Stacked Lazy X Antenna. Same as No. 950 less 2 five-foot mast sections and mast swivel bracket. (Ship ping Wt.: $91 / 2$ Ibs.)....List Price $\$ 34.00$

CAT. No. 952-Single Lazy-X Antenna with five foot mast and accessories. (Shipping Wt.: 7 lbs.)

List Price $\$ 21.00$
CAT. No. 953-Single Lazy-X Antenna less mast and accessories. (Shipping Wt.: 5 lbs.)............List Price $\$ 16.50$

## ALL-CHANNEL REVERSIBLE BEAM ANTENNA TYPE 900

An entirely new and improved approach to co-channel interference caused by stations approximately $180^{\circ}$ apart, on the same channel. Uses four driven elements instead of parasitic elements, resulting in extremely high front-to-back ratio ranging from 5:1 up to 20:1. Antennas are connected in pairs, each pair with separate lead to receiver. Diplexer supplied with antenna eliminates any ghosts due to mismatch between receiver and lead. Diplexer incorporates a direction-reversing switch to reverse receiving direction $180^{\circ}$. Antenna receives equally well in either direction. Covers all channels 2.13 with a single lobe.

CAT. No. 900 - All-Channel Reversible Beam Antenna Array. Consists of: 4 seis dipole clements with wings; 4 dipole connecting links with terminal panel; 3 five-foot section masts; accessories, 1 diplexcr. (Shipping Wt.: 14 lbs.)

List Price $\$ 59.50$

CAT. No. 905 - High-Band Reversible Beam Antenna Array. Consists of: 4 highfrequency dipoles; 4 connecting links with terminal panel; 2 five-foot mast sections; 1 crossarm; accessories; 1 diplexer. (Shipping Wt.: 8 lbs.).......... List Price $\$ 32.00$

## STACKED HIGH-GAIN ANTENNA TYPE 995

For fringe areas where low-band channels are operating, this antenna has no equal as proved by its record-breaking history. Comes tuned for any one channel ( $2,3,4,5,6$ ) but will receive adjacent channels with slight attenuation. Order for weakest channel. Cleans up fuzzy signals with its high signal-to-noise ratio. Used in high-signal areas to eliminate interference. Extremely rugged mechanically. Used with Catalog 992-D ( ) director for extreme fringe areas.

CAT. No. 990-( )—Stacked High-Gain Antenna. Specify channel in bracket. Consists of: 2 sets tuned dipole-reflectors; transmission lines with center terminal panel; transmission linc brace. (Shipping Wt.: $91 / 2 \mathrm{lbs}$.)
ist Price $\$ 32.00$

CAT. No. 995-( )-Stacked High•Gain Antenna. same as No. 990 plus the following: 3 five-foot mast sections; 1 set 190-7 mast brackets; 6 screw-eye insulators; 4 mast insulators; 2 guy rings. (Shipping Wt .: 14 lbs.)

List Price $\$ 40.00$

## INDOOR ANTENNA TYPE 975

For strong signal areas where regular antenna is not feasible. May be located at receiver or in attic. Base made of mottled mahogany-finished bakelite. Dipoles nickel-plated with metal-balled tips. Mounting feet permit anchoring to rafter in attic. Dipoles may be set in any position or length, thus covering all channels. No knobs to tighten due to exclusive Taco ratchet design.

[^8]
## DIRECTOR TYPE 992-D-( )

For increased gain and sharper tuning on channels 2, $3,4,5,6$, this director has been designed to slip into the open end of Taco No. 995. Increases voltage gain by 3 db for tuned channel. For areas where sharper tuning and higher gain is desired, the addition of director greatly improves reception. Director may be added any time to an existing installation.

CAT. No. 992-D-( )-Director (Channel 2, 3, 4, 5, or 6). Consists of: 2 crossarm assemblies with director elements assembled by Jiffy-Rig construction. (Shippingr Wt.: 2 lbs.)

List Price $\$ 9.50$

## JIFFY-RIG TELEVISION ANTENNAS



## STACKED HIGH-GAIN ANTENNA TYPE 944 JIFFY-RIG CONSTRUCTION

The finest in high-frequency antennas. Used in fringe areas and areas of average signal strength with excellent results. Cleans up high-frequency signals through the use of two 600 ohm folded dipoles tapped at center terminal for a transmission line impedance of 300 ohms. Exceptionally flat field characteristics eliminates ground reflections. Broad banded, but may be peaked for additional gain on any high-frequency channel by the addition of directors.
CAT. No. 944 - Stacked High-Gain CAT. No. 947 D-H. F. Directors Antenna for high-band channels 7-13. Antenna for high-band channels 7.13 . Consists of: 2 600-ohm folded dipole antenna-reflector combination
mounted on crossarm; terminal panel; mounted on crossarm; terminal panel; 5-foot aluminum mast;
(Shipping Wt.: 5 lbs.)

List Price $\$ 16.50$
adjustable for any higl channel. Attaches to Cat. 944 antenna. (Shipping Wt.: 3 lbs.)

List Price $\$ 3.50$
2 packed per carton

## YAGI ANTENNA TYPE 957

## JIFFY-RIG CONSTRUCTION

An exceptionally high gain, sharply tuned antenna. Performance comparable to stacked antenna-reflector array for any one channel. Available in 3 models to cover the 7 upper channels. Model 957-8 covers $7,8,9 ; 957-10$ covers $9,10,11 ; 957-12$ covers $11,12,13$. Sharp tuning means elimination of much interference and ghosts caused by reflected signals. May be stacked with Type 958 Stacking Kit for a 9 db gain. Jiffy-Rig construction, fully assembled.

CAT. No. 957-(8, 10 or 12)-Yari
Antenna. Consists of: 1 folded dipole antenna; 1 reflector; 2 directors; 1 crossarm with mast-mounting clamp. 5 ft . mast (Shipping Wt.: 4 lbs .)

List Price $\$ 11.00$

CAT. No. 958-( (8, 10, or 12)-Yagi Antenna Stacking Kit. Same as above without mast but with transmission line for stacking. (Shipping Wt.: 3 lbs.) ..........................List Price $\$ 9.00$ Yayi Antenna. Combination of $\$$ CAT. No. 959-(8, 10, or 12)-Stacked Yagi Antenna. Combination of
a 957 and a 958 antenna. (Shipping Wt.: 6 los.)......... List Price $\$ 18.75$

## SINGLE HIGH-BAND ANTENNA TYPE 945

Ideal for use as higl-frequency adapter in average to strong signal areas. Jiffy-Rig construction matches 300 ohm antenna and permits use of common transmission line through use of matching network. Used as antenna in areas where only high frequency stations are operating. May be stacked in weak signal areas using Type 946 Antenna.

CAT. No. 945-Folded Dipole Antenna. Consists of: folded dipole with reflector; 5 -foot mast. (Shipping Wt.: 2 lbs.) List Price $\$ 7.00$

CAT. No. 946-Folded dipole Stacking Antenna. Same as above less mast. (Shipping Wt.: 1 1b.)...................................ist Price $\$ 5.75$

## HI-LO BAND ANTENNAS TYPE 920 AND 925 JIFFY-RIG CONSTRUCTION

An improved version of the famous Taco 465, original piggy-back Hi-Lo Band Antenna. The most popular types for areas of average signal strength where both high and low bands are in operation. Separate high and low band elements allow independent orientation of high and low-band antennas for elimination of ghosts and sharpness of picture. Matching network minimizes interaction between sections, and allows full freedom in orientation. Also available as a stacked high and single low-band antenna. Cat. No. 920 for increased gain usually needed in the high-band channels.

CAT. No. 925-5-5-foot Hi-Lo Band Antenna. Consists of: High and low-band folded dipole antennas-reflectors; 5 -foot mast; matching network; mast swivel base. (Shipping Wt.: 6 lbs.)............ List Price $\$ 17.00$ CAT. No. 925-10-10-foot Hi-Lo Band Antenna. Same as above plus extra 5 -foot mast section, guy anchor, extra mast standofl.

CAT. No. 920-Stacked High, Single Low-Band Antenna. Consists of : Stacked
high-band antenna-reflector combination; Low-band antenna-reflector; matching
netwerk; 2 fivc-foot mast sections; swivel base bracket; guy anchor. (Shippin\%



## FOLDED DIPOLE ANTENNA-REFLECTOR TYPE 940

An economical, dependable folded dipole antenna for prime service area use. Single lobe in low band, Jiffy-Rig construction assures quick erection. Matches 300 -ohm transmission line. For added gain a 992 -( ) director may be used.

# JIFFY-RIG TELEVISION ANTENNAS 

TWIN-DRIVEN YAGI ANTENNA

For fringe area reception a rotator often permits maximum results Taco twin-driven Yagi Antenna, due to its high gain, is the ideal antenna because of its low overall height. In sub-fringe areas use $980-($ ) stacked model with a gain of over 9 db . Special bulletin available on request. Tuned for each low band channel. Use 959-( ) for high band stations. The antenna and first director are driven elements for im proved impedance match.

CAT. No. 980-( ) -Two-l3ay Twin-Driven Yagri Antenna, less mast. List Price $\$ 49.50$

CAT. No. 981-( )-Single Bay TwinDriven Yagi Antenna, less mast.

List Price $\$ \mathbf{2 4 . 0 0}$

CAT'. No. 985-( ) -Two-Bay Twin-Driven Yagi Antenna with 15 -foot mast

List Price $\$ 59.50$
CAT. No. 986-( )-Single Bay TwinDriven Yagi Antenna with 5 -foot mast.

List Price $\$ 27.50$


## SINGLE-LOBE DOUBLE-DOUBLET TYPE 912

Originally designed as a low band antenna and well known as Cat. No. 435 Lazy H Antenna. Re-designed for high-low band operation by the addition of high frequency wings and $H$. F. reflectoris to give the one direction lobe necessary for most localities. High gain and excellent front-to-back ratio obtained by use of separate high frequency reflectors. Recommended for low signal strength areas. Good FM coverage. Available as a signal bay unit Cat. 910 for higher signal strength areas.

CAT. No. 912-Single-lobe Double Doublet Antenna. Consists of: 2 antenna-rcflectors on separate crossarms; high frequency reflectors; connecting network; 2 five foot masts; mounting accessories; high frequency wings. (Shipping Wt.: 8 llbs.) ..........................List Price $\$ 25.00$

CAT. No. 910-One-Bay Single Lobe Antenna for high and medium signal strength areas. Consists of: antenna-re flector combination on one crossarm; high frequency reflector; high frequency wings; 5 -foot mast; mounting accessories. (Shipping Wt.: 6 lbs.)

List Price $\$ 15.00$

## HI-LO BAND IN-LINE ANTENNA TYPE 930 AND 932

Designed for areas of average-to-strong signal strength where both high- and low-band channels are in the same direction. Gain is high in both bands. Directivity lobes show this antenna as having one main forward lobe in both the high and low band. Matching network eliminates troublesome interaction between elements. Perfect match for 300 -ohm lead-in. A stacked model Cat. No. 932-10 is available where additional gain is required in either band.

CAT. No. 930-5-5-foot In-Line An tenna. Consists of: High and low-band antenna sections with low-hand reflector; 5 -foot mast; jumper network; 3 screw-eyes; mast standoff; mast swivel bracket and mounting screws. (Shipping Wt.: 6 lbs.)...List Price $\$ 17.00$

CAT. No. 930-10-10-foot In-Line Antenna. Same as 910 plus one extra 5 foot section of mast. (Shipping Wt.: 7 lbs.)......................Lits Price $\$ 20.00$ CAT. No. 932-10-foot Antenna. Consists of: 2 high-low antenna-reflectors; 2 crossarms; 2 five-foot mast sections; mounting accessories. (Shipping Wt.: 10 lbs.)................. List Price $\$ 34.00$


## ACCESSORIES AND SUPPLIES

Extension Masts Sectional Masts
Mast Couplings
Mast Brackets
Mast Swivel Brackets
Antenna Insulators
Strain Insulators Turnbuckles Guy Wire

Crossarm Connectors Mast Guy Anchors Mast Standoff Insulators Ribbon Wire Insulators Baseboard Standoffs Porcelain Nail Knobs Lightning Arrestors Shorting Bars
Replacement Parts

Screw-eye Standoffs
Ribbon Transmission Line
Concentric Cable
Twisted Pair Lead-in
H. F. Splicing Tape

Window Lead-in Strips
Ground Rods
Ground Clamps
Ground Straps


## FM ANTENNAS

## FM OMNIDIRECTIONAL ANTENNA TYPE 624

This antenna has nearly the same gain as a single dipole in the FM band, which is unique for an antenna of the non-directional type. Covers FM band with practically equal gain throughout, due to its 300 -ohm impedance. Gain and band-width greater than that of turnstile antenna. For areas with less signal strength, the 624 may be stacked $1 / 2$ wave-length between elements for maximum gain and minimum interaction. In a stacked array it is possible to peak the antennas for weaker stations.

CAT. No. 624-Omnidirectional Antenna. Coneists of: 1 S -Type folded dipole with terminal panels; 15 -foot aluminum mast; 2 mast insulators; 60 -foot transmission line; 2 ribbon-type standoff insulators; 2 mast clamps; mounting screws. (Shipping Wt.: $43 / 4 \mathrm{lbs}$.)

List Price $\$ 11.00$
CAT. No. 624-L-Omnidirectional Antenna. Same as above less transmission line. (Shipping Wt.: 4 lbs.)............................List Price $\$ 8.00$

CAT. No. 624ST-Stacked Omnidirectional Antenna. Consists of: 2 S -Type antennas; 1 stacking transmission line with terminal panel and mounting clamp; 25 -foot aluminum mast sections; 1 coupling for mast with mounting panel; 60 -foot transmission line; 2 ribbon type standoff insulators; 2 mast clamps with mounting screws. (Shipping Wt.: $61 / 2 \mathrm{lbs}$.)

List Price $\$ 18.00$
CAT. No. 624ST-L-Stacked Omnidirectional Antenna. Same as above less transmission line. Antenna. Same as above less transmission line.
(Shipping Wt.:
6 lbs.)............ist Price $\$ 15.00$

## FM FOLDED DIPOLE ANTENNA-REFLECTOR

The folded dipole is the best type FM antenna inasmuch as the spread is only $10 \%$ above and below the mean frequency. Has a flat response of 3 db over entire FM band. Unidirectional characteristic is ideal for pinpointing in noisy locations. Mechanically rugged. Electrically perfect.
CAT. No. 620-Folded Dipole Antenna-Reflector. Consists of: 1 folded dipole; 1 reflector with crossarm; 5 -foot aluminum mast; 2 mast insulators; 2 mast-mounting straps with mounting screws; 2 standoff insulators; 60 -foot 300 -ohm transmission line. (Shipping $\mathbf{W} t .: 4{ }^{4} / 4 \mathrm{lbs}$.)

CAT. No. 620.L-Folded Dipole Antenna Reflector. Same as above less transmission line. (Shipping Wt.: $33 / 4 \mathrm{lbs}$.)..................List Price $\$ 10.50$ CAT. No. 621-Folded Dipole Antenna. Consists of: 1 folded dipole with terminal block; 00 -foot 300 -ohm trinsmission line; 15 -foot mast; 2 mountine straps 00 -1oot 300 -ohm transmission Wt.: $3^{1 / 2}$ traps and mounting screws; 3 special screw-eyes. (Sist Price $\$ 10.25$ Wt.: $3^{1 / 2}$ CAT. No. 621-L...................................................... mission line. (Shipping Wt.: $21 / 2$ lbs.)..........................List Price $\$ 7.25$

## FM STACKED HIGH-GAIN ANTENNA

For low-strength signal areas. Maximum gain through proper spacing and matching. Impedance at terminal panel is 300 ohms, assuring good match. Designed to retain broad band coverage despite gain. Front-to-back ratio approximately 15:1; gain about 6.5 db over reference dipole in FM band. Built to withstand all kinds of weather. May be used with a rotator for pinpointing reception in fringe areas.

CAT. No. 635-Stacked Folded Dipole Antenna-Reflector. Consists of: 2 folded dipoles; 2 reflectors with crossarms; 2 transmission lines with terminal panels; 25 -foot mast sections; mounting hardware. (Shipping Wt.: $91 / 2 \mathrm{lbs}$.) ............List Price $\$ 25.00$


## ANTENNA SYSTEMS

## ALL-WAVE NOISE REDUCING ANTENNA SYSTEM

Taco AM antenna kits have been designed and manufactured to perform the important function of delivering as much signal strength to the receiver as possible, and at the same time to hold back undesirable background noises. The signal-to-noise ratio is extremely high, due to the matching transformers incorporated in the following systems.

## DOUBLET ANTENNA SYSTEM TYPE 220 FM

Balanced doublet type covering the standard broadcast, shortwave and FM bands. Completely wired, soldered and tested. Includes Type 221 antenna transformer, two 30 -foot coils of aerial wire, 60 -foot transmission line, and all necessary hardware. Standard Package: 6.
CAT. No, 220-FM-(Shipping Wt.: 4 lbs.)............List Price $\$ 13.50$ each CAT. No. 220-Antenna, AM only......................................List Price $\$ 12.75$

## MULTIPLE OUTLET SYSTEM

Master antenna system for connecting $10-30 \mathrm{AM}$ or FM receivers to one antenna using one or several transmission lines. Used extensively in schools, hospitals and apartment houses. Special type antennas for school public address installations.

INFORMATION ON FM AND AM ANTENNAS IS CONTAINED IN SPECIAL TACO CATALOG.

Premax Adjustable Tubular Antennas have been widely used in radio fields for a long period of years and have shown exceptionally efficient, dependable performance under most severe climatic and shock conditions, both in continental United States and abroad. They are available in various lengths to meet all requirements, in monel, aluminum and steel. Mountings and insulators will be found on page S-48.

## MONEL ANTENNAS FOR CORROSION RESISTANCE

Premax Monel Antennas have an outstanding combination of strength and corrosion resistance that is vital to trouble-free communications, whether at land or at sea... in the tropics or the aretics. The monel used in these Premax Antennas. two-thirds nickel and one-third copper . . is twice as stiff as bronze, strong as structural steel. Yet it will not corrode or lese its strength in salt-water installations, Polished chrome-plated finish on all sizes.
Premax Monel Antennas are built up of multiple sections of harddrawn monel tubing of a tensile strength exceeding 125,000 pounds per square inch. They are available in five standard units, fully telescoping and adjustable to any height between the minimum and maximum shown. The locking device employs a special knurled thimble and split friction clutch sleeve and holds the sections firmly at any desired height, also providing perfect electrial contacts.

## No. Description

MMI-313 2 -Scc. Tele.
Mm-419 3 -Scc. Tele
Min-825 5-Sec. Tele
Mill-430 5-Sec Tele MM-635 5-Scc. Tele


## ALUMINUM ANTENNAS FOR LIGHT WEIGHT

Premax Adjustable Type Aluminum Antennas are designed to provide light-weight with corrosion resistance and adeauate strength to meet the most exacting conditions, for marine. mobile and commercial installations where convenience in erection and dependable performance are important considerations. They are ideally adapted for use in radio telephone installations on fresh-water craft and commercial installations where convenience in extending and collapsing are important considerations.
These Antennas are built up of tubing that is specially drawn seamless tempered aluminum with dingeters, gauges and temper engineered to withstand wind velocitics up to $60 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. The locking device is simple and positive and provides low-resistance contact between sections. Six units are available, all fully telescoping.

## HEAVY-DUTY NON-ADJUSTABLE

Another type for special installations under extraordinarily trying conditions is aneavy-Duty. Non-Adjustable Aluminum Antenna in either $171 / 2^{\prime}$ or $35^{\prime}$ length. This is a specially heat-treated Antenna designed to withstand wind velocities up to $100 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. The on the $35^{\prime}$ mast and a base of $32^{\prime \prime \prime}$ to a top of $1 / 2^{\prime \prime}$ on the $171 / 2^{\prime}$ mast.

| No. | Description |  | C'laps'd. | Base <br> 0.D. | $\begin{aligned} & \text { Base } \\ & \text { I.D. } \end{aligned}$ | $\begin{aligned} & \text { Wgt. } \\ & \text { eat } \\ & \text { hhs. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AL-106 | 1-Pc. Taper Rod | $6{ }^{\prime \prime}{ }^{\prime \prime}$ | $63^{\prime \prime}$ | . $313^{\prime \prime}$ |  | 1/4 |
| AL-312 | ${ }^{2}-\mathrm{Sec}$. Tele. | $12^{\prime \prime} 4^{\prime \prime}$ | $6^{\prime} 4^{\prime \prime}$ | . 500 " | . $334{ }^{\prime \prime}$ | $1^{1 / 2 / 4}$ |
| AL-518 | 3 -Sce. Tele. | $18^{\prime \prime} 5^{\prime \prime}$ | $6^{\prime} 4$ " | . 750 " | .584" | $1 / 2$ |
| AL-324 | 4-Sec. Tele. | $24^{\prime \prime}{ }^{\prime \prime}$ | $6^{\prime} 4^{\prime \prime}$ | $1.000^{\prime \prime}$ | .834" | 5 |
| AL-530 | 5 -See. Tele. | $30^{\prime} 0^{\prime \prime}$ | $6^{\prime} 5^{\prime \prime}$ | $1.250^{\prime \prime}$ | $1.084^{\prime \prime}$ | 7 |
| AL-535 | 6-Sec. Tele. | $35^{\prime \prime} 8^{\prime \prime}$ | 6 '5' | $1.500^{\prime \prime}$ | $1.310^{\prime \prime}$ | 12 |

HEAVY-DUTY, NON-ADJUSTABLE
AM-017 1-Pc. Taper Tube $17^{\prime \prime} 9^{\prime \prime} \quad 17^{\prime} 9^{\prime \prime} \quad .969^{\prime \prime} \quad .689^{\prime \prime} \quad 51 / 2$ AM-035 2 -Sec. Taper $\quad 35^{\prime} 0^{\prime \prime} \quad 17^{\prime} 9^{\prime \prime} \quad 2.000^{\prime \prime} 1.532^{\prime \prime} 19^{.2}$ (For Base Insulators and Mountings, See Page S-48)

## STEEL ANTENNAS FOR LOW COST

The Iow initial cost and general satisfaction of Premax Tubular Steel Antennas have made this equipment within all budget of high-tensile, for commercial, municipal, amateur and other types of installations. In construction these Antennas are made highly resistant to corrosion. When pref carefully engineercd diameters and wall thicknesses, heavily cadmium-plated and generally advisable to support them by guys or standoff insulators withstand all ordinary stresses without guying, but it is against abnormal winds or them by guys or standoff insulators Standard Premax Adjustable Tubular Steel A
in two, three, four five and six-section Steel Antennas are available in two, three, four, five and six-section models. All units are fully telesconing and adjustable within the lengths shown for the paraction type. The locking device is simple in operation, positive in the sections. While these Ant and efficient electrical contact between the sections. While these Antennas possess unusual tensile strength, use in fixed in weight and easily portable. They have widespread use in fixed and mobile installations. NOT recommended for
marine use on salt water.


## Unit

Premax Corulite Elements are designed to meet the need for lightweight but sturdy elements for use in horizontal arrays and similar applications. They are unusually light in weight and their special corrugated or reed design provides exceptional strength and rigidity so essential in horizontal types of installations. All parts are heavily electro-plated to provide corrosion resistance and high electrical conductivity. A positive clamp, spot-welded to the tubing, permits adjustment in length and assures rigid joints and positive electrical contact between the telescoping sections. Ease of adjustment between the two halves of each component element is provided by the Premax
of each component element is provided by the Premax "Hairnin" Tuning Bar. By its use it is possible to have all of the elements set at a single physical length and the variation in their electrical length may be accomplished by the "Hairpin."
Corulite Elements are available in one, two, three or four-section units as shown in the specifications at the right. These elements meet all requirements for the arious five to twenty-meter arrays in general use and are ideal for combinations in commercial, FM, televi sion or amateur bands.

|  |  | Extended | Collapsed | Base | Recommended | Weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Description | length | Length | 0.D. | For | Per Pr . |
| $105-\mathrm{M}$ | 1-Section | $5^{\prime} 0^{\prime \prime}$ | $5^{\prime \prime}$ | . $625{ }^{\prime \prime}$ | 6 -meter | 1 h. |
| 108-M | 2 -Scetion | $8^{\prime} 9^{\prime \prime}$ | $4{ }^{\prime \prime}$ | . 750 " | 10 -meter | 2 ibs |
| 113-M | 3-Section | $12^{\prime} 4^{\prime \prime}$ | $4^{\prime} 8{ }^{\prime \prime}$ | .875" |  | $31 / 211$ |
| 618-31 | 4-Section | $17^{\prime \prime} 0^{\prime \prime}$ | $5 \times 3$ " | $1.000^{\prime \prime}$ | 20 -meter | $51 / 21$ |

PREMAX PRODUCTS, DIVISION OF CHISHOLM-RYDER COMPANY, INC., NIAGARA FALLS, N. Y.

Television transmitters emit horizontally polarized waves. However, near the receiving antenna, due to reflections from tall trees, buildings and other obstructions, there is bound to be a vertical component which, when combined with the horizontal component, will run the angle of polarization somewhat above the original horizontal plane.
Thus a "direct" and a "reflected" signal often combine at the receiving antenna and where an ordinary horizontal type dipole antenna is used this combination of signals produces only a minimum of desired signal because one signal tends to cancel out the other.
With the Premax Adjustable V Dipole Antenna the proper vertical or horizontal adjustment of the elements will correct this condition and make the two signals combine in phase, thereby increasing rather than reducing the received signal.
Premax dipole elements are designed to permit any desired adjustment of the angle for strongest reception (usually $35^{\circ}$ to $45^{\circ}$ above the horizontal plane) and they can be securely locked in the position deemed best.
Another feature of the Premax Adjustable V Dipole Antenna is that, properly mounted, it permits a sufficient signal energy at the antenna terminals to minimize the importance of the otherwise difficult task of perfect impedance matching.
Many leading radio engineers who have tested the Premax Adjustable V Dipole Antenna, mounted reasonably high and in the clear, find it insures optimum reception of signals from all of the TV stations which come within the line of sight.

## COVERS ALL TELEVISION \& FM CHANNELS

Simpler: Lower in cost ! Easy to erect! Oversize elements Adjustable $V$ Dipole design! Two completely separate arrays on one mast, each of dipole and reflector. Pro vides maximum signal pickup for all channels in HF and LF bands as well as for FM. Fully adjustable in both horizontal and vertical planes. Interconnected by patented AAK divider coil system. Can also be had in individual antennas for either HF or LF. Then at any time, the other array may be added to give full two-band at any time
T-448-LF-HF Antenna complete, less transmission line.
TL-448-LF-HF Antenna complete with 75' 300-ohm. transmission line.
TA-4481-LF Antenna and reflector only, ineluding mast, less transmission line.
TAL-4481-Same as TA-4481 but with $75^{\circ} \mathbf{3 0 0 - o h m}$ transmission line.
TB-4482-HF Antenna and Reflector only, ineluding mast, less transmission line.
TBL-4482-HF Antenna and Reflector only, ineluding mast and
75' line.
TC-4483-HF Conversion Unit, less mast, less transmission line TD-4484-LF Stacked Array, with $9^{\prime}$ mast, less line.

## ROTARY BEAM ANTENNA FOR 6-10-11 METER BANDS



RB-6309

A high-gain directive Antenna with many distinctive features and high degree of flexibility for use on 6, 10 or 11 meter bands. Aluminum supporting frame. Seamless duraluminum tubing elements readily adjustable in length for oper-
ation at optimum efficiency in any band listed. Light in weight with slight wind resistance.
RB-6309 Kit includes frame, 3 pr . Elements with necessary insulators and hardware including T-mateh accessories but no transmission line. Weight 30 pounds.
309-A Extra Elements only, no frames, insulators or hardware included. Packed in pairs. Weight 2 lbs. per pair.


FM-230

## FM and TV ADJUSTABLE "V" ANTENNAS

Designed for maximum response for FM and TV bands. Dipole arms of heat-treated aluminum with wire terminals for lead-in connections. $50^{\prime \prime}$ tubular steel support mast. Arms may be locked at any designed angle. Simple, light-weight design is simple to erect and install. Provides better recention than any straight dipole in congested areas.

No. FM-130-FMAntenna completewith mounting, less transmission line.

No. FML-130-Same as FM-130 but with $75^{\prime} 300$-ohm twin-lead transmission line.

No. FM-230-Same as FM-130 but with reflector, less transmission line.
No. FML-230-Same as FM-230 but with $75^{\circ} 300-\mathrm{ohm}$ twin-lead transmission line.

## HAND-OPERATED TURNTABLE

Will support the largest type of Rotary Beam Assembly and permits rotation for full $360^{\circ}$ in either direction. Formed of heavy sheet steel, spot welded. Stee angles spot-welded inside housing for
 additional strength. Platform or turn-

BM-46 table is $10^{\prime \prime} \times 12^{\prime \prime}$ formed of extra heavy sheet steel, is supported by $7^{\prime \prime}$ ball thrust bearing. Main shaft supported by two bearings to prevent side-play. $5 / 8$ " opening through center shaft for lead-in wires. Duraluminum control cable pulleys and $\boldsymbol{6}^{\prime}$ galvanized flexible steel cable. Shipping weight 17 pounds.

## CENTER-LOADED TUBULAR TELESCOPING MARINE ANTENNA

Gives a remarkable gain over the signal produced by a base-loaded type of same overall length. At high-frequency end of its 2000 to 3000 kc range it gives a measured effective signal power of decibels when compared with a basc-loaded antenna of similar length. This is equivalent to that produced by quadrupling the transmitter power output. For example, with this new Antenna, a 10 w transmitter will produce a signal equal to that of a 40 w transmitter using a base-loaded antenna and tuning system.
The base of this Antenna presents such a low impedance that less loss is experienced with leaky base insulators due to icing, wet weather or water spray. The line feeding the base is a low impedance line and is not critical as to length and body-capacity effects as is the case of the base-loaded antenna where the loading coil is housed in the transmitter cabinet.
The Antenna consists of two telescoping, adjustable base sections on which the loading coil is mounted, with a tapered top whip section. Each tubular section and the top whip is approximately $61 / 2^{\prime}$ long, providing a total extended length of about $19^{\prime}$. The base sections collapse to a single unit and the top whip section telescopes through the coil into the lower sections, making a collapsed length of only about $71 / 2^{\prime}$.
Available in monel for salt-water installations or in aluminum for fresh water use.
CLM-519-Monel type
Base O.D. .893" 1.D. .799"
CLA-619-Aluminum type
Base O.D. $1.000^{\prime \prime}$ I.D. . $834^{\prime \prime}$

## Solid Stainless Steel Tapered Antennas

Recommended for use where extreme durability and great corrosion resistance are necessary. One-piece solid hard-drawn stainless steel rod, tapered from $1 / 4^{\prime \prime}$ base to $1 / /^{\prime \prime}$ top. A tough, durable Antenna that will take it. Available in three standard lengths, to fit all standard mountings shown on page S-48.

No. SP-472-Stainless Steel Tapered Antenna, 72" long.
No. SP-484-Stainless Steel Tapered Antenna, 84" long.
No. SP-496-Stainless Steel Tapered Antenna, 96' long.
(For Mountings See Page S.48)

## Solid Steel "Whip Type" Graduated Diameter Antennas

Made of solid steel of extremely high carbon content, heat-treated and oil-tempered to carefully develop physical properties. Rods of varying diameters cold-drawn to rigidly-held tolerances, are joined securely and permanently into a single graduated length Antenna of high flexibility, minimum wind resistance and long life. Available in cadmium-plated with plain $14^{\prime \prime}$ end (Style A) or $\mathrm{i}^{\prime \prime \prime}$ threaded stud end complete with hexagon nuts and lock washers (Style B). Also available in stainless steel.

| CADMIUM-PLATED STEEL |  |  |  | STAINLESS STEEL |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Length | Style A | Style B | Length | Style A | Style B |  |
| $72^{\prime \prime}$ | AC-172 | BC-172 | $72^{\prime \prime}$ | AS-172 | BS-172 |  |
| $78^{\prime \prime}$ | AC-178 | BC-178 | $78^{\prime \prime}$ | AS-178 | BS-178 |  |
| $84^{\prime \prime}$ | AC-184 | BC-184 | $84^{\prime \prime}$ | AS-184 | BS-184 |  |
| $90^{\prime \prime}$ | AC-190 | BC-190 | $90^{\prime \prime}$ | AS-190 | BS-190 |  |
| $96^{\prime \prime}$ | AC-196 | BC-196 | $96^{\prime \prime}$ | AS-196 | BS-196 |  |




The most improved, easiest to install Roof Antenna made! One man makes the installation without cutting or ripping car upholstery. Single hole $18{ }^{\prime \prime}$ diameter in metal roof is all that is necessary. Mounting grounds coaxial sheathing of lead-in line. Rubber gasket insures against leakage. Transparent plastic insulator makes inspection easy. The antenna is stainless steel wire, $18^{\prime \prime}$ long with ball-tip and threaded fitting. Suitable for all frequencies in the 152 to 162 megacycle band.
No. DSH-118-Complete Assembly, less transmission line.

No. DS-118-Antenna only.
No. DSJ-118-Antenna with one-hole mounting and porcelain insulator. (Not illustrated.)

## Motorcycle Antennas and Mounts



Overcomes weaknesses and defects commonly found in other types! In this Premax, the coaxial line is grounded to same portion of mounting bracket that carries the antenna support itself. Hence no flexing of cable between ground and antenna connection

A spring-tension joint permits entire antenna including insulator support and grounded cable to be deflected $90^{\circ}$ without injury. Spring tension is sufficient to prevent accidental deflection.

Cadmium-plated steel bracket fits $3_{4}^{\prime \prime}$ tubing frame in either vertical or horizontal position as shown at right.
Antenna is high-carbon, heat treated tempered steel $34^{\prime \prime}$ long mounted in high-strength porcelain cone insulator. Antenna may be changed without disturbing insulator assembly.

No. CCY-134-Complete Assembly, Antenna and Mounting, less cable.

No. CC-134-Antenna only with Adaptor.


PREMAX PRODUCTS, DIVISION OF CHISHOLM-RYDER COMPANY, INC., NIAGARA FALLS, N. Y.


TYPE NA Insulated Bumper Mounting．Plates heavily cad－ mium－plated steel；insulation white glazed ceramic cones． Fits Style A or $1 / 4^{\prime \prime}$ antenna

TYPE K Insulated Bumper Mounting．Antenna rod fits into section of heavy brass tubing attached to the insu－ lator and permits $10^{\prime \prime}$ adjust－ ment in height of antenna Nut and compression sleeve lock antenna in place．Fits Style $A$ or $1 / 4^{\prime \prime}$ antenna White glazed ceramic insu－ lator．

TYPE R Insulated Universa Mounting of split－ball type Solid cast bronze，which bolts directly to car panel or other surface thru heavy plastic disc insulation with water proof gasket and steel back plate．Baked black ename finish．Fits Style A or any $1 / 4$＂antenna．

TYPE TA Trunk or Panel Mounting．for Premax Style A or any $1 / 4$＂An－ tenna．Fastens to car body or trunk or to any horizontal surface such as roof．Lower＇pport is solid brass roa joined to $12^{\prime \prime}$ brass tube carrying antenna．Upper support is $24^{\prime \prime}$ brass rod adjustable on antenna tube and also in insulator assemblies to fit contour of car．High－ tension white－glazed cera－ mic cone insulators．Maxi－ mum $10^{\prime \prime}$ antenna adjust－ ment．All metal parts heavily cadmium plated．

TYPE S Insulated Roof Mounting for auto or any flat surface．Special plas－ tic insulation disc carry－ ing heavy tempered steel spring with retaining nut and tapered split bushing to fit Premax Style A or any $1 / 4$＂antenna．Overall height about $5^{\prime \prime}$ ；diameter of base about $3^{\prime \prime}$ ．Fittings are solid brass electro－ plated．

TYPE SA Spring Adaptor Mounting，similar to Type $S$ described above except that a base plug is pro－ vided with an adaptor stud to fit any Premax Mount－ ing shown in this column． Fits Premax Type A or any $1 / 4$＂Antenna．Overall height about $43 / 4{ }^{\prime \prime}$ ；base diameter about $15 / \mathbf{g}^{\prime \prime}$ ．

$\frac{8}{3}$
Type 1 Base Insulator；heavy－ duty with compression rating up to $10,000 \mathrm{lbs}$ ．Galvanized mal－ leable iron or bronze．Available in three styles：

Type 1
RIGID POST TYPES（illusirated） Galv．Bronze Dia．Top Fits Antennas $\underset{ }{\text { No．}}$ PG $\quad$ No．$\quad$ Post $\quad$ Nob． $\begin{array}{llll} & \\ \text { PG－24 } & \text { IPR－24 } & 318-M\end{array}$ 1 PG－25 1PB－25 PG－26 1P13－26 $\begin{array}{ll}1 P G-30 & \text { PPB－30 } \\ 1 \mathrm{PG}-34 & 1 \mathrm{~PB}-34\end{array}$ $1 \mathrm{PG}-35 \quad 1 \mathrm{~PB}-35$ 1 PG－41 1PG－44 1PG－55

HINGED POST TYPES

## Galv．Bronze Dia．Top Fits Antennas

 No．No．Post Nos． $1 \mathrm{HG}-25 \quad 1 \mathrm{HB}-25$ 1 HG－26 1HB－26 HG－30 1HB－301HG－34 1HB－34
1 HG－35 1HB－3
1HG－41
$1 \mathrm{HG}-55$

|  |
| :---: |
| 1品＂ |
| $1{ }^{16 \prime \prime}$ |
| ${ }^{\left.13_{3}^{3}\right]_{2}^{\prime \prime}}$ |
| 182 |
| $1{ }^{1 / 3}$ |

MM－430，MM－435
AL－530
AL－535

Can be used with sizes of masts．

## TYPE IX—SOCKET TOP

No．1－XG
Galvanized
Top tapped standard $3 / 4$＂16－thread Top tapped standard $3 / 4$＂ 16 －thread


Type 2 Base Insulator；light de－ sign for masts up to $18^{\prime}$ or higher if guyed or supported by standoff insulators． $3 / 4^{\prime \prime}$ top post but with use of adaptors will fit other size masts．Brown－glazed porcelain with galvanized malleable iron top post and base support ce Type 2

$$
\begin{aligned}
& \text { No. 2P-24 } \\
& \text { No. }{ }_{2 P}{ }^{2}-26
\end{aligned}
$$

3／4＂Top Post
Fits 318－M No．2P－26


Deck Bushing of brown glazed porcelain with galvanized mal－ leable flange which bolts thru rubber gasket to roof or deck．


Type 6 Base Insulator for tower platform，rooftops or Marine． Lead－thru construction permits antenna connections below roof or deck．Flanges $6^{\prime \prime}$ diameter with stud and bolts for $1 / 2^{\prime \prime}$ to $3^{\prime \prime}$ deck． In galvanized malleable iron or bronze．
Type 6

| Galv． No． | Bronze No. | Dia．Top Post | Fits Antennas Nos． |
| :---: | :---: | :---: | :---: |
| 6PG－24 | $6 \mathrm{~PB}-24$ | $34^{11}$ | 318－M |
| 6PG－25 | 6PB－25 | 动尔＂ | M M－825 |
| 6PG－26 | 6PB－26 | $8^{\prime \prime}$ | AL－324 |
| 6PG－30 | 6PB－30 | \％＂ | MM－430，MM－435 |
| 6PG－34 | $6 \mathrm{~PB}-34$ | $1{ }^{18 \prime}$ | AL－530 |
| 6PG－35 | $6 \mathrm{~PB}-35$ | $13^{\prime \prime \prime}$ | MM－635 |
| $6 \mathrm{PG}-41$ | $6 \mathrm{Pr}-41$ | $1{ }^{\text {a }}$＂ | AL－535 |
| 6PG－44 | 6PB－44 | 1\％＂ | 136－M |



Wall Bracket of heavy formed steel for mounting vertical antennas on side walls，parapets，etc．Drilled to fit Premax Type 1 and 2 Base Insulators．Baked black


Type 10－S Standoff Insulator， heavy－duty iype．Chrome－ plated bronze base and head－ caps，porcelain insulator．Has solid clamp or hinged clamp for use with hinged－base in－ sulator．
 Hinged $\begin{array}{ccc}\text { Clamp } & \text { Clamp } & \text { Fits Tube } \\ \text { No．} & \text { Hoight to }\end{array}$ $\begin{array}{ccc}\text { Clamp } & \text { Clamp } & \text { Fits Tube } \\ \text { No．} & \text { Height to } \\ \text { O．D．} & \text { Center }\end{array}$ $10 \mathrm{~S}-283210 \mathrm{SH}-2832 \mathrm{~T} / \mathrm{m}^{\prime \prime}$ ，to $1^{\prime \prime}$ ，about 41／2＂
 $10 \mathrm{~S}-3642$ 10SH－3642 $11 / \mathrm{s}^{\prime \prime}$ to $1_{18^{\prime \prime}}^{\prime \prime}$ about $41^{1 / 2 \prime \prime}$

Type 3 Standoff Insulator for supporting verticals or for use in pairs as complete an－ tenna or element mounting． Galvanized iron or bronze with porcelain body， $3^{\prime \prime}$ in diameter．

## Type 3

## Galv．

No．
No．
3SG－16

3SG－16
3SG－20
3SG－24
3 SG－28
$3 \mathrm{SG}-32$
3 3SG－32
3 SG－34
3SG－34
$3 S G-40$
$3 S G-42$
3SG－48
3SG－52
Brass
No．
$3 S B-16$
$3 S B-20$
$3 S B-24$
$3 S B-28$
$3 S B-32$
$3 S B-34$
$3 S B-40$
$3 S B-42$
$3 S B-48$
3SB－52

Fits Tube

Type 4 Standoff Insulator is similar to Type 3 excepting it is provided with two ringed clamps instead of the bottom plate． In galvanized iron or bronze in same sizes as the No． 3.


Type 7 Standoff Insulator is a low－priced substantial mounting with wide application．Galvan－ ized malleable frame enclosing white split porcelain bushing． Height 6＂


Type 8－C Insulated Mount－ ing Clamp for horizontal arrays，verticals，etc．Gal－ vanized iron frame with white split porcelain bush－ ing．Width $31 / \mathbf{2}^{\prime \prime}$ ．
Type 8．C

$\qquad$


Type 9C Insulated Mounting Clamp for horizontal elements， verticals，etc．Gray iron gal－
vanized frame with white por－ celain split bushing．Height to center $2^{\prime \prime}$ ．
Type 9．C

Type 10－6

$$
\begin{aligned}
& \text { No. } \\
& 10 \mathrm{C}-20 \\
& 10 \mathrm{C}-24 \\
& 10 \mathrm{C}-28 \\
& 10 \mathrm{C}-32
\end{aligned}
$$

$\xrightarrow{9 \mathrm{C}-20}$
${ }_{9}^{9 \mathrm{C}-20}$
$9 \mathrm{C}-24$
$9 \mathrm{C}-28$
$9 \mathrm{C}-28$


Type 10－C Insulated Mounting Clamp．Stamped steel elec－ troplated frame，white por－ celain split bushing：light－ weight． $2^{\prime \prime}$ to center．

Fits Tube O．D．

##  <br> ANTENNAS For FM and Television

- Maximum electrical efficiency for all channel coverage.
- Mechanical design that assures permanent and trouble-free installations.


## MINUTE MAN SERIES

Can be assembled by 1 Man in 1 Minute! A magnificent new series of antennas designed and developed in the Ward antenna laboratory.

## TELEVISION MODELS

- Vinsynite mast for strength, durability and maximum protection against corrosion.
- Rotatable guy ring for orientation of antenna after guying.
- Nylon insulators on high band antennas.



## TV STRAIGHT DIPOLE

A bi-directional antenna ideal for use in metropolitan areas where ghost images are not a problem. Completely assembled.

Contents: $1 / 2^{\prime \prime}$ reinforced aluminum dipole elements - structurally designed molded bakelite insulator 5 ft . $11 / 4^{\prime \prime}$ O.D. Vinsynite mast - universal swivel base - 3 rubber-canvas laminated stand-offs for mast - rotatable guy wire ring-grounding solder lug Technical Data and Instruction Sheets.
Individually packed: six to a master carton.
Approximate individual shipping weight: 4 lbs. 12 oz.
List Price. $\qquad$
$\$ 7.50$

## TV FOLDED DIPOLE

Broad Band for full coverage of the Low TV Band.
Bi-directional antenna matched to 300 -ohm transmission line. For use in metropolitan areas where ghost images are not a problem.
Completely assembled.
Contents: $1 / 2^{\prime \prime}$ reinforced aluminum folded dipole elements - structurally designed molded bakelite insulator - aluminum support casting for center of ite mast-universal swivel base ite mast-universal swive! base $-{ }^{3}$ rubber-canvas laminated guy wire ring - Technical Data and Instruction Sheets.


## TV REFLECTOR KIT

For use with Straight or Folded Dipoles.
Used to give additional forward gain, to eliminate ghosts and to discriminate against interference from the back side of the antenna.
Contents: $1 / 2^{\prime \prime}$ reinforced aluminum elements - aluminum element support casting for center of dipole - $11 / 4^{\prime \prime}$ O.D Vinsynite cross arm - aluminum bracket for attaching cross arm to mast - rubber-canvas laminated stand-offs - Technical Data and Instruction Sheets.

Individually packed: six to a master carton.
Approximate individual shipping weight: 4 lbs. 2 oz.
List Price.
56.95

Model TVRA-92
$54-88 \mathrm{mc}$.

Individually packed: six to a master carton.
Approximate individual shipping weight: 5 lbs .6 oz.
List Price.
 problems.
Reflector and folded dipole completely assembled to cross arm. Only seconds required to fasten to mast assembly.
Contents: $1 / 2^{\prime \prime}$ reinforced aluminum folded dipole and reflector elements - structurally designed bakelite insulator and aluminum support castings for elements - aluminum brackets for attaching cross arm to mast

- 5 ft . $11 / 4^{\prime \prime}$ O.D. Vinsynite metal mast - universal swivel base - rotatable guy wire ring - rubber-canvas laminated stand-offs - grounding solder Jug Technical Data and Instruction Sheets.
Individually packed: six to a master carton.
Approximate individual shipping weight: 8 lbs. 9 oz.
List Price.


## WARD Magic Wand Television Antennas



MAN
SERIES

## ALL CHANNEL




Combination Low Band stacked folded dipoles and reflectors and High Band stacked folded dipoles and reflectors for co. Specifically designed for areas on the fringe of both high and low band stations.
Half wave bay spacing with Ralf wave bay spacing with termined for maximum gain on entire band.
Ingenious design allows High Ingenious design allows section to be oriented independently of Low Band section.
Sturdy construction insures permanent installation. Correct $1 / 2$ wave spacing proven by extensive tests to achieve greater forward gain than ordinary stacked arravs. Eliminates signals from the rear for maximum ghost rejection. Broad banded for maximum pick up on all channels. Use of folded dipoles in scientifically designed arrangement to provide broad response and maximum energy transfer. Completely Pre-Assembled.
Contents: Two $3 / 8^{\prime \prime}$ reinforced aluminum high band assemblies and two $1 / 2^{11}$ reinforced aluminum low band assemblies - rotatable guy wire rings - rubber-canvas laminated standoffs pads - grounding solder lug - all angle self-supporting mounting base - Technical Data and Instruction Sheets.
individually packed: six to a master carton. Approximate individual shipping weight: 21 lbs. 12 oz.
List Price.
. $\$ 49.50$

## HIGH BAND ADAPTER

Used to convert low band folded dipole to dual band all channel separately
orienting antenna. Isolates high band orienting antenna. Isolates high band section from low band and vice-versa
with scientifically designed transmission with scien
line link. line link.
Contents: $3 / 8^{" 1}$ reinforced aluminum folded dipole and reflector elements sturdy reflector cross arm - 5 ft . $11 / 4^{\prime \prime}$ O.D. Vinsynite mast extension - rotatable guy wire ring - rubber-canvas laminated stand-offs.
Indiv. packed: six to a master carton.
App. ind. shipping weight: 4 lbs. 2 oz . List Price.
...... $\$ 8.95$

## TV STACKED ARRAY

Two Low Band assemblies stacked one above the other to produce the extra forward gain needed for good TV reception in remote installations and poor signal locations.
Half wave bay spacing with phasing link scientifically determined for maximum gain on entire band.
Broad Banded to give full Broad Banded to give full througth 6 .
Sturdy design and extra sturdy design and extra strong construction assures permanently secure mounting in any weather - correct $1 / 2$ wave spacing proven by ex
er forward gain much more than with the $1 /$ er forward gain, much more than with the $1 / 8$, or V. wave spaclig of or them the for maxi limmation of sition kof folded dipoles in mum ghost rejection - use of folded dipoles in cientifically designed arrangement to provid broad response and maximum energy transfer Completely Pre-Assembled.
Contents: Two $1 / 2^{11}$ reinforced corrosion-proof folded dipole and reflector assemblies - 15 ft . $11 / 4^{\prime \prime}$ O.D. Vinsynite mast in three sections all angle self-supporting mounting base - re inforced aluminum telescopic feeder tubes connecting the two bays - rotatable guy wire ring -rubber-canvas laminated stand-offs-ground

Model TVB-28 174-216
me. ing solder lug-Technical Data and Instruction Sheets.
Individually packed: six to a master carton.
Approximate individual shipping weight: 20 ibs. 4 oz.
List Price.
$\$ 42.50$

## TV HIGH BAND STACKED ARRAY

High Band Stacked folded dipole. Can be used as a stacked high band antenna by itself or as adapter to conyert low band stacked array to all channel stacked array. Half waye bay spacing with phasing link scientifically determined for maximum gain on entire band.
Superb antenna for use in fringe areas having high band stations.
Contents: Two 3/81
reinforced aluminum
dipole and reflector assemblies - 5 ff .
dipole and reflector assemblies -5 if.
$11 / 4^{\prime \prime}$ O.D. Vinsynite mast extension universal mounting base - high band phasing link - rotatable guy wire ring Technical Data and Instruction Sheets. Technical Data and instruction Sheets.
Approximate individual shipping weight: 5 lbs. 2 oz.
Approximat

> Model
> TVS-48
> 174-216
> mc.

Model
TVSA-6
54-88
me.


## Ward Magic Wand indoor ty antennas



MODEL TYI-49
Excellent reception on all channels. Top quality electric insulation. Orients easily in all directions. Heavy base with large surface for mechanical stability. WILL NOT TIP OVER. Telescopic dipole ele ments.
Contents: Ebony black ceramic base - Two $43^{\prime \prime}$ tuneable elements of chrome-plated brass tubing Stainless steel rod allows no corrosion. Ind. packed: six to a master carton. App. in. shipping wt.: 5 lbs. List Price........................................ $\$ 6.95$


## FM ANTENNAS

## FM MODELS

FM FOLDED DIPOLE
Bi-directional.
Matched impedance to 300 ohm line for broad tuning, high signal gain over entire $88-106 \mathrm{mc}$. band.
Adjustable mounting design for greater ease of orienting.
Pre-assembly into component parts for quick installation.
Contents: Dipole element of $3 / \mathbf{g}^{\prime \prime}$ reinforced aluminum - molded bakelite insulator - 5 ff . I' O.D. mast and guy wire ring - universal mounting base conduit clamp-grounding solder lugTechnical Data and Instruction Sheets. Ind. packed: twelve to a master carton. Approx. individ. shipping weight: 5 lbs . List Price................................... $\$ 10.95$ Model FM-55 88-108 me.

FM FOLDED TURNSTILE Exceptional high signal gain from All DIRECTIONS.
Does not require orienting.
Packed complete, partially Pre-Assembled components for quick and simple installation.
Contents: $3 / 8^{\prime \prime}$ reinforced aluminum folded dipole elements - 5 ft . 1"O.D. mast molded bakelite insulators - 60 ft . 300 -ohm colinear line and $1 / 4$ wave length phasing looprubber stand-off pads - 6 plastic stand-offs, guy wire ring and conduit clamp - grounding solder lug - Technical Data and Instruction Sheets. Individually packed: six to a master carton. Approx. individ. shipping weight: 8 lbs. List Price

$$
\begin{gathered}
\text { Model FMT-56 } \\
88-108 \mathrm{mc} .
\end{gathered}
$$




Combines quickly and easily to make high gain directional array with Model FMCombines quickiy and easily to make high gain directional array with Model FM-55. Increases gain and eliminates reflections. Most effective when transmitting stations are in same general direction. Maximum energy transfer of signal from antenna to set as result of accurately determined spacing and correct reflector length. - Contents: $3 / 8^{\prime \prime}$ reinforced aluminum reflector element-weather-proofed metal cross arm and brackets plus mounting hardware-Technical Data and Instruction Sheets.

Ind. packed: six to a master carton.
Approx. indvid. shipping weight: 3 lbs.
$\leftrightarrow$ Reflector for use with Folded Dipole
List Price. $\qquad$ ..... $\mathbf{\$ 5 . 2 5}$
TELEVISION AND FM ACCESSORIES
Five-Foot Vinsynite mast extension to increase height of vertical mast and raise antenna into area of greater signal strength. Shouid be used also to comply with local codes in keeping antenna above required height. - Contents: 5 ft . $11 / 4^{\prime \prime} \mathrm{O} . \mathrm{D}$. Vinsynite mast-weather-proofed inside and out-guy wire ring-rubber-canvas laminated stand-offs. - Individually packed: six to a master carton. - Approx. shipping weight: 16 lbs .4 oz. List Price
Model MEA-60 - For use with Television Models


## MODEL ME-60 MAST EXTENSION FOR USE WITH FM MODELS

${ }^{5}$ ft. $I^{\prime \prime}$. O.D. Mast Extension weather-proofed inside and out - rubber stand-off pads - guy wire ring - Packed: six to a master carton Approximate shipping weight: $121 / 2$ lbs.

## SELF-SUPPORTING BASE <br> Model C-14

New, heavy, weather-proofed metal base for sturdy installation on any angle. The self-supporting base eliminates the need for guy wire on most installations. Accommodates 1/4" O.D. Mast.
Ind. packed: six to a master carton. App. ind. shipping wt.: I lb. 7 oz List Price .................................... $\$ 2.45$ Model C-11:
For use with I'" O.D. Mast.
List Price................................. $\$ 0.00$ Ind. boxed. - App. ind. shipping weight: 1 lb. 7 oz.


LEAD AND INSULATOR KIT
Model C-15
Contains 60 ft. 300 -ohm line with terminals - 6 plastic stand-off insulators - 6 wood screws. Individually packed: six to a master carton. Approximate individual shipping weight: 14 oz . List Price. $\qquad$

## MAST STAND-OFF BRACKET KIT

Two pairs of heavy, cadmium-plated steel stand-off brackets, for $1 / 1 / 4$ O.D., to extend mast from side of house or parapet for clearance of $7^{\prime \prime}$ or larger size for clearance of $14^{\prime \prime}$. Complete with all necessary mounting hardware.
Model C-16 - For 7" clearance $\qquad$ List Price, $\mathbf{\$ 3 . 2 5}$
Madel Individually packed: 6 kits to a master carton.
Individually packed: 6 kits to a master List Price $\$ 4.25$ Individually packed: 6 kits to a master carton.

## by WARD

## BUILT FOR RIGOROUS SERVICE

UNIVERSAL SWIVEL MOUNTS<br>Antennas built for the hardest mobile use. Separate components may be combined to meet any requirements. These rear-mounting Transmitting Antennas are designed for the 25.45 me. services. Base mounts in such a way as to allow the whip rod to be held vertically regardless of contour of vehicle body.

## 〔SPP-3B

## SINGLE ROD

Special Alloy Whip Rod of maximum resilience and durability, $84^{\prime \prime}$ Single rod for use in the range of 30 to 45 mcs . Non-Corroding, stainless steel tapered for proper stress distribution. Base Adapter threaded $3 / 8-24$ to permit mounting on SPP-3 Base or SPP-3A Spring.
Individually packed. Approx. weight: 2 lbs .
List Price.
$\$ 11.50$

## SPP-12 $\rightarrow$

## ADJUSTABLE 2-SECTION ROD

Adiusłable Rod. Telescopes from $85^{\prime \prime}$ to $103^{\prime \prime}$ " and is equipped with a locking device that permits removal of the whip rod and replacement at the exact previous length. Heavy wall, hard drawn brass tubing threaded $3 / 8-24$ to fit either SPP- 3 Base or SPP-3A Spring. See SPP-38 for Rod description.
Ind. packed. Approx. weight: 2 lbs. 10 or. List Price.
$\$ 22.50$

SPP-3

## SWIVEL BASE

Swivel base for mounting at any desired point. Half balls of cast aluminum tapped $3 / 6-24$ to ac. cept whip rods and shock springs. Insulator of black bakelite - rubber gaskets - steel backup plate. All screws are Allen Head type with wrenches supplied.
Individually packed. Approx. weight: 3 lbs. 4 oz.
 List Price. $\qquad$

SPP-3A
SHOCK MOUNTING SPRING
This sturdy spring is used to lessen damage to the whip rod. A flexible lead through the center of the spring maintains constant electrical impedance through the spring assembly. $3 / 8-24$ impedance through the spring assembly. $18-24$ sfud on one end - ${ }^{\text {posite end }}$ - 24 tapped $6^{\prime \prime}$ in height -
 posite end oil tempered wire.
Individually packed. Approx. weight: 2 lbs .12 oz . List Price.
$\$ 7.90$


Disappearing fype antenna - For Transmitting and Receiving - Designed for rigorous service of Emergency Communications. Non-telescopic construction exactly duplicates standard aułomotive models in appearance - gives perfect disguise for detective or patrol service. Antenna mounts in fender or cowl - removable whip for quick service or installation.


55" permanent whip eliminates contact troubles... Lead take-off accepts standard AN connector. For low or high band services. Used as short $1 / 4$ wave vertical for 25-44 mc. service. . . "J' for 152 -162 mc. service. The universal split ball design insures a perfect fit as well as that neat built-in appearance and easy installation.
lead not included.

## Model SPP-71

Individually packed.
Approximate weight: 1 lb . 12 oz .
List Price.
$\mathbf{\$ 2 2 . 5 0}$

## MOTORCYCLE MOUNTS

These Antennas are designed for use on motorcycles and are built to withstand the rugged service and high vibration of vehicle. Rod is electrically short but can be used on all frequencies. 40" rod of same material as SPP-3B - $1 / 4-20$ mounting stud in insulator for mounting to motorcycle. Flexible base of rubber to allow movement when rod is bent - Model SPP- 6 with safety ring tip Model SPP-6A with stainless steel ball tip - no lead supplied. Individually packed. Approx. weight: 1 lb .

Model SPP-6 Ring Tip (Illustrated) ___ List, $\$ 9.25$
Model SPP-6A Ball Tip (Not Shown) List, $\$ 9.25$

## ROOF TOP MOUNT

Developed for roof top mountings in 30 to 45 Megacycle range. Advantages of this type of antenna is that directional effects caused by car body shielding of antenna are avoided. Base is designed to be used with the SPP-38 rod which is sold separately. This unit consists of all components of Universal Swivel Mounts except that half-balls are replaced by SPP-3A Spring fastened permanently to insulator. No lead supplied.
Individually packed. Approximate weight: 3 lbs.
Model SPP-26 Base.
List. \$16.50

## ROOF TOP ANTENNA

This model is designed for faxicabs, police services, and others using the 140 to 165 Megacyeles frequencies. Installed entirely from the outside of vehicle - 12 ft . length of RG-58/U coaxial cable attached permanently to antenna. Whip rod is replaceable.
Individually packed. Approximate weight: I lb.
Model SPP-18.
List, \$6.60


』 UNIVERSAL DESIGNS TO FIT EVERY CAR.
RUGGED, LASTING CONSTRUCTION with -

- Heavy wall brass tubing
- Weather-resistant triple chrome
$\sqrt{\sqrt{2}}$ GREATEST SIGNAL PICKUP with -
- High " Q " low-loss lead cables
- Positive coaxial connections
- 100\% shielding
/ PATENTED FLUID TYPE ANTI-RATTLE.
ل HEAVY CARTONS READY FOR RESHIPMENT.


## SIDE COWL MOUNTS

Two stanchions for sturdy installation. Smartly designed insulators with chrome caps. Conversion kit for torpedo bodies included.

## LONG RANGER

Four-section, 100 -inch, EZ-on installation. A favorite in low Signal areas where its extra length provides fine reception.

Individually packed: 12 to a master carton
Approximate individual shipping weight: 1 lb .11 oz. Model SC-8. $\qquad$ List Price, $\$ 6.95$

## AIR KING

Three-section, 66-inch, EZ-on installation. Individually packed: 12 to a master carton. Approximate individual shipping weight: | lb. 4 oz. Model SC-6. $\qquad$ List Price, $\$ 4.95$

## SIDE COWL OR FENDER FLEX-ANGLE

Three-section, 68-inch, EZ-on installation.
Individually packed: 12 to a master carton. Approx. individual shipping weight: 1 lb .8 oz

Model CF-6. $\qquad$ List Price, $\$ 5.45$

Tops in popularity because of trim styling and a flexible adjustment so rod can be locked in a vertical position, regardless of body contour. Ideal design for new body styles.

TOP COWL OR FENDER
"8-BALL"

Featuring the SPLIT BALL DESIGN


Three-section, 56 -inch, collapses to 22 inches. Individually packed: 12 to a master carton.
Approximate individual shipping weight: I lb. Model TCF-3 $\qquad$ List Price, \$5.35

Smart looking "8-Ball" design developed and engineered by WARD is the answer to every installer's dream. One man installs in five minutes! Secure installation! Perfect fit on every car!

dISAPPEARING COWL OR FENDER
Four-section, 100 -inch, $8.9 / 16^{\prime \prime}$ exposed when collapsed.
Individ. packed: 12 to a master carton. App. ind. shipping weight: 1 lb .10 oz . Model DCF-4..................List Price, $\$ 10.95$ A disappearing anfenna- $100 \%$ shielded from engine noises and completely water-sealed. Unique split-ball design plus popular disappearing feature gives that smart built-in appearance. Universal bracket for sturdy mounting.
Ward $36^{\prime \prime}$ coaxial lead cable

## PHANTOM

Three-section, 56-inch, $31 / 2^{\prime \prime}$ exposed when collapsed.
Ward $36^{\prime \prime}$ coaxial lead cable
Individ. packed: 12 to a master carton. Approx. ind. shipping weight: 1 lb . Model DCF-3 $\qquad$ Lisł Pricł $\$ 6.95$


> Model C- 8 l 12 in. List, $\$ 0.75$ Model C- 118 in. List, $\$ 1.00$ Provides additional lead length required for fender installation.

Covered by one or more of the following Patent Numbers: 104968, 119160, 2152316, 2251889, 2252671, 2269947, 2366634.

# SPOT LITE WARD AUTO AERIALS <br> WIth this new attractive 3-COLOR DISPLAY - <br> <br> FREE! 

 <br> <br> FREE!}

Featuring the " 8 -Ball" TCF-3 aerial and beautifully designed in 3 colors - yelow, orange and black. This display will catch the eye of every customer.

## Display is FREE!

Just mount an "8-Ball" TCF-3 and set it up on the counter and watch your aerial sales grow.


Model CD-1

## A WARD Development to fit every antenna need!

## WARD ANTENNAS FOR THE HOME

Are vertical, the same as broadcasting antennas, for greatest signal pick-up, finest reception

## HOUSE MAST

4-SECTION, I2-FOOT, COLLAPSIBLE TO 47 INCHES.
FEATURES . . . Easy installation, Universal mounting brackets, Heavy weatherproof cadmium plating, Built-in lightning arrestor.

Model HM-4. $\qquad$ List, \$7.45
Ind. packed - 12 to the master carton. Approx, ind, shipping wt. 4 lbs.

Complete Installation Fittings Included

$60^{\prime}$ Lead Wire - Ground Clamp - 4
Wood Serews - 2 Nail-It-Knobs - 1 Porcelain Tube - 1 Lead-in Strap - 2 Soil Pipe Straps.


## WINDOW MAST

3-SECTION, 8-FOOT, COLLAPSIBLE TO 42 INCHES.

FEATURES . . . Simple 3-point, 3-minute installation for apartments, homes, office buildings, Twoway mounting bracket, 12 -inch lead-in strap, and heavy, weatherproof cadmium plating.
Model WM-3 $\qquad$ List, $\$ 3.25$
Individually packed - 12 to a master carton. Approx. ind. shippirg weight - 1 lb .2 oz.


WINDOW
SILL INSTALLATION


# WORKSHOP TELEVISION ANTENNAS and ACCESSORY EQUIPMENT 

The Workshop line for ' 49 has been redesigned to produce even better pictures at lower cost. Threc-element arrays, designed for specific channels and combined on a single mast for particular areas, have been pioneered by the Workshop with outstanding success-even to the point of nationwide imitation during 1948.

## SERIES A-BASIC THREE ELEMENT ANTENNA

This is a high-gain ( 5 db .) directional antenna having sufficient broad band response to cover the 6 mc . channel for
which it is engincered. It is the basic unit of all Workshop multi-channel systems. Note the following desirable features-


Basic 3-Element High Gain Antenna with Mounting Clamps for 11/4.' O.D. or 1" Standard Pipe Mast


## WORKSHOP SERIES B-MAST SECTIONS



This series consists of a basic highgain, Scrics A, three-element antenna described on page S-55 plus a $71 / 2$-foot mast ( $\mathrm{B}-1$ and $\mathrm{B}-2$ mast sections). Appropriate mounts can be selected from those described under Series C. Clamps for $11 / 4$-inch O. D. mast or 1 inch standard pipe are also furnished. If and when new TV stations start operation in your area, this combina-
tion nuay be readily converted to a multi-channel system by the simple addition of Series A antennas and Model B-2 mast extensions. Scrics AB antenna with mast should be selected from the list below for the channel on which reception is desired. This series is furnished less transmission line and mounts.


## SERIES C-MOUNTING EQUIPMENT



MODEL C-I, Conventional Chimney Mount
An excellent support for antennas with mast equipment that can be mounted on chimneys, posts, and other irregular objects. Made of heavy gauge steel and heavily plated to resist rust. Separation between clamps is variable. Masts from 1 to 2 inches O. D. can be used. Preassembled parts cut installation time. Shipping weight 5 lbs.

List Price $\$ 6.50$
Extra 10 fect of strapping, Model ST-1.

List Price $\$ 0.75$


Revolutionary New "Minute Mount" for Internal Chimney Mounting
This ingenious "Minute Mount" can be installed a short way inside a chimney. Completely adjustable for all chimney flues-tile lined or brick. Will not interfere with operation of chimney. Made of heavy cast alloy capable of supporting 150 lbs . with a generous safety factor. Mast $3 / 4-11 / 2$ inches O. D. and antennas can be oriented while mount is in position. Built-in strain guide prevents chafing of cable against chimney. Shipping weight 2 lbs.

List Price $\quad \$ 8.95$


These rugged braced steel brackets, heavily plated, will furnish a $121 / 2-$ inch clearance for mast equipment that must be supported adjacent to siding or wall. Will hold masts from 1 to 2 inches in diameter. Furnished with wood screws. Packed 2 to a carton. Shipping weight 3 lbs .

List Price $\quad \$ 5.50$

## WORKSHOP SERIES C - MOUNTING EQUIPMENT (Con.)



## MODEL C-4, Universal Base Mount

For installations requiring a truly sturdy braced mount none can compare with the stability of this universal mount. Made of heavy steel protectively plated to resist rust. This versatile mount has an $11 \times 12$-inch base. The mast is clamped at two places $91 / 2$ inches apart and can range from 1 to $11 / 2$ inch in diameter. Its durable and ingenious mounting features will allow mounting relatively heavy antennas and masts on flat, peaked, or inclined roofs, even walls with a 10 -inch clearance. Complete with hardware and instructions. Individually packaged. Shipping weight $61 / 2$ lbs.

List Price
$\$ 11.00$

## SERIES 2A - SUPER HIGH-GAIN SIX-ELEMENT ARRAY

This six-element array consists of two basic threc-element antennas spaced a $1 / 2$-wave apart and connected by a preassembled cable harness as an efficient "broadside array." The forward gain is 7.8 db . compared to the conventional $1 / 2$-wave dipole and will produce a signal approximately six times as strong in power. The array is essentially single channcl with an adjacent channel gain of 5 db . The high front-to-back ratio of 18 db . significs that the possible response of an interfering co-channel signal arriving from behind the array would be $2 \%$ of that picked up from the front.
The sharp directional pattern combined with the advantages of shielded coaxial transmission line, means that the signal-to-noise ratio is considerably greater, and "snow effect" less, than that of other so-called fringe area antennas. In addition, "ghosting" is discouraged, even in sity areas where multi-path reflections are numerous.
W-8, 52 -ohm coaxial cable should be used as transmission line with this array. If a direct connection between the
cable and receiver is not practicable, impedancewise, a $\mathrm{W}-100$ adaptor together with a T-72 matching transformer and fittings may be necessary.
No mast equipment is supplicd with this antenna yet mounting is extremely simple, since the clamp brackets furnished fit any $11 / 4$-inch O. D. mast or 1 -inch standard pipe. This feature along with "foolproof" assembly of the 2A antennas make installation very simple.

## Preassembled Cable Harness Only

The installer can readily convert his present Series A, three-element antenna to a Series 2A, super high-gain, six-element array by adding another corresponding Series A antenna plus a cable harness. The performance of a high band (Channels 7 through 13) six-element Series 2 A array can be further enhanced by stacking another Series 2A plus one more cable harness to make a very super high-gain twelve-clement array. Details of these arrays are furnished with every Series 2A antenna.


| Super High Gain |  |  | 6-Element Array |  |
| :---: | :---: | :---: | :---: | :---: |
| Low Band Models | High Band Models <br> List Price \$52.00 |  | List Price \$43.50 |  |
| Shipping Weight 11 lbs. | Shipping Weight 8 lbs. |  |  |  |
| Model | Channel | Model | Channel |  |
| $2 \mathrm{~A}-2$ | 2 | $2 \mathrm{~A}-7$ | 7 |  |
| $2 \mathrm{~A}-3$ | 3 | $2 \mathrm{~A}-8$ | 8 |  |
| $2 \mathrm{~A}-4$ | 4 | $2 \mathrm{~A}-9$ | 9 |  |
| $2 \mathrm{~A}-5$ | 5 | $2 \mathrm{~A}-10$ | 10 |  |
| $2 \mathrm{~A}-6$ | 6 | $2 \mathrm{~A}-11$ | 11 |  |
|  |  | $2 \mathrm{~A}-12$ | 12 |  |



| Cable Harness Only-For Making 6- and 12-Element Arrays |  |  |  |
| :---: | :---: | :---: | :---: |
| Low Band Models $\$ 10.00$ |  | High Band Models$\$ 9.50$ |  |
| Model | Channel | Model | Channel |
| $\mathrm{CH}-2$ | 2 | $\mathrm{CH}-7$ | 7 |
| $\mathrm{CH}-3$ | 3 | CH-8 | 8 |
| $\mathrm{CH}-4$ | 4 | CH. 9 | 9 |
| $\mathrm{CH}-5$ | 5 | $\mathrm{CH}-10$ | 10 |
| $\mathrm{CH}-6$ | 6 | $\mathrm{CH}-11$ | 11 |
|  |  | CH-12 | 12 |
|  |  | CH .13 | 13 |

## COAXIAL CABLE TRANSMISSION LINE



## W-59 Standard 72 Ohm Coaxial Cable

Electrical and physical characteristics are the same as RG-59/U. Recommended as the ideal cable for installations not requiring more than 75 feet, directly matches Series A basic threc-
element antennas. Neutral colored (wea-ther-proof) jacket with convenient marks indicating 5 -foot intervals. Supplied in 500 -foot reels, weighing 22 lbs.

List Price $\$ 0.10 / \mathrm{ft}$.

## W-11 Very Low Loss 72 Ohm Coaxial Cable

Recommended for Series A three-element antennas when transmission line in excess of 75 feet is needed. Electrical
and physical characteristics same as RG-11/U. Weatherproof. Supplied in 500 -foot reels. Shipping weight 55 lbs.

List Price $\$ 0.30 / \mathrm{ft}$.

## W-8 Very Low Loss 52 Ohm Coaxial Cable

Electrical and physical characteristics same as RG-8/U. Recommended for transmission line with Series 2A six-
clement arrays. Weatherproof. Supplied in 500 -foot reels. Shipping weight 60 lbs . List Price $\$ 0.33 / \mathrm{ft}$.

## SOLDERLESS CABLE FITTINGS

| Silver Plated Solderless Cable Connector (Male) |  |
| :---: | :---: |
| Model | Used with W-59 (RG-59/U) <br> coaxial cable. Specially slotted |
| W-50 | to withstand considerable strain. <br> Mates with W-60 receptacle (on |
| R-4A switch) and W-80 junction |  |
| R <br> listed below. Individually packaged |  |
| and plainly marked. |  |

Silver Plated Chassis Receptacle (Female)

Model
$W-60$


Mates with W-50 cable connector. For chassis or panel mounting. Threaded stem $5 / 8$ inch long. Soldering terminal protrudes from rear. Individually packaged and plainly marked.

## Silver Plated Cable or Panel Junction (Female)



Mates at either end with W-50 male connector. A complete splice requires one $\mathrm{W}-80$ junction and two W-50 connectors which must be ordered separately. Each W-80 individully packaged and plainly marked.

List Price $\quad \$ 1.00$

## Cable Adaptor



Required when changing from larger size $\mathrm{W}-11$ ( $\mathrm{RG}-11 / \mathrm{U}$ ) or W-8 (RG-8/U) to smaller W-59 (RG-59/U) coaxial cables. No soldering necessary. W-50 cable connector furnished. Individually packaged and plainly marked.

List Price $\quad \mathbf{\$ 0 . 8 0}$
List Price

## ACCESSORIES



## Matching Transformer

Matches 72 ohm coaxial cable such as Workshop W-59 (RG-59/U) to 300 ohm receivers. Voltage step up of $2: 1$, with a flat response over the TV channels from 52-216 mos. A W-50 solderless cable connector is furnished. Size 2 inches long, 1 -inch diameter. Strap provided for grounding and mounting container on receiver chassis. Negligible mismatch when used with W-8 52 -ohm coaxial cable and W-100 adaptor. Individually packaged.

List Price $\$ 4.00$


## New Coaxial Switch (SP4T)

This virtually lossless, constant impedance switch will connect any one of four singlechannel TV antennas to a receiver. By simply using additional switches it can also be used for demonstrating any number of TV receivers in a display room, or for low-level audio applications.
Model R-4A
Receptacle fittings mate with $\mathrm{W}-50$ solderless connectors for $\mathrm{W}-\mathrm{5} 9$ cable and must be ondered separately. Decals are supplied for panel marking of TV channels. Only one $7 / 16$-inch hole need be drilled for panel mounting. Size- $2 \%$ inches front to back; 2 -inch diameter. Individually boxed.

List Price $\$ 12.00$


Exterior Matching Transformer
Completely weatherproof device for converting 72 ohn antennas for use with inexpensive 300 ohm Twin Lead transmisexpensive 300 ohm sion line at reasonable efficiency. Can also sion line at reasonable efficiency. Can also benefits of 72 ohm coaxial cable. Individu-
be used with 300 ohm antennas to realize be used with

List Price $\quad \mathbf{\$ 3 . 5 0}$


Diagram of a typical display system employing the R-4A coaxial switch and T-72 matching transformer.

No "assembly puzzles" with Rodiort's "SIMPLI.FLEX", Desion No degree in engi. neering or truck-lood of tools needed absolutely no loose hardware. One minute assembly, one man instollotionl


High strength, well engineered design of more than ample safety foctor, with simple, sturdy all oluminum castings, elements, ond heot-treoted support mosts for PERMANENT instollotions.

## LIST PRICE SCHEDULE

True to Radiart tradition ... these new Television and FM antennas are the finest available! They are laboratory engineered and designed to deliver peak performance, always! Their top quality construction will produce the finest television picture possible. For just a little more . . . YOU can.deliver the best . . . it pays!


| TV | FM ANTENNAS |  |
| :---: | :---: | :---: |
| Model | Range, MC | List |
| T8I-LTV | 54-88 | \$14.95 |
| 81-LTY | 54.88 | 12.45 |
| T81-HTV | 174-216 | 13.50 |
| $81 . \mathrm{HTV}$ | 174.216 | 11.00 |
| T81.FM | 88.108 | 14.25 |
| $81 . \mathrm{FM}$ | 88.108 | 11.75 |
| T82-LTV | 54.88 | 20.95 |
| 82-LTY | 54-88 | 18.45 |
| T82-HTY | 174-216 | 19.00 |
| 82.HTY | 174.216 | 16.50 |
| T83.FM | 88-108 | 19.50 |
| 83-FM | 88-108 | 17.00 |
| T84-LTY | 54-88 | 42.50 |
| 84-LTY | 54-88 | 40.00 |
| T84-HTV | 174-216 | 27.00 |
| 84-HTY | 174.216 | 24.50 |
| T85-ATV | 54-216 | 30.50 |
| 85-ATY | 54-216 | 28.00 |
| 85.X | 54.216 | 23.00 |
| T85-X | 54-216 | 25.50 |
| T85-XAX | 54-216 | 45.00 |
| 85-XAX | 54.216 | 42.50 |
| ADAPTOR KITS |  |  |
| $81 . \mathrm{RL}$ | 54-88 | \$6.75 |
| $81 . R F M$ | 88-108 | 6.45 |
| $81 . \mathrm{RH}$ | 174-216 | 6.00 |
| 81.TK | 88-108 | 5.75 |
| "ADD-ON" ARRAYS |  |  |
| K82-HTY | 174-216 | \$8.00 |
| K82.LTV | 54-88 | 10.00 |
| K84-HTY | 174.216 | 8.00 |
| K84-LTY | 54-88 | 10.00 |

## ACCESSORIES

Part $\#$ AMT-56-1

AMT-62-1
AMT-62-2
AK. 26
AK- 27
AK-30
AK-3I
AMX. 122
ASA. 230
ATX-7
ALW-87
AK-32

AK-33

ASA. 232
ASA- 229
AMX. 125
Description

| ft. Mast, $1 / 3^{" *}$ OD, plug-in | List |
| :---: | :---: |
|  | \$ 3.25 |
| ft. Mast, 1/8" OD, plug-in |  |
| 12 ft . Mast, I/8"OD, plug-in |  |
|  |  |
| Mounting | 2.50 |
| niversal mounting |  |
| of two hdwre. | . 00 |
| Hyy. swivel ming. base | . 00 |
| Std. swivel base | . 00 |
| Stand-off insulator, wood |  |
| ew type, polythene grom- |  |
| and-off insulator, mac |  |
| ew type, 4/4" |  |
|  |  |
| -Ohm Trans. Line | 38.00 |
| ft . coil 300.0 hm |  |
| Ider lugs attached | 3.00 |
| P |  |
| Weather-Shield" Term |  |
| Block Polystrene, for flat |  |
| 300 ohm line, set. | 1.00 |
| Block, Polystrene, for RG-59U |  |
|  |  |
| Large main aluminum cast- |  |
| ing, with screws. | . 50 |
| Small aluminum casting, with |  |
|  | 1.25 |
| arrier type junction block. |  |
| or stacked arrays. |  |



83 Series Turnstile Dipole - Non. directionol FM Antenna

82 Series Folded Dipoles ond Refiectors


## THE RADIART CORPORATION

## 1949

## RADIART

## UNIVERSAL LOK-JOINT

This new design has eliminated the last "bug" in this style aerial. Locks easily and positively in any pre-set position without swinging the mast when tightened; $1 / 2^{\prime \prime}$ mounting hole.

## MODEL U-3

63' Extended 3-Sections. Shipping Wt. 1 lb .3 oz . LIST. . . . . . . . . . . . . . . . $\$ 6.25$ 10 per master carton. . 15 lbs.

CHEVROLET \& GM ADAPTOR KIT Included


AERIALS

DISAPPEARING MOUNT


This newest addition to the Radiart line collapses to $6^{\prime \prime}$ and extends to $60^{\prime \prime}$. Fits fender or cowl and features the exclusive " $O$ " Ring Seal around the mast that shuts the door to water entry inside the aerial. Only one $\frac{9}{16}{ }^{\prime \prime}$ mounting hole required.

## MODEL D-3

60' Extended 3-Sections. Shipping Wt. 2 lbs.
LIST .
. $\$ 7.45$
10 per master car-
ton. . . . . . . . . . . . . 19 lbs.

## TWO-INSULATOR SIDE MOUNT

The old reliable with the
 'New Look'! Chrome trimmed-stanchions on the well known sturdy side cowl antenna that requires only $1 / 2^{\prime \prime}$ holes for installation. Wedge type adaptor furnished.

## MODEL S-3

63' Extended 3-Sections. Shipping Wt. 1 lb .5 oz . LIST. $\qquad$ . $\$ 5.45$
10 per master carton. . . . . . . 13 lbs. 4 oz.

MODEL S-4 DELUXE 92' Extended 3-Sections, LIST $\qquad$ 10 per master carton......... 17 lbs .5 oz.

LEAD-IN


WIPING SPRING FINGERS


## SWING ANGLE SIDE MOUNT

For side of cowl or fender - with $16^{\circ}$ swing adjustment - locked PERMANENTLY with hex nut at mast base. Chrome trimmed "Tear Drop" styled insulator mounting through one $1 / 2^{\prime \prime}$ and one $1 / 4^{\prime \prime}$ hole.

## MODEL A-3

63' Extended 3-Sec. tions. Shipping Wt. I lb. 2 oz.
$\qquad$
10 per master car-
ton. . . . . 14 lbs .3 oz.


# ORSGUTINGTO 

## TELEVISION-FM ANTENNAS - ACCESSORIES

## Latest Design

An entirely new and complete line of Television and FM antemas and accessoriesprecision made by ICA, pionerrs in Television for over twenty years. Precision engineered; precision fabricated.


## THE ''SUPER-WASP'"

NEWI IMPROVEDI SENSATIONAL! The new INDOOR Television Antenna with amazing reception qualities. Instantaneous horizontal-vertical orienting and tuming for maximum reception. All-Channel selection Beautifullly designed golden-tone brass dipoles and hakelite walnut base with non-scrateh cushions. Jiffy installation. Also improves recertion when used to supplement existing outdoor anterinas.
No. 6468-With 300 ohm lead List $\$ 6.95$


## HI-BAND ANTENNA

Adds to the performance of existing television installations. liroadens reception range of low band antennas to include the higher channels ( 7 to 13 ). May be independently rotated for maximum directional response. Matching feature results in more cven reception from chanuel to channel. $\Lambda 11$ metal; weather-resis tant. Includes 300 ohm connecting lead. No. 6440 -Ship. Wt. $v^{1 / 2}$ lhs...... List $\$ 6.45$


REFLECTOR
Adrl to existing folded or simple dipole for stronger piek-up.
Tmproves response; cuts down interference. May be added to ICA No. 6420. No. 6425-Ship. W't. 3 liss............. List $\$ 4.45$

## FM RECEPTION

Improves directional strength of FM reception in low signal areas. Eliminates reflections. May be added to No. 6405.
No. 6410-ship. Wt. $21 / 2$ lbs.........List $\$ 4.45$

## Lar̀est Features

Includes sturdy, rust-proof, all-metal construetion; non-corrosive aluminum dipoles, indeendently rotable elements. Oflers liroad-band reception. Easy-fitting units for "jiffy" installation. Full instructions.


HI-BAND LO-BAND TV ANTENNA
For outstanding reception over the entire tele. vision channel range. Perfect 300 ohm inn pedance matching to transmission line and set making losses a minimum. Offers high gain and broad response with strong horizontal reception pattern. Separate elements are independently rotated to yield maximum clarity and signal strength in each band. Dipoles and refiectors of heavy wall non-corrosive aluminum; sturdy steel mast 5 ft . long. Shipping Weirht $81 / 2$ lus.
No. 6444
List $\$ 14.75$


FOLDED DIPOLE WITH REFLECTOR
For areas of unusual natural interference. The folded dipole element ofiers matching feature for more even reception. Yields uniform response over a wide band of frequencies. For use with $300^{\circ}$ ohm transmission line. Includes rubber stand-off insulators to prevent lead-in "contact" interference or sway.
IIi-Banil Antenna (No. 6440) may be attached for coverage of higher chanmels.
No. 6430 Shipping Weight 7 1/2 Ibs.
FM RECEPTION
For maximum FM reception. Especially adapta! le to high interference areas. Eliminates reflections.
No. 6415 Shipping Weight $41 / 2 \quad \mathrm{ll} / \mathrm{s}$.


## WINDOW ANTENNA

For All-eliannel Television Reception. Precision engineered, featuring ease of installation; maximum adjustable dipole for best all-channel reception; durable aluminum and steel construction; excellent reception. Special adjustable hase spans 30 to 50 inehes to fit any woot of casement window frame. Skillfully designer? support permits horizontal or vertical positioning for maximum directional response. shipping Weight $51 / 2$ lbs

# M)NSUGINETO 

# TELEVISION ACCESSORIES - TOOLS 

VARI-ANGLE ANTENNA BASE ASSEMBLY


Suitable for flat or peaked roofs, pable roofs or side walls. Made of extra heavy rause steel to insure ririd installation. Special feature instalation. Special feature ing positions and directional rotating for best results.

No. 6132
......................................List \$2.65

## ANTENNA MOUNT BASE

This separate section of the ICA antenna base unit is a useful aid in unusual installation problems where the entire ICA unit is not required. Excellent for side wall mounting. Heavy gauge steel.


No. 6133.......................................List \$1.25


Designed for quick easy fastening of antenna masts to piping, etc. Perforated through entire mum adjustability. Sturdy . . . flexible. Includes screw; nut.
No. 6134-15" Length
.List $\$ .15$
No. 6135-20" Length.
.List . 20

## PERFORATED STRAPPING

Strong, flexible galvanized steel strapping that will serve a multitude of uses in antenna installation work. Ileal for mounting masts on vari-shaped objects -chimneys, posts, etc. Width $3 / 4^{\prime \prime}$. In
 12 or 100 ft . lengths.

No. 6148......List $\$ .7512 \mathrm{ft} . . . . . . \$ 4.95 \mathrm{C} \mathrm{ft}$.

## DOUBLET LIGHTNING ARRESTER



Weatherproof lightning arrester specially designed for television application. Suitable for any doublet type antenna system. Accommodates twin lead or any other two-wire transmission line.
No. 6111.
LIst $\$ .60$


## MAST COUPLER

Makes addition of masts for greater height a simple matter. Sturdy heavy steel tubing assures rigidity. Slotted feature makes for firm grip. Suitable for masts of $1^{\prime \prime}$ diam. Includes $1 / 4^{\prime \prime}$ bolts and nuts.
No. 6140. $\qquad$ List \$1.25
ICA's Mast Coupler with 5 foot mast extension including hardware.
No. 6040
List \$2.65

## ANTENNA WALL BRACKETS

A useful antenna accessory where a vertical wall installation is desired. Offers a tirht-gripping clamping action. Suitable for masts from 7/8" to $11 / 2^{\prime \prime}$ in diameter. Made of weather - resistant plated heavy gauge steel.
No. 6131 List $\$ 2.50 \mathrm{pr}$.


## CHIMNEY ANTENNA MOUNT



For simplified mounting against chimness, rough parapets and other superstructures. These heary gauge steel supports solve many types of difficult mountings. The rugged steel strapping is perforated offering the added feature of adjustability. Minimizes sway, shift or bending.
No. 6130.
..List \$4.25 Set

## RUBBER STAND.OFF INSULATOR

Fits antenna mast with a snug grip to assure minimum shifting of lead-in cahle. Made of long-lasting, tough, natural rubber. Insulates objects. Suitable for 300 ohm twin lead. For masts $1^{\prime \prime}$ to $11 / 4^{\prime \prime}$ diameter.


No. 6125..........List $\$ 8.00 \mathrm{C}$

## CERAMIC STAND-OFF INSULATOR



Moisture-proof for outdoor use. Offers rigid non-swaying grip on wire without insulation damage. For 300 olm twin lead. With heavy screw for wood or masonry. Ideal for long transmission lines.

No. $6126 \ldots . . . . . .$. List $\$ 18.00 \mathrm{C}$

## POLYSTYRENE TWIN-LEAD INSULATOR

For either indoor or outdoor application. Maintains firm non-slipping grip without insulatiors darnage. Designed for 300 ohm twin-lead. Weatherresistant plastic. Convenient base hole.
No. 6127.


70 ohm imperlance cable necessar in installations requiring lons lead-ins or in installations requiring long lead. where high
No. 6115 .
. List $\$ 13.00 \mathrm{C}$ ft.

## TELEVISION - FM WIRE

High-grade 300 ohm transmission line of the twin-lead type. Low-loss polyethylene insulation. Supplied in $1,000 \mathrm{ft}$. rolls.
No. 6020
List \$ 4.25 C ft
List 40.00 M ft .


For simple antenna installation needs. Strong but flexible enough for easy handling. Stranded copper and monel - 7 strands \%io. 26. 100 foot coils.
No. 6147 . $\qquad$ .List $\$ .40$ Coil
The perfect guy wire. Rugged, ralvanized steel twisted wire--is strands No. 20. Weather-proofed- 450 lls. tensile strength.
No. 6186 - 50 ft ...............List $\$ .88$ Coil No. 6187 - 100 ft....................ist 1.75 Coil No. 6188 - $500 \mathrm{ft} . . . . . . . . . . .$. List 8.38 Coil No. 6189-1000 ft................List 16.75 Coll

## INSULATED SCREW EYES

Dual purpose - for either twin-lad or coaxial cable low-loss polyethylone insula tion minimizes signal strencth loss.

List
*No. 6119-31/2" L..... $\$ .09$
*No. 6120—7" L......... . 15
**No. 6262--3 $1 /{ }^{\prime \prime}$ L..... . 12
**No. 6264-7" L......... . 19
*Wood-screw threaded.
**Machine-screw threaded.


## INSULATED SCREW EYES

Stand-off screw eye with convenient mast fitting metal loop for snur securiner of transinisfion line Fits $\mathbf{1}^{\prime \prime}$ masts For twin-led or coaxial cable.
No. 6263-31/2" L.......... $\$ .15$
No. 6265-7 ${ }^{12} \mathrm{~L}$
.21

## SCREW EYE

Secures double
lead-ins with effi-

## cient spacing


*6260 $31 / 2^{\prime \prime} \quad .28$

* $62617^{\prime \prime} .33$
*Machine serew threaded.
** Wood screw threaded.

| $\begin{aligned} & \text { T-TYPE } \\ & \text { SCREW EYES } \end{aligned}$ | (3) |
| :---: | :---: |
| Same as above with |  |
| mast-fitting metal |  |
| loop for easy secure |  |
| installation. Fits |  |
| 1 " mast. |  |
| No. List | 0 |
| $625731 /{ }^{\prime \prime}$ L. ${ }^{\text {S }} .38$ | $\cdots$ |
| 6259 7"L. 43 |  |

# a) ESUCINTG 

## ICA <br> 'de luXe' AUTO RADIO ANTENNAS

The Latest, Improved ICA Auto Antennas
Pioneer manufacturers of auto radio antennas, ICA presents its latest line featuring: Noiseless Performance - Rattleproof Engineering - Lifetime Rustproof Guarantee - Easy One-Man Installation. Equipped with BOTH Delco and Motorola fittings.

## REPLACEMENT ANTENNA RODS

Specially Designed for
BUICK — FORD
and other cars using antennas of similar windshield monnt type. Precision marle to assure peak performance

> - Simple Installation - Lasting Service

- Triple-chrome-plated brass

No. 4545-Muick-3 Sec. Extends to $36^{\prime \prime}$.................ist $\$ 2.75$
No. 4546-Ford-2 Sec. Extends to $54^{\prime \prime}$.......................ist 2.25

a ICA Disappearing ANTENNAS
For Fender and Cowl Mount
Suitable for all cars, old and new
$56^{\prime \prime}$ of exposed antenna telescopes to $10^{\prime \prime}$ Does not obstinct vision.
Plastic and chrome-plated insulator hugs flat or convex surfaces.
Generous length calle . . . 48", No. 4570

List $\$ 6.45$
Packed $10 \begin{gathered}\text { Three Section } \\ \text { to }\end{gathered}$
10 to a standard carton Weight 11 lbs .

## PEERLESS MODEL

Designed especially for 1948 and earlier model cars. Improved atreamlined appearance.

Features unique swivel hase permitting easy angle adjustment to matach contours of new cars.

No. 4571—Three-Section List \$6.95

## "ROCKER" ANTENNA

A Variable Angle Antenna to Fit the Contours of All Car Bodies

- Suitable for all cars.
- Easily adjusted to desired angle.
- Weatherproof joint const ruction.
- Easy. one-nıan installation.
- Streamlined design to harmonize with latest cars.
- High-luster bakelite insulator proof.
- $48^{\prime \prime}$ Lo-Luss cahle.
- Completely assembled ready for installation. No. 4541 .... List $\$ 5.25$ Three-Section
Extends from $231 / 2^{\prime \prime}$ to $72^{\prime \prime}$ 10 to standard carton Weight 16 lbs.


## UNI-MOUNT ANTENNAS

The Universal Aerial. Fits All
Types of Cars . . . Old and New. For Underhood Mounting

- Streamlined modern design.
- Efuipped with inter-changeable brackets for either sidelood or alligator hood mountngs
- No drilling of holes into car hody necessary.
- Sturdy bakelite and chromeplated hrass insulator.
- Shielded loom Lo-Loss cable $36^{\prime \prime}$. . . vinylite insulated.

No. 4801 ............. List $\$ 4.45$
Three-Section
Extends from $20^{\prime \prime}$ to $63^{\prime \prime}$ 10 to standarid carton. Wt. 11 lbs .

No. 4803
.List \$5.45
Three-Section
Extends from $311 / 2^{\prime \prime}$ to $96^{\prime \prime}$
10 to stinndaric cartnn. Wt. 14 lbs

## ICA "TOPPĖR" ANTENNA

For variable angle mounting on tops of fenders and cowls of newest streamlined cars.

- Iratented brass shim contacts prevent rattling or vibration.
- Dust and Moisture Iroof.
- Snug-fitting tapered telescopic joints.

Varied mounting positions to harmonize with contour of car.

- Generous length (48") shielded loon Lo-Loss cable sulatiou vinylite covered in

No. 4575 Three-Section $\$ 5.45$ Extends from $20^{\prime \prime}$ to $63^{\prime \prime}$

## 'PIVOT TOPPER'"

New development in variable angle mountings. Special type pivot lermits universal angle mounts. Easily installed. Merely set rod to desiret angle and tighten securing nut. Hi•Q loss cahle. $48^{\prime \prime}$ lead-in.

No. 4576 ........ List $\$ 4.95$
Three-Section
Extends from 20" to 63" 10 to stand. carton. Wt. 10 lbs .


## NEW ANTENNA DISPLAY

 FREE . . . Ready to Use A sales stimulating display. Colorful . . Neatly styled. Suitable for window or counter. (Size 20" $\times 20^{\prime \prime}$.) Display is FREE, you pay only for the following fully-mounted Antennas:No. 4541 -"Rocker" ${ }^{\text {( }}$ Cat No. No. 4801-Uni-Mount 4500 No. 4568 -Side Cowl No. 4575 -Topper


## AUTO RADIO CONDENSERS AND SUPPRESSORS

ICA WIRE WOUND SUPPRESSORS LOW RESISTANCE 30 OHMS. D. C




These suppressors have an extremely low D.C. resistance and thus definitely do not affect the intensity of the ignition spark or cut down the speed of the car. No.
2353 B-Distributor Suppressor ……..... $\$ .65$
23548-1940-41 Slip-On Suppressor;
Will Also Fit Older Tipe Cars.... . 65

## ICA AUTO ANTENNA CONNECTORS

 AND ADAPTERSNo. 2347-Antenna Connector. List .......\$. 10 ea.

No. 2348-Standard Fuse Holder. List....... \$. 15 ea.

$$
\text { No. } 2349
$$

Jumho Fuse Holder $21 / 2$ long $x 1 / 2$ wide List No. 2372 - Lead-in Adapter - concerts standirdleads to Motorola Fitiongs. List


2375

## 2378

ICA SUPER-TEST AUTO RADIO IGNITION SUPPRESSORS
Made of Moulded Bakelite-All Metal Parts Made of Rugged Machined Brass


Type No.
E-349B-Spark Plug Slip-on Suppressor. Fits 1940-41 cars.

List

E-349F—Slip-on Spark Plur Suppres.
E-349F—Slip-on Spark Pluer Suppres-
D-350B—Srark Plug Suppressors with Dual Threaded Inserts
D-351B—Spark l'lug Suppressors for Ford cars ıp to 193 !

B-352B-Distributor Suppressor for all
C-4461 - Ford Farly Models
C-4463 - Foril Late Models
F-4465-Cable Type Suppresso
MASTER DIST. CARBON SUPPRESSOR - 10,000 OHMS For use on new type cars where only one suppressor is needed. Master Suppressor is guaranteed to eliminate all motor noisemaking unnecessary the use of individual suppressors.
No. 330
List $\$ .75$


AUTO BY-PASS CONDENSER
For by-passing anmeter. dome light or $\frac{1}{}$ renerator. Capacity $1 / 2$ mfd .
No. 1244
ICA

## GENERATOR SILENCER

Heavy duty grenerator condenser eliminates generator, ammeter, distributor noises. Capacity 1 mfd .
No. 1243
List $\$ .80$


FORD
NOISE SILENCER
No. 1245
List $\$ .85$

## ICA FORD Y8 CONDENSERS

 FOR 1939-1941 MODELSEquipled with Special Bracket.
Capacity $1 / 2 \mathrm{mfd}$.


## REPLACEMENT PARTS FOR ANTENNA AND FUSE RETAINERS

No. 2360-Female sleeve of fuse connector
List $\$ 5.00$ per $C$
No. 2361-Female sleeve of antenna connector
List $\$ 3.50$ per $C$
No. 2362-Male part of antenna comector
List $\$ 3.00$ per $C$ No, 2363-Spring for both antenna and fuse connectors No. 2364-Fiber insulator for auto fuse holder No. 2365-Bakelite eyelet bushing

INTERFERENCE SUPPRESSOR SET


For Auto Radio All the needed condensers, suppressors, etc. for a complete installation. Neatly packaged as a complete unit. Includes easy instructions. For all cars-old and new. Picked individually or in attractive counter display holding 6 Sets.
No, For
CK-8 Cyl Cars (except Forlis)
SK-2 Cyl Cars (except Fords) ..... $\$ 4.00$
SK-2-6 Cvl. Cars (except Fords) ....... 3.40 SK-3-Ford Curs (to 1938) ................. 4.00 SK.4—Ford Cars ('39 to current)....... 4.05

## ELBOW SHAPED SUPPRESSOR

Auto ignition suppressor. Elhow type. Molded-in-bakelite. Machined brass. Metal parts.

No. 4464
List $\$ .30$


Carries all the essentials for complete antenna installation, packed in handsome 2 -color box. Includes

50 ft . heavy 7 strand tinned copper aerial wire. 22 gature- 30 ft . stranded copper, insulated weatherproof, lead-in wire- 10 ft . greund wire, 22 gaure- (hround ClampSeadion Sirip-Underwriters' Approved Lightning Arrester-2 Porcelain Insulators Lightning Arrester
No. 654 . $\qquad$ .. List $\$ 2.50$

## SPECIAL KIT

Includes the following aerial kit elements:
50 ft . heavy $7 / 22$ tinned copper aerial wire - 30 ft . stranded copper insulated weatherproof lead-in wire-10 f1. No. 22 Ground wire. $\quad 2$ I'orcelain insulators - Ground Clamp-Lead-in strip-Lightning arrestor. No. 653.

## CAPITALIZER KIT

Includes the following components
100 ft timed aerial wir--7 strand copper and monel- 30 ft . insulated lead-in wielightning arlestor-2 Porcelain insulators Ground Clamp-Lead-in strip.
No. 651.
List $\$ 1.65$
JUNIOR KIT
A utility kit for high-grade performance. Includes:

100 ft tinnell aerial wire-7 strand copper and monel- 30 ft . insulated lead-in wire2 porcelain insulators - Ground Clamp -Lead-in strip.
No. 649
List \$1.35
ANTENNA ACCESSORIES

List $\$ 1.00$ per C

No.
$\begin{array}{ll}227 & \text {-Porcelain Insulator-glazed } \\ 223 & \text {-Ground Clamp-aljustable. } \\ 1504 & \text {-Lead-in strip- } 1 /{ }^{\prime \prime} \text { wide. }\end{array}$
1504 -Lead-in strip- $1 / 2^{\prime \prime}$ wide...
336 -Approved Lightning Arrestor. use holder List $\$ 2.50$ per $C$

## Now only

## JERROLD TV-FM BOOSTER

Comes Equipped with the Amazing New, Bullifin

## Included At No Increase In Price

The Jerrold TV-FM Booster has been widely acclaimed for bring. ing better television reception to distant areas. Now, Jerrold makes another notable advance.

The Match-A-Tran is a new, variable step-impedence transformer that helps provide a perfect match between booster output and TV receiver-any receiver-on all channels. This assures that all the gain of the booster is delivered into the receiver. It is especially efficient on the high channels.

## There Is A Difference

Yes, there is a difference between Jerrold and other boosters. Only Jerrold has a tuned-grid, tuned-plate circuit with a channel selector switch to select each channel. Only Jerrold gives a gain of 20 to 30 DB for the entire 6 megacycle bandwidth of each channel. Only Jerrold comes in a bcautiful plastic cabinet. Only Jerrold has the Match-A-Tran.

Model TV-FM, \$37.50 List

## JERROLD IN-TENNA



Indoor TV Antenna with Outdoor Antenna Gain

Jerrold In-Tenna combines an efficient indoor TV dipole with a high gain, wide band pre-amplifier. This combination offers a superior indoor antenna that is the perfect answer to TV installation problems in apartments, hotels, and private homes. Use it where an outdoor antenna cannot be installed and where an ordinary indoor antenna will not work satisfactorily. The Jerrold In-Tenna is recommended as an indoor TV antenna, for use in any location up to 25 miles from the television transmitter. Model TV IN, $\$ 42.50$ List


## What is the MATCH-A-TRAN?

No present day receiver has an input impedence that is purely resistive for all channels. Thus, standing waves are present on all antenna lead-ins. These standing waves cause peaks and nulls of signal voltage to be spaced along the line at half wave length intervals for each frequency.

For best reception it is necessary that the receiver be connected at a peak signal point for each channel. In effect, the Match-A-Tran is an "electronic line stretcher" that can easily be adjusted for each channel. Thus, brighter, sharper pictures are obtained for all channels. Match-A-Tran is especially efficient on the high (7 to 13) channels.


## NEW Jelotower with

## EXCLIUSIVE $P_{m p}$ Plat He

s. Jomomes. sfo.

2 Men Do the Job - Minimizes Wind Resistance . . . Reduces Vibrotion - Weighs Less Than 2 Pounds per Foot. Sectional Construction (in 10 foat lengths)-Saves Storage Space.
Penn Pilot Hole - Cuts Assembly Time 1 '3. (Patent Applied For)

Quick erection by the installer means quick profit for the wholesale distributor . . . that's the boiled-down truth about the new Penn TELETOWER.

Why? Because-at last- a manufacturer has taken the trouble to engineer a simple mechanical feature that serves as a foolproof guide to speedier, safer tower erection. One leg of the middle section in Penn's tripodtype tower is made longer than the others. Position this single leg correctly and - zip! - the other two are automatically brought into correct alignment.

As a result of this exclusive feature, Penn offers a tower with tripod stability that's as simply erected as a single pole. Two "green-hands" can put this tower up fast . . . and in safety!

When crected, this Penn Teletower forms a rigidly locked tripod that is unaffected by high winds and will not vibrate out of position. Yet, the entire assembly - built of lightweight steel - weighs less than 20 pounds. Sectional, prefabricated construction permits space-saving-storage. Cross braces on tripod serve as rungs and make the tower a safe, useful ladder when erecting antenna. Mount is so designed that not an ounce of tower weight rests on the motor!
Penn Teletowers are already on the way "up"! . . . on roofs . . . and in sales! It will pay to drop us a line.

A profitable Penn Teletower connection in your territory may still be available Though we anticipate heavy Distributor demand. Write or wire today. No obligation.

# All Channel Television and F-M INDOOR PORTABLE ANTENNAS 

The most beautiful antennas on the market-highly efficient-compact-colorful. SPICO Antennas have been accepted as standard equipment by leading television receiver manufacturers. The TENNA-MASTER is available in 2 colors, and with 3 section dipoles and plated faceplates.

## EXCLUSIVE FEATURES:

- Perma-Tension telescopic construction.* - Lock-Notch vertical orientation, - eliminates knobs and tightening. - Clean job-no soldering or lugs showing, wires completely concealed. - Rigid construction throughout; extra heavy wall, and larger diameter tubing.


## YET IT COSTS NO MORE!

Tenna-Master Model TV 93B Black bakelite housings and base.

Tenna-Master Model TV 93A
Mahogany bakelite housings and base.


## PLUGIN-TENNA

- Contains all quality features of above. Antenna has built-in 4 -prong plug which plugs into 4-prong socket molded into base, providing rigid support and excellent electrical contact. Antenna easily removed from base and stored in drawer when not in use. Engineer-tested, approved, and sold at standard equipment by leading TV set manufacturers.

THE ARISTOCRAT IN ITS FIELD

## MASTERETTE

- Economy-priced indoor antenna, with quality features as above. a Has bell-shaped base, stream-line-designed, with no lugs, knobs, or solder showing. Easily orient


We manufacture a complete line of standard auto radio antennas. Television, F-M antennas and component parts manufactured to specifications. Your inquiry invited.
*Patented, U. S. Pat. Off.


"Quad-Loop" is a registered trade mark of Square Root Mfg. Corp. Patent Pending.


