





WHOLESALE - RETAIL STORE

2251 WEST WASHINGTON BLVD.

LOS ANGELES 18, CALIFORNIA · REpublic 1-2206

OPEN MON. & FRI, TILL 9:00 P.M. - SAT. 9 TO 5:30

and WHOLESALE WAREHOUSE 4900 LANKERSHIM BLVD. NORTH HOLLYWOOD, CALIFORNIA • STanley 7-2113 – POplar 6-8668 OPEN 9 TO 9 WEEKDAYS – SAT. 9 TO 6



STEREO AMPLIFIER



	PECIFICATIONS
Circuits:	2—EC182's self biased, pentode con- nected in push-pull per channel. (4 total).
Output Level:	12 watts at less than 1% harmonic distortion (1000 c.p.s.), 2% 1M (60/6000 c.p.s. per chanlel).
Peak Power Output:	15 watts per channel, 30 watts com- bined.
Output Impedance:	4, 8 and 16 ohms. per channel.
Frequency Response:	± 0.5 db 20 - 30,000 c.p.s. at 1 watt.
Hum:	Minimum volume: 80 db below 12 watts. Tuner and Aux. (Hi-Level): 70 db below 12 watts (0.5 v. input reference). Phono (RIAA Position): 60 db below 12 watts (6 mv input reference). Tape Input: 55 db below 12 watts (1 mv. input reference).
Cross Talk:	Better than 50 db.
Tone Control Range:	<u>+</u> 12 db at 10,000 c.p.s.
Input Levels:	Aux and Tuner (Hi-Level) 200 millivolts, 500 Kohms, flat response. Phono (Mag): 3 mv at 1 KC. Will not overload with input level below 180 mv. Tape: 1 mv at 1,000 c.p.s.

tone controls. Low hum level. 5 inputs plus 2 a.c. outlets.

Z—ECL82 (6BM8) Self biased pentode connected in push-pull Triode Section of ECL825 (6BM8) used as phase converter and voltage amplifier. 6AU6 used as voltage amplifier EZ81 (6CA4) full wave rectifier

Phono (Crystal) Individual switching from

With 500 Kohm input Resistance 200mV Input for maximum Output

Calrad AP-15 Amplifier

Calrad SA-30 Stereo Amplifier

A two channel 15 watt, monaural 30 watt stereo amplifier designed to perfection in audio amplification. Professional in performance and appearance and dedicated to the most critical listener demanding the finest regardless of cost. The specifications of this amplifier make it one of the finest products in the audio trade. Never before has so many features appeared in any one amplier.



Tape Output Level: volt from each channel, unmodified by volume controls. Record Equalization: RIAA NARTB Tape Equalization: (Total 8) 1–GZ34, 4–ECL82, 3–ECC83/12AX7. Tube Complement: 141/8" x 41/2" x 111/8" Dimensions: Weight: 21 lbs Power Consumption: 100 watts. \$ 6



Specification of 15Watt Hi Fi Amplifier Maximum 15W 9W Output at less than 1% harmonic distortion (1000 cps) Frequency Response: 20 to 30,000 cps +0, -1 db Output Impedance: 4, 8 and 16 ohms

> -65 db or less 117V 50/60 cycles Width, 12"; Height, 41/2"; Depth, 6" 101/4 lbs



Circuit

Input Terminals:

Tape Tuner

Aux1

Aux2

front pane

P.R.E. Pre-Amplifier A self-powered low cost pre-ampli-fier to be used with low-level mag-

netic cartridge or microphone. Com-pletely shielded, uses 6SC7 double triode. Can also be used with tape play back head or any standard amplifier. $3\frac{1}{3} \times 3\frac{5}{8} \times 3-11/16$. (Less Tube) Cat. No. PRE

Output:

S/N Ratio:

Dimension:

Net Weight:

Power Supply:



SPECIFICATIONS

50

SPECIFICATIONS
Overall Dimensions: 3½" x 3½" x 3:11/16" high.
Weight: 1½ pounds.
Power Rating: 105-123 volts AC 50-60 cycles, 4 watts at 117 volts.
The State S

4-SPEED PROFESSIONAL TURNTABLE







4 pole shaded induction motor with magnetic braking, assuring extreme accuracy of the fine speed control.

Calrad 4 Speed Motor & Turntable Model CRM-4

One of the finest high-quality low cost turntables available offer-ing quiet rotation. Precision built, each unit is tested for speeds under normal operating conditions. Four speeds 16%, 33½, 45, 78 RPM with heavy well balanced, 10-inch aluminum turntable including a beige rubber ribbed mat.

Speeds are selected by a single large knob with off position. To eliminate drive wheel pressure. A fine speed control gives \pm 10% variation. Overall hum shield assures best performance with all types of magnetic cartridges.

Supplied complete with instructions, mounting template and aluminum stroboscope.

SPECIFICATIONS:

Voltage: Power Speeds Fine Speed Control: Wow: Rumble: Turn Table: Size: Weight:

AC 117V 60 c/s 12.7VA 4-pole shaded induction motor 1635, 3335, 45, 78 RPM \pm 10% Below 0.3% Below 45 db 10 inches, 2.42 lbs. Mounting plate 7" wide x 7%" deep Mounting depth below plate to bottom of motor $3\frac{1}{2}$ " 7.00 lbs.



EPHENS · SCOTT · BOGEN WRITE FOR COLUMBIAS LOW PRICES ON ITEMS NOT LIS



WOOFER 120W

NOW — TRUE PISTON ACTION!

An engineering achievement in high fidelity reproduction! Free-cone suspension means the speaker cone is mounted flexibly with a special plastic-impregnated compliance. Result: the speaker cone moves as a true piston...the cone has free excursion, eliminating distortion, giving a maximum bass response and better transient response. Here is clarity and definition of instruments and voices unsurpassed!

NEW TOROID

NEW TOROID TWEETER 5-KT

NEW TOROID TWEETER 5-KT New Toroid design adds ortares to your out of the voice coli, discateres to your out of the voice coli, dispersing highs through a full 10° angle! The 5KT is a high-efficiency, low-distortion tweeter suitable for use above 5000 cps-in a two-way or three-way system. Toroid dia-phragm-minimum moving mass-1%" voice coil of edge-wound aluminum-solid horn structure. Complete with 5000 cps high-pass filter and adjustable brillinger control network. Frequency - 1-C, 12 divocture, 5000 cps. Mounting thange: 4" diameter. Mounting flange: 4"





80 FR Big-speaker response designed into a rugged, compact unit. This full-range model establishes a new standard for clar-ity, power-handling capacity, presence and lack of distortion in an eight-inch speaker. An exclusive internal-air damping system provides a controlled cushioning to eliminate break-up at extremely high levels.

Impedance: 16 ohms (8 ohms optional). Frequency response: 40-15,000 cycles per second. Free air resonance: 50 cycles per second. Power rating: 25 watts porgram; 50 watts peak. Voice coil: 2" diameter, edge-wound aluminum ribbon. Magnet struc-ture: 4 lbs. Shipping wt. 6½ lbs.

120 FR Freedom from distortion...excellent transient re-sponse...smooth musical balance! The 120FR is an extended frequency range speaker that combines all of these performance qualities in a 12-inch model-performance qualities usually associated with only the finest coaxial speakers.

Impedance: 16 ohms (8 ohms optional). Frequency response: 30-15,000 cycles per second. Free air resonance: 40 cycles per second. Power rating: 30 watts program; 60 watt peaks. Voice coil: 2½" diameter, edge-wound aluminum ribbon. Magnet structure: 91/2 lbs. Shipping wt. 15 lbs. 5 П







RECOMMENDED FOR STEREO

For the ultimate in stereo performance, complete ease and convenience of placement, plus a cost savings to you, we recommend the use of a single high quality, full-range Trusonic FREE CONE loudspeaker with a good bass response in conjunction with our STEREODOT* system. This will provide you with an unparalleled true three channel stereo sound.



WOOFER 120W A 12° woofer with extremely low free air reso-nance (30 cps) for clean bass reproduction. Using TRUSONC free-cone construction, the cone and voice coil mass is key. That any the second second second the voice coil is edge-wound aluminum. The low mass of the moving structure permits flat distortion-free operation to beyond 5000 cps, making this unit suitable for use with the 5KT tweeter in a compact 2-way system – as well as in more conventional systems using lower ed by Trunomic free-cone loudspeakers! Free air reso-rance: 30 cps. Voice coil diameter: 24°. Fre-quency tesponse: 30-5000 cps. Power rating, prak-Magnet Structure: 9% lbs. Shipping vt. 15 lbs.

WOOFER 150W A 15 worder of only 20 cps free air resonance. designed for use with crossover frequencies below 2500 cps. The low free air resonance is obtained without "weighting" the cone and voice coil, resulting in a low mass but stiff cone of full body and low density. Superb transients and a mini-mum of spurious response. The darity of tone is characteristic of the TUSONIC free cone speak-ers. Fra air resonance: onse: 20.3500 cps. Power rating: program. 35 watts: 70 watt peaks. Mag-net structure: 15 lbs. Shipping wt. 25 lbs.

\$60.00

BOCEN

DB-114 MONAURAL



Compact high fidelity amplifier with full 14 watts power output at less than 0.5% distortion. For use with tuner, record player, tape recorder, etc. Peak power 34 wotts. MODEL DB-114. Net..... \$ 69.50

AEG Cover and Legs..... 6.00

FM-AM TUNER



Radiation-proof FM-AM tuner incorporating highly sensitive and selective circuits.

MODEL T-661. Net\$ 129.50 AEG Cover and Legs..... 6.00





Stereophonic dual amplifier-preamplifier. Stereophonic dual amplifier-preamplifier. With this single unit you can precisely control all stereo sources, Discs, Tapes, AM-FM broadcasts. Dual 12-watt out-puts for stereo (24 watts monaural) with life-like reproduction. Peak power 48 watts.

MODEL DB-212. Net\$ 115.00 BEG Cover and Legs..... 7.50

NEW FM51 BASIC FM TUNER

Exceptionally fine basic FM tuner. Has automatic frequency control to "lock in" stations, and temperature compensated os-cillator to prevent drifting.

NEW AM91 BASIC AM TUNER

Has 3 tuned RF circuits; built-in antenna; 10-kc filter; etc. 4 tubes plus rectifier and tuning eye. Size, 4½x12x12/4". Less cage; takes AEG type listed at right. For opera-tion from 110-120 volts, 50-60 cycle AC.

STEREO CONTROL

Size: 7x51/4x51/2"D.



C07

Permits instantaneous conversion of monaural systems to stereo. Simultane-ous control over two separate ampli-fiers from a central point.

MODEL 135. Less Cover. Net....\$ 24.95 MODEL "E" Metal Cover 4.95 MODEL "EW" Wood Cover..... 11.95

40-WATT STEREO



STEREO AMPLIFIER. 40 watt complete stereo amplifier with dual pre-amplifiers and dual 20 watt power sections.

Mahog., Walnut or Blonde)..... 19.95





Complete, compact 22 watt amplifier including preamplifier controls and power amplifier, 44 watts peak.

AM-FM TUNER



AM-FM TUNER. Matches all Scott ampli-fiers. FM wide-band circuitry features freedom from noise, drift and distortion. Mahog., Walnut or Blonde)..... 19.95





SPEAKERS For Every Purpose

Model CR-12X Coaxial 2 Way High **Fidelity 12-inch Speaker** PECIA



MODEL CR-12X has a self-contained electronic crossover network consisting of coil and condenser built into speaker housing.

CR-12X is a high quality 2-way speaker, consisting of 12-inches woofer, 21/2 inches superior cone tweeter, matching in power and efficiency with electrical crossover. Thanks to its finest transient and directional characteristic efficiency, combined with its high frequency uncertonal characteristic enciency, combined with its high frequency response of 30-16,000 cps, perfect sound reproduction is positively ensured for both home and other professional uses by connecting this speaker to the out-put terminal of the amplifier. This unit will handle a capacity of 25 watts, and sensitivity of 102 dB/W, lowest resonant frequency of 40 ± 10 cps.

resonant frequency of 40 ± 10 cps. Electrical crossover of the network is 3,500 cps. Woofer's flux density is 10,700 gauss and tweeter's; 12,000 gauss. Total flux of this woofer is 157,000 maxwell. Diameter is 12 inches. Voice coil impedance is 8 or 16 ohms. Weight 12 lbs. Clean and crisp response to the lowest frequencies and excellent damping are inherent in this speaker system. Ideal for the home

hi-fi system and equally suited for commercial monitoring of record-ing or component testing. Designed to handle 25 watts of power this speaker will compare in performance with speakers costing much more.

PMB-4 4-inch PM in **Wood Cabinet Baffle**

This beautifully finished 2-tone natural wood cabinet houses a full 4-inch speaker with heavy Ticonal 7 magnet. Sloping front baffle with back enclosed makes it ideal for wall mounting. This extension speaker and baffle unit is complete with wired jack and plug for quick connection. Extremely well suited for intercom and similar applications. 3.2 ohm voice coil





PMB-2.5 Miniature **Speaker and Baffle**

A 21/2" PM Speaker mounted in a fully enclosed baffle—back cover closes solidly with 4 screws. Made of plastic, the baffle is Maroon in color and is designed to in-crease the usefulness of the speaker, to protect it, and to lend beauty to any application. Perfect for extension speaker use. The speaker is 21/2'' square and has a 3.2 ohm voice coil. Baffle size is only 3"x23%". Equipped with plug and jack



CT-1 Tweeter 27/8" diameter x 2" depth. True hi-fidelity reproduction of the upper audio range, at a very moderate price. This tweeter handles 10 watts of power and has a response range of 3,000 - 16,000 cps. Heavy screen protects speaker cone, and back is entirely en-



closed. Attractive Satin Gold finish. Comes equipped with rigid mounting bracket and connecting cord attached. Specify 8 or 16 ohm impedance, and use with crossover network CN-2 or similar. Weight 1 lb.

