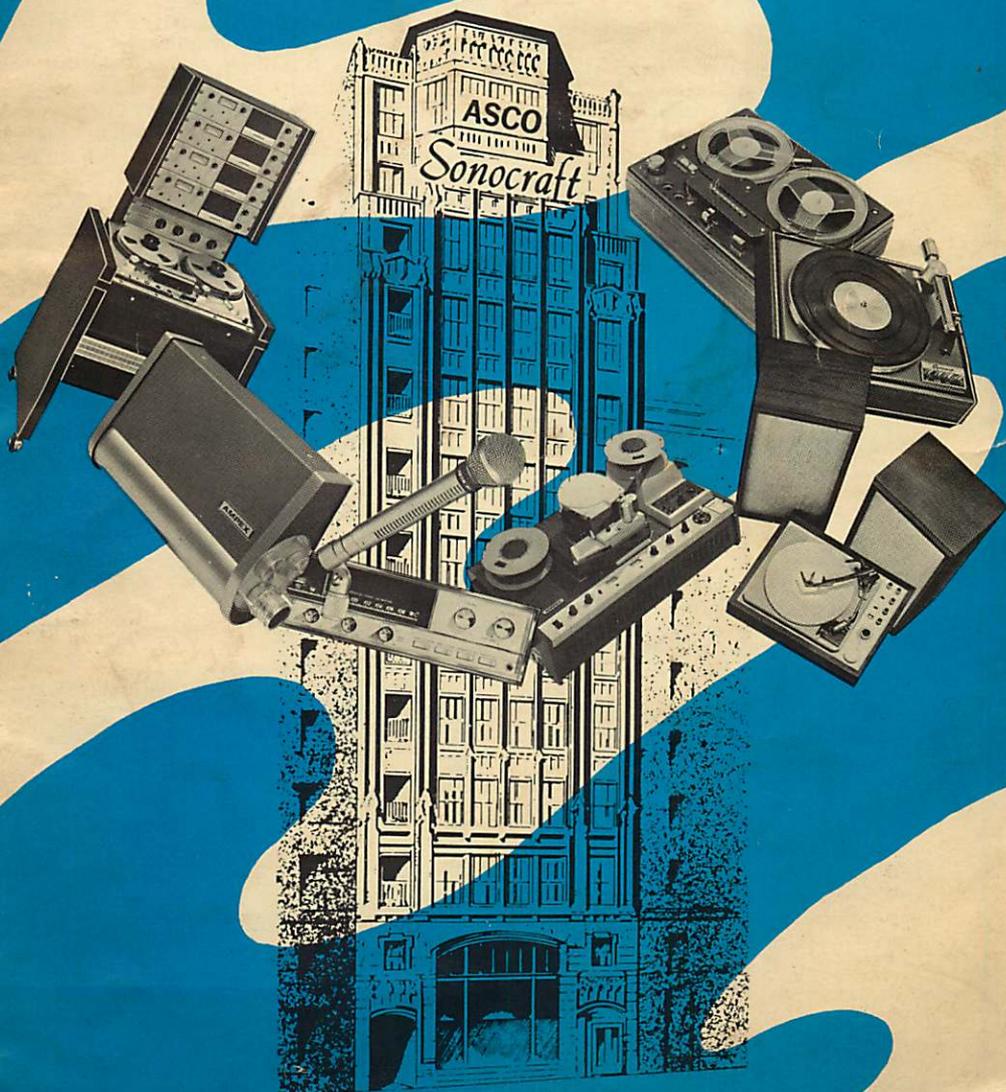


ASCO Sound Corporation—a division of

# SONOCRAFT

*sound  
advice  
for 1967*



115 West 45th Street, New York, N. Y. 10036

phone 212 JU 2-1750 or 516 HN 6-3398

**HOW MUCH  
STEREO  
CAN  
YOU BUY  
FOR  
\$300?**



**The KLH\* Model  
Twenty-Four.**

**Now** you can buy a stereo music system that you can own happily for the rest of your life for just \$300. The new KLH\* Model Twenty-Four will do everything you'd expect a high-performance music system to do—and more. It will play mono and stereo records and mono and stereo FM broadcasts. It has output jacks for making tape recordings, and you can play other music sources (such as a tape recorder or an AM receiver) through it.

All of the electronics in the Model Twenty-Four are solid-state. And all of the electronics, as well as the newly designed high-performance loudspeakers, are built by KLH in their own plant. The only component in the Model Twenty-Four that isn't built by KLH is the Garrard automatic turntable. It is the same Garrard model used in KLH's most expensive systems.

Because of the Twenty-Four's compact size and sensible three-piece design, it will fit gracefully into any living room. Most important, it will produce uncanny sound. It has the range, spaciousness and power of far more ambitious and costly equipment.

Come and listen to the Twenty-Four in our showroom. We think you'll agree that its sound goes beyond anything you are prepared to expect from an instrument of its size and price.

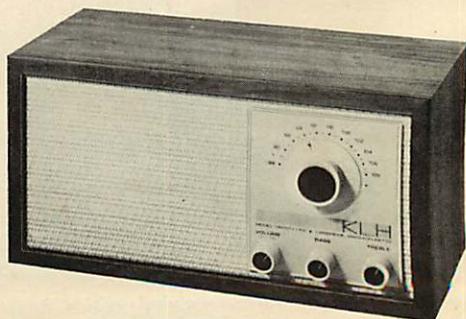
**INTRODUCING AN ASTONISHING FM RADIO**

The new KLH Model Twenty-One is a small FM Radio that produces an unreasonable amount and quality of sound. Hardly bigger than a shoe box a Twenty-One can fill just about any room with sound and it's an ideal addition to an office or waiting room as well as a home.

Besides its truly astonishing sound, and its ability to pull in even the most difficult FM stations, the Model Twenty-One offers exceptional versatility for home or office use. It has two outputs for external speakers (which can be used along with or instead of its own built-in speaker) and a special tuner output that pipes sound to a tape recorder or to another sound system. And there's an optional KLH extension speaker that guarantees identical sound quality in any room or office.

We invite you to come in to see and hear the Twenty-One. We guarantee you will be astonished by this really remarkable product and by its price . . . just **\$79.95**

Optional auxiliary speaker . . . . . **24.95**

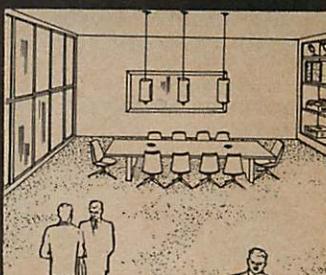
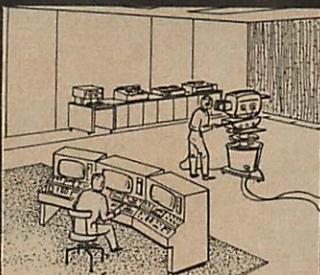


\* A TRADEMARK OF KLH RESEARCH AND DEVELOPMENT CORP.

# SONOCRAFT CORPORATION

115-17 WEST  
NEW YORK, NEW YORK  
212/JUDSON 2-1750  
516/HN 6-9898

DISTRIBUTORS OF SOUND AND RECORDING EQUIPMENT

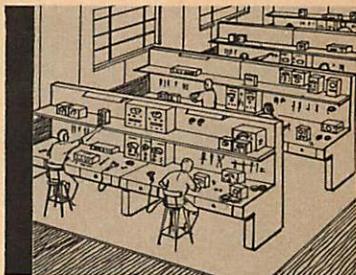


## SHOWROOMS

Our three new Penthouse Showrooms, elevated far above the city's din, provide for a relaxed atmosphere to choose, without distraction, the equipment of your choice. We have three spacious, temperature controlled showrooms, to display stereo, video professional and general educational and institutional products. Your visit will be welcomed by our staff.

## REPAIR SERVICE

Sonocraft's modern service center is equipped with the finest electronic test equipment available. Utilizing the latest test gear, Sonocraft's technicians are capable of servicing general hi-fi stereo, as well as video equipment. Sonocraft technicians are specially chosen and have been factory trained by industry's foremost manufacturers.



## RENTAL SERVICE

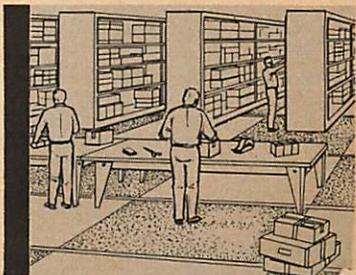
We have a large selection of recorders, phonographs, projectors and public address equipment. We can fill your rental requirements, whether large or small, promptly. Phone in your rental requirements for a quick quote on rental price and availability.

## TRADE-INS

The purchase price on new components can be reduced by trading in your old equipment. We will be happy to appraise your old components at no charge. We accept most items for trade-in providing they are in usable condition. All used equipment sold by ASCO has been thoroughly checked out. All parts worn or not up to specification, have been replaced. Items for resale are guaranteed with the EIA standard.

## STOCK AND SHIPPING

ASCO-Sonocraft maintains a large inventory to serve you promptly. Our warehouse has been designed to facilitate the expediting of your orders fast and efficiently. Shipments are made daily by experienced carriers.



Another Catalog Produced by  
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# SONOCRAFT CORPORATION

115-17 WEST 45TH STREET  
NEW YORK, NEW YORK 10036

212/JUDSON 2-1750  
516/HN 6-9898

DISTRIBUTORS OF SOUND AND RECORDING EQUIPMENT

SONOCRAFT CORPORATION ARE AUTHORIZED DISTRIBUTORS FOR THE PRODUCTS OF THESE MANUFACTURERS:

ACOUSTECH  
ACOUSTIC RESEARCH  
ALTEC  
AMPEX  
AMPHICON  
ANGENIEUX  
AQUA  
ARGOS  
ASTATIC  
ATLAS SOUND  
AUDIO DEVICES  
BARKER  
BERTHIOT  
BEYER  
BOGEN  
BOZAK  
BRUSH  
CALIFONE  
CANON  
CAPPS  
CINEMA  
C/M  
COUSINO  
CROWN  
DAVIS & SANFORD

DUAL  
DYNACO  
DYNAIR  
EDITALL  
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ELPA  
EMI  
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FISHER  
GARRARD  
GENERAL ELECTRIC  
GRADO  
GROMMES  
HOLMIN  
ITT  
JENSEN MFG.  
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KLH  
KODAK  
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LANSING, J. B.  
MAGNECORD  
MARANTZ  
MELLOTONE  
MIRATEL

NORELCO  
ORTOPHON  
PAR-METAL  
PELCO  
PERMA-POWER  
PICKERING  
PIX MOBILE  
PROJECTION OPTICS  
PULTEC  
QUICKSET  
RECOTON  
REK-O-KUT  
REVERE  
REVOX  
ROBERTS  
ROBINS  
ROTRON  
SCHNEIDER  
SCOTT, H. H.  
SCULLY  
SETCHELL-CARLSON  
SHERWOOD  
SHIBADEN  
SHURE  
SONY

SOUNDOLIER  
SQUIRES-SANDERS  
STANDARD  
STANTON  
SUPERSCOPE  
SWITCHCRAFT  
TANDBERG  
TANNOY  
TELEMET  
TELEX  
THORENS  
3M  
TRIMM  
TUC  
TURNER  
UHER  
UNITED AUDIO  
UNIVERSAL  
UNIVERSITY  
UTC  
VEGA  
VIDAIRE  
VIKING  
WOLLENSAK

SONOCRAFT CORPORATION IS A MEMBER OF NAVA

## NEW STOCK ITEMS

We invite your inquiries about items you may not find listed due to space limitations and new additions.

## PRICES

All prices in this catalog were correct at press time, but are subject to change without notice. Orders will be filled at the prices prevailing on date order is received.

## GUARANTEE

Every item sold by us is fully guaranteed by the standard warranty of the Electronic Industries Association. Defective items will be replaced or repaired if returned within the warranty period. Please obtain written permission before returning any item.

## TERMS

A deposit of 25% should accompany all C.O.D. orders. Orders amounting to \$5.00 or less should be prepaid in full. OPEN ACCOUNT granted to rated firms. Shipments F.O.B. our warehouse N.Y.C., 10 days net.

## LEASING AND FINANCING

Information and credit forms can be obtained from our Credit Dept. for bank financing and long term leasing arrangements on electronic equipment purchased at Sonocraft.

## SPECIAL PACKAGE QUOTATIONS

You can save a considerable amount of money by writing us for our PACKAGE PRICE QUOTATION on any systems that you may select. If we feel that the merchandise you are ordering is not compatible, we will make our recommendations so that you can be assured of perfect sound reproduction with the equipment that you purchase.

## RENTALS

A deposit of 50% of the List Price is required on all rentals, or a Purchase Order from a rated account will be acceptable. Prices of equipment vary as to brand and versatility.

## EXPORT

We have a complete export service so that all necessary papers for documentation, consular invoices and shipping Bills of Lading are taken care of immediately. Our correspondents are multi-lingual.

## DELIVERY

Orders are usually shipped within 48 hours after receipt of order by the most economical method consistent with speed and careful handling.

## RETURNED MERCHANDISE

Returns are usually subject to a 10 percent restocking charge, this may vary however, with the particular circumstances. Microphones ARE NOT returnable if cables have been cut or soldered.

# marantz Stereo Components

## MODEL 10B FM MULTIPLEX BROADCAST MONITOR

- OSCILLOSCOPE MULTIPATH/TUNING INDICATOR DISPLAYS FIELD STRENGTH, DEVIATION AND ANTENNA SETTING FOR LEAST DISTORTION
- PHASE-LINEAR IF FILTER NEVER NEEDS ALIGNMENT: GIVES UNMATCHED PERFORMANCE
- VERY CLEAN FRINGE-AREA RECEPTION
- AUTOMATIC STEREO SWITCHOVER FOR BUILT-IN MULTIPLEX

Superb professional FM tuner employs new circuit principles that provide performance capability previously unattainable. Unique fixed phase-linear IF filter circuit has almost ideal band-pass characteristics and eliminates IF alignment adjustments; unaffected by tube changes or other component aging. Sensitivity, selectivity and quieting are far in advance of present-day circuitry; ultra-linear detector; very high multipath (ghost) rejection assures cleaner reception with any given antenna. Built-in multiplex section features automatic stereo switchover with indicator light. Oscilloscope tuning indicator provides accurate station setting with simultaneous visual display of field strength, deviation and antenna-setting for least multipath distortion. Gold anodized front panel matches Model 7T. **Sensitivity:** 2  $\mu$ V (at 300 ohms) for better than 40 db quieting; 25  $\mu$ V for better than 70 db quieting. Volume sensitivity, 0.8  $\mu$ V for 10 db reduction in audio output system. **Noise:** 80 db below 1 V audio output. **Distortion:** Better than 0.5% harmonic, input to output. **Adjacent Channel Rejection:** Better than 40 db; alternate rejection, 150 db. **IF Stages:** Six total, featuring phase-linear fixed filter concept; IF bandwidth 200 kHz; no alignment needed. **Limiters:** Nine symmetrical aperture limiters. Crest factor 90 db. Unusually high AM rejection. **Tuning Gang:** Military type, silver-plated with ceramic spacers. **Input:** 300 ohms, balanced. **Size:** 15 $\frac{3}{4}$ " w. x 5 $\frac{3}{4}$ " h. (front panel) x 15" d. Shipping Weight, 35 lbs.

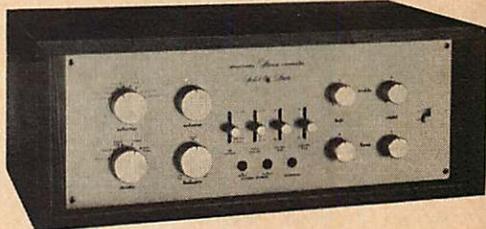
Marantz Model 10B FM Monitor—Chassis only, Net **\$750<sup>00</sup>**  
 Marantz Model B10-O (Oiled Walnut) Cabinet—  
 Net Each. .... **\$37.00**  
 Marantz Model 10B-R Rack Mount—Model 10B FM Monitor  
 mounted on rack. Net Each. .... **\$800.00**



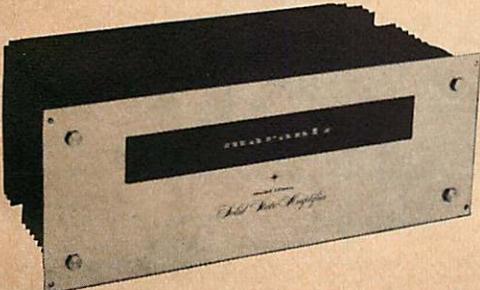
## MODEL 7T SOLID STATE STEREO PREAMPLIFIER

Superb stereo preamplifier combines high versatility with unmatched ease of operation. Assures excellent performance in programming any source of stereo or monophonic sound. Features toggle selection of equalization and filtering adjustments; single knob function and mode selectors for all requirements. Special circuit and switching permits tape recording playback or monitoring, plus duplication of tapes with tape recorder front and rear outputs; drives either high or low impedance recorders. Stereo material can be mixed and recorded monophonically. Separate A + B mixing circuit with level control to drive one or two additional amplifiers for center channel or remote monophonic speakers; low impedance output. Peak dynamic excursions will not overload sensitive low-level phono stages. All outputs capable of feeding either 500 ohms or high impedance components. Six AC convenience outlets. **Frequency Response:**  $\pm$ 0.1 db, 20-20,000 Hz. **I.M. Distortion:** 0.15% at 10 volts rms peak equiv. output. **Noise:** -50 db at 10 mV input, 20-20,000 Hz; 1  $\mu$ V equivalent broadband noise input with or without RIAA equalization. **Dynamic Range:** Phono input, typically 100 db from noise level (below 1  $\mu$ V) to clipping point (approx. 100 mV). **Controls:** Function Selector (Tape Head, Mike, Phono 1, Phono 2, Tuner, TV, Aux 1, Aux 2); Mode (Stereo, Stereo Reverse, Channel A, Channel B, Channel A + B Monophonic); Ganged Volume (precision tracking); Tape Function (Play, Monitor, Copy); High Filter; Rumble Filter; Equalization (RIAA, old Col LP, 78); Bass (each channel); Treble (each channel); Balance; On-Off. **Inputs:** Eight each channel plus tape playback. **Outputs:** Two recording (one on front panel); two amplifier per channel; two center channel; one headphone. **Gain:** Phono to main output at 1 kHz, 64.5 db; phono to recording output, 42.5 db; high level to main output, 22.5 db. **Size:** 15 $\frac{3}{4}$ " w. x 7" d. x 5 $\frac{3}{4}$ " h. Shipping Wt, 15 lbs. **\$325<sup>00</sup>**  
 Marantz Model 7T Preamplifier—Chassis only, Net. . . **\$24.50**  
 Marantz Model B7-O Cabinet—Oiled walnut, Net Ea. . . **\$24.50**  
 Marantz Model 7T-R Rack Mount—Model 7T mounted on 19" x 7" relay rack. Has brushed aluminum, clear anodized finish and machined aluminum knobs. Net Each. .... **\$355.00**

- HIGH PRECISION CIRCUITRY
- 9 OUTPUTS
- 17 INPUTS
- TAPE MONITORING AND DUPLICATING FACILITIES
- SEPARATE BASS AND TREBLE
- LOWEST DISTORTION AND NOISE
- HIGHEST DYNAMIC RANGE



## MODEL 15 SOLID STATE 120-WATT STEREO AMPLIFIER



Direct-coupled design sets new amplifier standards; uses complementary symmetry silicon transistors. Stability and transient response are superb. Square waves are exceptionally clean, having a fast rise-time with no overshoot or ringing. Safe ratings and massive heat sinks assure cool operation. New current limiting circuit protects both output and driver transistors from short circuits, open circuits, capacitive loads or complex reactive load-speaker loading; gives instantaneous, unobtrusive protection without program interruptions. Sharp "cross over notch" characteristic of transistor output circuits is virtually eliminated, resulting in full power distortion of less than 0.1%. **Power Output:** 40 watts, 60 watts, 70 watts per channel; operates continually at full rated power from 20 to 20,000 Hz with complete safety. **Output Impedances:** 4, 8, 16 ohms per channel. **Frequency Response:**  $\pm$ 1 db, 10-80,000 Hz. **Total Harmonic Distortion:** Less than 0.1%. **Typical Harmonic Distortion:** 0.03% with 8-ohm or higher load at full rated output, any frequency from 20 to 20,000 Hz. **Damping Factor:** Greater than 150 relative to 8-ohm load. **Total Noise:** -90 db, 60 watts into 8 ohms. **Overload Recovery:** Instantaneous. **Time Delay Circuit:** 5 sec.; loudspeakers protected from turn-on and turn-off "pops" and surges. **Power Supply:** Separate; channels are completely isolated. Cabinet or rack mounting available. Shipping Weight, 36 lbs.

Marantz Model 15 Solid State Amplifier—Net Each. **\$395.00**  
 Marantz Model 15R Solid State Amplifier—Rack mounted.  
 Net Each. .... **\$425.00**  
 Marantz Model 14 Solid State Single Channel Amplifier—  
 Shipping Weight, 18 lbs. Net Each. .... **\$200.00**  
 Marantz Model 15 Cabinet—Net Each. .... **30.00**

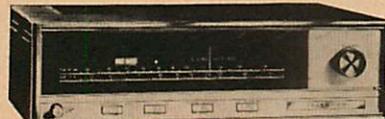
# Sherwood Stereo, Hi-Fi Equipment



MODELS S-8800 and S-7800



MODEL S-8600



MODEL S-2300



MODELS S-3300 and S-3500



MODEL S-2000IV

## MODEL S-2000IV AM/FM MONO TUNER

Engineered for the finest reception of AM and FM broadcast. Features professional zero-center tuning meter to indicate when the FM circuit is exactly on frequency. Includes FM inter-channel hush muting system which eliminates noise "hash" between FM channels to facilitate tuning. Both a rear-panel hush sensitivity control and a front panel hush defeat switch are provided for tuning in weak or distant FM stations. Excellent AM reception through 15 kc wide "hi-fi" bandpass. Sharply selective 5 kc bandpass on front panel for weaker AM broadcasts. Fly-wheel tuning is easier and faster. Communication type dial spread with professional calibrations for slide rule accuracy. **Sensitivity:** FM, 1.8  $\mu$ V IIF; AM, 2  $\mu$ V at 60% modulation for 0.5 V output. **Selectivity:** FM, 200 kc at -3 db; AM wide, -6 db at 15 kc; AM narrow, -6 db at 5 kc. **FM Response:**  $\pm 1/2$  db, 20-20,000 cps. **Harmonic Distortion:** 1/2% at 100% mod. **Power Consumption:** 80 watts, 115-125 VAC, 60 cps fused. **Tubes:** 9 plus 2 silicon rectifiers and 3 diodes. **Size:** 14" w. x 10 1/2" d. x 4 1/2" h. Shpg. Wt., 15 lbs. **Model S-2000IVS**—Less case.\* Net Each.....\$162.50  
West Coast: 165.50

## RACK PANEL MOUNTING

All models of Sherwood tuners are available mounted on a gray hammertone steel panel for installation in standard relay racks. Panel size, 19" w. x 3 1/2" h. To order, change suffix S on model number to R—example: S-2000IVR. Shipping Weight, 3 lbs. additional to tuner chassis weight for S-2300, S-3300 and S-3500; 4 lbs. for S-2000IV. Add \$7.50 to price of model when panel is purchased with tuner. The cost of the panel purchased separately is \$10.50; Shipping Weight, 5 lbs.

## MODEL S-8800 ALL SILICON FM STEREO RECEIVER

Solid state, all silicon receiver for maximum reliability. **FEATURES:** Automatic FM stereo/mono switching; stereo indicator light; professional zero-center tuning meter; front panel stereo headphone jacks. **TUNER: FM Sensitivity:** 1.6  $\mu$ V for 30 db. IIF; noise and distortion below 100%. **Stereo Separation:** 40 db. **M.X. Hum and Noise:** -70 db at 100% mod. **AMPLIFIER: Power Output:** 140 watts (4 ohms), 100 watts (8 ohms) music power; 50 watts (4 ohms), 40 watts (8 ohms), continuous each channel. **Hum and Noise:** (Max. below rated output) -60 db, phono, -50 db, aux. **IM Distortion:** 0.6% at 50 watts, 4 ohms. **HF: noise and distortion below 100%.** **Auto V. aux. Inputs:** (Two each) High-Level: Phono Preamp (RIAA); Tape Head (NAB); Tape Monitor. **Outputs:** Left and right speakers, main and remote, stereo headphone and record output. **Controls:** Selector (Tape Head, Phono, FM, Aux); Dual Bass, Treble, Balance, Volume/Off; Mode; Filter (HI-Low); Speakers; Loudness; Tuning. **Size:** 16 1/2" w. x 14" d. x 4 1/2" h. Shpg. Wt., 27 lbs. **Model S-8800S**—Less case.\* Net Each.....\$359.50  
West Coast: 363.50

## MODEL S-7800 ALL SILICON AM/FM STEREO RECEIVER

Similar to Model S-8800 plus AM circuitry. AM sensitivity, 2  $\mu$ V; bandwidth, 7.5 kc. **Model S-7800S**—Less case.\* Net Each.....\$399.50  
West Coast: 403.50

## NEW MODEL S-8600 FM STEREO RECEIVER

Solid state stereo receiver features 80 watts of music power. Two front-panel rocker action switches for independent control of two pairs of stereo speaker systems. Slip-on transistors are used throughout to provide the utmost reliability. **Frequency Response:** FM Mono,  $\pm 1/2$  db at 20-20,000 cps; FM Stereo,  $\pm 1/2$  db at 20-15,000 cps; Amplifier,  $\pm 1/2$  db at rated output, 20-20,000 cps. **Typical FM Sensitivity:** 1.1  $\mu$ V for 20 db quieting; 6.0  $\mu$ V for 50 db, signal-to-noise ratio. **FM (IHF) Sensitivity:** 1.8  $\mu$ V for -30 db noise and distortion below 100% mod. **FM Distortion:** Less than 0.25% IM at 100% mod; less than 0.25% harmonic at 100% mod., 400 cps. **Typical FM Selectivity:** 250 kc at -6 db, 820 kc at -60 db. **FM Hum and Noise Level:** 70 db below 100% mod. **FM Output:** 0.7 volts at 100% FM. **Power Output:** 80 watts at 4 ohms, 50 watts at 8 ohms music power; 30 watts at 4 ohms, 20 watts at 8 ohms continuous. **Distortion:** 0.6% per channel. **Outputs:** 4 to 16 ohms, main-and-remote left and right speaker, stereo headphone and record output. **Inverse Feedback:** 35 db. **Damping Factor:** 30:1 at 8 ohms. **Sensitivity:** Phono selectable; aux 0.4 V. **Max. Hum and Noise:** Below rated output: Volume control min., 90 db; aux input max., 80 db weighted; phono input, 60 db. **Interchannel Crosstalk:** less than -45 db at 1 kc. **Transistor Complement:** 35 silicon transistors, 4 silicon rectifiers, 9 silicon diodes, 1 zener diode. **Controls:** Bass; Treble; Balance; Power Off/Loudness; Tuning, Rocker Switches for Phono/Tuner, Norm./Aux) Tape Monitor, Speakers Main/Off, Speakers Remote/Off. Front panel Jack for stereo headphones. **Power Consumption:** 115-125 V, 60 cps, 30 to 120 watts fused. **Size:** 16 1/2" w. x 12" d. x 4 1/2" h. Weight, 26 lbs (with case). **Model S-8600**—Less case.\* Net Each.....\$289.50  
West Coast: 292.50

## NEW MODEL S-2300 ALL SILICON AM/FM/MX STEREO TUNER

Solid state, all silicon stereo tuner features noise-threshold-gated automatic FM stereo/mono switching, professional d'Arsonval zero-center tuning meter, front-panel hush control, rocker action switches. Specially designed dual automatic-gain-control system maintains proper selectivity under strongest signal conditions. **Sensitivity:** FM, 1.6  $\mu$ V for -30 db quieting and distortion, IHF; AM, 2  $\mu$ V at 60% mod. for 6 db. **Selectivity:** FM, -6 db at 250 kc, -60 db at 820 kc; AM, -6 db at 4 kc. **Stereo Separation:** 35 db. **FM Distortion:** Less than 0.25% IM and harmonic at 100% mod. **Hum and Noise:** FM, 70 db below 100% mod.; AM, 56 db below 100% mod. **Controls:** Audio Level, Automatic Stereo/Mono, AM/FM, Hush Switch, Power Switch, Tuning. **Size:** 14" w. x 10 1/2" d. x 4 1/2" h. Shipping Weight, 13 lbs. **Model S-2300S**—Less case.\* Net Each.....\$199.50  
West Coast: 202.50

## MODEL S-3300 ALL SILICON FM/MX TUNER

Solid state circuitry backed by professional quality instrumentation. **FEATURES:** Zero-center tuning meter; stereo indicator light; automatic stereo/mono switching; inter-channel hush; 3/4" expanded slide-rule scale; dual AGC system; cascaded limiters, and noise filter. **Sensitivity:** 1.6  $\mu$ V for -30 db quieting and distortion, IHF. **Selectivity:** -3 db at 200 kc. **Frequency Response:**  $\pm 1/2$  db, 20-15,000 cps (stereo); 20-20,000 cps (mono). **Distortion:** 0.3%, 20-20,000 cps. **Signal-to-Noise Ratio:** -70 db over 60% capture. **Capture Ratio:** 2.4 db. **Separation:** -40 db. **Controls:** Tuning; Audio Level; Mono/Automatic Stereo; Hush; Noise Filter; Power On/Off. **Power Required:** 15 watts, 115-125 VAC, 50-60 cps fused. **Size:** 14" w. x 10 1/2" d. x 4 1/2" h. Weight, 10 1/2 lbs. **Model S-3300S**—Less case.\* Net Each.....\$167.50  
West Coast: 170.50

## MODEL S-3500 ALL SILICON SOLID STATE FM MONO (W/AFC) TUNER

Similar to Model S-3300, but with FM mono reception. Automatic frequency control for drift-free performance. **Model S-3500S**—Less case.\* Net Each.....\$129.50  
West Coast: 131.50

\*SEE NEXT PAGE FOR CABINETS

# Sherwood Stereo, Hi-Fi Equipment

## MODEL S-9000a 160-WATT ALL SILICON SOLID STATE STEREO PREAMP/AMPLIFIER

All silicon, solid state preamp/amplifier provides outstanding audio power in a compact unit. All silicon reliability and special circuitry prevent damage to costly transistor components due to shorted output or overheating. Glass-polyester printed circuit boards. Stable operation with capacitive type loads assures excellent operation with electro-static speaker systems. Rocker action switches for front panel control of tape monitoring, loudness compensation, speaker muting, rumble and scratch filters. **Power Output:** 160 watts IHF music power, both channels, 8 ohms; 130 watts continuous sine wave, both channels, 8 ohms. **Power Bandwidth:** 12-25,000 cps at 1% harmonic distortion. **Harmonic Distortion:** 0.25% at rated output; 0.05% at 10 watts or below. **IM Distortion:** 0.25% at rated output; 0.10% at 10 watts or below. **Damping Factor:** 40. **Hum and Noise:** Below rated output: Phono, -70 db; tuner, -80 db. **Sensitivity:** Tape head, 1.0 mV; phono, 1.8 mV; tuner, 0.25 V. **Inputs:** Two each: Phono, Tape Head, Tape Monitor, Aux. **Tuner Outputs:** 4, 8 or 16-ohm speakers, stereo record, stereo headphones. **Complement:** 23 silicon transistors, 4 silicon rectifiers. **Size:** 14" w. x 12 1/2" d. x 4" h. Shipping Weight, 24 lbs.

**Model S-9000aS**—Chassis, less case.\* Net Each. .... \$309.50  
West Coast: 312.50  
**Model S-9000aT**—With walnut-tone leatherette louvered case. Net Each. .... \$318.00  
West Coast: 321.00

## MODEL S-9900a 140-WATT ALL SILICON SOLID STATE STEREO PREAMP/AMPLIFIER

All silicon, solid state amplifier and control center with extremely low distortion. Features high phono input overload capabilities and audio power. Front-panel rocker switches offer centralized control of two separate sets of stereo speakers which may be played independently or together. Complete stereo input facilities for tuner, phono, tape heads, tape monitoring and auxiliary sources. Phono input circuitry permits use with the highest output magnetic phono cartridges without overload. **Power Output:** IHF Music Power: 140 watts, 4 ohms; 100 watts, 8 ohms. Continuous Both Channels: 60 watts, 4 ohms; 40 watts, 8 ohms at 0.6% distortion. **Frequency Response:** ±1 db, 20-20,000 cps at 40 watts. **Sensitivity:** 0.25 V, tuner; 1.8 mV, phono; 1.0 mV, tape head (phono and tape head inputs are adjustable with preamp level control). **Damping Factor:** 40:1 at 8 ohms. **Distortion:** Phono: Less than 1% at 250 mV; Radio: Less than 1% at 2.8 V. **Hum and Noise:** Phono, 70 db; tuner, 80 db, below rated output. **Controls:** Selector (Tape, Phono, Tuner and Aux); Stereo/Mono (Rev., Normal, Channel 2, Mixer); Ganged Stereo Bass, Treble, Loudness, Balance; Preamp Level Pushbutton; Norm/Tape Monitor, Norm/Hi Filter, Loudness In/Out, Spkrs (A)/Off, Spkrs (B)/Off Switches; head phone jack. **Semiconductors:** 24 silicon transistors, 4 silicon diodes. **Size:** 14" w. x 10 1/2" d. x 4" h. Shipping Weight, 22 lbs.

**Model S-9900aS**—Chassis, less case.\* Net Each. .... \$229.50  
West Coast: 232.50  
**Model S-9900aL**—With walnut-tone, leatherette louvered case. Net Each. .... \$237.00  
West Coast: 240.00  
**Model S-9500aS**—Similar to S-9900aS but 70 watts output. Chassis, less case.\* Net Each. .... \$179.50  
West Coast: 182.50  
**Model S-9500aL**—With walnut-tone leatherette louvered case. Net Each. .... \$187.00  
West Coast: 190.00

## MODEL S-5500IV 80-WATT STEREO PREAMP/AMPLIFIER

Features full power requirements for most home music systems at a reasonable price. Well-filtered DC filament power supply and special phono preamplifier circuitry combine to provide low hum and noise, plus high phono sensitivity and gain required for low-output cartridges and speakers. Other features include: 12 db scratch and rumble filters operating on all channels; tape deck playback preamplifier; loudness compensator (switched); stereo headphone jack, stereo low impedance record outputs; and center channel speaker output. **Power Output:** 80 watts music power, 40 watts per channel, IHF, 16 watts per channel, continuous. **Frequency Response:** ±1/2 db, 20-20,000 cps at 36 W. **IM Distortion:** 1.5% at 36 W. **Harmonic Distortion:** 0.5%, 26-20,000 cps at 36 W. **Hum and Noise:** Phono, -60 db; tuner -80 db. **Sensitivity:** 1.5 mV, phono; 0.25 V, tuner; 1.0 mV tape head. **Inputs:** Two each: Phono, Tape Head, Tape Monitor, Aux. **Tuner Outputs:** 4, 8 and 16 ohms. **Damping Factor:** 5:1. **Controls:** Selector (Tape, Phono, Tuner, Aux); Phono Gain; Bass; Treble; Loudness/Power On-Off; Balance; Tape Monitor Switch; Scratch Filter; Phase (Normal and Reverse); Loudness (In-Out); Speaker (In-Out). **Size:** 14" w. x 12 1/2" d. x 4" h. Weight, 28 lbs.

**Model S-5500IVS**—Chassis, less case.\* Net Each. .... \$159.95  
West Coast: 162.95  
**Model S-5500IVT**—With walnut-tone leatherette louvered case. Net Each. .... \$168.45  
West Coast: 171.45



MODELS S-9000a, S-9500a  
and S-9500a

MODEL S-5500IV

MODEL SL-1

## MODEL SL-1 FM MULTIPLEX STEREO-LIGHT

Provides instant identification of FM stations broadcasting stereo programs for any FM tuner now available. Special sensing circuitry prevents false indications due to noise impulses. Small enough to mount in cabinet space beside any FM tuner; single 3/8" dia. hole is all that is needed for custom installations. Variable control at rear adjusts sensitivity. **Sensitivity:** 10 mV FM stereo composite signal. **Sensing Selectivity:** Stereo pilot may be as low as 4 db below noise. **Connection:** Two parallel jacks for FM tuner output and MX adapter input. **Indicator:** NE-2H. **Tubes:** 6C10 compactor, 2 diodes and silicon rectifier. **Size:** 2 1/2" x 2 1/2" x 1 1/2" deep. Shipping Weight, 2 1/2 lbs.

**Model SL-1**—With walnut-tone, textured case. Net Ea. .... \$28.00  
West Coast: 29.00

## MODEL S3MX/SL1 FM MULTIPLEX ADAPTER

Self-powered adapter with above SL-1 FM MX Stereo-Light. Converts mono tuners such as S-2000IV to stereo. With audio cables, modification parts and instructions. **Audio Output:** 2 V at 1/2% distortion. **Frequency Response:** ±1/2 db, 20-15,000 cps. **Separation:** 35 db typical. **Size:** 10 1/2" w. x 5 1/4" d. x 4" h. Shipping Weight, 9 lbs.

**Model S3MX/SL1**—Net Each. .... \$63.50  
West Coast: 64.50

## MODEL A4MX FM MULTIPLEX STEREO ADAPTER

Designed for use within the chassis of the S-3000III or S-2200 tuner; controlled by front panel controls on tuner. Includes stereo indicator light for easy identification of FM stereo stations. Features hand crafted wiring, four transistors and four diodes. **Audio Output:** 2 V at 1/2% distortion. **Frequency Response:** ±1/2 db, 20-15,000 cps. **Separation:** 35 db typical. **Size:** 4 3/4" w. x 4 1/4" d. x 3 1/4" h.

**Model A4MX**—Net Each. .... \$56.25

## \*CABINETS

May be ordered when buying component or separately. To order with component, change suffix S on model number to L (Walnut-tone leatherette)—example: S2000IVL and add price shown below to price of component listed. May be ordered separately as listed.

**Model L**—Walnut-tone leatherette case. Size, 14" x 10 1/2" x 4 1/2" h. For S-2300, S-3300, S-3500, S-9500a, S-9900a. Net Each. .... \$7.50  
**Model T**—Walnut-tone leatherette case. Size, 14" x 12 1/2" x 4 1/2" h. For S-9000a, S-5500IV. Net Each. .... \$8.50  
**Model D**—Walnut-tone leatherette case for S-8800, S-8000IV, S-7800. Net Each. .... \$9.00  
**Model E**—Walnut-tone leatherette case for S-8600. Net. .... 9.00  
**Model W**—Walnut wood cabinet for S-8800, S-8000IV, S-7700III. Net Each. .... \$28.00  
West Coast: 29.00  
**Model G**—Walnut wood "Gemini" for tuner and amplifier pair. Net Each. .... \$37.50  
West Coast: 39.50

# SCOTT® Stereo Equipment



Model 382



Model 342



Model 388



Model 348



Model 344B

## SOLID STATE RECEIVERS NEW MODEL 382 AM-FM STEREO RECEIVER

Employs Scott's exclusive field effect transistors (FET) in both front ends for superb reception of FM stereo and wide-range AM. Direct-coupled silicon output transistors give rugged, full-range performance. All-silicon IF strip provides three stages of IF amplification plus three stages of limiting action for optimum selectivity and stereo separation. Also includes: Tape monitor switching; speaker switching with provision for remote speaker selection; switched front-panel stereo headphone output; front-panel stereo balance switch; separate channel clutched bass, treble and volume controls; fully automatic stereo switching with indicator; precision tuning meter. **Sensitivity:** 2.2  $\mu$ V FM, usable. **Frequency Response:**  $\pm$ 1 db, 18-25,000 cps. **Power Output:** 32.5 watts music power per channel at 4 ohms. **Selectivity:** 40 db. **Separation:** 35 db. **Capture Ratio:** 3.0 db. **Harmonic Distortion:** 0.8%. **Cross Modulation Rejection:** 80 db.

Scott Model 382 AM-FM Stereo Receiver—Less case\*. Net Each.....\$299.95  
West Coast: 304.95

## MODEL 342 SOLID STATE FM STEREO RECEIVER

Featuring amazing field effect transistors (FET) in the front end, this solid state unit is drift free with no cross modulation. With automatic multiplex, logging scale, tuning meter and stereo and sub-channel noise filters. **Sensitivity:** 2.2  $\mu$ V, usable. **Frequency Response:**  $\pm$ 1 db, 18-25,000 cps. **Distortion:** 0.8% or less. **Power Output:** 32.5 watts per channel at 4 ohms; 22.5 watts per channel at 8 ohms. **Controls:** Dual Loudness; Speaker Switch; Tape Monitor; Noise Filter; Selector (High and Low Phono, FM, Sub-Channel Filter, Extra); Dual Bass and Treble; Power (On-Off); Balance; Stereo-Mono. **Inputs:** External stereo, 3 pairs. **Output:** Low level front panel jack. **Size:** 15 $\frac{1}{2}$ " w. x 13 $\frac{1}{4}$ " d. x 5 $\frac{1}{4}$ " h., in C case. Shipping Weight, 17 lbs.

Scott Model 342 FM Stereo Receiver—Less case\*. Net Each.....\$259.95  
West Coast: 264.95

## MODEL 388 AM-FM STEREO RECEIVER

Featuring amazing field effect transistors (FET) in the front end, solid state unit is drift free with no cross modulation. Massive heat sinks; no output transformers. **Amplifier:** Same as Model 260. **Sensitivity:** 1.7  $\mu$ V FM, 20  $\mu$ V AM, usable. **Frequency Response:**  $\pm$ 1 db, 30-15,000 cps; **Hum:** -70 db. **Harmonic Distortion:** 0.8%. **Selectivity:** 45 db. **Separation:** 40 db. **Inputs:** Phono (switchable 3, 6 or 9 mV); tape head; aux. **Outputs:** Tape; front panel phono jack; speaker terminals. **Size:** 18 $\frac{1}{4}$ " w. x 11 $\frac{1}{4}$ " d. x 6 $\frac{1}{4}$ " h., in KWW case. Shipping Weight, 26 lbs.

Scott Model 388 AM-FM Stereo Receiver—Less case\*. Net Each.....\$449.95  
West Coast: 454.95

## MODEL 348 SOLID STATE FM STEREO RECEIVER

The ultimate in tuner/amplifiers, combines the Model 312B tuner equivalent with Model 260 amplifier equivalent. Includes sub-channel filter and compensation switch; Dynaural<sup>®</sup> muting and balance control. **Specifications:** Same as Models 312B and 260, except: **Sensitivity:** 1.7  $\mu$ V, usable. **Selectivity:** 45 db. **Separation:** 40 db. **Size:** 18 $\frac{1}{4}$ " w. x 11 $\frac{1}{4}$ " d. x 6 $\frac{1}{4}$ " h., in KWW case. Shipping Weight, 25 lbs.

Scott Model 348 FM Stereo Receiver—Less case\*. Net Each.....\$424.95  
West Coast: 429.95

## MODEL 344B TRANSISTORIZED FM STEREO RECEIVER

Featuring amazing field effect transistors (FET) in the front end, solid state unit is drift free with no cross modulation. Advanced series-gate, time-switching multiplex section for true stereo separation. Auto-Sensor circuitry for quiet, instant stereo switching. Flat line limiting for noise-free FM. Also feature cool operation, instant stereo indicator and tape monitoring facility. **Sensitivity:** 1.9  $\mu$ V IIF. **Frequency Response:** Stereo, 30-15,000 cps;  $\pm$ 1.0 db, 20-20,000 cps. **Signal-to-Noise Ratio:** 65 db below 100% modulation. **Cross-Modulation Rejection:** 80 db. **Harmonic Distortion:** 0.8%. **Separation:** Better than 35 db. **Capture Ratio:** 6.0 db. **Hum and Noise:** 80 db. **Selectivity:** 44 db.

**AM Suppression:** 65 db. **Power Output:** 42.5 watts music power per channel. **Controls:** Stereo/Mono; Input (FM, Phono, Tape, Sub-Channel Filter, Extra); Loudness/Volume; Bass (dual); Treble (dual); Main/Remote Speaker; Noise Filter; Low Level Output; Power On-Off. **Inputs:** (Rear Panel) Magnetic Phono (switchable 3-6 mV sensitivity); Tape Head; Extra. **Outputs:** Tape Recorder; Derived Center Channel; Left Channel; Right Channel; Left and Right Channel. **Size:** 15" w. x 14 $\frac{1}{2}$ " d. x 4 $\frac{1}{2}$ " h., less case. Uses C case. Shipping Weight, 25 lbs.

Scott Model 344B FM Stereo Receiver—Less case\*. Net \$339.95  
West Coast: 344.95

## SOLID STATE TUNERS AND AMPLIFIERS

### NEW MODEL 312C FM STEREO TUNER

Highest quality tuner available today, regardless of price. Incorporates silver-plated FET front end, time-switching multiplex circuitry, Scott-pioneered all-silicon IF strip, and interstation muting control for complete quiet between FM stations. Switched 3-position meter shows signal strength, zero-center tuning, or multipath indication. **Sensitivity:** 1.7  $\mu$ V, usable. **Cross Modulation Rejection:** 90 db. **Selectivity:** 45 db. **Separation:** 40 db. **Capture Ratio:** 2.5 db. **Size:** 15" w. x 11 $\frac{1}{4}$ " d. without case. Shipping Weight, 13 lbs.

Scott Model 312C FM Stereo Tuner—Less case\*. Net Each.....\$249.95  
West Coast: 252.95

### MODEL 315 FM STEREO TUNER

Economical tuner similar to Model 312C above, except sensitivity is 2.2  $\mu$ V, usable; cross modulation rejection, 80 db; selectivity, 40 db; separation, 35 db; capture ratio, 3.0 db.

Scott Model 315 FM Stereo Tuner—Less case\*. Net Each.....\$169.95  
West Coast: 172.95

### MODEL 260 STEREO 120-WATT AMPLIFIER

Using vacuum tube measurement techniques, this solid state amplifier delivers a full 60-watt sine wave output. For instantaneous power (full orchestral crescendos), it delivers better than twice this power rating, previously unattainable with tube designs. Rugged, pre-tested, heavy duty components include massive heat sinks, heavy printed circuit boards and silicon output transistors. **Power Output:** 60 watts per channel IIF at 4 ohms; 50 watts per channel at 8 ohms. **Power Bandwidth:** 20-20,000 cps. IIF. **Harmonic Distortion:** 0.8%. **Inputs:** Mag. phono (switchable sensitivity 3, 6 or 8 mV); tape head; aux. **Outputs:** Switched 4, 8 or 16 ohms, each channel; derived center channel; stereo headphone jack. **Size:** 15" w. x 13 $\frac{1}{4}$ " d. x 5 $\frac{1}{4}$ " h. Weight, 21 lbs.

Scott Model 260 Amplifier—Less case\*. Net Each.....\$249.95  
West Coast: 253.95

### MODEL 299T STEREO 65-WATT AMPLIFIER

Features similar to Model 260, except no audio transformer required and direct coupled circuitry. **Power Output:** 65 watts, IIF; 22.5 watts rms per channel. **Frequency Response:**  $\pm$ 1 db, 18-25,000 cps. **Controls:** Mode; Tape Monitor; Scratch Filter; Balance; Input Selector (High and Low Phono, Tuner, Sub-Channel Filter, Extra); Treble, Bass, Loudness (Ganged); Power, Speakers (On-Off). **Inputs:** Tape head; tuner; phono; aux. **Outputs:** Front panel phono jack; tape; speaker terminals. **Size:** 15 $\frac{1}{2}$ " w. x 12" d. x 5 $\frac{1}{4}$ " h., in C case. Shipping Weight, 12 lbs.

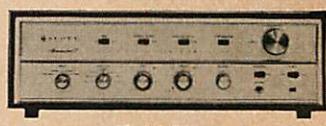
Scott Model 299T Stereo Amplifier—Less case\*. Net Each.....\$169.95  
West Coast: 173.95



Model 312C



Model 315



Model 260



Model 299T

Cases described on opposite page.



