



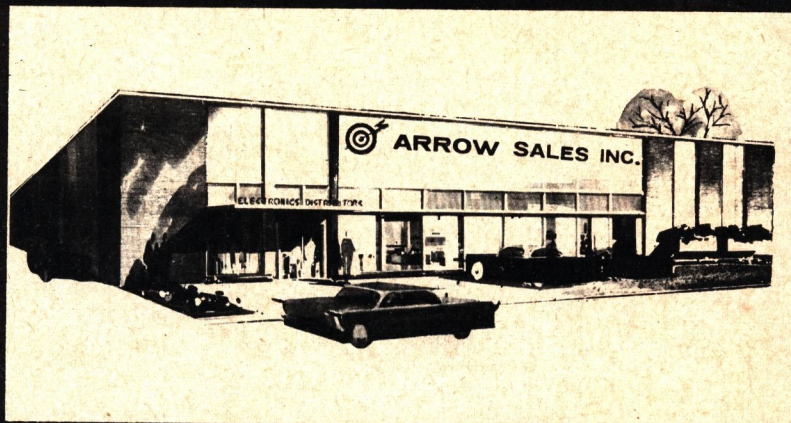
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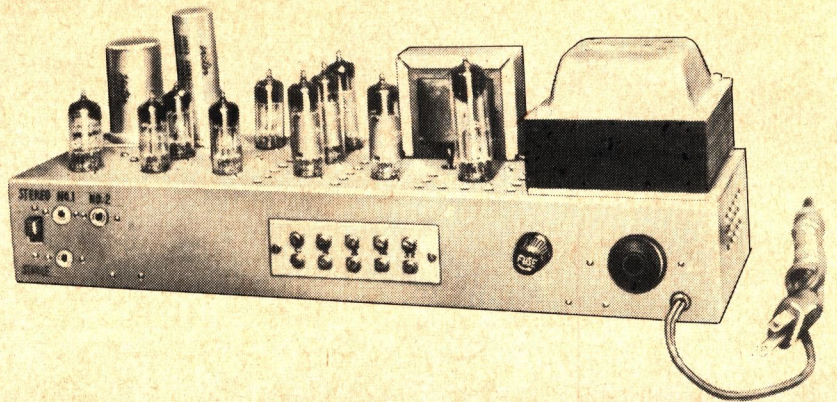
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An **ARROW** Exclusive!

STEREO POWER AMPLIFIERS . . . TWO ON ONE CHASSIS . . .

READY TO GO . . . NOT A KIT . . .

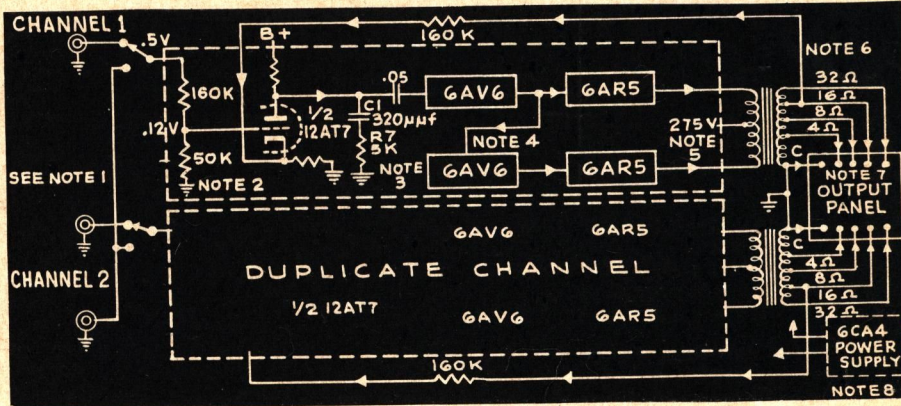
only \$ **49⁵⁰**



Made by
VICTOR
of Japan

- Switch combines both inputs for a single source...or separates them for Stereo... with outputs to either one or two speakers.
- Williamson-type overall feedback for lowest possible distortion...least effect of load impedance changes...and response flat to 0.2db from 20 to 20,000 cycles.
- Each amplifier delivers 5 watts average, 10 watts peak...which puts 10 watts average, 20 WATTS peak into YOUR living room.

Height and width: 5 9/16". Length 15 3/4". Shpg wt 15 lbs. Order as Cat. No. 5061AX2. A smart buy.



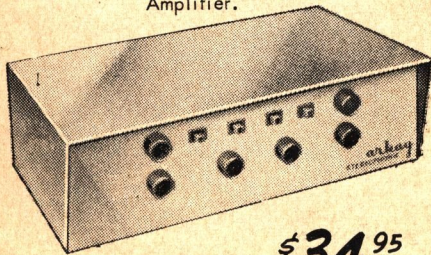
NOTES:

1. Switch can be set for either 2 separate (Stereo) channels, or for one single (Monaural) channel.
2. Input impedance is 210 K ohms. 23.8% of the input voltage appears at the grid. With this network, 0.5 VOLTS DRIVES EACH AMPLIFIER to full output. By moving the grid connection directly to the arm of the switch, sensitivity is increased to 0.12 VOLTS FOR FULL OUTPUT, and the grid return resistors can be shunted or replaced to change input impedance if desired.
3. C1 and R7 prevent RF caused by phase-shifted

- feedback at inaudible frequencies.
4. The 6AV6's are connected as a floating para-phase self-balancing phase inverter, with an unbypassed cathode resistor common to both, which keeps plate currents equalized.
 5. RCA shows 10.5 watts as the output of push-pull 6AR5's. Thus the 5 watt average, 10 watt peak ratings given here are ultra conservative.
 6. This line supplies the Williamson-type overall inverse feedback which eliminates audible distortion, flattens the frequency-response curve, and minimizes the effect of speaker impedance variation as frequency to the speaker changes.

7. Regardless of the position of the input selector switch, two separate speakers or speaker systems are fed. Each speaker gets the output of an individual amplifier. However, the 2 outputs can be paralleled to feed one only speaker or system with the combined power of both amplifiers. Impedances shown are then cut in half. Example: The two 8 ohm terminals joined together are 4 ohms to Common (ground).
8. An octal plug provides remote on-off switching if desired, and also furnishes 250v B+, 10 ma, 6.3vac, 1.5 amps, neg. bias, and grounds for auxilliary equipment, such as preamplifiers.

Here is the ideal low-priced preamp. for the Stereo Power Amplifier.



Kit, only..... **\$34⁹⁵**
Wired and tested..... **\$47⁹⁵**

ARKAY KIT
model SP-6

THE SP-6 STEREO PRE-AMPLIFIER performs with ease the most exacting requirements for stereophonic Hi-Fi. Actually 2 separate pre-amplifiers in one, the SP-6 affords the user maximum control over either channel. Outstanding features of the SP-6 are inputs for NARTB tape head, magnetic phono, tuner, and auxiliary equipment for each channel. For simplification, the volume control regulates both channels simultaneously. In addition, separate balance controls permit exact adjustment for each channel. Input level controls prevent overloading. The SP-6 may also be used as a conventional pre-amplifier. A most-comprehensive construction manual and large, clear, easy to understand pictorial diagrams, makes the SP-6 an easy kit to successfully build and use for many enjoyable years.

SPECIFICATIONS (each channel)

Frequency Response: 20 to 40,000 cps.; Function switch: 6 positions—NARTB tape head, Magnetic phono., LP-RIAA-EUR, Tuner, Aux.; Volume Control: Controls both channels simultaneously; Loudness Control: Variable compensation for Fletcher-Munson effect; Left and right channel balance control; Bass Control: ± 16 db. @ 60 cycles; Treble Control: ± 16 db. @ 10 kc.; Hi-Filter: 3 positions, 6 db.—0—12 db.; Lo-Filter: 3 positions, 6 db.—0—12 db.; Sensitivity: Tape—3 mV. for .5 V. output; Phono.—6 mV. for .5 V. output; Tuner—.3 V. for .5 V. output; Aux.—.3 V. for .5 V. output. DC controlled filaments—Built in power supply; Power consumption: 25 watts @ 60 cycles—Weight—15 lbs.; Prices: Kit \$34.95—Wired—\$47.95.

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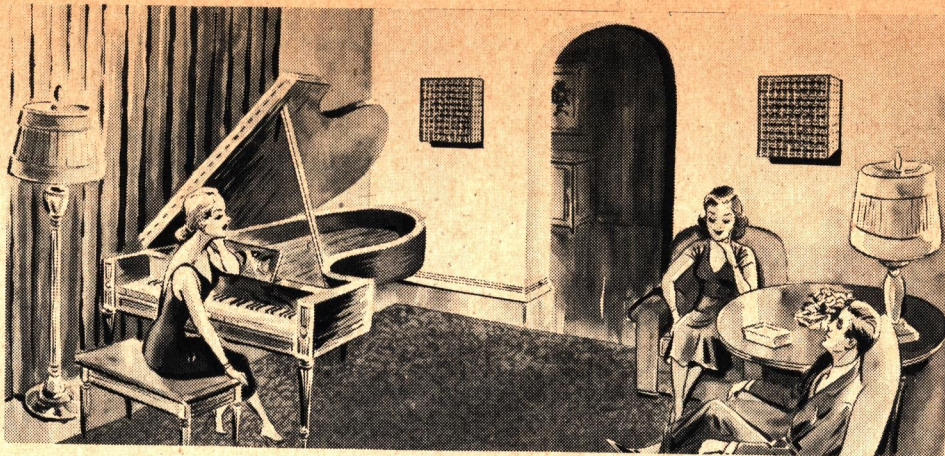
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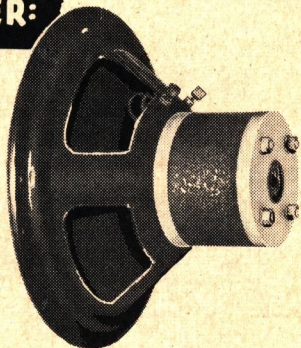
*Have Hi-Fi and
your Furniture too!*

...NO NEED TO DISRUPT
YOUR HOME FOR
STEREO OR MONAURAL



THE SPEAKER:

WE RECOMMEND THE HARTLEY 217 BECAUSE IT IS THE ONLY SPEAKER IN THE WORLD WITH NO RESONANCE



WE OFFER MONEY-BACK BACK GUARANTEE THAT ONE HARTLEY 217 WILL OUTPERFORM ANY \$1,000.00 SETUP

±5 db 20 TO 20,000 CYCLES!

- No trick tuned cabinet to reinforce bass is needed, so a simple hole in the wall, or a box baffle ("boffle") that attenuates the back wave, is best for the Hartley 217.
- No cabinet tuning to cancel bass resonance is needed because there is no audible resonance. No boom.
- Each Hartley 217 handles 20 watts of audio, which is more than adequate, not only for Stereo, but also for an inexpensive single spkr in any moderately-large room.
- You can't HEAR the Hartley 217. It imparts no character of its own to the music. You hear only what you put into it, and ALL of that.
- Hartley 217 has a modest price. It is not always true that if you pay more, you get more. Sound doesn't care how much you pay, and brains are better than money. The cave-man engineer who invented the wheel probably had an uphill fight to convince people that it was better than the complicated, costly contraptions they had been using.
- So discard all your pre-conceived ideas on speakers, their sizes, etc. and start rolling with the wheel.

HOW DOES HE DO IT?

The first ingredient in the recipe is 27 years as a speaker manufacturer, audio physicist, and musical perfect-

ionist, always dissatisfied, always experimenting, in the search for the perfect speaker. That's a picture of that stubborn old Britisher, Mr. H. A. Hartley. And he won out, too.

First, the cone: It isn't paper. It's polymerized paper, which means that its chemical structure has been completely altered. It is extremely light in weight, but it moves as a single stiff, stiff unit...no breakup.

Next, the outer suspension. Cloth. Absolute freedom for both forward and backward motion.

Next, the inner suspension. Highly compliant involute fiber. Freedom.

How come 15" diameter necessary? Because there are two ways to move enough air for good bass reproduction: Either move a 15" air column a short distance, or move a 10" air column a long distance. The first way has two disadvantages: 1. The cone is heavy and has "hangover"; it doesn't want to stop. 2. The air in front of the cone is a resonant chamber. Hartley has a long voice coil in a long 11,500 line flux field, and the cone has perfect freedom to move a full 1/2" each way. Remember your High-School physics? Work is Force x Distance? The 15"

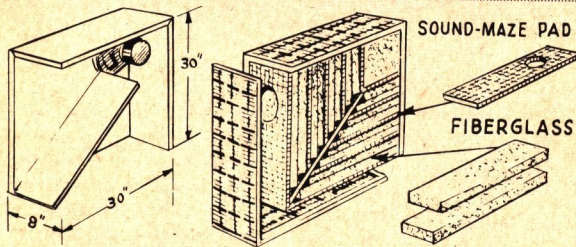
boys use much force, short distance. Hartley uses little force, big distance; and out roll the bass notes, without the resonant boom that gives you "Listener's Fatigue".

Why no tweeters? Let's look at the voice coil: It is wound on a high-compliance plastic cylinder which in turn is on a light-weight aluminum cylinder. Eddy currents in the aluminum create inverse feedback which immeasurably purifies and cleans the sound to make it the purest reproduction of true music you have ever heard...but eddy currents do even more than that. At frequencies too high for any voice coil to follow faithfully, the aluminum cylinder, driven by eddy currents, takes over. It is no accident that the response is within 5 db at 20,000 cycles.

And here's one last secret: The cylinder is fastened to the cone through another high compliance. It is no accident, either, that this is the one speaker in all the world with no resonance, no boom, pure clean sound.

Mount behind hole 8 3/4" to 9 1/4" dia. Maximum OD is 10 1/4", max depth 5 7/8". Voice coil: 4 ohms. 5 lb Alcomax II magnet. Net 6 1/2 lbs. Shpg wt 10 lbs. **\$6370** Cat.7481SP1, only...

IF YOU CAN'T CUT A HOLE IN THE WALL:



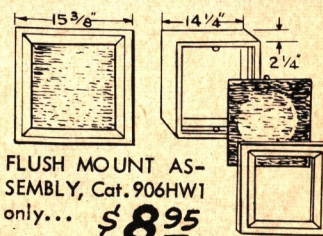
A hole in the wall is the best baffle for a Hartley 217. Second best is to remove enough energy from the back wave, so its beating with the front wave is negligible. A solid-back box creates pressure, so can't be used. Hartley's solution is to weave the back wave thru holes

in padding to remove its energy. Hartley's Utility floor Baffle works fine. Our wall baffle uses the same principles, has 1 cu ft more volume, 1 sq ft more air relief, and travels the remnant of the back wave the same 20" before it reaches the front opening; additionally, our baf-

file is treated inside with sound-deadening automotive undercoating...an exclusive idea which completely kills the grating additive of resonating wood. The mounting arrangement is simple, and does not harm your walls. These baffles come in pairs, like gloves. In the picture, the speakers are nearer the ceiling and arch. The piano side is Cat. WB1L. The lamp-table side is Cat. WB1R. Either, less **\$3750**

Each requires 2 sq yds of grille, and your wife probably wants to pick it personally. We carry Mellotone Saran grille cloth in the following styles:
Maroon, white thread: Per sq yd, \$2.50
Beige + gold thread; or Beige + gold thread + brown stripe; or maroon + copper thread. Any of these three styles: Per sq yd, \$3.50
White, with free-style (curlicue) lines of gold thread and black print, Per sq yd, \$4.15

IF YOU CAN:



FLUSH MOUNT ASSEMBLY, Cat. 906HW1 only... **\$895**

Unfinished flush trim, and speaker mtg board with 8 3/4" hole, snap into the wall frame after the frame has been nailed to a stud. The mtg board is covered with an attractive maroon & gold thread grille cloth.

BUY EVERYTHING HERE ON EASY TIME PAYMENT PLAN... SEE PAGE 31.

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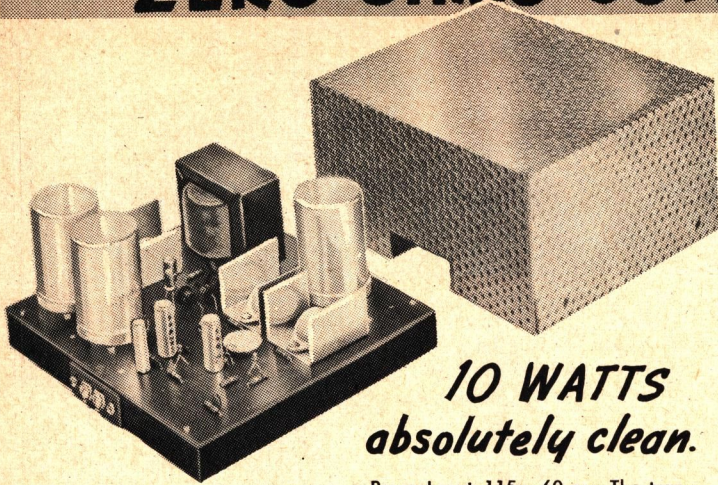
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Our own ALL TRANSISTOR AMPLIFIER KIT USES NO OUTPUT TRANSFORMER ZERO OHMS OUTPUT IMPEDANCE ...



**10 WATTS
absolutely clean.**

THE POWER AMPLIFIER
Input Impedance: 15 ohms resistive.
Input Sensitivity: .01 v for 10w out.
Output Impedance: 0 ohms for all practical purposes. With no output transformer to create phase shift, the only limit to the % of useable inverse feedback is consideration of drive requirements. In addition to completely purifying the output, inverse feedback lowers the output impedance.
Max. Undistorted AF Volts Out: 9.5.
Max. Undistorted AF Amps Out: 1.1.
Load Impedance: There is no generator impedance to match; therefore, there can be no impedance mismatch. If the speaker is clean the reproduction will be clean.
Harmonic Distortion: Less than 0.5%.
Intermodulation: Less than 1%.
Frequency Response: ± 1.5 db from 20 to 20,000 cycles.

Power Input: 115v, 60 cy. The transformer in the picture steps down the 115v to 27v.

Power Supply Section: Regulated to 1%. Full-wave rectifier uses silicon diodes. Control reference is a Zener diode. Reference amplifier is a medium power transistor, and a high power transistor is the series regulator.

Power for Preamp: Filtered output is provided for an auxiliary transistor preamplifier.

Temperature Stabilization: The output transistors are stabilized by a thermistor in the bias circuit.

Output Circuit: Push-Pull, which eliminates even harmonics.

Hum and Noise: Too low to measure; at least 90 db below 1 volt.

Printed Circuit Board: Hot-dip solder plated to make wiring easy for you. XXXP phenolic.



Service Requirements: Here, for the first time, is an electronic device that you can put away and forget about. No tubes to burn out. All critical components are made to MIL specs, and are operated well below their maximum ratings. No service should ever be required.

Size: 6"x7"x3 1/2" high.

Finish: Baked gold enamel.

AMPLIFIER KIT, less cover: Cat. 5061AX3K. Only... **\$49⁵⁰**

WIRED AND TESTED: **\$64⁵⁰**
 Cat. 7561AX3W.....

COVER: **\$3⁹⁵**
 Cat. 406AX3C.....

THE ALL-TRANSISTOR PREAMPLIFIER

Input-Switch Selection Positions:

1. Magnetic phono. Input impedance 3900 ohms. Compensated for RIAA curve. 11 mv drives the preamp to 1 volt output.
2. High impedance dynamic or ribbon microphone. 0.2mv in for 1 volt output.
3. Tuner, crystal phono, or tape

recorder. 0.5 megohm input. 0.5v drives preamp to 1v out.

4. A fourth jack with the same characteristics as 3 above.

Output: 2 volts with less than 1% intermodulation. Output impedance matched to Power Amplifier.

Noise: More than 70 db below 1 v.

Frequency Response: +0.5 db from 20 to 20,000 cycles.

Microphonics: None with transistors.

Hum: Inaudible; too low to measure.

Tone Controls: Separate Treble and bass controls give Cut, Flat, and Boost.

Volume Control is the fourth knob.

Power Supply: The Power Amplifier furnishes the filtered DC required. No batteries to replace.

Size: 4" front-to-back over knobs, 2 1/2" high, 7 1/2" wide.

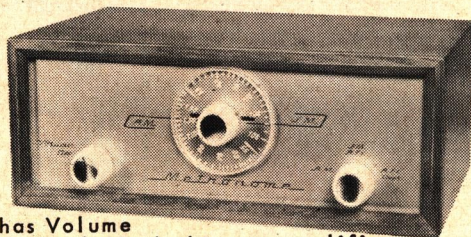
Shipping Weight: 5 lbs.

With the cover, Cat. 4506AX4K, Kit only. **\$34⁹⁵**

Wired & Tested, with cover: Cat. 5861AX4W, only... **\$47⁵⁰**

LOW COST AM-FM TUNER

RETMA
GUARANTEE
PLANETARY
TUNING
FURNITURE-
FINISHED
WOOD CASE
IN DARK
MAHOGANY
OR BIRCH



has Volume Control. No dashing to amplifier....

DO NOT COMPARE THIS guaranteed top quality tuner with slapped-together cheapies appearing on the market. Here you get a beautiful-appearing and wonderful sounding masterpiece of carefulness in design, fabrication, alignment. Drift-free FM osc., advanced AFC, AFC defeat for sharp tuning, etched

solid-bronze face, and only 4.562" high, 11.44" wide, 7" deep. Slot lights illuminate tuning behind Lucite dial. Hum -60 db both AM and FM. 3.5uvFM, 6uv AM sensitivity. Don't hesitate to buy this. SPECIFY MAHOGANY OR BIRCH. Shpg wt 10 lbs. **\$59⁹⁵**
 Cat. 6006RE32, only.....

EVERYTHING ELSE YOU NEED

NO ROOM TO SHOW ALL HERE, BUT ORDER FROM US AT STANDARD PRICES. WE CARRY COMPLETE LINES:

To Play Records: Rek-O-Kut, Metzner Starlight, Garrard, Collaro, Miracord, Telefunken, Fairchild, Shure, G.E., ElectroSonic, Goldring, Recoton, Arrow. Tape Recorders: Presto, Bell, Viking, Wollensak. Tuners and amplifiers: Fisher, Harmon-Kardon, Pilot, Bell, Dynakit, Arrow, Grommes, British Industries line, Eico, Arkay, Regency. Speakers and Cabinets: Hartley, British Industries, Acousticraft, Arrow. Microphone Stands and accessories: Atlas Sound. Capacitors: Aerovox. Transformers: Thordarson-Meissner, Miller Coil. Resistors, Fuses, and everything for the Serviceman, Builder, and Hobbyist.

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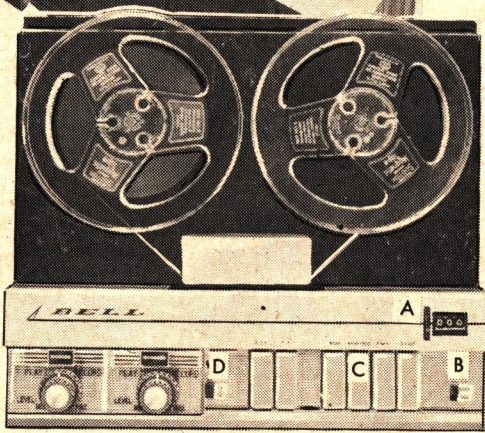
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playback your favorite tapes with*

Bell *tape transport*



RECORD STEREO OR TWO-TRACK MONAURAL, PLAY-BACK TWO-TRACK MONAURAL, FULL-TAPE MONAURAL, INLINE OR OFFSET STEREO...WITH ONE LOW-COST 3-MOTOR RECORDER



illustrated with T-203 and two RP-120

Specifications

Frequency Response: 20 to 15,000 cycles per second ± 4 db.
Wow and Flutter: Less than 0.2% at 7.5 inches per second.
Signal-to-Noise Ratio: -50 db or more for recordings with 3% 3d harmonic distortion.
Overall Distortion: Less than 1% at maximum indicated recording level.

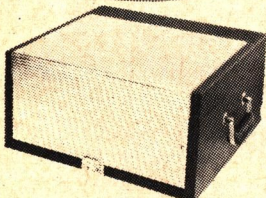
2 Tape Speeds: 7.5 and 3.75 inches per second, with 30 ft/sec. on fast forward and rewind.
Tape Lifter: Lifts tape from heads during stop and high speeds.
Head Mountings: Adjustable for (1) Azimuth, and (2) Tracking, but are set correctly at the factory.
Maximum Reel Size: 7" standard.

- (A) INDEX COUNTER to show position by footage works from take-up reel, so can't cause tape wow.
- (B) POWER SWITCH controls both the deck and the two RP-120's.
- (C) PIANO KEYBOARD simplifies operations. All functions controlled from ONE spot. Operation of Stop key between changes assures positive control of all tape motions.
- (D) STEREO SELECTION switch connects to inline or offset heads so you can play both kinds of tape.

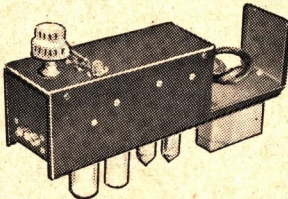
...and it also erases. No need to buy a bulk eraser.

- Three heavy-duty 4-pole motors control tape perfectly. No belts, pulleys, clutches or mechanical brakes to wear, slip or go out of adjustment.
- Electro-dynamic positive braking (dc) is instant but gentle, without strain or breakage....even with thin-base 1/2-mil Mylar tape.
- Record....play back....erase if you wish: 1 channel (Monaural) half track for maximum time/reel; 1 channel full track by paralleling stereo inputs, for maximum editing ease, and highest signal-to-noise ratio; inline (stacked) stereo; and offset (staggered) stereo.

Tape Deck T-203: Although it can be mounted in the carrying case available as an extra, it is ideal for custom installations. Allow for 15 1/2" width, 13 5/8" front-to-back, 5 1/2" below the mounting surface, and 2" above it. To add the two RP-120 necessary to perform all functions described, a blank panel is removed and the preamps substituted without changing the dimensions. **\$149⁹⁵** West Coast: **\$153⁹⁵**
T-203 only: East of the Rockies: **\$149⁹⁵** West Coast: **\$153⁹⁵**
sold fob your door



...the Model 200 CC Carrying Case:
Here is the accessory which permits you to carry your Stereo recorder to jam sessions, concert soirees, PTA meetings, parties and business powwows. Smart as tomorrow, but with materials that resist scuffing: Charcoal-gray vinyl, contrasting silver-finish mylar. Sturdy, too. When you open the lid, you have easy access to the input and output receptacles. East of the Rockies, **\$29⁹⁵** FOB your door, only.... West Coast price, **\$32⁵⁰** FOB your door, only....



....with the T-203, you need two RP-120 Record-Playback Pre-Amplifiers:
Each RP-120 provides all the electronics for complete single-channel operation. The 62.5 kc bias-erase oscillator provides linear, low-distortion recording characteristics conforming to NARTB standards at 7.5 ips and has adequate power for the double-gap erase head as well. Inputs: 1. High-impedance microphone with sensitivity of 1 millivolt. 2. High-impedance tuner or other line, with sensitivity of 100mv. Cathode follower power output is 5 volts and a monitoring output is provided. Tubes that might introduce hum are heated with dc. The recording level indicator is a linear cathode-ray tube; the light advances up a 1" long scale as the level is increased. Two pilot lamps show when power is on, when the switch is at Record (red light), or when it is on Playback (blue light). Each, East of Rockies, **\$59⁹⁵** West Coast, **\$62⁰⁰** FOB your door, only....

.....and even less costly if you won't ever record stereo:
The following decks are exactly the same as T-203 except for the number of heads. **SO:** If you like the erase and all the playback facilities of T-203, but will record monaural only, get T-202 (\$20.00 less than T-203), and one RP-120. Use your present phono preamp for the second stereo channel playback if it has an NARTB-compensated tape input; if it doesn't, then you need (in addition to RP-120) the Playback-Only Preamp P-100, which is \$20.00 less than RP-120 but same physical size and deck mounting. **AND:** If you want a good monaural-only record/erase/playback, get deck T-100 (\$40.00 less than T-203) and one RP-120.

...if you are a **VIKING** fan, get it from us on our easy pay plan:
FF75ES: Inline-stereo Record/Erase/Playback deck: East, fob you: **\$113⁰⁰** West Coast fob you: **\$116⁰⁰**
FF75RLP: Monaural on both playback and record. It also erases. Deduct \$35.00 from the stereo price. **RP61 Preamp.** Get 2 for stereo; get 1 for monaural. East, fob you: **\$77⁵⁰** West Coast fob you: **\$79⁵⁰**
Stereo Pro ES is **FF75ES**, 2 RP61, in carrying case: East, fob you: **\$299⁹⁵** West Coast fob you: **\$303⁰⁰**
Following are all fob you, East or West: **Steel case for a deck:** \$14.00. **For 1 preamp:** \$7.50. **Mounting flange for a deck in black, tan or chrome:** \$3.50.

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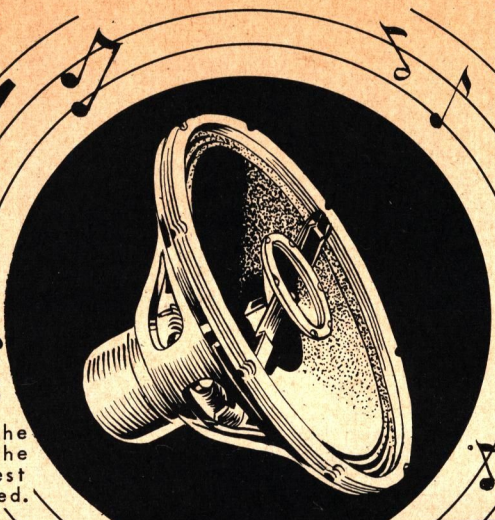
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Enjoy THE HIGHEST FIDELITY

your dollar can buy
with one of these fine
Co-axial Speakers

Made especially for us by one of the oldest and most respected names in the business...so we could bring the best possible quality to the budget-minded.