3-Way Extended Range Speaker

Cal-rad's famous line of High Fidelity speakers bring Our speakers you concert hall music reproduction. are of the finest high quality, high fidelity units produced. The two 3-way extended range speakers con-sist of a mechanical 2-way cone (both boss and midrange frequency) having excellent cone structure and large requery inaving excentre cone structure and unique design using the drip-dry method of cone treatment. This permits the cone fibres to contract loosely allowing full passage of sound with excellent conversion features. The tweeter is the horn driver type with heavy duty magnet. Being contained in one unit, installation is simple, also producing real High Fidelity without feeling any change of sound source on the overall frequency range.

These speakers include an L/C network and brilliance control which permits perfect sound reproduction for both home and other professional uses—by adjust-ing the brilliance control to suit any acoustic condition of your own room or listener. Speakers are housed in heavy cast frames.

SPECIFICATIONS

Frequency Response: 25 - 16,000 cps Resonant Frequency: 30 - 40 c/s Voice Coil Impedance: 16 ohms Maximum Power: 30 watts Sensitivity: 105 db/w Mechanical Crossover: 500 cps Electrical Crossover: 3500 cps (6 db/oct)

Woofer Flux Density: 10,700 Tweeter Density: 13,000 Woofer Total Flux: 300,000 maxwells Tweeter Total Flux: 30,600 maxwells Diameter of Frame: 16.9 inches Depth: 7.6 inches Weight: 18.5 lbs.

Model 15TX1 3-way **15-inch Extended Range** 15-incn Extension



569<u>95</u>

Model 12TX1 3-way **12-inch Extended Range** Loudspeaker System \$53 95

SPECIFICATIONS Frequency Response: 30 - 16,000 cps

Resonant Frequency: 35 - 45 cps Voice Coil Impedance: 16 ohms Maximum Power: 25 watts Sensitivity: 102 db/w Mechanical Crossover: 500 cps Electrical Crossover: 3,000 cps Woofer Flux Density: 10,300 gauss Tweeter Density: 13,000 gauss Woofer Total Flux: 157,000 maxwell Tweeter Total Flux: 30,000 maxwell Diameter of Frame: 14 inches Depth: 71/2 inches Weight: 13 lbs.

Model CR-8X Coaxial, 2-way **High Fidelity 8-inch Loudspeaker**

Woofer flux density is 10,000 gauss and that of the tweeter 10,000 gauss. Total flux of the woofer is 53,000 maxwell.

Diameter 81/6 inch, Depth 41/32 inch, Baffle opening 7 inch, Voice coil impedance 8 or 16 ohm, Weight 3.5 lbs.

A superior 8-inch coaxial speaker unequalled in performance by more costly speakers. Excellent low range characteristics with an axial mounted 21/2 inch heavy magnet cone tweeter. The woofer has a frequency response of 40-4,000 cps, and the cone tweeter covers from the electronic cross-over of 4,000 cps to 16,000 cps through the network. Excellent for use in hi-fi systems or commercial installations due to its moderate cost. This speaker has a sensitivity of 102 dB/W and will handle 10 watts with a frequency response of 40-16,000 cps and the lowest resonant frequency of 60±10 cps equalling many 12-inch speakers in its faithful performance.



\$**|4** 95

COLUMBIA ELECTRONIC SALES MAIL ORDER DEPT. SAN FERNANDO VALLEY RETAIL STORE WHOLESALE - RETAIL STORE 2251 WEST WASHINGTON BLVD. and WHOLESALE WAREHOUSE 4900 LANKERSHIM BLVD. NORTH HOLLYWOOD, CALIFORNIA • STanley 7-2113 - POplar 6-8668 LOS ANGELES 18, CALIFORNIA · REpublic 1-2206 OPEN 9 TO 9 WEEKDAYS - SAT. 9 TO 6 OPEN MON. & FRI. TILL 9:00 P.M. - SAT. 9 TO 5:30

ARE REASONS FOR OUR LARGE SPEAKER SALES VICE



Туре	Size	Voice Coil	Fundamental Resonance	Voice Coil Impedance	Magnet Strength	Handling Power Capacity	All
780	8"	La	80 cycles	8 ohms	12000 Gauss	15 Watts	Mounting
7100	IÓ''	1 ⁰	65 cycles	8 ohms	12000 Gauss	20 Watts	to R. M. A.
7120	12"	. 1"	60 cycles	8 ohms	12000 Gauss	25 Watts	Standards



Description : This speaker embodies 2 reproducing cones mounted coaxially with power coming from the same voice coil. The CR-12A brings you the finest in concert hall music reproduction. With a power rating of 20 watts, this unique speaker performs beyond expectation while retaining its capacity to carry the above normal load requirements without distortion. Specification :

This 12 inch loudspeaker has a frequency response of 30 to 13,000 cps, lowest resonance 50 ± 10 cps, capacity 20 watts, peak at 40 watts



20 watts maximum power. This tweeter gives excel-lent tonal purity with smooth response from 1,700 to 16,000 cps. Sen-

sitivity is 102 db/w. With a crossover frequency of 3,800 cps the CT3 provides clean and crisp tone quality from the mid-range frequencies through to the highs. Performs exceptionally well in either a 2-way or 3-way system. Cut-off frequency-1,500 cps. 2-way or 5-way system. cut-or requency—1,000 cps. Voice coil is aluminum wire wound; impedance: 8 or 16 ohms. Flux density is 13,500 gauss, and total flux is 32,500 maxwell. $434'' \times 2''$ horn, 434''' depth. Fin-ished in stain gold and gray, chrome trim. Weight— 3 lbs.

and a sensitivity of 102 dB/w. Impedance is 8 and 16 ohms with mechanical crossover at 1,800 cps. Total flux is 85,000 maxwell. Diameter 12-1/4", Depth 3-1/2", Baffle opening 11": the CR-12A mounts with four 1/4" holes equally spaced on a 11-1/2" circle. Weight is



REFLEX TRUMPET SPEAKER

8"-



Horn Opening: 5" x 8" Overall Length: 8 inches Net Weight: Approx. 3 lbs.

-10" and 12" Models-

Magnet Systems of

all with Alcomax III Aniso-

12,000 Gauss Flux Densities.

 SPECIFICATIONS
 Power Rating: 12 Watt Voice Coil Impedance: 8 ohm Frequence Range: 340 - 7,000 cps.
 Horn Opening: 5" x 8" Overall Length: 8 inches Net Weight: Approx. 3 lbs Frequence Range: 340 - 7,000 cps.

 The Model DH12 Trumpet Horn Speaker is a combination type Trumpet Horn Speaker with the Driver Unit enclosed within the Horn. Complete Waterproofing and Rustproofing with Shockproof construction has made this speaker a rugged Trumpet Speaker for rough use. Its lightweight aluminum construction and small size give versatility in use.

The diaphragm constructed with a special resinification process has made it possible to withstand up to 50% power input overload.

Constructed for wide angle coverage with ability to produce crisp, sharp and effective music or speech in areas where high noise level might be encountered. Complete with swivel mounting bracket furnished in grey Hammertone finish, and con-necting cord. Cat. No. DH-12

PS-10 "Whisper" **Pillow Speaker**



Inaudible except to the user. Low impedance type employing Bone Conduction principle; gives amazing tone fidelity in by-passing the ear, transmitting the sound to the "inner ear" by direct contact. Is not tiring to the user. Connects to voice coil side of output transformer. Supplied with complete instructions for connection and user

COLUMBIA ELECTRONIC SALES MAIL ORDER DEPT. SAN FERNANDO VALLEY RETAIL STORE WHOLESALE - RETAIL STORE and WHOLESALE WAREHOUSE 4900 LANKERSHIM BLVD. NORTH HOLLYWOOD, CALIFORNIA • STanley 7-2113 - POplar 6-8668 2251 WEST WASHINGTON BLVD. LOS ANGELES 18, CALIFORNIA · REpublic 1-2206 OPEN MON. & FRI. TILL 9:00 P.M. - SAT. 9 TO 5:30 OPEN 9 TO 9 WEEKDAYS - SAT. 9 TO 6



A Wall feed through for 300 ohm wire. Adjustable for any wall. Waterprooffed. Complete with wall plate. 95¢ ea.

B. Trol-Aid for cleaning volume cont-rols etc. Complete with wall hanger and long reach nozzle \$1.98 ea. smaller caddy size 98¢ ea.

C. Tune-O-Lube. Same as above except for cleaning tuners, switches etc. Large size complete. \$1.98 smaller caddy size 98¢

D. TV wall plate complete with matching plug. Ivory only. 75¢ ea.

E Strap around clamp for antenna masts. Adjustable. 15¢ ea

F. Indoor "rabbit ears" type TV antenna. Molded base, with three section whips. With wire. \$1.39 ea.

G. TV cheater cord. All molded. 39¢ ea.

H. Paralell picture tube booster. will fit most sets. 95¢ ea.

I. Antenna clip, two wire. Clips onto the antenna posts of most sets. Also 25¢ ea. for hi-fi speaker outputs.





AUTO SPEAKER KIT

SPEAKER GRILLE

FOR ALL CARS

Handsome oval grille with perforated bezel to protect speaker cone. Hard baked grey hammerloid finish, har-

monizes with any car interior.

CHROME 6X9 - 99c

CHROME 5X7 89c

HAMMERTONE 790

WITH

USES

WITH 6X9

SPEAKER 3 .50

WITH 5X7 EAKER

2.95

DECK

DECK

With Volume Control

Remote Speaker MANY

Sit in your easy chair and control volume of TV set or remote speaker. Connects to any TV set, Radio or Record Player. With 20 ft. of cable and instructions for easy connection.

only \$ 3,95

J. 300 ohm plug & jacks for joining two wiress polorized 39¢ pair.

K. Heavy duty mounting base. Will handle most masts and any angle. 95¢ each. All steel.

L. 300 ohm lead in wire. Heavy duty 50 ft. 95¢ finest quality. 100 ft. 1.95

M. Telescoping masts. heavy duty steel construction. Shipped express. 20 ft. 500 40 ft. \$9.95 30 ft. \$7.50 50 ft. \$12.50 N. Arrow antenna. All aluminum.

less mast. \$1.95 ea. 5 foot mast for above. .95 ea.

O. Conical antenna. All aluminum. Less mast. \$2.95 Mast for above. .95

P. Seven element yagi. For Poor reception areas. \$9.95 10 foot steel mast for above, \$1.95

Q. All aluminum non-directional FM antenna. With mast & guy ring, \$4.95 ea.

R. Standoff insulator. 2 for 15¢





KITS & PHONO ACCESSORIES



HFT90: surpasses wired tuners up to 3X its cost. Pre-wired, pre-aligned, temperature-compensated "front end" — drift-free. Precision "eye-tronic" tuning. Sensitivity, 1.5 uv for 20 db quieting — 6X that of other kit tuners. Response 20-20,000 cps ±1 db. K-follower & multiplex outputs. "Drift absolutely absent; audio quality excel-lent: novel tuning quite effective." — ELECTRONICS ILLUSTRATED. Kit \$39.95*. Wired \$65.95*. Cover \$3.95. *Less cover, F.E.T. incl.



HF81

HF81: Stereo Dual Amplifier-Preamplifier selects, amplifies & controls any stereo source — tape, discs, broadcasts — & feeds it thru self-contained dual 14W amplifiers to a pair of speakers. Monophonically: 28 watts for your speakers; complete stereo preamp. Ganged level controls, separate focus (balance) control, independent full-range bass & treble controls for each channel. Identical Williamson-type, push-pull EL84 power amplifiers, excellent output transformers. "Low silhou-ette" construction. Kit \$69.95. Wired \$109.95. cover included. included.

HF14: 14-Watt Power Amplifier of the HF81 above. Kit \$23.50. Wired \$41.50.

DYNAKIT AMPLIFIER KITS



MARK III 60 WATT AMPLIFIERKIT

50 WATT MARKII AMPLIFIER KIT \$69.75



MODEL PSI DUAL PRE-AMP POWER SUPPLY KIT 8.95





STEREOPHONIC EQUIPMENT

HF85: Stereo Dual Preamplifier selects, preamplifies & controls any stereo source – tape, discs, broadcasts. Distortion borders on unmeasurable. Self-powered. Works with any 2 high-quality power amplifiers such as EICO HF14, HF22, HF30, HF35, HF50, HF60. Avaitable shortly.



HF32: 30-Watt Integrated Amplifier combines excel-lent HF30 power amplifier above with versatile preampli-fier featuring tape head & microphone inputs, scratch & rumble filters, all amplifier facilities. Kit \$57.95. Wired \$89.95. Both include cover.

HF20: 20-Watt Integrated Amplifier complete with finest preamp-control facilities, excellent output trans-former that handles 34W peak power, plus a full Ultra-Linear Williamson power amplifier circuit. "Well-engi-neered" — Stocklin, RADIO TV NEWS. Kit **\$49.95**. Wired **\$79.95**. Matching Cover E-1 **\$4**.50.