# Fisher STEREO FM MULTIPLEX RECEIVERS, AMPLIFIER AND ACCESSORIES

## MODEL 800-C FM-AM STEREO MULTIPLEX 75-WATT RECEIVER

- EXTRA-SENSITIVE, INDIVIDUALLY SHIELDED TUNING SECTIONS FOR FM AND AM
- GOLDEN SYNCHRODE; FRONT END FOR PEAK FM SENSITIVITY AND UNWANTED-SIGNAL REJECTION
- POWERFUL, FULL-RESPONSE AMPLIFIER
- EXCLUSIVE STEREO BEACON; AND TIME-DIVISION MULTIPLEX CIRCUIT FOR BEST STEREO
- 4-POSITION SPEAKER SELECTOR SWITCH PLUS FULL ARRAY OF FRONT-PANEL CONTROLS
- INPUTS FOR VIRTUALLY ALL MUSIC SOURCES

Advanced receiver has Stereo Beacon that signals and automatically switches reception to stereo or monophonic according to the broadcast. Tuning meter included for pinpoint tuning. Golden synchrode front-end affords greater sensitivity; overload margin and rejection of spurious and image signals than previous designs. Low-noise triode stages are used for the mixer and oscillator, followed by four wideband IF stages and a wideband ratio detector. Ratio detector, plus two more limiters, ensure freedom from interference and noise. Time-division type multiplex converter. Stereo Beacon circuit eliminates all clicks and pops from speakers during switching. AM tuner has a high-gain pentode RF-amplifier, pentagrid converter and IF amplifier with two-position band switch.

Direct-Tape-Monitor system permits monitoring while making a tape recording without losing use of any audio control facilities on subsequent playback. **Sensitivity:** FM, 0.6  $\mu$ V for 20 db quieting with 72-ohm antenna; 1.8  $\mu$ V, IHFM; AM, 5  $\mu$ V for 2 watts output at 1 Mc. **Power Output:** 75 watts total, IHFM music power. **Frequency Response:** Overall,  $\pm$  1.5 db, 25-25,000 cps; power amplifier, +0, -2 db, 50-45,000 cps. **Harmonic Distortion:** 0.5% at 1 kc, both channels driven. **Hum and Noise:** 80 db below rated output (high level input). **Controls:** Selector (Spkr 1, Spkr 2, Spkr 1 and 2, Earphones); Separate Bass and Treble each channel; Balance; High Cutoff Filter, Low Cutoff Filter; AM Bandwidth (Sharp, Broad); Tape Monitor; Selector (Tape Head, Phono Mono, Phono Stereo, EM Automatic, FM Stereo Filter, FM Mono, AM, Aux-Tape); Loudness Contour; Volume/AC Off; Tuning. **Power Required:** 105-120 VAC, 50-60 cps. **Size:** 17 $\frac{1}{2}$ " w. x 13 $\frac{1}{2}$ " d. x 5 $\frac{3}{4}$ " h., chassis. Weight, 37 lbs.

Fisher Model 800-C FM-AM Stereo Multiplex Receiver—Chassis only.\* Net. . . \$339.58



MODEL 800-C

## MODEL 500-C FM STEREO MULTIPLEX 75-WATT RECEIVER

- OFFERS ALL THE OUTSTANDING FEATURES OF MODEL 800-C LESS THE AM TUNER SECTION

Stereo Beacon instantly and silently signals and switches to stereo or monophonic. Golden Synchrode front-end for greater sensitivity. Other features include four intermediate frequency stages, d'Arsonval tuning meter, time-division multiplex section, wideband ratio detector, elimination of clicks from speakers during switching. **Specifications:** Same as for Model 800-C, described above (except excluding AM section). **Controls:** Selector (Spkr 1, Spkr 2, Spkr 1 and 2, Earphones); Separate Bass and Treble each channel; Balance; High Cutoff Filter; Low Cutoff Filter; Tape Monitor; Selector (Tape Head, Phono Mono, Phono Stereo, EM Automatic, FM Stereo, FM Mono, Aux-Tape); Loudness Contour; Volume/AC Off; Tuning. **Power Required:** 105-120 VAC, 50-60 cps. **Size:** 17 $\frac{1}{2}$ " w. x 13 $\frac{1}{2}$ " d. x 5 $\frac{3}{4}$ " h., chassis. Weight, 36 $\frac{1}{2}$  lbs.

Fisher Model 500-C FM Multiplex Receiver—Chassis only.\* Net Each. . . . . \$269.50

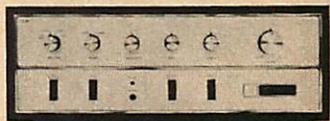


MODEL 500-C

## NEW MODEL TX-100 STEREO 65-WATT TRANSISTORIZED CONTROL AMPLIFIER

First high-quality, budget-priced, all-transistor amplifier delivers high undistorted power with greater flexibility. Advanced-design solid state circuitry features direct tape monitoring, 4-position program selection, matched volume, balance control, front panel head-telephone jack, and main/remote speaker switch. Loudness contour switch automatically increases volume on very soft bass tones to audible levels. **Power Output:** 65 watts IHF at 4 ohms at 0.5% harmonic distortion; 50 watts at 8 ohms. Each Channel, 25 watts rms at 4 ohms, 20 watts at 8 ohms, and 10 watts at 16 ohms. **Frequency Response:**  $\pm$  1 db, 20-20,000 cps, overall. **Power Bandwidth:** 16-36,000 cps IHF at 2% total harmonic distortion. **IM Distortion:** 0.8% each channel at rated power. **Sensitivity:** 3.5 mV, phono normal; 7.5 mV, phono high level; 2.5 mV, tape head; 200 mV, tuner; 300 mV, monitor; 400 mV, aux. **Controls:** Volume-Off; Bass; Treble; Balance; Selector (Tape Head, Phono, Tuner, Aux.); Loudness On-Off; Remote/Main Speaker Switch; High Filter On-Off; Tape Monitor On-Off. **Power Required:** 120 watts at max. output, 105-120 VAC, 50/60 cps. **Size:** 15 $\frac{1}{2}$ " w. x 4 $\frac{1}{4}$ " h. x 12 $\frac{1}{2}$ " d. Weight, 17 lbs.

Fisher Model TX-100 Stereo Control Amplifier—Chassis only.\* Net Each. . . \$161.07



MODEL TX-100

## MODEL K-10 DYNAMIC SPACEEXPANDER®

Added to a stereo system, the Dynamic Space Expander creates a perfect illusion of concert hall sound by supplying the one missing element—reverberation. Adds realism to monophonic reproduction and tape recordings made in the home, too. Can be used with virtually any Fisher component or console now made, as well as all hi-fi systems using separate preamps or having tape monitoring facilities.

Fisher Model K-10 Dynamic Space Expander—Net Each. . . . . \$71.55



MODEL K-10

## \*CABINERY FOR FISHER COMPONENTS

Fisher Model MC-2 Metal Cabinet—Simulated leather finish. For 400-CX, KM-60, KX-100 and KX-200 components. Net Each. . . . . \$14.36

Fisher Model 10-UW Walnut Cabinet—For 400-CX, KM-60, KX-100 and KX-200 components. Net Each. . . . . \$22.46

Fisher Model 30-UW Walnut Cabinet—For 400, 500-C and 800-C components. Net Each. . . . . \$22.46

Fisher Model 50-UW Walnut Cabinet—For use with R-200-B, TFM-200, TFM-300, TX-100 and 220-T components. Net Each. . . . . \$22.46

Fisher Model 100-UW Walnut Cabinet—For use with TFM-1000, 500-T and 700-T high fidelity components. Net Each. . . . . \$22.46

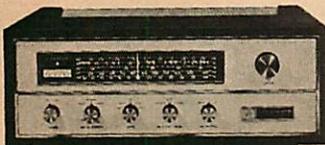


# Fisher STEREO HI-FI COMPONENTS

## MODEL R-200-B TRANSISTORIZED MULTIBAND AM-FM STEREO TUNER

The World's First Multiband Tuner Built to HI-Fi Standards... Now, Along With FM Stereo/Mono, You Can Hear World-Wide Shortwave, All Your Favorite AM Programs, and Long-Wave Stations Through Your HI-Fi System.

- FIVE-BAND COVERAGE: FM STEREO/MONO PLUS FOUR AM BROADCAST BANDS AND INTEGRAL LOGGING SCALE
- GOLDEN SYNCHRODE† FRONT END, STEREO BEACON†, 1.8  $\mu$ V SENSITIVITY FOR FINEST FM RECEPTION
- FM WIDE-BAND RATIO DETECTOR AND IF STRIP
- THREE-STAGE-OPERATED AGC TO ELIMINATE AM FADING
- BUILT-IN FERRITE ANTENNA, WHISTLE FILTER FOR AM



Model R-200-B

Full five-band tuner with solid state circuitry and three-navigator front end with famous Golden Synchrode™ Assured visibility and overload protection from powerful stations nearby. Stereo Beacon automatically signals presence of a stereo signal and switches to proper mode. Receives FM stereo and mono, and AM medium wave (standard broadcast), long wave, shortwave and 49-meter shortwave. **Frequency Coverage:** 87.5-108 Mc FM; 510-1630 kc medium-wave AM; 150-350 kc long-wave AM; 7.0-16.5 Mc shortwave AM; 5.9-6.3 Mc shortwave AM (expanded dial scale covering 49-meter international shortwave broadcast band). **Usable Sensitivity:** FM, 1.8  $\mu$ V; AM, 10  $\mu$ V for 50 mV output to 35  $\mu$ V for 20 db S/N ratio. **Signal-to-Noise and Hum Ratio:** FM, 70 db; AM, 60 db. **Selectivity:** FM, 50 db = 400 kc; AM med. wave, 52 db = 10 kc. **IF Rejection:** FM, 90 db at 100 Mc; AM long wave, 70 db at 200 kc; AM medium wave, 85 db at 1 Mc. **Image Rejection:** FM, 70 db at 100 Mc; AM medium wave, 62 db at 1 Mc; AM shortwave, 32 db. **Capture Ratio:** FM, 2.5 db. **Harmonic Distortion:** FM, 0.4%. **Channel Separation:** FM stereo, 35 db at 400 cps. **Controls:** FM Stereo Mode (Mono, Auto, Stereo); FM Muting (Off, 1, 2); AM Bandwidth (Sharp, Normal, Wide); Band (FM, MW, LW, SW, 49M); Tuning, Power (Off/On). **Size:** 15 3/4" w. x 11 3/4" d. x 4 1/4" h. **Weight, 18 1/2 lbs.**  
**Fisher Model R-200-B Multiband AM-FM Stereo Tuner—Chassis only.\***  
Net Each.....\$297.08

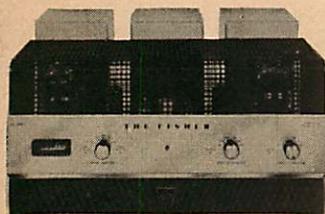
## MODEL TFM-1000 TRANSISTORIZED LABORATORY-STANDARD FM STEREO TUNER



Model TFM-1000

Exclusive Super Synchrode front-end with field effect transistors, five IF stages, and four limiters. Foolproof four-diode coincidence circuit in time-division multiplex circuit: Only a true stereo signal can trip the mono-stereo switch. Stereo Beacon automatically signals presence of stereo signal and switches to proper mode. Unique overload suppressor circuit automatically holds the signal strength within a range that can be easily handled. Has clear signal indicator; pressing a front-panel button permits check of FM signal purity and proper antenna orientation. Power amplifier circuit for high quality, low-impedance headphones. Balanced transformer outputs incorporated in the tuner provide sufficient audio power for either high or low-impedance headphones. Separate transformer windings provide balanced 600-ohm outputs for professional use. **Freq. Resp.:** = 0.5 db; 20-100,000 cps. **Sensitivity:** 1.8  $\mu$ V. **IHF usable or quieting** at 30 db (400 cps, 75 kc mod.) with 300-ohm antenna. **Signal-to-Noise Ratio:** Better than 70 db at 100% mod. **Harmonic Distortion:** Less than 0.2%. **Stereo Separation:** Better than 40 db at 1 kc, 30 db at 15 kc. **Controls:** Pushbutton Mode Selector (Mono, Auto, Stereo, Stereo Filter); three-position Muting Threshold; Power (Off/On); Output Level; Phones Level (Volume); Tuning; Front panel tape and headphone jacks. **Power Required:** 30 watts, 100-135/200-250 VAC, 50-60 cps. **Size:** 16 3/4" w. x 12 3/4" d. x 5 3/4" h. **overall, Weight, 18 lbs.**  
**Fisher Model TFM-1000 Laboratory-Standard FM Stereo Tuner—Chassis only.\***  
Net Each.....\$424.58  
**Fisher Model FMR-2 FM Stereo Tuner—Rack-mounted version of TFM-1000.**  
Net Each.....441.58  
†Patent pending.

## MODEL SA-1000 150-WATT LABORATORY STEREO POWER AMPLIFIER



Model SA-1000

Features include: Low-distortion output stage with specially-designed power tubes; low-impedance, stable, driver stage with good transient response; phase inverter (pre-driver) that maintains balance (despite tube aging, complete versatility); Special Input stage; separate power tube plate and grid rectifier-filter supplies (silicon diodes). Less-used controls are behind hinged cover. Calibration meter to adjust output tube bias. **Power Output:** 150 watts total (IHFM music power); 130 watts rms. **Frequency Response:** = 0.5 db, 20-20,000 cps; = 1 db, 8-48,000 cps. **Distortion:** IM, 0.4% (60/7000 cps 4:1, rated output); Harmonic, 0.25% (IHFM and rms rated output). **Hum and Noise:** 90 db (below rated rms output). **Sensitivity:** 0.7 V at rated rms output. **Output Impedance:** 4, 8, 16 ohms. **Controls:** Meter Selector (Off, V4, V5, V8, V9); Input Attenuator (Off, -12, -9, -6, -3, -0 db) each channel; V4 Bias; V5 Bias; AC Bal Ch. A; V8 Bias; V9 Bias; AC Bal Ch. B; Sub-Sonic Filter Switch. **Tubes and Diodes:** 9 tubes, 4 diodes. **Power Required:** 105-120 V, 50/60 cps. **Size:** 15 3/4" w. x 12" d. x 7 3/4" h. **Weight, 70 lbs.**  
**Fisher Model SA-1000 150-Watt Stereo Amplifier—Net Each.....\$280.08**

## NEW MODEL 400-CX STEREO PHONIC MASTER AUDIO CONTROL



Model 400-CX

The finest professional-quality preamplifier offers flexibility, versatility and functional simplicity, designed for the audio connoisseur. Features Sonic Null Balancing to assure perfect speaker balancing; Simply adjusting the speaker controls, the user listens for a minimum sound (a very apparent null) during program material with wide dynamic content; at the null point full adjustment for frequency and efficiency can be easily made, adjusting for room acoustics, listening location and equipment variations. Eighteen inputs and twenty-two front panel controls permit complete versatility. Special jacks provide for use with RK-1 Remote Control and K-10 Dynamic Spacexander®. Special Stereo Dimension control permits augmenting or diminishing stereo effects on records and tapes. Direct tape monitoring is provided. Center channel output provides for connection of an additional amplifier and speaker to improve stereo sound distribution. **Frequency Response:** = 0.5 db, 20-20,000 cps. **Harmonic Distortion:** Less than .04% for 2.5 V output. **Hum and Noise:** 80 db below rated output (2.5 V rms) for high level shorted inputs. **Channel Separation:** 67 db at 1 kc. **Controls:** Master Volume/Off; Center Channel Volume; Bass, each channel; Treble, each channel; Balance; Low Level Selector (Mike, 3 1/4 ips; 7 1/2 ips; 78 rpm; COL-1 & COL-2, RIAA-1 & RIAA-2); Channel Selector (Bal. Left, Bal. Right, Reverse, Stereo, Mono Phono, Ch. A and Ch. B); Separate Input Selectors for Low Level Tuner, Tape, Aux. 1 and Aux. 2; Stereo Dimension (Mono, Normal, Extend, Low Filter On/Off, Tape On/Off, Tape Monitor On/Off, Loudness On/Off, Phase Reverse On/Off). **Inputs:** 4 mag. phono, 2 tape head, 2 mike, low level; 4 aux., 2 tuner, 2 tape high level; 2 ceramic phono medium level. **Outputs:** Left, Right, Center, Remote, Recording. **Power Required:** 50 watts, 105-120 VAC, 50/60 cps. **Size:** 15 3/4" w. x 4 1/4" h. x 11 3/4" d. **Weight, 18 lbs.**  
**Fisher Model 400-CX Stereo Phonic Master Audio Control—Chassis only.\*** Net Ea. \$169.58  
**Fisher Model RK-1 Remote Control—Net Each.....16.16**

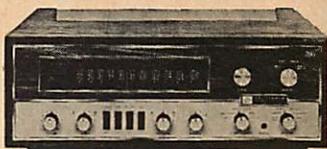
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# Fisher SOLID STATE STEREO HIGH FIDELITY COMPONENTS

## MODEL 700-T FM STEREO 120-WATT RECEIVER

Exclusive Super Synchrode† front end has silicon field effect transistor (FET) circuitry featuring two RF stages, six tuned circuits, and a four-gang variable capacitor. Increased sensitivity of tuner section to its theoretical limit. Also employs four IF stages, three limiters and a wide-band ratio detector for maximum freedom from noise and interference. Exclusive four-diode coincidence circuit in time-division multiplex section allows only the true stereo signal to trip the mono-stereo switch. Stereo Beacon† automatically signals the presence of a stereo signal and switches to proper mode. Direct tape monitor permits use of all controls during tape monitoring without changing cable connections; its last two through both loudspeakers simultaneously. Beautifully styled control panel is 24-karat gold-plated casting with contrasting walnut-textured and anodized panel designations, assuring like-new appearance virtually for life. **Power Output:** 120 watts total, IHF at 15 kc. **Controls:** Program Selector (Tape Head, Phono, FM Auto, FM Stereo, FM Mono, Aux.); Mode Selector (Mono, Stereo Filter, Stereo, Stereo Tape, Tape L, Tape R); Volume/AC Off; Bass; Treble; Balance; Loudness Contour; Low Filter; Muting; High Filter; Tuning; Speakers (Off, Main, Remote, Main+Remote). **Size:** 16 3/4" w. x 12 3/4" d. Weight, 24 lbs.



MODEL 700-T

Fisher Model 700-T FM Stereo Receiver—Chassis only.\* Net Each.....\$424.58

## NEW MODEL 500-T FM STEREO 90-WATT RECEIVER

All solid state design utilizes field effect transistors (FET) for extended reserve power and highest sensitivity. Features Super Synchrode† front end, Stereo Beacon tuning and Transist-O-Gard† circuitry to eliminate any possibility of transistor damage from short ratio detector for extreme sensitivity and selectivity. Time-division multiplex section employs four-diode coincidence circuit to eliminate mono-stereo triggering due to spurious signals; only a true stereo signal can trip the stereo-mono switch. Five-position program selector and versatile mode selector provide maximum operating convenience. Choice of tape deck or recorder modes permit use of all controls during monitoring without changing cable connections. **Power Output:** 90 watts IHF at 1 kc; 32 watts rms per channel. **Distortion:** 0.8% harmonic and IM. **Power Bandwidth:** 22-30,000 cps at 8 ohms, IHF. **Hum and Noise:** 80 db below rated output, volume at minimum. **Frequency Response:** +0, -1 db, 15-60,000 cps, amplifier; ±1 db, 22-20,000 cps, aux. **Damping Factor:** Greater than 50 at 8 ohms. **Tuner Sensitivity:** 1.8 μV, IHF usable. **Signal-to-Noise Ratio:** 70 db at 1 mV. **Volume-Off:** 100% modulation. **FM Stereo Separation:** Greater than 35 db. **Controls:** Stereo Filter, Stereo, Stereo Tape, Tape Left, Tape Right; Input Selector (Tape Head, Phono, FM Auto, FM Mono, Aux.); Tuning; Loudness On-Off; Muting On-Off; Main/Remote Speaker Switch; High Filter On-Off. **Size:** 16 3/4" w. x 5 1/4" h. x 12 3/4" d. **Wt.** 21 lbs.



MODEL 500-T

Fisher Model 500-T FM Stereo Receiver—Chassis only.\* Net Each.....\$339.58

## NEW MODEL 220-T STEREO AM-FM 55-WATT RECEIVER

Single, integrated compact chassis combines AM and FM tuners, flexible group of audio controls and powerful amplifier for the finest in stereo listening pleasure. Exclusive Neo-Synchrode front end employs field effect transistors (FET) for purest signal reception; four IF stages, three limiters and wideband ratio detector give great sensitivity and selectivity. Time-division multiplex system for maximum stereo separation. Exclusive Stereo Beacon† and illuminated tuning meter for added convenience. Extra features include front-panel headphone jack and Main/Remote speaker switch. Transist-O-Gard† overload protection circuit eliminates possibility of damage from overloads, faulty speaker wiring or other causes. Tape monitor switch permits adjusting while monitoring without changing cable connection. Connection for K-10 Spacexpander® provided. **Power Output:** 55 watts at 4 ohms; 40 watts at 8 ohms, IHF at 1 kc; 20 watts rms at 4 ohms and 16 watts at 8 ohms, per channel. **Distortion:** 1.0% IM; 0.8% harmonic. **Power Bandwidth:** 28-30,000 cps at 8 ohms. **Hum and Noise:** -80 db at rated output, volume at minimum. **Frequency Response:** ±1.5 db, 25-25,000 cps, amplifier; ±1 db, 30-20,000 cps, aux. **Tuner Sensitivity:** 2.5 μV, IHF usable, FM; 10 μV, AM. **Signal-to-Noise Ratio:** 65 db FM at 1 mV input and 100% modulation. **FM Stereo Separation:** 35 db. **Controls:** Volume-Off; Balance; Bass; each channel; Selector (Phono, FM Auto, AM, Aux.); Tuning; Mono-Stereo Switch; Main/Remote Speaker Switch; Muting On-Off; Monitor On-Off. **Size:** 15 1/2" w. x 4 1/4" h. x 11" d. **Weight,** 17 1/2 lbs.



MODEL 220-T

Fisher Model 220-T AM-FM Stereo Receiver—Less chassis.\* Net Each.....\$280.08

## MODEL TFM-300 FM STEREO MULTIPLEX TUNER

Highest reliability combined with the world's finest circuitry, convenience and performance for FM stereo and monophonic reception. Nuvistor-Golden Synchrode† front end employs wideband, solid state IF strip with 5 IF stages and 5 limiters. Stereo Beacon automatic stereo-mono switching to match broadcasting station's mode. Variable threshold muting with four-position control on front panel. Stereo filter position eliminates noise on stereo signals. Four-position, push-button mode selector, illuminated d'Arsonval tuning meter. **Sensitivity:** 1.8 μV, IHF. **Selectivity:** 55 db. **FM Stereo Separation:** 4 db, 400 cps. **Signal-to-Noise and Hum Ratio:** 70 db, 100% modulation. **FM Harmonic Distortion:** 0.4% at 400 cps and 100% modulation. **Capture Ratio:** 2.0 db. **Size:** 15 3/4" w. x 11 3/4" d. x 4 1/4" h. **Weight,** 9 lbs.

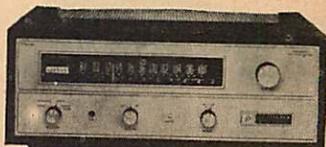


MODEL TFM-300

Fisher Model TFM-300 FM Stereo MPX Tuner—Chassis only.\* Net Each...\$237.58

## MODEL TFM-200 FM STEREO MULTIPLEX TUNER

Features Stereo Beacon with improved automatic stereo-mono switching circuit to match proper broadcasting station's mode. Nuvistor-Golden Synchrode† front end; wide-band ratio detector; four FM-IF stages; three limiters. Illuminated d'Arsonval tuning meter. Two position front-panel muting control. Gold-plated front panel with tape-output. **Sensitivity:** 1.8 μV, IHF. **Selectivity:** 55 db. **FM Stereo Separation:** 4 db, 400 cps. **Signal-to-Noise and Hum Ratio:** 70 db, 100% modulation. **FM Harmonic Distortion:** 0.5%, 400 cps, 100% modulation. **IF Rejection:** 90 db, 100 Mc. **Image Rejection:** 65 db, 100 Mc. **Calibration Accuracy:** 0.2%. **Drift:** 0.01%. **Capture Ratio:** 2.2 db. **Controls:** Selector (Mono, Automatic, Stereo, Stereo Filter); Tuning (Power On/Off). **Volume-Off:** 1, 2). **Audio Output:** 2 volts. **Power Required:** 20 watts, 26 VA, 105-120 VAC, 50/60 cps. **Size:** 15 3/4" w. x 11 3/4" d. x 4 1/4" h. **Weight,** 12 1/4 lbs.



MODEL TFM-200

Fisher Model TFM-200 FM Stereo MPX Tuner—Chassis only.\* Net Each..\$195.08

†Patent Pending. †Trademark.

## MODEL FM-3 FM STEREO MULTIPLEX TUNER KIT

Wide-band, highly sensitive multiplex tuner provides automatic switching from mono to full separation stereo just by tuning the station. "Stereo" on the front panel automatically lights up if a station is broadcasting in stereo. Notable for drift-free, low distortion, low noise performance. Etched circuit boards and prealigned coils enable simple and foolproof assembly, including accurate alignment without instruments, in less than 12 hours. Progressive four-stage limiting; balanced bridge discriminator; accurate "reference grid" tuning indicator assures precise tuning for lowest distortion and maximum separation. Front panel volume control. Two volts output at low impedance. Planetary drive, no dial cord. **Sensitivity:** 4  $\mu$ V, IHFM. **Frequency Response:**  $\pm 0.5$  db, 10-40,000 Hz. **Distortion:** 1M or harmonic, below 0.5% at 100% modulation. **Audio Noise Level:** 75 db below 100% modulation. **Controls:** Volume, Tuning; On-Off. **Tubes:** 1-ECC85 RF amp, 1-6AT5A mixer-oscillator, 2-6BA6 IF amps, 2-6AU6 IF amps, 2-1N542 matched detector diodes, 1-12AX7 audio, 1-EMM-801 tuning eye, 1-EZ80 rectifier, 1-6BL8 19 kHz amplifier, 1-12AX7 multiplex audio, 4-1N541 diodes. **Size:** 13" w. x 8" d. x 4" h. Shipping Weight, 13 lbs.

**Dynakit Model FM-3 FM Stereo Multiplex Tuner Kit—Including cover.** Net. . . . \$ 99.95  
**Dynakit Model FM-3/A—Factory wired.** Net Each. . . . . 154.95  
**Dynakit Model PBK Bracket Kit—For panel mounting FM-3.** Net Each. . . . . 2.00

## MODEL FM-1 "DYNATUNER" FM TUNER KIT

Mono tuner with space provided for addition of FMX-3 Multiplex Adapter for performance identical to FM-3 above.  
**Dynatuner FM-1 Kit—With cover.** Net Each. . . . . \$ 79.95  
**Dynatuner FM-1/A—Factory wired.** Net Each. . . . . 109.95  
**Dynakit PK-40 Deluxe Panel and Knobs—For all FM-1 Dynatuners.** Net Each. . . . . 9.95  
**Dynatuner PM-4 Standard Brass Panel Mounting Kit—Net Each.** . . . . . 4.95

## MODEL FMX-3 MULTIPLEX ADAPTER

Converts FM-1 Dynatuner to full fidelity stereo FM reception. Fits inside and is powered by FM-1. Automatically switches tuner to stereo or mono operation; light indicator shows when stereo broadcasts are tuned in; complete alignment without instruments.  
**Dynakit Model FMX-3 Multiplex Adapter—Net Each.** . . . . . \$29.95

## MODELS PAS-3X AND PAS-2X STEREO PREAMPLIFIER KITS

Flexible, single chassis design incorporates the famous circuitry of the Dynakit monophonic preamplifier, plus full stereo control flexibility. Features built-in full wave power supply, DC operated heaters for minimum noise, and preassembled printed circuits for quick, easy assembly. **Inputs:** RIAA, NAB tape head and Special for stereo low level; FM Multiplex, AM-FM, Auxiliary and Tape Monitor for stereo low level components. **Low-impedance audio and tape outlets** (unaffected by tone or volume controls). **Controls:** Selector; Volume; Balance; Blend; separate Bass and Treble for each channel; Tape Monitor Switch; Loudness Switch; Power Switch; Scratch Filter Switch. **Distortion:** Under 0.05% IM at 2 volts; harmonic unmeasurable. **Frequency Response:**  $\pm 0.5$  db, 10-40,000 Hz. **Noise:** Less than 2  $\mu$ V, equiv. on RIAA. **Tubes:** 4-12AX7/ECC83, 1-12X4. **Other Features:** DC heater supply, 4 convenience AC outlets, textured vinyl finish; panel mounting provision. **Size:** 13" w. x 13" d. x 4" h. Shipping Weight, 11 lbs.

**Dynakit Model PAS-3X Stereo Preamplifier Kit—Net Each.** . . . . . \$ 69.95  
**Dynakit Model PAS-3X/A Stereo Preamplifier—Wired.** Net Each. . . . . 109.95  
**Dynakit Model PAS-2X Stereo Preamplifier Kit—Identical to PAS-3X, except for etched brass front panel and brown plastic knobs.** Net Each. . . . . \$59.95  
**Dynakit Model PAS-2X/A Stereo Preamplifier—Wired.** Net Each. . . . . 99.95  
**Dynakit Model PAS-2X/A Stereo Panel Mounting Kit—For PAS-2X.** Net Ea. . . . . 4.95  
**Dynakit Model PK-30 Deluxe Front Panel and Knobs—For all PAS-2X preamplifiers.** Net Each. . . . . \$13.95  
**Dynakit Model PBK Bracket Kit—For panel mounting PAS-3X.** Net Each. . . . . 2.00  
**Dynakit Model TC-3X Tone Control Conversion Kit—Converts older PAS-2 and PAS-3 preamplifiers to make PAS-2X and PAS-3X.** Net Each. . . . . \$10.00

## MODEL SCA-35 STEREO CONTROL AMPLIFIER KIT

Combines stereo amplifier and preamplifier in a single, flexible unit of unequalled quality, economy and dependability. Outperforms similar units with higher power ratings. Matches the "Dynatuner" in design styling and size to make handsome components. Unique engineering eliminates series stages to reduce distortion and noise while improving stability. Heavy-duty, etched circuit construction makes assembly easy. **Power Output:** 35 watts continuous, 45 watts IHFM both channels. **Frequency Response:**  $\pm 0.25$  db, 20-20,000 Hz. **Hum and Noise:** -70 db at rated output, phono and tape head. **Distortion:** Less than 1% IM at 17 watts (each channel); 0.2% at average listening levels. **Inputs:** RIAA high and low level phono, ceramic phono, NAB tape head, radio, tape and spare for each channel. **Outputs:** Constant level tape, 8 and 16 ohms provision for headphones. **Controls:** Selector; Volume; Balance; Bass; Treble; Stereo-Mono Switch; Loudness Compensation Switch; Filter Switch; Power Switch. **Tubes:** 2-12AX7/ECC83, 2-7199, 4-6BQ5; 2 silicon diodes. **Special Features:** Center speaker output. Two convenience outlets. Charcoal brown, baked vinyl finish. Dual hum balancing controls. **Size:** 13" w. x 10" d. x 4" h. Shipping Weight, 22 lbs.

**Dynakit SCA-35 Stereo Control Amplifier Kit—Net Each.** . . . . . \$ 99.95  
**Dynakit SCA-35/A Stereo Amplifier—Factory wired.** Net Each. . . . . 139.95  
**Dynakit Model PBK Bracket Kit—For panel mounting.** Net Each. . . . . 2.00

## MODEL STEREO-70 AMPLIFIER KIT

Two independent power amplifiers provide 35 watts output on each channel from a single, rugged power supply; may be wired for 70 watts monophonic. Uses 7199 driver and push-pull EL34 tubes operated at 65% of capacity. Patented circuitry assembled on printed-circuit board. Power supply is low impedance, choke filtered type. **Power Output:** 35 watts continuous; 80 watts peak, each channel. **Frequency Response:**  $\pm 0.5$  db, 10-40,000 Hz. **IM Distortion:** Less than 1% at 35 watts; 0.05% at 17 watts. **Hum and Noise:** Inaudible; 90 db below 35 watts. **Output Impedance:** 4, 8 and 16 ohms. **Damping Factor:** 15. **Channel Separation:** 35 db minimum. **Tubes:** 4-EL34, 2-7199, 1-6Z4, selenium rectifier. **Other Features:** Matched tubes, dual Dyna Blasts for non-critical adjustment, power for two preamps without interaction; fuse post, stereo-mono switch and on-off switch. Has bright nickel chassis, vinyl coated charcoal brown cover. **Size:** 13" w. x 9 1/2" d. x 6 1/2" h. Shipping Weight, 32 lbs.

**Dynakit Stereo-70 Amplifier Kit—Net Each.** . . . . . \$ 99.95  
**Dynakit Stereo-70/A Amplifier—Factory wired.** Net Each. . . . . 129.95

## MODEL STEREO-35 AMPLIFIER KIT

Following the tradition of the famous Stereo-70, this medium-powered amplifier provides true Dynaco quality with economy. Provides a music power rating equivalent to conventional 45- or 50-watt amplifiers; can drive the most inefficient speakers. Uses patented Dynaco output transformers and superb circuitry for dual 17.5 watt amplification. Compact size suited to cabinet or bookshelf installations with limited space. Designed for use with PAS-3X preamplifier. **Power Output:** 35 watts continuous, 45 watts IHF both channels. **Frequency Response:**  $\pm 1$  db, 10-40,000 Hz. **IM Distortion:** Less than 1% at 17 watts (each channel); 0.1% at average listening levels. **Hum and Noise:** Inaudible; better than -80 db at rated output. **Damping Factor:** 10. **Output Impedance:** 8 and 16 ohms. **Tubes:** 2-7247, 4-6BQ5 and 2 silicon diodes. **Finish:** Cadmium plated chassis; vinyl finish, charcoal brown cover. **Size:** 13" w. x 5 1/2" d. x 4" h. Shipping Weight, 18 lbs.

**Dynakit Stereo-35 Amplifier Kit—Net Each.** . . . . . \$59.95  
**Dynakit Stereo-35/A Amplifier—Factory wired.** Net Each. . . . . 79.95



FM-3



FM-1



PAS-3X



PAS-2X



SCA-35



Stereo-70



Stereo-35

*dynakit*

# Hi-Fi Stereo Kits

## NEW DYNAKIT STEREO-120 SOLID STATE AMPLIFIER KIT

Features all the performance of top tube amplifiers plus compact design, cool operation and modest cost. Completely free from the transient distortion of voltage shifts due to wide dynamic current changes. Electronically protected against inadvertent opening or shorting of loudspeaker leads. Shuts off automatically under an abnormally heavy load; restores sound instantaneously when load is lightened. All silicon transistors. Self-adjusting bias arrangement eliminates changes through the thermal cycle. No user adjustments. Fully regulated power supply with exceptional filtering. Oversize power transformer. Oversize output capacitors for full speaker protection. **Power Output:** 60 watts continuous each channel with 5-ohm speakers. **Noise:** 95 db below rated output at 1000 Hz. **Channel Separation:** In excess of 70 db for 20-20,000 Hz. **Input:** 100,000 ohms; 1.5 V for 60 watts output. **Output Connections:** 4-way binding posts. **Damping Factor:** Greater than 40. **Harmonic Distortion:** Less than 0.5% at any power level up to 60 watts from 20-20,000 Hz. **Intermodulation Distortion:** Less than 0.5% at any power level up to 60 watts, with any combination of test frequencies. **Power Bandwidth (HF):** 5-50,000 Hz half-power output at less than 0.5% total harmonic distortion. **Semiconductor Complement:** 15 diodes, 15 transistors. **Finish:** Heavy gauge plated chassis. **Size:** 10 1/2" w. x 13" d. x 4" h. **Weight:** 20 lbs.

**Dynakit Stereo-120 Solid State Amplifier Kit—Net Each..... \$159.95**  
**Dynakit Stereo-120/A Solid State Amplifier—Factory wired. Net Each..... 199.95**



Stereo 120



PAT-4



Mark III



PAM-1



Mark IV



Stereodyne III

## NEW DYNAKIT PAT-4 SOLID STATE STEREO PREAMPLIFIER KIT

Though simple in circuitry, the PAT-4 offers outstanding flexibility and performance. Features exclusive tone control circuit to assure flat setting in the center of control rotation while still providing full continuous tone control action. Includes a switch-selected high frequency filter with 3-db points at 15, 10 and 7 kHz at 18 db per octave, plus a flat position. Perfectly matches any Dynaco tube or transistor amplifier. **Frequency Response:** ±0.5 db, 5-100,000 Hz. **Harmonic Distortion:** Less than 0.1% at 3 V, 20-20,000 Hz. **Tone Control Range:** ±12 db at 50 Hz and 10,000 Hz. **Noise:** Less than 2 μV on RIAA; 70 db below 10 mV cartridge input. **Inputs and Outputs:** High or low level RIAA magnetic cartridge; magnetic cartridge; NAB tape head; "special" low level option; 3 high level inputs; low impedance audio output; tape output; front panel output. **Controls:** Selector (Special, Tape Head, Phono, Tape, Tuner, Spare); Volume; Balance; separate (concentric) Bass and Treble controls for each channel; Scratch Filter; switches for power-off, rumble filter, tape monitor, loudness compensation, plus 2 mode selector switches. **Semiconductor Complement:** 2 diodes, 8 silicon transistors. **Size:** 13" w. x 8" d. x 2" h. **Weight:** 11 lbs.

**Dynakit Stereo PAT-4 Solid State Preamplifier Kit—Net Each..... \$ 89.95**  
**Dynakit Stereo PAT-4/A Solid State Preamplifier—Factory wired. Net Ea. . . . 129.95**

## DYNAKIT MARK III 60-WATT AMPLIFIER KIT

Printed circuit assembly permits construction by anyone within three hours; absolutely no balancing or critical adjustments required. Dyna Blaset permits accurate bias adjustment independent of meter accuracy. Choke filtering. **Power Output:** 60 watts continuous; 140 watts peak. **Frequency Response:** Better than ±0.5 db, 6-60,000 Hz; ±0.5 db, 16-25,000 Hz at 60 watts. **IM Distortion:** Less than 1% at 60 watts; 0.5% at 50 watts; less than .05% at 1 watt. **Noise:** -90 db at 60 watts with choke filtering. **Transient Response:** Unequaled in pulses, square waves, etc. **Output Impedances:** 4, 8, and 16 ohms. **Tubes:** 2 matched KT-88's, 1-6X4's, GZ-34, selenium rectifier. **Preamp Provision:** Socket permits draw of 200-400 V. DC at 20 ma, at 6.3 V. AC at 1 amp for preamps without power. **Size:** 9" w. x 9" d. x 6 3/4" h. **Weight:** 28 lbs.

**Dynakit Mark III Amplifier Kit—With assembly Instructions. Net Each. . . . \$79.95**  
**Dynakit Mark III/A Amplifier—Factory wired. Net Each. . . . 99.95**  
**Dynakit Mark III-70 Amplifier Kit—60 W amplifier with added 70.7 volt output for public address use. Same size and weight as Mark III. Net Each. . . . \$ 84.95**  
**Dynakit Mark III-70/A Amplifier—Factory wired. Net Each. . . . 104.95**  
**Dynakit Mark III-500 Amplifier Kit—Same, but with either 125 or 500-ohm output; no voice coil taps. Net Each. . . . \$ 89.95**  
**Dynakit Mark III-500/A Amplifier—Factory wired. Net Each. . . . 109.95**

## DYNAKIT PAM-1 PREAMPLIFIER KIT

Flexible high gain control unit designed for outstanding performance quality. Printed circuit module for easy construction without harming critical parts; all feedback circuitry lowers distortion and noise; provides improved response and stability. **Inputs:** Low level phono, tape or mike. **Outputs:** Tape and stereo. **Controls:** Selector and equalization (RIAA, 78, Org. LP, Radio, TV, Special); Bass (±20 db at 20 Hz); Treble (±14 db at 20 kHz); Volume; Tape monitor; Loudness; Hum Balance. **Distortion:** Less than 0.05% at sufficient output to drive all power amplifiers at any volume level. **Frequency Response:** ±0.5 db, 10-40,000 Hz at any volume level. **Noise:** Less than 3 μV on RIAA; 1.5 μV on mike; 70-74 db below 10 mV. **Power Required:** 200-400 VDC at 2-4 mA; 6 VAC at 0.75 amp available from Dynakit amplifiers. **Features:** 4 AC outlets; D heater supply; bone white or charcoal vinyl finish choice. **Size:** 12" w. x 6" d. x 2 3/4" h. **Shipping Weight:** 7 lbs.

**Dynakit PAM-1 Preamplifier Kit—Net Each. . . . \$34.95**  
**Dynakit PAM-1/A Preamplifier—Factory wired. Net Each. . . . 59.95**  
**Dynakit PM-1 Panel Mounting Kit—For PAM-1 preamplifier. Net Each. . . . 2.95**

## DYNAKIT MARK IV 40-WATT AMPLIFIER KIT

Basic 40-watt amplifier equivalent to half of the Dynakit Stereo-70. Preassembled printed circuitry permits assembly in less than three hours. **Power Output:** 40 watts; 90 watts peak. **Frequency Response:** ±0.5 db, 10-40,000 Hz. **IM Distortion:** Less than 1% at 40 watts; 0.05% at 1 watt. **Hum and Noise:** Inaudible; 90 db below 40 watts. **Output Impedances:** 4, 8 and 16 ohms. **Damping Factor:** 15. **Tubes:** 2-EL34, 1-7199, 1-GZ34, selenium rectifier. **Other Features:** Matched tubes, Blaset for non-critical adjustment; preamp power socket, fuse post, on-off switch, nickel chassis and vinyl coated charcoal brown cover. **Size:** 14" w. x 5 1/2" d. x 6 3/4" h. **Shipping Weight:** 20 lbs.

**Dynakit Mark IV Amplifier Kit—Net Each. . . . \$59.95**  
**Dynakit Mark IV/A Amplifier—Factory wired. Net Each. . . . 79.95**

## DYNACO B&O STEREO DYNE III CARTRIDGE

Mumetal® shielding and quadri-coil design for lowest hum pickup. Smooth response, low moving mass and high compliance in all directions assure lowest record and stylus wear. **Frequency Response:** ±2.5 db, 20-20,000 Hz. **Output:** 7 mV each channel at 5 cm/sec at 1 kHz. **Separation:** 28 db at 500 Hz; 20 db, 20-12,000 Hz. **Tracking:** 1 to 3 grams. **Moving Mass:** 1.5 mgm. **Compliance:** 14 x 10<sup>-6</sup> cm/dyne. **Recommended Load:** 47K ohms. **Stylus:** 0.7-mil spherical diamond. **Tracking Angle:** 15° vertical.

**Dynaco B&O Stereodyne III Cartridge—Net Each. . . . \$19.95**  
**Dynaco B&O No. SR-07 Replacement Stylus—Net Each. . . . 11.95**  
**Dynaco B&O Stereodyne I Cartridge—Similar, but compliance 5 x 10<sup>-6</sup> cm/dyne; 26° vertical tracking angle; response, ±2 db, 20-15,000 Hz; separation, 22 db. . . . \$17.95**  
**Dynaco B&O No. RD-07 Replacement Stylus—Net Each. . . . 9.95**

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# ACOUSTECH Hi-Fi Components

## NEW ACOUSTECH VIII SOLID STATE FM STEREO TUNER

Features oversized flywheel for effortless tuning; center channel meter to assure minimum distortion and maximum stereo separation; automatic switching to stereo and indicator light signal when stereo station is tuned. Switchable muting circuit. DX switch for weak, distant stations; DX light indicates you are not in normal stereo mode. Stereo headphone amplifier with volume control on front panel permits using low impedance phones with tuner. Five IF and four limiter stages are assembled on individual printed circuit boards to allow noise-free reception and selection of stations close together on the dial. Heavy-duty, fully regulated power supply has unusually large filtering for minimum hum and noise. Gold-anodized front panel and machined knobs match any Acoustech amplifier, preamplifier or kit; especially suited electronically to use with Model VI Control Center or Models V-A and VII Integrated Amplifiers. See-thru front panel allows dial and pointer to be seen when tuner is turned on; when tuner is off, they are invisible. Slanted dial has elongated scale for accurate reading and selection. **Audio Output:** 1 1/2 v. at 100% modulation. **Distortion:** IM, 0.5%; harmonic, 0.3%. **IHF Power:** 2 1/2 v. **Cross Modulation Rejection:** Over 95 db. **Input Signal for Full Signal/Noise:** 4 1/2 v. **Stereo Separation:** 35 db at 1 kc. **Stereo Headphone Amplifier Output:** Over 3 v. into 4-16 ohm load, each channel. **Size:** 15 3/4" w. x 10" d. x 5" h. Shpg. Wt., 15 lbs. Walnut case or unusual side panels are available at additional cost.

**Acoustech Model VIII Solid State FM Stereo Tuner—Net Each.....\$349.00**

## ACOUSTECH V-A AND VII INTEGRATED CONTROL-AMPLIFIERS

Stereo, solid state control-amplifiers feature transformerless circuits, all-silicon output stages, superior square-wave response, high (100:1) damping. Models V-A and VII have identical performance except for different power capabilities: V-A delivers 100 watts total (50 watts each channel), VII delivers 60 watts total (30 watts each channel). Fully factory wired. Contains 22 all-silicon transistors, 4 plug-in glass epoxy printed circuit boards. Weight of power transformer, 9 1/2 lbs. **Transient Power:** 125 watts per channel into 8 ohm speaker. **IHF Power:** 140 watts total at 4 ohms. **Power Bandwidth:** 20-20,000 cps for under 0.25% harmonic distortion. **Frequency Response:** 1.2 v. at 5-75,000 cps; +3 db, 2-300,000 cps. **Hum and Noise:** Phono, 55 db; high level, 75 db. **Input Sensitivity:** Mag. low 2.5 mV; mag. high, 10 mV; high levels, 400 mV. **Input Impedance:** Phono, 47K ohms, minimum; high level, 100K ohms. **Rise Time:** 1 1/2 1/3 1/4 1/5 1/6 1/7 1/8 1/9 1/10 1/11 1/12 1/13 1/14 1/15 1/16 1/17 1/18 1/19 1/20 1/21 1/22 1/23 1/24 1/25 1/26 1/27 1/28 1/29 1/30 1/31 1/32 1/33 1/34 1/35 1/36 1/37 1/38 1/39 1/40 1/41 1/42 1/43 1/44 1/45 1/46 1/47 1/48 1/49 1/50 1/51 1/52 1/53 1/54 1/55 1/56 1/57 1/58 1/59 1/60 1/61 1/62 1/63 1/64 1/65 1/66 1/67 1/68 1/69 1/70 1/71 1/72 1/73 1/74 1/75 1/76 1/77 1/78 1/79 1/80 1/81 1/82 1/83 1/84 1/85 1/86 1/87 1/88 1/89 1/90 1/91 1/92 1/93 1/94 1/95 1/96 1/97 1/98 1/99 1/100 1/101 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the sound approach to quality



# KENWOOD SOLID STATE STEREO HI-FI EQUIPMENT

## SOLID STATE AM-FM AND FM STEREO RECEIVERS MODEL TK-140 AM-FM STEREO 130-WATT "CLASSIC" RECEIVER

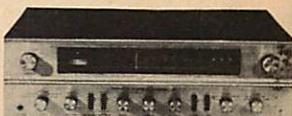
Kenwood's proudest achievement in creative engineering, this impressive receiver captures the very essence of fine sound. Its 130 watts of total music power is enough to drive even low-efficiency speakers. Tuner employs Field Effect Transistor 4-gang tuning for superior sensitivity, image rejection and cross-modulation ratio. A dramatic innovation: Model TK-140's feather-touch control panel for Loudness, Muting, Tape Monitor, and High and Low Filters. Has all-silicon transistor amplifier, 5-position program selector, 5-position mode switch, 5 pairs of inputs. **Power Output:** 130 watts total IHF at 4 ohms; 50 watts per channel continuous (0.5% THD) at 8 ohms. **Frequency Response:** FM tuner,  $\pm 2$  db, 20-20,000 Hz; amplifier,  $\pm 2$  db, 20-50,000 Hz. **Usable Sensitivity:** FM, 2  $\mu$ V IHF; AM, 10  $\mu$ V IHF. **Power Bandwidth:** -3 db, 20-30,000 Hz. **FM Harmonic Distortion:** 0.6% at 1000 Hz at 100% modulation. **FM Capture Ratio:** 2.5 db. **Stereo Separation:** 38 db at 400 Hz. **Input Sensitivity:** Phono, 2 mV; tape head, 2.5 mV; tape play, 150 mV. **Power Required:** 110-120 VAC. **Size:** 16 3/4" w. x 13 3/4" d. x 5 3/4" h. Weight, 31 lbs.