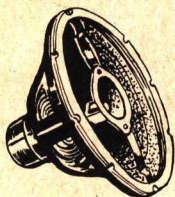
15" COAXIAL SPEAKER...

American-made 15" combination for the budget buyer offers the highest possible quality...for the lowest possible price. The woofer uses 6.8 oz Alnico 5 magnet. Has 5" tweeter and an electronic crossover network to separate the speaker functions. Manufacturer's ratings are: Frequency response 40-17,000 cy, power capacity 15 watts, input to the system 8 ohms. Sturdy frame finished in distinctive blue. Shpg wt 11 lbs. A tight-fisted buy.

Cat. 2406SP2, only..... **\$13⁹⁵**

12" COAXIAL SPEAKER...

This American-made speaker is ideal for low-cost improvement for your radio set, phonograph, and TV. Woofer uses 6.8 oz of Alnico 5. Includes 3" tweeter and crossover network. Handles 12 watts. Impedance is 8 ohms. Shpg wt 7 lbs.



\$8⁷⁵

Cat. 1986SP3. Only.....

8" COAXIAL SPEAKER...

A pleasant Surprise is in store for you when you hear this American-made 2 1/2" tweeter, 8" woofer with 3.16 oz Alnico 5, and built-in crossover network. Handles 8-10 watts. Impedance 8 ohms. Shpg wt 3 lbs. Are you price-conscious?



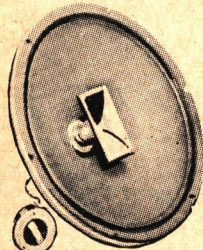
\$5⁹⁵

Cat. 1606SP4, only.....

FROM JAPAN'S PROUDEST SPEAKER MANUFACTURER: PIONEER

HORN TWEETER IN 15" COAXIAL...

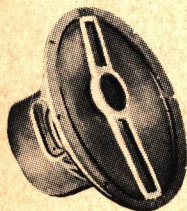
Nippon's Best....and they can be very awful good for this many Yen. Response 25 to 16,000 cy \pm 10 db. Resonance down to 30-40 cy. Woofer flux density is 9,500 Gauss; tweeter's is 11,500. 16 ohms. 25 W. 16 lbs shpg.



Cat. 7861SP5, includes Brilliance control.. **\$67⁵⁰**

OFF-CENTER TWEETER IN THIS 12" 2-WAY...

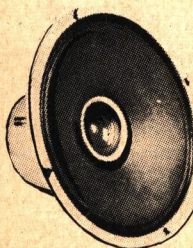
Gives 160° dispersion. 30-16,000 cy \pm 10 db. 35-50 cy resonance. 10,000 Gauss in both woofer and tweeter. 16 ohms. Handles 10 watts. Has built-in electronic crossover with matched power.



Cat. 3086SP6. Shpg wt 10 lbs..... **\$29⁷⁵**

10" CONCENTRIC TWO-WAY SPEAKER...

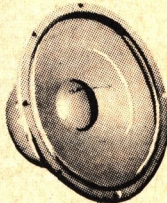
Small-space Hi-Fi unit has smooth 35-16,000 cy \pm 10 db response. Resonance 45-60 cy. 10,000 Gauss for both woofer and tweeter. Built-in electronic crossover. Handles 10 W. Impedance 16 ohms. Shpg wt 9 lbs.



Cat. 3006SP7. Shpg wt 9 lbs..... **\$29⁹⁵**

15" INCH, 25 WATT HI-FIDELITY WOOFER...

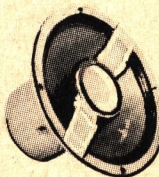
Very heavy magnet. 10,500 Gauss per sq. cm. flux density. Resonance down to 30 to 40 cy. Response 25-3500 cy \pm 10 db. 16 ohms impedance. The best woofer for your money. Shpg wt 16 lbs.



Cat. 5606SP9, only..... **\$45⁹⁵**

COMPACT 8" COAXIAL SPEAKER...

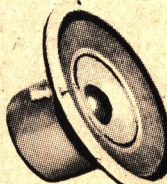
Designed for maximum fidelity in minimum mounting space. Has tweeter and electronic crossover built in. 8 ohms input. 40-16,000 cy response. Shipping wt 7 lbs.



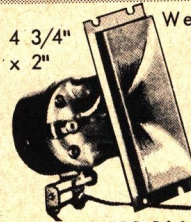
Cat. 2306SP8, only..... **\$12⁹⁵**

ANNULAR RING MECHANICAL 2-WAY...

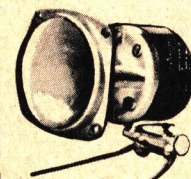
Highs stopped at ring. Edge softened chemically. Very smooth 40-16,000 cy with 8" size, 50-16,000 cy with 6" size. Over 10,500 Gauss.



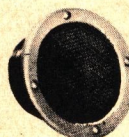
8 INCH: 8 ohms. 6 watts. **\$12²⁵**
Cat. 2336SP10. 6 lbs shpg.....
6 INCH: 8 ohms. 3 watts. **\$7⁹⁵**
Cat. 806SP11. 4 lbs shpg wt.....



4 3/4" x 2" We don't say things like this lightly, or often: **THE BEST TWEETER WE KNOW OF....** 1,700 to 16,000 cy. For a 2,800 cy crossover. 13,500 Gauss. 20 W. Shpg wt 4 lbs. Cat. 2506SP12-8 is 8 ohms, Cat. 2506SP12-16 is 16 ohms. Either.... **\$14⁹⁵**



HORN TWEETER, 3" CIRCULAR.... 2,200-16,000 cy, for 4,000 cy crossover. 13,500 Gauss. Handles 20 W. Shpg wt 4 lbs. Cat. 2506SP13-8 is 8 ohms. Cat. 2506SP13-16 is 16 ohms. Either.... **\$14⁹⁵**



BUDGET-WISE ROUND TWEETER.. 2 7/8" diam. 3000-16,000 cy. 10 watts. With mtg bracket & cord. Shpg wt 2 lbs. Cat. 1461SP14-8 is 8 ohms. Cat. 1461SP14-16 is 16 ohms. Either.... **\$3⁹⁵**



ADD THIS TWEETER TO ANY 12" SPEAKER... Get 2,500-16,000 cy with 160° dispersion. Flux density 10,000 Gauss. Shpg wt 4 lbs. Cat. 806SP20-8 is 8 ohms. **\$7⁹⁵**
Cat. 806SP20-16 is 16 ohms. Either....

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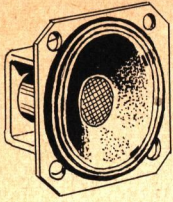
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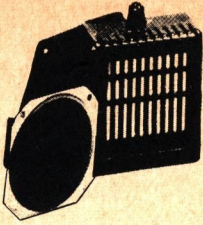
ACCESSORIES FOR AUDIO



1-5/8" SQUARE & 2-1/16" SQUARE

Not hi-fi...but pretty good considering size... and very, very useful for miniature applications.. 3.2 ohms. 1-1/8" deep. Cat. 1296SP15 is 1-5/8"

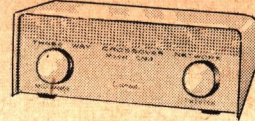
Cat. 1296SP16 is 2-1/16". Either... **\$1.85**



PM SPEAKER.... PLASTIC BAFFLE... PLUG & JACK.... FOR \$2.75

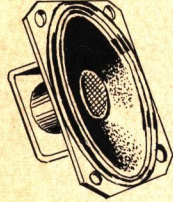
We fight inflation. Maroon plastic baffle & back plate: 3"x 2-3/8". Spkr: 2-1/2"; 3.2 ohms.

Cat. 1386SP18. Shpg wt 3 lbs..... **\$2.75**



CROSSOVER NETWORKS 16 OHM, 6 DB PER OCTAVE With Instructions

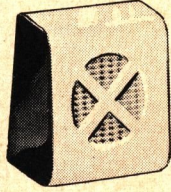
Pictured is Cat. 2806CN1. 3-way, crosses at 500 and 3300 cy. 2 L pads adjust tweeter and midrange to the woofer. Shpg wt 5 lbs... **\$17.95**
Cat. 1806CN2 is 2-way. No L pads. Cross adjustable 2500-3500 cy. Shpg wt 4 lbs... **\$7.95**



..AND HERE'S AN OVAL BABY...

Sounds surprisingly good. The rectangular plate in which the cone is mounted is 1-15/16"x2-11/16" and the depth is 1-1/2". Voice coil is 3.2 ohms.

Cat. 1336SP17, only..... **\$2.25**



4" PM SPEAKER.. 2-TONE WOOD CABINET..... PLUG & JACK.... ALL FOR \$3.50

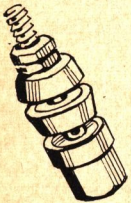
Baffle has a back. It is a natural as desk intercom, or on a wall. 3.2 ohms.

Cat. 1461SP19. Shpg wt 3 lbs..... **\$3.50**



BARGAIN IMPORT L-Pad With Knob and trim plate. Bushing 5/8" long. 20 W audio. Control remote speakers without changing line Z. For 8 ohms in and out get Cat. 336PD4-8.

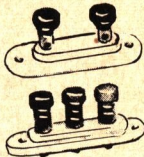
For 16 ohms get Cat. 336PD4-16. Either.. **\$2.25**



BRASS AND PLASTIC BINDING POST

Industrial or Test-Equipment type. Push banana plug into end or wire thru hole in the side. Insulated keyed collar for 1/2" hole. Rated 2000 v. Specify Yellow, Red,

Black, Green, or White. Cat. 130BP1.. **29¢**



ALL-PLASTIC TERMINAL BOARDS WITH 2 OR 3 BINDING POSTS

Mount above or thru panel. 40% off in lots of 1,000. The posts are color coded.

2-post Term. Bd. is Cat. 120BP2..... **19¢**

3-post Term. Bd. is Cat. 136BP3..... **25¢**



PPHHHTTT... YOU SHOULD HAVE USED INSULATED ALLIGATOR CLIPS

All-plastic body 1-3/4" long. Teeth and solder-connection inside. Standard package has 5 red and 5 black clips. Cat. 109PG11C... **98¢**

SAVE SWEAT AND SWEARING WITH THESE AUDIO CORDS ALL MADE UP



JUMPER CORDS

RCA-type Male Plugs at Each End Plastic Bushings Prevent Shorting Best Grade of Low-Capacity Coax. Cat. 166CC17-36. 36 inches long..... **55¢**
Cat. 176CC17-48. 48 inches long..... **65¢**
Cat. 186CC17-60. 60 inches long..... **75¢**
Cat. 106CC17-72. 72 inches long..... **95¢**
Cat. 226CC17-120. 10 feet long..... **\$1.15**



6-foot long adapter cord: Male RCA-type "phono" plug to a standard headphone plug. Cat. 1266CC14..... **\$1.55**



EXTENSION CORDS

RCA-type Male to RCA-type Female Plastic Bushing Prevents Shorting Best Grade of Low-Capacity Coax. Cat. 196CC18-36. 36 inches long..... **85¢**
Cat. 106CC18-48. 48 inches long..... **95¢**
Cat. 216CC18-60. 60 inches long..... **\$1.05**
Cat. 226CC18-72. 72 inches long..... **1.15**
Cat. 236CC18-120. 10 feet long..... **1.25**



6-foot long adapter cord: Male RCA-type "phono" plug to a standard headphone jack. Cat. 1266CC16..... **\$1.55**



THE BEST BUY EVER IN AN AUTOMATIC WIRE STRIPPER

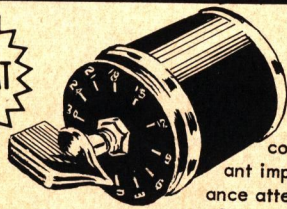
4 hole sizes fit any gauge used by radiomen. Another section of the blade is a snip, so you can cut off a solder-loaded end and strip the fresh-cut end. Cam-delayed action prevents crushing insulation. **\$3.95**
Cat. 1406WS1. Shpg wt 2 lbs... **\$3.95**



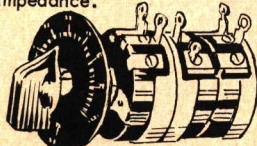
6-foot long adapter cord: Female RCA-type "phono" jack to a standard headphone plug. Cat. 1276CC15..... **\$1.65**



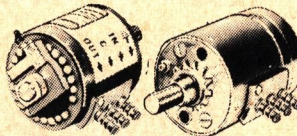
CIT T-pads Constant Impedance.



CIB constant impedance attenuators, 30W audio.



0, -3, 6, 9, 12, 15, 18, 21, 24, 30, infinity db. Specify 6, 8, or 15 ohms. Each... **\$4.62**
Continuous -.5 to 30 db. 10 W. AF **\$3.14**
Specify 4, 8, or 15 ohms.....



50,000 OHM POTENTIOMETER IN 3 DB STEPS... 0 TO -66 DB

Daven step-by-step potentiometer has 23 make-before-break wiping contacts, 22 steps, precision resistors...and just as a switch it is worth more than our low price. New surplus. Cat. 1406PD3... **\$3.95**

Bridged-T 600 ohm pad, 5 watts audio, continuous 0 to -30 db. Navy's loss, **79¢** your gain. Cat. 180PD1.. **79¢**



USE THIS HIGH-FIDELITY SPEAKER-MATCHING AUTOTRANSFORMER FOR MAXIMUM POWER TRANSFER OVER THE ENTIRE AUDIO RANGE

Autotransformer 0-4-8-16 ohms made special for us to this specification: ±1 db 20-20,000 cy up to 20 watts. DIVIDES: the impedance of any speaker by 2 or by 4. If your speaker's impedance is 16 ohms or less, it MULTIPLIES the impedance by 2 or by 4. Solves all tough matching problems. Cat. 1606TR45. Shpg wt 8 lbs. Only... **\$5.95**

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Phone CALumet 5-4750

The "BLACK WIDOW" and other RECVRS, XMTRS

- 10-Meter Standard. 2E26 PA. 10W P
Best B+ is 300v, 165 ma. **\$165⁰⁰**
Cat. 27-611TXR12...
 - 10-Meter DeLuxe. 6146 PA. 25W P
Best B+ is 400v, 210 ma. **\$195⁰⁰**
Cat. 206-111TXR23...
 - 6-Meter Standard. 2E26 PA. 10W P
Best B+ is 300v, 165 ma. **\$165⁰⁰**
Cat. 27-611TXR11...
 - 6-Meter DeLuxe. 6146 PA. 25W P
Best B+ is 400v, 210 ma. **\$195⁰⁰**
Cat. 206-111TXR24...
 - 2-Meter Standard. 2E26 PA. 10W P
Best B+ is 300v, 185 ma. **\$165⁰⁰**
Cat. 27-611TXR10...
 - 220 MC Standard. 2E26 PA. 10W P
Best B+ is 300v, 240 ma. **\$185⁰⁰**
Cat. 296-111TXR10...
- 115v, 60cy Power Supply with built-in speaker, B+, and switch-selected 6/12v outputs, with cord to the set. Handy for home use: **\$37⁵⁰**
Cat. 4861PS2.....



"Black Widow"
RECEIVER-TRANSMITTER

EASY TIME-PAYMENT
PLAN IF DESIRED:
10% down and 9 $\frac{1}{3}$ % of the
balance per month for 12 mos.

Small size to hang under your dash, only 5"high, 6"deep, and 9" wide. Low cost because you use your own B+ supply and your car radio's speaker. The Black Widow is a very hot 15-plus tube set, with the xmtr in the same case with the separate super-sensitive, super-selective, super-heret receiver with easy tuning because the band is spread out wide.

RECEIVER: Low-noise cascode RF stage and double-conversion (6 mc and 1500kc) IF's. Oscillator is stabilized by VR tube and balanced-coefficient matched capacitors. IF's have very high Q. 5687 output. S-meter, AGC, and noise limiter.

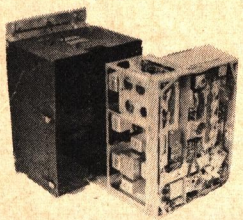
TRANSMITTER: The PA (Power Amp-

lifier) tube is driven by a 5763. It is link coupled and matched exactly to 52ohms with no filter insertion loss. The 6U8 crystal oscillator tube uses stable, dependable overtone circuit. Multiplier and output tank use balanced-coefficient matched capacitors for absolute stability. Includes push-to-talk, built-in changeover relay. The S-Meter switches to become efficient tune-up meter. Crystal or VFO plugs into front panel for easy frequency change.

MODULATION: Switch selects either carbon mike or high-Z mike. 6AU6 preamp. 12AU7 phase-inv./ampli. drives P-P 6AQ5's which plate-modulate the final. 100% modulation with no splatter.

CQ Magazine, Jan., 1958, p.28 gives schematic and tells the following results of a Los Angeles mobile installation: "Out of 13 CQ's one Sunday, 10 stations on the East Coast were worked, along with one VK and one ZL." **BE THE PROUDEST MOBILE AMATEUR IN TOWN WITH THE BLACK WIDOW!**

Specify 6 or 12 v when ordering. If you want to change later, it's easy.



COMPLETE SCR-522 VHF TRANSMITTER-RECEIVER

BC-625 xmtr, BC-624 receiver, rack and case. 4-channel xtal-controlled 100-156 mc AM with no conversion. With all 18 tubes. With schematic showing parts values, and with separate sheet on AC power supply, conversion to continuous tuning, etc.

Xmtr uses 6G6G OSC, 12A6 harm. ampl., 832 harm. ampl. and driver, and 832 RF output plate-modulated by P-P 12 A6's which are transformer-coupled to 6SJ7 speech ampl.

Receiver has audio squelch circuit for low-noise listening. Osc. is followed by two harm. amplifiers which feed the mixer tube. RF stage precedes the mixer. Three 12 mc IF stages, a det. -AVC-first-Aftube, and an output tube complete the Bendix-designed and Bendix-built receiver.

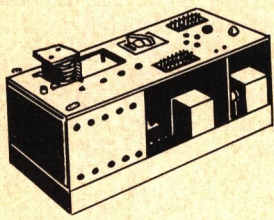
In good condition, with tubes and data. **\$39⁵⁰**
Cat. 4061XR19.....

PE-98 is the 12v dynamotor for SCR-522. Supplies +350v, 260 ma; -150v 10ma; 13v, 5A. Has starting solenoid, hash filter, and carbon-pile

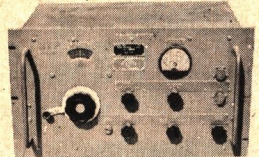
regulator. Very scarce item. Shpg wt 42 lbs. Checked out. **\$14⁹⁵**
Cat. 2506DN27. Only....

PE-94. Same as PE-98 dynamotor above except for 24v. **\$5⁹⁵**
Cat. 606DN14.....

2 - METER / 6 - METER TRANSMITTER FOR \$9.95



BC-625. This is the transmitter section of the SCR-522, which was the standard VHF installation in everything that flew, up to the closing days of WW2. Bendix built so it had to be good. And it is. With this transmitter, you get a complete schematic. No modification required for Amateur or CAP. It is already 4-channel crystal-controlled and includes its speech and modulation circuits. All you need is power, which, in an airplane is PE-94 dynamotor (see Rotary section in this catalogue). We also furnish a general amateur-use set of instructions which includes dope on power supply for ground use and for 6-meter conversion. In excellent condition. Less tubes. Shipping weight 17 lbs. **\$9⁹⁵**
Cat. 1006TX3LT.....



PROFESSIONAL AIRPORT VHF RCVR & PWR SUPPLY

Bendix BC-639: 100-156 mc, 19"-rack-mtg superhet rcvr with outputs for spkr and headset. Has squelch circuit for quiet airport operations. CW and MCW. With tubes and dust cover, less power supply, in excellent condition. Shpg wt 60 lbs. Cat. BC-639. **\$99⁵⁰**
Professional's bargain at....

Bendix RA-42: 19"-rack-mtg power supply for the BC-639. 115/230 v, 50/60cy. Excellent condition, with tubes and dust cover. Shpg wt 35 lbs. **\$39⁵⁰**
Cat. RA-42. Only.....

WIDE RANGE RECEIVER WITH PANADAPTER FOR IT



RDP and APR-5A

Combination Bargain.



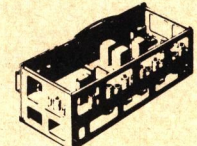
R-111/APR-5A. Radar countermeasures superheterodyne has two bands: 1,000 - 3,000 and 3,000 - 6,000 mc. Large vernier dial is calibrated in frequency. The IF amplifier in the

receiver is 30 mc with a 10 mc band width! Built-in power supply is 115 v, 60-2600 cy. Front panel has constant-Z coax antenna input and SO fittings for video output to an oscilloscope and for output to a panadapter. 2" 0-1 ma meter for tuning. IF and AF gain controls. Excellent condition. With this receiver you also get the Navy Ship-board Panadapter RDP, which also has a built-in 115 v, 60 cy power supply. RDP is made for 30 mc input to match the receiver, and is also in excellent condition.

Cat. 260-611RDPD1. **\$159⁵⁰**
Both units for only.....

420 ON A BUDGET

Here is the APS-13 Transmitter-Receiver exactly the same and in the same condition as in the CQ article telling you how to go on 420 mc very inexpensively.



With your order you will get a reprint of this article in CQ. You get the unit in excellent condition, less the tubes and dynamotor, and certain other parts you don't need, which is the way the article tells you to buy it. 15 lbs. **\$3⁹⁵**

Cat. 406TXR3
Make this a buddy project and you will have someone to talk to on 420. Get two cheaper. Order
Cat. 606TXR3X2. Two for **5⁹⁵**

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NOW A 2-WAY RADIO YOURS FOR ONLY... \$11.60 DN.

Boats.. Planes.. Estates...
Scoutmasters.. Surveyors...
Hunters.. Ranchers.. Farms...
Fishermen.. Crop Dusters...
Horse Opera Directors...
Road Construction Crews...
Caravans... And just plain
YOU

and your wife and kids...
can operate these two-way radios
by merely asking any FCC office
for a Class B Station License. You
must be a U.S. citizen 18 years or
older; however, your children, their
friends, your Boy Scout troop or patrol,
etc. can use the equipment under
your supervision.

Each unit, including the mike, antenna
and cords which come with it,
weighs only 4.5 lbs, so is ideal for
field trips and for light aircraft.

Distance covered is approximately
10 miles more or less depending on
the terrain. From an airplane, it is
Line of Sight. It will not curve around
mountains.

Both models are transceivers with a
superregenerative receiver circuit
using a quench oscillator. 3 quench
frequencies are available so that no
interference results from close proximity.
Both are the same size. Both
operate on 465 megacycles.

JRC-400 has a press-to-talk switch
on the top and has no headset jack.
FCC Type Approval No. CR-423.

115 v AC and 6 v DC:
Cat. JRC400-6. Each.....\$55.80
Pair: JRC400-6X2.....\$111.60

115 v AC and 12 v DC:
Cat. JRC400-12. Each.....\$55.80
Pair: JRC400-12X2.....\$111.60

JRC-425 has the following two improvements:
1) An internal relay is operated by a
press-to-talk switch on the microphone
itself. 2) A jack makes 128 ohm output
available to match any low impedance
headset. The speaker is automatically cut
off when the headset plug is inserted.
FCC Type Approval No. CR-427.

115 v AC and 6 v DC:
Cat. JRC425-6. Each.....\$79.80
Pair: JRC425-6X2.....\$159.60

115 v AC and 12 v DC:
Cat. JRC425-12. Each.....\$79.80
Pair: JRC425-12X2.....\$159.60

OPTIONAL ACCESSORIES

Antenna for boats, cars, aircraft,
etc. with ground plane section and
10'-long coax cord:
Cat. GP4-10. Only.....\$6.36



NEW REDUCED PRICES

You get a PAIR of new
VOCALINE JRC-400
with mikes, aerials,
115v, 60cy power supply
PLUS 6 or 12 v mobile
supply.... for only:
\$11.60
and 12 monthly payments of
only \$9.33 each.

Same, but with 20' coax, better for
houses also:
Cat. GP4-20. Only.....\$7.56

Similar, but 50' coax:
Cat. GP5-50. Only.....\$19.96

40 MILE Directional Antenna makes
Vocaline's output equivalent to 30
watts and gives 70% chance of privacy
when two are pointed to each other.
Mounts on any mast or TV
rotator. Less cord.
Cat. AD3. Only.....\$19.96

Aluminum field-trip extension antenna,
for greater distance than is obtainable
with the plug-in antenna which comes
with the set. Has a ground-plane section
and a spike which pushes into the ground
in use and is used as carrying handle
when collapsed. Telescopes down from
12' to 4'. With 10' cord.
Cat. AEA-12. Only.....\$19.96

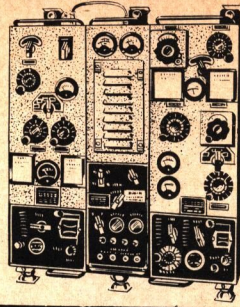
6 Volt spill-proof plastic lead-acid
storage battery for field operation.
Cat. EB-6. Each.....\$15.95

Battery charger for the battery:
Cat. BC-6. Each.....\$10.36

Leather carrying case; fits JRC-400
or JRC-425. Has a compartment for
the 6-volt storage battery.

Cat. LCX-1. Each.....\$15.96

DARLINGS OF OUR NAVY AIR-FORCE

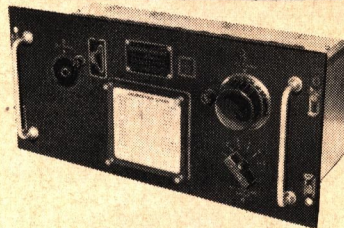


\$39.50 CW XMTR RADIATES 100 WATTS 0.3-0.6 & 3-18.1 MC

GO-9. Navy's pride. Modular construction; that is, 3 separate sub-assemblies fasten together. The xmtr at the left radiates 100 W 300-600 kc; uses 801 MO, 807 buffer, 803 PA. The rectifier in the middle uses a 5Z3 for 500v, 200 ma dc, and 2 1616's for 2000v, 175 ma dc. Xfrms are 800cy. Replace with 60cy. The xmtr at right radiates 125 WATTS in the 80 and 40 meter bands. (3-13mc) and 100 watts in the 20 meter band (13-18.1 mc). Uses 837 MO, 837 buffer/doubler, 803 PA. In like-new condition, with schematic, less tubes. Shpg wt 175 lbs. FOB CHICAGO ONLY. **\$39.50**
Cat. 4061TX18. Only.....

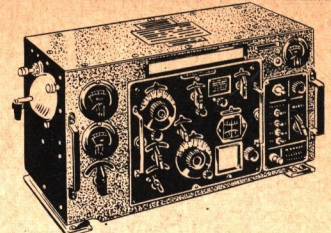
NOTE: The NEA Generator-Alternator described in section on Rotary Power here was originally used to supply 800 cy power for both the GO-9 and the GP-7. Turn it with a 2 hp motor and use these sets with the xfrms now in them.

HAMMARLUND H. V. VARIABLES ETC. IN THESE TUNING UNITS



Here are the frequency determiners for Transmitters BC-375 and BC-191. High-voltage was 1000v at high altitudes, so you have quality parts in the tuners. RF output was 100 watts. A wealth of coils, fixed and variable capacitors and valuable vernier dials. One is a 5:1 planetary, and the other is drum calibrated, with a worm-gear thumb drive. These alone are worth far more than the purchase price of the complete unit. Also, if you request it with your purchase, we will send schematic showing all parts values for the tuner as well as for the complete BC-375. Shpg wt 22 lbs. FOB CHICAGO ONLY.

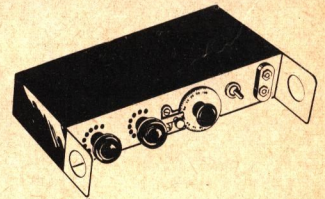
TU-9, 7.7 - 10 mc. **\$195**
Cat. 206TJ3.....
Or get 3 cheaper: **\$495**
Cat. 506TJ3X3. 3 for.....



\$27.50 XMTR RADIATES 125 W A1 & A2, 60 W A3, ON 80 & 40

GP-7. Navy's Plug-In Tuning-Unit xmtr tunes 300 kc to 10 mc continuous with 6 tuning units, but only 2, Range D and F are needed for 80 & 40 meter bands respectively. As a Broadcast Band or Radio Range xmtr, 85/100 watts are radiated on CW & MCW, 45/53 watts on Voice. Remote control box enables operation at a distance. The rectifier section requires a 5Z3 for 500v dc, 200 ma, and 2 1616's for 2000v dc, 175 ma. Xfrms are 800 cy, so replace with 60 cy units. The xmtr section needs an 843 as speech amp. and modulator to screen-modulate the 803 PA, and an 801 as MO. Excellent condition, less tubes, with schematic. Shpg wt 250 lbs. FOB CHICAGO ONLY. **\$27.50**
Cat. 3861TX19. Only.....

TUNING UNITS FOR 500 WATT TRANSMITTER BC-610



BC-610 is MO or xtal. All the low power tuned circuits, their variable capacitors, knobs, dials, inductors, xtal socket, switch for MO-Xtal, etc. are here for: MO, xtal osc., Buffer-Doubler, and intermediate power amplifier.