- Bi-directional Hi-gain Conical " $V$ "
- Beam Channels 2 to 13 and FM
- 2 to 1 Front to Back Ratio
- Low Inception Angle
- Extremely High Signal-to-Noise Ratio
- $150-\mathrm{Ohm}$ Non-Varying Impedance
- Uses 72-, 150- or $\mathbf{3 0 0 - O h m}$ Transmission Lines
- Minimizes "Ghosts"



## TECHNICAL NOTES

Teirex Conical Antennas technically and practically assume response characteristics similar to a solid conical cone, giving broad band and high gain response with full audio and video band. pass over the entira television spectra.
The nominal cenfer impedance is designed to be 150 ohms and is non-varying because of the conical shaped re. ceiving dipoles. The receiving dipoles are filted forward to present a " $V$ " to the incoming wave, preventing the receiving lobe changing with increasing frequency, and narrowing the forward receiving lobe. Thus the Telrex receiving dipole is an effective $1 / 2$ wave element on channel 2 increas. ing to $5 / 8$ wavelength on channel 3 and increasing in effective " $V$ ', beam action to channel 13 where it has become a full wevelength on each leg with the maximum receiving lobe wevengen on each leg with the maximum receiving lobe
being in line. The reflectors are effective at all frequencles with a front to back ratio of better than 12 DB on all with a front
frequencies.
Unlike other methods of covering both bands, Telrex Antennas do not introduce phase shift or discriminate in favor of one band versus the other or one station versus another, and need only one transmission line. Closer to the tonons af some locations it may be necessary to use too her antenna because one or more stations are located tould enther side of the receiving lobe. This antenna should have its own transmission line. Results can be obtained by connecting the antennas together, although this should be avoided as it may impair the reception on one or more stations. When the stations are within a 5 to 15 degree sector depending on distance from the transmitter the Telrex antenna used for maximum efficiency at low frequencies becomes a much more efficient antenna on the high frequencies than a separate cut-to-frequency stack antenna.
The 2X-TV model presents a modlfied stacking of $1 / 8$ wave with highest possible signal-to-noise ratio and minimum reflactions. The 4X.TV model is stacked to present a spacing of $1 / 4$ wave on channel 2 increasing to full wave ength spacing on channel 13 lowering the angle of incep lobos directly above eliminating high angle response effected by stacking is a variable the anfenna. The gain -distance to the station, angle of radiation cepending on time of day, sta. but angle of radiation, season of year, and of day, etc. but it accounts for tremendous galn $8 \times$.TY model noise, flutter. fading and reflections. The all band. coverage. all band. coverage.
The 150 -ohm non-varying center impedance makes it possible to use any of the commercially available transmission shlelded variety 150 . coaxial, 90 -ohm twin-ex or the unwave ratio nety 150- and 300 -ohm ribbons with a standing wave ratio never exceeding 1.6 to 1 regardless of channel shift, causing blurred pictures creased sausing blurred pictures, multiple images and de-
You are invity.
uou are invited to consult oùr engineering staff on any
unusual antenna problems. unusual antenna problems.


Model 2X-TV installed on chimney, using the Telrex CM-2A Chimney Mount with stainless steel band.


## MECHANICAL NOTES

Telrex products are designed to minimize assembly time on the "job" assuring a considerable timesaving and a perfoct mochanical installation.


Telrex conical antennas are captivated within better than $3^{\prime \prime}$ of elamping action, providing better electrical contact over a longer period of time and a mechanical support that is second to none.
Mast or pipe clamps supplied are universal, allowing correct alignment and flexibility of mounting arrangements, from $3 / 4^{\prime \prime}$ up to and including $15 / 8^{\prime \prime}$ tubing.
The hardware in use is at all times the best money can buy overdesigned for the job.

Transmission Line Stand-off. Stainless steel banding and phenolic. Used on any size mast or tacked to the building to koep the transmission line away from the pipe or building. Durable; easily installod.



Gin Pole Accessory for use by the installer when a long mast is to be erected. Used in conjunction with the TR-I (tilt-roof mount) makes erection of long masts a simpler task. Removed after installation for re-use.

Tilt-roof Mount, sturdily built of angle iron-easily mounted to roof-free action of mast for rotation and orientation.

Window Wall Set. A two-piece installation set for use where a roof installation cannot be made or where the roof overhang would inferfere with mast being installed flush to the building.

Made of welded angle iron with a cross brace of steal wire. Paint-dipped, assures-a lasting installation.


the $8 X-T V$

${ }^{\text {The }}$ Ulftimate in TELEVISION ANTENNAS $180^{\circ}$ azimuth arc.

FOR HIGH SIGNAL AREAS Window, wall or attic mounting, with flexible orientation possible. Two-piece arm is provided. Short arm is used for parallel-to-wall orientation. The second arm permits other than parallel orientation.

# VFF D has everything YOUNEEDFOR BETTER TV \& FM INSTALLATIONS 



Whatever you need in the line of TV \& FM antenna equipment may now be obtained from one dependable source. Why gamble with profits and customer good-will when you can be sure of all-around satisfaction with Vee-D-X-the complete single source quality line. Every Vee-D-X product is skillfully engineered for your active range of technical requirements and problems. Fast low cost installation insures full profit margin for you on every sale.

> ALL ANGLE MOUNT. Particularly suited for mounting on side of house near a window for manval rotation of an. tenna. Designed to clear overhang of eaves, also ex. cellent for flat or pitched roof. $-\$ 7.50$ List

NEW. LIGHT-WEIGHT MAST. Extremely light weight (a $20^{\prime}$ section weighs only 11 lbs.) without sacrifice of strength. Can be rotated after guy cables have been installed.

VEE-D.X SECTIONAL TOWER. Made in $10^{\prime}$ and $20^{\prime}$ Sections for mounting antennas up to $140^{\prime}$ high. Sections are shipped assembled and painted. Strictly all welded construction. Antenna can be rotated from base.

CHIMNEY MOUNT. Fits any opening - round, square or rec. tangular from 4" to 22", accommodates $1^{\prime \prime}, 1 / 8^{\prime \prime} 8$ $11 / 4^{\prime \prime}$ masts, takes only 60 seconds to install. \$7.50 List.


LIGHTNING ARRESTOR. In. stalled without cutting transmission line. Does not disturb impedence match. High dielectric, low loss. $\$ 2.50$ List.


> THERE'S MORE VISION IN TELEVISION WITHVEE-D-X

## The LaPointe Plascomold Corp. umownile conv.

## THE COMPLETE SOURCE OF TV AND FM ANTENNAS AND ANTENNA ACCESSORIES



MODEL H-MFDR-5X. Highmaster TV Antenna. The last ward in high frequency four-element array design. Super-sensitive pick.up in lacal ar fringe areas. For channèls $7-13$ and can be independently oriented when used with law frequency array. Model shown contains patented A.A.K. filter divider network which is optional.


MODEL HLB-4. High-Low TV Deluxe Array. Factory assembled far fast installation - no hardware bag. Low array contains adjustable reflectar elements for rejection af ghosts, alsa usable as directars when rotated to reverse pasition. Far alt channels and use in lacalities where there are reflection prablems. This madel has high farward gain and narrow band. Patented A.A.K. filter divider network is optional.


MODEL SSO-3. Steel Stand-Off. This universally efficient insulatar will rigidly clamp any size of TV ar F.M. Iwin-lead ar caaxial cable. Variaus clamping cambinations are avail. able by merely reversing either or both half sections of the grommet. Supplied in $3^{\prime \prime}$ or $7^{\prime \prime}$ lengths. Made of semi-hard, weather resisting rubber compound, which will not deteriorale in heat or cold.

## OAK RIDGE ACCESSORIES

- 4-Way Clamps
- Chimney Wall Mounts
- Flat and Coaxial Cables
- Steel and Rubber Stand-Offs
- Wall Mounts ( $6^{\prime \prime}$ and $12^{\prime \prime}$ sizes)
- Chimney Mount Conversion Units
- Telescopic Masts ( 24 ft . and 36 ft .)

Send for
FREE CATALOG


## Rigged Fast To Last OAK RIDGE. ANTENNAS

239 East 127th Street, New York 35, N. Y. Manufacturing Division of Video Television, Inc.

# New! <br> TELEVISION ANTENNA ROTATOR by alliance 

## Makes the Image Clear-Reduces Interference!



> This new Directional Aid means instant "arm-chair" control for Television Antenna. Dealers and Service Shopscan order from their jobber now!

CONTROL BOX
Size: $5^{\prime \prime} \times 5^{\prime \prime} \times 4^{\prime \prime}$

> A $n \mathrm{n}$ o u $n$ e $m$ ent! New deluxe Tenna-Rotor with indication control case (Model DIR) now available. . . List Price $\$ 49.95$

Model
ATR
Size of
rotor
unit
$73 / 4^{\prime \prime}$ $\times 51 / 4^{\prime \prime}$

Ship-
ping
weight
12 lbs.

- The Alliance Tenna-Rotor is an antenna rotator designed to rotate the beam antenna in FM, Television and other high frequency radio applications. It consists of the rotator which is mounted on the antenna mast and a control box placed adjacent to the receiver.
The rotator unit, fully enclosed in a split zinc die-cast housing, is an electrically driven rotor-actually a rotating hollow shaft, into which the antenna center post is clamped. A four-conductor cable connects the rotator with a plastic control box which plugs into any 60 -cycle 110 -valt $A C$ house circuit. A three-position selector switch controls the rotator. Throwing the switch to the right or left rotates the Rotor shaft clockwise or counter-clockwise through a complete arc of 365 degrees.

At the position of optimum reception, the switch is thrown to the center OFF position. Thus, Tenna-Rotor provides positive, instant control of rotation, enabling the operator to select the exact pasition for "peaked" reception! An automatic signal light illuminates a screen on the panel and tells when the limit of travel in either direction is reached. Tenna-Rator is factory lubricated for life . . . designed for years of rugged service, works in any weather and the rotor unit resists corrosion. Tenna-Rotor reduces interference, expands the range and improves the performance of TV and $F M$ installations. Amateurs can use it for trans-
mission and reception with a special accessory thrust bearing (List Price $\$ 7.95$ additional) which will handle most three element beams with a thrust load up to 200 lbs.

## SPECIFICATIONS

## Electrical

Input volts- 110 volts 60 cycle AC
Input power- 30 watts
Clockwise or counter-clockwise rotation
Instantly reversible motor
Minimum coast to stop
No receiver interference

## Mechanical

Positive mechanical stop at end of rotation
Rotates through 365 of arc at speed of approx. I r.p.m. Factory lubricated for life
Moisture sealed
Corrosion resistant components throughout-
-cadmium plated parts
Maximum allowable antenna weight-20 lbs.
Maximum O.D. for antenna mast- $13 / \mathrm{s}^{\prime \prime}$
Interconnecting cable-4 conductor No. 20 gauge Rotator Size $-73 / 4^{\prime \prime} \times 51 / 4^{\prime \prime} \times 8^{\prime \prime}$
Control Case Size-5" $\times 5^{\prime \prime} \times 4^{\prime \prime}$
Approx. Shipping Wt., 12 lbs.


THE ONLY FULL LINE . . . a mount for every purpose . . . all constructed of heavy gauge steel - NOT Castings - treated with a new and improved waterproof coating made to Navy specifications for complete protection against weather conditions . . . in a handsome semi-gloss silver finish . . . vise-type clamps accommodating masts of $3 / 4^{\prime \prime}$ to $21 / 2^{\prime \prime} \ldots$ all hardware pre-assembled so that no time is lost in installation.


## CHIMNEY MOUNT

## Model CMA

Designed to allow any spread between mast brackets. Exclusive furnbuckle feature provides rapid and secure take-up. Installed in a matter of minutes with ordinary tools . . . no drilling necessary. Several other chimney type mounts available.


## VENT PIPE MOUNT

## Model VM-6

For speedy installation of mast on $4^{\prime \prime}$ to $6^{\prime \prime}$ vent pipes or poles.

## EAVE BRACKET

Model EM-6
For a simple installation allowing a $6^{\prime \prime}$ stand-off.


## ADJUSTABLE EAVE MOUNT Model EMX

A practical tripod support with simple adjustment permitting an $8^{\prime \prime}, 10^{\prime \prime}$ or $12^{\prime \prime}$ stand-off or as much as $16^{\prime \prime}$ when used in conjunction with Metalace Mast Jainer. Three other non-adiustable models available for $12^{\prime \prime}, 18^{\prime \prime}$ or $24^{\prime \prime}$ stand-offs.

## MAST EXTENDER

## Model EM-8

Permits a $4^{\prime \prime}$ bite on any two masts of equal or unequal diameter. With six guying points.

## MAST JOINER

Model MJ-2
For joining masts of equal or unequal diameter . . to add Hi-Freq. to an existing installation. With


## WALL MOUNT

Model WM-4
For rugged in-close mounting allowing a $4^{\prime \prime}$ stand-off.


## GUYING CLAMPS

Model GC-4
Vise-type clamps to hold guys at any point on a mast.


## STEEL STRAPPING

## Model SM-100

$3 / 4^{\prime \prime}$ galvanized steel with $1 / 4^{\prime \prime}$ holes on $3 / 4^{\prime \prime}$ centers . . . for mounting and securing masts to odd shaped forms. In convenient $100^{\prime}$ rolls.

[^9]
## METALACECORPORATION

Dept. 1122101 GRANDCONCOURSE: NEW,YORK 5 . M. Y.

# RMS TELEVISION <br>  



## ALL-CHANNEL FOLDED DIPOLES with Reflectors

Aluminum fubing, massively constructed, specially ridged at joints for maximum strength. Both arrays separately oriented. U-Bolt mounting. Complete with mast.

## Other RMS All-Channel Television Antennas

ASD-150-Straight Dipoles with
Reflectors and mast
List Price
Renectors and mast
$\qquad$
Reflectors and Dipoles with
ASD-150-U-Straight Dipoles with
Reflectors, less mast, U bolt
mounting $\qquad$
FFD-120-Folded Dipole, with hi-freq
lobe, and mast
FRD-130-Folded Dipole with
Reflector, hi-freq lobe, and mast.....
ALHS-675-Straight hi and lo dipoles
reflector, in line
Model
2-LBF-400-U List \$24.25

## LOW BAND FOLDED DOUBLE DIPOLES

 with ReflectorsHigh gain array for channels 2 to 6 . U-bolt mounting, less mast. Easily oriented. Rigid, massive construction. Other RMS Low Band Antennas
SD-10—Straight Dipole $\qquad$ List Price st Price
$\mathbf{W}$
$\mathbf{6} .85$
0.40
FD-25-Folded Dipole w-w.
SDR-50-Straight Dipole with Reflector
9.40 SDR-50-Straight Dipole with Reflector 12.50 FDR-100-Folded Dipole with Reflector 15.00 LBS-30-U-Straight Dipole with Reflec-
tor, U-Bolt mounting les mast Lor, U-Bolt mounfing, less mast. LBF-40-U-Folded Dipole with Reflec.9.75 tor. U-Bolt mounting, less mast........ 11.60 with Reflectors,
with Reflectors, U-bolt mounting,
less mast …................................................. 19.25
Mos

HIGH BAND ATTACHMENTS
Model HFS-250 List $\$ 6.60$ Straight Dipole with reflector and mast, for channels 7 to 13. Easily attached to main antenna mast, by clamps supplied. Heavy gauge aluminum, polysfyrene insulation.
Other RMS High Band Attachments
SAH-I-Straight Dipole with
SAM-I-Str
List Price
DAH-5-Folded Dipole with Reflector $\$ 5.10$
HFF300-Folded Dipole with
5.40

HFFsflector mast and brackets
2HBS-450-U-Stacked Straight Dipoles
with Reflectors, U-Bolt mounting,
$2 \mathrm{HBF}-500$-U-Stacked Folded Dipoles 10.65
with Reflectors, U-Bolt mounting,
no mast .............................................................

## TELEVISION ANTENNA DIRECTORS

D2 to D6-Directors cut to exact channels D7 to Di3-Same, channels 7 to 13 . List $\$ 6.05$ D7 to D13-Same, channels 7 to 13. List each $\$ 4.50$

## EXTENSION MASTS <br> for Television Anfennas

AM-6-Heavy walled aluminum $11 / s^{\prime \prime} O D$ 6 \$ 6 . length. List each $\$ 3.50$ SM-b-Heary gauge plated lock-seam steel 1" OD, 6 ft. length.
SM-10A-Sist Price Cartons of Twelve $\$ 32.00$ length Leel, same as above, but 10 ft . SM-10日-Steel same 10 ft Twelve $\$ 53.35$ OD. List Price Carton of Twelve $\$ 80.00$

## RUBBER STAND-OFF

 INSULATORSFor holding twin-lead neatly, securely at fixed distance from crossbars and masts. List Price
$\$ 8.25$ per 100


## RMS TELEVISION ANTENNA CHIMNEY <br> MOUNT

Model
SCM-100
Made of heavy gauge plated steel. Fits any chimney or other upchimney or other up-
right rectangular roof structure, having girth up to 12 ft . List Per Pair $\$ 4.30$


## for Television

 Antennas Model WCM-500 Holds antennas securely $6^{\prime \prime}$ from any wall or chimney. Made of heavy gauge plated steel, easy to mount. All hardware included. List Per Pair \$2.00
## U-BOLT MOUNTING BRACKETS

## Modet UE-10

Permits ioining together of two masts each up to $13 / g^{\prime \prime}$ Price per Carton........... $\$ 12.50$

guy wire rings
GR-1—I" I.D.
GR-2-IV/'" I.D.
GR:3-11/4 1.D.
List Price any type,
cartons of 100
cartons of 100 . $\$ 15.00$


Made of heavy gauge plated steel, supplied with 2 "U" Bolts, nuts, 4 lag screws. mounts against any surface.


##  <br> CLEVELAAD







## the choice across the hation for quick, easy installation!

MH-3 MONARCH COWL.FENDER
Chrome plated all metal mounting base adjustable from flat to $30^{\circ}$. Does not crush. Holds adjustment permanently. $36^{\prime \prime}$ Radar Cable. MH-3

List $\$ 5.45$
3 Sec.

## DA-3 ADJUSTABLE SIDE COWL

Side mounting on sloping or vertical surfaces of cowl or fender. $1 / 2^{\prime \prime}$ mounting holes. Mast swing of $35^{\circ}$. $36^{\prime \prime}$ Radar Cable.

List $\$ 5.45 \quad 3$ Sec.
72

## CS. 3 CHAMPION SIDE COWL

Quality Built-competitively priced. Chrome plated brass tubing. Black covered shielded cable with screw-on connector. Metal capped ceramic insulators. CS-3 List S3.45

$$
3 \text { Sec. }
$$

## CO-3A ROTOLOK COWL-FENDER

Easy mounling through $1 / 2^{\prime \prime}$ hole. All tightening outside. Noncrushing chrome plated metal mount. VISE-LOCK eliminates coraces. $36^{\prime \prime}$ Radar Cable.

3 Sec.

## RAD DELUXE SIDE COWL

Built to superior quality standards. Automotive specification chrome plate. Low loss $100 \%$ shielded $36^{\prime \prime}$ Radar cable with chrome plate. Low loss $100 \%$ shielded $36^{\prime \prime}$ Radar cable with
screw-on connectors. $\begin{array}{lll}\text { RRD-3 } & \text { List } \\ \text { RAD } 4.65 & 3 \text { Sec. }\end{array}$ RAD-4
RAD-5

## FD-3 CONCEALED COWL-FENDER

Chrome plated all metal adjustable mounting base. Strong, noncrushable. Waterproof, electrically efficient, guaranteed trouble free. 48" Radar Cable. FD-3 Rad List $6.95 \quad 3$ Sec. $4^{\prime \prime}-55^{\prime \prime}$

## F-254 FORD REPLACEMENT MAST

For 1941-42-46-47 Ford-Mercury Roof Antenna that operates behind windshield center post F-254 $\quad$ List $\$ 2.00$

2 Sec.
54 "

## B-448 BUICK REPLACEMENT MAST

Replacement mast for roof aerials on all Buicks 1940 to present. R-448

## RADARLEAD CABLES

Radar type coaxial polyethylene cable completely shielded. Type L as supplied with caerials. Extension type LE has male and female pin plug fittings.


| Model | L-36 |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| List | L-48 | LE-12 | LE-24 | LE-36 |  |
| Length | $36^{\prime \prime}$ | S1.60 | $\$ .75$ | Sl.10 | $\$ 1.35$ |
| Lis | $48^{\prime \prime}$ | $12^{\prime \prime}$ | $24^{\prime \prime}$ | $36^{\prime \prime}$ |  |

## HD.21 FOLDED DIPOLE

Impedance of 300 ohms matches RMA Standard receiver input. Complete with 8 ft . mast, guy ring, stand-off insulator, wall brackets, base and 50 ft . of 300 ohm line.
HD-21 List $\$ 8.25$ 88-108 MC

## HD-21R DIPOLE-REFLECTOR

Same accessories as Model HD-21 plus reflector to increase signal strength. More directional than Model HD-21 with much increase in forward gain.
HD-21R
List $\$ 10.75$
88-108 MC

## HD-31 DIFOLD DIPOLE

Much less directional than folded dipole. Use where signals come from several directions. Same accessories as HD-21.

List $\$ 8.95$
88-108 MC

## TV AND FM ACCESSORIES



## 



## today's greatest value in tV antennas

## RT-44 SIMPLEX DIPOLE AND REFLECTOR

New "X" type aerial. Sturdy and simple to assemble. High gain on all channels. Fine for fringe reception. Complete with 8 ft . steel mast, guy washer, stand-off insulator wall brackets and base. Model RT-44 includes 50 ft . 300 ohm cable.
RT-44 RT-44LL

## RT-40 HI-LO DIPOLE AND REFLECTOR

Separate high and low irequency bays for efficient reception from stations in different directions. Easy to assemble. Complete with same accessories as RT-44. Model RT-4C includes 50 ft .300 ohm cable.
RT-40.. $\qquad$ List $\$ 12.75$ $\qquad$ $54-216 \mathrm{MC}$
$54-216 \mathrm{MC}$ RT-40LL

## RT-42 LOW BAND DIPOLE AND REFLECTOR

For reception on channels 2-6. Same accessories as RT-44. Model RT-42 includes 50 ft . 300 ohm cable.
RT-42. $\qquad$ Lis: $\$ 10.75$ $\qquad$ 54-88 MC
Model
RT-43
RT-42LL " 8.95 $54-88 \mathrm{MC}$

## RT-43 DUAL BAND DIPOLE AND REFLECTOR

In-line type with special array to provide exceptional gain on all channels. Ideal where all stations are in same direction. Same accessories as RT-44. Model RT-43 includes 50 ft. 300 ohm cable.
RT-43.


List $\$ 12.25$
 54-216 MC RT-43LL

TELEVISION ARRAYS FOR STACKING PURPOSES
To increase gain and reduce interference, the following arrays are designed for use with
above aerials.



## AMERICAN PHENOLIC CORPORATION

## Retainer Ring "S" Type Sockets

Extremely compact sockets, furnished complete with retainer rings. Mount in 1-11/64" keyed hole. Use Amphenol No. 25-LD-1 Punch and Die.

|  | Black Bakelite | List | Contacts | Steatite | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 78-S4 | \$ . 13 | 4 Contacts | 49-SS4 | \$. 47 |
|  | 78-S5 | . 13 | 5 Contacts | 49-SS5 | . 47 |
|  | 78-S6 | .13 | 6 Contacts | 49-SS6 | . 47 |
|  | 78-S7C** | . 17 | 7 Comb. for |  |  |
| ) |  |  | 7L. 7S |  |  |
|  | 78-S7L | . 13 | 7 Large | 49-SS7L* | 59 |
| Black Bakelite | 78-S7S | .13 | 7 Small | 49-SS7S | . 47 |
|  | 78-S8 | . 17 | 8 Octal | 49-SS8 | . 47 |
|  | 78-S8L | . 21 | 8 Loktal |  |  |
|  | 78-S9 | . 21 | 9 Octal St; le |  |  |
|  | 78-S11 | . 29 | 11 Octal Style |  |  |
|  | 78-A7P $\dagger$ | . 30 | 7 for Miniatu |  |  |
|  | 78-A9P $\dagger$ | 45 | 9 for Miniatu | res |  |
|  | 78-B | . 07 | Blank |  |  |
| Steatite | * Mounts in 1-21/64" keyed hole. Use 25-LD-2 Punch and Die. <br> $\dagger$ Mounts in standard socket hole, Has miniature socket in center. |  |  |  |  |
| Stealie |  |  |  |  |  |

Magnal Socket Has 1-1/16" pin circie for cathode ray and television tubes. Mounts in $1-5 / 8^{\prime \prime}$ hole. Steatite.
No. 49-SSI1L 11 Contact, Magnal .
.List $\$ 1.21$

## Miniature Retainer Ring Type Sockets

Mount in 5/8" round or " $D$ " shaped hole with No. 2-9 retainer rings.

|  | Black Bakelite |  |  |
| :---: | :---: | :---: | :---: |
|  | Number | Description | List |
|  | 78-S3S | For 3 prong min. photo cells. | \$. 17 |
| 0 | 78-S4S | 4 Contact | . 17 |
|  | 78-S5S | 5 Contact | . 21 |
| d | 78-56S | 6 Contact. | .21 |
| , | 78-7P | 7 Contact. Miniature | .21 |
| Mica-Filled Bokelite |  |  |  |
| 78-7PT 7 | ontact. M | iniature | . 28 |

## Duodecal and Diheptal Tube Sockets



Designed for television viewing tubes, oscilloscopes and other cathode-ray tubes. Provides means of grouping leads within the socket housing and bringing them out radially in a neat, unlt-cable form, reducing the space required to a minimum. Grouping of the wires in the enclosed raceway eliminates flexing at solder terminals, minimizing breakage.
Removable socket cap provides complete enclosure for all connections, eliminating shock hazard, yet the cap is easily removed for wiring or servicing. Opening for the lead wire harness can be positioned in any of 61 ocations. Contacts are seated in individual wells, the walls of which form efficient creepage barriers. Socket cap and body molded from high quality electrical bakelite. Contactsare Amphenol exclusive "clover-leaf" design featuring four full lines of contact on each tube pin.
The socket is designed for easy assembly and disassembly . . . requires no special tools.

Duodecal Socket for a maximum of 12 equally spaced pins on a circle diameter of $1.063^{*}$.
No. 59-402 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . List $\$ 1.56$
Diheptal Sockets for a maximum of 14 equally spaced pins on a circle diameter of $1.750^{\circ}$.
No. 59-415 Small-for $2.050^{\prime}$ D. Tube base. . . . . . . . . . . . . . List $\$ 1.67$ No. 59-417 Medium-for 2.250' D. Tube base . . . . . . . . . . . . . . 1.67

## Laboratory Punch and Dies

For punching mounting holes for Amphenol connectors, plugs and receptacles. Made of tool steel, properly hardened.


For Amphenol Retainer Ring Mounting Tube Sockets, Rodio Plugs, etc.
Drill $1 / 2^{\prime \prime}$ hole for pilot punch. $\begin{array}{cc}\text { No. Size of Hole } \\ \text { 25-LD-1 } \\ \text { 25-LD-2 } & \text { 1-21/64", keyed } \\ \text { List }\end{array}$ For Minioture Sockets and Microphone Connectors
Drill $3 / 8^{\prime \prime}$ pilot hole for 25-LD-3, 5 and 6 and $1 / 4^{\prime \prime}$ hole for $25-L D-4$ 25-LD-3 $13 / 16^{\prime \prime}$ round.
$\begin{array}{ll}\text { 25-LD-4 } & 5 / 8^{\prime \prime} \text { round... } \\ \text { 25-LD-5 } & 5 / 8^{\prime \prime} \\ \text { ' }\end{array}$ 25-LD-6 1/2" "D" hole

## Retainer Ring Hand Tools



51-5


51-1

Convenient for assembling miniature sockets, plugs and tip jacks to panels or chassis. Designed for hand operation.

| Num | er Description | List |
| :---: | :---: | :---: |
| 51-5 | For No. 2-9 Rings | . $\$ 1.20$ |
| 51-6 | For No. 2-11 Rings | 1.2. |
| 51-7 | For No. 2-10 Rings | 1.2 |
| 51-1 | For "S" type sockets and "CP" type plugs except 7C and 7L sizes. Required where socket spacing is very close |  |
| 51-2 | For 'S' ' type sockets 7 -large and 7-combination | 6.66 |
| 51-3 | For 'SS' steatite sockets and " 60 " and " 61 ' receptac |  |
|  | Of two-piece construction. . . somewhat easier but slower |  |
|  | to use than 51-1 (above) for " S " sockets and" CP ' plugs | 6.6 |

## Magic Eye Assembly



For easily adapting or replacing a 6 prong inagic eye tube in any radio having automatic volume control. Also for FM receivers, test i nstruments, signa Itracers, and as volume level and modulation i ndicators. Includes 1 megohm target plate resistor wired into socket and 5 wire, color coded cable $22^{\prime \prime}$ l ong. Mounting bracket is slotted for tube adjustment. Complete as illustrated, with escutcheon and hardware for assembly. Tube not included.
No. 58-MEA6 Complete Magic Eye Assembly
List $\$ 1.51$

## Octal Magic Eye Assembiy



Similar to No. 58-MEA6 shown above, but for octaltype magic eye tubes. New universal short bracket for the smaller tube sizes permits use of any of the octal nagic eye tubes including the dual pattern and the new multi-pattern types. Complete with 8 wire, color coded cable, 22" long, full vision escutcheon and hardware for assembly. Tube not includea.
No. 58-MEA8 Complete Octal Magic Eye Assembly...... List $\mathbf{\$ 1 . 5 1}$

## Magic Eye Escutcheons

Hond type is of sturdy plastic with beautiful antique bronze finish. Full vision type for octal dual-pattern and new octal multi-pattern types is brass with antique bronze finish.


Number List
10-102 Hood Type. For 6 prong tubes. $\$ 15$
10-2 Full Vision Type. For octal tubes.


[^10]
## MIP Molded-In-Plate Sockets



Molded of high dielectric black Bakelite, sturds; steel mounting plate molded directly into the solid body? cannot come loose or vibrate. Contacts grip tube prongs firmly and retain their resiliency indefintely. Mount in 1-5/32 round hole. Two $5 / 32^{\prime \prime}$ screw holes on $1-1 / 2^{\prime \prime}$ centers.


Contacts List Number Contacts List 77-MIP-4 4 Contacts $\$ .12 \quad$ 77-MIP-8 8 , Octal $\$ .14$ 77-MIP-5 5 Contacts 12 77-MIP-9 $\quad$ 9, Octalstyle .18 | 77-MIP-6 | $\mathbf{6}$ Contacts | $\mathbf{1 2}$ | 77-MIP-11 | 11,Octalstyle | $\mathbf{2 4}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |



Black

| Bakelite | List | Contacts | Steatite | List |
| :---: | :---: | :---: | :---: | :---: |
| 78-RS4 | \$. 14 | 4 Contacts | 49-RSS 4 | \$. 48 |
| 78-RS5 | . 14 | 5 Contacts | 49-RSS5 | . 48 |
| 78-RS6 | . 14 | 6 Contacts | 49-RSS6 | . 48 |
| 78-RS7C | . 18 | 7 Comb. |  |  |
| 78-RS7L | . 14 | 7 Large | 49-RSS7L | . 61 |
| 78-RS7S | . 14 | 7 Small | 49-RSS7S | . 48 |
| 78-RS8 | . 18 | 8 Octal | 49-RSS8 | . 48 |
| 78-RS8L | . 22 | 8 Loktal |  | ... |
| 78-RS9 | . 22 | 9 Octal style |  |  |
| 78-RS11 | . 30 | 11 Octal style |  |  |



## Replacement Sockets

Regular "S" sockets, assembled with No. 4 retainer ring to steel mounting plate with sloted holes to fit mounting centers from $1-1 / 2^{\prime \prime}$ to $1-7 / 8^{\prime \prime}$.

## Floating Octal Sockets

Live rubber grommets fit into mounting holes to cushion this socket for vibration-free operation. Black bakelite dielectric. Mounts in $1-3 / 16^{\prime \prime}$ round hole above or below chassis. Two $1 / 4^{\prime \prime}$ screw holes on $1-1 / 2^{\prime \prime}$ centers.

Number
Description
List
77-MIP-8FK Octal. Complete with 4 rubler grommets, 2
11-3K Kit for making floating connections using Amphenol MIP Sockets. 4 grommets, 2 mounting screws, nuts and washers only........................ . 2

Tube Shield and Spring Assemblies Number Height Description List 5-401 1.3/8" For 7 Pin Miniature Sockets. . 14 5-402 1-3/4" For 7 Pin Miniature Sockets.. . 14 Tube Shields No. 5-401 and 5-402 are used witlı Sockets.No. 59-367, 147-905, 147-913, 147-925, 147-955 and 147-963.
5-405 1-1/2" For Noval Sockets. ........... . . 20
$5-408$ 1-1.5/16" Fur Noval Sockets ............ . 24
5-409 2-3/8" For Noval Sockets ............ . 24
Tube Shields No. 5-405, 5-408 and 5-409 are used pwith Sockets No. 59-369, 59-406 and 59-407

## MINIATURE 7 AND 9 PIN SOCKETS

ZIP-IN, Ethylon-A


Molded of Ethylon-A with high " $Q$ " factor. Mounting plate has $136^{\prime \prime}$ diameter holes on $1-5 / 16^{\prime \prime}$ centers. Round classis holes are $27 / 32^{\prime \prime}$ for 7 pin and $15 / 16^{\prime \prime}$ for 9 pin.

| Number | Description | List |
| :---: | :---: | :---: |
| 59-357 | 7 Pin. Without tube shield |  |
|  | base | \$ . 21 |
| 59-367 | 7 Pin . With tube shield base | . 27 |
| - -359 | 9 Pin. Without tube shicld |  |
|  | base | . 51 |
| 59. | 9 Pin. With tube shield bas | . 61 |



## Bakelite and Steatite Sockets

Used for television. FM. auto radios, portables, etc. 147 Series mount in $5 / 8^{\prime \prime}$ chassis hole; mounting centers $7 / 8^{\prime \prime}$; screw holes $1 / 8^{\prime \prime} .59$ Series mount in $3 / 4^{\prime \prime}$ chassis hole; mounting centers $1-1 /$ m $^{\prime \prime}$; rivet holes . $095^{\prime \prime}$.

Bottom Mounting - No Tube Shield Base

| Bottom Mounting - No Tube Shield Base |  |  |  |
| :---: | :---: | :---: | :---: |
| Number | Contacts | Dielectric | List |
| 147-500 | 7 | 13lack Bakelite | \$ . 24 |
| 147-501 | 7 | Steatite | . 51 |
| 59-409 | 9 | Black Bakelite | . 39 |
| 59.410 | 9 | Mica-Filled Rakelit | . 40 |

Top Mounting - With Tube Shield Base
Black Bakelite .39
.40

## $147-905$ $147-913$ $147-925$ $147-925$ $59-406$ $59-406$

147-502
Rubber Mounfed - No Tube Shield Base
Black Bakelite
. 25
Rubber Mounfed - Wiph Tube Shield Base
147-955
147-963

Shielded Cable Connectors, $110-250$ Volt End Cable Outlet-For cables up to $1 / 2^{\prime \prime}$ diameter
 Fully shielded cable terminals with black Bakelite connector units encased in a tight cap that fits securely and is easily removed. Availrelieves soldered connections of strain, or able with rubber grommets for protection against abrasion.
With Cable Clamp
With Grommet


## Flush Motor Plug, $110-250$ Volt

Neat, compact plug or receptacle set in type 61.61 stee! shell for below surface mounting. Room for insertion of Amphenol End Cable Outiet Plugs.

| Number | Description |  |
| :---: | :---: | :---: |
| 61 -F10 | 2 Pole Universal Receptacle | . 48 |
| 61-M10 | 2 Pole Standard Plug..... | . 48 |
| 61-MP10 | 2 Pole Polarized Plug |  |

## Molded-In-Plate Receptacle



Same as 61-F Receptacle with standard steel mounting plate molded into the Baketite body, Nounts in $1-3 / 16^{\prime \prime}$ chassis hole;

No. 61-MIP-61F 2 Pole Universal Receptacle
. List
\$ .30



## Alignment Tool

Made of Amphenol 912-A polystyrene Has no capacity effect when aligning critical circuits. A necessary tool for anyone who must makeadjustments on high frequency circuits.
No. 55 U.H.F. Alignment Tool (minimum order 24)
List \$. 25
Illustrated above is the colorful sales card on which are mounted 24 Amphenol Alignment Tools.
No. 55-024 Sales Card with 24 Alignment Tools.

List $\$ 6.00$

## Shielded Multi-Wire Cable Connectors



Multi-wire cable connectors consist of Amphenol ' $S$ ' type tube sockets and "CP" plugs. Metal cap slields connections and provides an unbreakable cover for cable termination. Cap may be removed with an ordinary screwdriver. Accommodates cable up to $7 / 16^{\prime \prime}$ diameter. Female chassis receptacles or sockets $78-\mathrm{S}, 78-\mathrm{RS}$ and 77-MIP; male receptacles are listed below.

With Rubber Grommers
With Rubber Grommet Type Plug Cap 3-13.

| Female | List | Contacts | Male | List |
| :---: | :---: | :---: | :---: | :---: |
| 78-PF4 | \$ . 31 | 4 Contact | 86-PM4 | \$.31 |
| 78-PF5 | . 31 | 5 Contact | 86-PM5 | . 31 |
| 78-PF6 | . 31 | 6 Contact | 86-PM6 | . 31 |
| 78-PF7L | . 31 | 7 Large | 86-PM7L | . 31 |
| 78-PF7S | . 31 | 7 Small | 86-PM7S | . 31 |
| 78-PF8 | . 35 | 8 Octal | 86-PM8 | . 35 |
| 78-PF9 | . 39 | 9 Octal Style | 86-PM9 | . 39 |
| 78-PF11 | . 47 | 11 Octal Style | 86-PM11 | . 47 |

With Cable Clamps
With positive grip Cable Clamp Type Plug Cap 3-24. List

| 78-PF4-11 | $\mathbf{. 3 7}$ | 4 Contact | 86-PM4-11 | $\$ .37$ |
| :--- | :--- | :--- | :--- | :--- |
| 78-PF5-11 | .37 | 5 Contact | 86 -PM5-11 |  |


| 78-PF5-11 | .37 | 5 Contact | $86-$ PM5-11 | .37 |
| :--- | :--- | :--- | :--- | :--- |
| 78-PF6-11 | .37 | 6 Contact | $86-$ PM6-11 | 37 |

78-PF7L-11 37 7 Large 86-PM7L-11 37
78-PF7S-11 37 7 71 Small 86 -PM7S-11 37

| $\mathbf{7 8 - P F 8 - 1 1}$ | .41 | 8 Octal | 86 -PM8-11 | .41 |
| :--- | :--- | :--- | :--- | :--- |
| $78-$ PF9-11 | .45 | 9 Octal Style | 86 -PM9-11 | .45 |

78-PF11-11 . 53 11 Octal Style 86-PM11-11 . 53

## Male Receptacles

Extremely compact. Held firmly in place by Amphenol patented retainer ring. Can be rotated to line up contacts for shortest possible leads. Nickel-plated steel mounting plate has slotted screw holes centers from $1-1 / 2$ to $1-7 / 8^{\prime \prime}$.

|  | Number | Contacts | List |
| :---: | :---: | :---: | :---: |
|  | 86-RCP4 | 4 Contact.... | \$ . 14 |
|  | 86-RCP5 | 5 Contact | . 14 |
| (1) | 86-RCP6 | 6 Contact | . 14 |
| (1) ${ }^{\text {d }}$, 7 | 86-RCP-7L | 7 Large | . 14 |
| ) | 86-RCP-7S | 7 Small. | . 14 |
|  | 86-RCP8 | 8-Octal... | . 18 |
|  | $86-\mathrm{RCP} 9$ | 9 Octal Style | . 22 |
|  | 86-RCP11 | 11 Octal Style | . 30 |

Female plugs are shown above, other styles can be made by assembling 'S" type sockets with plug caps.

## Rubber Plug Handle



End cable outlet receptacles or plugs (PF and PM or 61-F4 ty pes) snap into this rubber handle and are held securely in place by a live rubber inner molded shoulder. Illustration is cut away to show how connector is gripped by plug handle.
:-KPH PL:g Handle Only

## 16" TV TUBE MOUNTING ACCESSORIES

For metal and glass tubes


Tube mounting bracket for tube protection in shipping and vibra-tion-free reception - live rubber cushions. Base is molded of polystyrene and holding straps are of fibre laminated phenolic. Easily attached to classis or cabinet.
155-360 16" Tube Mtg. Bracket

$$
\text { List } \$ 7.30 \text { ea. }
$$



Molded Polyethylene Rim provides a superior mounting using conventional methods. Better protection for tubes and adequate insulation especially where the rim is joined. The unique overlapping provides long creepage paths. Heavy, uniform wall thickness. Outer groove provides for safety or masking glass.
Number Description List 187-072 Rimfor $16^{\prime \prime}$ TV Tube $\$ 3.65$ 187-079 Same less safety glass groove.
3.35

Cross-section

## Receptacle Shells



ACS Shell extends "CP' or "S" type sockets or plugs $13 / 16^{\prime \prime}$ above or below surface. 4 knockouts in sides. Mounts in $1-3 / 4^{\prime \prime}$ hole; has 3 notched holes for No. 6 screws.
 centers.
No. 61-61 Shell only
List $\$ .18$
Tip Jacks
Molded of Bakelite in black or red. Mount in $3 / 8^{\prime \prime}$ hole with retainer ring included. Use standard phone tips for $78-1 \mathrm{P}$. and $78-1$ Contacts recessed $1 / 8^{\prime \prime}$. The body may be used as a feed-thru.


## Single Prong Plugs

Bakelite Plugs, black or red, for use with Tip Jacks above.
Number Description
71-1S For 3/32" Socket
List
1-1M For $1 / 8^{\prime \prime}$ Socket
71-1L For 5/32" Socket

## Inserts and Shells for Cable Plugs, Connectors and Receptacles. For Assembly into Type Required


$\begin{array}{lr}\text { Retainer Ring Type } \\ \text { Number } & \text { List } \\ 61-\mathrm{F} & .30 \\ 60-\mathrm{F} & .42\end{array}$

| Retainer Ring Type |  |
| :--- | ---: |
| Number | List |
| $\mathbf{6 1 - M}$ | $\mathbf{. 3 0}$ |
| $\mathbf{6 1 - M P}$ | . $\mathbf{3 0}$ |
| $\mathbf{6 0 - M}$ | .42 |



Compact in design, molded from high dielectric black Bakelite. Rated at 15 amp ., 110 v . or 10 amp., 250 v . Two-pole type accepts any standard electric plug. Retainer ring type mounts in 1-11/64" keyed hole as punched by Tools 25-1.D-1 Mounting plate type requires $1-9 / 32^{\prime \prime} \mathrm{D}$. chassis hole; has slotted screw holes on $1-1 / 2$ to $1-7 / 8^{\prime \prime}$ centers-Mounting plate type is similar to Type "RS" Replacement Sockets.

## Receptacles <br> Description

2 Pole, Universal
3 l’ole, Polarized
With Mounting Plat Number List 61-F1 \$.34 60-F1
Number 1,is

## - 1

List
2 Pole, Standard
Pole, Polarized
61-MP1
.34
.34
Pole, Polarized
t

46

## For Multi-Wire Plugs and Receptacles

For quick, easy assembly to chassis or panels from 19 to 16 gage ( .044 to $.062^{\prime \prime}$ ) using Amphenol retainer ring. Black Bakelite or steatite. Cadmium rlated socket contacts for easy soldering; plug prongs are nickel plated brass; rotation featture for lining up contacts. Complete with retainer ring.
Can be assembled in any of the plug caps or receptacle shells below. lior classis mounting in $1-11 / 64^{\prime \prime}$ keyed lole as punched by Tools 25-LD-1.

## "CP'' Plugs




Cable terminals can be assembled with these plug caps, using retainer ring type olugs, sockets and 60 and 61 series shown above. Plug caps are designed to fit all but the 7 -large and 7 -combination sizes. For 7-large and 7-conb. use Plug Cap 3-13L shown below.

| Number | Lengrth | End Hole | Side Hole | Grommet | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3-10 | $1^{\prime \prime}$ | None | None | None | \$. 18 |
| 3-12 | $1^{\prime \prime}$ | $5 / 16^{\prime \prime}$ | None | Metal | . 18 |
| 3-13 | $1^{\prime \prime}$ | 7/16" | None | Rubber | . 18 |
| 3-17 | $1^{\prime \prime}$ | None | \%/16" | Rubber | . 18 |
| 3-24 | Cap with Cable Clamp attached. Accommodates calles to 1/2" $2^{\prime \prime}$ |  |  |  |  |
| 79-CC4 | Cable Clamp ouly. Same as used on Cap 3-24 Cap-for large 7 Socket and Plugs, end rubber grommet $7 / 16^{\prime \prime}$ ID |  |  |  | . 12 |
| 3-13L |  |  |  |  | 24 |

## Crystal Holder Sockef

Modded of mica-filled Bakelite... Number Description List for crystal holders having 2 prongs
on $3 / 4^{\prime \prime}$ centers. Easily mounted. 33-2
2 For $1 / 8^{\prime \prime}$ Prongs... \$. 17 May be used as dual tip jacks 33-3T For 5/32" Prongs. . 17 on test panels.


Male unit las four heavy brass blades; female has heavy phosphor bronze contacts. For use with current loads up to 15 amperes at 125 volts or 10 amperes at 250 volts Molded black hakelite unit is enclosed in tight, heavy hrass shell... bright cadmium plated. Polarizel with shell keys and keyways. Strain is taken up by concealed cable clamp. Grounding screw in body for safe wiring. Threaded locking ring keeps shells tight. Chassis or wanel recentacle mounts in $1 \frac{1}{4}$ " hole in any material up to $1 / 2{ }^{\prime \prime}$ thick. Complete with lock washer, spacer washer and nut.


## Molded Speaker Plugs

Prongs are securely molded into onepiece black bakelite body. Each prong is deeply set into individually molded pocket, eliminating the possibility of shorts in case of pull-back of wire insulation.

| Winh |  |  | With |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Straig |  |  |
| Grip | Prongs | List | Sides | Prongs | List |
| 71-4 |  | \$ . 13 | 70-8 | 8 | \$ :17 |
| 71-5 | 5 | . 13 | 70-9 | 9 | . 21 |
| 71-6 | 6 | . 13 | 70-12 | 12 | . 30 |
| 71-7 | 7 | . 13 | 70-20 | 20 | . 61 |

## Miniature Plugs



Cable Type used extensively for speaker connections in compact midgets. Ideal for all plug-in connections where space is limited. Brass prongs are deeply recessed in molded pockets preventing shorts due to insulation pulling back. With molded finger grip. Use with miniature sockets.


Chassis Type mounts in plain round $5 / 8^{\prime \prime}$ hole. No screws or rivets required. Held firmly by retainer ring included Use with female miniature connectors (MPF type).

| Cable <br> Type | List <br> Price | Description | Chassis <br> Type | List |
| :--- | :---: | :---: | :---: | ---: |
| $71-3 S$ | $\$ .15$ | 3 Prong | $86-\mathrm{ClP}-3 S$ | $\$ .15$ |
| $71-4 S$ | .15 | 4 Prong | $86-\mathrm{CP}-4 \mathrm{~S}$ | .15 |
| $71-5 S$ | .21 | 5 Prong |  |  |
| $71-6 S$ | .21 | 6 Prong |  |  |

## Rectangular Plugs and Sockets

Style C
For compact apparatus. Plugs are often used as a supported type self-sustaining coil form.

| Plugs |  |  |  |
| :---: | :---: | :---: | :---: |
| $\mathrm{Num}_{\text {ber }}-$ | Style | Prongs or Contacts | Lis |
| 70-25 | B | 3 | . 15 |
| 70-26 | B | 4 | . 18 |
| Sockets |  |  |  |
| 77-26 | C | 4 |  |

## Tap Change Switch

An 8-position single pole continuous switch with white markings clearly visible in window cap. Side set screw locks switch arm in po sition preventing accidental tap changes.
Number Description List 36-1 With numerals 1 to $8 \ldots .$. ......... $\$ .90$ 36-2 With impedance markings 0-2

4-8-16-250-500
.90

## Universal Grid Cap



A grid cap of improved design for universal use with tube grid caps from $1 / 4$ to $3 / 8^{*}$ diameter including standard glass and metal tubes. Spring brass con-
tacts in phenolic body
63-1 Unwired Grid Cap...... List Price \$. 18

## AMERICAN PHENOLIC CORPORATION

## (GWHETD

## AMERICAN PHENOLIC CORPORATION <br> 1830 SOUTH 54TH AVENUE, CHICAGO 50, ILLINOIS

## Series 75 Microphone Connectors-Single Contact

Fit almost every microphone. Standard with leading manufacturers for many years. Compact, rugged, neat. Chassis receptacles are integral parts of microphones using single conductor cable. Widely used in amplifiers, transmitters, phonoelectric devices, home recorders and similar equipment. They are also suitable for connecting various units such as PM speakers, headphones, and for theft alarms or wall type coin operated devices, etc.

In the 75 Series, plugs mate with all cable jacks and receptacles. Circuit closing contacts are the same except that they close the circuit when plug is disengaged, eliminating open circuit grid howls.

Locknut Receptacles mount in $.385^{\prime \prime}$ holes when grounding to chassis and $1 / 2^{\prime \prime}$ holes for ungrounded 2 circuit applications.

## Cap and Chain



Seals open chassis units against dirt and dust. Also used with 80 Series Connectors. 75-CCC1 . List $\$ .55$ Cl. Cr. Closed Circuit.

## Phone Plug Adapter

Screws into coupling ring of $75-\mathrm{MC} 1 \mathrm{~F}$ and 75-MC1F-A plugs, permitting the cable to be plugged into any standard phone jack. No soldering or wiring.
75-MC1P


75-MC1F


$|$| Locknut Receptacies |  |  |
| :--- | :--- | :--- |
|  | Contact | List |
|  | 75-PC1M | Flush |
| $75-\mathrm{CL}-\mathrm{PC} 1 \mathrm{M}$ | Cl. Cr. | $\mathbf{8 3}$ |

## Microphone Switch

Threaded on one end, coupling ring on the other end. For 75 Series Connectors. May be connected directly to any mike equipped with 75 -PC 1 M or simliar receptacle. Pushtotalk or slide button for permanent connection. 75-MC1S.

List $\$ 1.10$


Series $\mathbf{8 0}$ Microphone Connectors - Single and Double Contacts


80-MC2M

| MC2MPlugs |  |  |  | 80-MC2F <br> Cable Jacks |  |  |  | 80-PC2F <br> Locknu! Recepfacles |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Contacts List |  |  |  | Contacts List |  |  |  | Contacts |  | List |
| SINGLE CONTACT |  |  |  |  |  |  |  |  |  |  |
| 80-M |  | M. | \$.71 | 80-F |  | F | \$.71 | 80-C | F | \$.44 |
| 80-F1 |  | F | . 71 | $80-\mathrm{Ml}$ |  | M | . 71 | $80-\mathrm{Cl}$ | M | . 44 |
| TWO CONTACTS |  |  |  |  |  |  |  |  |  |  |
| 80-M | 2M | M | . 88 | 80-MC |  | F | . 88 | 80-PC2F | F | . 49 |
| $80-\mathrm{M}$ |  | F | . 88 | 80-MC | M 1 | M | . 88 | 80-PC2M | M | .49 |

Series 80 Cable Connectors are designed for shielded cables; for single and two conductor coaxial cables, microphone cables; for twisted pairs, concentric lines, photo cell leads, patch cords and similar uses. Suitable for connecting model railroad equipment, pin ball games and other small electrical apparatus. Elements are high dielectric black Bakelite. Receptacles mount in $5 / 8^{\prime \prime}$ chassis holes. Maximum chassis thickness for locknut type receptacles is $11 / 32^{\prime \prime}$.

Mating families of connectors are listed in horizontal lines.

The most popular connectors are shown in bold face type.

Cap and Chain required is $75-\mathrm{CCC} 1$.
M Male. F Female.

## Series 91 Microphone Connectors- 3 and 4 Contacts

Extensively used on all types of portable apparatus, these connectors were designed primarily to use with microphones. Some of the advantages of Amphenol Microphone Connectors

- Accidental disconnections are eliminated by a positive screw-type connection.
- Incorrect insertions are impossible because connectors are polarized.
- Pulling and twisting strain on soldered contacts is eliminated because a squeeze-type clamp grips cable securely after assembly.
Chassis receptacles mount in $27 / 32^{\prime \prime}$ chassis holes. Maximum chassis thickness for chassis receptacle is $1 / 8^{\prime \prime}$.

Mating families of connectors are listed in horizontal lines.

91-MC3M

| 91-MC3M |  |  | 91-MC3F |  |  | 91-PC3F |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Plugs |  |  | Cable Jacks |  |  | Chassis Receptacles |  |  |  |
| Contacts |  | List | Con | acts | List |  | atacts |  | List |
| TIIREE CONTACTS |  |  |  |  |  |  |  |  |  |
| 91-MC3M | M | \$1.10 | 91-MC3F | F | \$1.10 | 91-PC3F | F |  | . 55 |
| 91-MC3F1 | F | 1.10 | 91-MC3M1 | M | 1.10 | 91-PC3M | M |  | . 55 |
| FOUR CONTACTS |  |  |  |  |  |  |  |  |  |
| 91-MC4M1 |  | 1.20 | 91-MC4F | F | 1.20 | 91-PC4F | F |  | . 60 |
| 91-MC4F1 | F | 1.20 | 91-MC4M1 | M | 1.20 | 91-PC4M | M |  | . 60 |

M Male. F Female. The most podular connectors are shown in bold face type.


## Side Cable Outlet

Provide an outlet for microphone cable where it is not practical to run the cable thru the stand. For use between microphones and stands having 5/827 threads.
$91-\mathrm{SCO} 3$.
List \$. 82

## Cap and Chain

For 91 Series Connectors. Same construction and material as No. $75-\mathrm{CCC} 1$.
No. 91-CCC3.
List \$ . 55

COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS. FITTINGS AND CONDUTT ANTENNAS RADIO COMPONENTS PLASTICS FOR ELECTRONICS

## Television Antennas

Engineered and perfected in the Amphenol Antenna Development laboratories, the antennas illustrated and described on this page will provide unsurpassed reception of FM and TV signals. Top-quality
materials, rugged construction and the latest in design are incorporated into each Amphenol antenna to provide perfect performance. Each antenna packaged complete with instructions for easy installation.


114-005 TELEVISION ANTENNA ARRAY, complete with mast, swivel mounting plate, guy clamp, necessary liardware, stand-off insulators and 75 ft . Amphenol $\mathbf{3 0 0}$ ohm TwinLead.

List ea. $\$ 19.50$
114-009 Same less transmission line
List ea. 17.00
114-301 SINGLE BAY for building 114-005 into a Stacked Array includes connecting rods for symmetrical feed, two box brackets, two 5 -foot lengths of $1-1 / 4^{\prime \prime}$ Mast, guy ring and stand-off insulators . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . List ea. $\$ \mathbf{2 0 . 5 0}$

114-302 TWO BAY TV STACKED ARRAY consists of a top and bottom bay, connecting rods, two box brackets, two 5-foot lengths of 1-1/4" mast, guy ring and stand-off insulators. Twin-Lead transmission lifie is not included.

List ea. $\$ 35.00$
114-026 PIGGY-BACK TV ANTENNA consists of one folded dipole and reflector for each band which may be oriented individually, phasing leads, guy clamp, stand-off insulators and 75 ft. Amphenol Twin-Lead. . . . . . . . . . . . . . . . . . . . . . . . . . . . List ea. $\$ 19.50$ 114-029 Same less transmission line.

| List ea. |
| :--- |
| List eat |
| 17.00 |

114-024 INDOOR TV ANTENNA "TELESTAR" has low-loss polystyrene base with rubber feet to protect furniturc. Light weight aluminum rods are pre-tuned for receiving all channels. Five-foot natural color $1 \neq 1$ yethylene 300 ohm Twin-Lead is included.

List ea. $\$ 4.95$


## FM Antennas

114-008 DELUXE FM FOLDED DIPOLE WITH REFLECTOR, complete with mast, mounting plate, insulators, guy clamp, hardware and 75 ft . Amphenol 300 ohm Twin-Lead. List ea. $\$ 16.25$
114-023 Same less transmission line.
List ea. 12.65
114-010 DELUXE FM ALL-DIRECTION DOUBLE FOLDED DIPOLE ANTENNA, complete with quarter-wave phasing stub, mast, mounting plate, guy clamp, hardware, insulators, and 75 ft . Amphenol 300 ohm Twin-Lead... . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . List ea. \$16. 25
114-015 Same less transmission line. List ea. 12.65

114-001 FM FOLDED DIPOLE ANTENNA, complete with mast Swivel mounting plate, insulators, guy clamp, necessary hardware and

Twin Lead Folded Dipole Amateur Antennas

The finest ready-made amateur transmitting antenna ever developed. Ready-cut to the four most popular bands. liroadband characteristics. Excellent for your regular transmitting antenna, as an auxiliary antenna or for portable or field day use. Flat top portion is Amphenol 14-022 with copper clad steel conductors, 75 foot lead-in is Amphenol 14-056 joined to top with molded "T" junction. Packaged complete with easy installation instructions.

A real DX antenna, cut-loband, in use by thousands
of amaleurs.

| Amphenol |  |
| :--- | :---: |
| Number | Frequency |
| $\mathbf{1 3 9 - 8 1 3}$ | 28 mc |
| $139-815$ | 14 mc |
| $139-816$ | 7 mc |
| $139-817$ | 3.5 mc |


| Band | Antenna <br> Length | Price |
| :---: | ---: | ---: |
| 10 Meters | 18 feet | $\$ \mathbf{7 . 7 0}$ |
| 20 Meters | 35 feet | $\mathbf{9 . 6 0}$ |
| 40 Meters | 70 feet | $\mathbf{1 3 . 5 0}$ |
| $\mathbf{8 0}$ Meters | $\mathbf{1 3 5}$ feet | $\mathbf{2 0 . 7 5}$ |

## AMERICAN PHENOLIC CORPORATION

## AMERICAN PHENOLIC CORPORATION



Coill of $\mathbf{3 0 0}$ ohm TwinLead 14-056 packaged in handy carton.
Number List
184-801 75 ft . $\$ 2.55$ 184-802 100 ft . 3.40

Convenient, efficient A mphenol Twin-Lead is the first choice of amateurs for construction of antemas and transmission lines. It transnits signals with minimum losses . . it's durable . . . inexpensive . . . simple to install . . repels water . . . is unaffected by acids. alkalies and oils because the dielectric is Amphenol Polyethylene. Remains flexible at $-70^{\circ} \mathrm{C}$. and after continuous aging in sunlight.

## Receiving Twin-Lead*

300 ohm Twin-Lead for FM and TV Antennas
List Per 1000 ft . 14-056 (500) \& (1000) Standard, brown polyethylene insulation
14-318 (500) \& (1000) White semi-clear polyethylene for indoor TV 14-271 (500) \& (1000) Tubular for deluxe FM and TV. 150 ohm Twin-Lead for experimental work $14-079(500) \&(1000)$ Reels of 500 and 1000 feet 75 ohm 'Twin-Lead for lower impedance applications 14-080 (500) \& (1000) Reels of 500 and 1000 feet

Amateur Transmitting and Copper Clad Types of Twin-Lead* List per
75 ohm Twin-Lead for transmitting, rated 1 KW RF power Foot $14-023$ (500) \& (1000) Reels of 500 and 1000 feet........ $\$ 12$ 300 ohm 'Tubular Twin-Lead rated 1 KW RF power $14-076$ (500) \& (1000) Reels of 500 and 1000 feet.
300 ohm Extra-Strength Twin-Lead with copper clad conductors 14-022 (50) \& (1000) Reels of 500 and 1000 feet

* Twin-Learl is supplied in reels of 500 and 1000 feet as indicated by (500) and 1000) in the part number.


## 

Antenna Accessories

## Stand-Off Insulators



66-201


66-202


66-909

Screw eye insulators have low-loss polyethylene inserts. Twin-Lead types accommodate $14056,14-079$ and 14-080. Coax types accommodate coax and other cable not exceerling $1 / 2^{\prime \prime}$ diameter. Wood screws are No. 14 and machine screws have $10-32$ thread.

Twin-Lead Type Coax or Tubular Type

## List

 Wood Screws 66-202 $3^{\prime \prime}$ length.ea. $\$ .06$ 60-201 $3^{\prime \prime}$ length.ea. $\$ .07$ 66-209 $71 / /^{\prime \prime}$ Igth .ea. . 09 66-208 $71 / 2^{\prime \prime \prime} \operatorname{lgth}$ ea. . 10 Mach. Screws 66-204 $3^{\prime \prime \prime}$ length ea. .08 66-203 $3^{\prime \prime}$ length ea. . 09 66-210 $71 / /^{\prime \prime}$ lgth.ea. . 12Polystyrene stand-off insulators space Twin-Lead 1-5/16 ${ }^{\prime \prime}$ from mounting surface. Perfect insulation.
66-909 for 14-056 300 ohn Twin-Lead.
List ea. \$.0835


## Antenna Mast Extensions

Television Mast Extension for 114-302 two bay television antenna and other $1-1 / 4^{\prime \prime}$ diameter antenna masts. Consists of 5 foot length of $1-1 / 4^{\prime \prime}$ diameter alloy steel tubing. guy ring and two clamp type stand-off insulators.
114-291 . . . . . . . . . . . . . . . . List ea. $\$ 6.00$
FM and Television Mast Extension for all Amphenol FM and Television antennas except the two lay antenna which requires the mast extpusi i listed above. Consists of 5 foot lengh . " steel conduit and guy wire clamp.
114-300. $\qquad$ .List ea. $\$ 3.00$

## Remote Control Wire

For wiring antenna rotators and other low voltage remote controls such as miniature electric trains. Recommended for circuits up to 28 volts. For easy wiring, each conductor with its insulation may be ripped apart without exposing the conductor. Conductors are $7 / 28$ copper wire with one conductor tinned to facilitate tracing. High dielectric polyethylene insulation is weatherproof.

14-316 (500) \& (1000)
3 conductor Reels of 500 and $1000 \mathrm{ft} . .$. . $\$ 45.00$ 4-298 (500) \& ( 1000 )

4 conductor Reels of 500 and 1000 ft ..... . 50.00
14-317 (500) \& ( 1000 )
5 conductor Reels of 500 and 1000 ft ...... 57.70

> List per 1000 ft.

## Polystyrene Line Spreaders


$2^{\prime \prime}$ spacing
66-205. List ea. $\$ .15$

## Lightning Arrestor For Antennas

Attaches to 14-056 300 ohm Twin-Lead without cutting the conductors. Designed to meet the requirements of the Underwriters' Laboratories. Mokled oi high grade electrical phenolic with conducting plate and gap mokled in. Precise gap spacing is maintamed. Self contained also is a high resistance shunt permanently sealed aginst moisture. Overall dimension $1-7 / 8^{\prime \prime} \times 2^{\prime \prime} \times 3 / 4^{\prime \prime}$.


## RG-5/U

21-001
50 ohnı Coax Cable with medium size, solid copper conductor, double copper shield and black vinyl jacket.


50 ohm Coax Cable with medium size, stranded copper conductor, single copper shield and black vinyl jacket.
 dium size, stranded tinned-copper conductor, single copper shield and black vinyl jacket.


95 ohm Twinax Cable with two medium size stranded copper conductors, single tinnedcopper shield and black vinyl jacket.

## Amphenol Coax and Twinax RG Cables

Fully approved and produced in accordance with Army-Navy specifications (JAN-C-17A). These specifications utilize the very fine dielectric properties of polyethylene, proven most efficient as a low-loss, flexible, mechanically stable dielectric. The outer jacket in most of Amphenol's approved types is tough, resistant vinyl ... protective, nonhygroscopic, and impervious to exposure to acids, alkalis, oils and gasoline. Polyethylene is also used as outer jacket for some of the types listed.
Polyethylene is processed in strict accordance with Bureau of Ships Specification RE-9172. It should be emphasized that unusally strict standards are applied to every operation in the processing of Amphenol's RG cables. Rigid laboratory tests and process checks, plus Amphenol's "OK" certification and notarized affidavit on every unit shipment is final assurance of extra quality and dependability.

| Polyethylene Characteristics |  |
| :---: | :---: |
| Specific Gravity | 92 |
| Water Absorption | . $005 \%$ |
| Cold-Brittleness. | $-70^{\circ} \mathrm{C}$. |
| Dielectric Constant, 60 cycles to 100 mc | 2.29 |
| Power Factor, 60 cycles to 100 mc | . 0004 |
| Volume Resistivity, ohm-cm | $10^{13}$ |
| Softening Temperature, transparency point | $103-105^{\circ} \mathrm{C}$. |

## RG Cables

Chart shows characteristics and dimensions of RG Cables manufactured by Amphenol. Further specifications and prices on request. Impedance subheads below are approximate...for the purpose of grouping. Nominal impedance is shown in the third column.

> Abbreviations used in chart: $\underset{\mathbf{C}}{\mathbf{C}-\text { Copper }} \quad \underset{\text { Copperweld }}{\text { Poly.-Polyethylene }}$
> $\underset{\mathrm{N}}{\mathrm{C}}$-Nichrome
> S-Silvered Copper

| Amphenol No. | $\begin{aligned} & \text { Army- } \\ & \text { Navy } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Nom- } \\ & \text { inal } \\ & \text { Imped- } \\ & \text { ance } \end{aligned}$ | Nominal mmf ft. | Conductor Wire Size | $\begin{aligned} & \text { Di- } \\ & \text { elec- } \\ & \text { tric } \\ & \text { O.D. } \end{aligned}$ | Inner Shicld | Outer Shield | Vinyl <br> Jack et | Jacket O.D. | List per Foot |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

. A


$$
\begin{aligned}
& 2 \\
& 2
\end{aligned}
$$

2
2
2
2

## AMERICAN PHENOLIG CORPORATION

## Polystyrene, Polyweld and Coil Forms



BECAUSE of its low-loss factor, Amphenol POLYSTYRENE is used extensively for sockets, insulators and dielectrics in the very-high, ultra high and super high frequency
fields. Further, it is colorless and transparent and does not deteriorate with age. Continuous exposure to sunlight affects its clarity only slightly.
"912-A" Polystyrene Rods
Supplied in $12^{\prime \prime}$ and $48^{\prime \prime}$ lengths as shown below. Also atvailable in diameters from $11 / 8^{\prime \prime}$ to $41 / 2^{\prime \prime}$ in $12^{\prime \prime}$ lengths or in lengths up to $48^{\prime \prime}$.

|  | List $12^{\prime \prime}$ | Diam- | List $48^{\prime \prime}$ |  |
| :---: | :---: | :---: | :---: | :---: |
| Number | Lgth. | eter | Number | Lgih. |
| 19R125 | \$ . 04 | $1 / 8^{\prime \prime}$ | 19R125-48 | \$.15 |
| 19R187 | . 08 | 3/16 ${ }^{\prime \prime}$ | 19R187-48 | . 31 |
| 19R250 | . 13 | $1 / 4^{\prime \prime}$ | 19R250-48 | . 51 |
| 19R312 | . 20 | $5 / 16^{\prime \prime}$ | 19R312-48 | . 77 |
| 19R375 | . 29 | $3 / 8^{\prime \prime}$ | 19R375-48 | 1.11 |
| 19R500 | . 52 | $1 / 2^{\prime \prime}$ | 19R500-48 | 2.00 |
| 19R625 | . 81 | 5/8' | 19R625-48 | 3.12 |
| 19R750 | 1.15 | $3 / 4^{\prime \prime}$ | 19R750-48 | 4.49 |
| 19R875 | 1.59 | $7 / 8^{\prime \prime}$ | 19R875-48 | 6.16 |
| 19R1000 | 2.15 | $1^{\prime \prime}$ | 19R1000-48 | 8.29 |

"912-A" Polyslyrene Tubes
Tolerances maintained suitable for radio coil form and elect:onic applications . . . supplied in $12^{\prime \prime}$ and $48^{\prime \prime}$ lengths in various diameters as shown. Wall thickness is $1 / 16^{\prime \prime}$.

List $12^{\prime \prime}$ Overall List 48 ${ }^{\prime \prime}$ Number Lgth. Diameter Number Lgth. $19 \mathrm{~T} 1-062$ \$ . 10 3/16' $19 \mathrm{~T} 1-062-48$ \$.40 $19 \mathrm{~T} 2-062$. 15 1/4" $19 \mathrm{~T} 2-062-48$. 55 $19 \mathrm{~T} 3-062$. 20 5/16 19 19T3-062-48 .75 19T4-062 . 25 3/8" $19 \mathrm{~T} 4-062-48$. 95 $19 \mathrm{~T} 5-062$. 35 1/2" $19 \mathrm{~T} 5-062-48 \quad 1.35$ 19T6-062 $\quad .45 \quad 5 / 8^{\prime \prime} \quad 19 \mathrm{~T} 6-062-48 \quad 1.75$ 19T7-062 .55 3/4' $19 \mathrm{~T} 7-062-48 \quad 2.15$ $19 \mathrm{~T} 8-062 \quad .75 \quad 1^{\prime \prime} \quad 19 \mathrm{~T} 8-062-48 \quad 2.95$
"912-A" Polystyrene Sheet Stock
Optical clarity suitable for dial window and gage glass applications.

| Number | Size | List per <br> Sheet |
| :--- | :---: | ---: |
| $19-0628$ | $4^{\prime \prime} \times 8^{\prime \prime} \times 1 / 16^{\prime \prime}$ | $\$ .28$ |
| $19-0938$ | $4^{\prime \prime} \times 8^{\prime \prime} \times 3 / 32^{\prime \prime}$ | .34 |
| $19-1258$ | $4^{\prime \prime} \times 8^{\prime \prime} \times 1 / 18^{\prime \prime}$ | .40 |
| $19-1878$ | $4^{\prime \prime} \times 8^{\prime \prime} \times 3 / 16^{\prime \prime}$ | .50 |
| $19-2508$ | $4^{\prime \prime} \times 8^{\prime \prime} \times 1 / 4^{\prime \prime}$ | .67 |

Amphenol POLYWELD"912"


Amphenol POLYWELD '912", colorless, transparent and ready-to-use, is pure polystyrene in solution. Matchless for "doping", coating, impregnating or sealing for radio frequency, ultrahigh frequency, very-high frequency or general electronics applications. Used as an adherent, POLYWELD joins two sections of polystyrene. It contains solvents which will actually "weld" the surfaces of polystyrene into a single unit of uniform tensile strength.

## Polyweld

Description
2 oz . Bottle 4 oz . Bottle Pint Container Quart Container 1 gallon Can

Description
2 oz . Bottle
4 oz . Bottle
Pint Container Quart Container
"912"
53-912-2
53-912-4
53-912-P
53-912-Q
53-912-G
Thinner
53-916-2T
53-916-4T
53-916-PT 53-916-OT 53-916-GT

List
\$. 50
.65
2.25

4,00
13.35

List
S. 25 .35
.80

1 gallon Can
$4^{\prime \prime} \times 8^{\prime \prime} \times 1 / 4^{\prime \prime}$

Amphenol 912-A Polystyrene Coil Forms


Plug-ln Coil Forms-A
Prong spacing fits standard tube sockets. Diameter of coil $11 / 4^{\prime \prime}$; length of body $21 / 4^{\prime \prime}$; Impregnate wound coils with Amphenol ' 912 ' 1 'olyweld.

| Number | Description | List |
| :---: | :---: | :---: |
| 24-4P | 4 Prong | \$. 61 |
| 24-5P | 5 Prong | . 66 |

24-5P 5 Prong

Miniafure Plug-In Coil Forms-R For transceivers, low power transmitt ars and UHI' receivers
No. $\mathbf{2 4 - 6 H} 6$ Prong
List \$. 48

## Miniature Coil Forms-C

Raised hole in center of base for self-tapping No. 24 3/4" OD. 1-9/16' long. List $\$ .18$

# GANNON GONNEGTORS 

## TYPE DP FITIINGS



In design, this series of connectors differs from the majority of Cannon Connectors. Type DP Fittings are rectangular in shape, and polarization is affected by the arrangement of the contacts within the connectors. A wide variety of contact arrangements is available with contacts ranging from $10-\mathrm{amp}$. to $40-\mathrm{amp}$. capacity and with low impedence Coaxial contacts of $10-\mathrm{amp}$. capacity providing for continuous shielding available in some types. Standard shells are aluminum finished in sand blast and clear lac-

TYPE "DPD" RECEPTACLES
(With Socket Insert)


Mounting flange is $338^{\prime \prime} \times$ $\mathbf{1}^{\frac{1}{2} 6^{\prime \prime}}{ }^{\prime \prime}$ and shell
 from the mounting surface forward Coaxial contacts extend敌" to the rear from the mounting surface. Shells provide for mounting with four No. 6 oval head machine screws. Material is aluminum.

## TYPE "DPD" PLUGS (With Pin Insert)

 rear. The coaxial
"7" from the rear of the shell. Shells $8^{7 \prime \prime}$ from the rear of the shell. Nhels 6 provide for mounting machine screws. Material is aluminum.
contact retainer clips
quer; some types are available in xinc, sand blast and clear lacquer finished. Contacts are brass, silver-plated. Insulation is phenolic, with specially treated low moisture absorbtion ceramic insulation used in coaxal contacts. Leading uses of the Type DP connectors are in rack and panel instrument and radio equipment where weight and space saving are important factors. A BULLETIN ON DP CONNECTORS IS AVAILABLE ON REQUEST.

## TYPE "DPB" RECEPTACLES

(With Socket Insert)
The DPB Recep-
 tacles are similar t.0 the Type DP D differing only in the mounting flange which is reduced to $21 t^{\prime \prime}$ reduced to 2 material, zincor aluminum. Standard coaxials with ceramic insulation. Six insert arrangements available, one having twinax contacts and two having coaxial contacts.


The DPB Plugs are similar to the Type DPD, differing in the same respect as
the DPB Recepthe DPB Receptacle differs from the DPD. They are mounted
with four No. 6 with four No. 6
Oval Head Machine Screws.
Standard finish on all DPB shells is tinplate and clear lacquer. Other finishes by special order.
"DPR" Rack Type-Complete Unit


Four Insert Arrangements
Rack type flttings are used where large numbers of contacts must be repeatedly coupled and uncoupled, the coupling and uncoupling being performed by means of a geared novement operated by a bail type handle. The dimensions
 cluding swing of bail). Has four holes for No. 8 Mounting Screws.

## TYPE DPD-2

Special Instrument Panel Disconnect The DPD2 has a twogang shell holding 2 standard DPD inserts. Screw jack extraction means is avallable in off. The purpose of the
 fitting is the standardization of such equipment so that it may be interchangeable between assemblies of various aircraft.

## "DPB" and "DPD" JUNCTION SHELLS



Type DPB-34 Used with DPB34 P shells, having pin insert assemblies. Same material and finish as above.


Type DPD-34 Used with DPD34P shells, having pin insert assemblies. Same material and flnish as above.


# CANNON CONNECTORS 

CANNON ELECTRIC DEVELOPMENT COMPANY - 3209 HUMBOLDT STREET, LOS ANGELES 3I, CALIFORNIA

## type $X$ fitings

CANNON "TYPE X" PLUGS AND RECEPTACLES—The "Type X" Series of small connectors offers inexpensive fittings of reliable quality for sound service, radio, public address systems and geophysical research. In addition to compactness, many exclusive Cannon features are embodied in this series, such as full floating contacts in all socket inserts. Solder pot cable connections are easily occessible. Cable glands are removable. Contacts ore so positive that no latching device is needed for ordinory uses.

The arrow shows spring clip on fullfloating socket contact which gives a positive pressure fit connection.


TYPE "X-11" CORD PLUG (With Socket Insert)
Sturdily built for dependable service. Light in diecast zinc nickel inish. Will take $\frac{3}{16}$ " to ${ }^{9}{ }^{\prime \prime}$ cable. Used in conjunction with the following: X-14 Wall Receptacle, X-12 lowing: X-14 Wall Receptacle, MicroStraight Cord Plug, and X-42 Mi
phone Receptacle X -44 L Receptacle. Contacts Capacity Wt. Lbs. Cat. No. List Pr.


## TYPE "X-12" CORD PLUG

(With Pin Insert)
 Wall Receptacle (Socket Insert). Shell is die-cast zinc, nickel finish. Will take $3^{3}{ }^{\prime \prime}$ to ${ }^{3} \mathrm{~g}^{\prime \prime}$ cable.
 $\begin{array}{llll}15-\mathrm{amp} & 0.063 & X-3-12 & 1.25\end{array}$ $4\left\{\begin{array}{l}3-10 \text {-amp. } \\ 1-15 \text {-amp. }\end{array}\right\} \quad 0.065 \quad$ X-4-12 2.25

## TYPE "X-13" WALL RECEPTACLE (With Socket Insert) Body fits in $7 / 8^{\prime \prime}$, hole and extends $\frac{1}{1 n^{\prime \prime}}$ behind fiange. Flange is drilled for three \#440 oval-head screws on $\frac{175}{}{ }^{\circ}$ radius $120^{\circ}$ apart. Shell is die-cast zinc, Shell is die-cast zinc, nickel finish. To be used in conjunction with the following $\mathrm{X}-12$. <br> 

TYPE "X-14" WALL RECEPTACLE (With Pin Insert)
Body fits in $3 / 4 \prime$ hole and extends ${ }^{3 J^{\prime \prime}}$ behind the flange. Which is $13 /{ }^{\prime \prime}$ in diameter and drilied for three \# $4-40$ oval head screws on 37 radius, $120^{\circ}$ apart. Shel is zinc, nickel plated
finish. Used in conjunc
tion vith straight cord
plug (Socket Insert) X-11. Solder pots extend $1 / 4^{\prime \prime}$ beyond rear of body
Contacts Capacity Wt. Lbs. Cat. No. List Pr. 1 15-amp. $0.040 \quad \mathrm{X}-1-14 \quad \$ 1.25$ $3 \quad 15$-amp. $0.042 \quad \mathrm{X}-3-14 \quad 1.25$ $4\left\{\begin{array}{l}3-10 \text {-amp. } \\ 1-15 \text {-amp. }\end{array}\right\} \quad 0.044 \quad$ X-4-14 $\quad 2.25$

## TYPE "X-42"' MICROPHONE

RECEPTACLE (With Pin Insert)
Has all the features of Cord Plugs and Wall Cord Plugs and Wall Receptacles but it is mounted on a flat base. Shell is die-cast zinc, nickel finish. Use with X-11 straight Cord Plug
(Socket Insert) Mounting holes are .144" in diameter and $1^{\prime \prime}$ apart.
Contacts Capacity Wt. Lbs. Cot. No. List Pr.
$3 \quad 15$-amp. $0.063 \quad \mathbf{X - 3 - 4 2 ~} \$ 1.25$

(Type X-3-11 Plug and X-3-42 Receptacle

## TYPE XK FITIINGS

CANNON "TYPE XK" PLUGS AND RECEPTACLES - A quality line of Connectars, similar in design ond construction to the "Type $X$ " Series, but equipped with the fost-octing, sturdy Acme Threaded Coupling Ring and, therefore, ideol for use ori equipment which is subjected to considerable vibration and tension on cables, such os on sound trucks ond other portoble units.
TYPE "XK-11".STRAIGHT CORD PLUG (With Sacket Insert)

Shell is of die-cast zinc, cad. plated fin ish. Equipped with quick-acting coupling ring. Solder pot connections are easily accessible. Takes s." to ${ }^{n}$ " cable. Built for long, depend able service. Used with XK-12, XK-14. Contacts Capacity Wt. Lbs. Cat. No. List Pr 15 -amp. $0.081 \times K-1-11$ N $\$ 3.50$ $\begin{array}{rrrr}15 \text {-amp. } 0.083 \times K-3-11 & \$ .50\end{array}$ $\left\{\begin{array}{l}3-10 \text {-amp. } \\ 1-15 \text {-amp. }\end{array}\right\} 0.085$ XK-4-11 5.00

TYPE "XK-12" STRAIGHT CORD PLUG (With Pin Insert)

For use in conjunction with Straight Cord Plug (Socket Insert) or Wall Receptacle (Socket Inselt) with Coupling Reins Provided with Shell is made of die-cast zinc cad. plat ed finish. Takes ${ }^{3}$ "
Contacts Capacify Wt. Lbs. Caf. No. List Pr

| 1 | 15 -amp. | 0.081 | XK-1-12 | \$2.00 |
| :---: | :---: | :---: | :---: | :---: |
| 3 | $15-\mathrm{mmp}$. | 0.083 | XK-3-12 | 2.00 |
| 4 | -10-amp. | 0.085 | XK-4-12 | 3.00 |

TYPE "XK-13" WALL RECEPTACLE
(With Socket Insert)
(For replacement only)

TYPE "XK-14" WALL RECEPTACLE (With pin insert)
Body fits in a $3 /{ }^{\prime \prime}$ hole andl extends ${ }^{33^{\prime \prime}}$ behind, a ${ }^{\frac{1}{n} / \prime}$ 1lange. Flange is $11 / 2^{\prime \prime}$ in diameter, drilled for four \#440 oval-hearl, mounting screws on a $5 / 8^{\prime \prime}$ radius, $90^{\circ}$ apart. Shell is made of brass, nickel finish. Solder pots extend ${ }^{9}$ " beyond body. Has external acme thread on shell and is used in conjunction with straight cord plug XK-11.
Contacts Capacity Wt. Lbs. Cat. No. List Pr.


## TYPE 'XK-13L" WALL RECEPTACLE

 (With Socket Insert)Body fits in 1 fat $^{\prime \prime}$, hole and extends $1 \frac{1}{1 / \prime}$ behind flange. Flange is $11 / 2^{\prime \prime}$ In diameter and drilled for four \#440 oval-head mounting screws on a $5 / 8^{\prime \prime}$ radius, $90^{\circ}$ apart. Shell is made of brass, nickel finish. Solder pots on contacts extend $1 / s^{\prime \prime}$ beyond body. Use in conjunction with a straight cord plug (Pin Insert) XK-12.

Contacts Capacity Wt. Lbs. Cat. No. List Pr. | 1 | 15 -amp. | 0.144 | XK-1-13L | $\$ 3.75$ |
| :---: | :---: | :---: | :---: | :---: |
| 3 | $15-a \mathrm{mp}$ | 0.146 | XK-3-13L | 3.85 |
|  | $\left\{\begin{array}{llll}3-10-a m p . ~\end{array}\right.$ | 0.148 | XK-4-13L | 4.85 | $4\left\{\begin{array}{l}3-10 \text {-amp. } \\ 1-15 \text {-amp. }\end{array}\right\} 0.148 \quad$ XK-4-13L 4.85



Raytheon's 3-channel Remote Amplifier and power unit use two types of Cannon Plugs: " $X$ " and " $P$ ". Three receptacles on amplifier of right are Type P3-13.

## TYPE XL FITTINGS


＂XL－3－14N＂Receptocle and＂XL－3－11＂＇Plug in engoging position．Compore smoll size of plug with hand．
The Cannon Electric Type＂XL＂Con－ nector combines various features found in other Cannon types into a small fitting comparable only in sixe to the Type＂X＂for low level sound trans－ mission circuits．Among the leading features are the following：（I）conve－ nient latchlack device to hold connec－ tor tight．（2）lightweight．（3）polar－ ixing means（4）compression gland with relief spring or integral clamp，if desired．（5）streamlined design，（6） tapped metal for insert retaining screw．（7）provision for special grounding contact and grounding to shell．Contacts are 15 －amp．for No． 14 BGS stranded wire in 3 contact in－ sert； 10 －amp．in 4 contact insert．Shell is zinc or steel，with various finishes available，bright nickle being standard． Satin－chrome finish available on steel shells．Min．flashover valtage， 1500 （ 250 working valtage）


XL－3－11 with compression glond removed， showing rubber reducer bushing．

## ZINC SHELL TYPES

## TYPE＂XL－II＂STRAIGHT CORD PLUG（Sacket Insert）

Type XL－3－11 is equipped with latch lock device and has raised polarizing boss．No． 1 contact engages before Nos． 2 and 3，and may
be used for grounding purposes，if de－ sired．${ }^{9}$ cable accommodation．Overall dimensions：length， 2 ，${ }_{3}$ ，with relief spring， 2 is approx．
Contacts Capacity Wt．Lbs．Cat．No．List Pr． $\begin{array}{lllll}3 & 15 \text {－amp．} & .0992 & \text { XL－3－11 } & 1.25 \\ 4 & 10-\text { omp．} & .0992 & \text { XL－4－11 } & 1.75\end{array}$

TYPE＂＇XL－12＂STRAIGHT CORD PLUG（Pin Insert）


Type XL－12 plug has alignment rib in ad－ dition to polarizing groove．Cable accom－ modation is 9 ．Insert is removable for sold－ ering or inspection． ength 17 with dimensions $25 / 8$ ；max diameter cable relief spring， Contocts Copacity Wt．Lbs．Cot．No．List Pr．
 4 K0－amp．．0792 XL－4－12 1.60

## TYPE＂XL－13＂RECEPTACLE （Socket Insert）

A wall mounting recep tacle similar to XL－14 except that it has socket insert assembly and latch locking device． Overall Dimensions： flange diameter．1否； flange thickness rear of flange to solder pot extension 1 ig ；dia． ng holes drilled 136 Contacts Capocity Wt．Lbs．Cot．No，List Pr $\begin{array}{lllll}3 & 15 \text {－omp．} & .132 & \text { XL－3－13 } & 1.25 \\ 4 & 10 \text {－omp } & .132 & \text { XL－4－13 } & 1.75\end{array}$

## TYPE＂XL－14＂RECEPTACLE

 （Pin Insert）

This wall mounting re－ ceptacle has three mounting holes having mounting holes having .136 diameter Overall dimensions：flange di－ llange，$\frac{5}{32}$ ；length be－ hind flange to solder pot extension， 1 有；barrel diameter， $3 / 4$ ．Material zinc，bright nickel finish．
Contacts Copacity Wt．Lbs．Cot．No．List Pr， 3 15－omp．． 0592 XL－3－14 1.00 $\begin{array}{lllll}3 & 15-0 \mathrm{mp} . & .0592 & \text { XL－3－14 } & 1.00 \\ 4 & 10-\mathrm{mp} . & .0592 & \text { XL－4－14 } & 1.40\end{array}$

## TYPE＂XL－13－N＂RECEPTACLE （Socket Insert）

Similar to XL－14N ex－ cept has socket insert assembly，with latch－ lock device，and polar－ izing boss on insert barrel．No． 1 contact engages before Nos． 2 and 3 and may be used for grounding circuit，if desired．Overall dimen－
 sions：flange and bar－
rel and nut are identical to XL－14N length from face of flange including solder pot extension， 1 kz ．
Contocts Capacity Wt．Lbs．Cot．No．List Pr．

$$
\begin{array}{lllll}
3 & 15 \text {-omp. } & .2112 & \text { XL-3-13N } 1.25 \\
4 & 10 \text {-omp. } & .2112 & \text { XL-4-13N } & 1.75
\end{array}
$$



TYPE XL－3－12 PLUG
（engaged with Type XL－3－13N Receptocle）

## TYPE＂XL－14N＇＇RECEPTACLE

（Pin Insert）
 Designed to be mounted in a panel and has lock nut，accommodating up to ${ }^{\text {If }}$ inch panel．Two fittings may be mounted on a single gang plate． Overall Dimensions：
 barrel diameter，${ }^{\text {ITI }}$ ； width flange to barrel．
歌，with ${ }^{\frac{15}{6} \text { max，solder pot extension；}}$ fange thickness，揚．
Contacts Capacity Wt．Lbs．Caf．No．List Pr． 3 15－amp． 2048 XL－3－14N 1.15 $4 \quad 10$－amp． $2048 \quad \mathbf{X L - 4 - 1 4 N} 1.55$

## STEEL SHELL PLUGS INTEGRAL CLAMP TYPES

## TYPE XL－3－11SC PLUG

（Socket Insert）
The steel shell type is built for rugged service and has cable entry of $1 / 4^{\prime \prime}$ min．， $5 / 16^{\prime \prime}$ max． $6 / 32^{\prime \prime}$ min．，shorter overali shell than zinc type． Shell than zinc type． Otherwise same con－
struction，mating with regular XL receptacle．
Bright nickel finish standard．
Contacts Capacity Wt．Lbs．Cot．No．List Pr 3 15－amp．． 1333 XL－3－11SC 2.80

TYPE XL－3－12SC PLUG （Pin Insert）
Corresponds to XL－3－12 except that shell is steel with integral clamp．For with integral clamp．For $5 / 16^{\prime \prime}$ max．entry．Shell is ${ }^{7} / 32^{\prime \prime}$ shorter in over－ all length than corre－ sponding zinc shell．


Contocts Capacity Wt．Lbs．Cat．No．List Pr． $\begin{array}{llll}3 & 15 \text {－amp．} 1250 & \text { XL－3－12SC } 2.75\end{array}$

## TYPE＂XL＂ADAPTER

 RECEPTACLES

XL－3－50T


XL－3－50
st Pr．
XL－3－50N
1．05 List Pr．
.15 List

1．15 List Pr

$$
\begin{gathered}
1.30
\end{gathered}
$$

SINGLE GANG WALL RECEPTACLES


Type XL－3－35
（Socket Insert）
Face plate similar to type used in P－35．Takes an XL－3－13N Receptacle． Wh XL． 0.3479 ．

| Cot．No． | List Price |
| :--- | :---: |
| XL－3－35 | 3.60 |
| XL－4－35 | 4.00 |

TWO－GANG
ALSO AVAILABLE
Type XL－3－36
（Pin Insert）
Takes an XL－3－14N Re－ ceptacle．Bright nickel finish．
Cot．No．
XL－3－36
XL－4－36

List Price
3.65
4.05


## CANNOL CONNEGTORS

## TYPE P FITTINGS

## REVISED PRICES

CANNON "TYPE P" FITTINGS. Universally used in sound and allied applications. "Type $\mathrm{P}^{\prime \prime}$ Fittings include a size and type for every requirement, with a high standard af quality. All $90^{\circ}$ Plugs have split-shell canstruction far quick, easy access for wiring ar inspectian. Splash-proof but not weather-proof. Plug and receptacle dust caps are available. Laboratary tests show an average valtage-drop af not mare than 10 millivolts, with current flowing at the rated eapacity. Insulating material is black phenolic which has a $0.7 \%$ absorption in 24 hours of immersion in water and a dielectric strength of 550 valts per mil at 60 cycles. Two to 6 contact inserts accommodate No. 10 BES stranded wire; 8 contact insert No. 14 wire.

New shell designs of the P-CG-11S and P-CG-12S, cord plugs, replace both old type shells of zinc and steel, and such improvements as shorter length, new rubber bushing, improved latch and spríng، integral clamp. Shell material is steel, integral clamp zinc.


NEW TYPES WILL MATE WITH CORRESPONDING FITTINGS, SAME AS OLD DESIGN

TYPE P-CG-11S CORD PLUG COMBINATION STEEL E ZINC

(With
Socket Insert)
This new type plug with steel shell and integral zine clamp is $\begin{aligned} & \text { fa " } \\ & \text { " shorter than }\end{aligned}$ the old type and has an overall length of 2 枵腬" $^{\prime \prime}$. The new rubber bushing allows a ${ }^{5}$ " $D$. cable entry, and on P4, P5, I'6 and P8 $1 / 2^{\prime \prime} D$. max. cable entry. Satin chrome finish.
Pales Capacity Wt. Lbs. Cat. No. List Price

| 2 | 30 -amp. | 0.202 | P2-CG-11S | $\$ 4.60$ |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 30 -amp. | 0.202 | P3-CG-11S | 4.75 |
| 4 | $30-$ omp. | 0.202 | P4-CG-11S | 5.00 |
| 5 | $30-a \mathrm{mp}$. | 0.206 | P5-CG-115 | 5.25 |
| 6 | 30 -amp. | 0.208 | P6-CG-11S | 5.40 |
| 8 | 15 -amp. | 0.208 | P8-CG-11S | 5.75 |

TYPE P-CG-12S CORD PLUG combination steel \& zinc (With Pin Insert)
Similar construction and materials to the -11S. except for pin insert. New rubber bushing on P4 to P8 fittings is con-

tained within the shell and lines the solder pot cavity. Same cable entry sizes as -11S. Satin chrome finish.
Contacts Capacity Wt. Lbs. Cat. No. List Pr.

| 2 | $30-a \mathrm{amp}$ | 0.163 | P2-CG-12S | $\$ 3.75$ |
| :--- | :--- | :--- | :--- | :--- |
| 3 | $30-a \mathrm{mp}$. | 0.159 | P3-CG-12S | 3.85 |
| 4 | $30-a \mathrm{mp}$. | 0.159 | P4-CG-12S | 3.95 |
| 5 | $30-\mathrm{amp}$. | 0.163 | P5-CG-12S | 4.05 |
| 6 | $30-\mathrm{amp}$. | 0.167 | P6-CG-12S | 4.25 |
| 8 | $15-a \mathrm{mP}$ | 0.163 | P8-CG-12S | 4.50 |

TYPE "P-23" STRAIGHT CORD PLUG (With Socket Insert), HEAVY DUTY


Shell is die-cast zinc for severe service, but employ ing all features such as the latch type locking device which is standard on "Type P." It
has integral clamp for $3 / 4$ " cable. Also made for $A^{\prime \prime} \& 5 / 8^{\prime \prime}$ cable if specified. Satin chrome finish.
Contacts Capacity Wt. Lbs. Cat. No. List Pr
$2 \quad 30$-amp. $0.166 \quad$ P2-23 $\quad \$ 4.75$

| 2 | $30-a \mathrm{mp}$. | 0.166 | $\mathrm{P} 2-23$ | 4.90 |
| :--- | :--- | :--- | :--- | :--- |
| 3 | $30-\mathrm{mp}$. | 0.170 | $\mathrm{P} 3-23$ | 5.15 |
| 4 | $30-\mathrm{amp}$. | 0.174 | $\mathrm{P} 4-23$ | 5.40 |
| 5 | $30-\mathrm{mp}$. | 0.178 | $\mathrm{P} 5-23$ | 5.40 |
| 6 | $30-\mathrm{mp}$. | 0.182 | $\mathrm{P} 6-23$ | 5.55 |
| 8 | $15-\mathrm{mp}$. | 0.178 | $\mathrm{P} 8-23$ | 5.90 |

TYPE "'P-24" STRAIGHT CORD PLUG (With Pin Insert), HEAVY DUTY Corresponds with 'Type P-23' Plug (Socket insert) Built for hard service. The skirt is of steel, body diecast zinc. Has In tegral Clamp, for $34^{\prime \prime}, 5 / 3^{\prime \prime}$ or $\frac{9}{18 \prime \prime}$ cable if specified. Satin chrome finish.
Contacts Capacity Wt. Lbs. Cat. No. List Pr

| Contacts Capacity |  |  |  |
| :--- | :--- | :--- | :--- |
| 2 | $30-\mathrm{mp}$. | 0.170 | P2-24 |


| 2 | $30-\mathrm{mp}$. | 0.170 | P2-24 | 4.80 |
| :---: | :---: | :---: | :---: | :---: |
| 3 | $30-\mathrm{cmp}$. | 0.173 | P3-24 | 4.90 |
| 4 | $30-\mathrm{mp}$. | 0.176 | P4-24 | 5.00 |
| 5 | 30.0 mp . | 0.179 | P5-24 | 5.10 |
| 6 | $30-\mathrm{mp}$. | 0.182 | P6-24 | 5.30 |
| 8 | 15 -amp. | 0.179 | P8-24 | 5.55 |

TYPE "P-CG-15" $90^{\circ}$ CORD PLUG (With Socket Insert)


Has Split Shell and all other "Type $\mathrm{P}^{\prime}$ features found in "Type P-15. $90^{\circ}$ Plug'' except cable connection, which is an Integral Clamp for $1 / 2^{\prime \prime}$ or smaller cable. Made of cast aluminum alloy, finished in tin plate. New, heavier clamp.
Contacts Capacity Wt. Lbs. Cat. No. List Pr $\begin{array}{ll} \\ 30-a m p & 0.220 \\ \text { P2-CG-15 }\end{array} \$ 5.20$ $\begin{array}{lllll}2 & 30-a \mathrm{mp} & 0.220 & \text { P2-CG-15 } & \$ 5.20 \\ 3 & 30-\mathrm{mp} & 0.224 & \text { P3-CG-15 } & 5.35\end{array}$ $\begin{array}{llll}30-a \mathrm{mp} & 0.224 & \text { P3-CG-15 } & 5.35 \\ 30-\mathrm{mm} & 0.228 & \text { P4-CG-15 } & 5.60\end{array}$ $\begin{array}{llll}30 \text {-amp. } & 0.228 & \text { P4-CG-15 } & 5.60 \\ 30-a \mathrm{mp} . & 0.232 & \text { P5-CG-15 } & 5.85 \\ 30-a \mathrm{mp} . & 0.236 & \text { P6-CG-15 } & 6.00\end{array}$ $\begin{array}{llll}30-o m p . & 0.236 & \text { P6-CG-15 } & 6.00\end{array}$

TYPE "P-CG-16" $90^{\circ}$ CORD PLUG (With Pin Insert) Corresponds with Type P-CG-15 $90^{\circ}$ Plug. (Socket insert), having Integral Clamp for $1 / 2^{\prime \prime}$ or smaller cable. Barrel is of steel and shell of cast aluminum alloy tin plate fin-
 ish. Removable cap for easy access to contacts for wiring or inspection. New heavier clamp.
Contacts Capacity Wt. Lbs. Cat. No. List Pr.

| 2 | 30 -amp. | 0.195 | P2-CG-16 | $\$ 4.80$ |
| :--- | :--- | :--- | :--- | :--- |
| 3 | $30-a m p$. | 0.198 | P3-CG-16 | 4.90 |
| 4 | $30-a \mathrm{mp}$. | 0.201 | P4-CG-16 | 5.00 |
| 5 | $30-a \mathrm{mp}$ | 0.204 | P5-CG-16 | 5.10 |
| 6 | $30-a \mathrm{mp}$ | 0.207 | P6-CG-16 | 5.30 |
| 8 | $15-$ amp. | 0.204 | P8-CG-16 | 5.55 |

## TYPE "P-17" PANEL RECEPTACLE

(With Socket Insert), SURFACE MOUNTING

P-17 has Latch Locking Device and all other Type $P$ reatures. Made of die-cast zinc. Satin chrome finish Flange is $2^{\prime \prime}$ in diam fter drilled and coun eter, ersurk on 13 padius or apar 10 pal or four \#4-40 oval hea M.S. Body extends $1^{\prime \prime}$ in front of $1 / 8^{\prime \prime}$ mounting flange.
Contacts Capacity Wt. Lbs. Cat. No. List Pr.

| 2 | 30 -amp. | 0.125 | $\mathrm{P} 2-17$ | $\$ 4.10$ |
| ---: | :--- | :--- | :--- | ---: |
| 3 | 30 -amp. | 0.129 | $\mathrm{P} 3-17$ | 4.25 |
| 4 | 30 -amp. | 0.133 | $\mathrm{P} 4-17$ | 4.50 |
| 5 | 30 -omp. | 0.137 | $\mathrm{P} 5-17$ | 4.75 |
| 6 | 30 -amp. | 0.141 | $\mathrm{P} 6-17$ | 4.90 |
| 8 | 15 -amp. | 0.137 | $\mathrm{P} 8-17$ | 5.25 |

TYPE "P-18" PANEL RECEPTACLE (with Pin Insert) Surface Mounting

Corresponds to "Type P-17' ${ }^{\prime}$ Panel Receptacle. 'Shell is made of rass, satin chrome inish. Flange is $2^{\prime \prime}$ in diameter. drilled and countersunk at fou points on 48 radius for four \#4-40 oval head machine screws.
Contacts Capacity Wt. Lbs. Cat. No. List Pr.

| 2 | 30 -amp. | 0.156 | P2-18 | $\$ 2.20$ |
| :--- | :--- | :--- | :--- | ---: |
| 3 | 30 -amp. | 0.159 | P3-18 | 2.30 |
| 4 | 30 -amp. | 0.162 | P4-18 | 2.40 |
| 5 | 30 -amp. | 0.165 | P5-18 | 2.50 |
| 6 | 30 -amp. | 0.168 | P6-18 | 2.70 |
| 8 | 15 -amp. | 0.165 | P8-18 | 2.95 |

TYPE "P-13" PANEL RECEPTACLE
(with Socket Insert) Flush Mounting


Has Latch Locking Device which operates from front of panel. Mrom front of pane. satin chrome finish. Flange is $2^{\prime \prime}$ in diameter and drilled and countersunk at four points on 13 radius for four \#4-40 oval head machine serews
Contacts Capacity Wt. Lbs. Cat. No. List Pr.

| 2 | 30-amp. | 0.202 | P2-13 | \$3.85 |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 30-amp. | 0.206 | P3-13 | 4.00 |
| 4 | $30-\mathrm{amp}$. | 0.210 | P4-13 | 4.25 |
| 5 | $30-\mathrm{mp}$. | 0.214 | P5-13 | 4.50 |
| 6 | $30-\mathrm{mp}$. | 0.218 | P6-13 | 4.65 |
| 8 | 15 -amp. | 0.214 | P8-13 | 5.00 |

# CANNON CONNEGTORS 

## type P fititings

CONTINUED
TYPE "P-14" RECEPTACLE (Pin Insert), FLUSH MOUNTING Flange is $2^{\prime \prime}$ in diameter, drilled with four $120^{\prime \prime}$ diameter holes to take four \#4-40 ovalhear mounting screws, arranged $90^{\circ}$ apart on a radius of $+3^{\prime \prime}$. Shell is die-cast zlnc, satin chrome finish.
Contacts Capacity Wt. Lbs. Cot. No. List Pr.

| 2 | 30-amp. | 0.104 | P2-14 | \$2.00 |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 30 -amp. | 0.107 | P3-14 | 2.10 |
| 4 | 30 -amp. | 0.110 | P4-14 | 2.20 |
| 5 | 30 -amp. | 0.113 | P5-14 | 2.30 |
| 6 | 30-amp. | 0.116 | P6-14 | 2.50 |
| 8 | 15 -amp. | 0.113 | P8-14 | 2.75 |

TYPE "P-35" SINGLE GANG
WALL RECEPTACLE (With Socket Insert)
Furnished with brackets for standard switch zinc satin chrome finish. Plate is $41 / 2^{\prime \prime}$ htgh and $23 / 44^{\prime \prime}$ wide. Latch Locking Device operates from front of panel.



## MINIMUM FLASHOVER VOLTAGES ON P INSERTS

P-8 (socket, \#4 to shell) 1050V P-2 (socket, \#1 to shell) 1100 V P-3 (socket, \#1 and \#3 to shell) socket
1100 V
(All others more than 1100 volts.) For complete list, see Type "AP" Bulletin or Third Revised Edition "P \& O" Bulletin

TYPE "P-36" SINGLE GANG WALL RECEPTACLE
(With Pin Insert)
Plate is $41 / 2^{\prime \prime}$ high and 23/4" wide. Furnished with brackets for standard switch box. Made of die-cast zinc, satin chrome finish.

| Con | ac | Wt. | Cat. | r |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 30-amp. | 0.277 | P2-36 | \$5.20 |
| 3 | 30-amp. | 0.280 | P3-36 | 5.30 |
| 4 | $30-\mathrm{mmp}$. | 0.283 | P4-36 | 5.40 |
| 5 | $30 . \mathrm{amp}$. | 0.286 | P5-36 | 5.50 |
| 6 | $30 . \mathrm{mmp}$. | 0.289 | P6-36 | 5.70 |
| 8 | $15-\mathrm{mmp}$. | 0.286 | P8-36 | 5.95 |

TYPE "P-36-2G"' TWO-GANG WALL RECEPTACLE (With Pin Insert)


Plate is $41 / 2^{\prime \prime}$ high and $4{ }_{15}{ }^{\prime \prime}$ wide. Drilled to take four \#6-32 ovalhead mounting screws. Furnished with brackets for standardswitch box. Made of die-cast zinc, satin chrome finish.

Contacts Capacity Wt. Lbs, Cat. No. List Pr

| $\mathbf{2}$ | $30-\mathrm{amp}$. | 0.554 | P2-36-2G | $\$ 7.60$ |
| :--- | :--- | :--- | :--- | ---: |
| $\mathbf{3}$ | $30-\mathrm{mp}$. | 0.563 | P3-36-2G | 7.80 |
| 4 | $30-\mathrm{mp}$. | 0.572 | P4-36-2G | 8.00 |
| 5 | $30-\mathrm{amp}$ | 0.579 | P5-36-2G | 8.20 |
| 6 | $30-\mathrm{amp}$ | 0.588 | P6-36-2G | 8.60 |
| 8 | $15-\mathrm{mp}$. | 0.579 | P8-36-2G | 9.10 |

TYPE "P-41" $90^{\circ}$ MICROPHONE OR PANEL RECEPTACLE
(With Socker Insert) Can be mounted in equipment or instrument panel. Equipped with Latch Locking Device. Cap is removable for easy wiring. Shell is die-cast zinc, fintshed in black wrinkle enamel.
Contacts Copacity Wh Urinkie enamel.
Contacts Copacity
2 Wt. Lbs. Cat. No. List Pr. 30 -amp.
$30-\mathrm{mp}$.
30 -amp. $\begin{array}{llll}30 \text {-amp. } & 0.261 & P 5-41 & 6.55\end{array}$ $\begin{array}{llll}30 \text {-amp. } & 0.265 & \mathrm{P} 6.41 & 6.95\end{array}$ $\begin{array}{llll}15-\mathrm{amp} & 0.261 & \text { P8-41 } & 7.30\end{array}$

## TYPE "P-42" $90^{\circ}$ MICROPHONE OR PANEL RECEPTACLE

(With Pin Insert)
For mounting on equipment or instrument panel. Cap is removable for easy wiring. Shell is made of die-castzinc with black wrinkle
 enamel finish.


## ACCESSORY ITEMS

## DUST CAPS

Fits all "Type P" fit tings with pin Inserts Made of brass, cadmium plated, with nickel sil ver bead chain.

$\begin{array}{llll}\text { Lbs. } & \text { Cot. No } & \text { List } & \\ 0.081 & \text { PPC } & \$ 1.50 & \begin{array}{c}\text { ONE.THIRD } \\ \text { OCTUAL } \\ 0.082\end{array}\end{array}$
*Type PCI is insulated inside for application where contacts are "hot."