TK-140

## Kenwood Model TK-140 AM-FM Stereo Receiver—Walnut finish case. Net. . \$339.95 MODEL TK-80 FM STEREO 90-WATT RECEIVER

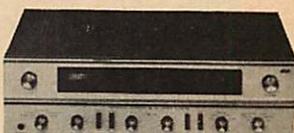
Provides the luxury of full, rich-bodied sound and audio perfection of solid state stereo. Has 4-gang capacitor in all-transistor front end, five IF stages with four limiters, auto-silicon transistor amplifier, five-position program selector, interstation muting circuit, all-silicon transistor amplifier, five-position mode switch, five-position stereo/mono switch, six pairs of inputs, and a host of other features. **Power Output:** 90 watts total IHF at 4 ohms; 32 watts per channel continuous (0.5% THD). **Frequency Response:** FM Tuner,  $\pm 2$  db, 20-20,000 Hz; amplifier,  $\pm 1$  db, 20-50,000 Hz. **Usable Sensitivity:** 2  $\mu$ V IHF. **Power Bandwidth:** -3 db, 20-30,000 Hz. **Harmonic Distortion:** 0.7% at 1000 Hz at 100% modulation. **Capture Ratio:** 2.5 db. **Stereo Separation:** 38 db at 400 Hz. **Input Sensitivity:** Phono and tape head, 2 mV; aux and tape play, 150 mV. **Power Required:** 190 watts max., 110-120 VAC. **Size:** 17 3/4" w. x 12" d. x 5 1/4" h. Net Weight, 23 lbs.



TK-80

## Kenwood Model TK-80 FM Stereo Receiver—Net. Each. . . . . \$289.95 MODEL TK-60 AM-FM STEREO 60-WATT RECEIVER

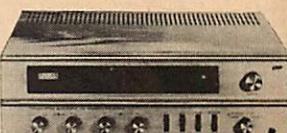
Brings you optimum dynamic power of 60 watts—truly the most excitingly complete receiver, feature for feature, to be found anywhere at this price! Includes 4-gang AM-FM tuning capacitor, five IF stages with four limiters, automatic stereo/mono switching, all-silicon transistor amplifier, six-position program source selector, five-position mode switch, five pairs of input terminals, and many other built-in extras. **Power Output:** 60 watts total IHF at 4 ohms; 20 watts continuous (0.5% THD). **Frequency Response:** FM Tuner,  $\pm 2$  db, 20-20,000 Hz; amplifier,  $\pm 1$  db, 20-50,000 Hz. **Usable Sensitivity:** FM, 2  $\mu$ V IHF; AM, 10  $\mu$ V IHF. **Power Bandwidth:** -3 db, 20-30,000 Hz. **FM Harmonic Distortion:** 0.6% at 1000 Hz at 100% modulation. **FM Capture Ratio:** 2.5 db. **Stereo Separation:** 25 db at 400 Hz. **Input Sensitivity:** Phono and tape head, 2 mV; aux and tape play, 150 mV. **Power Required:** 90 watts max., 110-120 VAC. **Size:** 17 3/4" w. x 14" d. x 5 1/4" h. Net Weight, 23 lbs.



TK-60

## Kenwood Model TK-60 AM-FM Stereo Receiver—Net. Each. . . . . \$239.95 MODEL TK-50 FM STEREO 60-WATT RECEIVER

Precision-engineered component similar to Model TK-60 above, but less AM tuner. Has four-position program selector, stereo/mono switch, four pairs of input terminals. **Usable Sensitivity:** FM, 2.5  $\mu$ V IHF. **Input Sensitivity:** Phono, 2 mV; aux and tape play, 150 mV. Net Weight, 22 lbs. Other specifications same as Model TK-60.



TK-50

## Kenwood Model TK-50 FM Stereo Receiver—Net. Each. . . . . \$199.95 MODEL TK-40 AM-FM STEREO 30-WATT RECEIVER

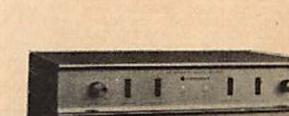
Offers 30 watts of music power, solid state construction, 4-gang tuning and 5 IF stages for magnificent AM-FM stereo sound at modest cost. Includes automatic stereo/mono switching with stereo light indicator, pinpoint tuning meter, and all-silicon transistor amplifier for wide power bandwidth. Very low IM distortion; high damping factor. **Power Output:** 30 watts total IHF; 20 watts continuous (0.5% THD). **Frequency Response:** FM Tuner,  $\pm 2$  db, 20-20,000 Hz. **Usable Sensitivity:** FM, 2.5  $\mu$ V IHF; AM, 10  $\mu$ V IHF. **Power Bandwidth:** -3 db, 20-30,000 Hz. **FM Harmonic Distortion:** 0.6% at 1000 Hz at 100% modulation. **FM Capture Ratio:** 2.5 db. **Stereo Separation:** 30 db at 400 Hz. **Input Sensitivity:** Phono, 2 mV; aux and tape play, 150 mV. **Power Required:** 50 watts max., 110-120 VAC. **Size:** 16 3/4" w. x 12" d. x 5" h. Net Weight, 19 3/4 lbs.



TK-40

## Kenwood Model TK-40 AM-FM Stereo Receiver—Walnut finish case. Net. . . \$189.95 MODEL TK-500 SOLID STATE AUTOMATIC FM STEREO TUNER

Stable, reliable design for ideal reception of FM and multiplex with automatic relay switching to proper mode. Instant indication on reception of FM stereo; illuminated meter for pin-point tuning; output for tape recording. Nuvistor cascade front-end plus five IF stages. Interstation muting holds noise low when tuning. Neat chassis design. **Sensitivity:** 1.8  $\mu$ V IHF. **Frequency Response:**  $\pm 2$  db, 20-20,000 Hz. **Separation:** better than 35 db at 1000 Hz. **Rejection:** 65 db. **Image at 98 MHz;** better than 50 db. **SCA:** more than 55 db sub-carrier. **Hum and Noise:** -60 db. **Capture Ratio:** 2 db. **Distortion:** 0.6% harmonic at 400 Hz and 100% modulation. **Drift:** 0.025% without AFC. **Output:** 2 volts at 100% modulation. **Controls:** Function (Automatic/Stereo/Mono); Tuning; Tuning Meter; AEC On-Off; Level; Muting Max-Off; Noise Filter On-Off; Power On-Off. **Power Required:** 10 watts; 110-120 VAC. **Size:** 15 3/4" w. x 12 3/4" d. x 5 3/4" h. Weight, 14 1/2 lbs.



TK-500

## Kenwood Model TK-500 Solid State Tuner—Net. Each. . . . . \$149.95 MODEL TK-400 STEREO 90-WATT SOLID STATE AMPLIFIER

Powerful amplifier combines with complete control facilities for superb stereo performance. Automatic circuit protects transistors. Transformerless input and output circuits for the least possible noise and distortion. Front-panel stereo headset jack. **Power Output:** 90 watts total IHF at 4 ohms; 32 watts rms per channel (0.5% THD) at 8 ohms. **Frequency Response:**  $\pm 1$  db, 20-50,000 Hz. **IM Distortion:** Less than 0.5% (up to 25 watts per channel rms). **Power Bandwidth:** -3 db, 20-30,000 Hz. **Hum and Noise:** -60 db (phono and tape head); -75 db (aux and tuner). **Damping Factor:** 20. **Controls:** Mode (Left/Right/Stereo/Reverse); Input (Phono 1/Phono 2/Tuner/Tape/Aux); Bass; Treble; Balance; Volume; Loudness; Separation; Phase Reverse; Speaker On-Off; Low Filter; High Filter; Tape Monitor; Power On-Off. **Power Required:** 160 watts max., 110-120 VAC. **Size:** 15 3/4" w. x 12 3/4" d. x 5 3/4" h. Weight, 27 lbs.



TK-400

## Kenwood Model TK-400 Solid State Amplifier—Net. Each. . . . . \$149.95 MODEL TKS-40 SOLID STATE AM-FM STEREO MUSIC SYSTEM

Superbly engineered system combines an outstanding receiver

with two compact two-way speakers at very low cost. Heart of the system is the efficient, 30-watt TK-40 AM-FM stereo receiver with its silicon power transistor, automatic stereo/mono switching, silicon transistor amplifier, . . . and lots more. Specially designed speakers have big 3 1/2" woofers and 2 1/4" cone-type tweeters for dynamic bass, excellent midrange, and smooth, distortion-free treble sound. **Receiver Power Output:** 30 watts total IHF; 20 watts continuous (0.5% THD). **Receiver Usable Sensitivity:** FM, 2.5  $\mu$ V IHF; AM, 10  $\mu$ V IHF. **Frequency Response:** FM tuner,  $\pm 2$  db, 20-20,000 Hz; amplifier, 20-50,000 Hz; speakers, 50-20,000 Hz. (See TK-40 receiver description above for other data). **Speaker Crossover:** 4000 Hz. **Size:** Receiver, 16 1/2" w. x 12" d. x 5" h.; speakers, 10" w. x 8" d. x 16 1/2" d. Weight, 28 3/4 lbs. **Kenwood Model TKS-40 Music System—Net. Each. . . \$249.95**  
**Kenwood Model S-40 Speakers—Impedance, 8 ohms. Power capacity, 20 watts max. Weight, 8 1/2 lbs. Net per Pair. . \$79.95**



TKS-40 System  
With TK-40 Receiver  
and Two S-40 Speakers



# Garrard® Automatic Turntables

## NEW LAB 80 Mk II AUTOMATIC TRANSCRIPTION TURNTABLE

- INTEGRAL TONE ARM CUEING
- ANTI-SKATING COMPENSATOR
- REPEATS RECORDS AS OFTEN AS DESIRED AUTOMATICALLY

- NEW AUTOMATIC PLAY OF SINGLE RECORDS



- AUTOMATIC PUSHER SPINDLE FOR UNMATCHED SAFETY

Exceptional turntable insures professional reproduction of LP records, 33 $\frac{1}{2}$  and 45 rpm. Styled in satin metal, grained wood and iridescent color; decorator base available. New style raised control center with fluted tab operating levers for simple operation and safety from jarring. New feature allows automatic play of single record. At the end of a single record or the last record of a group, the arm automatically returns to rest and the turntable shuts off. Featherweight touch selects record size (7", 10" or 12"), automatic play and speed (33 $\frac{1}{2}$  or 45 rpm). Spring-loaded safety catch permits manual locking of arm to rest. **Minimum Cabinet Dimensions:** 17" w. x 14 $\frac{3}{4}$ " d. x 5 $\frac{1}{2}$ " above and 3 $\frac{1}{2}$ " below motor board. **Garrard Lab 80 Mk II Auto. Transcription Turntable—Less Base, Net Ea. \$99.50**

**Arm Mechanism:** Dynamically-balanced, Afrormosa wood arm held to track alignment with aluminum stabilizer its entire length. Knurled knob in front of arm pivot sets the tracking force precisely with  $\frac{1}{4}$ -gram click-stops from zero to five grams. Counterweight adjusts for level floating; isolated in rubber. Needle pivots set in ball bearings hold friction to a minimum. Vertical design cancels warp and wow; low center of gravity eliminates sensitivity to jarring. Anti-skating compensator has  $\frac{1}{2}$  gram increment markings for counterweight in easily-read window; permits use of highest compliance cartridges. Lightweight shell slides into arm on channels; holds rigidly with knurled screw; takes all cartridges; long finger-lift for safety. Integral cueing allows arm to be suspended over any groove desired; hydraulically controlled. When tab control on pick-up rest is activated, the arm gently lowers the cue to exact groove. Stereo four-pin, five-wire system has separate ground connections; female twin phono socket provided on unit plate. AC leads plug into player with Amplug plug for easy installation.

**Precision Automatic Spindle:** Remarkable new design has built-in pusher principle for highest safety and positive action. Three extension arms on spindle hold the record stack; when change operation occurs, the arms retract and individual record is pushed off gently. The trip mechanism is molded Delrin\*, a slippery plastic, holding friction to a minimum. Ultra-sensitive magnetic repulsion activates the cycle; opposing magnets eliminate mechanical contacts, to trip reliably at virtually zero face. New special adapter placed over automatic spindle allows repeating of records as often as desired. \*Registered DuPont trademark.

**Turntable, Mat and Motor:** Extremely heavy cast 12" dia. turntable is anti-magnetic and dynamically balanced for constant speed regardless of voltage variations; eliminates any possibility of wow or rumble. Anti-static, dust-repelling mat features deep ridges at 12", 10" and 7" positions. This protects stylus should arm come down when no record is in place. Laboratory Series® four-pole shaded motor mounted in revolutionary suspension system of rubber anti-vibration devices and damping pads.

## NEW MARK II FOUR-SPEED AUTOMATIC TURNTABLES

MODEL 60 Mk II



Completely restyled with large, heavy, die-cast turntable and new mat and trim ring. Tubular, dynamically-balanced, counterweight-adjusted tone arm; tubular over-arm. Resiliently mounted counterweight assures freedom from wow and rumble. New camera-type dial adjusts stylus pressure for smooth and highly accurate setting of tracking force; large divisions allow precise setting. Super-sensitive trip utilizes Dupont Delrin to offset friction. Manual cueing and pause device permit placing of the tone arm in any position by use of cueing lever; pause mechanism can be activated at any time while playing stack of records. Simply lift cueing lever and the arm stays above record as long as desired; when lowered, it resumes right where it left off and the entire playing cycle continues. Lightweight cut-away shell and finger lift. Anti-skating assembly minimizes side pressure on stylus. Positive-acting tone arm safety catch to prevent accidents and to simplify portability. Double-shielded Laboratory Series four-pole shaded motor gives exact record speeds. Automatic intermix operation when desired. Complete with line cord, two audio cables, plug-in shell, standard and manual spindles; 45 automatic spindle available. **Minimum Cabinet Dimensions:** 15 $\frac{3}{4}$ " w. x 13 $\frac{1}{2}$ " d. x 4 $\frac{1}{2}$ " above and 2 $\frac{3}{4}$ " below motor board. **Garrard Model 60 Mk II Automatic Turntable—Less base, Net Each. . . . \$74.50**

MODEL 50 Mk II



Entirely new model packed with quality features usually found only in higher price units. Oversize turntable with new turntable mat and trim. Lightweight tubular arm with resiliently mounted non-adjustable counterweight. Stylus pressure is easily adjusted by moving pointer on side of the tone arm. Approximate one-gram interval calibrations, varying in size to indicate increase or decrease of stylus pressure. Manual cueing and pause device permit placing of the tone arm in any position by use of cueing levers; pause mechanism can be activated at any time while playing stack of records. Simply lift cueing lever and arm stays above record as long as desired; when lowered, it resumes where it left off and the entire playing cycle continues. Newly designed plug-in shell and control housing. Tone arm safety catch for easy portability. Automatic intermix when desired. Super-sensitive trip utilizes Dupont Delrin to offset friction. Garrard four-pole shaded "Induction Surge" motor with dynamically balanced rotor; shielded from hum. Accurate speeds of 16 $\frac{2}{3}$ , 33 $\frac{1}{2}$ , 45 and 78 rpm. With line cord, two audio cables, plug-in shell; 45 automatic spindle available. **Minimum Cabinet Dimensions:** 14 $\frac{3}{4}$ " w. x 12 $\frac{1}{2}$ " d. x 4 $\frac{3}{4}$ " above and 2 $\frac{1}{4}$ " below motor board. **Garrard Model 50 Mk II Automatic Turntable—Less base, Net Each. . . . \$54.50**

MODEL 40 Mk II



Oversize turntable with decorative mat featuring radial ridges to hold record securely with a minimum of contact area. Counterweighted cast aluminum tone arm. Lightweight cutaway shell with extended finger lift. Tone arm safety catch for easy portability. Carefully engineered tone arm handles a variety of the highest quality cartridges while protecting your records; it operates with a frictionless, super-sensitive Dupont Delrin trip mechanism. Intermix automatic operation. Simple, convenient stylus pressure adjustment. Handsomely styled unitized control panel with separate positions for manual and automatic play. Both automatic operation and manual spindles supplied. Garrard four-pole shaded "Induction Surge" motor with dynamically balanced rotor; shielded from hum. For smooth, wow-free, accurate speeds of 16 $\frac{2}{3}$ , 33 $\frac{1}{2}$ , 45 and 78 rpm. Stereo wired with Amplug plug for simplified installation. With line cord, two audio cables and plug-in shell; 45 automatic spindle available. **Minimum Cabinet Dimensions:** 14 $\frac{3}{4}$ " w. x 12 $\frac{1}{2}$ " d. x 4 $\frac{3}{4}$ " above and 2 $\frac{3}{4}$ " below motor board. Compact styling with low over-hang permits installing in virtually any cabinet. **Garrard Model 40 Mk II Automatic Turntable—Less base, Net Each. . . . \$44.50**

# Garrard® Turntable, Accessories

## NEW MODEL 70 Mk II AUTOMATIC TURNTABLE

**Arm and Trip Mechanism:** Virtually frictionless arm movement employs special needle pivots set into miniature ball bearings. Low positioned counterbalance, in line with the cartridge, provides optimum center of gravity for improved tracking and high resistance to external shock. Bias compensator anti-skating device matched with cartridge weight adjustment, holds total side pressure at the stylus to an infinitesimal measurement; adjusts with sliding weight to notches matching stylus pressure desired for a particular cartridge. Knurled screw in front of pivot area gives click-stop adjustment in ¼ gram increments precise stylus pressure setting. Counterbalance weight adjusts to zero stylus pressure with level float; tightens securely with adjusting screw. Super-sensitive trip mechanism employs Delrin plastic, a slippery material, so that the load on the arm is virtually unmeasurable; trips perfectly every time, even with the most compliant cartridge. Arm is wired for stereo with Amplok plug for quickest connection. Both automatic operation and manual spindles supplied.

**Motor and Turntable:** Double-shielded, Laboratory Series® 4-pole shaded motor is mounted on foam rubber spring cushioning for smoothest possible action. Can't cause wow and rumble driving full size, heavy, balanced turntable of cast "sandwich" construction. Simplified, "Up-front" control system employs lever-action selection for automatic and manual modes on one side; speed selector (16½, 33½, 45 and 78 rpm) on the other side. Famous pusher type changing mechanism protects records fully against damage during automatic changing. Surpasses every other automatic design, except the Lab 80 MkII, for tracking accuracy in both automatic and manual modes. Newly designed, dynamically balanced tone arm combines with unique anti-skating compensator to permit using the highest compliance cartridges available. Slide-in lightweight cartridge shell has cut-away design for ease of installation and service; holds mass to a



● WIRED FOR STEREO

● SUPER-SENSITIVE AUTOMATIC TRIP MECHANISM

● ANTI-SKATING COMPENSATOR FOR ALL CARTRIDGES

minimum. Extended finger lift for safest handling. Handsome styling utilizes new iridescent color in combination with sparkling chrome for unusual distinction. **Minimum Cabinet Dimensions:** 16¾" w. x 14¾" d. x 6" above and 2½" below motor board. **Garrard Model 70 Mk II Automatic Turntable—Less \$84.50 base. Net Each.**

● 4-SPEED STEREO



● AUTOMATIC SHUT-OFF

## NEW MODEL SP20 MANUAL 4-SPEED PLAYER

Excellent high fidelity player offers compact, efficient music reproduction for basic music systems at sure economy. Ideal for quality audio-visual applications. Plays all four standard record speeds with true fidelity, though operation is manual only (no changing mechanism). Employs full-size, weighted turntable. Semi-counterbalanced arm is adjustable for stylus pressure; has interchangeable plug-in head that accepts any cartridge; tracks as light as 2 grams. Wired for stereo. DuPont Delrin trip mechanism automatically returns arm to rest at end of record and shuts off the turntable. Compact design fits most cabinetry with ease; or use with CB10 series bases below. **Size:** 14¾" x 12½" d. x 3½" above and 2½" below motor board.

**Garrard Model SP20 Manual Player—Less Base. Net Each..... \$37.50**

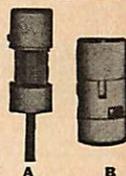
## AUTOMATIC 45 RPM CHANGER SPINDLES

Permits automatic play of 45 rpm records on Garrard changers and turntables. Inserts easily. Takes wide-center-hole records without damage.

**Garrard No. LRS3 (Fig. A)**—For 70 and Type A Series. Net Each..... **\$5.95**

**Garrard No. LRS59 (Fig. B)**—For Lab 80 Series. Net Each..... **5.95**

**Garrard No. LRS10 (Fig. B)**—For 60, 50 and 40 Series, also for AT6 and Autoslim. Net Each..... **3.80**



## DECORATOR BASES AND MOUNTING BOARDS

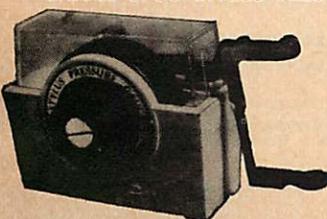
Beautifully styled, coordinated bases of simulated ebony-and-walnut combination with silver trim as illustrated on this and facing page. Provision for easy mounting of drawer slides if desired. Lightweight, strong, durable. 16" x 18" mounting board is of smooth-sanded, unfinished wood; can be cut to size.

| Description            | For 70 and Type A Series, Also 88 Series<br>16" x 13" x 4¼" |          | For Lab 80 Series<br>16" x 13" x 4¼" |          | For 60, 50, 40 and 20 Series; AT6 and Autoslim<br>14¾" x 12½" x 3½" |          |
|------------------------|---|----------|--------------------------------------|----------|---|----------|
|                        | Model No.   | Net Each | Model No.                            | Net Each | Model No.   | Net Each |
| Decorator Base         | CB8   | \$5.50   | CB9                                  | \$5.50   | CB10  | \$4.50   |
| Mtg. Board, Unfinished | MB8   | 2.25     | MB9                                  | 2.25     | MB10  | 2.25     |

## EXTRA PLUG-IN SHELLS

Plug-in shells will accommodate any cartridge (pick-up) of the user's choice. Complete with all mounting accessories. **Garrard No. M8** (For Lab 80 and 70 Series)—Net. **\$2.50**  
**Garrard No. M7** (For 60, 50, 40 and 20 Series)—Net Each..... **\$1.75**

## MODEL SPG3 STYLUS PRESSURE GAUGE



Low-cost, accurate gauge with large, legible scale inside clear plastic window. Widely spaced gram markings. Use to check weight exerted by stylus on record or to set a predetermined weight. Swivel balance mechanism uses no springs; assures long-life accuracy. Can't damage stylus. Use with any tone arm or pick-up. With

5-gram brass weight for use as standard and for "zeroing."  
**Garrard Model SPG3—Net Each..... \$2.95**

## NEW GARRARD DUST COVERS

CAN BE USED IN PLACE WHILE PLAYING RECORDS!

Newly designed dust cover is made of crystal clear styrene. Full size to allow use in place while playing a full stack of records. Molded emblem in the top center doubles as handle for easy placement and removal. Fits perfectly and coordinates with Garrard bases.  
**Garrard Model DC89** (For Lab 80, 70 and Type A Series, also the 88 Series)—Net Each..... **\$5.50**  
**Garrard Model DC10** (For 60, 50, 40 and 20 Series, also for AT6 and Autoslim)—Net Each..... **\$4.50**



# THORENS Turntables and Tone Arm

## TD-150AB UNI-SUSPENSION TURNTABLE (FIG. A)



(A)

Completely integrated turntable unit includes mounting board, platter, drive system, base and tone arm. **Features:** Low mass, aluminum plug-in shell with adjustment of vertical tracking angle; horizontal and vertical arm balancing; hydraulic damping, arm lowering device; built-in pneumatic cuing mechanism; interchangeable tone arm mounting board; single mounting board and platter adjustment. **Specifications:** Humble, wow and flutter below NAB stereo standards. Two speeds, 33 $\frac{1}{3}$  and 45 rpm. Speed regularity better

than  $\pm 0.1\%$ . Tracking error below 0.2% cm radius. **Turntable Drive:** One low speed (375 rpm) double synchronous motor. Belt from motor pulley to 6 $\frac{1}{4}$ " diameter section of turntable platter. Twelve inch, 7 $\frac{1}{2}$  lb.; non-magnetic, precision balanced platter made of zinc alloy. **Power Required:** 110/120 VAC, 60 cps. **Size:** 15 $\frac{3}{8}$ " w. x 12 $\frac{3}{8}$ " d. x 5" h. (with tone arm). Base, 2 $\frac{3}{8}$ " h. **Weight:** 14 $\frac{1}{2}$  lbs. **Thorens Model TD-150AB—Turntable with base and tone arm. \$99.75**  
Net Each.....

## TD-124 SERIES II TURNTABLE (FIG. B)



(B)

Meets the most critical broadcast standards with lowest wow, flutter and rumble content. Unique design incorporates extra-heavy turntable for smooth performance, yet stops and starts instantly. **Features:** Thorens "Roto-Drive" adjustment of all 4 speeds. Built-in stroboscope has neon bulb. Uses 12" or 16" arm mounting boards (available in various finishes at low cost) for easy installation of tone arm. Built-in split level and four precision machined leveling knobs. Cuing clutch for immediate speed (ideal for broadcasting or recording purposes). Single control knob for all speed changes and on-off switch. Compact design requires only 2 $\frac{3}{4}$ " clearance below mounting board. **Turntable Drive:**

Non-ferrous 8 $\frac{3}{4}$  lb., flywheel inner turntable drives lightweight, aluminum outer turntable with special clutching unit. Design permits extra heavy weight without magnetic pickup; allows continued movement of inner turntable (heavy) while outer (light) one is stopped—re-engage-ment provides instantaneous start. **Size:** 15" x 12 $\frac{3}{8}$ " base plate. **Power Required:** 100-250 VAC, 50/60 cps. Shipping Wt., 22 lbs. **Thorens Model TD-124 Series II—With color knobs, escutcheon plate, non-ferrous platter and precision motor with extra compliant belt-plus-idler for isolation of motor vibration. \$125.00**  
Without base. Net Each.....

## TP-14 PROFESSIONAL TONE ARM (FIG. C)



(C)

- Vertical Stylus Angle Variable by Means of Patented Adjustable Plug-In Shell
- Adjustable Counterweight for Precision Balancing; Built-in Calibrated Stylus Force Adjustment (0 to 4 Grams)
- Arm Resonance Is Well Below Frequency Response of Audio System
- Built-in Precision Cuing Device for Lowering or Raising Arm
- Interchangeable Low-Mass Cartridge Shell Is Four-Pin Type for Stereo or Mono; Anti-Skating Device
- Includes Cartridge Slide Assembly for Proper Spacing of Stylus

A classic example of Swiss craftsmanship, this professional tone arm is designed for greatest possible reduction of resistance to movement and lowest inertia. The angle of the tone arm places the cartridge at an optimum tangent to the record groove, thus reducing tracking error to a minimum. Unwanted mechanical resonances are cancelled by special alloy of arm and damping material. Vertical angle of the special new low-mass plug-in shell is adjustable. Ad-

justable counterweight for precision counter balancing; calibrated stylus force adjustment. Anti-skating device. Precision cuing device. Four-pin shell for stereo or mono. Cartridge slide assembly for stylus spacing. Maximum tracking error, 0.5° per inch. Offset angle of arm, 25° 15'. Overall length, 12 $\frac{1}{2}$ ". Supplied complete with mounting board for TD-124 and TD-121 turntables. **Thorens Model TP-14—\$50.00**  
Net Each.....

## ACCESSORIES FOR ALL MODELS

- **Thorens Model WB-309SW**—Deluxe base with oiled walnut finish for use with TD-124 or TD-121 turntables using 16" arm. Net Each..... **\$25.00**
- **Thorens Model WB-124SW**—Satin walnut base for TD-124 or TD-121. Net. **\$12.50**
- **Thorens Model CAB-124SW**—Satin walnut cabinet with dust cover for TD-124 and TD-121. Net Each..... **\$40.00**
- **Thorens Model MB-124**—Unfinished mounting board for TD-124 or TD-121 turntables. Net Each..... **\$5.00**
- **Thorens Model AS-12**—Ebony tone arm board for 12" arms when used on TD-124 or TD-121. Net Each..... **\$3.00**

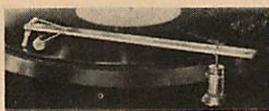
- **Thorens Model AS-16**—Same, but for use with 16" arms. Net Each..... **\$3.75**
- **Thorens Model PC-124**—Dust cover for TD-124 or TD-121. Net Each..... **\$12.50**
- **Thorens Model PC-150**—Tinted plastic dust cover for TD-150AB. Net..... **\$6.00**
- **Thorens Model PC-309**—Dust cover for WB-309 base. Net Each..... **\$17.50**
- **Thorens Model TP-50**—Low-mass metal plug-in shell for TD-150AB and TP-14 tone arm. Net Each..... **\$7.00**
- **Thorens Model SD-2 Strobe Disc**—For 50/60 cps, checks speed on any turntable. Net Each..... **\$1.25**

- **Thorens Model CB-908**—Drive belt for TD-124 or TD-121. Net Each..... **\$1.75**
- **Thorens Model TD-574**—Drive belt for TD-150. Net Each..... **\$1.75**
- **Thorens Model SC-4**—Stereo cable of 4-ft. twisted pair. Net Each..... **\$2.00**
- **Thorens Model LK-1**—Lubrication kit for all units. Net Each..... **\$2.00**
- **Thorens Model RG-124**—Set of 4 rubber grommets for TD-124 or TD-121. Net per Set..... **\$1.50**
- **Thorens Model RG-224**—Set of 6 rubber grommets for TD-224. Net Each..... **\$2.00**

## CECIL E. WATTS RECORD CLEANING EQUIPMENT

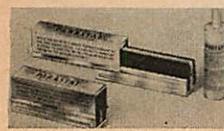
### TURNTABLE "DUST BUG"

Place lightweight arm supplied ahead of stylus on the turntable, then attach it to turntable by suction. Cylindrical pad on the arm collects dirt and dust while tiny nylon brush loosens them. Special antistatic agent on pad prevents static build-up. Does not interfere with either turntable or tone arm operation. Height of arm is adjustable.



**Model TDB Turntable "Dust Bug"**—Complete with fluid. **\$6.00**  
Net Each.....

### MANUAL "PARASTAT"



For static free records—Restores fidelity in older records and keeps record new. "Parastat" removes dust, grit and residue deep within the record groove. Simply apply fluid per instruction and press the brush on record to remove imbedded dust and dirt. For older records, hold brush upright; for new records, tilt on either side.

**Model PA Manual "Parastat"**—Net Each..... **\$15.00**

### DISC "PREENER"

Simple to use Disc "Preener" keeps new records new. Record cleaning velour penetrates each record groove to remove all dust, grit and static, by means of internal wick which is activated by water. Cleans record thoroughly within a few turns and can be used between record changer cycles.



**Model PR Disc "Preener"**—**\$3.50**  
Net Each.....

### ACCESSORIES

- **Model PPB Plush Pads and Bristles**—For turntable "Dust Bug". Net Each..... **\$1.50**
- **Model PB Brush**—For "Parastat". Net Each..... **2.00**
- **Model NF Anti-Static "New Formula" Fluid**—For "Dust Bug", "Parastat", and "Preener". Net per Dispenser..... **\$2.00**
- **Model HM Humid Mop**—Net Each..... **2.50**
- **Model WB "How To Clean, Maintain and Protect Records" Manual**—By Cecil E. Watts, noted record care expert. An authoritative guide explaining how to handle and store records, rejuvenate old ones, and give all your records a new lease on life. Also covers dust and static, anti-static agents, cleaning equipment. Belongs in every record collector's library. Net Each..... **25c**

# Turntables and Tone Arms

## REK-O-KUT COMPONENTS



A



B



C



D

### HIGH FIDELITY PLAYBACK TURNTABLES

**A Model B-12H Three-Speed Stereotable**—Unparalleled, professional quality performance with massive, custom-built, hysteresis synchronous motor offering high rotational accuracy. Oil-grooved turntable shaft is turned to extremes of precision tolerance, as specified only in aircraft industry. Single knob speed selection; idler disengaged in "off" position adjacent to each speed. Removable 45 rpm hub. Neon pilot light. Decorator gray and two-tone aluminum finish. **Noise Level:** -59 db of average recording level. **Wow and Flutter:** 0.085% rms. Chassis deck 14" x 15 1/2". Installs with arm in space 17 3/4" w. x 16" d. x 3" above. **\$165.00** deck and 6 1/4" below deck. Net Each.....

**B Model B-12GH Three-Speed Stereotable**—Same features as B12H, but with standard hysteresis synchronous motor; ideal for average home use. **Noise Level:** -57 db of average recording level. **Wow and Flutter:** 0.09% rms. Same deck and installation dimensions as B-12H, except requires 4 3/4" below deck. Less Model S-320 stereo tone arm and Model BII base. **\$109.95** Net Each.....

**C Model CV5-12 Continuously Variable Speed 12" Turntable**—Any speed 25 to 100 rpm, 50 or 60 cycles. Ideal for areas of fluctuating power, or with portable power plant. 16" x 12" overall, 1 1/4" above deck, 5" below. Shpg. Wt., 15 lbs. **\$99.95** Model CV5-12—Net Each.....

**D Model B-16H Three-Speed, 16" Precision Turntable**—Designed for the three popular recording speeds. **Noise Level:** 50 db below average recording level. **Turntable:** Cast aluminum, lathe-turned, sub-mounted in base. **Motor:** Hysteresis synchronous. Meets NAB standard for speed variation and wow content, instantaneous speed change. Accelerates to 78 rpm in 1/4 turn; to 45 and 33 1/3 rpm in 1/4 turn. Gray wrinkle finish. 18 1/2" x 20"; 1 1/2" above board, 6 1/2" below. Shpg. Wt., 34 lbs. **\$275.00** Model B-16H—Net Each.....

### WALNUT TURNTABLE BASES, ACCESSORIES

**Model BH**—Walnut base for B-12H, B-12GH. Net Ea. **\$18.95**

**Model AF-1 Acousti-Mount**—For use with stereotables where external vibration occurs; reduces feedback. Net Each. **\$3.50**

**Model RBK Rokothane Belt Kit**—Replaces belts on existing Rek-O-Kut belt-driven turntables. Net Each. **\$4.95**

### PROFESSIONAL TONE ARMS

Exceeds critical requirements of ultra-high compliance cartridges. Tracks at 1 gram or less. Tubular aluminum has friction-free vertical movement; Omni-Balance for perfect lateral action. Plug-in die-cast shell takes any cartridge; has open front and 4-wire lugs; twist-lock attachment. Vertical height adjustment. Tracking error under 1%. Resonance, 9-12 cps depending on cartridge. Lowest possible hum with 100% shielding. Color-coded cables with phono plugs for each channel; spade lug ground connection.

**Model S-320 Stereo Tone Arm**—With Omni-Balance. **\$34.95** Net Each.....

**Model S-260 Tone Arm**—Same, but 16" long and without Omni-Balance. Net Each. **\$39.95**

**Model S-440 Tone Arm**—Modified version of S-320 tracks at less than 1 gm. Resonance, below 12 cps. Net Each. **\$27.95**

**Model PS-205** (for S-440), **PS-20L** (for S-260, or S-320), or **PS-20** (for S-120 or S-160) **Cartridge Shell**—Net Each. **\$5.95**

**Model RS-20** (for S-340) **Cartridge Shell**—Net Each. **\$3.95**

**Model OB-1 Omni-Balance Kit**—For adding Omni-Balance to older Rek-O-Kut arms. Net Each. **\$2.95**

### NEW TONE ARM LIFT



**Model AL-1 Tone Arm Lift**—Provides the gentlest of contact between stylus and record. Lever lowers tone arm until stylus contacts groove lightly and accurately. Lifts stylus from record at end or at any other point on record. Makes cueing and tune selection a breeze! Conserves records and cartridge. Installs easily on any turntable or record changer. Net Each. **\$4.95**

### RECORDING ACCESSORIES

**Model RH-5 Cutter**—Impedance: 8-15-500 ohms. Sensitivity: 1.8 W at 1,000 cycles for 6.3 cm/sec peak recorded velocity. Frequency Response: ±2 db, 30-13,000 cps. Distortion: 1.2% at 1,000 cps. Univ. mtg. for most lathes. Stylus, short shank steel or sapphire 3/4" overall length. Net Each. **\$159.50**

**Model M-1-120 Leadscrew**—(120-line)—Net Each. **\$50.00**

**M-125-210, -240, or -270 Microgroove Leadscrews** (210, 240, or 270-line)—Net Each. **\$60.00**

**Model T104-43 Idler**—78 rpm idler for TR-43H. Net. **8.00**

## BOGEN MODEL B62 STEREO/MONO HI-FI TURNTABLE



B62 on PB-7

Professional studio-quality turntable, free from rumble, wow and flutter. Non-ferrous turntable is extra-massive 7 1/2 lbs., driven by a heavy duty, four-pole, constant velocity motor. Speed is continuously variable from 29-86 rpm; click stops are provided at 78, 45, 33 1/3 and 16 2/3 rpm. Automatic cueing by flip-switch that raises and lowers arm at any point on the record and prevents stylus and record damage. Tone arm tracks at 1.5 grams. Tracking force can be adjusted with built-in micrometer-type gauge. Head accommodates any four-pin plug-in mono or stereo cartridge. Wow and flutter less than 0.2%; rumble, 51 db down. Turntable deck measures 15" w. x 13" d. x 3 1/4" h. Weight, 23 lbs.

**Bogen Model B62 Turntable**—Less cartridge. Net Ea. **\$67.95**

**Bogen Model PB-7 Wood Base**—Walnut finish. Size, 16 1/2" w. x 14 1/2" d. x 3" h. Net Each. **\$5.90**

## NEW MARANTZ STEREO TURNTABLE SYSTEM MODEL SLT-12

Unique straight-line-tracking arm has no tracking error; holds stylus tangent to record groove at all times. Twelve-pound, precision-machined turntable has tungsten carbide thrust bearings and precision-ground drive belt; assures maximum isolation from acoustical feedback with lowest possible rumble. High compliance pick-up and lightweight, low mass arm produce tone quality capable of over 100 db dynamic range. Positive cueing control places arm in desired groove; eliminates accidental scratching and damaging of records. Level adjustment bubble placed under arm enclosure. Mounted in modern walnut base. **Frequency Response:** 20-20,000 cps. **Speeds:** 33 1/3 and 45 rpm. **Flutter and Wow:** Better than 0.04%. **Tracking Weight:** 1 gram or less. **Tracking Error:** None. **Rumble:** Virtually none. **Skating Force:** None. **Stylus:** Diamond elliptical (.0002 x .0009 radius). **Output:** 6 mV. **Recommended Load:** 47,000 ohms. **Compliance:** 30 x 10<sup>-8</sup> cm/dyne. **Motor and Drive:** Hysteresis synchronous; uscothane belt. **Power Required:** 117 VAC, 60 cps. **Size:** 18" w. x 14" d. x 6 1/2" h. Weight, 27 lbs.

**Marantz Model SLT-12 Stereo Turntable System**— **\$295.00** Complete with pickup, arm and base. Net Each.....

- ZERO TRACKING ERROR
- RUMBLE FREE
- CUEING CONTROL
- 100 DB DYNAMIC RANGE



united  
audio

Dual

# Turntables, Accessories



Dual 1019  
Auto/Professional Turntable  
on WB-93 Base



Dual 1009SK  
Auto/Professional Turntable  
on WB-93 Base



Dual 1010A  
Auto/Standard Turntable  
on WB-93 Base

## DUAL 1019 AUTO/PROFESSIONAL TURNTABLE

### LOOK AT THESE EXCLUSIVE DUAL FEATURES...

- Single play spindle rotates with records as in costliest manuals, eliminating record slippage, binding and center-hole wear
- Elevator-Action changer spindle holds up to ten records, lifts entire weight of stack off bottom record before releasing it for play
- 6% vernier pitch control for all four speeds lets you vary pitch by more than a half tone without affecting motor speed or power
- Auto/manual cue control, operated via feather-touch "stick-shift", can be used in both manual and auto start; permits ultra-gentle  $\frac{1}{8}$ " sec tone-arm descent
- Feather-touch slide switches for all operating functions
- Low-mass tubular-type tone arm has magnesium head and elastically damped counterbalance with rapid and fine-thread adjust
- Slip clutch prevents jamming even if tone arm should be restrained during cycling
- Tracks and trips as low as  $\frac{1}{2}$  gram, permitting use of finest high-compliance cartridges at their lowest recommended tracking forces
- Continuously variable, direct-dial, direct-reading anti-skating compensation
- Mounting gauge supplied for optimum stylus positioning
- Dynamically balanced platter of non-ferrous alloy weighs more than 7 pounds
- Advanced-design Continuous-Pole motor maintains speed accuracy within 0.1% even when line voltage fluctuates beyond  $\pm 10\%$
- For installation ease, unique 3-position spring screws permit mounting, securing and demounting from the top

... PLUS MANY, MANY MORE!

## DUAL 1009SK AUTO/PROFESSIONAL TURNTABLE

Latest version of the famous Dual 1009 provides professional-grade performance unmatched except by the Dual 1019, with fully automatic and manual four-speed operation in both single play and changer modes. Single play spindle rotates with records, eliminating record slippage, binding, and center-hole wear, and reducing wow and flutter. Exclusive Elevator-Action changer spindle holds up to ten records, lifts entire weight of stack off bottom record so that no weight rests on it during release; retracting platform allows records to be removed from platter without removing spindle itself. Stylus force increases less than 0.2 grams from first to tenth record. Auto/manual cue control, operated via feather-touch "stick-shift", can be used in both manual and automatic start; rate of tone-arm descent is a gentle  $\frac{1}{8}$ " sec. Feather-touch slide-switch controls for all operating functions. Pre-wired for automatic shut-off of turntable and hi-fi system. Low-mass tubular tone arm is dynamically balanced in all planes (no critical leveling required), and completely free-floating during play; has magnesium head and elastically damped counterbalance with thread adjust. Slip clutch prevents jamming even if arm is restrained during cycling; tone-arm bearing friction is below 0.04 grams in both horizontal and vertical planes. Tracks and trips as low as  $\frac{1}{2}$  gram, permitting use of the finest high-compliance cartridges at their lowest recommended tracking forces. Tracking adjustments include: Continuously variable, direct-dial, direct-reading stylus force adjust from 0 to 5 grams; continuously variable, direct-dial, direct-reading tracking-balance control (anti-skating compensation) calibrated to tracking force. Low-profile cartridge holder for easy mounting, with quick lock and release by tone-arm lift. Cartridge weight range: 1-8 grams with standard shaft; 1-13 grams with accessory shaft. Mounting gauge and adjustable cartridge holder for optimum positioning and overhang of stylus. Advanced-design Continuous-Pole motor maintains constant speed within 0.1% even when line voltage varies beyond  $\pm 10\%$ . Dynamically balanced cast platter, of non-ferrous alloy, weighs over 4 lbs. Concave anti-static platter mat provides support of records at maximum diameter and prevents slippage of warped records. Unique 3-position spring screws permit mounting, securing and demounting from the top. **Power Required:** 110/220 V.A.C. 60 cps; 50 cps motor pulley available. **Size:**  $12\frac{3}{4}'' \times 10\frac{1}{2}''$  with 6" clearance above and 3" below mounting board; 1" clearance at rear and right for cabinet installations. With detachable power cord and phono cables. **United Audio Dual 1009SK Auto/Professional Turntable**—Less base. Net Each..... **\$109.50**

An exceptional precision instrument for the audio connoisseur! Achieves the peak of professional performance, with the versatility of manual or automatic single play and changer operation. **Rotating single play spindle** prevents record slippage, binding and center-hole wear, and helps reduce wow and flutter to less than 0.8%. **Elevator-Action changer spindle** holds up to ten records, lifts entire weight of stack off bottom record before releasing it for play. Retracting platform allows records to be removed from platter without removing spindle. Stylus force increases less than 0.2 grams from first to tenth record. **All four standard speeds** are provided, plus 6% **vernier pitch control** that permits pitch variations to more than a half tone at all speeds without affecting motor speed or power. **Auto/manual cue control**, operated via feather-touch "stick-shift", can be used with both automatic and manual start. Gentle  $\frac{1}{8}$ " sec descent of tone arm protects cartridge. **Dynamically balanced tone arm**, low-mass tubular type with magnesium head, trips and tracks flawlessly as low as  $\frac{1}{2}$  gram, permitting use of finest high-compliance cartridges at their lowest recommended tracking forces. Arm is completely free-floating when tracking, with special slip clutch that prevents jamming even during cycling. Arm has elastically damped counterbalance with rapid and fine-thread adjust. **Direct-reading scale**, continuously variable and direct-dial type, shows needle tracking force from 0 to 5 grams at all times. **Continuously variable, direct-dial, direct-reading tracking-balance control** (anti-skating compensation) calibrated to tracking force. **Massive 7 $\frac{1}{2}$  lb. non-ferrous platter**, along with **Continuous-Pole motor**, maintain constant speed within 0.1% even when line voltage varies beyond  $\pm 10\%$ . **Concave anti-static mat** provides support of records at maximum diameter and prevents slippage even of badly warped records. **Feather-touch slide-switch controls** for all operating functions. **Built-in switching arrangement** for automatic shut-off of turntable and hi-fi system. **Low-profile cartridge holder** for quick, easy mounting; mounting gauge is supplied for optimum positioning of stylus. **Unique 3-position spring screws** permit easy mounting, securing and demounting from the top—no underneath fumbling or screw removal. **Power Required:** 110/220 V.A.C. 60 cps; 60 cps motor pulley available. **Size:**  $12\frac{3}{4}'' \times 10\frac{1}{2}''$  with 6" clearance above and 3" below mounting board;  $\frac{1}{2}''$  clearance at rear and right for cabinet installations. With detachable power cord and phono cables. Weight, 22 lbs. **United Audio Dual 1019 Auto/Professional Turntable**—Less base. Net Each..... **\$129.50**

## DUAL 1010A AUTO/STANDARD TURNTABLE

Renowned Dual quality and operating flexibility in the medium-price range. Offers fully automatic and manual operation in both single play and changer modes. Elevator-Action spindle lifts entire stack off bottom record so that no weight rests on it during release. Handles up to ten records at four standard speeds. Feather-touch slide-switch controls for all functions. Low-mass tubular-type tone arm has magnesium head and slip clutch that prevents jamming even during cycling; completely free-floating during play, with bearing friction below 0.6 grams in both planes. Handy, precise tracking force adjustment has click-stops at 0.5 gram increments up to 7 grams. Tracks and trips as low as 2 grams, for high-compliance cartridges. Advanced-design Hi-Torque motor maintains constant speed within 0.1% even when line voltage varies beyond  $\pm 10\%$ . Other features: Heavy one-piece platter with ribbed anti-static mat; mounting gauge and adjustable cartridge holder for optimum stylus positioning and overhang; spring screws for mounting, securing and demounting from top. **Power Required:** 110/220 V.A.C. 60 cps; 50 cps pulley available. **Size:**  $12\frac{3}{4}'' \times 10\frac{1}{2}''$  with 6" clearance above and 2 $\frac{3}{4}$ " below mounting board. With detachable cord and cables. **United Audio Dual 1010A Auto/Standard Turntable**—Less base. Net Each..... **\$69.50**

## DUAL TURNTABLE ACCESSORIES

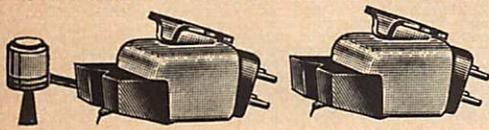
Bases, dust covers and accessories for all Dual models.

| Dual No. | Description   | Net Each |
|----------|---|----------|
| DCB-3    | Combo walnut base and walnut-paneled plexiglass cover lifts, removes for changer operation  | \$34.95  |
| WB-93    | Oiled walnut base with tapered sides, mitered edges; heavy walnut veneer                    | 11.95    |
| DC-3     | Smoke-tinted plexiglass cover, design-coordinated to WB-93 base; permits changer operation  | 9.95     |
| WB-49    | Compact base with oiled walnut sides, mitered edges, recessed mounting board in matte black | 6.95     |
| DC-1T    | Smoke-tinted plexiglass cover for WB-49 base; permits changer operation                     | 8.95     |
| AS-9     | Automatic changer spindle for 45 rpm  | 5.95     |
| CH-19    | Cartridge holder replacement  | 3.95     |
| AW-2     | Elevator-Action changer spindle replacement   | 7.70     |
| RS-1     | Single-play spindle for 1010A Model   | .70      |
| MS-1     | Single-play spindle for Model 1019 or 1009SK  | 1.80     |

# © Pickering Phono Equipment

## PICKERING STEREO CARTRIDGES

### V-15 SERIES MICRO-MATIC™ CARTRIDGES



V-15/3 Dustmatic

V-15/2 Standard

High compliance, high output cartridges for virtually every phono mechanism, from conventional record changers to the most advanced turntable/turner arm systems. Feature the famous V-Guard™ "Floating Stylus" that protects your diamond and record as it plays, plus 15° tracking angle and extreme light weight. Choice of elliptical or 0.7-mil diamond stylus for stereo or mono use.