HF12: 12-Watt Integrated Amplifier provides com-plete "front end" facilities & excellent performance for any medium-power application. "Packs a wallop" — POPULAR ELECTRONICS. Kit \$34.95. Wired \$57.95.

MONAURAL INTEGRATED AMPLIFIERS (use 2 for STEREO)

(Use 2 for STERLU) HF52: 50-Watt Integrated Amplifier with complete "front end" facilities & Chicago Standard Output Trans-former. Ultra-Linear power amplifier essentially identical to HF50. "Excellent value" — Hirsch-Houck Labs. Kit \$69.95. Wired \$109.95. Matching Cover E-1 \$4.50.



anced signal outputs for connection to the low mag inputs of a stereo-pre-amplifier (they may be connected in parallel for use with a conventional single-channel preamplifier.) Output level is sufficient for all preamplifiers and there is no need to employ a transformer or other "gain" stage device. Exclusive "magnetic-discriminator" provides inter-channel isolation with negligible cross-tate talk

Model 371-.7D STANTON 45X45 Stereo-





STEREO AND MONAURAL KITS & WIRED

MONAURAL POWER AMPLIFIERS (use 2 for STEREO)

(use 2 for STEREO) HF60: 60-Watt Ultra Linear Power Amplifier with Acro T0-330 Output Transformer; wide bandwidth, vir-tually absolute stability & flawless transient response. "One of the best-performing amplifiers extant; an excel-lent buy." AUDIOCRAFT Kit Report. Kit \$72.95. Wired \$99.95. Matching Cover E-2 \$4.50.

HSO: 50-Watt Ultra Linear Power Amplifier with extremely high quality Chicago Standard Output Trans-former. Identical in every other respect to HF60, same specifications at 50 watts. Kit \$57.95. Wired \$87.95. Matching Çover E-2 \$4.50.

HF35: 35-Watt Ultra-Linear Power Amplifier version of the HF60 above. Kit \$47.95. Wired \$72.45.

HF30: 30-Watt Power Amplifier employs 4-EL84 high power sensitivity output tubes in push-pull parallel, Wil-liamson circuit, 20 db feedback, & high stability margin. 2-E281 full-wave rectifiprs for highly reliable power supply. Unmatched value in medium-power amplifiers. Kit \$39.95. Wired \$62.95. Matching Cover E-3 \$3.95.

HF22: 22-Watt Power Amplifier version of the HF60 above. Kit \$38.95. Wired \$61.95.



MONAURAL PREAMPLIFIERS (stack 2 for STEREO)

(stack 2 for STEREO) HF65: superb new design. Inputs for tape head, micro-phone, mag-phono cartridge & hi-level sources. IM dis-tortion 0.04% @ 2V out. Attractive "low silhouette" design. HF65A Kit \$29.95, Wired \$44.95. HF65 (with power supply) Kit \$33.95. Wired \$49.95.

HF61: "Rivals the most expensive preamps" — Marshall, AUDIOCRAFT. HF61A Kit \$24.95, Wired \$37.95, HF61 (with power supply) Kit \$29.95. Wired \$44.95.

Model 196 STANTON 45X45 UNIPOISE arm with integrated Stereo-FLUXVALVE pickup. This advanced mechanical design and functional styling combine to provide the finest phonograph reproducer ever made... for all microgroove records ...monophonic and stereophonic! For use with all high quality transcription turntables, its practical size permits installation into areas only slightly larger than that required for record changers...it will mount on a motorboard measuring only 15½" x 15½". Simple Uni-mount installation, employs a single thumbscrew and bolt. Exclusive arm rest with soft sable brush to keep the stylus tip free of dust at all times. Convenient stylus force adjustment. Model 196 STANTON 45X45 UNIPOISE arm stylus force adjustment

Model 196-.7D UNIPOISE Arm with Integrated Stereo-FLUXVALVE pickup \$59.85



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7



MODEL 625 TUBE TESTER

MODEL 666 TUBE AND TRANSISTOR TESTER

Tests all transistors; reads both reverse collector current and current amplification factor (Beta), using internal power supply. Tests all receiving tubes, including 9-pin miniatures, subminia-tures, color and monochrome CRTS. 10 six-position lever. 10 push-button switches. Large meter scale; roll char: detachable 10 push-button switches. Large meter scale; foil chart, defactable steel cover. Model 666 Tube and Transistor Tester—Wired, Net Ea, S69.95 Model 666-K Tube and Transistor Tester Kit—Net Ea, S69.95

LOW-COST MULTI SIGNAL TRACER 145A

LOW-COST MULTI SIGNAL TRACER 145A High gain RF and low gain audio input channels for signal tracing and trouble shooting RF, IF, and audio stages of AM, FM, and TV receivers. More than enough RF gain to trace up to receiver input; signal is heard through built-in 5" PM speaker. Shielded RF crystal demodulator and direct probes supplied. Noise localizer circuit applies DC test voltage through probe to suspect-ed component and simultaneously picks up and amplifies effect. May be connected as test speak-er, amplifier or output transformer. Output for VTVM or scope. For null detector, scope preamp, etc. Remarkably compact. With all parts. 7:13/16 x 5:9/16 x 5:1/16. Shipping weight, 7 lbs. KIT \$19.95 Factory Wired \$28.95

BATTERY ELIMINATOR ACCESSORY FILTER No. 1055 KIT \$11.95

"EXTRA-FILTERED" 6V and 12V BATTERY ELIMINATOR and CHARGER KIT \$38.95 No. 1060

SERIES/PARALLEL R-C Combination Box #1140 KIT \$13.95

Model 944-K Flyback and Yoke Tester Kit-Net Each\$23.95 Model 1100-K Resistance Substitution Box Kit-Net....\$5.95 Model 1171-K Resistance Decade Kit-Net Each.....\$19.95 Model 1120-K Capacitance Substitution Box Kit—Net..\$5.95 Model 1180-K Capacitance Decade Kit—Net Each....\$14.95 Model 488-K Electronic Switch Kit—Net Each.....\$23.95



249

Model 1050-K Battery Charger and Eliminator Kit-Net Each

 Model 195-* Baker, Comparison of the Comparison of th

MODEL 221 VTVM

MODEL 425 5" PUSH-PULL OSCILLOSCOPE

Push-puli amplifiers. Sensitivity: 0.05-0.1 rms v/in. Response: 5 cps-500 kc: useful to 2.5 mc. Sweep: 15 cps-75 kc. Z-axis inten-sity modulated. Direct connections to CRT plates. 5' CRT. Model 425 5' Oscilloscope—Wired, ready to use. \$7995 1.95

Model 315-K Deluxe RF Signal Generator Kit-Net. \$39.95 Model 315-K Deluxe RF Signal Generator Kit—Net..\$39,95 Model 368-K Sweep-Marker Generator Kit—Net Eas......\$14,95 Model 368-K Sweep-Marker Generator Kit—Net Eas. Model 322-K Signal Generator Kit—Net Each.....\$23,95 Model 320-K RF Signal Generator Kit—Net Each.....\$19,95 Model 377-K Audio Generator Kit—Net Each.....\$31,95

MODEL PLC OSCILLOSCOPE LOW CAPACITY PROBE \$3.75 Kit-Net Each

MODEL PSD OSCILLOSCOPE DEMODULATOR PROBE \$3.75 Kit-Net Each

MODEL PD OSCILLOSCOPE DIRECT PROBE Kit-Net Each\$2.75

MODEL PTP-11 PEAK-TO-PEAK VTVM PROBE Kit—For 11 meg VTVM. Net Each...\$4.95 Kit—For 25 meg VTVM. Net Each... 4.95

MODEL PRF-11 RF VTVM PROBE

Kit-For 11 meg VTVM. Net Each...\$3.75 Kit-For 25 meg VTVM. Net Each... 3.75

FREE With any instrument kit above, 10 sets of insulated, color coded allegator test leads.





232

.....\$29.95

Excellent cond.

10

1454

COLUMBIA ELECTRONIC SALES MAIL ORDER DEPT SAN FERNANDO VALLEY RETAIL STORE and WHOLESALE WAREHOUSE WHOLESALE - RETAIL STORE 2251 WEST WASHINGTON BLVD. LOS ANGELES 18, CALIFORNIA • REpublic 1-2206 4900 LANKERSHIM BLVD. NORTH HOLLYWOOD, CALIFORNIA • STanley 7-2113 - POplar 6-8668 OPEN 9 TO 9 WEEKDAYS - SAT. 9 TO 6 OPEN MON. & FRI, TILL 9:00 P.M. - SAT. 9 TO 5:30

PHONO ACCESSORIES



PA-1 Calrad Semi-Auto Phono Pickup

A manual pickup with completely automatic return of arm when record is finished. Soft rubber wheel carries pickup arm back to arm rest. Cannot harm record; needle rides safely above the record and arm actuates switch in arm rest to shut off the turntable. Turntable starts again, automatically, when pickup arm is raised from rest. Dual styli turnover crystal cartridge with replaceable supphire needles for playing LP's and 78's. On 9" or larger table arm works automatically with all record sizes up to 12". Complete with all mounting hardware, shut-off switch, instructions and mounting diagram. Individually boxed.

Cat. No. PA-1





Calrad Stereo Pickup Arm

SPECIFICATIONS:

Overall Length: 11-13/16" Length between Stylus and Center of Pivot: 87/8" Cartridge Mounting Hole: 1/2" Std. Mtg. Centers. Balanced Weight: 4 weights supplied Lead Wires from Arm: 5 Tracking Error: Within ± 2 degree Non-Resonance Range: 20 - 20,000 c.p.s. Plug-in Type Head: 2 included

Modern design pickup arm for the latest types of stereo cartridges now on the market. This arm is supplied with all necessary hardware and 4 balancing weights to obtain the proper styles pressure needed. Well engineered to meet the necessary high standards required by the stereo user. Perfect performance when used with SC-415 Calrad Stereo cartridge. This stereo tone arm can also be used with regular records, and is balanced against rolling. Cat. No. CS-12



Cartridge A truly magnificent product, produced to exacting specifications with 0.7 mil and 3 mil sapphire stylii, offering 20 db channel isolation; response 20-16,000 cps. Plays all 4 speeds for both stereo and monaural records. Excellent all-directional compliance.

SPECIFICATIONS Response: 20 - 16,000 cps with smooth roll-off beyond Output Voltage: 0.3 volt Tracking Pressure: 5 - 7 grams Channel Isolation: 20 decibals Mounting Dimensions: $\frac{1}{2}$ in. std. Compliance: 2.0 x 126 cm/dyne



Needle 45-45 Replacement stereo needle. Jewel sapphire tip for SC 315 -SC 415 - SC 515.

PROFESSIONAL VISCOUS DAMPED TONE ARMS - FLOATING ACTION



Transcription Tone Arms

Advanced design high-quality transcription tone arms with viscous damping of both horizontal and vertical movements. Damping action is readily controlled by convenient adjustment knob on top of arm. Plug in head accepts all popular cartridges, and weights are supplied to compensate for different cartridges. Height of tone arm is adjustable by telescoping shaft. Tone arm base has adjustment screws for self leveling. Adjustable arm rest furnished. Gray Hammertone finish. Professional quality instruments, in two sizes.



C-10 Crystal Compromise Cartridge



3 FOR\$2.99

Will replace most cartridges in use. Plays all 4 speeds with 2 mil needle. Light weight, track as little as $\frac{3}{4}$ oz. pressure. $\frac{1}{2}$ " little as $\frac{3}{4}$ oz. pressure. $\frac{1}{2}''$ standard mounting centers, thumbscrew and solder lugs. 3 Voutput.

CX-310 45 RPM Replacement Cartridge



Exact physical and electronic replacement for RCA type players. Frequency response: 50 - 10,000 cps, 1.0 Volt output. Complete with 1 mil sapphire



HI-FI ACCESSORIES AT ROCK BOTTOM PRICES!



(Level Controls)

(Level Control) A flar frequency response and natural reproduction are ob-nained by adjusting for the Adjustment $\pm 17\%$ of the normal tated impedance. "L" pads are 8 or 16 ohms impedance. "L" pads are 8 or 16 ohms impedance. Black plastic contour knob Calibrated 1 to 10. Dial 2½" x 2", finished in matte silver and black. Mounts in 3%" hole. Bushing 3%" long. Individually boxed.



ACA Music Master

For use with all American type record players.

Will automatically shut off all of the hi-fi system as soon as the last record has been played on any automatic turn table. No at-tention need be payed to your hi-fi system once this unit has been installed. Installation is simple as every item of your system plugs into the ACA.



A constant impedance multiple speaker selector switch selects, from one to six speakers, keeping impedance constant with proper 2 watr resistors in circuit. Uses six SPST slide switches, mounted on brass plate. With instructions. Indi-vidually packaged. $31/2^{"}$ long, $23/8^{"}$ wide, 1" deep. Cat. No. CSS-1

3-SPEAKER, 7-WAY WALL PLATE SELECTOR SWITCH

Speaker selector switch mounte on brass wall plate, fits stan dard single wall boxes. Selects speakers; 1 or 2 or 3, or 1 and 2, or 1 and 3, or 2 and 3, or all. Marked screw terminals. Instructions included. Indi-vidually packaged. 41/2x23/4x21/4" deep Cat. No. CSS-2 t. No. CSS-2 \$ 2.7 3 FOR \$ 6.50

0

ACF Music Master

For use with all Foreign type record changers.