## TYPE PRC DUST CAP

Fits all "Type P" fit tings with socket in serts. Made of brass serts. Made of brass,
cadmium plated with cadmium plated with



## REPLACEMENT ITEMS

A number of Type $P$ and Type $O$ Connectors formerly catalogued have been omitted from the list. These include various Special Items. It is the policy of the company at the present time to list such items as obsolete or replacement fittings, which are available only upon special request. If, however, they ore required for replacement purposes, write for Type P \& $O$ Replacement Page for listing and cotalog number.

Quantity Discounts Apply

## TYPE '"PCG"

## CLAMP GLAND NUT

Made of die-cast zinc. cadmium plated. Complete with gasket.



## TYPE "P"' GLAND GASKET

As used in Straight Glands and Clamp Glands. Made of soft white rubber.
ONE.THIRO
ACTUAL

| Cot. No. | List Pric |
| :--- | :---: |
| P Gosket | $\$ .10$ |


photo southwestern industrial electronic co Geophysical Radio with X3-13 Receptacles and One AN3 102 (at extreme right)


# CANNON CONNEGTORS 

## TYPE © FITTINGS

CANNON "TYPE O" PLUGS AND RECEPTACLES. This series consists of a line of 3 -contact oval-shaped plugs and receptacles, equiped with Lotch Locking Device. Contacts are silverplated, full-floating, non-twisting, carry 30 -amp. capacity. Solder terminals ore tinned for ease of wiring. 30 -amp. contacts accommodate No. 10 BGS stranded wire.


TYPE "03-42"' MICROPHONE OR PANEL RECEPTACLE (With Pin Insert)
Has flat base, with two lugs for mounting with $\# 4-40$ oval-head screws. \#4-40 oval-head screws. Made of cadmium plated.


Contact Capacity Wt. Lbs. Cot. No. List Pr. $3 \begin{array}{llll} & 30 \text {-omp. } & 0.271 & 03-42\end{array} \$ 4.50$

TYPE '03-41" $90^{\circ}$ MICROPHONE OR PANEL RECEPTACLE (Socket Insert) Flat base is flanged and is attached to microphone or panel my means of two $\# 4-40$ oval-head mounting screws. Made of diescrews. Made of die-
cast zinc, cad. plated.


TYPE "03-11" STRAIGHT CORD PLUG (With Socket Insert)
 Has Integral Clamp for क" or smaller cable. Made of die-cast zinc, cadmium plated.

Contacts Capacity Wt. Lbs. Cat. No. List Pr $3 \quad 30$-amp. $0.113 \quad 03-11 \quad \$ 4.50$

## TYPE "03-12" STRAIGHT CORD

 PLUG (With Pin Insert)Corresponds with
No. 03-11 "Type $O^{\prime}$
Stralght Cord Plug
(Socket Insert). Has integral cable clamp, for ${ }^{\frac{2}{2} / 2}$ " or smaller cable. Made of die-cast zinc, cadmium plated.
Contacts Capacity Wt. Lbs. Cat. No. List Pr $3 \quad 30$-amp $0.104 \quad 03-12 \quad \$ 4.50$

TYPE "03-13" FLUSH WALL
RECEPTACLE (With Socket Insert)


Flange is $2^{\prime \prime}$ in diameter drilled with four holes to take \#4-40 oval-head mounting screws, $90^{\circ}$ apart on a radius of ${ }^{\prime \prime \prime}$ Made of die-cast zinc cadmium plated. Latch Locking Device is oper ated from panel front.
Contacts Capacity Wt. Lbs. Cat. No. List Pr $3 \begin{array}{lllll} & 30 \text {-amp. } & 0.148 & 03-13\end{array}$

## TYPE "O3-14" FLUSH WALL RECEPTACLE

(With Pin Insert)
The flange is $2^{\prime \prime}$ in diameter, drilled with four holes to take \#4-40 oval-head mounting screws, $90^{\circ}$ apart, on a radius of $13{ }^{\prime \prime}$ Made of die-cast zinc, cadmium plated.
Contacts Capacity Wt. Lbs. Cat. No. List Pr. $3 \quad 30$-amp. $0.107 \quad 03-14 \quad \$ 4.50$

TYPE "O"
REPLACEMENT FITTINGS
(Discounts on replacement fittings apply to these items.)


ONE.FOURTH
03-35


TYPE "O" CONNECTORS ARE USED ON STANDARD RADIO BROADCAST MICROPHONES


## type TQ fittings

CANNON TYPE "TQ'" COAXIAL FITTINGS. Type "TQ" Coaxial Fittings provide continuous shielding with constant impedence. Each fitting contains 1 standard Cannon style silverplated contact, roted at 10 -amp. and accommodating \# 16 stranded or \#14 solid, or smaller BGS stranded wire. Solder pots are tinned for ease in wiring. Insulation is ceramic.

CANNON TYPE "TQ" COAXIAL CORD PLUG (With Socket Insert) For Continuous Shielding

A tapered skirt is provided on this Plug, to which the shielding is easily sol dered. Accommodates $1 / /^{\prime \prime}$ cable ut can be supplied for $5 / 8^{\prime \prime}$ cable if specified with order. Body is brass, sil ver plated.
Contacts Capacity Wt, Lbs, Cot. No. List Pr 1 10-amp. 0.106 TQ-1-12 $\$ 2.00$

## TYPE "TQ13BC" FLUSH RECEPTACLE

 (With Pin Insert)For Mounting
Behind Panel
Same construction as No TQ-1-13C, except that the lange is mounted on back of panel. Body is brass, of panel.


zinc plated. | one.hall |
| :---: |
| actulal size |

Contact Capocity Wt. Lbs. Cat. No. List Pr 10 -amp. 0.039 TQ $1-13 \mathrm{BC} \quad \$ 2.00$

## TYPE "TQ-13B" RECEPTACLE

## For Continuous

## Shielding

Designed for mounting behind panel. Accommodates $1 / 2^{\prime \prime}$ cable. Body is brass, zine plated.
Contocts Capacity Wt. Lbs Cot actual size 10 -amp. 0.057 TQ-1-13B
102.00

## TYPE "TQ-13" RECEPTACLE

 (With Pin Insert)For Continuous Shielding Provided with a tapered skirt to which the shielding is easily soldered. Also has a removable solder pot shield, which snaps into place. Ceramic insulation is used in all Type TQ Con commodates $1 / 2^{\prime \prime}$ cable, but can be sup plied for $5 / 8^{\prime \prime}$ cable if specified with order Two holes-. 120 in diameter, tif apart. Contacts Capacity Wt. Lbs. Cat. No. List Pr 1 10-amp. 043 TQ-1-13 $\$ 2.00$

## TYPE "TQ-13C" RECEPTACLE

## (With Pin Insert)

Similar to TQ-1-13, except that it is not provided with solder pot shield and is not designed for continuous shielding Uses Ceramic insulation. For mounting on front of panel. Body
 ONE. HALF
ACTUAL SIzE is brass, silver plated. Two holes-. 120 in diameter, $\frac{18}{3}$ apart for mounting.


The Type ' K '" Series was designed especially for use in the aircraft field and is used almost universally for aircraft radio, instrument and electrical circuits. Although light in weight, units are rugged and durable. The "K'" Series is made in 3 basic types: (1) Stralght Type. (2) $90^{\circ}$ Type. (3) Wall Moanting Unit, for which either straight or right angle junction shells are provided. Inserts of laminated and molded phenolic are removable.

The cable entry is regularly threaded for various sizes of aircraft flexible conduit, but there are fittings also available with cable clamp for special applications. The " K " Series is comprised of 8 dlameters, with a great variety of contact arrangements covering a range of from 1 to 82 contacts, depending, of course, upon the diameter. 188 insert arrangements.

A key and groove arrangement makes it possible to connect fittings easily and quickly wilhout the necessity of fumbling to match pins and socket:s. This eliminates any
possibility of forcing together in improper alignment and thus bending or breaking pins. Large contacts may be removed for soldering, thereby ellminating the possibility of damaging the insert with excessive heat
Quick, easy access to solder pots at back of contact is made possible simply by removing either 3 or 4 Shakeproof Sems, depending upon the size of the fitting. Since proof sems, depending upon the size of the fitting. Since be rotated to accommodate 3 or 4 different positions. This is also true of the flanges on wall mounting units, making it assy to rotate these fittings to facilitate cable instanait easy to rotate these fittings to facilit
tion and avoid shard bends in conduit.
on and avoid shard bends in conduit. a quick-acting threaded nut which holds both members firmly together and prevents shaking or accidentally pulling them apart. 10 to $250-\mathrm{amp}$. contacts.
NOTE: Detailed Catalog Bulletin and Wall Chart for K
Connectors available on request.



MORE THAN 200 INSERT ARRANGEMENTS AVAILABLE

CANNON "Type AN" Series of plugs and receptacles was deslgned especially to meet ArmyNavy Specifications for aircraft electrical connectors. While the AN Series retains all the basic features of the Type K Series-features which have established conclusive proof of their effectiveness as applied to alrcraft--numerous changes in design and construction have been made to conform to latest Army-Navy Specifications.
Type AN Plugs are made in three basic shapes or styles. These are: 1. Straight cord connectors. 2. Right angle or $90^{\circ}$ cord connectors. 3. Flanged connectors for wall mounting. An almost unlimited combination of circuits and current capacitles can be handled with AN connectors and their interchangeable inserts
Removable and interRemovable and interit possible to change it possible from a pin any fitting from a pin versa, and also to change the number of circuits
CONTACT CAPACITIES
5 to 200 -amp.


AN3108 Plug
handled through any fitting provided the inserts are of the same diameter. The split shell, a feature pioneered by Cannon, makes it easy to install wiring or to solder contacts.

An important feature of the Type AN Sertes is the means provided for coupling the members together. This conslsts of a coupling nut which serves to draw the parts together and to release them while it also prevents plugs and receptactes from being jarred apart by excessive vibration. No spectal tools are required to lock or unlock plugs and receptacles, to separate split shells or to remove inserts. This feature is invaluable, since it eliminates delay in servicing in the field and also because there are so many combinations possible with Type AN Serles.

Write for
Complete
AN "

Also "AN" Wall Chorts.
Bulletin

PEAK VOLTAGES
70 to $14,000 \mathrm{~V}$.


## CINCH=JONES SALES

ELECTRICAL CONNECTING DEVICES

## " 300 " sprars puugs and socrris General Specifications

2 Contacts to 33 Contacts. All plugs and sockets are polarized. 2 Contact Plugs and Sockets are round, others rectanquiar.
Plugs of one size cannot fit into sockets a enother size. Phosphor bronze "knife-switch" type sockel contacts engage both sides of flat plug contacts-double contact area. Molded Bakelite insulation.
Formed metal caps. Formed fibre linings in caps.
Small size, with good separation between centacts
Plug of sceket for panel mounting.
Plug or socket with cap.
Simple, fool-proof assembly.
Finish on caps-Black Crystal.
Plug prongs- $\frac{3^{\prime \prime}}{12}$ wide by $\frac{3}{6}^{\prime \prime}$ thick.
We suggest using the 300 series in circuits not exceeding 45 Volts and 5 Amps., although circuit characteristics may permit higher ratings.

| Pluq | with Angle Brackets |  |  | Socket with Angle Brackets |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | ontacts | Ea. |  | No. Co | ontact | acts | Ėa. |
|  | ${ }_{\text {P. }}^{\text {P. } 302 . \mathrm{AB}}$ | (2) | . 23 |  | S. $302 . \mathrm{AB}$ | (2) | ). |  |
|  |  | (3) | . 28 | 3 | S. $303 . \mathrm{AB}$ | (4) |  | . 30 |
|  | ${ }_{\text {P. } 306-\mathrm{AB}}^{\text {P. }}$ | (6) | . 32 | Hie | S. 304 - AB | (4) |  | . 34 |
| ค304AB | P. $308 . \mathrm{AB}$ | (8) | . 45 | 5304AB | S-308.AB | (8) | , | . 52 |
|  | P-310-AB | (10) | . 52 |  | S.310.AB | (10). | ..... | . 62 |
|  | P-312-AB | (12) | . 58 |  | S-312-AB | (12). | ..........- | . 72 |








## CINCH-JONES SALES

## "400 <br> " SERIES PLUGS AND SOCKETS (Formerly "Heavy Duty") General Specifications

2, 4, 6, 8, 10 and 12 Contacts.
All plugs and sockets are polarized.
Phosphor bronze "knife switch" type socket contacts engage both sides of flat plug contacts-double contact area.
Molded Bakelite insulation.
Fibıa linings in caps.
Plug or socket for panel mounting.
Plug or sockel with caps.
Finish on eaps-Black Crystal.
Plug prong cross section $1 / 4^{\prime \prime} \times \frac{1}{18}$ ".
Locking fittings available for panel types or extension cables as shown.
We recommend using the 400 series in circuits not exceeding 110 Volis and 10 Amperes, although circuit characteristics may permit higher ratings.


P.404-FHT

## SOCKETS

SOCKET-Flared Hole in SOCKET-Flared Hole in Top
No.
Contacts
Eq. No. Contacts No. Contacts
S-42. FHT
S. 404. FHT S. 404 -FHT
S. 406 -FHT S.406-FHT ${ }_{\text {( }}$ (6)

408-FHT (10)
S.410.FHT (12)

$\qquad$


PLUGS
PLUG-Cable Clamp in PLUG-Cable Clamp in


SOCKETS
SOCRET-Cable Clamp in SOCRET-Cable Clamp in ${ }_{\text {No. }}^{\text {Top }}$ Contacts

| Ea. | No. Contacts |  |
| :---: | :---: | :---: |
| S. 96 | S.402.ccen ${ }_{\text {(2) }}^{\text {Nontac }}$ | ${ }^{\text {EO, }}$ |
| 1.21 | S-404-CCE (4) | 1.21 |
| 1.76 | S-406-CCE (6) | . 46 |
| 1.97 | S.410-CCE (10) |  |
| 2.22 | S-412.CCE (12) | 3.22 |

LOCKS FOR 400 SERIES PLUGS AND SOCKETS (Formerly Heavy Duty)


ILLUSTRATING No. 93 ISCK May be attached to any 400 Series plug for extansion cables. If plugs are ordered With this lock. specily "with
No. 93 Lock whan a
tached to plug. add to List per pair.......... $\$ .39$

ILLUSTRATING No. 63 LOCK. May be used on all panel mount 400 Series plugs and sockets when surface is flush with top o panel. Cannot be used on type cie plugs.

No. 63 Lockg ONLY, per pair. . 39 No. 83 Locks ONLY per


## CINGH:JONES SALES

# "500" <br> SERIES PLUGS AND SOCKETS <br> For Complete Listing of 500 SERIES, Write for No. 500 Catalog 

Designed for 5,000 volts and 25 amperes per contact. Circuit characteristics, however, may alter this rating one way or the other.
Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.
All sizes are polarized in a manner to prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation without danger of making wrong connections.
Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is insulated with canvas bakelite. Plug prong cross section $\frac{5}{16}{ }^{\prime \prime} \times \frac{3}{32}$
IMPORTANT: For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.

(Socket with Deep Bracket)

LOCKS FOR 500 SERIES PLUGS AND SOCKETS


Locks shown above are used in connection with any DEEP BRACKET and cap combination.
The locks securely hold the units together, but they can be released instantly.
The mounting plates are made to fit all DEEP BRACKETS, and are fastened by the same screws or rivets that hold the deep brackets to the panel. Can not be used on shallow brackets. Sold in pairs only.
No. 500-L Locks.
Per pair \$0.99


S-506-CE
Socket with Cap)


P-506-DB
(Plug with Deep Bracket)

Cable entrance: Because of the great variation in type and size of cables, we have considered it best not to supply cable clamps of any kind. The cap end is made to accommodate standard BX clamps which may be obtained at any electrical jobbing house. The cap end will be furnished with round hole from $1 / 2^{\prime \prime}$ diameter and $11 / 4^{\prime \prime}$ diameter in steps of $1 / 8^{\prime \prime}$, if the size required is given on order. If no size is given, plain cap end with center punch locating center will be shipped.


## PLUG

| With Cap |  |
| :---: | :---: |
| Code | Price Ea. |
| P-502-CE | \$2.75 |
| P-504-CE | 3.96 |
| P-506-CE | 5.17 |
| P-508-CE | . 38 |
| P-510-CE | 7.59 |
| P-512-CE |  |

## PLUG <br> With Deep Bracket

Code Price Ea
P-502-DB $\quad$ \$2.42
P-504-DB $\quad 3.47$
P-506-DB .-. $\quad 4.51$
P.508.DB $\quad . \quad 5.56$

P.512.DB .... 7.65

PLUG
With Shallow Bracket

| Code | Price Ea. |
| :---: | :---: |
| P-502-SB | \$2.42 |
| P.504-SB | 3.47 |
| P-506-SB | 4.5 |
| P-508-SB | 5.56 |
| P-510-SB | 6.60 |
| P.512-SB | 7.65 |

## SOCKET

With Cap

| Code | Price Ea |
| :---: | :---: |
| S-502.CE | \$2.75 |
| S.504.CE | 3.96 |
| S-506-CE | 5.17 |
| S.508-CE | . 38 |
| S.510-CE | 7.59 |
| S.512-CE |  |

## SOCKET

With Deep Bracket
Code Price Ea.
S-502-DB $\quad \cdots \quad$ - ${ }^{-1.42}$
S-504.DB $\quad 3.47$
S-506-DB … $\quad 4.51$
S-508.DB
S-510-DB ....... $\quad 6.60$
S-512-DB ................... 7.65

## SOCKET

With Shallow Bracket
Code Price Ea.
S.502-SB

S-504-SB … $\quad 3.47$
S.506-SB .-................ 4.51
S.508-SB .-................. 5.56

S10-SB .................. 6.60
S-512-SB ................. 7.65

## CINCH-JONES SALES

ELECTRICAL connecting devices

## SERIES 101 PLUGS

The entire No. 101 Series of Plugs are identical with the exception of the cable ferrule which is furnished in four sizes as listed below. All metal paris are of brass. These Plugs fit all of the No. 101 Series Sockets. 'Assembly meets Navy
 Specifications. A low loss Plug and Socket ideal for high frequency connections.


## SERIES 101 SOCKETS

The No. 1.01 Series Sockets are furnished in three types as shown below. Base is of Brass, Nickel Plated with Chrome Flash. Brass contact is Silver Plated. Insulation of low loss natural color XXX Bakelite. Meets Navy Specifications. The S-101-D is similar to the S-101 except that the Bakelite is recessed in the base. S-101-D Mod. is the same as S-101-D except that two sides of the base are milled as shown. Mounting Holes No. 101 -No. 41 drill on $\frac{111^{\prime \prime}}{}$ centers. Mounting holes No. 101-D and $101-\mathrm{D}$ Mod. No. 30 drill on $\frac{133^{\prime \prime}}{18}$ centers.



S-101-D


S-101-D Mod

Price Each-\$0.51
Price Each- $\$ 0.76$
Price Each-\$0.76

## SERIES 201

## PLUGS

The No. 201 Series Plugs are of the same design as the No. 101 but are of heavier stock and larger Made in one size only with $3 / 8^{\prime \prime}$ ferrule. All metal parts are of Brass, same finish as No. 101 Series and Wax Impregnated Ceramic insulation. Overall length $1 \frac{9}{16}{ }^{\prime \prime}$. Prong diameter $\frac{5}{32}^{\prime \prime}$. Fits only the 201 Socket.

## SOCKETS

The 201 Socket is similar to the S-101-D except larger. Brass base is nickel plated with Chrome Flash. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite. Both Plug and Socket meet Navy Specifications.
Mounting holes - No. 30 drill on 1" centers.


## SERIES 202

## PLUGS

## SOCKETS

The 202 Series Plugs and Sockets are made in two contacts only. Metal parts are of Brass with burnished Cadmium Plate. Insulation is of Molded Bakelite. Phosphor Branze "Knife Switch" type Socket Contacts engage both sides of flat Plug Contacts-double contact area. Formed Fibre linings in caps. Polarized. Knurled nut has $3 / 4$ " -27 thread.
Socket Mounting Holes No. 30 drill on l" centers.


P-202-CCT- $\$ 0.70$
(as shown above)
S-202-CCT-\$0.72

P-202-FHT-\$0.57
S-202-B-\$0.83 (witnout Cable Clamps)
S-202-FHT-\$0.58

## 1400 SERIES PLUGS AND SOCKETS

This series of "disconnect" plugs and sockets has the distinct advantage of low cost for a separate unit handling many circuits. Due to exposed metal parts, it is recommended for use when the complete unit is within a housing.
Reduces costs of servicing units. Advantageous in shipping when it is desirable to pack units separately. Polarized-assures
correct coupling. Spring temper brass sockets assure perfect contact. Standard units are listed below from 5 to 16 contacts. However we can supply units having as many as 30 or more contacts
On No. 1420 or larger we recommend the plug be divided into two or more units, as a single long plug is not mechanically strong. The socket will be made in one assembly.


| No. 1405 | $(5$ Contacts) |
| :--- | :--- |
| No. 1406 | $(6$ Contacts) |
| No. 1407 | $(7$ Contacts) |
| No. 1408 | $(8$ Contacts) |
| No. 1409 | $(9$ Contacts) |
| No. 1410 | ( 10 Contacts) |


| Ea. | $\mathbf{\$ 0 . 3 5}$ | No. 1411 |
| :--- | ---: | ---: |
| Ea. | .41 | No. 1412 |
| Ea. | .46 | No. 1413 |
| Ea. | .52 | No. 1414 |
| Ea. | .57 | No. 1415 |
| Ea. | .63 | No. 1416 |


| (11 Contacts) | Ea. | .68 |
| :--- | :--- | :--- |
| (12 Contacts) | Ea. | .74 |
| (13 Contacts) | Ea. | .79 |
| (14 Contacts) | Ea. | .85 |
| (15 Contacts) | Ea. | .90 |
| (16 Contacts) | Ea. | .96 |

For units with more than 16 contacts, add $6 c$ to the No. 1416 price for each additional contact.

## CINCH-JONES SALES

## BARRIER TYPE TERMINAL STRIPS

Increased insulation is provided by having Barriers placed between each Terminal. These Barriers follow around the edge of the Strips and terminate at the base. They not only make a long leakage path but prevent direct shorts from frayed wires at the terminals. Mounting holes are at the ends as illustrated. The base is molded Bakelite.

The Terminals and Binder Screws are of brass, nickel plated. Marker Strips may be ordered and imprinted to supply terminal designations. These Marker Strips mount beneath Terminal Sirips and also afford insulation from metal mounting surface.
$5-40 \times \frac{3}{\text { If }}$ Binder Head Screws


No. 2-140

No. 140

| Code | Ea. |
| :---: | :---: |
| 1.140 | S . 15 |
| 2.140 | . 24 |
| 3.140 | . 33 |
| 4.140 | . 42 |
| 5.140 | . 51 |
| 6.140 | . 59 |
| 7.140 | . 68 |
| 8.140 | . 77 |
| 9.140 | . 86 |
| 10.140 | . 95 |
| 11.140 | 1.03 |
| 12.140 | 1.12 |
| 13.140 | 1.21 |
| 14.140 | 1.31 |
| 15.140 | 1.40 |
| 16.140 | 1.49 |
| 17-140. | 1.57 |
| 18-140 | 1.66 |
| 19.140 | 1.75 |
| 20.140 | 1.84 |
| 21.140. | 1.93 |

No. 140 TERMINAL STRIPS
MARKER STRIPS
for $140,140-\mathrm{W}$ and
$140-3 / 4 \mathrm{~W}$

The standard Marker Strips are of gray fibre sy thick and character ed in white.
Bakelite Marker Strips can be supplied at an increase in price, and are designated by code MSX in. stead of MS. Prices on application.

| Code | Per 100 |
| :---: | :---: |
| MS-1-140 | \$ 2.48 |
| MS-2.140 | 3.30 |
| MS-3.140 | 4.13 |
| MS-4-140. | 4.95 |
| MS-5-140 | 5.78 |
| MS-6.140 | 6.60 |
| MS-7-140. | 7.43 |
| MS 8.140 | 8.25 |
| MS-9.140 | 9.08 |
| MS-10.140. | 9.90 |
| MS-11-140 | 10.73 |
| MS-12-140 | 11.55 |
| MS-13-140. | 12.38 |
| MS.14-140 | 13.20 |
| MS.15.140 | 14:03 |
| MS-16.140 | 14.85 |
| MS-17-140 | 15.68 |
| MS.18.140 | 16.50 |
| MS-19.140 | 17.33 |
| MS.20.140 | 18.15 |
| MS-21-140. | 18.98 |

No. 140-3/4 W

| ode | Ea |
| :---: | :---: |
| 1.140.1/4 | W......\$.19 |
| 2.140.3/4 | W..... . 32 |
| 3-140.1/4 | W ..... . 44 |
| 4-140.3/4 | W...... . 57 |
| 5.140.3/4 | W..... . 69 |
| 6-140-3/4 | W...... . 83 |
| 7-140. $\%$ | W..... . 95 |
| 8-140.3/4 | W..... 1.08 |
| 9-140-3/4 | W..... 1.21 |
| 10-140-3/4 | W..... 1.33 |
| 11-140.1/4 | W .... 1.45 |
| 12-140.3/4 | W..... 1.58 |
| 13-140.3/4 | W...... 1.71 |
| 14-140.3/4 | W..... 1.84 |
| 15-140.3/4 | W..... 1.96 |
| 16-140.3/4 | W..... 2.09 |
| 17.140.1/4 | W...... 2.21 |
| 18-140-3/4 | W..... 2.34 |
| $19.140 .3 / 4$ | W |
| 20.140.3/4 | W..... 2.60 |
| 21.140.\% | W...... 2.72 |



No. $2-140-3 / 4 \mathrm{~W}$

No. 140.W


Metal to Metal Spacing over Bakelite $1 / 4$ "


No. 2-140-Y

No. 140.Y

| Code | Ec. |
| :---: | :---: |
| $1.140 . Y$. | \$ . 19 |
| 2-140.Y | . 32 |
| $3.140 . Y$ | . 44 |
| 4-140-Y | . 57 |
| $5.140 . Y$ | . 69 |
| $6.140 . Y$ | . 83 |
| 7-140.Y | . 95 |
| $8.140 . Y$ | 1.08 |
| 9-140.Y | 1.21 |
| 10.140-Y | 1.33 |
| 11-140.Y | 1.45 |
| 12-140.Y | 1.58 |
| 13.140.Y | 1.71 |
| 14.140.Y. | 1.84 |
| 15.140.Y | 1.96 |
| $16.140 . Y$ | 2.09 |
| 17-140.Y | 2.21 |
| 18.140. $Y$. | 2.34 |
| 19-140-Y | 2.46 |
| 20.140.Y | 2.60 |
| 21-140.Y. | 2.72 |

MARKER STRIPS for $140 . Y$
The standard Marker Strips are of gray tibre designations are imprint. ed in white.
Bakelite Marker Strips can be supplied at an increase in price, and are desig nated by code MSX in stead of MS. Prices on application.

| Code | Per 100 |
| :---: | :---: |
| MS-1-140.Y | \$ 5.78 |
| MS.2-140-Y | 6.60 |
| MS-3-140.Y | 7.43 |
| MS.4-140-Y | 8.25 |
| MS.5.140.Y | 9.08 |
| MS.6-140-Y | 9.90 |
| MS.7-140.Y | 10.73 |
| MS-8-140-Y | 11.55 |
| MS.9-140-Y | 12.38 |
| MS.10-140.Y | 13.20 |
| MS.11-140.Y | 14.03 |
| MS-12-140.Y | 14.85 |
| MS.13-140.Y | 15.68 |
| MS-14-140.Y | 16.50 |
| MS.15-140-Y | 17.33 |
| MS.16.140.Y | 18.15 |
| MS.17-140.Y | 18.98 |
| MS.18-140.Y | 19.80 |
| MS-19-140.Y | 20.63 |
| MS-20-140.Y | 21.45 |
| MS-21-140-Y | 22.28 |

$8.32 \times 1 / 4$ Binder Head Screwn


No. 141

| No. 141 |  | No. 141-W |  |
| :---: | :---: | :---: | :---: |
| Code | Ec. | Code | Ea. |
| 1.141 | \$ . 20 | 1-141.W | \$ . 24 |
| 2.141 | . 31 | 2.141.W | . 41 |
| 3.141 | . 42 | 3-141.W | . 57 |
| 4.141 | . 54 | 4.141.W | . 74 |
| 5.141. | . 65 | 5.141.W | . 90 |
| 6.141 | . 75 | 6.141.W | 1.07 |
| 7.141 | . 88 | 7-141.W | 1.23 |
| 8.141 | . 99 | 8-141/W | 1.40 |
| 9.141 | 1.10 | 9-141.W | 1.56 |
| 10.141 | 1.22 | 10-141.W | 1.73 |
| 11.141. | 1.33 | 11.141-W | 1.89 |
| 12.141. | 1.44 | 12-141.W | 2.06 |
| 13-141. | 1.56 | 13-141.W | 2.22 |
| 14-141. | 1.67 | 14-141.W. | 2.39 |
| 15.141. | 1.78 | 15.141.W | 2.55 |
| 16-141 | 1.90 | 16.141.W | 2.72 |
| 17-141. | 2.01 | 17-141.W | 2.88 |
| 18-141. | 2.12 | 18.141-W | 3.05 |
| 19.141 | 2.24 | 19.141.W | 3.21 |
| 20.141.. | 2.35 | 20.141.W. | 3.38 |

No. 141 TERMINAL STRIPS
Melal to Motal Spacing over Bakelite \%"


No. $2.141-1 / 4-\mathrm{W}$
No. $141.3 / 4 \mathrm{~W}$


MARKER STRIPS
for $141,141 . W$ and $141.1 / 4 \mathrm{~W}$
Standard Marker Strips are of gray tibre h" thick. See column above fite Marker Strips

| Code | Per 100 |
| :---: | :---: |
| MS-1-141. | \$ 2.75 |
| MS.2-141 | 3.85 |
| MS.3-141. | 4.95 |
| MS.4-141. | 6.05 |
| MS-5-141. | 7.15 |
| MS.6-141 | 8.25 |
| MS.7-141 | 9.35 |
| MS.8-141 | 10.45 |
| MS-9-141. | 11.55 |
| MS.10-141 | 12.65 |
| MS.11-141 | 13.75 |
| MS.12-141 | 14.85 |
| MS-13-141 | 15.95 |
| MS.14-141 | 17.05 |
| MS-15-141 | 18.15 |
| MS-16-141 | 19.25 |
| MS-17-141 | 20.35 |
| MS-18-141 | 21.45 |
| MS-19-141 | 22.55 |
| MS-20-141 | 23.65 |



## No. 141.Y

| Codo | Ea. |
| :---: | :---: |
| 1.141.Y | S . 24 |
| 2.141.Y | . 41 |
| 3-141.Y | . 57 |
| 4.141.Y | . 74 |
| 5.141.Y | . 90 |
| 6.141.Y | 1.07 |
| 7-141.Y | 1.23 |
| 8.141.Y | 1.40 |
| 9.141-Y. | 1.56 |
| 10.141.Y | 1.73 |
| 11.141.Y | 1.89 |
| 12-141-Y | 2.06 |
| 13-141.Y. | 2.22 |
| 14-141-Y | 2.39 |
| 15.141-Y | 2.55 |
| $16.141 . Y$ | 2.72 |
| 7.141.Y | 2.88 |
| 18.141.Y | 3.05 |
| 19.141.Y | 3.21 |
| 20.141.Y | 3.38 |

E.
.24
.41
.57
.74
.90
1.07
1.23
.40
.56
.73
1.89
2.06
2.22
2.39
2.55
2.72
2.88
3.05
3.21
3.38

MARKER STRIPS for $141 . Y$
Standard Marker Strips are of gray fibre thick. See column above for designation for Bake lite Marker Strips.

| Code | Per 100 |
| :---: | :---: |
| MS.1-141.Y | \$ 6.05 |
| MS.2-141.Y | 7.15 |
| MS-3.141.Y | 8.25 |
| MS.4.141-Y | 9.35 |
| MS-5.141.Y | 10.45 |
| MS-6.141-Y | 11.55 |
| MS.7.141.Y | 12.65 |
| MS-8.141.Y | 13.75 |
| MS-9.141.Y | 14.85 |
| MS.10.141.Y | 15.95 |
| MS-11-141.Y | 17.05 |
| MS-12-141-Y | 18.15 |
| MS-13.141.Y | 19.25 |
| MS-14-141-Y | 20.35 |
| MS.15-141.Y | 21.45 |
| MS-16.141-Y | 22.55 |
| MS.17.141.Y | 23.85 |
| MS-18-141.Y | 24.75 |
| MS.19.141.Y | 25.85 |
| MS-20-141.Y. | 28. |

## BARRIER TYPE TERMINAL STRIPS



No. 151 TERMINAL STRIPS $2^{\prime \prime}$ wide by $\mathbf{H}^{\prime \prime}$ high. Ter minals are mounted on 7/8 centers. Screws: $12-32 \times$ $33^{\prime \prime}$ brass, bumished nickel plate. Fits standard 70 Amp. solder lug for 4 Ga . stranded wire. Metal to metal spacing over bakelite $3 / 4$ ".


| $\begin{aligned} & \text { No. } 151 \text { Ea. } \\ & \text { Code } \end{aligned}$ | $\begin{aligned} & \text { No. 151.W Ea. } \\ & \text { Code } \end{aligned}$ | No. 151 Code | $\underset{\text { Ea. }}{\text { W }}$ | MARKER STRIPS for 151 Serie: Code Per 100 |
| :---: | :---: | :---: | :---: | :---: |
| 1.151.......... \$ . 94 | 1-151.W ..... $\$ 1.10$ | 1.151.3/4 W | \$1.10 | MS-1-151 ...S 6.68 |
| 2-151.......... 1.71 | 2-151.W ..... 2.04 | 2.151.3/4 W | 2.04 | MS-2.151... 10.18 |
| 3-151........... 2.48 | 3-151-W ..... 2.97 | 3.151.3/4 W | 2.97 | MS-3.151... 13.48 |
| $4.151 \ldots . . .2 .25$ | 4.151.W ..... 3.91 | 4.151.3/4 W | 3.91 | MS-4-151... 16.78 |
| 5-151........... 4.02 | 5.151.W ..... 4.84 | 5.151.3/4 W | 4.84 | MS-5-151 ... 20.08 |
| 6.151 .......... 4.79 | 6.151.W .....'5.78 | 6.151.9/4 W | 5.78 | MS-6.151 ... 23.38 |
| $7.151 . . . . . . . . . .5 .56$ | 7-151-W ...... 6.71 | 7-151.3/4 W | 6.71 | MS-7-151... 26.68 |
| 8.151........... 6.33 | 8.151-W ..... 7.65 | 8.151.9/4 W | 7.65 | MS-8-151 ... 29.98 |



| "W" Solder Torminal for Berrior Strips | Code | For use with Barrier Strip | $\begin{aligned} & \mathrm{Per}_{\text {er }} \\ & 100 \end{aligned}$ | Code | For use with Barrier Strip | Por <br> 100 | $2$ | 'Y"s |  | Code | For use with Barrier Strip | $\begin{aligned} & \text { Per } \\ & 100 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. W-140 | No. 140. | \$3.80 | No. W-150 | No. 150.... | \$8.86 |  | Solder | No. | Y. 140 | No. 140... | \$3.80 |
| -10 0 - 0 - | No. W. 141 | No. 141 | 5.06 | No. W-151 | No. 151 | . 15.18 |  | Terminal |  | Y-141 | No. 141 | 5.06 |
|  | No. W. 142 | No. 142 | 6.33 | No. W-152 | No 152 | 22.77 |  |  |  | Y-142 | No, 142 | 6.33 |

## CINCH=JONESSALES

Electiricaí CONNECTING DEVICES

## FANNING STRIPS FOR CONNECTING TO BARRIER TERMINAL STRIPS



Jones Fanning Strip Terminals are of .032" Brass, Cadmium Plated. The Bakelite strips are furmished with a hole in either the right or left end for fastening the cable with a cable clamp or lacing twine. Simplifies cable or harness wiring, assuring positive connections. Makes replacement of units an easy matter and assures correct connections after servicing.


THE 160 SERIES
The following Fanning Strips it the 140 Sorigs Barrier Stripe. Terminahe are
mounted on Hi" Sakelite, $1 / 2^{\prime \prime}$ wide and on $3 / /^{\prime \prime}$ centers.

| Code | Ea. | Code | Ea. |
| :---: | :---: | :---: | :---: |
| 2.160-L | S 12 | 2.160-R.....s | S . 12 |
| 3.160-L | . 18 | 3.160-R | . 18 |
| 4.160.L | . 23 | 4-160-R..... | . 23 |
| 5-160-L | . 29 | 5.160.R | . 29 |
| 6.160.L | . 35 | 6.160-R | . 35 |
| 7.160.L | . 41 | 7-160-R | . 41 |
| 8-160-L | . 46 | 8.160-R | . 46 |
| 9.160-L | . 52 | 9-160-R. | . 52 |
| 10.160-L | . 58 | 10.160.R | . 58 |
| 11-160-L | . 64 | 11.160-R..... | . 64 |
| 12.160-L | . 69 | 12-160-R..... | . 69 |
| 13-160-L | . 75 | 13-160-R...... | . 75 |
| 14.160.L | . 81 | 14.160-R...... | . 81 |
| 15-160-L | . 87 | 15.160.R..... | . 87 |
| 16-160-L | . 92 | 16-160-R | . 92 |
| 17.160-L | . 98 | 17.160-R ..... | . 98 |
| 18.160.L | 1.05 | 18.160-R | 1.05 |
| 19-160-L | 1.10 | 19-160-R | 1.10 |
| 20.160-L | 1.16 | 20-160.7..... | 1.16 |
| 21.160.L | 1.21 | 21.160-R | 1.21 |

THE 161 SERIES
The following Fanning Strips fit the 141 Series Barrier Strips. Terminals are
mounted on on mit centers.

| Code | Ea. | Code | Ea. |
| :---: | :---: | :---: | :---: |
| 2.161.L | S. 13 | 2-161-R... | 5.13 |
| 3.161-L | . 19 | 3.161.R. | . 19 |
| 4.161.L | . 24 | 4-161-R | . 24 |
| 5-161-L | . 30 | 5-161-R | . 30 |
| 6-161L. | . 36 | 6-161-R. | . 36 |
| 7-161-L | . 42 | 7-161-R... | . 42 |
| 8.161.L | . 47 | 8.161.R. | 47 |
| 9-161-L | . 53 | 9.161-R | . 53 |
| 10.161.L | . 59 | 10-161.R | . 59 |
| 11.161.L | . 65 | 11-161-R | . 65 |
| 12-161-L | . 70 | 12.161.R | 70 |
| 13-161-L | . 76 | 13-161-R | . 76 |
| 14-161-L | . 83 | 14-161-R | . 83 |
| 15-161-L | . 88 | 15.161-R | 88 |
| 16.161.L | . 94 | 16.161-R | . 94 |
| 17.161.L. | . 99 | 17.161.R | . 99 |
| 18.161.L. | 1.06 | 18-161-R | 1.06 |
| 19.161-L | 1.11 | 19-161-R. | 1.11 |
| 20-161.L | 1.17 | 20-161-R...... | 1.17 |

## THE 162 SERIES

The following Fanning Strips fit the 142 Series Barrier, Strips. Terminals are
mounted on takelite, s/a wide and mounted on s.


In many instances where there is not sufficient room for the standard Fanning Strips we can supply those listed formed for right angle mounting permitting use when Barrier mounts flush with the side of the chassis. Specity Series 160A, 161A and 162 A instead of 160,161 and 162 . Prices slightly higher.


## NO. 1 TERMINAL STRIPS

Terminal $1 /{ }^{\prime \prime}$ Round Copper, Flattened at Ends, Tin Plated A convenient and compact strip where solder connections are desired.
Terminals mounted on $1 / 2^{\prime \prime}$ centers. Mounting holes $1 / 2^{\text {" }}$ from center of end terminals.
Code
No. 2.1
No. 3.1 (2 Terminals)
No. 3.1 (3 Terminals)
No. 4.1 (4 Terminals)
No. 5-1 (5 Terminals)
Ea.
$\$ .12$
.13
.14

| Code |  | Ea. |
| :---: | :---: | :---: |
| No. $6-1$ | $(6$ Terminals) | $\$ .17$ |
| No. 7.1 | $(7$ Terminals) | .18 |
| No. 8.1 | (8 Terminals) | .19 |
| No. 9.1 | $(9$ Terminals) | .20 |

## NO. 3 TERMINAL STRIPS



Terminal $1 / \mathrm{g}^{\prime \prime}$ Round Copper, Flattened at Each End, Tin Similar to No. 1, except closer spacing and furnished with holes instead of hooks. Insulation: Canvas base Bakelite, $1 / 2^{\prime \prime}$ Wide, $3^{3} 7^{\prime \prime}$ thick. Terminals mounted on $3 / /^{\prime \prime}$ centers. Mounting holes $3 / 8^{\prime \prime}$ from center of end termmals.

| Code |  | Ea. | Code |  | Ea |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. 2.3 | (2 Terminals) | \$ . 14 | No. 6.3 | (6 Terminals) | S . 19 |
| No. 3.3 | (3 Terminals) | . 15 | No. 7-3 | (7 Terminals) | . 20 |
| No. 4.3 | (4 Terminals) | . 17 | No. 8.3 | (8 Terminals) | . 21 |
| No. 5-3 | (5 Terminals) | . 18 | No. 9.3 | (9 Terminals) | . 22 |

16
 Terminal .028" Brass, Cadmium Plated A popular priced screw and solder terminal with many desitable features. Screw: $6-32 \times \mathrm{H}^{\prime \prime}$ brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $3 / 4$ "Mounting holes $1 / 2$ "
rom center of end terminals.

| Code |  | Ea. | Code |  | Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. 2.16 | (2 Terminals) | S . 13 | No. 6.16 | (6 Terminals) | \$ . 31 |
| No. 3.16 | (3 Terminals) | . 18 | No. 7.16 | (7 Terminals) | . 35 |
| No. 4.16 | (4 Terminals) | . 22 | No. 8-16 | (8 Terminals) | . 40 |
| No. 5.16 | (5 Terminals) | . 26 | No. 9.16 | (9 Terminals) | . 44 |

## NO. 20 TERMINAL STRIPS

Torminal $1 / 16^{\prime \prime}$ Brass, Burnished Nickol Plate strong two screw terminal with ears to hold wiro securaly under screw.
Screws: $6-32 \mathrm{x}$ bing binder head, burnished
, nickel plate Insulation: XP Bakelite, $7 / \mathrm{B}^{\prime \prime}$ wide, f" ${ }^{\prime \prime}$ hick. Terminals mols Will take up to No. 13 B \& S gauge wire (.071") end terminals.


| Code |  | Ea. | Code |  | Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. 2.6 | (2 Terminals) | S . 15 | No. 6.6 | (6 Terminals) | \$ . 33 |
| No. 3.6 | (3 Terminals) | . 20 | No. 7.6 | (7 Terminals) | . 37 |
| No. 4.6 | (4 Temminals) | . 24 | No. 8.6 | (8 Terminals) | . 42 |
| No. 5.6 | (5 Terminals) | . 29 | No. 9.6 | (9 Terminals) | . 46 |

## NO. 6 TERMINAL STRIPS

Terminal .046" Brass, Cadmium Plated Screw and solder terminal. Substantial and reasonably priced. $6-32 \times$ t" brass, binder head, burnished nickel
. 29 No. 9.6 (9 Terminals)

$\square$

| Code |  | Ea. | Code |  | Ea. |
| :--- | :--- | :--- | :--- | :--- | :--- |
| No. $2-20$ | (2 Terminals) | $\$ .31$ | No. $6-20$ | (6 Terminals | $\$ .92$ |
| No. 3.20 | (3 Terminals) | .46 | No. 7.20 | (7 Terminals) | 1.08 |
| No. $4-20$ | (4 Terminals) | .62 | No. 8.20 | (8 Terminals) | 1.23 |
| No. $5-20$ | (5 Terminals) | .77 | No. $9-20$ | (9 Terminals) | 1.39 |

NO. 7 TERMINAL STRIPS
Terminal .046" Brass, Burnished Nickel Plate A twa screw insulated terminal strip that can be mounted directly on metal surface. Screws: $6.32 x^{x}$ it brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/:, wide, d' thick (total). Terminals mounted on $1 / 2^{\prime \prime}$ centers. Mounting holes $1 / 2^{\prime \prime}$ 'from center of end termincls.
No. 2-7 (2 Teminals)
No. 3.7 (3 Terminals
No. 4.7 (4 Terminals)
No.5.7 (5 Terminals)

Code
No. 6.7
No. 7.7
No. 8.7
No. 9.7


NO. 12 TERMINAL STRIPS
Terminal $1 / 16^{\prime \prime}$ Brass, Tin Plated Similar to No. 11, except larger. Solder tab is flat, Ecrew: $10-32 \times 3 / 8{ }^{\prime \prime}$ brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ${ }^{\prime \prime}$ wide, It thick. Terminals mounted on $7 / 8$ centers. Mounting holes $7 / 8^{\prime \prime}$ from center of end terminals. Will take up to No. 9 B \& S gage wire (.114").

| No. 2.12 | (2 Terminals) | s. .44 | No. 6.12 | ( 6 Terminals) | Ea. |
| :--- | :--- | ---: | ---: | :--- | ---: |
| No. 3-12 | (3 Terminals) | .61 | No.7.12 | (7 Terminals) | 1.32 |
| No. $4-12$ | (4 Terminals) | .79 | No.8.12 | (8 Terminals) | 1.50 |


| No. 4-12 | (4 Terminals) | .79 | No. 8.12 | (8 Terminals) | 1.50 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| No. 5.12 | (5 Teminals) | .97 | No. 9.12 | (9 Terminals) | 1.67 |

## NO. 21 TERMINAL STRITPS

Terminal $1 / 16^{\prime \prime}$ Brass, Burnished Nickel Plate Similar to No. 20, except larger.
Screw: 8-32 $\times$ 悟" brass, binder head, burnished nickel plate. Insulation: XP Bakelite. $1 / 1 / 8^{\prime \prime}{ }^{\prime \prime}$ wide, Mounting holes $34^{\prime \prime}$ from center of end terminals. Will take up to No. 11 $B \& S$ gauge wire ( $090^{\prime \prime}$ ).

| Code |  | Ea. | Code |  | Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. 2.21 | (2 Terminals) | S 4.4 | No. 6-21 | (6 Terminals) | \$1.14 |
| No. 3.21 | (3 Terminals) | . 62 | No. 7.21 | (7 Terminals) | 1.32 |
| No. 4.21 | (4 Terminals) | . 79 | No. 8.21 | (8 Terminals) | 1.50 |
| No. 5.21 | (5 Terminals) | . 97 | No. 9.21 | (9 Termincls) | 1.67 |

 terminal turned up
Screw: 6-32 $\times$ s". brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $5 / \mathrm{B}^{\prime \prime}$ wide, ${ }^{3}$ " thick. Terminals spaced on $5 / 8^{\circ "}$ center Mounting holes $5 /$ B $^{\prime \prime}$ from center of end terminals. Will take up to No $15 \mathrm{~B} \& \mathrm{~S}$ gauge wire (.057").
No. 2.10 (2 Terminals) Ea.
No. 2.10 (2 Terminals) \$. 23
No. 3-10 (3 Terminals)
No. 4-10 (4 Terminals) . 34
$\begin{array}{llllll}\text { No. } 5.10 & \text { ( } 5 \text { Terminals) } & .56 & \text { No.8.10 } & \text { (8 Terminals) } & .89 \\ & & \text { No. } 9.10 & \text { ( Terminals) } & 1.00\end{array}$

## NO. 10 TERMINAL STRIPS

## Torminal 1/16" Brass, Tin Plated

Sturdy screw and solder terminal with both screw and solder connections on top of bakelite panel. Solder


## Code

$\begin{array}{llr}\text { Code } & \text { Ea. } \\ \text { No. } 6.10 & \text { (6 Terminals) } & \$ .67 \\ \text { No. } 7.10 & \text { (7 Terminals) } & .78 \\ \text { No. 8.10 } & \text { (8 Terminals) } & .89 \\ \text { No. } 9.10 & \text { (9 Terminals) } & 1.00\end{array}$

NO. 11 TERMINAL STRIPS
Terminal $1 / 16^{\prime \prime}$ Brass. Tin Plated Simitar to No. 10, except larger in size and the solder tab is flat, but will be bent up, if specified.
Screws: 8.32 x ," brass, binder head, burnished Screws: $8.32 x$ fif" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $7 /$ a $^{\prime \prime}$ wide, $1 / 8$ thick. Terminals mounted on $9 / 4^{\prime \prime}$ centers. Mounting holes $3 / /^{\prime \prime}$ from center
minals. Will take up to No. 12 B \& S gage wire (.080').
Code

$\begin{array}{llr}\text { No. } 6.11 & \text { (6 Terminals) } & \mathbf{\$ . 7 9} \\ \text { No. } 7.11 & \text { (7 Terminals) } & .91 \\ \text { No. 8.11 } & \text { (8 Terminals) } & 1.03\end{array}$
$\begin{array}{lll}\text { No. } 7.11 & \text { ( } \mathrm{T} \text { Terminals) } & 1.03\end{array}$

| Code |  | Ea. | Code |  | Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. 2.32 | (2 Terminals) | \$ . 22 | No. 6-32 | (6 Terminals) | \$ . 62 |
| No. 3.32 | (3 Terminals) | . 32 | No. 7.32 | (7 Terminals) | . 72 |
| No. 4-32 | (4 Terminals) | . 42 | No. 8-32 | (8 Terminals) | . 81 |
| No. 5.32 | (5 Terminals) | . 52 | No. 9.32 | (9 Terminals) | . 91 |



NO. 34 TERMINAL STRIPS
Terminal .062' Brase, Cadmium Plated
Very substantial and neat appearing terminal. Ample length solder terminal below panel, with acrow connection above. plate. Insulation: XP Bakelite had, burnished nickel Terminals spaced on $1 / 2^{\circ "}$ centers. Mounting holes $1 / 2^{\prime \prime}$ from center of end terminals. Code

## No. 2.34 <br> No. $3-34$

(3 Terminals) S .22
No. 4-34 (4 Terminalg) 33
No. 5-34

| Code |  | Ea. |
| :--- | :--- | :--- | ---: |
| No. $6-34$ | $(6$ Terminals $)$ | $\$ .44$ |
| No. $7-34$ | $(7$ Terminals $)$ | .50 |
| No. $8-34$ | $(8$ Terminals $)$ | .55 |
| No. 9.34 | $(9$ Terminals) | .61 |



## NO. 53 TERMINAL STRIPS

Terminal, Spring Temper Brass, Cadmium Plated A rellable socket type contact for many uses. Takes in" prongs. May be used with No. 98 terminal strips (same terminal spacing). Insulation: XP Bakelite, $1 / 2^{\prime \prime}$ wide, ${ }^{3 / \prime \prime}$ thick. Terminals mounted on $3 / 8^{\prime \prime}$ centers. Mounting holes $3 / 6^{\prime \prime}$ from center of end terminals.

Code No. 2.53 No. 3.53
No. 4-53
No. 5.53
$\begin{array}{ll}\text { (2 } & \text { Ter } \\ \text { (3 } & \text { Ter } \\ \text { (4 } & \text { Ter } \\ \text { ( } 5 & \text { Ter }\end{array}$ Termina Ea.
S .19 $\begin{array}{r}\mathrm{S} \\ \mathrm{S} \\ \hline .19\end{array}$ .19
.22
.25 .25

## Code

No. 6.53 ( 6 Terminals) $\$ .32$
No. $7.53 \quad$ ( 7 Terminals) $\quad .35$
No. 8.53 ( 8 Terminals) 39
No. $9-53 \quad(9$ Terminals) $\quad .42$


NO. 36A TERMINAL STRIPS
Terminal .031" Brass, Cadmium Plated
A popular priced screw and solder terminal with both screw and solder tab on same side of bakelite panel. plate. Insulation: XP Bakelite, $5 / 8$ " wide, binder head, burnished nickel $2^{\prime \prime}$ centers. Mounting holes $1 / 2^{\prime \prime}$ from center of end terminals.

Code ( 2 Terminals) Ea. No. 3.36 A ( 3 Terminals) 18 No. 4-36A (4 Terminals) . 22 No. 5.36 A ( 5 Terminals) $\quad .26$

| Code |  | Eq. |
| :---: | :---: | ---: |
| No. $6-36 A$ | $(6$ Terminals) | $\$ .31$ |
| No. $7-36 A$ | $(7$ Terminals) | .35 |
| No. $8-36 A$ | $(8$ Terminals) | .40 |
| No. $9-36 A$ | $(9$ Terminals) | .44 |



## NO. 59 TERMINAL STRIPS

Terminal $.028^{\prime \prime}$ Brase, Tin Plated
An inexpensive solder terminal. One wire may be brought up through hole and soldered, leaving vertical tab for other connection Insulation: XP Bakelite, 副", wide, 'r' thick. Terminals mounted on sit centers. Mounting holes from from center of end terminals.

| Code |  | Ea. | Code |  | Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. 2-59 | (2 Terminals) | \$ . 08 | No. 6-59 | (6 Terminals) | \$. 21 |
| No. 3.59 | (3 Terminals) | . 11 | No. 7.59 | (7 Terminals) | . 2 |
| No. 4-59 | (4 Temminals) | . 14 | No. 8-59 | (8 Terminals) |  |
| No. 5-59 | (5 Terminals) | . 18 | No. 9-59 | (9 Terminals) |  |



Code No 2.42 No. 2-42 (2 Ea No. $3.42 \quad(2$ Terminals $\$ .22$ 0. 4.42 Terminals) .26 No. 5-42 ( Terminals) .31 No. 8.42 (8 Terminals) .48

NO. 42 TERMINAL STRIPS
Terminal, Hard Brasa, Cadmlum Plated
Similar in construction to No. 53. Takes $1 / 8^{\prime \prime}$ prong. May be used with No. 99 terminal strips (same terminal spacing).
Insulation: XP Bakelite, $1 / 2^{\prime \prime}$ wide, $3^{\prime \prime \prime}$ thick. Terminals mounted on $1 / 2^{\prime \prime}$ centers. Mounting holes $1 / 2^{\prime \prime}$ from center of end terminals.


## NO. 43 TERMINAL STRIPS

Torminal, Hard Brass, Cadmium Plated
Same as No. 42, excent that it tckes $3^{3 \prime}$ " prongs. May be used with No. 100 terminal strips. Insulation: XF Baxeltie, $5 /$ Br $^{\prime \prime}$ wide, sh" thick. Terminals mounied on $5 / /^{\prime \prime}$ centers. Mounting holes $5 / \mathbf{b}^{\prime \prime}$ from center
of end terminals.

Cod
No. 2.43
$\begin{array}{ll}\text { No. 4.43 } & \text { (4 Terminals) } \\ \text { No. } 5-43 & \text { ( } 5 \text { Terminals) }\end{array}$
Ea,
$\mathbf{\$} .28$
.33
.39

NO. 50 TERMINAL STRIPS
ferminal .062" Brass, Cadmium Plated
One of the most populat screw and solder terminals. Made of heavy stock with ears to firmly hold wires under screw.
plate inculation: XP Bareltis th", brass, binder head. burnished nickel plate. Insulction: XP Bakelita $7 / /^{\prime \prime}$ wide, $1 /$ " $^{\prime \prime}$ thick Terminals spaced on $1 / 2$ centers. Mounting noles $1 / 2$ from center of and terminala
Code
No. 2-50 (2 Terminals) $\quad \mathbf{\$ . 2 1} \left\lvert\, \begin{array}{cccc}\text { Code } & \text { No. } 6-50 & (6 \text { Terminals) } & \$ .43\end{array}\right.$ No $3-50$ ( 3 Termincls) $\quad .26 \quad$ No. $7-50$ ( 7 Terminals) $\quad .48$

| No. 4-50 | (4. Terminals) | .32 | No. 8.50 | (8 Terminals) | .54 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| No. 5.50 | (5 Terminals) | .37 | No. 9.50 | (9 Terminals) | .59 |



NO. 60 TERMINAL STRIPS
Torminal .050" Brass, Cadmium Plated
Screw terminal above panel-solder terminal below Screw terminal above panel-solder terminal below Solder tab is notched. screw: $6-32 \times h^{\prime \prime}$ brass, binder head, burnished nickel
plate. Insulation: XP Bakelite, $7 / \mathrm{e}^{\prime \prime}$, wide, $1 / \mathrm{s}^{\prime \prime}$ thick. Terminals spaced on f"' centers. Mounting holes if" from center of end terminals.
Code Ea. No. 2-60 (2 Terminals) S . 18 No. 3.60 ( 3 Terminals) .24 $\begin{array}{lll}\text { No. } 4-60 & \text { (4 Terminals) } & .30 \\ \text { No. } 5-60 & \text { (5 Terminals) } & .35\end{array}$

## Code

(6.) Ea.

No. $7.60 \quad(7$ Terminals) $) ~ \$ .41$
$\begin{array}{llll}\text { No. } 8: 60 & \text { (8 Terminals) } & .52 \\ \text { No. } 9.60 & \text { ( } 9 \text { Terminals) } & .57\end{array}$
end terminals.
Code No. 2.48 No. $3-48$ No. $4-48$ No. 5-48
(2 Terminals) 4 Terminals .11 $(5$ Teminals) $\quad .18$

| Code |  | Ea. |  |
| :---: | :---: | :---: | ---: |
| No. $6-48$ | $(6$ | Terminals) | $\$ .21$ |
| No. $7-48$ | $(7$ | Terminals) | .24 |
| No. $8-48$ | $(8$ | Terminals) | .28 |

No. 9.48 ( 9 Terminals) . 31

of end torminale. Cod
No. 2-66-D (2 Torminale To. 66 D (3 Terminals) \$ . 1 No. 3-66-D ( Terminals) . 15 No. 4-66.D (4 Terminals) .20 No. 5-66-D (5 Terminals) . 24 work.

## NO. 66-D TERMINAL STRIPS

Terminal .032" Hard Brass, Cadmium Plated Two No. 66 terminals mounted on opposite sides of panel and riveted together by solid rivet. Ideal strip for hecivy
Insulation: XP Bakelite, $3 / 1$ "wide, ${ }^{3 \prime \prime}$ thick. Terminals mounted on $3 / 9^{\prime \prime}$ Insulation: XP Bakelite, $3 / 4^{\prime \prime}$ wide, ${ }^{\prime \prime}{ }^{\prime \prime}$ thick. Terminale Coden centers. Mous No. 2-66-S (2 Terminals) $\$ .09 \quad$ No. $6-66-\mathrm{S}$ ( 6 Terminals) $\$ .22$ No. 3-66.S (3 Terminals) .12 No. 7.66-S (7 Terminals) .25 No. 4-66-S (4 Teminals) $.15 \quad$ No. 8-66-S (8 Terminals) .29 No. 5-66-S (5 Terminals) . 19 No. 9-66-S ( 9 Terminals) .32

Code Mounting holes from cent
Ea
No. 6-66-D (6 Terminals) $\$ .29$ No. 7-66-D (7 Terminals) $\quad .33$ No. 8-66-D (8 Terminals) . 37 No. 9.66.D ( 9 Terminals) .42


## NO. 76 TERMINAL STRIPS

Terminal .028' Brass, Cadmium Plated
Cup shaped top holds wire securely under screw. A compact and good appearing terminal.
Insuiation: $\mathbf{x p}$ : $632 \times \mathrm{ra}^{\prime \prime}$ brass, binder head, burnished nickel plate. Insuiation: XP Bakelite, $3 / 4^{\prime \prime}$ wide, ${ }^{\prime \prime}$ " thick. Terminals spaced on centers. Mounting holes $1 / 2^{\prime \prime}$ from center of end terminals.

| de |  |  | Ea. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. 2.76 | $(2$ | Terminals) | \$ . 15 | No. 6.76 | (6) | Terminals) | S . 33 |
| No. 3-76 | (3) | Teminals) | . 20 | No. 7.76 | (7 | Terminals) | . 37 |
| No. 4.76 | $(4$ | Terminals) | . 24 | No. 8.76 | $(8$ | Terminals) | 42 |

No. 8.76 (8 Terminals) .42
No. 5.76 (5 Termina
No. 9-76 (9 Terminals)
.46


## NO. 96 TERMINAL STRIPS

Terminal, Spring Temper Brass, Cadmium Plated Perhaps the most popular socket terminal ever sold. Takes standard tube prongs (No. Insulation: XP Bakelite. s/e", Wide, te" thick. Terminals mounted on ti" centers. Mounting holes 'IT" from center of end terminals.


NO. 100 TERMINAL STRIPS


Terminal 5/32" Round, Brass, Cadmlum Platad
Similar to No. 99, except g"" in diameter. To be used with No. 43 terminal strip, and No. 96 terminal strip. Insulation: XP Bakelite, $5 / 8^{\prime \prime}$ wide, sh" thick. Terminals mounted on $5 / 6^{\prime \prime}$ " centers.

| Code |  | Ea. | Code |  | Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. 2-100 | (2 Terminals) | S .17 | No. 6-100 | (6 Terminals) | \$ . 40 |
| No. 3.100 | (3 Terminals) | - 23 | No. 7.100 | (7 Terminals) | . 45 |
| No. 4-100 | (4 Terminals) | . 29 | No. 8.100 | (8 Terminals) | . 51 |
| No. 5-100 | (5 Terminals) | .34 | No. 9-100 | (9 Terminals) | . 56 |



NO. 130 TERMINAL STRIPS
Torminals Brass, Burnished Nickel Plate
An inexpensive terminal strip with two screw terminals Screws: $5-40 x$ '"' brass, binder head, burnished nickel
 Terminals mounted on $1 / 2^{\prime \prime}$ centers. Mounting holes $1 / 2^{\prime \prime}$ from center of -nd terminals.

Cod. Ea. | No. 2.130 | $(2$ | Terminals $)$ | $\$ .17$ | No. $6-130$ | $(6$ | Terminals) | 5.52 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| No. 3.130 | $(3$ | Terminals) | .25 | No. 7.130 | $(7$ | Terminals) | .61 | No. 4-130 (4 Terminals) $\quad .34 \quad$ No. 8.130 ( 8 Terminals) .69 No. 5-130 (5 Terminals) . 43 No. $9-130$ ( 9 Terminals) 78



Torminals Brass, Burnished Mckel Plate
Similar to No. 130, except larger. head, burnished nickel Screws: $6-32 x$ l/4" brass, binder head, burnished nickel
plate. Insulation: XP Bakelite, $l^{\prime \prime}$ wide, sh thick. plate. Insulation: XP Bakelite, Wide, Mornting holes $5 / \mathrm{a}^{\prime \prime}$ from center of end terminals. Cod No. 2.131 (2 Terminals) \& No, 3.131 (3 Terminals) ( 3 Terminals) .31 No, 7.131 ( 7 Terminals) 70 No. 4-131 (4 Terminals) .41 No. 8-131 (8 Terminals) 80 No. 5-131 (5 Terminals) .51 No. 9.131 ( 9 Terminals) .90


NO. 132 TERMINAL STRIPS
Terminals Brass, Burnished Niciel Plate Similar to No. 131, except larger.
Screws $8.32 \times$ 音, brass, binder head, burnished nickel plate. Insulation: XP Bakelite, $11 / 6^{\prime \prime}$ wide, $1 / 0^{\prime \prime}$ holes $3 / 4^{\prime \prime}$ from center of end terminals.
Code 12 Ea. No. 2-132 (2 Terminals) \$. 25 No. 3-132 (3 Terminals) .36 No. 4-132 (4 Terminals) .47 No. 5-132 (5 Terminals) . 58

| Code |  | Ea. |
| :--- | :--- | :--- | ---: |
| No. 6.132 | (6 Terminals) | S .69 |
| No. $7-132$ | (7 Terminals) | .80 |
| No. 8.132 | (8 Terminals) | .91 |
| No. $9-132$ | ( 9 Terminals) | 1.02 |



No. 143 TERMINAL STRIPS
Terminal $.040^{\prime \prime}$ Brast, Tn Plated A strong two-way solder terminal. Solder tabs A sie flat. Crimps securely around edges of panel. Special Strlp: minals mounted on any centers, from $3 / 8^{\prime \prime}$ be up.

Standard Strlps
Insulation: XP Bakelite, $7 / 6^{\prime \prime}$ " wide. s'" thick. Terminals mounted on $1 / 2^{\prime \prime}$ centers, Mounting holes $1 / 2$. from center of end terminals.
Terminals may be Terminals may be numbered
page 18 for mprinung cost.)
Code
No. 2-143 (2 Terminals) $\$$ Ea. 11
No. 3-143 (3 Terminals)
No, 4-143 (4 Terminals)
$\begin{array}{lll}\text { No. } 4-143 & \text { (4 Terminals) } \\ \text { No. } 5-143 & \text { (5 Terminals) }\end{array}$
$\$ .11$
.14
Code
Ea.
$\begin{array}{llll}\text { No. } 7.143 & (6 \text { Terminals) } & \$ .24 \\ \text { No. } 7 \text { Terminals) } & .28\end{array}$
No. 8.143 ( 8 Terminals) . 31
No. 9.143 ( 9 Terminals) . 34



NO. 2000 TERMINAL STRIPS
Terminals .019" Brass. Tin plated
Compact and sturdy function terminal strip. Useful in assembling radio chassis. wiring, etc.
Insulation: Bekelite. Brackets: Steel, cad. Insulation: Bakelite. Brackets: Steel, cad.
mium plated. Terminals spaced on $h^{\prime \prime}$ mium plated. Terminals spaced on $n$
centers.

| Code |  | Mounting Hole Centers: | Per 100 |
| :---: | :---: | :---: | :---: |
| No. 2002 | ( 2 Terminals) | 1" | \$ 7.04 |
| No. 2003 | ( 3 Torminals) | 1-5/16" | 7.70 |
| No. 2004 | ( 4 Terminals) | 1-5/8* | 8.36 |
| No. 2005 | ( 5 Terminals) | $1-15 / 16^{\prime \prime}$ | 9.02 |
| No. 2006 | ( 6 Terminals) | 2-1/4" | 9.68 |
| No. 2007 | ( 7 Terminals) | $2-9 / 16^{\prime \prime}$ | 10.34 |
| No. 2008 | ( 8 Terminals) | 2-7/8' | 11.00 |
| No. 2009 | ( 9 Terminals) | $3-3 / 16^{\prime \prime}$ | 11.66 |
| No. 2010 | (10 Terminals) | 3-1/2" | 12.32 |
| No. 2011 | (11 Terminals) | $3-13 / 16^{\prime \prime}$ | 12.98 |
| No. 2012 | (12 Terminals) | 4-1/8" | 13.64 |
| No. 2013 | (13 Terminals) | 4-7/16 ${ }^{\prime \prime}$ | 14.30 |

## Code

 No. 2003 No. 2004 No. 2005 No. 2006 No. 2007 Torminals) No. 2010 ( 10 Terminals) No. 2012 No. 2013Mounting Hole Centers: Per 100
S 7.04

## BBY SALES COMPANY

## SOCKETS

MINIA TURE SHOCK SHIELD TYPE:
7 prongs, $7 / 8^{\prime \prime}$ mounting centers
Cat. No.
List Price
each
tacts, JÁN-SO-10C
103M Mica-filled bakelite, beryllium copper contacts, JAN-SO-10M............ 0.70
8322 Black bakelite, phosphor bronze contacts ........................................................... 0.32
8328 Ceramic, phosphor bronze con-
 0.55

8329 Mica-filled bakelite, phosphor
bronze contacts ....................................... 0.35

## MINIATURE SADDLE TYPE:

7 prongs, $7 / 8^{\prime \prime}$ mounting centers
Cat. No.
List Price Price
each
8323 Black bakelite, phosphor bronze contacts (with center grounding shield) ........................................................................... 17
8539 Black bakelite, phosphor bronze contacts (no center grounding shield) .............................................................. 0.1
8326 Ceramic, phosphor bronze contacts (with center grounding shield)........... 0.45
8327 Mica-filled bakelite, phosphor bronze contacts (with center grounding shield) (....................................... 0.20


## SHIELDS FOR MINIATURE SHOCK SHIELD TYPE SOCKETS:

Steel, cadmium plated with inner spring

## Cat. No

List Price each
7797 Height $13 / 4^{\prime \prime}$........................................................ $\$ 0.19$
7798 Height $13 / 8^{\prime \prime}$ 0.19

8694 Height 2-11/64" 0.30

FOR MINIATURE SADDLE TYPE SOCKET: Cat. No.

List Price each
8757 Height $13 / 4^{\prime \prime}$. Steel, cadmium plated ........................................................... $\$ 0.10$
8758 Shield holder .......................................................... 0.05

LAMINATED MINIATURE SOCKETS:
Cat. No.
List Price each
47-1 7 pin, laminated bakelite, spring brass contacts, no center grounding shield........................... $\$ 0.10$
47-2 7 pin, laminated bakelite spring brass contacts, with censpring brass contacts, with cen-
ter shield and ground strap....... 0.11
47-9 9 pin, laminated bakelite, spring brass contacts, with center shield, no ground strap.......... 0.13


Cat. No

## CRYSTAL SOCKET

each
CR-7 For crystals having .050 diameter pins and 486 spacing between pins. Steatite, grade L-5 JAN-1-10. Contacts: Phosphor bronze, cadmium plated, or beryllium copper, silver plated with tabs tinned.

Phosphor Bronze Contacts... $\mathbf{\$ 0 . 4 0}$ Beryllium Copper Contacts... 0.60

SO- 200 For crystals having $3 / 4^{\prime \prime}$ centers and .135 diameter. Banana type or .156 solid type pins. Insulator: Low Loss Phenolic. Contacts: Bery Loss Phenolic. Copper, Silver Plated 0.65

Phosphor TYPE 12 SOCKETS


## Cat. No.

9067 Black bakelite, steel saddle, cadmium plated with 4 ground lugs. Mounting centers, $1-5 / 16^{\prime \prime}$. Brass contacts, cadmium plated...................List Price $\$ 0.13$ ea.

## LOCTAL SADDLE TYPE:

Cat. No.


8451 Black bakelite, steel saddle, cadmium plated with 4 ground lugs. Mounting centers $1-5 / 16^{\prime \prime}$. Phosphor bronze contacts, cadmium plated

List Price $\$ 0.17$ ea.

## OCTAL ALL-MOLDED TYPE:

Cat. No.
8490 Black bakelite, mounting centers I-5/16". Brass contacts, cadmium plated.........................................ist Price $\$ 0.14$ ea.

## LOCTAL ALL-MOLDED TYPE:

Cat. No.
8191 Black bakelite, mounting centers 1-5/16". Phosphor bronze contacts, cadmium plated .........List Price $\$ 0.16$ ea.


## MAGNAL TYPE TELEVISION SOCKET:

Cat. No.
S-20-11 Black bakelite, phosphor bronze con tacts, cadmium plated. 11 contacts. tacts, cadmium plated. 11 contacts. mounting ring............List Price $\$ 0.85$ ea.

DUO DECAL TYPE TELEVISION SOCKET: Cat. No.
9700 Accommodates up to 12 pins. Top diameter is $1-23 / 32^{\prime \prime}$; overall Top is $63 / 64^{\prime \prime}$. Contacts recessed to aroid shorting ................................. List Price $\$ 1.10$ ea.

DI HEPTAL TYPE TELEVISION SOCKET: Cat. No.
9709-6 Heavy-duty type, accommodates up to 14 pins. Top diameter is $2.7 / 32^{\prime \prime}$; overall depth is $63 / 64^{\prime \prime}$. Contacts recessed to avoid shorting

List Price $\$ 1.20$ ea.


Cat. No. 46-5-E 8 prong:
OCTAL TYPE:
Dimensions
Mounting Centers Overall Width
$1-5 / 16^{\prime \prime}$
$1-13 / 32^{\prime \prime}$
$1-5 / 8^{\prime \prime}$

List Price $\$ 0.10$ ea.
Cat. No. 46-1-E 8 prong:
Dimensions:

| Mounting Centers | $1-1 / 2^{\prime \prime}$ |
| :--- | :--- |
| Overall Width | $1-13 / 32^{\prime \prime}$ |
| Overall Length | $1-27 / 32^{\prime \prime}$ |



List Price so.10 ea.
GLASS TUBE TYPE:

| Cat. No. | Mounting Centers |  |  |  |  | Width |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | | Length |
| :--- | | List Price |
| ---: |
| each |

## ABY SALBS COMPANY

## P L U G S



MOLDED BATTERY PLUGS

| Cat. No. | Number of | Volts | Batt. | List Price each |
| :---: | :---: | :---: | :---: | :---: |
| 30-2 | 2 | 3 | A | \$0.09 |
| 30-3B | 3 | 45 | B | 0.09 |
| 30-3C | 3 | $41 / 2$ | C | 0.09 |
| 30.4L | 4 |  | A \& B | 0.09 |
| 30-5 | 5 | 221/2 | C | 0.11 |
| $30-71 / 2$ | 5 | 71/2 | C | 0.11 |



Cat. Number of

| Cat. | Number of <br> No. <br> Prongs | Volts | Batt. | List Price <br> each |
| :---: | :---: | :---: | :---: | ---: |
| 30-2M | 2 | $11 / 2$ | A | $\$ 0.08$ |
| $30-2 M 3$ | 2 | 6 | A | 0.09 |
| $30-3 M$ | 3 | 45 | Midget | 0.08 |



MOLDED SPEAKER PLUGS


## BINDING POSTS

Cat. No. 37. ENSIGN: Knobs and base are molded Bakelite. Metal inserts are plain brass. Knurled base prevents post turning.
Knob: $1 / 2^{\prime \prime}$ diam. x 7/1. ${ }^{\prime \prime}$ high
Base: $1 / 2^{\prime \prime}$ diam. $x \quad 1 / 4^{\prime \prime}$ thick Solid Stem: $6 / 32^{\prime \prime} \times 5 / 8^{\prime \prime}$ long Drilled Neck Diameter: $3 / 16^{\prime \prime}$ Width of contact flanges: $3 / 8^{n \prime}$ List Price $\$ 0.35$ ea

Cat. No. 38. ENSIGN: Same as No. 37 except that it has a molded insulating boss on base. List Price 50.37 ea.

Cat. No. 39. ENSIGN: Same as No. 37 except that it has molded dowel pin on base base. List Price $\$ 0.37$ ea.

Cat. No. 40. COMMANDER Knobs and base are molded Bakelite. Metal inserts are plain brass. Knurled bas prevents post turning.
Knob: 9/16" diam. x 1/2" high. Base: $5 / e^{\prime \prime}$ diam. $\times 1 / 4^{2 \prime}$ thick Solid Stem: $8 / 32^{\prime \prime} \times 7 / 8^{\prime \prime}$ long Drilled Neck Diameter: 13/64' Width of contact flanges: $7 / 16^{\prime \prime}$

List Price 50.50 ea
Cat. No. 41. COMMANDER Same as No. 40 except that it has a molded insulating boss on base. List Price $\$ 0.55 \mathrm{ea}$


Cat. No. 42. COMMANDER Same as No. 40 except that it has a metal dowel pin on base. List Price $\$ 0.55$ ea

Cat. No. 43. ADMIRAL: Knobs and base are molded Bake lite. Metal inserts are plain brass. Knurled base prevents post turning.
Knob: 5/8" diam. x 17/32" high. Base: $23 / 32^{\prime \prime}$ diam. x $1 / 4^{\prime \prime}$ thick Solid Stem: $8 / 32^{\prime \prime} \times 3 / 4^{\prime \prime}$ lang Plain Neck: 13/64" diameter Width of contact flanges: 7/16 List Price $\$ 0.60$ ea Cat. No. 44. ADMIRAL: Same as No. 43 except that it has molded insulating boss on base. List Price $\$ 0.55$ ea. Cat. No. 45. ADMIRAL: Same as No. 43 except that it has a molded dowel pin on base. List Price \$0.55 eq. Cat. No. 43-S. ADMIRAL: Same as No. 43 except that it has a elongated slot in neck.

List Price $\$ 0.65$
Cat. No. 21-R. All-molded Bakelite, non-removable tops. Both mosts completely insulated Center mounting screw $6 / 32^{\prime \prime} \times 1 / 4^{\prime \prime}$ long. Base is $2^{\prime \prime}$ long, $11 / 16^{\prime \prime}$ wide and $3 / 16^{\prime \prime}$ thick. Center distance between posts is $7 / 8^{\prime \prime}$

List Price \$0.70 ea


Cat. No. $21-\mathrm{S}$. All-molded Bakelite, non-remov able tops. One post is completely insulated. One mounting screw $6 / 32^{\prime \prime} \mathrm{x}$ 1/4" long Ground post is second mounting screw. Base is $2^{\prime \prime}$ long, $11 / 16^{\prime \prime}$ wide and $3 / 16^{\prime 4}$ thick. List Price $\$ 0.70$ ea

## TIP JACKS

Cat. No. 49. Top diameter $1 / 2^{\prime}$ x $5 / 32^{\prime \prime}$ thick. Threaded brass body $5 / 16^{\prime \prime}-32 \times 3 / 4^{\prime \prime}$ long. One hexagon nut and two insulating washers furnished. Hole for washers is 19/64". Red or Black Bakelite top.


List Price: Red $\ldots . . . \mathrm{S} 0.19 \mathrm{ea}$,
Black ... 0.17 ea.

Cat. No. 52. Top diameter $1 / 2^{\prime}$ $\times 1 / 8^{\prime \prime}$ thick. Body is $5 / 16^{\prime \prime} \times$ $3 / 4^{\prime \prime}$ long. Special steel assembly washers, cadmium plated, are furnished. Red or black Bakelite

List Price: Red ..... SO 0.10 ea. Black ... 0.09 ea


Cat. No. 76. Top diameter $5 / 8^{\prime \prime} \times 5 / 32^{\prime \prime}$ thick. Body is .495" x 5/8" long. Special steel assembly washers, cadmium plated, are furnished. Red or black Bakelite. List Price: Red ..... $\$ 0.18$ Black... 0.15


Cat. No. 17. This twin jack with molded Bakelite base, is provided with two terminals $13 / 9^{\prime \prime}$ apart and has a $6 / 32^{\prime \prime} \times 1 / 4^{\prime \prime}$ mounting screw at center.

List Price $\$ 0.65$ ea.


Cat. No. 18. Twin jack, is provided with two terminals $7 / 8^{\prime \prime}$ apart and has two . $140^{\prime \prime}$ diameter holes, 1-11/16" centers. Bottom plate is $1 / 16^{\prime \prime}$ thick, top plate $1 / 32^{\prime \prime}$ thick. $5 / 8^{\prime \prime}$ wide $\times 2-1 / 16^{\prime \prime}$ long.

List Price $\$ 0.13$ ea.


Cat. No. 18-T. Triple jack is provided with three terminals $9 / 16^{\prime \prime}$ apart and has two $.140^{\prime \prime}$ diameter mounting holes, $1-15 / 16^{\prime \prime}$ centers. Bottom plate is $1 / 16^{\prime \prime}$ thick, top plate $3 / 64^{\prime \prime}$ thick. $5 / 8^{\prime \prime}$ wide $\times 23 / 8^{\prime \prime}$ long.

List Price $\$ 0.19$ ea.

## ELECTRIC SOLDERING IRONS

These lrons embody features that specialized experiencesince 1894 -has demonstrated to be desirable for efficient and lasting service. Hundreds of thousands in use throughout the world in manufacturing plants, service, maintenance and repair shops, Army and Navy Services, telephone, telegraph and radio stations.
No. 3138-Designed primarily for production and maintenance in radio, telephone, telegraph, ignition switchboard and telephone installation work and similar industrial applications. No. 3158-For the same purposes as the No. 3138 but for work requiring an iron of greater capacity.
No. 3178-For use on still heavier work; for light commutators and service and production work. A very useful iron for general purposes.
No. 3198-For heavy work of all kinds. Supplies a large volume of heat at high temperature. Used by manufacturers in many different lines; for shop, service, production work, etc. Each of the above irons is equipped with a baffle plate, at the shank, to prevent free conduction of heat to the handle.
No. 3128-Designed for lighter work than the No. 3138 in similar applications. Has plug-type $1 / 4$ "-diameter tip with a heating element of chrome nickel but without compression winding as used in the higher-wattage No. 3138-3198 series. Element and casing with handle springs and terminal assembly built as a unit.
No. S-76-Designed for work of the same kind as the No. 3128 but has a screw-type ${ }^{\frac{7}{16} \prime \prime}$ diameter tip which screws on the metal head of the core of the chrome nickel heating element. Element with casing and handle springs and terminal assembly built as a unit.


Made in standard voltages and for 32 volts. No. 3138 also made for $6,12,24$ and 55 volts. Nos. $3138-3198$ can be equipped with three-conductor cord, one wire grounded, at slight additional charge. Separate heatinsulating stand supplied with each iron.

SPECIFICATIONS

| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Diameter of Tip | Watts | $\underset{\text { Weight }}{\text { Net }}$ | $\begin{aligned} & \text { Length } \\ & \text { Over All } \end{aligned}$ | $\underset{\text { Diameter }}{\text { Casing }}$ | Approx. Ship. Wt |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3138 | $3 / 8{ }^{\prime \prime}$ | 100 | 16 oz . | 127/8" | $7 /{ }^{\prime \prime}$ | 2 lbs . |
| 3158 | $5 / 81$ | 200 | 28 oz. | 135/8" | 11/4" | 3 lbs. |
| 3178 | $7 / 8$ " | 300 | 42 oz . | 143/8" | 1916" | 4 lbs. |
| 3198 | 11/8" | 550 | 60 oz . | 15" | $13 / 4 \prime$ | $53 / 4 \mathrm{lbs}$. |
| 3128 | 1/4" | 60 | $71 / 2 \mathrm{oz}$. | 121/4" | \%16" | 16 oz . |
| S-76 | $7 / 10^{\prime \prime}$ | 50 | 6 oz . | 115/8" | 9/10" | 14 oz . |

## American Beauty coppertips

These copper tips are made from commercially pure, drawn bar, copper rod. Except for the No. 3734 screw-on type tip for the No. S-76 iron, each tip is designed to fit into, and to the full length of, core of heating unit of the particular iron for which it is intended. Maximum area of contact between the tip and heating unit is thus assured. Tips are of uniform diameted throughout their entire length. Each tip is held in place in core of heating unit by a recessed set-screw. Removal for cleaning or replacement is therefore easy. Standard shaped tips with which the various models are equipped are shown in the illustration; but pyramidal. instead of chisel type, and vice versa, can be supplied when so specified without


## American Beauty

## TEMPERATURE REGULATING STANDS

## For use on (AC) Alternating Current Only

This is a thermostatically controlled device for the regulation of the temperature of an electric soldering iron while at rest. When placed on this stand. soldering iron is maintained at working temperature, ready for instant use or, if desired, at a lower temperature. Through an adjustment on bottom of the stand, thermostat may be set for the maintenance of any desired temperature-from very low, or warm, to full working temperature. Body of stand is of molded plastic. Soldering iron cradle proper is of metal. Stand is equipped with cord and attachment plug-cap for connection to current and with a receptacle for connection of the electric soldering iron. It is designed for use with electric soldering irons up to 660 watts capacity and on circuits up to 240 volts.

Cat. No.
Net Weight
List Price
$\$ 5.50$
Net Price
$\$ 3.88$

## ESICO

## ELECTRIC SOLDERING IRONS for home, professional mechanic and factory

## - GREEN LABEL LINE

For intermittent duty. Meets all requirements of the home craftsman.


No. 415 -List $\$ 1.95-3 / 8^{\prime \prime} \mathrm{Tip}-55$ Watts



No. 417 -List $\$ 3.95-3 / 8^{\prime \prime}$ Tip-100 Watts


No. 418 -List $\$ 4.95-\mathrm{T} / 2^{\prime \prime}$ Tip-130 Watts

## - ORANGE LABEL LINE

For Professional Mechanics-light or heavy soldering where iron must withstand operation for eight hour periods or more on frequent occasions.

No. 62-List $\$ 4.95-T / 4^{\prime \prime}$ Tip- 60 Watts


No. 63-List $\$ 5.95-3 / 8^{\prime \prime} \mathrm{Tip}-100$ Watts

No. 64 List $\$ 6.95-1 / 2^{\prime \prime}$ Tip-130 Watts


No. 65-List $\$ 7.95-5 / 8^{\prime \prime} \mathrm{Tip}-200$ Watts


No. 67 -List $\$ 8.95-7 / 8^{\prime \prime}$ Tip-300 Watts


No. 69-List $\$ 10.95-1 \$ / 8^{\prime \prime}$ Tip-500 Watts

## 2 R RED LABEL LINE

For Production Line Continuous Operation. These Irons are of most rugged construction.


No. 38 -List $\$ 6.95-3 / 8^{\prime \prime}$ Tip- 100 Watts


No. 58 -List $\$ 8.95-5 / 8^{\prime \prime}$ Tip-200 Watts


No. 78-List $\$ 10.95-7 / 8^{\prime \prime}$ Tip-300 Watts


No. 98-List $\$ 12.95-11 / 8^{\prime \prime}$ Tip- 550 Watts

## - Thermostatic Temperature Control Stand

The iron can be maintained at any desired temperature while in the stand. This is the only way 10 control the tip temperature of an iron. Control of element temperature is not satisfactory. There is too much of a lag between clement and tip temperature.

Years ago we developed a thermostatically controlled iton, which regulated the element temperature
 (just as presently marketed thermostatically controlled irous io) but we discarded the iron as it would permit the tip to cool.
When the stand is properly adjusted, it is impossible for the iron to overheat or to burn off its 1 in .

List Price
Cat. No. 5 Irons up to $1^{\prime \prime}$ dia. tip . ...................................... $\$ 6.50$
Cat. No. 6 Irons up to $15 / 8^{\prime \prime}$ dia. tip

## - Soldering Pots



Ruggedly consiructed, cast iron pots for production work. Elements are easily replaced even while pots are hot:

Net Price
Cat. No. $12-1 /{ }^{1} 2^{\prime \prime}$ dia. Cap.
3/4 lbs. ..................... $\$ 4.50$
Cat. No. $36-21 / 2^{\prime \prime}$ dia. Cap.
21/4 lbs.................. 5.50
Cat. No. $60-31 / 2^{\prime \prime}$ dia. Cap.
$33 / 4 \mathrm{lls}$.
6.50

## - Spot Soldering Machine

Model " $F$ " is a treadle operated machine which feeds solder forward as the iron moves away from the work. Suitable for spot soldering where a mechanical comection has first been made. Net price


## - Glue Pots

The catalogue No. 700 Glue Pot is of two quart capacity. It is the water jacket type and has a gasket sealed element and thermostat completely protected from moisture. Thermostat is normally set at 150 degrees for use with glue, but can be set at various temperatures for use with wax, etc. Net price $\$ 18.50$

# DR AKE (13) RADIO IRONS 

## Suggested for Maintenance Work and for the Radio Service Man



60 Watt Iron with $3 / 8^{\prime \prime}$ Tip. An excellent iron for light work. Porcelain element. Six ft, cord and small stand.

No. 315 $\qquad$ ..................... $\qquad$ List $\$ 1.90$
Element $\qquad$ List $\$ 1.00$
Tip List $\$ 0.90$
Shipping Weight 1 lb .

100 Watt Iron with $3 / 8^{\prime \prime}$ Tip. An ideal iron for those who require a hotter iron than our No. 315. Porcelain element. Six ft. cord and small stand.

No. 316


Tip
List $\$ 3.20$
Element
List $\$ 1.80$ Shipping Weight $11 / 2 \mathrm{Ibs}$.


80 Watt Iron with $3 / 8^{\prime \prime}$ Tip. Recommended tor light radio work. Mica wound element. Six ft. cord and large stand.

No. 225 $\qquad$ ..............................

Lis: $\$ 4.40$
Element. $\qquad$ List $\$ 3.40$

Tip
List $\$ 1.25$
Shipping Weight $11 / 2$ lbs.

100 Watt Iron with $3 / s^{\prime \prime}$ Tip. Recommended for general radio work. Mica wound element. Six ft. cord witl large stand.

No. 325
 - $\qquad$ List $\$ 5.00$
Element $\square$ List $\$ 4.00$

Tip Shipping Weight 2 lbs.


125 Watt Iron with $3 / 8^{\prime \prime}$ Tip. An extra hot iron for the serviceman. Mica wound element. Six ft. cord and large stand.
No. 326 Element.... $\cdots$ List $\$ 6.00$ List $\$ 5.00 \quad$ Tip $\quad$ List $\$ 1.25$ Shipping Weight 2 lbs.

200 Watt Iron with $5 / 8^{\prime \prime}$ Tip. Recommended for medium heavy work. Mica wound element. Six it. cord and large stand.

| No. 425 |  |  | List \$10.00 |
| :---: | :---: | :---: | :---: |
| Element | List $\$ 9.00$ | Tip | List \$ 2.00 |
|  | Shipping | lbs |  |

## INDUSTRIAL IRONS



60 Watt Iron with $1 / 4^{\prime \prime}$ Tip. An extra small iron for midget sets. Only $9 \prime$ long.

| No. 400 |  |  | List \$5.50 |
| :---: | :---: | :---: | :---: |
| Element. | List \$4.50 | Tip. | List \$0.60 |
| Shipping Weight 2 lbs . |  |  |  |

100 Watt Iron with $3 / 8^{\prime \prime}$ Tip. Only 10 incles over all. Ideal tor close work on radio sets.

| No. 600-10 |  |  | List \$8.00 |
| :---: | :---: | :---: | :---: |
| Element | List $\$ 7.00$ | Tip | List \$1.25 | Shipping Weight 2 lbs.

140 Watt Iron with $3 / 8$ " Tip. An extra hot iron for high speed work on production lines.
No. 600 Special
List $\$ 8.50$
Element Lis. $\$ 7.50$ Tip...................................................... $\$ 1.25$ Shipping Weight 2 lbs.


80 Watt Iron with $3 / 8^{\prime \prime}$ Tip. Recommended for fine instruments, light telephone and other light soldering.

No. 450
Element

Shipping Weight 2 lbs.

100 Watt Iron with $3 / 8$ " Tip. The standard 100 watt iron. Ideal for switchboards and radio sets.

| No. 600 |  |  |
| :--- | :--- | :--- |
| Flement |  | List $\$ 6.50$ |
|  | Shipping Weight 2 lbs |  |

200 Watt Iron with $5 / 8$ " Tip. For general factory work such as art glass, medium tin work.

| No. 800 |  |  | List $\$ 10.00$ |
| :--- | :---: | :---: | :---: |
| Element | List $\$ 9.00$ | Tip................ List $\$ 2.00$ |  |
|  | Shipping Weight 3 lbs. |  |  |



MODEL 350 MIDGET

Recommended for voice coil leads on speaker cones, meter connections, test equipment, hearing aids, crystal pickups, headphone leads, etc. This iron is a continuous duty 35 watt iron with a nickle-chromium element wound over mica insulation on a steel core. No. 350

List $\$ 5.00$ Element

List $\$ 4.00$
Tips, ea........ List $\$ 0.25$ Shipping Weight 1 lb .

# DRAKE (4) 



## DRAKE ''INSTANT HEAT'" SOLDER GUN

A new addition to the famous "Drake" fanily of complete soldering aids. lnstant-heat solder gun for quick soldering requirements. Saves power since gun only operates when trouble-free trigger is squeezed. Equipped with built-in spotlight, properly focused to light soldering spot. Attractive maroon plastic case properly louvered for cool operation. Balance engineered by one of America's most fanous industrial designers. Complete with easily removed tips, one $31 / 2^{\prime \prime}$ tip for ordinary soldering; one $61 / 2^{\prime \prime}$ tip for deep chassis soldering. Operates on $110-120$ volt, 60 -cycles A.C., 135 watts. Shpg. wt., 3 lbs.

## dRAKE HEAT <br> CONTROLS



New thermostatically controlled, automatic, heat controls. Ideal for production applications where iron must be kept at correct soldering temperatures at all times. Complete with oxide removing "Magic Cup." Choice of with or without hood. Operates on 110 to 240 volts and will handle any iron to 660 watts. Shpg. wt., either model: 3 lbs.
No. 305 Less Hood
List Price $\$ 7.50$ No. 305 H With Hood

List Price $\$ 8.50$
Standard Models
These standard economy models have stand-by switch instead of thermostats. Keep switch in low position until iron is almost ready for use. A flip of the switch and the iron is ready for use in a few moments. Variable resisior allows individual adjustment to meet the requirements of each soldering operation. Operates on 110 volts. Shpg. wt., either model: 3 lbs.
No. 300 Less Hood
List Price $\$ 5.50$
No. 300 H With Hood
List Price $\$ 6.00$

No. 9
Drake Solder Pots For Production Line


Model No. 200-300 Watt Unit
An ideal electric solder pot for production use. Used in factory production of tinned wire ends, terminal tinning and countless other volume tinning applications. Holds 2 lbs of bar solder in $21 / 2^{\prime \prime}$ diameter $2^{\prime \prime}$ deep cast iron well. Complete witl detachable Underwriters' Approved cord and plug, and bale type carrying handle. Genuine nichrome element. Shipping weight 6 lbs .
No. 200.
List Price $\$ 6.50$

## Model No. 100-150 Watt Unit

Designed for light tinning. Ideal for occasional jobs. Suited especially for tinning ends of stranded wires to prevent fraying. Can also be used for soldering cord tips to cables. One piece cast iron construction holds heat longer. Size of pot $11 / 2^{\prime \prime}$ diameter $1^{\prime \prime}$ deep. Holds 1 lb . of bar solder. Complete with Underwriters' Approved cord and detachable plug. Shipping weight 3 lbs.
No. 100
List Price $\$ 5.00$

# CALROD SOLDERING IRONS FOR EVERY RADIO REQUIREMENT 

## MANUFACTURING-SERVICE

*Reg. U. S. Pat. Off.

- HIGH-SPEED SOLDERING. You can solder as fast and continuously as the nature of the work will allow.
- UNIFORM PERFORMANCE. Operating characteristics remain constant day after day. No appreciable decrease in efficiency even after months of service.
- LONG LIFE AND LOW MAINTENANCE. Long
life is assured and over-all costs are kept low because sturdy construction eliminates need of frequent repairs.
- EASY, LOW-COST REPAIR. Assembling and disassembling are easy
- THEY NEED NOT BE RETURNED TO THE FACTORY FOR REPAIR. Irons can be repaired on the job without special tools or skill.

*Cat. No. 6A161 and Cat. No. 6.162 can be supplied with either a $3 / 8$ - or $1 / 2$-inch diameter tip at prices given. The long $1 / 2$-inch diameter tip projects $33 / 8$ inches from the sliell. Price of iron with long calorized tip- $\$ 10.10$; with long IRONCLAD tip- $\$ 10.90$.

For light, high-speed soldering, such as assembly of radios, telephones boards, boards, appliances, meters, stallation and repair of wiring and wiring devices wiring and wiring devices, ignition. Rxcellent for service and repair men
WEIGHTS: Less corl, 15
oz. With cord, 20 oz . Shipping, 26 oz.
Equal to old-style copper$13 / 4 \mathrm{lb}$.
Cat. No. 6A200


$$
\begin{array}{cc}
\text { Watts } & \text { Volts } \\
100 & 115
\end{array}
$$



Calorized tip IRONCLAD tip
$\$ 9.55$ * $\dagger$
10.20* $\dagger$

Tip diam.
See note above*


For light, intermittent soldering such as radio assembly and repair and installation, switchboard, irnition, wiring devices, moters and instruments, or very light high-speed soldering of similar products.

WEIGHTS: Less cori, 15 oz. With cord, 20 oz. Shipping, 26 oz .
Liqual to old-style copper$11 / 4-\mathrm{lb}$.

100 Vol
For medium, high-speed soldering of automobile and airplane assembly electric equipment, light tanks and containers of coppar and steel. Excellent general-purpose iron for manufacluring plant.
WEIGHTS: less corl, 24 oz. With cord, 29 oz . Shipping, 34 oz .
E/pratl to old-style copper-
3 -lb. 3-1b.

For light, high-speed soldering, such as assembly of radios and switchboards, medium intermitent solderins on tinware, wiring. plumbing, and tinsmith ing. Excellent general-purpose iron for shop and farm.
WEIGHTS: Less cord, 16 oz .
With cord, 21 oz . Shipping, 27 oz. Equal to old-style copper-2-lb.

Cat. No. 6A202
Cat. No. 6A201


For heavy work such as light commutators, large - diameter pipe, medium-gage copper or steel tank and container material. ronfing, heavy tinware. WEIGHTS: Less cord. 37 oz . With cord, 42 oz. Shipping, 48 oz. Equal to old-style copper-4-lb.

Note-230-wolt irons available on request. Same prices apply. Above prices include supporting stand,
$\dagger$ Mfgr's suggested retail price.

## ASK ABOUT IRONCLAD TIPS

## IRONCLAD TIPS MEAN

- No Filing
- Less Maintenance
- Lower Upkeep Cost
- Longer Life

ASK YOUR DISTRIBUTOR FOR A COPY OF BULLETIN GEA.4519.

Effect of solder (250 C for 363.5 hours) on plain couper (left) and Ironclad copper (right) soldering tips.

# MIDGET SOLDERING IRONS 

## FOR MANUFACTURING AND SERVICE OF RADIO AND ELECTRONIC EQUIPMENT

## APPLICATION

This 8-inch, $13 / 4$-ounce featherweight iron for ciosequarter soldering with pin-point precision is used where conventional irons might cause damage . . . be clumsy to handle . . . be more expensive to operate. The Midget literally goes places with greater efficiency and less power . . . with no sacrifice in heat or speed. With its fingertip operation, this iron will help make an expert out of any solderer in a short time.

The Midget has chisel-shaped Ironclad copper tips either $1 / 8$ - or $1 / 4$-inch diameter, as desired.

## THIS MIDGET DOES A BIG JOB IN

- Boosting Production Rates
- Increasing Operator Efficiency
- Cutting Down Employee Fatigue
- Saving on Repair and Maintenance
- Reducing Rejects
- Manufacturing and Repairing:

Radios and other electronic equipment

## Meters

Instruments
Jewelry
Appliances
. . . and many other products requiring precision soldering

RATING: 6 VOLTS, 25 WATTS

| Description | Cat. No. | Price $\dagger$ |
| :---: | :---: | :---: |
| $\star 1 / 8 \cdot \mathrm{in}$. Ironclad copper tip (pyramid-shaped) | 6 A212 | \$5.40 |
| $\star 1 / 4$-in. Ironclad copper tip (chisel-shaped) | 6 6210 | 5.40 |
| 1/8-in. Renewal tip and heater assembly | 6 6213 | 3.00 |
| 1/4-in. Renewal tip and heater assembly | 6 6211 | 3.00 |

Net weight iron less cord $13 / 4$ oz.
Net weight iron including cord 5 oz.
Shipping weight complete iron 8 oz .
Standard package consists of 6 irons of one tip size. Tip and heater assemblies can be purchased in any quantities.


1/8-in. dia tip, Cat. No. 6A212
(in. dia tip, Cat. No. 6A210

## SPECIAL TRANSFORMERS (OPTIONAL)

 FOR G-E MIDGET SOLDERING IRONS

Single-tap, Cat. No. 84G392


Four-tap, Cat. No. 84G370

Specially designed 115 -volt transformers are available as optional equipment in two types:

1. Single-tap $115 / 6$ volts-for use where only one soldering heat is required
2. Four-tap $115 / 6.3 / 6 / 5.7 / 5.4$ volts - gives wide range of heats (from 20 to 30 watts) for close temperature control of tips
Transformers are small, lightweight, but sturdy. Their 6 -foot extension cords can be plugged in any 115 -volt a-c circuit.

| Description | Cat. No. | Price $\dagger$ |
| :---: | :---: | :---: |
| Single-tap | 84G392 | \$5.20 |
| Four-tap | 84G370 | 7.80 |

Publication Reference
GEA-4519

## THE MIDGET OFFERS MAJOR ADVANTAGES

Low-cost soldering-Solders more efficiently, using only approximately one-fourth wattage normally used.

Fingertip operation-Only 8 inches long, weighs but $13 / 4$ ounces. Styled for fingertip grip.

Quick, continuous heat-Famous G-E Calrod* heater built into Ironclad copper tip for rapid heat transfer.

Easy renewal-Ironclad tip and heater can be replaced as a unit merely by unscrewing from handle.

Long life, low maintenance-Low voltage permits use of heavy, long-lasting resistant wire. Reduced servicing with long-lasting Ironclad copper tip.

* Registered U.S. Patent Office.
† Manufacturers' suggested retail price.

ELECTRIC SOLDERING IRONS

GENERAL INFORMATION--Equiped will 6 ft . ( 10,000 eycle) GENERAL INFORMATION--Equipped will 6 ft ( 10,000 eycle)
approved heater cord (covered with twine braid for extra long approved heater cord (covered with twine braid for extra long
wear) and rubber plug. Continental or English type plurs 25 c wear) and rubber plug. Continental or English type pluys 25 c
extra list. Metal stand furnished with each iron. Heating elements extra list. Metal stand furnished with each iron. Heating elements made of best grade nickel-chromium resistance wire, insulated with finest mica obtainable. Elements in the plug tip irons are replaceable by the user and in the screw tip irons replaceable at
the factory. Tips in all irons are replaceable; nade of hard drawn pure copper. Case is made from solid Hexacon steel (except No 50 and P-30), affording it great mechanical strength, preventing denting. Terminal easily accessible and constructed to relieve cord train. Smoolh, cool, comfortable handle-readily replaceable oltage range: 32 to 250 . Standard voltares $110 / 120,121 / 130$ $220 / 250$. All other voltages $\$ 1.00$ extra list.

## SCREW TIP IRONS



No. 50-For light soldering on radio, telephone and electrical apparatus. 50 Watts. Tip diam., $\frac{7}{16 \prime}$. Ship. wt., 1 lb . Equal to $1 / 2-\mathrm{lb}$. old style copper.
each $\$ 4.50$
No. 60-Medium light soldering on telephone, radio, apparatus and inemen's kits. 60 Watts. Tip diam., 1/2". Ship. wt., $11 / 8$ lb. Equal to 1-lb. old style copper..............................................each $\$ 6.25$


No. 85 - A high speed tool for telephone, radio and home use. 90 Watts. Tip diam., $1 / 2^{\prime \prime}$. Ship, wt., $11 / 4 \mathrm{lb}$. Equal to $11 / 2-1 \mathrm{~b}$. old style copper
each $\$ 7.00$


No. 120-Light tinware, toys, typewriter, light anto, etc. A high speed iron, 120 Watts. Tip diam., 5/8". Ship. wt., $13 / 8 \mathrm{lb}$. Equal to 2-lb. old style copper


No. 130 -Same as No. 120 except has larger tip and 10 more watt capacity. 130 Watts. Tip diam., $7 / \mathrm{s}^{\prime \prime}$. Ship. wt., $15 / 8 \mathrm{lb}$. Equal to 2-lb. old style copper.
each $\$ 8.75$
No. 170-Medium tinware, small cans, auto repairs, pipes, gutters, toys, small motors. 175 Watts. Tip diam., 1 ". Ship. wt., $21 / 4 \mathrm{lb}$ Equal to $21 / 2-1 \mathrm{~b}$. old style copper....................................each $\$ 10.00$


No. 225-Medium tinware, cans, auto repairs, metal batierns, light roufing, small branders. 250 Watts. Tip diam., $11 / 8^{\prime \prime}$. Ship wt., $25 / 8$ lb. Eqital to $3-1 \mathrm{l}$. old style copper
cach $\$ 11.00$


No. 350-Heavy tinware, large cans, autos, roafing, reirigerators, ship and airplane. 350 Watts. Iip diam., $13 / 8$ ". Ship wt., $33 / 8 \mathrm{lb}$. Equal to $4-1 \mathrm{~b}$. old style copper.....
each $\$ 13.00$


Ne. 500 - Auto repairs, sinks, roofs, cans, armatures, large branders, tinsmiths, etc. 500 Watis. Tip diam., $15 /{ }^{\prime \prime}$. Ship. wt., 4 lb. Equal to $5-\mathrm{lb}$. old style copper.......................................................each $\$ 15.00$ No. 700 -For extra heavy soldering and large branders. 700 Watts. Tip diam., $13 / 4$ ". Ship. wt., 5 lbs. Equal to 7-lb. old style copper. each \$27.50

OPERATE ON A.C. OR D.C., ANY CYCLE


No. P-30-For extremely light soldering on finest wire and delicate instruments. 40 Watts. Tip diam., $1 / 4$ ". Ship. wt., $5 / 8 \mathrm{lb}$. Equal to 1/4-lb. old style copper....................................................................... $\$ 4.50$ No. P-70-For light soldering on radio and telephone apparatus and electrical instruments. 80 Watts. Tip diam., $\% /{ }^{\circ}$ ". Ship. wt., $11 / 8 \mathrm{lb}$. Equal to 1 -1h. old style copper.
each $\$ 6.00$


No. P-100-A high speed tool for telephone switchbourds, electrical instruments, etc. 100 Watts. Tip diam., $8 / 8$ ". Ship. wt., $11 / 4 \mathrm{lb}$ Equal to $11 / 2-\mathrm{lb}$. old style copper.........................................each $\$ 7.00$
No. P-125-For light tinware, toys, typewriter type bars, small cans, auto, etc. 130 Watts. Tip diam., $5 /{ }^{\prime \prime}$. Ship. Wt., $11 / 2 \mathrm{lb}$. Equal to $2-1 \mathrm{~b}$. old style copper.. each $\$ 8.50$

No. P-150-Lixtra high speed iron for radios, electrical apparatus and where a light iron with small diameter is required. 150 Watts. and where a light iron with small diameter is required. 150 Watts.
Tip diam., $3 / 8^{\prime \prime}$. Ship. wt., $13 / 4 \mathrm{lb}$. Equal to $2-\mathrm{lb}$. old style copper each \$7.75
No. P-151-Sume as No. P-150, except where a larger tip is desired. 175 Watts. Tip diam, $1 / 2^{\prime \prime}$. Ship. wt., $13 / 4 \mathrm{lb}$. Equal to $21 / 2-\mathrm{lb}$. old style copper
each $\$ 8.25$


No. P-200-For medium tinware, cans, auto repairs, light roofing, sheet metal, etc. 200 W'atts. Tip diam., $5 / 8$. Ship wi., $21 / 8 \mathrm{lt}$. Equal to $23 / 4$-1b. old style copper.............................................. $\$ 9.50$ No. P-250-Same as No. P-200, except where greater speed is required for manutacturing. 250 Watts. Tip diam., 5/8". Ship. wt. $21 / 4 \mathrm{lb}$. Equal to 3-1b. old style copper ............................... $\$ 10.75$


No. P-300-For heavy inware, large citis. auto, routing, refrigerator work, etc. 200 Watts. Tip diam., $7 /{ }^{\prime \prime}$. Ship. wt., $27 / 8 \mathrm{lb}$. Equal to 4-ll. old style copper
each $\$ 12.50$


No. P-550-For auto radiators, copper sinks, roofs, heavy armatures, arse branders, etc. 500 Warts. Tip diam., $11 / 8^{\prime \prime}$. Ship. wh., $4^{1 / 2} \mathrm{lb}$. Equal to $5-1 \mathrm{~b}$. old style copper ........................................... $\$ 15.00$ SPECIFY VOLTAGE WHEN ORDERING

## HEXACON HATCHET TYPE IRON

For aame use as l'lug Tip irons of equal wattage, shown aloove. Replaceable elements and all other features of Plug Tip Jrong.