With the Tuning Units, we give you upon request their schematics and parts list, plus the overall BC-610-E schematic with parts values shown.

TU-48 Tuning unit. 2.5-3.2 mc. Like new. Shpg wt 5 lbs. **\$295**
Cat. 306TJ5.....

TU-51 Tuning Unit. 5-6.35 mc. Like new. shpg wt 5 lbs. **\$295**
Cat. 306TJ6.....

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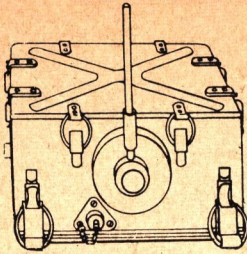
MAILING ADDRESS: P. O. Box 3007-F • No. Hollywood, Calif.

CHICAGO BRANCH:

2534-38 S. Michigan Ave., Chicago 16, Ill.

Phone CALumet 5-4750

6v/12v 10-METER portable/mobile RCVR/XMTR



BC-1335 is a terrific value if you don't wait until they are all gone. It is a very late model crystal-controlled, 2-channel, portable-mobile FM communicator (send and receive) that weighs only 24 1/4 lbs. It is weather-proofed with neoprene gaskets, but the lid is easy to snap open. Frequency range is 27.0 through 38.9 mc (with no modifications) in steps of 100 kc, and complete settings for any of these frequencies are given in a booklet permanently hinged inside the lid. The schematic with parts values is also fastened inside this lid. Coverage over average terrain is 5 miles of radio voice

communications. Battery drain is only 2 1/2 amps from a 12 v battery or 3 1/2 amps from a 6 v battery on receive, and 3 1/2 or 6 amps respectively on transmit. The receiving crystal also keeps the transmitter on frequency, so all you need for any one channel is only one FT-243 crystal. These are the small 1/2" pin-spacing crystals with 3/32" pins that are currently available in surplus marked by channel numbers. For example, channel 283 means that the RF of both receiver and transmitter is 28.3 mc. Subtract the receiver's I. F. of 4.3 mc. This leaves 24.0 mc. The crystal fundamental is 1/4 of that, or 6.000 mc. You set up for 2 channels, if you wish, by using 2 crystals, and select the channel simply by flipping a switch lever on the outside of the case.

There are 18 1 1/2-volt tubes in this unit, including the powerful 11-tube superheterodyne receiver. There is a storage box inside the lid for 16 extra crystals, and storage facilities in the unit

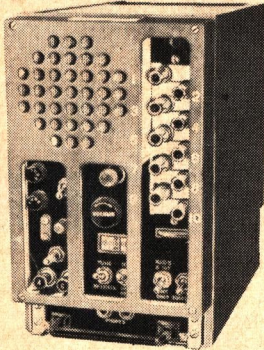
for 6 spare tubes and a spare vibrator for the built-in vibrator section. Tuning instructions are printed on each adjustable item in the unit. For example, the coil trimmers have tiny calibrated dials, and the booklet in the cover tells you where to set each dial for the frequency you want. A "magic-eye" tube is included in the circuit to serve as a tuning-indication meter to further simplify tune-up procedure. No external meters required. With all this, the entire unit is only 12 1/4" x 13-5/16" x 6-11/16" over all.

A 3-pin plug on one side connects the 6 or 12 v required to operate the unit. If 6v, plus goes to pin B, and if 12 v, it goes to pin C. Negative goes to pin A and to the plug body in both cases. On the same panel, an On-Off-Volume Control works just as in any home-use portable radio. A capped screw-driver switch (to be set for either 6 or 12v.), and the 2-position channel selector switch complete the bot

tom portion of this panel. The upper portion has one microphone jack, to fit any standard 3-circuit carbon-mike plug (PL-68) and two headset jacks for standard headset plugs (PL-55). One the opposite panel, a large porcelain-insulated fitting is handy to attach either a whip or wire antenna, and a ground binding post is just below and to the right of it. Just below the antenna connector and to the left, is a standard coax fitting to connect a distant antenna with 52 ohm or 72 ohm coax cable. Any 12' vertical whip, or 27' wire with the free end thrown over a tree branch, may be used as antenna. These lengths match the output circuit so no loading or transforming devices are needed.

Used condition. Shpg wt 27 lbs.
Less tubes.
Cat. 3861TXR8ULT..... **\$27⁵⁰**
Brand NEW, WITH tubes: **\$39⁵⁰**
Cat. 4061TXR8NWT.....

FM RCVRs TUNE CONTINUOUS OR 10-CHANNEL PUSHBUTTON



BC-603 (20-27.9 mc); and **BC-683** (27-38.9mc) are the same except in frequency coverage. Both have a 1 microvolt sensitivity, 80 KC band width. Built-in speaker gets 2 watts output; 4000 ohm phone jacks get 200mw output. They have squelch noise suppressor. RF and AF gain controls. Call signal lamp lights automatically when a signal comes in; it can be replaced or supplemented with a relay control or alarm system. These receivers are built rugged for mobile use in Sherman tanks and jeeps, but are equally reliable as fixed stations.

Tubes: 6AC7 RF, 6JF osc, 6AC7 mixer, 2-12SG7 IFs, 6AC7 limiter, 6H6 discriminator, 1/2 6SL7GT first AF, 6V6GT output. Additionally, 1/2 6SL7GT is used as IF osc. (2.65 mc) to use for IF alignment, 1/2 6SL7GT Delayed AVC amplifier, and 1/2 6SL7GT squelch.

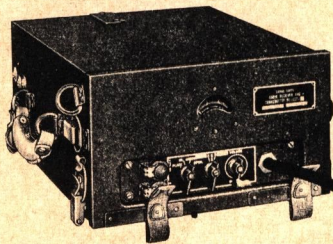
Tuner: The most accurately-resettable and reliable push-button assembly ever made is contained in this set to tune the 4-gang variable. It includes trimmers and padders. This assembly is worth the low price for the entire receiver.

Power required: 12.6 v ac or dc for the heaters and .220 v dc at 80 ma for B+. Both receivers are in excellent condition, with all tubes, with 12v dynamotor DM-34 which furnishes the B+, with schematic and instructions. Shpg wt 45 lbs.

BC-603 Complete: \$7⁹⁵
Cat. 1806RE30. Only.....

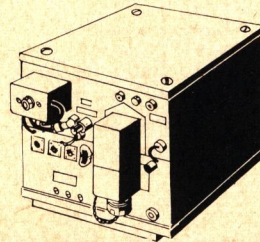
BC-683 Complete: \$24⁵⁰
Cat. 3561RE31. Only.....

\$5.95 BUYS AN FM RCVR AND 5-MILE XMTR WITH 13 TUBES



BC-620. 2-channel xtal-controlled portable (net wt 27 lbs) 20-27.9 mc has 2.8 W output. Uses FT-243 xtals of freq: 1/3(RF-IF of 2.88mc). The rcvr xtl also controls the xmtr freq. Legal because no multiplying in the final. Separate rcvr and xmtr in one case. With addition of handset (or

low-impedance headset and carbon mike) and batteries, you are on the air at a SUPER BARGAIN. In good condition, with tubes and schematic. Shpg wt 35 lbs.
Cat. 1606TXR22. Only.... **\$5⁹⁵**

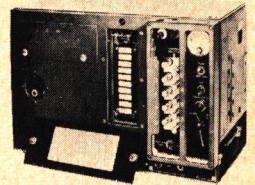


PARTS WAREHOUSE IN ONE \$2.98 PACKAGE

APX is a very complex VHF - UHF Receiver - Transmitter in which an "interrogating" pulse was received, amplified, and used to trigger a reply pulse. You can't use it. It's classified. BUT you can use the voltage regulator, the 15 jacks, 4 fuse holders, 7 couplers, 28 tube sockets, 3 relays, 3 frequency tuners, jillions of capacitors and resistors, and a geared-down motor which produces linear and rotary motions in many directions for classified reasons. You get it in excellent condition, less the tubes and dynamotor. Shpg wt 33 lbs.

Cat. 406TXR20..... **\$3⁹⁵**

Buy two cheaper. Ask for Cat. 1606TXR20X2 **\$5⁹⁵**
Two for only.....



\$9.95 MOBILE FM

BC-604 10-channel xtal-controlled 35W FM xmtr 20-27.9 mc. Deviation of +40kc can be cut for NBFM. Tubes are 1619's and a 1624. Xtals are 1/54th of RF; require FT-241-A holders. Good cond., with tubes & DM-37 dynamotor, 24v dc in, 625v at 225mADC out, which is the power required. Less crystals. Shpg wt 70 lbs. With schematic. **\$9⁹⁵**
Cat. 1006TX16/24. Only..

Same except with a 12v dynamotor to fit.
Cat. 2061TX16/12. Only **\$19⁵⁰**

\$3.95 BUYS 75 MC RCVR WITH A SIGNAL-ACTUATED RELAY



BC-1033 tunes 70 to 80mc. Detected signal operates BK-35 relay in it. SPDT. 11300 ohm coil pulls at 400 microamps, releases at 200. Contact rating 4A 28vdc, 2A 115vac. New, less tubes. Schematic inside case. Shpg wt 4 lbs. **\$3⁹⁵**
Cat. 1406RE8LT. Only....



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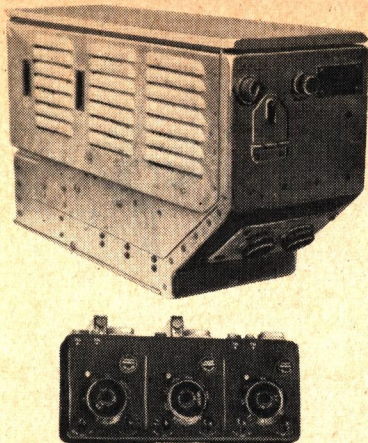
2534-38 S. Michigan Ave., Chicago 16, Ill.

Phone CALumet 5-4750

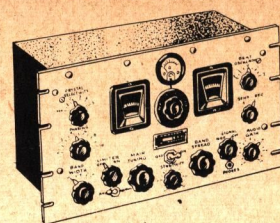
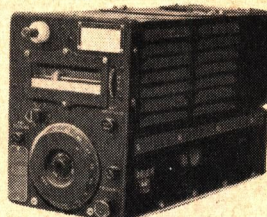
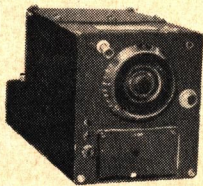
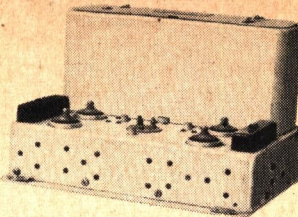


COMMAND SET UNITS

HAMMARLUND SUPER-PRO COMMUNICATIONS RECEIVER

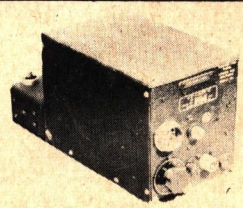


ALL WITH
FREE
CONVERSIONS
AND
SCHEMATICS
UPON REQUEST



BC-779. 100-400 kc and 2.5-20 mc in 5 bands, with band-spread tuning, CW-MCW with pitch control, RF gain and AF gain, noise limiter, Send-Receive switch, 5 degrees of crystal selectivity, crystal phasing, and ingenious band-width control from very sharp to high audio fidelity, accomplished by moving iron into the IF xfrms to alter the mutual coupling. Tubes: 2-6K7 rf, 6J7 osc, 6L7 mix, 3-6K7 if, 6H6 det., 6N7 limit, 6SJ7 bfo, 6H6 avc rectifier, 6SK7 avc ampl., 6CS1st af, 6F6 af driver to xfrmr phase inverter, 2-6F6 push-pull output to xfrmr with 600 ohm power output to spkr terminals and 8000 ohm output to a panel headphone jack. S-Meter on the front panel aids tuning. This is such a well-known receiver that it seems unnecessary to mention its desirability. Suffice it to say that after 13 years in a business that gives the writer his choice of receivers, this is the one in our home. 6 years ago it was aligned on WWV. Today it is merely necessary to tune to 15 mc, for example, turn on the power, and in comes WWV. No retouching necessary. Enough said? In excellent condition, with all tubes and a schematic showing parts values and alignment chart, plus schematic of the power supply which the Signal Corps used (not furnished). Shpg wt 65 lbs. Cat. 8061RE29. \$79.50 FOB CHICAGO, only. \$87.50 Same, but FOB NO. HOLLYWOOD. \$87.50

\$1.95 BUYS A 220 - 258 MC DOUBLE - CONVERSION RCVR



R-4/ARR-2. 1st "IF" is anything between 540-1030 kc. Switch selects 12 pre-tuned coils in that range. IF following is 200 kc, includes BFO. AF 300 or 4000 ohms. Uses 11 tubes but sold in exc. cond. less tubes, less dyn., with schematic. Shpg wt is 8 lbs. \$1.95 Cat. 1206RE26. Only. \$1.95

Good... Inexpensive... Easy to use... The Amateur's Surplus Favorite... Receivers... Transmitters... Racks... Controls. ORDER WITH CONFIDENCE Every unit you receive will be in good condition.

RECEIVERS

With tubes. Shpg wt 10 lbs.

Freq. MC	Cat. No.	Price
0.19-.55	2306RE10	\$12.95
100-156	2506RE14	\$14.95
3-6	801RE12	\$7.95

3-6 MC Receiver Special. Makes an Autotune Receiver. Has an automatic tuning head with a 24v, AC-DC motor which tunes the receiver. Head is removable. A terrific buy. When ordering, ask for FREE reprint of CQ article telling how to make a 6-METER TRANSCEIVER out of this 3-6mc receiver. Cat. 606RE19. \$5.95 Complete for ONLY..... \$5.95

FREE TUNING KNOB WITH EVERY RECEIVER

TRANSMITTERS

All with tubes. Shpg wt of any is 15 lbs.

Freq. MC	Cat. No.	Price
2.1-3	1006TX1	\$9.95
3-4	1006TX7	\$9.95
4-5.3	606TX8	\$5.95
5.3-7	606TX9	\$5.95
100-156	2006TX11	\$19.95

POOR MAN'S 10-METER SSB WITH REPRINT OF CQ ARTICLE TELLING YOU HOW

When you order the 5.3-7mc xmtr, ask for FREE reprint of article telling you how to make 10-meter SSB converter out of it.

DYNAMOTORS

12 V Receiver Dynamotor. ready to plug onto the receiver. New. Shpg. Wt. 7 lbs. Cat. 306DN25, Only. \$3.95

24V receiver dynamotor, with base. Cat. 306DN17. 5 lbs. \$2.95

24V transmitter dynamotor, with base. Cat. 406DN8. 14 lbs. \$3.95

RACKS

Receiver racks take either BC or ARC-5. Transmitter racks are not interchangeable. Shpg wt 3 to 8 lbs.

For	Cat. No.	Price
1 receiver	1606RK1	\$5.95
2 receivers	336RK2	2.25
3 receivers	436RK3	3.25
2 BC Xmtrs	306RK4	2.95
4 BC Xmtrs	506RK5	4.95
1 ARC Xmtr	706RK7	6.95
2 ARC Xmtrs	1006RK8	9.95

MISC. ACCESSORIES

Local-Control Adapter Kit for front panel of rec'vr with exact pot, switch, knob, etched plate and instructions. Cat. 280KT1. 1 lb. \$1.79

BC-938. Control Box for the VHF rcvr and trans'tr. Push-button channel selection. A scarce item. New. \$2.50 Cat. 1361CB11. 2 lbs. \$2.50

C-30/ARC-5. Control box. Same as BC-938 above, except for ARC series units. Shpg wt 2 lbs. \$2.50 Cat. 361CB5. \$2.50

Control Box for two receivers. Cat. 361CB6. 4 lbs. \$2.50

Control box for three rcvrs. A wealth of parts even if you do not intend to use remote control. Has 6 phone jacks, 3 right-angle gear drives cranks, switches, volume-controls, knobs, etc. Cat. 286CB7. 5 lbs. \$1.75

Control Box for 4 transmitters to 9.1 mc. Cat. 106CB8. 2 lbs. 95¢

Mounting plate for above Cat. 161MF2. 1 lb. 50¢

MC-215 Flexible Tuning Shaft with spline ends to tune rcvrs with control boxes. Good all around hobby item for remote rotation of most anything. Random lengths Cat. 106FS2. 4 lbs. 95¢

Modulator BC-456 for BC or ATA trans'mtrs. Less dyn. which plugs onto it. With tubes. An audio amplifier with carbon-mike input transformer, keying circuits, tone oscil. and transformer, sidetone output, relays, VR for screen supply etc. Excellent buy for parts. Less dynamotor. For dynamotor, see listing of transmitter dynamotors above. Cat. 406MR1 22 lbs. \$3.95

MD-7/ARC-5 Modulator for ARC-5 series transmitters. Similar to above, except added 1625 for Push-Pull operation, different plugs, and outputs for both plate and screen modulation. Cat. 2506MR2. 23 lbs. 14.95

Mounting Plate for either modulator. Cat. 186MF3. 2 lbs. 75¢

Antenna Switching Relay for any type. Contains RF Ammeter, 12v RF relay, and provisions for mounting an antenna loading capacitor. Good used condition. \$2.95 Cat. 306RY4, 4 1/2 lbs. \$2.95

Shock mount for above. Cat. 161MF4. 1 lb. 50¢

ATTENTION BARGAIN HUNTERS:

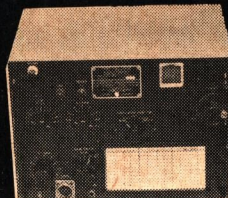
COMMAND-UNIT SUPER BUYS

Extra-special bargains in command units, a little banged up externally and less tubes. You really steal 'em.

3-4 MC Transmitter Cat. 306TX12. \$2.95

4-5.3 MC Transmitter Cat. 336TX13. \$2.95

TCS RECEIVER
CONTINUOUS TUNING
1,500-12,000 KILOCYCLES



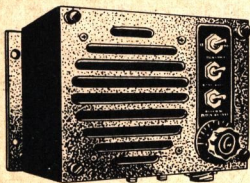
ATTENTION
12 or 24 or 32 volt BOATS;
ANY 4 CHANNELS CAN BE CRYSTAL CONTROLLED

Collins' 7-tube Superhet, built like a dream to rigid Navy specs. 12SK7 RF. 12SA7 mixer. 12A6 oscillator is 455 kc below RF. It is cut off, and the mixer triode used as osc. during xtal operation. Crystals may be 1.5-3 mc fundamental. Up to 4th harmonic may be used for 455 kc either above or below RF. Two 12SK7 IF's. 12SQ7 Detector-AVC-BFO-1st AF. The AVC is cut off automatically when the RF gain is turned down or when the BFO is ON. The 12A6 final puts 1.4 watts into 500 ohms with an input modulated only 30%. Power supply (not included) must furnish 12v ac or dc at 1.4A and 225 vdc at 95 ma. On front panel are included: RF Gain. AF Gain.

CW pitch. Band switch 1.5-3, 3-6 & 6-12 mc. Mod-CW switch. Power on-off switch. Ground and Ant posts. 5-position switch selects MO or 4 xtal frequencies. Phone jack. Card holder to log 30 stations. Crank-type vernier tuning knob has a lock; it turns a large etched calibrated plate behind a window with a hairline; anti-backlash gears used. Excellent condition, less xtals, with tubes and schematic. Shpg wt 50 lbs. **\$24.50**
Cat. 3561RE27. Only

12V DYNAMOTOR FOR TCS
The TCS Receiver Dynamotor in good condition. Shpg wt 10 lbs. **\$4.95**
Cat. 506DN26. Only.....

TCS REMOTE SPEAKER ALSO CONTROLS IT OR ANY OTHER SET



Compact louvred bulkhead-mtg box has 3 switches to: 1. Turn your xmtr on or off. 2. Turn your receiver on or off. 3. Select whether you listen

to a low-impedance (500/600 ohm) headset plugged into the jack in the box, or whether you listen to the 5" high-quality Jensen PM speaker in the box. A built-in transformer is a match for any low-impedance headset output jack on any receiver. The volume control in the box is a constant-impedance Bridged-T pad. A jack is also provided for your mike. 5"x7.5" on your bulkhead. Shpg wt 8 lbs. With schematic. **\$7.95**
Cat. 806CB13. All for only.

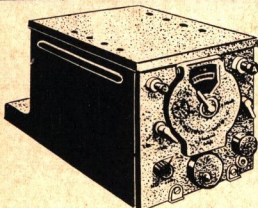
HANDY 10-FT LONG TCS RECEIVER CORD WITH WIRED-ON PLUGS

If you use this 7-conductor cord for the TCS receiver only, remove the plug at the other end and connect the wires to: 1. Turn the dynamotor on and off from the receiver or the remote speaker box. 2. Bring the B+ from the dynamotor to the receiver. 3. Bring the audio from the receiver

to the remote speaker box. 4. Kill the receiver oscillator with a relay in your xmtr. The schematic you get with the TCS receiver shows you all about it. In insulated Breeze flexible conduit. New. Shpg wt 5 lbs. Cat. 306CC12. **\$2.95**
Don't pass it up at only....

ALL 4 TCS ITEMS ABOVE TOTAL \$40.35. **\$37.50**
SAVE EVEN MORE. BUY ALL AS CAT. 4861RE27C. All 4, only.....

\$14.95 BUYS A SUPERHET RCVR TO TUNE 1500 KC DOWN TO 200 KC

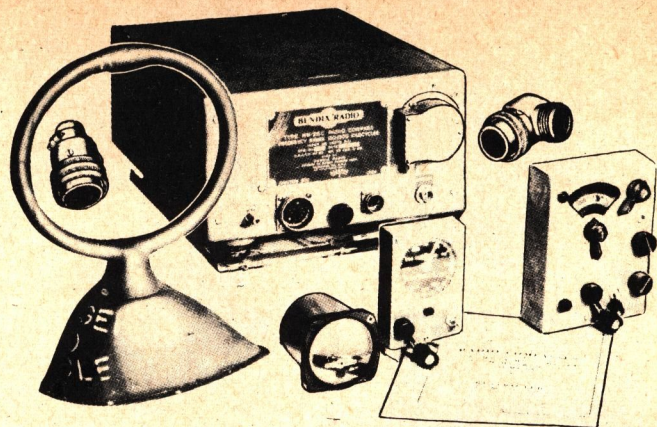


RAX-1, Unit 1, NavAer's superheterodyne receiver spreads the coverage over 4 big bands, to give vernier tuning on easily-read dials. Get Broadcast-Band, Lighthouses, and Aircraft Radio Ranges. Tubes: 12SK7 rf, 12K8 converter, two 12SK7 160 kc IF's, 12SR7 det., bfo, and avc, WITH TCS PLUS RAX-1, YOU TUNE CONTINUOUS 200 KC TO 12 MC, WITH 4 XTAL-CONTROLLED MARINE-BAND CHANNELS. NICE, YES?

and 12A6 output (600 ohms). All the controls are on the front panel. The 12 v tubes are wired in series pairs, for 24v, but are easily re-wired for 12v. B+ required is 160-250v at 60 ma. In exc. condition, with tubes, and large schematic with parts lists and alignment frequencies. Shpg wt 25 lbs. **\$14.95**
Cat. 2506RE20-1. Only....

NOTE: This plus the TCS rcvr gives full coverage for your boat. The same dynamotor you use for the TCS will operate the RAX, and the TCS remote speaker box matches the RAX

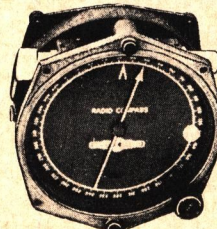
DIRECTION FINDING RECEIVER WITH VISUAL INDICATOR



Bendix's famous MN-26-C, \$1,000 installation for only \$37.50 complete! Remote-controlled Direction Finder and communications receiver. Manual DF from 150 to 1500 kc. 24 v internal dynamotor. Internal circuits, used with the left-right (Homing) indicator eliminate 180° ambiguity. That is, there is no question whether the signal you are taking a bearing on is behind you or in front of you. Complete installation includes receiver and its control box, loop and its control box and transmission line, Left-Right indicator, plugs, flex shafts, schematic, and dummy load for L-R indicator. Current at 24v is only 4A. In excellent condition. Shpg wt 75 lbs. **\$37.50**
Cat. 4861REC1. Only..

12 V dynamotor for MN - 26 - C. Exact replacement. Good condition. Shpg wt 8 lbs. **\$7.50**
Cat. 861DN20.....

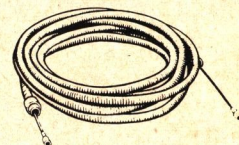
Checked out electrically and guaranteed for 30 days, with 10' harness already wired to the plugs, either 12 or 24 V. Specify voltage when ordering. Specify whether positive or negative ground. **\$125.00**
Cat. 23-61TREM1. Complete.....



MN - 40 - E. Azimuth indicator for MN-26 or RA-10-DB which corrects reading to match the installation's peculiarities. Illuminated. New. Shpg wt 3 lbs. **\$5.95**
Cat. 606PM27. Only.....

BUY ANYTHING FOR YOUR BOAT OR HI-FI FOR YOUR HOME ON OUR EASY PAYMENT PLAN. SEE PAGE 31 FOR FULL DETAILS.

MARINERS: SEE ALSO CITIZEN'S BAND 2-WAY PORTABLES; DYNAMOTORS, HEADSETS, MIKES MULTITESTERS, ETC. IN THIS CATALOG.



Note: Do not forget to order an extra MC-124 flexible shaft when ordering the MN-40. The flexible shaft comes in random lengths, but no less than 3' long. You need one between the MN-28-C and the MN-26-C (or between the MR-9 and the RA-10), and a second between the MN-52 and the MN-20. If you use MN-40-E, you need a third. Shpg wt 2 1/2 lbs. **\$2.50**
Cat. 1361FS1.....

MN-20-E Loop. Used. Shpg wt 8 lbs. **\$5.95**
Cat. 606RA1U.....

MN-52 Loop Control Box. Shpg wt 2 lbs. **\$3.95**
Cat. 406CB1.....

Loop Transmission Line 6' Long **\$3.95**
Cat. 406CC7.....

Same, 14' long. **\$9.95**
Cat. 1006CC11.....

BENDIX LOOP PACKAGE

MN-20 Loop, Loop Transmission Line, Flexible shaft to turn the loop remotely, MR-15 geared crank to do the turning, MN-40 Azimuth Indicator with built-in automatic corrector, and the necessary second flex shaft for coupling MN-40 to MR-15. Here is a complete "kit" to any receiver which tunes anywhere between 200 and 3500 KC. Excellent condition. Shpg wt 15 lbs. **\$12.50**
Cat. 2361RP1. A smart buy at.....

ARROW SALES INC.

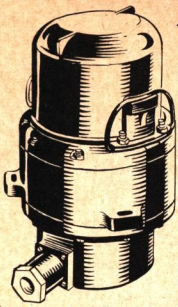
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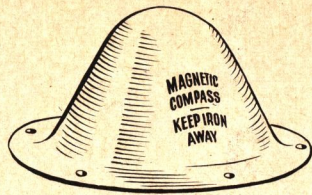
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Phone CALumet 5-4750

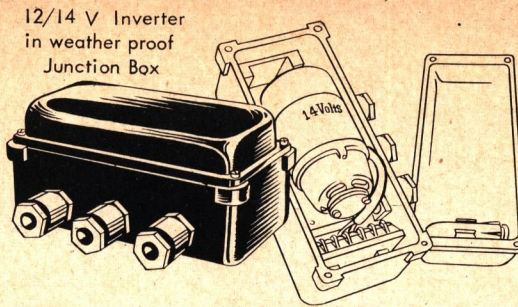
A BINNACLE FOR YOUR CABIN... a fix in the dark... a quick sea rescue!



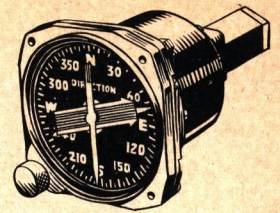
Transmitter



Weather proof Dome for the transmitter



12/14 V Inverter in weather proof Junction Box



Remote Indicator

12 VOLT ECLIPSE-PIONEER (BENDIX) MARINE-TYPE REMOTE-READING MAGNESYN COMPASS SYSTEM

Here's how it works: The inverter is a tiny rotary machine in a weather proof box. The entire drain on your 12 volt batteries is 1.6 amperes only when it is on. Out comes 26 V AC at 400 cycles.

The transmitter is mounted on the aft deck along the fore-aft center line. In it is a North-seeking magnet in the form of a float in a sealed bowl of oil, with damping fins to steady its motion. Thermal expansion is absorbed by a non-ferrous diaphragm which seals the oil.

Above the diaphragm is an elaborate system of manually adjustable magnets which provide compensation not only for azimuth, but also for heeling. Below the North-seeking float are two coils tightly coupled together. One of them is fed 26 volts, 400 cy AC. The other has voltage induced in it. Riding within the coil is another magnet which is mechanically coupled to the North-seeking magnet above it.

The indicator has two identical coils and an identical magnet riding within them, but instead of being coupled to a float, this magnet is coupled to the indicating needle. Each coil in the indicator is connected

to its corresponding coil in the transmitter. In addition to the indicating needle, there is a parallel-bar bearing reference pointer which you turn manually by a thumbscrew on the edge of the indicator face.

When your boat changes heading, the North-seeking magnet turns in its bowl, and the coil magnet turns with it. The position of the coil magnet affects the strength of the positive and negative swings of the voltage induced in the coil which is not connected to the inverter. The same relative positive and negative amplitudes appear in the corresponding coil of the indicator, and therefore the coil magnet in the indicator turns to the same angular

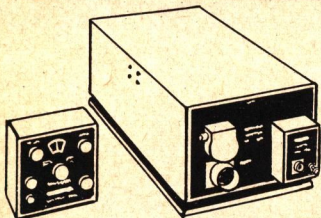
position as the coil magnet in the transmitter.