Will automatically shut off all of the hi-fi system as soon as the last record has been played on any automatic turn table. No attention need be payed to your hi-fi system once this unit has been installed. Installation is simple as every item of your system plugs into the ACF.

95

\$2.39

Audio Mixers

Permits balancing of any two individual-audio inputs into one output enabling user to mix 2 microphone inputs into highgain input. Separate balanced gain controls. (2) included.



WL 8

Cat. No. WL-8

Cat. No. WL-16

[Cairad]

REG.

\$150

NEEDLE PN-8A

Offset shank compromise needle for

all speeds. Use with pick-up having

thumbscrew. Diameter of .002" for

16, 33, 45 and 78 rpm use

WL 16



Speaker control mounted on brass

wall plate will fit any standard out-

let box. Has 8 ohm L pad. Closed circuit jack mounted below L pad.

Speaker control mounted on brass

wall plate will fit any standard outlet box. Has 16 ohm L pad. Closed circuit jack mounted below L pad.

Sapphire

Needle

All-Groove



Has standard phone plug output from two single RCA type input jacks. No wiring or cables needed. Size: $2\frac{5}{10}$ " long x $1\frac{7}{16}$ " wide x $1\frac{3}{16}$ " high.

Ô

C-64-MGS

mil stylus;

Phono Needle

Microgroove replacement stylus for Ronette type 33-45 cartridges. Sapphire

Calrad



Has standard phone plug output from two closed circuit input jacks. No wiring or cables needed. Size: $2\frac{3}{6}$ " long x $1\frac{3}{6}$ " wide x $1\frac{3}{6}$ " high.



Stereo "L" Pad A dual stereo "L" pad with single knob control for maintaining proper output level enabling the balancing of two speakers from the amplifier providing positive equal audio power to each speaker. Has ½ inch threaded bushing. Cat. No. SLP-8, 8 ohm SLP-16, 16 ohm



NC-1 **Needle Checker**

Optical instrument for critical examination of stylus tips, record grooves, etc. Approx. 50 power magnification shows any flaws or signs of wear. Front lens threaded for fine focus. Black with nickel trim. 33/4" long, 1/2" diameter. \$1.39



HI-FI PHONO

CABLE CONNECTORS

PG-22 Stylus Pressure Gauge

Measures stylus pressure accurately at the turn-table—from 0 to 30 grams. Aluminum alloy with steel pivots. Indicates any excess or insufficient tracking weight, resulting in wear or damage to the record.





noise; protects the record. Clips to most pickup arms, entirely automatic in operation.





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 For greater home enjoyment, your FX-300 comes with a set of Patch Cord, making it possible for anyone to record hi-fidelity music directly from the phonograph, radio or television receiver.

COLUMBIA ELECTRONIC SALES

ing recording. During reproduction, you can use

it conveniently to hear the recorded sound with-

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out disturbing others.

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PACKAGED

PRICES & QUALITY Microphone Dep



100-C Slim Crystal Microphone

Our Sales Leader in microphones. Smooth, rounded design tapering from 11/8" diameter for easy hand-held use. Has detachable shielded cable and slide on-off switch. Frequency range, 100 - 9,000 cps; sensitivity - 52 db; high impedance. Excellent for voice or music. Satin chrome finish case.



400 - C Crystal Hi- \$1 95 Impedance Mike

Impressive appearance and performance. For general use and home recording. Semi-directional, head tilts to vertical for non-directional use. High output, - 52 db; essentially flat frequency response from 100-8,000. Compact size-25%" diameter x 41/4" long x 41/8" high. Complete with 3/8" - 27 mounting thread and shielded cable. Silver grey baked enamel with chrome trim. Individually boxed.

UNMATCHED

500-C Broadcast Type Crystal Microphone

Two separate phased crystal units mounted vertically for true 360° omni-directional pickup. Perfect for group and conference use; speaking, singing, or instrumental. Sensitivity,-50 db. Brass construction, beautifully finished in chrome and black. Frequency range, 80-8,000. Width, 3"; height, 7". Mounting thread, 5/8"-27. Individually boxed with shielded plastic covered cable.





95 CM - 75 **Hand Carbon Mike**

Complete with "push-to-talk" switch and cable attached. For PA and mobile use. Internal resistance-100 ohms. 70-7,000 cps; sensitivity-50 db. Brown plastic case; fits the hand, has loop for hanging.

700-C Crystal Microphone



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Compact rectangular style case; ideal for home recorder applications, Hi-impedance crystal mike sits on desk, fits in hand, and is threaded for 5/8" - 27 mike stands. Amazing performance - 80-9,000 frequency range, 50 db sensitivity, very stable. Sturdy metal case is finished in Gummeral Grey. May be easily concealed in pocket.

DM-12 Slim Dynamic

Microphone

High-style design dynamic mike with excellent characteristics; for night-club, PA, and other uses where a high quality pickup of both voice and music is needed. Hiimpedance—50K ohms—with a flat fre-quency response from 60 to 12,000; sensi-tivity—52 db. Streamline cobra design with satin chrome finish. Threaded for 5/8 - 27 mike stands. Complete with cable and mike connector; on-off switch.

\$ 14.95 D-600

Dynamic Microphone

Hi-Impedance

An excellent microphone for speech and music. Frequency response, 60-9,000. Sensitivity, 56 db; impedance, 50K ohms. Mounting bracket has 90° swivel, with 5/8"-27 thread. Beautiful Brown Hammertone finish, chrome trim, gray shielded plastic covered table.



For musical instruments. Pickup is by direct contact with sounding board of instrument. Frequency response, 40 - 9,000 cps. Attaches without toolswill slip under bridge of string instruments. Complete with shielded cable and phone plug.



COLUMBIA ELECTRONIC SALES

MH-100 Mike Holder

For 100-C Microphone. Swivel cradel adapts Calrad 100-C Mike and other similar mikes for use on standard floor and desk stands. Has 5/8" -27 thread in base and felt padded friction clamp jaws for holding mike. Beautiful chrome plated finish adds to appearance and utility of any microphone. 95c



Modern, tastefully integrated design mike and stand. Wide range flat response from 60 to 12,000 cps. Omni-directional pick-up — sensitivity —54 db; 50K ohms

impedance. Stands vertically or tilts in any direction from wide base desk stand. Removes from desk stand from while base desk stand. Kemoves from desk stand and attaches to floor stand with $\frac{5}{6}$ " -27 thread adapter provided. Finished in blue mist metallic lacquer with chrome trim. Supplied with shielded plastic covered cable, and packed individually. An elegant, yet practical instrument.



Slim style mike adjusts to optimum angle and readily removes from weighted non-tip desk stand for hand use. Rugged dynamic design with frequency response of 80 -8,000 cps. Sensitivity, -56 db; 50K ohm impedance. Finished in black with chrome trim, mike is 71/2" long and 11/8" in diameter. Comes with built-in on-off slide switch and shielded plastic covered cable.



Small, rugged mike with moisture-proof crystal in Small, rugged mike with moisture-proof crystal in chromed die-cast case. Has alligator type clip for lapel use. Non-directional, with -55 db sensitivity, and a response range of 200 - 8,000 cps. High impedance mike has shielded plastic covered cable attached. Size, 1%" diameter x 3/4". For general speech use, or experimental work.

A versatile microphone with desk stand and neck cord provided; 5/8" - 27 thread for floor stand. May also be used as hand mike because of its compact taper form. Hi-impedance, 50K ohms, omni-directional dynamic design; sensitivily, -60 db; frequency response, 120-9,000. Complete with stand, neck cord, and shielded plastic covered cable. Individually packaged. Light blue hammertone finish with chrome trim.

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KEYS-EARPHONES-HI-FI HEADSETS

SF-5000 Dual Dynamic Headset

Two dynamic reproducers with separate connecting cords for two channel stereo reproduction. Matched 10 ohm reproducers have a frequency response of 40-16,000 cps for true hi-fidelity stereo listening. May be adapted for monaural use also. Comfortable to wear-extremely light $(1\frac{1}{2} \text{ oz.})$ weight. Clear pla-stic tubes with removable plastic earpieces. Individually packaged. Cat. No. SF-5000



Matched dual reproducers for use with high output audio circuits. Hi-impedance; 70K ohms at 1 kc. Frequency response, 70 - 15,000 cps. Stethoscope type headset with both crystal reproducers mounted at the "Y". Clear plastic tubes carry the separate audio sig-nals to the ears for completely private stereo hi-fidelity reproduction. Weights approx. $1\frac{1}{2}$ oz. for comfortable under-the-chin use. Individually packaged.

Cat. No. SF-3000



CH-12 Crystal Stethoscope Headset

Comfortable to wear under-the-chin design. Extremely lightweight high impedance crystal driver feeds into adjustable plastic ear tubes with removable rounded tips Wide range; excellent reproduction characteristics. Packed complete with plastic covered cord. 1.95 Cat. No. CH-12

PROFESSIONAL TYPE **RH-40** Radio Type Headphones

RH 40 Radio type head phones supplied with leather head band. High impedance 4,000 ohms. Cat. No. RH-40



RH-20 Radio Type Headphones

Hi-impedance—2,000 ohms—general use head-set. Black and Ivory plastic cased electro-mag-netic units with adjustable head-band for comfortable fit. Individual listening for all types of applications. Packaged individually, with flex-ible cord attached. Cat. No. RH-20





3 FOR 4.50



This fabulous headset is used for professional monitoring. Amazing frequency response and lack of distortion make these a real buy.



TK-10 Calrad Telegraph Key

Molded phenolic base and full size key knob. Key arm is adjustable, has tension spring and easy action bearing pivots. All metal parts plated— $\frac{1}{4''}$ silver contacts. Standard size key has base $\frac{3}{4''} \times 178''$ wide; 5" long overall. Knurled adjustment and binding post screws. Mounting holes in base. Individually packaged.

DE-150 Dynamic "Hearing Aid" Type Earphone Kit

Low impedance (15 ohms) high quality reproduction. Frequency response, 50 - 4,000 cps. Flesh colored plastic case and flex cord with miniature phone plug and closed circuit jack. Gonnects directly to secondary of out-put transformer; excellent for private radio and TV listening devices. Metal radio and TV listening devices. box allows use at either ear. Individu-ally packed in plastic bag.



DE-160 Dynamic "Hearing Aid" Type Earphone Kit

Low impedance, 2000 ohms or 5000 Low impedance, 2000 ohms of 2000 ohms high quality reproduction. Frequency response, 50 - 4,000 cps. Flesh colored plastic case and flex cord with miniature phone plug and closed circuit jack. Connects directly to secondary of output transformer; excellent for private radio and TV listening devices. Metal bow allows use at either ear. Individually packed in plastic bag. Cat. No. DE-160 - 2000 ohms DE-5K - 5000 ohms



WM-50 Crystal Wrist Mike

Looks like a fine watch, is actually a sensitive microphone. Rugged high-gain crystal cartridge of 50,000 ohms impedance is omni-directional in use and gives the user a completely concealed microphone for recording or transmitting coversations. Frequency response, 75 -9,000 cps. Underside of watch has chrome grillwork over mike cartridge; concealed wire goes up user's sleeve. Mike is beautifully chrome plated, has watch type face and hands and simulated winding stem. A beautifully executed design with quality leather band.



CEP Crystal Earphone Extremely lightweight, compact and sensitive high-impedance type earphone. Has clear plastic earpiece which may be removed to allow use as crystal mike. For use with pocket radios, etc. Complete with cord. Packed in clear plastic bag. Less plug and jack.





Uses regular flashlite battery Key and Buzzer on mounting board COLUMBIA ELECTRONIC S MAIL ORDER DEPT. SAN FERNANDO VALLEY RETAIL STORE and WHOLESALE WAREHOUSE WHOLESALE - RETAIL STORE 4900 LANKERSHIM BLVD. 2251 WEST WASHINGTON BLVD. LOS ANGELES 18, CALIFORNIA · REpublic 1-2206 NORTH HOLLYWOOD, CALIFORNIA • STanley 7-2113 - POplar 6-8668 OPEN MON. & FRI, TILL 9:00 P.M. - SAT. 9 TO 5:30 OPEN 9 TO 9 WEEKDAYS - SAT. 9 TO 6

PANEL METERS · MULTI-TESTERS

TL-50 All-Purpose **Test Lead Kit**



89

\$1.3

METERS

3.89

3 FOR

Standard Face Meters

Range 0-50

50-0-50

3 95

"DC" MICROAMMETERS

Cat. No. MO-38-3

Red and Black 41/2" plastic handle pin prods, with heavy duty 5,000 V insulation, 35" kinkless rubber leads terminating in red and black 2" plastic grip banana plugs. Choice of interchangeable terminals for various uses—all slip directly onto banana plugs. Spade lug terminals, color-coded alligator clips, or phone tips give positive solderless connection for universal use. All items packed in handy compartmented flexible plastic case with snap fastener.



D'Arsonval type movement panel meters with $1\frac{1}{2}$ ° square face bakelite case. Meters fit into $1\frac{1}{2}$ ″ diameter hole in panel; may be placed in front or behind panel. Black bakelite case, with silvered dial and black numerals. Indicator hand and dial protected by clear glass. These meters are calibrated to be accurate within 2%. Have zero set screw adjustment. Have zero set screw adjustment.

Calrad Plastic front panel meters enable the user to have can extremely readable scale. Clear meter face is unbreak-able and easy to clean. Will enhance the beauty on any equipment on which it is used. $1\frac{1}{2}$ inch square.