## HEXACON FEATHERWEIGHT HATCHET IRON

So light its weight is hardly noticeable, but more powerful than most larger irons. Hatchet design makes iron effortless to use. No transtormer or other cumbersome and expensive equipment required.


List Price........ $\$ 5.00$ Weight: $51 / 2$ ozs. (less cord). *Vatts: 40,50 or 60 . Both $1 / 8^{\prime \prime}$ and $1 / 4^{\prime \prime}$ dia. tips furnished with each iron. Shipping weight: 1 lb
*Specify watts when ordering.

## SOLDERMASTER Royal Blue Line ELECTRIC SOLDERING IRONS

GENERAL INFORMATION-Replaceable elements. Best grade of Mudagascar mica for insulation. No. 55 has brass-aheathed cart ridge element. lest grade nickel-chrome resistance wire. Replaceable hard drawn copper tips. All one piece swamed cases

CHROME PLATED. Equipped with 6 ft . Underwriters' Approved heater cord, rubber plug. Continental or English type plug 25c extra list. Stand for resting iron furnished.

VOLTAGES 110/120 220/250 A.C. or D.C., ANY CYCLE SPECIFY VOLTAGE WHEN ORDERING

## SCREW TIP IRONS



No. 558-For light soldering, radio apparatus, etc. 55 Watts. Tip diam., $\mathbf{1}^{76}$. Ship. wt., 13 oz. each $\$ 2.50$


No. 76B-For light work, electrical instruments, etc. 75 Watts. Tip diam., 1/2". Shif!. wt., ls oz.
each $\$ 4.00$


No. 100B—Same as No. 76 B except used where more speed is required and heavier work is done. For home use. 90 Watts. Tip diam., $1 / 2^{\prime \prime}$ Ship. wt., 10 oz..................................................................each $\$ 4.50$


No. 150B-Ideal size for tarage and repair work. For home use. 170 Watts. Tip diam., 7/8". Slip. wt., 24 ox.............................each $\$ 7.00$


No. 300B-For heavy steel metal, auto radiators, etc. 275 Watts. Tip diam., $11 / \mathrm{s}^{\prime \prime}$. Ship, wt., $38 \mathrm{oz} . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . e a c h ~ \$ 10.00 ~$

## PLUG TIP IRONS



No. 718 --For light work, radio repairs, etc. 75 Watts. Tip diam., No.". Slip. wt., 16 oz. ..................................................each $\$ 4.00$


No. 1018 -For same work as No. 71 B , lut where more speed is required br heavier work is done. For home use. 100 Watts. Tip diam., $3 / 8^{\prime \prime}$. Ship. wt., 18 oz .

 Tip diam., $3 / \mathbf{z}^{\prime \prime}$. Ship. wt., $13 / 4$ lbs.


No. 201B-For same work as No 150 B , except where plug tip is desired. 200 Watts. Tip diam., 5/8". Ship. wt., $34 \mathrm{oz} . . . . .$. each $\$ 8.00$


No. 301 B -For same work as No. 300 B, except where plug tip is desired. 300 Watis. Tip diam., 7/8". Ship, wt., $46 \mathrm{oz} . \ldots \ldots$ each $\$ 10.00$

## DISPLAYS

Increase your sales with these silent salesmen. Irons securely mounted, but readily removable for sale. Individually packed in cartons ready for shipment. Catalog number and wattage shown on front of display. Complete catalog information and price list on back.

SCROLL TYPE DISPLAY
Striking, Modernistic, All Metal Panel


No. 1 DISPLAY Illustrafed
Size $15^{\prime \prime}$ x $171 / 2^{\prime \prime}$ (Nos. 1B, 2B, and 3B also same size) This Display Panel Also Furnished With Five or Seven Irons (See Below)

No. 1B-Nine Iron with Nos. $55 \mathrm{~B}, 76 \mathrm{~B}, 100 \mathrm{~B}$, $150 \mathrm{~B}, 300 \mathrm{~B}, 71 \mathrm{~B}, 101 \mathrm{~B}, 201 \mathrm{~B}, 301 \mathrm{~B} \ldots$
No. 2B--Seven Iron with Nos. $55 \mathrm{~B}, 76 \mathrm{~B}, 100 \mathrm{~B}$, $150 \mathrm{~B}, 300 \mathrm{~B}, 71 \mathrm{~B}, 101 \mathrm{~B}$
$20 \mathrm{llss} . \quad \$ 54.50$
17 lbs. 36.50
No. 3B-Five Iron with Nos. $55 \mathrm{~B}, 76 \mathrm{~B}, 100 \mathrm{~B}$, $150 \mathrm{~B}, 300 \mathrm{~B}$.

15 llus. 28.00
No. 4B-Five Iron with Nos. 71B, 101B, 12113, 201k, 301 B

16 lbs.
32.00

## ATTRACTIVE THREE COLOR CARDBOARD DISPLAY



|  | Ship. <br> Wt. | List <br> Price |
| :---: | :---: | :---: | :---: |
| No. 5 B —Three Iron with Nos. $55 \mathrm{~B}, 76 \mathrm{~B}, 100 \mathrm{~B}, \ldots$ | lbs. | $\$ 11.00$ |

## KWIKHEAT

## SOLDERING IRONS

## thermostailcally controlleo

 HOT IN 90 SECONDS - 225 WATTS 110/120 V. A.C.

- New Bevelled Tips give 30\% more heat
- Three times faster heating
- Maintains constant temperature
- Tips stay tinned 10 times longer


## $\$ 1700$

- Cannot overheat
- Temperatures are pre-set


## Self-Contained Thermostat Patented Feature

KWIKHEAT Thermostatically Controlled Soldering Iron is the only iron containing a built-in thermostat.

This enables it to heat up ready for use in 90 seconds! Fully guaranteed! KWIKHEAT's patented thermostat maintains perfect temperature for best soldering prevents overheating . . . prolongs life of iron reduces cost of tip maintenance. Cool plastic handle . . . light weight . . . 6 interchangeable tip styles make one KWIKHEAT equivalent to several soldering irons of different voltage.

LIST PRICE
$\$ 11^{00}$

## SPECIFICATIONS

Type \#300:
225 Watts - 100/125 V. A.C. Weight of iron with \# tip: $131 / 2$ ozs. Length of iron with tip: $131 / 4$ inches Length of cord: 6 feet
Core made of tellurium copper alloy Tips: \$1.25 each Set of 5: \$5.50

SIX INTERCHANGEABLE TIP STYLES Each \$1.25




Manufacturers of

## Ungar Electric Soldering Pencils



# WELIER SOLDERING GUHS FOR ALL YOUR SOLDERING 



Fast 5 second heat comes on the instant trigger is pulled. No wasted time or current. No need to unplug gun between jobs.

## TRIGGER ACTION

Just pull the trigger switch . . . model S-107 has single heat 100 watts; model D-207 offers dual heat with two switch positions 100 and 135 watts.

## FLEXIBLE TIPS

Flexible tips can be easily formed to slip through chassis wiring; handles difficult, deep corner jobs with ease.

## PREFOCUSED SPOTLIGHT

Built-in Solderlite eliminates blind soldering-locates the work quickly and shows you exactly what you are doing.

## TWO TYPE WELLER TIPS



Duratip is standard for models S-107 and D-207-chisel shape provides more soldering area, maximum soldering efficiency. Pkg. of 2 for 25 c .


Long Life Tip-loop tip, highly efficient. at less cost. Package of 4 for 25 c .



Model WD-250 has 200 watts normal heat on first switch position, and 250 watts instant heat on second trigger position. Model WS-200 provides 200 watts single heat.

## 5 SECOND HEAT

Pull the trigger switch, and solder. Fast 5 second heating eliminates waiting. Heat goes off automatically when trigger is released ... no wasted time or current, no need to unplug gun between jobs.

## NEW DESIGN

Streamlined design gives perfect balance and soldering ease. Improved transformer engineering provides light weight, compact unit with increased capacity and efficiency. 'Over and under' terminal positions assure maximum visibility with built-in spotlight.

## LONGER REACH

Greater $51 / 4^{\prime \prime}$ length reaches into remote spots with ease.

## RIGID-TIP

New, improved tip is standard with models WS-200 and WD-250. $\lll$ Chisel-shape tip has more copper and greater surface for faster heat transfer, and design provides bracing action for heavier soldering. Package of 2 for 35 c .

| MODEL | WATTS | CYCLES | VOLTS | LENGTH* | NET PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: |
| S-107 | single hear <br> 100 | 60 | 115 | $4^{\prime \prime}$ | $\$ 11.95$ |
| WS-200 | single heat <br> 200 | 60 | 115 | $51 / 4$ " | 12.95 |
| D-207 | dual heat <br> $100 / 135$ | 60 | 115 | $4^{\prime \prime}$ | 13.95 |
| WD-250 | dual heat <br> $200 / 250$ | 60 | 115 | $51 / 4$ " | 14.95 |

*tength-dimension from front of housing to tip.
U.S. Pat. No. 2405866, Other Pat. Pending.

## KESTER FLUX-CORE SOLDER Standard for the Radio and TV Field





## "GRIPTITE" COMBINATION PLIERS

The finest quality combination pliers. Designed for heavy duty. Slightly tapered nose. sharp deep milled teetl and grooved jaws for gripping cotter pins and wire. Knurled handles. The $8^{\prime \prime}$ and $10^{\prime \prime}$ sizes have three slip joint adjustments which give a wide range of parallel grips.

| No. | Length | Finislı | z. | Price |
| :---: | :---: | :---: | :---: | :---: |
| 356 | $51 / 2 \mathrm{in}$. | Full Nickel | $31 / 2 \mathrm{lbs}$. | \$1.50 |
| 356 | in. | Full Nickel | $51 / 4 \mathrm{lbs}$. | 1.60 |
| 356 | in. | Full Nickel | $83 / 4 \mathrm{lhs}$. | 2.00 |
| 356 | 10 in. | Full Nickel | 14 lbs . | 2.50 |



## THIN NOSE COMBINATION PLIERS

The tapered jaws and thin nose of these pliers enable the mechanic to grip objects difficult to reach in tiglit, narrow working spaces. Knurled handles, milled gripping teeth and wire cutters.

|  |  |  |  | Price |
| ---: | :---: | :---: | :---: | :---: |
| No. | Length | Finish | Wt. per doz. | Each |
| 40 | 5 | in. | Nickel Plated | $21 / 4 \mathrm{lbs}$. |
| 40 | 6 | in. | Nickel Plated | $\$ 1 / 4 \mathrm{lbs}$ |



## MECHANICS' SIDE CUTTING PLIERS

Gripping pliers with side cutters. Tapered nose, milled teeth and grooved jaws for gripping cotter pins and wire. Knurled landles. The cutters are very handy for light wire work.

|  |  |  | Price |  |
| :--- | :---: | :---: | ---: | ---: |
| No. | Length | Finish | Wt. per doz. | Each |
| 1973 | $b 1 / 2 \mathrm{in}$. | Full Nickel | $31 / 2 \mathrm{lhs}$. | $\$ 2.20$ |
| 1973 | 7 | in. | Full nickel | $\tau 1 / 4 \mathrm{lhs}$. |



## LINEMEN'S SIDE CUTTING PLIERS

Designed for heavy work to meet the requirements of linemen. Drop forged from selected plier steel, skilfully hardened and tempered. Powerful wire cutters, a well balanced head and deep milled gripping jaw surface for loolding and bending wire.

| $\begin{aligned} & \text { No. } \\ & 1801 \end{aligned}$ | Length | Finisll | Wt. per doz, | Price |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Each |
|  | 6 in. | Blue Temper | $51 / 4 \mathrm{los}$. | \$2.45 |
| 1801 | 7 in. | Blne Temper' | $71 / 2 \mathrm{lbs}$. | 2.75 |
| 1801 | $81 / 2 \mathrm{in}$. | Blue 'Temper' | $111 / 4 \mathrm{lbs}$. | 3.75 |

## ELECTRICIANS' SIDE CUTTING PLIERS

Used extensively in electric wiring of fixtures, appliances and other general repair work.
Very popular with mechanics on production work where electric wiring is required in the finished product.

|  |  |  |  | Price |  |
| :--- | :---: | :---: | :---: | :---: | ---: |
| No. | Length | Finish | Wt. per doz. | Each |  |
| 1830 | 4 | in. | Blue Temper | $11 / 2 \mathrm{lbs}$. | $\$ 1.75$ |
| 1830 | 5 | in. | Blue Temper | $21 / 4 \mathrm{lbs}$ | 1.90 |
| 1830 | $61 / 2 \mathrm{in}$. | Blue Temper | $43 / 4 \mathrm{lbs}$. | 2.10 |  |
| 1830 | 7 | in. | Blue Temper | $63 / 4 \mathrm{lbs}$. | 2.35 |
| 1830 | 8 | in. | Blue Temper | $81 / 4 \mathrm{lbs}$. | 2.75 |



## IGNITION PLIERS

Very narrow head, serrated gripping teeth and well shaped handle grips. Three slip joint positions. Generally used on distributor, generator, magneto and carburetor work.

|  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Price |  |  |  |  |  |
| No. | Length | Finish | Wt. per doz. | Each |  |
| 643 | 5 | in. | Blue Temper | 1 | lb. |
| $\$ 1.60$ |  |  |  |  |  |



## SHORT CHAIN NEEDLE NOSE PLIERS

Short tapered jaws for bending and looping wire. The short nose gives these pliers extra leverage and gripping strength. Used for wiring switches and other open electric work

|  |  |  | Price |  |
| :--- | :---: | :---: | :---: | ---: |
| No. | Length | Finish | Wt. per doz. | Each |
| 1641 | 5 in. | Blue Temper | $23 / 4 \mathrm{lbs}$. | $\$ 2.00$ |
| 1643 | Same without Cutter | $23 / 4 \mathrm{lbs}$. | 1.75 |  |



## LONG CHAIN NEEDLE NOSE PLIERS

Long tapered jaws and needle nose. Used extensively in all industries . . . from switchboard, electric fixture and appliance wiring . . . to motor ignition. aviation and general manufacturing work.

Price

| No. | Length | Finish | Wt. per doz. |
| :--- | :---: | :---: | :---: |
| 1661 | 6 in. | Blue Temper |  |
| 1671 | Same without Cutter | $31 / 2 \mathrm{lbs}$. | $\$ 2.30$ |
|  | $31 / 2 \mathrm{lbs}$. | 1.80 |  |



## EXTRA LONG CHAIN NOSE PLIERS

Extra long tapered jaws with narrow pointed nose. Used extensively in automotive . . . electric . aviation and general production and repair work.

Lengtl of jaw $23 / 4 \mathrm{in}$.
Price

| No. | Length | Finish | Wt. per doz. Eacll |  |
| :--- | ---: | :---: | :---: | ---: |
| 1.781 | 7 in. | Blue Temper | $33 / 4 \mathrm{lbs}$. | $\$ 2.65$ |
| 1771 | Same | without Cutter | $33 / 4 \mathrm{lbs}$. | 2.15 |



## LONG FLAT NOSE PLIERS

Adaptable to many uses where a tool with long flat sturdy jaws is required. Jaws are scored to give a good gripping and holding surface.

Price

| No. | Length | Finish | Wt. per doz. | Each |
| :--- | :---: | :---: | :---: | :---: |
| 1751 | $6 \quad$ in. | Blue Temper | 3 | lbs. |
| 1741 | Same without Cutter | 3 | lbs. | 1.90 |



## LONG NEEDLE OR SNIPE NOSE PLIERS

Especially designed for difficult and awkward jobs where no other tool will serve. The long slender jaws make it adaptable to many uses. A very popular plier for fine work.

$$
2 \frac{3}{32} \text { in. Jaw }
$$

| No. | Length | Finish | Wt. per doz. Each |  |
| :--- | ---: | :---: | :---: | :---: |
| 1621 | 6 | in. | Blue Temper | $21 / 4 \mathrm{lbs}$. |
| $\$ 2.10$ |  |  |  |  |



## curved needle or SNIPE NOSE PLIERS

To reach that place down in under or around an obstruction. Very useful where greater visibility is required in holding small objects at an angle.

Price
No. Length Finish Wt. per doz. Fach $1631 \quad 51 / 2$ in. Blue Temper $21 / 4$ lbs. $\$ 2.35$



## DIAGONAL "OBLIQUE" CUTTING PLIERS

Made especially for close cutting. Used extensively in electrical work, radio manufacturing, telephone and antomotive ignition work

| No. | Size | Finish |  | Wt. per doz. | Each |
| :--- | :---: | :---: | :---: | :---: | ---: |
| 4501 | $41 / 2 \mathrm{in}$. | Blue Temper | $11 / 2 \mathrm{lbs}$. | $\$ 1.80$ |  |
|  | 5 in. | $"$ | $"$ | $23 / 4 \mathrm{ibs}$. | 2.05 |
|  | 6 in | $"$ | $"$ | $33 / 4 \mathrm{lbs}$. | 2.35 |



## SHORT NOSE DIAGONAL CUTTING PLIERS

An excellent cotter pin tool. Specially designed with short nose. Very popular witl aviation and automotive mechanics.


## "HIGH POWER" DIAGONAL CUTTING PLIERS

This type diagonal plier has the joint very close to the end of the cutter to give added leverage which makes cutting easy. A well balanced tool adaptable to the work in many trades.

| No. | Length | Finish | Wr. per doz. | Price |
| :--- | :---: | :---: | :---: | :---: |
| Each |  |  |  |  |
| 4610 | 7 in | Blue Temper | $53 / 4 \mathrm{lhs}$. | $\$ 4.30$ |



## WIRE STRIPPING DIAGONAL CUTTING PLIERS

Narrow head and notched cutters for stripping fine wire 066 diameter. The spring in the handle makes this a very fast cutting tool. Used by manufacturers of electric fixtures, appliances, radio and radio tubes.

|  |  |  | Price |  |
| :--- | :---: | :---: | :---: | :---: |
| No. | Lengtl | Finish | Wt. per doz. | Each |
| 2612 | $61 / 2 \mathrm{in}$. | Blue Temper | 3 lbs. | $\$ 2.85$ |



No. 1850

## END CUTTING NIPPERS

Powerful end nippers carefully edged to insure sharp enduring cutters. Compact jaws and close riveted joint.

|  |  |  |  | Price |
| :---: | :---: | :---: | :---: | :---: |
| No | Length | Finish | Wt. per doz. | Each |
|  | 5 in . | Blue Temper | $41 / 2 \mathrm{lbs}$. | \$2.00 |
| 1850 | 6 in . | Blue Temper | lbs. | 2.25 |
| 1850 | 7 in . | Blıe Temper | 8 lbs . | 2.50 |
| 1850 | 8 in. | Blue Temper | 101/2 lbs. | 2.90 |

NOTE: These pages contain only a partial listing of KRAEUTER Tools. Ask for complete catalog describing the entire extensive KRAEUTER line.
All prices subject to change without notice.


No. 4206

## HARD WIRE DIAGONAL CUTTING PLIERS

Designed and edged for the purpose of cutting hard wire . . . in small sizes not larger than $\frac{1}{16}$ " diameter . . not intended for cutting soft wire.

| No. | Length | Finish | Wt. per doz. | Price |
| :--- | :---: | :---: | :---: | :---: |
| 4206 | 6 in. | Blue Temper | $41 / 2 \mathrm{lbs}$. | $\$ 2.50$ |

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS

## Professional Line

## SPECIAL NEEDLE POINT PLIERS

Designed for light fine professional work. The special needle points of these pliers make then invaluable where delicate adjustments have to be made.
(NOSE OF THESE PLIERS NOT GUARANTEED)


LONG NOSE NEEDLE POINT PLIERS


NEEDLE POINT DIAGONAL CUTTING PLIERS
Price


OVAL HEAD DIAGONAL CUTTING PLIERS


NEEDLE POINT DIAGONAL CUTTING PLIERS

| No. | Length | Finisl | Wt. per.doz. | Price |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Each |
| 5601 | $41 / 2 \mathrm{in}$. | Full Polished | 2 lbs . | \$2.50 |
| 5601 | 5 in. | Full loolished |  | 2.70 |
| 5601 | 6 in. | Full Polished |  | 3.10 |
| Needle Points |  |  |  |  |

## NEEDLE POINT SNIPE NOSE PLIERS

Price
No. Length Finish Wt. per.doz. Each
$842 \quad 6$ in. Fıll Polished $\quad 21 / 4 \mathrm{lbs} . \quad \$ 2.50$


No. 41 - Electricians' Diagonal Pliers-
Hardened and tempered in oil. Special narrow nose for radio and electrical work.

No. 41
4 inches, 5 inches and 6 inches
Can be furnished with insulation stripper.


## No. 654 - Utica Long Needle Nose Side Cutting Plier

This is a long, fine, spring-tempered nose side cutting plier, drop forged and with hand-honed cutting knives.
Utica Finish Size............................... 6 inches and 7 inches


## No. 1033 - Utica Long Chain Needle Nose Plier

This is a long needle nose type of plier without $\alpha$ side cutter. It has a spring-tempered needle nose with a fine balance for delicate work.
Utica Finish Size.............................. 6 inches and 7 inches


## No. 622 - Utica Short Chain Nose Mechanic's Plier

This plier is a Short Chain Nose Side Cutting Plier, hand-honed cutting knives. It makes an all around Electrical Mechanic's plier.
Utica Finish Size 5 inches

No. 44S—Special Diagonal Pliers with Spring


A slim nose cutting plier designed especially for radio and electrical work. Extra fine hand honed edges permit nearly flush cuts.
Útica Finish Size ............................. 5 inches and 6 inches


## No. 50 - Utica Standard Side Cutting Plier

An ideal tool for electrical work. Drop forged and skillfully tempered. Its cutting qualities are unsurpassed by any side cutting plier.
Utica Finish Size
$5,6,7,8$ inches


## No. 777 - Utica Long Needle Nose Plier

This plier has a long, hall-round, spring-tempered nose for very fine work in assembling small electrical apparatus.
Utica Finish Size ................................................ 6 inches


## No. 888 - Curved Needle Nose Pliers-

This is a long curved spring-tempered Needle Nose Pleir for use in deep and narrow places. It may be used without turning or twisting the hand in the assembling of small fixtures, electrical apparatus, etc.
Utica Finish Size
6 inches


## No. 22 - Utica Chain Nose Plier

This is a Short Chain Nose Plier forged from a fine quality of steel with fine points particularly adapted for the use of Jewelers, Opticians, Telephone Installers, Electricians and Radio Assemblers.

Utica Finish Size
4, $41 / 2,5,6$ inches


## No. 82 - Utica Chain Nose Wiring Plier

This is a special Radio Repair man's plier, new in design, having a chain nose for those who prefer this type of construction.
Utica Finish Size 8 inches


## No. 46 - Midget Diagonal Plier

A small Diagonal for radio and electrical work. Hand honed edges with a slim nose for use in cramped quarters. Utica Finish Size. .4 inches


## No. 91 - Thin Adjustable $221 / 2^{\circ}$ Angle Wrenches, Alloy Steel

Both the handle and jaw are drop forged from a high grade Alloy Steel, hardened and tempered in oil. Will not break or wear in the gear teeth and allow play in the wrench, permitting the jaw to slip off the nut.
It will give better service and last longer than any other wrench.
Size
$4,6,8,10,12$ inch


No. 895
Utica Radio Plier
This is a General Radio Repair Man's Plier. It has a center cutter and flat scored nose for looping and bending.

Utica Finish Size
6 inches


No. 517 Utica Ignition Plier
This ignition Plier with its unique design will fit all ignition units, spring tempered. A great little tool for the hard to get at adjustments.
No. 517
5 inches


No. 65 - Utica
Jeweler's End Cutting Nipper
This Nipper is forged from a fine grade of steel, carefully tempered. A light, strong End Cutting Nipper, used by Electricians and Machinists. The keen cutting edges and "Perfect Fit" handles make this a very popular tool.
Utica Finish Size...- $41 / 2$ and 5 inches
No. 100BX - Utica-Smith Pocket Armor Cutters
No. 100BX—Utica-Smith Pocket Armor Cutters 7" Alloy Steel


The easiest, quickest tool made for cutting armored cable. Fully illustrated instructions packed with each tool.
Utica Finish Size
7 inches

# 2uality XCELITE Tooks 

## Creators of

## SHOCK-PROOF BREAK-PROOF AMBER PLASTIC HANDLE SCREWDRIVERS

TIP is properly ground and gauged to fit screw slot accurately. Ground on a flat belt grinder with grain running lengthwise with
 the blade "B" eliminates the indentations of crosswise grinding, always sources of tip weakness and breakage " $A$ ". XceLite grinding insures uniformity right down to the edge of the tip; insuring perfect fit in the screw slot Note ilhustration "C" showing perfect rectangle of XceLite Tip, insuring grip in screw slot. Illustration "D" shows "dubbed-off" result of ordinary grinding with the tendency to lift out of the screw under


SIZE is clearly marked on the handle. Easier to select the correct size - easier to reorder. Number on handle is catalog number, also it gives size of screwdriver. For example: No. 144 means $1 / 4^{\prime \prime}$ diameter blade; $4^{\prime \prime}$ long. Letters "R" or "S" signify round or square blade.


BLADE is skillfully forged of SAE 6150 Chorme Vanadiunı Flectric Furnace Steel. Polished mades.

FLANGE on the blade of handle resists shock of pounding.

EMBEDDED END of blade, winged design, prevents turning of the blade in the handle.

HANDLE is of genuine XceLite plastic, full size and correctly shaped for grip and balance.

XCELITE SHOCKDESS SCREWDRIVERS Complete XceLite, Screwdriver Price List


+ tharge double-grip handles.
tserewliolding type used on SH-10 Display.


## Round Blades

| Number | Size Blade | List | Weight Box of 10 |  |
| :---: | :---: | :---: | :---: | :---: |
| *R-3322 | $5^{\prime \prime \prime} \times 2$ " | \$.30 | $1 / 2 \mathrm{lb}$. | 4 ea. |
| *R-3323 | 32"x $3^{\prime \prime}$ | . 30 | $1 / 2 \mathrm{lh}$. $\}$ | on 332 |
| *R-3324 |  | . 30 | 1/2 lb. | Display |
| * R R-181 | 1/8" ${ }^{\prime \prime}$ x $2^{\prime \prime}$ | . 30 | 1/2 lb. | 4 ea. |
| *R-183 | 1/8"x $3^{\prime \prime}$ | . 30 | $1 / 2 \mathrm{lb}$. | used on |
| *R-1841/2 | $1 / 8{ }^{\prime \prime} \times 4$ " | . 30 | $1 / 2 \mathrm{lb} . 丁$ | \#12 Dis- |
| $\dagger$ †R-184 | 1/8"x 4 " | . 50 | 1/2 lb. | play |
| ttR-186 | $1 / 8{ }^{\prime \prime} \times 6$ " | . 55 | $3 / 4 \mathrm{lb}$. |  |
| ttR-188 | 1/8"x 8" | . 60 | 1 lb . |  |
| $\dagger$ †R-1810 | 1/8" $\times 10$ " | . 65 | 1 lb . |  |
| R-5323 | $\frac{B^{3 \prime}}{3 \prime \prime} \times 3$ " | . 60 | 1 lb. |  |
| R-5324 | $\frac{8}{32}{ }^{\frac{8}{3}} \mathrm{x} 44^{\prime \prime}$ | . 60 | 1 lb . | on \#10 |
| R-5325 | $5^{\frac{5}{72}}{ }^{\prime \prime} \times$ x $5^{\prime \prime}$ | . 60 | 1 1b. | Display |
| R-5328 | $5^{\frac{5}{52}}{ }^{\prime \prime} \times 8$ 8" | . 70 | $11 / 4 \mathrm{lb}$. |  |
| R-3163 | 3"1 ${ }^{\frac{1}{17}}$ | . 70 | $11 / 2 \mathrm{lb}$. |  |
| R-3164 | ${ }^{\frac{3}{18}}{ }^{\prime \prime} \times \mathrm{x}^{\prime \prime}$ | . 75 | $11 / 2 \mathrm{lb}$. |  |
| R-3166 | ${ }^{\frac{3}{18}}{ }^{\prime \prime} \times 6{ }^{\prime \prime}$ | . 85 | $13 / 4 \mathrm{lb}$. |  |
| R-3168 |  | . 90 | $13 / 4 \mathrm{lb}$, |  |
| R-31610 | 10" 1010 " | 1.00 | 2 lb . |  |
| R-31618 | $\%^{\prime \prime} \times 18{ }^{\prime \prime}$ | 1.75 | (pk. 1) |  |
| R-144 | $1 / 4 \prime \prime \times 4$ " | . 90 | 2 lb . |  |
| R-146 | $1 / 4 "$ x 6 "' | . 95 | $21 / 4 \mathrm{lb}$ |  |
| R-148 | 1/4"x 8" | 1.05 | $21 / 2 \mathrm{lb}$, |  |
| R-5166 | $5^{\prime \prime \prime} \times 6^{\prime \prime}$ | 1.15 | $31 / 2 \mathrm{lb}$. |  |
| R-5168 |  | 1.25 | 4 lb . |  |

**24 of this number used on 424 display
*These numbers have $1 / 2 "$ dia. handles.

+ \$These numbers have $5 / 8 "$ dia. handles. For insulated blades any size in round list add 25 cents to list price.
There's an XceLite Screwdriver "sizol" to fit every job
Note: We have standardized our mackages on the decimal system inatead of in dozens, in accordance with dovernment practice. All screwdrivers and nut divivers will be pucked ten in a box, except Where otherwige noted (exceptions are larye sizes or slow moviner items). Weights given aboue are correct to the nearest quarter. pound limit.


## 2uchty XCELITE Took

REG．TRADE MARK


## OR INDIVIDUALLY




HANDLES ONLY
No． 26 Stubby

## DETACHABLE REAMERS



Detachable to fit your XceLite No． 14 Nut Driver or ＂Combination－Detachable＂Screwdriver！Short enough 10 get in where ordinary reamers can＇t！Enlarge holes in plastic，sheet metal，wood！

## REAMER SETS IN BOX



No．BR32 Contains Reg．Mandle，No． 61 and 62 Reamers．．．．．．．．．．．．$\$ 4.25$ No．BR33 Contains Rer．Handle，No．61， 62 and 63 Reamers．．．．．． 5.95

## REAMERS IN PLASTIC ROLL KIT

No．RK－42 Contains Reg．Handle，No． 61 and 62 Reamers．．．．．．．．．$\$ 4.25$ No．RK－43 Contains Reg．IIanile，No．61， 62 and 13 Reamers． 5.95

| No． | Point Size | Length Blade | Diameter Blinde | Wrixht | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| X－108 | 1 | $6^{\prime \prime}$ | $311{ }^{\prime \prime}$ | 2 lbs ． | \＄1．05 |
| $x-101$ | 1 | $3^{\prime \prime}$ | 星＂ | $11 / 4 \mathrm{lbs}$ ． | ． 95 |
| $x-102$ | 2 | $4^{\prime \prime}$ | 1／4＂ | $2 \quad \mathrm{lbs}$ ． | 1.25 |
| $x-103$ | 3 | $6^{\prime \prime}$ | Tfi＂ | 3 lbs. | 1.65 |
| X－104 | 4 | 8＂ | $3 / 8$＂ | 3 lbs. | 2.05 |
| SHORT STUBBY TYPE |  |  |  |  |  |
| SX－101 | 1 |  | $3^{3}{ }^{\prime \prime}$ | 7／8 1b． | ． 90 |
| SX－102 | 2 |  | $1 / 4{ }^{\prime \prime}$ | 2 lbs ． | 1.00 |



Type G
G－183
G－5324
G． 3164
G－146
G－5166

Type A No． A－183 A－ 5324 A． 3164 A－146 A－ 5166

## XCELITE <br> Clutch Head Screwdrivers

| Size | Diameter Blade | Length Blade | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: |
| $1 / 8{ }^{\prime \prime}$ | 13＂ | $3^{\prime \prime}$ | \＄1．10 |
| 52＂ | 1／4＂ | $4^{\prime \prime}$ | 1.20 |
| $\frac{3}{16}{ }^{\prime \prime}$ | 1／4＂ | 4＂ | 1.20 |
| $1 / 4{ }^{\prime \prime}$ | 寺＂ | 6＂ | 1.60 |
| 产＂ | 3／8＂ | $6^{\prime \prime}$ | 1.95 |

Note：Both above types are the same size and the same price．Order by Number．

## 2uclity XCELITE Toods

## XCELITE PLIERS

XceLite Pliers are fully guaranteed against defects of material and workmanship. Any plier showing such defects will be willingly replaced if returned to us.


List I'rice
No. 51 - XeeLite Long Needle Nose and Side Cutter PLIERS, 7"
$\$ 2.80$

No. 52 - XceLite Long Needle Nose PLIERS (Without Side Cutters)

List Price
This plier is identical with the above except it does not have the side cutters $\$ 2.40$


List Price
No. 55 - XceLite Diagonal PLIER, 5 " $\$ 2.60$


List Price
No. 57 - XceLite Extra Long Duck Bill PLIER, 7"


List Price
No. 59 - XceLite Chain Nose Electrician's PLIER, 73/4"


[^11]
XCELITE NUT DRIMERS
6" Overall Length

9" Overall Length


HOLLOW SHAFT NUT DRIVERS


| No. and <br> Length Overall | $\underset{\substack{\text { Nut } \\ \text { Size }}}{ }$ | Depth of Hole | Weight per Box | List | Insulated List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| HS-10 $6^{\prime \prime}$ | s的" | 5 " | 1 lbs. | \$1.05 | \$1.30 |
| HS-11 $6^{\prime \prime}$ | 教" | 5"' | 1 Ihs. | 1.05 | 1.30 |
| HS-12 $6^{\prime \prime}$ | 3/8" | 5 " | 1 lbs . | 1.05 | 1.30 |
| HS-14 7" | 70" | $\stackrel{5}{\prime \prime}$ | $114 . \mathrm{lbs}$. | 1.20 | 1.45 |
| HS-16 <br> HS <br> 18 | 12" ${ }^{\prime \prime}$ | 5 "' | $11 / 2 \mathrm{lbs}$. | 1.25 | 1.50 |
| HS-18 HS-20 $7 \prime \prime$ | \% ${ }^{\text {\% \% \% }}$ | 5" | $18 / 8 \mathrm{lbs}$. $17 / 8 \mathrm{lbs}$. | 1.30 1.50 | 1.55 |

XCELITE NO. 3
 RADIO AND ELECTRICAL KIT

Set includes:
R-142, R-3163, R5166, R-184, R144, X-101 and R-3166.

No. $3 \ldots \ldots .{ }^{2} .95$
No. 3C Chrome Plated $\$ 7.65$

## NO. 4 ALL PURPOSE KIT

Kit same as shown above. Set includes:
$\mathrm{S}-142, \mathrm{~S}-144, \mathrm{X}-102, \mathrm{~S}-184, \mathrm{~S}-3166, \mathrm{~S}-5166$ and $\mathrm{S}-388$. No. 4 Polished ..... $\$ 8.60$ No, 4C Chrome .... $\$ 9.35$

## 2ucity XCELITE Tools

REG. TRADE MARK

## NO. 17 NUT DRIVER SET

Amber Handles - Highly Polished Blades


Consisting of:


## 6" XCEL Adjustable SOCKET WRENCH (with Attachments)

A whole set of tools in one! Fits any size nut, hexagon or square, round or odd shaped, from $1 / 8^{\prime \prime}$ to $1^{\prime \prime}$.

List Price, $\$ 3.50$

Individually boxed, packed 6 to a selfselling display carton.


## NO. 137 NUT DRIVER SET

 With Colored Handles

## No. 117 SET With Colored Handles

Set consists of Nos. 6, 7, 8, 9, 10, 11, and 12. Furnished in either full polished or chrome finish. Complete with same type stand as No. 137.

No. 117 Set Polished Finish


NEW LARGER HANDLES -- BRIGHTER COLORS Makes Size Selection Easy. Set consists of Nos. 6, 7, 8, 9, 10, 11, \& 12. Furnished in either full polished or chrome finish.

$$
\begin{array}{lr}
\text { No. } 127 \text { Polished Finish } \\
\text { No. } 127 \text { C Chrome Plated }
\end{array}
$$

## Delux No. 127 NUT DRIVER SET

The metal container can be fastened to the wall or work bench by screws which are inaccessible when locked. Red Wrinkle finish.


## SUPER DELUXESPINTITES



The wrench that works like a screwdriver! The super deluxe Spintite for panel or switchboard work - deep drilled with extra deep sockets. Beautifully plated and finished. A must for radio and electrical work.

| Number | Size | Length | Drill Depth | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 3006 | $\frac{3}{10}$ | 6" | $13 / 4$ | \$1.10 |
| 3007 | $3{ }^{7} 2$ | $6^{\prime \prime}$ | 21/4 | 1.10 |
| 3008 | $1 / 4$ | $6^{\prime \prime}$ | $21 / 4$ | 1.10 |
| 3009 | $3{ }^{\frac{9}{2}}$ | $6^{\prime \prime}$ | 21/4 | 1.10 |
| 3010 | $\frac{5}{16}$ | 6 " | 21/4 | 1.10 |
| 3011 | $\frac{1}{3} \frac{1}{2}$ | $6^{\prime \prime}$ | $21 / 4$ | 1.10 |
| 3012 | $3 / 8$ | 65/8" | 51/8 | 1.10 |
| 3014 | ${ }^{3} 16$ | 65/8" | $51 / 8$ | 1.35 |
| 3016 | 1/2 | 65/8" | $51 / 8$ | 1.35 |
| 3018 | $\frac{9}{16}$ | $65 / 8 \prime$ | $51 / 8$ | 2.45 |

## REGULAR SPINTITES

THE ORIGINAL SPINTITE WRENCH


Works like a screwclriver-features cold forged sockets, drilled shanks, special tool steel, hardened and tempered, ferrules and shanks are bright plated and the hardwood handles have natural rubbed finish.

| Number | Size | Length | Nut Size | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 3406 | $\frac{3}{16}$ | 6 ' | 2 \& 3 | \$0.70 |
| 3407 | $\frac{7}{32}$ | 6" |  | . 70 |
| 3408 | $1 / 4$ | $6^{\prime \prime}$ | 4 | . 70 |
| 3409 | $\frac{9}{32}$ | $6^{\prime \prime}$ |  | . 70 |
| 3410 | $\frac{5}{16}$ | $6^{\prime \prime}$ | $5 \& 6$ | . 70 |
| 3411 | $\frac{11}{32}$ | 6 " | 8 | . 70 |
| 3412 | $3 / 8$ | $6^{\prime \prime}$ | 10 | . 70 |
| 3414 | $\frac{7}{16}$ | $71 / 8 \prime$ | $12 \& 1 / 4$ | 1.00 |
| 3416 | $1 / 2$ | $71 / 8 \prime$ |  | 1.00 |
| 3418 |  | $71 / 8 \prime$ | $\frac{5}{16}$ | 1.75 |
| 3420 | 5/8 | $71 / 8 \prime$ | 3/8 | 1.75 |

## T-73 SET

Set of popular sizes in wood stand.
CONTENTS

| 3406 | 3412 |
| ---: | :---: |
| 3408 | 3414 |
| 3410 | 3416 |
| 3411 | Wood Stand |
| List Price |  |



# THEORIGINAL SPINTITE <br> (TRADE MARK REGISTERED) 

WRENCHES

## DELUXESPINTITES

For the mechanic who appreciates fine tools we offer these shining Spintites with transparent shockproof handles.

| Number | Size | Length | Nut Size | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 3906 | $\frac{3}{16}$ | 6 " | 2 \& 3 | \$1.00 |
| 3907 | 16 $\frac{7}{32}$ | $6^{\prime \prime}$ |  | 1.00 |
| 3908 | $1 / 4$ | $6^{\prime \prime}$ | 4 | 1.00 |
| 3909 | $\frac{9}{32}$ | $6^{\prime \prime}$ |  | 1.00 |
| 3910 | $\frac{5}{16}$ | $6^{\prime \prime}$ | $5 \& 6$ | 1.00 |
| 3911 | $\frac{1}{3} \frac{1}{2}$ | 6" | 8 | 1.00 |
| 3912 | $3 / 8$ | $6^{\prime \prime}$ | 10 | 1.00 |
| 3914 | ${ }^{7} 9$ | 71/8" | 12 \& 1/4 | 1.25 |
| 3916 | $1 / 2$ | $71 / 8{ }^{\prime \prime}$ |  | 1.25 |
| 3918 | $\frac{9}{10}$ | $71 /{ }^{\prime \prime}$ | $\frac{5}{16}$ | 2.10 |
| 3920 | 5/8 | $71 / 8{ }^{\prime \prime}$ | 3/8 | 2.10 |



## T-8 SET

Just right for a place on the mechanic's bench. Seven popular sizes.

> CONTENTS

3906
3912
3914
3916
3910
3911
Wood Stand
List Price
$\$ 7.75$

all prices subject to change without notice

## JUMBO SPINTITES



A rugged special Spintite for use on all types of hardened or self tapping cap screws. Shanks and sockets are made of alloy tool steel with a very high degree of hardness. Plastic grip is oversize for greater leverage. Depth of broach is less than thickness of screw heads to prevent marring panels.

| Number | Size | Length | Handle Size | List Price |
| :--- | :---: | :---: | :---: | ---: |
| 3058 | $1 / 4$ | $81 / 2^{\prime \prime}$ | $11 / 8^{\prime \prime}$ | $\$ 3.15$ |
| 3059 | $\frac{9}{32}$ | $81 / 2^{\prime \prime}$ | $11 / 8^{\prime \prime}$ | 3.15 |
| 3062 | $3 / 8$ | $81 / 2^{\prime \prime}$ | $118^{\prime \prime}$ | 3.15 |
| 3066 | $1 / 2$ | $812^{\prime \prime}$ | $11 / 8^{\prime \prime}$ | 4.70 |
| 3068 | $\frac{9}{16}$ | $81 / 2^{\prime \prime}$ | $11 / 8^{\prime \prime}$ | 4.70 |

## EXTRA LONG SPINTITE



A special Spintite for those hard-to-get-at places. Medium sized, easily controlled plastic grip and extra long shaft made of chrome alloy steel. It belongs in the tool kit of every assembler and repairman.

| Number | Size | Length | Drill Depth | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 3206 | 18 | $10^{\prime \prime}$ | 11/2 | \$1.75 |
| 3207 | $3^{7}$ | 10" | $11 / 2$ | 1.75 |
| 3208 | $1 / 4$ | 10" | $11 / 2$ | 1.75 |
| 3209 | 32 | $10^{\prime \prime}$ | 11/2 | 1.75 |
| 3210 | 15 | $10^{\prime \prime}$ | $11 / 2$ | 1.75 |
| 3211 | $\frac{1}{3} \frac{1}{2}$ | $10^{\prime \prime}$ | $11 / 2$ | 1.75 |
| 3212 | 3/8 | $10^{\prime \prime}$ | $11 / 2$ | 1.75 |
| 3214 | $\frac{7}{16}$ | $10^{\prime \prime}$ | 11/2 | 2.75 |
| 3216 | $1 / 2$ | $10^{\prime \prime}$ | $11 / 2$ | 2.75 |
| 3218 | $\frac{9}{16}$ | $10^{\prime \prime}$ | $11 / 2$ | 4.40 |
| 3220 | 5/8 | $10^{\prime \prime}$ | $11 / 2$ | 4.95 |


(TRADE MARK REGISTERED)
WRENCHES
CHUCK TYPE SPINTITES



SET T-51
C O NTENTS

| 3801 | 3805 | 3811 |
| :--- | :--- | :--- |
| 3802 | 3806 | 3812 |
| 3803 | 3808 | 3814 |
| 3804 | 3810 | 3816 |

in Leatherette Roll
List Price
$\$ 9.25$

|  | Size | Length | Nut Size | List Prico |
| :---: | :---: | :---: | :---: | :---: |
| le |  |  |  | \$1.55 |
|  | $\frac{1}{16}$ to $\frac{3}{16}$ | $45 / 8$ |  | . 70 |
|  | 1/8 $\times 4$ | $45 / 8$ |  | . 70 |
|  | $\frac{3}{16} \times 4$ | 4 \%/8 |  | . 70 |
|  | $1 / 4 \times 4$ | 4/8 |  | . 70 |
|  | $\frac{3}{16}$ | $4{ }_{1}{ }^{7}$ | $2 \& 3$ | . 50 |
|  | $1 / 4$ | $45 / 8$ | 4 | . 50 |
|  | $\frac{5}{16}$ | $45 / 8$ | $5 \& 6$ | . 50 |
|  | $\frac{11}{32}$ | 45 | 8 | . 50 |
|  | 3/8 | $45 / 8$ | 10 | . 50 |
|  | $\frac{7}{16}$ | $43 / 4$ | 12 \& 1/4 | . 70 |
|  | 1/2 | $43 / 4$ |  | . 70 |
| oss Point | No. 2 | 45/8 |  | 1.00 |
| alizing Tool | 5 | 5 |  | 1.35 |


List Price
$\$ 15.50$


## SQUARE SPINTITES

| No. | Size | LIst | No. | Size | List |
| :--- | :---: | ---: | :--- | :---: | ---: |
| 3505 | $\frac{5}{32}$ | $\$ 1.00$ | 3511 | $\frac{11}{32}$ | $\$ 1.25$ |
| 3506 | $\frac{8}{1.6}$ | 1.00 | 3512 | $\frac{3 / 8}{1.8}$ | 1.25 |
| 3507 | $\frac{7}{32}$ | 1.00 | 3513 | $\frac{13}{33}$ | 1.50 |
| 3508 | $\frac{1 / 4}{32}$ | 1.00 | 3514 | $\frac{7}{115}$ | 1.50 |
| 3509 | $\frac{9}{32}$ | 1.00 | 3516 | $1 / 2$ | 1.85 |
| 3510 | $\frac{5}{1 /}$ | 1.00 | 3520 | $5 / 8$ | 1.85 |



## FOUR-IN-ONE NEUTRALIZING AND ALIGNING TOOL

Made entirely of shock-proof plastic this tool lias wrenches on each end, key slot, and screwdriver tip. 3852.

List Price $\$ 1.35$


SPECIAL SPINTITE FOR BAT TYPE SWITCHES

Deep cavity accommodates bat handle, fine knurl is tapered to adjust for variations in knurled rings.

6337


## KNURLED SPINTITES

Tapered knurls to take care of variations in size


PANEL CUTTERS
List Price
T-564-For Bit Brace ............. $\$ 4.80$
T-592-For Drill Chuck.............. 4.80
all prices subject to change without notice

## THE ORIGINAL SPINTITE

(TRADE MARK REGISTERED)
WRENCHES


SET NUMBER S-211

SET NUMBER S-211
1/4 Inch Square Drive - 11 Pieces
6 HEX SOCKETS 1 HINGE HANDLE 3 SQUARE SOCKETS 1 CROSS BAR ALL IN HEAVY ENAMELED METAL BOX Special Low Price

## SET NUMBER S-217

1/4 Inch Square Drive - 17 Pieces
8 Hex Sockets
1 Cross Bar
3 Square Sockets
1 Sliding Tee Handle
1 Reversible Ratchet
1 Hinge Handle
1 Short Extension
1 Long Extension
AN EXCELLENT COMBINATION OF SOCKET WRENCHES AND ATTACHMENTS FOR FINE WORK ON IGNITION, ELECTRICAL, RADIO OR HOBBY WORK.
-Alloy Steel
-Bright Plated


SET NUMBER S-217

# WALDEN WORCEStER SCREWDRIVERS <br> SQUARE SHANK SCREWDRIVER <br> ROUND SHANK SCREWDRIVER 

Plastic Handle


| Number | Size | List Price |
| :--- | ---: | ---: |
| SS4 | $4 \times \frac{1}{4}$ | $\$ 1.20$ |
| SS6 | $6 \times \frac{5}{16}$ | 1.65 |
| SS8 | $8 \times \frac{3}{8}$ | 2.05 |
| SS12 | $12 \times \frac{3}{8}$ | 2.45 |

CROSSPOINT SCREWDRIVER
Wood Handle

|  |  |  |
| :--- | :--- | ---: |
| Number | Size | List Price |
| SC3 | $3 \times \frac{9}{64}$ | $\$ 0.75$ |
| SC4 | $4 \times 1 / 4$ | .75 |
| SC6 | $6 \times \frac{5}{16}$ | .95 |
| SC8 | $8 \times 3 / 8$ | 1.30 |

Plastic Handle

|  |  |  |
| :--- | :--- | ---: |
| Number | List Price |  |
| SM2 | $21 / 4 \times \frac{1}{8}$ | $\$ 0.40$ |
| SR3 | $3 \times \frac{3}{16}$ | .90 |
| SR4 | $4 \times \frac{1 / 4}{}$ | 1.20 |
| SR6 | $6 \times \frac{5}{16}$ | 1.55 |
| SR6A | $6 \times \frac{3}{16}$ | 1.15 |
| SR8 | $8 \times \frac{3}{8}$ | 2.00 |
| SR12 | $12 \times \frac{3}{8}$ | 2.30 |

## STUBBY SCREWDRIVER <br> Plastic Handle



| Number | Size | List Price |
| :--- | :---: | ---: |
| SS2 | $11 / 2 \times 1 / 4$ | $\$ 0.80$ |

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

# VACO PRODUCTS COMPANY - CHICAGO 11, ILLINOIS • U. S. A. <br> (LI)Hand Forged Chrome Vanadium Screw and Nut Drivers With Amberyi* S/8* (Slo-Burn) Fire Safe Break and Shock Proof Handles <br> *Trade Marks Regitsered U. S.Podiots. 

ROUND BLADE SCREW DRIVERS


Heavy Duty General Service Round Blade Styles - 5/16" Blades.

 | Number and length and Lellgth per Doz. |  |  |  |
| :--- | :--- | :--- | :--- |
| A 516.6 | $1.1 / 16^{\prime \prime} \times 4^{\prime \prime}$ | $5 / 16^{\prime \prime} \times 6^{\prime \prime}$ | 4 | A $516-8 \quad 1.16^{\prime \prime} \times 4^{\prime \prime} \quad 5 / 16^{\prime \prime} \times 8^{\prime \prime} \quad 41 / 2 \mathrm{lbs}$. A $516-10 \quad 14 / a^{\prime \prime} \times 4 \frac{1}{4 \prime \prime} \quad 5 / 16^{\prime \prime} \times 10^{\prime \prime} \quad 51 / 2 \mathrm{lbs}$ A $516-12 \quad 1 \% /^{\prime \prime} \times 41 / 4^{\prime \prime} \quad 5 / 16^{\prime \prime} \times 12^{\prime \prime}, 51 / 2 \mathrm{lb} \mathrm{lb}^{\prime}$

RADIO ALIGNING TOOLS NON-METALLIC ALIGNER
No metal - completely non-capacitance. Bone fibre blade may be repointed as reluirte.


## VACO Super Hard NUT DRIVERS

Color Coded Hollow Handles For Quick Size Identification. For Use
on Hardened Steel Self-Threading Sheet Metal Screws,
Etc.


ALL HOLLOW SHAFT NUT DRIVERS


VACO WALL OR BENCH PADLOCK TYPE NUT DRIVER STAND

Holds One Complete Driver Outfit . . . from 3/16" to $1 / 2^{\prime \prime}$.

Stock
s 700 $\qquad$
( 5
Weifht $21 / 4 \mathrm{lbs}$.
1 b .2 oz.

## VACO AMBERYL ELECTROLYTIC CONDENSER

 NUT DRIVERS

## AMBERYL HANDLE PHILLIPS SCREW DRIVERS



WOOD HANDLE PHILLIPS SCREW DRIVERS High Carbon Tool Steel Blades . . . Chrome Vanadium Blades Also Available.


VACO EXTRA HARD NUT DRIVERS Size Stamped on Each Shaft for Easy Identific
Solid Amberyl $\mathbf{S} / \mathrm{B}$ Fire Safe Mandles



No. S 500 METAL BENCH HOLDER Furnished with 1 each of five mosi populat sizes; S 8, S Weight each
S 14 . Whe



VACOMBO Nut Setter Kit No. ZS 60 Kit Consists of:



VACOMBO Screw Driver Kit No. ZB 50 Kit Consisis of:



Also Arailable - 6"' Extension No. 2X 56
 , Cal weinn parked sozls

VACO DUPLEX REVERSIBLE SCREW DRIVERS


A Flip of the Wr
It


Precision engineered biade may easily be cither a regular or Inillins thit. Ideal for automolilles, radios, vefrigerators, househoil utilities, toys. etc., where stralght slot
screms and cross slot screws are frequently screwrs and cross sion
used in combination

## ALPHA <br>  tri-core solders

## An American Solder fon American Production Methods

## INSURE PERFORMANCE-SPECIFYALPHA TRI-CORE



## TRI-CORE ROSIN-FILLED SOLDER

Craftsmen prefer this faster, easier sequence solder. It provides more uniform fluxing and stronger joints for Radio, Electrical, and Automofive work. Soves time, money and labor for manufacluring or repair service.
WHY TRI-CORE ROSIN-FILLED IS THE IMPROVED SOLDER:

- three independently filled cores assure flux continuity, eliminate risk of empty flux sections.
- thinner solder walls speed melting, cut soldering time by $25 \%$ or more.
- no activating chloride agent to produce acid
conditions and loxis vapors.
- forms a clean, smooth strong joint without carbonizing.
- three cores instead of one at no premium in price.
- all gauges from $1 / 4$ " and heavier down to $0.020^{\prime \prime}$ and finer.


## ALPHA SOLID SOLDER WIRE



Alpha's specialized know-how in lead and tin metallurgy and completely modern production facilities assures you of the finest solder wire available. Alpha's unique extrusion process assures a completely homogenized and uniform solder wire throughout. Supplied in any diameler and composition for your needs.

## HANDY CAN PACKAGING

Alpho tri-core, rasin-filled, handy-cons:
 retoil list $25 c$, packed in eye-appeoiing, soles-compelling, self-selling, sofety flange tins. 12 cans per metal-edged display carton. 12 cartons per shipping contoiner. Weight: 1 gross-2s pounds.

Alpho tri-core, "Leak-Pruf" ocid-filled handy-cans: retail list 25 , packed in multiple color lithographed safety flange tins. 12 cons per metal-edged display corton. 12 cortons per shipping conroinet. Weight: 1 gross- 25 pounds.

TRI-CORE "LEAKPRUF" ACID-FILLED SOLDER Why put up with old-fashioned, leaky acid-cored solders? Mechanics acclaim Tri-Core's cleaner job, long shelf life, and guaranteed leakproof feoture. Now you can protect yourself os well as your reputation for better craftsmanship with this development in the field of acid-cored solders!

WIDELY PREFERRED FOR BETTER SOLDERING:

- The only three cored acid-filled solder.
- No solder waste due to fluxless areas.
- Highly soluble Hux washes off with water.
- Non-toxtc, and emits no offensive odors.
- Virtually non-sputtering, reduces hazards.
- Readily solders staintess steel, monel, n!ckel, etc.
- Leakproof; drip-proof; chalk-like flux will not leak to damage tools. - The only acid core solder that can be formed into rings and other shapes, or cut to lengths without flux loss.


Alpha's preformed solders, in any shape or diameter required, cut many hours from your production time. Whether you use induction heating, flame jigs or heating ovens, we can swiflly supply your requirements in washers, rings, cut shapes, drops, pellets, soldeir foil, or other special shopes.

## STANDARD PACKING

1 LB. Spools packed in individual cartons; 50 cartons per shipping container. 5 LB. SPOOLS packed 10

## SPECIAL ALLOYS

STANDARD ALPHA TRI-CORE SOLDERS ARE $40 / 60$. Also croilable in 25/75-35/65-45/55-50/50-60/40. ALPHA SOLID SOLDER wire in all alloy ratios. Available in all diameters from $1 / 4^{\prime \prime}$ and heovier, down to $0.020^{\prime \prime}$ and finer.

# rools for craptsmin <br> GREENLEE <br> <br> RADIO CHASSIS PUNCHES <br> <br> RADIO CHASSIS PUNCHES <br> <br> KNOCKOUT PUNCHESAND CUTTERS 

 <br> <br> KNOCKOUT PUNCHESAND CUTTERS}


No. 731

## Nos. 730 and 731 RADIO CHASSIS PUNCHES

No. 730 Round Punch shown at left, quickly cuts accurate, round holes in radio chassis for sockets, plugs, and other receptacles. No reaming or filing -hole is smooth, perfect. Operates simply with an ordinary wrench for drive power. Just insert in a $3 / 8^{\prime \prime}$ or $133^{\prime \prime}$ drilled hole and turn drive nut. 13 sizes from $1 / 2^{\prime \prime}$ to $2 \frac{1}{4^{\prime \prime}}$ as shown in table at right. Individually packed. Odd-size holes for neters can be made with other punches and cutters shown below.

No. 731 Square Punch (left) easily makes full or partial cuts so that any square or oblong shaped hole can be rapidly made. Available in three sizes for making $5 / 8^{\prime \prime}, 3 / 4^{\prime \prime}$, and $1^{\prime \prime}$ square holes. Simple to operate, turn with an ordinary wrench. Drive screw fits into $1 / 2^{\prime \prime}$ hole in the metal. Individually packed.


No. 735 KNOCKOUT PUNCH SET

For fast, easy cutting of holes in metal up to $1 / 8$-inch or 10 -gauge thickness. Insert in small opening and drive with an ordinary wrench. Speeds radio set work, cuts cleanly, no reaming and filing. Set includes four punches for making $7 / 8,1 \frac{3}{32}, 1 \frac{11}{32}, 1 \frac{11}{16}$ inch holes. Packed in leather case.

## No. 737 KNOCKOUT PUNCH SET

Similar to the No. 735 set, but consists of two punches for cutting holes $1 \frac{15}{16}$ and $23 / 8$ inch diameter. Packed in leather case.


## Nos. 738 and 739 KNOCKOUT PUNCHES

For cutting holes $27 / 8^{\prime \prime}$ diameter (No. 738 ) and $31 / 2^{\prime \prime}$ diameter (No. 739) in metal up to $1 / 8^{\prime \prime}$ or 10 gauge thickness. Similar in design and operation to that of smaller GREENLEE Knockout Punches. Packed and sold individually.


## No. 740 KNOCKOUT CUTTER

Excellent tool for making meter openings and other large holes needed in radio work. Quickly cuts holes $1 \frac{15}{16}, 23 / 8,27 / 8,31 / 2$-diameter. Operation is simple . . . driven with ordinary wrench. Special discs can be furnished for cutting odd-size holes from $1 \frac{15}{16}$ to $31 / 2$-inch diameter. Packed in leather case.

No. 740 Knockout Cutter

$$
\begin{array}{cc}
\text { Price } & \text { Wt. (lbs.) } \\
\$ 15.00 & 41 / 2
\end{array}
$$

No. 730 List Price and Weight in Pounds Each
$1 / 2^{\prime \prime}$ Complete Price
$\$ 2.15$ Price
$\$ 2.15$
1.25
AV1760 Punch AV1759 Di
\%" Complete 1.25
.65 AV1742 Punch AV1743 Die 2.15
1.25
$3 / 4$ " Complete
AV113 Punch
AV114 Di
7/8" Complete
AV121 Punch
AV122 Die
AV322 Screw for $3 / 4^{\prime \prime}$ \& $7 / 8^{\prime \prime}$ Punches....
1" Complete
AV87 Punch
AV88 Die
AV1763 Punch
AV1764 Dic
11/8" Complete AV9I Punch
AV92 Die
$1{ }^{\frac{5}{2}}{ }^{2 \prime \prime}$ Complete AV83 Punch
AV84 Die
AV115 Punch
AV116 Die
11/4" Complete
AV117 1'unch
3/8" Complete
AV119 Punch
AV120 Die
$11 / 2^{\prime \prime}$ Complete
AV89 Punch
AV90 Die
AV112 Screw for $1^{\prime \prime}$ to $11 / 2^{\prime \prime}$ inclusive
$1 / 4$ " Complete
AV437 Punch
AV438 Die
AV30.4 Screw for $21 / 4^{\prime \prime}$ Punch
No. 731 List Price and Weight in Pounds Each
5/8" No. 731 Square Radio Chassis Punch... " " Squio Chassis Punch.................... $\$ 3.35$ complet AV-2891 5/8" Square Punch............................................................................................................. 15 $\begin{array}{ll}\text { AV-2881 } & \text { 8" Square Dic........................................................................................................................................ } 60 \\ \text { AV-2886 Drive Scıew....... }\end{array}$ AV-2886 Drive Screw........................................................................... 60 "No. 731 Square Radio Chassis Punch..................................................................... 20 complete AV. 2882 3/4" Square Punch........................................................ \$1.65 AV. 2883 3/4" Square Die.................................................................... 1.35
AV-2914 Drive Screw................................................................................. 70
AV-2929 Drive Nut...................................................................... $\$ 40$ complete
AV-2884 1" Square Punch.......................................................... $\$ 1.80$
AV-2885 1" Square Die.................................................................... 1.50
AV- 2887 Drive Screw.......................................................................... 1.00
AV-2929 Drive Nut....................................................................... 20

Nos. 735, 737, 738, 739 List Price and Weight in Pounds Each

No. 735 Knockout Punch Set
Price
$\$ 10.00$
Weight
No. 737 Knockout Punch Set
No. 738 Knockout Punch
No. 739 Knockout Punch
10.00
14.00
19.00

## Extra Parts

No. 735 Knockout Punch Set
No. AV121-7/8" Punch
1.25

No. AV122-7/8" Die
No. AV123-1 ${ }^{3}$ " Punch
No. AV124-1 ${ }^{\prime \prime}$ " Die...
No. AV126-I I新" Die
No. AV127-1 $11^{\prime \prime}$ Punch
No. AV128-1 $11^{\prime \prime}$ Die
No. AV322-3/8" x $11 / 2^{\prime \prime}$ Cap Screw
No. AV249-3/4"x $21 / 8^{\prime \prime}$ Cap Screw
. 737 Knockout Punch Set

$\begin{array}{lll}\text { No. AV440-1 } \\ \text { No. AV441- } 3 / 8 " \text { Punch } \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ & 3.20\end{array}$
No. AV442- $23 / 8^{\prime \prime}$ Die ${ }^{\prime \prime}$.................. 2.50
No. AV304-3/4" x $23 / 4$ " Cap Screw
No. 738 Knockout Punch
$\begin{array}{lll}\text { No. AV1429-27/8", Punch .................... } & 5.40 \\ \text { No. AV1430-27/8" Die ..................... } & 5.00\end{array}$
No. AV1433-Drive Nut ............................ $\frac{1}{2.35}$
No. AV1434-Drive Screw ................
No. 739 Knockout Punch
$\begin{array}{lll}\text { No. AV1431-31/2" Punch ............................................. } & 7.50 \\ \text { No. AV1432-31/2" Die .......... }\end{array}$
No. AV1432-31/2" Die.
No. AV1433-Drive Nut
No. AV1434-Drive Screw ....................... 2.75

## Harry Davies Molding Co.

## Molders of Plastics

1428 NORTH WELLS STREET Q CHICACO 10, III.
STANDARD COLORS FOR DAVIES KNOBS: Black, Walnut, Red or lvory. Others to order. Quality radio knobs for standard $1 / 4$ " shaft. Set screw, spring, or knurled hole mounting, or $1 / 4$ " brass bushing.


No. 1400. (With pointer). Height 13/32'. Diameter $11 / 16^{\prime \prime}$. No. 1450. (No pointer). Height $13 / 32^{\circ}$ ". Diameter $11 / 16^{\prime \prime}$. Set serew, spring, or knurled hole mounting.

No. 1700.
Height 19/32". Diameter 3/4' Set screw, spring, or knurled hole mounting.


No. 2500.
Height $3 / 4^{\prime \prime}$. Diameter $3 / 4^{\prime \prime}$.

## No. 2600

Height $7 / 8^{\prime \prime}$. Diameter $7 / 8^{\prime \prime}$. Set serew, spring, or knurled hole mounting.

No. 2965.


Short Shank. Dia. $7 / 8^{\prime \prime}$; Hgt. from $1 / 2^{\prime \prime}$ to $11 / 2^{\prime \prime}$.
Medium Shank. Dia. 7/8" ${ }^{11}$ Hgt. from $9 / 16^{\prime \prime}$ to $11 / 2^{\prime \prime}$.
Long Shank. Dia. 7/8'; Hgt from $9 / 16^{\prime \prime}$ to $11 / 2^{\prime \prime}$.
This type knob can be supplied with arrow; Off-On; Tuning; Volume; Tone; Batt-Elec.; Band Switch; Radio-Phono, or Dot markings.
Set screw, spring, or knurled hole mounting.
No. 3008.


Dia. $11 / 4^{\prime \prime} ; \mathrm{Hg}^{\prime}$. 3/4". No. 3009.
Dia. 11/2"; Hgt. 3/4". No. 3000
Long Shank Dia. $13 / 4^{\prime \prime}$; Hgt. 3/4", 1', $11 / 4^{\prime \prime}$ and 1/2"。
Short Shank. Dia. 13/4'. Hgt. 3/4 ${ }^{\prime \prime}, 1^{\prime \prime}, 11 / 4^{\prime \prime}$ and $11 / 2^{\prime \prime}$.
$1 / 4^{\prime \prime}$ molded hole or brass insert. Plain or threaded hole. Set screw or knurled hole mounting.


No. 2110
Length overall
15/8"
Hgt.
$19 / 322^{\prime \prime}$
No. $2100 \quad 21 / 2^{\prime \prime} \quad 5 / 8^{\prime \prime} \quad 3 / 4^{\prime \prime}$
Molded hole or brass insert, set screw mounting.
No. 2110-P 115/16 $^{\prime \prime} \quad 19 / 32^{\prime \prime} \quad 3 / 4^{\prime \prime}$
No. 2100-P $2^{13} / 16^{\prime \prime} \quad 5 / 8^{\prime \prime} \quad 3 / 4^{\prime \prime}$
Metal insert and pointer, set screw mounting.

No. 2300-Zephyr bar knob.
Length 11/4".
No. 2350 -Zephyr bar knob.
Length 2".
Molded hole, set serew mounting.
No. 2300-A-Zephyr bar knob.
Length $11 / 4^{\prime \prime}$.
No. 2350-A—Zephyr bar knob.
Length $2^{\prime \prime}$.
$1 / 4^{\prime \prime}$ brass insert and set screw.

No. 1800 Series These can be furnished in either plain or recessed tops. Dia. 7/16"; Heights range from $l^{\prime \prime}$ to $13 / 8^{\prime \prime}$. Also supplied with studs of various lengths.


No. 5149 - Rectangular touch tuning knob. Push on, self-locating.
No. 5149-A-Oval touch tuning knob. Push on, selflocating.

Hgt. $13 / 16^{\prime \prime}$ - $11 / 32^{\prime \prime}$.
No. 1750 -Touch Tuning. Push on. selflocating.
No. 1760-Touch Tuning, Recessed top, push on, self-locating. Dio $\begin{array}{ll}31 / 64^{\prime \prime} & \text { Hgt. } 9 / 16^{\prime \prime}, \\ 13 / 16^{\prime \prime}, & 15 / 16^{\prime \prime} .\end{array}$
No. 1770 - Binding Post and Switch knob. No. $6-32$ and No. 8-32 brass inserts. Dia. $31 / 64^{\prime \prime}$.


No. 2710
Height $1 / 2^{\prime \prime}$. Dia. $3 / 4^{\prime \prime}$. Metal-faced insert or plain insert. Female thread available 8-32, 10-32 and $10-24$.


No. 2150
Streamlined bar knob. Length $11 / 4^{\prime \prime}$


No. 1780
Push button knob. Dia. $1 / 2^{\prime \prime}$. Hgt. $1^{\prime \prime}$, $11 / 8^{\prime \prime}, 17 / 32^{\prime \prime}, 13 / 8^{\prime \prime}$.

## No. 1790

Recessed top. Dimensions same as No. 1780.

## ERSW MUETNCOME SOLDES



SEVEN POUND REELS


Our claim is a simple one: We believe that ERSIN MULTICORE is the finest cored solder in the World!

Ersin Multicore is solder in the form of wire containing three cores of non-corrosive Ersin Resin Flus. No extra llux is required. The use of Ersin Multicore guarantees that the correct proportion of flux to solder is used and maximum fluxing action occurs at the correct melting point of the solder. Only by using solder wire with three cores of flux is it possible to be sure the flux is always present-that there will not be lengths of wire without flux which result in "dry" or high. resistance joints.

In addition to this advantage, Ersin Multicore is the only cored solder in the world containing ERSIN, an extraractive non-corrosive flux. It is high grade rosin homogeneously activated by a process whiclt confers on the rosin the vigorous fluxing action characteristic of the more active fluxes.

You enjoy speedy and a consistently high precision standard of soldering and attain just that extra rapidity which guarantees economy of operation. Ersin Flux not only removes surface oxides prior to soldering, but prevents formation during the soldering period. You can satisfactorily solder components which are highly oxi-

ONE POUND CARTONS

dized-ones on which it would be necessary to undertake additional mechanical or chemical cleansing processes when using any other type of llux.
In Ersin Flux, the protective qualities of the original rosin are preserved. Joints made with Ersin Multicore Solder will not corrode even after prolonged exposure 10 any degree of humidity. The flux residue is impervious to moisture. It is hard and not sticky. It avoids accumulation of dirt and impurities on the joint.
Every reel or carton of Ersin Multicore is clearly marked both as to Gauge and Alloy, showing the actual content of Tin and Lead. You know exactly what you are getting when you buy Ersin Multicore Solder! Multicore costs a fraction more initially, but is unquestionably most economical in the long run.

Ersin Multicore Solder is available in all Tin/Lead alloys and in standard wire gauge from 10 to 22 . ( 14,16 and 18 s.w.g. are most popular.)
Ersin Multicore is the only solder which offers you these two fundamental advantages: (1) Multicore construction, providing three cores which assure perfect joints; (2) Ersin Flux, our exclusive fast non-corrosive flux.
Ersin Multicore is the answer for those who seek the finest Cored Solder in the World!


The Original Three Cored Solder

ROGAN BROTHERS • Compression Molders ond Bronders of Plastics - 2506 W. Irving Pk. Rd., Chicago 18


TYPE RB-901


TYPE RB-31


TYPE RB-821
TYPE RB-821


TYPE RB-501


TYPE RB-301

TYPE RB-51



TYPE RB-111

TYPE RB-1 1


TYPE RB-4 1



TYPE RB-121


TYPE RB-21


RB-11 with RB-1000

## WIDE SELECTION OF SHAPES AND SIZES

Shown above, are but a few of the many Rogan plastic knobs available to you from our regular stock molds. These are supplied without tool charge, resulting in considerable savings in cost, faster delivery. Choice of a wide selection of sizes, shapes and colors. Moided of phenolic or urea thermosetting materials, which will not soften, warp, or scratch easily. Heat resisting materials can be used so knobs can withstand $350-400^{\circ} \mathrm{F}$. continuous heat. Most knobs supplied with $1 / 4$ " shaft hole and set screws. Special shaft hole sizes and means of fastening can be supplied to specifications at nominal cost.

## KNOBS CAN BE BRANDED, AS REQUIRED

Rogan's famous "deep relief" branding process, applied after molding, provides sharp perfect marking at low cost. Any type marking, graduations or numerals can be branded on blank knobs to fit your requirements. Rogan knobs are available in black, brown or walnut, when molded of phenolic materials; and in all ligh $\dagger$ pastel colors when molded of urea materials. Whatever your knob requirements may be, Rogan is equipped to supply you faster, better, more economically. The complete line of Rogan knobs with specifications is shown in the new Rogan catalog. Write for your copy now.


## 'NEW IMPROVED GUARANTEED MODEL'"

WALSCO STAPLE DRIVER

## Patent No. 2,285,384

Pays for itself on the first job!

- A sensational toal for installing wires and cables, that saves time and money.
- Used by Radio, Public Address and In tercom Technicians.
- Staples into corners and other inacces. sible places.
- Staples on hard surfaces such as plaster. hardwood, etc.
- Can be loaded in 10 seconds.

This tool automatically positions the staple then one or two strokes witi the palm of the hand and the staple is driven home neatly, quickly, and accurately A small trigger regulates the feeding mechanism to enable the operator to strike the handle on hard surfaces as often as necessary before a second staple leaves the magazine. Staples come in strips, are large enough for cables and wires up to $1 / 2 /$ diameter. An adjustable regulator controls the depth to which the staple is driven into surface, thus preventing damage to the insulation of the wite.

| Cat. | List |
| :--- | ---: | ---: |
| No. | Dealer's <br> Price |
| Net |  |



## WALSCO TUBE PULLERS

The first practical tube pullers ever devised for the electronic trale. Lift out tubes by werlsing action letwen lase and socket, without applying strain to the glass. Tubes are securely held while extracting or inserting. Made of tempered steel throughout. Attractively and durably finished.

> Cat. No.

WALSCO UNIBELT
A NEW UNIVERSAL DIAL-DRIVE BELT ADJUSTABLE TO FIT ANY DIAL DRIVE


Covered by Patent No. $2,300,706$

- Eliminates need for stocking 96 different sizes of belts.
- Unibelt gives the Radio Man the correct size belt for every make and model set
- Easily installed in a few minutes. No need for taking dial
- Put up on spools in continuous lengths which will make five or more average belt replacements.
- New patented construction incorporates special stainless steel
- core and pure latex covering.
- core and pure latex covering.
- Belts cannot stretch, and when properly installed will not slip, fray or break.
- Unconditionally guaranteed.

The ingenious construction of the New WALSCO Unibelt makes it posible to assemble any siza belt ly merely cutting the desired Jength and joining the ends with a simple "zipper-like" connector. The comnected belt cannot stretch and has a breaking st engrth of over 60 lbs. ONLY ONE SIZE NEEDED for any lelt replacement joh, Cat.

List Dealer's No.
303 303-5-ft. spool ITnibelt (with 10 eornectors and

## WALSCO DIAL DRIVE BELTS

- Precision Made.
- No Stretch - No Slip.
- Smooth and Uniform.
- Exceptionally Strong.

Available for any type of radio set. Specially constructed to give lotig lasting, trouble-free service. Treated
for maximum friction and to provide for maximum friction and to provide
accurate tuning. WAL.NCO Dial Belts are uniformly thick throughout the entire length and are precision made and guaranteed to fit perfectly.

$\qquad$
Also put up in Kits of $25,50,100$ and 150 Relts

$$
565 \text {-Standard Puller, for all metal GT Locktal and mist Price }
$$

565 -Standard Puller, for all metal, GT, Locktal and most rerular glass tuhes. Also for extracting
566-Right-Angle Puller, for metal, Gl', Locktal and most regular glass tubes. Designed for extructing
67- and inserting tubes withont removing chasis from calinet ...........................................
-Standard Puller, for all Miniature Tubes. Pulls out straight and thereby prevents tube breakage
568-Right-Angle Puller, for Miniature Tubes.

GRILLE CLOTH


Highest guality, acoustically perfect cloth availatle to match wainut, mahogany or light wood finishes.
Cat. No. Size


GRILLE SCREENING


Galvanized, rayon-flock covered screening. Attractive, weatherproof and modern. For auto radios, P.A. and Intercom. speakers, ete.

| Cat. No. |  |  |
| :---: | :---: | ---: |
| Brown | Ivory | Size |$\quad$ List Price

ORNAMENTAL METAL GRILLE


Heavy perforated grille, heantifully "brushed bragsi" plated and lacquered with gold finish effect. For use over cloth or screening in cus-tom-built radios, high quality P.A. speakers, juke boxes, etc.
Cat.
0.85 No. Size Price

$\begin{array}{llll}2.90 & 384 & 18^{\prime \prime} \times & 24^{\prime \prime} \\ 9.00 & 386 & 24^{\prime \prime} \times 30^{\prime \prime} \ldots \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ & 9.00\end{array}$

PRICES FOR BULK QUANTITIES AND SPECIAL SIZES QUOTED ON REQUEST
For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

## TILLEED products <br> 

## DIAL CABLES AND CORDS—TEST RECORDS WIRE STRIPPER - PROTECTO-TUBE

## WALSCO DIALCABLES AND CORDS

WALSCO Dial Cables and Cords are manufactured to meet the most rigid standards of the Government, Radio Industry and Engineering Laboratories. The finest raw materials are used and production is controlled to supply a uniform product with an absolute minimum stretch factor. All standard Cords are made with NYLON braid, known to have the highest abrasion resistance. These selected materials, plus special chemical treatment after fabrication, make WALSCO Cords the finest on the market. WALSCO Dial Cords are used by leading manufacturers as a standard component.
$\mathbf{2 5 - f t}$. and 100 -ft. spools are packaged in clear plastic, re-usable storage boxes with sliding lids. HEAVY CORD-Diameter .062"-Same as used on many Philico and Majestic sets. Very durable, and treated to prevent slipping. No. 33 ft. 25 List Price $\$ 1.75$ No. 33-1C 100 ft....................... List Price 4.60 BRONZE CABLE-16-Strand Braided-Diameter .039"-Breaking Strength 50 lhs .-A braided cable with good flexibility and abrasion resistance. "Fiber-glass" is used as core material and the braid is constructed of special hard Cadmium bronze. Does not unravel.


PHOSPHOR BRONZE CABLE-42-Strand-Diameter . $032^{\prime \prime}$-Breaking Strength 60 lbs.-A very flexible metal cable constructed of 42 strands of hard Phosphor bronze over a "Fiber-glass" core. Fx. tremely durable. Used for replacement of dial cables and many special applications where a strong, stranded cable is required. No. 30 ........................... 25 ft ......................... List Price $\$ 1.50$

SPECIAL THIN BRONZE CABLE-Diameter . $022^{\prime \prime}$-An extra-thin SPECIAL dial drives, flexible connections, pigtails, and inany other cable fur dial drives, fexible connections, pigtails, and inat applications-wherever a thin, but strong cable is requred
No. 32 No. 32

$\begin{array}{ll}\text { List Price } & \$ 1.20 \\ \text { List Price } & 3.45\end{array}$ STANDARD


## WALSCO PROTECTO-TUBE



A new synthetic tubing especially designed for insulating handles of piers. screwdriver blarles, cable connector ends, test prods, etc. This wear, and wrasion-resistant for long cial Kixpanding $S$ orlution is furnished part of the kit and "swells" tubing to permit easy application. Upon drying, tubing shrinks on tight.

Protecto-Tuhe Kit, containing approx. 12 ft . assorted sizes and colors of WALSCO I'rotecto-Tube, jar of Expanding Solution, and instructions.
Cat. No. K-18...........List Price $\$ 1.65$


The following cords cover over $80 \%$ of the replacement demand. With one spool of each kind on hand, the serviceman has the proper size for practically any set manufactured since 1934. Constructed with "Fiber-glass" or linen core and "pre-stretched," these are the most efficient cords available. The braided sleeves are made of Nylon.

| Cat. No. | Diam. | Breaking Strength | LIST PRICES |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Feet Per Spool |  |  |
|  |  |  | 25 | 100 | 500 |
| 'SPPECIAL THIN'" |  |  |  |  |  |
| 35 |  | . $025^{\prime \prime}$ | 25 lbs . | \$1.25 |  |  |
| 35-1C | . $0225^{\prime \prime}$ | 25 lhs |  | \$4.50 |  |
| $35-5 \mathrm{C}$ | .025" | 25 llis. |  |  | . $\$ 13.00$ |
| STANDARD |  |  |  |  |  |
| 39 | .032" | 30 117s, | \$1.25 |  |  |
| 39-1C | .032" | $30 \mathrm{lhs}$. |  | \$4.50 |  |
| 39.5 C | .032" | 30 lbs . |  |  | \$13.00 |
| MEDIUM |  |  |  |  |  |
| 34 | . $042^{\prime \prime}$ | $3511 / 8$. | \$1.25 |  |  |
| 34-1C | . $042^{\prime \prime}$ | 35 lbs . |  | \$4.50 |  |
| 34.5 C | . $042^{\prime \prime}$ | 35 lbs |  |  | \$16.00 |

## PACKAGE-12

## POPULAR DIAL CORD IN SMALL PACKAGES

## Cat. No.

List Price
3070-Approximately 10 ft. Special 'thin Cord (Type 35) ........ $\$ 0.40$
3080 - Approximately 8 ft. Medium ('ord (Type 34) ............. 0.40
3080 - Approximately 8 ft Spenard Cord (Type 39) ..... 0.40
(Standarll l'ackage ..20; available on display card or box)

## WALSCO STANDARD TEST RECORDS

FOR TESTING AND ADJUSTING RECORD PLAYERS,
 CHANGERS PICK-UPS, AND AMPLIFIERS
These records are designed to provide the electronic engineer and serviceman with a quick, inexpensive, and accurate means of checking the mechanical performance of record changers. They will also indicate any defects in pick-up, amplifier, or speaker, and may lie used for accurale measuremenis of berformance of these components. All records are made of long-wearing,
pastic material, and are unbreakate in normal use.
Cat. No. 720-6 Set of six $10^{\prime \prime}$ records consisting of one each of the following: Record No. 720, 721, 725, 726, 727, 728.
With this set, all mechanical and electrical performance characteristics of a phongraph system can be quickly and accurately checked. No laboratory or well-equiped service shop should lee without this Cat No 720-10" record with accelerated pitch. Playing time ap proximately 45 sec . Leal-in grooves modulated with 3 tones to in dicate set-lown position of pick-up. Proper tripping action indicated by tone signals at end of record. Both sides of record identical N 721 List Price $\$ 1.65$ at. starting spiral for checking feedin" of pick-up. Other side same as No. $20.725-10^{\prime \prime}$ record One side. Sween Price $\$ 1.65$ N.A.B. stardard level. Range 10,000 to 50 e.p.s. Cross-over to conN.A.B. stardard level Range 10,000 to 50 e.p.s. Cross-over
stant amplitude at 500 e.p.s. Other side same as No. 720 .

List Price $\$ 1.90$
Cat. No. 726-10" record. One side: Test Frequency Record at N.A.B. standaril level. Range 10,000 to 50 c.p.s. in 16 steps. Other side same as to. $720 \ldots \ldots . . . .$. Cat. No. 727-10" record. One side contains 1000 and 400 -cycle tone for min. each. Fspecialy designed for testing irregnlar turntable cat. No. 728 -10 $10^{\prime \prime}$ record. One side contains silent (unmotulat Cat. No. $728-10^{\prime \prime}$ record. One side contains silent (unmorlulated) groove for checking turn-table rumble. Other side same as No. 720.

List Price $\$ 1.65$
Cat. No. 730-4-Set oì four $12^{\prime \prime}$ records of same design as No. 720. Designed for use in comnection with set No. $720-6$ in checking per-
formance of intermix changers............................. List Price $\$ 9.90$

# TRLFTD <br> 7he (99) Line <br> 7 he 40 Line 

IN PERMANENI 7 rancaparent PLASTIK
STORAGE BOXES with SIIDING TOPS

## PACKED IN HANDY



WALSCO PHONO-MOTOR DRIVES
Precision made to assure constant uniform speed and made of abrasion-resistant synthetic rubber to assure long wear. For attaching, use WALSCO

 Cat
No.
+25

WALSCO KEY WRENCHES
FOR HEX AND SPLINE SOCKET SCREWS
WALSCO features three sets of socket wrenches made of special alloy steel to fit all standard socket screws used in radio and electronic equipment.

## Cat. No.

Description
$\dagger 3580$-Assortment of 4 small IIEX wrenches ... $\$ 0.40$ Fits set screws No. 4 to $1 / 4^{\prime \prime}$ and cap screws No. 2 to 8 .
$\$ 3581$-Assortment of 3 medium IIEX wrenches.... 0.40 Fits set screws $1 / 4^{\prime \prime}$ " to $\frac{7}{18}$ " and cap screws No. 8 to $\frac{5}{18}$
$\dagger 3584$-Assortment of 4 small SPLINE wrenches.. 0.40 Fits all set screws up to $1 / 4$ " and cap serews up to No. 8 .



560 Wrench Kit

A handy kit containing a complete range of wrench sizes as used in the electronic trade. The case is made of durable leatherette with double snap button closure and contains both hex (Allen) and spline (Bristol) wrench keys for No. 2 to $3 / 8$ " screws.

List Price Dealer's Net $\$ 1.65 \quad \$ 0.99$
Standard Package - 25
WALSCO SPEAKER ADJUSTMENT SHIMS - MADE OF NON-MAGNETIC METAL

- STRONG AND FLEXIBLE, SPRING TEMPER
- CORROSION-RESISTANT

4 Shims of each of 4 sizes supplied in handy plastic case with screw top and pencil clip. As easy to carry as a fountain pen. Marked for easy identification. Sizes supplied-. $004^{\prime \prime}, .006^{\prime \prime}, .008^{\prime \prime}$ and $.010^{\prime \prime}$. Indispensable to the serviceman in adjusting voice coils. Cat. No. +2550-16 Assorted Shims-4 of each size........... $\$ 0.60$

WALSCO PHONOGRAPH PICKUP SET SCREWS
Precision knurled head steel screws, antique bronze finished for all popular pickups and recording heads. The assortment contains several each of the popular numbers and one each of the other sizes.

| Cat. | Approx. No. Units |  |  | List <br> Price |
| :---: | :---: | :---: | :---: | :---: |
| No. | per pkg. | Used On | Size | per pkg. |
| $\dagger 2570$ | 10 | Assorted | 7 diff. sizes | \$0.40 |
| *2571 | 10 | Shure and others | $2.56 \times 5 /{ }^{\prime \prime}$ | 0.40 |
| * 2572 | 10 | Most Astatic \& Webster | $2.64 \times 3 / 4{ }^{\prime \prime}$ | 0.40 |
| *2576 | 6 | Most RCA, etc. | $1.72 \times 1$ " | 0.40 |

## WALSCO TURNTABLE <br> RETAINING CLIPS

For holding phonorraph turntables securely to spindle. Indispensable for portable phonographs or to prevent damage when shipping record players.

Cat. No.
beripkg
*3424 ${ }^{-4}$ Clips
per pkg.
$\$ 0.40$

## WALSCO PHONO PANEL MOUNTING SPRINGS

An assortment of sarious sizes of conical springs is used in mounting record changer units.

List Price


Cat. No.
*3385-8 Ascorted Springs. per pkg.


\section*{\section*{WALSCO PICKUP CARTRIDGE MOUNTING SCREWS MOUNTING SCREWS <br> An assortment containing small machine and self-tapping screws of various lengths, sizes and styles as required in fastening cartridge to pick-up arm. Fspecially use ful when threads are stripped or replacement of dilferent cartridge requires longer screws. <br> Cat. No. <br> List Price <br> * 3365 -Apprx. 30 Screws \& Spacers $\$ 0.40$}

## WALSCO DIAL CORD CLIPS

For fasteninur the end of dial drive cord. The assortment contains the proper sizes for all standard thick nesses of cord
Cat, No.
*2770-Approximately 35 Clips
List Price per pkg.

## WALSCO HARDWARE ASSORTMENT

A wonderful assortment of screws, nuts, washers, springs, clamps, eyelets, grommets, terminals, alc. Only regula hardware inclited. Just the thing for the experimenter, ham and technician. In plastic jar.
Cat. No.
 Cat. No. " 1000 Piece" Hardware Assortment $\$ 1.65$
K3003- $\$ 100$ Price



List Price
999 Glass Jar, 2 oz. gize (Standird ['ackage: 36)

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.


WALSCO RUBBER GROMMETS
For protecting cables from abrasion when passing through chassis holes. Also used for vibrationless mounting of parts.


THE 40 LINE
$\$ 0.40$ List EIP THE 99 LINE


No. Approx. Quan. 1.65 List Ea. Pkg.

| A B | $\begin{gathered} \mathrm{C} \\ \frac{3}{\frac{1}{6}} \\ \frac{7}{32} \\ 1 / 4 \\ \frac{9}{31} \\ \frac{9}{32} \end{gathered}$ | D E |  | Cat. | Approx. Quan. per pkg. | Cat | per pkg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 新 1/8 |  | - 1 16 | 1/4 | $\dagger 3341$ | 15 | 3341-99 | 100 |
| $\frac{7}{16}$ 年 |  | $\frac{1}{16}$ | $\frac{5}{10}$ | $\dagger 3342$ | 12 | 3342-99 | 75 |
| $\frac{18}{16}$ 1/4 |  | $\frac{1}{18}$ | 3/8 | $\dagger 3343$ | 10 | 3343-99 | 65 |
| 5/8 3/8 |  | \% | 1/2 | $\dagger 3344$ | 10 | 3344-99 | 50 |
| 13 |  | $\frac{1}{16}$ | 5/8 | $\dagger 3345$ | 8 | 3345-99 | 40 |
| Assorted |  |  |  | +3340 | 12 |  |  | No. Approx. Qua an.

## WALSCO CHASSIS MOUNTS

Made of resilient synthetic rubber to give chassis or other components a floating effect and to reduce "microphonics." Essential wherever vibration will affect operation.
THE 40 LINE THE 99 LIN


## WALSCO RUBBER WASHER AND BUMPER ASSORTMENT

An assortment of the various kinds of rubber washers, bumpers, and spacers used in the electronic and radio industry for shockless, vibrationless mounting, for eliminating rattles and microphonics, etc. Cat. No.


## WALSCO CORD STRAINRELIEFS

## FOR POSJ WIRE

Provides a grommet and strain relief in one piece. For use on appliance cord sets. Use WALSCO Rubber Cement (Cat. No. 112) for attaching to cord. Prevents insulation of wire from being damaged by sharp-edged holes in metal chassis or cabinets.

Cat. No.
List Price
per pkg.
*3348-4 Strainreliefs
$\$ 0.40$

## WALSCO CABINET FEET

Made of oil resistant synthetic
 rubber. Wood screws are supplied with screw-type feet but machine or selftapping screws may be used. The rubber tack feet have steel tacks securely molded in.

PKGS. OF SCREW-TYPE FEET, INDIVIDUAL SIZES THE 40 LINE THE 99 LINE


## WALSCO SPADE BOLTS

Indispensable for attaching condensers, coils, cans, and similar items. For Experimenters, Servicemen and Manufacturers of electronic equipment. Stud size 6-32. Hole size for No. 6 screw.


| Approx. Length | $\begin{gathered} \text { THE } \\ \$ 0.40 \mathrm{l} \\ \text { Cat. } \\ \text { No. } \end{gathered}$ | LINE Ea. Pkg. Quan. per pkg. | $\begin{aligned} & \text { THE } \\ & \$ 1.65 \text { L } \\ & \text { Cat. } \\ & \text { No. } \end{aligned}$ | LINE Ea. Pkg. Quan. per pkg. |
| :---: | :---: | :---: | :---: | :---: |
| $5 / 8$ " |  |  | 3271-99 | 125 |
| $3 / 4$ |  |  | 3272-99 | 100 |
| Assorted ........ | $\dagger 3270$ | 25 |  |  |

## WALSCO RIVET ASSORTMENT

Various sizes of hollow, solid and split rivets in brass, copper and aluninum as used in everyday repair and experimental work. Sizes range approximately from $\frac{1}{16}$ " to $\frac{3}{16}^{\prime \prime}$ in diam. and up to $3 / 4$ " in length.
Cat. No.
List Price per pkg.
†2620-Approx. 60 asstd. Rivets. $\$ 0.40$

## WALSCO EYELET ASSORTMENT

Brass eyelets of various diameters and lengths. A handy item for every repair shop.
Cat. No.
List Price per pkg.
†2630-Approx. 55 Eyelets
$\$ 0.40$

## WALSCO SMALL COTTER \& HAIR PINS

Package contains an assortment of most popular sizes of cotter and hair pins. A valuable aid in the repair of radios and phonograph mechanisms.

Cat. No.
List Price
*2650-Approx. 50 Assorted
Cotter and Hair Pins $\$ 0.40$


## WALSCO SPEAKER CONE PATCHES

A quick and inexpensive means for patching tears and holes in speaker cones. Made of specially flexible material and backed with an adhesive which forms a permanent bond with the cone.

Cat. No.
List Price
$\dagger 2553$ - 10 Assorted Patches $\$ 0.40$


## WALSCO SPEAKER DUST FELTS

Special, thin felt disks to keep metal particles and dust out of voice coils. Use Walsco Radio Cement to attach to cone.

Cat. No.
List Price per pkg.
2775-Approx. 25 assorted sizes
$\$ 0.40$

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.
Copyright by U. C. P., Inc.

IN PERMANENT Trandparent PLASTIC P A CKE D IN H A N D Y STORAGE BOXES with SIIDING TOPS ECONOMICAL PLASTIC BAGS


## WALSCO SNAP－HOLE PLUGS

A round，flat head，metal

## WALSCO TERMINAL LUGS

Available in the six popular sizes which meet most of the requirements of the radio and electronic field．Accurate form－ ing facilitates easy handling． Made of tinned brass．
THE 99 LINE \＄1．65 List Ea．Pkg． Cat．No．Quan．per pkg 3501－99 50 3502－99 $\quad 50$ 3503－99 3504－99 3505－99 3506－99 20


THE 40 LINE
$\$ 0.40$ List Ea．Pkg．$\$ 1.65$ List Ea．Pkg．
150
150

| Cat．No． | Approx．Quan． | Cas． | Appr |
| :---: | :---: | :---: | :---: |
| $* 3281$ | 30 | $3281-99$ | 150 |
| $* 3282$ | 25 | $3282-99$ | 150 |
| $* 3283$ | 25 | $3283-99$ | 150 |

$\begin{array}{llll}* 3283 & 25 & 3283-99 & 150 \\ * 3284 & 25 & 3284-99 & 150\end{array}$
$\begin{array}{llll}* 3285 & 25 & 3285-99 & 125 \\ * 3286 & 40 & 3286-99 & 150\end{array}$
40
$\begin{array}{ll}+3286 \\ +3280 & 40\end{array}$
button with spring flanges that snap right into the hole．Used to seal adjustments，cover unused holes，etc．

THE 40 LINE $\begin{array}{ll}\$ 0.40 \text { List Ea．Pkg．} \\ \text { Cat．No．} & \text { Quan．per pkg．} \\ \$ 3501 & 8\end{array}$

## Description

 For $1 / 4$＂hole For $3 / 8^{\prime \prime}$ hole For $1 / 2^{\prime \prime}$ hole For $5 / 8^{\prime \prime}$ hole For $3 / 4^{\prime \prime}$ hole For 1＂hole Assorted$* 3502$
$* 3503$ ＊3503－6 ＊3504 6 $* 3505$
$* 3506$ 00 8

## WALSCO VENTIL <br> WALSCO VENTILATING HOLE PLUGS

For amplifiers，transmitters，portable ra－ dios，amateur equipment，etc．，wherever ventilation is required．


Cak．No． List Price
$\dagger 3320-$ Assorted Plugs per pkg．

## WALSCO CABLE CLAMPS

Heavy gauge steel，Cadmium plated， $3 / 8{ }^{\prime \prime}$ wide．Perfectly punched and formed with No． 6 or No．$s$ mounting holes．Available in 3 sizes for cables from $1 / 8^{\prime \prime}$ to $\frac{5}{16}{ }^{\prime \prime}$ in diameter．

$$
\text { THE } 40 \text { LINE }
$$

$\$ 0.40$ List Ea．Pkg． Cat．No．


For Cables Cat．No．$\quad$ Quarl．per pkg． $\begin{array}{llll}3^{3} 6^{\prime \prime} \\ 1 / 4 \text { to } 1 / 4^{\prime \prime} \text {＂Diam．＊3332 }{ }^{\prime \prime} \text { Diam．＊3333 } & 18 & 3332-99 & 100\end{array}$ $1 / 4$＂to 角＂Diam．＊3333 $\quad 15 \quad 3333-99 \quad 10$
Assorted
†3330

## WALSCO GRID CAP ASSORTMENT

An assortment of Grid Caps for all standard metal and glass tubes． Made of high quality spring brass， or steel and plated．

Cat．No．
List Price per pkg．
†2600－Approximately 15 Assorted Caps $\$ 0.40$

## WALSCO SPRING CONNECTOR CLIPS

## （FAHNESTOCK TYPE）

For fast connection and good electrical con－ tact．No tools required for connecting or dis－ comnecting．Made of spring brass or phosplior bronze．

| For Wires | THE 40 LINE \＄0．40 List Ea．Pkg． |  | THE 99 LINE \＄1．65 List Ea．Pkg． |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Cat．No． | Approx．Quan． | Cat．No． | Approx．Quan． |
| \＃16 gauge and |  |  |  |  |
| smaller | ＊2731 | 20 | 2731－99 | 100 |
| \＃12 to \＃18 |  |  |  |  |
| gauge | ＊2732 | 12 | 2732－99 | 75 |
| Assorted | ＊2730 | 12 |  |  |

## WALSCO FUSE CLIPS

Made of spring brass，nickel plated for single hole mounting．

Asst．Solderless


LE BRACKET ASSORTMENT
Handy brackets of various lengths and shapes as needed by every repairman，experiment－ er，＂ham＂，etc．Precision made， of steel，or blass and plated．

List Price
Cat．No．$\quad$ per pk
＊2610－Approximately 15 As－
sorted Brackets
$\$ 0.40$
WALSCO TERMINAL STRIPS

$\dagger 2580-$ Package of 4 Plugs
$\dagger 2585$－Package of 2 Jack

## WALSCO PHONE TIPS

Fit all standird tip jacks．Easy to solder．Made of brass，nickel－plated．These are thie conventional tips so of icn necded by both experimenters and service inen．

## THE 40 LINE

THE 99 LINE
$\$ 0.40$ List Ea．Pkg．$\quad \$ 1.65$ List Ea．Pkg．
Cat．No．Approx．Quan．Cat．No．Approx．Quan．
Phone Tips．

## MINIATURE PLUG AND JACK

TWO－CONDUCTOR PRECISION TYPE
Ideal for hearing aids，speaker extensions，carbon microphones，and numerous other installations． Needs no screws；molded plastic case cements together．llustration shown aproximately one－ half sizc．
Cat．No．Description List Price
†790－1 1 lug（type Pl．291）．．．．．．．．．．．．．．．．．．\＄0．55
†791—1 Jack（type JK－48）．．．．．．．．．．．．．．．．．．．． 0.75


[^12]
#  <br> The (99) Line <br> 7 he 40 Line 

IN PERMANENT TrandaarentPLASTIC P A CKED IN H AND Y STORAGE BOXES with SIDING TOPS ECONOMICAL PLASTIC BAGS

## WALSCO METAL WASHERS

Precision steel washers, Cadmium plated, in standard small sizes for innumerable uses.

For Screw $\qquad$
THE 40 LINE THE 99 LINE Screw ——Dimensions_Cat. Approx. Cat. Approx. Thick No Approx.


## WALSCO LOCK WASHERS

Made of special steel and rustproofed. Sizes listed below are the most popular ones in the radio and electrical appliance field.
 Tist Ea. Pkg. \$1.65 List Ea. Pkg.

| For Screw Size | $\begin{gathered} \text { The } \\ \$ 0.40 \\ \text { Cat. } \\ \text { No. } \end{gathered}$ | LINE <br> Ea. Pkg. Approx Quan. | $\begin{gathered} \text { THE } \\ \$ 1.65 \mathrm{Li} \\ \text { Cat. } \\ \text { No. } \end{gathered}$ | LINE <br> Ea. Pkg. Approx Quan. |
| :---: | :---: | :---: | :---: | :---: |
| \# 6 | * 3592 | 50 | 3592-99 | 300 |
| \# 8 | *3593 | 45 | 3593.99 | 250 |
| \# 10 | *3594 | 40 | 3594-99 | 250 |
| 4/" |  |  | 3595-99 | 200 |
| 3/8' |  |  | 3596-99 | 120 |
| Assorted. | †3590 | 50 |  |  |

## WALSCO KNOB FELT WASHERS

Keep cabinets from being cratched and make knobs turn smoothly Made of tough turn smoothly. Sade of tough the contrel and to t denser shafts. O.D. is ap
$z / z^{\prime \prime}$ and thickness $3^{\prime \prime} z^{\prime \prime}$.


THE 40 LINE


$\$ 0.40$ List Felt Washers in Cat. No. Quan. per pkn. Cat. No. Qua. Pkg. | cellophane log.......... | $\dagger 3490$ | 45 | $3490-99$ |
| ---: | :--- | :--- | :--- |

## WALSCO MICA WASHERS AND SHIMS

An assortment of that and round shins and washers. Required by experimenters and for repairing of trimmers, soldering irons, heater elements, etc.

Cat. No.
List Price
*3428 per pkg.
3428-Assorted sizes................................................................... $\$ 0.40$

## WALSCO INSULATING WASHERS

Precision made of high-grade vulcanized fibre or phenolic naterial. Used on electronic and electrical equipment to insulate parts from chassis, etc.



Overall thickness of extruded washers is approximately ${ }^{3}$,", and of the flat washers ${ }^{3 \prime \prime}$.

In the "99 LINE," WALSCO Insulating Washers come in packages of either flat or extruded washers. In the " 40 LINE" the packages contain both flat and extruded washers.

Fits Screw
Size
$\# 6$
$\# 8$
$\# 8$
$\# 10$
$1 / y^{\prime \prime}$
$3 / 8{ }^{\prime \prime}$

THE 40 LINE \$0.40 List Ea. Pkg.

| Cat. No. | Flat \& Extruded |
| :---: | :---: |
| $* 3431$ | 15 and 15 |
| $* 3432$ | 15 and 15 |
| $* 3433$ | 15 and 15 |
| $* 3434$ | 12 and 12 |
| $* 3435$ | 10 and 10 |
| +3430 | 15 and 15 |

## WALSCO SPRING (FRICTION) WASHERS



Used in record changers, automatic tuning assem automatic tuning assemblies, etc. Assortment con-
tains many popular sizes of tains many popular sizes of
phosphor bronze and spring phosphor bronz
steel washers.

List Price Cat. No. per pkg. $\dagger 3425$-Approx. 15 Assorted Spring Washers.
$\$ 0.40$


## WALSCO FUSE INSULATORS

Standard fibre insulators for use on automobile radios. Two lengths included fit all standard $1 / 4^{\prime \prime}$ diameter fuses.
Cat No List Price
$\dagger 2690$-Approx. 16 Assorted
Insulators .
$\$ 0.40$


## WALSCO METAL AND INSULATING SPACERS

A'yopular assortment of spacers of various lengths, with hole size to accommodate \#6 and \#8 screws. Often used for mounting sockets, switches, and for raising lanels, chassis, and condensers.

## Cat. No.

List Price
*2670-Approx, 12 Assorted Insulating Spacers.............per pkg.
*2680 - Approx. 12 Assortcd Metal Spacer'.................................... 0.40

## WALSCO SNAP-IN TRIMOUNTS



Faster than screws. Use them on modern radio sets, back covers, dial scales, chassis, built-in antennae, etc., to speed assembly and repairs.


## WALSCO RETAINING RINGS AND "C" WASHERS

A necessity in the servicing of volume controls, record changers, etc. The rings are tempered spring steel. The washers are annealed.

Cat. No.
Deseription
 *3423-"C" Washers for ${ }^{3}{ }^{3}$ " Shaft.



For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.