And there's a new dimension to the V-15 line—the V-15/3 Series with Dustmatic and Dynamic Coupling for better performance, wider frequency response, and improved stability. You'll enjoy clean records... clean sound... faithful reproduction.

**Note:** Nominal output is given with reference to 5.5 cm/sec standard record velocity. Tracking force shown is that recommended by the manufacturer for optimum performance.

### NEW V-15/3 DUSTMATIC™ SERIES

Exclusive Dustmatic brush automatically cleans record grooves in advance of stylus, yet never interferes with tracking force; improves stability by preventing tone arm from skating. Special moving system—With Dynamic Coupling of stylus to record groove—traces cleaned grooves flawlessly for the ultimate in sound. Ideal for low mass tone arm systems; cartridge weighs just 5 grams and brush assembly, 1 gram. **Frequency Response:** 10-25,000 cps. **Tracking Angle:** 15°. **Channel Separation:** 35 db.

**Pickering Model V-15/AME-3**—Pickering's newest and best, with D1500AME-3 elliptical stylus designed for the finest professional equipment. Output, 5.0 mV nominal. **Tracking force:** 3/4 to 1 1/2 grams. For manual, turntables, automatic transcription turntables. Net Each. . . . . **\$44.95**

**Pickering Model V-15/AM-3**—With D1507AM-3 0.7-mil stylus for manual turntables and light-tracking automatics. Output, 5.0 mV nominal. **Tracking force:** 3/4 to 3 grams. Net Each. . . . . **\$34.95**

**Pickering Model V-15/ATE-3**—With D1507ATE-3 elliptical stylus for higher-tracking automatics and moderate-cost changers. Output, 6.0 mV. **Tracking force:** 2 to 5 grams. Net Each. . . . . **\$39.95**

**Pickering Model V-15/AT-3**—With D1507AT-3 0.7-mil stylus. Moderately priced for average automatic turntables. Output, 6.0 mV. **Tracking force:** 1 to 5 grams. Net Each. . . . . **\$29.95**

### V-15/2 STANDARD SERIES

Similar to V-15/3 Series, but without Dustmatic brush assembly. **Frequency Response:** 20-20,000 cps. **Tracking Angle:** 15°. **Channel Separation:** 35 db nominal.

**Pickering Model V-15/AME-2**—With elliptical stylus for manual turntables, automatic transcription turntables. Output, 5.5 mV nominal. **Tracking force:** 3/4 to 1 1/2 grams. Net Each. . . . . **\$39.95**

**Pickering Model V-15/AM-2**—With 0.7-mil stylus for manual turntables and light-tracking automatics. Output, 5.5 mV nominal. **Tracking force:** 3/4 to 3 grams. Net Each. . . . . **\$29.95**

**Pickering Model V-15/ATE-2**—With elliptical stylus for automatic turntables, record changers. Output, 6.9 mV nominal. **Tracking force:** 2 to 5 grams. Net Each. . . . . **\$34.95**

**Pickering Model V-15/AT-2**—With 0.7-mil stylus for automatics. Output, 6.9 mV. **Tracking force:** 1 to 5 grams. Net Each. . . . . **\$24.95**

**Pickering Model V-15/AC-2**—With 0.7-mil stylus for changers. Output, 7.5 mV; 3 to 7 grams. Net Each. . . . . **\$19.95**

### PICKERING DIAMOND REPLACEMENT STYLII

#### T-GUARD FOR 350 AND 370 SERIES MONO CARTRIDGES

| Model No. | Size | Track | Net     | Model No. | Size | Track | Net     |
|-----------|------|-------|---------|-----------|------|-------|---------|
|           | Mils | Grams | Each    |           | Mils | Grams | Each    |
| D3510     | 1.0  | 2-6   | \$12.00 | D3505     | .5   | 2-6   | \$15.00 |
| D3527     | 2.7  | 2-6   | 13.50   |           |      |       |         |

#### T-GUARD FOR STEREO 90 AND MK II CARTRIDGES

|        |    |     |       |        |     |     |         |
|--------|----|-----|-------|--------|-----|-----|---------|
| D9007C | .7 | 4-7 | 5.90  | D3710C | 1.0 | 4-7 | \$10.90 |
| D3707C | .7 | 4-7 | 9.90  | D3710A | 1.0 | 3-5 | 10.90   |
| D3707A | .7 | 3-5 | 10.90 | D3727C | 2.7 | 4-7 | 9.90    |

#### V-GUARD FOR 380 AND U38 SERIES CARTRIDGES

|          |    |     |       |        |     |     |       |
|----------|----|-----|-------|--------|-----|-----|-------|
| D3807AT  | .7 | 2-5 | 5.90  | D3810C | 1.0 | 4-7 | 9.90  |
| D3807C   | .7 | 4-7 | 9.90  | D3810A | 1.0 | 2-5 | 10.90 |
| D3807A   | .7 | 2-5 | 10.90 | D3827C | 2.7 | 4-7 | 9.90  |
| D3807ATG | .7 | 1-3 | 12.00 |        |     |     |       |

#### V-GUARD FOR V-15/3 DUSTMATIC CARTRIDGES

|            |             |         |           |     |     |         |
|------------|-------------|---------|-----------|-----|-----|---------|
| D1500AME-3 | * 3/4-1 1/2 | \$24.95 | D1507AT-3 | .7  | 1-5 | \$13.75 |
| D1500AT-3  | * 2-5       | 22.50   | D1510-3   | 1.0 | 2-5 | 44.00   |
| D1507AM-3  | .7 3/4-3    | 14.95   | D1527-3   | 2.7 | 3-7 | 12.40   |

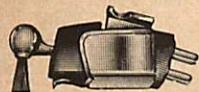
#### V-GUARD FOR V-15/2 STANDARD CARTRIDGES

|            |             |         |        |     |     |         |
|------------|-------------|---------|--------|-----|-----|---------|
| D1500AME-2 | * 3/4-1 1/2 | \$19.90 | D1510  | 1.0 | 2-5 | \$11.90 |
| D1500AT-2  | * 2-5       | 17.90   | D1527  | 2.7 | 3-7 | 9.90    |
| D1507AM-2  | .7 3/4-3    | 12.25   | PD07/T | .7  | 2-5 | 9.90    |
| D1507AT-2  | .7 1-5      | 10.95   | PD07/C | .7  | 3-7 | 9.15    |
| D1507AC-2  | .7 3-7      | 9.95    |        |     |     |         |

\*Elliptical. †Use for all V-15 and V-15/1 stylil.

## STANTON PROFESSIONAL CARTRIDGES, TONE ARM

### 581 CALIBRATION STANDARD CARTRIDGES



Laboratory-tested, stereo, magnetic pickup with "Linchpin" dust remover built into the stylus. Free-riding brush extends from front of V-Guard and engages grooves before stylus. Brush, in metal housing, does not affect tracking force; requires 1 gram to engage itself (1 gram is added for brush and then tracking force desired is selected). **Frequency Response:** ±1 db, 10-10,000 cps; ±2 db, 10,000-25,000 cps (except Model 581A). **Channel Separation:** 35 db. **Output:** 0.8 mV/cm minimum per channel. **Resistance:** Load, 47,000 ohms; DC, 850 ohms per channel. **Inductance:** 400 mH per channel. **Capacitance:** 275 pF. **Mounting Dimensions:** 1/4" to 1/2" centers. **Weight:** Cartridge, 5 grams; brush (self-supporting), 1 gram. With diamond stylus, mounting hardware and instructions. D5207A (0.7 mil), D5210 (LP), D5227 (78 rpm), and other stylil also available.

**Stanton Model 581AA**—With D5205AA stylus; 3/4 to 1 1/2 grams tracking force. Net Each. . . . . **\$49.50\***

**Stanton Model 581EL**—With D5200EL elliptical stylus; 3/4 to 1 1/2 grams tracking force. Net Each. . . . . **\$49.50\***

**Stanton Model 581A**—With D5207A stylus. For professional recording studios to calibrate recording channels. Frequency response, ±1 db, 10-10,000 cps; ±1.5 db, 10,000-25,000 cps. **Tracking force:** 2 to 5 grams. Net Each. . . . . **\$49.50**

\*Available as an ensemble consisting of either 581AA or 581EL with extra 78 rpm and LP stylil to play all records. Packaged in black leatherette case with metal stylus container and miniature screwdriver.

**Stanton Models 581AAE or 581ELE**—Net Each. . . . . **\$75.00**

### 500 BROADCAST STANDARD CARTRIDGE

Moderately priced stereo cartridge offering performance similar to the 581 Series, but without dust brush. Model 500A is ideally suited for heavy-duty on-the-air use by broadcasters; Models 500AA and 500E are designed for uninterrupted broadcasting of LP records or for critical auditioning of records in station libraries. **Frequency Response:** ±1 db, 20-10,000 cps; ±2 db, 10,000-20,000 cps. **Channel Separation:** 35 db. **Output:** 0.8 mV/cm minimum per channel. **Resistance:** Load, 47,000 ohms; DC, 850 ohms per channel. **Inductance:** 400 mH per channel. **Capacitance:** 275 pF. **Mounting Dimensions:** 1/4" to 1/2" centers. Cartridge weight, 5 grams. With diamond stylus, mounting hardware and instructions.

**Stanton Model 500A**—With D5107A stylus; tracking force, 2 to 5 grams. Net Each. . . . . **\$25.00**

**Stanton Model 500AA**—With D5105AA stylus; tracking force, 3/4 to 3 grams. Net Each. . . . . **\$30.00**

**Stanton Model 500E**—With D5100E elliptical stylus; tracking force, 2 to 5 grams. Net Each. . . . . **\$35.00**

### MODEL 200 STANTON UNIFOISE\* ARM



Stanton studio standard tone arm with adjustable tracking pressure down to 3/4 gram. Engineered to provide high compliance at 3/4 gram in LP record groove with any professional quality, low mass stylus assembly. Every aspect was considered in the design of this unit. Lightweight for lowest possible moment of inertia; single pivot bearing polished for a life-time of friction-free motion in all planes, vertical and lateral; all-metal construction, machined to ultra-precision accuracy; calibrated stylus pressure adjustment; universal cartridge mounting; integrated arm rest; cartridge shell with vertical, in-line, fingertip for accurate cueing; color-coded connecting leads with RCA receptacles for no-solder connections and quick installation. **Arm Length:** Overall, 11 1/2"; pivot to stylus tip, 8 1/4"; rear overhang, pivot to rear of arm, 2 1/4"; turntable spindle to arm pivot, 8 3/4". **Weight:** Moving system, 4 1/2 oz.; with base and pivot assembly, 6 oz. **Tracking Force:** 3/4 to 3 grams. Supplied with template and complete mounting instructions. Shipping Weight, 2 lbs. **\$2400**

Stanton Model 200—Net Each. . . . .

### V-GUARD DIAMOND REPLACEMENT STYLII FOR STANTON CARTRIDGES

Series D4000 stylil are for 481 cartridges; Series D5100 for 500 cartridges; Series D5200 for 581 cartridges. Models D4000EL, D5205AA and D5200EL track at 3/4 to 1 1/2 grams; D5105AA, 3/4 to 3 grams; D5107A, D5100E and D5207A, 2 to 5 grams. Models D5107AL and D5207AL are extra heavy-duty versions of D5107A and D5207A respectively, with tracking force of 3 to 7 grams. Models D4027, D5127 and D5227 are for 78 rpm only; D5110 and D5210 track 2 to 5 grams, monophonic only.

| Model   | Size       | Net     | Model   | Size       | Net     |
|---------|------------|---------|---------|------------|---------|
| D4007A  | 0.7 mil    | \$15.00 | D5110   | 1.0 mil    | \$10.00 |
| D4007AA | 0.5 mil    | 19.50   | D5127   | 2.7 mil    | 10.00   |
| D4010A  | 1.0 mil    | 15.00   | D5207A  | 0.7 mil    | 24.50   |
| D4027   | 2.7 mil    | 12.00   | D5205AA | 0.5 mil    | 24.50   |
| D5107A  | 0.7 mil    | 10.00   | D5207AL | 0.7 mil    | 24.50   |
| D5105AA | 0.5 mil    | 15.00   | D5200EL | Elliptical | 24.50   |
| D5107AL | 1.0 mil    | 18.00   | D5210   | 1.0 mil    | 19.50   |
| D5200E  | Elliptical | 20.00   | D5227   | 2.7 mil    | 19.50   |

\*Trademark of Stanton Magnetics, Inc.

# SHURE Preamplifiers, Arms

## SHURE STEREO AMPLIFIERS, PREAMPLIFIERS AND EQUALIZER

### MODEL SA-1 "SOLO-PHONE" STEREO HEADPHONE AMPLIFIER

Permits two sets of stereo headphones to be used, allowing private listening from magnetic phono, tape or tuner. Broad frequency response; low distortion; low hum and noise. Switch on front panel permits two program sources to be plugged in and switched instantly; clutched concentric control allows separate adjustment of each stereo channel to provide proper balance; volume adjustment can be made without rebuttoning channels. On-Off switch and pilot light on front panel; AC outlet on back panel for record changer or tuner (when amplifier is turned on, turntable, tuner, etc., is also turned on). Walnut finished cabinet, with beige metal panel. Size, 10 1/4" w. x 3" d. x 3 3/4" h. Weight, 2 lbs.

Shure Model SA-1 Headphone Amplifier—Net Each.....\$45.00



SA-1

### MODEL SA-10 "SOLO-PHONE" STEREO HEADPHONE SYSTEM

Exciting new concept in superior quality, private hi-fi listening, the Solo-Phone System is a fully self-contained record playing unit. Combines the Garrard Model 50 automatic 4-speed turntable with a Shure all-transistor Solo-Phone amplifier and Shure M34C Stereo Dynetic Cartridge. Only three controls: On-Off, Volume and Turntable Speed Selector. Complete with sturdy, scuff-resistant, luggage type case (illustrated with cover detached). Size, 8" x 17 1/2" x 13 3/4".

Shure Model SA-10 Headphone Amplifier System—Less headphones. Net Each.\$99.95

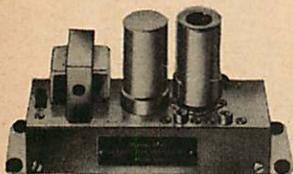


SA-10

### MODEL M60 STEREO LINE PREAMPLIFIER

High quality, low noise, stereo line preamplifier provides extra gain for use with magnetic stereo phono cartridges and microphones. Additional gain can also be provided from tape recorder outputs on standard preamplifier to improve recording quality. Output response is flat. Low output impedance permits use of longer cable lengths (up to 50 ft.) without loss of gain or deterioration in response. Frequency Response:  $\pm 1/2$  db, 30-80,000 Hz. Gain: 17 db per channel, or 7:1 (5 mV input gives 35 mV output); circuit change information provided to give 1/2 and 3/4 output. Channel Separation: Better than 30 db. Impedance: 47,000 ohms, input; 5,000 ohms, output. Hum and Noise: 64 db below rated output. Size: 6 3/4" w. x 2 3/4" d. x 3 3/4" h. Net Weight, 2 lbs.

Shure Model M60 Stereo Preamplifier—Net Each.....\$19.95



M60

### MODEL M66 BROADCAST STEREO EQUALIZER

Permits radio stations to compensate the recorded frequency of stereo as well as monophonic recordings. Provides choice of RIAA, flat and roll-off characteristics. A second control lever provides a selection of monophonic or stereo positions. Used between the cartridge and first-line preamplifier, it is a passive type with no controls for volume, bass or treble; these adjustments are made on the broadcast console. Wired for 250-ohm output impedance; 150 and 500 ohms obtained by a simple single-wire change on terminal inside shield. Matches impedance of cartridge to low impedance of the line transformer without loss of high frequencies. Nominal Frequency Response: Within  $\pm 1$  db, 30-20,000 Hz of the three playback characteristics. Channel Separation: Better than 30 db over entire frequency range. Output Level: -67 dbm using Shure M3D or M7D cartridges from RCA test record 12-5-71A; 28 db insertion loss on these conditions. Case: Steel, maximum shielding; 3 3/4" w. x 5 3/4" d. x 3" h.

Shure Model M66 Broadcast Stereo Equalizer—Net Each.....\$60.00



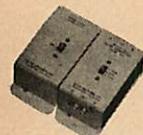
M66

### MODEL M61 TRANSISTORIZED STEREO PREAMPLIFIER

Choice of AC line or battery power supply. Gain: Phono, 46 db; Tape, 41 db; Microphone, 63 db. Frequency Response:  $\pm 2.5$  db of each function's nominal characteristic; 25 to 15,000 Hz. Equalization: Phono, RIAA; Tape, NAB, Microphone, flat response,  $\pm 3$  db 20 to 15,000 Hz. Input Impedance: Phono and tape, approx. 50,000 ohms at 1000 Hz; microphone, approx. 20,000 ohms. Output Impedance: Low, less than 1000 ohms at 10,000 Hz, phono and tape. Channel Separation: At least 50 db at 1000 Hz. Channel Balance: 2 db at 1000 Hz, phono and tape. Hum: 50 db below rated output. Size: 4 1/2" x 2 1/4" w. x 1 1/4" h. Net Weight, 1 1/2 lbs.

Shure Model M61-1—For 105-125 VAC. Net Each.....\$27.50

Shure Model M61-3—30 V battery included. Net Each.....\$26.50

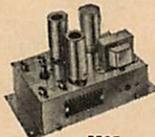


M61

### MODEL M65 STEREO CONVERSION PREAMPLIFIER

Provides equalization with amplification to convert ceramic inputs to magnetic inputs. Assure smoother, more natural sound. Delivers additional 60 db amplification without equalization. Permits use of magnetic cartridge with consoles provided with ceramic units. Also permits preamplification and equalization for other inputs such as phono, tape and microphone. Gain: 44 db, phono; 45 db, special; 40 db, tape; 63 db, mike. Frequency Response:  $\pm 1.5$  db of each function's nominal characteristic 25-15,000 Hz. Equalization: RIAA phono with extra treble boost 3 db at 10 kHz to complement magnetic cartridges; special equalization for use with hi-z amplifiers normally used with ceramic cartridges; NAB tape head; mike,  $\pm 3$  db, 20-12,000 Hz. Input: 47,000 ohms. Output: Less than 5000 ohms at 10 kHz. Channel Separation: 40 db. Hum and Noise: 50 db below rated output. Size: 6 3/4" w. x 3 1/4" d. x 3 3/4" h. Net Wt., 1 lb. 14 oz.

Shure Model M65 Conversion Preamplifier—Net Each.....\$24.00



M65

## SHURE TONE ARMS

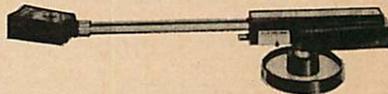
### SHURE-SME PRECISION TONE ARMS



Series 2 of the renowned SME tone arm, made for Shure in England. Precision, professional arm features: New lightweight Shell, tracking from 1/4 to 5 grams, anti-skating control, precision ball races and knife edge bearings, accurate longitudinal and lateral balance control, minimal tracking error, subaudible resonance, convenient overhead adjustment, lever-operated cuing device to provide automatic slow descent. Accepts all standard cartridges. Shure Model SME 3009—12" tone arm. Less car. \$106.50 ridge. Shipping Weight, 1 lb., 5 oz. Net Each. Shure Model SME 3012—16" tone arm. Less cartridge. Shipping Weight, 1 lb., 7 oz. Net Each. \$116.50 Shure Model S2 Shell—Separate extra light weight shell. Net Each.....\$7.50

Shure Model A39M—Preset mounting board for easy installation of SME 3009 on Thorens TD-121, -124 turntables. Net. \$15.00 Shure Model A30M—Same, but for SME 3012 arm. Net. 15.00

### PROFESSIONAL UNIVERSAL TONE ARM



Independent tone arm accepts practically all cartridges, stereo or monophonic. Micrometer counterweight and direct-reading stylus force gauge maintain perfect balance and tracking at all times. Precision ball bearings at pivot points. Plug-in head with positive alignment lock. Plug-in cable, between arm and amplifier, installs from turntable top without soldering. Brushed chrome and black finish. Includes arm rest, mounting template, hardware and 4 ft. cable assembly.

Shure Model M232 Professional Arm—For 12" records; 12 1/4" long. Weight, 1 lb. Without cartridge. Net Each.....\$29.95

Shure Model M236 Professional Arm—For 16" records; 14 1/4" long. Weight, 1 1/2 lbs. Without cartridge. Net Each.....\$31.95

Shure Model A23H Extra Plug-In Head—Net Each.... 2.40

# SHURE Phono Cartridges

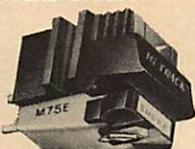
## MODEL V-15 TYPE II SUPER-TRACK™ STEREO 15° DYNETIC® CARTRIDGE



This radically new concept in cartridges—analog computer design—heralds an epoch of increased high fidelity performance. All recordings sound better; high velocity distortion is non-existent. The V-15 Type II, a Superior Trackability® cartridge, maintains contact between the stylus and record groove at tracking forces from  $\frac{1}{4}$  to  $1\frac{1}{2}$  grams throughout and beyond the audible spectrum at the highest velocities encountered in quality recordings. It utilizes a bi-radial elliptical stylus, protected by an ingenious "flip-action" built-in stylus guard, and 15° tracking. The V-15 Type II is manufactured and tested under the Shure Master Quality Control Program. **Frequency Response:** 20-25,000 Hz. **Channel Separation:** Over 25 db at 1 kHz; over 17 db, 500-10,000 Hz. **Output:** 3.5 mV per channel at 1 kHz at 5 cm/sec. (Output from each channel within 2 db.) **Impedance:** 47,000 ohms per channel, recommended. **Tracking Force:**  $\frac{1}{4}$  to  $1\frac{1}{2}$  grams. **Inductance:** 220 mH. **DC Resistance:** 630 ohms. **Stylus:** V-15E bi-radial elliptical, diamond tip; frontal radius, .0007"; side contact radii, .0002". **Shure Model V-15 Type II**—With diamond stylus. Net. **\$.67-50**

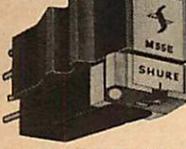
## MODEL M75E HI-TRACK STEREO DYNETIC CARTRIDGE WITH ELLIPTICAL STYLUS

Another in the new generation of Shure cartridges. Delivers High Trackability® with light tracking forces, is surprisingly modest in cost. Model M75E features a retractable stylus to prevent record damage; bi-radial elliptical stylus configuration; and 15° tracking. Manufactured and tested to stringent Shure standards. **Frequency Response:** 20-20,000 Hz. **Channel Separation:** Over 25 db at 1 kHz. **Output:** 5.7 mV per channel at 1 kHz at 5 cm/sec. **Impedance:** 47,000 ohms per channel, recommended. **Tracking Force:**  $\frac{1}{4}$  to  $1\frac{1}{2}$  grams. **Inductance:** 720 mH. **DC Resistance:** 630 ohms. **Stylus:** N75E elliptical with diamond tip; frontal radius, .0007"; side contact radii, .0002". **Shure Model M75E**—With diamond stylus. Net Each. **\$.39-50**  
**Shure Model M75-6 HI-Track Stereo Dynetic Cartridge**—For upgrading systems with older turntables that track at heavier forces ( $\frac{1}{4}$  to 3 grams). Same as M75E when tracking at 2 grams but; Output, 5.9 mV per channel at 1 kHz at 5 cm/sec; stylus, conical diamond, .0006" radius. Net Each. **\$.24-50**



## MODEL M55E 15° STEREO DYNETIC CARTRIDGE WITH ELLIPTICAL STYLUS

Designed for use with the finest manual turntable arms and the latest automatic turntables. Capable of tracking at  $\frac{1}{4}$  grams or less. Professional elliptical diamond stylus at new 15° tracking angle gives distortion-free, scratch proof quality. **Frequency Response:** 20-20,000 Hz. **Channel Separation:** Over 25 db at 1 kHz; 20 db at 10 kHz; 15 db at 20 kHz. **Output:** 6.6 mV per channel at 1 kHz at 5 cm/sec. (Output from each channel within 2 db.) **Compliance:**  $25 \times 10^{-6}$  cm/dyne. **Impedance:** 47,000 ohms per channel, recommended. **Tracking Force:**  $\frac{1}{4}$  to  $1\frac{1}{2}$  grams. **Inductance:** 720 mH. **DC Resistance:** 630 ohms. **Stylus:** N55E elliptical, diamond tip; frontal radius, .0007"; side contact radii, .0002". **Shure Model M55E**—With diamond stylus. Net Each. **\$.35-00**



## MODEL M44E STEREO 15° DYNETIC CARTRIDGE WITH ELLIPTICAL STYLUS

Brings the advantages of bi-radial elliptical stylus and 15° tracking to turntables that track  $\frac{1}{4}$  to 4 grams. **Frequency Response:** 20-20,000 Hz. **Channel Separation:** Over 25 db at 1 kHz; 20 db at 10 kHz; 15 db at 20 kHz. **Output:** 9.3 mV per channel at 1 kHz at 5 cm/sec. (Output from each channel within 2 db.) **Compliance:**  $15 \times 10^{-6}$  cm/dyne. **Impedance:** 47,000 ohms per channel, recommended. **Tracking Force:**  $\frac{1}{4}$  to 4 grams. **Inductance:** 720 mH. **DC Resistance:** 630 ohms. **Stylus:** N44E elliptical, diamond tip; frontal radius, .0007"; side contact radii, .0004". **Shure Model M44E**—With diamond stylus. Net Each. **\$.34-50**



## M44 STEREO 15° DYNETIC CARTRIDGES

Three cartridges which combine quality with economy; feature 15° tracking with conical stylus. **Frequency Response:** 20-20,000 Hz. **Channel Separation:** Over 25 db at 1 kHz. **Output:** At 1000 Hz at 5 cm/sec: Model M44-7, 1.1 mV per channel; Model M44-5, 7 mV per channel; Model M44C, 9.3 mV per channel. **Impedance:** 47,000 ohms per channel, recommended. **Inductance:** 720 mH. **DC Resistance:** 630 ohms. **Shure Model M44-5**—For light tracking,  $\frac{1}{4}$  to  $1\frac{1}{2}$  grams. With .0005" N44-5 diamond stylus. Net Each. **\$.21-95**  
**Shure Model M44-7**—For heavier tracking,  $1\frac{1}{2}$  to 3 grams. With .0007" N44-7 diamond stylus. Net Each. **\$.19-95**  
**Shure Model M44C**—For heaviest tracking, 3 to 5 grams. With .0007" N44C diamond stylus. Net Each. **\$.17-95**  
**See Replacement Styli, at right, for Monophonic Styli.**

## MODEL M7/N21D STEREO DYNETIC CARTRIDGE FOR ARMS TRACKING BELOW 2½ GRAMS

Features the highest compliant N21D tubular stylus. Plays monophonic or stereophonic records. Fits four-lead and three-lead stereo record changer and transcription arms. **Frequency Response:** 20-20,000 Hz. **Channel Separation:** Over 20 db at 1 kHz. **Compliance:**  $9 \times 10^{-6}$  cm/dyne. **Tracking Force:** Less than  $2\frac{1}{2}$  grams.



**Shure Model M7/N21D Stereo Dynetic Cartridge**—Net. **\$.17-95**

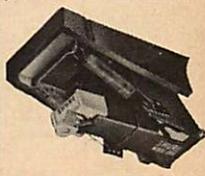
## MODEL M3D STEREO DYNETIC CARTRIDGE FOR ARMS TRACKING AT OVER 2½ GRAMS

Plays stereophonic and monophonic records. Fits four-lead and three-lead stereo record changer and transcription arms. **Frequency Response:** 20-15,000 Hz. **Channel Separation:** Over 20 db. **Compliance:**  $4 \times 10^{-6}$  cm/dyne. **Output:** 5 mV per channel. **Tracking Force:** 3 to 6 grams. **Shure Model M3D**—With .0007" diamond stylus. Net Each. **\$.15-75**



## GARD-A-MATIC® CARTRIDGE/HEAD ASSEMBLIES

Scratch-proof and bounce-proof performance; unique feature retracts cartridge and plastic bumper contacts record surface when tracking force exceeds  $1\frac{1}{2}$  grams. **Frequency Response:** 20-20,000 Hz. **Channel Separation:** Over 25 db at 1 kHz. **Output:** 6.6 mV per channel at 1 kHz at 5 cm/sec. **Compliance:**  $25 \times 10^{-6}$  cm/dyne. **Impedance:** 47,000 ohms per channel, recommended. **Tracking Force:**  $\frac{1}{4}$  to  $1\frac{1}{2}$  grams. **Inductance:** 720 mH. **DC Resistance:** 630 ohms. **Stylus:** Bi-radial elliptical with diamond tip; frontal radius, .0007"; side contact radii, .0002".



**Shure Model M80E**—For Garrard LAB 80, LAB 80 MK II, A70, A70 MK II. Net Each. **\$.38-00**  
**Shure Model M80E-D**—For Dual 1009. Net Each. **\$.38-00**  
**Shure Model M80E-D19**—For Dual 1019, 1009SK. Net. **\$.38-00**  
**Shure Model M/99A**—For Garrard Laboratory Type A turntable. With head, mounted cartridge and 0.7 mil conical diamond stylus. **Response:** 20-20,000 Hz. **Tracking:** 1.5-3 grams. **Separation:** 22.5 db at 1000 Hz. Net Each. **\$.24-75**  
**Shure Model M99/AT6**—Same, for Garrard AT6, AT60, Model 50. Net Each. **\$.24-75**  
**Shure Model M99/M10**—For Miracord 10, 10H. Net Ea. **\$.24-75**

## PROFESSIONAL MONO DYNETIC CARTRIDGES

For those who prefer monophonic cartridges with monophonic records, Shure offers Models M5D and M6S. **Frequency Response:** 20-20,000 Hz. **Tracking Force:** 3 to 6 grams. **Load Impedance:** 27,000 ohms recommended. **Output:** 21 mV for 10 cm/sec. **Inductance:** 350 mH. **DC Resistance:** 440 ohms. **Compliance:**  $3 \times 10^{-6}$  cm/dyne. **Shure Model M5D Monophonic Dynetic**—With 1 mil diamond for microgroove records. Net Each. **\$.27-50**  
**Shure Model M6S Monophonic Dynetic**—With 2.7 mil sapphire for 78 rpm records. Net Each. **\$.15-00**

## SHURE REPLACEMENT STYLI

Shure manufactures genuine Dynetic styli, the most critical component in a cartridge assembly. Inferior imitations will degrade cartridge performance. For original performance standards, look for this certification on the replacement package: "This Dynetic stylus is precision manufactured by Shure Brothers, Inc." All tips diamond except N68 which is sapphire.

| Shure No. | Shure Cartridge      | Track Grams                     | Stylus Radius | Record Type | Net Each |
|-----------|----------------------|---------------------------------|---------------|-------------|----------|
| N1        | M1                   | 1-2                             | .0007"        | Mono LP     | \$2.00   |
| N2        | M2                   | 2-3                             | .0027"        | 78 rpm      | 21.00    |
| N3D       | M3D, M7D, M8D        | 3-6                             | .0007"        | Stereo      | 7.95     |
| N21D      | M3/N21D, M7/N21D     | $1\frac{1}{2}$ -2 $\frac{1}{2}$ | .0007"        | Stereo      | 12.50    |
| N5D       | M5D                  | 3-6                             | .0007"        | Mono LP     | 16.50    |
| N6S       | M6S                  | 3-6                             | .0027"        | 78 rpm      | 5.00     |
| N33-5     | M33-5                | $\frac{3}{4}$ -1 $\frac{1}{2}$  | .0005"        | Stereo      | 24.75    |
| N33-7     | M33-7                | $\frac{1}{2}$ -3                | .0005"        | Stereo      | 19.50    |
| N44-5     | M44-5                | $\frac{1}{2}$ -1 $\frac{1}{2}$  | .0005"        | Stereo      | 11.35    |
| N44-7     | M44-7, M98A          | $\frac{1}{2}$ -3                | .0007"        | Stereo      | 9.75     |
| N44C      | M44C                 | $\frac{1}{2}$ -3                | .0007"        | Stereo      | 18.00    |
| N44E      | M44E                 | $\frac{1}{2}$ -4                | *             | Stereo      | 20.00    |
| N55E      | M55E, M80E, -D, -D19 | $\frac{1}{4}$ -1 $\frac{1}{2}$  | †             | Stereo      | 11.35    |
| N75-6     | M75-6                | $\frac{1}{4}$ -3                | .0006"        | Stereo      | 20.00    |
| N75E      | M75E                 | $\frac{1}{4}$ -1 $\frac{1}{2}$  | .0007"        | Stereo      | 12.95    |
| N77       | M77                  | $\frac{1}{4}$ -3                | .0007"        | Stereo      | 25.00    |
| N79       | M90/A, /AT6, /M10    | $\frac{1}{4}$ -3                | .0007"        | Stereo      | 12.95    |
| VN15      | V-15                 | $\frac{1}{4}$ -1 $\frac{1}{2}$  | †             | Stereo      | 29.00    |
| VN15E     | V-15 Type II         | $\frac{1}{4}$ -1 $\frac{1}{2}$  | †             | Stereo      | 27.00    |

## STYLI FOR MONOPHONIC RECORDS

|       |                      |                  |        |         |         |
|-------|----------------------|------------------|--------|---------|---------|
| N44-1 | M44, M55; Series M80 | $\frac{1}{4}$ -3 | .0001" | Mono LP | \$ 9.75 |
| N44-3 | M98/A, M-17          | $\frac{1}{4}$ -3 | .0025" | 78 rpm  | 9.00    |
| N33-1 | M33; Ser. M77, M99   | $\frac{1}{4}$ -3 | .001"  | Mono LP | 10.50   |
| N75-3 | Ser. M75; M99        | $\frac{1}{4}$ -3 | .0025" | 78 rpm  | 8.55    |
| N75-3 | Ser. M75; V-15/II    | $\frac{1}{4}$ -3 | .0025" | 78 rpm  | 9.00    |

Elliptical: \*.0007" x .0004"; †.0007" x .0002".



# Stereo Headphones, Cartridges

## KOSS STEREOPHONIC HEADPHONES

### MODEL SP-3XC STEREOPHONES

Provide full-range stereophonic sound response through the use of specially constructed 3 1/2" dynamic reproducers. Exceptionally comfortable to wear; foam rubber ear cushions also serve to damp out extraneous ambient sound. Ideal for monophonic as well as stereophonic use. Headset may be connected across the amplifier output directly or across the speaker voice coil leads, preserving the full dimensional effect of stereophonic sound. Reproduces sound with exceptional clarity and tonal realism. Adapter available for 600 to 10,000 ohm impedances, enabling the Stereophones to be used for monitoring purposes. **Frequency Response:** 10-15,000 cps. **Impedance:** 4-16 ohms. **Lightweight.** **Koss Model SP-3XC Stereophones**—Complete with 8-ft. **\$24.95** cable, plug and T-2 adapter. Net Each.



**Koss Model SP-100**—Same as above, but 100-ohm impedance for special and multiple installations. Net Each. **\$24.95**  
**Koss Model SP-100WC**—Same as SP-100, but with coiled cord for compact storage. Net Each. **\$29.95**  
**Koss Model SP-100CT**—Same as SP-100, but with center tap winding. Net Each. **\$29.95**  
**Koss Model KO-727**—Same as SP-3XC, but with a brighter mid-range response. Features spring steel headband, coiled cord and removable ear cushions. Net Each. **\$34.95**

### ACCESSORIES

**Koss Model A-1220 Amplifier**—For direct connection of Stereophones to preamp outputs or ceramic cartridges. Transformer powered. Two stereo jacks, two input jacks and gain control for each channel. Net Each. **\$34.95**

**Koss Model K-29 Port-a-Pac**—Portable system consists of A-1220 amplifier, SP-3XC Stereo phones and portable carrying case. Net Each. **\$66.50**

**Koss Model T-1**—Matching transformers for monitoring 600-10,000 ohm outputs. Jacks for two Stereophones. Net Each. **\$7.95**

### ACCESSORIES (CONTINUED)

**Koss Model T-2**—Adapter plate (normally supplied with SP-3XC) 2 3/4" x 1 1/2" with stereo output jack and two 10-ohm resistors; four 12" leads and terminal board. Net Each. **\$1.95**  
**Koss Model T-4**—Connecting box for up to 3 Stereophones in a single music source. Five jacks; 10 ft. cord. Net Each. **\$6.95**  
**Koss Model T-5**—Junction box to connect existing stereophonic or monophonic system to the Stereophones. Contains volume controls for changing the level of the phones and for balancing purposes. Two output jacks. Impedance, 4-16 ohms. **\$9.95**  
 Net Each.

### MODEL K/R 2+2 LANGUAGE LAB HEADSET

Refined for classroom performance; meets or exceeds applicable Defense Language Institute and Health, Education and Welfare Dept. specifications. Equipped with special dynamic, boom-type microphone. Stereo version available. **Frequency Response:** ±2 db, 20-6000 cps; ±5 db, 6000-10,000 cps; usable, 20-20,000 cps. **Impedance:** Headset, 500/600 ohms wired in series; microphone, 50/250 ohms. **Effective Rejection:** 13 db. Wt. 1 lb. oz. **\$34.95**  
**Koss Model K/R 2+2**—Net Each.  
**Koss Model K/R 1492**—Same, but without boom mike. Net Each. **\$24.95**

### SERIES SP-5 STEREOPHONES

**Koss Model SP-5NS Dual Mode Stereophones**—Unmatched versatility for recorders such as Norelco Continental 400. Switched lavaller with two plugs provides a stereo plug for monitoring; or two monophonic plugs for playback with recorders having two external speaker jacks. Net Each. **\$24.95**  
**Koss Model SP-5M Stereo/Mono Stereophones**—Switch in lavaller changes operation from stereo to monophonic. A single set of earphones provides all your listening needs. **\$24.95**  
 Net Each.

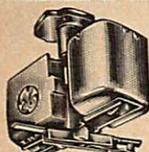
### MODEL PRO-4A PROFESSIONAL HEADSET

Shatter-proof and shockproof. Adjustable headband and fluid-filled ear cushions to fit head contour; keep out noise. Equipped for boom mike attachment. **Frequency Response:** 30-20,000 cps. **Impedance:** 4-50 ohms. (For 600 ohms, order Model PRO-600A.) **Maximum Input:** 10 watts per channel; 60 watts per channel music. Ten-ft. four-conductor cord. Shpg. Wt., 2 lbs. **\$50.00**  
**Koss Model PRO-4A Professional Headset**—Net Each.  
**Koss Model PRO-600A Professional Headset**—600 ohms. Net Each. **\$55.00**

## GENERAL ELECTRIC STEREO HI-FI COMPONENTS

### VR-II GE VARIABLE RELUCTANCE CARTRIDGES WITH CLIP-IN-TIP STYLI

- Faithful Reproduction From 20 Through 20,000 cps
- Four-Gram Tracking Force for Minimum Groove/Stylus Wear
- Clip-In-Tip Stylus for Instant, Easy Replacement
- Versatile... Economical... Lightweight... Rugged
- Excellent for Use With Broadcast Studio Equalizers



Features improved tracking ability, electrostatic shielding, plug-in terminals, and new stigm design. Easily replaceable clip-in tip stylus for extra convenience. Available in single or triple play models. Mu-metal shielding, special anti-hum coils reduce unwanted signals. **Tracking Pressure:** 4 grams on professional tone arms; 6-8 gram force arms for reduced record wear. **Frequency Response:** 20-20,000 cps. **Output:** 10 mV min. at 5.5 cm/sec. **Equalization:** 6.2 K for RIAA, 100 K for std. load. **Mounting:** Either 1/2" or 3/4". Adapter required when used with G. E. A1-500 and A1-501 arm.

### MONOPHONIC CARTRIDGES

| G.E. No.    | Stylus Size and Material            | Net Ea. |
|-------------|-------------------------------------|---------|
| 4G-053      | 1-mil diamond and 3-mil diamond     | \$19.95 |
| 4GD-01D-02D | 1-mil diamond and 2.5-mil diamond   | 19.95   |
| 4G-052      | 1-mil diamond and 3-mil sapphire    | 16.95   |
| 4GD-01D-02S | 1-mil diamond and 2.5-mil sapphire  | 16.95   |
| 4G-050      | 1-mil sapphire and 3-mil sapphire   | 12.95   |
| 4GD-01S-02S | 1-mil sapphire and 2.5-mil sapphire | 12.95   |
| 4G-051      | 1-mil diamond only                  | 13.95   |
| 4GS-01D     | 1-mil diamond only                  | 9.95    |
| 4G-041      | 1-mil sapphire only                 | 9.95    |
| 4GS-01S     | 1-mil sapphire only                 | 9.95    |
| 4GS-02D     | 2.5-mil diamond only                | 13.95   |
| 4GS-02S     | 2.5-mil sapphire only               | 9.95    |
| 4G-053      | 3-mil diamond only                  | 19.95   |
| 4G-040      | 3-mil sapphire only                 | 9.95    |

### CLIP-IN STYLI FOR VR-II CARTRIDGE

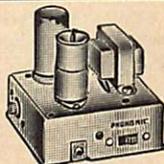
| G.E. No. | Sapphire | Net    | G.E. No. | Diamond | Net    |
|----------|----------|--------|----------|---------|--------|
| 4G-01S   | 1-mil    | \$2.29 | 4G-01D   | 1-mil   | \$5.95 |
| 4G-02S*  | 2.5-mil  | 2.29   | 4G-02D*  | 2.5-mil | 5.95   |
| 4G-03S   | 3-mil    | 2.29   | 4G-03D*  | 3-mil   | 5.95   |

NOTE: Sapphires are synthetic. \*For low-Z cartridges.

†(D)—Diamond; (D-S)—Diamond, Sapphire; (S)—Sapphire. ‡Stylus inserts for use in single and dual assemblies. NOTE: All sapphires are synthetic.

### REPLACEMENT STYLI FOR FORMER G.E. CARTRIDGES

| G.E. No.†     | Radius, In. | Net     | G.E. No.†   | Rad., In. | Net    |
|---------------|-------------|---------|-------------|-----------|--------|
| RPJ-007A(S)   | .001, .0025 | \$ 4.95 | RPJ-002(D)  | .0025     | \$5.95 |
| RPJ-010A(S)   | .001, .003  | 4.95    | RPJ-003(D)  | .003      | 5.95   |
| RPJ-013A(D-S) | .001, .003  | 6.95    | RPJ-015(S)† | .001      | 2.29   |
| RPJ-011A(D)   | .001, .0025 | 11.95   | RPJ-025(S)† | .0025     | 2.29   |
| RPJ-012A(D)   | .001, .003  | 11.95   | RPJ-035(S)† | .003      | 2.29   |
| RPJ-005(S)    | .001        | 2.29    | ST-5D)      | .0005     | 7.95   |
| RPJ-01D(D)†   | .001        | 5.95    | ST-7D(D)    | .0007     | 6.95   |
| RPJ-02D(D)†   | .0025       | 5.95    | ST-7S(S)    | .0007     | 2.99   |
| RPJ-03D(D)†   | .003        | 5.95    | VR-221(D)   | .0005     | 7.95   |
| RPJ-006(S)    | .0025       | 2.29    | VR-222(D)   | .0007     | 6.95   |
| RPJ-001(S)    | .003        | 2.29    | VR-223(S)   | .0007     | 2.99   |
| RPJ-004(D)    | .001        | 5.95    |             |           |        |



### DUAL FUNCTION PREAMP

Two-position switch provides proper equalization for mike or G.E. magnetic phono cartridge. **Gain:** Phono, 35 db; Mike, flat 30-15,000 cps. 18 db bass boost at 50 cps. Completely shielded; for use on 105-125 VAC. Complete with phono-mike input jack, output plug, shielded cable with plug (up to 25' of output cable can be used), one 7025 tube and a selenium rectifier. **Model UPX-003C Preamplifier**—Net Each. **\$14.95**

Size: 3 3/4" x 3 3/4" x 1 1/4"; 3 3/4" h., max. overall. Shpg. Wt., 1 1/2 lbs.

### BEYER MODEL DT-48 HEADSET

Extremely wide, smooth frequency of these earphones enables them to be used for high fidelity listening. Sensitivity and extreme dynamic range of these earphones without measurable distortion, makes them ideal for monitoring high quality signals, even under conditions of high ambient noise levels. Can be used for acoustical tests and measurements. They are wired so that they may be utilized for stereophonic sound reproduction or can be used monophonically with earphones in series. **Frequency Response:** 30-15,000 cps, down less than 7 db at 15,000 cps. **Impedance:** 5 ohms each side (10 ohms in series); may be bridged across 600 ohms at line level with transformer. Weight, 12 1/2 oz. **\$79.95**  
**Beyer Model DT-48**—Net Each.  
**Beyer Model DT-48S Replacement Cup Cushions**—Net Per Pair **\$3.90**  
**Beyer Model TR-48 Bridging Transformer**—For 600 ohm line monitoring (Ampex output, etc.), 2000/5 ohms, with 1749 plugs. Two required for stereophonic use. Net Each. **\$17.49**



# HI-FI SPEAKER SYSTEMS AND COMPONENTS

"... a patient search for extremely high quality"

KLH speaker systems are guaranteed against defective workmanship or materials for 2 yrs.

## MODEL SIX 2-WAY SPEAKER SYSTEM

Famous speaker system that featured, for the first time, integrated design of all its components: Woofer, tweeter and crossover. The result, unprecedented smoothness and flawless continuity from the lowest bass through the mid-range to the peak-free treble that was never before possible at or near this price. Components include an acoustic suspension 12" woofer, small cone-type direct radiator tweeter and an LCR crossover that complements the exact response of the drivers octave through octave. A switch permits 5 db adjustment of the high frequency level for matching the system to differing room acoustics. For top stereo performance, the response of any two Model Sixes, regardless of age, will match within 1.5 db. Handsome modern enclosure fits into any decor; available in several finishes. Enclosed Volume: 1.5 cu. ft. Impedance: 8 ohms. Size: 12 3/4" w. x 11 1/4" d. x 23 1/2" h.

KLH Model Six—Mahogany, walnut, oiled walnut, cherry. Net Each. .... **\$134.00**  
 \*KLH Model Six Unfinished—Birch, ready to finish. Net Each. .... **\$122.00**  
 \*Trademark of KLH Research and Development Corp.