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	CMO-38-1	0-15		0-300	4	22		Specify	0-300		
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'DC''	AMMETERS		Spec	ify Ran	ge						
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	CMO	0-10 amp	DC		4	25		Cat. No.	Range	-	-
		0-30 amp	DC					MO-38	0-10 am	p D	2
									0-30 am	p D	C



Calrad Stereo Level Indicator Model S1-10

A dual visual audio level indicator affording positive and visual balance indication between two channels of a stereo system. Either record or playback. In addition stereo level indicator provides indication

of power level preventing accidental overloading of either channel. Connect one pair of leads from indicator to high impedance output jack of each pre-amplifier tape recorder outputs, or speaker terminals on rear of ampli-fier, throw switch to calibrate position. Then adjust each range control for the desired power level indication, making sure scale readings are identical. When switch is in normal position correct operation is indicated by equal readings.

Input-AC-DC (Maximum 400 Volts DC) High or low impedance Dual Scales—20 to plus 3 db and 0 - 100%

Size-6" long, 3" wide x 13%" high. **9.95**



Level Indicator Model A1-5 The Calrad Audio Level Indicator is designed for use with Audio equipment indicating correct output level

Audio

thus preventing accidental overload with resultant distortion. A range control provided on meter permits 100% level at any desired power. Connect leads from Indicator to high impedance output jack of pre-amplifier, or speaker terminals at rear of amplifier. Adjust range control for power level desired. Input—AC - DC (Maximum 400 Volt DC)

High or low impedance. Scales—20 to plus 3db and 0 - 100%. Size—37%" long, 23%" wide, 13%" high. 7.95

SO-38 "S" Meter

Gives accurate measure of signal strength. A necessity for the amateur operator and SW listener, for giving signal reports and tuning receivers. Meter has a basic movement of 0-1mA. Calibration is from 0 to 9 "S" units, + 10 to + 30 db, and the full scale value of 1mA is divided equally 95 from 0 to 5 and 0 - 10 on dial face.



Insulated Alligator Clips Cat. No. AC-10 Red or black plastic body clips with metal teeth. Fully insulated, convenient thumb-grips. Solder lug for attaching lead. Overall length 13/4". Specify color. 15c

95

AC-5 Plated Alligator Clip Strong grip jaws plain alligator clip. For use in all types of testing equipment. Designed with a long thin nose to fit close areas or hard to get at places. 2 inches long. With screw. 10c



TK-30A Multi-Tester

1,000 Ohms per Volt sensitivity DC. A midget type volt-ohm meter having an easy-to-read direct reading dial-an excellent instrument for school, industrial, and service use. Reads AC or DC Volts in ranges of: 0-15, 0-150, and 0-1,000 Volts. Current is read from 0-150 ma. DC. Direct reading scale measures 0-100 K ohms DC. Handy zero adjustment. Bakelite case measures, $4 \times 2\frac{1}{4} \times 1\frac{3}{8}$ ". Test leads, self-con-tained batteries and instruction sheet included.



Sensitivity of 20,000 ohms per volt DC-10,000 ohms per volt AC. Complete with test leads, batteries, and zero adjustment. Size 51/8 x 35/8 x 21/8". Has following ranges on scale: DC Voltage-1200 V, 600 V, 120 V, 30 V, 6 V, at 20,000 ohms per volt seisitivity. AC voltage-1200 V, 600 V, 30 V, 6 V, at 10,000 ohms per volt. DC current-60 ua at 1.2 ma, 12 ma, 300 ma. Resistances-Rx1, Rx10, Rx100, Rx1000 ohms. Decibels:-20 to 17. Capacitance: .005-.01 uf. Inductance-30-3,000 Henrys.



Sensitivity-2,000 ohms per volt, DC. Reads AC or DC volts in 5 ranges: 0-10, 0-50, 0-250, 0-500, and 0-1,000 Volts. Direct reading of Ohms, 0-10K and 0-1 Meg, through multiplier. Direct reading of decibels to 24 db at 10 Volts DC; 36 db at 50 Volts AC. Current is read in three ranges: 0-25, 0-500 mA, and 0-500 uA, DC. Easy to read dial faces. Meter has sturdy steel case, $5\frac{1}{4} \times 3\frac{1}{2} \times 1\frac{1}{2}$ ", with bakelite face. Panel switch has selfwiping contacts. Meter is packed with test leads, self-contained batteries and instruction sheet for easy reading of circuit values.



COLUMBIA NOW OFFERS TWO OF THE LARGEST ELECTRONIC STORES AND WAREHOUSES TO BETTER SERVE THE ELECTRONIC FIELD. THOUSANDS OF INDIVIDUAL ITEMS AVAILABLE TOO NUMEROUS TO CATALOG. PLEASE SEND YOUR REQUESTS FOR PROMPT QUOTATIONS.





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AIRCRAFT-RADAR EQUIPMENT • SURPLUS RADIO PARTS & SUPPLIES • SHORAN • LORAN

HI-FI-STEREO-COMMUNICATIONS 2251-53 WEST WASHINGTON BOULEVARD • LOS ANGELES 18, CALIFORNIA • REPUBLIC 1-2206

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Saturating Reactor: Bendix # A117016; Primary 0 ADC/.010 ADC to Z= 3000 ohm/ Z= 180 ohm.Size: 2 3/4 x 2 3/4 x 4 1/2; Fully cased and potted.....\$ 2.49

HUGE SAVINCS

Selenium Rectifier Transf. 110 v. pri. Sec. 37-42-47v @ 5 amp. marked 2 amps but puts out 5 Square case potted. new \$1.95

Dynamic Mike Input transformer. Thordarson # ST-1005. 50K C.T. primary to 8K secondary. Fully cased and potted. 95



AUDIO OUNCER Transformer Triad # JO-12 15Kohm Plate to 60K ohm C.T. to Push-Pull grids. 45db shielding. Size: 1 inch round by 1 3/4 high. New in Triad box.....\$2.49

PEERLESS Audio Choke. 2.6 Henry @ 1000 cycles 3 ma. 120 ohm; 500 volt insulation. Size: 1 inch round x 1 3/8 high. Fully cased and shielded.....49¢

SWINGING CHOKE 4-12 Hy @ 300 ma. Made by Chicago for Collins. Fully shielded and potted; these pro PRAND NEW and carlieft 200 are BRAND NEW and only\$ 3.95

Instrument Isolation Transformer size: 1 $3/4 \times 1$ $3/4 \times 3$ 1/2 high; fully cased and potted\$ 1.00



866A FILAMENT TRANSFORMER

Completely hermetically sealed. The most beautiful 866A filament transformer we have ever handled. Primary: 115 VAC at 50 to 60 CPS. Secondary: 2-1/2 volts at 10 amps. Insulated for 12000 volts insulation. Units are oil filled. Dimensions: Only 5" high x 4-1/2" wide x 3" deep. New, unused in original mfgs cartons Weight: 6 lbs 4 oz.

> Price \$3.95



Filament Transformer Pri. 117 v. 60 cyc. Sec. 12 v. 3-4 amps. hermetically sealed. Jan terminals. A Columbia special at \$1.49

20194

Primary: 110 volt 60 cycle. Secondary # 1 680 vct @ 140 ma. Secondary # 2 5 volts @ 3 amp Secondary # 3 6.3 v @ 1.5 A Secondary # 4 6.3 v @ 3 amp Secondary # 4 6.3 v @ 3 amp Fully shielded horizontal mounting. Size: 3 $3/4 \ge 4 1/2 \ge 3 1/4$; Made by Acme......\$ 3.49

V-6198

Primary 110 volt 60 cycle. Secondary #1 700 vct @ 150 ma. Secondary #2 6.3 vct @ 2.7 amp Secondary #3 5 vct @ 3 amp Fully cased and potted up mounting. Size: $4 \times 3 1/2 \times 4 1/4$; Made by Vernon..... \$ 2.49

HI-FI Audio output transformer. # T-24037. 25 Watt. Primary 6600 ohm C.T. for 6L6 or 5881. Secondary 8 & 16 ohms. Frequency response: 30 to 20,000 cycles + or - 3 db. Size; $3 3/4 \times 3 1/2 \times 4 1/2$; Fully cased and potted......\$ 5.88



SEORN

32 H @ 40 ma. 540 ohm, potted, small. New 39¢ 3/\$1.00 10H @ 150 ma 150 ohm 2kv ins. Haldorson, potted. \$1.49 3/\$4.00

Interstage Transformer. UTC # LS-20 Ratio 2:1 Single plate to screen grid. Primary 8000/15000 ohm Secondary 60,000 ohm. Size: 2 3/4 x 3 1/4 x 3 1/2. Fully cased and potted.....\$ 2.49

IF Transformers
85 kc. from R-23/ARC-5 \$1.95 ea
3/ \$5.00
1200 kc from DAS-1 29¢ 4/\$1.00
1415 kc from R-26/ARC-5 95¢ ea.
3/\$2.50
1415 kc from TBX 49¢ ea.
4300 kc from GRC recvr 39¢ ea.
3/\$1.00



Plate Transformer

1000 volt each side C.T. 200 ma. Hermetically sealed. ceramic terminals. Primary 115-230 v. 60 cycles. Special \$6.95

HI-FI Audio Output Transformer. #T-24038. 15 Watt. Primary 8000 ohm C.T. for 6V6. Secondary 8 H 16 ohm. Frequency Response : 30 to 20,000 cycles essentially flat Size: 2 3/4 X 3 X 4; fully cased and potted.....\$3.88



RESISTORS · CONDENSER · SWITCHES · SOCKETS



18





COLUMBIA ELECTRONIC SALES MAIL ORDER DEPT. WHOLESALE – RETAIL STORE 2251 WEST WASHINGTON BLVD. LOS ANGELES 18, CALIFORNIA • REpublic 1-2206 OPEN MON. & FRI, TILL 9:00 P.M. – SAT. 9 TO 5:30

SWITCHES · KNOBS · ACCESSORIES

Hi-Fi Control Knobs

Trim, functionally styled knobs in keeping with the best in Hi-Fi equipment. Fluted taper cylinder design, with aluminum ring in recessed face. For tuners, amplifiers, etc. Available in 3 sizes and 3 colors. Order by catalog number.



Small: 1" dia.x 11/6" deep. Med: 13/8" dia.x 11/6" deep. Lge: 17/8" dia. x 7/8" deep. All knobs have white indicator line opposite set screw

Instrument Control Knobs

Molded bakelite instrument knobs with molded-in brass inserts and set screws to fit all standard 1/4" shafts. Three basic sizes are available in either Ivory or Black, each with its own contrasting pointer marking. Skirted easygrasp rounded knob has wide flutes for easy, positive adjustment. Designed to enhance the appearance of any instrument.

5.1.1.4	-5		
	101 LB 39c	101 MB	101 SB
IVORY	7 /C 100 LI	100 MI	100 SI
1%" dia. x 1	39c	29 <i>c</i>	24c

Radio Control Knobs

Beautiful, modern styling for all applications. Highest quality knobs of bakelite and plastic, with molded-in brass inserts and set screws for all standard 1/4" shafts. Supplied in sizes, shapes and colors as described below. Order by catalog number and specify quantity.







COLUMBIA ELECTRONIC SALES MAIL ORDER DEPT. SAN FERNANDO VALLEY RETAIL STORE WHOLESALE - RETAIL STORE and WHOLESALE WAREHOUSE 2251 WEST WASHINGTON BLVD. 4900 LANKERSHIM BLVD NORTH HOLLYWOOD, CALIFORNIA · STanley 7-2113 - Poplar 6-8668 LOS ANGELES 18, CALIFORNIA · REpublic 1-2206 OPEN MON. & FRI, TILL 9:00 P.M. - SAT. 9 TO 5:30 OPEN 9 TO 9 WEEKDAYS - SAT. 9 TO 6









1

ELECTRONIC TWO STATION

INTERCOM SYSTEM

FEATURES:

on-off switch • Separate "Talk-Listen" switch • For 110 volts

AC or DC • Uses less power than most light bulbs • Master controls both sides of a conversation and can listen-in to the Remote Station at will.

REMOTE — User can answer calls through the Remote from a

distance • No need to operate

a switch on the Remote • Remote is always "alive" (when the

Master's power is on) for babysitting or dictation or as a safe-

ty listening device.

Volume Control with

MASTER -

RELESS CITY, H.Y. + SETABLIENED 1918

NO INSTALLATION REQUIRED-JUST PLUG IN 🗡 COMPLETELY PORTABLE

ONE UNIT

* NO WIRING NEEDED

SO SIMPLE EVEN A CHILD **CAN OPERATE IT!**

Use with any existing Home, Car or Portable Radio TAKE IT ANYWHERE — USE IT ANYWHERE (Even a battery-operated radio)

WHEN TRAVELING! VISITING! VACATIONING OR AT HOME

Simply plug in like a lamp and flick the switch. That's all! The sound you are listening for, the voice you are waiting to hear — comes in "Crystal Clear" on your own home or car radio, no matter where you are, in your home, outdoors, or while visiting neighbors 300 feet away. Finished in attractive Blue **Baked Enamel**



TWO-STATION INTERCOM SYSTEM

Sensitive! Powerful! READY TO OPERATE -NOTHING MORE TO BUY COMPLETE WITH 50FT. CABLE



MODEL RSW-Extra Remote Station for Small Talk. (One extra Remote Station may be used in parallel with the one Remote norm \$ 7.75 ally supplied).