You steer your boat to keep the indicator pointer inside the parallel bars of the reference pointer. And that's the way it works.

With the equipment, you get a complete, illustrated Installation, Compensation, and Maintenance Instruction book. This is the famous **MARK I, Mod. O** set, and is brand new. Shpg wt 60 lbs. **\$49.50** Cat. 5061RM1. Only.....

Note for 32 Volt boats: You can use this installation as-is on 24 V or 32 V merely by using a 15 ohm 25 watt rheostat in the battery line and adjusting it for 12 V at the inverter.

BENDIX COASTAL & HIGH-SEAS RCVR'S & DIRECTION FINDERS

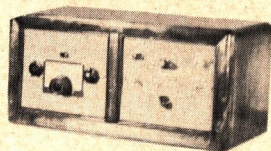


RA-10-DB is like **MN-26-C** except that indication is by aural null and its tuning ranges are 150-1100 kc DF receiver and 2-10mc receiver only. 47 lb. weight includes receiver with internal 24v dynamotor, **MR-9** control box, **MN-20** loop, **MN-52** loop control, flex shafts, plugs, and loop transmission line. Draws 3A at 24 V dc. Has built-in relay which connects the loop on the bands 150-1100 kc. Complete as above. With schematic. Good used. **\$47.50** Cat. 5861REC2.....

RA-10-DA is same 24v receiver as **RA-10-DB** except that it does not have the loop relay. With **MR-9** control box, plugs, and flexible shaft. Shpg wt 85 lbs. **\$37.50** Cat. 4861REC3.....

Either **RA-10-()**, checked out and with wiring harness ready to go. Add \$77.50. Specify + or - ground. 24/32 v only.

FCC APPROVED NON-SURPLUS 54 WATT TRANSMITTER-RCVR



Custom-Craft's Model 1-AMB, the "Sportsman" is in a mahogany cabinet only 20.5" wd, 10" h, 10.5" d. 4 or 5 channel crystal controlled, with 12 or 24 volt dynamotor (you specify) and microphone included. Variable antenna coupler matches any aerial. Special FCC-approved high-pass filter for 2738 kc. Rcvr is band spread for marine or broadcast band and has built-in sprk. Entire unit only 12 lbs. Less crystals.

Cat. 30861TXR21... **\$297.50**

MARINE DEALERS: Write on your letterhead for wholesale prices on the "Sportsman".

LIGHTHOUSE SUPERHET RCVR

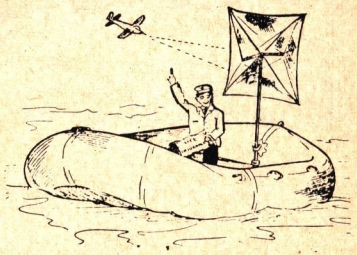


BC-1206. For 24 v systems. Works well with rotary voltage changer on 12 v. Tunes 195-425 kc. Very sensitive. 3 microvolts drives it to 10 mw output. Very compact; only 4" x 4" (front panel) by 6 1/2" deep. No power supply required. Your 24 v is used for both plates and heaters. Very selective because IF is only 135 kc. Tubes are: Three 14H7 or 14A7 as RF, converter, and IF; 14R7 det. and first AF; 28D7 output, which furnishes up to 1/4 watt to any standard headset and drives a small speaker if impedance is matched. The output transformer in the unit has taps for 600 or 4000 ohms. Shpg wt 6 lbs.

Cat. 206RE18ULT Used **\$195** Less Tubes.....



Smith-Meeker WM-75. 75 watts out of your antenna. Two-way marine set. 50channel crystal-control xmtr, 1.6-7 mc. Built-in superhet rcvr with avc, noise lmtr., CW controls. Contin. tuning 0.55-17 mc in 3 bands. Handset or built-in speaker. Built-in 110v, 60cy pwr. New, with book. Shpg wt 250 lbs. Minor **\$169.50** mod. needed for FCC approval. Only.....



LIFE INSURANCE FOR ONLY \$1.95!

If you are in a life raft or life boat or small craft in distress....And you are being searched for by sea and air rescue craft using search radar. You can use this reflector to make a big splash on search radar. Army - Navy Target **MX-138/A** is made for exactly this purpose. Opens out like an umbrella. Complete instructions are contained in the pack. Mounts on any improvised mast. Get one for each lifeboat, plus an extra one to experiment with before you are in trouble, so you can make up masts to fit. Shpg wt 2 lbs. **\$1.95** Cat. 206RR1. Only.....

MARINERS: SEE ALSO CITIZEN'S BAND 2-WAY PORTABLES; DYNAMOTORS, HEADSETS, MIKES MULTITESTERS, ETC. IN THIS CATALOG.

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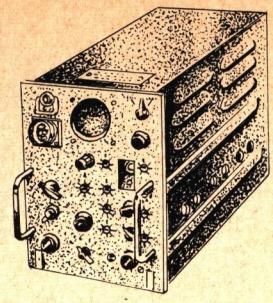
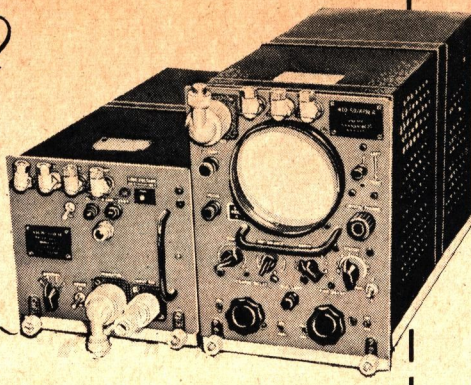
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GET AN EXACT FIX IN 20 SECONDS RIGHT IN THE CABIN OF YOUR AIRPLANE OR BOAT



R - 65 / APN - 9
AS PICTURED ABOVE
Less tubes and crystal
EXCELLENT CONDITION only \$49.50

WITH **LORAN** Long Range Navigation AN / APN - 4 B

FLASH! Pan-American World Airways just bought 50 MORE Lorans. Where DON'T they fly???

PREDICTION: The Coast Guard will install more shore stations.

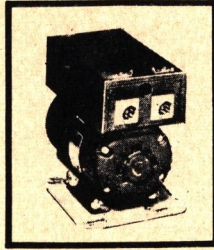
CONCLUSION: Get your's at surplus prices while you can.

WHY FROM US ONLY?? Because there are many UNUSABLE models, made early in the war, before the final decisions on frequency and recurrence rates. OUR'S are GUARANTEED the correct model for the Coast Guard stations of TODAY.

WHY LORAN? Because you can get an exact fix without celestial observations or dead-reckoning; often difficult due to weather conditions. Loran radio pulses spot your exact location in a matter of seconds.

YOU WILL GET: a brand NEW set, with plugs, mounts, inverter, AND complete instruction book with set-up data, schematics, etc. Shpg wt 140 lbs.

24/32 volt input..... **\$129.00**
12/14 volt input..... **\$169.00**



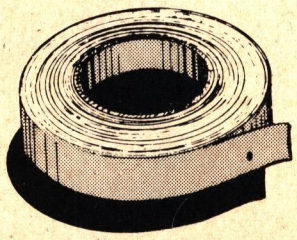
NEW INVERTER INCLUDED WITH AN/APN-4 B

12V INVERTER TO OPERATE EITHER THE AN / APN - 4 OR AN / APN - 9 } **\$40.00**

(MARINE RADIOMEN: Special deal if you write us on your letterhead.)

INSULATE WITH TEFLON IN YOUR ENGINE ROOM

Teflon Tape is an amazing new plastic that maintains its physical and electrical insulating qualities at extremely high temperatures. Wrap all wiring in hot places with this non-adhesive miracle at 1/10 of normal price because we stole it in surplus.



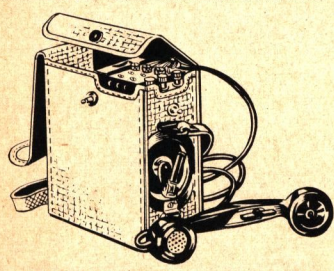
Uniform 36-yd-long rolls of opaque white material, 0.005" x 1/2" wide. Weight 3 ounces each. Cat. No.: Teflon A. Each. **79¢**

Non-uniform lengths of translucent white material, same dimensions as above, guaranteed 140 yds or more, each net 13 oz. or more. Cat. No.: Teflon B. Each. **\$2.95**

Teflon-impregnated fiberglass binds the glass, keeps it from fraying, but stands heat like glass. Non-uniform lengths, guaranteed 120 yds (8 oz.) or more. .003" x 9/16". Cat. No.: Teflon C. Each. **\$4.95**

Ditto, but 200 yds (30 oz) or more, and 2 mils thicker. Cat. No.: Teflon D. Each. **\$7.95**

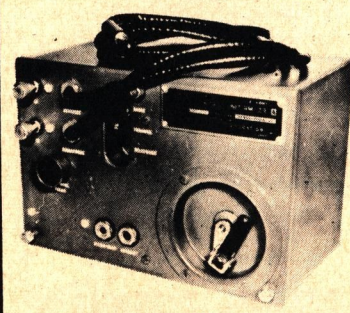
YOUR OWN PRIVATE TELEPHONE SYSTEMS



THE ARMY MARCHES ON ITS STOMACH & TALKS WITH EE-8'S

Signal Corps' famous EE-8 is a complete 2-wire telephone set, with a hand-crank ringer and a TS-9 handset. Two standard flashlight cells in the set are good for miles over part-steel wire, better over copper wire. They are in use only when the push-

to-talk switch in the handset is depressed. EE-8's also work well with one conductor and ground. In either case, you can connect as many as you please in parallel. If you want to get real fancy, with a common battery and switchboard system, go ahead, because they also contain a common battery holding coil and a hook switch. In short, EE-8 is NOT a cheaply-made toy, but the Army's life-or-death communicator; GHQ to Field Command, Artillery spotter to gun layer, etc. NOTE: EE-8 has been OFF THE MARKET for YEARS. Don't pass up your present chance. Guaranteed condition. Shpg wt 14 lbs. BUY NOW. **\$9.95**
Cat. 1006TL12. Only.....
Buy 2 stations cheaper: **\$19.50**
Cat. 2061TL12X2. Pair for



\$6.95 BUYS A PHONE PATCH, A TELEPHONE, AND A REMOTE STATION FOR AN XMTR-RCVR

RM-29 Same as EE-8 plus facilities for remotely controlling any receiver-transmitter, less the headset. Use as a telephone with any carbon mike

and any low-impedance headset. As a PHONE PATCH, use it with no modifications. Simply put the telephone line in parallel with your headset and mike. It has cords and plugs to connect to the mike input of your xmtr and the headset output of your rcvr. As a 2-conductor telephone, use as many as you wish in parallel. 3 standard flashlight cells go inside. The batteries are not used for ringing. Hand-crank generator does that. Ring once for John, twice for Sue, etc. and have a party-line picnic. Good up to 25 miles. With schematic. Excellent condition. Shpg wt 17 lbs. Cat. 706TL5..... **\$6.95**
Get a pair: **\$12.95**
Cat. 2306TL5X2. Two for.

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HIGH QUALITY MICROPHONES



SLIM-JIM DYNAMIC MIKE

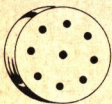
Response 90-10,000cy. Drawn brass case, baked black, chromed grille; slides into felt-lined chrome tilting-swivel friction clamp. Clamp screws into heavy black cast base with standard 5/8"-27 thread. Slips out of the clamp to hold in your hand. Has handy On-Off snap-slide switch. Comes with mating plug. Output: -78 db. High impedance. Shpg wt 4 lbs.
Cat. 1906MC3. Only... **\$8.95**

CRYSTAL DICTATION MIKE WITH PRESS-TO-TALK SWITCH



The switch, when pressed, closes the shield of the 5' cord to one of the two inner conductors. The second inner cond. and the shield feed the hi-impedance 100-9000 cy response crystal cartridge.
Cat. 306MC20. Only... **\$2.95**

THE HF CRYSTAL CARTRIDGE



The hi-fidelity selected xtal cartridge, 70-9500cy response. High impedance.

Cat. 286MC18
High quality for only... **\$1.75**

MUSICAL CONTACT MIKE



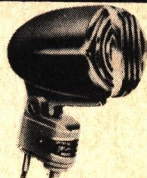
High-impedance crystal unit has a frequency response of 40-9000 cy. Attaches without tools. Slips under bridge of string instruments. With a shielded mike cable and phone plug. Shpg wt 3 lbs.
Cat. 386MC27. Only... **\$2.75**



HIGH-STYLE DYNAMIC MIKE

Flat 60 to 12,000 cy. 50,000 ohms impedance. Sensitivity -52 db. The streamlined "Cobra" design and satin chrome finish make it ideal for night clubs and PA work as well as for the home. The swivel mount is threaded for standard 5/8"-27 mike stands; has handy on-off switch. It comes individually boxed, complete with cable and standard mike connector. Shpg wt 3 lbs.
Cat. 2606MC23. Only... **\$15.95**

CRYSTAL MIKE FOR FLOOR OR TABLE STAND



We pay extra on this one to get the best selection of crystals. Response 70-9500cy. Unidirectional pattern. Swivel base, 5/8"-27 thread. With 5-foot shielded cord.
Cat. 406MC19. Only... **\$3.95**

CRYSTAL LAPEL MIKE WITH LAPEL CLIP

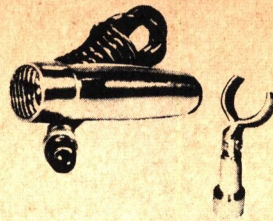


Small and light-weight. Speech type Cartridge. Coax cord.
Cat. 1206MC21. **\$1.95**

TELEPHONE PICKUP COIL



Use to record or amplify both sides of a telephone conversation with no wired connection to the telephone. Put it under a desk phone or on the ringer box of a wall phone. Shpg wt 3 lbs.
Cat. 386MC26. Only... **\$2.75**



SLIM CRYSTAL MIKE

Smooth, rounded design tapers from 1.125" diameter for easy hand-held use. Has detachable shielded cable and on-off slide switch. Frequency range 100-9000 cy. Sensitivity -52 db. High impedance. Excellent for voice or music. Satin chrome finish case. For hand use only, less holder. Shpg wt 3 lbs.
Cat. 586MC24. Only... **\$4.75**
Swivel mike-stand holder:
Cat. 109MC24H. Only... **98¢**

CRYSTAL BROADCAST MIKE



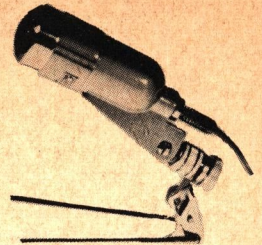
TWO separate phased crystal units mounted vertically give 360° omnidirectional pickup with frequency range 80-8000 cy. Sensitivity -50 db. High impedance. Beautiful finish in black and chrome on brass. 3" wide, 7" high. Standard 5/8"-27 thread. A perfect mike for conference and group use. Comes with a plastic-covered shielded mike cord. Shpg wt 4 lbs.
Cat. 806MC25. Only... **\$7.95**

MAGNETIC TALK-LISTEN CAPSULE



MC-253-A. Mike ear in gas mask, made exactly like earphone capsule in certain headsets. Here, then, is a perfect two-way transducer. 200 ohms impedance at 1000 cy. If you solder it across a phone plug, you have a tiny panel talker for zeroing CW, finding TTY, etc.
Cat. 180TL4. Brand new... **79¢**

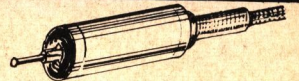
These transducers are so useful that you should order 10 at a bargain. Order them as: **\$5.50**
Cat. 661TL4X10. Ten for...



SALTSHAKER DYNAMIC MIKE

Response 80-10,500cy. In step with the trend toward miniaturization. A delight to see and to use. Chrome grille, stand, and hardware; permo-baked enamel body. Tilts and turns. Easily removed from the base to hold snugly in your hand. Only 4" long. With 6' long highly flexible coax cord. Output: -80 db. High impedance. Shpg wt 3 lbs.
Cat. 961MC17. **\$8.50**
Unequaled value at only...

DETECT, ANALYZE VIBRATIONS With Crystal Vibro-Detector Cell.



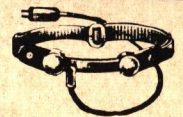
Frequency response 100-20,000 cps. 1" dia, 3" long. Can take 60 db of useful amplification. Use as a probe.
Cat. 586MC22. **\$4.75**

SURPLUS CRYSTAL CAPSULE BUY



Round & Square. Removed from hearing aids, guaranteed ok.
Cat. 109MC14. **98¢**

CONTACT CARBON MIKE



T-30 Throat Mike has 2 buttons. Use one or both. Changes contact-transferred sonic vibrations into audio frequency electricity when put in series with a 3 volt battery. New. Shpg wt 1/2 lb.
Cat. 106MC13. **95¢**



Cord CD-508 plugs into above mike. Has press-to-talk switch and 4' branch ending in standard 3-circuit mike plug PL-68. New. Good value. Shpg wt 1 lb.
Cat. 109CC5. Only... **98¢**



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TALK, TALK-LISTEN and accessories

NAVY & CAA TOWER HAND MIKE



50 ohm carbon mike.

RS-38 Carbon microphone. Quality has to be very high before the CAA issues a type approval. This one is CAA Type Certificated. Fits in your hand, with press-to-talk switch on top and cord terminating in standard 3-circuit mike plug PL-68. Shpg wt 1 lb. NEW.

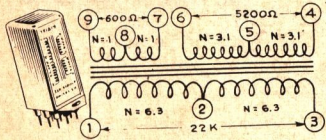
Cat. 506MC10SCN, only... **\$4.95**

Used, guar. ok cond.:
Cat. 306MC10SCU, only... **\$2.95**

NEW but with "curly" (self-retracting) cord.
Cat. 606MC10CCN, only... **\$5.95**

Used, guar. ok cond.:
Cat. 406MC10CCU, only... **\$3.95**

SUPER MIKE & MATCHING XFRMR



MIL T-27 Spec. ounce is ± 1.5 db 20-20,000 cy at 6 ma dc. Well over 40 different turns ratios possible by series windings. Example: A 50 ohm mike between 9 & 8 is 20,000 ohms between 8 & 1. New. Shpg wt 1/2 lb. A very smart buy.

Cat. 180TR29. Only... **79¢**

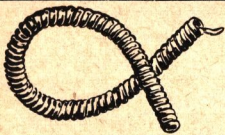
ANTI-NOISE CARBON UNIT



MC-419 60-ohm button was worn over upper lip. High output for close talk. Almost no output for adjacent noise. 1/2 lb.

Cat. 109MC12U. Only... **98¢**

ARE YOU FRUSTRATED ?



Do you get jerked up short? Get farther in life with a 3-cond. spring coil cord for your telephone, mike, etc. 18" closed; stretches to 60". New. Shpg wt 1 lb.

Cat. 106CC2... **95¢**

Cheaper by the half-doz. **4.95**

Cat. 506CC2X6. Six for...

AIR FORCE HAND MIKE

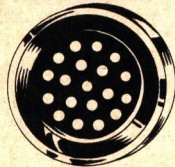


50 ohm carbon mike.

T-17-D. The D-Model is the only one which is CAA Type Certificated, with built-in capacitor for best concentration of power in only that frequency spectrum which contributes to intelligibility. The Aristocrat of carbon mikes. Has handy molded-in hook to hang it up. Press-to-talk switch on the side makes the mike circuit before it fires the control circuit. Latest model. Brand New. Shpg wt 2 lbs.

Cat. 986MC11... **\$8.75**

BELL TELEPHONE'S CARBON MICROPHONE



F1 Button... the F1 button.. the one and only.. Bell Lab's proudest achievement.. (what's transistors?)... concentrates energy in only the part of the audio spectrum that contributes to intelligence transmission... but no need to tell you how good it is because you hear it every time you answer your telephone. It's big to catch sound energy.. 2. 125" dia. but it fits your hand. Hermetically sealed. Works with two flashlight cells. 50/100 ohms. Shpg wt 1/2 lb.

Cat. 1150MC16. **49¢** Only...

MICROPHONE AMPLIFIER



BC-709 Interphone Amplifier has 2 jacks for 3-circuit plugs PL-68 for any 1 or 2 carbon mikes. Output of the instant-heating 3S4 tube is to 2 jacks for PL-55 phone plugs for 1 or 2 high-impedance headsets like HS-23, or for 1 or 2 lines to remote positions. It is a neat aluminum box, only 2-1/2" x 5-1/8" x 8-1/4", with room inside for 2 standard 1-1/2 V flashlight cells and a 67-1/2 V battery. Use this BARGAIN to test microphones; to amplify telephone conversation for the hard-of-hearing; to modulate a small rig; or for its original purpose, Intercommunication. Brand new, with tube. Shpg wt 3 lbs.

Cat. 306AX1. Only... **\$2.95**

Same, but with shock-mount base: Cat. 406AX1WB. Only... \$3.95

DON'T STEAL THE HANDSET FROM A PHONE BOOTH! STEAL IT FROM US.



Western Electric's E1 Handset, guaranteed condition, with 3 cond. cord, F1 mike button, and top-quality receiver unit, ready to use. A natural for Radiotelephone or for home, shop, or office Intercom Telephones. Shpg. wt 2 lbs.

Cat. 280TL7... **\$1.70**

Cat. 461TL7X2. Two for... **\$3.50**

Cat. 906TL7X6. Six for... **\$8.95**

LOOK MA! NO HANDS!



T-26 Carbon chest mike with cord and press-to-talk switch. 60 ohms. New. Shpg wt 4 lbs.

Cat. 250MC9... **\$1.49**

HS-17 Same as above plus 600 ohm headset. New. Shpg wt 5 lbs. Cat. 306TL1... **\$2.95**

TALK AND LISTEN WITHOUT BATTERIES OR HANDS

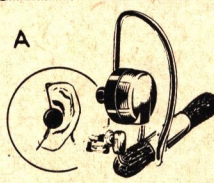
SOUND POWER Navy battle phones is a head and chest set, good for a mile with no batteries. Both hands are free to turn your TV antenna on your roof while you talk and listen (mostly listen) to your wife watching

the picture down below. Guaranteed condition. Shpg wt 10 lbs. each set.

Cat. 506TL11... **\$4.95**

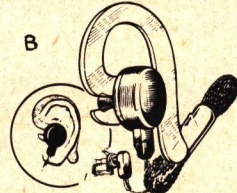
Pair of sets; Cat. 1906TL11X2... **\$8.95**

EARSET BARGAINS



Magnetic Ear-Hook Type. Fig. A. 2,000 ohms impedance. With long cord, miniature plug, and mating closed-circuit jack.

Cat. 206ES1... **\$1.95**



Crystal. Fig. B. Very high impedance. 50" extra-flexible plastic-coated cord has a miniature phone plug already wired on. Comes with a closed-circuit mating jack. The plastic ear hanger can be snapped on for either the left or right ear. Far superior to the earsets that have

a thick, hard plastic nipple to push into your ear. Cat. 1250ES2. Only... **\$1.49**



Magnetic Light-Weight. Fig. C. Only 1/4 oz. Soft rubber ear insert comfortable for man or child. Exceptional bass and treble quality. Very sensitive. With long, flexible cord. No plugs.

Cat. 1290ES3, 5000 ohm impedance. Cat. 1290ES4, 4 ohm impedance. Either, Only... **\$1.89**

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POPULAR HEADSET SELECTIONS

HI-FI HEADSETS

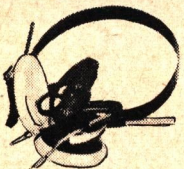


Uses high-quality Permanent Magnet speaker with regular voice coil and annular-grooved plasticized fibre cones. The padded chamois ear-muffs give correct spacing for optimum acoustic load. Gives finest musical reproduction. Comes with the chamois ear muffs and a long flexible fabric cord ending in phone plug. Each unit has a built-in Hi-Fi 8 ohm to 300 ohm transformer; the pair is 600 ohms. Shpg wt 3 lbs. **\$7.95**
Cat. 806ES6. Only.....

RUBBER CUSHIONS

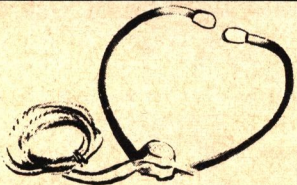
MC-162-A flat-type rubber cushions for HS-23, HS-33, and similar units. New, Newly molded. No old rubber. **79¢**
Cat. 180HC2. Pair

2000 OHM HEADPHONES



Beautiful plastic in black with ivory earcups on comfortable spring band. Long cord with standard phone tips. 2000 ohms impedance. Here is the PERFECT GIFT FOR THAT BOY IN YOUR LIFE. Useful for crystal sets, code practice sets, and short wave listening. Shpg wt 3 lbs. **\$1.49**
Cat. 250ES15. Only.....

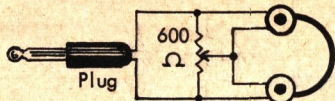
STETHOSCOPE HEADPHONES



Your choice of crystal or magnetic under-the-chin type headsets, both extremely lightweight. Sound transmitted to ears through light plastic tubing with removable plastic ear-tips. Excellent voice and music reproduction. With flexible cord but no plug. Magnetic is 2 kohms impedance. Crystal is high impedance. Magnetic: Cat. 386ES17. Crystal: Cat. 386ES16. Shpg wt 3 lbs. **\$2.75**
Either, only.....

ARE YOUR EARS DIFFERENT?

Try our Stereophonic Hi-Fi headset connected as below:



STEREOPHONIC HI-FI HEADSET

Same as HI-FI set except each unit has its own cord, so you get two long flexible fabric cords and two phone plugs. Shpg wt 3 lbs. **\$9.95**
Cat. 1006ES6B.....

8000 OHM AIR FORCE HEADSET

HS-23. The standard high-impedance magnetic headset. Uses R14 units (4000 ohms each), HB-7 leather-covered adjustable headband, and quick-disconnect black PL-54 bail-out plug. This is the resonant magnetic (undamped clamped diaphragm) type, extra desirable for MCW, but also very clear on speech. New. Shpg wt 3 lbs. **\$4.95**
Cat. 506ES8N.....

STEREO STETHOSCOPE PHONES

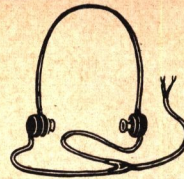


Crystal or magnetic. Crystal drivers are 70 k ohms each, response 70 to 15,000 cy. Magnetic drivers are 10 ohms each, response 40-16,000 cy. Each has two cords, no plugs, and weighs only 1.5 oz. Shpg wt 3 lbs. Magnetic: Cat. 506ES19. Crystal: Cat. 506ES18. **\$4.95**
Either, only.....

PHONE PLUGS AND JACKS

Standard slim bakelite handle plug. Black: Cat. 130PG11B. **29¢**
Red: Cat. 130PG11R. Either. **29¢**
Plug with chromed handle: **39¢**
Cat. 140PG12. Shielded.... **39¢**
Standard open-circuit jack: **19¢**
Cat. 120PG13. Only..... **19¢**
Standard closed-ckt jack: **29¢**
Cat. 130PG14. Only..... **29¢**
Miniat. bakelite plug & closed-ckt jack. Black: Cat. 140PG15B. **39¢**
Red: Cat. 140PG15R. Either.. **39¢**
Same, but plug chromed: **49¢**
Cat. 150PG16. Shielded.... **49¢**
Subminiature bakelite plug & closed ckt jack. Red: Cat. 130PG17R. **29¢**
Black: Cat. 130PG17B. Either **29¢**

LIGHT WEIGHT SIGNAL-CORPS HEADSET



HS-30. 256 ohms. Soft rubber hangs in your ear-lobes below (not in) your ear canals. With cord as shown. New. Shpg wt 1 lb. **\$1.95**
Cat. 206ES11N.....

Transformer wired onto cord and plug for above, steps up impedance to 4000 ohms. Not sold separately.

Cat. 136ES11TR..... **25¢**

CHAMOIS EAR PADS

Same as furnished with the Hi-Fi headset preceding. Not the Navy NAF-48490-1. Rubber molds with stuffed genuine chamois. Fit most earphones. New. Shpg wt 1 lb. Cat. 261HC1 **\$1.50**
Pair.....

600 OHM AIR FORCE HEADSET

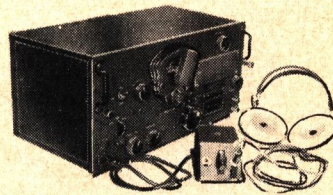


HS-33. The standard low impedance magnetic headset. Uses ANBH1 units (300 ohms each). This is a compensated magnetic type with controlled damped diaphragm, almost entirely flat 200 to 4000 cy, extra good for speech. Has HB-7 leather-covered adjustable headband, and quick-disconnect red PL-54 bail-out plug. With rubber ear cushions; new spotless. **5.95**
Cat. 606ES9. 3 lbs.

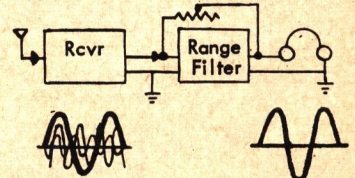
HEADSET EXTENSION CORDS

CD-307. Standard cord for use with quick-disconnect bail-out plug PL-54. One end has jack JK-26; other end has standard phone plug PL-55. 2-conductor wound for flexibility with special close spiral. 4' to 7' lg, our choice depending on our supply. Excel. cond. Shpg wt 1 lb. **98¢**
Cat. 109CC3. Only.....