## NEW MODEL TWELVE 3-WAY SPEAKER SYSTEM

Exceptional 3-way, 4-speaker system utilizes the acoustic suspension principle in the bass and two mid-range speakers. Fine 12" woofer in a cubic foot enclosure; 2 mid-range speakers in individual sub-enclosures; cone tweeter is protected by integral center dust cap. Faultless musical and vocal reproduction encompasses complete range from booming bass to highest violin scale and coloratura trebles. Crossovers at 500 cps and 4000 cps for parallel driver response, assured balanced frequency response characteristics. Multi-position switch in first position operates over the range of 300-800 cps; in second position, 800-2500 cps; third, 2500-7000 cps; fourth, 7000-20,000 cps. Cabinet, including sub-enclosures, constructed from 1" plywood, fiberglass-filled. Front panel can be removed for substitution of other grille material. Impedance: 8 ohms. Size: 22 1/4" w. x 15 1/2" d. x 29" h.

KLH Model Twelve—Oiled walnut. Net Each. .... **\$275.00**

## MODEL FOURTEEN COMPACT SPEAKER SYSTEMS

Compact, full range systems incorporate a variation of the frequency-contoured technique developed in Models Eleven and Fifteen phono systems. Extended range, wide treble dispersion, low distortion and octave-to-octave musical balance are characteristic of the bigger KLH systems. Two small high compliance, full-range direct radiators and a passive electronic network tailor the power output of any amplifier to match exactly the low-frequency power required by the speakers. Delivers more bass power at lower frequencies with less distortion than any other speaker of comparable size and cost. Drivers 3" dia. have maximum excursion of 1/4"; are controlled by the highest ratio of magnet power to cone mass ever engineered in a speaker. Choice of two ported enclosure shapes for greatest installation flexibility. May be used with amplifiers rated 12 watts and up. Nominal Impedance, 8 ohms. Weight, 14 lbs.

KLH Model Fourteen-S—Slimline style, 14" w. x 3 3/4" d. x 18" h. Oiled Walnut finish. Net Each. .... **\$49.50**  
 KLH Model Fourteen-B—Bookshelf style, 14" w. x 8 1/4" d. x 8" h. Oiled walnut finish. Net Each. .... **\$49.50**

## MODEL NINE STEREOPHONIC FULL-RANGE ELECTROSTATIC SPEAKER SYSTEM

A complete stereophonic loudspeaker system that uses the electrostatic principle to reproduce the entire audio range. Provides the unobtrusiveness and smoothness of response that is attained only in well-designed electrostatic transducers. To insure adequate reproduction of very low frequencies, a total radiating area of 28 square feet is used; 14 square feet in front and 14 square feet in the rear; radiation front and back is equal. Each Model Nine loudspeaker system consists of two complete full-range loudspeakers with built-in power supplies and step-up transformers. Recommended amplifier power per section: 40 to 75 watts. Impedance: Primary resistive in the audio range—maximum, 30 ohms; minimum, 16 ohms. The two sections can be joined at an angle (as shown in the illustration) or can be separated completely for use in stereo systems. The solid hardwood frames

KLH Model Nine—Mahogany, walnut, oiled walnut. Net per Pair. .... **\$1140.00**  
 Support Plates for Model Nine—Net per Set. .... **\$30.00**

## MODEL SEVENTEEN 2-WAY SYSTEM

Distinctive, high performance, full range system engineered to achieve maximum sound reproduction quality at modest cost. Carefully integrated components give the inherent smoothness and balance characteristic of more costly KLH systems. Features extra low harmonic distortion, superior transient response and wide high-frequency dispersion. Woofer is 10" acoustic suspension design capable of extremely long excursion for extended low frequency response. A 1 1/4" direct radiator tweeter with peak-free characteristics provides excellent dispersion and lack of coloration; elastomeric suspension yields good mid-frequency performance; eliminates need for a mid-range speaker. Built-in three-position switch permits max. ±2.5 db change in high frequency levels for matching system to room acoustics. Handsome, compact enclosure is veneered on four sides in oiled walnut to permit horizontal or vertical placement; snap-on grille cloth panel permits easy access to drivers, and changing of grille cloth to match decor. System may be driven with as little as 12 watts, yet handles nearly any power safely. Impedance: 8 ohms. Size: 11 1/4" w. x 8 3/4" d. x 23 3/4" h. Weight, 30 lbs.

KLH Model Seventeen—Oiled walnut. Net Each. .... **\$69.95**

## MODEL EIGHTEEN FM STEREO TUNER

Highly sensitive, drift-free tuner ideal for use with Model 11, 11-W or 15 phono systems. Front end has selective antenna circuit that ends cross-modulation problems. Fully solid state for minimum power drain, instant warmup, cool operation, long life. Accurately calibrated dial with vernier planetary drive. Has zero-center tuning meter, multiplex indicator light, two sets of stereo outputs, built-in antennas. Size: 8 3/4" w. x 5 3/8" d. x 3 3/8" h.

KLH Model Eighteen—In oiled walnut cabinet. Net Each. .... **\$116.95**

## MODEL TWENTY-ONE FM RADIO

High quality sound reproduction far out of proportion to its size and cost. Entire radio cabinet acts as a sealed, acoustic-suspension enclosure. Solid state electronics. Has outputs for extension speaker, tape recorder, external sound system. Size: 12" w. x 6 3/4" d. x 6 3/4" h.

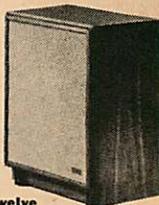
KLH Model Twenty-one **\$79.95**  
 —Net Each. ....

Extension Speaker—For Model Twenty-one. Size, 14 3/8" w. x 4 1/2" d. x 8" h. Net Each. .... **\$24.95**

SORRY, KLH PRODUCTS ARE NOT SOLD BY MAIL.  
 YOU ARE CORDIALLY INVITED TO SEE AND HEAR THEM IN OUR SHOWROOMS.



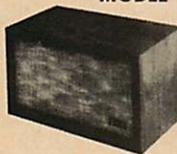
Six



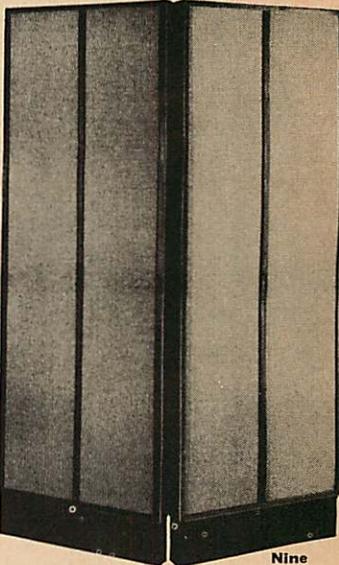
Twelve



Fourteen-S



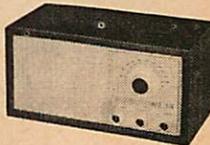
Fourteen-B



Nine



Seventeen



# STEREO PHONOGRAPH AND MUSIC SYSTEMS

## MODEL TWENTY-FOUR STEREO MUSIC SYSTEM

Versatile system combines the most wanted features of a high fidelity phono and FM tuner. Control panel houses Garrard four-speed, automatic turntable made to KLH specifications. Pickering V-15 magnetic cartridge with diamond stylus. Fully transistorized FM MPX tuner. Tuner has stereo indicator light; 3-position selector switch for phono, FM, auxiliary, separate base and treble controls for each channel; balance; volume; vernier tuning; mono-stereo switch; 300-ohm antenna input terminals; tape recording output. Stereo headphones optional instead of speakers at speaker outputs. Speaker systems have 8" acoustic suspension woofer and 2" tweeter in each separate, sealed enclosure. **Standard Accessories:** Short wire indoor FM antenna; folded dipole indoor FM antenna; automatic and manual turntable spindles; stylus cleaning brush. **Size:** Control center, 18" w. x 14" d. x 4" h.; speaker enclosures, 18" w. x 7 1/2" d. x 10 3/4" h., each. **KLH Model Twenty-Four—Oiled walnut. \$300.00**  
Net Each.....

\*Trademark of KLH Research and Development Corp.

## NEW MODEL TWENTY-FIVE STEREO MUSIC CENTER

A version of Model Twenty-Four offering similar components, facilities, features and performance, but supplied in attractive console cabinetry designed to enhance the decor of any living room. Truly a quality instrument that brings a new order of sound to a console system at moderate cost—its stereo effect will surprise serious music lovers who have been disappointed with stereo from most conventional consoles. Speakers are placed "outboard" at the cabinet's sides—sound reflects off of the cabinet's opened side doors to provide an increased sensation of stereo depth and separation. Exceptionally efficient organizing of cabinet space permits room for record storage, player and electronics compartment; up to 75 records can be accommodated. **Size:** 31 1/2" w. x 14 3/4" d. x 26 3/4" h.

**Model Twenty-Five Contemporary or Modern— \$399.50**  
Specify cabinet styling desired. Net Each.....  
**Model Twenty-Five Traditional—Net Each. \$425.00**

## MODEL TWENTY STEREO MUSIC SYSTEM

Stereo control center has: KLH designed and built all-transistor integrated control amplifier that can deliver 100 watts of transient peak power; complete control facilities include Loudness, Volume, Balance, Bass, Treble, Input Selector (Phono, FM, Aux 1, Aux 2), Mono-Stereo Switch and Power On-Off. Outputs are provided for stereo headphones and tape recorder. Highly sensitive, drift-free, transistorized FM multiplex tuner has zero-center meter and stereo indicator light; attachable antenna plus provision for external 300-ohm antenna. Built-in KLH four-speed automatic turntable made by Garrard; plays records of any size or speed, has Intermix feature and automatically shuts off amplifier after last record has been played; precision, low-mass tone arm prevents skipping; supplied with Pickering V-15 pickup. Each two-way speaker system has 10" high compliance, acoustic suspension woofer and 1 3/4" tweeter with elastomeric suspension. Handsome enclosures have removable grille cloth panel. **Size:** Control center, 18 1/2" w. x 14" d. x 4" h.; speakers, 23 1/2" w. x 9" d. x 11 3/4" h., each.

**KLH Model Twenty—Oiled walnut finish. Net Each... \$399.95**

## NEW MODEL TWENTY-PLUS STEREO MUSIC SYSTEM

Identical to Model Twenty except for furniture format, which consists of three beautifully styled cabinets set on clean curved pedestals of white cast aluminum. System offers the performance and features of elaborate sound equipment—but in a form strikingly suited to today's living room. Two cabinets contain speakers; the third holds a record-changer, amplifier and FM stereo receiver. Units can be placed together to become a single piece of furniture, or used separately as a functional, flexible music system wherever they look and sound best. Speaker grille cloths snap out easily so that porous fabric of any color, pattern or texture can be substituted.

**KLH Model Twenty-Plus—Oiled walnut. Net Ea... \$525.00**

## MODEL ELEVEN FAMILY OF STEREO PHONOS

Outstanding phono system rivals medium-priced component arrangements in performance. All-transistor stereo amplifier, custom tailored to speakers, plays instantly without warm-up. Unprecedented sound quality features smooth bass response from a single, frequency-contoured speaker for each channel. Long-excursion, heavy magnet, wide treble dispersion, special acoustic suspension-type speaker in sealed enclosure gives flawless sound quality. Four-speed KLH automatic turntable, made by Garrard, features four-pole motor, low-mass arm, and special suspension to eliminate groove jumping; amplifier shuts off automatically after last record plays. Supplied with Pickering V-15 magnetic pickup and precision diamond stylus. Controls: Volume; Balance; Treble; Bass; Mono or Stereo Mode Switch. Tuner or aux inputs. Comes with 40-ft. cable to permit wide flexibility in speaker placement.

**KLH Model Eleven Portable—**Available in lightweight, scuff-proof "Contourlite" vinyl-clad case (gray or pearl white). Speakers attach to center section for easy 1-mt. portability. **\$199.95**  
**Size:** 24" w. x 14" d. x 7" h. Wt., only 25 lbs. Net Each.....

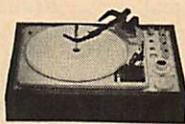
**KLH Model Eleven-W—**Supplied in three, handsomely-styled oiled walnut cabinets for home music applications. **\$199.95**  
Net Each.....

**Model Eleven-FM—**Same as Model Eleven in size and appearance, but with FM tuner add. FM tuner section essentially identical (but for MPX noise filter and tuning meter) to Model Eighteen. Stereo indicator light. Net Each..... **\$269.95**

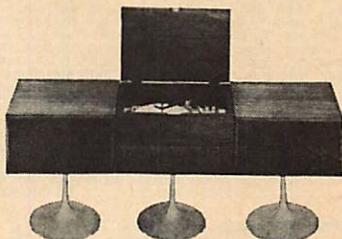
## MODEL FIFTEEN STEREO PHONOGRAPH

Sophisticated version of the Model Eleven-W. Features unusual versatility (inputs for tuner, tape recorder; output for tape recorder) phono/aux control and more elaborate speaker systems (two high-compliance speakers in each of the two ducted-port enclosures) for improved and more extended low frequency response, yet is still extremely compact. Output curve of the amplifier is carefully matched to the low frequency requirement of the speakers for an unusually flat response. Enclosures may be separated up to 40 feet with cables supplied. **Size:** Control center, 18" w. x 14" d. x 4" h.; enclosures, 14" w. x 8 1/2" d. x 8" h. **\$229.95**  
**KLH Model Fifteen—**Oiled walnut cabinetry. Net.....

Model Twenty-Five Console In Modern Styling



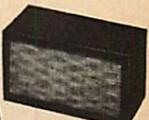
Model Twenty



Model Twenty-Plus



Model Eleven



Model Fifteen

## KLH DUST COVERS AND ACCESSORIES

**Custom Dust Cover—**For Models 11-W, 15, 20 and 24. Oiled walnut and smoked plexiglass. Net Each..... **\$24.95**  
**Molded Accessory Dust Cover—**For Models 11-W, 15, 20 and 24. Smoked plexiglass. Net Each..... **\$9.95**  
**Molded Accessory Dust Cover for Portable Phono—**For Models 11 and 11-FM only. Smoked plexiglass. Net Each..... **\$5.95**  
**Metal Leg Kit for Stereo Control Centers—**For Model 11-W (after Serial No. 6002), Model 15 (after Serial No. 14300), Model 19 (after Serial No. 9442), and Model 24. Net Each..... **\$3.95**  
**Accessory Speaker—**(Formerly Model 15AS). Oiled walnut finish. Net Each..... **\$24.95**

**SORRY, KLH PRODUCTS ARE NOT SOLD BY MAIL. YOU ARE CORDIALLY INVITED TO SEE AND HEAR THEM IN OUR SHOWROOMS.**



### DUPLEX® LOUDSPEAKERS

Five coaxial speakers, combining two speakers mounted on a single frame for compactness, point source relation and simplified installation. Permanent viscous compliance damping on bass cone prevents standing waves; driven by edge-wound, double insulated ribbon bass voice coil with extremely deep magnetic gap for high flux density and efficiency throughout its excursion. Design utilizes a heavy Alnico V ring magnet for bass; an edge-wound aluminum voice coil; and a multi-cellular horn for fatigue-resistant, high frequency compliance. A massive dividing network provides smooth 12 db per octave attenuation. External variable frequency shelving control permits balancing speaker to room characteristics. **Altec Lansing Model 605B 15" Duplex**—Precisely engineered speaker with unusually smooth response in the high frequencies and extremely high linearity in the low frequencies. Imped. 8 or 16 ohms. Power: 35 watts; 50 watts peak. Frequency Response: 20-22,000 cps. Resonance, 25 cps. Voice coil diameter, 3" (low frequency); 1 3/4" (high frequency). Distribution, 90° horizontal; 40° vertical. Magnet Weight, 2 1/2 lbs. (low frequency); 1 1/2 lb. (high frequency). Size: 15 1/4" dia. x 10" d. Shipping Weight, \$151.20 36 lbs., including network. Net Each.....

**Altec Lansing Model 601C 12" Duplex**—Impedance, 8 ohms. Power: 20 watts; 30 watts peak. Frequency Response: 30-22,000 cps with resonance at 39 cps. Voice coil dia., 3" low, 3/4" high frequency. Size: 12 1/2" dia. x 5 1/2" d. Shpg. Wt., 18 lbs., including network. Net Each..... \$102.60

### SUPER DUPLEX® 15" 604E

Most efficient speaker offered to the home music market. Two-section dividing network; pure midrange; exceptional attack time; distortionless response through entire frequency range. With a dual magnetic structure that weighs 26 lbs., 13 oz. **Frequency Response:** 20-22,000 cps. **Impedance:** 8 or 16 ohms. **Power:** 35 watts; 50 watts peak. Shpg. Wt., 40 lbs. **Altec Lansing Model 604E 15" Super Duplex**—Net Ea. \$179.10

### BIFLEX® LOUDSPEAKERS

Feature efficient range far greater than any other type single voice-coil speaker. Unusual compliance design serves as a mechanical crossover in viscous damped concentric mid-cone for better propagation of both lows and highs; driven by an edge-wound aluminum ribbon voice coil with extra deep gap of regular flux density for maximum efficiency. Impedance, 8 ohms.

**Altec Lansing Model 415C 15" Biflex**—Frequency Response: 25-14,000 cps; resonance at 27 cps. Power: 25 watts. Depth, \$60.75 7". Shipping Weight, 19 lbs. Net Each.....  
**Altec Lansing Model 412C 12" Biflex**—Frequency Response: 30-15,000 cps; resonance at 32 cps. Power: 20 watts. Depth, \$51.30 5 1/2". Shipping Weight, 16 lbs. Net Each.....

### 755C "PANCAKE" WIDE-RANGE SPEAKER

High performance, extended range, single voice coil 8" speaker. Ideal for low cost hi-fi systems, as well as speaker for existing hi-fi systems, or as extension speaker in multi-room systems. "Pancake" design provides smooth, wide-angle 90° distribution. Narrow depth permits mounting in limited space locations, even in walls or ceilings. **Frequency Response:** 40-15,000 cps. **Impedance:** 8 ohms. **Power:** 15 watts. **Resonance:** 52 cps. Wt., 3.75 lbs. **Altec Lansing Model 755C**—Net Each..... \$29.00

### 2000D HIGH FREQUENCY HORN AND DRIVER

Rugged, direct radiating tweeter. Gap suspension protects against low frequency signal damage; aluminum dome and free paper cone for best distribution. Sturdy tweeter construction features built-in condenser crossover network. **Frequency Response:** 1,500-18,000 cps. **Impedance:** 8 ohms. **Power:** 14 watts. Voice coil diameter, 1". Magnet weight, 1/2 lb. Depth, 3 1/4". Weight, 2 1/2 lbs. **Altec Lansing Model 2000D**—With crossover network \$20.25 Net Each.....

### 416A WOOFER

The 15" woofer selected for the "Voice of the Theatre" System. Has edge-wound copper ribbon voice coil. **Frequency Response:** 20-1,600 cps. **Impedance:** 8 or 16 ohms. **Power:** 30 watts. Voice Coil, 3" dia. Size: 15 1/4" dia. x 7" d. Weight, 17 1/2 lbs. **Altec Lansing Model 416A**—Net Each..... \$56.70

2000D

811B

802D, 806A

416A, 414A

402D

3000H

511B

### 414A WOOFER

Similar to 416A, but 12" version for use in full-size two-way systems. Exceptional linearity with high compliance. Provides big speaker sound at moderate cost. **Frequency Response:** 30-4,000 cps. **Resonance:** 30 cps. **Impedance:** 8 or 16 ohms. **Power:** 25 watts. **Depth:** 5 1/2". Weight, 15 lbs. **Altec Lansing Model 414A**—Net Each..... \$48.60

### 402D 8" WOOFER

Incorporates controlled linear excursion principle and stress free assembly for greatly increased bass response. Provides big speaker sound at moderate cost. **Frequency Response:** 40-10,000 cps. **Impedance:** 16 ohms. **Resonant Frequency:** 55 cps. **Power:** 14 W. Voice coil dia., 1". Magnet, 1/2 lb. Wt., 2 3/4 lbs. **Altec Lansing Model 402D**—Net Each..... \$18.90

### 3000H HIGH FREQUENCY HORN AND DRIVER

Combines newly designed sectoral horn and 20-watt efficient driver in one compact unit. For use with N-3000E network to extend the range of single-cone speakers (415 or 412, etc.). 40° vertical and 90° horizontal distribution. **Frequency Response:** 3,000-22,000 cps. **Impedance:** 8 ohms. Size: 4 1/2" w. x 4 1/4" d. x 3 3/4" h. Shipping Weight, 2 lbs. **Altec Lansing Model 3000H**—Net Each..... \$32.40

### N-3000E NETWORK

Provides crossover at 3,000 cps. Continuously variable high frequency shelving control, externally mounted, provides 10 db attenuation. **Impedance:** 8 ohms. Size: 4 1/2" w. x 2 1/4" d. x 2 1/4" h. Shipping Weight, 2 lbs. **Altec Lansing Model N-3000E**—Net Each..... \$16.20

### HIGH FREQUENCY DRIVERS AND HORNS

#### 802D HIGH FREQUENCY DRIVER

The finest in high frequency drivers, meets broadcast studio standards. For use with 511B or 811B horns. Diaphragm and field coil unit replaceable without special tools. Smooth, peak-free response. Has 1.2 lb. magnet with gap flux of 15,250 gauss for 2 db more efficiency than 806A. **Freq. Response:** 500-22,000 cps. **Impedance:** 8 or 16 ohms. **Power:** 30 watts. Used with N-800E or N-500E crossovers. Size: 4 1/2" dia. x 3 1/4" h. Wt., 9 lbs. **Altec Lansing Model 802D**—Net Each..... \$67.50

#### 806A HIGH FREQUENCY DRIVER

Identical to Model 802D but 13-oz. magnet; 13,000 gauss. **Altec Lansing Model 806A**—Net Each..... \$51.30

#### 811B HORN

Cast aluminum sectoral horn, designed for use with 802D, 806A drivers. 40° vertical and 90° horizontal distribution pattern. **Frequency Response:** 800 cps (cut off) to 22,000 cps. Must be used with N-800E network. Size: 18 1/2" w. x 14" d. x 8 3/4" h. Weight, 9 lbs. **Altec Lansing Model 811B**—Net Each..... \$24.30

#### 511B HORN

For use with 802D, 806A drivers and N-500E network. **Frequency Response:** 500 cps (cut off) to 22,000 cps. Distribution similar to 811B. Size: 23 1/4" w. x 18 1/2" d. x 10 3/4" h. Shipping Weight, 18 lbs. **Altec Lansing Model 511B**—Net Each..... \$37.80

### DIVIDING NETWORKS

**Altec Lansing Model N-800E**—Dual, full-section, 800 cps crossover for use with 802D and 806A drivers on 811B horn and single or double 416A or 414A speakers. Smooth 12 db/octave slope; detented high frequency shelving control, externally mounted, with four steps of 1 1/2 db each. **Impedance:** 8 or 16 ohms. Size: 6" w. x 2 3/4" d. x 3 3/4" h. Shipping Weight, 5 lbs. Net Each..... \$41.85

**Altec Lansing Model N-500E**—500 cps crossover for use with 802D or 806A drivers on 511B horn and single or double 416A speaker. Four step, high frequency shelving attenuation of 1 1/2 db each. **Impedance:** 8 or 16 ohms. Size: 8" w. x 2 3/4" d. x 5 1/2" h. Shipping Weight, 8 lbs. Net Each..... \$47.25



# Systems and Enclosures



A7, A7-500



A7-500W-1, 843B



846A, 847A



836A



890B



848A

## A7 "VOICE OF THE THEATRE"™ TWO-WAY SPEAKER SYSTEM

Used in more motion picture theatres than any other system; also highly regarded as the best buy in high fidelity today. Exclusive Altec enclosure features a direct radiating exponential horn combined with a modified bass reflex principle for smoothest response across the entire audible frequency range. Design provides a 90° distribution angle for best sound radiation for theatres up to 1000 seats; also has fine sound in the smallest of HI-FI rooms. **Frequency Response:** 30 to 22,000 cps. **Power:** 30 watts continuous. **Impedance:** 8 or 16 ohms. One 416A 15" woofer for rich bass tones; one 806A high frequency driver mounted on an 811B exponential horn of die cast aluminum provides uniform coverage of 90° horizontal, 40° vertical. One N-800D crossover network with stepped high frequency attenuator for exact adjustment. Designed so that drivers are placed in same vertical plane to achieve exact time phasing and prevent distortion. Magnets are ring-type Alnico V, eliminating stray magnetic fields. **Size:** 30" w. x 24" d. x 52 1/4" h., overall. **Shipping Weight,** 154 lbs. **Altec Lansing A-7 "Voice of the Theatre" System—\$264.60** Utility. Net Each.....

**Altec Lansing A7-500 "Voice of the Theatre"**—Same as A-7, but 802D high frequency driver with 811B horn. With N-500E, crossover is at 500 cps; adjustable in four 1.5 db steps. Other specifications same as A-7. **Shipping Weight,** 160 lbs. **Net Each—\$294.30**

**Altec Lansing Model A7-500W-1 Magnificent System**—Same as A7-500, but has absolutely flat response from 30-22,000 cps. Also, has improved walnut styling, wood fretwork grille and has high frequency horn mounted inside enclosure. **Size:** 32" w. x 25" d. x 44" h. **Shpg. Wt.,** 170 lbs. **Net Each—\$448.20**

## NEW 843B MALIBU SPEAKER SYSTEM

High efficiency speaker features beautiful carved grillework front. Reproduces a wide dynamic range with even medium-power amplifiers. Exceptionally fine highs are produced by the 806A driver mounted on the 811B sectoral horn. Two 12" 414A low frequency speakers provide perfect balance of sound. **Frequency Response:** 30-22,000 cps. **Impedance:** 8 or 16 ohms. **Power:** 30 watts. **Crossover Frequency:** 800 cps. **Size:** 25" w. x 18" d. x 40" h. **Shipping Weight,** 120 lbs. **Altec Lansing Model 843B Malibu System—Walnut \$359.10** finish. Net Each.....

## 846A VALENCIA SPEAKER SYSTEM

Incorporates all of the components of the famous A-7 "Voice of the Theatre" system in a space-saving 27 1/2" x 19" x 29 3/4" enclosure. Delivers the no-distortion sound without compromise that only a full-size speaker system can offer, even in an average-size room. Includes Models 416A 15" woofer, 811B sectoral horn driven by an 806A high frequency driver, and 800-cps crossover network. Handsome fretwork grille design. **Frequency Response:** 35-22,000 cps. **Impedance:** 8 or 16 ohms. **Power:** 30 watts. **Size:** 27 1/2" w. x 19" d. x 29 3/4" h. **Shipping Weight,** 100 lbs. **Altec Lansing Model 846A Valencia System—Walnut \$299.70** finish. Net Each.....

**Altec Lansing Model 859A Enclosure**—Walnut cabinet only. **Shipping Weight,** 75 lbs. **Net Each—\$145.80**

## NEW 848A FLAMENCO SPEAKER SYSTEM

Unique Spanish style grillework simulates wrought iron for a distinctive decorator touch. The Flamenco features the same fine components as the famous A7 "Voice of the Theatre" studio system. Identical to the Popular Valencia in smoothness, flat response, high efficiency and distortion-free sound. Includes Models 416A 15" woofer, 811B sectoral horn driven by an 806A high frequency driver, and 800 cps crossover network. **Frequency Response:** 35-22,000 cps. **Impedance:** 8 or 16 ohms. **Power:** 30 watts. **Size:** 27 1/2" w. x 19 3/4" d. x 27 3/4" h. **Shpg. Wt.,** 105 lbs. **Altec Lansing Model 848A Flamenco System—\$310.50** Oakwood, oak finish. Net Each.....

**Altec Lansing Model 860A Enclosure**—Oakwood cabinet only; oak finish. **Shpg. Wt.,** 80 lbs. **Net Each—\$152.10**

## 847A SEVILLE SPEAKER SYSTEM

Ideal for small rooms, apartments or center sound source for larger systems. Consists of 414A 12" LF speaker, 3000HF HF driver and cast zinc multicellular horn. Dual, full section network with 3,000 cps crossover. Unit enclosed in walnut cabinet with fretwork grille design. **Frequency Response:** 40-22,000 cps. **Impedance:** 8 or 16 ohms. **Power:** 20 watts. **Size:** 19" w. x 14" d. x 26" h. **Shipping Weight,** 60 lbs. **Altec Lansing Model 847A Seville System—Net Ea. \$207.90**

## 845C VERDE SPEAKER SYSTEM

Designed especially for the music lover who lacks space for a full-size system, the modestly priced Verde offers a richness of sound never before possible in a speaker of its size. For excellent bass without sacrificing midrange, uses extreme low-resonance 402D bass speaker mounted in heavily damped infinite-baffle enclosure. Highs of 18,000 cps are achieved with a Model 2000D speaker. Built in crossover network, 2000 cps. **Frequency Response:** 45 to 18,000 cps. **Impedance:** 8 ohms. **Power:** 20 watts. **Size:** 23" w. x 11 1/4" d. x 11 1/4" h. **Shipping Weight,** 30 lbs. **Altec Lansing Model 845C Verde System—Hand \$89.10** rubbed walnut finish. Net Each.....

## 836A LIDO SPEAKER SYSTEM

Quality bookcase system offers dramatic new dimensions in listening pleasure. Acoustical elements used give truer balance between the high and low frequencies than found in any other system of comparable price. System incorporates one 755C fullrange speaker and one 8" LF speaker. **Frequency Response:** 45-15,000 cps. **Impedance:** 8 ohms. **Power:** 15 watts. **Size:** 26" w. x 12 3/4" d. x 12 3/4" h. **Shipping Weight,** 40 lbs. **Altec Lansing Model 836A Lido System—Walnut \$101.25** finish. Net Each.....

## NEW 890B BOLERO SPEAKER SYSTEM

Handsome bookshelf speaker delivers realistic sound to fill even the largest rooms with no distortion. True, solid bass, smooth midrange, pure highs. Specially designed 10" LF speaker reinforced by 10" free-suspension phase inverter. LF speaker is powered by a massive 10 lb. magnetic structure identical to the 12" 414 speaker used in the full-size Malibu with cast aluminum frame. Multicellular 3000HF HF speaker with dividing network provides top high frequency reproduction. Snap-on grille allows easy change. **Frequency Response:** 40-22,000 cps. **Impedance:** 8 ohms. **Power:** 25 watts. **Crossover Frequency:** 3000 cps. **Size:** 25 3/4" w. x 12" d. x 14 1/4" h. **Shipping Weight,** 62 lbs. **Altec Lansing Model 890B Bolero System—Hand \$152.55** rubbed walnut finish. Net Each.....



# HI-FI SPEAKERS, ENCLOSURES AND SYSTEMS

## ENCLOSURES AND SYSTEMS



"Cadet"

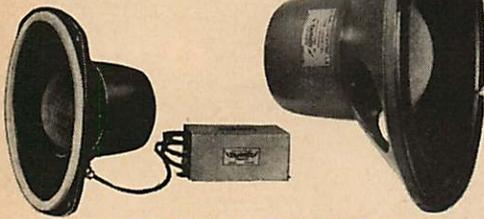


"Dalton" and "Belvedere Senior"



"Autograph Professional" and "GRF Professional"

"GRF" and "York"



"Monitor Ten"

"Monitor Twelve and Fifteen"

### "MONITOR" DUAL CONCENTRIC SPEAKERS

Culmination of over 30 years research, the "Monitor" incorporates many unique features: Patented Tannoy magnetic shunt increases useful low frequency flux by more than 20%; acoustic balance cavity improves high frequency response and reduces distortion. Accurately distributed magnetic flux, between low and high frequency voice coil gaps, results in smoother response, better damping and higher efficiency. Phase-compensating multiple throat contributes to smoother, extended high frequencies. Replaceable high frequency diaphragm and low frequency diaphragm. Plastic surround provides correct termination; improves response and stability. Dust-proof assembly with acoustically transparent front sealing-dome. Comes with separate crossover for plug-in facility.

#### "MONITOR FIFTEEN" SPEAKER

Finest of the "Monitor" speakers gives unmatched performance. Complete with crossover. Cover and frame finished in stove enamel; magnet assembly parts cadmium plated. Uses Ticonal G magnet material. **Frequency Response:** 23-20,000 cps. **Power Capacity:** Handles up to 50 watts, depending on enclosure used. **IM Products:** Less than 2%. **Bass Resonance:** 32 cps. **Crossover Frequency:** 1000 cps. **Polar Distribution:** -4 db at 10 kc for 60° included angle. **Flux Density:** 13,500 gauss, low freq. gap; 18,000 gauss, high freq. gap. **Magnet Weight:** 13 lbs. **Impedance:** 16 ohms, via crossover. **Size:** 15 1/4" O.D. x 9" deep; mtg. holes on 14 1/2" dia. circle. **Weight:** 23 lbs. 13 oz. including crossover. **Tannoy "Monitor Fifteen" Speaker—Net Each.....\$179.00**

#### "CADET" BOOKSHELF MODEL

Designed to work in conjunction with Tannoy "Monitor Ten" speaker for incredibly wide range response despite its small physical size. Solid infinite baffle construction uses pressure load ring and acoustic absorption of bulk radiation for clean, non-resonant bass. Finished on all four sides in oiled walnut for horizontal or vertical placement. **Size:** 23 1/4" x 13 1/2" x 11" deep. **Tannoy "Cadet" Enclosure—Net Each.....\$35.00**  
**Tannoy "Cadet" System—With "Monitor Ten" installed. For amplifiers rated 15 watts and up. Net Each.....\$149.75**

#### "CHATSWORTH" COMPACT MODEL

Handsome finished, acoustically correct cabinet for use with the "Monitor 10" or 12" speakers. Ideally suited for use in pairs for stereo. Ducted-port, bass reflex design gives maximum performance in minimum size. Extended bass response with excellent transients. Finished on all four sides in oiled walnut. **Size:** 26" x 18" x 12" deep. **Tannoy "Chatsworth" Enclosure—Net Each.....\$59.75**  
**Tannoy "Chatsworth" 12" System—With "Monitor Twelve" installed. Net Each.....\$199.75**  
**Tannoy "Chatsworth" 10" System—With "Monitor Ten" installed. Net Each.....\$177.00**

#### "DALTON" ENCLOSURE, SYSTEM

Ducted-port, bass reflex enclosure in pleasing lowboy design for use with Monitor 10" or 12" speakers. Solidly constructed and acoustically correct. Ideal for stereo. Oiled walnut finish. **Size:** 23 1/4" x 22" x 15" deep. **Tannoy "Dalton" Enclosure—Net Each.....\$75.00**  
**Tannoy "Dalton" 12" System—With "Monitor Twelve" installed. Net Each.....\$215.00**  
**Tannoy "Dalton" 10" System—With "Monitor Ten" installed. Net Each.....\$192.25**

#### "BELVEDERE SENIOR" MODEL

Ducted-port, bass reflex enclosure gives maximum performance in minimum size using 15" Monitor speaker. Provides maximum loading for 12" Monitor. Solid construction assures clean, sharp, transients and full-range response. Ideal for stereo. Oiled walnut finish. **Size:** 31 1/4" x 23 3/4" x 16" deep. **Tannoy "Belvedere Senior" Enclosure—Net Each.....\$87.50**  
**Tannoy "Belvedere Senior" 15" System—With "Monitor Fifteen" installed. Net Each.....\$268.50**  
**Tannoy "Belvedere Senior" 12" System—With "Monitor Twelve" installed. Net Each.....\$231.00**

#### "YORK" SPEAKER SYSTEM, ENCLOSURE

Large bass reflex enclosure operates on ducted-port principle to provide optimum loading for the enclosure for 15" speaker. Oiled walnut finish. **Size:** 42" x 23 3/4" x 15" deep. **Tannoy "York" Enclosure—Net Each.....\$98.00**  
**Tannoy "York" System—With "Monitor Fifteen" installed. Net Each.....\$279.00**

#### COMPOUND EXPANDING SOUND SOURCES

The finest enclosures and systems in the Tannoy line: The ultimate in the "Autograph" to the compact in the "Cornetta". Free-standing horn enclosure incorporates compound expanding sound source with both acoustic and electrical crossover. Gives excellent bass radiation and transient response. Wave front area varies with frequency for full-range and dynamic realism. Oiled walnut finish.

**Tannoy "Cornetta" Enclosure—Front and rear loaded horn assembly for 10" Monitor; 18 1/2" w. x 16 3/4" d. x 34 1/2" h. Net Each.....\$55.00**  
**Tannoy "Cornetta" System—With "Monitor Ten" installed. Power capacity, 20 watts. Net Each.....\$269.50**  
**Tannoy "GRF" Enclosure—Front and rear loaded horn assembly for 15" Monitor; 23 3/4" w. x 17" d. x 42" h. Net.....\$206.00**  
**Tannoy "GRF" System—With "Monitor Fifteen" installed. Power capacity, 50 watts. Net Each.....\$355.00**  
**Tannoy "GRF Professional" System—Front and rear loaded horn assembly with compound expanding sound chamber. With "Monitor Fifteen" installed; power capacity, 50 watts. Net.....\$554.00**  
**Tannoy "Autograph" System—Front and rear loaded horn assembly with compound expanding sound chamber. With "Monitor Fifteen" installed; power capacity, 50 watts. Size, 39" w. x 24" d. x 60" h. Net Each.....\$695.00**  
**Tannoy "Autograph Professional" System—Same as "Autograph", but with two "Monitor Fifteen" speakers installed. Power capacity, 100 watts. Net Each.....\$870.00**

#### "MONITOR TWELVE" SPEAKER

Surpassed only by the "Monitor Fifteen". Employs 7 1/2 lb. Ticonal G magnet. Distortion plate parts welded. Stove enamel cover and frame. **Frequency Response:** 25-20,000 cps. **Power Capacity:** Up to 30 watts, depending on enclosure. **IM Products:** Less than 2%. **Bass Resonance:** 35 cps. **Crossover Frequency:** 1,700 cps. **Polar Distribution:** -3 db at 10 kc for 60° included angle. **Flux Density:** 11,500 gauss, low freq. gap; 15,000 gauss, high freq. gap. **Impedance:** 16 ohms, via crossover. **Size:** 12 1/4" O.D. x 7 1/2" deep; mtg. holes on 11 1/4" dia. circle. **Weight:** 12 lbs. including crossover. **Tannoy "Monitor Twelve" Speaker—Net Each.....\$138.00**

#### "MONITOR TEN" SPEAKER

Designed for stereo, this compact speaker was made specifically to operate in small infinite baffles with capacity as low as 1 1/2 cu. ft. Extended range and integrated sound with incredibly low harmonic distortion achieve what other speakers cannot. Magnet assembly weighs 6 1/4 lbs. **Frequency Response:** 27-20,000 cps with adjustable level above 1,800 cps. **Power Capacity:** 20 watts. **IM Products:** Less than 2%. **Bass Resonance:** 27 cps in free air. **Crossover Frequency:** 1800 cps. **Polar Distribution:** -2 db at 10 kc for 60° included angle. **Flux Density:** 15,000 gauss, high freq. gap; 10,000 gauss, low freq. gap. **Impedance:** 16 ohms. **Size:** 11 3/8" O.D. x 6 1/2" deep; mtg. holes on 11" dia. circle. **Tannoy "Monitor Ten" Speaker—Net Each.....\$112.75**

# AR INC. Hi-Fi Speaker Systems

All AR speaker systems are covered by a five-year guarantee against defective workmanship and materials. This guarantee includes shipping costs to and from the factory, parts, labor and packaging materials when required.

Outstanding speaker systems, known the world over for superb fidelity. Offer compact installation in bookshelf enclosures especially designed for use with high powered audio systems. Engineering of individual speakers as well as acoustic system excellence assures the very best performance whatever the program source.

## MODEL AR-3 THREE-WAY SPEAKER SYSTEM

Compact, complete speaker system combines the famous AR woofer with two unique tweeters to establish new standards in treble as well as bass response. Complete with bookshelf size enclosure, this system offers the most natural musical sound available. Simple tweeter design provides flat on-axis response combined with good dispersion for uniform response in room areas, with a maximum sense of realism. Entire tweeter consists of a domed diaphragm filled with Fiberglas<sup>®</sup>, voice coil and magnetic structure and rubber suspension. Fiberglas in the structure dampens internal acoustical resonances. Two tweeters are employed in the system: A 2" diaphragm unit for radiating mid-high frequencies, and a 1 1/4" diaphragm unit providing smooth, extended-high frequencies. The combination of the two units assures good dispersion and exceptionally good response for off-axis readings (normally poor for standard tweeters). The resulting response is smooth and clear with high musical definition without annoying peaks, speaker coloration or pickup of record surface noise. **Tweeter Efficiency:** Slightly higher than the woofer; tested with a 60-watt amplifier at high musical levels without ill effect. Level controls provided for both tweeters. **Woofer Magnetic Circuit:** 3.3 lbs. Alnico V, 6 lbs. Arnico Iron. **Woofer Resonance Frequency (Unmounted):** Subsonic. **Impedance:** 4 ohms. **Amplifier Power Requirements:** 10 clean watts for moderate level in average room; 30-60 watts for high levels and large rooms. **System Bass Resonance Frequency:** 43 cps. **Frequency Response:** Tweeters, ±2 db, 1-20,000 cps. Woofers, (AR-3 radiating into 180° solid angle. Free field. Microphone 5' on-axis. Amplifier damping factor high. Input, 10 watts. 0 db = 97.5 db/0002 dynes/cm<sup>2</sup>) 20 cps, -15 db; 30 cps, -6 db; 38-1,000 cps, ±1 1/2 db. The uniformity of these responses means full fundamentals from organ pedal pipes on the bass viol; the natural sound of strings and brass; and natural speech without boominess or stridency. **Harmonic Distortion:** (Input 10 watts, AR-3 radiating into 180°) 40-70 cps, 2 1/2%; 70-1,100 cps, 1%; 1,100-14,000 cps, less than 1%. (Input 20 watts, AR-3 radiating into 180°. Sound pressure at 5' = 100.5 db/0002 dyne/cm<sup>2</sup>) 32-90 cps, 5 1/2%; 90-1,000 cps, 1 1/2%; 1,000-14,000 cps, less than 1%. **Enclosure:** 25" w. x 11 1/2" d. x 14" h. made of 3/4" ply hardwood throughout except for the front panel. Shipping Weight, 60 lbs.

**Acoustic Research Model AR-3 Three-Way System—Mahogany or birch cabinet. Net Each. . . . . \$216.00**

**Acoustic Research Model AR-3 Three-Way System—Walnut, oiled walnut, cherry, korina or teak cabinet. Net Each. \$225.00**

**Acoustic Research Model AR-3 Three-Way System—Unfinished pine cabinet. Net Each. . . . . \$203.00**

(Note: Units in unfinished hardwood available on request.)

\*Owens-Corning Fiberglas Corp. trademark.

## MODEL AR-2a<sup>x</sup> THREE-WAY SPEAKER SYSTEM

Consists of the famous AR-2<sup>x</sup> system in combination with a 1 1/4" dome-type super-tweeter (as used in the AR-3 system). This super-tweeter adds an extra dimension to the high frequencies, conforming more closely to the ideal than any other AR driver in its frequency range. Frequency response of the tweeter is 6,000 to 20,000 cps, ±1.5 db (crossover, 7,500 cps). Output levels of mid-range unit and super-tweeter are independently adjustable. Cabinetry is identical to Model AR-2<sup>x</sup>, finished on all four sides. **Frequency Response:** 42-20,000 cps, ±2 1/2 db; down 10 db at 30 cps at 10 watts input. **Harmonic Distortion:** Under 2% down to 60 cps, under 3% down to 50 cps at 10 watts, mounted in corner. **Dispersion:** 90°. **Impedance:** 8 ohms. **Size:** 13 1/2" x 24" x 11 1/2". Shipping Weight, 41 lbs.

**Acoustic Research Model AR-2a<sup>x</sup> Three-Way System—Mahogany or birch cabinet. Net Each. . . . . \$122.00**

**Acoustic Research Model AR-2a<sup>x</sup> Three-Way System—Walnut, oiled walnut, cherry, or teak cabinet. Net Each. . . . . \$128.00**

**Acoustic Research Model AR-2a<sup>x</sup> Three-Way System—Unfinished pine cabinet. Net Each. . . . . \$109.00**

(Note: Units in unfinished hardwood available on request.)

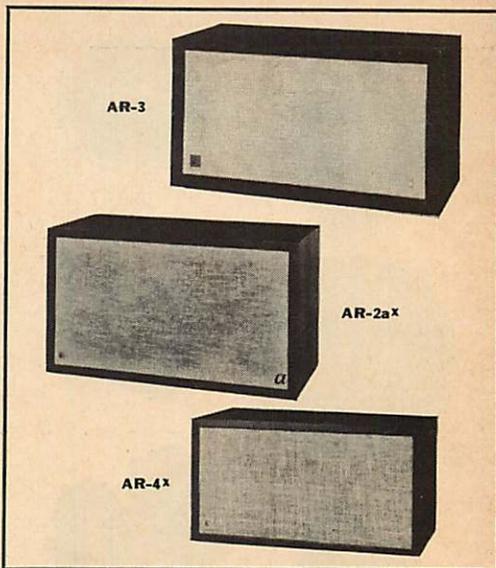
## MODEL AR-4<sup>x</sup> TWO-WAY SPEAKER SYSTEM

Two-way system incorporating an 8" acoustic suspension woofer and a 2 1/4" wide-dispersion cone tweeter. Designed for use with any high quality amplifier supplying 15 watts or more per channel. Crossover, 1,500 cps. (Distortion and frequency response curves available on request.) **Impedance:** 8 ohms. **Size:** 19" w. x 9" d. x 10" h.

**Acoustic Research Model AR-4<sup>x</sup> Two-Way System—Oiled walnut cabinet. Net Each. . . . . \$57.00**

**Acoustic Research Model AR-4<sup>x</sup> Two-Way System—Unfinished pine cabinet. Net Each. . . . . \$51.00**

(Note: Units in unfinished birch available on request.)



## SPEAKER STAND AND BASE

**Acoustic Research Stand—**For mounting speakers where bookshelves or other convenient locations are not available. Shelves are of veneered plywood with edge banding. Square legs made of wrought iron. Size, 30 1/2" w. x 15 1/2" d. x 29" h. Specify mahogany, birch, walnut, oiled walnut or cherry. Net Each. . . . . \$30.00

**Acoustic Research Base—**For use in limited space applications. Two interlocking pieces of solid walnut. No hardware required. Size, 14 1/2" w. x 13" d. x 11" h. Oiled walnut or unfinished birch. Net Each. . . . . \$7.50

## MODEL AR-2<sup>x</sup> SPEAKER SYSTEM

A medium cost speaker in its own enclosure. In appearance and performance it nearly matches the famous AR-3 model. The system incorporates the 10" acoustic suspension woofer and a newly developed tweeter assembly. Designed for use with any high quality amplifier supplying 20 watts or more over the entire audio range. Models finished on four sides. **Frequency Response:** 42-15,000 cps ±2 1/2 db, down 10 db at 30 and 17,000 cps at 10 watts input. **Harmonic Distortion:** Under 2% down to 60 cps, under 3% down to 50 cps at 10 watts input when mounted in corner. **Dispersion:** 90°. **Impedance:** 8 ohms. **Size:** 24" w. x 11 1/2" d. x 13 1/2" h. Shipping Weight, 35 lbs.

**Acoustic Research Model AR-2<sup>x</sup> Two-Way System—Mahogany or birch cabinet. Net Each. . . . . \$96.00**

**Acoustic Research Model AR-2<sup>x</sup> Two-Way System—Walnut, oiled walnut, teak or cherry cabinet. Net Each. . . . . \$102.00**

**Acoustic Research Model AR-2<sup>x</sup> Two-Way System—Unfinished pine cabinet. Net Each. . . . . \$89.00**

(Note: Units in unfinished hardwood available on request.)