FEATURES

MASTER: Can be used on AC or DC • Uses no more current than a small night light • Volume control with on-off switch • Separate ''Talk-Listen'' switch • On-off pilot light • Ample On-off pilot light • Ample Sensitivity — Natural Voice Re-production • Underwriters' Lab-oratories Approved. Ample

REMOTE: "Talk-Listen" switch allows Remote to originate calls to Master • Remote can be made "private" or "non-pri-vate" at will • Remote can answer calls from a distance without operating a switch • Remote can be left "open" for baby-sitting or dictation, called "Non Private" or "closed" for privacy but still able to receive calls from the Master "called Private" REMOTE: "Talk-Listen" switch Private

ALL MASCO PRODUCTS SHOWN ARE UNDERWRITER LABORA-TORIES APPROVED AND C.S.A. AND CARRY CONSUMER PROD-UCT INSURANCE.



COLUMBIA ELECTRONIC SALES MAIL ORDER DEPT. SAN FERNANDO VALLEY RETAIL STORE WHOLESALE - RETAIL STORE and WHOLESALE WAREHOUSE 2251 WEST WASHINGTON BLVD. 4900 LANKERSHIM BLVD. LOS ANGELES 18, CALIFORNIA · REpublic 1-2206 NORTH HOLLYWOOD, CALIFORNIA · STanley 7-2113 - POplar 6-8668 OPEN MON. & FRI, TILL 9:00 P.M. - SAT. 9 TO 5:30 OPEN 9 TO 9 WEEKDAYS - SAT. 9 TO 6

COMPLETE WITH SOFT. CABLE



Two Station System

\$ 13.80

MODEL REL Extra Remote Station for E-Z TALK. (One extra Remote Station may be used in parallel with the one Remote normally supplied.)

PORTABLE COMMUNICATION EQUIPMENT



OPEN MON. & FRI. TILL 9:00 P.M. - SAT. 9 TO 5:30

OPEN 9 TO 9 WEEKDAYS - SAT. 9 TO 6

COMMUNICATIONS EQUIPMENT



ARN-7



Designed primarily to be used as an aircraft-navigational instrument. Basically equip. is a radio receiver using a superheterodyne circuit and certain addi – tional circuits necessary for radio compass operation. Frequency range of 100 kc to 1750 ac covered in four bands.

Consists of Radio Compass Unit, Relay, Indicators, Control Boxes, Loop, Cords and Plugs. Instruction Charts Furnished. \$ 125.00



General description: Although lighter and more compact than other automatic radio compass equipment, it is one of the most efficient of the airbourne direction finding systems. Frequency: 100 to 1750 kc covered in four bands 100 to 200 kc, 200 to 410 kc, 410 to 850 kc, 850 to 1750 kc. Power: 26.5 V. DC average operation. Limits 21 to 32 V. DC. COMPLETE \$195.00

AN/APR-4

Freq. Range: 38 to 4000 Mc. Covered in 5 tuning unit ranges as follows: TN-16, 38-76 Mc. TN-17: 76-300 Mc. TN-18: 300-1000 Mc. This receiver is a high precision laboratory instrument used to monitor or indicate frequency of any signals within its range. Either pulse or CW type signals. Receiver incorporates a wide and narrow band I.F. strip that can be selected from panel. Outputs are provided for attachments to pulse analyzer, panadapter and various other analyzing instruments. In put: 115V 60 Cyc. Receiver can be supplied with all tuning units, or any tuning units desired, or the tuning units can be supplied separately. Send for technical data sheet **\$ 249.50**





Radio set AN/ARC-27 has been designed to provide AM radio telephone (A-3) communication, in the frequency range of 225.0 to 399.9 megacycles, between aircraft and ship, aircraft and shore, or between aircraft. The transmitter may be tone modulated (A-2) at 1020 cycles per second for emergency or direction finder purposes. Radio Set AN/ARC-27 provides 1750 frequency channels in the above mentioned range. Provisions have been made for the pilot's remote selection of any one of 18 or 20 preset frequencies or operation on a guard channel frequency. Transmission and reception are on the same frequency and by the same antenna. The equipment operates from 27.5 volts DC Provision is made for ADF operation in conjunction with Direction Finder Group AN/ARA-25.....P.U.R.



Radio Transmitting Set AN/ART-13-A was designed for installation in aircraft. It is amplitude modulated and operates between the frequencies of 200 to 1500 kilocycles and 2000 to 18,000 kilocycles. Shifting from one frequency to another can be accomplished by the conventional method of "hand positioning" the controls or by using the built-in automatic shifting mechanism known as the "Autotune". Autotune operation is available for eleven pre-selected frequencies, one in the low band and ten in the high band.......\$49.50



COMMUNICATIONS EQUIPMENT





Radio Receiver BC-312 and Radio Receiver BC-342 are of the multiband, integral-coil, superheter-odyne type. Provision is made for the reception of CW, TONE, or VOICE signals. Frequency range of 1500-18000 kilocycles continously is covered in six bands. BC-312 requires a 12 or 24 volt D.C. source and the BC-342 requires 115 volts A.C. 60 cycles.....



APN-4A



WITH 3 TUNERS **APR-1**

Airborne broadband receiving equipment designed on a unit construction basis allowing IF units power supply and tuning units to be freely interchanged to give the receiver the characteristic of receiving all types of pulse and other signals, designed principally for radar search. Frequency range 40 to 1000 mc covered by 3 interchangeable plug-in type tuning units: Information is presented by either oral mean thru headset or visual means thru cathode-



Marine or Airborne long range navigational equipment determines the exact geographical position of your boat or airplane. Geographic positions to to J200 miles from any Loran transmitters facility. Complete installation consists of:

\$95.00 ID-6A.B/APN-4 Loran indicator uses 5 CPI cathode ray tubes. Easily converted to test oscilloscope, panadapter, analyzer visual, counter, etc. Can build on any scope circuits you can dream up. Contains 22 pots, loads of switches, condensers, transformers, small parts, less small tubes, individually sold.PUR

R-9A.B/APN-4: 160 meter Loran receiver plus high voltage for scope and low voltage power supply. Dynamotor delivers 240-275V. continuously variable at 150 ma electronically regulated to plus or minus .01%. Complete installation, weighs less than 199 lbs. with schmatic.....PUR

APN-9

The LORAN system as used in both ships and aircraft provides accurate means of determining position by the reception of radio signals from transmitting stations of known location. Accurate to within 1% of the distance from the ground transmitters. The system operates entirely by radio and does not depend on celestial observations or dead reckoning, and therefore, provides a fix when all other methods of navigation are rendered useless. 75.00





Radio Transmitter BC-610-E is a high powered amplitude modulated, transmitter for use on either M.O. or Crystal, Phone or C.W. It's power output is 400 watts. Power requirements are 115 volts A.C. 60 cycles. Frequency range is 2000 kilocycles to 18000 kilocycles. It is used in the SCR-399, SCR-499, and the AN/GRC-26 Teletype Unit. Specifications on request. 499.50



Units consist of:

RT-18 /ARC-1 Transmitter-Receiver Control Unit

\$150 00

Operates from a 24 volt battery supply and provides radio telephone communications in the frequency range of 100 -156 megacycles between aircraft or aircraft to ground. Provision is made for the remote selection of a two-way operating frequency which may be any one of nine pre-set frequencies in the band or a guard-channel frequency which is fixed within a restricted band

RADIO SET: is an airborne receiving and transmitting equipment designed to provide communications from plane to plane or from plane to ground. Remote operation on eight frequency channels. Transmitter is coordin ated with control box and receiver so they both operate in preset frequency channels in combination with other equipment similarly preset. Frequency range 100-156 mc. Operating voltage 22 to 32 DC. Power output 8 watts. T-67/ARC-3 Transmitter R-77/ARC-3 Receiver and

568/ARC-3

C-118/ARC-3 Control Box Dynamotors-Technical information. P.U.R.

ARC-3



Power Junction Box

COMMUNICATION ENAVAGATION EQUIP.

ARN-5A

\$ 1995

Airborne equipment designed to give vertical guidance to a pilot during aircraft landings. 11 tube superhetrodyne circuit. 3 crystal control UHF provides static free reception.....

tubes, a sensitive re-lay (12,500 ohms) and many other essential parts— completely wired and ready to operate, but less power supply. Housed in a black crackle case approx. $T^*xT^*xx^{9}$, complete with shock mounts. This receiver is suitable for remote control service, such as door opening devices, turning lights on and off, starting and stopping motors or machinery from remote points evice.

from remote points, etc.

R8/ARN-8

BEACON

75-Mc.

Here's a BUY! A 7-tube Beacon Receiver containing the follow-ing items: Three 25L6, Two 12SQ7 and Two 12SH7 tubes, a sensitive re-other assential matts-

\$ 8.95



This hermetically sealed iron core loop is ideal for all radio compasses. Used on latest jet aircraft as well as commercial aircraft.

AIRCRAFT INSTRUMENTS

Many types far too numerous to mention here. Gyros, airspeed, altimeters, engine instruments, and many others. Write giving details for a return mail quote.





SCR-269 \$7500

BENDIX COASTAL & HIGH SEAS RCVRS & 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 builtin relay which connects the loop on the bands 150-1100 kc. \$47.50



MARINE COMMUNICATIONS RECEIVER BY GENERAL ELECTRIC MODEL BC-652

This is a compact 2-6 Mc. 11 tube unit with a built in 12 or 24V.D.C. dynamotor power unit. Compact in size and well built. Ready to install. Specify valtage 12 or 24V.D.C.

Excellient condition units ONLY \$]4 95



Consists of a mechanically driven compass indicator and pointer. Has a worm drive with a gear reduction of 120 to 1 in 360° rotation, which is coupled to a pointer with a 360° dial indicator (1° calibration points). An ingenious built-in mechanical compensator permits correction of devia-tion over 360°. Equipped with a double ended input shaft which can be coupled with spline fitting or modified to take a 1/4" coupling. Contains two 3 V. Grain of Wheat Bulbs and associated dropping resistor for 28 VDC. operation. Finest construction throughout, with no backlash. Size: 6 dia. $x 2\frac{1}{2}$ " D. Shpg. Wt., 5 lbs.

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LOS ANGELES 18, CALIFORNIA · REpublic 1-2206 OPEN MON. & FRI, TILL 9:00 P.M. - SAT. 9 TO 5:30

\$1.95

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SURPLUS SELL-SATION BUYS!





LARGEST SSORTMENT FINEST QUALITY TEST EQUIPMENT ASSORTMENT

Please write us your requirements so we may quote you our low current prices.