TAKE QRM OUT OF HEADSETS



Bypass filter with a 5 K ohm pot (approx.) to vary the pass band.



WHAT CAN A RANGE FILTER DO FOR YOU ?

A pilot on a radio range hears a steady 1020 cy tone in his headset. All other signals are filtered out by his range filter. Now see yourself sitting at home with your communications receiver, trying to cut thru QRM (noise and interference). You plug the range filter in ahead of the headset and adjust CW tone for the signal (which will be 1020 cy). All is sharp and clear now. THIS IS THE ORIGINAL LAZY MAN'S Q-5'er.

United Transformer Corp. is noted for L-C circuits with the highest Q. Here is UTC's 600 ohm filter, made for the Navy Air Force. Has a cord with phone plug to insert into your receiver's phone jack, and jack to plug your phones into. The Range-Voice-Both switch gives you select-

ion, respectively, of 1020 cy only, reject 1020 cy, or bypass the filter altogether. New. Shpg wt 3 lbs. Cat. 1206TF2. **\$1.95**
Only.....

Or get two cheaper: **\$3.75**
Cat. 486TF2X2. Two for..

FL-8. High impedance; with Range-Voice-Both switch. Exc. condition. Shpg wt 3 lbs. **\$1.75**
Cat. 286TF4. Only.....

FL-5. High impedance. No switch. In to Range and Ground, out from Out and Ground. New. 3 lbs. Cat. 180TF3. **79¢**
Excellent buy at only....

Or get 5 still cheaper: **3.00**
Cat. 1411TF3X5. Five for

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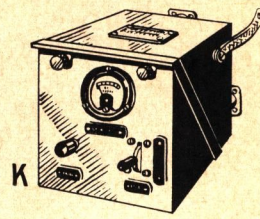
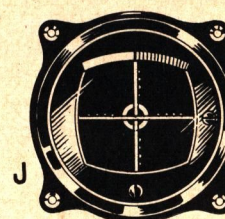
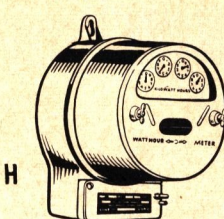
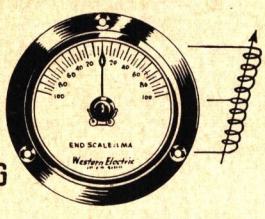
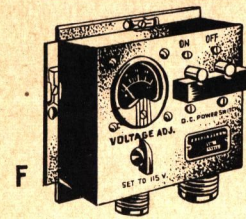
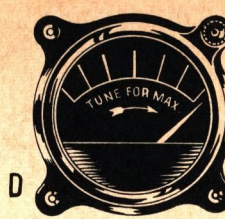
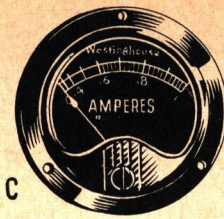
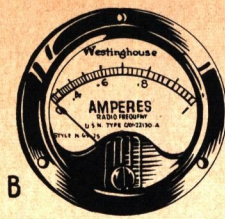
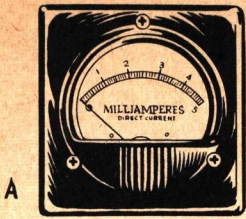
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2534-38 S. Michigan Ave., Chicago 16, Ill.

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MORE METERS...A SERVO...A SUN BATTERY



DC MICROAMPS

0-200. Fig. C. 3" round. G.E. D041. New. Shpg wt 2 lbs. Cat. 1606PM46. **\$5⁹⁵**

DUAL 150-0-150 Fig. J.

Two in one meter gives you the ability to observe simultaneously two slow-changing voltages, just as you use a scope to observe 2 fast-changing voltages; or use as Go/No-go production indication of two merit conditions. 3" round behind-panel mtg. Both zero-adjusts on the front. This is 1-101-C, used in Instrument Landing Systems. Good condition. Shpg wt 3 lbs. **\$2⁵⁰**

Same, with broken glass: **98¢**
Cat. 109PM42BG. Only...

AC-DC 1-0-1 MA

Fig. G. 4" round. 6 terminals on back. CT circuit for dc, 1% accurate. CT circuit for ac, 5% accurate. Scale is 100-0-100. New. Bargain. Shpg wt 2 lbs. Cat. 606PM39. **\$5⁹⁵**

MILLIAMPERES DC

0-5. Fig. B. 2" round. Scale reads 0-10v but there is no multiplier so is actually 0-5 ma. New. Shpg wt 2 lbs. Cat. 206PM36. **\$1⁹⁵**

0-5. Fig. D. 2" round. S-meter scale, reverse set. Needle moves from right to left. Says "Tune for Max." Face illuminated with 3v grain-of-wheat lamp. Excellent condition. Complete with the lamp. Shpg wt 1 lb. **\$1⁷⁵**
Cat. 286PM28.

0-5. Fig. B, but reverse needle set. 2" round. Arrow pointing right says "Tune to max". Linear scale, linear motion; reads 0 at 5 ma and 10 at 0 ma. New. Shpg wt 2 lbs. **\$2⁹⁵**
Cat. 306PM47.

0-5. Fig. A. 3.5" square. Marion HM3. New. Shpg wt 2 lbs. **\$4⁹⁵**
Cat. 506PM43.

0-8. Fig. C. 2" round. Has easily disconnected 3v multiplier, and dial is calibrated 0-3v, so this is a dual purpose meter. Shpg wt 2 lbs. NOTE LOW PRICE. **98¢**
Cat. 109PM35.

0-200. Fig. C. 2" round. Weston 506. New. Shpg wt 1 lb. **\$2⁹⁵**
Cat. 306PM45.

0-150 AC VOLTS

18-36. Fig. B. 2" round suppressed zero. Late type, hermetically sealed. EXPANDED SCALE FOR 24-28 VOLT POWER SUPPLIES. NEW. Shpg wt 1 lb. **\$2⁹⁵**
Cat. 306PM41.

Fig. F. 2" round. In control box C-60/AP, for PU-7/AP 400 cy inverter. Thrown in for free are: the box, two switches, pot, and knob. Good used. Shpg wt 3 lbs. **\$2⁹⁵**
Cat. 306PM29.

Fig. K. 2" round. In control unit for 50-8 60 cy. radar. You also get an elaborate 4 PDT Mossman lever switch, two expensive 12 terminal barrier strips, and a very nice hinged box. New. 5 lbs. **\$3⁹⁵**
Cat. 406CB12.

DC VOLTS

0-3. Fig. C. This is the 2" round meter described above as 0-8 ma dc with built-in 3v multiplier.

S-METER

Fig. D. This is described above as 0-5 ma dc with S-Meter scale.

AMPERES RF (with thermocouples)

0-1. Fig. C. 2" round. West. NT33. New. Shpg wt 2 lbs. **\$2⁹⁵**
Cat. 306PM38.

0-4. Fig. C. 2" round. G.E. DW52. New. Shpg wt 1 lb. **\$3⁹⁵**
Cat. 1406PM33.

0-5. Fig. B. 2" round. G.E. DW52. New. Shpg wt 1 lb. **\$3⁹⁵**
Cat. 1406PM34.

NOTE: Figs. B and C illustrate general appearance and dial color, not necessarily RF amps.

DB AUDIO LEVEL AND AC VOLTS

MULTISCALE. Fig. E. Internal FW bridge ckt. 0.746 ma rms full scale. Linear scale over 3" lg. Rated accuracy 2%. Horizontal needle, always balanced, has DB ballistics. 0 db is 6 mw into 500 ohms (1.73v). 6 scales: 3 vac ranges, each with an accompanying db scale. Terminal ac resistance is 4690 ohms. Use as is for 0-3.5 vac(-10 to +6 db). Use 25,550 ohms in series for 0-22.5 vac(+6 to +22 db). Use 183,000 ohms in series for 0-140 vac(+22 to +38 db). (The internal 8200 ohm resistors can be replaced by lower values to increase the basic sensitivity enormously if desired.) New. Hickock. Depot Spares for TS-465A/U. Shpg wt 4 lbs. **\$5⁹⁵**
Cat. 606PM44. Only....

WATT-HOUR

Fig. H. 2 wire in, 2 out 115v 60 cy. Marked 5 amp., but good to 10 amp. Used. Guaranteed operative. F. O. B. North Hollywood only. Shpg wt 10 lbs. **\$1⁹⁵**
Cat. 206WH1.



ANGULAR - POSITION TRANSMITTER & REMOTE INDICATOR

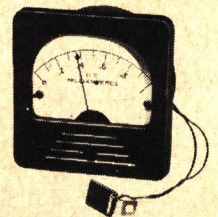
1-82-A is Bendix's instrument panel Indicator for air-borne automatic radio direction finders SCR-269-G and AN/ARN-7. Its needle is attached to the shaft of the internal

Autosyn (selsyn) and followed the remote loop which drove a duplicate autosyn. Moreover, it has a 360° reference scale which is rotatable by a knurled knob on the front edge. This makes it easy to set 0° at true North without a lot of mechanical re-setting of your remote antenna, weather-cock, or what ever you will use. Works on either 46 v, 400 cy or 28 v, 60 cy when connected to a duplicate autosyn. In excellent condition. With instructions. Shpg wt 2 lbs. **\$3⁹⁵**
Cat. 406SM2.

Matched pair: You will get the excellent-condition 1-82-A Indicator. Plus a second 1-82-A for you to remove the autosyn from to use as a transmitter. Plus the instruction sheet. Shpg wt 4 lbs. **\$6⁹⁵**
Cat. 706SMP2.

Note: The one autosyn transmitter will drive any number of indicators.

Transformer to give enough power for the transmitting autosyn plus one to ten indicators. Input 115 v, 60 cy. Out: 28v, 2A. Shpg wt 4 lbs. **\$2⁹⁵**
Cat. 1306TR12.



SUN BATTERY

Selenium cell, 1/2"x3/4", puts out 1/2v in average sunlight, open ckt, or sends 2ma thru 10 ohms. **\$1⁴⁹**
Cat. 250SB1, lasts forever for

ARROW SALES INC.

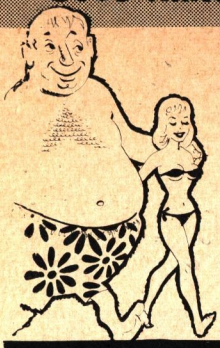
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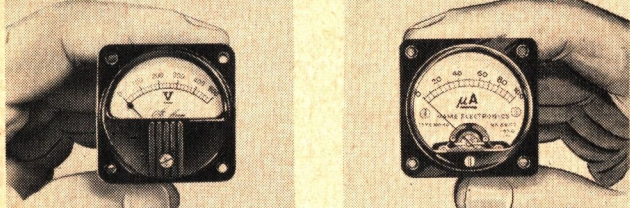
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GOOD THINGS COME IN SMALL PACKAGES...



MINIATURE METERS IN RED, BLUE OR BLACK CASES.....

D'Arsonval (turning-coil) panel meters. 3% accuracy. Mounts through 1.5" hole with either the entire 1.625" square in front of panel for square appearance, or with only the 1.5" OD trim ring protruding through for round appearance. The case design in the picture below at the left comes in red, blue, or black. The more open-face design shown at the right comes in black only. So SPECIFY CASE and COLOR when ordering. Satisfaction guaranteed unconditionally.

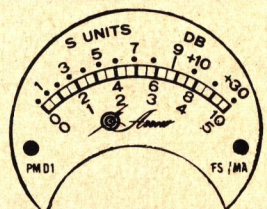


ORDER AS CASE STYLE B Example: Cat. 461PM5B Red or: Cat. 461PM5B Black or: Cat. 461PM5B Blue
 ORDER AS CASE STYLE A Example: Cat. 461PM5A. NOTE: The A case comes ONLY IN BLACK.

Microamps DC	Cat.No.	Price	Cat. No.	Price
0-50.....	606PM1....	\$5.95	Amperes DC	
0-100.....	661PM2....	\$5.50	0-10.....	406PM16...\$3.95
100-0-100.....	661PM3....	\$5.50	Amperes RF	
0-200.....	506PM4....	\$4.95	0-3.....	606PM17...\$5.95
0-500.....	561PM5....	\$4.50		
Milliamps DC			Volts DC	
0-1.....	461PM6....	\$3.50	0-15.....	461PM11...\$3.50
0-10.....	461PM31....	\$3.50	0-30.....	461PM13...\$3.50
0-100.....	461PM7....	\$3.50	0-500.....	461PM15...\$3.50
0-200.....	461PM8....	\$3.50	Volts AC	
0-300.....	461PM9....	\$3.50	0-15.....	406PM12...\$3.95
0-500.....	461PM10...\$3.50		0-150.....	406PM14...\$3.95

MINIATURE HAM-RIG COMBINATION TUNE-UP AND S-METER
 With Schematic Of The S-Meter Circuit For It.

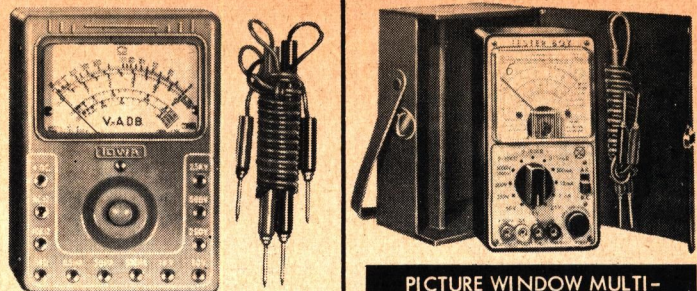
Meter as above with 1 ma dc basic movement, plus dial shown at right (very easy to affix), plus precision 500k resistor, plus S-meter diagram. Read up to 500v with the 500k in series, or up to 1000v with a 1 meg in series. Maximize grid drive in osc., multiplier, or final by switching meter across an appropriate resistor (try 1k) in each grid return. Dip final plate current by switching meter across small resistor (try 1/2 ohm) in B+ lead to final. In Class B mod., watch needle fluctuate when switched across a small resistor (try



Actual Size Of 3-Color Dial

1 ohm) in B+ lead to mod. xfrmr. Finally, use it as S-Meter. Specify CASE STYLE and COLOR when you order. Cat. 406PM32..... **\$3.95**

MULTITESTERS



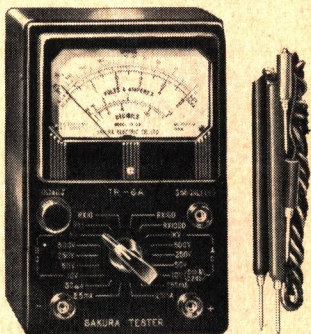
WORLD'S LOWEST PRICE FOR A GUARANTEED 2 K Ω/V TESTER

Absolutely nowhere else can you buy a 2000 ohm/v GUARANTEED ACCURATE wide-range multitester, up to 2,500 volts, for \$5.95.

Here's what you get: Precision tester 3 1/4" wide, 4 3/4" long and 1 1/2" thick. Complete with 2 standard Penlight batteries and test leads. 3% accuracy on voltage and current scales. AC or DC volts: 0-10, 50, 250, 500, 2,500. DC current: 0-500 microamperes, 50 & 500 milliamperes. Resistance: 0-10K ohms and 0-1 megohm. DB: -20 to +22 & +5 to +36. WITH INSTRUCTIONS MONEY BACK GUARANTEE! Cat. 606MT1. Shpg wt 2 lbs. **\$5.95** LOW, LOW PRICE.....

PICTURE WINDOW MULTI-METER IN CARRYING CASE

HAS 300 MICROAMP MOVEMENT. Clear visibility, modern meter in a handsome carrying case. Overall size 5" wide, 6 1/2" high, 3" deep. With test leads and two standard Penlight batteries. Rugged shock-resistant one-piece molded case. Two switches select ranges, with extra-safe pin jack for 5,000 volts. Separate pin jack with series capacitor for output with 2 decibel scales: -20 to +10 and 0 to +22 db. AC-DC V: 0-10, 50, 250, 500, 1,000 and to 5,000 V. Extra scale provides accurate 0-2.5 VAC measurements. Ohms: 0-10K, 100K, 1 Meg. DC current: 0-1, 10, and 500 milliamperes. Money-back guarantee. Shpg wt 3 lbs. Cat. 2306MT2. **\$12.95** Ready to use.....



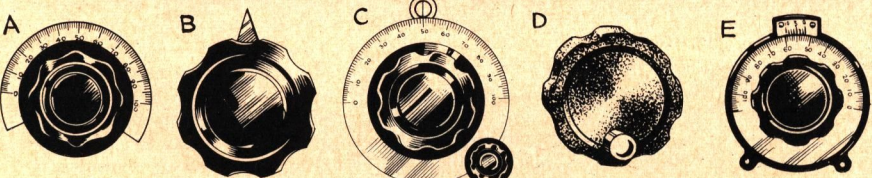
volts have same ranges at 10K ohms per volt. DC Current: 0-50 microamperes, and 0-2.5, 25, & 250 milliamperes. Ohms: 0-5K scale; X1, X10, X100, X1,000, which brings you up to 5 megohms with the 2 standard internal Penlight batteries. Decibels: -20 to +5, and +5 to +22 db. Size 6-5/16" x 4 1/8" x 2 3/8". With test leads. Shpg wt 3 lbs. Best yet multitester buy. Cat. 2606MT3. **\$15.95**

20,000 OHMS PER VOLT NO SKIPS IN OHM RANGE

MONEY-BACK GUARANTEE
 DC Volts 0-10, 50, 250, 500, and 1,000 at 20K ohms per volt. AC

ATTENTION MANUFACTURERS, SCHOOLS, AND OTHER QUANTITY USERS
 Write us on your letterhead for quantity prices on these excellent meters. You can have your own dials and/or movements.

DIALS... KNOBS... DIALS... KNOBS... DIALS... KNOBS... DIALS... KNOBS... DIALS... KNOBS... DIALS... KNOBS... DIALS... KNOBS...



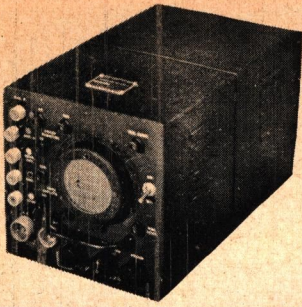
A. Heavy brush-chromed brass dial 2.75" dia. with 180° scale, 0-100. Planetary drive is 5:1 ratio, for 1/4" shaft. New. Sig. Corps No. 2Z3764. 33. Our Cat. 206DL1, only. **\$1.95**
 B. Pointer radius is 1.5", hole is for 3/8" dia. bakelite shafts on precis. potent. and Variacs. Did you ever curse because you couldn't find one? Cat. 180KB2. New. **79¢**
 C. Another for a 3/8" dia. shaft, plus an adapter for a 1/4" shaft. 4" nickel-silver dial, 0-100 on 180°, with friction vernier drive, spring loaded hairline indicator, & drill. template. New. Sig. Corps 2Z3718. 32. Cat. 306DL2. Only. **\$2.95**
 D. Crank knob for the fam-

ous BC-348. 2Z5748. Cat. 130KB3. New. **29¢**
 E. 8:1 vernier for 1/4" shaft, 0-100 counterclock., 180°. 1-1/2" diameter: **\$1.19** Cat. 220DL3-1.5.....
 2" diameter: **\$1.39** Cat. 240DL3-2.....
 2 3/4" diameter: **\$1.89** Cat. 290DL3-2.75..

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SURPLUS TEST EQUIPMENT BARGAINS



TEST-SCOPE FOUNDATION with Conversion

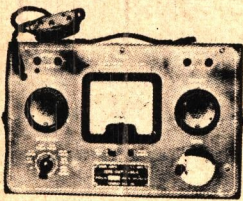
BC-929 is a compact radar display unit with 3BP1, 2-6SN7GT, 6C8G, 6X5GT, 2X2, 2-6H6GT; high-voltage divider from -1600 V; intensity, focus, and positioning controls; plus a DPDT motor-driven switch you can use for many automatic - switching functions outside of an oscilloscope.

BC-929 has been the TTY enthusiast's favorite foundation for a converter with cross-line scope presentation, and also the Amateur's favorite Modulation-Monitor foundation.

It is small (only 8.75" X 9" X 16") and light (only 22.5 lbs). Ask for and get with your order the original schematic with parts values and Circuit explanations, plus a conversion instruction and converted schematic with parts values. In excellent condition, with all tubes. Shpg wt 30 lbs.

Cat. 2306SC3. Only... **\$1295**

HANDY-TALKIE TESTER MULTIMETER I-135



A Multitester.....

To read 0-3 vdc, 0-600 ma dc, 0-150 vdc, 0-60 ma dc, and 0-1.5 ma dc.

A Crystal Activity Checker.....

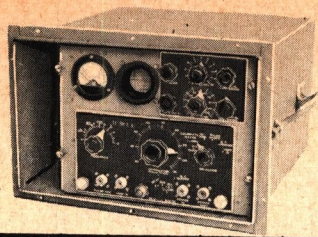
A Pierce (untuned) Xtal Osc with a socket to insert any crystal to get any RF desired.....

A Colpitts 1,000 cy AF oscillator to provide AF or to modulate the Pierce Oscillator's RF....

A Dynamic Microphone to apply a voice signal to any transmitter being tested.....

A Dynamic Earphone Unit to aid in testing receivers.....

All in EXCELLENT condition... Shpg wt only 20 lbs. **\$1495**
AND PRICE ONLY.....



★ ★ ★ ★ ★ A SYNCHROSCOPE..... A 150-240 MC RCVR..... A SIGNAL GENERATOR..

All with built-in 115 v, 50-1200 cy power supply.

Attenuator calibrated 110-30 db below 1 v (3-30,000 uv) has accuracy of ± 2 db; uses the calibrated height of the scope display to measure anything from AF to UHF.

Measures peak RF POWER to 4 KV, with accuracy of $\pm 0.35\%$.

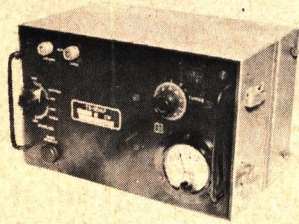
Built - In RF Signal Generator puts out 150-240 mc RF in variable rate and variable duration pulses.

Synchroscope linearly amplifies and displays pulses 2 to 500 u-sec. wide with variable delay up to 20 u-sec. to start sweep before pulse arrives.

BRAND NEW, with ALL TUBES and a SCHEMATIC.

Shpg wt 50 lbs. **\$2950**
Cat. 3061TS182....

S-BAND ECHO BOX READ POWER TO 2 DB READ FREQUENCY TO 0.2%



TS-110/AP is a tunable ringing cavity, 2400 - 2700 mc. It analyzes and measures overall performance of radar rcvrs and xmtrs. Frequency indication is accurate to 0.2%. Indications of relative power output on the 3" uAmmeter are accurate to 2 db. It detects double moding and reads signal/noise ratios. Choice of tuned or untuned inputs. Q:40,000. Decay: 2.3 db/u-sec. Elaborate mechanical tuning mechanism with vernier indication has no backlash and perfect resetability. 50 ohms input. Here is a BRAND NEW test set, with cords and dipole, at less than 2% of acquisition cost. Shpg wt 25 lbs. **\$1995**
Cat. 2006TS110. Only.

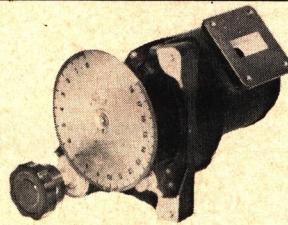


BUILD A TEST OSCILLOSCOPE FROM THIS RANGE CALIBRATOR

TS-126/AP is a top quality 2" Oscilloscope with all the positioning, focus, gain, and intensity controls. Sawtooth sweep is either triggered by an external negative pip or can be switched to be self-triggering. Sweep durations are 4000 yards or 20,000 yards, adjustable between 950 and 1650 sweeps per second. Has a 3-position high-voltage attenuator for feeding a pulse directly to the vertical plate. Also has a built-in very wide pass video amplifier with a low-voltage attenuator and gain control. Positive marker pips appear every 400 yards. Also contains built-in pulse generator which provides 100 volts across 4000 ohms. These pulses are 1 us wide, rise time only 0.1us, 950-1450 PPS. The generator also provides a second pulse, following the first pulse, at a variable distance from the first pulse up to 4500 yards. Input power for the unit is 115 volts 400 cycles. Brand new in original pack. With tubes. Excellent condition. Shpg wt 30 lbs.

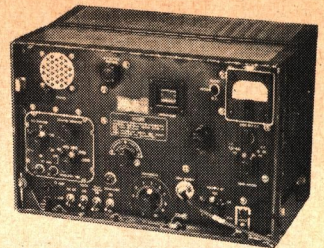
WITH SCHEMATIC. **\$995**
Cat. 1006TS126 Only..

X-BAND WAVEMETER ECHO BOX



TS-120/UP test-set wave-meter assembly is a tuned cylindrical cavity with standard 1.625" square flanges diametrically opposite each other. The 2.75" vernier - driven dial is calibrated 270° to give resettable micrometer tuning. NEW. Shpg wt 4 lbs. **\$3950**
Cat. 4061WM1.....

AN/APS-20
EARLY WARNING
SEARCH RADAR
Spare parts also available.
Send for more details.

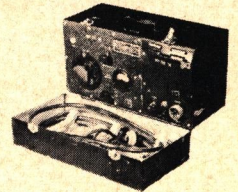


NARROW-BAND F.M. SWEEP-FREQUENCY SIGNAL GENERATOR WITH OUTPUT MICROVOLT CALIBRATED

I-208: Aligns FM vehicular communications gear. RF: 1.9-4.5 and 19-45 mc, with microvoltage output control. 3" sq. meter. 0-10 uv scale knob with decade multipliers to .1v. Long band - spread dial. (e.g., 1" between 45 and 44.98.) Vernier knob takes 79 turns to cover range. Freq. accuracy is assured by zero beating, for which both a headset jack and a panel speaker are provided. Frequency Shift (Deviation) is variable from 0-50 kc. Modulation may be ext. or with built-in osc. 150-5000 cy. Schematic and Instructions are pasted into the cover. Works on 12 v dc input with its internal 11-14 v DM-64 Dynamotor or on 115 v, 60 cy. Has special power xfmr 105 - 130 v. In 1944, this set cost \$1039.50 **\$4950**
In exc. cond., only..

WHEN YOU NEED SPECIAL TEST EQUIPMENT, ASK US. WE HAVE THE WORLD'S LARGEST STOCK.

MYSTERY TEST SET With 115 v, 60 cy Pwr Subassembly



TS-92/AP is a mystery because we can't understand the only write-up we could find on it: "A special 6-tube superhet receiver... 15 to 500 mc.... bandwidth adjustable from 0.5 to 7 mc. Output to meter!" What we see is a coax input to a 6-tube setup plus rectifier, IF cans, a 2" panel meter calibrated 0 to 1 ma, and a large dial calibrated 0.5 to 7 mc. PLUS a most gorgeous complete receiver-type power supply on a separate chassis and panel, ready to pull out and use for small receivers, converters, test sets, etc., with fuse, pilot, switch, etc. Excellent condition. Shpg wt 25 lbs. **\$1495**
With schematic.....

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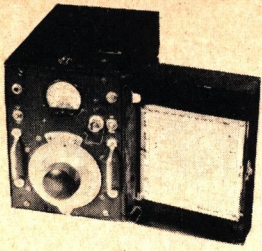
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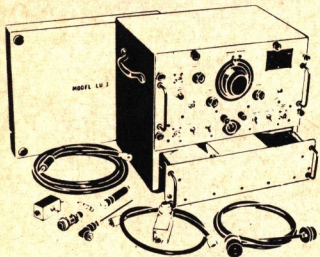
TEST and MICROWAVE equipment

FREQUENCY METER BARGAIN



BC-906 is also a wonderful Grid Dip Meter and Relative Field Strength Meter. Frequency 140 - 225 mc. Covers Amateur 2-meter, VHF, communications, and upper TV channels. You tune a silver-plated cavity to resonance with a large National Velvet Vernier dial. A probe in the cavity feeds the diode plate of a 1S5 and the rectified negative voltage applied to the grid of the same tube dips the plate current as shown on a 0-500 dc microammeter. The dial is individually calibrated with a curve showing 100 kc per dial division. The entire unit is in a compact carrying case only 12 1/2 x 8 3/4 x 6 1/2" with a leather handle. Schematic is pasted inside. Requires one ea. 1.5 V. and 45 V batteries. This precision laboratory device is in excellent condition. Shpg wt 20 lbs. Cat. 806TE1. **\$17⁹⁵** Only.....

BUY AN \$800.00 FREQUENCY METER FOR LESS THAN \$20.00



Brand new Navy LU-() in original packing with the complete instruction book containing schematic, wiring, maintenance, etc., in addition to operating instructions. Crystal calibrated with crystal harmonics to past 470 mc. LU-() is both a heterodyne frequency meter and a signal generator. As a sig. gen., output of 10 milliwatts can either by CW or 90% AM modulated with a 30 KC sine wave, or 100% AM modulated with a 10 microsecond pulse at 1,000 cycles. The AF modulating pulse is also available, at either 50 ohms or 6000 ohms. The RF, either CW or modulated, is available either from a standard SO coax fitting

at 50 ohms, or can be radiated from the antenna which comes with the set. Input power is either 80 or 115 volts, at any line frequency from 50 to 800 cy. The power supply alone is worth our give-away selling price. Packed with the set is the book, line cord, RF cord, video cord, attenuator, etc.