## WALSCO STEEL MACHINE SCREWS

Round head，cadmium－plated， steel machine screws．Avail－ able in assortments or individ－ ual sizes，conveniently pack aged for experimenters，serv－ icemen and amateurs．


## WALSCO Standard Machine Screw Ass＇łm＇ł

 All the standard sizes used in electronic and similar work are combined in this handy，inexpensive assort－ ment．It contains Nos．6，8， 10 screws－ $1 / 4$ to $1^{\prime \prime}$ long．|  | THE 40 LINE $\$ 0.40$ List Ea．Pk |  | the 99 LINE $\$ 1.65$ List Ea．Pk |  |
| :---: | :---: | :---: | :---: | :---: |
|  | No． | Apron． |  | Quan． |
| Screws | $\dagger 3560$ | 40 | 3560－99 | 200 |

WALSCO Small Machine Screw \＆Nut Ass＇tm＇†
A special assortment of extra small screws（Nos． 2 and 4），and nuts so often needed in electronic and experimental work for fastening small parts，to re－ place rivets，etc．
Cat．Ne．
List Price
+3360 Approximately 30 Assorted Screws and 30 Assorted Nuts，per pkg．
$\$ 0.40$
PACKAGES OF SCREWS－INDIVIDUAL SIZES


## WALSCO SMALL ESCUTCHEON AND WOOD SCREW ASSORTMENT



This assortment contains the extra small sizes of hard－to－get wood screws as needed by radio men， model builders，etc．，for fastening name plates，escutcheons and nu－ merous other devices．
Cat．No
List Price
$+3550-$ Approx． 30 Assorted Screws，per pkg．
$\$ 0.40$
WALSCO Standard Wood Screw Assortment
Handy assortment for workshop or home．Contains round and flathead screws of popular sizes in brass and steel．


Cat．No．
List Price
$\dagger 3553$－Approx． 30 Screws，per pkg

## WALSCO THREADED STEEL RODS

These rods have many uses
 in service and repair work and are made from the fin－ est cold rolled steel to give maximum strength．Each package contains one each of 6－32 and 8－32 threaded rod．Both 8 inches long． Cat．No．
$+2640-1$ eacl． $6-32$ and $8-32$ Threaded Rod $\quad \begin{aligned} & \text { List Price } \\ & \$ 0.40\end{aligned}$

## WALSCO SHEET METAL AND SELF－TAPPING SCREWS

These screws cut their own threads in either metal or plastic．Just drill a hole and drive in the screw－no nut or tapping required．Ideal for mounting parts to chassis，replacing rivets and eyelets，etc．



## WALSCO RACK SCREWS \＆CUP WASHERS



For mounting panels in racks and cabinets，fastening record－players and recording classis，etc．Enhances ap－ pearance of any assembly．The oval head screws are nickel plated－so are the cup washers．

| Size | $\begin{aligned} & \text { THE } \\ & \$ 0.40 \mathrm{Li} \\ & \text { Cat. No. } \end{aligned}$ | LINE <br> Ea．Pkg． Approx． Quan． | THE 99 $\$ 1.65$ List Cat．No． | LINE <br> Ea．Pkg． Approx． Quan． |
| :---: | :---: | :---: | :---: | :---: |
| \＃ $6-32 \times 8 / 8$＂Screws．．． | ＊ 3543 | 30 | 3543－99 | 175 |
| \＃ $8.32 \times 5 / 8{ }^{\prime \prime}$ Screws．．． | ＊3541 | 25 | 3541－99 | 125 |
| \＃ $10.32 \mathrm{x} 3 / 4$＂screws．．． | ＊ 3542 | 20 | 3542－99 | 100 |
|  | ＊ 3544 | 50 | 3544－99 | 300 |
| \＃ 8 Washers（1／2＂O．19．） | ＊3545 | 40 | 3545－99 | 250 |
| \＃ 10 Washers（ ${ }^{\text {g }}$＂O．O．${ }^{\text {a }}$ ） | ＊ 3546 | 25 | 3546－99 | 200 |
| Asstd．Screws \＆Washers | $\dagger 3540$ | 12 |  |  |

## WALSCO ORNAMENTAL HEAD SCREWS

Antique bronze finished；rosette head．
For mounting of speakers，etc．


| Size | $\begin{aligned} & \text { THE } \\ & \$ 0.40 \mathrm{~L} \\ & \text { Cat. No. } \end{aligned}$ | LINE Ea．Pkg． Quan． per pkg． | THE <br> $\$ 1.65$ L <br> Cat．No． | LINE Ea．Pkg． Quan． per pkg． |
| :---: | :---: | :---: | :---: | :---: |
| \＃6－32 x 3／4＂ | ＊ 2951 | 20 | 2951－99 | 125 |
| \＃6－32 $\times 1$＂ | ＊ 2952 | 20 | 2952－99 | 125 |
| $\# 8.32 \times 11 / 4{ }^{\prime \prime}$ | ＊2953 | 12 | 2953－99 | 80 |
| Assorted．．．．．．． | $\dagger 2950$ | 15 |  |  |

## WALSCO STEEL SET SCREWS

Precision，hardened steel set screws in all popular sizes for radio knobs，record changers，home and antomobile radios，or wherever set screws are needed．

新 要 豆

| Size | $\begin{gathered} \text { THE } 40 \text { LINE } \\ \text { \$0.40 List Ea. Pkg. } \\ \text { Cat. No. Approx. } \end{gathered}$ |  | THE 99 LINE \＄1．65 List Ea．Pkg． |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  |  |  | Cat．No． | Approx． Quan． |
| \＃ $6.32 \times{ }^{\text {a }}$／6 | † 3210 | 12 |  |  |
|  | $\dagger 3220$ | 12 | 3220－99 | 75 |
| \＃ $8-32 \times 1 / 4$＂ | $\dagger 3230$ | 12 |  |  |
| \＃ $10.32 \times 1 /{ }^{\prime \prime}$ | ＊ 3237 | 12 |  |  |
| Assorted | †3480 | 151 | 3480－99 | 75 |

For Bulk Quontity Prices on these items，see WALSCO INDUSTRIAL AND BULK PRICE LIST，poges U－47 to U－50．

IN PERMANENT Transparent PLASTIC P A CKED IN H AND Y STORAGE BOXES with SLIDING TOPS


## WALSCO MACHINE SCREW NUTS

## Walsco nuts are "Small

 Pattern" as preferred in the electronic and electric trade. Precision made and plated.THE 40 LINE
-
\$0.40 List Ea. Pkg. $\$ 1.65$ List Ea. Pkg. $\$ 1.65$ List Ea. Pkg. Steel. Cadm. P1. Apprx. Brass Nickel PI Apprx. Steel Cadm. PI. Apprx. Size Cat. No. Quan. Cat No. Quall. Cat. No Quan.

 | Assorted $\dagger 3520$ | 35 |  | 35 | $3520-99$ | 175 |
| :--- | :--- | :--- | :--- | :--- | :--- |

## WALSCO SPECIAL MOUNTING NUTS



Various kinds of nuts used on volume controls, switcles, jacks, potentiometers, etc. A "must" for every radioman and electrician. All unts are cadmium or nickel plated.

THE 40 LINE THE 99 LINE $\$ 0.40$ List Ea. Pkg. $\$ 1.65$ List Ea. Pkg.
 Cat. No. Apprx. Quan. Cat. No. Apprx. Quan. $\begin{array}{r}3531 \\ 3532 \\ \hline\end{array}$
+3530

## WALSCO ACORN NUTS

Greatly improves the appearance on panel assemblies, test instruments, cabinets, etc. These PAL type steel nuts are self-locking and bright cadmium plated. Cat. No.

List per pkg.
Cat. No.
*2960-12 Assorted Nuts
$\$ 0.40$

## WALSCO KNURLED THUMB NUTS

Precision-made, Brass Nuts. List Price Cat. No. per pkg.
*2971-Approx. 12 Nuts, 6-32 $\$ 0.40$
*2972-Aprox. 12 रuts, 8.32 …......... 0.40 *2973-Appox. 6 Nuts, $10-32$ 0.40
0.40


## WALSCO WING NUTS

Handy for experimental work and hobly craft. Made of Steel and plated. List Price per pkg.


## WALSCO SPEED NUTS

Self-locking and easy to install. Often required for replacement on many record changers, tuning units, etc.

Cat. No.
List Price
*2980
$\$ 0.40$


## WALSCO DIAL DRIVE SPRINGS DRIVE SPRINGS

Made of fine music wire for gleater flexibility. Available in all standard sizes. Carefully looped at each end, rustproofed and cadmium plated.


## WALSCO RADIO KNOB SPRINGS

The modern method of fast-
 ening knobs to shafts. Available in all regular sizes and shapes. The assortment is complete and most useful to radio sliops. Finest grade of selected steel is used

| Cat. No. | Picture No. |  | $\begin{gathered} \text { List } \\ \text { per pkg. } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| Cat. No. $\dagger 3450$ | Picture No. Assorted | Springs $\underset{16}{ }{ }^{2}$ perg. | per pkg. $\$ 0.40$ |
| *3451 | 1 | 10 | 0.40 |
| * 3452 | 2 | 10 | 0.40 |
| - 3455 | 5 | 15 | 0.40 |
| * 3456 | 6 | 15 | 0.40 |
| *3457 | 7 | 20 | 0.40 |
| *3458 | 8 | 20 | 0.40 |
| *3459 | 9 | 20 | 0.40 |
|  | (Bulk Prices Upon Request) |  |  |

## WALSCO EXPANSION SPRINGS



Very handy for radio and electrical sliops, laborator* ies, etc. The assortments contain various sizes of springs for many applications: record cliangers-to name one of a thousand.
Cat. No.
$\dagger 3290^{-} 10$ Assorted Large Springs
List per pkg. $+3390-10$ Assorted Small Springs
0.40

## WALSCO COMPRESSION SPRINGS



A hard-to-get item, The Walsco assortments contain all of the springs often needed for repair work on radio and electronic equipment, motors, appliances, etc. Available in two assortments.
Cat. No.
$+3370-20$ Assorted Small Springs ............................. $\$ 0.40$
†3380-15 Assorted Large Springs ............................ 0.40

## WALSCO ESCUTCHEON PIN ASSORTMENT

$\because \quad$ Brass finished pins in various sizes $\longmapsto \quad$ and lengths from $1 / 4^{\prime \prime}$ to $1^{\prime \prime}$.

F
Cat. No.
List per pkg.
$\dagger 3555$-Approx. 100 Asstd. Pins $\$ 0.40$

[^13]
## WALSCO RADIO CEMENT

## Vibration-Proof <br> Heat Resisting Unsurpassed Adhesive Power

An elastic cement especially made for the manufacture and repairing of speakers and for general radio work. Unaffected by vibration, dries fast and will never become brittle with age. - The latest developments in syntlietic resins and gums are incorporated in Walsco Radio Cement.

- In addition to its use for speaker repair, Walsco Radio Cement can be used for repairing caloinets, loose tube bases, grid caps, etc. It will provide a strong bond between almost any materials and is not affected by high temperature,
 moisture or oil. All bottles come with built-in brush and have an evaporation-proof cap

| Cat. No. | List Price |
| :---: | :---: |
| 51-13/4 oz. tube. | \$0.55 |
| 52-2 oz. hottle. | 0.60 |
| 54-4 oz. hottle | 1.10 |
| 58-8 oz. bottle | 1.75 |
| 59-1 pt. bottle | 3.30 |
| 50-GL-1 gal. can | 12.50 |

Also available in 5, 15, 50 mal. containers.

## WALSCO PLASTIC CEMENT

Fspecially made to repair broken plastic cabinets, knobs, etc. Waterproof, heatresisting, and heavier in substance than Walsco Radio Cement. Unexcelled as "Household Cement," "Model Airplane Cement," etc. Cements Plastics, Metal, Wood, Glass, etc. Dries fast and forms an exceedingly strong bond.
Cat, No.
List Price
41-13; oz, tube .$\$ 0.55$
42-2 oz. hottlo 0.60

44-4 oz. bottle 1.10

48-8 oz. bottle

## WALSCO VINYLITE CEMENT

This adlesive uses the new Vinylite plastic
 resin as a base and has remarkable properties such as high tackiness, extreme flexibility when dry and excellent adhesion to metals, plastics, leather, cardboard and paper. Fast drying. Also an excellent thermoplastic cement for joining nonporous materials (e.g. metals). In this case the cement is applied to both surfaces and dried aiter which the parts are pressed togetlier and bond established by heating with flatiron, soldering iron, etc. Cat. No. 25-2 oz. bottle

## WALSCO ALL-PURPOSE RUBBER CEMENT

For cementing rubber parts to metal or wood, rubber mounts to chassis, rubber cushions to lids, etc.-gives an especiall: strong bond, A Radio Serviceman should always have a bottle on his work bench. Cat. No.
112-2 oz. bottle
List Price
114 - 4 oz . bottle
$\$ 0.60$

For Bulk Quantity Prices on these items, see


## WALSCO FABRIC CEMENT

Does Not Penetrate the Fabric
Especially made for attaching grille cloth, turntable felt, covering of portable radios, etc. Dries very fast; is unaffected by moisture, sunliglit, and ligh temperature and does not become brittle. Indispensable to Radio Dealers and Servicemen-eliminates the danger of spoiling the outside of a grille cloth, turntable felt, or other fabrics, since it does not penetrate the material.
Cat. No.
List Price 21-13/4 oz. tube
$\$ 0.55$


WALSCO WOOD GLUE


An "extra strengtl" adhesive incorporating the latest chemical developments and resins. A "must" item for every repair shop. Bottle caps have nonsticking rubber gaskets.

## Cat. No. <br> 222-4 oz. bottle <br> WALSCO CEMENT SOLVENT AND THINNER

List Price $\$ 0.60$ 1.00

This Cement-Solvent is used for loosening cement on speaker cones, voice coils, and other parts where cement has been applied previously. Recommended also for thinning Walsco Radio Cement, Plastic Cement, and Fabric Cement.

## WALSCO POLYSTYRENE CEMENT AND COIL DOPE

For Bonding Polystyrene Parts and Coil Coating in Radio and High Frequency Work A Polystyrene solution with a higli solid content. Can be brushed on or parts can be dipped. Renders coils or other parts moisture-proof. Holds windings firmly in place due to a certain amount of shrinkage upon drying. Electrical losses due to coating with this cement are negligibleeven if used for high or ultra-high frequency work.
Cat. No.
154-4 oz. bottle
Larger Sizes on Request
List Price
$\$ 1.00$

## WALSCO Polystyrene Solvent and Thinner

This thinner is especialls designed
for use with Walsco Polvatyrene
Cor use with walsco Polystyrene Cat. No. List Price Coment where regular thinner can-164-4 oz. hottle .$\$ 0.60$


## WALSCO IMPRECONE

An impregnating fluid which will render speaker cones moisture-repellent and impervious to fungus and mildew. Also prevents the drying out of cones under heat or adverse climatic conditions. Restores brittle cones to original texture. Developed for use in drive-in theatre installations, on outdoor speakers, car radios, etc. Cat. No.
98 - 8 . hottle
$98-\mathrm{GL}-1$ gal. can

List Price

| 17.50 |
| :--- |



## WALSCOLUB = B

A recently-developed chemical compound in thin paste form. WALSCOLUB - B counteracts oxidation, prevents corrosion of metals and eliminates noise on band switches, push buttons, tuners, volume and other controls, as well as airexposed electrical contacts, attenuators, etc. WALSCOLUB-B will not change electrical properties. It is superior to any graphite compound for this purpose. Ideal on metal surfaces to prevent rust. Servicemen: Its use will save you both time and money. Once you have tried it, you will never be without it! Large, liandy applicator tube.

Available also in 1-lb. $5-\mathrm{lb}$. and $25-\mathrm{lb}$. containers for industrial users.

Cat. No.
$22-13 / 4$ oz. tube
List Price Prices on request.


## WALSCO CONTACTENE

 New Improved "Contact Cleaning Fluid"- Cleans contacts and controls.
- Keeps controls and contacts noise-free.
- Lubricates and reduces friction.

A fast-evaporating combination of special solvents affording greatest cleaning power without affecting insulating materials. Contains "No-Ox," which after evaporation of the solvents, forms a thin film that protects the contacts. Contactene is recommended for treating volume controls, band switches, tuning condensers, springs, etc., to eliminate noisy operation. Bottles come with built-in brushes.


## WALSCO Motor and Gear Lubricant

The latest development in chemicals for lubricating purposes. Much superior to greases because of its higher lubricating and lasting qualities. Its viscosity does not change with temperature. Used on phonograpli motors, record changers, and all appliances that require a grease-type lubricant. In large handy "applicator" tube Cat. No.

List Price 23-1 $3 / 4$ oz. tube

WALSCO "NO-SLIP"
A newly developed chemi cal composition that greatly increases the friction of pulleys, cords or belts. Contracts, "sets" and shrinks the fibres at the same time Stops instantly any slippage of Dial Belts, Dial Cords, etc. Easily applied with brush. Indispensable to any radio man.

List Price
$\$ 0.45$
401-1/2 oz. bottle 0.45

402- 2 oz bottle.
0.75

## WALSCO "NO-OX"*



## Ele Electronic Contact Fluid"

Fast-acting liquid chemical formulated with a neutral, non-gumming special lubricating base. The answer to the radioman's need for an outstanding contact and control cleaner. Contains no solvents; its corrosion-dissolving action is entirely chemical. Cleans, lubricates and preserves. Proved in tens of thousands of applications by radio laboratories, service shops, broadcasting companies, motion picture, sound and recording studios, etc. "NO-OX" is highly recommended for treatment of volume and tone controls, attenuators, mixers, relay contacts and similar equipment.
Cat. No.

* Mfd. under exclusive licensing agreement with NO-OX Laboratories. Trade mark regisieved.



## WALSCOFLUX

A non-corrosive flux. Quick acting, easy to apply. May be safely used for all electrical, radio and telephone work. Helps to keep the iron tip clean. Cat. No-

Price
$\$ 0.60$

## WALSCO SOLDERING PASTE

A high-quality paste, fast acting and safe for most electrical and electronic uses.
Cat. No. List Price 221 - 2 oz . can $\$ 0.30$

221-D-Display of
24 No. 221..... 7.20


## WALSCO CARBON TETRACHLORIDE

For general cleaning and spot removing. Dissolves dirt and grease instantly. May be used on most delicate parts. Chemically pure, rapid drying, non-explosive and non-inflammable. A safe cleaning fluid.

## Cat. No.

List Price
214 №. 4 oz. bottle
.$\$ 0.60$
219 -1 6 oz. bottle .......................................................... 1.65
$214 \mathrm{GL}-1 \mathrm{gal}$. can
6.25


## WALSCO RADIO DIAL OIL

A light-bodied lubricating oil for all electronic and electrical appliances - absolutely free of acids or gummy sub-
 stances. Also recommended as a rust preventive for radio chassis, tools, machinery, etc.
Cat. No.
List Price
72-2 oz. bottle
\$0.45
$74-4$ oz. bottle

## WALSCO CONTACTENE INJECTOR

For applying walsco Contactene, NO.OX, Dial Oil, etc., to spots which are not accessible with ordinary applicators. "Injector Needle" will permit application of contact chemicals to most volume controls without unsoldering connections or taking control apart.
This tool is made with a highest quality surgical. grade needle, and an oil-resistant rubber bulb.
Cat. No.
989 -Contactene Injector
989 D-Display of 12 No. 989
List Price

BEVERLY

## WALSCO SCRATCH REMOVING POLISH <br> "Makes Scratches Disappear"

A blend of polishing and staining ingredients. Removes scratches from cabinets, radios, furniture, etc., and polishes at the same time. Very easy to apply. Will not change shade of finish. Comes in two shades: "Dark" for walnut, mahogany, etc., "Light" for light maple, light oak, etc.


## WALSCO SUPER POLISH

## "A Concentrated White Cream Wax Polish"

 Does two things: First, it removes any old polish, grease or dirt that may be on the cahinet or furniture. Second. it forms a hard. dry and durable film that will protect the object for a long time, giving it a "brand new" appearance. Requires very little rubbing.Cat. No.
List Price
412-4 o\% bottle
0.50
$418-8 \mathrm{oz}$. hotlle
Standard Package: \& oz. hottles
1 doz
$80 \%$ Dottles
2 doz.


## WALSCO RECORDGRIP

Positively slops slipping of phonoyraph records on changers. Indispensathe for new plastic lipht-weipht and vinyl records, to assure unitorm speed and undistorted reproduction. "Recordurip" is transpatent and easily applied to the records hy marking an " $X$ " on the record label on each side. Application is promanent and one stick is sufficient for several dozen records.
Cat. No.
405 -Recorderrin Stick List Price
$405-\mathrm{D}$ - Display of 20 No. 405 Sticks 10.00


## WALSCO INSECTENE

A new WALSCO development to control insects such as spiders, heetles and roaches, ofien found in juke hoves, radio cabinets, and amplifiers. Will kill insects on contact, and prowides a coating with long-lasting remellent action. WATSCO lusectene is best applipd to calrinets and chassis with a brush or rerular insecticide spray gum. Harmless to wiring and parts.
Cat. No.
448 - 8 o7. hottle
448GL-I gal. can
List Price
$\ldots 1.10$
12.50

# REFINISHING and 

 REPAIR KITSEVER LY

## WALSCO RADIO CABINET PATCHING OUTFIT



A complete kit especially designed for radio men who have little experience in cabinet work. Over $95 \%$ of all cabinet-finish damages can be repaired with this kit. The kit contains two shades of Spirit Walnut Stain, Dark Brown Lacquer, Plastic Wood, two shades of Ivory Spirit Enamel, Patching Lacquer, Super Polish, Alcohol, Brushes, Garnet Finishing Paper, French Polishing Pad, and Steel Wool, together with complete Instruction Booklet.

| Instruction |  | Dealer's Net |
| :---: | :---: | :---: |
| Cat. No. | $\$ 6.50$ | Deale $\$ 3.90$ |
| K-10-W-In sturdy K - In Oalifornia redwood case... | 7.50 | 4.50 | -10-W-In Oalifornia redwood case

## WALSCO RADIO CABINET REPAIR KIT

A very handy compact and inexpensive quirements of many quops and stores, Esshops and stores. Especially useful for the who has onle occaWho has only, occasional cabinet repairs.
 The kit contains one
bottle each of the fol-
lowing: Ivory Spirit Enamel--light and dark; Lacquer Enamel-Dark Brown; Spirit Stain; Super Polish; French Varnish; Finishing Paper; Steel Wool; l'olishing Cloth; Instruction Booklet.

## Cat. No.

 K-9$\begin{array}{rr}\text { List } & \text { Dealer's } \\ \$ 3.00 \\ \$ 1.80\end{array}$

## WALSCO STICK SHELLAC KIT



An inexpensive kit for servicemen who have some experience in cabinet refinishing. Combined with Radio Cabinet I'atching Outfit (K-10) it makes a most economical and completely professional kit for repairing radio cabinets. The shellac sticks match in color almost any calinet on the market. The Walsco shellac the market. rubbing fluid makes it pgss ale to smooth the patch without any effort or siill. Kit includes: six calorsing Fluid, Felt, Steel Wool, Burn-in Spatula, bottle of Shellac Rubbing Fluid, Felt, Steel Wool, Alcohol and Instructions.
Cat. No. List Dealer's Net
K. 11
$\$ 3.50 \quad \$ 2.10$

## REFILLS OF POPULAR REFINISHING MATERIALS AS CONTAINED IN ABOVE KITS

## Cat. No.

## Stains



WALSCO "SUPER-CHIEF" REFINISHING KIT

A "Must" Item



This is the most complete kit of its kind on the market. Designed by Walsco for radio dealers. It contains everything which is needed to make an old radio look like new-all handy in one box-type carrying case. Contents of kit can be used by either skilled or unskilled refinishers, to completely refinish old radios and trade-ins, or to quickly patch up scratches, mars, etc. This kit will pay for itself on the first or second job. Every first-class radio dealer should have one. Kit contains the following:

## Spirit Stain Dark Walnut

 Spirit Stain Black Spirit Stain Mahogany Spirit Stain Maple Spirit StainSpirit Stain Light Walnut Spirit Stain Light Walnut
Blending Stain Light Brown Blending Stain Light Brown
Blending Stain Medium Brown Blending Stain Medium Brow
Lacquer Enamel Light Ivory Lacquer Enamel Light Ivory
Lacquer Enamel Dark lirown Lacquer Enamel Dark 13rown Lacquer Enamel Dark Ivory Shelli, Rubbing Fluid Stick Shellac (8 asstd. shades)
Cat. No.
Scratch Removing Polish (Dark) Scratch Removing rolish (Light) Pat ching Jacquer
Alcohol Lamp
Alcohol
Spatula
Felt
Polishing Cloth
Polishing Pad
Garnet Paper (8 sheets)
Garnet Paper ( 8
Instruction Rook
Brushes (3 different sizes)
List Deaier's Net
K-26 . $\$ 18.50 \quad \$ 11.10$

## WALSCO FURNITURE REFINISHING KIT

Ideal for touch-up work on radios, furniture, pianos, etc. Scratches, mars, dents, broken edges can be repaired quickly. Contains: Su-
 per Polish, Patching Lacquer, Alcohol, Spirit Stains in Walnut, Mahogany, Maple and Black; Shellac Rubbing Fluid, Plastic Wood, six colors Stick Shellac, Alcohol Lamp, Spatula, Brushes, Garnet Finishing Paper, Complete Instruction Book. Kit furnished in California Redwood case with hinged lid.
Cat. No.
List Dealer's Net
K-15
$\$ 8.00$
$\$ 4.80$

## WALSCO PHONO TURNTABLE FELTS

Made of high-quality brown felt, accurately die-cut with concentric center hole. Use WALSCO Radio Cement or WALSCO Fabric Cement for attaching.


Cat. No.
List Price
350.8 - 7 7/8" diameter .................................................. \$0.45

350-9 - 8\%/ diameter .................................................. 0.60
350-10- $97 /$ " $^{\prime \prime}$ diameter ................................................ 0.65
350-12-11 $\% 8^{\prime \prime}$ diameter
0.75

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

## WALSCO FLOCK FINISH SPRAY KIT

For flock finishing of radio cabinets, speaker grilles, interior of record and other cahinets, turntubles, jewelry and gift boxes, toys, novelties and many automotive and hohby uses. This original WALSCO Flock Kit is very easy to use and requires no skill - anwo can oblain expert results. Contains eversthing to produce a colorful, velvet-like and durable flock finish. The kit includes patented felt tlock spray gun, ivory and brown telt tlock, undercoats to match, thimner, brushes and complete instructions.
Cat. No. K-50-Complete Flocking Kit
List Price, $\$ 11.90$

## WALSCO FELT FLOCK MATERIALS

## Felt Flock

Mate of precision cut, lustrous rayon. Packed in $31 / 4$ o\%, conlainers (covers $\overline{7}$ to 10 stuare feet). List Price .............. $\$ 1.65$

| Cat. No. Color | Cat. No. Color |  |  |
| :---: | :--- | :---: | :--- |
| 470 | Brown | 475 | Green |
| 471 | Wory | 476 | Silver |
| 472 | Blue | 477 | White |
| 473 | laupe | 478 | Black |
| 474 | Red | 479 | Canary |
| $474-1$ | Maroon |  |  |

Flock per pound (specify color) List Price

## Flock Undercoat

Provides proper athesive and color base or felt flock. Packaged in halfpint cans (covers $10-15$ square feet of non-porous surfuce). List Price........................ $\$ 1.65$

| Cat. No. Color | Cat. No. | Color |  |
| :---: | :--- | :---: | :--- |
| 480 | Brown | 484.1 | Maroon |
| 481 | Ivory | 485 | Green |
| 482 | Blue | 486 | Silver-White |
| 483 | Taupe | 488 | Black |
| 484 | Red | 489 | Canary |

489 Canaly


For thiming of Undercoat, if necessary, and washing out bruslin: Cat. No.

List Price 468-Half-pint can.
$\$ 0.55$

## Felt Flock Sproy Gun

Same as contained in WALSCO Flock Finish Spray Cat. N
Cat. No
455
List Price

## WALSCO INSULATING TUBING (SPAGHETTI) <br> WALSCO RAYOFLEX <br> <br> WALSCO FLEXITUBE

 <br> <br> WALSCO FLEXITUBE}A new type "spaghetti tuhing"" made of heavily lacquered rayon bruid. More flexible and superior in many other respects to the conventional virnished tubing. Good dielectric strength ( 4,000 to 5,006 volts). IRAYOFLEX has a smouth and tough surface inside and out. Meets ASTM and VTA Specifications \#B2. Sizes up to \# 6 are packed in handy boxes.
Cat. Size B\&S Approx Quantity List Price No. Gauge No. inch per pkg. per pkg. $\begin{array}{llllr}630 & 18 & .042 & 10 \mathrm{ft} . & \$ 0.95 \\ 631 & 15 & .059 & 10 \mathrm{ft} & 0.95\end{array}$ $\begin{array}{rrrrr}631 & 15 & .059 & 10 \mathrm{ft} . & \$ 0.95 \\ 632 & 12 & .085 & 8 \mathrm{ft} . & 0.95 \\ 633 & 12 & & 0.95\end{array}$ $\begin{array}{rrrrr}632 & 12 & .085 & 8 \mathrm{ft} . & 0.95 \\ 633 & 9 & .118 & 5 \mathrm{ft} . & 0.95 \\ 634 & 6 & 166 & 5 \mathrm{ft} & 0.95\end{array}$ $\begin{array}{lrlrl}634 & 0 & 1166 & 5 \mathrm{ft} . & 0.95 \\ 635 & 2 & 1 / 4^{\prime \prime} & 30 \mathrm{in} . & 0.55 \\ 636 & 0 & 16 \prime \prime & 30 \mathrm{in} . & 0.65 \\ 637 & 00 & 3 / \prime \prime & 30 \mathrm{in} & 0.69\end{array}$ $\begin{array}{rrrll}636 & 0 & 16 \prime \prime & 30 \mathrm{in} . & 0.65 \\ 637 & 00 & 3 / 8 \prime \prime & 30 \mathrm{in} . & 0.69 \\ 638 & 0000 & 1 / 2 \prime \prime & 30 \mathrm{in} . & 1.15\end{array}$ * For larger quantities, write for quotation. Available in: Black, Blue, Red, Yellow. Please specify color when ordering.

A high-grade synthetic extruded vinylite tubing for electronic and electrical insulation tremely Hexible and resistant to abrasion. Hig dielectric strength (avaruge I 2,000 -volt) Re sisiant to cold or heat from minus $65^{\circ} \mathrm{F}$ to plus $185^{\circ} \mathrm{F}$. (Minus $54^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$ ) F tubing is impervious to water, oil, alcohol and most acids and alkalies. most acids and alkali
List Price, per pkg...
 Cat. Size B \& S Approx. I.D. Quantity No. Gauge No. inch mm per pkg.* $\begin{array}{lllll}601 & 18 & 042 & 1 & 20 \mathrm{ft} . \\ 602 & 14 & .063 & 1.4 & 20 \mathrm{ft} .\end{array}$ $\begin{array}{lllll}602 & 14 & .066 & 1.6 & 18 \mathrm{ft} \\ 603 & 12 & .085 & 2 & 1 f i f t .\end{array}$ $\begin{array}{rrrrr}603 & 12 & .085 & 2 & 1 \mathrm{fft} . \\ 605 & 10 & .106 & 2.7 & 14 \mathrm{ft} .\end{array}$ $\begin{array}{lllll}605 & 8 & .133 & 3.5 & 12 \mathrm{ft} . \\ 606 & 6 & .166 & 4 & 10 \mathrm{ft} . \\ 607 & 4 & .208 & 5 & 6 \mathrm{ft} .\end{array}$
 Available in: Black, Green Red Guotation. Please specify color when ordering.

## HANDY ASSORTMENTS



## RA YOFLEX

Cat. No. orted sizes and colors, from 640-D-3iz 18 to 9.

List Price
$\$ 0.90$ 640-D-3ti Assortmts. of \#640 in Display Box 32.40 641-6 ft. of Assorted sizes and colors, from 641-D-24 Assortmts. of $\# 641$ in Display Box 21.60
0.90
$620-20 \mathrm{ft}$. of Assorted sizes and colors, from size 18 to 10 \$ 0.90 $620-\mathrm{D}-3$ ( ${ }^{6}$ Assortments of \#620 in one Display l3ox.... 32.40 621-D-24 Assortments of \#621 in one Display Box.... 21.60

## WALSCO ULTRA-FLEXIBLE MINIATURE WIRES



For all connections in electronic devices requiring special thin and flexible leads such as phono pick-ups, miniature earphones, sel, are 30 . Aume wres, except tinsel, are 30 -gauge, strunded.
Cat. No.
304 -Single-conductor, shielded, for pick-up, leads, etc., $25-\mathrm{ft}$. spool
$3040-$ Same is No. 304 ,
List Price
3040 -Same as No. 304, but jackage of 54 " lenurth
3050 -Single-conductor, shielded, with Hack cotton overbraid, $25-\mathrm{ft}$. spool
307 -Two conductors, harallel, color-coded shielde
1.40

307 -Two conductors, larallel, color-coded, shielded, 25 -ft. spool.

0.40
2.70
3.60

## WALSCO INSULATING CAMBRIC



High-voltare (5000-v.) insulatine material for repairing transiormers, field coils, solenoinls, relays, etc. Yellow color; very thexihle und durible. Cat. No. List Price 645 -Koll of approx. 210 sq . in........ $\$ 0.75$ $645-\mathrm{D}-$ Display of 10 No. 645 rolls.... 7.50

## WALSCO

## STROBOSCOPE DISK

For checking proper lines on disk apuear to be stationary on correct speed when oliserved under 60 -cycle to lighting (preferably fluorescent). For cliecking $-8,45$, and $331 / 3$ rpm. speeds.


Cat. No.
List Price
949-Strohoscope Disk
$\$ 0.15$
Standard lacking: 25

## WALSCO <br> PLASTIC DIAL CRYSTALS

Can be cut with scissors. Fasily press-fitted or cemented in place. Solves the replacement problem on radio dials, instruments, etc.

Cat.


Cat.
No.
No. Size
$9920^{\prime \prime}$ Maximum Diameter.
$994-8 "$ x $10^{\prime \prime}$ Flat Sheet
$\$ 1.10$
1.80
1.80
1.65

For Buik Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

## WALSCO ALIGNMENT TOOLS



WALSCO $1 / 4^{" \prime}$ HEX I. D. NEUTRALIZING WRENCH. Very durable. Can be cut if corners become rounded from wear. Overall length- $71 / 2^{\prime \prime}$, 0.1 - $3 / 8$ "round. Cat. No.
§2500-13one Fibre Wrench
List Price $\begin{array}{lll}\text { §2503-r'olystyrene Wrench } & 2 & \$ 0.40 \\ & 2 & 0.40\end{array}$

## WALSCO 5/16" HEX. I. D. NEUTRALIZING WRENCH.

 Same consiruction as $1 / 4 "$ wrench listed ahove. Over-all length$71 / 2{ }^{\prime \prime}$ O. D.- $\frac{7}{32}{ }^{\prime \prime}$.Cat. No. Pjcture No. List Price §2505-Bone Fibre Wrench $\quad 1 \quad \$ 0.40$ §2508-Polystyrene Wrench $\quad 1 \quad 1 \quad 0.40$
WALSCO FIBRE HEX-WRENCH-AND-SCREW-DRIVER. Stamard $1 / 4^{\prime \prime}$ hex wrench combined with a fibre screw iriver $\begin{array}{lcc}\text { Cat. No. Combination Tool } & \text { Picture No. } & \text { List Price } \\ 02510-\text { Co } & \$ 0.60\end{array}$

## WALSCO DUPLEX ALIGNMENT SCREWDRIVER.

Precision made. Ground or molded to ft large or small screws. Width of blude on large end- $1 / 4^{\prime \prime}$; on small end- $1 / 8^{\prime \prime}$. Thickness to conform to standard slot dimensions, Over-all length-6;"
Cat. No.
Picture No.
$\begin{array}{lcr}\text { C2520-Fibre Screwdriver } & 5 & \$ 0.50 \\ \text {-2521-Folystyrene Screwdriver } & 5 & 0.40\end{array}$
List Price
${ }^{\circ} 2521$-P'olystyrene Screwdriver $\quad 5 \quad 0.40$
WALSCO METAL TIP ALIGNMENT SCREWDRIVER. Polystyrene handle. This tool combines the low capacity effect of an alignment tool with the mechanical strenmetl of a metal serewiriver. Diameter- $1 / 4 "$; over-all length- $6^{\prime \prime}$
Cat. No.
Picture No. List Price
²525-Alignment Screwdriver
$\$ 0.45$

## WALSCO TUNING WAND.

Made from Polystyrene rod with inductance-increasing powdered iron core on one end and inductance-reducing brass piece on opposite end. Over-all length- $6^{\prime \prime}$.
Cat. No.
List Price
${ }^{\circ} 2540$-Tuning Wand $\$ 0.50$
(Picture not shown, but similar to Picture \#1.)
WALSCO TV-FM ALIGNMENT TOOL KIT.
Complete set of all tools required for receiver alignnient
Cat. No.
List Price
$\$ 11.50$
$580-12$ tools in leatherette case 11.50

## WALSCO TIRE STATIC NEUTRALIZING KIT

- Reduces or Eliminates Automobile Radio Tire Static.
- Dissipates Body Contact Shock IDoor-handle


## Sparks).

This kit contains a special injector
gun and 5 packages of WALSCO
tatic Neutralizing lowder (one powder is blown into each tire for each tire, including spare). The poration, which takes just a few minutes and lasts in a very simple opera
Cat. No.
List Price
980 -Tire Static Neutralizing Kit, complete with injector, powder and instructions.
$\$ 2.50$
982- Injector gun only
1.50
1.00


WALSCO TV OSCILLATOR ALIGNMENT TOOLS.
Cat. No Picture No. List Price $\begin{array}{lcc}\text { Cat. No. For Philco Receivers } & \text { Picture No. } & 6\end{array}$ -2522-For Receivers, "Standard Coil" Front Ends

## 12

1.00

WALSCO TV I.F. ALIGNMENT SCREWDRIVERS.
Standard Tools for all TV and FM sels. Marle of new flexible low-loss plastic with thin precision serewdriver tips.
Cat. No. Picture No. List Price ${ }^{2} 2516-81 / 2 "$ long, for No. 6 Studs $\quad 7 \quad \$ 1.00$ 02517 - $3^{\prime \prime}$ long, for No. 6 Sturls 8 $02519-$ in $^{\prime \prime}$ long- 1 end for No. 6 Studs; $\begin{array}{llll}02524-81 / 2 " \text { long, Slotted Type, for } & & 13 & 1.00\end{array}$
WALSCO WIRE DRESSING AND ALIGNMENT TOOL. Made with thin ( $8^{7} A^{\prime \prime}$ ) nolystyrene handle, $7^{\prime \prime}$ lonq. Special tool on one end for dressing wires and findine loose connections or shorts. Other end has low capacity screwdriver tip.
Cat. No. Wire Dressing and Alignment Tool 10 ${ }^{\circ} 2512$ Pickure
Picture No
List Price
$\$ 0.55$

## WALSCO "K-TRAN" ALIGNMENT TOOL

For adjustment of all miniature (K-Tran) I.F. transformers. Made of tough hone fibre. One endi is nachinerl to ft " K tran" slots; other end is equipped with low-capacity metal screwdriver tip.
Cat. No. Picture No. List Price ²515-"K-Tran" Alignment Tool 11 .Kicr

## WALSCO SERVICE TWEEZERS

Thesc handy holding tools are made of fine spring steel and are polished nickel-plated. They have numerous uses in the shop and laboratory, such as starting screws and nuts in difficult places, holding wires and small parts together when soldering, clamping cemented items, installing dial cord and record-changer springs, looping and untying knots on drive cord. etc.

Cak. No.
List Price
570-Self - Closing Tweezer with cross-over action,
bhunt join1s ................. $\$ 0.95$
(Standard Package: Display card (Standard Package: Display card

571-Heavy-Duty Tweezer with slide-lock feature. Length $61 / 2$ serrated, blunt points (Standard Package: Display card with 10 tweezers . . . Cat. No. 571D)
572-Precision Tweezer with narrow, pointed ends especially suitable for delicate work. Over-all length $41 / 2^{\prime \prime} \ldots \ldots . . .$. (Standard Package: Display card with 20 tweezers... Cat. No. 572 -D)
575 - Tweezer Kit, made of durable leatherette, containing one each of the above listed tweezers (Stanclart Package: Display of 12 kits , . . Cat. No. 575 D )
§579-WALSCO EE-ZEE Starting Tool-A handy tool for startiny screws and nuts, inserting sprines, etc. Front part of tool is flexible. Will reach into places which are inaccessible with fingers or pliers.


#  The 99 Line <br> BULK PACK 

IN PERMANENT 7randparentPLASTIC PROMPT DELIVERY FOR INDUSTRIAL STORAGE 8OXES with SLIDING IOPS

AND OTHER QUANTITY USERS



THE "99 LINE"
Description

99c Net, Ea. Pkg.
Part Quantity DIAL DRIVE SPRINGS, Steel, Cadmium-Plated

Wire Size
$016^{\prime \prime}$ $018^{\prime \prime}$ $.020^{\prime \prime}$
$.020^{\prime \prime}$
$022^{\prime \prime}$

## PHONO PANEL MOUNTING SPRINGS, Spring Steel, Cadmium-Plated

|  | Dimensions |  |
| :---: | :---: | :---: |
| A |  | C |
| $\mathrm{I}^{\prime \prime}$ | 3/8" | 7/8" |
| 176" | $\frac{1}{3} 2^{\prime \prime}$ | $1{ }^{\prime \prime}$ |
| $3 / 4{ }^{\prime \prime}$ | 1/4" | $3 / 4$ " |

Wire
Thickness
$.075^{\prime \prime}$
$.062^{\prime \prime}$

## hickness $.075^{\prime \prime}$ <br> $.062^{\prime \prime}$

$.047^{\prime \prime}$
KNOB SPRINGS

SOLDER TYPE


7 with \#8-32 x 3/8" Screw

|  | Fits | Fits |
| :---: | :---: | :---: |
| Style | Screw $\#$ | Wire Gauge $\#$ |
| 8 | 6 | 16 to 20 |
| 8 | 8 | 16 to 20 |
| 8 | 10 | 16 to 20 |
| Assorted | $\ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots .$. |  |

Fits

| 3281-99 | 150 |
| :---: | :---: |
| 3282-99 | 150 |
| 3283-99. | 150 |
| 3284-99. | . 150 |
| 3:85-99 | 125 |
| 3286-99 | . 150 |

SCREW TYPE

SOLDERLESS TYPE

328:99
EYELET TYPE



BULK PACK

| Bulk | Net Prices, |
| :---: | :---: |
| Part No. |  |







Thread Size Across Flats
$3 / 8-32$

## SPECIAL NUTS



KNURLED THUMB NUTS, Brass








## FUSE INSULATORS



| Material | A | $\underset{B}{\text { Dimensions }}$ | $\bar{C}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mrame, cadmium-plated | ${ }^{7}{ }^{7 \prime \prime}$ | $1 / 4^{\prime \prime}$ | 1/4" |  | 2610.1 | 500 to 9999 | $\begin{aligned} & 10 \mathrm{M} \text { and up } \mathrm{s} 465 \end{aligned}$ |
| Steel, carlmium-plated ......... | 1/4" | \%8," | 80" |  | $2610-2$ | + 6.50 | $\$ 4.65$ 5.40 |
| Rrass (one hole tapued 6-32) | $8^{82}$ | 炜" | $\stackrel{5}{8 \prime \prime}^{\prime \prime}$ | ......... ................................................................ . . . . . | $2610-5$ | - 9.75 | 7.50 |

BULK PRICE LIST
DIAL CABLE \& CORDS - GRILLE CLOTH \& SCREENING - CHEMICALS \& FINISHES


## ORNAMENTAL METAL GRILLE

R 380
Available in a variety of finishes and in any size up to $48^{\prime \prime}$ wilth


# OTNGUGINETO 

ICA Bakelite Double Phone Plug No.
248 ——black
24R-Red
34B-Mlack barrel only
34 R -Ked barrel only 34P-Plug only


ICA Stubby Shielded Phone Plug Marrel Measures
 $1^{\prime \prime}$ long.
No. 27 List $\$ .80$
No. 37-Barrel only
ICA Midget Shielded Phone Plug
Diameter of Bar-
rel ${ }^{9 / \prime \prime}{ }^{\prime \prime}$. Overall
bize of Pluy $21 / 4 \prime \prime$
No. 30 List $\$ .70$
No. 40-Barrel only

## ICA 3-Wire Microphone Plug

ann lis
Has solder connections for cable os microphone use. Barrel molded of bakelite; brass parts, nickel plated. No. 1901
ICA Shielded Double Phone Plug Nickel Barrel Brass Shell Nickel Plated
Supplied with fibre insulating tube.
No. 25 Lint $\$ .90$
No. 35 -Barrel only ......List $\$ .50$
Wire Connector with Banand Ideal for quick splicing for testing point.

No. 1933


ICA Shielded 3-Way Portable

## Microphone

 Jack2-
For all types of microphones. Sturdily constructed of brass parts with phosphor lironze springs, Nickel plated and thoroughly insulated. No. 1904

## ICA Bakelite Portable Jacks When Single Open

No. 1911—Overall size $1 \mathrm{~s} / \mathrm{s}^{\prime \prime}$
Diameter $3 / 4^{\prime \prime}$ ….... List $\$ .70$
No. 1903 -Portahle Jack, hlack
Bakelite barrel ......List $\$ 1.10$

## ICA Shielded Portable Jack

 Single Open CircuitNo. $\underset{\text { Diameter }}{\text { 1913 }}$..............Lis

ug Adapter Soldering or wiring not necessary. No. 33 ....LIst $\$ .45$

## ICA De Luxe Phone Jacks

New Design
Greater Efficiency
New design. Tension fatigue minimized. - Sprine members made of members made bror Hooked type phosphor bronze. Hooked type soldering lugs-Cannot turn
short. For' standard $1 / 4^{\prime \prime}$ plug. No.
1920-Single Open Circuit.... $\$ .75$ 1921-Single Closed Circuit.. . 85 1922-Three-Way Microphone Jack


Smaller type precision made jacks for limited space. Complete with nut and metal washer.

No.
1870-Kingle open circuit. 1872 Single closed circ

ICA Panel Mounting Jacks


Small Compact
No.
325-Single Open Circuit.... $\$ .50$
1905-3.Way Microphone Jack .75

## ICA Insulated

 Tip JacksWith receptacle for standarl phone tips. $\begin{array}{lr}\text { No. } & \text { List } \\ \text { 889B—Black } \\ \text {.... } \$ .15\end{array}$ 889R—Red ...... . 15

## Insulated Banana Jacks

Witly receptacle for banana plugs. No. 888B—Black ............List $\$ .15$ No. 888 R-Red $\qquad$ List . 15

## ICA Bakelite Insulated

 Tip JacksMoulded of Low-Loss No.
1889-B1ack
 $s$ 1889-Black $\qquad$ $\$ .20$
 Bakelite Banana Type No. 1891-Black List $\$ .20$ No. 1892-Red List .20

ICA Combination Banana Plug or Phone Tip Jack Made to take banana plug or standard phone tips interchangeably. Insulated cap in black and red With washers and nuts.
No. 528R—Red
....Lis
List $\$ .20$

## Microphone Connectors



No. 1929-For use on chassis unit or in microphone. Single contact ........ List $\$ .30$ No. 1930 -Closed circuit connector. With spring actuated contact .........List . 40


Shielded cable type. Single contact. No.
1931-Female connection ...... $\$ .50$ 1932-Male connection

ICA Insulated Binding Posts with Jack for Banana Type Plug
Length $13 / 8^{\prime \prime}$ overall when top is up. Extends 5/8" above panel when top is screwed down. Fitted with $8 / 32$ screw rin $^{\prime \prime}$ long, and two hex nuts. No.
622-Red .............. \$. 25 623-Black
ICA All Metal Binding Post
Designed for high amperage use and where low resistance connections are necessary on test equipment, etc. Nickel plated brass. Dimensions same as No. 617 below.
No. 620
List $\$ .20$


## ICA Vise-Grip Binding Post



Engineered on principle of a vise. Can cause no damage to even finest wire strands. Wire hole and designating symbol always in align ment. Two styles.

No. 630 Series-Has 6/32 Male Threaded Shank .........List $\$ .50$ No. 690 Series-Has 6/32 Female No. Marking No. Marking $\begin{array}{lll}\text { No. Marking No. Markin } \\ 630 & \text { ANT } & 690\end{array}$ 631 GND 691 GND 632 A 692 A. $\begin{array}{llll}633 & G & 693 & G \\ 634 & + & 694 & +\end{array}$ 635 - 695 636 Rec. 696 Rec. Marking) Marking)

## Bakelite Binding Post Heads

Bakelite Heads only with Brass Threaded Insert for $8 / 32$ Screw.

## No. 628-Red <br> $\qquad$

 No. 629-Black .List . 10Insulated Midget Phone Tip Plug
Fits all standard jacks. Tip is threaded Over all length $11 / 4^{\prime \prime}$. No. 876R—Red ........ $\$ 15$ 876B—Black …... 15 ICA Midget Sharp Point Threaded Phone Tip Non-Insulated
No. 365 .........List $\$ .15$

## U. S. Army and Navy

Specification Plugs


Manufactured to meet the very exacttions of the U. S. Army Signal Corps and U. S Navy. Will fit all standard jacks. No. P.L. 55-2 Conductor Plug (long) .......................List \$ . 85 No. P.L. 68-3 Conductor Micro phone Plug ................List $\$ 1.75$
ICA Insulated Solderless Plug

## $\Longrightarrow)^{3}$

$2^{\prime \prime}$ long - fits all standard
phone tip jacks.
No. 885B-Black
List $\$ .18$
No. 885R-Red ..............List . 18
ICA Sr. Solderless Piugs

|  | $\begin{aligned} & 1 \text { ti" overall } \\ & \text { length. } \\ & \text { No. } 358 \\ & \text { List } \$ .10 \\ & \hline \end{aligned}$ |
| :---: | :---: |

ICA Jr. Solderless Plugs
13.3" overall
length.
Tip $1 / 2^{\prime}$
No. $359^{\circ}$
List $\$ .10$


ICA Insulated Needle Point Tip Plug
8868 - Black
List $\$ .18$
886R - Red
List $\$ .18$
Above with Insulating Sleeve
No. 341 B -Black ............ List $\$ .10$ No. 341R—ked ...............List 10

## ICA Split Banana Plugs

 For positive and durable spring action. Allows spring to fit into jaek, cannot bend out of shape - Complete with two nuts.
No. 403
List $\$ .12$

## OTNGUSINETU

ICA Insulated Solderless Split Banana Plugs

Set screw provided at side of barrel to fasten screw without soldering.
11/2" Long

No. 883 B -Black
List $\$ .20$
List .20

$$
21 / 2^{\prime \prime} \text { Long }
$$

With sleeve covering set screws. No. 882 B - Black ............ List $\$ .40$ No. 882R—Ked ..............List . 40 4" Long
With sleeve covering set screws. No. 881B-Black ............List $\$ .50$ No. 881 R-iRed List. 50

With Solderless Wire Nut
No. 434B-13lack ........... List $\$ .20$
No. 434R-Ked
List .20


Approved hy the Signal Corps and other government agen cies. These plugs are used in all government equipment. Made of Beryllium copper and guaranteed for its spring and durability. Threaded plug accommodates 6/32 nuts.


No. 419-Overall size fig" long. Shank length $1 / /^{\prime \prime}$ long. Diameter of shank $1 / 8$ "
$\begin{array}{cc}\text { No. } 420-O v e r a l l \\ \text { Threaded size } & 11 /{ }^{\prime \prime} \text { long, } \\ \text { shank } \\ \text { length } \\ 3 / 8\end{array}$ long threaded for $6 / 32$ nuts.

419--Rivet type

| 419--Rivet type |  |  |
| :--- | :--- | :--- |
| 420-Theaded shank- $3 / 8$ | $\ldots . .$. | $\$ .15$ |

ICA Spade Lug
Can be used on any 10 size screw or terminal up to size 10. Receptacle fits all I.C.A. and other make Banana r'lugs.

List $\$ 5.50 \mathrm{C}$
100 in Standard Package

Plugs and Jacks


A new line of heavy duty transmitting plugs and jacks. Plug-in tyle with positive grip contacts. Equipped with heavy insulated threaded heads and handles for safe handling on high R.F. cur-
rents. Supplied with large hex rents. Supplied with la
nuts for panel mounting.

Handle 1,000 Volts at 10 Amps
No.
450-Medium Plug-RED ....\$ . 55
451-Medium Plug-BLACK .. . 55 452-Medium Jack-RED 453-Medium Jack-BLACK . 454-Giant Plug-RF.D 455-Giant Plug-BLACK .... 75
456-Giant Jack-RED ........ 1.15 457-Giant Jack-BLACK .... 1.15

## ICA Alligator Clips

Good firm grip. Ideal for work in tight places. Overall length 2".

No. 364

ICA Alligator Clip with Screw Connection


Good firm bite. Convenient screw connection eliminates the necessity for soldering. Overall length $2^{\prime \prime \prime}$ No. 376 ..................ist \$. 12

ICA Insulated Alligator Clips Encon
No. 884 B -Black
List $\$ .20$
No. 884R-Red
List .20

## ICA Insulated Alligator Clip

 with Phone Tip Jack

Ilas standard phone tip jack in insulated sleeve. Will accommodate phone tip or solderless plug tips. No. 525R-Red ..............List $\$ .45$ No. 525B-Black ..............List . 45

ICA Insulated Combination


An insulated alligator clip with a dual purpose Jack in catalin sleeve - Equipped with the new combsnation Jack whip the solderless phone tip or Manana plug. Overall length- $31 / 4^{\prime \prime}$.
No. 520R-Red
No. 520B-Black
List $\$ .50$
List .50

## ICA SHIELDED 3-WIRE MICROPHONE PLUG

 Shielded Nickel Barrel
## 

No. 1900

## ICA SHEARING PUNCHES

Now! No Hammering Necessary
to Punch Chassis Holes


Shearing is accomplished with a wrench which forces shear punch into die. Made of High Grade Steel.

| No. | Size of Hole | List |
| :--- | :---: | ---: |
| 723 | $5^{\prime \prime \prime}$ | $\$ 4.25$ |
| 725 | $3_{1}^{\prime \prime \prime}$ | 4.25 |
| 724 | $1^{\prime \prime}$ | 4.75 |
| 726 | $1.1^{\prime \prime} 7$ | 5.00 |
| 727 | $11 / 8^{\prime \prime \prime}$ | 5.00 |
| 728 | $11^{\prime \prime \prime}$ | 5.00 |
| 729 | $11_{4}^{\prime \prime \prime}$ | 5.00 |
| 730 | $138^{\prime \prime}$ | 5.50 |

## ICA IMPROVED ALL-PURPOSE CIRCLE CUTTER

Will Cut Holes from $11 / 2$ to 8 Inches
Cutting bar holder is $7 / 8^{\prime \prime}$ in diameter and also accommodates a centering drill or any size pilot pin. Cutting bar is $3 / 8$ " square and is arranged to hold a $\frac{3}{16}$ " high speed cutting bit.
No. 775


Used on RCA recording units, recewers and auto sets
2383-Pin Plug ug
$\$ .10$
2385-Socket \& Shield . 15

## ICA SQUARE HOLE SHEARING PUNCH

This new punch permits the cutting of any size odd-shape hole (square rectangular, hexagon, oblong, etc.) on any size panel or chassis. Good for Enlarging or punching TRANSFORMER Holes.
No. 790
List $\$ 16.50$


REPLACEMENT DRILLS AND CUTTERS Used as replacement on ICA No as replacement on ICA No. 775 and No. 780 circle cutters as well as on other make cutters.


No. 776 -Replacement drill for No. 775 Circle Cutter

Llst \$. 60
No. 777-Replacement cutter for No. 775 Circle Cutter

List .85
No. 781-Replacement drill
for No. 780 Circle Cutter
Llst . 60
No. 782 -Replacement cutter for No. 780 Circle Cutter

LIst . 90 No. 786

## ICA UNIVERSAL MULTIPURPOSE CUTTING TOOL

This handy tool can be used for counter-sinking, heading, drilling or cutting holes. Fquipped with ${ }^{3}{ }^{3}{ }^{\prime \prime}$ drill for holes from $\frac{7.7}{18 \prime}$ diameter up to $3^{\prime \prime}$ diameter. Can be used either in drill press or hand brace. Also acts as a boring tool when used in a lathe.

No. 780

## ICA RIVET AND EYELET PUNCH SET



A Universal Tool that can be used for either riveting or eyeletting. Holder is made of cast iron with hexaronal sides; thus permitting the tool to be placed in a vise without slipping.
No. 785-Complete with ample assortment of eyelets and rivets.

List $\$ 4.00$

## RIVET AND EYELET ASSORTMENT

Additional evelets and rivets can be purchased separately.
No. 5265 - (Assortment of 100) ...... List $\$ .80$

## RIVET \& EYELET SETTING TOOL

List $\$ 4.00$

## QTNGUGINETU



ICA Ilighest Quality Soldering Irons are "Best liy Test". Each model is submitted to the most severe tests and results prove conclusively that ICA irons are equal, if not superior, to any soldering iron on the market today.

## 60 WATT IRON

No. 1960-A-105-120 Volts No. 1963-220 Volts

## 85 WATT IRON

No. 1962-A-105-120 Volts
No. 1964 - 220 Volts
List $\$ 6.50$ 115 WATT IRON
No. 1961-A-105.1:0 Volts
No. 1965-220 Volts
List $\$ 7.50$
List 7.50

## REPLACEMENT ELEMENTS FOR <br> OR

 ICA SOLDERING IRONSDue to the con-
struction of the ICASoldering
lrons, burnt out
elements can be easily removed and replaced by anyone.

| 105-120 Volts |  |  | 220 Volts |  |  |
| :--- | :---: | ---: | :--- | ---: | ---: |
| No. | Watts | List | No. | Watts | L!st |
| 1985 | 60 | $\$ 3.00$ | 1990 | 60 | $\$ 3.00$ |
| 1986 | 85 | 3.50 | 1991 | 85 | 3.50 |
| 1987 | 115 | 3.50 | 1992 | 115 | 3.50 |

## REPLACEMENT

TIPS

For ICA Soldering
List \$5.00 List 5.00 List 6.50

## 号

 105-120 Volts

| REPLACEMENTTIPS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| For ICA Soldering Irons |  |  |  |  |  |
| Available in All Sizes |  |  |  |  |  |
| Made of a special copper alloy. Wlectrolytically pure. For replacement in ICA Solderiny Irons. Can also be used in American Beauty and irons of similar construction. |  |  |  |  |  |
|  |  |  |  |  |  |
| $\begin{aligned} & \text { No. } \\ & 1970 \end{aligned}$ | Watts | Tips | Diam. | Length | List |
|  | 60 | Flat | 3/8" | 3 " | \$. 60 |
| 1972 | 85 | Point | $3 / 8{ }^{\prime \prime}$ | $31 / 2{ }^{\prime \prime}$ | 80 |
| 1971 | 115 | Point | $\mathrm{T}^{7}{ }^{\text {² }}$ | $31 / 2{ }^{\prime \prime}$ | 1.00 |

ICA UNBREAKABLE 'TURN-TITE'' SOCKET WRENCHES

$7^{\prime \prime}$ long. Handle is of ribhed shockproof un. breakable material.

| No. | Socket | List | No. | Socket | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 940 | ${ }^{3}{ }^{\text {B }}$ | \$.95 | 944 | 3/8' | \$.95 |
| 941 | 1/4" | . 95 | 945 | ${ }^{1 / 8}$ | . 95 |
| 942 | ${ }^{8}{ }^{\text {b }}$ | . 95 | 946 | $1 / 2$ " | . 95 |
| 943 | $\frac{1}{2} 2^{\prime \prime}$ | . 95 | 949 | Set of 7 w | nches |
|  |  |  |  | as above | 6.65 |

## ICA UNBREAKABLE VOLUME CONTROL

 WRENCH

No. 937
List \$1.75

\section*{ICA ''TURN-TITE'" SOCKET WRENCHES HOLLOW SHAFTS <br> Made of hardened steel, cadmium phated, with sturdy Black japanned wooden handles. <br> | 6 Inches Long | 9 Inches Long |
| :---: | :---: |
| No. List | No. List |
| 898-3.", ....... $\$ .45$ | 900--3" ${ }^{\text {818 }}$....... $\$ .55$ |
| $890-1 / 4,1$, ....... 45 | 894-1/4." …… 55 |
| 891- ${ }^{18}$ " | 895-7\%" ....... . 55 |
| 892-3/8" ........ . 45 | 896-3/8" …… . 55 |
| 893-- ${ }^{\frac{1}{16} / \prime \prime}$........ . 45 | 897--7" |
| 899-1/2" ${ }^{\prime \prime}$ | 901-1/2" |
| 910-Set of 6 | 911-Set of 6 |
| Wrenches 2.70 | Wrenches 3.30 |

## ICA FLEXIBLE SOCKET WRENCH



Especially designed for hard-to-reach slots. Can actually he used around comers or under obstructing objects.
No. $913-1 / 4$ " Hex
List $\$ 1.50$
No. $914-{ }_{16}^{5}$ " Hex
List 1.50
ICA LOCK SOCKET WRENCH AND SCREW DRIVER SET


The all-purpose socket wrench, packed in neat, enameled steel case. Includes sturily $61 / 2^{\prime \prime}$ Wood Grip Screw Driver-4" L Hantle- $33 / 4$ "

 Square Sockets.
No. 999
List $\$ 2.75$

## ICA AMBER COLORED UNBREAKABLE MIDGET SCREW DRIVER <br> 

Particularly shaperl to fit into set screws of knobs. No. 1013 has convenient pocket clip. No. $1013-43 / 4$ leneth $\quad$ Li............. List $\$ .25$
No. 1017-7" length List .75

## ICA FLEXIBLE SCREW DRIVER For the Hard to Reach Spoots

 Allows access 10 screws in hard to reach and out of the way places. Can go under objects or around corners.No. 935 List $\$ 2.00$

ICA COMPLETE NEUTRALIZING TOOL KIT


The kit consists of one of each of the following ICA tools, described herein:-Nos. 382, 1008 , $987,1015,977,996,992,985,990,1024$, $1019,1026,1022,1002,1013,1028,1039$, 1019, 1026, 1022, 100
No. 995-Kit, Complete with Carrying Case
List $\$ 20.00$

ICA UTILITY NEUTRALIZING AND ALIGNING TOOL KIT


A handy Service Man's Kit containing careiully selected tools suitable for varied uses. Packed in vest pocket leatherette case.

No. 997
List $\$ 3.00$

## ICA NEUTRALIZING AND

## ALIGNING TOOL KIT

The Kit consists of twelve sepa rate and distinct parts, some of which can lse employed for several operations. These units telescope into each other, forming four sep arate tools when assembled. No. 998

List $\$ 6.50$


Complete with Carrying Case
ICA DE LUXE NEUTRALIZING AND
ALIGNING TOOL KIT
Complete for Every
Service Need

ICA NEUTRALIZING AND ALIGNMENT TOOL KIT - SIGNAL CORPS NO. TE45-A

ICA Catalog No. 993
This versatile kit, designed for and used by the Signal Corps, is also strongly recommended for general service use. Compact, and contained in a handsome leatherette case, this kit consists of the following: 1-No. 935 Screw
Driver
1-Bone Fibre No. 1015
Neutralizinc Tol Driver Neutralizing Tool $1-5^{\prime \prime}$ Screw Driver ${ }^{2-N o}$, $980-$ Hex Tools, 1 -Insulated Screw 2 - io., 981 -Hex Tools, Driver $\frac{5}{6}$ II I.1). List \$6.75

ICA DIAL CABLE ADJUSTER

Handy aid to replacing slipped-off dial cable over drive drum. Permits easy manipulation in cramped places.
No. 437
List $\$ .75$
ICA 4-in-1 NEUTRALIZING TOOLS, SCREW DRIVER AND WRENCH
Made of Fenoline Fully Insulated


No. 1019-Complete $\qquad$

## ICA 5-IN-1 NEUTRALIZING AND

Same features as the 4-in-1 tool described above with an additional all metal screw driver.
No. 1022.
List \$1.35

## MESURINS

## ICA ALIGNMENT WRENCH

## For RCA, Philco, etc.

Used on all makes Air Trimmer. Made of $1 / 2^{\prime \prime}$ Used on all makes Air Trimmer. Ande of hod low slaft hexagon wrench-uther end has an especially shaped hook.
No. 1008
List $\$ 1.50$

## ICA BALANCING TOOL

Fite into No. 1019 Neutralizing Tool. No. 1026

List $\$ .50$
INSULATED NEUTRALIZING WRENCHES


Hexed-Full Length
For Philco, Majestic and Other Receivers No. 985-6" long Itiameter
No. 986 - $8^{\prime \prime}$ long
List $\$ .25$
No. 980-5" long ................................... List .25
No. 981-5" long, $\frac{7}{16 "}$ dia................. List .30
ICA Alignment Tool for Philco Receivers For Air Trimmer Sets


Has specially designed metal clip for air trimnuers. Made of narrow fibre rod, $3^{3}{ }^{\prime \prime}$ diam. by 6 " long.
No. 1033
List $\$ .60$
ICA Insulated Adjustable Neutralizing Tools

Absolutely no metal parts. Screw driver slides into inside of neutralizing wrench.
No. 990 --Extending from 6 to $10^{\prime \prime}$. List $\$ .90$ No. 991 -Extending from I2 to $16^{\prime \prime}$. List 1.00

ICA NEUTRALIZING AND ALIGNING TOOL (
U. S. Army No. TLl38A

ICA No. 1011 Used for general radio tuning and aligming. Approved by U. S. Army and Nave.
No. 1011
ICA NEUTRALIZING AND ALIGNING TOOL


Machined of bakelite rod $9 / 32$ inch diameter. Desicined for Western Flectric Co. Approved by U. S. Army and Navy.
No. 1006
List $\$ 1.25$
ICA ALL PURPOSE ALIGNING TOOL

## $\mathrm{C}=\square$

Handle is of $3 / 8$ " Fenoline. End has Socket Screw Iriver for neutralizing all iron core tuning systems.
No. 1002
List $\$ .75$


## ICA TEST-LITE

Provides a steady, bright light-without annoying flickering-for dark, narrow spaces around chassis, cahinets. etc. Plugs into any AC-DC socket, 105125 volt.. $41 / 2 \mathrm{ft}$. cord. Includes standard 6 volt lamp, No. 47, . 15 amp., and plug complete.
No. 938
List $\$ 1.50$

C.

## ICA Neutralizing Tools

 with Metal NibsPatent No. U.S. 83,321. Sturdy, unbreakable, will outlast all other ype neutralizing tools.
No. 996
List $\$ 1.50$

## ICA BONE FIBRE SCREW DRIVER

Of $\frac{8}{18}$ " lone fibre rod with a sturdy blade. No. 1029

List $\$ .70$

## ICA BONE FIBRE SCREW DRIVER

Double Edged-No Metal-Fully Insulated Made of $1 / 4$ " Bone Fibre Rod No. 1039.

List \$. 40

ICA NEUTRALIZING TOOL
For Push Button Tuners


The Socket is $\frac{9}{6.4}$ " in diameter, and contains a screw driver blade.
No. 1003.
List $\$ .75$

ICA SET TRIMMER NEUTRALIZING TOOLS For Philco, Zenith, RCA, etc.

Fits the smallest size trimmer condensers. Trimmer end is $\frac{7}{32}{ }^{\prime \prime}$ diann. to fit $1 / 4$ " hole. No. 992-6" long

List $\$ 1.00$
No. 933-10" long
List 1.25
ICA NARROW SHAFT ALIGNMENT TOOL

RCA-Zenitl-etc. $\frac{73}{37}^{7 \prime}$ Bakelite Shaft
No. 987
List $\$ .85$
ICA ALIGNMENT TOOLS For RCA Receivers

Narrow slaft Neutralizing Tools made of Bone Fibre- $\frac{7}{3 \prime \prime}$ wide. Has screw nib inserted in Brass Collar on end.
No. 1015
List $\$ .75$
ICA MAGIC TUNING ALIGNMENT TOOL
Consists of a Bakelite rod with a Brass cylinder at one end, and a suecial finely divided iron core at the other end.
No. 977
List $\$ 1.00$

## ICA FORK TYPE NEUTRALIZING WRENCH

 SCREW DRIVERFor RCA and
Other Sets
No. 1024.
List $\$ .50$
ICA Fenoline Neutralizing Screw Drivers

## -

Made of Fenoline. Strong and sturdy, completely insulated for neutralizing and aligning coils, condensers, receivers, etc.
No. 1028

## CA ALL-PURPOSE TEST LEAD KIT

 Complete For Every Testing Need Equipped with one pair of test leads which have 48 " of red and black kinkless live rubber wire. One end has insulated removable has insufated re Included in this test neluded in the1 pr . test leads.
1
1
1 pr. test leads.
pr. insulated alligator
clips-red and black.
pr. insulated spade
lugs-red and black
1 pr. insulated needle points-red and black.
 No. 1005-Kit, complete ICA PHONO-NEEDLE POINT TEST LEADS With Slim Handles and Flexible rubber-covered, kinkless wire. 48
$4^{\prime \prime}$ long. No. 382—With Phone Tips..... $\$ .90$ 381 —With Spade Terminals. . 90 379-With Alligator Clijs . . . 1.10

ICA DE LUXE EXTRA.
FLEXIBLE TEST LEADS


ICA PENCIL TYPE
TEST LEADS
Finger-Grip Molded Tips All connections are properly soldered providing low resis tance connections sital in all
precision tests. The Molded
Fiderl with rivets for easy removal of wire. Length of test leads is $48^{\prime \prime}$. Handles are $5^{\prime \prime}$ long
No. 373.
List \$1.75
NEW ICA SLIM-LINE TEST LEADS
Long vinyl-insulated shaft permits probing in clusely wired circuits without feat of shorting. Black and red Tenite handles. $48^{\prime \prime}$ wire lead. With molded phone tip plug. No. 438 ........List $\$ 1.50$ Pr.


392- ith non insulated phone tips.......... 1.40
1CA Slim Handle Test Leads Made of sturily Tenite Handles. $50^{\prime \prime}$ of Kinkless Isive Jubber wire. Handles ${ }^{6 \prime \prime}$ Long-
Overall Length $7^{\prime \prime}$. Prods have Overall Length $7^{\prime \prime}$. Prods have pointed large phone tip plugs. No.
313 -Phone Tips on end
314 -Spade Lugs on end


-Ahlgator Clipsonend 1.40
ICA UNBREAKABLE TEST PRODS
Long Metal Prod with Shock - broof Rubber Handles One end has standard needle One end has standard needle sulated Solderless Plugs. Sup. plied with 50 " Kinkless Rubber Wire.
No. 332-With Phone Tips
Non Insulated. List $\$ 1.00$
No. 331 Insulated Solderless


## (0) RASUOLINTOTO



## ICA ALL PURPOSE

## TEST LEADS

Made of sturdy Tenite TubNog ling. Slim handles. 6" long. Over. wire $50^{\prime \prime}$ long.

With interehangeable Tips No List

NON-KINK FLEXIBLE TEST LEAD WIRE

Flextble rubber copered wire that will not kink or wear down in service. Conslsts of very fine tinned stranded copper wire with a heavy wall of live rubtrer insulation

No. 307-100 it. spool, Black. No. 309-100 ft. spool, Ted.


List $\$ 4.00$ List 4.00

ICA FENOLINE PHONO. NEEDLE
POINT TEST PRODS
With Removable Chuck
-anlicm 0
5 Inch Test Prod
No. 389R-Red ............................... List $\$ .40$ No. 3898-Black .............................List . 40 7 Inch Test Prod
No. 334R-Red No. 334 B -Red

List 40
ICA SOLDERLESS PLUG TEST PRODS
With Solderless Plug Chuck

## $\Rightarrow$ -

51/4 Inch Long Prods
No. 390R-Red
No. 390B-Black
List $\$ .40$
List . 40
No. 335R-1/4 Inch Long Prods
No. 3358 -Black
List . 50
List .50

## HIGH VOLTAGE ICA HEAVY-DUTY BAKELITE TEST PROD HANDLES



No. 480-Black Bakelite ................. List \$1.15

$$
\begin{aligned}
& \text { HIGH VOLTAGE HEAVY-DUTY } \\
& \text { BAKELITE TEST PRODS } \\
& \text { Measures } 2^{\prime \prime} \text { overall } \\
& \text { No. List } \\
& \text { 485-Black Bakelite ................ } \$ .55
\end{aligned}
$$

## ICA HEAVY-DUTY TEST PRODS =-

Slim tapped Tenite handle fitted with threaded heavy-duty phone tip. Length $5^{\prime \prime}$.
No. 387R-Red
List $\$ .50$
No. 387B-Black
List .50

## Latest Television Servicing Tools

## ICA SAFE-T-TESTER

A new, unique, non-shorting prod that makes contact only when pressure is applied to harrel. Ideal for cramped spaces where probing is necessary. Specially applicalle to television needs,


No. 446. $\qquad$

## TRAN-ALIGNER

Newly designed all-insulated aligning tool for standard IF and RF and "K-Tran" midget transformers. Trim filser; milled at one end, screw driver at other end. $21 / 2^{\prime \prime}$ length blade; $6^{\prime \prime}$ overall.

No. 978 ..
List \$. 75 each

## SLIM-ALIGNER



Alignment tool with extra thin recessed blade and slim metal slaft for cramped probing in television receivers. Fiber handle. Especially suitable for "Admiral" and similar make television sets.
No. 6161
List $\$ 1.00$ each

## Stub Aligner

Ideal when cramperl space demands short insulated tuning tool. Exposed nib for screw driver type controls not carrying high voltages. Tough fibre. Length: $21 / 2^{\prime \prime} \times 1 / 4^{\prime \prime}$ diameter. No. 6155

List $\$ .40$ each

## heavy duty

 TEST LEADSEngineered for TV's high voltage measurements. Insulated to withstand 15,000 volts D.C. Thick-walled bakelite handles with
 finger guards. $48^{\prime \prime}$ heavy duty cable. No. 4317.
$\$ 3$ per pair Dealer Net

## TUNING WAND



Extra thin diameter to fit small coil openings in television sets. Flexible vinylite. Brass insert in one end; molded powdered iron core in other end. Lowers or increases inductance. Suitable for "Zenith," etc., TV sets.
No. 6163
List $\$ 1.00$ each

## DEEP-NIB ALIGNER



Tough fibre. Metal nib entirely insulated and set within harrel end. For tuning IF and RF shielded coils and trimmers. Small enough to fit under television tules without removing. Length: $21 / 2^{\prime \prime} \times 1 / 4^{\prime \prime}$ diameter.
No. 6156 .
List $\$ .50$ each

## TELEVISION "CHANNEL TUNER"

A narrow all-insulated screw driver of machined fiber. Ideal for deep, inaccessible tuming. Overall: $7^{\prime \prime}$ Length. $1 / 8^{\prime \prime}$ blade on $41 / 2^{\prime \prime}$ shaft.
No. 6157.

\section*{RF AND SIGNAL

## TRACER PROBE

## TRACER PROBE

Germanium Crystal Circuit. Assures accurate analysis of circuit defects. May be used with audio amplifier for audible trac-
 ing or with V.T.V.M. for RF and AF measurements. Low input capacitance. The ideal probe for the audio section of television circuits. The sturdy bakelite barrel has sealed tenite ends with solderless phone tip and includes $48^{\prime \prime}$ RG59/U coaxial cable with phone plug and $18^{\prime \prime}$ rubber covered ground lead with alligator clip.
No. 4310 $\qquad$ \$7.50 Dealer Net

## ''BIG STRETCH'' ALIGNER

Extra thin, extra long ( $9^{\prime \prime}$ ), bone fibre aligning tool, $61 / 2^{\prime \prime}$ blade. Specially designed for adjustment of nested iron cores of "Admiral," "Zenitl" and similar make TV sets. Permits use on RCA front ends and normally inaccessible areas.
No. 6162.
List $\$ 1.00$ each

## TUNING WRENCH

Insulated fibre tuning wrench with extra thin recessed blade. Extra thin screw driver blade on other end ( $43 / 4^{\prime \prime}$ L.). Tenite handle. Especially designed for "Zenith" TV sets. etc.
No. 6164.
List $\$ .75$ each

DUAL ALIGNER

Dual purpose narrow shaft, fibre alignment tool for trimmers, IF transformers, etc. Recessed screw nib on one end; metal screw driver on other end.

## OTNGUSINETM

ICA GRIP-RITE MOLDED PHONE TIP PLUG Replacement for ICA and
 Weston - as well as other make Test Leads.

## No. <br> 868-Rel <br> 869-Black

$\qquad$ List
$\$ .50$

CA PHONO NEEDLE CHUCKS
Push on type can be forced into handles - Threaded tupe can be -DEDM of brass, nickel plated with needle -point.
No. Push-on Type, Overall size 1" List 509-Threaded Type, Overall size 1". HEAVY-DUTY PHONE TIP
 Made of high quality heavy brass with nickel plated finish. Used on test leads, prods, etc. (Overall lelmetf is $1 / 2^{\prime \prime}$. No. 361-Heavy-I)ut

List $\$ .13$ No. 360 -Standaril

List 2.000
ICA CHROME SILVER DIAL PLATES

$23 / 4$ " and $f^{\prime \prime}$ diameter. Two types,
calibrater 180 degrees $0-100$ and 325 degrees, 0-100.

|  |  | Dia. |  |  |
| :--- | :--- | :--- | :--- | :--- |
| No. | Degrees | Dial | Calib. | List |
| 2196 | 32.3 | $23 y^{\prime \prime}$ | $0-100$ | $\$ 1.15$ |
| 2197 | 180 | $2 \% / \prime \prime$ | $0-100$ | 1.15 |
| 2194 | 325 | $4^{\prime \prime}$ | 0.100 | 1.40 |
| 2495 | 180 | $4 \prime$ | $0-100$ | 1.40 |

ICA BRASS BLACK SATIN FINISH DIAL PLATES
With Etched Silver Numerals


| No. Degrees Dial | Calib. List |  |  |
| :--- | :--- | :--- | :--- |
| 2230 | 325 | $3^{1 / 2 "}$ | $0-100$ |
| 2.60 |  |  |  |



| 2232 | 180 | $31 / z^{\prime \prime}$ | $0-100$ | .60 |
| :--- | :--- | :--- | :--- | :--- |
| 2233 | 180 | $2^{\prime \prime}$ | $100-0$ | .45 |
| 2234 | 325 | $2 \prime \prime$ | $0-100$ | .45 |
| 2236 | 180 | $2^{\prime \prime}$ | $0-100$ | .45 |



ICA CHROME SILVER DIAL PLATES
Attractive grain satin finish. Black Background Plates.

| No. | Degrees | $\begin{gathered} \text { Mates. } \\ \text { Dia. } \\ \text { Dial } \end{gathered}$ |
| :---: | :---: | :---: |
| 2294 | 180 | $2^{\prime \prime}$ |
| 2295 | $32 \overline{3}$ | $2^{\prime \prime}$ |
| 2296 | 180 | 34/2" |
| 2297 | 325 | $31 / 2^{\prime \prime}$ |
| 2298 | 180 | $4{ }^{\prime \prime}$ |
| 2299 | 325 | $4^{\prime \prime}$ |



ICA ETCHED DIAL PLATES

Mate of lorass ar black with etched silver markings. Calibrated for 300 degree rotation. Marked 0 to 10. Will fit on $3 / 8 "$ bushing. Size $\left.21 / 4^{\prime \prime} \times 1-1\right] / 16^{\prime \prime}$
$\qquad$ 2244 -Record. 2246 —iain 2247 -Tone 2248 -Ilain (c). 30
2248-I'lain (Calibrated but not worded)


## RADIO REPLACEMENT AND INSTRUMENT KNOBS

# OTNEOLINETU 

| No. 277 <br> Inductance 2.5 M. H. <br> D.C. Resist. 32 ohms Current Cap. 150 ma . LIst $\$ .50$ |  |  | 'Ins R. CH CO Silk Wo Supp with leads moun |  |
| :---: | :---: | :---: | :---: | :---: |
| ICA "'INSULEX'" R.F. CHOKES |  |  |  |  |
| Cat. | Induct- | D.C. | Current |  |
| No. | ance | Resis. | Cap. | List |
| 1777 | 2.5 | 30 | 150 | \$ . 60 |
| 1775 | 5.5 | 57 | 150 | . 75 |
| 1774 | 10 | 7.3 | 150 | . 80 |
| 1772 | 30 | 136 | 125 | . 90 |
| 1773 | 60 | 196 | 125 | 1.15 |
| 1771 | 80 | 222 | 125 | 1.25 |
| IRON CORE HIGH 'Q'" R.F. CHOKES |  |  |  |  |
|  | Ind. M.H. |  | D.C. Res. |  |
| No. |  |  | ohms | List |
| 6200 | 2.5 |  | 17 | \$1.20 |
| 6201 | 3.5 |  | 22 | 1.30 |
| 6202 | 5.6 |  | 28 | 1.35 |
| 6203 | 10 |  | 55 | 1.35 |
| 6204 | 30 |  | 83 | 1.60 |
| 6205 | 60 |  | 142 | 1.95 |
| 6206 | 80 |  | 168 | 2.10 |
| 6207 | 125 |  | 214 | 2.60 |
| ICA TRANSMI R.F. CHOK <br> Tapered Sect |  |  |  |  |

Wound on Insulex low-loss core. Has a continuous universal winding in five tapered sections. Designed for maximum impedance | amateur | bands | from 160 | meters downward. |  |
| :--- | :---: | ---: | :---: | ---: | ---: |
|  | Ind. | Cur. | Res. |  |
| No. | M.H. | Ma. | Ohms | List |
| 266 | 2.8 | 1000 | 5 | $\$ 2.75$ |
| 267 | 5.3 | 600 | 12.5 | 2.50 |

## HEAVY DUTY

 TRANSMITTING CHOKES


Better mechanical design insures constancy of calibration and uniformity between units. Ball-bearings on both ends of ahaft insure long life without wear or side play. Heavy brass sprinis make direct contact with rotor shaft, in suring a clean wiping contact at all times.


Single Gang Condenser
135 mmft .
365 mmfd .
Two Gang Condenser 135 mmfd . 365 mmfd

Three Gang Condenser 135 mmfd . 365 mmfd .

### 3.50 3.50 <br> List <br> $\$ 3.00$ <br> 4.50

## SUPERHETERODYNE TYPE

Designed for 455 KC IF. RF section is 27 plates: 435 Mmfd. Oscillator Section is 19 plates; 173 Mmfd. Measurements similar to two gang condensers shown above.
No. 25
List $\$ 3.50$

## ICA CERAMIC PADDING CONDENSERS

Compact, yet rugged Padding Condensers. Designed for aligning tandem condensers, short wave band switch coils, antenna trimmers, etc. Uses high grade Mica and Phosphor Bronze Spring contacts.
No. Min. Cap. Max. Cap. List $\begin{array}{llrr}611 & 4.0 \mathrm{mmfd} . & 40 \mathrm{mmfd} . & \$ .50 \\ 612 & 12.0 \mathrm{mmfd} . & 100 \mathrm{mmfd} . & .50 \\ 613 & 70.0 \mathrm{mmfd} . & 350 \mathrm{mmfd} . & .55\end{array}$ $\begin{array}{llll}613 & 70.0 \mathrm{mmfd} . & 350 \mathrm{mmfd} . & .55 \\ 614 & 160.0 \mathrm{mmfd} . & 500 \mathrm{mmfd} . & .55\end{array}$

## GIANT INSULEX INSULATORS

Heavy Huty-Will Withstand 10,000 Volts No. Description Ht. $\begin{gathered}\text { Base Mtg. } \\ \text { Diam. Hole List }\end{gathered}$ \begin{tabular}{llllr}
$* 2330$ Stand OIf \& $41 / 2 "$ \& $31 / 2 "$ \& $1 / 4 "$ \& $\$ .95$ <br>

* 2331 \& Stand Off \& $41 / 2^{\prime \prime}$ \& $31 / 2^{\prime \prime}$ \& $1 / 4 "$ <br>
\hline
\end{tabular} $\begin{array}{lllll}* 2332 & \text { Feed thru } & 4^{\prime \prime} & 2^{\prime \prime} & 7 / /^{\prime \prime} \\ { }^{*} 2332 & .90 \\ \text { *2333 Feed thru } & 4^{\prime \prime} & 2^{\prime \prime} & 7 / 8^{\prime \prime} & .95\end{array}$ *With Wing Nuts
*     * With Screws and Nuts


## ICA AIRCRAFT TYPE INSULATOR

A strain insulator made of Insulex. Particularly adaptable for aircruft, automolation. Two $1 / "$ mounting holes Distance between holes


No. 2325
List $\$ .12$

CERAMIC RODS
Made of Alsimag. Suitable for mounting insulators, condensers, coils, etc.
Available in two lengths.
No. Lgtlı. Dia. Tap. List
$231011 / 4^{\prime \prime}$ 1/2" $6.32 \$ .28$ 2310 1 $1 / 4^{\prime \prime}$ 1/2" $6.32 \$ .28$ 2311 3 $1 / 4$ " $1 / 2^{\prime \prime} 6.32 \quad .40$


ICA BASE-MOUNTING BAKELITE SOCKETS

## No.

2480-4 Prong
2481-5 Prong
.$\$ .45$
2482-6 Prong
.50
2483-7 l'rone comb..................................... 55 2489-8 Prong OCTAL
2490-Contuct for above Sockets........ $\$ 2.50 \mathrm{C}$


ICA ''INSULEX'' BASE MOUNTING SOCKETS

Especially adapted for ultra short-wave work

No. List
290-4 Prong ........................................ $\$ .90$
292-6 l'rong ............................................................... 1.00
294 -Comb. 7 Prong, large and small.... 1.00
300-8 l'rong OCTAL ......................... 1.00

## BAKELITE WAFER SOCKETS

Wafer socket of punched bakelite for miniature seven pin button base tubes. Phosphor bronze contacts. Standard mounting centers.
No. 1122
List $\$ .15$

## BAKELITE WAFER SOCKET

Similar to No. 1122 above but with ground ing strap.
No. 1124.
.List $\$ .17$
ICA "INSULEX'" WAFER SOCKETS

An ideal low loss socket lesisned for ultra high frequency reception.
No.


260
Prong
List
2600-4 4 Prong
.$\$ .50$
2602-6 Prong
.50
.55
2603-7 Prong, large
.60
.60
2605-8 Prong, 8mall ...................................

2636 -Contact for above Sockets........\$5.00C


ICA BAKELITE WAFER SOCKETS

No.

## List

1118-4 Prong ........................................ $\$ .13$ 1096-5 Prong
1119-6 7 Prong Pront, small ............................................................ 15
1119-7 Prontr, smal
1121-8 Prong OCTAL
1123 -Loktal W゙afer
.16
CERAMIC BEAD INSULATORS

$3 / 8$ " Diam.
Used for construction of short concentric link lines.
No. 2315-(100 beads)
List $\$ 1.25$

## OTNGULINETU

## ACORN TUBE WAFER SOCKET

Of Navy approved ceramic with silver platen? contacts. Can be easily inserted and removed and no amount of vibration will canse the tulue to become loose.

No. 961
No. 2466 - Contact only
List $\$ 1.00$

## ICA ROTARY SWITCHES

Rated 3 Amps. at 125 Volts. Overall Length of shatis $11 / 2$ ". Made hy II \& 11 for TCA. Underwriters


| Itproved. |  |  |  |
| :---: | :---: | :---: | :---: |
| Trreaded |  |  |  |
| No. | Shank | Description | List |
| 1228* | 3\%" | S.P.S.T. | \$. 55 |
| $1229^{*}$ | $1 "$ | S.P.S.T | . 65 |
| 1286 | \%" | S.P.I.T. | . 75 |
| 1287 | 1"' | SPD.T | . 90 |
| 1288 | 3/9" | D.P.D.T. | 1.30 |
| 1289 | 1" | D. ${ }^{\text {P }}$ D T. | 1.45 |
| *Rated | 30 An | 8. at 250 V . |  |

## ICA BAKELITE KNIFE SWITCHES

Hardware of brass, heavily nickel-plated. Mounted on highly polished bases of black BIKELITE. Firm contact assured


ICA TOGGLE
SWITCHES
Furnished in Nekel or Antique Bronze. Capacity 1 Amp. 250 Holts .
3 Ampl . 125 Volts. Mfd. by H H for ICA

| No. | Description | List | No. | Description | List |
| :---: | :---: | :---: | :---: | :---: | ---: |
| 1216 | S.P.S.T. | $\$ .85$ | 1220 | 3 P.D.T. | $\$ 2.00$ |
| 1217 | S.P.D.T. | 1.00 | 1221 | 4 P.S.T. | 2.50 |
| 1218 | D.P.S.T. | 1.15 | 1222 | 4 P.D.T. | 3.00 |
| 1219 | D.P.D.T. | 1.35 | 1364 | 5 P.D.T. | 3.50 |
| 1360 | 3P.S.T. | 1.85 |  |  |  |



## $\underset{1 / 2 " 1}{\text { SMAL }}$

ICA SLIDER SWITCHES
2 $\times 1 / 4$
COMPACT. Switch dimensions: $11 / 2^{\prime \prime}$ S.P.S.T. includes chrome mounting plate.

| No. | Description | List |
| :---: | :---: | ---: |
| 1255 | S.P.S.T. | $\$ 35$ |
| 1259 | S.P.D.T. | .40 |
| 1260 | D.P.D.T. | .50 |
| 1264 | D.P.S.T. | .45 |

## MINIATURE BAKELITE SWITCHES

Can he mounted on panel or lase. Black Bakelite base-highly nickel-plated brass parts with insulated handles.

| No. | Description | Base Size | List |
| :---: | :---: | :---: | :---: |
| 2223 | S.P.S.T. | $11 /{ }^{\prime \prime} \times 1 / 2^{\prime \prime}$ | $\$ .35$ |
| 2224 | S.P.D.T. | $11 / 4^{\prime \prime} \times 1 / 2 \prime$ | .60 |
| 2225 | D.P.D.T. | $11 / 4^{\prime \prime} \times 1^{\prime \prime}$ | .75 |
| 2226 | D.P.S.T. | $11 / 4 " \times 1 "$ | .70 |

## ICA MOLDED BAKELIT SNAP-ON SOCKETS

## Octal-Loxta

Mounted in cadmium plated steel "Saddle." Equipped witl 4 grounding lugs on saddle. Positive grip contacts.
No. 2470-Octal Socket $\qquad$
Mtg Center $1^{11_{2}}{ }^{\prime \prime}$-Chassis Hole $11 / 8^{\prime \prime}$


## BAT-HANDLE TOGGLE SWITCH

| Made by H \& H. Iilentical to toggle switches listed above, excent that |  |
| :---: | :---: |
|  |  |
| handle is longer and shaperl like a |  |
| baseball hat. |  |
| Less on and off nlate. |  |
| Nickel plated only-7/16" shan |  |
| Packed 5 in a standard earton. |  |
| No. Description | List |
| 1296-S.P.S.T. | \$.50 |
| 1297-s.T. -T. | 70 |
| 1298-D.P.S.T. | 95 |
| 1299-1).1.D. |  | witches listed above, excent that handle is longer and shaperl like a

Nickel plated only- $7 / 16^{\prime \prime}$ shank. Packed ! in a standard earton.
ist $\$ .20$

|  | Shank |  | $\nabla^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | Length | Description | Finish | Net |
| 1230 | 38 | S.P.s.T. | Nickel | \$.50 |
| 1232 | 3/8" | S.P.S.T | Bronze | . 55 |
| 1233 | $3 / 4$ " | S.I'S.T. | Bronze | 60 |
| 1235 | 3/4" | S.P.S.T. | Nickel | 55 |
| 1236 | 3/" | S.P.D.T. | Nickel | 65 |
| 1237 | 3/4" | S.P.UT | Ni kel | . 75 |
| 1238 | 3/8 ${ }^{\prime \prime}$ | D.P.S.T. | Nickel | 95 |
| 1365 | $3 / 8{ }^{\prime \prime}$ | D.P.I.T. | Nick! | 1.10 |
| 1366 | 3/4" | I) P.ID.T. | Nickel | 1.15 |

baseball hat


1290-1).

 $3 / 4$ " high. $7 / 16^{\prime \prime}$ shank
No. 1280
List $\$ 2.25$ Shank 5/8" long. No. 1282

List $\$ .95$

## ICA EXTRA HEAVY DUTY SWITCH

D.P.D.T. With Neutral Center

An extra larye heavy duty, Double Pole, Double Throw Switch with neutral position in the center for use in heavy current circuits such as transmitters, power amplifiers, motors, etc. Contacts have fast "break" which reduces the tendency to are. Rated at 10 Amps., 125 Volts. Size of switch case, $21 / 8^{\prime \prime}$ long, $1^{\prime \prime}$ high, $11 / 4^{\prime \prime}$ wide. Mounting sleeve diameter $3 / 4$ ".
No. 1283
List $\$ 5.50$

"ON-OFF'' PLATE e Switc Nickel I'lated
No. 1300 List $\$ .04$
Antique Bronze
No. 1300BR List $\$ .05$

ICA POWER SWITCH (Toggle Type)
Characteristics and di mensions same as No 1280 described ahove.

No. 1281
List $\$ 1.50$

## ICA ROTARY CANOPY SWITCH

Single pole switch $1 / 4^{\prime \prime}$ shank with brown bakelite knob and $6^{\prime \prime}$ leads- 1 ampere -250 volts.

No. 1257.

ICA GRID CAP SHIELDS (For Metal Tubes)
Fita firmly over grid cap, affording complete shielding. Slotted cap permits passage of grid wire.

1558
1558-With Bakelite Insert
$\$ 0.10$
.20

## ICA COIL SHIELDS

With Detachable Base A sturdy coil shield mate of alumi num with a detachable base.
No.
1539-2 1/8" $\times 3^{\prime \prime}$ High.
1540-2 $1 / 2^{\prime \prime} \times 31 / 2^{\prime \prime}$ High.
$\$ .60$


1744 -Open top* 1745 -Closed top* 1746 -Open top** buse.
**For GT tubes with small metal base
$\dagger$ For Loktal tulıes.

## CA 807 TUBE SHIELD

For use with Transmitter Pentodes, and Tetrodes, to prevent oscillation. Can also be used on RK 20, RK 39 and 804 tubes. No.
1545


## FORM FIT TUBE SHIELDS

A tube shield that assures a snug. positive fit. Vertical grooves provide flexibility. Includes ground clip as illustrated. Protects tuber against excessive vibration.

No. 1727B-For GT; GT/G and Loktal tuhes. Length $21 / 2^{\prime \prime}$

List $\$ .15$
No. 1729B-For GT and GT/G tubes Length $23 / 4$ "

List $\$ .15$
ICA ALUMINUM TUBE SHIELD
For 55, 57, 68, etc. type tuhes
No.
$1708-111^{\prime \prime}$ mounting centers..... $\$ .40$
$1709-11 / 2^{\prime \prime}$ mounting centers...... . 40

# ansuginita RADIO DRODUCTS 

ICA SHAFT COUPLINGS AND

EXTENSION RODS
Brass Coupllang and Reducers

| No. | Length | Hole | O.D. | List |
| :---: | :---: | :---: | :---: | :---: |
| 2105 | $3 / 4{ }^{1 \prime}$ | 1/4" coupler | 1/2" | \$. 20 |
| 2106 | \%" | $3 / 8{ }^{3}$ coupler | 搨" | . 20 |
| 2107 | 3/4 | $3 / 8{ }^{\prime \prime}$ to $1 / 4{ }^{\prime \prime}$ |  |  |
|  |  | coupler | 980 | . 20 |
| 2111 | $11 / 3^{\prime \prime}$ | $1 / 4^{\prime \prime}$ to $1 / 4^{\prime \prime}$ |  |  |
|  |  | shaft | 1/2" | .20 |
| 2112 | $11 / 8{ }^{\prime \prime}$ | $1 / 4$ " to $8 / 8{ }^{\prime \prime}$ |  |  |
|  |  | shaft | $\mathrm{ma}^{\prime \prime}$ | . 20 |
| 2113 | $11 /{ }^{\prime \prime}$ | 3/8" to $1 /{ }^{\prime \prime}$ |  | 20 |

ICA Fenoline Couplings and Reducers No. Length Hole O.D. List $\begin{array}{lllll}2116 & 3 / 1 " & y^{\prime \prime} \text { coupler } & 1 / 2^{\prime \prime} & \$ .20 \\ 2109 & 3 / 4 & \%^{\prime \prime} \text { to } 1 / "^{\prime \prime} & \end{array}$ $211011 / 8^{\prime \prime} \quad 1 /^{\prime \prime}$ to $1 / 4^{\prime \prime} \quad 1 / 2^{\prime \prime} \quad .20$ Long Extension Couplings Matle of lirass with extra long extension No. Length I.D. O.D. Lis 123 1 \%/ " $1 / /^{\prime \prime} \quad 1 / 2^{\prime \prime} \quad \$ .25$

ALUMINUM IDLER PULLEYS


Precision made. Distortion free non-warping lermits closer tolerances. Supplied in any quantily in any type - with or without shoulders. Listed are typical sizes without shoulders, hole diam. . $128^{\prime \prime}$.

| No. | O.D. | Cord Diam. | List |
| ---: | :---: | :---: | :---: |
| 601 | $3 / 8$ | $1 / 4$ | $\$ 2.00 \mathrm{C}$ |
| 602 | 76 | $1 / 6$ | 2.20 C |
| 603 | $1 / 2$ | $8 / 8$ | 2.30 C |
| 604 | $5 / 8$ | $1 / 2$ | 2.50 C |
| 605 | $8 / 4$ | $5 / 8$ | 3.00 C |

## BAKELITE AND FENOLINE TUBING

 ICA tubing is strong me chanically, has extremely low electrical ansorption and is highly resistant to moisture. Absolute perfec-tion in woinding of coils is assured by the use of ICA tubing - thus affording relief from complaints or failure in performance.

Finished in Natural and Black Colors Small sizes up to one inch in Black only. "Wall Thickness, Full Lengths. Approximately 36 to $48^{\prime \prime}$
 Ft.
$\$ .95$
1.15
1.20
1.30
1.40
1.55
1.65
1.75
1.95
2.05
2.25
2.50
2.70
3.15
3.50
4.00
4.20
4.50
4.50
5.50


FENOLINE
No. O.D. Per Ft

No. 670--Black 1/8" Hole ${ }^{3 / 8 "}$ Diam. 3/8" Long....List $\$ .15$ No. 671—Red $1 / 8 "$ Hole No. 672 . ${ }^{8 / 8}$ Long...Lis No. 672 Biack $1 / 4$ "Hole No. 673 -Red ${ }^{1 / 2}$ Long....List .20 1/2" Diam. $7^{7 \prime \prime}$ " Long

ICA BRASS EXTENSION RODS No. $21176^{\prime \prime}$ Length $1 / 4^{\prime \prime}$ O.D. List $\$ .20$
No. $211812^{\prime \prime}$ Le $44^{\prime \prime}$ O.D. List 40 FENOLINE EXTENSION RODS No. $21206^{\prime \prime}$ Length $1 / 4^{\prime \prime}$ O.D. List $\$ .30$


No. 2071 - 4 Prong...... List $\$ 1.00$ No. 2672-6 Prong. ...... Llst 1.10


ICA SHORT WAVE AND BROADCAST PLUG-IN COILS


Wound on Low-Loss Bakelite Forms No. 4 PRONG-2 WINDINGS List 1471-Set of 4 short wave coils -overing $91 / 2$ to 174 Meters
$\$ 3.15$
1473-Set of 2 Broadcast colls
covering 160 to 550
Meters . . . . . . . . . . . . . 2.50

## ICA BAKELITE FLEXIBLE SHAFT COUPLING

Flexible phosphor bronze spring contact mounted on a round bakelite disc. $11 / s^{\prime \prime}$ diam. Has $1 / 4^{\prime \prime}$ bushnig. No. 2142

List $\$ .65$


ICA INSULEX FLEXIBLE SHAFT COUPLING
Flexible phosphor bronze spring contact. Mounted on Insulax disc for efficient low-loss coupling. $11 / 8^{\prime \prime}$ diam 1/4" bushing

$$
\text { No. } 2143 \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ \$ ~ \$ ~ \$ ~ 75 ~
$$



ICA PANEL BEARING ASSEMBLY
No. 1248 -Overall length $3^{\prime \prime}$........................ List $\$ .40$
No. 1249 - Overall length $6^{\prime \prime}$ No. 1250 - Bearings only

List $\quad \$ .40$

 for complete insulation Strong seamless threads Heat resisting to 300 F Complete with stamped lock nuts

| No. | Hole Size | Lis |
| :--- | :---: | :---: |
| 606 | $\frac{17}{64}$ | $\$ .10$ |
| 607 | 10 | .12 |
| 608 | $\frac{18}{3}$ | .13 |
| 609 | 9 | .14 |
| 610 (2 holes) | $\frac{10}{3}$ | .15 |

## STOCK SIZES OF BLACK AND BROWN

 FENOLINE TUBINGIndividual lengths tubing in following diam. $1^{\prime \prime} ; 11 / 4^{\prime \prime} ; 11 / 2^{\prime \prime} ; 13 / 4^{\prime \prime} ; 2^{\prime \prime} ; 21 / 4^{\prime \prime} ; 23 / 4^{\prime \prime}$; $3^{\prime \prime}$; Wall thickness $1 / 16^{\prime \prime}$
2131-3" long-1" O.D. to $3^{\prime \prime}$ O.D. List 2132-4" "long-1" O.D. to 3" O.D. 80 2133-6" long-1" O.D. to $3^{\prime \prime}$ O.D. 1.15 When ordering, specify exact diameter.

## SPECIAL LENGTH BAKELITE TUBING

Cut to Order - Wall Thickness to $1 / 16^{\prime \prime}$ Outside diameters range from $1^{\prime \prime}$ to $4^{\prime \prime}$. Prices on request. Other diameters and thicknesses quoted on request.

| No. | ICA <br> ''INSULOID'" RODS Color | Size |  |
| :---: | :---: | :---: | :---: |
|  |  |  | LIst |
| 2175 | Black | $12^{\prime \prime} \times 1 / 4^{\prime \prime}$ | \$.45 |
| 2176 | Black | 24" ${ }^{\prime \prime} 1 / 4{ }^{\prime \prime}$ | . 80 |
| 2179 | 13lack | 12" ${ }^{\prime \prime}$ 8/8" | . 60 |
| 2180 | Black | $24^{\prime \prime} \times 3 / 8{ }^{\prime \prime}$ | 1.20 |
| 2183 | Jlack | 12" ${ }^{\prime \prime} 1 / 2^{\prime \prime}$ | 1.80 |
| 2184 | black | $24^{\prime \prime} \times 1 / 2^{\prime \prime}$ | 1.60 |

## BAKELITE RODS

 Lengths of $18^{\prime \prime}$ to $24^{\prime \prime}$1

No
175
178
176
17

| List | No. | Diam | List |
| :---: | :---: | :---: | :---: |
| $\$ 1.30 \mathrm{ft}$. | 168 | $1 / 4^{\prime \prime}$ | $\$ .80 \mathrm{ft}$. |
| 1.50 ft. | 169 | $3 / 8^{\prime \prime}$ | 1.10 ft. |
| 1.80 ft. | 170 | $1 / 2^{\prime \prime}$ | $1.40 \mathrm{ft}$. |

ICA FLEXIBLE SPAGHETTI TUBING 20 Foot Lengths

A flexible tubing, heav ily varnished, in attrac tive colors. Average dielectric strength, 5000 volts. Will accommodate from No. 10 to No. 18 Wires
Furnished in one length -20 feet long on handy spools.
$\stackrel{N}{2}$

| No. | Color |  | List |
| :--- | :--- | :--- | ---: |
| 210 | Red | Per Spool | $\$ 1.25$ |
| 211 | Yellow | Per Spool | 1.25 |
| 212 | Brown | Per Spool | 1.25 |
| 213 | Green | Per Spool | 1.25 |
| 214 | Black | Per Spool | 1.25 |

500 Foot Spools, sparhetti tubing, same grade and colors as above. Specify color per spool No. 197.

List $\$ 28.50$

## ICA SPAGHETTI TUBING

For No. 10 to No. 18 gauge wire. Guaranteed not to crack. Furnished in 30" lengths.


200-RMALL SIZE SPAGHETTI TUBING 201-Yellow 202-Black
........ . 15
Lupplied in $36^{\prime \prime}$ lengths. Diameter $9 / 64^{\prime \prime}$ I.D. ${ }^{\circ} 3 / 16^{\prime \prime}$ O.D.
No. 196 -supplied in black only
List-per length $\$ .50$

## ICA GIANT SLEEVING

Made of high voltage insulation saturated cambric material. Inside diameter 3/8". For Insulating Resistors, Small Condensers, Wire Cables. Leads, etc. $36^{\prime \prime}$ lengths.
No. 198
List $\$ .50$

## OTNGUTINE <br> OTNGUTINE <br> OTNGUTINE



## ICA TERMINAL STRIPS



Made of $3 / 32^{\prime \prime}$ heavy black Bakelite, engraved in white. Terminals are brass cadmium plated.

| No. | Terminals | Marking |
| :---: | :---: | :---: |
| 2420 | 2 | Plain |
| 2419 | 2 | A \& $\mathbf{G}$ |
| 2418 | 2 | Output |
| 2417 | 2 | Input |
| 2414 | 3 | Plain |
| 2415 | 3 | 1,2,3 |
| 2413 | 4 | Plain |
| 2408 | 4 | 1,2,3,4 |
| 2405 | 5 | Plain |
| 2406 | 5 | 1,2,3,4,5 |
| 2404 | 6 | Plain |
| 2402 | 6 | 1. 2, 3. 4, 5, 6 |
| 2412 | 7 | Plain |
| 2411 | 7 | 1, 2, 3, 4, 5, 6, 7 |
| 2410 | 8 | Plain |
| 2409 | 8 | 1, 2, 3, 4, 5, 6, 7, 8 |
| 2424 | 9 | I'lain |
| 2423 | 9 | 1, 2, 3, 4, 5, 6, 7, 8, 9 |
| 2422 | 10 | Plain |
| 2421 | 10 | 1, 2, 3, 4, 5, 6, $7,8,9,10$ |

## BAKELITE TERMINAL MOUNTING STRIPS



Type A

Mounting tie strips for fastening Resistors, Condensers, etc. Mounting Luy hole diameter $140^{\prime \prime}$. Type A shows non-ground mounting lug. Type $A$ shows combination grounding-mounting lug:

## Trorord <br> Type B

No.
2434
2455
2435
2456
2436
2457
2437
2458
2438
2459
2439
2460
2440
2461
2441
2462
Type
A
B
A
B
A
B
A
B
A
B
A
B
A
B
A
B

$\left\{\begin{array}{cc}\begin{array}{c}\text { Mtg. } \\ \text { Centers }\end{array} & \begin{array}{c}\text { Mounting } \\ \text { Lugs }\end{array} \\ \text { One } & 1 \\ \text { Hole } & 1 \\ & 1 \\ 11 / 2 & 1 \\ 11 / 2 & 2 \\ 178 & 2 \\ 17 / 8 & 2 \\ 21 / 4 & 2 \\ 21 / 4 & 2 \\ 17 / 8 & 2 \\ 11 / 2 & 2 \\ 11 / 2 & 2 \\ 11 / 2 & 2 \\ 17 / & 2 \\ 17 / 8 & 2 \\ & 2\end{array}\right.$

No. 2425-Terminal Lugs only (less screws)
No. 2426-Terminal Screws, $3 / 8{ }^{\prime \prime}$ long
List $\$ 6.00 \mathrm{C}$ List 1.50 C

## NSULATED DUAL GRID CAPS



FUSE MOUNTINGS
Flush Type Mounting


Bakelite base. For standard radio or automotive fuses. Countersunk cente hole for mounting.
Equipped with two soldering lugs.
No. 2340-Single pole
List $\$ .20$
No. 7201--Double pole
.List . 35

## Panel Type

Takes standard type radio-automotive fuse. Equipped with 6/32 screws for mounting on panels.
No. 2341--Single pole ....................... List \$. 25
No. 7203-Double pole .....................List . 40
For AG $\mathrm{l}^{\prime \prime}$ Long Type Fuse
No.
List
7202-For smaller type fuse. Bakelite
base. ${ }^{19^{4}} E^{\prime \prime} \times 1 / 2^{\prime \prime} \times$ x $1 / 8^{\prime \prime}$ Flush
Mount

7205-Same as 7202. Panel Mount........ . 25
7206-Same as 7204. I'anel Mount........ . 25
BAKELITE TERMINAL STRIPS lirown bakelite $1 / 16^{\prime \prime}$
thick. Suitable light
duty radio work, ex-
perimental purposes, (O) (O) (G)
etc.

| No. | Terminals | Mtg. Ctrs. | List |
| :---: | :---: | :---: | :---: |
| 2520 | 2 | $1{ }^{\frac{5}{68}}$ | \$.10 |
| 2521 | 3 | $13 / 4$ | . 14 |
| 2522 |  | 23 | . 18 |
| 2523 | 5 | $25 / 8$ | . 22 |
| 2524 | 6 | $3)^{1 / 8}$ | 26 |

2528 Terminal Lug \& Screw only........3.50 c


TWIN JACK STRIP
W.th two terminals. Takes standard phone tips. Base width $\frac{1}{6}^{\prime \prime}$. $111{ }^{\prime \prime}$ between Mounting holes.
No. 2443.