## TURNTABLE-ARM

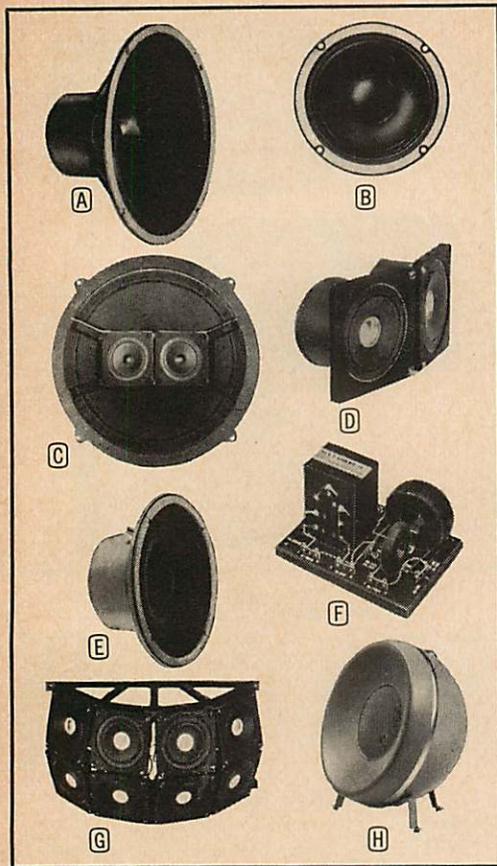


Two speed (33 1/3 and 45 rpm), professional quality turntable-arm combination offers stable performance with both turntable and arm shock-mounted from top plate. Platter is machined, balanced aluminum; weighs 3.3 lbs. Belt drive operates from synchronous motors. Tone arm floats down to record if dropped, but damping mechanism is disengaged as soon as needle touches record. Guaranteed to meet NAB specifications for broadcast equipment on wow, flutter, rumble and speed accuracy. Comes complete with arm, oiled walnut base, transparent dust cover, cables, overhang adjustment device and needle force gauge. Size: 12 1/2" x 16 1/2" x 5 1/4" overall. 1 year guarantee covers parts, labor and freight to and from factory.

**Acoustic Research Turntable-Arm Combination—Less \$78.00 cartridge. Net Each. . . . .**

**Acoustic Research Turntable-Arm—Same, but 33 1/3 rpm. \$75.00**

# Bozak Speakers, Networks



These loudspeakers and crossover networks are the "building blocks" for all Bozak speaker systems. Each is designed to do the best possible job in its own range of response, plus match perfectly with its "team-mates" for tonal quality and sound level. The design and engineering enables you to achieve your goal by easy stages of growth without the penalty of scrapping "outgrown" speakers and networks. Start modestly with a wide-range, 2-way B-207B speaker; then add other speakers along with a modifiable crossover network; step-by-step you achieve a four-woofer 50 to 60 watt giant. Your Bozak enclosure works the same way; an infinite baffle that can be chosen for the largest system you expect to finally have. A removable back and unused speaker openings with removable panels permit simplified expansion of your system.

## MODEL B-199A BASS SPEAKER (FIG. A)

For use in two-way systems with Bozak B-200Y, and three-way systems with Bozak B-209B and B-200Y or B-200YA speakers. **Response:** 40 to 4,500 cycles, with gradual roll-off. **Impedance:** 8 or 16 ohms, specify. **Power Rating:** 25 watts. **Resonance:** Below 40 cycles in free air.  $1\frac{1}{2}$ " diameter voice coil. High density field of a  $\frac{1}{2}$  lb. Alnico V magnet. Diaphragm of Bozak-made variable-density felted paper, with moisture-proof, centers, high-compliance suspension on rubberized cloth. **Depth:**  $5\frac{1}{2}$ " front-to-back. Four equally spaced mounting holes, on  $1\frac{1}{4}$ " diameter circle. Eleven-inch diameter baffle opening. Enclosure should have optimum value of 8 cubic feet, with 5 to 16 cubic feet being acceptable. It should be a totally enclosed box, acoustically lined and cross braced. Weight, 6 lbs. **Bozak Model B-199A Bass Speaker—Net Each. . . . . \$56.50**

## MODEL B-209B MIDRANGE SPEAKER (FIG. B)

For use in three-way systems with Bozak B-199A and B-200Y or B-200YA speakers. **Response:** 200 to 3,500 cycles. **Impedance:** 8 or 16 ohms, specify. **Power Rating:** For use in 25 to 50 W systems. **Resonance:** None. Voice coil  $1\frac{1}{2}$ " diameter. **Crossovers** (recommended values): 400 or 800, and 2,500 cycles. Field,  $\frac{1}{2}$  lb. Alnico V magnet. Damping to permit use in woofer cavity without isolation; and if baffled separately, 1 cubic foot lined with sound-absorbent materials. Direct radiating design matched to Bozak Bass and Treble Speakers; 6 db per octave crossovers with single non-resonant networks and without leveling pads or controls. **Depth:**  $3\frac{1}{2}$ " front to back. **Mounting:** Four equally spaced holes on 6" diameter circle. **Baffle Opening:**  $5\frac{1}{2}$ " diameter. Weight, 7 lbs. **Bozak Model B-209B Midrange Speaker—Net Each. . . \$54.50**

## MODEL B-207B COAXIAL SYSTEM (FIG. C)

A complete two-way speaker system, consisting of a Bozak B-199A bass speaker ("woofer") with coaxially mounted Bozak B-200Y treble speakers ("tweeter") and built-in crossover. Provides excellent sound at an extremely low cost for a complete system. **Response:** 40 to 20,000 cycles; useful beyond 20,000. **Impedance:** 8 ohms. **Power Rating:** 25 watts, peaks to 60 watts. **Size:** O.D., 12"; depth behind panel 7". Mounted on back surface of a panel, cut-out may be  $11\frac{1}{2}$ " to  $12\frac{3}{4}$ " dia.; on front surface,  $12\frac{3}{4}$ " dia. Mounts by four equally-spaced holes on  $13\frac{3}{4}$ " dia. circle. Enclosure same as B-199A. Weight, 12 lbs. **Bozak Model B-207B Coaxial System—Net Each. . . . . \$95.00**

## MODEL B-200Y TREBLE SPEAKER (FIG. D)

For use in two-way systems with Bozak B-199A, and three-way systems with Bozak B-209B and B-199A speakers. No leveling controls needed for matching. Response is smooth and clean with a natural quality, wide angle dispersion, and complete absence of metallic harshness. **Response:** 1,500 to 20,000 cycles. **Horizontal Coverage:**  $120^\circ$  at 10 kHz. **Impedance:** 8 ohms (two 16-ohm sections in parallel). For use in 25-watt systems. (Use in multiples for greater power.) **Field:** Two 8-ounce Alnico V magnets. **Size:**  $6\frac{1}{2}$ " w. x  $2\frac{1}{2}$ " d. x  $3\frac{3}{4}$ " h. Weight,  $2\frac{1}{2}$  lbs. **Bozak Model B-200Y Treble Speaker—Net Each. . . . . \$35.00**

**Bozak Model XAB Tweeter Bracket—Bracket for mounting up to four B-200Y speakers as shown in Fig. G. Net Each. . . \$4.00**

**Bozak Model CXR Coax Mounting Ring—Mounting ring fits on B-199A bass speaker for mounting B-200Y tweeter to form coaxial unit as shown in Fig. C. Net Each. . . . . \$6.00**

## MODEL B-800 WIDE-RANGE SPEAKER (FIG. E)

An eight inch speaker that provides excellent quality of both music and voice reproduction from a low cost, easily installed unit. Weatherproof construction permits permanent installation outdoors. Mounts in a small infinite baffle, bookshelf enclosure, or flush in any interior wall between studding. The B-800 has a full range sound quality never before attained with a single speaker. **Impedance:** 8 or 16 ohms, specify. **Frequency Response:** 50 to 10,000 Hz. **Power Rating:** 25 watts. **Size:**  $8\frac{1}{2}$ " diameter,  $3\frac{3}{4}$ " deep. Weight, 7 lbs. **Bozak Model B-800 Full Range Speaker—Net Each. . . \$49.50**

**Bozak Model B-800A Midrange Speaker—Specially damped version for use with Model B-4000. Net Each. . . . . \$49.50**

## CROSSOVER NETWORKS (FIG. F)

All-electric devices, ruggedly built to separate the audio spectrum into three ranges and distribute them to the proper speakers in a Bozak 3-way system. Unlike conventional systems, Bozak speakers overlap the adjacent ranges broadly; eliminating "disembodiment" of instruments. "Slow" 6 db per octave networks are inherently free of transient distortion (ringing).

## MODEL N-10102A CONVERTIBLE CROSSOVER

Engineered for easy conversion to facilitate building one Bozak speaker system to another. For B-302A and B-313 systems, there are 8 ohm crossovers at 800 and 2,500 Hz. For B-305 systems, crossovers are 16 ohms at 800 and 2,500 Hz. For B-310A, B-310B and B-410 systems, crossovers are 8 ohms at 400 and 2,500 Hz when used with N-25 condenser bank, below. Complete operating instructions provided. **Size:**  $8\frac{1}{2}$ " w. x  $6\frac{1}{2}$ " d. x  $5\frac{1}{2}$ " h. Weight, 5 lbs. **Bozak Model N-10102A Crossover Network—Net Each. \$32.50**

## MODEL N-25 CONDENSER BANK

Convenient accessory to the N-10102A Crossover; provides 8 ohm crossovers at 400 and 2,500 Hz as required for B-310A, B-310B and B-410 systems. **Bozak Model N-25 Condenser Bank—Net Each. . . . . \$12.50**

## MODEL N-103 CROSSOVER NETWORK

Designed for crossover at 400 and 2,500 Hz for 16 ohm speakers, specifically, B-305 systems. "Slow" 6 db per octave crossover subtly enhances midrange response. **Size:**  $8\frac{1}{2}$ " w. x  $8\frac{1}{2}$ " d. x  $5\frac{1}{2}$ " h. Weight, 6 lbs. **Bozak Model N-103 Crossover Network—Net Each. . . \$39.50**

## MODEL N-104 CROSSOVER NETWORK

Versatile unit for use with B-310A, B-310B or B-410 systems. Provides 8-ohm crossovers at 400 and 2,500 Hz, 6 db per octave. **Size:**  $8\frac{1}{2}$ " w. x  $8\frac{1}{2}$ " d. x  $5\frac{1}{2}$ " h. Weight, 6 lbs. **Bozak Model N-104 Crossover Network—Net Each. . . \$39.50**

## MODEL N-105 CROSSOVER NETWORK

Specifically designed for B-4000 systems. Provides 8-ohm crossovers at 200 and 1,500 Hz, 6 db per octave. **Size:**  $8\frac{1}{2}$ " w. x  $6\frac{1}{2}$ " d. x  $5\frac{1}{2}$ " h. Weight, 5 lbs. **Bozak Model N-105 Crossover Network—Net Each. . . \$39.50**

## MODEL B-200YA TWEETER ARRAY (FIG. G)

Four B-200Y dual tweeters positioned for best horizontal and vertical coverage. **Response:** 1,500 to 20,000 Hz; useful beyond 20,000 Hz. **Horizontal Coverage:**  $120^\circ$  at 10 kHz. **Impedance:** 8 ohms. **Power Rating:** For 75 to 100 W systems. **Magnets:** Eight 8-ounce Alnico V. **Size:**  $12\frac{1}{2}$ " wide, 5" deep,  $6\frac{1}{2}$ " high. **Mount:** Outside woofer cavity. Weight, 12 lbs. **Bozak Model B-200YA Tweeter Array—Net Each. . . \$144.00**

## B-1000 PORTABLE WEATHERPROOF UNIT (FIG. H)

Weatherproof unit that can be exposed to the elements indefinitely without damage. Easy to move about, rests steadily on a three-point base, can be wall-mounted or hung up. Built-in phone jack makes for easier connection and disconnection. Can be used in pairs for stereo operation. **Response:** 50-15,000 Hz. **Impedance:** 8 ohms. **Power Rating:** 15 watts rms or more. **Size:** (Upright)  $18\frac{1}{2}$ " dia. x  $12\frac{1}{2}$ " x  $21\frac{1}{2}$ " h. Weight, 25 lbs. Specify beige or eggshell white. **Bozak Model B-1000 Portable Unit—Net Each. . . . . \$82.50**

# Bozak Systems and Cabinets

Employ the fine Bozak speakers listed on opposite page. Interchangeable grilles and choice of style and finish. **Urban**, matte walnut with blonde grille; mahogany on special order. **Century**, matte walnut or rubbed fruitwood finish on cherry. **French Provincial**, cherry with light or dark fruitwood finish; antique metal grille on pleated silk cloth. **Italian Provincial**, fruitwood finish on

cherry with bronze metal overlay on pleated silk grille cloth. **Colonial**, choice of fruitwood finish cherry or satin-finished maple. **Moorish**, light or dark fruitwood finish on genuine mahogany with antique metal grille over cloth. **Modern**, matte finish walnut with vertically striped grille. **Contemporary**, matte natural grain walnut with linen color grille.

## CONCERT GRAND THREE-WAY SYSTEM

Achieves full reality in sound reproduction; for amplifiers of 60 W rms or more. Model B-310A has traditional spherical array with broad horizontal and vertical dispersion; B-310B and B-410 have slot-loaded vertical array with broader horizontal and limited vertical coverage. **Components:** Four B-199A woofers, two 16-ohm B-209B midrange units, four pair B-200Y treble speakers with N-104 (or N-10102A with N-25) crossover network. **Frequency Response:** 28-20,000 Hz. **Impedance:** 8 ohms. **Crossover:** 6 db per octave at 400 and 2500 Hz. **Matte walnut finish.**

| Size, Inches<br>W. x D. x H. | Shpg.<br>Lbs. | System                |          | Cabinet Only |          |
|------------------------------|---------------|-----------------------|----------|--------------|----------|
|                              |               | No.                   | Net Ea.  | No.          | Net Ea.  |
| 36 x 19 x 52                 | 275           | B-310A                | \$804.00 | E-310A       | \$290.00 |
| 36 x 19 x 52                 | 275           | B-310B                | 804.00   | E-310B       | 290.00   |
| 36 x 19 x 52                 | 275           | B-410                 | 824.00   | E-410        | 310.00   |
| 31 x 1 1/2 x 47              |               | Panel-mt. system only |          | P-310AP      | \$85.00  |
| 31 x 1 1/2 x 47              |               | Panel-mt. system only |          | P-310BP      | \$85.00  |
| 34 1/2 x 1 1/2 x 46 1/4      |               | Panel-mt. system only |          | P-410P       | \$85.00  |

## MODEL B-305 THREE-WAY SYSTEM

A three-way system with built-in 6 db per octave crossovers at 800 and 2500 Hz. Two B-207B coaxial units and one B-209B 16-ohm midrange speaker, and one N-10102A crossover. Coaxial units are housed in a rigid, acoustically treated baffle of about 8 cubic foot volume. The distinctive cabinet is of 1/2" plywood rigidly braced with 2 x 4's. **Response:** 35 to 20,000 Hz. **Impedance:** 16 ohms. **Power Rating:** 30 W rms or more.

| Style      | Size, Inches<br>W. x D. x H. | Shpg.<br>Lbs. | Net Each, No.   |                    |
|------------|------------------------------|---------------|-----------------|--------------------|
|            |                              |               | B-305<br>System | E-305<br>Cab. Only |
| Italian*   | 37 x 18 1/2 x 30             | 140           | \$442.00        | \$165.00           |
| French*    | 40 x 20 x 31                 | 140           | 542.00          | 175.00             |
| Urban      | 36 x 20 x 30 1/2             | 140           | 405.50          | 129.50             |
| Century    | 36 x 20 x 27 1/2             | 140           | 403.50          | 126.50             |
| Colonial   | 36 x 20 x 27 1/2             | 140           | 416.00          | 139.00             |
| Panel-mt.† | 34 1/2 x 3 1/2 x 24          |               | P-305P..        | 290.00             |

## MODEL B-4000 SYMPHONY NO. 1 SYSTEM

Stereo speaker system designed for use in spacious rooms, maintains true perspective in both width and depth. Entirely new configuration of speaker components with four B-200Y tweeters arranged in vertical column to disperse highs in perfectly 150° pattern on horizontal plane, concentrating them in narrow, vertical beam at listening level. Special B-800A eight-inch midrange speaker and two B-199A woofers, plus N-105 crossover. Housed in tastefully designed cabinet; blends with any decor. For amplifiers providing 30 W rms or more. **Frequency Response:** 35-20,000 Hz. **LC Network Crossover:** Low to midrange, 200 Hz; midrange to treble, 1500 Hz. **Impedance:** 8 ohms. **Matte finish walnut.**

| Style      | Size, Inches<br>W. x D. x H. | Shpg.<br>Lbs. | Net Each, No.    |                     |
|------------|------------------------------|---------------|------------------|---------------------|
|            |                              |               | B-4000<br>System | E-4000<br>Cab. Only |
| Contemp.   | 28 x 16 x 44                 | 165           | \$521.00         | \$179.00            |
| Modern     | 26 1/4 x 15 3/4 x 44 1/2     | 165           | 475.00           | 133.00              |
| Moorish    | 27 x 16 1/2 x 44             | 165           | 537.00           | 195.00              |
| Panel-mt.† | 25 x 3 1/2 x 41              |               | P-4000P..        | 358.00              |
| Contemp.†  | 28 x 16 x 44                 |               | E-4000K..        | 105.00              |

## CONCERTO B-302A THREE-WAY SYSTEM

B-302A three-way system outperforms many costlier and larger loudspeakers. Ideal for small listening rooms, or in pairs for stereo. Uses one each B-207B, B-209B and N-10102A. **Frequency Response:** 40-20,000 Hz. **Crossovers,** 6 db/octave at 800 and 2500 Hz. **Impedance:** 8 ohms. **Power Rating:** 20 watts rms or more.

| Style      | Size, Inches<br>W. x D. x H. | Shpg.<br>Lbs. | Net Each, No.    |                    |
|------------|------------------------------|---------------|------------------|--------------------|
|            |                              |               | B-302A<br>System | E-300<br>Cab. Only |
| Urban      | 24 x 20 x 30 1/4             | 100           | \$271.50         | \$ 89.50           |
| Italian*   | 24 x 18 1/2 x 30             | 100           | 292.00           | 110.00             |
| French*    | 28 x 19 x 31                 | 100           | 321.50           | 139.50             |
| Century    | 24 x 20 x 27 1/2             | 100           | 269.50           | 87.50              |
| Colonial   | 24 x 17 1/4 x 29 1/2         | 100           | 277.00           | 95.00              |
| Moorish    | 27 x 16 1/2 x 31 1/4         | 100           | 297.00           | 115.00             |
| Panel-mt.† | 23 x 3 1/2 x 27 1/2          |               | P-302AP..        | 189.50             |

## CONCERTO B-300 TWO-WAY SYSTEM

System uses same enclosures as B-302A, but with one B-207B full-range coaxial speaker. Same specifications as B-302A except crossover is 6 db/octave at 2500 Hz. Converts to B-302A by addition of one B-209B midrange speaker and one N-10102A crossover. Built-in provision for addition of B-209B speaker.

| Style      | Size, Inches<br>W. x D. x H. | Shpg.<br>Lbs. | Net Each, No.   |                      |
|------------|------------------------------|---------------|-----------------|----------------------|
|            |                              |               | B-300<br>System | E-300KU<br>Cab. Kit† |
| Urban      | 24 x 20 x 30 1/4             | 90            | \$184.50        | \$57.50              |
| Italian*   | 24 x 18 1/2 x 30             | 90            | 205.00          | .....                |
| French*    | 28 x 19 x 31                 | 90            | 234.50          | .....                |
| Century    | 24 x 20 x 27 1/2             | 90            | 182.50          | .....                |
| Colonial   | 24 x 17 1/4 x 29 1/2         | 90            | 190.00          | 59.50§               |
| Moorish    | 27 x 16 1/2 x 31 1/4         | 90            | 210.00          | .....                |
| Panel-mt.† | 23 x 3 1/2 x 27 1/2          |               | P-300P..        | 102.00               |

\*Provincial. †Panel-mt. system only; no cabinetry. ‡Unfinished cabinet kit. §When ordering, specify E-300KCL.



## MODEL B-211 BOOKSHELF SYSTEM

Designed for very limited space applications. Blends in with any decor. Uses one B-199A speaker for the lows, one B-200Y tweeter for the highs. Designed for amplifiers of 20 W rms or more of output. **Frequency Response:** 50-18,000 Hz. **LC Network:** 6 db per octave at 2500 Hz. **Impedance:** 8 ohms. **Matte finish walnut** enclosure with natural linen grille cloth. **Size:** 23 1/2" w. x 11 1/2" d. x 14 1/2" h. **Shipping Weight,** 45 lbs.

**Bozak Model B-211 Bookshelf System—Net Each.... \$99.50**

## MODELS B-312 AND B-313 CONCERTO SYSTEMS

Slightly larger than bookshelf size these speaker systems provide the utmost in listening pleasure. Model B-312 consists of one B-207B coaxial speaker. Model B-313 uses one each B-207B coaxial and B-209B midrange speaker; N-10102A crossover network. Each system is designed for amplifiers delivering 20 W rms or more of output. **Frequency Response:** 45-18,000 Hz. **Crossover:** B-312, 6 db per octave at 2500 Hz; B-313, 6 db per octave at 800 and 2500 Hz. **Impedance:** 8 ohms. **Matte walnut finish.** **Size:** 24 1/2" w. x 12 1/2" d. x 17 1/4" h. **Shpg. Wt.,** 60 lbs. **Bozak Model B-312 Concerto II—Net Each.... \$147.50** **Bozak Model B-313 Concerto III—Wt.,** 70 lbs. **Net.... \$217.50**

*Bozak*

# Audio Equipment

## COLUMNAR LOUDSPEAKERS

Wherever broadly-distributed, natural-sounding reproduction is required. Ideal for concerts, churches and theaters. Bozak engineering assures full power-handling throughout the entire music spectrum. Smooth response keeps feedback to a minimum. All units are completely weatherproof and feature a low energy density, unique to columnar speakers. All Bozak columnar loudspeakers must be used with professional quality equipment. This applies to microphones, mixers and amplifiers. Screw terminal barrier strip connection; Twist-Lock available on request.

### MODEL CM-109-18 CONCERT SERVICE

Heavy-duty, large-capacity unit for precision reproduction of music. Designed especially for indoor and outdoor symphonic concerts. Freedom from peaking permits placing of speakers close to source without feedback. Features twin-line, two-way system with 6 db/octave crossover at 1500 Hz. Six slot-loaded, heavy-duty 8" drivers at low end and 12 slot-loaded, 2" treble drivers at high end. May be hung or stood in free space or against a wall, or recessed into a wall. Eyebolts supplied. Min. recommended amplifier power, 50 watts RMS. Enclosure of 3/4" marine plywood. Finished in beige enamel with expanded aluminum grille. **Frequency Response:** 50-15,000 Hz. **Impedance:** 16 ohms. **Output Level:** 100 db at 800 Hz to 3 kHz at 100' for 25-watt input. **Power Handling:** 100 watts RMS continuous. **Size:** 15 1/2" w. x 10" d. x 57" h. Shipping Weight, 155 lbs. **\$495.00**  
Bozak Model CM-109-18 Concert Service—Net Each.

### MODEL CM-209-18 CONCERT SERVICE

Similar in appearance and application to the CM-109-18 but for slightly smaller requirements. Min. recommended amplifier power, 50 watts RMS; max., 100 watts RMS. **Frequency Response:** 50-15,000 Hz. **Impedance:** 16 ohms. **Output:** 90 db from 800 Hz to 3 kHz at 100' for 25-watt input. **Power Handling:** 50 watts RMS. **Size:** 12 1/2" w. x 8" d. x 44" h. Shpg. Wt., 105 lbs. Other specs same as CM-109-18 except 6" drivers for low end. **\$395.00**  
Bozak Model CM-209-18 Concert Service—Net Each.

### MODEL CM-109-6 GENERAL PURPOSE, HEAVY-DUTY

For use both indoors and outdoors. Especially equipped to serve for music and paging in large areas requiring a deep throw and broad coverage. May be modified at the input of the power amplifier for specific usage. Six Bozak 8" M-109 speakers in a tightly-coupled, slot-loaded vertical array are mounted in a 3/4" Ponderosa pine enclosure either finished in a beige or medium gray enamel or unfinished. Should be used in conjunction with cardloid mike with bass roll-off. **Frequency Response:** 50-10,000 Hz. **Impedance:** 16 ohms. **Output:** 90 db at 100' for 25-watt input. **Power Handling:** 100 watts RMS continuous. **Size:** 11" w. x 11 1/2" d. x 57" h. Shipping Weight, 110 lbs. **\$325.00**  
Bozak Model CM-109-6 General Purpose—Net Each.

### MODEL CM-209-6 GENERAL PURPOSE, MEDIUM-DUTY

Intermediate in size to the CM-109-6 and CM-200-10. Comprised of six 6" full-range drivers with weatherproof diaphragms, connected in series-parallel and slot-loaded. **Frequency Response:** 100-10,000 Hz. **Impedance:** 16 ohms. **Output:** 87 db at 1 kHz at 100' for 25-watt input. **Power Handling:** 70 watts. **Size:** 11" w. x 8 3/4" d. x 42" h. Shpg. Wt., 85 lbs. All other specs same as CM-109-6. **\$225.00**  
Bozak Model CM-209-6 General Purpose—Net Each.

### MODEL CM-200-10 SEVERE REVERBERATION SPEAKER

For reinforcement of speech and music in moderate-sized indoor areas; may also be used outdoors. Specially engineered for locations presenting problems of reverberation and microphone placement. Smooth overall response, restricted bass, extended treble. Treble boost at bass attenuation may be adjusted at the input of the power amplifier. Features two-way system with 6 db/octave crossover at 1500 Hz. Comprises two 6" drivers at low end and eight 2" treble speakers at high end. Both slot-loaded in single vertical array. Housed in 3/4" Ponderosa pine finished in beige or medium gray enamel or unfinished. **Frequency Response:** 200-15,000 Hz. **Impedance:** 8 ohms. **Output:** 85 db from 800 Hz to 3 kHz at 100' for 25-watt input. **Power Handling:** 50 watts. **Size:** 9" w. x 6 3/4" d. x 42" h. Shpg. Wt., 55 lbs. **\$199.50**  
Bozak Model CM-200-10 Severe Reverberation—Net.

## EQUIPMENT CABINETS

Function and beauty mates to Bozak speaker systems; order a complete ensemble for perfectly matched finishes. Come with lift tops, adjustable shelves, motor boards, and removable backs. Give maximum space for components; good ventilation. Fine hardwoods are carved in detail and hand-rubbed to a fine finish. See Speaker System Pages for comparable styling.

- Bozak Model C-305U-S/L Urban—Genuine walnut finish; mahogany on special order. Single lift top. Net Each. **\$189.50**
- Bozak Model C-305U-D/L Urban—Same, but double lift top and two adjustable wells. Net Each. **\$195.00**
- Bozak Model C-305CL Colonial—Choice of cinnamon maple or fruitwood on cherry. Fixed top only. Net Each. **\$185.00**
- Bozak Model C-305CEN-D/L Century—Choice of walnut or fruitwood on cherry. Double lift top; 2 adj. wells. Net Each. **\$195.00**
- Bozak Model C-305IP-S/L Italian Provincial—Cherry wood with fruitwood or mahogany finish. Single lift top. Net Each. **\$250.00**
- Bozak Model C-305IP-D/L Italian Provincial—Same, but with double lift top and 2 adjustable wells. Net Each. **\$260.00**



CM-109-18



CM-109-2



CM-200-2

## SPECIAL LOUDSPEAKERS

### MODEL CM-109-2 OMNIDIRECTIONAL CEILING SPEAKER

Designed for areas requiring uniform sound intensities. Suited to lecture rooms, restaurants, waiting rooms and general public areas. Affords natural voice and music reproduction. Effectively covers a circle 12' in dia. Should be used with high quality associated equipment for best results. Special sound diffuser plate reflects sound downward in uniform pattern. Tweeter and 8" bass speaker are housed in an 18" hemispherical, metal enclosure. White finish with gold plastic trim and brass hardware. **Frequency Response:** 100-7,500 Hz. **Impedance:** 16 ohms. **Power Handling:** 25 watts Screw terminal connectors. Shpg. Wt., 30 lbs. **\$87.50**  
Bozak Model CM-109-2 Ceiling Speaker—Net Each.

### MODEL CM-200-2 MONITOR SPEAKER

Precision engineered for use as a monitor speaker in broadcasting and sound recording studios. Combines smooth frequency response, low distortion and fast transient response for quality sound recreation. Speakers are individually calibrated for uniform performance; may be used in groups for multi-channel operations. Non-hydroscopic speakers may be used in any climate without response variation. Active elements include Bozak B-800 wide-range speaker for bass and midrange and a Bozak B-200Y dual tweeter for high frequencies. Special crossover network permits individual speaker calibration. Enclosure designed for ceiling or wall mounting; made from rugged flakeboard core faced with genuine birch veneer; available either sanded, ready for finishing or painted office gray. Woven plastic grille. Comes complete with mounting bracket. **Frequency Response:** 50-20,000 Hz. **Impedance:** 8 ohms. **Power Handling:** 20 watts RMS. **Size:** (including mounting bracket) 14 3/4" w. x 16" d. x 27" h. Shipping Weight, 60 lbs. **\$134.50**  
Bozak Model CM-200-2 Monitor Speaker—Net Each.

## TAPPED AUDIO LINE TRANSFORMERS

High quality transformers used in 70.7 V multi-speaker distribution systems and for matching speaker impedances to distribution line. Different power levels are obtained with different distribution voltages but any tap can carry its full rated capacity without damage. Both units have 8 or 16 ohm output impedances. Designed for continuous duty. **Frequency Resp.:** +0, -3 db, 20-20,000 Hz.

### MODEL CMT-100A 100-WATT AUDIO TRANSFORMER

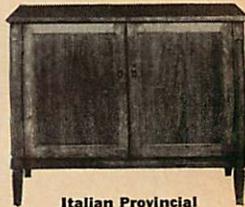
Unencased unit may be used in sheltered outdoor applications. **Input Impedance:** 50, 100, 200 or 500 ohms, depending on tap. **Output:** 10, 25, 50 or 100 watts, depending on tap. **Size:** 4 1/2" w. x 3 1/2" d. x 3 1/2" h. Weight, 9 lbs. **\$350.00**  
Bozak Model CMT-100A 100-Watt Audio Transformer—Net Each.

### MODEL CMT-15 15-WATT AUDIO TRANSFORMER

Completely encased for outdoor use. Screw terminals on primary. **Input Impedance:** 333, 500, 1000 or 2000, depending on tap. **Output:** 2.5, 5, 10 or 15 watts, depending on tap. **Size:** 2 1/2" w. x 3" d. x 4" h. Weight, 3 lbs. **\$195.00**  
Bozak Model CMT-15 15-Watt Audio Transformer—Net Each.



Urban



Italian Provincial

- Bozak Model C-305FP-S/L French Provincial—Cherry wood with cherry or fruitwood finish. Single lift top. Net Each. **\$285.00**
- Bozak Model C-305FP-D/L French Provincial—Same, but double lift top and 2 adjustable wells. Net Each. **\$295.00**

| Bozak Model | Lift Top Area (Left Compartment) |                         | Right Compartment Area      | Changer Depth† | Total Size                           |
|-------------|----------------------------------|-------------------------|-----------------------------|----------------|--------------------------------------|
|             | Single Lift Top                  | Double Lift Top         |                             |                |                                      |
| C-305U      | 17 3/4" w. x 15 1/4" d.          | 17 3/4" w. x 17" d.     | 17 3/4" w. x 17" d.         | 3 3/4" - 7"    | 36 3/4" w. x 20" d. x 30 3/4" h.     |
| C-305CL     | 18" w. x 16" d.                  | 23" h.*                 | 17 1/4" w. x 16" d. x 15" † | 8" drawer      | 38 1/4" w. x 19 3/4" d. x 29 3/4" h. |
| C-305CEN    | 17 3/4" w. x 15 1/4" d.          | 17 3/4" w. x 17 3/4" d. | 17 3/4" w. x 17 3/4" d.     | 3 3/4" - 7"    | 36 3/4" w. x 20" d. x 27 3/4" h.     |
| C-305IP     | 17 3/4" w. x 15 1/4" d.          | 17 3/4" w. x 17 3/4" d. | 17 3/4" w. x 17 3/4" d.     | 3 3/4" - 7"    | 38" w. x 20" d. x 30" h.             |
| C-305FP     | 17 3/4" w. x 14 3/4" d.          | 17 3/4" w. x 16" d.     | 17 3/4" w. x 16" d.         | 3 3/4" - 7"    | 40" w. x 20" d. x 31" h.             |

\*Top does not lift; size shown is total area at left. †Below drawer for changer. ‡Adjustable except for C-305CL.

# EMI Hi-Fi Speaker Systems

## MODEL 901 "DANGEROUS" PROFESSIONAL SYSTEM

Provides professional studio sound for the home: Smooth, wide range response with high order transients and effortless projection. Employs the largest elliptical (19" x 14") woofer in the world for resonance at 20 cps. Ceramic 7½" dia. magnet delivers 16,000 gauss on 2" dia. pole piece; slightly flared diaphragm is extra rigid for high power capability and special edge suspension to prevent resonances. Four specially-damped 3½" cone tweeters provide smooth middle and ultra-high response; are mounted within the center of the elliptical bass unit. Crossover is provided at 1800 cps. Mid-range and ultra-high controls provide attenuation to match room acoustics. Infinite baffle has removable bottom panel for bass reflex operation if desired. Walnut cabinet is hand-rubbed oil on all five sides; contrasting woven metal grille. **Frequency Response:** Substantially flat, 28-20,000 cps. **Impedance:** 8 ohms. **Size:** 28" w. x 19¼" d. x 34" h. Shpg. Wt., 145 lbs.

**E.M.I. Model 901 "Dangerous" System—Net Each.....\$395.00**  
**Speaker Components Only—Less cabinet, Net Each..... 285.00**

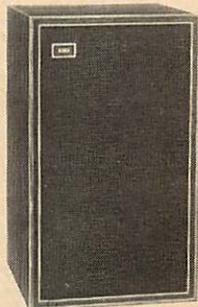


901

## NEW MODEL 102 THREE-WAY BOOKSHELF SPEAKER SYSTEM

Clean-lined, compact speaker system with response more closely duplicating live music than previously available in this class speaker. Performance is almost indistinguishable from larger, more expensive systems. Completely uncolored, realistic response over the full audio range from attenuated highs, through a controlled midrange, to reverberating bass overtones. Model 102 is designed to match any solid-state amplifier. **Woofer:** Massive ceramic magnet gives deep, deep bass and great power handling capability. Unique aluminum center cone reduces transient distortion to a degree impossible with conventional paper cone designs. High compliance suspension made of polyvinyl-chloride produces very low bass resonance. **Tweeter:** Two damped 3½" tweeters provide smooth, transparent response up to 20,000 cps. Wide, high frequency dispersion with horizontal and vertical polar response characteristics is far superior to that of conventional tweeters. **Crossover:** Extra large LC dividing network without sacrificing any portions of the midrange. Continually variable brilliance control. **Cabinet:** Select hardwoods are specially treated to heighten dampening qualities; eliminates resonance, standing waves, and other parasitic vibrations. Walnut veneer is handrubbed with fine oil stain. Removable grille; acoustical fabric may be changed to one of your color choice and texture. **Frequency Response:** 30-20,000 cps. **Impedance:** 8 ohms. **Size:** 14" w. x 13½" d. x 25" h.

**E.M.I. Model 102 Bookshelf System—Net Each.....\$199.50**



102

## MODEL DLS-529 "DANGEROUS" BOOKSHELF SPEAKER SYSTEM

The only bookshelf speaker that leaves no clue to the actual size of the enclosure. The performance is of such wide range and smoothness, 40-15,000 cps, and transient characteristics of such high order that the effortlessly sweet sound is projected into the room as though "floating on air". This constitutes a total breakthrough in bookshelf speaker system design and requires a reappraisal of previously accepted standards of excellence. Actually, this E.M.I. Bookshelf Speaker System is a highly ingenious adaptation of an even greater, but incomparably more expensive system, the Professional Studio Monitor, designed by Dr. C. F. Dutton, a renowned electro-acoustic authority. The **Woofer:** Exclusive hand-made 13½" x 8½" elliptical driver with aluminum cone and special plastic suspension. (The same speaker used in the Professional Studio monitor.) **Tweeters:** Two 3½" tweeters exhibit smooth, rewarding high frequencies; specially designed for the Bookshelf System. High precision crossover network operates from 4,500 cps. **Enclosure:** Both tweeters are completely and separately enclosed in a chamber with reinforced walls and specially treated interior surfaces to damp out all standing waves or other parasitic vibrations. There are absolutely no acoustic gimmicks. Sleek, modern design of the enclosure is achieved by using genuine, figured walnut veneer. The grille, superbly practical as well as beautiful, is of long-lived, easy-to-clean metal. Cabinetry is hand-rubbed finished in oil stain on all sides and back. **Impedance:** 4 ohms. **Size:** 24" w. x 12¼" d. x 13½" h. Shipping Weight, 45 lbs.

**E.M.I. Model DLS-529 Speaker System—Oil-stained walnut finish, Net Each. \$159.00**

**E.M.I. Model 1 Baffle System—Same as DLS-529, but without cabinetry. Components mounted and wired on 22½" w. x 11½" h. baffle. For best results, install in heavily padded, air-tight enclosure with 1½" cu. ft. minimum interior. For specifications, see Model DLS-529 above. Shipping Weight, 17 lbs. Net Each.....\$115.00**



DLS-529

## NEW MODEL 92 BOOKSHELF SPEAKER SYSTEM

The end-product of continuous testing and development in EMI's anechoic chamber, Model 92 reproduces music like large, costly systems at bookshelf prices. Remarkable tone balance through the entire audio spectrum: Highs are silky sweet; midrange, clean and succulent; bass, deep and sustained. Designed for use with any solid-state amplifier. **Woofer:** Elliptical driver 13½" x 8½" delivers unusually tight bass response. Special EMI aluminum center cone and high compliance PVC "memory" suspension provide excellent transient performance and smooth midrange. **Tweeter:** Precision engineered 3½" cone type unit with ceramic magnet. **Brilliance Control:** 3-position. **Cabinet:** Same features, finish, and grille as Model 102. **Frequency Response:** 50-20,000 cps. **Impedance:** 8 ohms. **Size:** 11½" w. x 10¼" d. x 23½" h.

**E.M.I. Model 92 Bookshelf System—Net Each.....\$109.95**



92



62

## NEW MODEL 62 BOOKSHELF SPEAKER SYSTEM

Fills an economy of space with a wealth of tone; a compromise in size only. Delivers unbelievable bass response in such a relatively small speaker enclosure; clear, crisp highs. Full-bodied presence, even with low power amplifiers. Model 62 is designed for use with any solid-state amplifier. **Woofer:** Elliptical, 10½" x 6½", design has unique aluminum center cone and high compliance suspension molded of special selected polyvinyl-chloride. **Tweeter:** Cone type, 3½" with ceramic magnet; unusually smooth and transparent high frequency response. **Brilliance Control:** 3-position. **Cabinet:** Same features, finish and grille as Model 102. **Frequency Response:** 30-20,000 cps. **Impedance:** 8 ohms. **Size:** 11½" w. x 10" d. x 20½" h.

**E.M.I. Model 62 Bookshelf System—Net Each.....\$79.95**



812

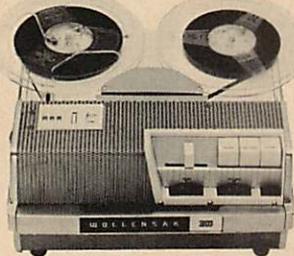
## MODEL 812 COMPACT SPEAKER SYSTEM

Efficient, clean response at a modest cost. Balanced, robust transducer gives full range performance at low or high volumes. Woofer is 6½" cone type with ceramic magnet and high compliance suspension; features low resonance, tight transient burst and superior mid-range characteristics. Damped 3½" cone tweeter has ceramic magnet for smooth response; low-loss crossover at 4,500 cps. Fully enclosed, heavily damped cabinetry in oil walnut with woven metal grille. **Frequency Response:** Substantially flat, 80-15,000 cps. **Impedance:** 8 ohms. **Size:** 10½" x 8" x 14¼". Shpg. Wt., 14 lbs.

**E.M.I. Model 812 Compact System—Net Each.....\$49.95**

# Tape Recorders and Speakers

## WOLLENSAK TAPE RECORDERS MODEL 1500AV AUDIO-VISUAL TAPE RECORDER



Compact, 2-track monophonic tape recorder is designed for operating convenience and precision performance. Powerful solid state amplifier and high efficiency speaker provide tone quality equal to much larger recorders. Simple pushbutton controls. All inputs and outputs conveniently grouped on rear panel; accept standard phone plugs. Powered by isolation transformer for safety, with circuit breaker and 3-wire power cord with 2-prong adapter. Operates at 3 3/4 and 7 1/2 ips, with self-adjusting brake, instant pause control, and automatic shut-off. Fast forward and rewind have interlocking safety controls. Automatic head demagnetization and automatic tape lifters. Provision for monitoring and PA use. Includes VU meter and digital counter. Accepts accessory foot control without modification. **Frequency Response:** ±3 db, 40-15,000 cps at 7 1/2 ips; 40-8,000 cps at 3 3/4 ips; NAB equalization. **Wow and Flutter:** Less than 0.25%. **Signal-to-Noise Ratio:** Greater than 48 db. **Power Output:** 12 watts peak, 9 watts continuous at less than 5% harmonic distortion; push-pull output. **Track Width:** 1/2 track, .090" wide. **Inputs:** Mike; Radio-Phono. **Outputs:** Extension speaker; headphones or listening center; preamp. **Power Required:** 105-120 VAC, 60 cps. **Size:** 6 1/2" x 10 1/4" x 11 3/4". Weight, 18 1/2 lbs.

**Wolleksak Model 1500AV Tape Recorder**—All steel case. Complete with dynamic microphone, blank tape and self-threading take-up reel. Net Each..... **\$184.95**

**Wolleksak Model 1500SS Tape Recorder**—Same as above, but with different inputs and outputs: Mike Input (phone jack); preamp input (phone jack); speaker output (phone jack); preamp output (phone jack). Less automatic shut-off. Complete with dynamic microphone, pin-pin and pin-phone patch cords, blank tape, self-threading take-up reel. Net Each..... **\$184.95**

## REVOX G-36 TAPE RECORDER



Top quality stereo recorder is designed for the discriminating user, with high frequency response and low distortion, plus 10 1/2" reel capacity. For amateur and professional applications in industry, education, or for home use. Uses three hysteresis-synchronous motors with capstan drive, with control knobs designed for easy operation. Three separate 1/4-track heads and separate record and play preamplifiers permit monitoring. Piano-type keys control tape motion, with solenoid-controlled, fail-safe mechanical brakes. Includes built-in, 6-watt playback amplifier with monitor speaker; provision for cathode-follower output to external amplifier; two VU meters. **Tape Speeds:** 3 3/4 and 7 1/2 ips. **Frequency Response:** +2, -3 db, 40-15,000 cps at 7 1/2 ips; 40-12,000 cps at 3 3/4 ips; NAB equalization. **Wow and Flutter:** ±0.1% maximum at 7 1/2 ips. **Speed Accuracy:** ±0.3%. **Signal-to-Noise Ratio:** Better than 50 db referred to peak level, replay; overall weighted S/N ratio, 55 db at 7 1/2 ips, 1/2-track. **Cross-talk Rejection:** Stereo, 45 db; monophonic, 55 db. **Bias Oscillator:** 70 kc, push-pull. **Inputs:** ph. **Channel:** Microphone; tuner; auxiliary. **Input Sensitivity:** Mike, 3 mV at 1 megohm, 600 mV maximum; tuner, 50 mV at 1 megohm, 10 volt maximum; auxiliary, 50 mV at 47K (load). **Outputs:** Two cathode-follower, 0.7 volt 2-track and 0.5 volt 4-track. **Output Impedance:** 5K and 100K ohms.  **Tubes and Semiconductors:** 5-ECC81; 1-ECC82; 4-ECC83; 2-ECL86; 3 silicon diodes, 3 selenium rectifiers. **Power Required:** 120 watts, 117 VAC, 60 cps. **Size:** 12 1/2" x 12 1/2" x 14". Weight, 45 lbs. **Revox Model G-36-4 MK III Recorder**—1/4-track stereo. Gray and aluminum frame with blue-gray plastic. 3 3/4 and 7 1/2 ips. Net Each..... **\$549.00**  
**Revox Model G-36-2 MK III Recorder**—2-track stereo. 3 3/4 and 7 1/2 ips. Net Each..... **\$549.00**  
**Revox Model G-36-2 MK III Special Recorder**—2-track stereo for operation at 7 1/2 and 15 ips. Net Each..... **\$665.00**

## JBL PROFESSIONAL SPEAKERS AND SPEAKER SYSTEMS

### LE14C FULL RANGE 14" COMPOSITE SPEAKER (FIG. B)

Two-element linear efficiency composite transducer, for complete frequency coverage in limited mounting areas. Stepped-frame design permits installation in enclosures that ordinarily take only 12" speakers. Designed for use in infinite baffle, front or rear mounting, or small enclosures of 1.7 cubic feet or more. Bass transducer is a straight-sided cone with 4" copper ribbon voice coil. Precision dividing network provides uniform coupling with the high frequency transducer for imperceptible crossover. Amplifiers with as little as 15 watts output provide excellent performance. Variable attenuation. **Impedance:** 16 ohms. **Power Capacity:** 30 watts, continuous program. **Flux Density:** 10,000 gauss. **Voice Coils:** Low frequency, 4" dia.; high freq., 3/8" dia. **Free Air Resonance:** Bass cone, 25 cps; crossover frequency, 1,200 cps.

**JBL Model LE14C**—Net Each..... **\$150.00**

### LE8T EXTENDED RANGE 8" SPEAKER (NOT ILLUS.)

Full range, linear efficiency speaker provides unusually flat response with small cone mounted for large linear movement. Designed for small enclosures or infinite baffle mounting; enclosures of only one cubic foot can be used. Aluminum frame, with 6 1/2-lb. magnet assembly and 2" dia. voice coil. **Impedance:** 8-16 ohms. **Power Capacity:** 20 watts continuous program. **Flux:** 200,000 maxwells. **Free Air Cone Resonance:** 35 cps.

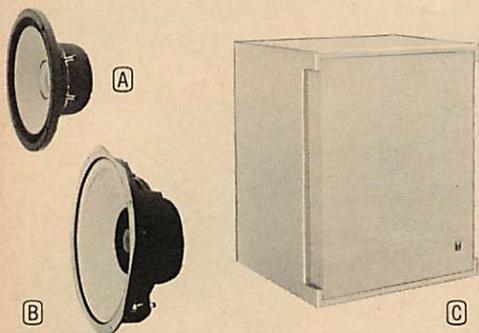
**JBL Model LE8T**—Net Each..... **\$66.00**

### D50SM57 STUDIO MONITOR SPEAKER (FIG. C)

Self-powered professional monitor features smooth response, uniform dispersion and high power capacity. Ideal for recording and broadcast applications. Can be used in medium-size theaters and other sound reinforcement applications. Efficiency is higher than other infinite baffle systems, for demanding use without distortion or danger of overload. Includes Model LE15A linear efficiency bass driver with 4" voice coil, 20 cps free air resonance, and flux of 450,000 maxwells; flux density, 9,500 gauss. Crossover network provides transition with Model LE85 high frequency driver, which operates smoothly through five octaves. Solid state power source brings out full potential. System may be hung on wall or used free-standing. Handles 60 watts. Rigid cabinet, 23 3/4" w. x 20" d. x 30" h.

**JBL Model D50SM57**—Net Each..... **\$516.00**

**JBL SPEAKERS ARE AVAILABLE AT OUR STORE OR THROUGH OUR SALESMAN. WRITE OR VISIT SONOCART FOR FULL INFORMATION AND PRICES.**



### SERIES D EXTENDED RANGE SPEAKERS (FIG. A)

Maximum efficiency speakers for hi-fi, broadcast monitoring, theater and commercial sound applications. Provide lucid presence range with high transient delineation. Designed for optimum performance in rear-loading horns or matched reflex enclosures. Large voice coil and curvilinear cone give excellent bass reproduction; aluminum dome gives smooth, extended highs. Features massive pot structure of low-carbon cast iron for low reluctance return path. Cast aluminum frame. **Impedance:** 16 ohms except D208, 8 ohms.

| JBL Model | Dia.    | Power, Watts* | Voice Coil, Dia. | Flux, Maxwells | Flux Dens., Gauss | Mag. Assy., Lbs. | Cone Resonance† | Net Each |
|-----------|---------|---------------|------------------|----------------|-------------------|------------------|-----------------|----------|
| D208      | 8"      | 12            | 2"               | 90,000         | 9,800             | 3 1/2            | 55 cps          | \$ 36.00 |
| D216      | 8"      | 12            | 2"               | 90,000         | 9,800             | 3 1/2            | 55 cps          | 36.00    |
| D123      | 12 1/2" | 20            | 3"               | 160,000        | 9,300             | 6                | 40 cps          | 72.00    |
| D131      | 12 1/2" | 25            | 4"               | 260,000        | 11,500            | 11               | 39 cps          | 96.00    |
| D130      | 15 3/4" | 25            | 4"               | 260,000        | 11,500            | 11               | 37 cps          | 102.00   |

\*Continuous program. †Free air.