You can probably modify the frequencies listed below to the band you need, retaining the power supply, crystal calibrator, pulse modulator, etc. You can, if you wish, lower the sine modulation frequency to the audio range. You have a terrific quantity and quality of equipment here at astonishing prices. Shpg wt 65 lbs.

- LU-3. 465-498.5 MC. Cat. 2006TY1. **\$19⁹⁵**
Brand new, only
- LU-1. 470-493.5 MC. Cat. 2806TY2. **\$17⁹⁵**
Brand new, only

DECADE ATTENUATOR



Push-button-selected, 1% accuracy carbon-resistor pi-network attenuators in values: 1, 2, 3, 5, 10, 20, 30, and 30 db give you any attenuation from 1 to 101 db by adding as in a post-office decade box. DC, AF, or RF without leakage because all networks enclosed in heavy silver-plated brass casting. This unit is a subassembly of FM Signal Generator TS-452B/U, 5-100 mc. New, from depot spares. Shpg wt 3 lbs.

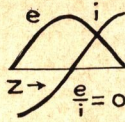
Cat. 2861PD2. **\$17⁵⁰**

ATTENUATE 2600 - 3300 MC ACCURATE -29 DB TO 0 DB

S-Band Attenuator. Signal Corps No. 3F3883/A1 for Western Electric No. X-6171E-() Signal Generator. Gold plated rectangular cavity with rack-and-gear driven variable coupling assembly. Approximately 0 to -29 db. Has constant-impedance coax fittings. New, only **\$14⁹⁵**

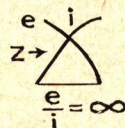
INDUSTRIAL BUYERS:
In addition to the many interesting listings in this catalog: We have the LARGEST variety and Supply of TS-, I-, IE-, and Navy Test Eqpt.. And Airborne Communications Eqpt.. In the Entire World (Armed Forces warehouses excepted)

TUNE IT OUT... TUNE IT IN...



SHORT OUT ANY FREQUENCY BETWEEN 180 AND 3400 MEGACYCLES

Wave Trap F-27/UPR tunes to 1/2 wave for f's of 180 to 3400 mc. Distinguish between actual signal and spurious responses or harmonics. Has coax switch to bypass it electrically without disconnecting it. Calibrated in mc. with coax cable and two UG-21/U connectors to mate with plugs on the trap. New. Shpg wt 7 lbs. Cat. 2506TJ7. **\$14⁹⁵**



TUNE IN ANY FREQUENCY BETWEEN 200 AND 2000+ MEGACYCLES

Tuning Stub TN-87/AP tunes to 1/4 wave for f's of 200 to beyond 2000 mc. Calibrated. With instructions. Furnishes dc path without loading rf. Is also excellent line matcher to reduce SWR. Connectors are UG-21/U and UG-23/U. New. Shpg wt 3 lbs. Cat. 1006TJ4. Only..... **\$9⁹⁵**

X-BAND RADAR COMPLETE

Complete excellent used airborne search and beacon radar 9320-9430 mc, 350 - 1000 pps, 35 KW peak with 0.6 - 2.1 microsecond pulses. Includes Schematic and everything needed except cabling and plugs.

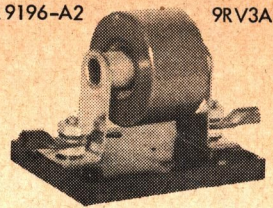
One indicator, one indicator-amplifier, one control box, one J-box, and the complete single-unit radar set, with antenna, all encased in a unitized plastic housing. With all 73 tubes. Shpg wt 250 lbs. Cat. 10-061XR1. **\$99⁵⁰**
A steal at only.....

PLUS Items like AN/ASQ Magnetometer, AIC Intercom, ARA-25 DF, MN-42, -58, H-46/AR, ARN-6, ARN-7, ART-13, SCR-718-C, etc. ...and ALSO Airframe and Engine parts... Instruments... Inverters...
WHAT DO YOU NEED ?
Chances are good that we have it.

THYRIT, AIRCELL AND MAGNET

Old G.E. No. CR 9196-A2

New No. 9RV3A14



Non-linear R. When E doubles, I increases approx. 10 times. If put across a 220v motor, uses only 3 watts but absorbs inductive kicks and keeps v below 1350; protects winding insulation. Will discharge up to 5100 watt seconds (1/2 LI²). Regularly \$7.15. New. Priced low enough to tempt experimenters. Examples: A sine wave in isn't a sine wave out, so you generate harmonics. Use in a voltage divider across a power supply to regulate it; cascade dividers to increase regulation. Get weird effects with 2 in a bridge: Polarity switches as voltage rises. Shpg wt 2 lbs. Cat. 206TH1. More fun for... **\$19⁵⁰**

EVEREADY AIR CELL BATTERY



This Item FOB North Hollywood Only

T-1600 USES WATER

fill it and forget it
Get a constant, steady, noise-free 1.25 volts at up to 660 milliamperes. This is the maximum current you may draw with safety, but it is more than enough for telephone-type intercoms, bridges, potentiometers, bias supplies, etc. Capacity of 600 Amp. Hours at max. load, but for occasional use it lasts practically forever, unattended. New. Shpg wt 13 lbs. Cat. 206BA2. Only..... **\$19⁵⁰**

SUPER POWER MAGNET



Win Nobel Prize By Learning Why It Works
13lb net wt horn magnet for the 3-cm magnetron 725A. Pole pieces 11/16" dia., 21/32" apart. Mounting provisions on top help you hang any device you wish in the gap. 4-1/4" from pole center to top surface of the bottom bar. Shpg wt 15 lbs. **\$9⁹⁵**
Cat. 1006MA1. Only.....
Get the magnetron tube to go with it: Magnet + the 725A, only...\$12.95

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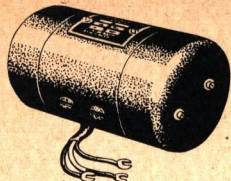
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ROTARY POWER and ACCESSORIES

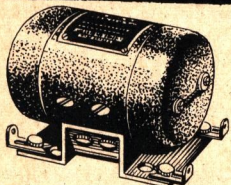
6 VOLT DYNAMOTOR BARGAINS



Bendix DATE/2E. 5.5v, 6A to 225/235v, .06A, cont. duty. Fits in 6" x3.5" space. 12lbs shpg. **\$9.95**
Cat.1006DN28, new, only..

Command rcvr dynamotor as pictured below, rebuilt for 6v input. **\$9.95**
Cat.1006DN21, with base..

DYNAMOTORS 12/14 V DC Input DC Outputs and Shpg Wts Shown



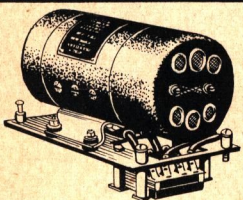
35X032 plugs onto Command receivers (BC-453 etc. ARA series, and ARC-5 series) and furnishes exactly correct output: 250v, 60 ma. New. 7 lbs.
Cat. 406DN25..... **\$3.95**

Our DN22. Output 172 V, 138 ma. New. 8 lbs.
Cat. 1006DN22..... **\$1.95**

Collins TCS Receiver dynamotor. 220/230 v, 100 ma. Excellent condition. 10 lbs.
Cat. 506DN26..... **\$4.95**

Collins TCS Transmitter dynamotor. 400v, 180ma. Excellent condition. Shpg wt 15 lbs.
Cat. 1006DN24..... **\$9.95**

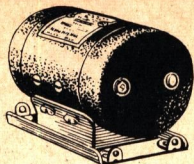
PE-98. +350v, 260ma; -150v, 10 ma; 13v, 5A. Has starting solenoid, hash filter, and carbon-pile regulator. Checked out. 42 lbs. **\$14.95**
Cat. 2506DN27. Only.....



THE BEST BUY IN THE WORLD TODAY FOR MOBILE AND MARINE power from 12 volts:

Our Own DN29
Output: 625v, 225 ma, intermittent duty, for press-to-talk operation. 14 lbs shpg. **\$9.95**
Cat.1006DN29. Only..

DYNAMOTORS 24/28 V DC Input DC Outputs and Shpg Wts Shown



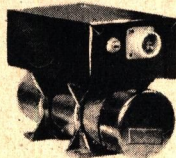
DY-2/ARR-2. 250v, 60ma. Command receiver dynamotor. Excellent condition. Shpg wt 5 lbs.
Cat. 306DN17..... **\$2.95**

DM-33/DY-8. Command xmtr dynamotor. 540v, 250ma. Excellent condition. Shpg wt 14 lbs. **\$3.95**
Cat. 406DN8.....

PE-94 is 24v PE-98 described in the 12v column. Exc. cond. 42lbs. **\$5.95**
Cat. 606DN14.....

DM-37. Output 625 volts, 225 ma. Exc. cond. Shpg wt 14 lbs. **\$2.95**
Cat. 306DN10. Only.....

Sample listings of our many 24/28 V ROTARY INVERTERS



MC-36. Tiny Eicor Class A. 11 A dc in. Output regulated and governed: 125 v, 400 cy 1 ph, 100 va. Int. duty OK for cont. if end caps are removed. Net wt 10.6 lbs. Excellent cond. Shpg wt 14 lbs. **\$17.50**
Cat. 2861AC4.....

Pioneer 12117-6B, 0.8 A dc in. Output 26 v, 400 cy. 1 ph, 6 va. Excellent cond. Shpg wt 4 lbs. **\$9.95**
Cat. 1006AC8. Only.....

3 phase 400 cy. 115v out. 115 va at .75 PF. 12A dc in. Cont. duty. Both v and fare adjustable. Leland Type DA. Exc. cond. Net wt 8.7 lbs. Shpg wt 14 lbs. **\$24.50**
Cat. 3561AC9. Only.....

MOBILE HASH EATERS

Hash filters are L-C networks. Feed your dynamotor or inverter through them. They keep brush noises out of your battery lines.

F5/AR. Low inductance, 25A capacity. Shpg wt 5 lbs.
Cat. 180LF1..... **79¢**

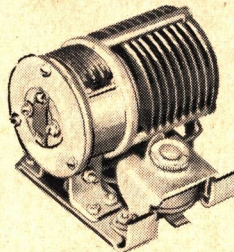
F8/AR. High inductance, 6A. Cat. 206LF2..... **\$1.95**

GENERATOR-ALTERNATOR 120 V AC PLUS 28.5 V DC

Bendix NEA Series. Turn the shaft 2450-4200 rpm. Centrifugal clutch maintains 2400 rpm. Outputs are 120 v, 1 ph, 800 cy, 1080 or more va, PLUS 28.5vdc at 25 or more A. With diagram and instructions. Exc. cond. Shpg wt 57 lbs. **\$19.95**
Cat. 2006GA1.....

Carbon-pile regulator for above, Bendix D-111144. With instructions. New. Shpg wt 5 lbs. **\$2.95**
Cat. 306CP1.....

6 V ? 12 V ? 24 V ? 32 V ? REGULATE IT AT A BARGAIN



For any generator 100-200A, such as M1, M2, O1, O3, P1, P2, etc. With instructions. 5 lbs.
Cat. 306CP2..... **\$2.95**

GENERATE 12V, 35 AMPS DC

Bendix Dwg. 30E03-4-A, automotive style and mtg. Turn it 2150 to 4700 rpm. The 35A rating appears underrated to us. We'd say 50 to 60 amps. But that's the Navy for you. Always a big safety factor. We got some with a balanced, 5-3/4" O. D, double sheave V-belt pulley on, and some with only the keyed shaft. New, so remove the paper under the brushes before use. Shpg wt 50 lbs. With pulley. **\$14.95**
Cat. 2506GAWP.....
Same, less pulley. **\$12.95**
Cat. 2306GALP.....

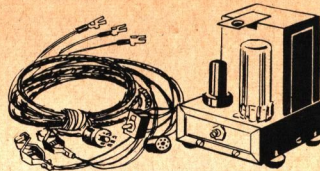
GENERATE 30 VDC, 400 AMPS

Turn this excellent-condition GE #2CM76C4 at 4500-8000 rpm, and weld, plate, operate inverters, or light up your ship or country estate. Shpg wt 95 lbs. **\$37.50**
Cat. 2861GA4. Only.....

GENERATE 1000 VDC, 0.4 AMP PLUS 14.6 VDC, 25 AMP

GN-39 has 3/4" shaft. Furnished HV and LV for transmitter BC-191. Like new. Shpg wt 120 lbs. **\$14.95**
Cat. 2506GA3. Only.....

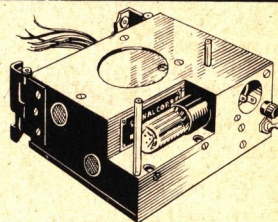
Power Packs



6 VOLT RADIART VIBRAPACK SUPPLIES 300 V DC, 90 MA

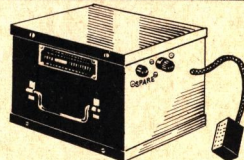
Radiart 6821A (RCA MI-8319A) used to mobilize AR-77 & AR-88 rcvrs. Input 6 to 8.5v dc as selected by a 4-position switch to xfmr taps. The vibrator is Mallory 634C or Radiart VN-10 or any 4-pin non-synch replacement. At full load, the pack draws 12 amps. A 15A fuse is in the battery cord furnished. An OZ4 tube rectifies. Output is filtered. New, with instruction book, schematic, & parts list. Shpg wt 12 lbs. **\$9.95**
Cat. 1006VP1. Only....

RA-20 IS READY-TO-USE AC SUPPLY FOR ANY RECEIVER



Changes rcvr BC-312 to BC-342 by replacing dynmtr. Filtered dc from a 5W4 is 250v, .1A. B- connected to CT of 12.6vac, 2A (586), but not to ground. 38.4 are 12.6vac, .3A. 7 is ac com. Other ac is 8 if 120v, 9 if 110v. 50/60cy. Like new. Shpg wt 12 lbs. A super value. **\$14.95**
Cat. 2506PS3. Only.....

12 V VIBRAPACK WITH 6 OUTPUTS FOR \$2.95



PE-204-A powered remote telephone repeaters from a 12v battery. Slight effect of moist air storage, but not too bad. Spare synch. vibrator included. Two 4.3v outputs come from the 12v thru dropping resistors. The other 4 filtered dc outputs are taken from a voltage divider and dropping resistors. If this network is disconnected, and output taken from the 2d choke, you get 135v at plenty of ma for a light rcvr. Schematic is in the cover. Shpg wt 8 lbs. **\$2.95**
Cat. 306VP2. Only.....

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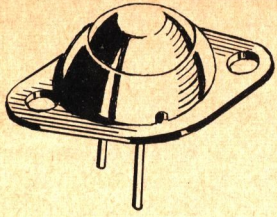
2534-38 S. Michigan Ave., Chicago 1, Ill.

Phone CAmet 5-4750

TRANSISTORS AND RECTIFIERS

USE PHILCO TRANSISTORS FOR HIGH FREQUENCY AND POWER

All Pictures Shown Actual Size



HIGH POWER

Philco T-1316 is improved version of 2N352, with higher ratings, and with stiff leads. Better for printed ckts. Herm. sealed PNP germanium junction for AF amplifiers, servo-amplifiers, switches, series voltage regulator, etc. One in Class A delivers 5 W undistorted. A matched pair in Class AB gives 20 W or will switch 200 W. Typical power gain

is 36 db (4000 times input) with case at 75°C. Max. junction and storage temp. is 100°C. This extremely high temp. is possible because of the exclusive cold-weld seal. Collector junction is in intimate contact with the copper mtg base for best transfer to a heat sink or chassis. Thermal rise only 1°C/W. Typical total device dissipation is 10 W at 75°C. and 60 W at 25°C. Low saturation resistance. Typical Alpha cutoff is 1 mc. Max. $V_{CE}^{(R_{BE} \leq 30 \text{ ohms})}$ is -40v.

Each only..... **\$2.78**

Matched Pair, only..... **\$5.56**

HIGH-POWER BARGAIN

Philco T-1017 is guaranteed same typical ratings as 2N352 and is very similar to T-1316 except for flexible leads and slightly less power handling.

Each, only..... **\$1.87**



WORLD'S SMALLEST

LOW-NOISE-TYPE TRANSISTOR

Philco T-0037 is guaranteed same typical ratings as 2N207. It is PNP germanium junction for subminiature AF amplifiers and switches, with a typical noise figure of only 5 db and typical Beta of 100. V_{CE} or V_{CB} is 12v. Typical cutoff freq. is 2 mc. Miniaturize with these.

Each, only..... **75¢**



SURFACE BARRIER OSCILLATES AT TOP OF 6-METER BAND

Philco T-1324 is guaranteed same typical ratings as SB103/2N346. It is a PNP germanium Surface Barrier

transistor for high-frequency RF, IF and Video amplifiers; for converters, oscillators, switches, etc. It is guaranteed to oscillate at 54 mc. The typical rating is 75 mc. Most work at 90 mc. Max. collector dissipation is 20 mw at 40°C. Max. V_{CB} or V_{CE} is 4.5v.

Each, only..... **\$1.65**

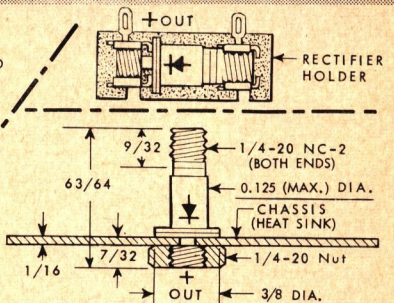
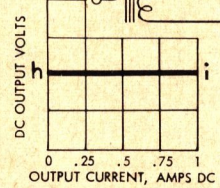
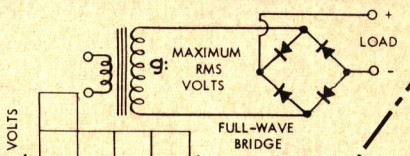
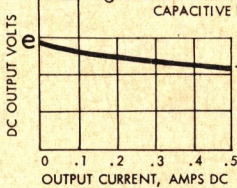
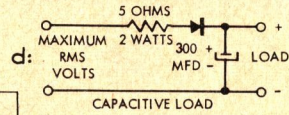
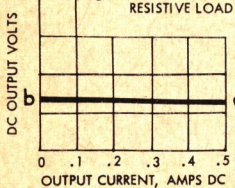
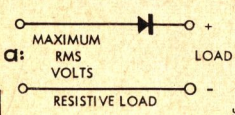


MEDIUM POWER

Philco 2N226 is a 250 mw PNP germanium alloy junction, sold at the price of a 50 mw transistor. For AF and switching. Operates at 3 to 12 volts. Max. V_{CB} -30v. Min. Beta 35, typical 60, max. 105. Typical cutoff is 400 kc.

Each, only..... **\$1.65**

Live Modern!...RECTIFY WITH SILICON DIODES



Audio Devices, Inc., Rectifier Division, make these Silicon Diodes the BEST IN THE INDUSTRY and that's why we bring them to you. The unique construction and mounting versatility is illustrated. They are all welded, sealed, nickel-plated steel. The + end, which is the end that requires cooling for maximum current capability, is flanged for heat transfer. A special cap, with a lead attached, is available for 3¢ to snap on the negative end when mounted upright. The holder shown for flat mounting is available for 7¢ for a single diode, 14¢ for two in a voltage doubler circuit, and 50¢ for 4 in a bridge circuit.

Audio Devices diodes are the only units available which do not depend on pressure for internal contact. The silicon wafer is welded to the nickel-plated steel end with pure tin. An aluminum wafer is fused to the other side of the silicon to make permanent rectifying contact. Another tin surface is welded to the aluminum, and a headed tantalum lead is soldered to the tin. Neither vibration nor impact can loosen the contacts.

Forward voltage drop at full load is rated 1.4v, but is usually much less. Maximum reverse current is 2 ma.

Cat. No. A750: Peak Inverse Voltage ("PIV") is 400 volts.

Cat. No. 30A1: PIV is 300 volts.

Cat. No. A750 and 30A1, maximum DC load currents:

- With heat sink:
 - @100°C case temp.: 750 ma.
 - @150°C case temp.: 375 ma.

In the holder, no heat sink:

- @100°C case temp.: 500 ma.
- @150°C case temp.: 250 ma.

NOTE: Deduct 20% of the currents shown for capacitive loads.

Because of the high standards of inspection and quality control, there is less than 20 microamps difference in conductivity between units of the same Cat. No. Therefore, they may be paralleled to double, triple, etc. all currents shown with no balancing. Similarly, they may be series connected to double, triple, etc. the PIV's and all voltages shown in the charts, up to 20 Kv. We supply a threaded coupling for this purpose at

5¢ and a cooling washer at 3¢. The coupling can also be used with a spade lug to tap off between diodes.

In the diagrams (maximum ratings):

- a: 0.707 of PIV.
- b: approximately 45% of a.
- c: approximately 2v less than b.
- d: 0.35 of PIV.
- e: approximately 140% of d.
- f: approximately 110% of d.
- g: 0.707 of PIV for resistive OR capacitive loads.
- h (res. load): approx. 90% of g.
- i (res. load): approx. 1.5 v less than h.
- h and i for capacity-input filter: add 5 ohm surge resistor at output of bridge. Depending on the capacity used, h and i can approach the PIV rating.

Cat. A750. Jetec 1N1449. PIV 400 volts. List price \$2.50. **\$1.57**
Your cost, only.....

Cat. A16 is a plastic case with four A750 400v PIV diodes, with mtg. board, holders, hardware, and instructions for a full-wave bridge. List price \$12.30. **\$7.70**
Your cost, only.....

Cat. 30A1. Jetec 1N1448. PIV 300 volts. List price \$1.70. **\$1.05**
Your cost, only.....

Cat. A15 is a plastic case with four 30A1 300v PIV diodes, with mtg. board, holders, hardware, and instructions for a full-wave bridge. List price \$9.00. **\$5.60**
Your cost, only.....

KITS TO REPLACE SELENIUM

Television-Set Replacement:
Cat. A12 is a plastic box with two A750 400v PIV diodes, with mtg. board, holders connected for voltage doubler circuit, hardware, & instructions. List \$5.50. **\$3.45**
Your cost, only.....

Radio-Receiver Replacement:
Cat. A11 is a plastic box with one A200 (Jetec 1N1445) silicon diode, PIV 360 v, 200 max. ma., with holder, hardware, and instructions. List \$2.00. **\$1.25**
Your cost, only.....

HOLDERS, COUPLINGS, ETC.

See the underlined portions of the description of these diodes.

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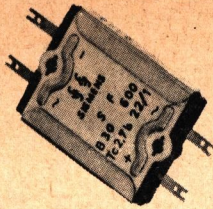
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NEW RECTIFIERS FROM RADIO RECEPTOR CO., INC.



Flat selenium stacks screw down against your chassis for heat dissipation. Terminals do not touch chassis. Life expectancy 10,000 hours. All new. Ideal for miniaturization at low cost.

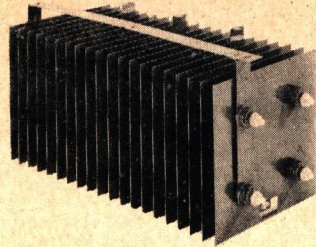
30 vac full-wave bridge, 0.6 Amp. 1.375" x 1.5625" x .266" thick. Cat. 206SR14. Only..... **\$1.95**

125 vac 1/2-wave, 0.1 Amp. 1.063" x 1.063" x .328" thick. Cat. 170SR15. Only..... **69¢**

125 vac full-wave bridge, 0.1 Amp. Size as above. Cat. 250SR16..... **\$1.49**

250 vac full-wave bridge, 0.1 Amp. Size as above. Cat. 1350SR17..... **\$2.49**

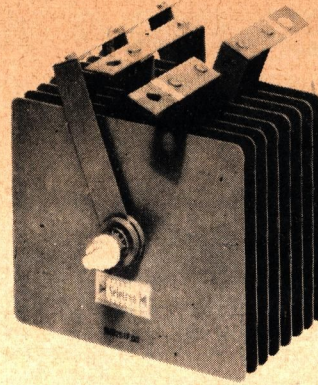
250 vac full-wave bridge, 0.15 Amp. Just .007" thicker. Cat. 436SR18..... **\$3.25**



26 vac Petti-Sel miniature full-wave selenium stacks have 100,000 hour life expectancy. Double the current ratings shown below if fan cooled.

1.5 Amp. Only 1.6" x 1.6" x 1.7" lg. Cat. 350SR7. Only..... **\$2.49**

4.5 Amp. Only 2.6" x 2.6" x 2.5" lg. Cat. 506SR8. Only..... **\$4.95**



33 vac Standard Industrial type full-wave selenium stacks have 250,000 hours life expectancy at 80% of rated current. Double the current if fan-cooled.

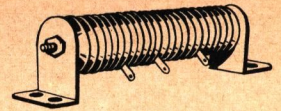
1.4 Amp. 2" x 2" x 1.7" lg. Cat. 390SR9..... **\$2.89**

3.2 Amp. 3" x 3" x 2.6" lg. Cat. 661SR10..... **\$5.50**

10 Amp. 5" x 6" x 3" lg. Cat. 2106SR11..... **\$10.95**

15 Amp. 6" x 7.25" x 3" lg. Cat. 2506SR12..... **\$14.95**

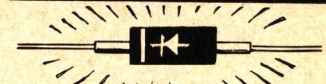
SAVE WITH SURPLUS SELENIUM



115 vac 1/4 Amp full-wave stack made for inverter regulation systems. 1" x 4 1/2". New, depot spares. Shpg wt 1 lb. Cat. 190SR6N..... **89¢**

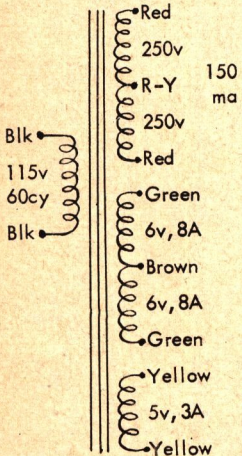
Same, removed from regulators, guaranteed OK. Cat. 170SR6U..... **69¢**

GERMANIUM DIODE BUY



Extra-high peak-inverse JAN Germanium Diode IN70 takes up to 100 v peak and delivers up to 30 ma average. 2 in series in each leg of a full-wave bridge (8 total) will deliver 60 ma for a transformerless 115v power supply. New. Cat. 250GD70X8. 8 for **\$1.49**

POWER XFMR

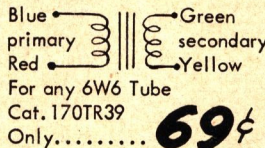


Cat. 306TR37 **\$2.95**
Only.....

VERTICAL OUTPUT TRANSFORMERS



For RCA #630 Chassis Cat. 109TR43 **98¢**
Only.....



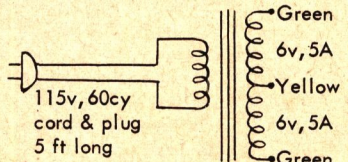
For any 6W6 Tube Cat. 170TR39 **69¢**
Only.....

6-FT TV CHEATER CORD



Cat. 130CC13. Each.... **29¢**

12 VOLT FIL. XFMR

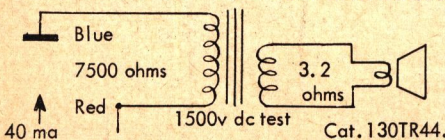


Cat. 220TR42. Only.... **\$1.19**

SINGLE ION TRAP

Improve your picture with a new ALNICO ion trap. Shpg wt 1/2 lb. Cat. 120TP1. Only..... **19¢**

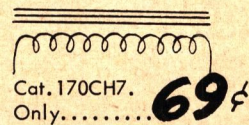
AUDIO OUTPUT BARGAIN



8 Watts Audio Output Cat. 130TR44.... **29¢**

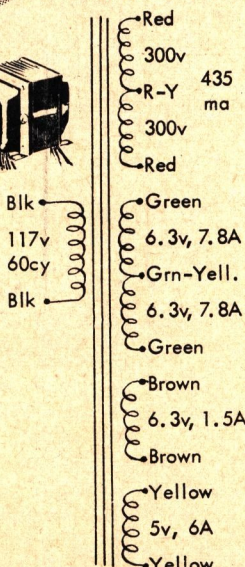
FILTER CHOKE

2 Henry, 215 ma dc 97 ohms dc resistance 1750v dc test



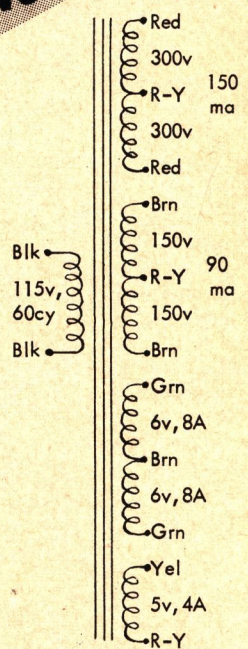
Cat. 170CH7. Only..... **69¢**

HIGH POWER



Cat. 406TR38 **\$3.95**
Only.....

DUAL POWER



Cat. 406TR45 **\$3.95**
Only.....

70° DEFLECTION YOKE

8.3 and 50 MH Ferrite core, identical to Triad Y-12-1 Stancor DY8A RAM Y70F08 Merit MD-12 Chicago DF-601 Cat. 240YK1. Shpg wt 3 lbs. **\$1.39**
Only.....

Many uses for these T-V MAKER'S OVER-RUNS

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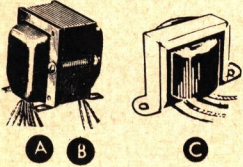
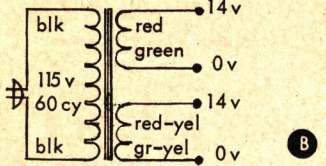
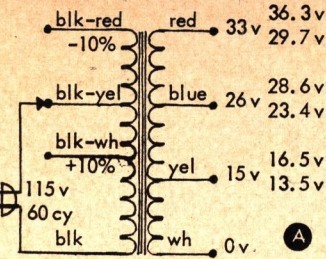
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TRANSFORMERS AND CHOKES

TRANSFORMERS FOR RECTIFIERS



Make 12, 14, 24, 26, or 28 vdc with selenium, germanium, or Silicon. these are new units, wound for us in large quantities in order to keep the price low.