TERMINAL LUGS


No.
244
244
244
244
ist


# M PESULINTA 

EILTERVOLT NOISE FILTER
An efficient filter for disturbances caused by electrical appliances. For use with any all wave or broadcast re. ceiver.
Rated conservatively at 250 watts for 32,110 and 220 volt AC or DC circuits. Can be installed either at the radio or at the source of disturbance.
Contains heavy duty R.F. chokes, large filter capacitor, and has a "PI" Filter circuit arrangement.
No. 338 ..
List $\$ 7.50$

## ICA

## FILTERVOLT

Improves extremely noisy radio reception due to interruptions in power line caused by electrical appliances, lical appliances, No. 394


List $\$ 4.50$

## DUPLEX FILTERYOLT <br> Eliminates Radio Noises Caused By- <br>  <br> - Electric Shavers <br> - Refrigerators <br> - Fans - Elevators <br> - Motors, etc.

Unit is equipped with Dual outlet, both sides being filtered for noise elimination
Packed 25 to a standard carton.
No. 90
LIst $\$ 1.50$

## UNIVERSAL VOLTAGE REGULATOR

Voltage fluctuation often occurs not gradually but
suddenly, thus bringing a tremendous strain on the tubes. This regulator protects tubes through scientific regulation of current
fluctuations. Housing fluctuations. Housing hody and end rings are neatly constructed and of perforated japanned metal. For all Radio Sets, AC, DC.


No. 92
List $\$ 1.50$
ICA 3-IN-1 RADIO TUNER


Functions as either an Antenna Tuner, Wave Trap, or Aerial Eliminator. Operates on any make or model radio set.
As an Antenna Tuner, it will improve the reception of a weak station. As a Wave Trap, it will separate interfering stations and improve selectivity. As an Aerial Eliminator, it makes unnecessary the outdoor aeriul. Easily installed witlin a few minutes.
No. 93-Complete witlı instructions List $\$ 1.00$


## ICA DELUXE SIGNA-TONE

AUDIO OSCILLATOR - CODE PRACTICE SET - KEYING MONITOR
The ICA Signatone is a perfected Audio Oscillator, having 3 different output irequencies and a continuously variable volume control. The Audio notes are similar to those of high quality Audio notes are similar to
commercial CW stations.

1. CODE PIRACTICE SET-A number of phones and keys may be connected for intercommunication or for classroom or radio club instruction in code.

2. KEYING MONITOR-An invaluable aid in improving any ham's "fist". Will follow the "bug" at all speeds. No wellequipped station should be without this keying monitor.
3. MODULATION SIGNAL-The steady note of the Signutone is ideal for adjusting both the Modulator and modulated stages of your transmitter for a maxinum modulation percentage of not over 100
4. SIGNAL TRACER-By feeding the output of the Signatone into each stage of your modulator and listening to the output of that stage, defects and "bugs" can easily be located. Complete with tube and self-contained speaker, for 110 V AC-DC.
No. 4300-*Dealer Net Cost
No. 4301 -Classroom Model (No Speaker)-Dealer Net Cost
No. 4301 -Classroom Model (No Speaker)-Dealer Net Cost

## ICA

## EAR PHONES

Complete With Head Bands
Made of molded Bakelite and light-weight nick-light-weight nick-
el-plated metal. el-plated
2000 ohms.


No. 23-Double Itead Phone.
List $\$ 4.50$

## EAR CUSHIONS

Made of soft rubber. Ideal for the amateur wireless operator, etc. Used by all leading air lines.

No. 195......................................List \$1.10 pr.

## DOUBLE PHONE CORDS



No.
192—Tips on both ends
193 -Spades on one end, tips on other.

## ICA TENNA-SCOPE LOOP

For Midgets or Portables Eliminates necessity of outdoor or indoor antenna. Replaces the aritenna coil in portable or midget sets. Easily assembled.


## No. 4385

List \$1.25

## ICA TENNA.SCOPE

A new style built in tuned rallio antenna. Easily connected. Eliminates use of outside aerial and ground. Features: Better selectivity - Higher signal to noise ratio - Fasily connected, no soldering.

## （0）PRESULLIN CI（AA

 tities or in landsome glass display jars for convenient storing．

## ROUND HEAD MACHINE SCREWS NICKEL－PLATED

| Jar＊ | Qty．＊ | Bulk | Qty． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Each Jar | Cat．No． | Bulk Pkge． | Description | Bulk List |
|  |  | 5504 | 1000 | $2-56 \times 1 / 4^{\prime \prime}$＂long | \＄4．00M |
| 5000 | 100 | 5500 | 1000 | $4-36 \times 1 /{ }^{\prime \prime}$＂long | 5.00 M |
| 5001 | 100 | 5501 | 1000 | $4-36 \times 1 / 2^{\prime \prime}$ long | 5.50 M |
| 5002 | 75 | 5502 | 1000 | $4-36 \times 3$＂${ }^{\prime \prime}$ long | 5.75 M |
| 5007 | 90 | 5507 | 1000 | $6-32 \times 14^{\prime \prime}$＂ong | 5.00 M |
|  |  | 5511 | 1000 | $6.32 \times 3 / 8$＂long | 5.00 M |
| 5008 | 80 | 5508 | 1000 | $6.32 \times 1 / 2$＂long | 5.50 M |
| 5009 | 70 | 5509 | 1000 | $6.32 \times 3 / 4$＂，long | 6.50 M |
| 5010 | 50 | 5510 | 1000 | $6-32 \times 1$＂long | 8.50 M |
| 5014 | is | 5514 | 1000 | $8.32 \times 3 / 8{ }^{\prime \prime \prime}$ long | 6.00 M |
| 5015 | 70 | 5515 | 1000 | $8.32 \times 1 / 2^{\prime \prime}$ long | 7.00 M |
| 5017 | 40 | 5517 | 1000 | $8.32 \times 1{ }^{\prime \prime}$ long | 9.00 M |
| 5022 | 60 | 5521 | 1000 | 10－32 $\times 1 / 2^{\prime \prime}$ long | 9.00 M |
| BINDING HEAD MACHINE SCREWS |  |  |  |  |  |
| $\mathrm{Jar}^{\text {＊}}$ | Qty．＊ | Bulk | Qty． |  |  |
| Cat．No． | Each Jar | Cat．No． | Bulk Pkge． | Description | Bulk List |
|  |  | 5546 | 100 | $6.32 \times 1{ }^{3 /, \prime \prime \prime}$ long | \＄1．25C |
| 5030 | 80 | 5547 | 100 | $6.32 \times 1 / 4$＂long | 1.25 C |
| 5031 | 75 | 5548 | 100 | 6．32 $\times 3 / 8 \mathrm{~s}$ long | 1.25 C |

## OVAL HEAD MACHINE SCREWS NICKEL PLATED

 Jar＊Qty＊Bulk Qty． Cat．No．Each Jar Cat．No．Bulk Pkge．Description Bulk Lis $5042 \dagger \quad 40 \quad 5710 \dagger \quad 100 \quad 10-32 \times 5 / 8$ long $\$ 1.00 \mathrm{C}-8.50 \mathrm{M}$ + For Transmitting Racks．PARKER－KALON SELF－TAPPING SCREWS

| Jar＊ | Qty．＊ | Bulk | Qty． <br> Bulk Pkge |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| bat．No． | Each Jar | Cat．No． 5562 | Bulk Pkge． <br> 1000 | Description <br> No． $3 \times \frac{3{ }^{\prime \prime}}{18}$ long | Bulk List $\$ 1.50 \mathrm{C}$ |
| ；051 | 50 | 5555 | 1000 | No． $4 \times 1 / 2{ }^{\prime \prime}$ long | 1.60 C |
| 5052 | 50 | 5556 | 1000 | No． $6 \times 1 / 4{ }^{\prime \prime}$ long | 1.60 C |
| j053 | 45 | 5557 | 1000 | No． $6 \times 3 / 8{ }^{\prime \prime}$ long | 2.00 C |
| $j 054$ | 40 | 5558 | 1000 | No． $7 \times 1 / 2^{\prime \prime}$ Jong | 2．25C |
| 5055 | 35 | 5559 | 1000 | No． $10 \times 3 / 4{ }^{\prime \prime}$ long | 2.75 C |

## ESCUTCHEON PLATE SCREWS

|  | Jar＊ | Qty．＊ | Bulk | Qty． |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Each Jar | Cat．No． | Bulk Pkge． | Description | Bulk List |  |
| 5182 | 100 | 5677 | 100 | No． $1 \times 1 / 4^{\prime \prime}$ long | $\$ 15.00 \mathrm{M}$ |  |

FLAT STEEL PLATED WASHERS

| Jar ${ }^{\text {\％}}$ | Qty．＊ | Bulk | Qty． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Each Jar | Cat．No． | Bulk Pkge． | Description | Bulk List |
| 5090 | 100 | 5595 | 1000 | For No． 6 Screw | \＄2．50M |
| 5091 | 100 | 5596 | 1000 | For \io． 8 Screw | 2.50 M |
| 5092 | 100 | 5597 | 1000 | For So． 10 Serew | 2.50 M |
| 5093 | 100 | 5603 | 1000 | For 1／4＂Screw | 4.50 M |
|  |  | 5607 | 1000 | For 3／8＂Screw | 5.00 M |

## EVERLOCK LOCK WASHERS

| $\mathrm{Jar}^{\text {＊＊}}$ | Qty．＊ | Bulk | Qty． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Each Jar | Cat．No． | Bulk Pkge． | Description | Bulk List |
| 5085 | 100 | 5592 | 1000 | For No． 6 Screw | \＄．55C－3．75M |
| 5086 | 90 | 5593 | 1000 | For No． 8 Screw | ．60C－4．00M |
| 5087 | 80 | 5594 | 1000 | For No． 10 Screw | ．65C－4．50M |

## KANTLINK SPLIT TYPE LOCKWASHERS

| Jar＊ | Qty．＊ | Bulk | Qty． |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Each Jar | Cat．No． | Bulk Pkge． |  | Description |  | Bulk List |
| 5080 | 125 | 5589 | 1000 | For | 6－32 Screw－3z＂ | thick | \＄3．50M |
| 5081 | 125 | 5590 | 1000 | For | 8－32 Screw－33 | thick | 3.50 M |
| 5082 | 100 | 5591 | 1000 | For | 10．32 Screw－$\frac{3}{67}$ | thick | 3.50 M |
| 5083 | 75 | 5602 | 1000 | For | 1／4－82 Screw－1／6 | thick | 5.50 M |


| FLAT FIBRE WASHERS |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \mathrm{Jar}^{\gamma^{2}} \\ \text { Cat. No. } \end{gathered}$ | Qty＊ <br> Each Jar | BulkCat．No．Bulk Pkje． |  | Description |  |  | Bulk List |
|  |  |  |  | Diam． | Thick． | Hole |  |
| 5100 | 125 | 5601 | 1000 | ${ }^{6}$ | ${ }^{2}$ | ${ }^{4}$ | \＄6．25M |
|  |  | 5612 | 1000 | $3 / 8$ | ${ }_{18}$ | 1／8 | 7.25 M |
| 5102 | 90 | 5609 | 1000 | 1／2 | 3 | ${ }_{8}^{58}$ | 8.00 M |
|  |  | 5626 | 1000 | $3 / 8$ | d | ${ }^{3}$ | 7.50 M |
| 5101 | 100 | 5605 | 1000 | 3／8 | ${ }^{1}$ | ${ }_{5}^{5}$ | 7.50 M |
| 5104 | 50 | 5610 | 1000 | 1／2 | ． 020 | 砺 | 8.00 M |
| 5105 | 50 | 5611 | 1000 | 5／8 | 32 | 3／8 | 75M |
| FIBRE SHOULDER WASHERS |  |  |  |  |  |  |  |
| $\begin{gathered} \text { Jar*" } \\ \text { Cat. No. } \end{gathered}$ | Qty＊ <br> Each Jar | Cat．No．Bulk Pkge． |  | Description |  |  | Bulk List |
|  |  |  |  |  |  |  |  |
|  |  |  |  | Overall Diam． | Shoulder Diam． | Overat Hgt. |  |
|  | － | 5618 | 100 | ${ }_{18}{ }^{\text {B }}$ | ${ }^{3} 8$ | ${ }^{3}$ | \＄1．25C |
| 5111 | 50 | 5620 | 100 | $\frac{7}{16}$ | ${ }^{4}$ | ${ }^{3}$ | 1.25 C |
| 5110 | 50 | 5615 | 100 | $3 / 8$ | $1 / 4$ | \％${ }^{6}$ | 1．25C |
| 5114 | 50 | 5619 | 100 | ${ }^{1 / 6}$ | 18 | 1／8 | 1．25C |
| 5115 | 40 | 5616 | 100 | 1／2 | $\frac{18}{16}$ | ${ }^{1 / 8}$ | 1.35 C |
| 5112 | 50 | 5624 | 100 | 1／2 | 3／8 | 鉴 | 1.35 C |
| 5113 | 50 | 5628 | 100 | 5／8 | 1／2 | 38 | 1.50 C |
|  | CUP WASHERS |  |  |  |  |  |  |
| $\begin{gathered} \text { Jar }{ }^{\text {Co }} \\ \text { Cat. No. } \end{gathered}$ | Qty＊ | Bulk | Qty． |  |  |  |  |
|  | Each Jar | Cat．No．Bulk Pkge． $\begin{gathered}\text { Description } \\ \text { Hole Size }\end{gathered}$ |  |  |  |  | Bulk List |
| $\begin{aligned} & 5212 \\ & 5213 \end{aligned}$ | 45 | 5712 | 100 |  | 8 |  | \＄．75C－5．50M |
|  | 20 | 5713 | 100 |  | 10 |  | ．80C－5．50M |
| STEEL |  | HEXAGON NUTS |  |  | NICKEL PLATED |  |  |
| $\begin{aligned} & \mathrm{Jar}{ }^{\mathrm{*}} \mathrm{C} \\ & \mathrm{Cat} \text { No } \\ & 5070 \end{aligned}$ | Qty＊ | $\begin{aligned} & \text { Bulk } \\ & \text { Cat. No. } \end{aligned}$ | Qty． |  |  | Bulk List |  |
|  | Each Jar |  | Bulk 1000 | Description |  |  |  |  |
|  | 100 | $\begin{aligned} & 5572 \\ & 5573 \end{aligned}$ |  |  |  |  | $\begin{array}{r} \$ 4.00 \mathrm{M} \\ 3.25 \mathrm{M} \end{array}$ |  |
|  |  |  | 1000 | $4-36 \times$ 年 |  |  |  |  |  |
| $5 \overline{074}$ | 80 | $\begin{aligned} & 5573 \\ & 5577 \end{aligned}$ | 10001000 |  |  | $\begin{aligned} & 3.25 \mathrm{M} \\ & 5.00 \mathrm{M} \end{aligned}$ |  |
| 5071 | 90 | 5576 |  |  |  | 5． 4.50 M |  |
| 5072 | 80 | 5580 | 1000 | $8-32 \times{ }^{\frac{18}{18}}$ |  | 5.00 M7.50 M |  |
| $5073$ | 50 |  | 10001000 |  |  | 7.50 M1.20 C |  |
|  | 12 | $\begin{aligned} & 5583 \\ & 5579 \end{aligned}$ |  |  |  |  |  |  |  |  |
| 5076 | 10 | $\begin{aligned} & 5579 \\ & 5575 \end{aligned}$ | $\begin{aligned} & 1000 \\ & 1000 \end{aligned}$ | $\begin{aligned} & 1 / 4.32 \times 3 / 8 \\ & 3 / 8.32 \times 1 / 2 \end{aligned}$ |  |  | 2.00 |

## BRASS HEXAGON NUTS－NICKEL PLATED

| ${ }_{\text {Jar }}{ }^{\text {\％}}$ | Qty＊＊ | Cat．No． | Bulk Pk | Descriptioll |  | Bulk Lis |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Each Jar | Cat. No. | $100$ | $4-36 \times \frac{3}{18}$ |  | ．75C－6．00M |
| － | － | 5566 | 100 | $6-32 \times 1 / 4$ |  | ．75C－6．00M |
|  |  | 5567 | 100 | $6.32 \times 16$ |  | ．85C－6．50M |
|  |  | 5570 | 100 | $8-32 \times \frac{18}{16}$ |  | 1．00C－7．50M |
|  | － | 5574 | 100 | $3 / 8-32 \times 1 / 2$ |  | 1．75C |

## RACK SCREW AND WASHER ASSORTMENT

Packed in ICA handy jars．Includes 20 Oval Head Screws（ $10-32 \times 5 / 8^{\prime \prime}$ ） and 20 Cup Washers（10－32）．

## No． 5210

List $\$ .65$

## BRASS EYELETS

| Jar＊ | Qty＊： | Bufk | Qty． | Diam． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Each Jar | Cat．No． | Bulk Pkje． | Shank | Length | Bulk Lis |
| 5172 | 80 | 5672 | 1000 | ． 115 | ${ }_{18}^{58}$ | \＄10．00 |
| 5171 | 90 | 5671 | 1000 | ． 125 | ${ }_{18}^{58}$ | 9.50 |
| 5170 | 100 | 5670 | 1000 | ． 132 | \％ | 8.50 M |

## NICKEL PLATED TUBULAR STEEL RIVETS

| Cat．${ }_{\text {Jar }}$ | Qty＊ | Bulk | Qty． | Diam． | Length | Bulk List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Each Jar | Cat．No． | Bulk Pkge． | Shank |  |  |
|  |  | 5730 | 1000 | 1／8 | －${ }^{5}$ | \＄ 8.00 M |
| 5160 | 100 | 5663 | 1000 | 1／8 |  | 8．00M |
| 5161 | 80 | 5664 | 1000 | 1／8 | $1 / 4$ |  |
| 5162 | 70 | 5665 | 1000 | 1／8 | 18 | 10.50 M |
| STEEL CABLE CLAMPS，PLATED |  |  |  |  |  |  |
| $\begin{gathered} \mathrm{Jar}^{*}{ }^{2} \\ \text { Cat. No. } \end{gathered}$ | Qty＊ | Bulk | Qty． |  |  | Bulk List |
|  | Each Jar | Cat．No． | Butk Pkge． | Description |  |  |
|  |  |  |  | Length | Diam．B |  |
| 5200 | 35 | 5697 | 1000 | 3／4 |  | \＄1．25C |
| 5201 | 30 | 5698 | 1000 | 18 | ${ }^{9}$ | 1.50 C |

NICKEL PLATED SPRING CLIP
Jar＊＊
Cat．No．Each Jar
Cat．No．Bulk Pkge．

Bulk List

5192303693
$\$ 1.65 \mathrm{C}$
1.75 C
2.00 C
*ALL JARS LIST AT S. 65 PER JAR. BULK QUANTITIES LIST AS SHOWN. ORDER BY CATALOG NUMBER.

# (a) NGUGINETO 

ICA RADIO HARDWARE


| Jar* | Qty.** | Bulk | Qty. | (3) | (1) | (2) | (4) | (5) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. | Each | Cat. | Bulk | Hole |  | Thick- |  | Mtg. | Bulk |
| No. | Jar | No. | Pkge. | Size | O.D. | ness | Slot | Width | List |
| 5120 | 15 | 5633 | 100 | $\frac{7}{07}$ | 1/2 | 92 | 4 | ${ }^{1}$ | \$3.85C |
| 5121 | 12 | 5634 | 100 | 3/8 | 8 | 1/4 | 1.6 | 16 | 4.30 C |
| 5122 | 15 | 5635 | 100 | $1 / 4$ | 1/2 | ${ }^{5} 6$ | $3{ }^{3}$ | 1. <br> 3 <br> 1 | 3.90 C |
| 5123 | 12 | 5639 | 100 | $3{ }^{7}$ | It | $1{ }^{3}$ | 16 | 31 | 3.000 |
| 5125 | 10 | 5637 | 100 | $1 / 4$ | 5/8 | 3/8 | 16 | 1 | 3.50 C |
|  |  | 5641 | 100 | ${ }^{3} 8$ | 1 | ${ }_{3} 17$ | 1/8 | $3 / 4$ | 7.00 C |
|  |  | 5642 | 100 | ${ }^{56}$ | 17 | $1 / 4$ | 1. | 1/2 | 3.900 |
| 5127 | 12 | 5687 | 100 | 18 | \% 8 | 1/4 | 16 | 3/8 | 3.75 C |

ICA FLEXIBLE RUBBER GROMMETS


5705

## ANGLE BRACKETS

tone ITole Tapped - One Plain. $\ddagger$ One Slot - One Hole.


## PILOT LIGHT CONTACT



For making center connection inside pilot light socket.

No. 2465
List $\$ 5.00 \mathrm{M}$


## ICA UTILITY GLASS JARS

 For use on service bench to store hardware, etc. $2^{1 / 2^{\prime \prime}}$ high $\mathrm{x} 11 /{ }^{\prime \prime}$ deep.No. $5400-L$



## DISPLAY ''SALESMAN'' MERCHANDISER OF HARDWARE AND RADIO ESSENTIALS

With this ICA display assortment you can now sell hardware in a packaged form. This assortment includes - all sizes Round Head Machine Screws Nickel plated nuts to match - Parker-Kalon selfNapping acrews - Kant-Link lock washers - ShakeProof wars - flare washers Proof washers - plain washers - hat abre washers - flexilife grommets lugs - eyelets- rivets escutcheon plate screws - midget fuse clips -
spade bolts - spring clips - clamps - angles spade bolts - spring clips - ct.
EACII ITEM INDIVIDUALI, Y PACKED IN A glass DISPCAY JAR. Each jar contains an ample quantity of individual type and size hardware used hy dealers, servicemen and amateurs. A complete radio hardware assortment, beautifully put up in these jars and stacked in a landsome durable metal rack which holds 36 jars.
No. 5275-DISPLAY RACK-Contains 36 jars. A representative assortment of radio hardware, such as serews - nuts - bolts - washers - grommets, etc....................... List $\$ 23.40$ No. 5276-DISl'LAY RACK-Contains 36 jars. A representative assortment of radio hardware and essentials such as fibre washers - lugs - metal washers - grommets - spring clips - fuse clips - angle brackets, etc. No. 5405-METAL DISPLAY AND ETHITY RICK-Consists of 4 shelves for storing 36 hardware jars - small parts and miscellaneous items. Measures $12^{\prime \prime}$ high by $17 \frac{3}{4}$ " wide by $8^{\prime \prime}$ deep.

EVERYMAN'S 1000-PIECE RADIO HARDWARE ASSORTMENT

An assortment of hardware commonly used by dealers, servicemen, amateurs, ex erimenters, etc. Contains 1000 pieces of assorted nachine screws - wood screws -- nuts - bolts rivets - eyelets - lugs - lock washers - rubber grommets, etc.


## ICA ALL-PURPOSE RADIO HARDWARE AND ESSENTIAL EQUIPMENT

Packed in a handy inde-
 struc
case.
This De Luxe assortment includes such items as knol) set serews - escuteleon screws -Parker-Kalon self-tapping serews - rubber grommets - screws - nuts, etc.

No. 5250.........List $\$ 3.00$
List $\$ 4.75$


A complete assortment of 30 popular angles and brackets, nickel plated finish.
No. 5800
.List $\$ .75$


## ICA RUBBER

## GROMMET ASSORTMENT

Assortment contains popular sizes used in IRadio and Electrical Work

## No. 5810

Contains 28 Rubber Grommets
No. 5811
I, .a...............................Lis
Contains 60 Rubber Grommets


## ICA FIBRE

## WASHER ASSORTMENT

A representative assortment of fibre washers both plain and shoulder, to fit all popular size screws and bolts.
No. 5805 .
Contains 100 assorted washers


## ICA MASTER SCREW

AND NUT ASSORTMENT
Contains a substantial quantity of all the popular sizes machine screws, wood screws, ParkerKalon self-tapping screws and nuts to match. No. 5252.

List $\$ 5.50$
*ALL JARS LIST AT $\$ .65$ PER JAR. BULK QUANTITIES LIST AS SHOWN. ORDER BY CATALOG NUMBER.

## a) RSUTINEO



ICA INSULATED AND BRASS SPACERS AND BUSHINGS
Used for raising sub panels, chassis, condensers, etc. For manufacturers, experimenters and laboratory use.

Made of High Qualify Brass


No. Molded Bakelite Spacer Bushing
2365-Suitable for either spacer or bushing. With brass eyelet.... \$2.50C 2366 -Same as above-without eyelet 2.00 C

SPACER AND BUSHING ASSORTMENTS Brass and insulated (i) $\begin{aligned} & \text { Assortment of } 25 \text { spacers and bush- } \\ & \text { ings in } 1 / 4 \text { \& } 3 / 8 \text {. Diameters from }\end{aligned}$ $\begin{array}{lll}\text { ings in } \\ 1 / 4^{\prime \prime} & \text { to } 3 / 4^{\prime \prime} & 8 \\ \text { long. Diameters from }\end{array}$ sub panels, chassis, etc.

No.
5260-Insulated Assortment $\qquad$ List
$\$ 1.25$ 5261-Brass Assortment 1.25

Threaded Brass Bushing Assortments 5262-16 Assorted Brass bushings Threaded for $6 / 32$ from $1 / 4^{\prime \prime}$ to 3/4" lengths
5263-16 Assorted Brass bushings Threaded for $8 / 32$ from $1 / 4^{\prime \prime}$ to 3/4" lengths

## MAST ANTENNAS FOR STANDARD RECEPTION

## de luxe window antennas

## 8 Feet-12 Feel



3 Section Telescopic Antenna Opens to 96"

$$
\text { No. 4527B } \ldots \text { List } \$ 4.45
$$

$$
\text { No. 4529-3 Sec., Opens to } 75^{\prime \prime} \text {..... Li st } \$ 3.25
$$

$$
10 \text { to a Standard Carton-Weight } 14 \text { lus. }
$$

4 Section Extra Long Window Antenna 12 Feet Long
Ideal for DX Reception and Hural Sections where extra length is needed for best results.
No. 4513.
.List $\$ 6.75$

HOME ANTENNAS
12 Feet-4 Sections
Made of Admiralty Brass-Guaranteed Rust Proof

- The Latest Type Home An tenna suggested by leading Radio Set Manufacturer
Eliminates uns
dangerous wires
- Clear, noise-free reception with no power line inter
dy constructionmade of Admiralty Brass With Beautirul Nickel Plated Finish
- Guaranteed Rust-proof for the Life of Antenna
- Universal Bracket allows permanent and convenient installation on soil pipe window pipe, chimney, rool gables, co
ings, etc.
- Indiridually boxed.

Vertical Mast with all accessories for Universal Mounting Groumd Wire, Brackets, Lightning Arrester, Screws, Insulators, etc.
No. 4516.
List \$6.95
10 to a Standard Carton-weight 33 lbs .

## Television Antennas . . Television Accessories

Since 1927, Insuline Corporation of America has been pioneering in the development of Television accessories. ICA now boasts of a complete line of television antennas of all types as well as the newest accessories and servicing tools.

Consult other pages for ICA's latest.

- Antennas-outdoor types
- Antennas-indoar types
- Servicing Tools
- Servicing Kits
- Accessories
—Fitters
—Installation Kits
-Mounting Brackets
—Guy Wire, etc.


## Send for latest complete Television Catalog

ICA BAKELITE RADIO PANELS
Black, Polished Mirror Finish


| No. $1 / 8{ }^{\prime \prime}$ Thickness Size List |  |  | $\frac{3}{18}{ }^{\prime \prime}$ Thickness |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | No. | Size | List |
| 832 | $7 \times 10$ | \$1.55 | 842 | $7 \times 10$ | \$2.25 |
| 833 | $7 \times 12$ | 1.85 | 843 | $7 \times 12$ | 2.75 |
| 834 | $7 \times 14$ | 2.00 | 844 | $7 \times 14$ | 3.25 |
| 835 | $7 \times 18$ | 3.00 | 845 | $7 \times 18$ | 4.10 |
| 836 | $7 \times 21$ | 3.10 | 846 | $7 \times 21$ | 4.65 |
| 837 | $7 \times 24$ | 3.50 | 847 | $7 \times 24$ | 5.50 |
| 840 | $7 \times 30$ | 4.50 | 850 | $7 \times 30$ | 6.75 |
| 860 | $10 \times 12$ | 2.75 | 863 | $10 \times 12$ | 4.15 |
| 861 | $10 \times 18$ | 3.65 | 864 | $10 \times 18$ | 5.65 |

## ICA FULL SIZE BAKELITE SHEETS <br> Black Glossy Finish

| No. | Size | Thickness | App. Wt. | List |
| :---: | :---: | :---: | :---: | :---: |
| 852 | $38^{\prime \prime} \times 49^{\prime \prime}$ | $\frac{1}{16}{ }^{\prime \prime}$ | 6 lis. | \$21.50 |
| 853 | $38^{\prime \prime} \times 49^{\prime \prime}$ | $3^{3}{ }^{3} 11$ | 8 lbs. | 27.00 |
| 854 | $38^{\prime \prime} \times 49^{\prime \prime}$ | 1/8" | 12 lbe. | 44.00 |
| 857 | $38^{\prime \prime} \times 49^{\prime \prime}$ | \%" ${ }^{1 / 1}$ | 16 lbs . | 55.00 |
| 858 | $38^{\prime \prime} \times 49^{\prime \prime}$ | 1/4" | 20 lbs. | 66.00 |

## ica aluminum panels

ICA Aluminum panels and sheets have a bright silver finish and are supplied in the following sizes:

| No. | Size | List | No. | Size | List |
| :--- | :--- | ---: | :--- | ---: | ---: |
| 1194 | $7 \times 10$ | $\$ 1.35$ | 1200 | $7 \times 24$ | $\$ 3.50$ |
| 1195 | $7 \times 12$ | 1.60 | 3157 | $10 \times 12$ | 2.75 |
| 1196 | $7 \times 14$ | 1.75 | 3158 | $10 \times 18$ | 3.15 |


| 1196 | $7 \times 14$ | 1.75 | 3158 | $10 \times 18$ | 3.15 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1198 | $7 \times 18$ | 2.35 | 3159 | $10 \times 24$ | 5.50 |

SEE OTHER PAGES FOR ICA'S COMPLETE LINE OF RELAY RACK PANELS AND CHASSIS BASES (STEEL OR ALUMINUM), RACK CABINETS, AMPLIFIER CHASSIS, SPEAKER CABINETS, ETC. SPECIAL SIZE CABINETS AND CHASSIS MADE TO SPECIFICATIONS.

## PLUGS—MICROPHONE CONNECTORS



## Single Confact Male Microphone Connector

Similar to miero-


No. 505 phone connector No. 506 above except that it has a male thread 5/8-27 and no coupling ring.

LIST PRICE 40e

## PHONE PLUG ADAPTER



For use with the connector 506 shown at the top. fits any standard phone jacks. No wiring or soldering necessary to make connection. Made of nickel plated brass.

No. 223
LIST PRICE 45e

## DOUBLE PHONE PLUG



A two way phone plug.
Will accommodate 2 sets heador lugs. Fits all standard phone tips molded bakelite. Metal parts are nickel plated brass. Available in red and black.

No. 211
LIST PRICE 50e LIST PRICE 20e

## SHIELDED TWO-WAY PHONE PLUG



Identical to our part No. 211
phone plug except that made of nickel plated brass for shielding purposes.

No. 221-Plug LIST PRICE 85c
No. 222_Barrel only

LIST PRICE 50c


A
 No. 500. This mike connector is used on
the chassis or in the mike. It is the open the chassis or in the mike. It is the open circuit type. Mounts in a $3 / 8$ " hole. Supplied with insulating washers, solderiess lug and nut. Fits $5 / 8-27$ connections.
No. 501. Similar to above, except for shortening feature when disconnected. deal for use with multiple mixer amplifier Supplied with insulating washers, lug and nuts.
No. 502. Is an open circuit pressure connector, similar to No. 500 except the spring contact protrudes to make pressure contact. Supplied with insulating washers, solderless lug and nuts.
No. 507. Similar to No. 500 except equipped with a linen base bakelite plate for mounting centers, 1-5/32".

## MALE CHASSIS CONNECTORS



No. 508. Similar to No. 500 except equipped with mounting plate for mounting centers $1-5 / 32^{\prime \prime}$.

No. 509. Similar to No. 502 except equipped with mounting plate for mounting centers 1-5/32".

|  | Contact |  | List |  |
| :--- | :--- | :--- | :---: | ---: |
| No. | Action | Mounting | Fig. | Price |
| $\mathbf{5 0 0}$ | Open | Locknut | A | $\mathbf{3 0 c}$ |
| 501 | Shorting | Locknut | B | $\mathbf{4 0 c}$ |
| 502 | Pressure | Locknut | B | $\mathbf{4 0 c}$ |
| $\mathbf{5 0 7}$ | Open | Bakelite Plate | C | $\mathbf{3 0 c}$ |
| 508 | Shorting | Bakelite Plate | D | $\mathbf{4 0 c}$ |
| 509 | Pressure | Bakelite Plate | D | $\mathbf{4 0 c}$ |

## SHIELDED PHONE PLUG

SHIELDED CAP


A newly cesigned shielded 2 conductor miniature phone plug that fits all standard jacks. One conductor is brought through the entire plug to the tip where the connection is soldered to a tinned insert. The other conductor is onmected to a chell The $1 / 4$ conch sted to a lug under the shell. The $1 / 4$ inch shank is ground to very exacting tolerances. Supplied with an internal rubber cord grip.
No. 231
LIST PRICE 55c

## SIGNAL CORP PLUGS



## PL-55 PLUG

PL-55 plug is a standard 2 conductor phone plug used by the U. S. Army, Signal Corps and U. S. Navy. It fits the standard Signal Corps JK-34A and JK-24 jacks. Supplied with solderless lugs.
LIST PRICE $\qquad$ ..$\$ 1.35$


## PL-68 PLUG

PL-68 plug is a 3 conductor microphone plug. It is designed for use with the JK-33 Signal Corps and Navy type jacks. Supplied with soldeerless lugs.
LIST PRICE


## PL-47 PLUG

PL-47 is a 2 conductor Signal Corps phone plug that fits all standard jacks and Signal Corps jacks numbers JK-24 and JK-34A. Generally used in switchboard work with braided cords. For strain relief the cord is threaded into the plug. Black handle LIST PRICE
$\$ 2.00$

## PL-48 PLUG

Identical to the PL -47 except for the red handle.
LIST PRICE $\qquad$ $\$ 2.00$

## PLUGS • JACKS • CLIPS • SWITCHES • KNOBS

## tELEGRAPH APPARATUS CO．



JK－24 jack is a Signal Corps jack of distinc－ tive design．Its construction assures an un－ varying distance from the front of the sleeve to the jack springs．This jack is used generally in switch board work．The Signal Corps PL－55，PL－47 and PL－48 plugs are used in conjunction with this jack．
LIST PRICE
．$\$ 1.75$

## 3AG FUSE MOUNTINGS



Very sturdily constructed on $\frac{3 \pi}{}{ }^{\prime \prime}$ black bakelite．Bottom rivets are recessed to per mit mounting on metal．Clips are made of spring tompered nickel plated brass．Have center holes for mounting．

| No． | Type | LIST PRICE |
| :--- | :--- | :---: |
| 700 | Single | $20 c$ |
| 701 | Double | $30 c$ |
| 702 | Clips Onfy Per | $\$ 1.75$ |

## RCA TYPE PIN PLUG AND JACK



Used on RCA and most other receivers for a shielded phono connection．Can also be used as a shielded auto antenna connection．

| No． | Des． | LIST PRICE |
| :--- | :--- | :---: |
| 400 | Pin Plug | $9 c$ |
| 401 | Shielded Jack | $15 c$ |

PL－54 PLUG


PL－54 plug is designed to fit only the Signal Corps and Navy type JK－26 jack．Supplied with solderless lugs．
LIST PRICE
.$\$ 1.35$

## SLIDE SNAP SWITCH



A very popular switch used in many radio circuits－tone bed black bakelite handle Housing is cadmium plated steel．High quality insulating material．Mounting centers 1 $1 / 8^{\sim}$ ．

| No． | Type | LIST．PRICE |
| :---: | :---: | :---: |
| 601 | SPST | $26 c$ |
| 602 | SPDT | $33 c$ |
| 603 | DPST | $38 c$ |
| 604 | DPDT | $49 c$ |

## FAHNESTOCK CLIPS



Millions of these spring binding posts clips have already been used．Grips wire with just enough pressure for good electrical contact．Made of spring tempered brass． ＊Bronze
No Fig Length Width Max．Mtg．Price

No．Fig．Length Width Wire Hole Per C

| 3 | A | $1 \frac{1}{18}$ | $1 / 8$ | 10 | 8 | $\$ 2.00$ |
| ---: | :---: | :---: | :---: | :---: | :---: | ---: |
| 10 | A | $3 / 4$ | $\frac{5}{16}$ | 14 | 6 | 1.65 |
| 15 | B | $1 / 2$ | $\frac{7}{32}$ | 16 | 4 | 1.55 |
| 9 | C | $2 \frac{1}{16}$ | $3 / 1$ | 10 | 8 | 10.00 |
| 18 | C | $15 / 2$ | 16 | 14 | 6 | 9.00 |

MINIATURE BAKELITE 7 PIN TUBE SOCKETS SADDLE MOUNTING


Bottom Mount With Center Shield


Top Mount With Center Shield

No．


Insulation
Black Bakelite
Mica Filled Bakelite
Black Bakelite
Mica Filled Bakelite
Black Bakelite
Mica Filled Bakelite


Top Mount Base and

| Center Shield |  |
| :--- | ---: |
| Mounting | List |
| Bottom | $1 \$ 0.20$ |
| Bottom | .25 |
| Top | .20 |
| Top | .25 |
| Top | .30 |
| Top | .40 |

## BLANK WALL PLATES

5INGLE WALL PLATE made of chrome plated steel．Supplied with two oval mounting screws． No． 1201 $\qquad$ 2 CANG WALL PLATE identical to above axcept mounted with four mounting screws．Fits larger outlet box．
No． 1202 $\qquad$ List Price 60c

JK－26 JACK


JK－26 jack is a Signal Corps cable type jack． it is used on the end of a cord as a 2 con－ ductor connection and is used only in con－ nection with the PL－54 plug．
LIST PRICE

## BANTAM OPEN AND CLOSED CIRCUIT JACKS <br> Fig．A <br>  <br> Fig．B <br> 

Small sized jacks that fit all standard phone plugs．The contact material is spring tem－ pered nickel silver which will retain its resiliency permanently assuring good con－ tact．Fits 3,8 ＂hole in panels up to $3^{3} 0^{3 \prime \prime}$ thick．Supplied with nut and metal washer Solder terminals tinned for easy soldering． Available in open and closed circuit．

| No． | Fig． | Type | LIST PRICE |
| :--- | :--- | :--- | :---: |
| 102 | A | Open | 40 e |
| 103 | B | Closed | 45 c |

## BAKELITE KNOBS



These knobs are all made of a very high grade bakelite and are available in various colors as listed below．All are for $1 / 4^{\prime \prime}$ shafts and are set screw type，except for telegraph knob．

| No． | Fig． | Color | Length | Dia． | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1500 | A | Black | 掊＂ | れる＂ | 12c |
| 1501 | A | Walnut | dis＂ | 4＂ | 12c |
| 1502 | A | Red |  | 持＂ | 12 c |
| 1503 | A | Ivery | 腷＂ | 418＂ | 13 c |
| 1504 | B | Black | ${ }^{3}{ }^{\text {号＂}}$ | 挷＂ | 12 c |
| 1505 | B | Walnut | 预＂ | ＋18＂ | 12 c |
| 1506 | B | Red | 寒＂ | tı＂ | 12 c |
| 1507 | B | Ivory | $\frac{13}{3}{ }^{\prime \prime}$ | ł皃＂ | 13 c |
| 1508 | C | Black | $3 / 4$＂ | $34^{\prime \prime}$ | 12 c |
| 1509 | c | Walnut | 3／4＇ | 34＂ | 12 c |
| 1510 | C | Red | $3 / 4 \prime$ | 3／4＂ | 13 c |
| 1512 | D | Black | $11 / 4$＂ |  | 15 c |
| 1513 | D | Walnut | 1／1／＂ |  | 15c |
| 1514 | D | Red | $11 / 4^{\prime \prime}$ |  | 21 c |
| 1515 | D | Ivory | $11 / 4$＂ |  | 21 c |
| 1516 | E | Black | Telegra | K Knob | 40c |
| 1517 | F | Black | $2^{\prime \prime}$ |  | 22 c |
| 1518 | $F$ | Walnut | 2＂ |  | 22c |
| 1519 | C | Black | $15 / 8 \prime$ | 3／4＂ | 15 c |
| 1520 | C | Walnut | $15 /{ }^{\circ}$ | 3／4＂ | 15 c |
| 1521 | H | Black | 2＂ |  | 19c |
| 1522 | H | Walnut | 2＂ |  | 19c |
| 1523 | H | Red | 2＊ |  | $24 c$ |
| 1524 | H | Ivory | $2^{\prime \prime}$ |  | 24 c |

## PLUGS • JACKS • CONNECTORS

## TELEGRAPH APPARATUS CO.

## INSULATED SOLDERLESS

 PHONE TIP PLUG1
A standard insulated solderless phone tip plug which fits our parts 101, 106, 108 phone tip jacks. Metal parts are nicke! plated brass. Overall length $2-3 / 16^{\prime \prime}$. The high lustre insulated handle is 1 " long. Available in red, black, green and yellow.

No. 202.
LIST PRICE 18e

## SOLDERLESS PHONE TIP PLUG

A standard solderless
 phone tip plug. Identical to No. 202 obove, except for insulated handle.

LIST PRICE 10c
No. 263

## INSULATED SOLDERLESS JR. PHONE TIP PLUG



A standard insulated solderless iun ior phone tip plug made to fit our parts \# 101 and 106 phone tip jacks. Metal parts are nickel plated brass. The high lustre insulated handle is l' long. Available in black, red, green and yellow. Overall length 1\%"'.
No. 204
LIST PRICE 18 c

## SOLDERLESS JR.

 PHONE TIP PLUG

A standard solderless junior phone tip plug identical to No. 204 above except for insulated handle.
No. 205
LIST PRICE 10c

## Insulated Solderless <br> SPRING BANANA PLUG



This insulated non-collapsible solderless spring banana plug is designed to give the greatest area of contact. Connection is made by a side set screw.
Metal parts are nickel plated brass except the four leaf banana spring which is nickel plated phosphor bronze. The high lustre insulated handle is $1^{\prime \prime}$ long. Available in red, black, green and yellow. Overall length |-|1/16'.
No. 208
LIST PRICE 20c


Designed to handle heavy high frequency currents. Made of nickel plated spring brass.
$\qquad$ LIST PRICE


226 ——ack
227 Plh threaded shank 35 c
_-Plug with $10-32$ hole with screw $35 c$

## SPRING BANANA PLUG INSULATED



In this spring banana plug no metal parts are exposed around the insuparts are exposed around the insulated handle. Connection is made by soldering to special type tubular lug which is an integral part of metal body. Non-collapsible four leaf banana spring gives maximum area of contact. Metal parts are nickel plated brass except banana spring which is nickel plated phos phor bronze. The high lustre insulated handle is $/$ " long. Available in red, black, green and yellow.

No. 209
LIST PRICE 18 c

## INSULATED SOLDERLESS SPRING BANANA PLUG <br> (INTERNAL SOLDERLESS FASTENER)



An insulated spring banana plug identical in appearance to our part No. 209 except that connection is made to an internal solderless tastaner. The high lustre insulated handle is available in red, black, green and yellow.

No. 210.
..LIST PRICE 20c

## Insulated Phone Tip Jack



An insulated phone tip jack which makes very positive contact. Contact springs are made of phosphor bronze. Metal parts are nickel plated brass The high lustre insulated head is $3 / 8^{\prime \prime}$ in diameter. Available in red, black, green and yellow.
Fits $1 / 4^{\prime \prime}$ hole in panels up to 4 thick.
Supplied with nut and insulating washer.

No. 101
LIST PRICE 15c

## .. PHONE TIP JACK



A phone tip jack identical to our part No. 101 above except that it has a non-insulated 5/16" hex head. Metal parts are nickel plated brass.
Fits $1 / 4^{\prime \prime}$ hole in panels up to $3 / 8^{\prime \prime}$ thick.

No. 106
LIST PRICE 10c

## Open Circuit Phone Jack



No. 100

Made to fit all standpring mags. Con nick el plated phosphor bronze and body made of nickel plated brass. Highest quality insulating material used. Fits $3 / 8^{10}$ hole in panels up to 3/16" thick. Supplied with one metal washer.

# TEST PRODS SHAFT COUPLINGS • CLIPS 

TELEGRAPH APPARATUS CO.

## AUTO ANTENNA CONNECTOR Instantly Detachable


Comes apart by slight twist. Makes an ideal single contact shielded connector.

## AUTO FUSE CONNECTOR

Used in the battery lead of auto radio for protection. Fits a 3 AG type fuse.
No. 403
LIST PRICE 14c

## Insulated Alligator Clips


Sturdy clips made with thin jaws, fine meshimg teeth and strong spring to assure hard bite. Handles 1" long.
$\begin{array}{ll}\text { No. 333-Red } & \text { LIST PRICE 20c } \\ \text { No. 334-Black } & \text { LIST PRICE 20c }\end{array}$

## PANEL BEARING ASSEMBLY

he accurately bearing assures smooth, non-binding operation. Equipped with bowed spring washer which eliminates sliding forward and backward. Shaft is $1 / 4^{\prime \prime}$ in diameter Fits $3 /{ }^{\prime \prime}$ hole in panels up to $\frac{5}{16}$ " thick. Made of brass.
No, 1022-3" Shaft
LIST PRICE 35 c
No. 1023-6" Shaft
DE LUXE FINGER GRIP PHONO-NEEDLE AND PHONE tip test leads


Needle Point
A deluxe test lead set with a ribbed finger grip will eliminate fatigue and slipping. grip will eliminate fatigue and slipping. Made of high quality insulating material $61 / 2$ " long, one each red and black. Supplied with a good grade of true kinkiess wire $48 "$ long. Available with phone
spade lugs on end as illustrated.

| No. | Type | LIST PRICE |
| :--- | :--- | :---: |
|  |  | PER SET |
| 301 | Spade lugs | $\$ 1.20$ |
| 302 | Phone tips | 1.20 |
| 303 | Spade lugs | 1.20 |
| 304 | Phone tips | 1.20 |

## PANEL BEARING



Accurately machined bearing made to fit $1 / 4^{\prime \prime}$ shafts. Fits $3 / 8$ ", hole in panels up to is" thick. Supplied with one mounting nut. Body made of brass.

LIST PRICE 15e

SHAFT EXTENDERS, COUPLINGS AND REDUCERS



No. 515-Male Flange
No. 516-Female Flange


|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Brass | Insulated | Hole | Shaft | Overall | List |
| No. | No. | Dia. | Dia. | Length | Price |
| 1014 | 914 | 3/8 | 1/4 | $11 / 8$ | 18 c |
| 1015 | 915 | $1 / 4$ | 1/4 | $11 / 8$ | 18 c |
| 1017 | 917 | $1 / 4$ | 3/8 | $11 / 8$ | 18 c |
| EXTRA LENGTH EXTENDER |  |  |  |  |  |
| COUPLING FIC. B |  |  |  |  |  |
| Brass | Insulated | Hole | Hole | Overall | List |
| No. | No. | Dia. | Dia. | Length | Price |
| 1011 | 911 |  | to $3 / 8$ | $3 / 4$ | $18 c$ |
| 1012 | 912 | 1/4 | to $1 / 4$ | $3 / 4$ | 18 c |

No. 1009—Reduces a $3 / 8^{\circ}$ hole to $1 / 4^{\prime \prime}$ hole LIST PRICE 10 c BRASS AND FIBRE $1 / 4^{" ~ S H A F T I N C ~}$
No. 1018 -Brass . 6" Long $1 / 4$ " Dia. LIST PRICE 20c No. 1019 -Brass $12^{\prime \prime}$ Long $1 / 4^{\prime \prime}$ Dia. LIST PRICE 40e No. 1024 -Fibre $6^{\circ}$ Long $1 / 4^{\prime \prime}$ Dia. LIST PRICE $25 e$ No. 1025 —Fibre $12^{\prime \prime}$ Long $1 / 4^{\prime \prime}$ Dia. LIST PRICE 50c

Microphone Base Flanges \& Extension Rods

New mike stand items for which there has long been a demand. With the male type Base Flange the microphone can be attached directly to the desk, table, pulpit, etc.


$$
\begin{array}{r}
\text { List Price } \\
\$ 0.75 \\
.75
\end{array}
$$

No. 517-6" Extension Rod $\quad \$ 0.75$
No. 518-12" Extension Rod 1.00

DE LUXE FINGER GRIP PHONO-TIP TEST PROD
REMOVABLE PHONO-NEEDLE CHUCK

| A ribbed finger grip phono-tip test prod identical to the prod used in the De Luxe test lead at the left. |  |  |  |
| :---: | :---: | :---: | :---: |
| No. | Color | Length | LIST PRICE |
| 311 | Red | ${ }^{4} 1 / 7_{2}{ }^{\prime \prime \prime}$ |  |
| 313 | Black | $41 / 2 \times$ | 45 c |
| 314 | Black | 61/2" | 50 c |

DE LUXE FINGER GRIP SOLDERLESS TIP TEST PROD


Indentical to the above except prods are equipped with solderless phone tips:

| No. | Color | Length | LISTPRICE |
| :--- | :--- | :---: | :---: |
| 319 | Red | $41 / 2^{\prime \prime}$ | $45 c$ |
| 320 | Red | $612^{\prime \prime}$ | $50 c$ |
| 321 | Black | $41 / "^{\prime \prime}$ | $45 c$ |
| 322 | Black | $61 / 2^{\prime \prime}$ | $50 c$ |

## NEEDLE POINT TEST PRODS

removable phono-needie chuck


Test prods are made of non-breakable extruded plastic and available in red and black. Chuck can be removed from prod as well as phono-needle from chuck. All brass parts are nickel plated.

|  |  |  | List |
| :--- | :---: | :---: | ---: |
| No. | Color | Length | Price |
| 315 | Red | $4^{\prime \prime}$ | $35 c$ |
| 316 | Red | $6^{\prime \prime}$ | $40 c$ |
| 317 | Black | $4^{\prime \prime}$ | $35 c$ |
| 318 | Black | $6^{\prime \prime}$ | $40 c$ |

## SOLDERLESS TIP TEST PRODS

Identical to above except that test prods are equipped with solderless phone tips.

|  |  |  | List |
| :--- | :---: | :---: | ---: |
| No. | Color | Length | Price |
| 323 | Red | $4^{\prime \prime}$ | $35 c$ |
| 324 | Red | $6^{\prime \prime}$ | $40 c$ |
| 325 | Black | $4^{\prime \prime}$ | $35 c$ |
| 326 | Black | $6^{\prime \prime}$ | $40 c$ |

## PHONO-NEEDLE AND PHONE

 tip test leads

Solderless Tip Type Phono Tip Type
Prods are made of non-breakable extruded plastic, 4" long, one each red and black. Supplied with rubber covered kinkless wire $48^{\prime \prime}$ long. Insulated for high voltage. Available with non-insulated phone tips, spade lugs or alligator clips as illustrated.

|  | Type | List |
| :--- | :--- | ---: |
| No, | Price |  |
| 305 | Alligator Clips | $\$ 1.10$ |
| $\mathbf{3 0 6}$ | Spade Lugs | 1.00 |
| $\mathbf{3 0 7}$ | Phone Tips | 1.00 |
| 327 | Spade Lugs | 1.00 |
| 328 | Phone Tips | 1.00 |

## SMITH

## INSULATED PHONE TIP JACK



Will accommodate all standard phone tip plugs, of the insulated and non insulated types. Recommented for use with our Nos. 200 and 201 phone ip) plugs. Insuated head vailable in Black, Red, Yellow and Green. Mounts in a $1 / 4^{\prime \prime}$ hole. Sup plied complete with insulating shoul der washer and nut. Specify color.
$\$ 15.00$ per $C$

## INSULATED BANANA JACK



Will accommodate all standard hanana type plugs. Mounts in a $1 / 4$ hole in panels up to $3 / 8$ " thick. Insulated head $3 / 8$ " dia. gyailable in Black, ${ }^{7 / 8}$ Rell, Yellow and Green. Supplied complete with insulated shoulder washer, soldering lug, and nut. Specify color.

No. 205
$\$ 15.00$ per $C$

## INSTRUMENT BANANA JACK



Marle of brass, nickel plated Jack receptacle is countersunk and will accept all standard Banana type plugs for a snug and positive contact. Insulated head is $1 / 2$ diameter and supplied complete with insulating washer, lock washer, heavy duty soldering lug and nut. Avaluble in Black, Red, Jellow and Green. Specify color.

No. 219
. $\$ 19.00$ per C

## INSULATED

 COMBINATION JACK
## This combination jack will accom-

 modate all standard plugs, of the phone tip type or lanana type construction. Mounts in a $1 / 4^{\prime \prime}$ hole in panels up to $1 / 2^{\prime \prime}$ thick. Over-all length $1 \mathrm{~m} / \mathrm{m}^{\prime \prime}$. Supplied complete with insulating shoulder washer and nut. Insulated head available in Black, Red, Yellow and Green. Specify color.No. 206.
$\$ 20.00$ per C


## INSULATED SOLDERLESS

 BANANA PLUGS Spring type construction, and will fit all standard banana jacks. Tapped hole is provided in rear of plug and small screw machine stud is provided so that wire can be wrapped around and tightened without the need of soldering. Insulated handle is 3 " long and available in Black, Red, Yellow and Green. Specify color. No. 211. $\qquad$ $\$ 20.00$ per CThis plug constructed the same as No. 211 described above, but the plug nortion is made of hexagon brass. Plug is also supplied with screw machine stud. Insulated handle $1^{\prime \prime}$ long and available in Black, Red, Yellow and Green colors. Specify color.
No. 212
$\$ 25.00$ per C


## INSULATED SOLDERLESS

 PHONE TIP PLUGSInsulated sleeve $3 / 4$ " long, and avail able in Black, Red, Yellow and Green Will fit all standard phone tip jacks and specially recommencled for use with our No 202 insulated jack The wire fits through the sleeve of plum and is wrapped aroupl the serew and is wrapped arouni he screw por tion, and then the knurled nut provided, making soldering unnecessary. Specify color.

Plug with Type
105 Tip
Per C
$\$ 18.00$

## INSULATED Phone tip plug

Insulated sleeve $3 / 4$ " long, available in Black, Red, Yellow and Green. The phone tip will plug into all standard phone tip jacks, and the insulated sleeve is so designed to accommodate all standard banana type plugs.
No. 215
$\$ 15.00$ per C
Phone tip only - less insulated sleeve.
No. 125
$\$ 8.00$ per $C$


## INSULATED

## PHONO NEEDLE TIP PLUG

Insulated sleeve $3 / 4$ " long, a vailable in Black, Red, Yellow and Green. The body of the plug will accommodate all standard banana type plugs. The sharp needle point phone tip will pierce through corrosion for positive contact.
No. 216
$\$ 20.00$ per $C$
Needle tip only - less insulated sleeve
No. 217.
$\$ 12.00$ per C


## INSULATED SHORT PHONE TIP

Will fit all standard phone tip jacks of the insulated or non-insulated types. Insulated sleeve $3 / 4$ " long, and available in Black, Red, Yellow and Green. Specify colors.

No. 203
$\$ 15.00$ per C

## INSULATED BANANA PLUG



## Spring Type

Will fit all standard banana type jacks. A set screw is provided in the side of the plug to secure the wire to the plug without soldering. Insulated sleeves $7 / 8$ " long avaitable in 13lack, Red, Yellow and Green colors. Over-all length $1 \% /{ }^{\prime \prime}$. Specify color.

No. 204.
$\$ 20.00$ per C

## INSULATED BANANA PLUG

 Split TypeThe banana pluy is of the split type construction. Insulated handle 7/8" long. A set screw is provided in the side of the plug, to secure the wire to the plug without soldering. Available in Black, Red, Yellow and Green colors. Specify colors.

No. 213
$\$ 20.00$ per C

BANANA PLUG AND PHONE TIP JACK COMBINATION
Insulated banana type plug of the spring type construction will fit all standard banana type jacks, and the top of the insulated sleeve of the plug will accommorlate all standard phone tips. Insulated hantle 1" long. Available in IBlack, Red, Yellow and Green. Specify color.
No. 214
$\$ 45.00$ per C

## INSULATED BINDING POSTS

Knurled Insulated IIead threaded
eliminating the necessity for using a brass bushing. Each Binding Post complete with $6.32 \mathrm{x} \quad 3 / 8 "$
serew and lockwasher. Available in Black and Red Colors. Specify Colors.
$\begin{array}{lrr}\text { No. } & \text { Head Diameter } & \text { Per C } \\ 207 & 3 / 8 ", & \$ 15.00\end{array}$

|  | Head Only |  |
| :--- | :---: | ---: |
| 309 | $3 /{ }^{\prime \prime \prime}$ | $\$ 6.50$ |
| 210 | $1 / 2$ | 7.00 |

## INSULATED SPADE LUG



Insulated sleeve $3 / 8^{\prime \prime}$ diameter, $3 / 4^{\prime \prime}$ long and available in lied and Black colors. The barrel of the insulated sleeve will accommodate all standard type banana plugs.

| No. | $\quad$ Type | Per C |
| :--- | :--- | ---: |
| 218 | Insulated Lug | $\$ 15.00$ |
| 129 | Lus only | 2.00 |

## ALLIGATOR CLIP



Clips are made so that the jaws match accurately, permitting them to wrip all sizes wire accurately. The harrel of clip will accommodate all standard hanana type plugs. Made of strel, cadmium plated. Over-all length $2^{\prime \prime}$. No. 300
.$\$ 10.00$ per $C$

## INSULATED ALLIGATOR CLIP



Emborlies our No. 300 Alligator Clip. Insu lated handle $3 / 4$ " long and will accommodate all stamlard banana type plues. Insulated handle available in Black and Red colors. Specify color required.
No. 301
.$\$ 20.00$ per C

## ALLIGATOR CLIP PHONE TIP JACK



Insulated phone tip jack with No. 300 Alligator Clip. The jack portion will accommodate all standard phone tip plugs. Insulated handle $1^{\prime \prime}$ long available in Black and Red colors. Overall length $25 / 8^{\prime \prime}$. Specify color.
No. 304
$\$ 45.00$ per C

## ALLIGATOR CLIP COMBINATION JACK



The insulated jack portion will accommodate all standarll phone tip or banana type plugs. Insulated handle $11 / 4^{\prime \prime}$ long available in Black and Red colors. Over-all length $3^{\prime \prime}$. Specify color.
No. 305
$\$ 50.00$ per $C$

## SMITH Electravic Qoriporerits HERMAN H. SMITH, INC.

H AND H TOGGLE SWITCHES
Rated 1 Amp. 250 Volts, 3 Amps. 125 Volts. Switches are nickel plated and supplied with mounting nut.


| No. | Type | Shaft | Each |
| :---: | :---: | :---: | :---: |
| 500 | SPST |  | \$0.60 |
| 501 | SPST |  | . 66 |
| 502 | SPDT |  | . 75 |
| 503 | SPDT |  | 85 |
| 504 | DPST |  | 1.15 |
| 505 | DPST |  | 1.25 |
| 506 | DPDT | $]_{15}{ }^{\prime \prime}$ | 1.30 |
| 507 | DPDT | 1 " | 1.40 |
| 508 | \% \& Off | me l'lat | . 05 |



BAT HANDLE TOGGLE SWITCHES

These switches are the same as described above with bat shaped handle Shaft length ${ }^{3} \mathbf{3}^{\prime \prime}$

| No. |
| :--- |
| 510 |
| 511 |
| 512 |
| 513 |

## Type <br> ${ }^{P}{ }^{P} \mathrm{D}$ T <br> D) PST

Each

## ROTARY TOGGLE SWITCHES

Made by H \& II, rated at Amp. 250 Volts, 3 Amps. 125 Volts. Switches are nickel plated and supplied with mounting nut.

| No. | Type | Threaded <br> Shank | Over-all <br> Length | Each |
| :--- | :---: | :---: | :---: | :---: |
| 570 | S P S T | $3 / 8^{\prime \prime}$ | $11 /{ }^{\prime \prime}$ | $\$ 0.80$ |
| 571 | S P D T | $3 / 8^{\prime \prime}$ | $11 /{ }^{\prime \prime}$ | $\$ .90$ |
| 572 | D P S T | $3 / 3^{\prime \prime}$ | $11 /{ }^{\prime \prime \prime}$ | 1.90 |
| 573 | D P D T | $3 / 8^{\prime \prime}$ | $11 / 2^{\prime \prime}$ | 1.70 |



## SLIDE LEVER

 SWITCHESRated $11 / 2^{\prime \prime}$ Amps. 110 Volts. Size $13 /{ }^{\text {" }} \times 1 /{ }^{\prime \prime}$. Mounting centers $11 / 8^{\prime \prime}$.
No.

## 15 <br> 516 517



HEAYY DUTY POWER SWITCHES
These Heavy Duty Power Switches are made by II \& H and are specially recommended for use in amplifiers, transmitters, motors and all heavy current circuits where heavy current is carried. Availahle in 3 types with neutral off in center position. Rated at 10 Amps. 125 Volts. Measures $2^{\prime \prime}$ long, $1^{\prime \prime}$ hirh, $1^{1 / 4^{\prime \prime}}$ wide, mounting sleeve diameter 5/".

| No. | Type | Each |
| :--- | :--- | :--- |
| 574 | D P D T | $\$ 6.00$ |
| 575 | T P D T | 9.00 |
| 576 | 4 P D T | 13.25 |



No. 580
Casein buttons in Black and Red colors can be oltained for the above switch ...... $\$ .40$ each


## BANANA TYPE PLUG

This plug is hexed brass, nickel plated. The spring is made of phosphor bronze assuring positive and lasting contact. Plug is constructed with a 6-32 female thread inside and is supplied with a $6-32$ screw and soldering lug.

No. 100
$\$ 12.00$ per $C$

## E SPLIT TYPE BANANA PLUG <br> Made of hexed brass, heavily nickel plated over-all. Will fit all standard banana type jacks. Over-all length $11 / 4^{\prime \prime}$. Threarled portion $6-32 \times 1 / 2^{\prime \prime}$ long. Supplied with two $6-32$ hex agon nuts. <br> No. 104 <br> $\$ 12.00$ per C <br> BANANA TYPE PLUG Spring Type <br> plug and spring are made of brass

 nickel plated. The spring type of construction assures positive and lasting contact. Plug is threaded 6-32 and the threaded portion is $1 / 2^{\prime \prime}$ long. Supplied with two 6 -32 hexagon nuts. No. 103\$12.00 per C

## 7. MIDGET PLUGS AND JACKS Banana Type

Mirget hanana trpe plugs and jacks, for use where a minimum mount of space is available Both plugs and jacks made of brass, nickel plated, A hexagon nut is provided with each plug and jack.

| No. | ltem | Per C |
| :--- | :--- | ---: |
| 111 | l'lug | $\$ 9.00$ |
| 112 | Jack | 9.00 |

## PHONE TIP JACK

Will accommodate all standard phone tip plugs of insulated and non-insulated types. Made of brass, nickel plated. Mounts in a $1 / 4^{\prime \prime}$ dia. hole in panels up to $3 / 8$ " thick, and is supplied with hexagon nut.
No. 107
$\$ 10.00$ per C


## METAL BINDING POST

Made of brass, heavily nickel plated over-all. Supplied complete with screw and washer.

No. 110
$\$ 25.00$ per $\mathbf{C}$


## MOLDED BAKELITE

 SWITCHESMade by H \& H, rated at 3 Amps. 250 Volts, 6 Amps. $1255^{\text {tolis. Bat }}$ Lever type with silver plated contacts. $\frac{1}{3_{2}^{\prime \prime}}$ slotted sleeve.

| No. |  | Type |  |  |
| :--- | :--- | :--- | :--- | :--- |
| 520 | $S$ | $P$ | $S$ | $T$ |
| 521 |  | $S$ | $P$ | $D$ |



Each
$\$ 1.05$
$\begin{array}{r}\$ 1.05 \\ 1.20 \\ \hline\end{array}$
1.40

BANANA PLUG JACK
Recommended as the mate or the No. 100 Banana ype plug, but wir accom modate all standard banan ype plurs Jack is made of brass heavily nicke lated over-all Mounts in plate" $1 / 4$ hole and will fit in panels up to ${ }^{76}{ }^{7 \prime}$ thick. Jack a furning lug and soldering lug.
No. 101.
$\$ 12.00$ per $C$
BANANA PLUG JACK
Will accommodate al standard banana tipe plugs and specially rec ommeneded as the mate or Nos. 103 and 104 banana plugs. Made of rass, nickel plated, and mounts in $1 / 4^{\prime \prime}$ hole in panels up to $3 / 8{ }^{1 / 2}$ thich Supplied with nut and soldering lug.
No. 109

## MIDGET PHONE JACK



Signal Corps type J 670 -Single open circuit midget phone jack. It mounts in $3 / 8$ hole in panels up to $1 / 4^{\prime \prime}$ thick Bushing is brass, nickel plated Springs made of plated. Springs made of phosphor bronze, ant the from the frame by heavy
duty brakelite washers.
No. 122
$\$ 35.00$ per C


## SOLDERLESS PHONE TIPS

These tips are constructed so that the wire fits through the body of the tip, and is wrapped around the screw portion, and tightened with the knurled nut provided, making soldering unnecessary.
No. Len
$\begin{array}{llr}105 & 15 / 8^{\prime \prime} & \text { Per C } \\ 106 & 1 \frac{118}{\prime \prime} & \$ 10.00 \\ & & 10.00\end{array}$

## SOLDER TYPE PHONE TIPS

Made of brass, nickel plated. Overall length $1^{\prime \prime \prime}$. Dia. of tip will fit all standard phone tip jacks.

No. 108 $\qquad$ .$\$ 20.00$ per M

## LARGE DIAMETER PHONE TIP

Material of lrass and Nickel plated finish. The barrel is drilled extra large to accommodate heavy wire. Diameter of hole $1 / \mathbf{s}^{\prime \prime}$-- length of barrel $1 / 2^{\prime \prime}$ and over-all length $1^{\prime \prime}$
No. 123.
.$\$ 30.00$ per $M$

## THREADED PHONE TIPS

Available in either the Solderless Phone Tip type, or the Phono Needle Point type. The chuck is threader $1 / 4-32$.

| No. | Type | Per C |
| :---: | :---: | :---: |
| 124 | Solderless Tip | $\$ 15.00$ |
| 128 | Needle loint | 15.00 |

128 Needle l'oint $\quad 15.00$

## MINI-MAX CONNECTING STRIP



This fastening connecting strip is spaced so that it will snap into all $67 \frac{1}{2}$-Volt Mini-Max "13" batteries such as Eveready Nos. 455, 46 and Bursess Nos. XX30, XX45.
No. 1205
.$\$ 25.00$ per C

## SMITH

## HEAVY DUTY BAKELITE BARRIER TERMINAL STRIPS



This latest type of construction of bakelite strip is made of molded bakelite of very high tensile strength. The barriers between each terminal prevent any possibility of short circuits and leakage between terminals. The terminals and screws are brass, nickel plated. These strips are manufactured by the KULFA ELECTRIC MFG. CO. INC., Design Patent No. 136,762 and are exclusively distributed by us to the Radio Parts Distributors.

## COLUMN A

All the Barrier Terminal Strips enumerated in Column $A$ for the 1500,1600 and 1700 series are made with screw type terminals exactly as shown in the illustration at top of page.

## COLUMN B



All the larrier Strips enumerated in Column $B$ for the 1500,1600 and 1700 serics are supplied with the two-solder connection lug illustrated above.

COLUMN C


All the Barrier Strips enumerated in Column C for the 1500, 1600 and 1700 series are supplied with the one-solder connection lug illustrated above.

## COLUMN D



All the Barrier Strips enumerated in Column D for the 1500,1600 and 1700 series are supplied with the bottom type comection lug illustrated above.

|  | Col. A Terminals | Each | No. | $\begin{gathered} \text { Col. B } \\ \text { Terminals } \end{gathered}$ | Each |  | $\underset{\text { Terminals }}{\mathrm{Col}}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1501 | ..... 1 ... | \$0.14 | 1511 | Terminals | \$0.17 | No. 1521 | Terminals | Each | ${ }^{\text {No. }} 1531$ | Terminals | Each |
| 1502 | 2 .. | -22 | 1512 | . 2 | . 29 | 1522 | 2 | - 29 | 1532 | 2 | - 0.17 |
| 1503 | 3 | 30 | 1513 | 3. | . 40 | 1523 | 3 | 40 | 1533 | 3 | . 40 |
| 1504 | 4 | 38 | 1514 | 4 | . 52 | 1524 | 4 | . 52 | 1534 | 4 | . 52 |
| 1505 | 5 | 46 | 1515 | 5 | . 63 | 1525 | b | . 63 | 1535 | 5 | . 63 |
| 1506 | 6 | 54 | 1516 | 6 | . 75 | 1525 | 0 | . 75 | 1536 |  | . 75 |
| 1507 | 7 | 62 | 1517 | 7 | . 86 | 1527 | 7 | . 86 | 1537 |  | . 86 |
| 1508 | 8 | 70 | 1518 | 8 | . 98 | 1528 | 8 | . 98 | 1538 | 8 | . 98 |
| 1509 | 9 | 78 | 1519 | 9 | 1.09 | 1529 | 9 | 1.09 | 1539 | 9 | 1.09 |
| 1510 | 10 | 86 | 1520 | 10 | 1.21 | 1530 | 10 | 1.21 | 1540 | 10 | 1.21 |

## No. 1600 SERIES



| No. | Terminals | Each | No. | Terminals | Each | No. | Terminals | Each |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1601 | 1 | . $\$ 0.18$ | 1611 | Termis | \$0.22 | 1621 | Terminal | \$0.22 | ${ }^{\text {No. }} 1631$ | Terminal | $\begin{aligned} & \text { Each } \\ & \$ 0.22 \end{aligned}$ |
| 1602 | 2 | . 28 | 1612 | - 2. | . 37 | 1622 | 2 | . 37 | 1632 | 2 | . 37 |
| 1603 | 3 | 38 | 1613 | . 3 ...... | . 52 | 1623 |  | . 52 | 1633 | 3 | . 5.2 |
| 1604 | 4 | . 49 | 1614 | 4 ..... | . 67 | 1624 | - 4 | . 67 | 1634 | 4 | . 67 |
| 1605 | 5 | -59 | 1615 | . | . 82 | 1625 | 5 | . 82 | 1635 | 5 | . 82 |
| 1606 | \% | . 69 | 1616 | - 0 ...... | . 97 | 1626 | 6 | . 97 | 1636 | 0 | . 97 |
| 1607 | 7 | . 80 | 1617 | 7 … | 1.12 | 1627 | 7 | 1.12 | 1637 | 7 | 1.12 |
| 1608 | 8 | . 90 | 1618 | 8 ..... | 1.27 | 1628 | 8 | 1.27 | 1638 | 8 | 1.27 |
| 1609 | 9 | 100 | 1619 | 9 .... | 1.42 | 1629 | 9 | 1.42 | 1639 | 9 | 1.42 |
| 1610 | 10 | 1.11 | 1620 | 10 | 1.57 | 1630 | 10 | 1.57 | 1640 | 10 | 1.57 |
| 1611 P | 11 | 1.21 | 1641 | 11 | 1.72 | 1644 | 11 | 1.72 | 1647 | 11 | 1.72 |
| 1612P | 12 | 1.31 | 1642 | 12 | 1.87 | 1645 | 12 | 1.87 | 1648 | 12 | 1.87 |
| 1613P | 13 | 1.42 | 1643 | 13 | 2.02 | 1646 | 13 | 2.02 | 1649 | 13 | 2.02 |

## No. 1700 SERIES



| No. | Terminals | Each | No. | Terminals | Each | No. | Terminals | Each | No. | Terminals | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1701 | , | \$0.21 | 1711 | 1 | \$0.27 | 1721 | … 1 .. | \$0.27 | 1731 | Terminas | \$0.27 |
| 1702 | - 2 | . 33 | 1712 | 2 | . 45 | 1722 | - 2 | . 45 | 1732 | - 2 | . 45 |
| 1703 | 3 | -46 | 1713 | 3 | . 64 | 1723 | 3 | . 64 | 1733 | - 3 | . 64 |
| 1704 | - 4 | - 59 | 1714 | 4 | . 82 | 1724 | 4 | . 82 | 1734 | - 4 | . 82 |
| 1705 | 5 | . 71 | 1715 | 5 | 1.01 | 1725 | 5 | 1.01 | 1735 | 5 | 1.01 |
| 1706 | 6 | . 84 | 1716 | 6 | 1.19 | 1726 | 6 | 1.19 | 1736 |  | 1.19 |
| 1707 | .. 7 | . 97 | 1717 | 7 | 1.38 | 1727 | 7 | 1.38 | 1737 | 7 | 1.38 |
| 1708 | 8 | 1.09 | 1718 | 8 | 1.56 | 1728 | 8 | 1.56 | 1738 | 8 | 1.56 |
| 1709 | ${ }^{9}$ | 1.22 | 1719 | - | 1.75 | 1729 |  | 1.75 | 1739 | 9 | 1.75 |
| 1710 | 10 | 1.35 | 1720 | 10 | 1.93 | 1730 | 10 | 1.93 | 1740 | 10 | 1.93 |
| 1711 P | 11 | 1.47 | 1751 | 11 | 2.12 | 1754 | 11 | 2.12 | 1757 | 11 | 2.12 |
| 1712P | 12 | 1.60 1.73 | 1752 | 12 | 2.30 2.49 | 1755 | 12 | 2.30 | 1758 | 12 | 2.30 |
|  |  |  |  |  | 2.49 | 1756 | 13 | 2.49 | 759 | 13 | 2.49 |

SOLDER TYPE LUGS
Brass Hot Tinned


2484
賏


| No. | Length | Hole | Per M |
| :---: | :---: | :---: | :---: |
| 1484 | \%/8" | No. 6 | \$ 7.00 |
| 1485 | $5 / 81$ | No. 6 | 6.00 |
| 1486. | 7/8' | No. 6 \& No. 8 | 6.00 |
| 1487 | 5/8' | No. 6 | 4.00 |
| 1488 | $3 / 4$ " | No. 6 | 8.00 |
| 1489 | $7 / 8{ }^{\prime \prime}$ | No. 8 | 8.00 |
| 1490 | 1 " |  | 10.00 |
| 1491 | 教" | No. 8 | 12.00 |
| 1493 | $1^{\prime \prime}$ | 1/4" | 20.00 |
| 1492 | $11 / 8^{\prime \prime}$ | $1 / 4$ " | 20.00 |
| 1494 | 5/8" | No. 6 \& No. 8 | 7.50 |
| 1495 | \%" | No. 8 | 7.00 |

## SMITH Electranic Camponents

PANEL INDICATOR $1 / 2$ INCH JEWEL


These panel indicator assemblies are available in the candelabra， miniature screw，or bayonet base type sockets．Jewel holder is made of brass，nickel plated．Jewel mounts in a single $\frac{z^{\prime \prime}}{16}$ dia．hole．Cande－ labra and havonet lase types can also be secured with a universal adjustable bracket for use where more accurate focus of the jewel to lamp filament is required．Facetted jewel available in Red，Green， Amber，Blue，Opal and Clear colors．

| No． | Type | Each |
| :--- | :--- | ---: |
| 1900 | Miniature Screw Socket | $\$ 0.34$ |
| 1901 | Candelabra 110 Volt | .34 |
| 1902 | Candelabra 110 Volt with Universal Bracket | .42 |
| 1903 | Bayonet Base | .34 |
| 1904 | Bayonet Base with Universal Bracket | .38 |

## PANEL INDICATOR 3 ／4 INCH JEWEL

Available with candelahra 110 Volt，miniature bayonet ，ase，and miniature screw type sockets．Jewel holder is marle of brass，nickel plated．Jewel mounts in a single $t^{\prime \prime}$ dia hole Facetted jewels available in Red，Green， Amber，Blue，Opal and Clear colors．
Amber，Blue，Opal and Clear colors．Each

| No． | Type | Each |
| :--- | :--- | ---: |
| 1905 | Miniature Screw Socket | $\$ 0.73$ |
| 1906 | Miniature Bayonet Base | .80 |
| 1907 | Candelabra Socket | .73 |

## PANEL INDICATOR $3 / 8$ INCH JEWEL


Available with miniature screw type socket， min ．bayonet base，or cande－ labra type sockets．Jewel holder made of brass，nickel plated．Jewel mounts in a single $\frac{5_{6}^{\prime \prime}}{18}$ dia．hole． Facetted jewels available in Red， Green，Amber，Blue，Opal and Clear colors．
Type
Each

| No． | Type | Each |
| :--- | :--- | :--- |
| 1908 | Miniature Screw Socket | $\$ 0.38$ |
| 1909 | Miniature Bayonet Base | 42 |

1 INCH OPEN TYPE PANEL INDICATOR


Jewel Removable from Front of Panel This type of panel indicator has the added feature of being able to remove the bulb from the front of the panel．Jewel holder made of brass，chromium pated rinish Jewel mounts in a single $1^{\prime \prime}$ dia．hole．The embossed rib in the center of the bracket supplies additional strength，assuring per－ fect alignment．Available in three types： Miniature screw socket，Miniature bayonet socket and Candelabra type socket．Facetted jewels available in the following colors：Red，Green，Amber，Blue， Opal，Clear．
No．
1917
Type
Miniature Screw Socket
Miniature Bayonet Base
Each

1919
Candelabra
$\$ 1.22$
1919

## GLASS JEWELS

Jewels are a vailable in Red，Green，Amber，Bluc，Opal and Clear colors in smooth or facetted types． Jewel holders are brass，nickel plated，and are sup－ plied with mounting nut．

| 3／8 Inch Jewel MOUNTS IN ${ }^{5}{ }^{\prime \prime}$ HOLE |  |  | 3／4 Inch Jewel MOUNTS IN $18^{\prime \prime}$ HOLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| No． 1940 | Type | Each | No． | Type | Each |
|  | Smooth | \＄0．20 | 1913 | Smooth | \＄0．55 |
| 1941 | Facetted | ． 20 | 1914 | Facetted | ． 55 |
| 1／2 Inch Jewel |  |  | 1 Inch Jewel |  |  |
| MOUNTS IN ${ }^{7 \prime \prime}{ }^{\prime \prime}$ HOLE |  |  |  | TS IN $1^{\prime \prime}$ |  |
| 1911 | Smooth | \＄0．23 | 1915 | Smooth | \＄1．07 |
| 1912 | Facetted | ． 23 | 1916 | Facetted | 1.07 |

$1 / 2$ INCH OPEN TYPE PANEL INDICATOR
Jewel Removable from Front of Panel Jewel holder made of hrass，nickel plated． Mounts in a single $\frac{11}{16}$ dia．hole．The em－ bossed rib in the center of the bracket gives additional strength and assures per－ fect alignment．The bulb is easily re－ movable from the front of the panel．Avail－ ahle with Miniature screw trpe or Minia－ ture bavonet hase type sockets，with facetted jewels in the following colors： Red，Green，Amber，Blue，Opal，Clear．
No．
1920
1921 Type

Each
Miniature Screw Socket
$\$ 0.50$
．

## CLIP－ON TYPE PILOT LIGHT SOCKETS



This type of socket is availahle with the clip up or down，and can be used by clipping on to the variable con－ denser or the chassis．This design socket is made with the miniature screw base，miniature bayonet base， or candelaira 110 Volt types．All brackets are cadmium plated．

|  | Type | Per C |
| :--- | :--- | ---: |
| No． | Miniature Screw Up Clip | $\$ 13.00$ |
| 1922 | Miniature Screw Down Clip | 13.00 |
| 1923 | Miniature 1asonet Up Clip | 15.00 |
| 1924 | Miniature Bavonet Down Clip | 15.00 |
| 1925 | Candelabra Up Clip | 17.00 |
| 1926 | Candelabra Down Clip | 17.00 |
| 1927 |  |  |

BRACKET TYPE PILOT LIGHT SOCKETS


Available with an up or down type of bracket for the miniature screw type， miniature bayonet base，and for the can－ delabra 110 Volt type sockets．Brackets are made of steel，cadmium plated．

|  | Type | Per C |
| :---: | :--- | ---: |
| No． |  |  |
| 1928 | Miniature Screw Up Bracket | $\$ 13.00$ |
| 1929 | Miniature Serew Down Bracket | 13.00 |
| 1930 | Miniature Bayonet Up Bracket | 15.00 |
| 1931 | Miniature Bayonet Down Bracket | 15.00 |
| 1932 | Candelabra Up Bracket | 17.00 |
| 1933 | Candelabra Down Bracket | 17.00 |



## UNMOUNTED TYPE SOCKETS

These unmounted sockets can be secured for the miniature screw shell，miniature bay－ onet base or for the candelabra 110 Volt types of sockets．

No．
1934
1935
1936


Miniature Screw Base
Miniature Bayonet Base
Candelabra 110 Volt

## CLIP－IN SOCKET

This clip－in socket is of the bayonet base type con－ struction，and is assembled with two solder lugs．The special clip in bracket is made of steel，cadmium plated，and is so designed that it clips into the dial directly．
No． 1938
.$\$ 14.00$ per C

## RUBBER GROMMETS

A：Outside Dia．；B：Inside Dia．；C：l＇anel Hole；D：Thickness Over－all；E：Panel Thickness．

| No． | A | B | C | D | E | Per C |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| N185 | ${ }^{8 \prime \prime}$ | ＂ | $1 / 4$ | S＂ | ${ }^{2}{ }^{\prime \prime}$ | \＄2．00 |
| 2185 | ${ }_{3}{ }^{\text {\％}}$ | 18／＂ | \％＂ | $1 / 4$ |  | 2.50 |
| 2171 | 3／8 ${ }^{\prime \prime}$ | 夝＂ | ${ }_{5}^{18}$ | 1／4＂ | ${ }_{1}^{18}$ | 3.00 |
| 2172 | ${ }^{16}$＂， | 很＂， |  | $1{ }^{16}$ | ${ }^{16}$ | 3.00 |
| 2176 | $1 / 2{ }^{\prime \prime}$＂ | $3^{32}$＂ | 3／8＂ | 离， | ${ }^{16}$ | 3.0 |
| 2170 | 5\％＂ | 1／4＂ | 3／8／＂， | 3／8＂ | 原＂ | 3.50 |
| 2173 | 明＂， | ${ }^{\frac{9}{7} 7^{\prime \prime}}$＂， | 4\％${ }^{4 \prime}$ | 1／4＂ | 瑗， | 3.00 |
| 2174 | \％＂， | $\stackrel{8}{16}$ | ${ }^{16}$ | 1／4＂ | ${ }^{10}$ | 3.50 |
| 2175 | 11 ＂ |  |  | 1／4＂ | ${ }^{16}$ | 3.25 |
| 2177 | 3／2＂ | $1{ }^{7}$ | $1{ }^{16}$ | 1／4＂ | 16 | 3.25 |

# SMITH 

 Electranic Componente
## NEUTRALIZING

 AND ALIGNMENT TOOL

A complete, fully insulated neutralizing tool, screw driver and wrench combination. The fibre wrench portion has a $1 / 4$ " hexed socket on one end and a $7^{6}{ }^{\prime \prime}$ hexed socket on the otlier end. A $1 / 4^{" \prime}$ metal screw driver nib on the inside portion of the tool fits into the tibre tube itself.
No. 320
$\$ 0.85$ each
No. 700
No. 700 -Display of 12 No. 320 Tools
$\$ 10.20$ each

## ALIGNING TOOL

For Peanut I.F.'s • For RCA Front End For "K" Tran. Transformers" Slender, yet sturdy, this tool is specially adapted for alirning peanut I.F.'s and the difficult-to-get-at front end of some receivers. Available in bulk or on attractive display card. No. 326. \$0.75 each No. 778 -Display of 24 No. 326 Tools,
$\$ 18.00$ each

## MIDGET ALIGNING TOOL WITH RECESSED NIB

This recessed nib aligning tool is another es. sential for telerision servicing. Construct ed from flbre with thin recessed nib for slur tunine. Only $21 / a^{\prime \prime}$ long, it makes those hard-to-get-at slugs accessible while chassis is still in cabinet. Available in bulk or on attractive display card.
 No. 779 -Display of 48 No. 327 Tools, $\$ 24.00$ each

## ALIGNMENT SCREW DRIVER

Filore handle $3^{7}{ }^{7 \prime \prime}$ dia. $\times 6^{\prime \prime}$ long, and fitted with a screw driver nib for aligning of coils, padding condensers, etc

No. 775 -Display of 24 No. 321 Drivers,
$\$ 0.40$ each $\$ 9.60$ each

## ALIGNMENT TOOL FOR PUSH-BUTTON RECEIVERS

This tool is especially designed for aligning push-button receivers and for adjusting iron core I.F. transformers and R.F. coils. There is a recessed screw driver nib on one end and a screw driver blade on the other. Both ends knurled for easy grip.

No. 325
$\$ 0.75$ each
Tnols
$\$ 18.00$ each
FIBRE ALIGNMENT SCREW DRIVERS

Marle of lone hard fibre and supplied in three sizes.

| No. | O.D. | Length | Each |
| :---: | :---: | :---: | :---: |
| 307 | ${ }_{5} 3_{4}{ }^{\text {a }}$ |  | \$0.40 |
| 308 | ${ }^{5}$ | $6^{\prime \prime}$ | . 50 |
| 328 | 1/8" | $7^{\prime \prime}$ | . 35 |
| 701 | of 24 | 307 Drivers | 9.60 |
| 702 | of 18 | 308 Drivers | 9.00 |
|  | of 36 | 328 Drivers | 12.60 |

TEST PROD
'MAKE YOUR OWN R. F. PROBE'

An exceptionally sturdy fibre prod with rear of prot designed to accommodale IN-34 crystal and condensors, necessary for use as an R.F. I'robe. Heavy duty removalle screw type tip for casy soldering.
No. 630
$\$ 1.00$ each
No. 781 -Display of 12 No. 630 Prods,
$\$ 12.00$ each

## SOLDERLESS TEST PROD HANDLES

## 

Insulated handles, available in Black and Red colors. The wire is fed through the insulated handle and is wrapped around the serew portion of the plug and then tightened with the knurled nut provided, making soldering un knurled nut provided, m
necessary. Specify color.

| No. | Over-all Length | Each |
| :---: | :---: | :---: |
| 302 | $51 / 4^{\prime \prime}$ | $\$ 0.40$ |
| 303 | $634^{\prime \prime}$ | 50 |
|  |  |  |

## 303

PHONO NEEDLE TEST PROD HANDLES


Insulated handles available in Blatek and Red colors. Wires can he assembled to the metal chuck by unscrewing the chuck from the prod handle. Specify color.
317
Over-all Length
$5 "$
$53 / "$

## FIBRE TEST PROD HANDLES

Handles are made of fibre and can be oltained with either salderless tips or uhono needle tips Constructed same as our numbers 302 and 317 Handles available in Black and Red colors specify color.

| No. | Type | Length | Each |
| :---: | :---: | :---: | :---: |
| 323 | Solderless Tip | $51 / 夕^{\prime \prime}$ | $\$ 0.30$ |
| 324 | Needle Point | $51 / 8^{\prime \prime}$ | .30 |

HEXED FIBRE TUBES


Made of bone hard fibre, and constructed so that if the lex wears out, it can lie cut off and the batiance of the tube can be used.

| 1/4" HEX |  |  | ${ }_{5}^{5} / 1$ HEX |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | Each | Size | No. | Each |
| 309 | \$0.30 | $6^{\prime \prime}$ | 313 | \$0.30 |
| 310 | 35 | 8" | 314 | . 35 |
| 311. | . 45 | $10^{\prime \prime}$ | 315 | . 45 |
| 312 | . 50 | 12" | 316 | . 50 |

## FAHNESTOCK SPRING BATTERY CLIPS



Clips are made of brass, nickel plated and are available in the single and double clip types.

No. Type Length Will Take Per C 533 Single $3 / 4^{\prime \prime}$ No. 14 B\&S Wire $\$ 1.65$ 534 Single $1^{11^{3 / 4}} \quad$ No. $10 \mathrm{~B} \& \mathrm{~S}^{\prime 2}$ Wire 2.00 535 Double $1^{1 / 2 "}$ No. 10 R\& 10 S Wire 9.00



## TEST LEADS WITH SOLDERLESS TIPS

Fibre handles colored Red and lalack, $4^{\prime \prime}$ long $x \quad 3 / 8^{\prime \prime}$ diameter. Flexible rubber covered wire leads $50^{\prime \prime}$ long also colored Red and Black. Available with standard phone tips, spade lugs or alligator clips.

| No. | Type | Per Pr. |
| :--- | :--- | ---: |
| 600 | Phone Tips | $\$ 1.10$ |
| 601 | Spade Lugs | 1.10 |
| 602 | Alligator Clips | 1.25 |

## PHONO NEEDLE TEST LEADS

Fibre handles colored Red and Black, $4^{\prime \prime}$ long x $7 / 8^{\prime \prime}$ diameter. Tips
 very sharp phonograph needles. Flexible rubber covered wires 50 " long also colored Red and Black. Available with standard phone tips, spade lugs, or alligator clips.

| No. | Type | Per Pr. |
| :--- | :--- | ---: |
| 613 | Phone Tips | $\$ 1.10$ |
| 614 | Sparle Luris | 1.10 |
| 615 | Alligator Clips | 1.25 |

## 1 $\&$ ALL SOLDERLESS <br> TEST LEADS

The insulated handles and the insulated plugs are both of the solderless + ype construction. Insulated handles, Red and Black, are our No. 302, and the plurs are our No. 200. Flexible rubler covered wire leads $50^{\prime \prime}$ Iong.
No. 603
$\$ 1.65$ per pair


## ALLIGATOR CLIP TEST LEADS

Made of very flexible Red and Black wire with alligator clips at each end

| No. | Wire Length | Per Pr. |
| :--- | :---: | ---: |
| 604 | $12^{\prime \prime}$ | $\$ 0.75$ |
| 605 | $24^{\prime \prime}$ | .85 |
| 606 | $36^{\prime \prime}$ | .95 |
| 607 | $48^{\prime \prime}$ | 1.05 |

# SMITH 

## BAKELITE FLAT PULL CAP



Approved and lisied with U. L This handy unit consists of two halves of liakelite held torether by a screw and nut. The prongs are of heavy brass and have screw terminals for conecting wire leads. Attractively de imed for visible use and with signed for visible use and with an "easy-grip" shape to facilitate insertion and removal from any receptacle. Colors:
lirown and Ivory.


Color
lrown
Ivory
Per C
$\$ 17.00$
21.00


## BAKELITE PONY CAP

lakelite Pony Cap with Brass Prongs.

| No. | Color | Per C |
| :--- | :--- | ---: |
| 858 | Brown | $\$ 13.00$ |
| 859 | Ivory | 17.00 |

## ATTACHMENT PLUG CAP



A snug-fitting, sturdy, bakelite hase designed for use with standard attachment plug caps. Has slot finding features on its face und heavy spring contacts for positive and lasting electrical contact. 660 Watts - 250 Volts.

No. 857 \$17.00 per C

## RUBBER ATTACHMENT - PLUG



Rubber handle attachment plug: Cord Hole $3 / 8 "(.375)$. Rated at 15 Amps. 125 Volts. Blades are made of Brass.
No. 850
$\$ 15.00$ per C

## bakElite handle plug Foreign Type

Moulded bakelite handle foreign type plug. Blades are made of hrass, and of the Continental Tyle spacing.
No. 851.
$\$ 25.00$ per C


## AMERICAN-FOREIGN PLUG ADAPTER

Streamlined bakelite plug adapter, which adapts from American to foreign type plugs. The plugs will fit snugly into the adapter. The foreisn type plugs are made of brass, and are of Continental Type spacing.
No. 852.
$\$ 30.00$ per C


## AMERICAN-FOREIGN PLUG ADAPTER British Type

Streamlined loakelite plug adapter, which adapts from American to foreign type American to foreign type plugs. The plugs will tit mnugly into the adapter. Prongs are made of brass and are of the BRITISII TYPE spacing.
No. 856
$\$ 30.00$ per C $\quad$ No. 118

## CLOSED CIRCUIT CHASSIS

 CONNECTORSame as No. 117 Connector except that circuit closes when female microphone connector (our No. 116) is removel Supplied with washers, soldering lug and nut. No. 114
$\$ 0.40$ each
FUSE MOUNTING BASES


Black bakelite, panel mount type. Will accommodate the 3 A $G$ Auto type cartridge fuse.

| No. | Type | Each |
| :--- | ---: | ---: |
| 530 | Single | $\$ 0.20$ |
| 531 | Double | .30 |



## FUSE CLIPS

Clips are made of spring brass, nickel plated. Will accommodate the 3 A G Auto type cartridge fuse. Clips $1 / /^{\prime \prime}$ wide $\times 3 / 8^{\prime \prime}$ high.
No. 532
$\$ 1.75$ per C

## CAP AND CHAIN



Made of hrass, heavily nickel
plated. The cap seals open end units against dust, eliminating noisy connections. Used with any threaded one or two-conductor chassis unit.
. $\$ 0.50$ each


PHONO ADAPTER ATTACHMENT PLUG

Phonograph pick-up and auto radio connection plug.
$\$ 8.00^{-}$per C

## PHONO JACK

Mate for the No. 1201 plug. Jack mounted on bakelite and metal back supplied for use with phonograph attachment.
No. 1203, $\$ 12.00$ per C


## MOTOROLA TYPE PLUG

Attachment plug for all Motor. ola auto-radio receivers and many other types of auto ralios.

No. 1200 ............ $\$ 10.00$ per C


## LEAD-IN ADAPTER



Lead-in adapter converts Motorola plug to Delco type plug.
No. 1204

## RUBBER FEET BUMPER

Rubber Bumper - $5 /{ }^{\prime \prime}$ dia. $x{ }^{9} \mathbf{5}^{\prime \prime}$ thick. Recessell to accommodate a self-tapping screw, machine screw, wood screw or a tack.

No. $2184 \ldots \ldots \ldots . . . \$ 4.00$ per C
Insert Rubber liumper - O.D. of shoulder $1 / 2 "$
 to $1 / 4^{\prime \prime}$.

FELT FEET


PHONO TIP JACK
Brass, nickel plated jacks with positive contact springs mounted on ${ }^{16}{ }^{\prime \prime}{ }^{\prime \prime}$, bakelite. Jacks are $7^{7 \prime \prime}$ center to center. Jacks will accommodate standard
derless or solder types. phone tips of either sol-derless or solder types.

## STEEL MACHINE SCREWS

Round Head, Cadmium Plated
Availahle in bulk quantities, or can be obtained packed 1,000 or a

| No. | Per M | Size |  |  | No. | Gross |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1000 | \$3.40 | 6.32 | X | 1/4" | 1018 | \$0.61 |
| 1001 | 3.60 | 10.32 | $x$ | $3 / 8{ }^{\prime \prime}$ | 1019 | . 61 |
| 1002 | 3.90 | 6.32 | x | $1 / 2^{\prime \prime}$ | 1020 | . 65 |
| 1003 | 4.20 | $6-32$ | x | 5/8" | 1021 | . 65 |
| 1004 | 4.55 | 6 -32 | x | $3 / 4{ }^{\prime \prime}$ | 1022 | . 72 |
| 1005 | 5.20 | 6-32 | x | $1^{\prime \prime}$ | 1023 | . 85 |
| 1006 | 4.20 | 8.32 | x | $1 / 4 \prime$ | 1024 | . 65 |
| 1007 | 4.55 | 8.32 | x | $3 / 8{ }^{\prime \prime}$ | 1025 | . 72 |
| 1008 | 5.20 | $8-32$ | x | $1 / 2{ }^{\prime \prime}$ | 1026 | . 85 |
| 1009 | 5.50 | 8-32 | x | $5 / 8$ " | 1027 | . 98 |
| 1010 | 5.50 | $8 \cdot 32$ | x | 9/4" | 1028 | 1.10 |
| 1011 | 6.50 | 8-32 | x | $1^{\prime \prime}$ | 1029 | 1.25 |
| 1012 | 5.50 | 10.32 | x | $1 / 4{ }^{\prime \prime}$ | 1030 | 1.10 |
| 1013 | 6.00 | 10.32 | $x$ | $3 / 8{ }^{\prime \prime}$ | 1031 | 1.17 |
| 1014 | 6.50 | 10.32 | $x$ | $1 / 2^{\prime \prime}$ | 1032 | 1.25 |
| 1015 | 7.15 | 10-32 | x | $5 / 8$ " | 1033 | 1.40 |
| 1016 | 7.65 | 10-32 | x | 3/4" | 1034 | 1.45 |
| 1017 | 7.80 | 10-32 | $x$ | $1^{\prime \prime}$ | 1035 | 1.55 |



## RACK SCREWS Oval Head, Steel, Nickel Plałed

Specially recommended for mounting panels in racks and rabinets.

| Avai No. | gross <br> Per M |  | Size |  | box. <br> No. | Gross |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1102 | \$6.50 | 6.32 | x | $1 / 4{ }^{\prime \prime}$ | 1090 | \$0.98 |
| 1103 | 6.85 | 6.32 | x | $1 / 2^{\prime \prime}$ | 1091 | 1.05 |
| 1104 | 7.15 | 6-32 | x | 3/4" | 1092 | 1.17 |
| 1105 | 7.80 | 6-32 | x | $1^{\prime \prime}$ | 1093 | 1.30 |
| 1106 | 6.70 | 8-32 | x | 1/4" | 1094 | 1.10 |
| 1107 | 7.80 | 8-32 | X | $1 / 2^{\prime \prime}$ | 1095 | 1.25 |
| 1108 | 9.10 | 8-32 | $x$ | 3/4" | 1096 | 1.45 |
| 1109 | 9.20 | 8-32 | x | $1^{\prime \prime}$ | 1097 | 1.55 |
| 1110 | 8.45 | 10.32 | x | 1/4" | 1098 | 1.45 |
| 1111 | 9.20 | 10.32 | x | $1 / 2^{\prime \prime}$ | 1099 | 1.55 |
| 1112 | 10.40 | 10-32 | x | 8/4" | 1100 | 1.60 |
| 1113 | 12.35 | 10-32 | x | $1^{\prime \prime}$ | 1101 | 1.80 |

COUNTERSUNK WASHERS
Brass, Nickel Plated
Recommeniled for use with Rack Screws designated above.

| No. | Per M | Size | No. | Gross |
| :---: | :---: | :---: | :---: | :---: |
| 1115 | \$6.80 | 6 | 1118 | \$1.05 |
| 1116 | 7.20 | 8 | 1119 | 1.10 |
| 1117 | 7.20 | 10 | 1120 | 1.10 |
| FLAT AND SHAKEPROOF WASHERS |  |  |  |  |
| No. | Per M | Type | No. | Gross |
| 1150 | \$1.65 | No. 6 Brass N.J. | 1146 | \$0.30 |
| 1151 | 2.00 | No. 8 Brass N.5. | 1147 | . 40 |
| 1152 | 2.00 | No. 10 13rass N.P. | 1148 | . 40 |
| 1127 | 3.50 | No. 4 Shakeproof Int. Teeth | 1121 | . 55 |
| 1128 | 3.75 | No. 6 Shakeproof Int. Teeth | 1122 | . 60 |
| 1129 | 3.75 | No. 8 Shakeproof Int. Teeth | 1123 | . 60 |
| 1130 | 3.75 | No. 10 Shakeproof Int. Teeth | 1124 | . 60 |
| 1132 | 4.00 | $1 / 4$ " Shakeproof Int. Teeth | 1126 | . 60 |
| 1131 | 7.50 | 3/8" Shakeproof Int. 'Teeth | 1125 | 1.10 |
| 1139 | 3.50 | No. 4 Shakeproof Ext. Teeth | 1133 | . 55 |
| 1140 | 3.75 | No. 6 Shakeproof Ext. Tecth | 1134 | . 60 |
| 1141 | 3.75 | No. 8 Shakeproof Ext. Teeth | 1135 | . 60 |
| 1142 | 3.75 | No. 10 Shakeproof Ext. Teeth | 1136 | . 60 |
| 1144 | 4.00 | 1/4" Shakpproof Ext. Teeth | 1138 | . 65 |
| 1143 | 7.50 | 3/8" Shakeproof Etx. Teeth | 1137 | 1.10 |

FANCY HEAD BRONZE FINISH SCREWS


## SPECIAL NUTS



Machined of Ibrass Nickel Plated. Correct sizes for volume controls and toggle switches.

| No. | Type | Dimensions | Per M |
| :---: | :---: | :---: | :---: |
| 1195 | Volume Control | $3 / 8-32 \times 1 / 2 \times 38$ | \$20.00 |
| 1196 | Tosgle Switch | $15.32 \times 18 \times 8$ | 25.00 |
| 1197 | Toggle Ring Nut | 15-32 $\times 5 / 8 \times 1{ }^{16}$ | 30.00 |

BRASS MACHINE SCREWS
Round Head, Nickel Plated
Availahle in bulk quantities, or can le obtained packed 1,000 or a gross to the box

| No. | Per M | Size |  |  | No, | Gross |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1044 | \$6.10 | 4-36 | X | 1/4" | 1036 | \$0.90 |
| 1045 | 6.25 | $4 \cdot 36$ | x | 3/8 ${ }^{\prime \prime}$ | 1037 | . 95 |
| 1046 | 6.40 | 4-36 | x | $1 / 2$ " | 1038 | . 98 |
| 1047 | 6.10 | 4-40 | x | $1 / 4{ }^{\prime \prime}$ | 1039 | . 90 |
| 1048 | 6.25 | 4.40 | - | 3/8" | 1040 | . 95 |
| 1049 | 6.40 | 4-40 | $x$ | $1 / 2 "$ | 1041 | . 98 |
| 1050 | 6.40 | 6-32 | x | 1/4" | 1070 | . 98 |
| 1051 | 6.80 | 6.32 | x | 3/8" | 1071 | 1.05 |
| 1052 | 7.10 | 6.32 | x | 1/2" | 1072 | 1.10 |
| 1053 | 7.35 | 6-32 | x | 5/8" | 1073 | 1.17 |
| 1054 | 7.80 | 6-32 | x | 3/4" | 1074 | 1.25 |
| 1055 | 12.75 | 6-32 | x | $1^{\prime \prime}$ | 1075 | 1.85 |
| 1056 | 9.45 | 8 -32 | x | $1 / 4$ " | 1076 | 1.40 |
| 1057 | 9.90 | 8.32 | x | 3/8 ${ }^{\prime \prime}$ | 1077 | 1.45 |
| 1058 | 10.25 | 8.32 | x | $1 / 2$ " | 1078 | 1.55 |
| 1059 | 11.65 | 8-32 | x | 5/8 | 1079 | 1.70 |
| 1060 | 12.75 | 8-32 | X | $3 / 4$ " | 1080 | 2.30 |
| 1061 | 16.95 | 8-32 | $x$ | $1^{\prime \prime}$ | 1081 | 2.50 |
| 1062 | 9.75 | 10.32 | x | 1/4" | 1082 | 1.45 |
| 1063 | 12.00 | 10-32 | x | \%/8 | 1083 | 1.75 |
| 1064 | 13.00 | 10-32 | x | 1/2" | 1084 | 1.95 |
| 1065 | 13.60 | 10.32 | x | 5/ ${ }^{\prime \prime}$ | 1085 | 2.00 |
| 1066 | 14.60 | 10-32 | x | 3/4" | 1086 | 2.15 |
| 1067 | 16.95 | 10-32 | x | $1^{\prime \prime}$ | 1087 | 2.45 |


| HEXAGON NUTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Brass, Nickel Plated |  |  |  |  |  |
| No. | Per M |  | ize | No. | Gross |
| 1188 | \$7.80 | 4.36 | x 1/4" | 1182 | \$1.15 |
| 1168 | 7.80 | 4-40 | $x$ 1/4' ${ }^{\prime \prime}$ | 1169 | 1.15 |
| 1189 | 7.80 | 6-32 | x 1/4" | 1183 | 1.15 |
| 1190 | 7.80 | 6-32 |  | 1184 | 1.15 |
| 1191 | 9.75 | $8 \cdot 32$ | x 1/4" | 1185 | 1.45 |
| 1192 | 9.75 | 8-32 | $x{ }^{5} 6^{\prime \prime}$ | 1186 | 1.45 |
| 1193 | 9.75 | 10-32 | $\mathrm{x} \frac{5}{16}$ | 1187 | 1.45 |
| Steel, Cadmium Plated |  |  |  |  |  |
| 1179 | \$5.15 | 6-32 | x $1 / 4 \prime \prime$ | 1176 | \$0.85 |
| 1180 | 6.25 | 6-32 | $x{ }^{5} 18$ | 1177 | . 98 |
| 1181 | 6.25 | 8-32 | $\mathrm{x} \frac{1}{16}{ }^{\prime \prime}$ | 1178 | . 98 |

EYELET TYPE SOLDER LUGS

1482
482
1483

Made of hrass. Nos. 1480,1481 and 1482 are hot tinned and No 1483 cadmium platel. Specially recommended for mounting on terminal strijs.

| No. | Length | Hole | Per M |
| :---: | :---: | :---: | :---: |
| 1480 | 5/8" |  | \$ 4.50 |
| 1481 | 5/8" | No. 8 | 10.00 |
| 1482 | 1/4" | No. 8 | 7.50 |
| 1483 | $1{ }^{15}$ |  | 7.50 |

BRASS AND STEEL ANGLES


No. Material Size Per C 1474 13rass N.P. $1 / 2 " \times 1 / 2^{\prime \prime} \$ 2.50$ 1475 Brass N.P. $5 / 8^{\prime \prime} \times 5 / 8^{\prime \prime} 5.00$ 1476 Steel II.T. $3 / 4 "$ x $3 / 4 " 2.00$
1477 Steel II.T. $5 / 8 " \times 11 / 8^{\prime \prime} 2.00$

## TAPPED ANGLE BRACKET

Made of steel, cadmium plated. Size $1 / 2^{\prime \prime} \times 1 / 2^{\prime \prime}$, with one 8-32 tapped hole and one plain . 165 hole.
No. 1473
$\$ 4.50$ per $C$


## CABLE CLAMPS

1470_Steel, Cadmium plated, No. 8
hole, 1. $3^{\prime \prime \prime}$, w. $3 / \mathbf{y}^{\prime \prime}$. Fits $1 / 4^{\prime \prime}$ cable $\$ 1.25$ 1471 Steel, Oarmium plated. No. 8 hole, I. 5/8", w. 3/8". Fits $1 / 8-1 / 4$ "cable. 1.25
1472-Steel, Cadmium plated. No. 8 hole, 1. 1", w. $8 / 8$ ". Fits over $1 / 2^{\prime \prime}$ cable.. 1.50

# SMITH <br> Electranic <br> HERMAN H. <br> SMITH, INC 

BRASS BUSHINGS
These brass bushings are ideal for use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate a No. 6 or No. 8 screw.

| No. | Per C | $\begin{aligned} & 1 / 4^{\prime \prime} 0 . \mathrm{D} . \\ & \text { Length } \end{aligned}$ | No. | Per C |
| :---: | :---: | :---: | :---: | :---: |
| 2100 | \$3.50 | $1 / 4$ " | 2105 | \$3.50 |
| 2101 | 4.00 | $3 / 8{ }^{\prime \prime}$ | 2106 | 4.00 |
| 2102 | 4.25 | 1/2" | 2107 | 4.25 |
| 2103 | 5.00 | 3/4" | 2108 | 5.00 |
| 2104 | 5.50 | $1^{\prime \prime}$ | 2109 | 5.50 |
|  |  | 3/8" $0 . \mathrm{D}$. |  |  |
| 2110 | \$4.25 | 1/4" | 2115 | \$4.25 |
| 2111 | 4.75 | 3/8' | 2116 | 4.75 |
| 2112 | 5.00 | 1/2" | 2117 | 5.00 |
| 2113 | 5.50 | 9/4" | 2118 | 5.50 |
| 2114 | 6.25 | 1" | 2119 | 6.25 |

THREADED BRASS BUSHINGS
Brass lushings $1 / 4^{\prime \prime}$ O.D. Threaded $6-32$ and 8.32
Threaded 6-32


## MINI-SHIELDS

The Perfect Shield For Mini-Tubes
These new Mini-Shields are formed to fit snugly and yet expand to a constant snug fit on larger tubes to automatically compensate for the considerable variation in olysical dimensions of miniature tubes as commercially produced.
Specially shaped serrations spaced to engage the lower mini-shield ribs catch and hold the shield firmly which mini-shielditus catige against vibrations or other forces ending to jiggle the tule loose.
These shields are made so that three rows of dimples pressing against the tube provide a gentle but firm snug fit. The three prong spring rase clip grips the shifid positively, crading the tube within the shield and retaining it firmly in the socket secure against vilration. These Mini-Shields are available in two sizes to accommodate tubes $11 / 2^{\prime \prime}$ long and $2^{\prime \prime}$ long

| No. | Type | Over-all Length | Per C |
| :---: | :---: | :---: | :---: |
| 550 | For $2^{\prime \prime}$ Tulie | $13 / 4$ " | \$12.00 |
| 551 | For $11 / 2{ }^{\prime \prime}$ Tule | $11 / 4$ " | 10.00 |
| 553 | 3-Prong Base Clip |  | 5.00 |
| 554 | Single Clips |  | 3.00 |

## FIBRE SHOULDER WASHERS

|  |  |  |  | A. Inside Diameter <br> B. Outside Diameter <br> C. Thickness Over-all <br> D. Height of Shoulder <br> E. Diameter of Shoulder |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | A | B | c | D | E | Per M |
| 2150 | . 140 | . 375 | . 093 | . 031 | . 237 | \$10.50 |
| 2151 | . 110 | . 250 | . 062 | . 031 | . 187 | 8.50 |
| 2152 | . 136 | . 250 | . 093 | . 031 | . 187 | 9.00 |
| 2153 | . 136 | . 312 | . 093 | . 031 | 187 | 10.00 |
| 2154 | . 250 | . 500 | . 068 | . 028 | . 312 | 11.00 |
| 2155 | . 172 | . 375 | . 093 | . 031 | . 246 | 9.75 |
| 2156 | . 196 | . 375 | . 093 | . 031 | . 308 | 9.75 |
| 2157 | . 375 | . 750 | . 093 | . 031 | . 500 | 13.00 |
| 2158 | . 385 | . 625 | . 093 | . 031 | . 500 | 12.50 |

A. Inside Diameter e Diameter C. Tlickness Over-al
of Shoulde E. Diameter of Shoulder

## FLAT FIBRE WASHERS

| No. | I.D. | O.D. | Thickness | Per M |
| :---: | :---: | :---: | :---: | :---: |
| 2160 | . 136 | . 250 | ${ }_{18}$ | \$8.25 |
| 2161 | . 110 | . 250 | ${ }_{16}$ | 8.25 |
| 2162 | . 140 | .375 | $\frac{1}{10}$ | 7.50 |
| 2163 | .172 | . 375 | $\frac{1}{18}$ | 7.50 |
| 2164 | . 196 | . 375 | $\frac{1}{16}$ | 7.50 |
| 2165 | . 250 | . 500 | 18 | 8.00 |
| 2166 | . 250 | . 500 | ${ }^{3}$ | 8.25 |
| 2167 | . 312 | . 500 | $\frac{1}{16}$ | 8.00 |
| 2168 | . 385 | . 625 | $\sqrt{16}$ | 9.75 |
| 2169 | . 375 | . 750 | $\frac{1}{16}$ | 12.00 |



MINI-SPRING FOR MINI-TUBES For Table Radios • Electronic Equipment Radio Receivers
The Mini-Tube guard gives support to the Mini-Tube in two ways. It maintains a direct axial pressure downwards plus a sideways support that keeps the tube upright and perpendicular to the chassis. The spring action is constant and resilient permanently. If your radio equipment has an inclined chassis or the tube are mourted upside down or horizontally . . . or if it is subject to any vitration... or if your demand is constantly superio trouble-free reception, Mini-Tube guards are the only way to insure that tubes stay in place forever

| No. | Type | Per C |
| :--- | :--- | :---: |
| 560 | Short | $\$ 12.00$ |
| 561 | Medium | 12.00 |
| 562 | Long | 12.00 |
| 563 | $9-$ Prong | 12.00 |

## GRID CAP SHIELD

Shield is slotted on the side, for passage of the grid lead wire. The shield fits snugly over the grid cap of the tube, completely shielding same. Shield is cadmium plated finish.
No. 537.