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TS-7, ASQ TS-10 APN TS-12 AP TS-12 AP TS-13 AP TS-15 AP TS-15 APN TS-16 APN TS-18 APQ-5 TS-24 APN TS-24 ARR-2 TS-27 TS-M TS-24 ARR-2 TS-27 TS-37 TS-23 / TRC-1 TS-33 / AP	Magnetic compensator	
S-10 APN	Altimeter test set Standing wave ind.	Delay line X-band VSWR
S-12/AP	Sig. gen. freq. mtr	X-band
5-14 AP	Sig. gen. freq. mtr Sig. gen. pwr mtr	S-band 2-4.5K GAUSS
S-15/AP	Fluxmeter 1 Altimeter test set	340-7250 CYC
S-18/AP	Voltage divider	340-7250 CYC 100 : 1-15 : 1 491.04 MC
S-19/APQ-5	Calibrator Altimeter test set	491.04 MC
S-24/ARR-2	Test oscillator	246 MC
S-27/TSM	Test oscillator Line test set 0-50	MEG, .1-3 MFD
S-28/UPN	Synchroscope Test oscillator 1 KC	FM, 70-100 MC
13-24% UTRC-1 15-33/ AP 15-35/ AP 15-35/ AP 15-35/ AP 15-35/ AP 15-45/ AP 15-45/ AP 15-45/ AP 15-45/ AP 15-45/ AP 15-45/ AP 15-55/ AP 15-65/ AP 15-65/ AP 15-75/ UP 15-75/ UP 15-75/ AP 15-78/ UP 15-78/	Frequency meter	
TS-34/AP	Portable oscilloscope Sig. gen. pwr and freq. m	Fast sweep htr X-band
TS-36/AP	Power meter	X-band
TS-45, APM-3	Power and freq. meter	X-band S-band
15-45/AP	Frequency meter Signal generator	40-500 MC
TS-51/APG-4	Goniometer	1. 6
TS-56/AP TS-59 APN	Standing wave ind. Delay line altimeter	L-band High alt
TS-61/AP	Delay line altimeter Echo box Echo box	S-band
TS-62/AP	Echo box	X-band
TS-69/AP	U/with RC103/ARN5 Calibrator freq. meter	.4-1KMC
TS-74/UPM	Calibrator freq. meter Attenuator and phantom	ant. S-band
TS-75/U TS-76/APM-3	Test meter Wave guide kit	U/with TS76 U/with TS45
TS-78/U	Phantom antenna	100-156 MC
TS-89/AP	Voltage divider	X-and S bands
TS-92/AP	Broad band alignment	1050-1110 MC 20-250 MC
TS-98/AP	Decade resistor	22.85.1
TS-100/AP	Oscilloscope circular swe Range calibrator Sine	ep e wave 327.8 KC
TS-108/AP	RF dummy load	X-band
TS-110/AP	Echo box	S-band S-band
TS-117/GP	Wavemeter, absorption	S-band
T S-118/AP	RF wattmeter 20-10	00 MC. 5-500 W
TS-120/UP TS-125/AP	Sig. gen. pwr meter	X-band S-band
TS-126/AP	Radar range calibrator	ADD YD PIPS
TS-127/U	Frequency meter Field strength meter	375-725 MC 20 30C0 MC 115-235 MC
TS-133/UPM-1	Wavemeter	115-235 MC
13-76, U 13-78, U 13-78, U 13-78, AP 13-98, AP 13-98, AP 13-98, AP 13-98, AP 13-98, AP 13-10, AP 13-11, AP 13-11, AP 13-11, AP 13-11, AP 13-11, AP 13-12, AP 13-12, AP 13-12, AP 13-13, AP 13-	Wavemeter FM Sig. gen. wave and p Sig. gen. pwr freq. mete	460-570 MC
TS-146/UP	Sig. cen pwr freg mete	r X-band
TS-148/UP	Spectrum analyzer	A-Dallo
TS-155/UP	Pulse generator	S-band 150,200 MC
TS-170/ARN-5	Sig. gen. pwr freq. mtr Test oscillator	150-200 MC 332.6-335 MC
TS-173/UR	Frequency meter Frequency calibrator	
TS-175/U	Frequency calibrator	85-1000 MC
TS-182/UP	Signal generator	20-280 MC 85-1000 MC 157-187 MC 400-430 MC
TS-192/CPM-4	Wavemeter	S-band
TS-204/AP	Reflectometer	×
TS-226/AP	Tuned cavity Wattmeter to K KW	X-band 400-425 MC
TS-247/APM-48	Wavemeter	400-425 MC 215-275 MC
TS-250/APN	Altimeter calibrator	Delay line 1700-2010 KC
TS-251/UP TS-258/UP	Loran sig. generator Sig. gen. pwr and freq.	mtr X-band
TS-259/AP TS-263/TPS-10	FM signal generator	
TS-268/U	Sig. gen. wattmeter Xtal rect. test set	X-band
TS-270/UP	Echo box	S-band
TS-278/AP	Test set Multimeter	400-420 MC
TS-309/U	Sweep generator	5-65 MC
TS-323/UN TS-352/U	Frequency meter Multimeter	
TS-375/U	Voltmeter	
TS-258/UP TS-259/AP TS-263/TPS-10 TS-268/U TS-268/U TS-278/AP TS-277/U TS-309/U TS-309/U TS-323/UR TS-352/U TS-375/U TS-382/U TS-505	Audio oscillator Vac. tube voltmeter	1000 KC
1-48	Megohmeter	0-1000.MEG
1-49	Wheatstone bridge Tube tester voltohmete	0-10 MEG
I-56 I-72	Signal generator	100-KC-32 MC
1-83	Dynamotor test set	470 MC
I-86 I-96A	Generator Signal generator	100-156 MC
1-100	Radio ADF test set Signal generator	
I-130A I-203A	Signal generator Bolometer	100-156 MC S-band
1-208	Signal generator Signal generator	1.9-45 MC 8-230 MC
1-222A	Signal generator Handy talky test eet	8-230 MC
IE-17 IE-19 IE-36	Handy talky test set SCR522 test set SCR522 test set	100-156 MC
1E-36 1E-46	SCR522 test set	156-166 MC
15-56	IFF test set	160-186 MC
BC-221	Frequency meter	160-186 MC 125-20000 KC 75 MC
BC-1066	Signal generator Test receiver	150-225 MC
BC-221 BC-376 BC-1066 BC-1077 BC-1203	Signal generator	S-band
BC-1203	Modulator unit	



TS-102/AP Range Cali-brator, this crystal controlled pulse generator produces a square-topped, 50 volt synchroniz-ing pulse of .8 microseconds at a prf of 400, 800, 1600 or 2000 cps. and a triangular marker pulse of 0.4 microseconds duration at a prf corresponding to a pulse-echo distance. of 1500 ft. The phase between the marker and sync. pulses is continuously variable from -180 to +180 degrees.



Model 84 • 300 MC. - 1000 Mc. S P E C I F I C A T I O N S FREQUENCY RANGE: 300 to 1000 megacycles in one band;

individually calibrated direct reading dial. FREQUENCY ACCURACY: ±0.5%.

OUTPUT VOLTAGE: Continuously variable from 0.1 to 100,000 microvolts.

OUTPUT IMPEDANCE: 50 ohms.

MODULATION: 0 to 30% within $\pm 20\%$ as determined by DC meter. Internal sine-wave oscillator; choice of 400, 1000, or 2500 cycles is provided. External modulation up to 30 kilocycles may be applied.

PULSE FREQUENCY: 60 to 100 Kc in three ranges, 60-1000, 600-10,000 and 6000-100,000 pulses per second.

POWER SUPPLY: 117 volts, 50 to 60 cycles.

DIMENSIONS: 13" high x 26" wide x 121/8" deep, overall. WEIGHT: Approximately 135 pounds, including external line voltage regulator.



Leaves both hands free to adjust scope, VTVM, Audio Oscillator Opens and Closes by THUMB action alone 5 Foot test lead wire Made of durable vinyl plastic 7



FREQUENCY METER Freg. Range: 125 to 20.000KC.

\$ 59.50

HETERODYNE

FREQUENCY

METERS

BC-221



FREQUENCY METER

U.S. Navy version of the famous Signal Corps Type BC-221 Frequency Meter. Frequency range-

125 to 20,000 KC

Accuracy 125 to 2000 KC 0.02%. 2 to 20 Mc 0.01% Built-in audio modulation. Includes tubes, crystal and ori-ginal calibration book.

Each unit completely recondit-ioned and tested prior to shipment.

LES



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Enjoy -one of the

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of this Electronic Age

BUY RETAIL at WHOLESALE PRICES!



For 6 volt battery—output 40 to 50 watts. For 12 volt battery output 50 10 60 watts. Size, 4"x5"x6". Operates all Equipment same OS smaller models, plus Wire Recorders, small drills, etc. LIST PRICE \$ 38.50 OUR PRICE .







SENIOR

For 6 volt battery--output 35 to 40 watts. For 12 volt battery—output 40 to 50 watts. Extensively used to operate Dictating Machines, Shavers, Phonographs, Radios, Lights, etc. LIST PRICE \$21.95 \$14.63 OUR PRICE



AUTOMATIC

No switches to throw. No vibrators to turn. No installation! Just plug into either 6 or 12 volt cigar lighter. Operates from either 6 or 12 volt battery. With 6 volt battery—output 55 to 75 watts. Wih 12 volt battery output 85 to 110 vatts. Operates same equipment as Super Model. \$36.63 OUR PRICE

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MINIATURE "OUNCER"

AUDIO TRANSFORMER

This half-pint size UTC audio ouncer has terrific promise for any of you with a little bit of ingenuity. Unit has two center tapped secondary windings which permits any com-bination of impedances for almost any use. We have tried them out for the following uses and found them to be excellant. Mike Input, LO-level output to line (balanced or unbalanced), Interstage Transistor

Ideal transmitter for Mobile, C.A.P.,

Ideal transmitter for Mobile, C.A.P., Two Meters, Fire Dept., Sheriffs fre-quencies, and especially swell for novice. Incorporated turret switching coils for all stages. Use 1625 acc., 1625 Tripler, 832-A Tripler, 832-A Final. Frequency Range is 100 MC thru 156 MC. Four channels are pro-vided using four separate coils in an automatic turret using 12 or 24V motor or a manually operated sys-tem. These coils con easily be re-wound for six meters. Complete with all tubes and schemamtic, these units are in excellent condition

\$1295

are in excellent condition for only

TWO METER ARC-5

TRANSMITTER



LLS

DELUXE METAL CABINET

Manufactured for late model teletype perforator. Ideal for use for, Ampli-fier, Tuner, Communiciations Receiv-er, and Etc. Grey crackle finish has self locking front lid and open-up back lid. Original cost to local man-ufacturer \$28.00, these are brand new is original factory wrapping and not G.I. surplus...... each \$295

MODEL ARB

RECEIVER

COMMUNICATIONS

RECEIVER Six tube superhetrodyne remote con-trolled receiver, tunes 195 KC thru 9050 KC. Includes Lighthouse, Air-craft Radio Ranges, Weather Reports, Complete Broadcast Band, Police Calls, All Marine Frequencies Amat-uer 160 meter, 80 meter, 75 meter and 40 meter, 80 meter, 75 meter and 50 meter, 75 meter and 50 meter, 75 meter contaned 24V dynamotor. Ex-cellent Condition. Schematics on request with order.

Schematics on F14,95

CONTROL BOX AND PLUCS \$4,95

SET

FOR

CHIEF One of the most popular Models. For 6 volt battery—output 75 to 100 watts. For 12 volt battery—ouput 100 watts. Has automatic cutt-off switch. Oeprates all equipment, previously listed, plus Amplifiers, etc. Uses. 101 LISST PRICES 69.95 \$43.30

> AIR FORCE HAND MICROPHONE USAF type. Highly sensitive. Has thumb control button in handle. Ideal for re-cording, public address systems, etc. Comes with 2 ft. rubber cord and phone

plug. NEW\$7.95 USE 3.95

AIR FORCE

CONDE TYPE T-30

Genuine USAF, Type T-30 Gives dis-tinct voice reproduction for most uses. 2 microphones mounted in rubber neck-piece with elastic neckband. Operates between 100 & 300 ohms.

Used by radio "hams" & professional recording studios, broadcasting, public address, etc. Telephone type with sensi-tive. clear tone. Developed for the U.S. Signal Corps. Complete with cord and plug

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THROAT

MICROPHONE

694

SIGNAL CORPS CARBON TYPE DESK

MICROPHONE

THE CONVENIENCES

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Tape Recorders

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truck, boat, plane

Electric Shavers

COLUMBIA'S PHONE PATCH KIT This is a Phone Patch the likes of which is hard to find. Perfect Imped-ance matching makes this the finest yet. We do not want to start in the manufacture of these units as we feel you can do as good a job if not better, and save the labor costs All

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better, and save the labor costs All of the components supplied are brand new stock at surplus prices. Everything is minitarized and com-pact. Complete schematic simplified so that even the newest novice can wire this unit up. Parts alone valued at \$9.75 distributors net: Get yours now: \$395



\$495 transmitter monitors...



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 I-101-C, used in Instrument Landing Systems. Good condition. Shpg wt 3 lbs. \$2.88



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CORDS

Trouble light with switch

and two sockets. 25 foot

with 50 foot cord. \$2.7

Extention cord only. Heavy

\$129

duty rubber covered cord

Same as above except

with plug and socket.