- A** 2 Ampere Secondary: **3⁹⁵**
Cat. 406TR27.....
- A** 5 Ampere Secondary: **9⁹⁵**
Cat. 1006TR28.....

10 and 15 Amperes: Quantity runs would have to be smaller. It is, therefore, less costly for you to parallel 5-ampere transformers.

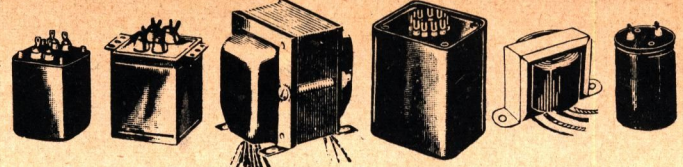
2 Ampere 28 v sec. by joining green to red-yellow and using red and green. 4 Ampere 14 v sec. by joining red to red-yellow, and green to green-yellow. **\$2⁹⁵**
Cat. 306TR12.....

C 1 Amp. 24v secondary: **2³⁹**
Cat. 340TR46. Only.....

9, 10, 11, 12, or 13 VOLTS

Primary 115v. 60cy, Isolated secondary is tapped from 9 through 13v in steps of 1 volt, at up to 4 amperes. New. Shpg wt 8 lbs. **\$2⁹⁵**
Cat. 306TR20. Only.....

NOTE: See also the TV-Mnfr's close-out bargains for the high power 12v windings which can be connected in series with 5v and/or 6.3v windings, or used alone. See also in next column for the 40 ampere transformer.



BC-610 NEW DEPOT-SPARES

Hallcrafters' voice-modulated xmtr HT-4 (Sig. Corps BC-610) puts out 500 watts RF. Here are some depot-spares components... all potted and sealed, all brand new. PRICES HERE are FOB CHICAGO. Add \$2.00 to each price for FOB No. Hollywood.

Modulation Transformer. 250 watts audio level. UTC D-3224. Grade 1, Class A. Pri. 21 K ohms CT fed two 100-TH push-pull. Sec. 8 K ohms, 250 ma dc, 7 KV rms test, modulated the 250-TH final R.F. amplifier. Shpg wt 40 lbs. **\$19⁹⁵**
Cat. 2006TR35. Only...

Smoothing Choke. 11 Henries, 500 ma dc. 50 ohms dc. 7500v rms test. Stancor 56B013. 40 lbs. **\$14⁹⁵**
Cat. 2806CH6. Only....

L. V. Plate Power. 115/125v (taps), 50/60cy, to 435-0-435 v, 250 ma. UTC D-3220, Grade 1, Class A. Pri. 1500v rms test, sec. 2000v rms test. Shpg wt 40 lbs. **\$7⁹⁵**
Cat. 1806TR36. Only....

LIFE'S WORTH LIVING

So save it with this isolation transformer. 1:1 ratio. 250 watts. With line cord and plug; standard AC receptacle built-in. Shipping wt 14 lbs. **\$9⁹⁵**
Cat. 1006TR25.....

CAUTION 2100 VOLTS

at 10 ma, for 5" oscilloscopes. New. Shpg wt 11 lbs. **\$1⁹⁵**
Cat. 1206TR24.....

40 AMPERE TRANSFORMER

Terrific value xfrmer. With 115 V. 60 cy. to taps 1 & 2, out comes 15.1 V. at 40 amperes! Move from 2 to 3, 4, etc. to 8 and output reduces to 14.3 V., 13.9 V. etc. down to 11.3 V. Series the secondaries of two units to get 30.2 to 22.6 V. Ideal unit to use with either selenium or silicon rectifier to make DC supplies. With an inexpensive low-current tap-switch in the primary, you eliminate need for variac. Shpg wt 20 lbs. **\$14⁹⁵**
Cat. 1506TR21. Only...

MATCHED PLATE & FIL.

Herm. sealed. Thordarson. 115/230v by connecting the two identical pri. windings on each in parallel or series. Correct for line voltage, too, because each winding has taps for 104, 115, and 127v.

T-49608: 5v, 3 A. 6.3v, 4.5 A. 6.3v, .9 A. Shpg wt 8 lbs. **\$1⁹⁵**
Cat. 206TR6.....

T-49609: 400-0-400v, 100 ma. Shpg wt 8 lbs. **\$1⁹⁵**
Cat. 206TR7.....

Matched Pair: **\$3⁵⁰**
Cat. 1461TR6-7. Both....

TRANSISTOR OSCILLATOR AUTOTRANSFORMER

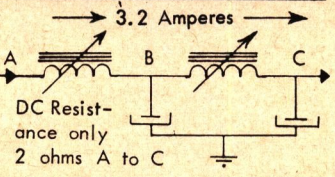
With schematic to make code practice oscillator or send-and-receive code communicator good for 3 miles with only 3vdc. Wt 1/2 lb. **79¢**
Cat. 180TR15.....

PLATE TRANSFORMER BARGAIN

Plate Power Transformer. 250-0-250 volts at 106 milliamperes. Primary is tapped for 115/230 volts, 50/60 cy. Collins Radio made an AC power supply for the TCS receiver. This is the B+ Transformer. Potted and sealed. Collins No. 672-0003-00. Shpg wt 10 lbs. New. **\$1⁹⁵**
Cat. 1206TR34.....

HI-CURRENT CHOKE

Trick of the year.



Problem: Filter 1 to 3A for DC tube-heater supply.
Solution: Low-V circuit of this dynamotor. A and C are LV brushes. B is a lead soldered to one of the commutator bars. New. Shpg wt 8 lbs. **\$1⁹⁵**
Cat. 206DN22. Only....

8 HENRY 70 MA CHOKE

ATC No. 5507. Shpg wt 2 lbs. **69¢**
Cat. 170CH4.....

10-WATT HI-FI UNIVERSAL PUSH-PULL OUTPUT



± 1 db 30 - 30,000 cy. Minimum phase shift in inverse feedback circuits. For example, examine the Z variation of the 5K/6K pri. taps, matched to R load: 4K at 30 cy. to 7k at 30 kc. Very few mnfrs dare publish this data because their variations are very much greater. Windings are split sectionals on bakelite spools in plastic mold. No moisture penetration. No core hum. Primary 5k/6k, 8k, and 10k plate-to-plate. Sec. 4, 8, 16 ohms. New. Shpg wt 4 lbs. **\$4⁹⁵**
Cat. 506TR223. Only....

HI-FI IMPEDANCE MATCHER

Western Electric KS-9012 is line (600 ohms) to voice coil (8 ohms) or reverse. Or use the 8 ohm side across your amplifier output to feed a VU meter at the 600 ohm terminal without loading your speakers. Absolutely flat 20-20,000 cy. New. Shpg wt 6 lbs. **\$3⁹⁵**
Cat. 406TR13.....

STEAL A MIS-MARKED POWER TRANSFORMER AND 2-SECTION CHOKE PERFECT FOR WILLIAMSON AMPLIFIER

The department that marked these units GOOFED and marked them 85 ma instead of 185 ma. We GUARANTEE that they are both 185 ma.

Both are in hermetically-sealed potted steel cases, both the same height above the chassis (6"), both have bottom-mounting bracket and porcelain-insulated terminals at the bottom. The transformer is 117.5 V, 60 cy primary, with the following secondaries: 5 V, 2A; 6.3 V, 7.5A; 6.3 V, 0.3A for an isolated pre-amplifier stage; plus CT plate secondary with DC output after filter of 330 V at 185 ma. Electrostatic shield grounded to case between pri and sec.

The choke is 2 isolated chokes in one can, each with its own 2 terminals, and each 8H, 185 ma. Sold only as a pair. Brand new. Shpg wt 17 lbs. **\$4⁹⁵**
Cat. 506TR19CH3.....

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GUARANTEED TUBES AT BIG SAVINGS

Write for quantity discounts.

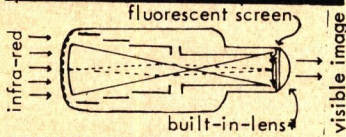
JAN - ORIGINAL BOXED

1AB5.....	30¢
1E7.....	30¢
1H5GT.....	35¢
2C26A.....	20¢
3A8GT.....	60¢
4J52.....	\$32.00
6C4.....	30¢
6C21.....	\$10.00
6G6G.....	50¢
6L7G.....	25¢
6ZY5G.....	25¢
12AH7GT.....	45¢
12K8.....	50¢
12L8GT.....	40¢
12SJ7M.....	45¢
217C.....	95¢
446A.....	50¢
705.....	75¢
707A.....	\$1.50
717A.....	50¢
814.....	\$1.75
837.....	\$1.45, 3 for... \$4.00
878.....	45¢
954 6 for.....	\$1.00
957.....	25¢
1626.....	25¢
1629.....	25¢
1630.....	25¢
1642.....	25¢
9004.....	25¢
EF50.....	25¢

RE - BOXED TUBES

1B27.....	\$6.00
2C40.....	\$6.00
2C43.....	\$6.00
2D21.....	60¢
2X2.....	50¢
3B24.....	60¢
5D21.....	\$4.00
6AK5.....	60¢
6J4WA.....	\$1.25
6SH7M.....	25¢
6SN7GT.....	50¢
6SL7GT.....	65¢
6V6GT.....	65¢
12A6.....	40¢
12AT7.....	75¢
12J5GT.....	35¢
12SL7GT.....	40¢
28D7.....	75¢
723A/B.....	\$7.00
725A.....	\$2.00
9001.....	45¢
VR105.....	50¢
VR150.....	50¢

SEE INFRA RED



1P25A Tube: just released! Infra-red image converter made by Farnsworth. New, only... **\$14.95**

CATHODE-RAY BARGAINS Scope Tubes

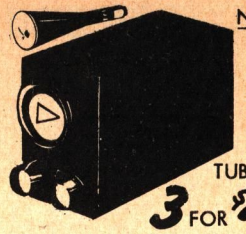
3" Fast Electrostatic: **3AP1**: Medium persistence, green trace. 2.5 v heater. 1 vertical, 1 horiz. plate common. New. 4 lbs shpg. Regular \$16.50, pay us only... **\$19.95**

3" Fast Electrostatic: **3BP1**: Medium persistence, green trace. 6.3v htr. isolated defl. plates. Extra bright trace to see pulses. New. **\$19.95** Regular \$18.50, pay us only...

3" Fast Electrostatic: **3GP1**: Medium persistence, green trace 6.3 v heater. Isolated deflection plates. New. 4 lbs shpg. Regular \$16.50, pay us only... **\$19.95**

3" Slow Electrostatic: **3FP7**. Long persistence, yellow trace, as used in radar. Plot curves on scope, eliminate laborious graphing. Isolated defl. plates, 6.3v htr. New. **\$19.95** Regular \$16.50, pay us only...

Dumont Oscilloscope Replacement: **5LP1**. Medium persistence, green trace. 6.3v heater. Isolated deflection plates. New. 5 lbs shpg. Regular \$32.50, pay us only... **\$9.50**



NOTE: ALL CATHODE RAY

TUBES ARE **3 FOR \$4.95**

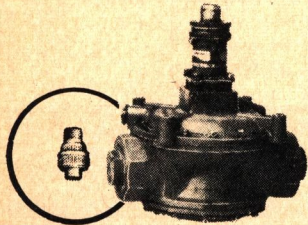
Miniature Scope for the Ham Shack pictured above uses #902. On request with your order, we will supply schematic & complete instructions. #902 is 2" fast electrostatic. Medium persistence; green trace; 7.5" lg overall. Octal base. 6.3v heater. 1 vertical, 1 horiz. plate common. New. 3 lb shpg. Regular price \$10.80. Pay us only... **\$2.95**

5" Television Tube. Fast Electrostatic: **5BP4**. Medium persistence, white trace. 6.3v htr. New. **\$19.95** Regular \$22.50, pay us only.

5" Slow Electromagnetic: **5FP7**. 6.3 v heater. Long persistence, yellow trace. Shpg wt 5 lbs. **\$19.95**
A real buy at.....

NOTE: NEW TUBE STOCKS ARRIVE CONTINUOUSLY. FOR THE BEST TUBES AT THE LOWEST PRICES, TELL US YOUR NEEDS.

ELECTRIC AUTOMATION FOR YOUR LAWN



SPRINKLE WHILE YOU SLEEP

SOLENOID VALVE SUPER-BARGAIN:

Here is another of those amazing bargains you get from us because we spot them at Gov't Sales. If you wanted a 1" pipe-size electrically-operated valve from a plumbing supply house, you would pay over \$60.00 for it. Here it is for only \$2.95, four for \$10.00. They have built-in screen filters, quickly removable for cleaning without disconnecting the valve. Standard 1" pipe

threads. No internal mainflow opening has less area than a 1" pipe. Non-corrosive metals are used throughout. Solenoid operates on 15 to 35 volts DC (nominally 24 volts) and requires only 3 1/2 watts (225 to 240 milliamperes). You are much better off stringing low-voltage wires around your yard than playing with 115 volts, so the low voltage required is actually an advantage. Brand new.

Operation and Modification if necessary: The main valve has equal water pressure top and bottom, and a weak spring easily holds it closed. However, the top casting contains a small solenoid-operated by-pass valve set into a 5/8" OD cylinder. When opened, the by-pass relieves top pressure from main valve, which then opens. By-pass is kept closed by a spring held by a pin set down into a notch in the cylinder end. As is, it is good for 45-50#/sq. inch water pressure. If the by-pass spring

is pulled up and held stretched by a new pin across the cylinder face, the valve is good up to 90 lbs. The new pin is simply a 3/4" length cut out of a 3/32" thick brass nail. If a washer is slipped under the nail, the valve will work up to 110 lbs.

Cat. 306SV1. Shpg wt 3 lbs. **2.95**
You steal it at only

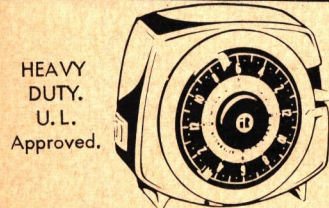
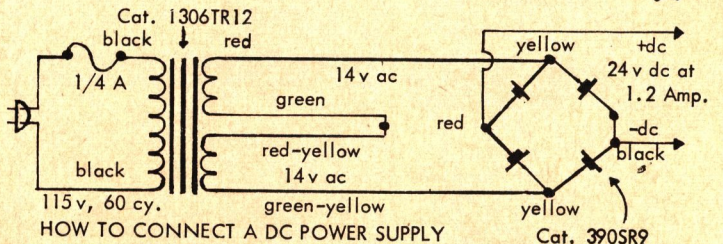
Order in groups of four and save money. Ask for **Cat. 2111SV1X4. Four for 10.00**

Plug to make electrical connection to above solenoid valve. AN-3106A-10S-2S. New. **Cat. 150PG1 49¢**

Save money buying four plugs. Order **Cat. 286PG1X4 Four for \$17.50**

Transformer to change 115 v 60 cy into 28 v, 2 A. Has two 14 V, 2A secondary windings which you use in series. One of these will handle 8 solenoid valves Shpg wt 4 lbs. **\$2.95**
Cat. 1306TR12

Selenium Rectifier to change the AC out of the transformer to 1.4Amps DC. No filter is needed. Full wave bridge. Will handle 5 valves. **\$2.89**
Cat. 390SR9.....



HEAVY DUTY. U.L. Approved.

This 24-hour electric-clock On-Off switch sprinkles your lawn while you sleep, turns lights and appliances on and off, etc. Heavy-duty cord and plug energizes both the clock and the AC receptacle on the side after the built-in SPST switch closes, or de-energizes the receptacle when

the switch opens. The switch is rated 7 amperes (875 Watts). Any on as long as 23 3/4 hours or as short as 15 minutes, starting at any moment you select during the 24-hour cycle. Repeats automatically every 24 hours, or you can switch on or off manually during any one cycle or

permanently, as you wish, without disturbing the automatic setting.

Beautiful neutral-gray high-impact plastic case. 115 v, 60 cy. New. Shpg wt 2 lbs.

Cat. 1775CL3. Only... **\$6.64**

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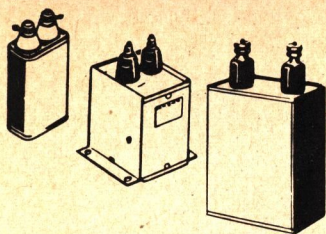
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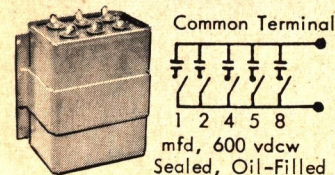
BARGAINS IN FIXED AND VARIABLE CAPACITORS

ASTONISHING BARGAINS IN OIL-FILLED CAPACITORS



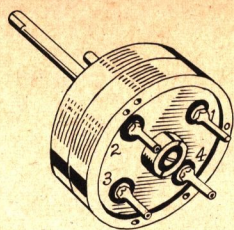
MFD	VDC	Cat. No.	Price
5/5	400	180CR3	\$0.79
10	400	180CR4	0.79
4/4/4	400	109CR5	0.98
8/8/8	500	250CR6	1.49
12	500	230CR24	1.29
220AC			
2	600	150CR7	0.49
7	600	170CR8	0.69
8	600	109CR9	0.98
10	600	230CR10	1.29
10	600	230CR23	1.29
330AC			
6/6	600	240CR11	1.39
15	600	250CR12	1.49
330AC			
8/8	600	250CR25	1.49
20	600	306CR2	2.95
6	1K	206CR22	1.95
4	2K	306CR14	2.95
6	2K	406CR21	3.95
2	3K	506CR27	4.95
8X5	5.6K	506CR1	4.95
.15/.15	6K	206CR15	1.95
1/.1	7K	206CR28	1.95
.5/.5	9K	3361CR31	22.50
.5	10K	2361CR29	12.50
1	15K	2861CR30	17.50
.25	18K	3361CR31	22.50
.25	20K	3861CR32	27.50
.5	25K	5861CR33	47.50

MAKE A CAPACITOR DECADE BOX, 1 - 20 MFD IN STEPS OF 1



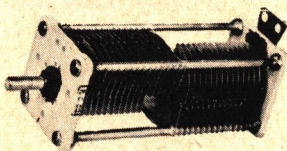
Your toggle switches select and add in parallel any or all of the values shown, to give you any total desired from 1 through 20 mfd. New. Shpg wt 4 lbs. **\$2.95**
Cat. 306CR2, big value at **\$2.95**

SINUSOIDAL WOBBLATOR



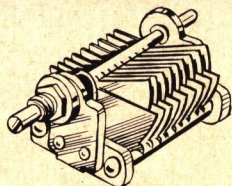
W. E. #D-150734, the PHASE SHIFTER capacitor in various radar range units and calibrators, has a long 1/4" shaft in Oilite bearings. Capacity varies from 0.75 to 2.75 pf between 4 plate segments and a 5th terminal to a whole plate. Segments may be paralleled. In a sealed brass shield. New. Less motor. A serialized precision laboratory device at a great bargain. Shpg wt 2 lbs. **\$9.95**
Cat. 1006CR27. Only.....

80 - 160 METER OR MARINE SPLIT STATOR VARIABLE



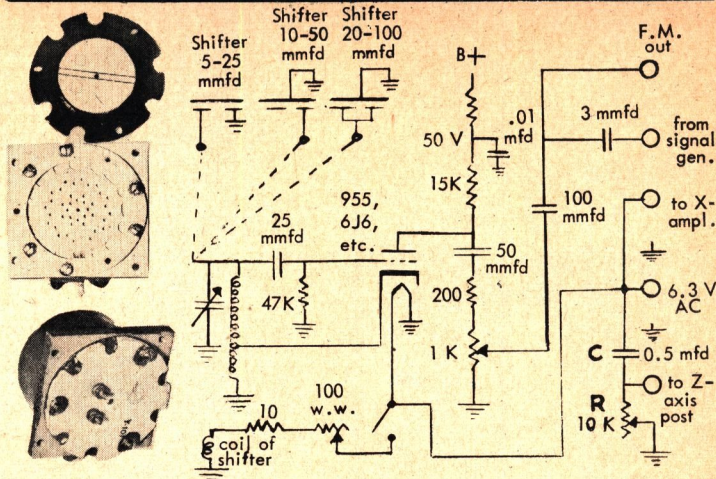
3D9045V is the MO tuner for G. E.'s 100 W Xmtr BC-653. 34-305 mmf, 1750 v test. Ceramic ends. Takes 2" X 2" X 5.5" behind your panel. New. Shpg wt 2 lbs. **\$1.95**
Cat. 1206VC3, only.....

LINEAR TUNING WITH STEATITE VARIABLE, 9 - 140 PF, 1000 VDC



Sig. Corps 3D9140V-29 (MC 140M). Hammarlund Type MC, 9-140mmf siliconized steatite base, N P brass plates .0245" spacing. 1000vdc and 1750vac test. Has rotor stop. Panel or chassis mounting. New. **\$1.50**
Cat. 261VC5, \$3.39 value...

MAKE A SWEEP-SIGNAL GENERATOR WITH THIS VOICE-COIL DRIVEN VARIABLE CAPACITOR



This unit is essentially a voice coil in a 10.5oz Alnico V magnet, driving a thin alumin. diaphragm closer to or farther from the stationary capacitor plates, which are two silver semicircles, with a lead to each.

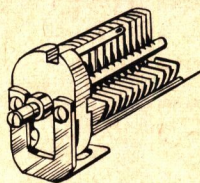
The schematic shows an ultra-simple sweep-frequency signal generator. The shifter ("wobbulator") is shown connected three ways (in the upper left corner) to give 3 ranges of capacity. The lower left shows the coil of the device driven by 60 cycles. The Hartley oscillator circuit should be chosen for the center frequency desired with the voice-coil switch open. The 100 ohm rheostat varies the amount of frequency swing. The 6.3vac terminals go to your scope's

sweep amplifier to provide a synchronized sinusoidal sweep. To blank the return trace and simultaneously brighten the center of the picture, where the spot moves fastest, C & R feed a phase-variable signal to your Z-axis input. A marker pip to show frequency on your sweep is formed by AM modulating the FM output of the circuit with any calibrated signal generator. The pip can be sharpened, if necessary, by shunting an 0.001 mfd across your scope's Y input, reducing the Y freq. response.

Wobbulator shpg wt is 3lbs. **\$1.98**
Cat. 209WR1. Only.....

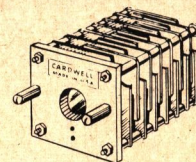
2 give 40-200pf shift: **\$3.79**
Cat. 480WR1X2, two for....

JOHNSON CERAMIC VARIABLE 5 - 74 PF, 1200 VOLT PEAK



Sig. Corps 3D9074V-2. Johnson No. 75J12, 5-74mmf, has 0.025" gap. Mounts on chassis. If bracket is removed, mounts behind panel. 1/4" shaft, screwdriver slot. New. **98¢**
Cat. 109VC6, a steal at only.

CARDWELL FIXED AIR GAP 80 PF ±10%, 3750 VOLTS RMS



Sig. Corps 3D9080-4. Cardwell No. 9702. 80 mmfd. 3000 volts dc test. 13 plates, 0.125" air gap. Steatite mtg plate with standoffs for chassis or panel mounting. New. **79¢**
Cat. 180VC4. Buy safety for.

ELECTROLYTIC BARGAINS GUARANTEED FRESH



MFD	DCV	diam.	height	Cat. No.	Price
10	475				
45	450	1.5"	3"	150CR34	49¢
100	50				
100&100	250				
60	150	1.5"	4"	160CR35	59¢
10	50				

MFD	DCV	diam.	height	Cat. No.	Price
200&150	200	1.5"	4"	150CR36	49¢
80&40	400	1.5"	4.25"	150CR37	49¢
40&40	25	1.25"	2"	120CR38	19¢
80&20	150	1.5"	2.25"	150CR39	49¢
200	10				

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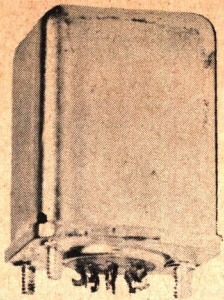
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RELAYS...RELAYS...RELAYS...

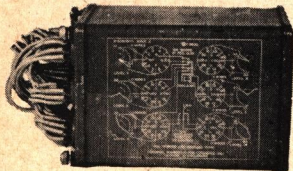


6 VDC TRIPS DPDT+DPST N.O.

Are YOU making mobile or marine equipment? Are you TIRED of paying BIG \$\$\$ for your relays? Then this is for YOU. Sealed can only 1.63" x 1.44" x 2.1" above chassis. 39 ohm coil. Schematic on the side. Shpg wt 1/2 lb. AN ARROW SPECIAL. Cat. 206RY29. Only..... **\$1.95**

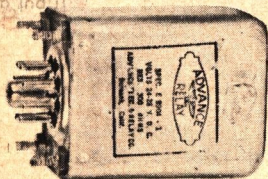
INDUSTRIAL USERS: write for still lower QUANTITY prices.

2-POLE, 33-STEP, IN HS CAN



A.E. Co's Z-18676-1. 24v dc coil. Schematic on side. On each firing, an SPST opens and closes and an SPDT is moved up and back. On each 33'd step, another SPDT is thrown. Removed from equipment. Shpg wt 4 lbs. Cat. 1006RY22. Only.... **\$9.95**

ADVANCE SEALED FOR 79¢

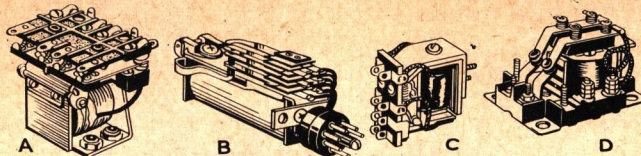


TT3D24-A3. SPDT, lug terminals. 200 ohms, rated 18/30v dc, works on 12v dc. Shpg wt 1 lb. Cat. 180RY24. Only..... **79¢**

E8904-1. DPDT, octal base. 24v dc 300 ohm coil. Shpg wt 1 lb. Cat. 180RY26. Only..... **79¢**

SQUEEZES INTO TIGHT SPOTS

Part #7251. SPDT. 300 ohms 24v dc only 1.2 oz, only 1.25" x 1" x .75". Shpg wt 1/2 lb. Cat. 180RY19. Only..... **79¢**



60 CY AC RELAYS

American DOX-86, Fig. A. 4PDT. 7.5 A contact rating seems ultra conservative. We estimate 15 A easy. Coil 57.5v, .15A rms, so use 2 in series on 115v, or 1 in series with a 10W resistor 390 or 400 ohms. Needs space 2.3" x 2.3" . 2.3" high. New. Shpg wt 1 lbs. Cat. 406RY41. Only.... **\$3.95**

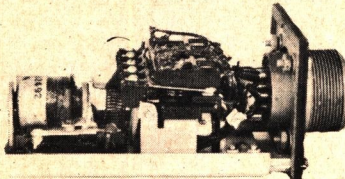
Clare octal plug-in. Fig. B. DPST N.C. plus SPST N.O. 4A contacts. Coil 115v, .14A rms. Needs space 2.2" x 1.8" . 4.5" high. New. Shpg wt 1 lb. Cat. 261RY40. Only..... **\$1.50**

N.O. means normally open.
N.C. means normally closed.

Allied BJX-72. Fig. C. DPDT. 5A contacts. Coil 115v, .055A rms. Needs space 1.7" x 1". 2" high. New. Shpg wt 1 lb. Cat. 1361RY42. Only.... **\$2.50**

Struthers-Dunn 1BXX107. Figure D. DPST, N.O. 6A contact rating seems conservative. We guess 10A easy. Coil 115v, .055A rms. Needs space 2.9" x 2". 2" high. New. Shpg wt 1 lb. Cat. 206RY43. Only..... **\$1.95**

HEAVY-DUTY LATCHER TRIPS WITH AC OR DC, 12 TO 220 V



Because each coil opens its circuit when it fires, current is momentary. The coil operates an SPST and a DPDT, each with 3/16" dia. flat silyer contacts. Westinghouse H-1 Exciter Control, pictured above out of its aluminum box. Shpg wt 3 lbs. Cat. 1206RY15. Another great buy at..... **\$1.95**

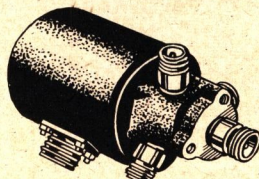
TRIP THIS COAX LATCHER WITH AC OR DC, 12 TO 220 V

Because when the upper coil fires, it closes an SPST and flips 4PDT, one contact of which cuts the coil and prepares the lower coil for its firing. So it makes no difference what you put into the coil because it is only momentary. 6A contact ratings. In aluminum box with 50 coax plugs. Have fun figuring circuit for sequence switching with a remote SPST, or selective switching with remote SPDT. Shpg wt 3 lbs. Cat. 206RY21. Only..... **\$1.95**

10 AMP DPDT

Allied BO6D35. Looks like Fig. A in the AC relay section here. We guess the contacts to be good for 15A easy. 18-28v dc coil, 240 ohms. New. Shpg wt 1 lb. Cat. 230RY44. Only..... **\$1.29**

VHF COAX RELAY CONNECTS CHOICE OF 3 LINES TO A 4TH

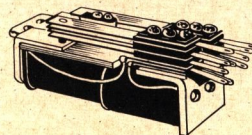


Gen. Commun. #3N120RC has 24v Ledex selector, control plug pins, and 4 type N constant-Z coax plugs to enable selection among 3 antennas (for example) to feed a receiver. In heavy sealed shield. New. Shpg wt 3 lbs. Super value. Cat. 806RY39. Only.... **\$7.95**

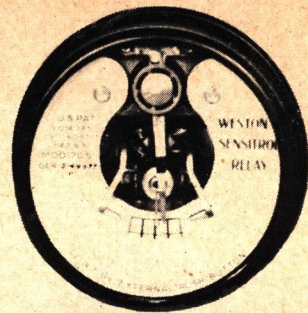
INDUSTRIAL RELAY USERS:

We have many more relays than we show here, and new lots arrive all the time. If you tell us your needs, could be we can SAVE YOU SOME FOLDING MONEY.