# ROBERTS Tape Recorders

## MODEL 1725 COMPACT STEREO RECORDER

Flawless stereo FM recording with this modestly priced recorder manufactured to professional criteria. Operates vertically or horizontally. Lock-in edit/pause lever; safety record interlock and Mono-Stereo track selector switch. Electrically switched motor speed change. Three place digital counter with reset. Automatic shut-off device. Super fast rewind for location of selections. **Tape Speeds:** 1½ ips, 3¾ ips, 7½ ips; 15 ips available. **Reel Size:** 7" maximum. **Frequency Response:** ±3 db, 50-10,000 cps at 3¾ ips; ±3 db, 40-18,000 cps at 7½ ips. **Signal-to-Noise Ratio:** Better than 45 db. **Wow and Flutter:** Less than 0.2% at 7½ ips. **Equalization:** NARTB Standard. **Input Sensitivity:** 150 mV for "0" VU recording in phono/radio input; 3 mV for "0" VU recording in microphone input. **Motor:** 2-speed, electrically switched, dynamically balanced motor and flywheel. **Speakers:** Two 8-ohm 5" x 7" extended range. **VU Meters:** Two. **Power Requirements:** 80 watts, 110-125 V, 50 and 60 cps. **Size:** 13¼" w. x 7½" d. x 13¼" h. Weight, approximately 33½ lbs.

**Roberts Model 1725 Compact Stereo Recorder—Net. \$269.95**

**Roberts Model 1725W/S907A Stereo Recorder—**Same as Model 1725 except housed in genuine walnut case with external speakers in matching wood cabinets. Net Each. . . . . **\$299.95**

**Roberts Model 1725-8L Stereo Recorder—**Same as Model 1725 except with built-in 8-track stereo cartridge record and play; 4-track stereo and mono reel to reel record and play; reel to cartridge and cartridge to reel record. Net Each. . . . . **\$389.95**

## MODEL 770X STEREO TAPE RECORDER

Exclusive "Cross Field" head adds new sound dimension to high fidelity recording. Separate recording bias supply permits recording at a full octave higher frequency, even at slow speeds. Records four hours of FM stereo automatically; shut off turns both recorder and tuner off, if desired. Two speeds electrically switched, professional motor. Pause lever provides instant stop for editing and level adjustment. Multiple Adjustment Head for instant selection of all functions. Includes four digit counter, large VU meters and two 4" speakers. High speed fast forward and rewind (1200 ft. in only 7½ seconds). Outputs provided for four sets of stereo speakers or stereo headphones. **Speeds:** 1½, 3¾ and 7½ ips (15 ips optional). **Frequency Response:** ±3 db, 40-20,000 cps at 7½ ips; to 16,000 cps at 3¾ ips; ±4 db, 40-12,000 cps at 1½ ips. **Signal-to-Noise Ratio:** -45 db. **Wow and Flutter:** Less than 0.15% rms at 7½ ips; less than 0.25% rms at 3¾ ips; less than 0.35% rms at 1½ ips. **Channel Separation:** (Crosstalk) better than 50 db at 1 ke. **Equalization:** NARTB standard. **Power Output:** 12 watts peak. **Power Required:** 110-120 VAC, 50-60 cps. **Size:** 13" w. x 9" d. x 20" h. Weight, 48 lbs.

**Roberts Model 770X Stereo Recorder—Net Each. . . . \$399.95**

## MODEL 5000X STUDIO TAPE RECORDER

Completely transistorized ¼ track stereo tape recorder for professional studio recording applications. Exclusive Cross Field feature permits recording at one-fourth of normal recording speed without loss of fidelity. Takes all sizes of reels including 10½" reels without adapters. Electrical speed change. Four digit counter. Hysteresis synchronous direct drive capstan. Equalized pre-amp outputs. Sound-over-Sound mixing inputs. **Tape Speeds:** 3¾ and 7½ ips. **Reel Size:** All sizes including 10½". **Outputs:** 68 watts peak, stereo. **Heads:** 4—Record, Play/Monitor, Erase and Cross Field. **Frequency Response:** ±2 db, 40-20,000 cps at 7½ ips; to 14,000 cps at 3¾ ips; ±3 db, 25-10,000 cps at 1½ ips; ±3 db, 30-17,000 cps at 3¾ ips. **Signal-to-Noise Ratio:** Better than 50 db. **Wow and Flutter:** Less than 0.15% at 7½ ips. **Channel Separation:** (Crosstalk) -50 db. **Erase Efficiency:** -60 db. **Equalization:** NARTB for each channel. **Input Sensitivity:** Microphone input, 0.5 mV phono/radio line input, 50 mV. **Power Required:** 200 watts, 110-125 V, 60 cps. **Speakers:** Two 7" oval. **Motors:** One electrically switched capstan drive motor; separate torque motors for Fast Forward and Fast Rewind. Weight, 70 lbs.

**Roberts Model 5000X Professional 4-track Stereo Recorder—**Complete with two amplifiers and speakers. Net Ea. **\$699.95**

**Roberts Model 5000F Full Track Monaural Tape Deck—**With solid state Record and Playback preamplifiers. Net Ea. **\$599.95**

**Roberts Model 5000H Half Track Monaural Tape Deck—**With solid state Record and Playback preamplifiers. Net. **\$599.95**

**Roberts Model 5000S ¼-Track Stereo Tape Deck—**With solid state Record and Playback preamplifiers. Net Each. **\$599.95**

## MODEL 400X PROFESSIONAL STUDIO

22,000-Cycle 68-watt Cross Field  
REVERSE Play—Automatically  
REPEAT Play—Automatically  
SELECT Play—Automatically

Fully automatic, ¼ track stereo tape recorder for professional or home use. Exclusive Cross Field feature permits recording at one-fourth of normal recording speed without loss of fidelity. Additional features include: Two types of Automatic Play—Forward and actuation—timed adjustable Indexer and precise tape foil sensor method. Computer-type solid state circuitry with removable modules. Pushbutton solenoid controls, echo effect, remote control optional. Sound-over-Sound, Sound-with-Sound and channel transfer sound. Hysteresis synchronous capstan drive, electrical speed change. Four-digit pushbutton index counter. **Tape Speeds:** 3¾ and 7½ ips; 15 ips optional; **Frequency Response:** Up to 22,000 cps. **Reel Size:** 7" max.; 10½" reel adaptable. **Outputs:** 68 watts, stereo. **Heads:** 4—Record, Play/Monitor, Erase and Cross Field. **Motors:** 3½ including one hysteresis synchronous motor. **Speakers:** Two built-in. **VU Meters:** Two.

**Roberts Model 400X Professional Stereo Recorder—**Net Each. . . . . **\$799.95**

**Roberts Model 455 Professional Stereo Recorder—**Same as Model 400X except without Cross Field and Automatic Forward and Reverse Play, and only amplifiers are solid state. Net. **\$599.95**



## MODEL 720A PROFESSIONAL STEREO

Meets most exacting professional standards, including Sound-with-Sound and channel transfer sound features. Four tape speeds: 7½ ips, 3¾ ips, and 1½ ips standard; 15 ips available as optional accessory. Almost 6½ hours of uninterrupted playing time provides exceptional recording latitude. Accurate tape transport speeds assured by exclusive Roberts hysteresis-synchronous electric motor. Separate tone and volume controls for each channel. Automatic shut-off device. Four digit counter with reset and pause control facilitates editing. **Reel Size:** 7" maximum. **Frequency Response, Record:** ±3 db, 40-16,000 cps. **Frequency Response, Playback:** ±3 db, 40-20,000 cps. **Signal-to-Noise Ratio:** Better than 45 db. **Wow and Flutter:** 0.15% rms at 7½ ips. **Power Output:** 12 watts peak. **Input Jacks:** Microphone, 2; FM Multiplex Tuner/Record Player, 4. **Output Jacks:** Headphone, 1; Speaker, 2; Preamp, 4. **VU Meters:** Two. **Size:** 14" w. x 9" d. x 20" h. Weight, 48 lbs.

**Roberts Model 720A Professional Stereo Tape Recorder—**Complete with two built-in speakers and two microphones. Net Each. . . . . **\$399.95**

## SERIES 6000 ROVING REPORTER

Professional Cross Field portable features 25½ hours of interviews and music on single 5" reel tape. Exclusive Cross Field head allows one to record and play full fidelity sound even at 15/16 ips. Completely self-contained. Battery or AC operation. Two VU meters. Solid state throughout. Four speeds. Plano key controls. Pushbutton reset counter. Light and small, will fit brief case. **Output:** 4 watts, stereo; 2 watts, mono. **Tape Speeds:** ½, 1½, 3¾ and 7½ ips. **Reel Size:** 5" and 3". **Motor:** Precision DC micro motor. **Speaker:** 5" oval. **Transistors:** 32 transistors and diodes. **VU Meters:** Two, indicating both stereo recording level and battery condition. **AC Adapter:** Converts battery operation to house current operation. **Power Required:** 6 VDC, 110 VAC with AC adapter, supplied. **Size:** 9¾" w. x 10" d. x 4" h. Weight, 11 lbs. 2 oz., less battery.

**Roberts Model 6000S Stereo "Roving Reporter"—**Complete with mike, rechargeable battery, battery charger, AC adapter, and two amplifiers for stereo playback. Net Each. . . . . **\$359.95**

**Roberts Model 6000M ¼-Track Monophonic "Roving Reporter"—**Complete with mike and batteries. Net Each. . . . . **\$299.95**



# Magnecord Tape Recorders

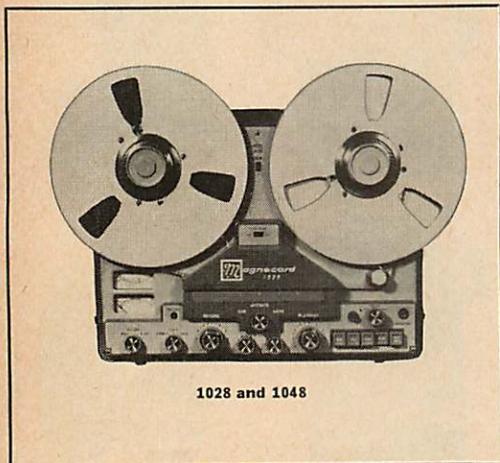
## INTRODUCING THE NEW MAGNECORDER SERIES 1000:

- SOLID STATE CIRCUITRY OR STANDARD TUBE TYPES GIVE HIGHEST RELIABILITY, OPERATING EASE, ASSURED HI-FI PERFORMANCE, AND STANDARDIZED PARTS REPLACEMENT.

### MODEL 1028 PROFESSIONAL STEREO RECORDER/REPRODUCER

- SEPARATE 1/2-TRACK RECORD, PLAY AND ERASE HEADS WITH SPACE FOR 1/4-TRACK PLAY (1/4-TRACK HEAD CONFIGURATION AVAILABLE ON ORDER)
- CATHODE FOLLOWER OUTPUT AND CHOICE OF LO-Z INPUTS AND OUTPUTS WITH PLUG-IN TRANSFORMERS
- TWO-SPEED OPERATION HANDLES TAPE WITHOUT STRETCHING OR BREAKAGE
- ACCURATE, PERMANENT HEAD ALIGNMENT FOR LONG LIFE PRECISION

Built to give lasting, dependable service, this recorder matches the finest professional gear in technical excellence. Advanced circuit design utilizes the latest tube types and printed wiring to insure uniform high performance from recorder to recorder. All components are top line quality and installed with care and precision for long life and high reliability. Advanced design heads attain superior performance; optically aligned with the tape gate on a precision comparator before the head assembly casting is installed. Solenoid-operated tape gate provides precision alignment of the tape centerline with the head centerline. **Other Features:** Interlocked pushbutton controls prevent accidental erasure or tape damage. VU meters are mounted to permit an easy check of levels and channel balance at a glance. Die cast main frame insures permanent mechanical stability; head mount is also die cast to guarantee accurate, permanent alignment. Alternate, plug-in input and output transformers provide convenient change to suit users needs. Non-glare vinyl finish in neutral blue-gray harmonizes into any installation; scratch-resistant and cleans like new with a damp cloth. **Tape Speeds:** 7 1/2"/sec. and 15"/sec.; rewinding time less than 100 secs. for 2400 feet. **Heads:** Selectable erase, two-channel record and two-channel play; accessory 1/4-track playback head available at extra cost. **Frequency Response:** ±2 db, 35-16,000 cps at 7 1/2"/sec.; ±2 db, 35-18,000 cps at 15"/sec. **Flutter and Wow:** 0.15% at 7 1/2"/sec.; 0.1% at 15"/sec. **Timing Accuracy:** ±0.2%. **Reel Size:** 5", 7", and 10 1/2". **Signal-to-Noise Ratio:** 55 db per channel. **Input Sensitivity:** -90 dbm to -30 dbm. **Inputs:** Hi-Z mike and hi-Z unbalanced bridge per channel. Lo-Z mike and hi-Z balanced bridge with optional input transformer. **Outputs:** Cathode follower, 2.0 volts; 150/600-ohm balanced, +4 dbm with output transformer (not supplied). **Size:** 17 3/8" w. x 11 3/4" d. x 12 1/2" h. (14 1/2" w. cabinet). **Weight,** 50 lbs. (60 lbs., cased). **\$995.00**  
Magnecord Model 1028-2X—Net Each. ....



1028 and 1048

### MODEL 1048 PROFESSIONAL STEREO RECORDER/REPRODUCER

Identical to Model 1028, except tape speeds of 7 1/2"/sec. and 3 3/4"/sec. Features include Micro-Optic heads for two-channel operation (1/4-track head available); easily removable head-covers for cleaning and degaussing; capstan drive with hysteresis synchronous motor. All features and specifications same as Model 1028 except: **Tape Speeds:** 7 1/2"/sec. and 3 3/4"/sec.; rewinding time less than 100 secs. for 2400 ft. **Frequency Response:** ±2 db, 40-16,000 cps at 7 1/2"/sec.; ±2 db, 50-7,500 cps at 3 3/4"/sec. **Flutter and Wow:** 0.15% at 7 1/2"/sec.; 0.25% at 3 3/4"/sec. **Signal-to-Noise Ratio:** 52 db. **Input Sensitivity:** -90 dbm to -35 dbm. **Outputs:** Cathode follower, 2.5 volts (=5 V), 150/600 ohms balanced, +3 dbm with output transformers. **Weight,** 50 lbs. (60 lbs., cased). **\$995.00**  
Magnecord Model 1048—Net Each. ....

### ACCESSORIES FOR MODELS 1028 AND 1048 RECORDER/REPRODUCERS

- Magnecord Model 2A333 Input Transformer\*—50 or 250 ohms. Net Each. .... **\$26.25**
- Magnecord Model 32B90 Output Transformer\*—Cathode follower to balanced 150/600-ohm line. Net Each. .... **\$26.25**
- Magnecord Model 91C2959 Rack Adapter Panel—19" w. x 14" h. for adapting 1028 recorder to rack mounting. Net Each. .... **\$19.00**

- Magnecord Model 91X3168 Carrying Case—Net Each. .... **\$50.00**
  - Magnecord Model 66X152 Transformer Hold-down†—Net Each. .... **.81**
  - Magnecord Model A95C939-1 1/4-Track Play Head—Net **84.50**
- \*One required per channel. †One required per transformer.

### NEW MODEL 1020 TRANSISTORIZED STEREO RECORDER/REPRODUCER

- SELECTABLE 1/4-TRACK RECORD, PLAY, ERASE HEADS
- HYSTERESIS SYNCHRONOUS TAPE-DRIVE MOTOR, PLUS TWO SPLIT-CAPACITOR REEL-DRIVE MOTORS
- DUAL VU METERS; AUTOMATIC SHUT-OFF
- NEW 8 1/4" REEL FOR 50% MORE PLAYING TIME
- DIGITAL COUNTER WITH PUSHBUTTON RESET

The result of many years of professional development, Model 1020 brings the discriminating audiophile a special combination of features for superb stereo recording performance as well as concert-quality reproduction. Precisely engineered for ease of operation; convenient pushbutton controls provide smooth, effortless starts and stops. Tape drive system employs a constant-speed hysteresis synchronous capstan motor; pay-out and take-up reels are individually driven by heavy-duty split-capacitor motors. All three motors automatically shut off when tape runs out. Tape heads use deep-gap, deposited quartz construction for excellent high-frequency response and long life, and are doubly protected from external magnetic fields by removable shields; heads are easily accessible for cleaning and demagnetizing. Fully transistorized electronics and printed wiring provide the ultimate in enduring reliability. VU meters and output switches enable visual and aural monitoring of input signals, permitting quick comparison of source material with recorded signal. Low-impedance emitter-follower output will feed long lengths of audio cable without deterioration of response. Sturdy die-cast main plate insures uniformity of construction and provides rigid support and stable alignment of assembled parts. Other features: Dual front-panel headphone jacks; solenoid-operated tape gate, pressure roller, and brakes; take-up and pay-out compliance arms; dynamically balanced capstan flywheel and ball-bearing inertial stabilizer flywheel. **Tape Speeds:** 3 3/4" ips and 7 1/2" ips; rewinding time 1200 ft. in 80 seconds. **Heads:** Selectable 1/4-track erase, record and play. **Frequency Response:** ±2 db, 30-16,000 cps at 3 3/4" ips; ±2 db, 45-18,000 cps at 7 1/2" ips. **Flutter and Wow:**



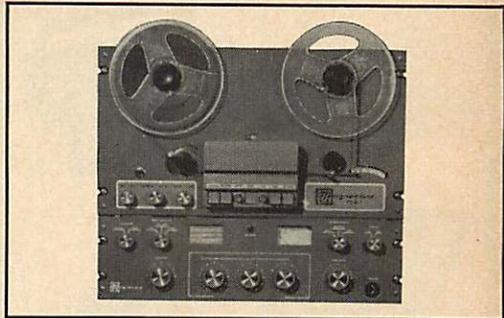
1020

0.25% at 3 3/4" ips; 0.18% at 7 1/2" ips. **Timing Accuracy:** ±2.0% at 3 3/4" ips; ±1.0% at 7 1/2" ips. **Reel Size:** 5", 7" and 8 1/4" EIA hubs. **Signal-to-Noise Ratio:** 48 db at 3 3/4" ips; 52 db at 7 1/2" ips. **Inputs:** Hi-Z and auto bridge each channel. **Outputs:** 1K ohm emitter follower; output level at 0 VU, 8V at ±2V 400 cps. **Size:** 17 3/8" w. x 6 3/4" d. x 13 3/4" h.; minimum space required for cabinet mounting, 18 1/4" w. x 8 1/2" d. x 15 1/4" h. **Weight,** 35 lbs. **Magnecord Model 1020—For cabinet mounting. \$570.00**  
Net Each. ....  
**Walnut Base Cabinet—Net Each. .... \$25.00**  
Water ring (for cabinet mounting) and carrying case available as optional accessories for Model 1020. Write for prices.

# Magnecord Tape Recorders

## MODEL 1021X TRANSISTORIZED PROFESSIONAL RECORDER/REPRODUCER

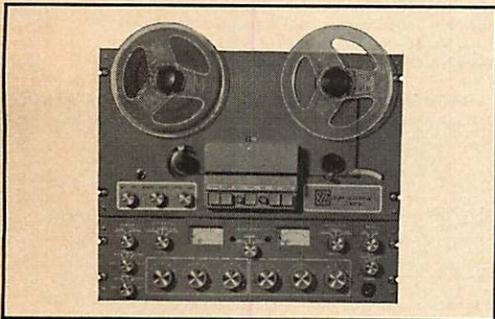
Built to broadcasters' specifications, this fine monophonic instrument gives the ultimate in smooth tape handling and braking. Other exceptional provisions include a built-in cuing speaker with separate volume control and amplifier to drive an external speaker; one-hand "cue" button lifts tape to heads, releases brakes and puts a low, even torque on the reels. Remote start-stop operation in pre-set mode using only a SPST switch. Fully transistorized with regulated power supply. **Control Features:** Switchable (NAB standard) equalization. Simultaneous record and playback facility. Front panel input selector; includes mixing auxiliary input. Monitoring from tape or source, with earphones. VU meter for record and playback level measurements. Local-remote front panel switch; signal switching available at remote. Pushbutton transport controls; record safety interlock. **Construction Features:** Handles 1/2-mil tape safely, without stretching, through superior tape guiding. Take-up and pay-out compliance arms; tape break shut-off; solenoid-operated tape gate brakes and pressure roller. Double flywheel capstan drive with motor-stop when tape runs out. Ball bearing inertial stabilizer. Hardened stainless steel capstan driven by two-speed hysteresis synchronous motor; separate reel drive motors. Military type differential band brakes. Broadcast standard input and output connectors. Components and transistors are standard types, readily available. Built-in input and output transformers with adjustable impedance. Rugged, die-cast transport top plate. Finished in brushed aluminum; easy to clean, easy on the eye. **Tape Speeds:** 3 3/4"/sec. and 7 1/2"/sec.; rewind time 1200 ft. in 80 seconds. **Heads:** Full-track erase, and record; 1/2-track play, provision for fourth head available. **Frequency Response:** ±2 db; 35-8,000 cps at 3 3/4"/sec.; ±2 db, 45-18,000 cps at 7 1/2"/sec. **Wow and Flutter:** 0.25% at 3 3/4"/sec.; 0.2% at 7 1/2"/sec. **Timing Accuracy:** ±0.2%. **Reel Size:** 5", 7" and 8" EIA hubs. Signal-



to-Noise Ratio: 53 db, both speeds. **Inputs:** Lo-Z mike, balanced bridge, unbalanced bridge, mixing bridge and aux bridge. **Outputs:** 150/600-ohm balanced, unbalanced, aux A and aux B (+4 dbm). **Size:** 19" w. x 12" d. x 15 1/2" h. Wt., 47 lbs., uncase. **\$708.00**  
**Magnecord Model 1021X—Net Each. . . . .**  
**Magnecord Model 1021RX—Same as above but includes full relay control. Net Each. . . . . \$883.00**

## MODEL 1022X TRANSISTORIZED STEREO RECORDER/REPRODUCER

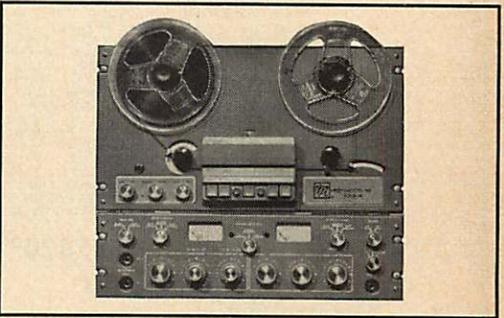
Stereo 1/2-track record and play plus 1/4-track playback recorder/reproducer features reliable, cool, solid-state electronics with regulated power supply. Gives unmatched performance with simplified control facilities. Superb tape handling mechanism prevents tape breakage or stretching even with the thinnest of tapes. **Control Features:** Controls include pushbutton transport control, record safety interlock, "cue" transport control, front-panel input selector, remote "start-stop" control with local-remote front panel



switch, signal switching available at remote. NAB standard switchable equalization, separate channel gain controls separately arranged for record and playback functions, and large "operator" type knobs used throughout. Earphone monitoring is switchable for stereo or monophonic. VU meters for record-playback level of each channel. Monitoring accomplished from tape or source. Simultaneous record and playback functions. Channel tally lights in record mode. **Construction Features:** Superior tape guiding system combines with take-up compliance arm, pay-out compliance arm and tape break shut-off for smooth tape handling. Large, rugged, hardened stainless steel capstan on double flywheel drive; capstan motor stops when tape runs out. Motor is two-speed hysteresis synchronous type. Ball-bearing inertial stabilizer; individual reel drive motors; military-type differential band brakes; solenoid operated tape gate, brakes and pressure roller. Built-in input and output transformers, auxiliary unbalanced inputs and outputs; connectors are standard broadcast type. Modular construction employs standard, readily available transistors and components. Solid, die-cast transport top plate. Durable, brushed aluminum top panel. **Tape Speeds:** 7 1/2"/sec. and 15"/sec.; rewind time 1200 ft. in 80 seconds. **Heads:** Separate selectable two-channel erase, record and play plus 1/4-track play. **Frequency Response:** ±2 db, 30-16,000 cps at 7 1/2"/sec.; ±2 db, 35-22,000 cps at 15"/sec. **Flutter and Wow:** 0.17% at 7 1/2"/sec.; 0.15% at 15"/sec. **Timing Accuracy:** ±0.2%. **Reel Sizes:** 5", 7" and 8" EIA hubs. **Signal-to-Noise Ratio:** 53 db, both speeds. **Inputs:** Lo-Z mike, balanced bridge, unbalanced bridge and aux bridge each channel. **Outputs:** 150/600-ohm balanced, aux A and aux B unbalanced (+4 dbm) each channel. **Size:** 19" w. x 12" d. x 15 1/2" h. Weight, 47 lbs. **\$788.00**  
**Magnecord Model 1022X—Net Each. . . . .**  
**Magnecord Model 1022RX—Same as above but includes full relay control. Net Each. . . . . \$963.00**

## MODEL 1024X TRANSISTORIZED STEREO RECORDER/REPRODUCER

Straight-forward design employs the best engineering features developed during the last twenty years. Low heat, high efficiency, high reliability solid state circuitry. All replacement parts are readily available. Provides all 1/4-track stereo functions with simplified ease while handling 1/2-mil tapes gently, smoothly and quietly; optional two-channel playback head available for installation in fourth (empty) head position. **Control Features:** Large "operator" type knobs for easy handling, VU meter for each channel, earphone monitor jack and mike jacks on front panel give exceptional convenience. Simultaneous record and playback functions with front-panel mode switch and tally lights; monitoring from tape or source. Pushbutton transport controls plus "cue" control; remote start-stop operation with signal switching available at remote socket; local-remote switch on front panel. Separate channel monitor and output switches. Front-panel earphone switch selects stereo or monophonic listening. Switchable equalization. Record safety interlock. **Construction Features:** Smooth, quiet, safe tape handling system employs separate reel drive motors, hysteresis synchronous metering capstan drive and solenoid-operated tape gate, brakes and pressure roller. Capstan motor stops when tape runs out. Double flywheel capstan drive employs hardened, stainless steel capstan; ball-bearing inertial stabilizer flywheel. Take-up and pay-out compliance arms, plus tape-break shut-off. Military type differential brakes. Regulated power supply handles line voltage changes with ease. Emitter follower outputs for each channel, plus auxiliary. Auxiliary high impedance inputs; mixing inputs for high-level line. Standard hi-Z connectors for convenience. Sturdy die-cast main plate. Brushed aluminum finish; easy on the eye, easy to clean. **Tape Speeds:** 3 3/4"/sec. and 7 1/2"/sec.; rewind time 1200 ft. in 80 seconds. **Heads:** Selectable 1/4-track erase, record and play; space provided for optional 1/2-track play head. **Frequency Response:** ±3 db, 35-10,000 cps at 3 3/4"/sec.; ±2 db, 45-18,000 cps at 7 1/2"/sec. **Flutter and Wow:** 0.25% at 3 3/4"/sec.; 0.2% at 7 1/2"/sec. **Timing Accuracy:** ±0.2%. **Reel Size:** 5", 7" and 8" EIA hubs. **Signal-to-Noise Ratio:** 47 db at 3 3/4"/sec.; 50 at 7 1/2"/sec. **Inputs:** Mike, 50K ohms nominal; hi-Z mixing bridge; aux bridge each channel. **Outputs:** Emitter follower and aux emitter follower (0.5 v. loaded) each channel. **Size:** Transport, 19" w. x 7 1/2" d. x 10 1/2" h.; amplifier, 19" w. x 12" d. x 5 3/4" h. Transport, reel overhang, 1 3/4". Weight, 47 lbs. **\$648.00**  
**Magnecord Model 1024X—Net Each. . . . .**  
**Magnecord Model 1024RX—Same as above but includes full relay control. Net Each. . . . . \$823.00**  
**Optional 1/2-Track Play Head—Net Each. . . . . 25.00**  
**Transport Carrying Case—Net Each. . . . . 30.00**  
**Amplifier Carrying Case—Net Each. . . . . 30.00**  
**Magnecord Model 1E16786-2—Remote control station for use with relay control units listed above. Net Each. . . . . 58.00**



Mike, 50K ohms nominal; hi-Z mixing bridge; aux bridge each channel. **Outputs:** Emitter follower and aux emitter follower (0.5 v. loaded) each channel. **Size:** Transport, 19" w. x 7 1/2" d. x 10 1/2" h.; amplifier, 19" w. x 12" d. x 5 3/4" h. Transport, reel overhang, 1 3/4". Weight, 47 lbs. **\$648.00**  
**Magnecord Model 1024X—Net Each. . . . .**  
**Magnecord Model 1024RX—Same as above but includes full relay control. Net Each. . . . . \$823.00**  
**Optional 1/2-Track Play Head—Net Each. . . . . 25.00**  
**Transport Carrying Case—Net Each. . . . . 30.00**  
**Amplifier Carrying Case—Net Each. . . . . 30.00**  
**Magnecord Model 1E16786-2—Remote control station for use with relay control units listed above. Net Each. . . . . 58.00**



# Uher

# TAPE RECORDERS

### 4000-L PORTABLE RECORDER

A redesigned version of the famous Uher 4000 and 4000-S, the Uher 4000-L portable professional recorder retains all of the outstanding qualities that made it popular with radio-TV correspondents and reporters around the world. Still offers all the advantages of battery and AC operation, now with these added refinements: Three-digit Index counter with pushbutton reset; picture-window top for improved tape observation; calibrated, illuminated VU meter with dB scale; quieter, more powerful motor controlled by 8-transistor DC voltage-stabilizing circuit; one-plug mike connection; easier tape threading; lighter weight construction. Improved circuitry utilizes latest techniques in printed-circuit boards and transistors. Piano-keyboard controls and panel are brushed aluminum. Built-in belt cleaning brushes give more precise operation and longer belt life. VU meter also serves as battery condition indicator. Exceptionally fine recording characteristics permit recording, at 1 1/2 ips, up to 8 1/2 hours on one 5" reel. Special Accumulator Dryfit battery pack operates the recorder for hours; rechargeable from house current or auto lighter socket, even when recorder is in use. **Tape Speeds:** 1 1/2, 1 3/4, 3 3/4 and 7 1/2 ips. **Reel Size:** 5" max. **Frequency Response:** ±2 db at all speeds; 40-20,000 cps at 7 1/2 ips; 40-17,000 cps at 3 3/4 ips; 40-10,000 cps at 1 1/2 ips; 40-4,500 cps at 1 1/4 ips. **Signal-to-Noise Ratio:** 55 db. **Wow and Flutter:** ±0.15% rms at 7 1/2 ips (audible frequencies only). **Heads:** 8-track, 4-track, 2-track. **External speaker/earphone.** **Inputs:** Remote control, microphone, power. **Output Power:** 1 watt (push-pull output stage). **Power Required:** Rechargeable Dryfit storage battery; five nickel-cadmium batteries; or AC power unit/battery charger. **Size:** 10 1/4" x 8 1/2" x 3 3/4". **Weight:** 7 lbs. 8 oz. (less battery).

**Uher "4000-L Mark 515" Recorder**—With dynamic cardloid microphone with remote control station switch; **\$340.00** frequency response, 80-12,000 cps. Net Each.

**Uher "4000-L Mark 514" Recorder**—Same, but with hi-fi dynamic cardloid microphone with music/speech switch and built-in wind-screen; response, 70-14,000 cps. Net Each. **\$360.00**

**Uher "4000-L Mark 515-C" Recorder**—Same as Mark 515, but with leather carrying case, Accumulator Dryfit battery pack, AC power supply and charger. Net Each. **\$420.00**

**Uher "4000-L Mark 514-C" Recorder**—Same as Mark 514, but with leather carrying case, Accumulator Dryfit battery pack, AC power supply and charger. Net Each. **\$440.00**

**Uher No. 533 Rechargeable Cells**—Set of 5 ni-cad. Net. **40.00**

**Uher No. 861 Case**—Leather for any 4000-L model. Net **30.00**

**Uher No. 1026 Case**—Attache hard shell style. Net. **22.00**

**Uher No. 880 AC Power Unit/Charger**—Net Each. **30.00**

**Uher No. 881 (6-volt) or 882 (12-volt) Charger**—Net. **25.00**

**Uher No. USK-662 Battery Case**—For 6-12 volts. Net. **13.00**

### "UNIVERSAL 5000" MULTI-PURPOSE PORTABLE

Fully transistorized, versatile tape recorder for business, home, school and office use. Easy to operate. Push button operation right on the microphone permits you to dictate, stop, listen, correct errors and rewind. Foot or typewriter remote control transcribing features stop, start and rewind without tape breakage. Records all programs including high fidelity music with a frequency response up to 16,000 cps. Synchronizes slides with any automatic slide projector for conferencing, advertising, advertising sales aids, message repeating and automatic background music system. Will run the equivalent of 10-hour working day without reel change. Starts to play or record instantly, no warm up or waiting period. Other features include: All-Transistor AC operation; two tracks to international standard; jam-proof pushbutton control; full remote control of tape motion including backspace; automatic recording level control; external-rotor motor for noiseless operation; high speed forward and rewind; automatic rewind; automatic stop with metalized leaders; safety clutches for smooth tape handling; playing time up to 16 hours; digital counter with pushbutton reset; individual volume controls for recording level, volume and monitoring level; provision for automatic slide projector control; VU meter for recording level indication; low impedance input permits long microphone extension cable; push-pull power stage; inputs for radio, phono, mixer, telephone pick-up; loudspeaker and earphones; plays back through microphone or internal speaker; 64 count-down for auto opening time, up to 60 seconds. **Tape Speeds:** 3 3/4, 1 3/4 and 1 1/2 ips/sec. **Reel Size:** Up to 6". **Frequency Response:** 40-16,000 cps, 3 3/4"/sec.; 40-8,000 cps, 1 3/4"/sec.; 40-4,000 cps, 1 1/2"/sec. **Signal to Noise:** 50db ±2%. **Wow and Flutter:** ±0.2% at 3 3/4"/sec. **Output:** 2 watts. **Transistors and Diodes:** 76 transistors and 10 diodes, **all new, guaranteed.** **Size:** 15" x 10" x 2 1/2", selectable, 60 cps. **Size:** 12" w. x 10" d. x 6" h. **Weight:** 16 lbs., approximately.

**Uher "Universal 5000"**—Recorder only, less micro- **\$300.00** phone. Net Each.

**Uher No. M153 Microphone**—For 6000. Net Each. **\$30.00**

### UHER 6000 MONAURAL RECORDER

Fully transistorized, monaural half-track recorder ideal for audiovisual, industrial training, and home use. Offers professional craftsmanship at a popular price. Features include: Tape speeds of 1 1/2 and 3 3/4 ips; automatic end-of-tape stop; digital counter; two-track sound-on-sound recording; pause control; Uher safety clutches; illuminated VU meter monitoring; continuously variable tone control. Safety button prevents accidental erasures. Disconnected loudspeaker is built in. Playing time, up to 6 hours. Has standard sockets for mike, tuner, turntable, speaker, earphone, plus optional Uher Dia-Pilot 4d2 synchronizer, below.

**Uher 6000 Recorder**—Supplied with microphone and **\$160.00** empty 7" reel. Net Each.

**Uher No. 422 Dia-Pilot**—Mono or stereo impulse transmitter for fully automatic synchronization of tape recorder and slide projector or animated display. Can be used with 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. **\$70.00**



### UHER 9000 SOLID STATE

#### 4-TRACK STEREO TAPE DECK

Solid state, studio-quality 4-track stereo tape deck featuring five exclusive plug-in modules for record, playback, equalizer, power supply, and push-pull RF bias oscillator circuit. Each module is tested separately and then combined, ensuring extremely simple servicing if this should ever be necessary. Special tape tension control, with built-in tape cleaner, guarantees lowest wow and flutter. Vernier playback adjustment creates exact azimuthal alignment for every type of tape. Tape speeds, 7 1/2 and 3 3/4 ips. Also has: Powerful hysteresis synchronous motor; separate erase/record/playback heads with level controls for each channel; switchable monitoring of sound and recording; sound-on-sound switch; illuminated VU meter; tape lifters; automatic shut-off; headphone monitor jacks; four-digit counter.

**Uher 9000 Stereo Tape Deck**—Includes response curve, **\$400.00** detachable dust cover, and accessory cables. Net Each.

### "ROYAL STEREO 8000E"

#### TRANSISTORIZED PORTABLE TAPE RECORDER

Ultra-high-performance design satisfies every recording need of the most discriminating professional or audiophile. Provides truly professional quality, 4-track stereo and monophonic recording and playback. Completely transistorized to eliminate problems of weight, heat, electrical stability and reliability. Two separate recording heads permit monitoring ahead of the recording head, or from the tape after recording; built-in mixer control for both channels, plus two input level controls. Single function selector features "optical" control, an illuminated indicator for fast, easy selection without error. Built-in impulse transmitter permits automatic control of slide projectors or other equipment. Provision made for echo effect, sound-on-sound recording, electrical remote control and automatic end-of-reel shut-off. "Multi-Play" function allows transfer of recording to a parallel track while simultaneously adding a new recording to the original track. Controls include volume, tone, balance and remote. Three mike inputs and equalized radio and phono inputs. Outputs provide for two speakers and headphones; two built-in monitor speakers. Output is push-pull type. **Tape Speeds:** 7 1/2, 3 3/4, 1 3/4 and 1 1/2 ips/sec. **Frequency Response:** ±3 db, 50-20,000 cps at 7 1/2"/sec.; 50-16,000 cps at 3 3/4"/sec.; 50-8,000 cps at 1 3/4"/sec.; 50-4,000 cps at 1 1/2"/sec. **Reel Size:** Up to 7". **Wow and Flutter:** ±0.15% at 7 1/2"/sec. (audible frequency only). **Power Output:** 2 watts each channel. **Channel Separation:** 50 db. **Recording Heads:** 4-track to international standards. **Power Required:** 30 watts, 110 VAC, 60 cps. **Size:** 14" x 13" x 7". **Weight:** 23 lbs.

**Uher "Royal Stereo 8000E"**—With dynamic mike, **\$420.00** stereo cable and portable case. Net Each.

### UHER RECORDING ACCESSORIES

**Uher No. 121 Stereo Transistor Mixer**—Designed for mono and stereo operation. Mix and fade 5 mono signals or 2 stereo signals plus 1 mono signal. Enables you to produce "movement effects" of mono voices as well as all types of sound mounting and trick effects. May be connected to any mono or stereo tape recorder. Net Each. **\$140.00**

**Uher No. 817 Akustomat Voice Actuated Control**—You simply speak, the machine records; stop speaking, the machine stops. Absolutely no wasted tape. Ideal for field trips, interviews, dictation, etc. Net Each. **\$45.00**

**Uher No. 1069L Attache Case**—With hidden microphone, start/stop microphone switch. Net Each. **\$55.00**

Space does not permit listing all available Uher recording accessories. Please inquire.



# SOLID STATE PROFESSIONAL RECORDERS

All Crown quality professional recorders are designed to fit equally well in commercial, industrial, educational, recreational institutional and religious applications. Engineering simplicity and dependability are the standards for this durable and rugged professional series. All-aluminum construction provides lightweight units with above average strength. Solid state circuitry

utilized in all models. Large, easy-to-read VU meters for quick-glance audio frequency, power level indications. Hysteresis motors are used throughout the series for constant operating speed; plug-in, printed circuit modules for each circuit function. All Crown recorders and players feature operational flexibility for professional quality performance.

## SX700 SERIES STEREO RECORDERS

Two speed, solid state stereo recorder features new simplified electronics. Accommodates reels up to 10 1/2" size; exclusive patented electromagnetic braking system. Available with either four-track or two-track capacity and features pushbutton solenoid operation, straight line threading, hysteresis synchronous motor, two Hi-Z inputs per channel, A-B monitor switch, separate output control for each channel and two illuminated 5" VU meters. Stop and operate modes may be controlled remotely. **Frequency Response:** ±2 db, 30-20,000 cps at 7 1/2 lps; ±2 db, 30-15,000 cps at 3 1/2 lps. **Signal-to-Noise Ratio:** 54 db at 7 1/2 lps; 50 db at 3 1/2 lps. **Flutter and Wow:** NAB standards, 0.09% rms at 7 1/2 lps; 0.18% rms at 3 1/2 lps. **Timing Accuracy:** ±0.2% at 7 1/2 lps. **Tape and Reel Size:** 1" or 1 1/2" mil tape in 5"-10 1/2" reels. **Inputs:** Two 100,000-ohm mike or line inputs per channel; -66 db or -25 db sensitivities. **Outputs:** +10 dbm into 600-ohm unbalanced load; two front panel stereo jacks. **Power Required:** 117 VAC, 60 cps, 140 watts. **Size:** 19" w. x 8" d. x 15 3/4" h. (rack space). Weight: 42 lbs. unmounted; 53 lbs. portable.

**Crown Model SX724**—Four-track stereo. Net Each... \$995.00  
**Crown Model SX722**—Two-track stereo. Net Each... 995.00

## SS700 SERIES TAPE RECORDERS

Three speed, monophonic or stereo recorders and players. Non-magnetic capstan drive and three-motor, electromagnetic braking system. Pushbutton transport can be remote for Stop and Operate modes. Two unbalanced line inputs per channel may be extended to two mike inputs per channel by adding SS-2 microphone preamplifiers. Treble and bass equalization controls for each channel for special effects. Switch to monitor; Source, tape, output or source plus tape function. Separate output control, front panel bias control and interlocked play-record and bias switch for each channel. Dual, 5" VU meters. **Frequency Response:** ±2 db, 50-25,000 cps at 7 1/2 lps; ±2 db, 50-15,000 cps at 3 1/2 lps; ±3 db, 50-10,000 cps at 1 1/2 lps. **Signal-to-Noise Ratio:** 55 db at 7 1/2 lps; 50 db at 3 1/2 lps; 45 db at 1 1/2 lps. **Flutter and Wow:** NAB standards, .09% at 7 1/2 lps; .18% at 3 1/2 lps; .36% at 1 1/2 lps. **Timing Accuracy:** Within ±0.2% at 7 1/2 lps. **Tape and Reel Size:** 1" or 1 1/2" mil tape in 5"-10 1/2" reels. **Inputs:** 5,000 ohms, 10 dbm line inputs; with SS-2 added, 100,000-ohm mike inputs; or, with Cannon connector strip, 50-250 ohm balanced mike inputs. **Outputs:** 5,000 ohms unbalanced; with addition of SS-6 amplifier, up to +12 dbm output unbalanced; or, with Cannon connector strip 600 ohms balanced. **Power Required:** 117 VAC, 60 cps, 160 watts. **Size:** 15 3/4", monophonic; 17 1/2", stereo; 12 1/4", players (rack space). Weight: 50 lbs. unmounted; 60 lbs. portable.

**Crown Model SS702 Recorder**—1/2-track mono. Net. \$ 955.00  
**Crown Model SS722 Recorder**—1/2-track stereo. Net. 1,240.00  
**Crown Model SS724 Recorder**—1/2-track stereo. Net. 1,240.00  
**Crown Model SP701 Player**—Full-track mono. Net... 545.00  
**Crown Model SP702 Player**—1/2-track mono. Net... 545.00  
**Crown Model SP722 Player**—1/2-track stereo. Net... 595.00  
**Crown Model SP724 Player**—1/2-track stereo. Net... 595.00

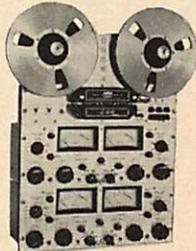
## SS800 SERIES STUDIO RECORDERS

For laboratory and recording studios. Precision, solid state circuitry provides the user with top-quality professional equipment. All relay-controlled operations, can be remote controlled. Has push-pull, front panel speed shift. Patented electromagnetic braking system is complemented by photocell automatic stop mechanism. Front panel bias adjust, one for each channel, for maximum distortion reduction. Straight line threading is standard. Non-magnetic capstan drive extends tape life; hysteresis synchronous motor system for constant speeds. Each circuit function is a separate plug-in module. Monitor with meter switch for each

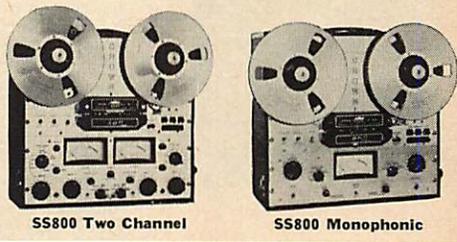


SX700

SS700



SS800 Four Channel



SS800 Two Channel

SS800 Monophonic

channel includes: A Source, B Tape, Tape Output, combined Source and Tape, Aux, Line, Mike and RIAA recording curve indicator on stereo models. Separate bass and treble adjustments for each channel on two- and four-channel models; none on monophonic model. Illuminated 5" VU meter for each channel; switch for Play, Record and Read Bias. Power switch is not integrated with Operate switch, enabling readjustment of controls to maintain settings between usage. Other features are cueing switch, 3-way interlock for record and engraved lettering.

## MONOPHONIC MODELS

**Frequency Response:** ±2 db, 50-30,000 cps at 15 lps; ±2 db, 30-20,000 cps at 7 1/2 lps; ±2 db, 30-10,000 cps at 3 1/2 lps. **Signal-to-Noise Ratio:** 57 db at 15 lps; 55 db at 7 1/2 lps; 50 db at 3 1/2 lps. **Wow and Flutter:** .06% at 15 lps; .09% at 7 1/2 lps; .18% at 3 1/2 lps. **Inputs:** 5,000 ohms unbalanced bridging. With plug-in accessories; Balanced bridging, Hi-Z mike, 50-250 ohm mike. Also has front panel input. **Outputs:** 5,000 ohms unbalanced; or, with addition of SS-6 amplifier, up to +12 dbm output, 600 ohms balanced. **Size:** 19" w. x 15 3/4" h. (rack space).

**Crown Model SS801 Recorder**—Full track. Net Ea. \$1,200.00  
**Crown Model SS802 Recorder**—Half track. Net Ea. 1,175.00  
**Crown Model SP801 Player**—Full track. Net Each... 745.00  
**Crown Model SP802 Player**—Half track. Net Each... 720.00

## SL800 SERIES LOGGERS

All Logger Models are members of the famous 800 Studio Series and feature slow speed operation (0.33 lps), which gives 24-hour continuous recording time on only 2400 feet of tape. **Frequency Response:** ±3 db, 250-2,200 cps. **Signal-to-Noise Ratio:** Better than 30 db.

**Crown Model SL802 Logger**—Half-track, mono. Net. \$1,330.00  
**Crown Model SL824 Logger**—Two channel. Net Ea. 1,630.00  
**Crown Model SL844 Logger**—Four channel. Net Ea. 2,650.00

## FOUR-CHANNEL, FOUR-TRACK STEREO MODEL

**Frequency Response:** ±2 db, 50-25,000 cps at 7 1/2 lps; ±3 db, 50-15,000 cps at 3 1/2 lps; ±3 db, 100-9,000 cps at 1 1/2 lps. **Signal-to-Noise Ratio:** 50 db at 7 1/2 lps; 40 db at 3 1/2 lps; 45 db at 1 1/2 lps. **Wow and Flutter:** .09% at 7 1/2 lps; .18% at 3 1/2 lps; .36% at 1 1/2 lps. **Inputs:** Same per channel as two-channel models. **Outputs:** Same per channel as two-channel models. **Size:** 19" w. x 24 1/2" h. (rack space).