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50 foot

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heavy duty cord. \$1.97



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TYPE	1157	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST	TYPE	LIST
0Z4	2.15*	3BN4	2.55	5U4G	2.05	6AX5GT	2.95	6CH8	3.60	6P5GT	2.80	7B5	4.75	12BE6	2.15	12Z3	3.50	42	3.50
0Z4G	2.35*	3BN6	3.05	5U4GA	2.00	6AX8	3.50	6CL6	3.75	6Q7	3.40	786	3.25	12BF6	1.80	14A7	3.50	47	8.70
1A5GT	3.20	3BU8	2.80	5U4GB	2.00	6AZ8	4.20	6CL8A	3.15	6Q7G	3.20	787	3.30	12BH7	3.05	14B6	3.30	50A5	3.95
1A7GT	3.70	3BY6	2.35	5U8	3.30	6B8	4.70	6CM6	2.55	6Q7GT	3.20	7B8	3.55	12BH7A	3.05	14C7	3.35	50B5	2.65
1AB5	5.70	3BZ6	2.25	5V4GA/G	3.30	6BA6	2.00	6CM7	2.75	6R7GT	2.80	7C5	3.35	12BK5	3.80	14F7	3.85	50C5	2.15
1AG4 (N)	4.25*	3CB6	2.25	5V6GT	2.20	6BA7	3.70	6CN7	2.60	6S4A/6S4	2.05	7C6	3.30	12BQ6GTA	4.45	14F8	4.60	50L6GT	2.40
1AH4 (N)	1.90*	3CF6	2.55	5X4G	2.95*	6BA8A	3.55	6CQ8	3.30*	6S8GT	2.75	7C7	3.05	12BQ6GTB		14H7	4.10	50X6	3.20
1AJ5 (N)	2.00*	3C \$6	2.40	5X8	3.25	6BC5	2.30	6CR6	2.40	65A7	3.40*	7E6	4.05	12CU6	4.45	14Q7	4.10	50Y6GT	2.95
1AX2	3.05	3CY5	2.80	5Y3GT	1.75	6BC7	3.80	6C \$6	2.35	6SA7GT	3.25	7E7	4.45	12BR7	2.60	14R7	5.15	50Y7GT	3.05
1B3GT	2.90	3DK6	2.40	5Y4GT	2.35*	6BC8	4.00	6CS7	2.80	6SB7Y	4.50*	7F7	3.65	12BV7	3.05	17AX4GT	2.70	71A	5.10
1C5GT	3.65	3DT6	2.20	5Z3	3.00*	6BD6	2.30	6CU5	2.35	6SC7	3.35*	7F8	4.60	12BY7A/12BY7	3.05	17D4	2.75	75	5.10
1G3GT/1B3GT	2.90*	3LF4	4.20	5Z4	4.55	6BE6	2.20	6CU6/6BQ6GA	4.35	6SF5	2.70	7H7	3.90	12BZ7	3.05	17DQ6A	4.20	78	5.10
1H5GT	3.05	3Q4	2.75	6A7	4.65	6BF5	3.55	6CU8	3.65*	6SF5GT	3.20	7L7	4.25	12C5	2.35	17H3	2.15	80	2.90
1J3	2.90	3Q5GT	3.60	6A8	4.80	6BF6	1.80	6CX8	3.65*	6SF7	3.90	7N7	3.40	12C5/12CU5	2.35	18A5	4.10	83	3.50
1K3/1J3	2.90*	354	2.45	6A8G	4.80	6BG6GA/G	6.50	6CY5	2.75*	.6SG7	3.70*	7Q7	4.10	12CA5	2.50	19AU4GTA	3.45	84/6Z4	2.60
1L4 (N)	2.65*	3V4	2.35	6A8GT	4.80	6BH6	2.70	6D6	4.35	6SH7	3.50	757	4.75	12CR6	2.40	19BG6GA/		85	4.35
1L6	3.35	4BC5	2.35	6AB4	2.15	6BH8	3.50	6D8G	3.50	6SJ7	3.25*	7W7	4.75	12CU6	4.45	19BG6G	6.50	117L/M7GT	10.15
1LA4	4.45	4BC8	4.05	6AB7	5.00	6BJ6	2.60	6DA4	2.70	6SJ7GT	2.90*	7X7	5.85	12CU6/		1916	3.15	117N7GT	9.30
1LA6	4.10	4BN6	3.05	6AC5GT	4.35	6BJ7	2.95	6DB6	2.05	6SK7	3.10*	7Y4	2.75	12BQ6GA	4.45	1978	3.35	117Z3	2.50
1LC5	4.05	4BQ7A	4.00	6AC7	4.25	6BK4	7.10	6DC6	2.75*	6SK7GT	3.05	7Z4	2.75	12D4	2.75	24A	4.15	117Z6GT	4.40
1LC6	4.10	4B58	3.85	6AF4	4.00	6BK5	3.50	6DE6	2.45	6SL7GT	3.30	8AU8	3.55	12DF7	2.60	25AV5GA	4.10	7025/ECC83	2.95*
1LE3	4.25	4BU8	2.80	6AF4A	4.00	6BK7A	3.35	6DE7	2.95	6SN7GT	2.60	8AW8A	3.65	12DQ6A/		25AX4GT 25BK5	2.90	CDECINI A	TVDEA
1LH4	3.95	4BX8	3.45	6AG5	2.60	6BK7B	3.35	6DG6GT	2.50	6SN7GTA	2.60	8CG7	2.50	12DQ6	4.20	and the second s	3.05	SPECIAL 1	YPES
1LN5	3.95	4BZ6	2.25	6AG7	5.10	6BL7GTA	3.95	6DK6	2.35	6SN7GTB	2.60	8CM7	2.80	12DT5	3.05*	25BQ6GTB/	4.60	5R4GY	2.70
1N5GT	3.65	4BZ7	4.05	6AH4GT	3.30	6BN4	2.50	6DN6	6.25	6SQ7	2.90*	8CS7	2.95	12EN6	3.05*	25CU6	2.15	5R4GYA	2.70
1P5GT	3.50	4CB6	2.30	6AH6	4.65	6BN6	3.05	6DQ6A/6DQ6	4.10	6SQ7GT	2.70	9U8A	3.30'	12F8	2.55	25C5	2.13	6AS6	4.90
1Q5GT	4.05	4C56	2.35	6AK5 (N)	4.20*	6BQ5/EL84	2.35*	6DT5	2.90	6SR7	2.70	10DE7	2.95	12H6	2.75*	25CA5		6AS7G	6.25
1R5	2.55	4CY5	2.85*	6AK6 (N)	2.90*	6BQ6GTB/		6DT6	2.15	6557	3.50	12A8GT	4.75	12J5	2.70	25CD6GB/G	3.05	6AS7GA	6.25
154	3.65	4DT6	2.20	CAL5	1.85	6CU6	4.35	6E5 (N)	3.00	6T4	4.35	12AB5	2.45	12J5GT	2.70	25CU6/	4.60	12AY7	3.40
155	2.55	5AM8	3.30	6AL7GT (N)	5.75	6BQ7A	3.95	6EA8	3.20	6T8	3.35	12AC6	2.20	12J7GT	4.20	25BQ6GA 25CU6/	4.00	12011	0.40
1T4	2.40	5AN8	3.55	6AM4	5.90	6BR8	3.30	6F5	3.10	6T8A	3.35	12AD6	2.25	12K5	2.70		4.60		
1U4	2.35	5AQ5	2.20	6AM8A/6AM8	3.25	6BS8	3.75	6F6	3.65	6U5 (N)	3.20*	12AE6	1.85	12K7GT	4.05	25BQ6GT	5.55		
1U5	2.05	5AS4A/5AS4	2.15	6AN4	4.95	6BU8	2.80	6F6G	3.65	6U8	3.30	12AF6	2.25	12L6GT	2.45	25DN6	2.35	include where subject al with-	or
1-V	3.65	5AS8	3.45*	6AN8	3.50	6BV8	3.20	6F6GT	3.65	6U8A	3.30	12AJ6	1.75	12Q7GT	3.35	25F5	2.35	white	0
1V2	2.00	5AT8	3.25	6AQ5	2.15	6BW8	3.30	6G6G	3.75	6V3A	4.35	12AL5	1.90	12SA7	3.40*	25L6GT 25W4GT	2.23	8 2 -	n 8
1V6 (N)	2.40*	5AV8	4.05	6AQ5A	2.15	6BX7GT	4.40	6H6	3.05*	6V6	4.35	12AQ5	2.40	12SA7GT	3.25		3.10		change
1X2B	3.05	5AW4	2.80*	6AQ6	2.20	6BY5GA/G	4.20	6J5	2.70*	6V6GT	2.15	12AT6	1.65*	12SC7	3.35	25W6GT	2.90	st prices i cise Tax All prices s withdrawa	
2A3	6.30	5AZ4	2.65	6AQ7GT	4.00	6BY6	2.35	6J5GT	2.55	6W4GT	2.40	12AT7	3.05	125F7	3.95	25Z5	2.90	e bri thd	price dded.
2AF4	4.05	5B8	3.90	6AR5	2.60	6BZ6	2.25	616	2.80	6W6GT	2.80	12AU6	2.15	12SG7	3.70*	25Z6GT	4.35		i i
2AF4A	4.05	5BE8	3.30	6AS5	2.40	6BZ7	4.00	6J6A	2.80	6X4	1.65	12AU7	2.45	12SH7	3.65	26 27	4.35	Exc Exc e. Al	- P
2BN4	2.55	5BK7A	3.40	6A \$8	3.30*	6BZ8/X155	4.25	6J7	4.00	6X5GT	2.05	12AU7A	2.45	12SJ7	3.25*		3.50	Ex Ex	
2CY5	2.80	5BR8	3.30	6AT6	1.90	6C4	1.85	6J7GT	4.00*	6X8	3.15	12AV5GA	3.85	12SJ7GT	3.20	35A5		ab la	otice cate: type
3A2	3.50	5BT8	3.30	6AT8	3.20	6C5	2.65*	6K6GT	2.35	6Y6GA/G	3.45	12AV6	1.65	125K7	3.10*	35B5	2.65	Optional-list Federal Exci applicable. Al to change or w	•Indicates
3A3	3.40	5CG8	3.20	6AU4GTA/GT	3.35	6C6	4.35	6K7	3.80	7A4/XXL	3.25	12AV7	3.20	12SK7GT	3.05	35C5	2.15	Opt ede	be
3AF4A	4.05	5CL8	3.15	6AU5GT	4.30	6CB5A	7.50	6K7G	3.80	7A5	3.85	12AW6	2.95	12SL7GT	3.75	35L6GT	2.40	F. of to	*Ine
3AL5	1.85	5CL8A	3.15*	6AU6	2.10	6CB6	2.25	6K7GT	3.80	7A6	3.15	12AX4GTA/GT	2.70	12SN7GT	2.70	35W4	1.40		
3AU6	2.15	5CM8	3.55	6AU6A	2.10	6CB6A	2.25	6K8	4.45	7A7	3.50	12AX7	2.55	12SN7GTA	2.70	° 35Y4	2.75		
3AV6	1.75	5CZ5	2.85	6AU8	3.50	6CD6GA/G	5.80	6L6	6.10	7A8	4.45	12AZ7	2.75	12SQ7	2.90*	35Z3	2.75		
3B2	6.25	5DH8	4.05	6AV5GA	3.80	6CF6	2.55	6L6GB/GA/G	4.20	7AF7	3.85	12B4A	2.70	12SQ7GT	2.65	35Z4GT	2.35		
3BA6	2.15	5J6	2.80	6AV6	1.65	6CG7	2.45	6L7	4.35	7AG7	3.85	12BA6	2.00	12V6GT	2.15	35Z5GT	1.85		
3BC5	2.35	· 5T4	7.25	6AW8A/6AW8	3.55	6CG8	3.15	6N7	4.30	7AU7	2.60	12BA7	3.95	12W6GT	3.00	36	4.35		
3BE6	2.25	5T8	3.40	6AX4GT	2.65	6CG8A	3.15	6N7GT	4.35	7B4	3.05	12BD6	2.25	12X4	1.80	41	3.50		

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OA2 OA3 OA4G OB2 OC3 OD3 1C21 1P22 1P28 1P29 1P40 2AP1-A 2BP1 2C39A 2D21 2E24 2E26 2X2A 3A4 3A5 3AP1 3B28 3BP-1 3C23 3E28 3BP-1 3C23 3E22 4-65A 4-125A/1D21	1.26 1.27 1.68 1.32 1.27 3.85 3.80 22.50 3.80 22.50 13.65 13.80 22.50 13.65 13.80 22.50 5.25 5.25 5.25 3.85 * .75 1.20 5.25 * .295 * .295 * .295 * .19.88 * .19.95		★ 12.95 121.00 ★ 2.95 2.95 2.95 2.25 3.46 4.45 4.33 7.35 1.51 1.67 1.70 15.00 20.00 24.00	832-A 833-A 833-A	77.00 2.03 22.15 33.00 22.15 33.00 22.15 \$ 27.15 \$ 2.95 \$ 2.95 \$ 2.95 \$ 2.95 \$ 2.95 \$ 2.95 \$ 2.55 \$ 2.00 \$ \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.00 \$ 2.000 \$ 2.00 \$ 2.65 \$ 2.40	866JR 868 872-A 872-A 872-A 885 902-A 923 927 929 930 931-A 934 935 955 957 955 957 957 958-A 991 1612 1614 1616 1619 1620 1621 1622 1625 1626	1.95 3.75 9.35 1.85 2.85 2.85 3.75 2.85 3.75 2.85 3.75 2.85 3.75 2.85 3.75 2.85 3.75 2.85 3.75 2.85 3.65 9.95 ★ .75 5.35 ★ .75 5.35 ★ .95 ★ .95 ★ .50 6.36 1.95 2.70 2.72 ★ .25 ★ .25	1629 1635 2050 5557 5581 5582 5583 5584 5618 5642 5651 5651 5652 5654 5654 5654 5654 5654 5691 5693 5696 5751 5696 5751 5696 5751 5693 5696 5751 5692 5693 5694 5751 5693 5694 5751 5693 5694 5751 5693 5694 5693 5694 5751 5693 5694 5693 5693 5694 5751 5693 5693 5693 5693 5693 5693 5693 5693	* .25 2.00 1.85 9.50 2.70 4.95 4.30 5.20 4.93 1.36 1.78 6.65 3.80 13.20 4.25 8.45 8.45 8.45 8.15 6.40 1.90 3.70 2.37 1.57 6.25 5.30 4.90 2.55 5.25 5.20 4.90 18.00	6360 7094 8000 8005 8008 8008 8008 9001 9002 9003 9004 9005 9006 EL-38 KT-66 KT-88 T-40 Y-70-D ELC6J Z-729	*** **	4.00 31.95 26.40 9.35 .75 .75 .75 .75 3.70 4.50 8.50 8.50 19.00 2.99

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A. Drop forged crescent wrench

- choice of 8 or 10 inch size.
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New! Jig Saw with Jig-Lite . . . You see as you saw! Cuts 2x4's; perfect circles up to 17"; or bevel cuts at 45° on either side! This powerful husky is a whole shop full of saws in one! Does the work of a rip, band, coping, crosscut, scroll, keyhole and hack saw. Cuts everything from metal to leather! Powerful series type motor has a full 1.8 ampere rating. Cuts at 2650 strokes per minute. Motor is amply, cooled by internal fan that also provides air jet to keep cutting line clear of sawdust. Has auxiliary han-dle; slide-type switch; 8" calibrated, rip and circle cutting guide; and six foot rubber cord. New Silver-Luster finish. Comes with package of 3 bladcs. Weight, 5¼ lbs.

Model 280 Oscillating Sander with packet of 9 sandpaper strips and lambswool polishing bonnet. Orbital motion of $\gamma_{\rm K}^{**}$ produces a satin smooth finish free from marks or scratches. Exceptionally compact and lightweight! Only 4/2, pounds. Over 25 sar/in. of sanding surface. Sponge rubber pad is 71/4 "x3%" with patented knurled, roller-type, clamps. Powerful Universal AC-DC motor has a full 2.0 ampere rating. No load speed of 3500 orbits per/min. Equipped with auxiliary handle; six foot rubber cord; and new mar resistant Silver-Luster finish.





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