## BRASS AND INSULATED COUPLINGS

For use on electronic equipment wherever a slaft extension is required. O.D. $\frac{70^{\prime \prime}}{} \times 9 / 4{ }^{\prime \prime}$ long.

| No. | Material | Type | Each |
| :---: | :---: | :---: | :---: |
| 120 | Brass | 1/4" to 1/4" | \$0.20 |
| 140 | Insulater | $1 / 4$ " to $1 / 4$ " | . 20 |
| 131 | Brass | $3 / 8{ }^{\prime \prime}$ to $1 / 4$ " | . 20 |

## STEEL SPADE BOLTS

Steel, cadmium plated finish, threaded 6.32, thread length ${ }^{5 \prime \prime}$, length overall $3 / 4$ ".
No. 1500.
$\$ 8.45$ per M

## BRASS AND INSULATED EXTENDERS

For use on electronic equipment wherever a shaft extension is required. Overall length $13 / /^{\prime \prime}$, shaft length $18 / 8^{\prime \prime}$. $\begin{array}{ll}\text { Material } & \text { Type } \\ \text { Insulated } & \text { Each } \\ \$ 0.30\end{array}$ Insulated
$\$ 0.30$

| No. | Material | Type | Each |
| :---: | :---: | :---: | :---: |
| 130 | Insulated | $1 / 4$ " to $1 / 4$ " | \$0.30 |
| 150 | Brass | 1/4" to $1 / 4$ " | . 30 |
| 132 | Brass | 3/8" to $1 / 4{ }^{\prime \prime}$ | . 30 |

THREADED BRASS RODS
Rods ordinarily supplied in 2 -foot lengths; if one-foot length is required, please specify.

| (1) |  |  |
| :---: | :---: | :---: |
| No. | Size | Per Foot |
| 1400 | 6-32 | \$0.30 |
| 1401 | 8.32 | . 30 |
| 1402 | 10-32 | . 40 |
| 1403 | $1 / 4$ "-20 | . 45 |

## BEARING FOR PANEL

## ASSEMBLY

Made of brass, and fits in $3 / 8^{\prime \prime}$ diameter hole in panels up to $1 / 4^{\prime \prime}$ thick. Bearing is made to accommodate $1 / 4$ shafts accommor

PANEL BEARING ASSEMBLY


This panel bearing is accurately machined and is specially recommended for use as dial arives, or for mounting volume controls switches, etc. Over-all length $17 / \mathrm{s}^{\prime \prime}$. Supplied with nut. Drive shaft $1 / 4$ " 0.1 )
No. 126
$\$ 25.00$ per $C$

## BRASS AND INSULATED RODS

These rods are available in both brass and in sulated material.

| No. | Type | Length | Dia, | Each |
| :--- | :--- | :---: | :---: | ---: |
| 1404 | Brass | $6^{\prime \prime}$ | $1 / 4^{\prime \prime}$ | $\$ 0.20$ |
| 1405 | Brass | $12^{\prime \prime}$ | $1 / 4^{\prime \prime}$ | .40 |
| 1406 | Insulated | $6^{\prime \prime}$ | $1 / 4^{\prime \prime}$ | .20 |
| 1407 | Insulated | $12^{\prime \prime}$ | $1 / 4^{\prime \prime}$ | .40 |

We are also in a position to supply brass and insulated rods of various diameters and will cladly quote upon receipt of inquiry

TELEVISION ANTENNA ACCESSORIES
CLAMP STAND OFF FOR ANTENNA MAST


A quick method for securing the antenna line down the mast. Simply slip clamp over the mast and tighten It is not necessary to hold the nut to tighten. For antennas already installed, open the clamp and slip it around the mast. Thirty seconds and the operation is complete! Availalle in two sizes and supplied completely assembled with $31 / 2^{\prime \prime}$ screw eyes with molded polyethylene inserts as shown above for twin lead, coaxial cables or with universal insert which accommodates either twin lead or coaxial cables.

$$
\text { For } 1 / 8^{\prime \prime} \text { and } 1 \text { ' Masts }
$$

No.
${ }^{\mathrm{N}} \mathrm{O} .{ }^{2} 5$
1261
With Twin Lead Insert
With Coaxial Insert
Per C
With Universal Insert
$\$ 13.00$
13.00

For $11 / \mathrm{g}^{\prime \prime}$ and $11 / 4^{\prime \prime}$ Masts
1256
1262
With Twin Lead Insert
With Coaxial Insert
13.00

With Coaxial Insert
15.00
13.00

## LAG SCREW EXPANSION SHIELD



This expansion shield is extensively used in television antenna installations. Made of a special alloy - $\mathbf{1 0 0 \%}$ rust-prooi. Newly designed threads hold greater load and external corrugations (ribs) give additional strength on masonry. This shield is $1^{\prime \prime}$ long $x 1 / 2^{\prime \prime} 0 . D$. and takes our standard $1 / 4^{\prime \prime} \times 11 / 4^{\prime \prime}$ lag screw. No. 1230.
$\$ 18.00$ per C

## STUD ANCHORS



Stud Anchor consists of Cone-Headed Bolt, Lead Alloy Sleeve-Metal Cone and Square Nut completely assembled as at left. the bolt has two fins on its tapered section to lock into lead sleeve after the bolt from turning when the square nut is tightened Fits into a $1 / 2^{\prime \prime}$ hole and is $2^{\prime \prime}$ long over-all.
Instructions for Installation: Drill hole proper diameter and depth place Star Stud in anchor into hole, head of the bolt first - remove hammer anchor - place setting tool or piece of pipe over bolt and No. 1232
$\$ 18.00$ per C


## EXPANSION SHIELD

This is an expansion shield which uses nails as an expansion on locking pin. Drill $1 / 4$ " hole in the masonry and pass shield through mounting hole of object being attached so that top flange remains above fixtures. The nail, under the hammer blow, forces the lead into all the irregularities of the masonry hole, then passes through and locks anchor flange of bottom under the lead. The length of the shield is $11 / 2^{\prime \prime}$.
No. 1233
$\$ 15.00$ per C

## GUY WIRE

An exceptionally high grade of steel galvanized guy wire for anchoring antenna masts. Available in two sizes, STANDARD-6 strands of No. 20; EXTRA IIEAVY-6 strands of No. 18. 6 STRANDS No. 20

| No. | Each | Length | No. | No. |
| :---: | ---: | :---: | :---: | ---: |
| 1250 | $\$ 0.80$ | 50 foot Coil | 1271 | Each |
| 1251 | 1.50 | 100 -foot Coil | 1272 | $\$ 1.25$ |
| 1252 | 7.00 | 500 -foot Spool | 1273 | 12.30 |
| 1253 | 13.20 | 1000 -foot Spool | 1274 | 24.50 |

This Guy Wire is also available in both sizes in 50-Foot Connected Coils, two dozen coils to the carton.

6 STRANDS No. 20
6 STRANDS No. 18
No. 1278 \$16.50 Each Carton No. 1279 \$22.00 Each Carton

## SCREW EYE STAND OFF INSULATORS With Molded Polyethylene Inserts

This screw eye has a special low-loss polyethylene insert and is specially designed for use in 300 -ohm line television installations.
Twin Lead Insert

|  | Twin Lead Insert |  |
| :---: | :---: | ---: |
| No. | Size | Per C |
| 1210 | $31 / 2^{\prime \prime}$ | $\$ 6.95$ |
| 1240 | $72^{\prime \prime}$ | 9.00 |
|  | Coaxial Cable Insert |  |
| 1260 | $31 / 2^{\prime \prime}$ | 7.80 |
| 1270 | $71^{\prime \prime}$ | 9.75 |
|  |  |  |
|  | Universal Insert |  |
| 1265 | $31 / 2^{\prime \prime}$ |  |
|  | $71 / 2^{\prime \prime}$ | 9.95 |



This is the only Eye Bolt Anchor designed for anchoring antema guy wire in brick or masonry. Made of $1 / 4$ material, over-all lencth $21 / 2^{\prime \prime}$, fits into hole, closing gap ${ }^{3} z^{\prime \prime}$. Rust-proofed. Can only be used with our No. 1229 tamping tool shown on I'age U-76b. No. 1227

## EYE BOLT

Sturdy steel eye bolt for use where guy wire is necessary for T.V. mast installation. Inside diameter ${ }_{32}^{23 \prime \prime}$,

No. 1249.
$\$ 8.00$ per C


## BRIDLE RING

Heavy duty steel bridle ring $5 / 8$ " long. Another essential item where guy wire is used in T.V. mast installation.

No. 1238
$\$ 10.00$ per $\mathbf{C}$


## ANCHOR BOLT

Rust-proofed anchor designed for lasting and permanent anchorage for fastening wall mounts and pipe straps to masonry. Free tamping tool with each 100 Bolts.

| No. | Bolt Length | Per C |
| :---: | :---: | :---: |
| 1246 | $2^{\prime \prime}$ | $\$ 15.00$ |
| 1247 | $3^{\prime \prime}$ | 18.00 |
| 1248 | $4^{\prime \prime}$ | 22.00 |



## TOGGLE BOLT

A spring wing togerle bolt useful for mounting objects against hollow concrete. Clamp is galvanized steel and screw is $1 / 4^{\prime \prime} 0 . D$. $\times 3^{\prime \prime}$ long. No. 1223.
$\$ 22.00$ per C

## WOOD SCREW ANCHOR

Especially designed to give permanent anchorage in any kind of masonry for 300 -ohm and coaxial stand-offs. Tupped for wood serew. Free tumping tool with each 100 anchors.
No. 1226
$\$ 11.00$ per C


No.

## LAG BOLT

1213

Per C
$\$ 6.00$

## SMITH Electronic Coupareents HERMAN H. SMITH, INC.

## TELEVISION ANTENNA ACCESSORIES



CARBIDE TIPPED MASONRY DRILLS


These drills are carbide tipped and have a spiral fluted body. It penetrates freely and easily, giving clean, accurate holes. Individually packed complete with operating instructions.

| No. | Size | Each |
| :---: | :---: | :---: |
| 1234 | $1 / 4^{\prime \prime}$ | $\$ 3.75$ |
| 1236 | $3 / 8^{\prime \prime}$ | 4.75 |
| 1235 | $1 / 2^{\prime \prime}$ | 6.00 |

## TAMPING TOOLS

An absolutely essential item for T.V. antenna installation to insure proper setting of all anchor bolts in masonry. Description holts in masonry

## LEAD ANCHORS FOR WOOD SCREWS



This is a new design anchor which gives greater holding power; requiring a smaller installation hole for the corresponding size screws. It takes more sizes of screws grouped in a more convenient series than other designs. It also has a larger range of holding power through various sizes of hole diameters. These anchors are ${ }^{5 \prime \prime}$ O.D., take a 10-12-14 wood screw and are forced into a $3^{2} 6^{\prime \prime \prime}$ or $1 / 4^{1 /}$ hole.

| No. | Length | Per C |
| :---: | :---: | :---: |
| 1231 | $1^{\prime \prime}$ | $\$ 7.00$ |
| 1239 | $11 / 2^{\prime \prime}$ | 10.00 |

## RUBBER STAND.OFF

Made of $1 / 8$ " heavy duty rubber, this stand-of is especially designed for either coaxial cable or standard twinlead cable. Fits on any mast or cross arm with O.D. varying from $1^{\prime \prime}$ to $11 / 4^{\prime \prime}$.

$$
\text { No. } 1263 .
$$

$\$ 10.00$ per $\mathbf{C}$


## PORCELAIN STAND-OFF

Made to accommodate twin 300 -ohm lead-in wire. Mois-ture-Proof Porcelain maintains firm grip on wire. Screw for mounting in either wood or masonry.


## SOLDERLESS

## TERMINAL LUGS

These lugs are easily applied and do not require the use of any special tool. They are desipned to give a trim are de signed to give a trim appear ance to an otherwise unsightly weaty cover the stranding and catly over the stranding and
 contine it directly under bind
ing screw or nut and automatically insure greatest possible contact. The cushion-like construction of these lugs, when closed, permits binding nut or screw to sink into the soft copper and so serves the purpose of a lock nut and is therefore vibration-proof. Packed 100 per box.

| No. | Wire Size | Type | Length | Per C |
| :---: | :---: | :---: | :---: | :---: |
| 1459 | 18 to 14 | Double Cup | ${ }^{16}{ }^{\prime \prime}$ | \$3.50 |
| 1460 | 18 to 10 | " ، | 12 ${ }^{\text {\% }}$ | 3.75 |
| 1461 | 18 to 10 | " ، | $18^{\prime \prime}$ | 4.00 |
| 1462 | 18 to 14 | Single Cup | 1/4" | 1.50 |
| 1463 | 18 to 14 | " " | 3/8" | 1.75 |



## AIRPLANE INSULATOR

White glazed, low absorption porcelain insulator $2^{\prime \prime}$ long.



## ANTENNA HANK <br> Cotton covered copper antenna hank

No. 1222
$\$ 30.00$ per $C$

## ANTENNA CONNECTOR



For use as connection of auto radio antenna lead-in to auto radio receiver.
No. 1300
$\$ 10.00$ per C

## FUSE RETAINER



Recommended for use in auto radio power supply calles.
No. 1301 $\qquad$ .....
.$\$ 15.00$ per
Parts for No. 1300 Antenna Connector and
No. 1301 Fuse Retainer

No.
1305
1306
1307
1308
1309
1310
1311

## Item

Male Cap for No. 1300 and No. 1301
Female Shell for No. 1300
Contact for No. 1300 and No. 1301
Per C
$\$ 2.50$
2.50
2.50 Spring for No. 1300 and No. 1301
Washer for No. 1300 and No. 1301
Insulating Tube for No. 1301
Female Shell for No. 1301
.40
$-\quad .60$

## JUMBO FUSE HOLDERS

For use with Philco and Motorola Auto Receivers; all parts comprising bushings, springs, contacts, etc., are furnished unassembled, packed in individual envelopes.

| No. | Type | Length | Each |
| :--- | :--- | :--- | ---: |
| 1302 | For 9 Amp | $2^{\text {L }}$ Long | $\$ 0.25$ |
| 1303 | For 14 Amp. | $21 / 2^{\prime \prime}$ Long | .30 |

THE NEW IMPROVED JFD REMOTE-O-CABLE REPLACER

The Most Efficient Auto Radio Tuning CableServicing Machine in Use Today!

Completely redesigned to meet MOD
EIRN Servicing requirements, the NEW JFD REMOTE-O-CABLE REILACEI is a vital necessity in the workshop of every auto-radio serviceman.

1. SWEDGES SIIAFTING TO PRF. VENT UNRAVELLING.
2. CUTS SIAFTING TO EXACT LENGTH.
3. REPLACES OLD FITTINGS ON NEW SIIAFTING
4. CASING GROOVE MAKES CUT. TING EASY.


SERVICEMEN'S NET COST \$67.52

Size: Length, $101 / 2^{\prime \prime}$. Width, $4^{1 / 4^{\prime \prime}}$. Height, $13^{\prime \prime}$. Weight, $291 / 4 \mathrm{lbs}$.
ANY JOB PROMPTLY DONE AND DELIVERED-The Remote-OCable Replacer +50 feet of shafting and casing + an assortment of fittings and vou are fully equipped.
USE OLD FITTINGS ON NEW SHAFTING-No need to wait for special lengths or odd fittings.
NO DELAY-Shafting of any length immediately available.
AUTO RADIO CONTROL SHAFTING AND CASING UNSWEDGED ''LIVE'SHAFTING

Type CB $\$ 0.18$ pe Type CȦ .150 gauge $\$ 0.23$ per ft . List
AUTO RADIO CONTROL SHAFTING AND CASING CUT TO LENGTH
. 130 CABLE AND CASING - List Prices

|  | $18^{\prime \prime}$ | 24" | 30" | $36^{\prime \prime}$ | 42" | 48' |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Shafting only CB. 130 Gauge | \$0.50 | \$0.60 | \$0.71 | \$0.81 | \$0.92 | \$1.02 |
| Casing only <br> H13 for . 130 Gauge | . 50 | . 60 | . 71 | . 81 | . 92 | 1.02 |
| Shafting \& Casing Complete Cl 3 <br> H1B 130 | 1.00 | 1.20 | 1.42 | 1.62 | 1.84 | 2.04 |

# JFD Auto Radio Tuning Gaile Fittings Gear \& Gouplers 

[^14]mmediately cheanced to fit any dashomard head. immedathy changed to fit any dasmoori head. FRONT-REAR-ANYWHERE-Hadio control in any part of the ear.
EXACT LENGTH OF SHAFTING DOES 1T-Maximum tuning efficiency

NON-RAVELLING DEAD SHAFTING<br>Type CD 130 gange $\$ 0.20$ per ft. List Type CC 150 gauge $\$ 0.26$ per ft. List

CASING FOR ALL SHAFTINGS

Type IHB
.130 gauge
$\$ 0.18$ per $f t$. List


Type HA
.150 gauge
$\$ 0.23$ per ft. List
. 150 CABLE AND CASING - List Prices

|  | $18^{\prime \prime}$ | $24^{\prime \prime}$ | $30^{\prime \prime}$ | $36^{\prime \prime}$ | $42^{\prime \prime}$ | $48^{\prime \prime}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Shafting only <br> CA 150 gauge | $\$ 0.57$ | $\$ 0.70$ | $\$ 0.84$ | $\$ 0.96$ | $\$ 1.10$ | $\$ 1.22$ |
| Casing only <br> HA for .150 gange | .57 | .70 | .84 | .96 | 1.10 | 1.22 |
| Shafting \& Casing <br> Complete <br> CA <br> HA .150 | 1.14 | 1.40 | 1.68 | 1.92 | 2.20 | 2.44 |

# - 




# JFD PRECISION MADE <br> <br> Improved • Air-Cooled <br> <br> Improved • Air-Cooled AC-DC Adjustable Ballasts 

 AC-DC Adjustable Ballasts}


## Just

## 3 Adjustable Ballasts

 Retmoun 3000 Exact Duplicate AC-DCResistance Tubes!

Dealer's and Serviceman's Kit Improved • Ari-Cooled AC-DC Adjustable Ballasts

No. 770—SERVICEMEN'S KIT contains 5 Ballasts: 2 Type A, 2 Type B, 1 Type C Ballasts together with listing of over 2500 replacements and complete instructions.............................. List Price $\$ 7.50$

## JFD IMPROVED AIR-COOLED ADJUSTABLE AC-DC BALLASTS HAVE THESE IMPROVEMENTS:

1. Air-Cooled Perforated Shell
2. Larger Insulating Surface
3. Longer Life, Heavier Resistance Wire 4. Exact Adjustments made

## $\begin{array}{ll}\text { LIST } \\ \text { PRICE }\end{array} . .50$ ea.

Over 3,000,000 JFD Adjustable Ballasts have been sold since 1934 - practically every one still in use, giving service and satisfaction.

## GET THIS FREE

 AC-DC BALLAST TUBE MANUAL!Contains valuable information on how to adapt adiustable ballasts to all service jobs. Simply send 12 flaps from JFD Dial Belt envelopes and loc in stamps (to cover mailing) to JFD MANUFACTURING CO. INC., 4117 Ft . Hamilton Parkway, Brooklyn 19. New York, U. S. A. (Further Details on Page 37.)


| USE JFD BALLASTS | T 0 | AC-DC RESIS | CETUBES |
| :---: | :---: | :---: | :---: |
|  | Beginning with Letter | With Numbers including | Ending with letter |
| "A" Ballasts | K, L, M, BK, BL, or BM | 6 through 42 | $A, B, C, D, F, G$, or H |
| "B" Ballasts | $\mathrm{K}, \mathrm{L}, \mathrm{M}, \mathrm{BK}, \mathrm{BL}$, or BM | 45 through 105 | $A, B, C, D, F, G, H, S 1, S 2, S 3$ |
| "C'' Ballasts | All 4 prongs | 80 through 350 | R. R4, R8, L, L4, L8 |

AC-DC STANDARD TUBES_RMA STANDARD CODING


## STEP-DOWN FROM 220 VOLTS TO 110 VOLTS



Use JFD voltage reducing ballasts on 220 volt current supply if you want to operate 110 volt appliances. Excellent for radios, floor lamps, clocks, therapeutic lamps, electric blankets, etc.

| Catalog No. | Resist. | Current | Voltage Drop | Watts | Male End | Female End | Load | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 450 | 97 | 1.13 | 220-110 | 125 | American | Anerican | 125 W Iniira Red Therapeutic Lamp | \$2.40 |
| 451 B | 97 | 1.13 | 220-110 | 125 | British | Ann+rican | 125 W Infra Read Therapeutic Lamp.............. | 2.40 |
| 451 C | 97 | 1.13 | 220-110 | 125 | Contjnental | Ammrican | $1 \otimes$ V W lnfra Red Therupeutic lamp ............. | 2.40 |
| 456 | 250 | . 44 | 220-110 | 65 | American | Americarl | 35.65 W Jainio lleating l'arls . . | 2.40 |
| 457B | 250 | .44 | 2?0-110 | 65 | British | Smerican | 35-65 W Radio llouting l'ads...................... | 2.40 |
| 457C | 250 | . 44 | 2こ0-110 | 65 | Contisiental | - 1 merjesat | 3:-65 W Radio lhating l'ads . | 2.40 |
| 458 | 300 | . 35 | 220.110 | 38 | Annericata | Amerjan | 4-5 Tulie AC-DC Radio, 3 Amp tubes .......... | 2.40 |
| 459B | 300 | . 35 | 220-110 | 38 | British | Amorican | 4-5 Tube AC-DC Rialio, .3 Anp iubes.......... | 2.40 |
| 459C | 300 | . 35 | 2*0-110 | 38 | Cont ineutal | Amblean | 4-5 Tuhe AC-I¢ R Radijo, 3 Ampl tubes........... | 2.40 |
| 462 | $\bigcirc 00$ | .22 | 220-110 | 25 | American | American | General Uise ............................................. | 2.40 |
| 463 B | 500 | . 22 | 220-110 | 25 | Britislı | American | General Use | 2.40 |
| 463 C | 500 | . 22 | 220-110 | 25 | Continental | American | General Use | 2.40 |
| 464 | 560 | . 20 | 290.111 | 25 | American | American | 5 Tuhe AC-DC Radio Using . 15 Amp tubes... | 2.40 |
| 465B | 560 | . 20 | 220-110 | 25 | 13ritish | American | 5 'Tuhn AC-DC Radio Using . 15 Amp tubes... | 2.40 |
| 465C | 560 | . 20 | 220-110 | 25 | Continental | American | 5 Tubes AC-DC Radio Using . 15 Amp trbes... | 2.40 |
| 466 | 660 | . 1497 | 230-110 | 8 | American | American | General Use ................................. | 2.40 |
| 4678 | 660 | . 167 | 220-110 | 8 | British | American | (eneral Use ............................................... | 2.40 |
| 467 C | 660 | .167 | 220.110 | 8 | Conlinental | American | General Use ............................................... | 2.40 |
| 468 | 1345 | . 082 | 220-110 | 9 | American | American | Flectric Ramor | 2.40 |
| 469B | 1345 | . 082 | 220-110 | 9 | Britisis | American | Electric Razor .......................................... | 2.40 |
| 469 C | 1345 | . 082 | 220-110 | 9 | Continental | Ambrican | Electric Razor | 2.40 |
| 470 | 6000 | . 018 | 220.110 | 2 | Amerieam | American | Flectric Clock | 2.40 |
| 471B | 6000 | . 018 | 220-110 | 2 | British | Ambrican | Electrie Clock ............................................ | 2.40 |
| 471C | 6000 | . 018 | 220-110 | 9 | Continental | American |  | 2.40 |
| 472 | 110 | . 950 | 220-110 | 105 | American | America! | 15-7 Watt Xmas lights in parallel............. | 2.40 |
| 4738 | 110 | .950 | 220-110 | 105 | British | American | 15-7 Watt Xmas lirhts in parallel $\ldots \ldots \ldots \ldots .$. | 2.40 |
| 473 C | 110 | . 950 | 220-110 | 105 | Conl ineutal | American | 15-7 Watt Xinas lights in parallel ............ | 2.40 |
| 474 | 960 | . 115 | 220.110 | 13 | Ancrican | American | Schick Kizzor .......................................... | 2.40 |
| 475 B | 960 | . 115 | 220-110 | 13 | British | Annerican | Schick Razor | 2.40 |
| 475 C | 960 | .115 | 220-110 | 13 | Continental | American | Schick lazor | 2.40 |
| 476 | 1100 | . 1 | 220-110 | 11 | American | Americata | P'ackard Razor ........................................... | 2.40 |
| 4778 | 1100 | . 1 | 220-110 | 11 | British | American | lackard Razor ......................................... | 2.40 |
| 477C | 1100 | . 1 | 220-110 | 11 | Continental | American | l'ackard Razor | 2.40 |
| 478 | 475 | . 230 | 220-110 | 26 | American | American | 6 tube AC-IDC Radio Using .15 Armp tubes ... | 2.40 |
| 4798 | 475 | . 230 | 220-110 | 26 | Britisio | American | 6 tube AC-1)C Radio Using .15 Amp tubes... | 2.40 |
| 479 C | 475 | . 230 | 220-110 | 26 | Continental | American | 6 tuhe AC-1)C Radio Using . 15 Amp tubes ... | 2.40 |
| 480 | 300 | . 300 | 220-110 | 33 | Amerjean | American | Remington Ra\%or …a............................... | 2.40 |
| 4818 | 300 | . 300 | 220-110 | 33 | Iritish | American | Remington Razor .....................................t. | 2.40 |
| 481 C | 300 | . 300 | 220-110 | 33 | Continental | American | Remington Razor | 2.40 |
| 482 | 785 | .140 | 220-110 | 16 | American | American | Portable Radio Total Current drann . 140 Amp. | 2.40 |
| 483 B | 785 | .140 | 220-110 | 16 | British | American | Portable Radio Total Current dmain , $1+0$ Amp. | 2.40 |
| 483 C | 785 | . 140 | 220-110 | 16 | Continental | American | Portahle Radio Total Current drain . 140 Amp. | 2.40 |
| 484 | 430 | . 255 | 220-110 | 28 | American | American | Detrola Automatic 'hono Tumathe | 2.40 |
| 4858 | 4330 | . 255 | 220-110 | 28 | British | American | Detrola Automatic Phono Turntable ............. | 2.40 2.40 |
| 485C | 430 | .255 | 220-110 | 28 | Continental | American . | betrola Automatic Phono Turntable ............. | 2.40 |
| 488 | 2000 | . 055 | 220-110 | 6 | American | American | Central Use ......................................... | 2.40 |
| 4898 | 2000 | .055 | 220.110 | 6 | British | American | General Use .............................................. | 2.40 |
| 489 C | 2000 | . 055 | 220-110 | ${ }_{6}^{6}$ | Continental | American | Ceneral Ise | 2.40 |
| 490 | 143 | . 87 | 220-110 | 96 | Americata | American | 65-180 Watt 110 Volt Radio | 2.40 |
| 491 B | 143 | . 87 | 220-110 | 9 ¢ | British | American | 65-180 Watt 110 Volt Radio..................... | 2.40 |
| 491C | 143 | . 87 | 220-110 | 96 | Continental | American | 65-130 Watt 110 Volt Radio ...................... | 2.40 |


| JFD FOREIGN ADAPTER <br> Converts American <br> Male Plug to <br> Continental and <br> British Male Plugs <br> Converts Foreign recentacles into the standard American type-in a jiffy! <br> No. 2-449-with Continental type prongs. <br> List Price $\qquad$ $\$ 0.33$ <br> No. 2-450 with British type pronge. <br> List <br> Price $\qquad$ $\$ 0.33$ | JFD Bakelite Handle Cap for Use in Foreign Countries <br> Comes with Continental or British Prongs | JFD Wire Measuring Outfit <br> (COUNTER MODEL) <br> Here is a compact. stardy wire measuring ouffit that can be set up easily on counter, bench or table. More ham pays for itself in time saved and exact wire measurements. Measures up to 1000 feet. Very simple to set up and operate-it works silently. Take up reel is arliustable. <br> Cat. No. 66-C Complete Outfit |
| :---: | :---: | :---: |

# New Enloryed Line of AC-DC RESISTANGE LINE GORDS 

## STANDARD 3 TERMINALS AC-DC RESISTANCE CORDS

FLEXIBLE, STURDY CORDS, 3-TERMINAL TYPE, WITH COLOR-CODED, TINNED LEADS


Attractive individual Cartons


Note: 135, 160, 180, and 200 ohm cords can also be used for single light 20 and 15 watt fluorescent fixtures.

## TAPPED 4 TERMINAL AC-DC RESISTANCE CORDS

Pilot light resistor shunt built into the line cord. Used on Emerson, Zenith, Sparton, R. C. A., General Electric, Wells-Gardner, Sears Roebuck, Fada, Admiral, Air King, Detrola, Crosley, Garod, and others.

No.
2176-160 OHMS—TAPPED AT 24 OHMS
For sets using tubes having a voltage drop of approximately 69 volts as $2-25$ volt tubes and $3-6.3$ volt tubes plus single pilot light or similar combination

2195-165 OHMS—TAPPED AT 30 OHMS
There is a large demand for this tapped line cord

2177-180 OHMS—TAPPED AT 25 OHMS
For sets using tubes having a voltage drop of approximately 63 volts as 2.25 volt tubes and $2 \cdot 6.3$ volt tubes plus a single pilot light or similar combination

2178-200 OHMS—TAPPED AT 25 OHMS
For sets using tubes having a voltage drop of approximately 57 volts as $1-25$ volt tube, $1-12$ volt tube and $3-6.3$ volt tubes and a single pilot light. May also be used for sets using tubes having a voltage drop of 63 volts, ( $2-25$ volt and 2-6.3 wolt tubes) if high line voltage ( 125 volts) is encountered.

2179-200 OHMS-TAPPED AT 40 OHMS

For sets using tules having a voltage drop of approximately 57 volts as 1-25 volt tube, $1-12$ volt tube and $3-6.3$ volt tubes and two pilot lights in series

List, Ea.
No. 2174-280 OHMS—TAPPED AT 40 OHMS
For sets using tubes having a voltage drop of approximately 32 volts as 2.12 volt tubes and 1-6.3 volt tube or 5-6.3 volt tubes or similar combinations using 2 pilot light in series

2164-360 OHMS—TAPPED AT 80 OHMS
Used in Garod Model BP-20. See No. 2196 for specifications

2166-430 OHMS-TAPPED AT 80 OHMS
For Farnsworth Morlel CD59. See No. 2196 for specifications

2156-510 OHMS—TAPPED AT 80 OHMS
For Fada. See No. 2196 for specificastions

2196-560 OHMS-TAPPED AT 80 OHMS
Tapped at 80 ohms for plate of rectifier. Designed with voltage dropping resistor to plate of rectifier. Avoids necessity of using $B+$ resistor. This cord used extensively

2158-960 OHMS-TAPPED AT 80 OHMS
For G. E. Model L622. See No 2196 for specifications

2165-1950 OHMS-TAPPED AT 360 OHMS
Used extensively in sets such as Crosley Model 27BD, Adnirai Model 28 -G-5, and other sets with similar circuits

HIGH RESISTANCE CORDS


No.
List Pric
2197 For 3 -way portable radios, AC-DO battery. New high resistance type cord, has 560 ohms resistance Jany thousands of sets using thi identical cord are now in use. Thi henulur replacement cord shoul be stocked by erery serviceman udividually packaged serviceman ludividually packaged

2157-For AC-DC Sets.
This cord has 960 ohms resistance, and is used wherever 45 Z 3 rectifier tube is employed. (For pocket type radios, such as: Admiral, Fada Sen tinel, Sonora, Moterola, Detrola Farnsworth, etc.) Individually packaged

REPLACEMENT LINE CORD FOR MOTOROLA SETS


No.
2198-8 ft. cord containing 2 resistance elemento- 1100 and 280 ohms. Has 4 terminals. Essentia replacement for all Motorola ables. Nos. $41 \mathrm{D}, 51 \mathrm{D}, 52 \mathrm{D}, 41 \mathrm{H} . \$ 2.06$

## COMBINATION ANTENNA WIRE and STRAIGHT AC CORD <br>  <br> List Pilice

No.
2168-3-wire cord with special female socket to fit sets which have three prong male plug, used in Sentirel, Admiral, Belmont, Sonora, etc. Individually packaged

## UNIVERSAL AC-DC

 RESISTANCE LINE CORDS

[^15]List
2175-This line cord replaces AC-DC cords from 220 ohms to 300 ohms. Can be used for either standard three terminal or tapped cord....... $\$ 1.72$



Cat. No.
Description
List Price
$2191220 \mathrm{~V}-110 \mathrm{~V}$ Stepdown for $4,5,6$ tube sets drawing .3 amps. American Male Plug
2193C $220 \mathrm{~V}-110 \mathrm{~V}$ Stepclown for $4,5,6$ tube sets drawing .3 amps. Continental Male Plug
$2193 \mathrm{~B} \quad 220 \mathrm{~V}-110 \mathrm{~V}$ Stepdown for $4,5,6$ tube sets drawing .3 amps. British Male Plug.
2192 220V-110V Stepdown for 5 tube sets drawing .15 amps. American Male Plug
$220 \mathrm{~V}-110 \mathrm{~V}$ Stepdown for 5 tube sets drawing .15 amps. Continental Male Pling
2.40

2194B 220V-110V Stepdown for 5 tube sets Grawing .15 amps. Britislı Male Plug
2430A $220 \mathrm{~V}-110 \mathrm{~V}$ Stepdown for 6 tube sets drawing .150 amps. Anıerican Male and Female Plugs
2431B $220 \mathrm{~V}-110 \mathrm{~V}$ Stepdown for 6 tube sets drawing .150 amps. British Male and American Female Plugs
2.40

| Cat. No. | Description |
| :--- | :---: |
| 2432 C | 220V-110V <br> Stepdown for 6 tube List Price |
|  | drawing . 150 amps. Continental Male |
| and American Female Plugs............... $\$ 2.40$ |  |

## JFD STEP-DOWN LINE CORDS FOR ELECTRIC RAZORS

Cat. No.
Description
List Price
2203 220V-110V Stepdown for Remington Rand Razor 15W. American Female and American Male..... $\$ 2.60$
2203 B 220V-110V Stepdown for Remington Rand Razor 15W. American Female and British Male....... 2.6
$2203 \mathrm{C} 220 \mathrm{~V}-110 \mathrm{~V}$ Stepdown for Remington Rand Razor 15W. American Female and Continental Male.
2204 220V-110V Stepdown for Schick Razor 9W, Sunbeam Shavemaster 15 W , Williams RotoShaver, Gillette, Gem 10 W with American Female and American Male
2204B 220-110V Stepdown for Schick Razor 9W, Sunbeam Shavemaster 15W, Williams RotoShaver, Gillette, Gem 10W with American Female and British Male beam Shavemaster 15 W , Williams RotoShaver; Gillette, Gem 10 W with American Fenale and Continental Male
2205 220V-110V Stepdown for Packard Razor 6W with American Feinale and American Male
2205B 220V-110V Stepdown for Packard Razor 6W with American Female and British Male

2.60


Cat. No.
Description
List Price 2205C 220V-110V Stepdown for Packard Razor 6 W with American Female and Continental Male $\$ 2.60$

## JFD AC-DC LINE CORDS FOR FLUORESCENT FIXTURES



Cat. No. Description List Price
2181FL 165 ohm, for 20 watt bulb, 117 volts, 6 feet $\$ 1.17$
2181FL-2 Two 165 olim windings, for two 20 watt bulbs, 117 volts, 6 feet long
2.00

2182FL 180 ohm, for 15 watt bulb, 117 volts, 6 feet long 180 ohm windings, for two 15 watt
2200FL Two 180 ohm windings, for two 15 watt bulbs, 117 volts, 6 feet long.
2.00

## GENERAL


G.C RADIO SERVICE CEMENT

The best Cement for repairing radios and speakers. Excellent for repairing and replacing torn cones. Vilration-proof, water-proof and fast drying. Brushes attached.

## No. <br>  <br> $\begin{array}{ll}34-2 & \text { Tube } \\ 30-4 & 4 \text {-oz. } \\ 30-6 & \text { (i-0 }\end{array}$ <br> $\begin{array}{ll}30-6 & 6-0 \% \\ 30-8 & 8-02\end{array}$ <br> $\begin{array}{ll}30-8 & 8-\mathrm{oz} . \\ 30 & 16-\mathrm{oz} .\end{array}$

List
$\$ 0.50$
.50
.00
1.00
1.40
1.40
1.75
1.75
3.30

G-C RADIO SERVICE SOLVENT Best Solvent for loosening cement on speaker cones, frames, etc. Will dissolve all cements on speakers. Brush attached.
$\begin{array}{ccc}\text { No. } & & \text { List } \\ 31-2 & 2 \text {-oz. } & \$ 0.50 \\ 31-4 & 4-0 \% & 65\end{array}$
$31-2$
$31-4$
$31-6$
$\begin{array}{ll}31-6 & 6 \cdot 0 z . \\ 31-8 & 8.0 z\end{array}$
$\begin{array}{lrr}31-8 & 8-\mathrm{oz} . & .95 \\ 31-16 & 16-\mathrm{oz} . & 1.40\end{array}$


G-C CEMENT THINNER

Made of same solvents as G-C Service Ce ment. Best thinner for all cements.

| No. |  | List |
| :--- | ---: | ---: |
| $28-2$ | $2-$ oz. | $\$ 0.50$ |
| $28-4$ | $4-$-oz. | .65 |
| $28-8$ | $8-0$. | .95 |
| $28-16$ | $16-\mathrm{oz}$. | 1.40 |

## G-C SPEAKER

 CEMENTBest grade cement put up in handy tuhes. For radio and speaker repairs. Water-proof, vilration-proof, fast drying.

No.
34


G-C PLASTIC CEMENT
For cementing broken plastic cabinets, knobs, dial and crystal assemblies, grille cloth, etc. Fast drying. Brush attached.
No.
List
32-2A $\quad 2-\mathrm{oz}$. $\$ 0.60$ $\begin{array}{lll}32-8 A & 8 \text {-oz. } & 1.75 \\ 32.16 A & 16-0 Z & 3\end{array}$ $\begin{array}{lll}32-16 A & 16-o z & 3.30\end{array}$


## G-C BAKELITE

 CEMENTFor cementing hakeFor to bakelite and bakelite to other mabakelite to other materials. For repairing knows, panels, for inserts in moldings, attaching labels to plastics, etc. Brush attached.
$\begin{array}{ccr}\text { No. } & & \text { List } \\ 32-2 & 2-\text { oz. } & \$ 0.60 \\ 32-8 & 8-\text { oz. } & 2.20\end{array}$ 32-16 16-oz. 4.15

G-C YINYLITE CEMENT Clear transparent adhesive, air drying. For cementing metals, plastics. paper, leather, etc. Used also as thermoplastic cement for non-porous materials. Sets on cooling. Brush attached.
No.
$58-2$
$\begin{array}{lll}58-2 & 9-\mathrm{oz} & \$ 0.60 \\ 58.8 & 8-0 z & 1.75\end{array}$ 58-8 8-0z. $\quad 1.75$

| G-C |
| :---: |
| HOUSEHOLD 8 |
| MODEL CEMENT |
| Best cement for mod. |
| el makers, household, |
| and office use. For |
| airplanes, railroads, |
| ships, toys, etc. Will |
| cement wood, paper, |
| plastics, metal, china, |
| ceramics, etc. Fast |
| drying, water-proof. |
| Brush attached. |
| No. |
| $45-2$ |
| $45-3$ 2-oz. |
| Tube |

G-C FABRIC TO METAL CEMENT For cementing cloth and felt to metal or plastics. Best for grille cloth, phono turntable felta, upholstering, fabrics, etc. Fast drying, wa-ter-proof.

| No. | List |
| :---: | :---: |
| $22-4$ | $4-0 z$ |
| 0070 |  |

$\begin{array}{lll}22-4 & 4-\mathrm{oz} & \$ 0.70 \\ 22-8 & 8-o z & 1.00\end{array}$
$\begin{array}{lrr}22-8 & 8-\mathrm{oz} . & 1.00 \\ 22-16 & 16-\mathrm{oz} . & 1.95\end{array}$

## G-C GRAY

 RUBBER CEMENTGeneral purpose for cloth, paper, rubher, etc. Has great tackiness and adhesion for radio, shop, auto, or hobby use.

| No. |  | List |
| :---: | ---: | ---: |
| $23-4$ | $4-o z$. | $\$ 0.70$ |
| $23-8$ | $8-o z$. | 1.00 |
| $23-16$ | $16-o z$. | 1.95 |

G-C GRILLE CLOTH CEMENT
Rubber base cement for grille cloth, leatherette, fabric, upholstering, etc. Will not penetrate, stain, or shrink.

| No. |  | List |
| :---: | ---: | ---: |
| $38-4$ | $4-02$. | $\$ 0.70$ |
| $38-8$ | $8-0 z$. | 1.00 |
| $38-16$ | $16-0 z$. | 1.95 |

$\begin{array}{lrr}38-4 & 4-0 z & \$ 0.70 \\ 38-8 & 8-0 z & 1.00 \\ 38-76 & 10 & \end{array}$ 38-16 16-oz. 1.95


G-C RUBBER TO

METAL DIAL. DRIVE CEMENT
For cementing rubber drives to shafts, rubber mountings, gaskets, hose. weather stripping, for radios, reirigerators, autos, etc. $\begin{array}{ccc}\text { No. } & & \text { List } \\ 35-2 & 2 \text { oz. } & \$ 0.50\end{array}$
$\begin{array}{llr}35-3 & \text { Tube } & .50 \\ 35-4 & 4-\text {-oz. } & 1.00\end{array}$
$\begin{array}{lrr}35-8 & 8-\mathrm{oz} . & 1.75 \\ 35-16 & 16-\mathrm{oz} . & 3.30\end{array}$

## G-C WOOD

 GLUENew white resin wa-ter-proof glue for radio cabinets, furniture, chairs, etc. Will not injure finish. Extra strong.
No. Lls
$39-2 \quad 2-\mathrm{oz}$. $\$ 0.60$
$\begin{array}{llr}39-4 & 4-0 z & .70 \\ 39.8 & 8-0 z & 1.00\end{array}$
$\begin{array}{rrr}39-8 & 8-\mathrm{oz} . & 1.00 \\ 39-16 & 16-\mathrm{oz} . & 1.65\end{array}$


## G-C FILM

 CEMENTNew improved cement for all safety and nitrate film. Sets fast. Brush attached.

No. 33-1 1-oz. $\$ 0.40$
No. List 27-2 2-oz. $\quad \$ 0.60$


## G-C ELECTRICAL

AND RESISTOR CEMENT
Heat-proof cement, hardens like porcelain. Same as on resistors, flat irons, etc.

## G.C ACRYLIC CEMENT

Welds and cements lucite, plexiglass, and other acrylic materials. Strong, fast drying. Brush attached.
No. List
40-2 2-oz. $\$ 0.60$

## G-C LABEL CEMENT

Sticks labels to anything - metal, glass, wood, tin, bakelite, plastics, etc. Good for cementing labels to bins, racks, waterproofing labels, etc.

| No. | List |  |
| :---: | :---: | :---: |
| $46-2$ | $2-\mathrm{oz}$. | $\$ 0.60$ | $46-8$ 8-oz. $\quad 1.50$

 RUBBER CEMENT Transparent, pure, real rubber cement for artist and layout work. Will not stain or shrink paper, can be easily removed. Handy for panel layout, photo mounting, etc.
$\begin{array}{ccc}\text { etc. } & & \text { List } \\ \text { No. } & & \text { Lis. } \\ 33-4 & 4-07 . & \$ 0.50 \\ 33-8 & 8 \cdot 0 z & .75\end{array}$
$\begin{array}{lrr}33-4 & 4-0 z . & 80.50 \\ 33-8 & 8 \cdot 0 z & .75 \\ 33.16 & 16-0 z & 1.25\end{array}$
 PAINT THINNER For Ruf-Koat, K romeKoat, B-K Cement, Insulating Varnish, Rubber Cements, and ordinary paints.

| No. |  | List |
| :---: | :---: | ---: |
| $67-2$ | $2-$ oz. | $\$ 0.50$ |
| 67.4 | $4-$ oz. | .65 |
| $67-8$ | $8-o z$. | .95 |
| $67-16$ | $16-o z$. | 1.40 |



## G-C Q-DOPE THINNER

Will cut and dissolve Q-Dope and other polystyrene coil dopes ystyrene coil dopes soften and weld poly. soften and weld polystyrene ro
sheets, etc.
sheet
No.
No. List
$\begin{array}{llr}41-2 & 2-o z . & \$ 0.50 \\ 41.4 & 4-o z . & .65\end{array}$

G-C LACQUER THINNER

Will thinall lacquers, lacquer enamels, telephone black or gray, touch-up lacquers, airplane dopes, model cements, etc.

| No. |  | List |
| :---: | ---: | ---: |
| $29-2$ | $2-$ oz. | $\$ 0.50$ |
| $29-4$ | $4-0 z$. | .65 |
| $29-8$ | $8-$ oz. | .95 |
| 29.16 | $16-o z$. | 1.40 |

## G-C SAMPLER KIT

What kind of cement shall I use? Get this kit and experiment with all types of cements available. Cements for all applications included so you can try them yourself for your application. Save time - get the answer quicker. 10 - 2.oz. bottles in Kit.
No. List

345 Kit $\$ 6.00$

## GENERAL



## G.C COIL DOPE

 KITFor high freffuency coils, ultra low loss. Contains 2-oz, bottle Polystyrene ( P -1)ope, 2 -oz. Thinner, and 2 brushes. The lest!
No. List 888 Kit $\$ 1.00$

## G-C CEMENT \& SOLVENT KIT

"Handy to carry witl you." Contains bottle G-C Radio Cement and G-C Solvent, with brushes.
No. List
343 Kit \$0.75

## G.C CONTACT \& ATTENUATOR KIT

For cleaning and lubricating attenuator, tumners, contacts, allwave switches, condenser bearings, etc. Eliminates noise and prevents corrosion.

No. List

## G-C <br> INSULATING $\&$ DIPPING VARNISH

For trealing field coils, noisy or buzzing transformers and chokes. Air dries to a tough insulating film. Can be brushed or dipped.
$\begin{array}{lrr}\text { No. } & & \text { List } \\ 56-2 & 2-\mathrm{oz} . & \$ 0.60 \\ 56-4 & 4-0 z . & .85 \\ 56-8 & 8-\mathrm{oz} & 1.10 \\ 56-16 & 10 . \mathrm{oz} . & 1.95\end{array}$

## G-C LIQUIDOPE

All wave nitrocellu lose base dope for coils. Air dries fast to tough film, that in sures toughness and firmness. Use for sealing, doping, supporting coils, etc.

| No. |  | List |
| :---: | :---: | ---: |
| $36-2$ | $2-$ oz. | $\$ 0.60$ |
| $36-8$ | $8-0 \%$. | 1.40 |
| $36-16$ | $10-\mathrm{oz}$. | 2.50 |

## G-C O-DOPE

Licurid polystyrene ultra low loss coil dope for HF , UHF and VHF componente. Will not change R.F. circuit values. Per forms - $70^{\circ} \mathrm{H}$ 10 $160^{\circ} \mathrm{F}^{\circ}$. Also use as Polystyrene Cement

| No. |  | List |
| :--- | ---: | ---: |
| $37-2$ | 2 -oz. | $\$ 0.60$ |
| $37-4$ | $4-$ oz. | .85 |
| $37-8$ | $8-$ oz. | 1.40 |
| $37-16$ | $16-$ oz. | 2.50 |



G-C FUNGUS VARNISH
Used on radio equipment and instruments to insulate and prevent fungus growth in moist or humil? climates. Air dry, brush or spray.
$\begin{array}{crr}\text { No. } & & \text { List } \\ 57-2 & 2-\text { oz. } & \$ 0.60 \\ 57-8 & 8-\mathrm{oz} . & 1.10\end{array}$ $\begin{array}{ccc}57-8 & 8-o z . & 1.10 \\ 57-16 & 16-\mathrm{oz} & 1.65\end{array}$


G-C CARBON CONTROL CLEANER
Fix noisy carbon controls without taking avart. Just sepurt clemaer along shaft and job is done. Save money. Applicator supplied.
$\begin{array}{cc}\text { No. } & \text { List } \\ 212.2 & 2.0 z\end{array} \$ 0.60$

## G-C GRAFOLINE

Noiseless lubricant for air exposed switch contacts, rheosrats, relays, wire volume controls, tule prours etc. Increases current capacity of switch controls Cleans also

No.
120-2 2-0z. $\$ 0.60$


## G-C CONTACT \&

 CRYSTAL CLEANER
## Extr:i pure cleaner

 Fast drying for cleaning contacts and crystals. Will not injure delicate parts.

## G-C RED ELEC. TRONIC CON. tact cleaner

The best and only allpurpose cleaner. Dissolves the dirt and removes corrosion. Leaves protective film on contacts to prevent corrosion.
$\begin{array}{ccc}\text { No. } & & \text { List } \\ 210-2 & 2-0 z . & \$ 0.50 \\ 210-4 & 4-z z . & .70 \\ 210-8 & 8-0 z . & 1.00 \\ 210-16 & 16-\mathrm{oz} & 1.80\end{array}$


## G-C RADIO CHASSIS CLEANER

Clean the chassis and make extra money on every repair job. Sat isfy your customer. For radio chassis, panels, testers, etc. Non-explosive cleaner.

No. List
123-8 8 -oz. $\$ 0.70$ 123-16 $16-02$ 123-G 1 Gal. 4.25

## G-C CARBON TETRA. CHLORIDE

$100 \%$ pure for cleaning and degreasing electrical contacts. controls, motors. Al solutely safe - will not burn. Also kills buys, roaches, ets. $\begin{array}{cc}\text { No. } \\ 211-2 & \text { List } \\ 2.0 \mathrm{~L} \\ \$ 0.50\end{array}$ $\begin{array}{lll}211-2 & 2-o z . & \$ 0.50 \\ 211-4 & 4-\text { oz. } & .65\end{array}$ $\begin{array}{lll}211-4 & 2-0 z . & -65 \\ 211-8 & 8-\mathrm{oz} . & .95\end{array}$ | $211-16$ | 16 oz. | 1.65 |
| :--- | :--- | ---: |
| 210 |  |  | 211-32 32-oz. 2.70 $\begin{array}{llll}211-G & 1 \text { Gal. } & 6.90\end{array}$

G-C CONTACT DOPE
Ideal cleaner and lubricant for switches, controls and contacts liesints corrosion and oxidation. Eliminates noise.
No. List 1213 Tube $\$ 0.40$

CARB-O-TET
Specially made from $100 \%$ Carbon-Tet materials. 215-G I Gal. $\$ 4.15$


## G.C CARBON-X

New improved formula. Fix those old noisy carbon cont rols, touch up noisy spots on worn controls. Brush in bottle.

| No. |  | List |
| :---: | :---: | :---: |
| 1204 | $1-$ or. | $\$ 0.75$ |
| 1205 | $2-$ oz. | 1.00 |

## G-C LUBE-REX

Lubriplate - white lubricant for push buttons, phonographs, Philco mystery controls, guns, fishing reels. dials, etc. Prevents corrosion, repels water.
No.
1206 List
1206 2-oz. Tube $\$ 0.60$
1209 2-oz. Hottle .60

## G.C SILICONE

 COMPOUND"The miracle moisture and waterproofing compound for Television and $\mathrm{FM}^{\prime \prime}$ A permanent waterproofing material for TV and FM learls.
No.
81001 -oz. Tuhe $\$ 1.65$
Dealer's Net $\begin{array}{r}1.69 \\ \hline\end{array}$

G-C LIQUID SOLDER FLUX
Non-corrosive flux for radio and electrical work. Solders faster, smoother.
No. List 42.2 - oz. $\$ 0.60$ 42-8 8-oz. $\quad 1.75$


## G.C CHEMICAL LABORATORY

Complete assortment of 20 popular radio chemicals and cements in $2-0 z$. bottles. put up on steel rack. Very neat for the radio bench and home work shon. Rack sets on bench or hangs on wall. Steel lack is FREE.
No. 997 Lab
Dealer's $\begin{array}{r}\text { List } \\ \text { Net } \\ \$ 11.70 \\ 6.99\end{array}$

## G-C CHEMICAL KIT

Pocket size kit of 8 nopular radio chemicals and cements, for fast repairs on the joh. Pi ut up in neat leatherette case. Easy to carry. No. 999

List $\$ 3.30$

- Retills available at your jobber's


## G-C DELUXE CHEMICAL LAB

Practical larger laboratory of popular clemicals and cements to fit needs of average shop -2-oz, $4-\mathrm{oz}$, and 8 -oz. bottles. Larger bottles of more popular items. Rack sets on bench or hangs on wall. Steel rack is FREE.
No. 998
List $\$ 14.30$

Dealer's Net 8.49

## GENERAL CEMENT PAINTS-KITS-COMPOUNDS



## G-C KRYSTAL KOAT CRYSTAL LACQUER

Makes beautiful floral pattern when dry, Strictly air drying. For chassis, panels, decora tions on metal. wood. paper etc. Colors: Black Gray Brown, Green, Red. Blue and Clear. (Specify Color)
No.
63-2
63-4
63-8 $\quad$ - oz
$\begin{array}{rr}63-8 & \begin{array}{r}8-02 \\ 63-16 \\ 16.02\end{array}\end{array}$

## G-C TELEPHONE

 BLACI OR GRAY
## High grade lacquer enamel

 covers well, dries fast. Black is sat in chony fuish similar to telephones. Gray is pleasing shadt. For panels, racks, parts. etc. (Spuecify Color)No.
62-2 2-о7
$2-07$.
$8-07$
List
$\$ 0.60$
1.40
$\begin{array}{lll}62-16 & 16-\mathrm{oz} & 2.50\end{array}$

## G-C GENERAL

 SCRATCH STICKRemoves scratches. Simply run over seratches and they will disappleitr. Mamdy to cat'ry in rour pocket or tool box for emeriency repairs Also sell to housewives
No. List 909 Serateh Stik $\$ 0.40$ 909-D Display 12 Stiks 4.80


## G-C KROMEKOAT ALUMI. NUM PAINT

Fast drying, ready mixed, leaves chrome like finish. For I's equipment, speakers, chassis, tovers, anternas, etc.


G-C PORCELAIN GLAZE

Fills in nicks and dents on porcelain and duco refrigerators. sinks, washing machines, etc. Fill in antlet dry.
No. List
$\begin{array}{ccc}911-16 & 16-0 z & 385\end{array}$
911-16 16-0z. 3.85

| G-C SPIRIT <br> VARNISH | $\begin{gathered} \text { G-C } \\ \text { PENETRATING } \end{gathered}$ |
| :---: | :---: |
| Fast drying walnut | STAIN |
| spirit varnish for | Spirit type stain, |
| touching up nicks and | penetrates and will not injule finish Cov |
| scratches. Will not | not injule finish. Cover seratches, dents, |
| raise the finish. | darken corners on cab- |
| No. List | inets. etc. Walmut |
|  | No. List |
|  | 162-2 2-0\%. \$0.50 |
| $\begin{array}{lll}161.8 & 8.02 . & 1.40\end{array}$ | 162-4 4 -oz. 85 |
| $\begin{array}{llll}161-16 & 16-\mathrm{oz} & 2.20\end{array}$ | $162-8 \quad 8$-oz. 1.40 |
|  | 162-16 16 foz . 2.20 |

## MICROPHONE CARBON GRANULES

## 'olished pure carlou

 uranules for nicro1yhonesNo.
No.
1281
1281100 Size $\$ 080$
Highest Smsil ivit 128280 Size 80 Best for Grueral Lise 128360 Size .80
sound Trucks, ete

## G-C SCRATCH REMOVER LIQUID

New liquid! Removes scratches instantly. Simply wipe over scratclies. Handy to have in tool box

| No. |  | List |
| ---: | ---: | ---: |
| 917 | $2 \cdot 07$. | 0.50 |
| 923 | $1 / 2.0 z$ | .30 |



G-C RMA COLOR
CODING KIT
Complete kit of all standarl RMA colors to code resistors, condensers, parts, etc. Chart incluted. Ten bottles.
No. 677 List \$1.95

## G-C TOUCH UP CODING KIT

Five bot tles. \& colors and solvent for coling and sealiner parts, adjustments, wires, etc. Red, Green, Blue, Yellow and Solvent. No. 675 List \$0.85

G-C DIAL LITE COLOR KIT
Long lasting coloring for dials signals, lamps, panels, hohby work, etc. Red, Green, Blue. Anber. l'urple and Solvent in kit
No.
66-6 List 66.5 Kit $\$ 1.00$
 y color) 60
66-16 16 -a\%. (specify color)

G-C LUMINOUS KITS
Complete kits of luComplete kits of huminous paint that
glows in the dark. Many uses in shop and home. See it at night Easy to use - night. Easy to use - apply and let dry.
No.
184-0 Deluxe kit contains lowder, Mix-Koat, Top Koat and Brush,

$\$ 2.50$ 184-1 Regular kit contans Powder. | Mix-lioat |  |
| :---: | :---: |
| Brugh. | $\begin{array}{l}\text { and } \\ \$ 1.65\end{array}$ |


LITE-KOAT POWDERNo.

List
185-1 1.0z \$0.95 $185-2$ 2-07 1.65

No.
186-2 2 -oz. $\$ 0.60$
$186-8$ 8-oz, 1.25

KOVER-KOAT
To rrotect anll cover
MIX-KOAT AND KOVER-KOAT THINNER luminous material $\begin{array}{llr}\text { No. } & & \text { List } \\ 187-2 & 2-0 \% & \$ 0.60 \\ 187-8 & 8-0 \% & 1.25\end{array}$

| No. |  | List |
| :--- | :--- | ---: |
| $188-2$ | $2-\mathrm{oz}$. | $\$ 0.60$ | $\begin{array}{llr}188-2 & 2-\mathrm{oz} . & \$ 0.60 \\ 188-8 & 8-\mathrm{oz} . & 1.25\end{array}$


|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| G-C DIAL OIL | G-C <br> REFRIGERATOR | G-C SOLDERING <br> PASTE | G-C NON-STICK <br> IRON TIP | G-C NON-SLIP | COMPOUND |
| Made with graphite. | AND APPLIANCE |  |  | Powder Compound | d Compound |
| Special for lubricating dials, drives, and | AND APPLINCE | The best non-corrosive paste for radio |  | For dial cords. belts, pulleys, etc. Good for | Penetrating, fast-riry ing liquid, prevents |
| fine mechanisms. Long | Non-gumming oil for household appliances | and electrical work. | Prevents somering iron tips from burn. | V or flat belts on re- | slipping on dial cords. pulleys. helts. |
| lasting, | and small motors. The | Solders faster and | ing futo iron. Saves | frigerators, motors, | Increases life of cords |
|  | hest general purpose | smoother. | your iron ald tips. | tc. | and belts. |
| No. List | ${ }^{\text {oil. }} \mathrm{No}$ | o. |  | No. List | No. List |
| 1245 4-oz. \$0.50 | $\begin{array}{lll}\text { No. } \\ 1250 & 4-0 \% . & \$ 0.50\end{array}$ | 1207 2-oz. can \$0.30 | 1201 2.oz. \$0.60 | 1210 \$0.50 | $\begin{array}{rrr}1211 & 1 / 2-67 . & \$ 0.30 \\ 200 \% & .60\end{array}$ |

## GENERAL (26) CEMENT

## CABINET REPAIR KITS - POLISHES

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| G.C FRENCH EMULSION | G-C FRENCH VARNISH | G-C WINDOW CLEANER <br> CONCENTRATE | G-C SPOT CLEANER | G-C STRIP-X <br> Strips enamel from | G-C CONE RECONDITIONER |
| Best pad luhricant to use with Freuch Varnish l'olishing Methord. | Used by craftemen to repair furniture and blend in the finish. Can be applie! with pad, bruslı or spray. Dries fust. | Mix with quart of water and make vour own hiph-grade window cleaner. Makes | Sufe high hograde eleaner with sprecial applicator in cap. Nonexplosive. | magnet wire. Dip wire in and wipe insulation off-ready for soldering. | Apply to old dried out cones to restore plasticizer and bring back original tones. |
| No. List | No. List | glass sparkle. | List | N | No. List |
|  | $\begin{array}{lll}160-2 & 2-07 . & \$ 0.60 \\ 160-4 & 4-\mathrm{oz.} & 75\end{array}$ | No. List |  |  | 25-8 8-oz. \$0.95 |
|  | $\begin{array}{llll}160-8 & 8-0 \% . & 1.40\end{array}$ | 122-5 6.oz. $\$ 0.50$ |  |  | 25-16 16-oz. 1.65 |

(2)

## G.C RUBBING OIL

Rub, down newly finished or repaired cahb. inets to produce rich satin sheell finish.
No. List
$163.1616 \mathrm{foz} . \$ 0.75$

## G-C FLOOR WAX <br> High - grade heavy duty commercial selfpolishing floor wax. Gives hard, duralle finish. <br> No. List <br> 97-G 1 Gal $\$ 6.55$ <br> G-C LEMON OIL POLISH <br> Inexpensive polish for removing dust, finger marks, treating dust rags, mops, etc. l'icks up dust. <br> $\begin{array}{ccc}\text { No. } & & \text { List } \\ 91-8 & 8 \text {-oz. } & \$ 0.45\end{array}$

| G-C SCRATCH REMOVER POLISHES <br> DARK <br> LIGHT |  |  |  |
| :---: | :---: | :---: | :---: |
| Polish contains stains to remove scratches. | For light woods; polishes and removes |  |  |
| Sell to housewives. | scrat | 1es | same |
| No. List | time. | l'opul | witlı |
| 92.2 2-oz. $\$ 0.30$ | liour | ives. |  |
| $92-8.80$ | No. |  | List |
| 92-8-L ${ }_{\text {size }}^{8-0 \%}$ Lall $\quad .50$ | 93-2 | 2 -oz. | \$0.30 |
| 92-16 16 -oz. . 85 | 93.8 | 8 -oz. |  |
|  | 93-16 | 16-0\%. | . 85 |

## G-C CREME-O. WAX POLISH

White non-staining hard way hase polish produces a hardgloss finish. Excellent for radios, pianos, refrirerators, furniture etc erators, firniture, ete

| No. |  | List |
| :---: | :---: | :---: |
| $95-2$ | $9.0 z$. | $\$ 0.30$ | $95.8 \quad 8.0 \% \quad . .60$ 95-8-L 8-oz. Lab.



## G.C REFRIGERATOR PATCH KIT "New Improved Kit"

Supplies everything necessary to repair porcelain or Duco nicks, dents, or scratches. Kit contains hottle of pure white laç̧uer enamel and boltles of Yellow, Blue, Brown, and Black tinting colors, solvent, spatula, porcelain patch stick, sandpaper, and brushes, Useful on refrigerators, washers, ranges, tahle tops, etc. Directions included.

No. 902
List $\$ 4.35$


G-C DELUXE CABINET REPAIR KIT

## 'New Improved Kit"

Comes in handy metal hox. Contains ten shades of shellac sticks, loottles of light and dark oil stain, bottles of metal shadiug varrish, polish, General Skratch Stik, alcoliol lamp (with alcohol), spatula, small hrushes, steel wool, namtpaper, and wiping eloth. Evetything necessary for a wractical repair job. No special skill required. Directions included.

No. 901


## G-C MASTER CABINET

 TOUCH-UP KIT"Ideal Quick Touch-Up Kit"
Kit for French polishing. Only way to hend repairs with adjoining fintish. Kit includes varnish, emul. sion, pat, and instructions.

No. $\mathbf{1 6 0 - 0}$ List $\$ 1.40$


## G.C MAGIC SCRATCH KIT

Combination of 6 shades fillers and light and dark seratch fluid. Easy to use on emergency johs.

No. 915 List $\$ 1.40$

A complete, fast touch-up kit for repairing scratches and dents. Works on wood and plastic cahinets. The spirit flushes will not cut into the adjoining surface or injure surrounding firtish. Contains French varnish, emulsion, colored enamels, stains, polishes, and filler. Sandpatper, steel wool, rubbing eloth and directions included. l3rushes alrached to caps of all finish botlles. Put up in metal lox.

No. 907
List $\$ 3.25$


## G-C MASTER DELUXE CABINET REPAIR KIT <br> "New, Most Complete Kif"

A complete cabinet repair kit put in a pennanent metal box. All finishes supplied are spirit soluble and will not cut or damage surrounding finishes on cahinets, etc. Kit contains 10 shellac sticks, alcohol lamp, French vamishes, rubbing felt and fluid, enamels, glue, stee wool, samdpaper, polish, directions, etc. Nothing else nealed! The liest buy on the market! No. 900

List $\$ 9.95$


G-C RADIO-REFRIGERATOR CABINET PATCH KIT "New Improved Kit"
A kit of the shellac patch sticks to fill all needs. ralches wood, plastics, bakelite and porcelain. Nine shellac sticks for the light anm dark shades of wood, and black and white, alcohol lamp (with alcohol), spatula, steel wool, sandpaper and wiping cloth are packed in the metal box. Directions included.

No. 903
List $\$ 3.85$

## GENERAL (2) CEMENT GRILLE CLOTH-FLOCK KITS



G-C TOUCH-UP KIT
l'ractical for touching up small scratches and dents. Inclurles liglit and dark varnish and spirit stains, filler, cloth, brushes, etc.
etc.
No.
905 Kit $\quad \$ 1.10$

| G-C PLASTIC | G-C PORCELAIN |
| :---: | :---: |
| TOUCH-UP KIT | PATCH STICK |
| Kit contains 6 colons |  |
| touch - up lacquer | Marle for white nor- |
| ellamels to fix up | sinks, ranges fixtures, |
| plastic and colored cabinets. Walnut, | etc. Simply melt in |
| lvory, Black, Red. | to nick and minooth |
| Blue, Green, and | off. |
| brushes. | No. List |
| No. 910 Kit $\$ 1.40$ | 908 Stick \$0.40 |

G-C SHELLAC STICK KIT
Handy assortment of 10 colors to take care of any shale of wood. Same as in G-C Kits.

| No. |  | List |
| ---: | ---: | ---: |
| 925 | Kit | $\$ 1.80$ |

## G-C SHELLAC STICKS

ligh grade sticks for filling dents and nicks in wood cabinets and fumiture. Sticks $7^{\prime \prime}$ long. No. List No. List 929 I.t. Walnut $\$ 0.50 \quad 979$ Dk. Oak $\$ 0.50$ 930 Dk . Walnut $.50 \quad 980$ Transparent .50 933 Black $\quad .50 \quad 981$ Lt. Transp. 934 White 935 Maple 978 Lt. Oak $\quad .50$

981 Lt. Transp. $\quad .50$ 982 Walmit .50 983 Mahouany .50
984 Blonde Maple .50



## G-C FLOCK BLOWER GUN

It's easy to apply Hock and he sure to get a grood jol) with the G - C l'atented Gum. Gun can also he used for dusting and cleanimg

## No. <br> No. List <br> 180-3 Gun $\$ 4.35$ <br> 180-4-N Cleaningr <br> Nozzle for Gun 65

## G-C FLOCK UNDERCOAT

Material is first applied on surface to he fiocked. Then flowe is applied. Tred on metal, wood, paper, ete. Colors: [Brown, Taupe, Blue. IBlack, White, Ivory. Red freen, Silver and Golif (Sjecify Color).
No.
180.4

180-4 $4-07$ List $180-8 \quad 8$-oz. 1.95
G.C RUBBER BASE UNDERCOAT
Use as flock sizing on fabrics, upholsterinar turntables. He. Makes pliable coating.
No.
182-4 List $182-8$-0Z. $\$ 1.00$ $\begin{array}{ccc}182-16 & 16-0 \% & 1.75 \\ 18.02 & 2.50\end{array}$ FLOCK SIZING THINNER For \# 180 Unlercoat. $\begin{array}{lll}181.4 & \text { 4-OZ. } & \$ 0.45 \\ 781.8 & 8-07 & 60\end{array}$ $\begin{array}{lrr}181-8 & 8-\text {-oz. } & -60 \\ 181.16 & 1 \text { in-0z } & -85\end{array}$ 181-G 1 Gal. 4.15


## G-C FELT-KOAT FLOCK

Genuine Rayon Flock, $\frac{1}{1 B}{ }^{\text {" }}$ lencih fibers accurately cut, give heautiful even finish. One pound covers approximately 90 sq. ft. Colors: Brown, Tatpe. Blue. Black, White, Ivory Red, Green. Silver, and Gold. (Specify Color).

No.
180.5 2-oz. Can
$180-6 \quad 1 / 2$ - lib. Bag
180-7 1- Jh, l3ar

List
$\$ 1.00$
3.00
5.00

## G-C GENERAL SCRATCH STICK

 Renoves scratches. Simply run over scratches and they will disappear. Thandy to carry in your pocket or tool box for emergency repairs. Also sell to housewives.A.so
No.
909

909 Seratch Stik
$\$ 0.40$
909-D Display 12 Sitiks 1-A SKRATCH STIK DEAL - WIRE DISPLAY

FOR DEALERS
Dealers and servicemen - Display the No. 1-A Skratch Stik deal in your shop or store and sell Skratch Stiks to your customens. F.very home and odfice needs one. You can earn extra profit with this self-selling display No. 1-A Deal 12 Shratch Stiks Wite

List \$5.3

## G-C LUGGAGE FABRIC

Airplane type fabric for portables, test instruments, calbinets, etc. Colors: Gray and Brown. (Specify Color).
No,
List
$96018^{\prime \prime} \times 18^{\prime \prime} \$ 0.85$
$96136^{\prime \prime} \times 18^{\prime \prime} 1.65$
962 Any length,
$36^{\prime \prime}$ wide,
yer sarde, 3.05


## G-C CABINET SPEAKER GRILLE CLOTH

Beautiful modem patterns of Brown, Gold and light colors to match Walnut, Mahogany and Ivory calhinets. Specify "Ivory" when ivory is wanted.

| No. | Size | List | No. | Size | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 940 | $18^{\prime \prime} \times 20^{\prime \prime}$ | \$1.25 | 954 | $5^{\prime \prime} \times 10^{\prime \prime}$ | \$0.35 |
| 941 | $9^{\prime \prime} \times 18^{\prime \prime}$ | . 58 | 949-1 | 1-Yd. Pkgs., |  |
| 942 | $12^{\prime \prime} \times 12^{\prime \prime}$ | . 60 |  | 40 " Wide | 5.75 |
| 943 | $14^{\prime \prime}$ " $\times 18{ }^{\prime \prime}$ | . 70 | 949-1R | 40 " Wide Cont. |  |
| 944 | $24^{\prime \prime} \times 13^{\prime \prime}$ | . 90 |  | lgth.. per yd. | 4.95 |
| 945 | $18^{\prime \prime} \times 13^{\prime \prime}$ | . 70 | 949-2R | $50^{\prime \prime}$ Wide Cont. |  |
| 946 | $8^{8^{\prime \prime}} \times{ }^{\prime \prime} 8^{\prime \prime}$ | . 28 |  | lgth.. Ifer va. | 5.60 |
| 947 | $51 / 2^{\prime \prime \prime} \times 10^{\prime \prime}$ | .35 | 950 | 18oll $9^{\prime \prime} \times 12^{\prime \prime}$ | . 50 |

## G-C SPARKLE GRILLE CLOTH

Juke box metallic grille cloth. Beautiful cold pattern. Sparkles in the light. Very grod for ivory calinets also.
$\qquad$ No. List
telli. per
terl. Per $\$ 10.00$
958 Small Pat
tern. per Yd.


## G-C <br> INSTRUMENT FABRIC

Leatherette fabric to cover cabincts and in. struments. Same is used hy manufacturers. Colors: 1klack and Brown. (Specify Color),
No. List
$96518^{\prime \prime} \times 16^{\prime \prime} \$ 0.85$ $96618^{\prime \prime \prime} \times 32^{\prime \prime} 1.65$ 967 Any length. per yard 3.05


## G.C METAL FLOCKED

 GRILLE SCREENVery popular. l3oth sides flocked with ravon over galramized metal screen. Ived on radios, Y'A. speakers, intercoms, anto radios, ete. Waterproof, rlumable Colors: Brown, I vory, Maroon

| No. | Size |  | Color |
| :--- | :---: | :--- | ---: | List

## GENERAL GC CEMENT RADIO DIAL CORDS and CABLES



## THE THREE MOST POPULAR CORDS USED

G-C No. 75
STANDARD THIN
NYLON CORD
$028^{\prime \prime}$ diam. Most yopular; used on $95 \%$ of sets. 13raiderd nylon over fibre glass core In phastic container.

No. Spoo! List 75 -25 25 ft . $\$ 1.25$ $75.50 \quad 50 \mathrm{ft} . \quad 2.40$ $75-100100 \mathrm{ft} . \quad 4.50$ 75-11 Env. . 40

## G-C No. 75-A EXTRA THIN NYLON CORD

.025" diam. Used on RCA, GE. Strom.Carl., etc. Braited nylon over fibre glass core. In plastic container.
No. Spool List $75 \mathrm{~A}-25 \quad 25 \mathrm{ft} . \$ 1.25$ 75A-50 $50 \mathrm{ft} . \quad 2.40$ 75A-100 100 ft .4 .50 $75 \mathrm{~A}-11$ Env. $\quad .40$

G-C No. 74 MEDIUM NYLON CORD
$.040^{\prime \prime}$ diam. Very popular; used by RCA, Philco, GE, etc. Braicled nylon over film. glass core. In plast ic container.
No. Spool List $74-25 \quad 25 \mathrm{ft} . \$ 1.25$ $74-50 \quad 50 \mathrm{ft} . \quad 2.40$ $\begin{array}{lll}74-100 & 100 \mathrm{ft} & 4.50 \\ 74-11 & \text { Knv. } & .40\end{array}$

## G.C No. 70 BRAIDED BRONZE CABLE

$.040^{\prime \prime}$ diarn.; used on radio dials, instruments and for aireratt reel-in antemma cable phosyhor bronze braided over fibre mlase our fare strength. In plastio strength. In plastic container No. Spool List $\begin{array}{ll}70-25 & 25 \mathrm{ft} . \\ 70-50 & 51.25\end{array}$ $70-50 \quad 50 \mathrm{ft} . \quad 2.40$ $70-100100 \mathrm{ft} .4 .50$ 70-11 Env. . 40

## G-C No. 71 42-STRAND BRONZE CABLE

$040^{\prime \prime}$ diameter; 42 strands twisted phosphor bronze over fibre glass core. Radiodials, arcraft reel-in antennas, etc. Durahle and flexible. In plastic containers.
No. Spool List 71-25 25 ft . $\$ 1.25$ $71-50 \quad 50 \mathrm{ft} . \quad 2.50$ $71-100100 \mathrm{ft} . \quad 4.50$ 71-11 Env. .40

## G-C No. 73

 HEAVY NYLON CORD$.062^{\prime \prime}$ diameter; used on Philco, Majestic Brunswick, etc Very troner chemically ronted chemically lipping ry plasti ipping. In plastic container.

No. Spool List 73-25 25 ft . $\$ 1.50$ $73-50 \quad 50 \mathrm{ft} . \quad 2.75$ $73-100100 \mathrm{ft} .5 .00$ 73-11 Env. 40

|  |  |  |
| :---: | :---: | :---: |
| G-C No. 76 SPECIAL THIN BRONZE CABLE | G-C No. 73-X EXTRA HEAYY NYLON CORD | G-C No. 78 BRAIDED LINEN CORD |
| 025" diam. braided bronze as used on GE, RCA, and others. nections on si, eakers. conns. etc. In plastic container. | .072" diameter. Extra heavy cord as used by Plitco and others prevent slipping. In plastic contatiner. | $.040^{\prime \prime}$ diameter, same as used on Emerson drawing hoards, etc. Extras strons anil durable. In plastic con- tainer. |
| No. Spool "List | No. Spool List | No. Spool List |
|  | $73 \times-2585 \mathrm{ft}$ \$1.50 | $78.25 \quad 25$ fi. \$1.25 |
|  | $73 \mathrm{X}-50$ <br> $73 \mathrm{X}-100$ <br> $80 \mathrm{ft.t}$ <br> 100 ft <br> 2.75 <br> 5.00 |  |
| 76.11 Env. $\quad .40$ | $73 \mathrm{X}-11 \mathrm{Env}$. ${ }^{\text {a }}$. 40 | 78.11 Env. ${ }^{78-100}$ |



G-C No. 76 IAL THIN $025^{\prime \prime}$ diam. braided ronze as used on , KUA, and others hections on speakers eombs. etc. In Hastic No. Spool List $76.25 \quad 25 \mathrm{ft} . \$ 1.25$ $76-100100 \mathrm{ft} . \quad 4.50$ - $\quad .40$

G-C No. 73-X EXTRA HEAYY $072^{\prime \prime}$ diameier Exitra heavy cord as used by Phico and others prevant slipuing 10 ulastic container.

No. Spool List $\begin{array}{rrr}73 \times-25 & 25 \mathrm{ft} . & \$ 1.50 \\ 73 \times-50 & 50 \mathrm{ft} & 2.75\end{array}$ $73 \times-100100 \mathrm{ft} .5 .00$


## G-C NON-SLIP COMPOUNDS

Powder Compound For dials, corils, pulleys, helts. Prevents slipping.
No. List 1210 2-oz. $\$ 0.50$ Liquid I'enetrating liquid shrinks fibers, precord and belts cord and helts. $1215 \quad 2$ oz. $\quad 0.60$

## G-C No. 79

 MONEL metal cable$.035^{\prime \prime}$ diam. Strong and durable, non-cor rosive cable for rallio dials and inst ruments. Prefared by many to bonze cable. In plastic container

No. Spool List 79-25 $\quad 25 \mathrm{ft} . \$ 1.25$ $79.50 \quad 50 \mathrm{ft} \quad 2.40$ $\begin{array}{ccc}79-100 & 100 \mathrm{ft} . & 4.50\end{array}$

## G-C No. 80

 EXTRA THIN METAL CABLE$015^{\prime \prime}$ diameter. Very strong twisted steel cable. Popular on foreirn and export receivers, instruments, dials, ete. In plastic container.
No: Spool List
$80.25 \quad 25 \mathrm{ft} . \$ 1.25$ $80-50 \quad 50 \mathrm{ft} . \quad 2.40$ $80-100100 \mathrm{ft} . \quad 4.50$

G-C No. 82 EXTRA THIN PHOSPHOR bRONZE CABLE
$.012^{\prime \prime}$ diam. twisted of 7 stranids .004" phosphorbronze. Used on dial instrument and Amy and Navy Jadar Fouipment in Radar Equimment. In mastic container. $\begin{array}{lll}\text { No. } & \text { Spool List } \\ 82-25 & 25 \mathrm{ft} . & \$ 1.25\end{array}$ $\begin{array}{lll}82-50 & 50 \mathrm{ft} . & 2.40 \\ 82\end{array}$ $\begin{array}{ll}82-100100 \mathrm{ft} . & 4.50\end{array}$


G-C PHOSPHOR BRONZE BELTING
This belting is required to make repairs on somi of the oliler model sets. For A twater Kents ris $^{3 \prime \prime}$ wide $\mathrm{x} .005^{\prime \prime \prime}$ thick. $\begin{array}{llll}\text { No. } & & \text { List } \\ 61.25 & 25 \mathrm{ft} & \$ 1.50\end{array}$ For Brinnswicks ${ }^{6} 18$ " wide $\times .000^{\prime \prime}$ thick. 62-25 $2.5 \mathrm{ft} . \quad \$ 2.00$


G-C DIAL SPRING
KITS
Handy kit of springs as used on dial cord drives. Six sikes included.
No.
No. 1054 -E 10 Assorted $\$ 0.40$ 1054-SE 10 Small
1055 Kitings
1055 Kit 2. Asst. 1,20
1056 Kit 100 Asst. 4.20


## G-C READY made cables

Forpourular sets. Save time in repairing No. sese Mod Ro. Model List R7 linunswick,

15, 22 Front, $\$ 0.50$
15,22 Rear . 50 GE. A88.
A82, A87
Min'int ic, 70,
71,72

G-C DIAL CABLE TOOL

Handy tool to aid in stringing new dial cord and replacing calles slipped off pulleys and drums. It's like an extra hand. Specds up the job.

No.
$5096 \quad \$ 0.75$

## G-C HANDY

 PICK-UP TOOLVery handy for every one. Picks up pieces in hard - to - get - at places. Will hold and start serews, nuts, etc. Will pay for itself in short time.

| No. | List |
| :---: | :---: |
| 5089 | $\$ 1.50$ |

## 

## G-C DIAL CABLE RACK

Very handy, includes popular cables. llangs on wall or on hench. Handy measuring rule or sign. Kit includes rack and tive 25 ft . spools each Nos. $71,73,74,75$ and 76 cables.

No. List
7-A-25 \$6.50


## G.C No. 77-SK

 DIAL CORD KITContains four 25 ft . spools most popular cord; $75-25, \quad 74-25, \quad 76-25$, $71-25$, and free assort. ment of dial cord elamps and eyelets.

No.
77-SK Cable

## G-C No. 78-5K DIAL CORD KIT

Oombination kit in 10 ft . lengths of all G-C Dial Cables. Each in seqarate envelope, packed in leatherette hox. Handy for servicemen and experimenters.

No. No. List 78-SK Cable Kit $\$ 4.65$

G-C DIAL CORD CLIPS

Handy elipı and eyelet assortment used to fasten to ends of dial cords, etc. Required on every set.

No.
1028-E Assortment $\$ 0.40$

## GENERAL GC CEMENT

DIAL BELTS
RUBBER DRIVES－CRYSTALS

## G－C SERVICEMEN＇S DIAL BELT KITS

General Cement Bells are approvel replacements for all sets．They are mate of best quality material and will not streich．They are specially treated to pevent siipping．They are the best．Sizes availahle for all ets．They are easy to install as they are made to fit．No adjustments necessar

## BELTS－25c List Each

Servicemen！ITave an assortment of belts on hand for prompt replacement．Kits contain only the more popular belts used．hIT INGLUDES ATVRAC PLEITE LISTING OF OVFR 1100 MODELS．

## G－C SERVICEMEN＇S KITS

No．G． 25 －kit of 25 popular lielts $\$ 7.50$
No．G－ 50 －Kit of 50 popular betts ．．． 14.75
No．G－100－Kit of 100 （includes every size） 25.00

## INSTRUCTIONS－FOR MEASURING BELTS

隹
If old belt is not avaibable or is worn out so that it cannot be properly measured，stretch a thin thread around belt pulteys on set．（Be sure to use thin thread
 circumference around pulleys is not the same as stretched out or cut length
dejending on thickness of belt．

G－C RADIO BELT SPECIFICATIONS


| Circumference <br> Around <br> Pulleys | Cut Length | $\begin{aligned} & \text { GC } \\ & \text { Belt } \\ & \text { No. } \end{aligned}$ | Circumference <br> Around <br> Pulleys | Cut Length | GC Belt <br> No． |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 6－23／32＂ | 6－29／32＇ | 101 | $11^{\prime \prime}$ | 11－3／16＂ | 135 |
| 6－5．7／64＂ | 7－3／64＂ | 161 | 11－5／64＂ | 11－1i／64＂＇．．．．．． | 130 |
| 6－57／64＊ | 7－5／61＂ | 102 | 11－9／64＂ | 11－81／64＂＂．．．．．． | 131 |
| 6－15／16＂ | 7－1／8＂ | 158 | 11－5／32＂ | 11－15／32＂.... | 137 |
| 7－1／64＂ | 7－13／61＂ | 157 | 11－3／16＂＇${ }^{\prime \prime}$ | 11－3／4＂${ }^{\prime \prime}$ | 13 |
| 7－1／4＊＊ | 下－7／16＂ | 106 | 11－9／32＂x5／1 | 11－15／3．＂$\times 5 / 16^{\prime \prime}$ | I31W |
| 7－9／32＇＂ | 「－15／39＂， | 156 | 11－3／8＂ | 11－9／16＂＇，．．．．． | 134 |
| 7－13／32＂ | 5－19／3！＂ | 177 | 11－25／6 | 11－3／／64＂．．．．．． | $\begin{array}{r}136 \\ 173 \\ \hline 1\end{array}$ |
| 7－15／32＂ | 7－21／32 | 103 105 | $11-7 / 16^{\prime \prime}$ $11-21 / 32^{\prime \prime}$ | 11－07／3？＂ | 194 |
| 7－3．1／64＊ | 7－23／32＂ | 155 | 11－3／4＂ | $1)^{-15} / 16^{\prime \prime}$ | 141 |
| 7－11／16＂ | 7－1／8＂ | 107 | 11－13／16＂ | 12＂ | 143 |
| T－3／4＂ | 7－15／16＂ | 174 | 12＂ | 12－3／16＂ | 138 |
| 7－15／16＂ | 8－1／8＇＂ | 111 | 12－1／39＂＇ | 12－7／32＂ | 4 |
| 8－1／61＂ | 8－13／61＂ | 104 | 12－3／32＂ | $121 /{ }^{\prime \prime}$ | 142 |
| 8－1／32＂＇ | 8－7／32＂ | 159 | 12－7／32＂ | 12－13／32＂ | 140 |
| 8－3／32＂ | 8－9／32＂ | 113 | straight belt | 12－7／16＂－str．belt | 9 |
| 8－3／16＂ | $8-3 / 8 "$ $8-25 / 6$ | 172 | 12－9／32＂ | 12－15／32＂${ }^{\text {che }}$－ | 144 |
| 8 －15／64＂ | $8-27 / 61^{\prime \prime}$ | 114 | $12-1$＂＇ | $1^{\prime \prime}-11 / 16^{\prime \prime}$ | 17 |
| 8－25／64＂ | 8－37／64＂ | 110 | 12－39／64＂ | 12－51／64＂ | 145 |
| 8－1／2＂ | 8－11／16＂＇ | 109 | 12－13／16＂ | 13＂ | 168 |
| 8－39／64＂ | 8－51／61＂＇ | 153 | 13－3／16＂＇ | 13－3／8 ${ }^{\prime \prime}$ | 146 |
| 8－21／32＂＇ | 8－23／32＂ | 108 | 14－7／3＂＊ | 14－13／39＂＇ |  |
| 8－43／64＂ | 8－55／64 | 112 | 14－25／61＂＇ | 14－39／64＂ |  |
| $8-11 / 16^{\prime \prime}$ | 8－7／8 | 160 | 14－33／64＇＂ | 14－3／4＂ |  |
| 8－13／16＂＇ |  | 167 | 14－57／64＂ | 15－5／6 |  |
| $9^{9-1 / 16^{\prime \prime}} 9$ | $9-1 / 4 \prime$ | 117 | 15－1／64 | 15－13／64＂．．．．．． |  |
| $9-13 / 64^{\prime \prime}$ $9-19 / 64^{\prime \prime}$ | $\begin{aligned} & 9-9 j / 64 " \prime \\ & 9-31 \quad 64^{\prime \prime} \end{aligned}$ | 163 | 15－7／16＂ | 15－5／8＂ | 83 |
| $9-5 / 16^{\prime \prime}$ | 911 | 116 | 15－13／16＂ | $16^{\prime \prime}$ | 2 |
| $9-17 / 32^{\prime \prime}$ | 9－33／3？＂ | 119 | struight belt | 16＂－str be | 92 |
| $9-3 / 8^{\prime \prime}$ | 10－1／16＂＇ | 123 | 15－61／64＇ | $16.9 / 64^{\prime \prime}$ | 0 |
| 9－59／64＂ | 10－7／64＂ | 127 | 16－19／64＂ | 16－31／64＂ | 0 |
| 10－1／16 ${ }^{\prime \prime}$ | 10－1／4＂ | 126 | 16－2 ${ }^{-} / 64^{\prime \prime}$ | 16－39／61＂ |  |
| $10-1 / 4^{\prime \prime}$ | 10－7／16＂ | 164 | $16-15 / 16^{\prime \prime}$ | 17－1／8＂ |  |
| $10-17 / 64{ }^{\prime \prime}$＇， $10-19 / 64^{\prime \prime}$ | $10-29 / 64 "$ |  | $17-1 / 16^{\prime \prime}$ | $17-1 / 4^{\prime \prime}$ | 165 |
| $10-19 / 64^{\prime \prime}$ $10-23 / 64^{\prime \prime}$ | $10-31 / 64^{\prime \prime}$ | $128$ | $17-13 / 32^{\prime \prime}$ | 15-19/32"1"....... | 169 179 |
| 10－23／64＂ | 10－3．／64＂ | $\begin{aligned} & 118 \\ & 112 \end{aligned}$ | $17-37 / 64^{\prime \prime}$ | $17-19 / 64^{\prime \prime}, \cdots .$ | 179 190 |
| 10－3／8＇${ }^{\prime \prime}{ }^{\prime \prime}$ | 10－9／16＂＇${ }^{\prime \prime}$ | 122 125 | $\begin{aligned} & 17-5 / 8^{\prime \prime} \\ & 18-1 / 2^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 17-13 / 16^{\prime \prime} \\ & 18-11 / 16^{\prime \prime} \end{aligned}$ | 190 189 |
| $\begin{aligned} & 10-25 / 64^{\prime \prime} \\ & 10-1 / 2^{\prime \prime} \end{aligned}$ | 10－37／64＂＇， $10-11 / 16^{\prime \prime}$ | 125 152 | $\begin{aligned} & 18-1 / 2^{\prime \prime} \\ & 8-9 / 16^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 18-11 / 16^{\prime \prime} \\ & .18-3 / 4^{\prime \prime} \end{aligned}$ | 189 181 |
| $10-1 / 2^{\prime \prime}$ $10-41 / 64^{\prime \prime}$ | 10－11／16＂＇， | 129 | 18－7／16＂ | 19－5／8＂ | 6 |
| 10－11／16＂． | 10－7／8＂ | 121 | 19－47／64＂ | 19－59／61＂ | 188 |
| 10－45／61＂ | 10－57／64＂ | 120 | 21－5／16＂ | 21－1／2＂ | 175 |
| 10－27／32＂ | 11－1／3？＂＇ | 180 | 22－35／64＂ | ．20－47／64＂＇ | 176 |
| 10－61／64＂＇ | 11－9／64＂＇ | 133 | 22－19／64＂ | 2v－61／64＂ | 191 |

Buy a G－C Belt Kit and Get a Free Belt Replacement Guide

| AND | PHONO DRIVES |
| :---: | :---: |
| No． | List |
| 12 | Emerson．Majestic \＄0．10 |
| 13 | Small AK ． 10 |
| 15 | Philco ． 25 |
| 16 | General Industries， RX－L |
| 17 | Alliance 80 ，Admiral． Philco，VM，Gen，Ind． |
|  | Seeburg，etc．． 25 |
| 18 | $\mathrm{RCA} \quad .15$ |
| 19 | Ihilco．RCA，ete．． 15 |
| 20－E | Detrola．Ruhber Type .40 |
| 20－1－E | Spring for Detrola ． 50 |
| 21－A | Genetal Electric ． 15 |
| 22 | IRCA Rl＇－176．GE |
|  | $809-$－J，large itire 1.00 |
| 23 | RCA RP－176．GE． |
|  | 809－J，rim drive 20 |
| 24－E | Crescent $33 / 4$＂O．D．． 40 |
| 24－AE | Admiral，Crescent |
|  | $31 /{ }^{\prime \prime}$ O．D． 40 |
| 24B－E | Admiral $31 / 8{ }^{\prime \prime}$ O．D． 40 |



G－C RADIO DIAL GLASS AND CLOCK CRYSTALS
Round convex repls cement $\boldsymbol{q l}$ lass crystals for radios，clocks，auto radios，instru－ ments，panels，dasi board

| Diam． | List | No． | Diam． | List |
| :---: | :---: | :---: | :---: | :---: |
| $4 \frac{18}{\prime \prime}$ | \＄0．65 | 64 | $63 / 4{ }^{\prime \prime}$ | \＄0．65 |
| $41 /{ }^{\prime \prime}$ | ． 65 | 66 | $7^{\prime \prime}$ | ． 75 |
| 4 5／8＂ | ． 65 | 67 | $71 /{ }^{\prime \prime}$ | ． 75 |
| $43 / 4$ | ． 65 | 68 | $71 / 4{ }^{\prime \prime}$ | ． 75 |
| $47 / 8$ | ． 65 | 69 | $73 /{ }^{\prime \prime}$ | ． 75 |
| 5 \％ | ． 65 | 70 | $71 /{ }^{\text {\％}}$ | ． 75 |
| $51 / 8{ }^{\prime \prime}$ | ． 65 | 71 | $75 \%$ | ． 75 |
| $51 / 4 \prime$ | ． 65 | 72 | $73 / 4{ }^{\prime \prime}$ | ． 75 |
| $5 \mathrm{~m} /{ }^{\prime \prime}$ | ． 65 | 73 | $77 /{ }^{\prime \prime}$ | ． 75 |
| $51 / 2{ }^{\prime \prime}$ | ． 65 | 74 | $8^{\prime \prime}$ | .75 |
| 5 5／8＂ | ． 65 | 75 | $81 / 8{ }^{\prime \prime}$ | ． 85 |
| $53 / 4{ }^{\prime \prime}$ | ． 65 | 76 | $81 / 4^{\prime \prime}$ | ． 85 |
| $57 /{ }^{\prime \prime}$ | ． 65 | 77 | $83 /{ }^{\prime \prime}$ | ． 85 |
| $6{ }^{\prime \prime}$ | ． 65 | 78 | $81 /{ }^{\prime \prime}$ | ． 85 |
| $61 / 8{ }^{\prime \prime}$ | ． 65 | 79 | 8 \％＂ | ． 85 |
| $61 /{ }^{\prime \prime}$ | ． 65 | 80 | $83 / 4$＂ | ． 85 |
| $63 / 8{ }^{\prime \prime}$ | ． 65 | 81 | 87／8 | ． 85 |
| $61 / 2 "$ | ． 65 | 82 | $9^{\prime \prime}$ | ． 85 |
| $6{ }^{5}{ }^{\prime \prime}$ | ． 65 | 83 | $91 / 8{ }^{\prime \prime}$ | ． 85 |
| $67 /{ }^{\prime \prime}$ | ． 65 | 84 | $91 / 4{ }^{\prime \prime}$ | ． 85 |
| list of | 65 Cr | als |  | \＄38．50 |
| Kit of | 25 Pop | ar C | tals | 13.75 |



| MIDGET BAKELITE KNOBS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Set Screw TE M N |  |  |  |  |


| STREAMLINE POINTERS |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :---: | :---: |
| The most popular | A very popular point- |  |  |  |  |

## MODERN POINTER BAR KNOBS

## Brass Bushing

For intercomms and For intercomms and instruments. Blaek. instruments. Black Set serew, $1 / 4$ " shaft, Jinish. Set screw, $1 / 4$
$23 / 4^{\prime \prime}$ long. shatt, $15 / 8^{\prime \prime}$ long.
 1130-W Walnut .38 1131-W Walnut .35


 Brass bushing with set screw. No.
$1 / 4^{\prime \prime}$ Shaft List 1191 l'earl Gray $\$ 0.30$ 1192 Maroon 116 ith $^{\prime \prime}$ Shaft .30 1167 Jearl Gray $\quad 30$ 1168 Maroon

Set screw type auto radio knob. la' $^{\prime \prime}$ diam. x $7 / 8$ "high. For either $1 / 4^{\prime \prime}$ or $1^{\prime \prime \prime}$ shafts with bushing.

No. List
1195 Pearl Gray $\$ 0.30$ 1196 Maroon .30
$\qquad$


G-C AUTO RADIO KNOBS

Chrome plated. For $1 / 4^{\prime \prime}$ and $\mathrm{i}^{3 \prime \prime}$ shafts. Set screw mounting. No. List 1169 1/4" $\$ 0.30$ | 1174 | $\begin{array}{c}4 / \prime \prime \\ 18^{\prime \prime}\end{array}$ | $\$ 0.30$ |
| :--- | :--- | ---: |



G-C KNOB SET SCREW ASST. Handy set screw assortments for radio suobs. sliafts, pulleys. 6.32.8-32. and $10-32$.
No. List

106050 Asst. $\$ 1.10$
1061100 Asst. 2.00
1062-E 20 Asst. 40
$6605 \quad 30$ Asst. .65

G-C KNOB SPRING KITS
Twelve types of knots springs or wedges in kit
No.
1049 -E Env. 20 Asstd.
1050 Kit 35
1050 Kit 35
6619 Jar 35 Asstd.


## G.C KNOB FELTS

Used behind knobs. Saves cabinet.
No.
1065-E Fiv List
1065-E Env. 50 \$0.40


G-C KNOB BUSHINGS
Reduce from $1 / 4^{\prime \prime}$ to ${ }^{3 \prime \prime}$. For anto radios. No.
6751

G-C RADIO KNOB

Popular plastic knobs in assorted kits, all kinds of knobs incluted.

| No. | Quantity | List |
| :---: | :---: | :---: |
| 1140 | 35 Assta, P'ush-on Ruttons | \$3.95 |
| 1141 | 28 Asstd. Spring Knobs | 3.95 |
| 1142 | 24 Asstd. Set Screw Knobs | 3.95 |
| 1143 | 30 Asstid. All Type Knobs | 3.95 |
| 1144 | 15 Asstd. Auto Radio Knobs, for 1/4" and 9" shafts | 3.95 |

G.C RADIO KNOB PULLER

Very handy in removing knobs that are hard to pull off. Simply slip behind knol and pull off. Saves the cabinet and the knots.