V OR I SENSITIVE 3PST N.O.



42120. Has two 1000 ohm coils. In parallel aiding, closes on 3.5v dc, 7ma; in series aiding, closes on 7v 3.5 ma. One coil alone takes 9v, 9 ma. 2 amp contacts. New. Shpg wt 1 lb. Cat. 230RY45. Only..... **\$1.29**

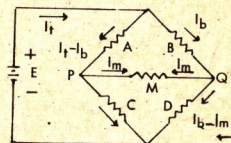


POLARITY-SENSING SPDT OPERATES ON ONLY:

0.0000064 WATTS.....
0.00040 AMPS.....
0.016 VOLTS.....

Weston 705 Type 6 Sensitrol is built like a 400-0-400 μ A dc galvanometer. Needle is the moving contact. The stationary contacts are two permanent-magnet forks which hold the needle firmly. Contacts are rated to carry 0.1A. To reset, 115 vac is applied momentarily to the reset coil. Meter resistance is 40 ohms. New. Shpg wt 2 lbs. NOTE THAT FACTORY PRICE IS \$96.00 EACH. PAY US ONLY: **\$7.95**

FREE ON REQUEST with this relay: Arrow's Bulletin WB1 on Wheatstone Bridge design for Control Circuits.



(M is the polarized relay)

$$I_m = E \frac{AD - BC}{M(A+C)(B+D) + AC(B+D) + BD(A+C)}$$

$$I_m = E \frac{BC - AD}{M(A+C)(B+D) + AC(B+D) + BD(A+C)}$$

$$I_b = E \frac{C(A+M) + A(D+M)}{M(A+C)(B+D) + AC(B+D) + BD(A+C)}$$

$$I_t = E \frac{M(A+B+C+D) + (A+B)(C+D)}{M(A+C)(B+D) + AC(B+D) + BD(A+C)}$$

$$I_t = E \frac{M(A+B+C+D) + (A+B)(C+D)}{M(A+C)(B+D) + AC(B+D) + BD(A+C)}$$

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$$I_t = E \frac{M(A+B+C+D) + (A+B)(C+D)}{M(A+C)(B+D) + AC(B+D) + BD(A+C)}$$

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$$I_t = E \frac{M(A+B+C+D) + (A+B)(C+D)}{M(A+C)(B+D) + AC(B+D) + BD(A+C)}$$

$$I_t = E \frac{M(A+B+C+D) + (A+B)(C+D)}{M(A+C)(B+D) + AC(B+D) + BD(A+C)}$$

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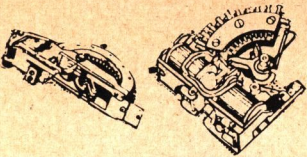
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2534-38 S. Michigan Ave., Chicago 16, Ill.

Phone CALumet 5-4750

AND MORE RELAYS

Switches... Circuit Breakers



STEPPING SWITCHES

When a dial telephone dial opens and closes a switch 9 times, for example, each switch closure steps up this rotary relay one contact so it ends up on the 9th. Operating voltage is 6 to 12 v DC. Removed from new equipment. Made either by Western Electric or Automatic Electric.

Cat. 1061SS1. One level, 10 steps and off, with extra coil to reset. Shpg wt 2 lbs..... **\$9.50**

Cat. 2161SS3. Same, except *3 levels.... **\$10.50**

Cat. 2486SS4. Five levels, 22 steps (5 pole 22 throw). Interrupter switch is an additional SPDT set of contacts which breaks contact A, makes contact B, and returns to A, doing all this once each time the main switch makes a step. No reset coil. Repeats the cycle. After last contact breaks, first contact makes again.

Shpg wt 3 lbs..... **\$13.75**

Cat. 2486SS5. Two levels, 44 steps. No reset coil. Repeats the cycle. Interrupter switch same as in the unit above.

Shpg wt 3 lbs..... **\$13.75**

*We also have the 3-level switch in 24 volts. Ask for Cat. 2261SS6.

Only..... **\$11.50**

TELEPHONE DIAL



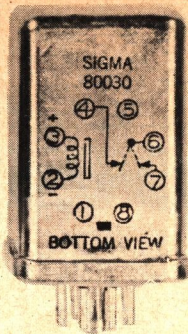
Standard West. Elect. Metropolitan (letters & numbers) telephone dial. Example of operation: Pull down on the 9 hole and let go; a switch opens and closes 9 times. Good used. Shpg wt 1 lb.

Cat. 206TD1..... **\$1.95**

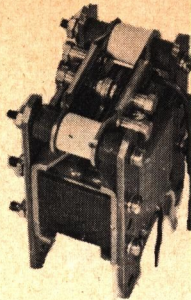
6 VDC CLOSES 20 AMP SPST

Auto-Lite HRM-4105 window-motor relay. 300 ma does it. Terrific for a dynamotor starter. Both contacts isolated from ground. New. Has dust cover. Shpg wt 1 lb.

Cat. 230RY32. Only..... **\$1.29**



Sigma 80030
in case showing schematic



Sigma 80030
opened showing relay

50 MICROAMPERE WONDER RELAY

Sigma 80030 is sealed octal plug-in, rated 900 uA sensitivity but actually 420-600 uA. However, if you remove the can, you find that contacts are screw-in adjustable and can be screwed up for stable, dependable 50 uA sensitivity which withstands normal vibration, or for 20 uA sensitivity if no vibration will be encountered. 5000 ohm coil, so voltage sensitivity is only 1/4 v and power sensitivity only 12 1/2 uW when the contacts are set for 50 uA. at 20 uA, change these figures to .1 v and 2 microwatts! Large contacts are rated for 2A at 28 vdc, will handle much more current at AC. This is a fast-acting polarized SPDT. Direction of current through coil determines which contact will make. Contacts hold by magnetic attraction, so coil need be energized only momentarily. Reversing coil polarity pulls the moving contact away from one of the station-

ary contacts and over to the other. However, if one of the contacts is screwed in and the other screwed out, the relay becomes a non-latching SPDT. The moving contact will make one of the stationary contacts only when coil current flows, and go back to the other contact as soon as current stops. Upon request with your purchase, we will furnish our own new tech. bulletin giving design equations for using polarized relays in Wheatstone Bridge control circuits.

This relay is brand new. It cost Uncle Sam \$11.36 in lots of 100,000.

Cat. 306RY14. Only..... **\$2.95**

INDUSTRIAL USERS: Write for still lower QUANTITY PRICES.

FREE ON REQUEST with this relay: Arrow's Bulletin WB1 on Wheatstone Bridge Design for Control Circuits.

MODEL-RAILROAD FANS: ROTARY RELAY'S POWERFUL MOTOR SWITCHES TRACKS, CHANGES BLOCK SIGNALS

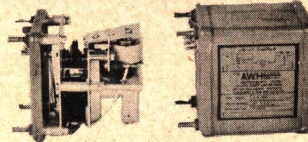


8-12vdc coil works against a spring to turn the wafer switch. One set of contacts switches to 3rd terminal on coil, holds rotor turned with lower current. Other contacts control the Model RR block signals. The shaft turns the track switch. Lots of other uses. Shpg wt 2 lbs.

Cat. 250RY6. Only..... **\$1.49**

Get four cheaper. Order Cat. 505RY6X4..... **\$4.95**

SEALED TIME-DELAY



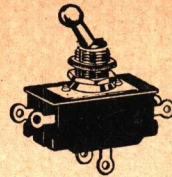
Hayden D6410. S.P., N.O. contacts rated 15A, 125v ac. The delay motor takes 8.7 minutes with 12v dc and 3.9 minutes with 27v dc. Shpg wt 3 lbs.

Cat. 506RY16. Only..... **\$4.95**

DELAY TUBE FOR TIME BOMB

SPST closes after 4 minutes of heating with 26v. At 6.3v, you'll have plenty of time to get elsewhere. 3A 450v dc or ac contacts. Looks like octal-base glass tube. New. Shpg wt 1/2 lb.

Cat. 150RY30. Only..... **49¢**

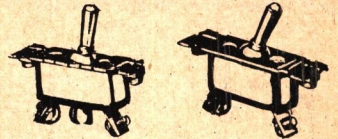


Double Pole....
Double Throw.
Center Off.
1-Hole Mount.
Toggle Stays At
Any 1 of the 3
Positions...

Brand New.
Cat. 180SX3. Only..... **79¢**

Get 4 cheaper. Order
Cat. 306SX3X4. Four for.. **2.95**

3-HOLE MOUNTING TOGGLES



These are aircraft-type switches. Standard rating is 5 A, 125 V AC or 3.5 A, 24 V DC. Bat handles unless otherwise specified.

SPST fixed in either position.
Cat. 1130SX5..... **29¢**

SPDT Fixed in all 3 positions
(center off)
Cat. 104SX14..... **39¢**

MODEL RAILROAD SPECIAL

SPDT Momentary in both end positions, toggle returning to center (off) position.

Cat. 1150SX8..... **49¢**

SP3T Bat handle moves to 3 corners of a triangle, with the center of the triangle as an off position. 4 terminals on the back.

Locks in 3 corners:
Cat. 1160SX9..... **59¢**

2 momentary, 1 locks:
Cat. 1160SX11.... **59¢**

CIRCUIT-BREAKER BARGAINS Toggle-Switch types



Toggle-switch circuit breakers are On-Off switches which automatically snap themselves off when too much current flows. They can be snapped on again after they cool off. They mount with 3 holes through your panel.

5-Amperes. Cat. 170SX7. **69¢**

25-Amp. AN3160-25. Ball handle.
Cat. 261SX20..... **\$1.50**

50-Amp. AN3160. Ball handle.
Cat. 261SX21..... **\$1.50**

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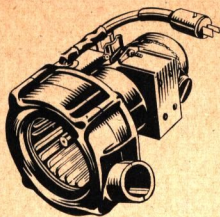
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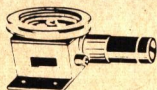
URNS...PUSHES...BLOWS...PUMPS...SENDS CODE...WARNS of PRESSURE

BLOWER WORKS ON 12 TO 115 VOLTS, AC OR DC



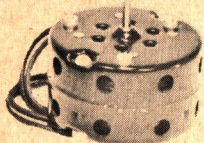
MX-215/APG. Uses a series-wound 28v motor and a No. 2 blower made by L-R Mfg. Co. (Torrington, Conn.) and includes a radio noise filter. It moves approx. 20 cubic ft/minute at 28v, but it **BLOWS LIKE ALL HADES** on 115 v, 60 cy intermittent duty. We have used it for years around the house to blow out heavy dirt. 7500 RPM at 28v, continuous duty, so you can imagine how fast it turns at 115 volts; but it is dynamically balanced so perfectly that you don't get a vibratory therapy treatment when you hold it. Brand new, made to strict Air Force specs. 5lbshpg. **\$4⁹⁵** Cat. 506MO12. A real buy at.

BEAM ROTATOR



RL-42. This is the one written up in the **Surplus Conversion Book No. 2**. It is the old favorite. Tremendous power in a small package, with bronze worm gear and hardened and ground steel worm, the kind of quality you would expect from Air Force specifications. Continuous rotation, reversible, with auxiliary power take-off connection to couple an indicator so you can read your bearing with a flexible shaft if you don't want to use a selsyn. Operates on 12 to 24 V DC or AC; no rectifiers necessary. Control speed by reducing voltage. Complete instruction sheet furnished with your order. Excellent condition. Shpg wt 8 lbs. Cat. 1306MO6. Only **\$2⁹⁵**

TAPE-RECORDER MOTOR

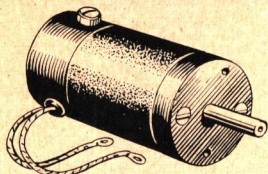


4-pole. 3 #8-32 bushings in top for shaft-up mounting. Permanently lubricated, quiet running. 3/16" shaft 5/8" long. Clockwise rotation looking at shaft end. New. Mfr's design change release. Shpg wt 3 lbs. **\$1⁹⁸** Cat. 209MO10. Only.....

SURPRISE SURPRISE SURPRISE SURPRISE SURPRISE

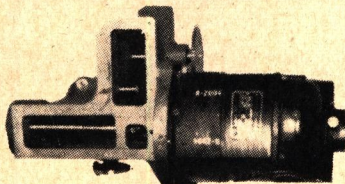
GRAB-BAG ASSORTMENT....25 LBS OF GOOD, USEABLE PARTS
We have many interesting and useful electronic parts and too little space to describe each item. **\$2⁹⁵**
So YOU save \$\$\$.. Satisfaction guaranteed..

\$2.95 BUYS A BALL-BEARING AC/DC MOTOR, 12/30 VOLTS



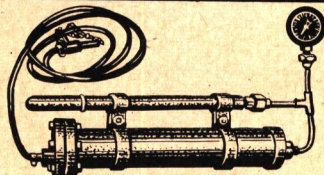
Univ. Electric's 27C7, made to Air Force specs. Totally enclosed series wound. 1-5/8" dia., 2-9/16" long. Turns CCW looking at shaft end, at 9500 RPM, approx. .01 HP, continuous blower duty. 1/4" shaft, 3/4" long. New. 2 lbs shpg. **\$2⁹⁵** Cat. 306MO11. Only.....

REVERSIBLE SLOW POWER



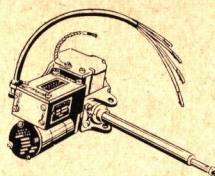
115/230 V, 60 cy, 1-Phase. Heavy-duty 1/4 HP Leland Type R ball-bearing, repulsion induction motor and gear-reduction unit. Two power take-offs are provided, one at a 4:1 ratio (431 1/4 RPM) and the other at a 25:1 ratio (69 RPM). The motor is 1725 RPM Cont. Duty; has both bearings; one end is faced off and flange mounted to the gear box. Overall dimensions are 22 1/2" x 11 1/2" x 10". Sperry Gyro charged the Signal Corps \$458.32 in the days when a buck still bought something. You get it brand new with a discount of 91%. Shpg wt 70 lbs. Cat. 4861MO9. Only. **\$37⁵⁰**

PUMP AIR THRU SILICA GEL



CPR-10198-A used to pressurize radar by hand with air which gets dry by passing thru 12"x2" cylinder full of silica gel, visible thru glass window; blue when dry, pink when wet, whereupon you bake it blue again. Has 0-30 lb gauge. New, with silica gel. Shpg wt 50 lbs. **\$12⁵⁰** Cat. 2361PP1. Only.....

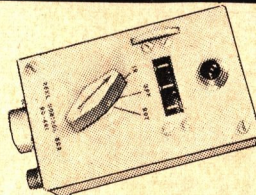
LINEAR ACTUATOR PUSHES A 125 LB LOAD 5 INCHES



COMMERCIAL BUYERS: Airesearch 30902-10. A super value for exact replacement. 115v, 400 cy motor is 1-5/8" diam., end mounted similar to Univ. Electric's 27C7 pictured on this page. Rated Load Lbs: Static, 200. Tension, 25-50. Compression, 100-125. Has radio noise filter and adjustable limit switch. Gear case requires no lubrication.

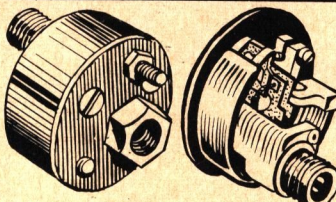
HOBBY BUYERS: The motor can be replaced, you know. Then you have a terrific reversible direction linear travel device. 4 lbs shpg. **\$4⁹⁵** Cat. 506LA1, brand new for..

HOW MANY TURNS?



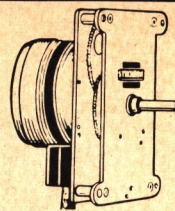
Read the answer on the 3-digit, resettable Veeder-Root counter you get in Reel Control Box BC-461 along with bronze miter gears, jewel pilot light assembly, motor-reversing switch, etc. 2 lbs shpg wt. **\$1⁷⁹** Cat. 280CB9, terrific buy at..

BOURDON TUBE OPENS SPST AT 10 TO 250 LBS, ADJUSTABLE



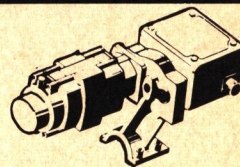
COULD SAVE YOUR LIFE by opening the contact when your air, oil, or water pressure exceeds the micrometer adjustment you made and locked. Standard tubing thread inlet to the bronze Bourdon. G.E.'s Cat. No. B70P1, Signal Assembly, Oxygen Pressure. 1 lb shpg. **98¢** Cat. 109PW1. Buy safety for.

SEEMS LIKE MOTHER EARTH TURNS THIS ONE...EXACTLY ONCE PER EACH 24 HOURS



115 V, 60 cy, synchronous hysteresis motor geared down to 1 Revolution Per Day exactly. A reset knob at the rear starts you off where you want to start. A slip clutch protects the mechanism. It slips at torques above 1 inch-pound. For example, it will lift a 1/2 lb weight at a 2" radius, etc., but a greater load, which might damage the gears, will slip the clutch instead. Overall size is 3 1/4"x3-1/32"x3-1/16" from the end of the shaft to the end of the reset knob. This is a sturdy machine, made for years of trouble-free, accurate and dependable service. Self-starting, of course. New. Not surplus. Just a terrific purchase on our part! Cat. 1606CL2. Shpg wt 2 lbs. Regular price is \$12.50. Our low price only **\$5⁹⁵**

GEARED MOTOR



STEAL THIS REVERSIBLE GEARED MOTOR

SERIES-WOUND AC-DC
Very powerful! Gear train? The Air-Forces didn't try to save us taxpayers any money. The best! 24V AC or DC, 7.6 amps at full load. Vary the output speed by reducing voltage. Excellent for winches, garage doors and cattle-gate openers, etc. Has limit travel switches and micro-reversing switches which you can modify at will. Good used condition. Shpg wt 7 lbs. Cat. 206M05. Only **\$1⁹⁵**

And if you buy two of them you save money. Order **\$3⁰⁰** Cat. 411M05X2. Two for

Dah-Dit-Dah Dit Dah-Dit-Dah-Dah



Telegraph key with adjustable tension spring, adjustable motion, easy action pivots on phenolic base with binding-post terminals and mtg holes. New. Shpg wt 2 lbs. **98¢** Cat. 109KY3. Terrific buy at

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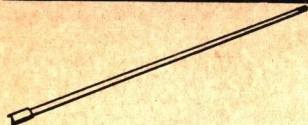
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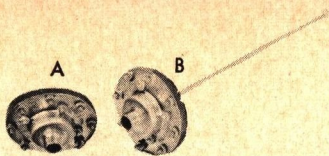
ANTENNAS...COAXIAL CABLE...COAXIAL PLUGS

**MAST SECTIONS MS-53
SCREW INTO EACH OTHER**



Finally available again! Long time no see! This is the extremely strong special steel alloy tube 1/2" OD, 38 1/4" long with threaded brass male and female ends plus 1 1/2" long brass telescoping section to add strength when several are screwed together; each is electrically 1 meter long. Sturdy but with sway give. Screw as many as you like together. Brand new. Minimum order is five, and you get a real bargain. Many uses besides antenna use. Shpg wt for five is 2 lbs.
Cat. 1206RA6X5. Five for **1.95**

**50 MC TO 1000 MC
GROUND-PLANE MOUNT**

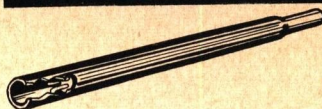


A. Gasket-mount and feed thru surface, connect coax PL-259, screw any length rod into threaded top. New. Shpg wt 1 lb.
Cat. 160RA9B. Only..... **59¢**

Get 2 cheaper. Order: **98¢**
Cat. 109RA9BX2. Two for.

B. As above, but with 11.75" ball-top spike. Shpg wt 2 lbs.
Cat. 230RA12. Only..... **1.29**

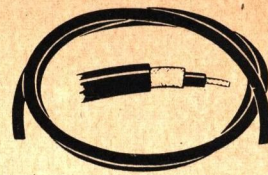
**ERECT A MAST AS HIGH AS
YOU LIKE BY TELESCOPING
THESE STRONG SECTIONS**



Extremely strong, weather-proofed aluminum alloy, 1-5/8" OD, 5/32" wall. 3ft long, with last 6" smaller diam., to telescope snugly into the next section. 4-prong spring in the female end makes positive electrical contact. Snap as many as you like together. Cost \$5.05 each, so you know the quality you are getting. New. Shpg wt 2 lbs.
Cat. 190RA11. A steal at... **89¢**

Cat. 1006RA11X16, is SIXTEEN of these sturdy sections. **\$9.95**
A 48 ft mast for only.....

**BARGAIN BUYS IN RG-8/U
52 OHM COAX CORD & PLUGS**



18 ft cut length of the old favorite, RG-8/U. Less plugs. Shpg wt 4 lbs.
Cat. 230CC9.

Per length, only..... **1/29**

PL-259, male plug for coax.
Cat. 211PG5X5, five for.... **1.00**

M-359, right-angle adapter.
Cat. 211PG7X5, five for.... **1.00**

SO-239, the chassis socket; it mates with PL-259 and M-359.
Cat. 211PG6X5, five for.... **1.00**

RHEOSTATS...illuminated ITEMS...illuminating BOOKS

**BARGAIN RHEOSTATS
CONTROL BRIGHTNESS OF
LAMPS, AND SPEED OF SERIES
MOTORS FOR BLOWERS AND
MODEL RAILROADS**



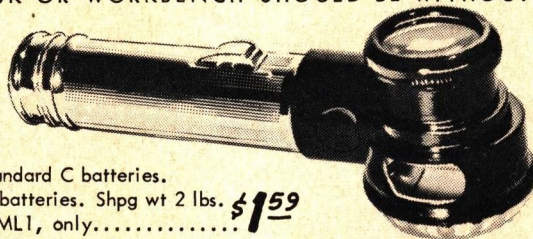
75 watt rheostat, 50 ohms, 1.22 amperes at any setting. 2.75" dia. ceramic wire-wound, heavy duty, with flatted 1/4" shaft 7/16" long. New. Shpg wt 1 lb.
Cat. 209RH1. Only..... **1.98**

Buy three cheaper. Order: **5.50**
Cat. 661RH1X3. Three for.

TWO RHEOSTATS IN TANDEM

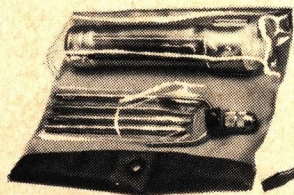
Both turned by 1 flatted shaft, 1/4" x 1/2" long, mtd in an air-flow perforated steel cylinder 6" lg, 3.75" in diam. 4-post term. bd. at end provides isolated connections. One is Ohmite Model K, 50 ohms, 100 W, tapered winding, list price \$12.05. The other is Model J, 100 ohms, 50 watts, list \$7.70. New. Shpg wt 2 lbs. Get a \$19.75 list value. **1.95**
Cat. 206RH5, you pay only.

ZACHARIAS JANSSEN, HOLLAND, 1590, INVENTED THE MICROSCOPE. HERE IS THE FIRST MAJOR BREAK-THROUGH SINCE THEN...OUR 7X ILLUMINATED MAGNIFIER...WITH CALIBRATED MEASURING FIELD...NO DESK OR WORKBENCH SHOULD BE WITHOUT ONE



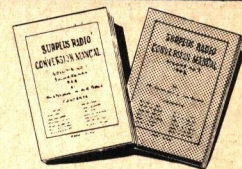
Uses 2 standard C batteries.
Sold less batteries. Shpg wt 2 lbs. **1.59**
Cat. 260ML1, only.....

**WHY FUMBLE IN THE DARK? LIGHT THE SPOT
WITH THIS ILLUMINATED SCREWDRIVER SET:
SMALL AND MEDIUM BLADES, SMALL AND MEDIUM
PHILLIPS-HEADS, AND FLASHLIGHT HANDLE**



Uses 2 standard C batteries. Less batteries. Shpg wt 2 lbs. **1.69**
Cat. 270SD1, only....

**SURPLUS RADIO CONVERSION
MANUALS SAVE MANY HOURS**



Edtrs & Engrs' 115-plus page books, bound with big pull-out schematics: Vol.1: BC-221, -342, -312, -348, -412, -645, -946, -1068/1171, and Command rcvrs & xmtrs, SCR-522, TBY, PE-103, alphab. list of large number of surplus items with descriptions, cross-index of VT & tube Nos., and charts of amateur, FM, TV, etc. frequencies. **2.50**
Cat. 361BK1, all for only...

Vol.2: More on Command-set units, APS-13, ART-13, ARB, BC-357, -375, GO-9/TBW, TA-12, AVT112, AM26, LM-14 series, coil charts, power requirements for surplus, beam rotators, etc., etc. **2.50**
Cat. 361BK2, a lot for only..

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If you are of legal age in your State you may BUY ANYTHING IN THIS CATALOG...or any other Electronic merchandise we have OR CAN GET FOR YOU...on our Easy Payment Plan. Here's how:

1) Make out your order for all the new merchandise you want, and if Sales Tax is applicable, add it to this total.

2) Make out your order for all the used merchandise you want, and if Sales Tax is applicable, add it to this total.

3) If the merchandise is for your personal use and pleasure...and not for business...tell us so with your order and send us as down payment 10% of the total for the new merchandise...and 25% of

the used merchandise total.

4) If the merchandise is for use in business, as, for example, Marine Radio for your commercial fishing boat, tell us so when you order and send 25% of both new and used merchandise totals with your order.

5) If we are to use Parcel Post, add

postage and insurance (see over).

That's it. We will fill out and send you for your signature the standard-form conditional sales agreement with 1%/month added to the unpaid balance.

Example: Balance of \$100.00 for 1 year. Contract is \$112.00 in 12 payments of \$9.33.

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Your Bargain Packed Catalog No. 117

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ARE LOADED WITH "GOODIES" IN QUANTITIES TOO SMALL TO MERIT DISPLAY IN THIS CATALOG. GET INTO ONE OF THESE STORES FAST- SNAP THEM UP WHILE THEY LAST!

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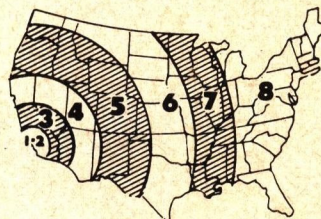
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or FPO orders must be accompanied by remittance in full including all shipping charges.

California customers should add 4% sales tax and Illinois customers 3%.

Parcel Post limit is 20 lbs. Above that, we will ship collect for charges by Express or Freight (truck or rail) with no added fees.

All items are offered subject to prior sale; all prices are subject to change without notice.

Pds.	Local	1 and 2 zones	3 zone	4 zone	5 zone	6 zone	7 zone	8 zone
1..	\$0.18	\$0.23	\$0.23	\$0.24	\$0.26	\$0.28	\$0.30	\$0.32
2..	.20	.27	.29	.31	.36	.40	.46	.51
3..	.21	.31	.34	.38	.45	.52	.61	.69
4..	.23	.35	.39	.45	.54	.64	.76	.87
5..	.24	.39	.44	.52	.63	.76	.91	1.05
6..	.26	.43	.49	.59	.73	.88	1.06	1.23
7..	.27	.47	.54	.66	.82	1.00	1.22	1.41
8..	.29	.51	.60	.73	.91	1.12	1.37	1.59
9..	.30	.55	.65	.80	1.00	1.24	1.52	1.77
10..	.32	.59	.70	.87	1.10	1.36	1.67	1.95
11..	.33	.63	.75	.93	1.19	1.48	1.82	2.13
12..	.34	.67	.80	1.00	1.28	1.60	1.98	2.31
13..	.36	.71	.85	1.07	1.37	1.72	2.13	2.49
14..	.37	.75	.90	1.14	1.47	1.84	2.28	2.67
15..	.39	.79	.96	1.21	1.56	1.96	2.43	2.85
16..	.40	.83	1.01	1.28	1.65	2.08	2.58	3.03
17..	.42	.87	1.06	1.35	1.74	2.20	2.74	3.21
18..	.43	.91	1.11	1.42	1.84	2.32	2.89	3.39
19..	.45	.95	1.16	1.49	1.93	2.44	3.04	3.57
20..	.46	.99	1.21	1.56	2.02	2.56	3.19	3.75

PARCEL POST INSURANCE RATES

VALUE \$.01- 10.00.....	10¢
	\$ 10.01- 25.00.....	15¢
	\$ 25.01- 50.00.....	20¢
	\$ 50.01-100.00.....	30¢
	\$100.01-200.00.....	35¢

MAILING-LIST MEMO

If this catalog had to be forwarded to you because you moved, PLEASE send us your name and old and new addresses. THANKS.



ARROW SALES INC.
ELECTRONIC DISTRIBUTORS

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ARROWSALES

Telegraph Address:
WUX,
NO. HOLLYWOOD, CALIF.

Telephones:
POplar 5-1810
STanley 7-0406