No.
List


## GENERAL GP CEMENT <br> PHONO NEEDLES and ACCESSORIES



| G.C MASTER POINT PHONO |  |
| :---: | :---: |
| G-C CATHEDRAL | $\text { G-c } \underset{\text { NEEDLE }}{\text { SYMPHONIC }}$ |
| lif | Sut |
| 促 | life neerle desicned |
| ium a alloy tip |  |
| uniform repro. | Special osmium alloy |
| duction and long life. <br> Will save the recorts | lip gives true repro- |
| d rive excellent re- | durtion with less pres- |
| oduction for a lons | sure on the |
| ue. | ill last inde |
| List | No. List |
| 1430 Euch \$0.75 | 1435 Each \$1. |
| 31-D Display |  |
| $12=1430$ | $12 \# 14$ |

9.00

-C'JUKE SPECIAL' PHONO NEEDLE Loug life neerlle. Preferred by operators on coin machines, an tomatic records, elc. Precious osmium tip will give lone, hatd service and tone qual ity, even when usel with heavy pick-ups Will qive thousamis of plays.

| No. |
| :--- |

No. List List 1437-D Display 12 \# 143

## G-C RECORDING STYLUS

The liest cutting stylus made from alloy steel will give several hours of good cutting. Make your own recordings No. List 1433 Each $\$ 0.50$ 1434-DDisplay $12 \# 1433$, 433, 6.00

|  |
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## G-C RECORD-LIFE LUBRICANT

Simply wipe recort with "Recold-Life" will "Record-Life" and the needle will ylide over the record smootlily. Prevents recorl and needle wear; also eliminate noises and scratching sounds. Use also for maling records.


G-C REK-O.DOPE
Requited lubricant when reconding and cutting records. All purpose, it cools, cleans, lubricates, and hardens grooves when cut. Rek-O-Dope will rive better tone and longer life.
125.1 List No. List

$\begin{array}{lllll}125.1 & 10 \% & \$ 0.30 & 126-1 & 1.07 . \\ \$ 0.30\end{array}$ | $125-2$ | 2 -oz. | .60 | $126-2$ | 2 -oz. | .60 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $125-4$ | 4 -oz. | .85 | $126-4$ | 4 -oz. | .85 | | $125-4$ | $4-0 z$. | .85 | $126-4$ | $4-02$. | .85 |
| :--- | :--- | ---: | ---: | ---: | ---: |
| $125-6$ | f-0Z. | 1.00 | $126-6$ | $6-07$. | 1.00 |

G-C CORD CONNECTOR
randy cord comnecfor to connect phono motors to rarlio sets, for appliances, vacuum cleaners, stwing machines, ete.

| No. | List |
| ---: | ---: |
| 868 | $\$ 0.65$ |



## G-C SERVICEMAN'S NEEDLE PACKET

Handy package containing ten assorled high uluality ( -C Mas. ter-Point Needles. Packaged in attractive older which proterts the needle packages so that they are fresh aml new when you make your sale.

No. List
1432 Packet $\$ 9.50$

## G.C PECORD

 TURNTABLE FELTRe-cover phono turntables with rearly cut felts, Dark brown.
No. Dia. List

1292 7 7/8" $\$ 0.45$
$1296878^{\prime \prime} \quad .60$
$12939^{\text {\%/ " }}$ " 65
1294 11 \%/8" . 75
$1295 \quad 157 / 8^{\prime \prime} \quad 1.30$
Brown Felt -
By The Yard
$129836^{\prime \prime}$ Wile

## G-C DETROLA SPRING DRIVE <br> G-E - RCA

Genuine reulacement for Det rolaturntables. Spring drive with core inside. Used on Detrola. Utah, arnd Trela molels, ete.

## No

20-1-E Detrol:1
Spring $\$ 0.50$

Special $V$ and Rim drives for RCA, RP. 176 aml G.E. 809 -I turntables.

## No. List

22 Large Tite, $\$ 1.00$ 23-E Env. $2 \cdot \mathrm{Rim}$ Drives


## G-C PHONO NEEDLE STYLUS SCREWS

Here's the hard-to-get replacement thumb set screws for pick-up arms and recording heads! No.

List
105215 Asst. Stylus Screws
$\$ 1.65$
1052-E Env. 7 Asst. Screws
.40
1053100 Asst. Stylus Screws
Individual Phono Screw Specifications
Pl For Shure Brothers, ete.
P2 For Astatic. RCA. Seelhurg, Weloster, etc
P3 For Astatic. St romberg Carlson,
Uniersal. Wehsier. etc.
P4 For Rak-0-Cat. Weister, ete.
P5 For RCA. ete
P6 For RCA. etc
P7 For Wenster, ete.
P8 For Shure Brothers, etc.
P9 For RCA. Astatic, Webster, etc.
PlO For Audex, etc.

CARTRIDGE MOUNTING SCREWS
For mounting cartridges in I'hono Pick-Up Atins.
No.
6005-E Env. $604-36 \times 1 / 4$ ",
6005-AE Env. $604-40 \times 1 / 4$ "
List $\$ 0.40$ .40


## G-C STA-PUT PHONO-GEAR LUBRICANT

 New "STA-PUT" luhricant tor phento motors, gears, slafts, etc. Will not run or drip-it "Stays Put." Recommended $b y$ RCA, G-E, and others. No.1223 Tule $\$ 0.60$ 122-2 2-oz


## G-C PICK-UP \&

 CARTRIDGE
## SCREW ASST.

 Contains small size screws and bushings such as used on cartridges of pick-up armis. Very handy in replacius cartridges or repairing stripped thresuds.N0. 600 List
6000-E 30 Screws, $\$ 0.40$


## G-C PHONO NEEDLE AND

 PARTS CUP
## Stantard size bakelite

 cup for phono needles and paris. It makes handy holder for screws, nuts, parts, etc., on the service bencl.No.
1399
1399 Needle List
4


## G-C

PHONO TURNTABLE DRIVES RUBBER REPLACEMENT DRIVES
Fxact duplicates for rephacement of popular friction type phono turn-

## G-C RECORD CLEANING PAD

Specially treated soft felt pad for cleaning ath removing dust from records. Saves records.

No. List
$12904^{\prime \prime} \times 4^{\prime \prime} \$ 0.25$ $12916^{\prime \prime} \times 6^{\prime \prime} \quad .45$ (als)e drives. Use (i.C \# 35-2 Rub ber-to-Metal Cement for cementing nubber to rim.

| No. | List | No. | List |
| :---: | :---: | :---: | :---: |
| 16 | For General Industries | 21-A | For General Electric |
|  | RX-LX Motors \$0.25 |  | Models \$0 |
| 16-E | Env. 2 No. 16 Drives 40 | 21-A-E | Env. 2 No |
| 17 | For Alliance Mode] and Motorola | 22 | RCA RP-176, G-E 809-J, large tire |
| 17-E | Env. 2 No. 17 Drives . 40 | 23 | RCA R1P-176, G-E |
| 18 | For RCA 15 |  | 809-J, rim drive |
| 18-E | Fiv. 3 So. 18 Drives .40 | 23-E | Env. 2 No. 23 Drives |
| 19 | For Philco, RCA, etc. . 15 | 24-E | Crescent $33 / 4$ O.D. |
| 19-E | Env. 4 No. 19 Driyes .40 | 24-A-E | Admiral, Crescent, |
| 20-E | Detrola Ruhher 1)rive . 40 |  | $31 / 4{ }^{\prime \prime} 0 . \mathrm{D}$ ) |
| 20-1. | Detrola Spring Drive . 50 | 24-B-E | miral $3^{1 / 2}$ |

## GENERAL (G) CEMENT



G-C TOGGLE SWITCH
S.P.S.T. Radio and appliance switch. Open housing, underwritersapproved.Made by Cuther-ILammer, 3 ámp. 125 volt. Nickel Plated.
No. List
1339 S.l'.S.T. $\$ 0.45$


## G-C PUSH-ON PUSH-OFF SWITCH

For vacuum cleaners, appliances, test equip. ment. Made by $\mathrm{H} \& \mathrm{H}$ for G-C. Ratel at 3 amps., 125 volts. Nick. el l'lated.

No.
1338 S.P.S.T. \$1.45

## G-C BAT HANDLE SWITCH WITH WIRE LEADS

For vacuum cleaners, appliances, radio sets, etc. Made by H \& H for $G \cdot C$. Rated at 3 umps., 125 volte. Nick el Plated.
No.
1335 S.P.S.T. $\$ 0.95$


G-C ON-OFF PLATE

Will fit the G-C, II \& H, Cutler-ILammer, and other makes of standard switches.

No.
List
1329 Or-Off
Plate $\$ 0.05$


G-C BAT HANDLE TOGGLE SWITCH
Tear drop handle general purpose switch. Made ly H \& H for G.C. 3 amps., 125 volts. Nickel Plated.

No.
No. List
1330 S.P.S.T. $\$ 0.60$
$\begin{array}{ll}1331 \text { S.P.D.T. } & .75 \\ 1332 \text { D.P.S.T. } & 1.20\end{array}$
$\begin{array}{lll}1333 & \text { ロ.P. IM } & 1.30\end{array}$

## G.C TOGGLE SWITCHES

Rall handle seneral purpose switch. Made by H \& H for G-C. 3 amps., 125 volts. Nickel Plated. No.
1300 S.P.S.T. * $\$ 0.60$
1301 S.P.S.T. $\dagger \quad .70$
1302 S.P.I.T.* 80
1303 S.P.D.T. $\dagger .85$
1304 D.P.S.T.* 1.20
1305 D.P.S.T.T 1.25
1306 D.P. D.T.* 1.30
1307 D.P.D.T. 11.40

* $1 / 2$ ", Shauk Length


TON SWITCH

Two circuit, "slow make and quick break" momentary contact switch. One circuit normally ont, other off; pushing button reverses circuits in use. Mate by H \& II for (1.C. 3 amps; 125 No. List 1340 Switch $\$ 1.20$ PUSH BUTTON For 1340 Switch 1343 Button $\$ 0.35$


G-C ROTARY SWITCHES
lest grade enclosed rotary switches. Made by II \& II for G-C. 3 amps, 125 volts. Shafts $11 / 2^{\prime \prime}$ long. No.
I320 S.P.S.T.* $\$ 0.85$ 1321 S.P.S.T. $\dagger 1.00$ 1322 S.P.D.T. * .95 1323 S.P.D.T $\dagger 1.15$ 1324 D.P.N.T. $\dagger 1.45$ 1325 D.P.D.T.* 1.45 * 3 " Sh.P.T. $\dagger 1.70$ + "8" Shank Length.


## g-C NEUTRAL CENTER SWITCH

Handy radio, appliance and tester switch with 3 positions, On-Off-On. Rated 15 amps., 110 volts; 部" shank. Nickel Plated. No. List 1308 S.P.D.T. $\$ 1.25$ 1309 D.P.D.T. 2.00


## G-C HEAVY DUTY POWER

 SWITCHPush button, D.I.S.T. safetyswitch for transformers, racks, transmitters, refriserators and high frequency work Made by H \& II for G-C. 12 amps. 125 volts. Nickel llated.

No
1351 D.P.S.T. $\$ 2.20$

## G.C HEAVY DUTY POWER SWITCH

1).I'S.T. toggle power switch for motors, appliances, projectors, etc. Made by H \& H for G-C. 12 аmps., 125 volts. Nickel Plated.

No.
1350 D.P.S.T. $\$ 1.55$

## G-C SLIDE SWITCHES

For phonographs, tone controls, auto lights, electric trains, etc. $1 / 2^{\prime \prime}$ wile $\times 11 / s^{\prime \prime}$ center mounting

## No.

1355 SPS.T
1357 SIP $\$ 0.35$ 1358 D.P.S.T. . 45 1359 D.P.D.T. . 50

## G.C RADIO FRICTION TAPE

This narrow $3 / /^{\prime \prime}$ tape was particularly made for radio work. It eliminates waste and tearing of tape. It saves time and is handy to carry with you. No. Roll List | 870 | $65 \mathrm{ft} .3 / 8 " \prime$ |
| :--- | :--- | :--- |
| 871 | 65 ft. |
| $3 / 4$ | $\$ 0.55$ |



## G.C PLASTIC TUBING KITS

Handy kits of assortpid colors and sizes. Hileal for experimenters and servicement.
No. List 635 Kit of 25 635-D ft. Asstd. $\$ 0.90$ 636 No. 6357.20 636 Kit of 15 636-D Display 8 10.00

## G-C ASSORTED SPAGHETTI KIT

An assortment of $71 / 2$ lengths of spaghetti sleeving. 26 lengths to the kit. Sizes include from, No. ${ }^{17}$ wire to $3 / \mathbf{l}^{\prime \prime}$ I.I). A very handy bundle to have for repair jobs. No. List
550 Kit 26 Lengths $\$ 0.65$

## G.C SPAGHETTI ASSORTMENT <br> "A Box Full, of Spaghettl"

Here's a buy you can't beat on a spaghetti assortment. A variety of sizes and colors are incluiled of high grade varuish tubing. I'ut up in attractive box.
No. List
$551 \quad \$ 1.25$

## G.C SPAGHETTI ON SPOOLS Approved by 5000-Volt Dielectric Strength <br> Best grade varnished tubing put on conerient $20-\mathrm{ft}$. spools. Will fit wire from No. 12 to No. 18. Colors: Black, Red, Yellow, color. <br> No. 499 <br> Spool List 20 -ft. $\$ 1.95$

## G.C COATED SLEEVING

Best grade varmished sleeving. Dielectric strength 2000 volts. Colors: Black, Red, Yellow, Grecn, Brown. Specify color.

| No. | Size | List |
| :---: | :---: | :---: |
| 525 | No. 20, fit 20 wire | \$0.11 |
| 528 | No. 17, ftt 18 wire | 12 |
| 531 | No. 14, fit 14 wire | . 15 |
| 533 | No. 12, fit 12 wire | . 15 |
| 537 | 3/8"I.D. | . 20 |
| 540 |  | . 30 |
| 543 | 1/4"I.D. | . 35 |
| 546 | 3/8" I.D. (resist. size) | . 60 |
| 547 | ${ }_{18}^{78}$ "I.D. | . 75 |

Best grade Radio aml Television spaghetti. Smooth coated, with best varnishes lery flex ible. 5000 volt dielectric. Approved by ASTM. Colors: Black. Red. Yellow, Green, Brown Specify color. $30^{\text {" }}$ lengths.
No.
5
5
503 No. 17 , fit 18 wire
506 wire
506 No. 14 , fit 14 wire
508 No. 12, fit 12 wire
$\begin{array}{ll}512 & 1 / 3 \\ 515 & \text { "I.D. }\end{array}$

| $\begin{array}{l}521 \\ 522 \\ 523\end{array}$ |
| :--- |

All sizes available in continuous lengths on suecial order of 1,000 feet or more. heat. High diplectric trenth, average 8.000 volts. Put up in at tractive individual boxes for easy hambline Colors: Black, Red, Green, Clear (Specify) No. Wire Ptd. | No. Wire | Pkg. | List |  |
| :--- | :--- | :--- | :--- |
| 616 | 6 | $10 \mathrm{ff}$. | $\$ 0.95$ |
| 617 | 4 | 10 | ft. |
|  | .95 |  |  |

 $6071420 \mathrm{ft} . \quad .95 \quad 620 \quad 2 \quad 10 \mathrm{ft} . \quad .95$ $60912 \quad 20 \mathrm{ft} .95 \quad 625 \mathrm{Fits}$ over 300 $\begin{array}{cccccc}611 & 10 & 15 & \mathrm{ft} & .95 & \text { ohm Twin Line } \\ 613 & .8 & 15 \mathrm{ft} & .95 & 8 \mathrm{ft} . & .95\end{array}$
> $1 \begin{aligned} & 1 / 4 " \text { I. I. } 1 \text {. (resist. size) } \\ & 3 / 8 \\ & \text { I. }\end{aligned}$

$\begin{array}{ll}522 & \text { Th }^{7} " \text { I.D. } \\ 523 & 1 / 2 \\ \end{array}$
List
$\$ 0.18$


$\qquad$

## G-C RADIO SPAGHETTI



## High gratce extremely flex-

ible plastic tubing for Ra dio and Electronic Insulation work. Resistant to cold

## .C GENFLEX PLASTIC TUBING


-

| GENERAL 26 | CEMENT RADIO SOCKETS－PLUGS－JACKS |
| :---: | :---: | :---: |


| $\begin{array}{r} \text { G.C } \quad \text { ST } \\ \text { BAKELITE SOCK } \end{array}$ | NDARD | TUBE | SOCKETS <br> WAFER SO |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| High quality molded | bakelite | No． | Mntg | Center |  |
| sockets with plated br |  | 1534 |  |  |  |
| tacts．Three groundin | lugr on | 1535 | ${ }_{6}^{5 \text {－prong }}$ | 11／2＂， | ． 15 |
| base of eacli socket． 1 |  | 1537 |  |  |  |
| No | st | 1537－L | 7－pr．Large | $11 / 2^{\prime \prime}$ | 18 |
| 1528 8－prong Octal | \＄0．15 | 1538 | 8 －pr．Octal |  | 18 |
| 1528－L． 8 －prong Loctal | ． 25 | 1538－2 | 8－pr．Octal |  | $18$ |

## bakelite miniature socket

For Miniature Tubes
High quality molded bakelite socket with metal suddle mount－ ing．Made with phosphor bronze plated contacts for 7 －prong tubes． pated contacts for 7 －prong tubes．
Standard $/ 8 \%$ mounting centers．
No．
List
7540 Bakelite Socket $\$ 0.25$

## TUBE SOCKETS

WAFER MINIATURE SOCKET For Miniature Tubes Itigh grade bakelite sockets for new miniature tules．Phosphor bronze contacts，for 7 －prong tubes．Standard $7 / 8^{0 \prime} \mathrm{mtg}$ ．centers No．List $\begin{array}{ll}1541 & \text { Wafer Socket } \\ 1542 & \text { Wafer Socket with }\end{array}$ 1542 Wafer Socket with groundiner st rap


G－C 860 CAP
Spring action flat brown bakelite cap． Approved brass blades．


BLOCK
3－plug．Bakelite out－ let for extension cords． Can fasten to wall or
lase．
No．
$\begin{array}{ccc}\text { liase．} & & \text { List } \\ \text { No．} & \\ 866 & \text { Brown } & \$ 0.50\end{array}$



G－C 867 PLUG
Popular screw plug for standard sockets． No．List 867 Plug $\$ 0.17$

G－C CUBE TAP
New type spring ac－ New type spring ac－
tion cuhe tap with 3 outlets always avail－ able．

## $\square \quad\left(\begin{array}{l}0\end{array}\right.$



\section*{G．C AUTO ANTENNA PLUG Shielded connector plug as used on Mo－ torola and other auto radios． <br> 1740 <br> G－C ANTENNA CONNECTOR JACK <br> Shielded jack to fit the 1740 plug for au－ to ant ennal and phono－ graph conuection． <br> | List | $\mathrm{No}_{1}$. |
| :---: | :---: |
| $\$ 0.15$ | 7741 |}

G－C PHONO PLUG For all phonographs and auto radio con－ nections；RCA，Zenith， Philco and others．

## No． 1742

1742
$1742-E$ Env of $\$ 0.10$

## G－C PHONO JACK

Used for phonograph attachments．To be used with 1742 plug． No． 1743 1743 \＄0．15 1743－E Env of $\$ 0.15$

## G－C CORD

 CONNECTORBrown bakelite with bronze contacts． No． No．
863 Brown $\$ 0.25$

120

## G－C EXTENSION JACK AND CONNECTOR

For extending radio ant．cables and phono attachments．Fits 1740 or 1742 plugs． No．
$1744 \quad \$ 0.20$



## G－C JUMBO

FUSE HOLDER
14 amp．fuse holder， diameter．
No．
1748

## G－C ANTENNA

 CONNECTOR END To be used with regu－ lar antemna connec No．List 1750 $\$ 0.10$\section*{－C MOTOROLA <br> Adapter plug used to adapt bayonet type connect or to Motorola type． <br> | No． | $\begin{array}{l}\text { List } \\ \text { No．} \\ 1745\end{array}$ |
| :--- | :--- |
| 0.40 |  | <br> 8}


| $\begin{aligned} & \text { C ADAPT } \\ & \text { SHELL } \end{aligned}$ |  |
| :---: | :---: |
| to |  |
| a fitting to | On auto anternia |
|  | inles． |
| Li | ${ }_{17}^{\text {No }}$ |

## 



CONNECTOR
Regular Type
Useal on atuto radios and other equipment． Completely assembled． No．List $\begin{array}{cc}\text { No．} & \text { List } \\ 1749 & \$ 0.20\end{array}$

G－C REPLACEMENT PARTS FOR ANTENNA AND FUSE CONNECTORS

## No．

（a）Sleeve of Fuse Connector $\$ 0.05$
1791 －G Fox of 144 No． $1791 \quad 7.20$
（b） 1792 Slee of Antenna Connector .05
（c） 1793 －GBox of 144 No． 1792 1793－Gllox Connector 1790 Gino of 144 N 亿． $1793 \quad 7.20$ 6720 Auto Fuse Insulator Sleeve ． 02 6720－GRox of 144 No． 6720
（e） 1796 Spring for Antennit and Fuse 1796 Comector
$\begin{array}{lr}1795 \text { Bakelite Bushing } & .04 \\ 1795-\mathrm{GBox} \text { of } 144 \mathrm{No.} 1795 & 4.00\end{array}$

## SCREW TYPE

 Laminated bakelite strips，rigidly con－ structed，terminals will not turı and short．$\begin{array}{ccc}\text { No．} & \text { Contacts List } \\ 1772 & 2 & \$ 0.18\end{array}$

## SOLDER TYPE

| Mounted on laminated bakelite strips．Lugs securely fastened and will not turn． |  |  |
| :---: | :---: | :---: |
| No． | Contacts | Lis |
| 1781 | 1 | \＄0．05 |
| 1782 | 2 | ． 06 |
| 1783 | 3 | ． 07 |
| 1784 | 4 | ． 11 |
| 1785 | 5 | ． 12 |
| 1786 | 6 | ． 13 |
| 1787 | 7 | ． 14 |
| 1788 | 8 | ． 15 |
| 1789 | 9 | ． 18 |
| J79n | 10 | ． 20 |

## G－C PHONO

SPRING KIT

## Kit contains assoried

 springs same as are used on phono tum－ tables．With this kit you can replace the broken or weak spring without waiting or delay in service．No．
6478 Kit of $50 \$ 2.50$ 6479 Kit of $100 \quad 4.40$

## G－C AUTO FUSE INSULATOR

 SLEEVEInsulating sleeve to fit regular fuse hold－ ers．
No． List 6720－E Env，of 16 ， $\$ 0.40$

|  |  | ＂FISH PAPER＂ |
| :---: | :---: | :---: |
| G－C INSULATING CAM8RIC 10，000 Volts | G－C LAMINATED BAKELITE PANELS <br> 在＂thick．Black． | G－C FYBEROID <br> ＇＇FISH PAPER＇ <br> Fish paper hus many uses around the shops |
| Yellow varnished cam－ bric． $010^{\prime \prime \prime}$ thick． |  | for repair jols where electrical insulation |
| No. List | $5906^{\prime \prime} \times 0^{\prime \prime} \times{ }^{1 / 16^{\prime \prime}}$ | $\begin{aligned} & \text { is required. } 010^{\prime \prime}- \\ & 240^{\text {sq. in. roll. }} \end{aligned}$ |
| 549 Roll over ${ }^{2} 10.75$ | $5916^{6 \prime \times 12} \times 1{ }^{\text {¢ }} 10$ | No．List |
| $54830^{\prime \prime} \times 36^{\prime \prime}$ <br> any length 4.00 | $59212^{\prime \prime} \times 12^{\prime \prime} \times 2.20$ | 560 Roll \＄0．50 |

## 



## G－C RUBBER KIT ASSORTMENT

Handy kit to keep in the shop．Contains various sizes of rub－ her grommets，chas－ sis mounts，etc．A excentional buy
No．
7600 Rubber Kit ${ }^{\text {List }}$

## G．C RADIO

 CORD SETS
## Iandy replacement

 cord sets，ready to at－ tach to radio sets andl appliances，Approved Brown narallel wire with plugs attached．No．List
$\begin{array}{lrr}885 & 6 \mathrm{ft.} & \$ 0.45 \\ 886-\mathrm{P} & 71 / 2 \mathrm{ft} . & .60\end{array}$

## G－C EXTENSION

 CORDSG－C extension cords are made of approved wire ready to use with a plug on one end and a 3－way tap on the other end．Brown．
No．List
$\begin{array}{lr}887 & 6 \mathrm{ft} .\end{array} \$ 0.75$

## GENERAL <br> CEMENT SIGNAL LIGHTS - CONNECTORS - CLIPS



G-C ONE.INCH JEWEL SIGNAL LIGHT
For signal devices of all types. Bulbs change from the front; for socket lases as listed below. Oneinch mounting hole. Jewel colors: Red, Green, Blue, Amber, Opal, and Clear (Specify Jewel Color). $7{ }^{\text {No. Socket Jewel List }}$ 7901 110-1. Cant. Facets $\$ 1.40$ 7902 110-V. Gand. Smooth 1.40 7903 Min . Bayonet Facett 1.40 7904 Min . Bayonet Smooth 1.40 $\begin{array}{llll}7905 & \text { Min. Screw } & \text { Facet } & 1.40 \\ 7906 & \text { Min. Screw } & \text { Smooth } 1.40\end{array}$

G-C $3 / 4-1$ NAH JEWEL SIGNAL LIGHT
All purpose signal light with faceted jewels in colors of Ked, Green, Blue, Amber, Opal. Clear. $\dagger_{z^{\prime \prime}}$ mounting hole. Jewess removed from front. (Specify Jewel Color)

| No. | Socket | List |
| ---: | :--- | ---: |
| 7907 | Min. Screw | $\$ 0.80$ |
| 7908 | Min. Bayonet | .80 |
| 7909 | 110. | Candel | 7909 110.V. Candela. 80

## GCC 1/2-INCH JEWEL SIGNAL LIGHT

Popular signal light, requires only ${ }^{7}{ }^{7}{ }^{\prime \prime}$ mounting hole. Faceted jewel removed from front. Colors: Red, Green, Blue, Amber, Opal, Clear. (Specify Jewel Color).

| No. | Socket | List |
| ---: | :--- | ---: |
| 7910 | Min. Screw | $\$ 0.35$ |
| 7911 | Min. Bayonet | .40 |
| 7912 | 110. V. Candel. | .40 |

## G-C PANEL JEWELS

Complete assemblies in $\mathbf{1}^{\prime \prime}, 3 / 4^{\prime \prime}$, and $1 / 2^{\prime \prime}$ diameters. Fit panels up to $1 / 4^{\prime \prime}$ thick. Brass nickel-plated Colors: Red, Green, Blue. Amber Opal, Clear. (Specify Jewel Color).



## G-C CLIP-ON PILOT LIGHT SOCKETS

Clip up and clip down types for replacements. Cadmium-plated.
No. Type List 7920 Min. Screw Clip Up $\$ 0.15$ 7921 Min. Screw Clip Down 15 7922 Min. Bay. Clip Up .17 7923 Min. Bay. Clip Down . 17 7924 110-V. Canc. Clip Up . 20 7925 110.V. Cans. Clip Down


## G-C BRACKET-TYPE

## PILOT LIGHT SOCKETS

Sturdy bracket-up or bracket down type. Cadmium-plated. No. Type 7926 Min. Screw Bracket $\$ 0.1$
7927 Mp M. Screw Bracket $\$ 0.15$
.15
7928 Min. Hay. Bracket Up . 17
7929 Min. Bay. Bracket
$7930 \begin{aligned} & \text { Down } 110-\mathrm{V} . \mathrm{Candel} .\end{aligned}$
.17

7931 Bracket Up
.20
Bracket Down



## G-C UNMOUNTED PILOT LIGHT <br> G-C PILOT LAMP INSTALLER

 SOCKETSCadmium plated. Ideal. for replacements or special assemblies.
No. Type List 7932 Min. Screw Base $\$ 015$ 7933 Min. Rayon. 7934 110-V.

Candelabra .16

Makes it easy to install miniature dial bulbs, neon and candelabra lamps in hard-to-get-at- places. All rubber.

No. List
7935 Installer $\$ 0.40$

## G-C DOUBLE ALLIGATOR CLIP

Brand New! A clip on both ends. Handiest connector made for joining wires, making temporary circuits, repairs; for tests, experiments, etc. Cad-mium-plated.

No.
7758-E Envy


## G.C MALE MICROPHONE CONNECTOR

Completely shielded, sturdy, single contact connector. Brass bright chrome-plated Steel spring cord pro lector.
No.
LIst
7940 Connector $\$ 0.45$

## G.C FEMALE MICROPHONE CONNECTOR

Single contact female type used with No. 7940,7941 and 7943 connectors. Complete, brass chrome-plated.
No.
7942 Connector $\$ 0.55$

## G-C MICROPHONE CHASSIS UNIT CONNECTOR

Single contact male connector for chassis. Used with type 7912 Used with type 942 oriel complor.sup rel- Bras nickel-plated.
No.
7941 Connector $\$ 0.35$

## MICROPHONE <br> CONNECTOR

Single contact, closed circuit type, prevents open circuit noises when microphone is disconnected. Chassis type, use with type No. 7942 female con nector Brass, nickel plated plated
7943 Connect List

## GcC MICROPHONE CONNECTOR CAP

Chrome plated cap with plated all connectors for connectors. Sea against dirt and pere

No. List
7944 Connector
Cap $\$ 0.50$

GCC INSULATED ALLIGATOR CLIP Solder type with Red or Black insulated sleeve. Strong spring. Nickel plated.
No.
5064 Red Clip List 5064-E Env of 20
5065 Black Clip ${ }^{20}$ 5065-E Env. of 2 ,
$\square$

## GCC ALLIGATOR CLIP <br> Solder type, non-insulated. Strong spring for positive contact. Nickel-plated. <br> No. 5063 List 5063 Clip $\$ 0.12$ <br> 5063-E Env. of 3, 40

G-C ALLIGATOR
CLIP
Wire fastens under set screw. Handy for all screw. Handy for all
types of connectors. types of connect
Cadmium - lated.

No.
7752 Clip $\$ 0.18$

## GCC SCREW

 TYPE INSULATED ALLIGATOR
## CLIP

Very popular. Bright polished handles. Set screw for wire.
No. List
7750 Blk . Clip $\$ 0.25$


## G.C AMMETER

CONNECTOR
Easily clips to the ends of screws. Posi-
tive fast connector.
No.
6307 Each $\$ 0.12$ 6307-G1 lox $1+\$ 16.05$

## G.C SMALL CLIP

$1 / 2^{\prime \prime}$ long by ${ }_{3}{ }^{\prime 2}{ }^{\prime \prime}$ wide. Handles up to No. 16 wire. No 6 Mtg . Hole. ${ }_{6301}^{N o}$ List 6301-GBox $144 \begin{array}{r}\text { \$0. } \\ 230\end{array}$

NESTOCK CLIPS G-C MEDIUM CLIP $3 / 4{ }^{\prime \prime}$ long by ${ }^{5}{ }^{6 \prime \prime}$ wide. Handles up to No. 14 wire. No. 6 Mig. Mole. No. List 6302 Each \$0.03

(Also see other listing Page U-105) GCC LARGE CLIP $11_{6}^{1 /}$ "long by $3 /{ }^{3}$ "wide. No. 8 Mtg . Hole.


No. List 6303 Each \$0.04 6303-G13ox 1442.65

## GCC MEDIUM

 SOLDER LUG CLIP $3 / 4{ }^{\prime \prime}$ long by ${ }^{6}{ }^{6}{ }^{\prime \prime}$ " wide. No. 6 Mtg . Hole. No. List 6306 Each \$0.04 6306 -GBox 1443.40
## G-C DOUBLE CLIP

$11 / 2^{\prime \prime}$ long by ${ }^{8_{8}^{\prime \prime}}$ wide. No. 6 Mtg . Hole.
$\qquad$ 6304 Each $\$ 0.14$ 6304-GBox $14+21.40$

## general (96) cement TEST PRODS-PLUGS-TIPS



G-C TEST LEAD WIRE
Ideal long-life replacement wire, extra flexible, 6000 volt insulation. Red and Black (Specify color).
No.
List
5049 Env. 1 Red, 1 Black, $50^{\prime \prime}$ long,
5049-C 100 -ft $\$ 0.50$ $\begin{array}{lrr}5049-\mathrm{C} & 100 \mathrm{ft.} & 5.00 \\ 5049-\mathrm{M} & 1000 \mathrm{ft.} & 45.00\end{array}$


G-C MASTER TEST LEADS
Heavy duty type. Very hest. 6000 volt test, $50^{\prime \prime}$ extra flexible wire. Solderless connectors. Polished, colored plastic prods, removable tips. Brass nickel-plated. One Red, one Black lead.
No
$\begin{array}{ccc}\text { No. } & \text { List } \\ 5050 & \text { Test Leads } & \$ 1.50\end{array}$

| G-C TEST PRODS |  |  |  |
| :---: | :---: | :---: | :---: |
| Solderless type non-breakable filre. Removable tip, brass nickel-platel. |  |  |  |
| No. | Size | Color | List |
| 5041 | $51 / 4 \prime$ | Red | \$0.40 |
| 5042 | $51 / 4 \prime$ | Black | . 40 |
| 5043 | $71 / 4 \prime$ | Red | . 50 |
| 5044 | $71 /{ }^{\prime \prime}$ | Black | . 50 |



## G-C INSULATED

 TEST PROD TIPSUnbreakable polished plastic insulated handles. Solderless connectors, brass nickel-plated.
$\begin{array}{ll}\text { No. } & \\ 5061 & \text { Red } \\ 5061-E & \text { Env. } 2 \\ 5062 & \text { Black } \\ 5062 & \end{array}$


## G-C TEST PROD TIPS

Solderless type, brass nickelplated. Non-insulated. Wire fastens easily.
No.
5060
5060-E Env

List
$\$ 0.15$
.40

List
$\$ 0.24$ $\begin{array}{ll}5062-E \text { Env. } 2 & .24 \\ & 40\end{array}$

## G-C LOW-LOSS

 DELUXE TEST PRODSNew polished low-loss material. Non-breakable. Mojsture resistant. Withstands high voltages. Solderless type, brass nickel-plated.

| No. |  | List |
| :---: | :--- | ---: |
| 5045 | Red | $\$ 0.50$ |
| 5046 | Black | .50 |

## G-C NEEDLE POINT

 TEST PRODSAdjustable chuck tip for needle. $6^{\prime \prime}$ polished plastic handles in Red or lslack. Brass nickel-plated chuck removable. Includes needle. (Specify color).

No. List $701 \quad \$ 0.50$ $\$ 0.50$

## G-C MODERN

 PHONE TIP PLUGNew type safety tip plug flts standard phone tip jack Solderless connectors, brass plated nickel contact.

| No. |  | List <br> 7704 <br> 7705 |
| :---: | :---: | :---: |
|  | Red <br> Black | $\$ 0.50$ <br> .50 |
|  |  |  |

G-C SOLID STANDARD PHONE TIP
Solid brass type made to RMA specifications. Bright nickel-plated.

| No. |  | List |
| :--- | :--- | ---: |
| 6321-E | Env. 8 | $\$ 0.40$ |
| 6321-G | Pkg. 144 | 6.75 |

## G-C STANDARD PHONE TIP

Made of drawn brass with hole through center for easy soldering of wire at tip. Bright nickel-plated.

| No. |  | List |
| :---: | :---: | ---: |
| 6320 | Env. 16 | $\$ 0.40$ |
| 6320 -G | Pkg. 144 | 2.95 |
| 6629 |  |  |

## G-C PHONO NEEDLE POINT TEST PROD CHUCK

## Push on type fits snugly in

 1/4" hole. Brass nickelplated.No.
7703
List
$\$ 0.20$


G-C INSULATED PHONE TIP JACKS

Standard insulated type Stanclard insulated type phosphor bronze spring contacts. $3 / 3^{\prime \prime}$ insulated head. Fits $1 / 4$ " hole and panels up to $n$ nekel-plated.
List
$\$ 0.15$

## G-C SPRING BANANA PLUG

Insulated solderless type with polished insulated liandles. Non-collapsibie sprine action plur Metal parts nickel-plated.
No.
List
$\$ 0.20$


## G-C PHONO NEEDLE POINT TEST PROD CHUCK

Threaded chuck fits $1 / 4-20$ threaded hole. Needle removable. lirass nickelplated. Includes needle.

G-C HEAVY DUTY PHONE PLUG
Standard type as used on test prods. learls, etc. Fits snugly in $1 / 4^{\prime \prime}$ hole. 13rass nickel-plated.
No.
7706
List
$\$ 0.15$


## G-C INSULATED PHONE TIP PLUG

Fits standard phone tip jacks. 1'olished non-breakahle low-loss plastic insulatel handles plastic insu-. latei handes. Mrass, nickepated tip. tact exposure.
tact exposure.

G-C INSULATED SPADE LUG

Tapered spade lug fits all screws or terminal strips up to No. 10. Insulated female end fits banana plugs.

| No |  | List |
| :--- | :--- | ---: |
| 7712 | Red | $\$ 0.20$ |
| 7713 | Black | .20 |

## G-C SET SCREW TYPE <br> BANANA PLUG

Insulated set screw type. Folished insulated plastic handles. Non - collapsible spring action banana type plug. Nickel-plated metal parts.

## G-C SMALL BANANA

 PIN PLUGSApproved silver - plated plugs with straight shank Can be riveted or soldered. For wires, multiple plugs, etc.

| No. | List |  |
| ---: | ---: | ---: |
| 6400 | Env. 10 | $\$ 0.40$ |



## G-C SPRING BANANA PLUG

Standard size with 6-32 threaded shank. Use on plug-in coils, terminal strips, etc. Complete with lug and nut. Brass nickelplated.

No. List
7736 \$0.15


## G-C SPRING

 BANANA PLUGStandard size with 6-32 female thread on end. Supplied with screw and solder lug. Brass nickel-plated.
No. List
$7737 \quad \$ 0.15$


G-C BANANA JACK
Standard size banana pin jack. Fits $1 / 4^{\prime \prime}$ hole up to $3 / 8$ " thick panel. Nut and lug supplied. Brass nickel-plated.
$\begin{array}{rr}\text { No. } & \text { List } \\ 7740 & \text { p0.15 }\end{array}$
7740

G.C INSULATED BANANA JACK
Standard size with polished plastic insulators. Fits $1 / 4$ " hole, up to $3 / 8^{\prime \prime}$ thick panel. Nut, Iug, and insulators supplied. Brass, nickel-plated.

No
7741
7741 Red $\$ 0.20$
7742 Black $\quad .20$


## G-C RCA

 PHONO PIN PLUG AND JACKRCA types used on many type receivers. Also used as auto antenna connectors.

No.
No. List
1742 Mdgt . Plg. $\$ 0.10$
1742-E Env. 4.40
1743 Midget Jck. . 15
1743-E Env 15

G-C INSULATED BANANA PLUG OR PHONE TIP JACK
Standard size insulated combination jack. Brass nickelplated with phosphor bronze spring contacts. Fits $1 / 4^{\prime \prime}$ hole, panels up to $5 / 8$ " thick.
$\begin{array}{ccc}\mathrm{No} \text {. } & \text { List } \\ 7744 & \text { Red } \\ \$ 0.30\end{array}$ $\begin{array}{llr}7744 & \text { Red } & \$ 0.30 \\ 7745 & \text { Black } & .30\end{array}$

# GENERAL <br> <br> CEMENT <br> <br> CEMENT <br> ALIGNMENT TOOLS - KITS 

g-C COMBINATION ALIGNMENT TOOL


Popular bone tibre tool. Consists of screwdriver with metal nib, $1 / 4$ " slolted hex wrench and $\mathrm{I}_{8}$ " hex wrench on other end.

| No. | List |
| :---: | ---: |
| 5014 | $\$ 0.85$ |

ALIGNMENT COMBINATION TOOLS

G-C No. 5015 ALIGNMENT TOOL

Popular comlination tool. Bone fibre. Includes motal screwiriver tip 10 fit hex wrench, "s" hex wrench, $1 / 4$ " slotted hex wrench and fibre screwdriver with metal nib.
$\begin{array}{rr}\text { No. } & \text { List } \\ 5015 & \$ 1.35\end{array}$

## G-C DELUXE COMBINATION ALIGNMENT TOOL <br> 

Most useful tool designed to use in cramped quarters. Bone libre. Consists of short screwdriver with metal nib and $1 / 4 "$ hex side wrench witl slotted $1 / 4^{\prime \prime}$ hex end wrench. " ${ }^{5}$ " hex wrench and heavy metal screwdriver tip
${ }_{5}^{\mathrm{No}} \mathrm{C}$
5016
G.C INSULATED HEX WRENCH AND DRIVER


Combination insulated $1 / 4^{\prime \prime}$ hex wrench and screwdriver Screw. driver can be extended for extra length. Made of bone fibre.
$\begin{array}{llr}\text { No. } & & \text { List } \\ 5005 & \text { Extends } 7^{\prime \prime}-13^{\prime \prime} \quad \$ 0.75\end{array}$
$\begin{array}{lll}5005 & \text { Extends } 7^{\prime \prime}-13^{\prime \prime} & \$ 0.75 \\ 5006 & \text { Extends 11" }-17^{\prime \prime} & 1.00\end{array}$

## ALIGNMENT SCREWDRIVERS

## G.C NON-EXTENSION INSULATED WRENCH AND DRIVER



In polyst yrene or hard bone fibre. $1 / 4$ " hilude on one end and $1 / 8^{\prime \prime}$ hlade on other $6^{\prime \prime}$ long. Tips easily reground.

| No. |  | List |
| ---: | ---: | ---: |
| 5009 | Bone Fibre | $\$ 0.40$ |
| 5010 | Polystyrene | .40 |

G-C ALIGNMENT SCREWDRIVER

Popular insulated tool. New low opular insulated tool. New low muctance material with meta mib. Strons and fexible. Two sizes.

| No. |  | List |
| :---: | :---: | :---: |
| 5000 | $1 /{ }^{\prime \prime} \times 6^{\prime \prime}$ | $\$ 0.40$ |
| 5088 |  | 40 |

G-C DUPLEX ALIGNMENT SCREWDRIVER

Mude of Genflex low-loss material. Especially strong. $1 / 4$ " Iriver on end and ${ }_{3}{ }^{7}{ }^{\prime \prime}$ on other. Metal tips for extra strength.

| No. | List |
| ---: | ---: |
| 5001 | $\$ 0.75$ |

## G-C BONE FIBRE ALIGNMENT SCREWDRIVER

$\rightarrow$ black hoable for all sets. Tough Wark bone fibre resists chipping. Can le reground. $1 / 4$ " blate on each end.
No.
5004 7" $\$ 0.40$
G-C RCA TYPE ALIG SCREWDRIVER

Especially for push button adjustments. Narrow serewdriver on one end and recessed screw nil on other. $1 / 4$ " Bone Fibre.

| No. | List |
| :---: | :---: |
| 5003 | $\$ 0.75$ |

## G-C POLYSTYRENE ALIGNMENT SCREWDRIVER

For IT.II.F. sets. Best low loss maturial. $1 / 4$ " hades on both ends. Bladers easily reground.

| No. | List |
| :--- | ---: |
| 5008 | $\$ 0.40$ |

## G-C PHILCO, RCA TYPE

 TRIMMER TOOL
## G.C MULTI-PURPOSE TOOL <br> \section*{C- -}

For neutralizing padding condensers and iron core tuners. One end metal screwdriver, other sleeve sockpt screwdriver. Best ateel, fibre handle
No.
List
$\$ 0.75$
G-C DIAL CABLE TOOL

Makes it easy to reploce dial
Makes it easy to replace dial cords and springs. A necessity in
cramped quarters.

No. List
5096 Dial Cable Tool \$0.75

For nentralizing air trimmers $8_{2} 2^{\prime \prime}$ bome fibre. Syecial clip-on end, metal tip on other.

No. List
$5086 \quad \$ 0.60$
$\$ 0.60$

G-C NEUTRALIZING TOOL

U.S.A. type TL-138-B. Special short tool. Bone Fibre.
No.
5066
List
$5066 \quad \$ 0.50$

## G-C FLEXIDRIVER <br> 

Flexible shaft for "hard to get places." Insulated guile for tip Army-Navy approved. $7^{\prime \prime}$ overall length.
No.
List
5019
$\$ 2.00$

## G-C ALL-PURPOSE ALIGNMENT TOOL KIT

## G-C PROFESSIONAL ALIGNMENT TOOL KITS

Complete kits. Be prepared to service every set with these DeLuxe Alignment Kits. These are the preferred kits for radio men. In a handy roll-type leatherette case or a steel partitioned hox. Kits contain one each of the following G.C tools described on these pages: Nos. $5000,5001,5002,5003,5004,5005$, $5011,5012,5013,5015,5016,5017,5018$, 5019, 503I, 5032, 5033, 5034, 5035, 5051, 5053, $5056,5057,5081,5082,5083,5084$, 5085, 5086, 5087.

## No.

5024 Tit in Roll Type Case
5025 Kit in Steel Box 19.95


No. 5024

No. 5025

## GENERAL <br> cement ALIGNMENT TOOLS - KITS

## G-C ALIGNMENT TOOLS AND WRENCHES

| G-C INSULATED ALIGNING WRENCHES |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $\square=$ |  |  |  |  |
| Popular sizes. Hexed full-length bone fibre tuling. Just cut off to renew when worn. |  |  |  |  |
|  | Length | $\begin{aligned} & \text { Across } \\ & \text { Flat } \end{aligned}$ |  | List |
| 5051 | $5^{\prime \prime}$ | Fi' | ${ }^{71}$ | \$0.30 |
| 5052 | 5 " | $1 / 4 \prime$ | 3 | . 25 |
| 5053 | 6 " | 1 |  | . 35 |
| 5054 | $8^{\prime \prime}$ | 1/4 |  | 40 |
| 5055 | $12^{\prime \prime}$ | 1/4" | 3/8" | . 50 |

## G-C DOUBLE ALLIGATOR

 ALIGNING WRENCH
G-C "STRATO"
TUNING WAND

Chrome brass cylinder, iron core on ends of low-loss genflex rod Inserting core in coil increases inductance, brass end decreases inductance. Checks tuning fast

| No. | List |
| ---: | ---: |
| 5002 | $\$ 1.00$ |

G-C ARMY-NAVY TYPE NEUTRALIZING TOOL

Approved. Double end bakelite tool $3^{\prime \prime \prime}$ diam. x $6^{\prime \prime}$ long.

| No. | List |
| ---: | ---: |
| 5099 | $\$ 1.25$ |

## G-C PHILCO TYPE ALIGNMENT WRENCH


${ }_{16}^{6 /}$ Hex Wrench on one end, metal hook for air trimmers on other For RCA, Victor, Philco, etc. Bone fibre handle.

| No. | List |
| ---: | ---: |
| 5085 | $\$ 1.50$ |

## G.C DUPLEX WRENCH ALIGNMENT TOOL



New 1 For close inspection of parts in hard-to-get-at quarters, unter chassis, etc. Long handle.
No,
5090

## G-C TEST PROBE



Checks loose connections and parts. Metal hook on one end and insulated fibre tip on other.
No. List

## G-C ZENITH

PUSH-BUTTON WRENCH


部" hex on one end, slotied on other. Tempered steel, nickelplated. Necessity for Zenith sets.
No. List
5094 \$0.17
life $1 / 4$ " hex wrench on one end and ${ }^{18}$ " hex wrench on other. Brass nickel-plated. Tapered bone fibre handle.

| No. | List |
| :---: | :---: |
| 5017 | $\$ 1.25$ |

## G-C WRENCH AND

 SCREWDRIVER ALIGNING TOOLPopular ${ }^{1 / 4}$ hex wrench on one end, $3^{72^{7 \prime}}$ metal nib screwdriver on other. Bone fibre insulated handle.
No. List
5013
$\$ 0.85$

## G-C SCREWDRIVER



Insulated. One size for knobs, other for small parts. Best tempered steel.

| No. |  | List |
| :--- | :--- | ---: |
| 5056 | $1 / \mathbf{R}^{\prime \prime} \times 3^{\prime \prime}$ | $\$ 0.25$ |
| 5057 | $1^{\prime \prime} \times 3^{\prime \prime}$ | .75 |

G-C CONTACT ADJUSTER


Handy for contacts on switches, jacks, condenser plates, relays, pinhall-coin machines, radios Tempered steel, nickel-plated
No.
5095

## G-C DUPLEX ALLIGATOR WRENCH

RCA, Phileo uppe. Metal alligator wrench on one end, alignment screwdriver with metal tip on other. $3^{7 / 17}$ shaft. Insulated bone fibre.

| No. | List |
| :---: | :---: |
| 5011 | $\$ 0.50$ |

G-C BAKELITE


Molded rig $^{\prime \prime}$ hex wrench with reinforced brass collar. Metal screwdriver tip included.

| No. | List |
| :---: | ---: |
| 5083 | $\$ 0.50$ |

G-C BAKELITE ALIGNMENT TOOL

U. S. Army type TL-207. Com bination ${ }^{\text {Sing }}$ " Hex Wrench with telescoping screwdriver. Moulden bakelite, reinforced with metal. No. List 5027 \$2.25

## G-C TELEVISION AND F-M WRENCH AND SCREWDRIVER

Adjusts smallest trimmer con. densers. Small ${ }^{\text {g }}$ densers. Small ${ }^{7}{ }^{7} 2 "$ screwdriver on one end. reintorced
on other. $6^{\prime \prime}$ long. hex wren lione fibre.

No,
5067
List
5067
$\$ 1.00$

## G-C TELEVISION AND F-M TOOLS

G-C TELEVISION
ALIGNING WRENCH
New Television Tool! $1 / 8^{\prime \prime}$ socket
wrench sti" steel shaft with in-
sulated handle. Approx. $6^{\prime \prime}$ over-
all length.
No.
5080

## G-C T-V AND F-M

 ALIGNING TOOLtem pered steel. Bone fibre handle.

| No. | List |
| :---: | :---: |
| 5018 | $\$ 0.75$ |

G-C NX ALIGNING KIT

G.C BENDIX.RCA TELE. VISION SCREWDRIVER

For push huftons, television and F-M. Small diameter. Metal tip on one end and recessed tip on other. Insulated bone fibre.
No.
List

## G-C VEST POCKET ALIGNING KIT



G-C K.TRAN ALIGNING TOOL

Special bone fibre screvidriver one end, reinforcerl 学" hex wrench one end, reintorcell ib hex wrench
driver on other. Especially for driver on other. Espe
F-M and television sets.

| No. | List |
| ---: | ---: |
| 5097 | $\$ 0.75$ |

## G-C TE-45A

NEUTRALIZING KIT
Approved by U. S. Signal Corps. All popular balancing tools to makean all purpose kit. Contains two each


Nos. 5051,
5052 , and one
each Nos. $5019,5003,5000$, and 5 " screwdriver in roll-type leatherette case.
No
502
5021
Kit
List
$\$ 6.75$

## GENERAL CEMENT BATIERY PLUGS-KITS-STAPLES

G-C RADIO BATTERY PLUGS



| 7806 | $41 / 2{ }^{* 1} \mathrm{~A}^{\prime \prime}$ |
| ---: | :---: |
| 7807 | $45 \mathrm{~B}^{\prime \prime}$ |
| Small |  |

## $780814 / 2 " A$ "

| 7808 | 11/3 "A" | $\begin{aligned} & \mathbf{4 \mathrm { F }}, \\ & 4 \mathrm{FI} . \\ & 6 \mathrm{~F} . \\ & 8 \mathrm{~F} . \\ & 8 \mathrm{FL} . \end{aligned}$ | $\begin{array}{r} 741 . \\ 742 . \\ 742 \\ 1052 \mathrm{P} \end{array}$ | $\begin{aligned} & \text { Vo0. } \\ & \text { Vsoos. } \\ & \text { Vsoot. } \\ & \text { Vsoo } \end{aligned}$ | $\begin{aligned} & \text { P94, } \\ & \text { P96 } \\ & \mathbf{l}^{1} 8 \mathrm{Fi} \end{aligned}$ | 1'y4A. <br> P94L. <br> PX. <br> P9bA P98A. P98L | . 11 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7809 |  | $\begin{aligned} & 17 \mathrm{GD} 60 . \\ & 5 \mathrm{DA} 60 \\ & 6 \mathrm{TA} 60 \end{aligned}$ | 758 | $\begin{aligned} & \text { VS022. } \\ & \text { VSO } 43 \end{aligned}$ | P60D11L | $\begin{aligned} & \text { AB82, } \\ & 10793 \\ & \hline \end{aligned}$ | .13 |
| 7810 | 6 " ${ }^{\text {" }}$ | $\begin{gathered} 2 \mathrm{~F} 4 . \\ 2 \mathrm{~F} 4 \mathrm{I}, \\ \text { F4PI, } \\ \text { T5 } \end{gathered}$ | $\begin{array}{r} \mathbf{A 5 0 9}, \\ 718 . \\ 744 . \\ 747 \end{array}$ | $\begin{aligned} & \text { ISo09. } \\ & \text { vsolo. } \\ & \text { Vsoll } \end{aligned}$ | 194F4R | $\begin{aligned} & \text { P694A } \\ & \text { P696L } \\ & \text { P698A } \\ & \text { P698L } \end{aligned}$ | . 11 |



| 7812 | $71 / 2$ " 4 " | $\mathrm{r}_{-5}$ | 687 | Vs003 |  | P85A | 13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7813 |  | $\begin{aligned} & \text { 6FA60, } \\ & 4 G A 41, \\ & \text { GA42 } \end{aligned}$ |  | YS037 | $\begin{gathered} P^{P} 60 A-4 L_{4} \\ P+1 A 4 G \end{gathered}$ | AB419 | .13 |
| 7814 | $\begin{gathered} 71 / 2 \\ 9_{0}{ }^{\prime \prime} \mathbf{A}^{\prime} \mathbf{B}^{\prime \prime} \end{gathered}$ | $\begin{aligned} & \text { G5A } 12, \\ & \text { F } 8.60 \end{aligned}$ |  | YS038 | $\begin{aligned} & \text { P87, } \\ & \text { P84i } \end{aligned}$ | AB794 | . 25 |
| 7815 | 67 \%/8 " ${ }^{\text {c }}$ | $\begin{aligned} & \mathbf{X X 3 0} \\ & \mathbf{X X} 45 \end{aligned}$ | $\begin{aligned} & 455 . \\ & 467 \end{aligned}$ | $\begin{aligned} & \text { VSOI6. } \\ & \text { VS055 } \end{aligned}$ |  | P4367 | . 09 |
| 7816 | 6it $1 / 2$ " 13 " | $\begin{aligned} & \mathrm{XX} 30 \\ & \mathbf{x X}+5 \end{aligned}$ | $\begin{aligned} & 455 \\ & 467 \end{aligned}$ |  |  | $1^{1} 4367$ | . 11 |



|  | 75 " ${ }^{\text {P }}$ " | etc. |  |  |  |  | .15 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7820 | $\begin{aligned} & 40^{\prime \prime} A^{\prime \prime} \text { " } \\ & 90 \end{aligned}$ | F4B60 |  | VS0 48 |  |  | 20 |
| 7821 | $\begin{aligned} & 6{ }^{\prime \prime} A^{\prime \prime} " \\ & 90 \end{aligned}$ | 2F4A60 |  | VS044 | P60A8F4 | AB694 | 13 |
| 7822 | $90^{\prime \prime} \mathrm{A}^{\prime \prime}$ | 4FAB0 |  |  |  |  | . 25 |
| 7823 | Same as | N0.7×リ4, | except has | Fahnesto | Clips. |  | . 25 |
| 7824 | 3 " A " | 20 F 2 | X125 | VA025 | P8024 | P9403 | .11 |
| 7825 | $\begin{aligned} & \text { "AB" } \\ & \text { Batt. } \\ & \text { Packs } \end{aligned}$ | Usalite | Al35671 |  | P60A110 |  | . 18 |
| 7826 | $4 \frac{1}{2}$ " ${ }^{\text {C }}$ " | 2370 PI | X771 | V8030 | P3D | P2318 | .15 |
| 7827 | $\begin{array}{r} 135 \\ 9 \\ \\ \\ \\ \hline \end{array} \mathbf{B}^{\prime \prime}{ }^{\prime \prime}$ |  |  |  | $\begin{gathered} 37-08 . \\ 3738 . \\ \text { etc. } \end{gathered}$ |  | . 25 |
| 7828 |  |  |  |  | $\begin{array}{r} 34 . \\ 34 \mathbf{A} . \\ 39 . \\ 39 \mathbf{A} \end{array}$ |  | , 30 |





## G-C RADIO BATTERY PLUGS

For all plug-in radio batteries. It pays to have an assortment to be ready for all repairs. Plugs as listed above. Complete with box and handy reference chart.
No.
7801
700 Asstr. Plugs. Metal Box
List
7800
50 Asstd. Plugs, Cardboard Box
12.00

## Saddle-type insulated staples for holding wires in place and out

 of the way.| No. | Fig. 1, ${ }^{3} \boldsymbol{1 8}^{\prime \prime} \times 1 / 2^{\prime \prime}$ | List | d 1 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1751 | Box 59,15 | \$0.25 |  |  |  |
| 1752 | Rox 100. No. 1 | 40 | $\stackrel{\text { No. }}{ }$ |  | List |
|  |  |  | 1758 | Box 100, No. 5 |  |
| 1753 | 13ox 50, No. 2 | 25 |  | Fig. 6, $1 / 4{ }^{\prime \prime} \times 3 / 4{ }^{\prime \prime}$ |  |
| 1754 | Hox 100, Xn. 2 | . 40 | 1759 | Rox 100 , No, 6 | 40 |
|  |  |  |  | Fig. 7, 1/4" $\mathrm{x}^{7 / 8 \prime}$ |  |
| 1755 1756 | Box 50, No. 3 | . 25 | 1760 | Box 100. No. 7 | . 40 |
|  | $\begin{aligned} & \text { Rox } 100, \text { No. }{ }^{3} \\ & \text { Fig. } 5,1 / 4{ }^{\prime \prime} \times \$ 8{ }^{2} \end{aligned}$ | 40 |  | Fxtra Large Cable <br> Fig. 10, $8{ }^{4 \prime} \times$ |  |
| 757 | Hox $50, \mathrm{No}$. ${ }^{\text {d }}$ | . 25 | 17 | Hox 100. No. 16 |  |



## G.C DIAL AND KNOB REPAIR KIT

Handy assortment of knob springs, set screws, dial springe idler pulleys and drive rublers in box.

## No.

 $101570-\mathrm{pc} . \mathrm{Kit}_{\$ 2.25}^{\$ 2}$ 1016150 -pe. Kit, ${ }_{4} 50$

G-C STEEL HARDWARE RACK
Steel racks, hold No. 40022 oz . glass lio tles or plastic jars. Attractively tinisheil. Welded construction Heary steel. Two sizes

No. Size List 401020 Jars $\$ 2.00$ 401240 Jars 3.75

## 

## G-C VENTILAT.

## ING PLUGS

To ventilate chassis amplitier, racks, transmitters, etc. Snaps in tol-inch hole. Plated.

## No.

1709-E Env. $2 \$ 0.40$


## G.C SOLDERING COOLANT AND FLUX ATTACHMENT

Here's a hamly attachment that you can put on any soldering iron and spead up production and repairs. No waiting for solder to cool. Dip the brush in a coolant of water or alcohol and cool the solider instantly Also can be used for soldering flux or paste.
720

## 



## G-C SOLDERING

 WIRE COUPLERS(Potent Pending)
New patented connectors to be used when re-connecting cut wires and leads, when making tests, etc. Saves time! Simply slip between wires and solder. Assorted lengths.

## No.

7500-E
List $\$ 0.40$

G-C PLASTIC JAR HARDWARE ASSORTMENT
Approximately 1000 assorted selews, nuts ssorter scres, ashers, springs amps, eyelets, grom nets, terminals, etc No cast-offs - only cesular hardware. llastic jar with screw cap.
No.
60641000 Asstd. 6056-E Finv. $100^{\$ 1.65}$

Asstd. 40


## G-C STEEL STOCK BOXES

Slide-in drawer type calinet box for parts. Marle so can be stacked. Altractive finish, steel welded construction with ham die. Size $131 / 2^{\prime \prime}$ long, $6^{\prime \prime}$ wide, $4^{\prime \prime}$ high
$\begin{array}{rr}\text { No. } & \text { List } \\ 001 & \$ 3.25\end{array}$

## SERVICEMEN'S HARDWARE

## ASSORTMENT

Inexpensive complete hardware assortments. Similar to largurhard ware lab Ass't tir ware lab Ass't No. 1
 ( (1)dividually). Item No. Asst. List 6303-D Asst. List 6303-D \#1 $\$ 8.00$ 6603-2-D $\#^{2} \quad 8.00$

G.C GLASS

HARDWARE JARS
Wide mouthed jars, for storing small ra dio parts, screws, nuts, etc. Includes cap.
$\begin{array}{ccc}\text { No. } & & \text { List } \\ 4002 & 2-0 z & \$ 0-15\end{array}$
$\begin{array}{llr}4002 & \text { 2-oz. } & \$ 0.15 \\ 4004 & 4 \text {-oz. } & .22 \\ 4008 & 8.07 & 30\end{array}$
$\begin{array}{ccc}4008 & 8-0 z . & .30 \\ 4009 & 16-0 z . & .40\end{array}$

## G-C HELL BOX

A grand assortment of
useful hatdware: screws, nuts, lugs, clips, Washers, clamps, etc. Thousands of items needed every day. Metal hinged box.
No. List

6500 \$3.25

PLASTIC HARD. WARE JARS
4 oz.sizewide mouthed plastic jar with screw type cap. Ideal for hardware.

4000
$\$ 0.35$

G-C STAPLE DRIVER STAPLES liardened stecl staples in cartridge form to fit staple drivers. Lacquer coated.
No.
430 Box 250 \$0.60
F-V LINE TACKS


For holding 300 ohm lead wire to base lead wire to base No.
8020.E Env 30 List 8020-GBox 1441.25

# general cement WIRE STRIPPERS-TESTLITES 

## G-C STANDARD SPEEDEX WIRE STRIPPER

Fast operating precision made hand tool for stripping insulation from all types of wire. Very easy to operate. Strips 750 to 1000 wires per hour. Used ly girls or men. All blades are interchangeable and easily replaced


Standard Models

| No. | Wire | List | No. | Wire List |
| :---: | :---: | :---: | :---: | :---: |
| 733 | 12 to 20 | \$6.00 | 733-G | For \# 18 P.O. |
| 733-A | 14 in 30 | 6.00 |  | S.s. or paral. |
| 733-B | 10 to 18 | 6.00 |  | lel wire $\quad \$ 6.00$ |
| 733-C | 81010 | 6.00 | 733-H | For the new |
| 733-D | 16.18.20.22 | 6.00 |  | 300-ohm tele- |
| 733-E | 14.14.18 | 6.00 |  | vision alll FM transmission |
| 733-F | $10,12,14$ | 6.00 |  | line 6.00 |

## G-C SPEEDEX WIRE STRIPPER KIT

Wire stripper complete with seven different size blades put un in a specially designed permanent steel box. For wires No. 8 to No. 30 . Helps lieep all the parts torether in one lit. Availahle with automatic or standard model strippers.


No.
List
733-K Standard Stripper Kit, with lhades $\$ 15.00$
744-K Deluxe Automatic Stripper Kit, with bladers
17.00

## G-C AUTOMATIC SPEEDEX WIRE STRIPPER

Similar to stamdard models except has the "stay open feature" with the new Speedex "Trir-U-Watic Action." Auromatically holds jaws open until wire is removed, and prevents bending or crushing of tine wires. Has on-otl mechanism so tool can be used as standard model if desired.

| Automatic Models |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | Wire | List | No. | Wire List |
| 744 | 12 to 20 | \$8.00 | 744-G | For \# $\quad 18 \mathrm{l}$ 1. 0 . |
| 744-A | 14 to 30 | 8.00 |  | S.J. or paral- |
| 744-B | 10 to 18 | 8.00 |  | lel wire $\$ 8.00$ |
| 744-C | 8 to 10 | 8.00 | 744-H | For the new |
| 744-D | 16,18,20,22 | 8.00 |  | 300-ohm tele- |
| 744-E | 14, 16, 18 | 8.00 |  | transmission |
| 744-F | 10, 12, 14 | 8.00 |  | line 8.00 |



## G-C SHUR-GRIP PLIER WRENCH

Here's a universal hamiv all-purpose plier* wrench. This is something new and different from the average Grip Wrench. It works with a short pawl arainst the cam handle, giving it extra power. I'T UNLOCKS WITHOUT SNAPPISG THE FINGERS. Jaws are forved from alloy steel and specially heat treated for tourhness and durability. It is a high quality tool.

| No. |  | List | Dealer's |
| :---: | :---: | :---: | :---: |
| Net |  |  |  |



## G-C SPEEDEX

REPLACEMENT BLADES
Fit standard and automatic mod. els. Blades interchangeable.


## G-C INSPECTION LITE

Portable type, lights up those "hard-1o-see spots. Oprrates on $110-120$ volts AC or DC. Cord approx. 6 ft . lons. Molded handle and non-inflammable clear plastic shield over bulb.

| No. |  | List |
| :--- | :--- | ---: |
| 705 | Inspection Light | $\$ 1.95$ |
| 704 | Replacement Bulb <br> for No. 705 | .17 |
| $704-S$ | Clear Plastic Shield | .17 |

## G-C SPEEDEX STRIPPER BENCH HOLDER

Bench type holder for any model Spectex Wire Stripher. Converts a hand operated tool to a bench type and increases production up to 2,500 wire strippings per hour. Steel.
No. List
755 Bench Holder $\$ 3.75$

## G.C LO-VOLT TESTER

For $0-15$ volts AC or DC. For all low voltage testing on cars, generators, batteries, bell circuits, etc. Shielded bulb easily replaced. Molded plastic handle and in. sulators.
$\begin{array}{clr}\text { No. } & & \text { List } \\ 5125 & \text { Lo-Volt Tester } & \$ 1.25 \\ 5126 & \text { Bulb for No. } 5125 & .25 \\ 5127 & \text { Shield for No. } 5125 & .15\end{array}$

## G-C THERMO-VOLT CIRCUIT TESTER

Tests from 15 to 60 volts $A C$ or DC on thermostats, aircraft, trains, marine lighting, 28.32 volt liwht phants, etc. Molded plastic case and insulated tips

No.
List
$5150 \quad \$ 1.75$

## G-C SPEEDEX TRIG-O-MATIC PLATE

 (Patent Pend.)Converts any standard model Sperdex Stripper to an Automatic Model. Easy to install.

No.
756 Trig-O-Matic Plate, only

List
$\$ 2.00$
.

8125-D Display 12 No. 81256.60 $81263 / 8{ }^{\prime \prime} \times 41 / 2^{\prime \prime}$ Tip 60 8126-D Display 12 No. 81267.20 $8127 \mathrm{~T}^{7{ }^{\prime \prime}} \times 4^{\prime \prime} \mathrm{Tip} \quad .75$ 8127-D Display 12 No. 81279.00




## G-C SOLDER IRON TIPS

Best grade hard-drawn copper, bright plated to resist corrosion. Heats fast and holds heat.

## No.

List
8124 1/4" x $3^{\prime \prime}$ Tip .. .. $\$ 0.45$ 8124-D Display 12 No. 81245.40 125 琞" x $41 / 2^{\prime \prime}$ Tip . 55


## GENERAL (PG) CEMENT SERVICE AIDS_TOOLS-SHIMS

## G-C CHASS-EZ <br> (Pat. Pending)

New wonder tool makes the Serviceman's job easier, Its simplicity is its chief merit. Chassis can be installed on "Chass-Ez" in five seconds. All one unit - no extra bolts or nuts to adjust. Heavy steel, riveted construction, nicely plated.

| No. | List |
| ---: | ---: | ---: |
| 5207 | $\$ 3.65$ |
|  | Dealer's Net Only |
|  | 1.95 |



Dealer's Net Only 195

## G-C PHONO TURNTABLE STAND

New improved model, adjustable and inexpensine. Adaptable to all turntables. Raises the turntable 15 inches above bench and can be pivoted on the swivel joints for easy examineton or repairs: Sturdy steel construction. Plated.
No.
5205
List $\$ 7.30$
Dealer's Net Only 4.38


## GCC RADIO JACKS

Permanent type adjustable jacks. All metal construction. Adjustable to fit any set or conditions. Easily and quickly adjusted. Two jacks supplied with three extension rods - one extra long. You need several sets in your shop.

| No. | List |
| ---: | ---: |
| 711 | $\$ 2.15$ |
|  | Dealer's Net Only |



Dealer's Net Only 1.29

## G-C RADIO CHASSIS GUARDS

Inexpensive guards that protect the chassis and tubes when servicing. Set can be turned in any position. Easily applied and adjustable to all sets. Permanent plated metal construction.
No.
LIst
709
$\$ 2.50$
Dealer's Net Only 1.50


## G-C MINIATURE TUBE PIN STRAIGHTENER

Saves tubes! Straightens without damage the pins on the fragile miniature tubes such an $1 \mathrm{~S} 5,6 \mathrm{AK} 5,9002$, etc. Just insert tube between guide pillars into precision base die and the prongs are straightened and proporly spaced. All metal.

| No. |  | List |
| ---: | :--- | ---: |
| 5191 | For 7 -pin tubes | $\$ 1.00$ |
| 8105 | For 9 -pin tubes | 1.00 |



8105 For 9-pin tubes
1.00

## G-C TUBE AND PARTS EXTRACTOR

U. S. Signal Corps part No. TL 201, Handy prong tool for extracting tubes and picking up parts. Rubbeer cushions on prongs.
No.
5092 Tube Extractor

List
$\$ 1.50$


## G-C NE-O-LITE

Simple, safe, electrical circuit tester Uses neon glow lamp which varies in brightness according to voltages. Tests cords, appliances, automotive ignition circuit, fuses, radios, electric fences, etc. For 60 -volts AC to 550 volts AC or DC. Molded plastic, handy vest pocket size. Buy a display and sell jour costomes.

| No. |  | List |
| :--- | :--- | ---: |
| 5100 | Ne-O-Lite |  |
| $5112-\mathrm{D}$ | Display 12 | No. 5100 |

## G-C NE-O-LITE

WIRE

## G-C RESISTOR FOR NEON LAMP



Wire same as used on Ne- O-Lite Testers, $\#$ 18 stranded, rubber covered with a red or black braid, varDished, For ignition wiring, motor wiring, etc. Red or Black Specify color.
No.
$5113100 \mathrm{Ft} . \quad \$ 3.75$
Required resistorwhen using No. 717 neon lamp on voltages of 60 to 550 volts AC or DC. Connect in $\begin{array}{ll}\text { series. } & 717\end{array}$

## G-C NEON GLOW LAMPS



NE.T2 lamp as used in testers, appliances, as pilot light, etc.

| No. | List |
| :---: | :---: |
| 717 | $\$ 0.20$ |

## GCC MO MINIATURE TUBE PULLER

 (Pat. Pending)Prevents burned fingers and broken tubes. Makes it easy to remove and install talion such as $6 \mathrm{AG} 5,50 \mathrm{B5}$, etc. Works on suction and vacuum principle. Operates just by pressing on the tube and to release, just press the release button. Tube protected by rubber sleeve. Gets where your fingers can't reach. Permanent metal.
No.
5093
For 7-pin tubes
List
8106
For 9-pin tubes
$\$ 1.65$


## G-C FIbreLOID SPEAKER SHIMS

Shims made of tough and flexible fibreloid. Nonmagnetic. 4 each of 5 sizes - twenty in all: Sizes, $.005^{\prime \prime}, .0075^{\prime \prime}, .010^{\prime \prime}, .0125^{\prime \prime}$, and $.015^{\prime \prime}$. Color coded. Supplied in mold lettered leathercote snap case with insertions.

## No.

List
702 Kit
$\$ 0.65$


## GCC SWEDISH STEEL SPEAKER SHIMS

Makes it easier to center speaker voice coil. Permanent flexible Swedish steel, 4 shims each of 4 sizes coded for identification: . $004^{\prime \prime \prime}, .006^{\prime \prime}$, $.008^{\prime \prime}$ and $.010^{\prime \prime}$ thick. Supplied in gold stamped leatherette partitioned snap case. Complete with instructions.

| No. | List |
| :---: | :---: |
| 701 | Kit |
| $\$ 0.70$ |  |



NEW! GCC SPEAKER SHIM KIT
For every type of speaker adjustment. A sencerous supply of Fibreloid and bronze shim stock in the various widths and thicknesses needed for speakers. Non-magnetic material. Stock can be cut to exact requirements. A long-lasting assortment. Complete instructions.
No.
7720 Kit
List
$\$ 2.00$


# GENERAL <br> CEMENT 

## RECORDING WIRE STATIC CHASER - TOOL KITS

## G-C RECORDING WIRE



For all wire recorders. Inchudes plastic ledads. Permanent recordinas which can be repayed indetimitms. Finest quality reproduction on stainless steel wire. Standard RM. spool fits Webster, Air King, Sears Roebuck, etc.


Replacement aerial for all Ford and Mercury Roof Aerials of 1941-42-46-47-48 that operate from hehind the dividing post of the windshield. Made of Admiralty brass tubing with stainless steel extension rord, triple chrome plared Free sliding with positive contacts insure noise-free reception. Easy to install, fits without changes, replaces originat aerial. Comes complete with knob and set screw.
No.
Ford Roof Aerial
List

## BUICK REPLACEMENT ANTENNA

Buick Part No. 980,688
Standard Buick Rooi Aerial Mast. The replucement mast for Buick Root Aerials on models 1940 through 1949. Easy to replace - merely tightens into position with a set screw. Admiralty brass tuben with a stainless steel top rot. Chrome-plated. Each mast individually packed in a paper tube. Standard packing - 10 tubes to a carton.

## G-C IGNITION SUPPRESSORS



A rugsed long-life assortment of bakelite anto radio ignition suppressors. Resistance, 10,000 ohms (V-8 types, 50,000 ohms) Resistors, moisure-proofed to eliminate variations dae to weather changes. Impervious to heat, oil, moisture and mild acids. All nestal parts brasi. Good for more than 50,000 miles.

| (a) | $\stackrel{N}{\mathrm{No}} \mathrm{i}$ | 1racket |  |  |  |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (b) | 1502 | Foril 68 | 0 |  |  | screw ype, $\mathrm{cm}^{\text {m- }}$ |  |
| (c) | 1503 | Ford V8 Brush <br> Type, 33, 34, |  | (f) | 1506 | Snap-On Type |  |
| (d) | 1504 | 35 Cars <br> Ford vs Brush | . 30 | (R) | 1507 | Distributor Ty | . 3 |
|  |  | Type, 36 to 40 Cars | . 30 | (1) | 1508 | Cable type for Splicing Cables |  |

## G-C SPRING MAKER <br> (Pat. Pending)



Makes atl types of coil springs compression or extension types - with any number of coils or degree of wire pitch. Designed for simple adjustment and operation with any size spring wire. Yecessary whetever springs must be made fast or to special specifications. Liberal supply spring wire furnished with each winder. Fastens to any bench.

| No. |  |  | List |
| :---: | :---: | :---: | :---: | | Dealer's |
| :---: |
| Net |

## G-C STATIC POWDER AND INJECTOR GUN


ditaly works, cuts down auto ral dio static. Injert powder in tubes, and eliminate whe tire static. Kasy to apply. l'owdry also cuts down tive tronble hy eliminating those pin-point tule leaks causel ber tire static discharge. Powder blown imto tube with G.C Injector Gum Every car should be treated with G.C Static Chiser Powder.

No.
5604 Injector Gun. only
5605 Packet Static Powder for 5 tires (1 carr)
Packet Static Powder for 5 tires (1 car) $\$ 1.50$
5606 Kit, one No. 5604 Injector, and one No. 5605 Powder 2.50


## G.C DIAL POINTER KIT

A complete kit of 10 asserted dial pointers. Pointers come in a clear transparent plastic case which keeps the pointers in periect condition.
No. List 6810 $\$ 2.95$


## G.C DIAL POINTERS

Popular replacement pointers.
(a) 680 No " Rotary Pointer for List
(a) $6801 \mathrm{~B}^{1 / 4}$ " Rotary Phatt, pold gor $\$ 0.35$
(b) $68025^{1 / 4} 360^{\circ}$ Rot, Rery Point. er for $1 / 4$ " shaft, gold
(c) $68032^{\prime \prime}$ Slide Pointer, red translucent
(d) $68042^{1 / 4}$ " Slide Pointer, 25
white enamel
.25

## G-C VACUUM CLEANER BELTS



Dealers and servicemen earn extra money by selling belts. Display in vour store for "over the counter sales." Best grade live rabler helts marked for identification. Popular belt ussortments on displavs.

No.
7010-0 Asst 12 Popular flat Belts
$\$ 2.80$
7011 -D Asst. 2 popular flat Belts
(Individual belts available - see your Distributor)

## G-C HUB CAP STATIC SPRINGS

Eliminate wheel static noise developed by por elec. trical contact between front axle and wheels. Suring have riveted metal points for firm, smooth contact. Plated.
No.
$\begin{array}{llr}\text { No. } & \text { List } \\ 1058 & \text { Fach } & \$ 0.12 \\ 1059 & \text { lox. } 24 \text { Surings } & 2.75\end{array}$



G-C TWEEZERS AND KIT
Fer the shop or lithoratory to pick ut and examine small parts. start screws and nuts. to fet in hard-to-get suots.


## No.

List
7950 Tweezer Kit. beantiful leatherette case and one each tweezers deseribed below. ........ $\mathbf{\$ 3 . 2 5}$ 7946" 61/2" $^{\prime \prime}$ self-tosing iwezzer. Opens when squeezet. serrated. blunt $7947^{*} 61 / 2^{\prime \prime}$ Heaty luty iyve wih slide lock feature llolds wires or narts tight like un extia fluker. 7948 errate blunt minns........ 10 7948 d $1 / 2$ lrecision Tweezer. NarStuadart Jolber's nuantily tweezers
suffis -1$)^{\prime \prime}$
display card - Add


## G-C TOOL HANDLE INSULATING TUBES

A new jrlea for insulating your handle tools. A supply of special insulating tahing in assorted sizes is included in kit to insulate all thpes of handles on pliers, cutters. screw (riven blades, etc. You simply soak the tubing for a few minates in G.C Service Solvent and the tubing will swell. Slip it over the hamdles and allow it to dry. It will shrink on dryine and give it a professiomal ap. pearance. ( (i-C Service Solvent is not incluiled in kit.)
No.
List
8118-E Env. Asstd. Tubing $\$ 0.40$ 8118-0 Display of 20 Env .8 .00

# GENERAL 

(G) CEMENTWRENCH KITS-TOOL SETS-BUSHINGS

G.C SHAFT COUPLINGS, EXTENSIONS AND REDUCERS brass fittings

| No. | List |
| :---: | :---: |
| $67011 / 4^{N}$ to $1 / 4{ }^{*}$ coupling | . $\$ 0.25$ |
| 6702 1/4" to $3 / /^{\prime \prime}$ coupling | . 30 |
| $67031 / 4{ }^{\prime \prime}$ to $3 / 16^{\prime \prime}$ coupling | . 25 |
| 6704 3/8" to $8 / 80$ " coupling. | . 30 |
| $6705 \frac{1 / 4}{} /$ hole to $1 / 4$ " shaft ex- |  |
|  | . 30 |
| tension and increaser | . 30 |
| 6710 3/ "hole to $1 / 4$ " shafi ex- |  |
| tension and reducer $\ldots$ | . 30 |
| $6711 \begin{gathered}\text { 3/ " hole to */e" shafl ex- } \\ \text { tension }\end{gathered}$ |  |
| 6712 1/" ${ }^{\text {che }} 6^{\prime \prime}$ brass shaft | . 30 |
| $671314{ }^{\prime \prime} \times 1{ }^{\prime \prime} 2^{\prime \prime}$ brass shapt | . 35 |
| $6714{ }^{8 \prime \prime} \times 6^{\prime \prime}$ brass shaft | . 35 |
| 6715 \%"* x $12^{\prime \prime}$ brass shaft | . 60 |
| $6716{ }^{1 / 4 \%}$ " hole x 1/4" round shaft |  |
| $x 4^{\prime \prime}$ long | .35 |



## G-C REDUCING BUSHINGS

For knols and shafts. A sylit bushing thut really works. Brass, Easy to use.
No.
6751-E $1 / 4^{\prime \prime}$ to $3^{3 \prime \prime}$ reductio List 6751 G in Env. $\$ 0.40$ 144 No. 6751 (Gross)


## G-C ALLEN-HEX

 WRENCHES AND KITSEssential key wrencles for every repair man. Made of special alloy steel properly hardened. Used on knohs. dials, phono needles, motors. pulleys, etc.

## HEX KEY WRENCHES

## No.

5030-E Env. 4 Asst 3
5029-E Wit. 0 Asstal
$\$ 0.40$ Wrenches in Leath erette Case
5029-A.

|  | 1/4" to | Set |
| :---: | :---: | :---: |
|  | Screws | . 40 |
| 5031 | No. 4 | . 12 |
| 5032 | No. 5 | . 12 |
| 5033 | No. 8 | . 12 |
| 5034 | No. 10 | . 12 |
| 5035 | $1 / 4$ "' | . 12 |
| 5036 | 年" | . 13 |
| 5037 | 3/8" | . 13 |
| 5038 |  | .16 |

## G-C BRISTO-SPLINE WRENCHES AND KITS

Very popular "Bristo" or "Spline" type wrenches as used on phono needles. motors mulleys, knols, etc. Made of alloy steel, properly hardened.

No.
5069-E Env, 4 Asetd.
Wrenches
$5070-E$ Kit 6 Asstd.
List Wrenches in Leath. erette Case
5071
No. 4
5071-A No. 5
5072 No. 6
5073 No. 8
5075
5076
5077
5078

G-C ALLEN-BRISTO WRENCH KIT


Complete wrench kit for hex and apline type screws used in electronic field. Double snap button case of durable leatherete. Fit No. 2 to $7 / 8$ " screws.

No.
List
5028

## llani

## G-C BRASS AND INSULATED SPACERS AND BUSHINGS

Spacers and Bushings needed for insulating and spacing of parts. Needed on chassis, sub-panels, etc.

| No. | Assortments |  |  |  |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6617 | Hardware Lall. Jar 12 Assorted Spacers and Bushings |  |  |  |  | \$0.65 |
| 6760 -E | Env. 12 Asst. Ins. Spacers |  |  |  |  |  |
| 6762 | 15 Asst. Threaded Brass Bushings 6.32 thread, $1 / 4^{\prime \prime}$ to $31 / 41 \mathrm{lg}$. |  |  |  |  |  |
| 6763 | 15 Asst. Threaded Brass Bushings 8-32 thread, $1 / 4$ " to |  |  |  |  |  |
| 6775-E | Env. $121 / 4{ }^{\prime \prime} \times 1 / 4{ }^{\prime \prime}$ Ins. Spacers |  |  |  |  | . 40 |
| 6776-E | Env. 8 1/4," ${ }^{\text {m }}$ 9/8," Ins. Spacers |  |  |  |  | . 40 |
| 6779-E |  |  |  |  |  | . 40 |
| 6761-E |  |  |  |  |  | . 40 |
| 6765-E |  |  | Spacer |  |  | . 40 |
| 6766-E | Env. $81 / 4{ }^{\prime \prime}$ " x . $3 / 8$ " Met |  | Spacer |  |  | . 40 |
| 6769-E | Env. $6388^{\prime \prime} \times 1 / 4^{\prime \prime}$ Metal Spacers |  |  |  |  | . 40 |
|  | BRASS |  |  | INS | ATED |  |
| No. | O.D. Length | List | No. | O.D. | Length | List |
| 6765 | $1 / 4 \prime 1 / 4{ }^{\prime \prime}$ | \$0.04 | 6775 | $1 / 4 \prime$ | $1 / 4^{\prime \prime}$ | \$0.04 |
| 6766 | 1/4" 3/8' | . 05 | 6776 | 1/4" | 8/8" | . 05 |
| 6767 | 1/4" 1/2" | . 05 | 6777 | $1 / 4$ " | 1/2" | . 05 |
| 6768 | 1/4" 3/4" | . 06 | 6778 |  | 3/4" | . 06 |
| 6769 | 3/7", 1/4', | . 05 | 6779 | 3/8" | 1/4" | . 05 |
| 6770 | 3/8" ${ }^{\prime \prime}$ \% $1 /{ }^{\prime \prime}$ | . 06 | 6780 | \%\%" | 1/2", | . 06 |
| 6771 | 3/8" 3/4" | . 07 | 6781 | \%/8' | 3/4" | . 07 |

## THREADED BRASS BUSHINGS

## Thread Thread

|  | Thread |  |  | Thread |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | O.D. |  | Length List | No | O.D. | Size | Length Llist |
| 6785 | 1/4 | 6-32 | 1/4" ${ }^{\prime \prime} 0.05$ | 6790 | 314 " | 8-32 | $1 / 4 \%$ " 0.05 |
| 6786 | $1 / 4$ | 6-32 | \%/8." 07 | 6791 |  | 8.32 | \%/8" ${ }^{\prime \prime}$ \% 07 |
| 6787 | 1/4" | 6-32 | 1/2" 08 | 6792 | 1/4" | $8 \cdot 32$ | 1/2" ${ }^{\prime \prime}$ " 08 |
| 6789 | $1 / 4$ | 6-32 | \%" 09 | 6793 | $1 / 4{ }^{\prime \prime}$ | 8.32 | 3/4 |



## G-C 8-PIECE

 VEST POCKET SETHandiest tool! Seven rockets. $1 / 4^{\prime \prime}$
 knurled, ${ }^{1 / 4}$ " square, complete with $4^{\prime \prime} \mathrm{L}$ handle. Ball type socke assembly. Baked enamel box.
No.
712
List
$\$ 1.60$


G-C WIRE STRIPPER
5 -in-1 tool. Wire stripper, scraper cutter, screwdriver, and wire winder all in one. Tempered steel, plated.
No
757
,


List
$\$ 0.40$

## G-C 6-PIECE SLIP-ON WRENCH SET

Hanclie holds five sockets, sizes $1 / 4{ }^{\prime \prime}$, $1^{6 \prime \prime}, \frac{1}{2} 2^{\prime \prime}$, $\% 8^{\prime \prime}$, and $7^{7} 6^{\prime \prime}$, Fasily ussemhled. Tempered steel, plated.
No. List

715 \$2.00

## (2) 2

## G-C FUSE PULLERS

For cariridge fuses. Heavy duty construction of high dielectric material.
No.
525 Midget size for Lis 5526 1/4"x $1 / 2 "$ ", for $\$ 0.60$ 5526 Large size, for fuses $1 /{ }^{* \prime \prime} \times 11 / 2^{\prime \prime} 1.25$

## G-C ELECTRONIC HARDWARE LABORATORIES

Complete assoriment of hardware. Rack contäns several thousand essential electronic hardware items. l'acked in clear jars with screw caps. Absortments as below: Free Steel Rack!
$\left.\begin{array}{lllll}\text { No. } & & \text { List } & \begin{array}{c}\text { Dealer's } \\ \text { Net }\end{array} \\ 6604 & \text { DeLuxe 11dwe. Laboratory, } 40 \text { jars, as in as- }\end{array}\right)$

## General ge cement TELEVISION ACCESSORIES



## G.C CORNER AND FLAT MAST BRACKETS



## G-C CHIMNEY MOUNT

"Made of Cast Aircraft Aluminum"
Fere's a better quality bracket for better installations. One man can install this on any
 piece to handle with Cast Bracket. to $13 / 8$ " diameter
It is supplied com. plete with 24 ft . of galvanized strapping and all necessary hardware. It will not rust and mar the ap pearance of the home Brackets can ulso lee used for flat wall mounting, angle and rable mounting. No.
8001 Pair of brackets, complete with strapping and all hardware. Pair of brackets only with lag screws. No strapping.
8003 Straps and hardware only

## G-C CHIMNEY QUICK MOUNT

"Made of Steel-Heavily Plated-Won't Rust" Here's a chimney
 bracket for the inexpensive installation that can be installed in a few minutes. Only one piece to handle with a minimum of loose parts. Heavy steel $1 / 8$ " thick heavily plated. Brackets will support masts up to $13 / 8$ " diameter. All straps and hardware included.
No.
Llst
8005 Chimney Quick Mount with Straps and Hardware.

## NEW G-C POLYETHYLENE STAND-OFF INSULATORS

 G-C REGULAR STAND-OFF

Liniversal tyre, can be used for that $300-\mathrm{ohm}$ twin lead and $\mathrm{RG}-59 \mathrm{~V}$ cables. Ileavy grauge stand-offs mave with genuine polvethylene insula tor and Rethanized steel screw hooks that are rust-proof ani weather-proof.

| No. | Length | Screw Type | List |
| :---: | :---: | :---: | :---: |
| 8027 | $31 / 2{ }^{\prime \prime}$ | Wood Screw | \$0.10 |
| 8028 | $51 / 2$ "' | Wood Screw | .13 |
| 8029 | $71 / 2$ " | Wood Screw | . 14 |
| 8030 | $12^{\prime \prime}$ | $1100 d$ Screw | . 25 |
| 8031 | $31 / 2{ }^{\prime \prime}$ | Machine Scr |  |
|  | and N |  | . 12 |
| 8032 | $51 / 2{ }^{\prime \prime}$ | Machine Scre |  |



This can be used for flat $300-0 h \mathrm{~m}$ twin lead and RG-590 cables. It is made with renuine polyethylene insulators and with a quick arljustment strap to fit any size mast. One size will fit masts 3/4" to $11 / 2 "$.
$\begin{array}{ccr}\text { No. } & \text { Length } & \text { List } \\ 8033 & 31 / z^{\prime \prime} & \$ 0.15 \\ 8034 & 71 / 2^{\prime \prime} & .21\end{array}$

## G.C SILICONE COMPOUND Tind

A vermanent waterproofiner material for TV and FM lead connections. Eliminaters electrica! and simnal leakape tue to moisture fim. Maintains stability of transmission lines, irnition systems. etc. Noncorrosive and chemically inert. Effertive to $\$ 00^{\circ} \mathrm{C}$. In tulies. No. $8100 \quad 1$-oz. $\$ 1.65$ Deaier"s Net, $\begin{array}{r}1.69\end{array}$

G.C CLEAR PICTURE 300OHM POLYETHYLENE TWIN LINE

Very hirh grade approved genuine 300 -ohm polyethylene twin line specially made or Television and FM work. It is made of hrown polyethylene with 2 stranded wires. One tinned and one copper wire makes it easy to trace lines.

| No. | Quantity | List |
| :---: | :---: | ---: |
| 8040 | $50-$ ft. Coil | $\$ 2.50$ |
| 8042 | 100 -ft. Coil | 4.50 |
| 8043 | 1000 -ft. Spool | 42.00 |

## NEW G-C TELEVISION SAF-T-RACK

"Makes it easy to work with"
Here's a very simple and sturdy rack to use in repairing the heavy television chassis. Simply set it on the rack and tilt it on the side. The sturdy hooks will hold the chassis on its side so you can work on the set. It will prevent damare to the tube and make it easy to work on it. Every shop needs several of these G-C Saf-T-Racks.

No.
8045 Saf-T-Rack $\$ 3.95$


## NEW G-C TELEVISION

## ALIGNMENT KIT

A new kit with new tools specially
designed for arljusting and aligning Tulevision Receivers.
Kit contains Special Television
Tools: No.
1-5067 Trimmer Tool
1-5018 Twner Wrench
1-5066 short TV Tool
1-5080 Television Wrench
1-5087 RF Tuner Tool
1-5091 Trimmer Tool
1-5097 K-Tran Tool
1-5002 Tunine Wand
1-8195 Channel Iuning Tool
1-8196 special Short Tool
1 - Leatherette Case
No.
8050
8050 Television Alignment Kit $\$ 8.75$


G-C 300-OHM FIBRE HEAD WIRING NAILS
These nails are specially matle for nailing down 300-0hm twin line on wood work, along hase boards, rafters, etc. They make installation easy.
No.
List
8020-E Env., $30 \$ 0.40$ 8020-D Displity, 8020-G 144 Env . 8.00 8020-M 1000


G-C CHIMNEY \& MAST HOOK Cadmium-plated steel hook, same as used hook, same as used for climney straps and masts. Hook is
welderl for extra welder strength. Supplied with nut.
No.
8049-E Env List 8049-DXDisplay, 8049 20 Env. 8.00 8049-G 144 20.00

## G.C CHIMNEY STRAP

Galvanized annealed strap with $1 / 4$ " punched holes. This is the same as used on chim. ney brackets. This strap is extra strong and yet very flexible to handle.
No. Coil List 8051 12-ft. \$0.75 8052 100-ft. $\quad 6.25$

## G.C FLOATING GUY RING

## Galvanized guy wash-

 er for supporting masts. Will fit $3 / 4$ " mast and $1^{\prime \prime}$ masts. Allows mast to be turned.No.
List
N055 E E List
8055 E Eiv., $3 \$ 0.40$ $\begin{array}{llrr}8058 & 144 & 15.00 \\ 8058 & 41 / 2{ }^{\prime \prime} & .25\end{array}$

## TURNBUCKLES

Extra strong cad-mium-plated turn. buckles for guy wires and cables make it easy to install tall masts and towers.
Length

No. Clsd. Qun. List 8056-E $3^{\prime \prime} \quad 2 \$ 0.40$ $8057-E 31 / 2^{\prime \prime} 2 \quad .40$ 8058 3 1/2" 1 . 25

## G.C MAST STRAPS

Made of galvanized steel these straps are usel for fastening masts, poles to walls, roofs, chimners, etc.

No. List
8130 Each $\$ 0.06$ 8130-G $\mathrm{Box}_{\mathrm{ox}} 1448.00$


## G-C U BOLT

For mounting and extending antenna poles and masts. Ideal for strapping 2 masts together or for fastenincs masts to buildings, plates, etc. Made of rust-proof Bethanized steel. Supplied with nuts,
No. List
8123
$8123 \quad \$ 0.30$


G-C 1/4-20 BOLTS
Round head, steel, cadmium-phated.

## 144 to Box

No. Length List
$\begin{array}{lll}7144-G & 1 / 2 \prime \prime & \$ 2.65 \\ 8061-\mathrm{G} & 3 / 4 & 3.25\end{array}$
$\begin{array}{lrr}\text { 8061-G } & 1 / 2 " 1 & 3.25 \\ 8062 \cdot \mathrm{G} & 1^{3 / 4} & 3.70\end{array}$
$\begin{array}{lll}8062 \cdot \mathrm{G} & \mathbf{1 "}^{\prime \prime} & 3.70 \\ 7145-\mathrm{G} & 11 /{ }^{\prime \prime} & 4.00\end{array}$
7146-G $21 / 2^{\prime \prime} \quad 6.90$
1000 to Box $\begin{array}{lll}7144-\mathrm{M} & 1 / 2^{\prime \prime} & 15.95 \\ 8061-\mathrm{M} & 3 / 4 & 19.50\end{array}$ $\begin{array}{lll}8061-\mathrm{M} & { }^{3 / 4} & 19.50 \\ 8062-\mathrm{M} & 1^{11^{\prime 2}} & 22.20\end{array}$ $7145-\mathrm{M}^{11 / 4 \prime \prime} 24.20$ $7146-\mathrm{M} \quad 21 / 2^{\prime \prime} 41.25$

G-C $1 / 4-20$ NUTS Steel - cadmiumplated.
No. Square Nuts List 8063-E Env., 25 \$0.40 8063-D Display,

20 Envs. 8.00 8063-G l3ox. 1442.15

## Hexagon Nuts

7235-E Env., $25 \$ 0.40$ 7235-D Display,

20 Enves. 8.00
7235-G Box,14 42.35

## G-C $1 / \mathbf{4}^{"}$ LAG

 SCREWSSteel, cadinium-plated lay serews speed ay screws specially
vision Antenna, installal ions and brackBtal.
els.
N.
No. $13 / 4^{\prime \prime}$ Length List 8064-E Env., $4 \$ 0.40$ 8064-D Display, 20 Envs. 8.00
8064-G $13 \mathrm{x} ., 14413.50$ 8065-E Env.,4 40 8065-D Display,
8065-G 20 Jncs. 8.00
8065-G IRx. 14413.50


## G-C WOOD

 SCREWSRound head steel, calmium plated screws, for Television work
No. 807 華 $8 \times 11 / 4^{\prime \prime}$ Lg. Llst $8071-E$ linv., $15 \$ 0.40$ 8071-G Bx.,144 3.05 \#10x11/2" Long
8073-E Env., 12.40 8073-E Env., 12.40 8073-GBx.,144 4.05 $12 \times 11 / 2^{\prime \prime}$ Long
$75-$ Env. 10 8075-E Env., $10 \quad .40$ $8075-G \mathrm{Bx}, 1+4 \quad 4.80$ $14 \times 13 / 4^{\prime \prime}$ Long $\begin{array}{lr}\text { 8076-E Env.. } \\ \text { 8076-G } & .40 \\ 6.80\end{array}$

## G-C SCREWEYES <br> Steel, calmium-plat- <br> g-c guy wire CLAMPS

 ed screw eyes for Television Antenna installations; for fastening guy wires, etc.No. List
8078-E Envlp. $\$ 0.40$ 8078-D Iisplay,

20 Envs. 8.00
8078-G Bx., $1+44.90$

The neatest, quickest way for fastening ends of guy wire cables on towers and masts. Easily alljusted with a serew driver. Galvanized steel.

No. Wire Size List 8081 1/8" \$0.55 8082 恿" . 55


## G-C DRIV-IN ANCHORS

These Driv-Ins are easy to use and are very handy for fastening masts and bracketa to masonry and concrete. They carry,
the load. Will fit $1 / 4{ }^{\prime \prime}$ the lo
hole.
No. List 8083-E Env.,2 $\$ 0.40$ 8083-D Display,

20 Envs. 8.00 8083-G Bx.,14420.00


G-C CARBIDE-
TIPPED MASONRY DRILL
Drill is earbide-tipped and has a spiral fluted bods. A makes holes in the lurdest mason. in the hardest masonry.



## G-C LEAD

 ANCHORS Very popular lead anchors tor wood screws; will fit $1 / 4^{\prime \prime}$ and ${ }^{5 \prime \prime}$ " holes and will take \#10, 12 , No. $1^{\prime \prime}$ Long List 80g4-E Jnv., $3 \quad \$ 0.40$ 8084-D Display, 808420 Enlss. 8.00 1084-GBx.14412.50 8085-E Env. 9 8085-D Display, 8085

## 300-OHM LINE PROTECTIVE

 PLASTIC TUBING Clear plastic tobing ohm twin line and protect the wire from grounding and rubbing on corners of builfings. eaves, etc. Used tor lead in protection also.No.
625 Hox. 8 ft.
$\$ 0.95$

G-C LAG SCREW - EXPANSION SHIELD
Will fit $1 / 4$ " lag screws. Marle of slecial alloy, $100 \%$ rust-proof (supplied Without lag screws). Used for Television Masts and Mrackets, and other work. The shield is $1^{\prime \prime}$ long $x$ 1/2"O.D. 1/2" drill is required.
No.
8088 List
Env.. $12 \$ 3.00$
8088 Fnv..12\$3.00
8088-G Bx.,14432.00


G-C LADDER ноOKS
Every service man needs a hook ladder when installing Television antennas. Make your own hook ladtler by fastening these hooks to your ladder. Sold in pairs, complete with bolts for easy installation.
No.
8215 List
Hooks,
per pair $\$ 5.00$


G-C SOLDERLESS CONNECTOR KIT
For Television Antenna, Radio and Elec. trical Work
Complete kit of terminuls and a handy mool to install solder tool to install solder ess terminals on ends of wire. Hanhy for in door and ontdoor use as it eliminates sol dering.
${ }^{\text {No. }}$ List
8175 Complete $\$ 9.95$


## G-C 300-OHM CONNECTOR

A handy comector to splice 300 ohm 1 win line. Easy to use. Retains characteristics of wire and makes a secure connection.

No. List
8095-E Env.,2 \$0.40 8095-D Display,

20 Envs. 8.00


## G-C

POPULAR KNOB
ASSORTMENTS
AS
No.
35 ${ }_{35}$. 1 List Popular Knobs 112035 Asstd. $\$ 1.67$ 25 of all Asstd. Set Screw Knobs Only 114925 Asstd. 1.67 60 Auto Push-Button Knob Assortment
802660 Asstd. 1.67

G-C AUTO RADIO SHEET METAL SCREWS
Special short sheet metal screws such as used on anto radio chassis covers, etc. No. 8 x $1 / 4$ " selftapping hex head slotted. Steel, cad-nium-plated. List 8102-E Env $30 \$ 0.40$ 8102-D Display,
8102-D Display,
20 Enve. 8.00
$\begin{array}{rr}20 \text { Envs. } & 8.00 \\ \text { 8102-G Bx.,144 } & 1.75\end{array}$


## G-C GROUND CLAMPS

Popular C type clamp will fit pipees up to $1 \%$ " diameter. Makes a secure ground.
No, List $8120 \quad \$ 0.25$ Popular strap type rround will fit pipes $3 / 8^{\prime \prime}$ to $2^{\prime \prime}$.
No
8121
8121


## G-C TELEYISION GUY WIRE

High grade galvanized steel twisted Television guy wire for lall masts and towers. Extra strength steel completely galvanized to prevent rust and corrosion. Available in 2 sizes that will take care of most requirements.
Four Strands No. 20 Wire (approx. $\frac{3}{3}^{\frac{3}{1}}$ diam.) No. List 8107-C $100-\mathrm{ft}$. Coil $\$ 1.30$ $8107-\mathrm{M}$
Six Strands No. 20 Wire (approx. $1 / \mathrm{a}^{\prime \prime}$
12.25
diam.) Six Strands No. 20 Wire (approx. 1/8" diam.) ${ }^{\text {No. }}$
8109-C $\quad 100-\mathrm{ft}$. Coil
$1000-\mathrm{ft}$. Coil
8109-M

G-C SPEEDEX STRIPPER for the $\mathbf{3 0 0}$-ohm Twin Cable Makes stripping of the 300 -ohm cable very simple and easy. Just squeeze the hanilles and the job is done.
No. Model List
733-H Regular $\$ 6.00$
744-H Automat. 8.00
(For other size
Speedex Strippers,


G-CPLASTICSTOCK BOXES AND TRAYS Clear polystyrene loxes for stocking small parts, screws, nuts, holts, condensers, resistors, etc. See what you have in clear plastic boxes. Boxes supplied with covers.
No. Depth List $80224 \times 4 \times 3^{\prime \prime} \$ 0.55$

G-CPHONO DRIVES: Admiral, Crescent Made of lest irrade of pure rubber, gemuine replacement drives.


24-E Env, 1 List 24-E Env, 1 ; Crescent. 24.AE Env., 1; Admiral, Crescent $31 / 4^{\prime \prime}$ O.D. .40 24-BEEnY, 1 ;Amiral Part No. 406 A 13
$3 \% / 80 . \mathrm{D}$. 40

## G.C LONG

 NOSE PLIERSVery handy pliers to reach into pluces and hold parts. Ileal for installiner ralio dial corils. Available in corns. Avaliable in Straight nose and
curved nose styles.

No. Style List | 5192 Straight $\$ 0.85$ |
| :--- |
| 5193 Qurved |
| .85 |

## G-C MINI-MAX

 STRIPUsed for connecting $67 \frac{1}{2}$-volt "B" hatteries, such as Eveready 455,466 ; Burgess $\times \times 30$, XX45.

No.
8115 Connector


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DOYES of 144 BOXES OF 1000



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Internal Lock Washers. No. 2


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Assorted Solif Type Lock Washers | Screm size | OD. | Thathres |
| :---: | :---: | :---: |
| No. 4 | $3 / 16^{\prime \prime}$ | $1 / 32^{\prime \prime}$ |
| No | 6 | $15 / 64^{\prime \prime}$ |
| No. 8 | $1 / 32^{\circ}$ |  |
| No. 10 | $15 / 64^{*}$ | 025 |
| No | $5 / 16^{\circ}$ | 050 |

- 

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## 

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[^0]:    Mounting brackets and one band are furnished with all adjustable

[^1]:    When ordering state: Quantity, Catalogue Number and Resistance Value.

[^2]:    *Clutch type controls-no provision for attachable switch.

[^3]:    Thru all or any part of winding.
    Diameter: $4^{\prime \prime}$. Depth Behind Ponel: $13 / 4^{\prime \prime}$. Mounting: Single $3 / 8^{\prime \prime}$ Diameter Hole. Standard Bushing for Panels up to $1 / 4^{\prime \prime}$ or 2 $6-32$ Screws, Each $7 / /^{\prime \prime}$ from Center of

[^4]:    *Thru all or any part of winding.
    Diameter: $6^{\prime \prime}$. Depth Behind Panel: 21/4".
    Mounting: $21 / 4-20$ Screws, Each $1-3 / 16^{\prime \prime}$ from Center of Shaft.

[^5]:    $\dagger$ CK-Coiled in carton K-Carton CR-Crate Reel S-Spool C-Coil SK-

[^6]:    *Measurements for d - c insula tion resistance were made by means of a megohm bridge at 300 volts on specimens in mercury after subjection
    to $\mathbf{9 0 \%}$ relative humidity and 100 F for 24 hours.
    **Measurements for insulation breakdown were made on specimens in mercury by application of gradually increasing 60-cycle a-c potential.

[^7]:    No. 6104 is widely used for switching from one television antenna to another.

[^8]:    CAT. No. 975-Indoor Antenna. Individually packed.
    Standard package, 6 antemnas. (Shipping Wt. for 6:
    13 lbs ) ...........................................List Price $\$ 6.50$ each

[^9]:    IMMEDIATE DELIVERY • LOWEST PRICES • MANY OTHER PRODUCTS • SEND FOR CATALOG

[^10]:    COAXIAL CABLES AND CONNECTORS. INDUSTRIAL CONNEGTORS, FITTINGS AND CONDUIT. ANTENNAS. RADIO COMPONENTS. PLASTICSFORELECTRONICS

[^11]:    No. 60 - XceLite Side Cutting PLIER, 6 " $\quad \begin{array}{r}\text { List I'rice } \\ \$ 2.60\end{array}$

[^12]:    For Bulk Quantity Prices on these items，see WALSCO INDUSTRIAL AND BULK PRICe bisı，fages U－47 to U－50．

[^13]:    For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

[^14]:    Nos. $0,1,7,1, E$.
    Nos. $\mathbf{C}, \mathrm{D}$
    Nob, 2, 4, 8, 11, F
    Nos, 3, 5, A

    Lots of 20 @ $\$ 0.10$ ea. List Lots of 20 @ 10 ea. List Lots of 20 @ 10 ea. List Lots of $20 @ .13$ ea. List

[^15]:    No.