**Crown Model SS844 Recorder**—Four track. Net Ea. \$2,400.00

## TWO-CHANNEL STEREO MODELS

**Frequency Response:** ±2 db, 50-30,000 cps at 15 lps; ±2 db, 30-30,000 cps at 7 1/2 lps; ±2 db, 30-10,000 cps at 3 1/2 lps. **Signal-to-Noise Ratio:** 57 db at 15 lps; 55 db at 7 1/2 lps; 51 db at 3 1/2 lps. **Wow and Flutter:** 0.07% at 15 lps; 0.1% at 7 1/2 lps; 0.18% at 3 1/2 lps. (Above specifications are for four-track model; two-track stereo specifications same as monophonic units.) **Inputs:** Two 5,000 ohm unbalanced inputs per channel. With SS-2 preamplifier, Hi-Z mike. With Cannon connector strip, 50-250 ohm balanced mike inputs. **Outputs:** 5,000 ohms unbal. With addition of plug-in SS-6 amplifier, up to +12 dbm unbalanced. With Cannon connector strip, 600-ohm balanced. **Size:** 19" w. x 17 3/4" h. (rack space); 19 3/4" h. with fourth head.

**Crown Model SS822 Recorder**—Two track. Net Ea. \$1,440.00  
**Crown Model SS824 Recorder**—Four track. Net Ea. 1,440.00  
**Crown Model SP822 Player**—Two track. Net Each... 770.00  
**Crown Model SP822-P4 Player**—Two and four track. Net Each... 995.00  
**Crown Model SP824 Player**—Four track. Net Each... 770.00

BROCHURE AVAILABLE WITH COMPLETE  
CROWN RECORDER/PLAYER LINE AND  
ACCESSORIES. WRITE FOR INFORMATION.

# AMPEX Tape Recorders, Accessories

## AMPEX STEREO TAPE RECORDERS

### 800 SERIES TAPE RECORDERS

- ACCURATE RECORD LEVEL VU METERS
- INSTANT-ON SOLID STATE ELECTRONICS
- MAXIMUM APPLICATION VERSATILITY



860

The Ampeg 800 Series is designed to outperform all other stereo tape recorders in its price class. A complete tape library can be built; recordings can be made from any audio device. No bothersome warm-up time is required with the Series 800 solid state circuitry. Tantalum capacitors are used for increased reliability; housed in rugged die-cast aluminum frame to withstand the abuse of portability. Also, an Ampeg exclusive, dual-capstan drive for perfect recordings and playbacks; and, elimination of pressure pads. Automatic shut-off switch; automatic tape lifters; automatic digital counter; top-mounted mike inputs; muting switch for monitoring; push-pull bass attenuator, safety record. Comes complete with two 701 microphones for live, stereo or monophonic recording. **Tape Speeds:** 7 1/2 ips; 3 3/4 ips; 1 7/8 ips. **Frequency Response:** 15-15,000 cps at 7 1/2 ips; 50-7,500 cps at 3 3/4 ips. **Flutter and Wow:** 15% at 7 1/2 ips. **Signal-to-Noise Ratio:** 46 db. **Power Output:** 16-watt power amplifier; 4 watts rms per channel guaranteed. **Reel Size:** 7" max. **Functions:** Record and play; stereo and monophonic. **Power Required:** 110-120 VAC. 60 cps. **Ampeg Model 860 Portable Tape Recorder**—Vinyl-clad beige, reinforced wood case with fold-down handle and amplifiers. Without speakers. Net Each. . . . . **\$289.95**  
**Ampeg Model 865 Furniture Style Tape Recorder**—Same as Model 860, except mounted in oiled walnut furniture cabinet. Net Each. . . . . **\$319.95**  
**Ampeg Model 861 Portable Outfit**—Model 860 complete, plus pair of Ampeg Model 813 slide-on speakers and two 10' cords. Net Each. . . . . **\$299.95**  
**Ampeg Model 850 Tape Deck**—Uncased Model 860, without amplifier; for use with external power amplifier and speakers. Aluminum frame for easy installation, at any angle. Without microphone. Net Each. . . . . **\$249.95**

### NEW 900 SERIES LOW-PRICED TAPE RECORDERS

- AUTOMATIC BI-DIRECTIONAL PLAY
- LIFETIME DEEP GAP HEADS
- ACCURATE LEVEL VU METERS



960

Moderately-priced unit combines superb performance with operating ease. Simplified, straight-line threading loads faster than a phono. Automatic reverse for playing both directions without switching reels; manual reverse at any point on the tape; up to 9 hours of music, uninterrupted. Utilized controls grouped for easiest operation; interlocked controls eliminate tape breakage; two-way muting switch for record monitoring; automatic silencing of internal speakers when external speakers are in use. Automatic shut-off or continuous playing; tape lifters; digital counter; constant-speed, hysterisis motor unaffected by line variations. Positive-action, dual capstan drive uses one for motion and the other for hold-back tension; assures uniform speed and tension with top performance; eliminates pressure pads. Professional quality record and playback heads are unequaled in performance and quality. With preamplifiers, solid state amplifiers, two dynamic mikes. Vinyl-clad beige, reinforced wood carrying case with fold-down handle. **Tape Speeds:** 1 3/4 sec., 3 3/4 sec., and 7 1/2 sec.; 1200 ft. in 115 sec. avg. rewind. **Preamp Frequency Response:** ± 2 db, 30-18,000 cps avg. at 7 1/2 ips; ± 3 db, 40-12,000 cps avg. at 3 3/4 ips; ± 3 db, 40-6,000 cps avg. at 1 7/8 ips. **Flutter and Wow:** 0.12% avg. at 7 1/2 ips; 0.15% at 3 3/4 ips; 0.25% at 1 7/8 ips. **Preamp Signal-to-Noise Ratio:** 52 db avg. at 7 1/2 ips; 48 db, 3 3/4 ips; 43 db, 1 7/8 ips. **Power Output:** 8 watts avg. continuous rms per channel (40 watts peak, channels combined). **Reel Size:** 7" max. **Functions:** Record and play 4-track stereo and monophonic, play full-track and 1/2-track monophonic. **Ampeg Model 960 Portable Tape Recorder**—Net Each. . . . . **\$389.95**  
**Ampeg Model 961 Portable Outfit**—Model 960 complete, plus pair of 813 slide-on speakers and two 10' cords. Net Each. . . . . **\$399.95**

### 1100 SERIES TAPE RECORDERS

- AUTOMATIC BI-DIRECTIONAL PLAY
- TWO SECOND AUTOMATIC THREADING
- RUGGED DIE-CAST ALUMINUM CONSTRUCTION



1160

Solid state circuitry combines with automatic "magic slot" tape loader, electronic reversing and utilized controls for easy operations. Silicon transistors, anodized aluminum heat sink and tantalum capacitors are used in the construction of this quality stereo record/playback unit. Automatic reverse at either end; manual reverse at any point on tape; automatic shut-off or continuous playing; automatic tape lifter; digital counter; interlock controls; friction-loaded volume controls; monitor switch. Separate VU meters for each channel assure desired record level. Precise dual-capstan drive maintains constant speed and ends need for "headwearing" pressure pads. All models are equipped with special long-life, deep-gap heads. Up to nine hours of stereophonic play (18 hours mono) on 7" reel. **Tape Speeds:** 7 1/2 ips; 3 3/4 ips; 1 7/8 ips. **Flutter and Wow:** Inaudible at slowest speed. **Power Output:** 16-watt power amplifier; 4 watts rms per channel. **Reel Size:** 7" max. **Functions:** Record and play; stereo or monophonic (up to 4-track). **Ampeg Model 1160 Portable Tape Recorder**—Vinyl-clad beige reinforced wood carrying case with fold-down handle. With one dynamic microphone. Net Each. . . . . **\$449.95**  
**Ampeg Model 1165 Furniture Style Tape Recorder**—Identical to Model 1160, except mounted in oiled walnut furniture cabinet. With one dynamic microphone. Net Each. . . . . **\$479.95**  
**Ampeg Model 1161 Portable Outfit**—Model 1160 tape recorder complete plus pair of Ampeg 1113 slide-on speakers and two microphones; two 10' cords. Net Each. **\$499.95**  
**Ampeg Model 1150 Tape Deck**—Uncased Model 1160, without amplifiers; for use with external power amplifier and speakers. Aluminum frame for easy installation, at any angle. Without microphone. Net Each. . . . . **\$379.95**

### AMPEX SPEAKERS

**Ampeg Model 815 Matched Pair Speakers**—Designed to perform perfectly with the 800 Series. Contains 6" woofer and 3" tweeter; infinitely baffled for full response. Beige grille cloth and fiberglass filled. **Size:** 9" w. x 13 1/2" h. x 7 1/2" d. Net per Pair. . . . . **\$59.95**  
**Ampeg Model 813 Matched Pair Speakers**—Each enclosure contains one 6" x 9" dual-cone extended-range speaker. Frequency Response, 100-10,000 cps. Slides onto any Ampeg tape recorder.

Comes with 10' cords with molded jack connections; inserts directly into recorder speaker outlet. Light tan high impact plastic case with dark brown grille. Net per Pair. . . . . **\$29.95**

**Ampeg Model 1113 Matched Pair Speakers**—Designed to mate with any Ampeg tape recorder. Similar to Model 813 but better high and low frequency response. Net per Pair. . . . . **\$49.95**

# Tape Recorders and Accessories

## AMPEX NEW 2100 SERIES TAPE RECORDERS

### ● BI-DIRECTIONAL RECORDING

#### ● BUILT-IN MONOPHONIC MIXER

#### ● DUAL CAPSTAN DRIVE

This quality series contains all the top Ampex features plus bi-directional recording (records from left-to-right and from right-to-left with no rewinding or reel changing); and built-in monophonic mixer (permits recording of both mike and line input from two separate sound sources on a single track). Two-second automatic threading and fully automatic reverse. Inaudible signal at tape end changes direction permitting continuous play (reverse and re-reverse repeatedly, if desired); manual reverse also supplied. With preamplifier and power amplifier (except 2150). **Tape Speeds:** 1 7/8"/sec., 3 3/4"/sec. and 7 1/2"/sec.; 1200 ft. in 115 sec. avg., rewind. **Preamp Frequency Response:** +2 db, 30-18,000 cps avg. at 7 1/2"/sec., +3 db, 40-12,000 cps avg. at 3 3/4"/sec., 40-6,000 cps avg. at 1 7/8"/sec. **Flutter and Wow:** 0.08% at 7 1/2"/sec.; 0.12% at 3 3/4"/sec.; 0.2% at 1 7/8"/sec. **Preamp Signal-to-Noise Ratio:** 52 db avg. at 7 1/2"/sec.; 48 db avg. at 3 3/4"/sec.; 43 db avg. at 1 7/8"/sec. **Power Output:** 8 watts avg. continuous rms per channel (40 watts peak, channels combined). **Reel Size:** 7" max. **Functions:** Record and play 4-track stereo and monophonic; play full-track and 1/2-track monophonic.

**Ampex Model 2160 Portable Tape Recorder**—Black vinyl-clad reinforced wood case with fold-down handle. With snap-on dust cover and one 2001 microphone without base. Net Ea. **\$599.95**

**Ampex Model 2165 Furniture Style Tape Recorder**—Same as Model 2160 except mounted in oiled walnut cabinet. With snap-on dust cover and one 2001 microphone without base. Net Ea. **\$629.95**



2160

**Ampex Model 2161 Portable Outfit**—Model 2160 plus two 2001 microphones with bases, pair of 2013 Slide-On Speakers and two 10' cords. Net Each. **\$649.95**

**Ampex Model 2150 Tape Deck**—Uncased Model 2160 without amplifier; for use with external power amplifier and speakers. Aluminum frame for easy finished mounting; installation at any angle. Without microphone. Net Each. **\$529.95**

### AMPEX TAPE RECORDER ACCESSORIES

| Ampex Model | Description  | Net Each |
|-------------|--|----------|
| 701         | Dynamic omnidirectional microphone; portable, with base                    | \$ 9.95  |
| 1101        | Dynamic omnidirectional microphone; self-standing with 9' cord, phone plug | 19.95    |
| 2001        | Dynamic omnidirectional microphone; frequency response, 50-15,000 cps      | 29.95    |
| 3001        | Unidirectional, dual impedance microphone for wide-range reproduction      | 59.95    |

| Ampex Model | Description   | Net Each |
|-------------|---|----------|
| 140         | Stereo earphones  | \$29.95  |
| 141         | Stereo earphones with volume control                                  | 39.95    |
| 805         | Deluxe tape splicer   | 9.95     |
| 806         | Dust cover for all Ampex recorders                                    | 9.95     |
| 820         | Tape head demagnetizer  | 9.95     |
| 823         | Tape head cleaner; 4 oz. can  | 1.50     |
| 895         | Kit: Head demagnetizer, cleaner, splicer and tape, leader tape, swabs | 22.50    |

### AMPEX MAGNETIC RECORDING TAPE

Assures the finest performance for all recording on tape. Gives reproduction matching the full potential of the finest recorders. Precise width uniformity assures smooth response and smooth passage by heads. Uniformly dense, ferric oxide coating permanently bonded to the base; holds wear to a minimum, assures

#### 500 SERIES RECORDING TAPE

Most advanced Mylar tape available. Smartly boxed and available with new 4" hub for uniform speed, faster rewind and safety against reel warpage.

##### REGULAR OXIDE MYLAR\*

| Ampex Number | Thick-ness | Lgth., Ft. | Size, In. |       | List Price | Net Each |
|--------------|------------|------------|-----------|-------|------------|----------|
|              |            |            | Reel      | Hub   |            |          |
| 531-13       | 1.5 mil    | 600        | 5         | 2 1/4 | \$2.65     | \$1.59   |
| 531-15       | 1.5 mil    | 1200       | 7         | 2 1/4 | 4.25       | 2.55     |
| 541-13       | 1.0 mil    | 900        | 5         | 2 1/4 | 3.40       | 2.04     |
| 541-15       | 1.0 mil    | 1800       | 7         | 2 1/4 | 6.20       | 3.72     |
| 541-15M      | 1.0 mil    | 1200       | 7         | 4     | 3.50       | 2.10     |
| 551-13       | 0.5 mil    | 1200       | 5         | 2 1/4 | 5.45       | 3.27     |
| 551-15       | 0.5 mil    | 2400       | 7         | 2 1/4 | 9.50       | 5.70     |

##### STANDARD OXIDE ACETATE

| Ampex Number | Thick-ness | Lgth., Ft. | Size, In. |       | List Price | Net Each |
|--------------|------------|------------|-----------|-------|------------|----------|
|              |            |            | Reel      | Hub   |            |          |
| 511-13       | 1.5 mil    | 600        | 5         | 2 1/4 | \$2.25     | \$1.35   |
| 511-15       | 1.5 mil    | 1200       | 7         | 2 1/4 | 3.50       | 2.10     |
| 521-13       | 1.0 mil    | 900        | 5         | 2 1/4 | 3.50       | 2.10     |
| 521-15       | 1.0 mil    | 1800       | 7         | 2 1/4 | 6.50       | 3.30     |

##### SLO SPEED OXIDE MYLAR\*

Especially designed for 1 7/8"/sec and 3 3/4"/sec recording.

| Ampex Number | Thick-ness | Lgth., Ft. | Size, In. |       | List Price | Net Each |
|--------------|------------|------------|-----------|-------|------------|----------|
|              |            |            | Reel      | Hub   |            |          |
| 536-15       | 1.5 mil    | 1200       | 7         | 2 1/4 | \$ 4.75    | \$2.85   |
| 546-15       | 1.0 mil    | 1800       | 7         | 2 1/4 | 6.90       | 4.14     |
| 546-15M      | 1.0 mil    | 1200       | 7         | 4     | 3.95       | 2.37     |
| 556-15       | 0.5 mil    | 2400       | 7         | 2 1/4 | 10.75      | 6.45     |

uniform performance and keeps tape heads clean. Ferro-Sheen process finish eliminates roughness for optimum performance and maximum frequency response. Tough Mylar base resists shock, breakage, warping, distortion and chance of tearing. Lasts longer, without brittling from heat or humidity.

#### 900 SERIES RECORDING TAPE

Economical acetate or Mylar base tape. Each reel comes in book-like box with leatherette binding and gold foil for labelling to dress up tape libraries.

##### STANDARD OXIDE ACETATE

| Ampex Number | Thick-ness | Lgth., Ft. | Size, In. |       | List Price | Net Each |
|--------------|------------|------------|-----------|-------|------------|----------|
|              |            |            | Reel      | Hub   |            |          |
| 911-11       | 1.5 mil    | 150        | 3         | 2 1/4 | \$0.65     | \$0.39   |
| 911-13       | 1.5 mil    | 600        | 5         | 2 1/4 | 1.75       | 1.05     |
| 911-15       | 1.5 mil    | 1200       | 7         | 2 1/4 | 2.95       | 1.77     |
| 921-11       | 1.0 mil    | 225        | 3         | 2 1/4 | .80        | .48      |
| 921-13       | 1.0 mil    | 900        | 5         | 2 1/4 | 2.50       | 1.50     |
| 921-15       | 1.0 mil    | 1800       | 7         | 2 1/4 | 4.25       | 2.55     |

##### STANDARD OXIDE MYLAR\*

| Ampex Number | Thick-ness | Lgth., Ft. | Size, In. |       | List Price | Net Each |
|--------------|------------|------------|-----------|-------|------------|----------|
|              |            |            | Reel      | Hub   |            |          |
| 931-13       | 1.5 mil    | 600        | 5         | 2 1/4 | \$2.25     | \$1.35   |
| 931-15       | 1.5 mil    | 1200       | 7         | 2 1/4 | 3.65       | 2.19     |
| 941-13       | 1.0 mil    | 900        | 5         | 2 1/4 | 2.85       | 1.71     |
| 941-15       | 1.0 mil    | 1800       | 7         | 2 1/4 | 4.95       | 2.97     |
| 951-11       | 0.5 mil    | 300        | 3         | 2 1/4 | 1.35       | .81      |
| 951-13       | 0.5 mil    | 1200       | 5         | 2 1/4 | 4.50       | 2.70     |
| 951-15       | 0.5 mil    | 2400       | 7         | 2 1/4 | 7.95       | 4.77     |

\*Registered DuPont trademark.

ASCO/SONOCRAFT IS YOUR FIRST SOURCE FOR ALL TAPE RECORDING EQUIPMENT AND ACCESSORIES. WE HAVE ALL THE LATEST INSTRUMENTS IN STOCK FOR IMMEDIATE DELIVERY.

ASK ABOUT NEW OR UNLISTED ITEMS.

**LIMITED EDITION SERIES 777 SOLID STATE RECORDER**

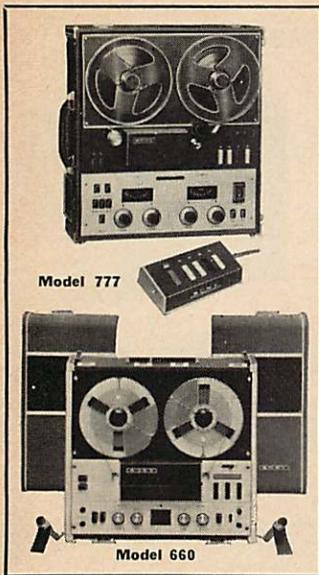
Professional stereo and monophonic recorder available for four-track operation. Sony's patented **Trac-Scan Drive** system reduces tape slippage for unexcelled flutter and wow specifications, and superb tape timing accuracy. Exclusive **Electro Bl-Lateral** head achieves four- and two-track stereo or monophonic playback with absolutely no head shifting, track width or alignment compromise. Fabricating both the  $\frac{1}{4}$ -track and  $\frac{1}{2}$ -track stereo cores within a single head unit, the sum total of four separate heads is placed within the space normally required for three heads. Special features include facility for sound-on-sound, tape/source comparison monitoring and mike or line mixing. Three motors include a two-speed hysteresis-synchronous drive. Complete push button solenoid-activated operation with relay-activated pause control. Remote control provided for all modes of operation. Military-type modular plug-in transistorized electronic circuitry assures highest reliability with repair ease. Automatic tape lifters permit ease of operation. Two, easy-to-read VU meters give instant reading of recording level on each channel. Comes complete with portable case and remote control. **Tape Speeds:** 7 $\frac{1}{2}$  ips and 3 $\frac{3}{4}$  ips. **Frequency Response:** +2 db, 30-15,000 cps at 7 $\frac{1}{2}$  ips. **Flutter and Wow:** 0.09% rms at 7 $\frac{1}{2}$  ips; 0.15% rms at 3 $\frac{3}{4}$  ips. **Signal-to-Noise Ratio:** 50 db. **Distortion:** Less than 1% harmonic at normal max. recording level. **Controls:** Separate Record and Playback Level, each channel; Pushbutton Record, Play and Speed; Output Impedance and Track Selection; two VU meters. **Input Impedance:** Microphone 250 ohms balanced 55 or 70 db (switchable); line 100K ohms unbalanced 10 db. **Output Impedance:** Line (switchable) 600 ohms unbalanced, 10K ohms unbalanced, each channel. **Power Required:** 85 watts, 117 VAC, 60 cps; 50 cps available. **Size:** 16" w. x 17 $\frac{3}{4}$ " h. x 9" d. Weight, 43 lbs.

**Sony Model 777-4 Recorder**—Four-track stereo and monophonic record and erase; two-track and four-track playback. Less than.....**\$695.00**

**MODEL 660 SOLID STATE MUSIC SYSTEM**

A highly advanced, four-track stereo/mono record and playback music system. Introduces the first truly automatic tape reversing system; you never touch the tape or recorder. Sony's exclusive **Electronic Sensory Perceptor ("ESP")**, activated solely by silence, automatically reverses the tape. Includes **XI-4** Quadradial four-way system that develops 50 watts of undistorted music power per channel. Two lid-integrated satellite speakers separate up to 15' for optimum stereo effect; two high compliance woofers in retractable lid enclosures in recorder case. Two electrical crossovers. Three motors; two VU meters. **Tape Speeds:** 7 $\frac{1}{2}$  ips and 3 $\frac{3}{4}$  ips. **Frequency Response:** +2 db, 50-15,000 cps at 7 $\frac{1}{2}$  ips. **Flutter and Wow:** Less than 0.06% at 7 $\frac{1}{2}$  ips; 0.10% at 3 $\frac{3}{4}$  ips. **Signal-to-Noise Ratio:** 50 db or better. **Bias Frequency:** 100 kc. **Inputs:** Two mike and two aux. **Power Required:** 150 watts, 115 VAC, 60 cps; 50 cps available. **Size:** 17" w. x 10 $\frac{3}{4}$ " d. x 7 $\frac{1}{2}$ " h. Weight, 55 lbs.

**Sony Model 660 Music System**—Supplied complete with speaker system and two Sony Model F-96 dynamic microphones. Fair Trade Net.....**\$499.50**



Model 777

Model 660

**NEW MODEL 530 SONYMATIC MUSIC SYSTEM**

Portable music system with 40-watt stereo amplifiers and 4-way **XI-4** Quadradial system with 2 woofers in recorder case and 2 satellite speakers in lid which can be separated up to 15 feet for stereo realism. Records and plays 4-track stereo or mono at three speeds. Solid state stereo circuitry provides 20 watts of pure music power per channel. Also features: Two illuminated VU meters to indicate record/playback levels; retractable pitch roller for ease of threading; automatic shutoff; automatic tape lifter; pause control and digital counter; separate bass and treble tone controls; sound-on-sound and microphone/line mixing with optional MX-68 accessory. **Tape Speeds:** 7 $\frac{1}{2}$ , 3 $\frac{3}{4}$  and 1 $\frac{1}{2}$  ips. **Frequency Response:** 40-15,000 cps at 7 $\frac{1}{2}$  ips. **Flutter and Wow:** 0.1% at 7 $\frac{1}{2}$  ips. **Signal-to-Noise Ratio:** 45 db or more. **Size:** 19 $\frac{3}{4}$ " w. x 10" d. x 15 $\frac{3}{4}$ " h. Weight, 38 lbs.

**Sony Model 530 Sonymatic Music System**—In handsome, leather-grained gray and satin-chrome carrying case. With two Sony F-96 dynamic microphones. Fair Trade Net.....**\$319.50**

**MODEL 200 STERECORDER® SYSTEM**

Top performers in its price range; provides four-track stereo and monophonic recording and playback. Carrying case lid, when opened, separates into two complete, full range speaker systems for placement up to 15 feet apart; handsomely styled in gray and satin-chrome. Built-in amplifiers and stereo speakers also serve as PA system when desired. System complete with two Sony F-97 dynamic mikes. Tape recorder features include two VU meters, tape counter, pause control, FM multiplex recording inputs, playback tone control, facility for sound-on-sound, automatic tape lifters. **Tape Speed:** 7 $\frac{1}{2}$  ips and 3 $\frac{3}{4}$  ips. **Frequency Response:** 50-14,000 cps at 7 $\frac{1}{2}$  ips. **Signal-to-Noise Ratio:** 45 db or better. **Flutter and Wow:** Less than 0.19% at 7 $\frac{1}{2}$  ips. **Size:** 15" w. x 16" d. x 9" h., overall. Weight, 27 lbs.

**Sony Model 200 Sterecorder**—Fair Trade Net.....**\$179.50**



Model 530

Model 200

**NEW MODEL 907 LOW-COST BATTERY-POWERED SONYMATIC**

A compact, monophonic portable that retains virtually all of the features of Sony's famous Model 900, including its room-filling playback power and fidelity. Truly the perfect away-from-home recorder for the student, teen-ager, hobbyist, housewife, or amateur photographer. Offers Sonymatic ARC (Automatic Recording Control); two-speed operation; solid state circuitry; full 3 $\frac{3}{4}$ " reel capacity; dual-track record/playback; remote stop/start switch on dynamic mike. Fully battery powered—can be taken anywhere; operates from household current when used with optional Model AC-12 Adapter, below. **Tape Speeds:** 3 $\frac{3}{4}$  ips and 1 $\frac{1}{2}$  ips. Weight, 5 lbs.

**Sony Model 907 Sonymatic Recorder**—Supplied complete with batteries, earphone for private listening, and dynamic microphone. Fair Trade Net.....**\$49.50**

**Sony Model VCF-85 Voice Command Microphone**—Adds voice-activating feature to Model 907 Recorder starts at sound of your voice, pauses when you pause. Fair Trade Net.....**\$17.50**

**Sony Model AC-12 AC Power Adapter**—Converts 907 to plug-in power. Fair Trade Net.....**10.95**

**Sony Model FS-5 Foot Switch**—Permits remote stop/start of 907. Fair Trade Net.....**6.95**

**MODEL 800 SERVOCONTROL TAPE RECORDER**

Three-speed, solid state portable recorder. Has servo-controlled motor and direct capstan drive; advanced electronic circuitry automatically corrects for speed variations and maintains precise timing accuracy. Full 5" reel capacity delivers up to four hours of full-fidelity speech or music on a single reel. Operates on flashlight batteries or house current without use of adapter. A dynamic cardoid mike with remote stop/start switch is included. Other features: Automatic volume control with defeat switch; VU meter to indicate record level, battery condition, or play level; digital tape counter; tone control; safety record interlock. **Tape Speeds:** 7 $\frac{1}{2}$ , 3 $\frac{3}{4}$  and 1 $\frac{1}{2}$  ips. **Frequency Response:** 50-12,000 cps at 7 $\frac{1}{2}$  ips; 50-9,000 cps at 3 $\frac{3}{4}$  ips; 50-6,000 cps at 1 $\frac{1}{2}$  ips. **Flutter and Wow:** Less than 0.15% at 7 $\frac{1}{2}$  ips; 0.2% at 3 $\frac{3}{4}$  ips; 0.25% at 1 $\frac{1}{2}$  ips. **Signal-to-Noise Ratio:** Over 42 db. **Inputs:** Mike and line. **Output:** Monitor. **Power Required:** 8 "D" batteries or 117 VAC, 50/60 cps. **Size:** 12 $\frac{1}{2}$ " w. x 10 $\frac{1}{2}$ " d. x 4 $\frac{1}{2}$ " h. Weight, 13 lbs.

**Sony Model 800 Servocontrol**—Fair Trade Net.....**\$199.50**



Model 907

Model 800

**MODEL 260 SOLID STATE STERECORDER®**

Complete four-track stereo system, with speakers and amplifiers, in leather-grained, gray and satin-chrome carrying case. Features two professional VU meters; automatic shut-off switch and tape lifters; inputs for FM stereo recording. Vertical or horizontal operating position. **Frequency Response:** ±3 db, 50-15,000 cps. **Tape Speeds:** 7½ ips and 3¾ ips. **Flutter and Wow:** Less than 0.19%. **Signal-to-Noise Ratio:** 50 db or better. **Power Output:** 20 W total music power, 8 ohms. **Size:** 21¾" w. x 15½" d. x 7¾" h. Weight, 34 lbs.

**Sony Model 260 Solid State Stereorecorder**—With two Sony Model F-96 dynamic microphones. Fair Trade Net. . . . . \$229.50

**MODEL 350 SOLID STATE STERECORDER**

Four-track stereo playback tape system gives a component hi-fi set-up the versatility and capabilities of stereo tape facilities. Offers a full array of professional features, including: Three-head design for sound-on-sound and tape and source monitoring; four-track stereo/mono recording and playback; built-in solid state recording amplifiers and playback preamplifiers; vertical and horizontal operating placement; belt-free, dynamically balanced capstan flywheel; pause control; digital tape counter; automatic sentinel switch; headset monitor jack. Dual VU meters are calibrated to professional standards for precise level indication. Tape/source monitor switch provides audible comparison between source and tape being recorded. **Frequency Response:** ±2 db, 50-15,000 cps. **Tape Speeds:** 7½ ips and 3¾ ips. **Flutter and Wow:** Less than 0.19%. **Signal-to-Noise Ratio:** 50 db or better. **Power Output:** 117 VAC, 60 cps. **Size:** 17¾" w. x 12¼" d. x 6½" h. Wt., 18 lbs.

**Sony Model 350 Stereorecorder**—With walnut-grained low-profile base. Fair Trade Net. . . . . \$179.50

**Sony Model 350C Stereorecorder**—Same as Model 350, but for portable use. Mounted in dark gray and satin-chrome carrying case. **Size:** 18¾" w. x 17" d. x 6¾" h. Weight, 20 lbs. Fair Trade Net. . . . . \$205.00

**NEW MODEL 105 SOLID STATE DELUXE MONOPHONIC SONYMATIC**

A top-notch portable three-speed tape recorder offering such exclusive professional features as retractable auto-roller threading, VU meter, mike and lining mixing, sound-on-sound, dictating pause control, and Sonymatic AVC with defeat switch. For voice recording, Sony's automatic volume control circuit automatically maintains perfect recording levels with no need for manual adjustments; for recording of music, an AVC switch allows the complete dynamic range of full high fidelity to be captured. Full 7" reel capacity and 4-track monophonic recording and playback for up to eight hours of continuous operation. Has 10 watts of music power output and built-in speaker, with switch for portable PA applications. Also: Automatic shut-off; digital tape counter; tone control. **Tape Speeds:** 7½, 3¾ and 1½ ips. **Frequency Response:** 60-12,000 cps. **Flutter and Wow:** 1.25%. **Signal-to-Noise Ratio:** 48 db or better. **Inputs:** Low-impedance mike; high-impedance aux. **Outputs:** 8-ohm external speaker and monitor. **Power Required:** 45 watts, 117 VAC, 60 cps. **Size:** 14¾" w. x 7¾" d. x 13¼" h. Weight, 20¼ lbs.

**Sony Model 105 Sonymatic Recorder**—Supplied complete with Sony F-96 dynamic mike. Fair Trade Net. . . . . \$139.50

**NEW MODEL 104 SOLID STATE LOW-COST MONOPHONIC SONYMATIC**

This compact, three-speed portable recorder brings you renowned Sony quality at a surprisingly modest price. Will function perfectly and practically automatically—incorporates many deluxe features of units costing far more. Provides up to eight hours of record and playback operation on two tracks at three speeds. Efficient 11-ohm semiconductor circuit gives full 10 watts of music power output through self-contained 4" x 6" extended-range speaker. Special switch permits using Model 104 as a portable PA system. Sonymatic ARC circuit automatically adjusts recording levels and prevents overload distortion. Also has: Exclusive retractable pinch roller for unexcelled threading ease; automatic power shutoff at end of tape; pause control and digital counter for precise editing, cueing and indexing; automatic tape lifter; Weight, 15 lbs., 13 oz. **Capacity:** 15 min. **Tape Speeds:** 7½, 3¾ and 1½ ips. **Frequency Response:** 50-10,000 cps at 7½ ips. **Flutter and Wow:** Less than 0.15% at 7½ ips. **Signal-to-Noise Ratio:** Better than 46 db. **Inputs:** Mike; high-impedance aux. **Outputs:** 8-ohm external speaker and monitor. **Power Required:** 45 watts, 115 VAC, 60 cps. **Size:** 14" w. x 10¼" d. x 6¾" h. Weight, 15 lbs., 13 oz.

**Sony Model 104 Sonymatic Recorder**—Supplied complete with Sony F-96 dynamic mike and earphone. Fair Trade Net. \$99.50

**MODEL 250A SOLID STATE STERECORDER**

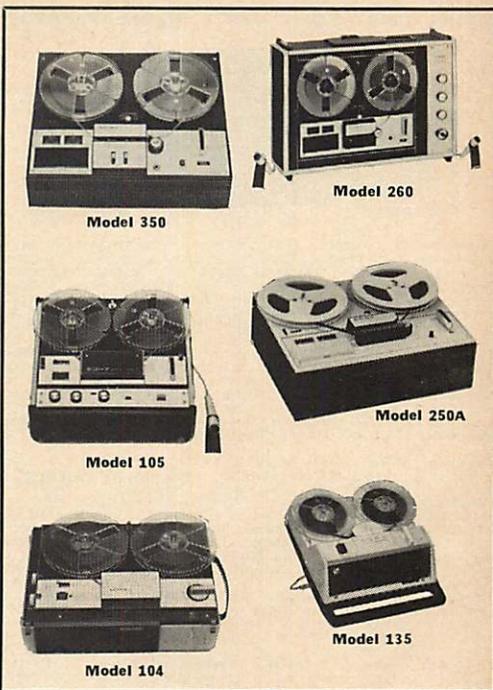
All-transistor, stereo four-track, tape deck with self-contained preamplifiers. Designed for custom installation in stereo component systems. **Frequency Response:** ±3 db, 50-15,000 cps. **Signal-to-Noise Ratio:** 50 db or better. **Flutter and Wow:** 1.15% per channel at 7½ ips. **Inputs:** 3¾ ips. **Outputs:** Mike and line. **Power Required:** 117 VAC, 60 cps. With walnut base.

**Sony Model 250A Stereorecorder**—Fair Trade Net. . . . . \$135.00

**MODEL 135 SONYMATIC TAPECORDER**

Sonymatic operation for instant recording; Flick on-off switch No. 1; press button No. 2 for record function; slide lever No. 3 to start transport and you are ready to record. Automatic volume control adjusts level for perfectly-balanced recordings every time without setting knob. Two-speed transport (3¾ and 1½ ips) takes reels up to 5"; provides over 4 hours recording time. Dictating pause control, automatic tape lifters, radio/TV inputs, external speaker output and dynamic mike. Operates on 115 VAC, 60 cps.

**Sony Model 135 Sonymatic Tapedecorder**—With microphone and carrying case. Fair Trade Net. . . . . \$69.50



**PR-150 PROFESSIONAL RECORDING TAPE**

Finest-quality magnetic tape specifically designed to provide full-range fidelity and optimum performance with Sony recorders. Impregnated with Sony Lubri-Cushion lubricant which won't wear off, minimizes head wear, and insures intimate head contact. Extra-heavy Oxi-Coat homogenized oxide coating gives balanced full-frequency record and playback without sound drop-outs. Also features special Flexi-Strength polyester for unusual durability, and Sony Permatizing to eliminate shredding, peeling, and flaking.

| Sony No.   | Tape Lgth. | Tape Width | Reel Size | Net Each |
|------------|------------|------------|-----------|----------|
| PR-150-3   | 300'       | ¾"         | 3¼"       | \$1.75   |
| PR-150-3M* | 300'       | ¾"         | 3"        | 1.60     |
| PR-150-9   | 900'       | ¾"         | 5"        | 3.60     |
| PR-150-18  | 1800'      | ¾"         | 7"        | 6.20     |

\*In self-mailing box.

**TAPE RECORDER ACCESSORIES**

**Sony Model MX-65 Stereo Microphone Mixer**—Versatile accessory provides professional mixing facilities for three mikes or high-level sources such as tape recorders. Ideal for use with all Sony solid state recorders; may be connected for stereo or mono. Less than. . . . . \$29.95

**Sony Model DR-3C Dynamic Stereo Headset**—Provides full-range response for private stereo listening or monitoring while recording. Adjustable headband; soft foam ear cushions and connecting cord with binaural phone plug. High impedance. Less than. . . . . \$27.50

**Sony Model DR-3A Stereo Headset**—Same as DR-3C but 10 W impedance. Less than. . . . . \$22.50

**Sony Model PC-1 Plug Adapter**—Adapts standard phone plug connectors to fit mini-jacks. Net Each. . . . . \$1.25

**Sony Model PC-2 Plug Adapter**—Adapts mini-plug connectors to fit standard phone jacks. Net Each. . . . . \$1.25

**Sony Model AD-5 Microphone Holder**—Flexible goose-neck holder for Model F-96 mike. Attaches to and adapts tape recorder for use as portable lectern. Less than. . . . . \$8.95

**Sony Model TP-45 Telephone Pickup**—For recording a transcript of important telephone conversations. Easy to attach to tape recorder. Net Each. . . . . \$3.50

**Sony Model HE-2 Head Demagnetizer**—Rugged professional unit has high flux density for maximum reduction of residual magnetism in tape-recorder heads. Features pushbutton on/off switch for ease of operation and peak performance. Magnetic probe assembly is plastic coated to prevent damage to heads. Less than. . . . . \$12.95

**Sony Model F-96 Dynamic Mike**—Wide range, high impedance design to complement the quality of any home recorder. Thin tapered shape and unique, removable stand. With cord and connecting plug. Less than. . . . . \$17.50

# RE Tandberg® Stereo Tape Recorders

## MODEL 12-41 SOLID STATE STEREO RECORDER



Self-contained portable recorder is unequalled by any other instrument in its class for superb sound and versatility. Features: Solid state circuitry; 10 watts output each channel; improved response and signal-to-noise ratio; less wow and flutter; 4-track stereo and monophonic operation; three tape speeds; compact lightweight portability. **Speeds:** 7½, 3¾ and 1½ ips; all ±2% accurate. **Frequency Response:** 40-20,000 cps (±2 db, 40-16,000 cps) at 7½ ips; 40-12,000 cps (±2 db, 60-10,000 cps) at 3¾ ips; 40-7,000 cps (±2 db, 60-5,000 cps) at 1½ ips. **Wow and Flutter:** 0.15% min. at 7½ ips; 0.2%, 3¾ ips; 0.3%, 1½ ips. **Power Output:** 10 watts contin., each channel at max. record level. **Signal-to-Noise Ratio:** -55 db min. at max. record level. **Speakers:** Two 4" x 7" speakers built in; two phone jacks for external (4 ohms, 10 watts) speakers (see optional systems below). **Power Required:** 115 VAC, 60 cps. **Size:** 16½" w. x 11¼" d. x 6¾" h. Wt., 23 lbs.

**Tandberg Model 12-41**—With teakwood cabinet, input-output cords, mike jacks, external speaker jacks, manual. **\$498.00** take-up reel and No. 538 carrying case. Net Each.

**Tandberg Model 12-21**—Same, but with ½-track heads instead of ¼-track. Net Each. **\$498.00**

**Tandberg Model TM4 Dynamic Microphone**—Omnidirectional mike for above tape recorders. Detachable, adjustable stand supplied. Response, ±3 db, 60-17,000 cps; ideal for music or speech. Sensitivity, .092 mV/microbar at 1 kc. Impedance, 200 ohms. Net Each. **\$37.95**

**Tandberg Model 113 Speaker System**—Illustrated above. Fine bass response in a very small cabinet using heavy-cone, low efficiency speaker for low and medium frequencies; tweeter handles frequencies above 3 kc. Teak cabinet 7¾" w. x 9¼" d. x 9¼" h. Net Each. **\$49.50**

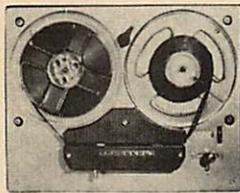
**Tandberg Model 112 Speaker System**—Handles full 40-watt output. Coaxial speaker has low resonance and long magnetic field for finest bass response; tweeter section responds above 3000 cps. Teak cabinet 20½" w. x 9¾" d. x 10¼" h. Net Each. **\$74.50**

**Tandberg Model 114 Speaker System**—High efficiency; covers 45-16,000 cps range. Handles up to 20 watts input. Coaxially mounted tweeter covers 3 kc and up; woofer has powerful, long magnetic field for great amplitude without distortion. Teak cabinet 27¾" w. x 11" d. x 13¾" h. Net Each. **\$99.50**

**Tandberg Model 538 Carrying Case**—For above recorders. Net Each. **\$27.00**

## MODEL 65 STEREO PLAYBACK DECK

Proud addition to the Tandberg line offers superb frequency response. Designed exclusively for installation into new or existing high fidelity systems with their own electronics. Precision crafted instrument is adaptable for language laboratory and industrial use as well. Features include playback head for two- and four-track stereo or monophonic tapes; start-stop button operation; two outputs for plug-in preamplifiers; facilities for adding erase and record heads.



**Tape Speeds:** 7½/sec., 3¾"/sec., and 1½"/sec. **Frequency Response:** ±2 db, 30-16,000 cps at 7½"/sec.; ±2 db, 40-11,000 cps at 3¾"/sec.; ±2 db, 50-5,500 cps at 1½"/sec. **Controls:** Selector Lever Knob for Playback, Fast Forward and Fast Reverse; four-digit revolving counter. **Power Required:** 110 VAC, 60 cps. Unit complete with hysteresis synchronous motor and complete mechanical drive. **Size:** 16" w. x 12" d. x 6" h., with mounting brackets. Weight, 16 lbs. **\$199.50**

**Tandberg Model 65**—Net Each.

## TAPE RECORDER ACCESSORIES

**Tandberg Model DP-4 Dynamic Microphone**—For professional recording. High, low or medium impedance. Complete with 18 ft. cable and desk stand. Net Each. **\$59.50**

**Tandberg Model DP-4H Speaker**—Comfortable foamset, monophonic type for dictation, monitoring and private listening. Net Each. **\$69.50**

**Tandberg Model PDC Dustcover**—Clear flexible plastic cover for Models 64 and 74B. Net Each. **\$7.50**

**Tandberg Model TC-57B Transport Case**—For 64X, 74B, 823 or 923. Attractive leather-like case. Durable, lightweight. With brass locks and key. Net Each. **\$24.50**

**Tandberg Model 22FP Foot Pedal Control**—Permits control of tape recorder with a touch of your foot. Start, stop, forward or reverse functions. With 6 ft. cable. Net Each. **\$18.00**

**Tandberg Model MO-12 Headset**—Comfortable foamset, monophonic type for dictation, monitoring and private listening. Net Each. **\$15.00**

**Tandberg Model ST-12 Stereo Headphones**—For direct monitor, add-a-track and other stereo applications. Comfortable and lightweight. Net Each. **\$15.75**

## MODEL 64X

### STEREO TAPE DECK



Maximum versatility in a stereo tape recorder utilizing three separate heads, one each for record, playback and erase. Simple pushbutton control insures ease of operation and maximum versatility for sound-on-sound, echo effects and direct monitor; remote control with the foot pedal. Installs into existing hi-fi systems. Incorporates a hysteresis synchronous drive motor, printed circuitry for reliability and hermetically sealed tolerance capacitors. Power transformer has special toroid-type windings to provide self-cancellation of any stray magnetic fields that would otherwise cause annoying hum problems. Electronic stabilizers permit instantaneous reading of electronic recording level eyes without compensation. Four separate preamplifiers are built-in, two for recording and two for playback. The pause control feature permits no-slip pick up on stop-and-go record or playback without annoying clicks. **Tape Speeds:** 1½"/sec., 3¾"/sec., 7½"/sec. **Wow and Flutter:** 1½% rms at 7½"/sec.; 2% rms at 3¾"/sec.; 2.5% rms at 1½"/sec. **Frequency Response:** ±2 db, 40-20,000 cps at 7½ ips; 40-15,000 cps at 3¾ ips; 40-7,500 cps at 1½ ips. **Bias and Erase Frequency:** 78 kc common bias supply to each recording channel. **Crosstalk Rejection:** Better than 60 db. **Sensitivity:** Mike, .00125 V rms; high level, .05 V rms; low level, .005 V rms. **Inputs and Impedance:** 2 mike, 5 meg; 2 high level, 1 meg; FM, 2 multiplex inputs. **Outputs:** 1.5 V cathode follower, 1 each channel. **Power Required:** 117 VAC, 60 cps. **Size:** 16" w. x 12" d. x 6" h. Weight, 25 lbs.; with carrying case, 30 lbs. **\$549.00**

**Tandberg Model 64X**—With one take-up reel. Net. **\$549.00**

**Tandberg Model 62X**—Same as above, but with ½-track heads instead of ¼-track. Net Each. **\$549.00**

## MODEL 923 MONOPHONIC RECORDER

Three-speed, two-track recorder provides fine quality monophonic record and playback facilities at a modest cost. Complete with built-in power amplifier and 4" x 7" oval speaker in wooden cabinet, the system is easily portable; carrying case available at extra cost. Convenient control design includes T-switch for fast forward, rewind, record, play and loading functions; other controls are speed change switch, record-play level control, speaker selector switch and reset-type four-digit counter. Electronic eye for record level indication. Combination record-play head is narrow gap, .00012" type; erase head is high efficiency, low loss design. Slide switch arrangement for start, stop or pause while unit is operating; bass switch gives 12 db boost at 70 cps for playback. **Speeds:** 1½, 3¾ and 7½"/sec. **Frequency Response:** ±2 db, 30-16,000 cps at 7½"/sec.; 40-10,000 cps at 3¾"/sec.; 55-5,000 cps at 1½"/sec. **Wow and Flutter:** 0.15% at 7½"/sec.; 0.2%, 3¾"/sec.; 0.3%, 1½"/sec. **Signal-to-Noise Ratio:** 55 db. **Playback Output:** 3 watts. **Inputs:** Mike (1 meg); hi-Z radio, phono, TV and aux (¾ meg). **Motor:** Asynchronous. **Power Required:** 117 VAC, 60 cps. **Size:** 15½" w. x 11¼" d. x 6¾" h. Net Wt., 22 lbs. **\$273.50**

**Tandberg Model 923**—In wooden cabinet. Net Each. **\$273.50**

**Tandberg Model 923F**—Same, but with built-in solenoids and foot pedal for remote control. Net Each. **\$367.50**

## SERIES 8 PORTABLE MONOPHONIC RECORDERS

Operating lever incorporates easier tape threading feature for independent movement of the two turntables. Lever switch permits instantaneous switching from playback to PA for programs from mike, radio or phono inputs. Semivariable input control avoids overloading when signals are too strong. Provision for mono playback of stereo tapes. Spring-actuated pressure pad for even pressure and better alignment across the heads. Improved smoother stop action design and screw adjustable clutches. **Tape Speeds:** 3¾ and 1½ ips. **Speed Accuracy:** ±0.2% or 3.6 seconds in 30 minutes. **Frequency Response:** 3¾ ips, 20-13,000 cps (±2 db, 40-10,000 cps); 1½ ips, 20-8,000 cps (±2 db, 40-5,500 cps). **Wow and Flutter:** 3¾ ips, 0.2%; 1½ ips, 0.3%. **Signal-to-Noise Ratio:** -50 db. **Headset:** Special definite half-track or quarter-track erase heads and combination record/playback heads. **Power Required:** 50 watts, 117 VAC, 60 cps. **Size:** 15" w. x 11¾" d. x 6¾" h. Weight, 21 lbs. Complete with built-in 7" x 4" speaker, and four-digit lighted counter.



**Tandberg Model 821**—Two-speed, half-track recorder, teakwood cabinet, input-output cords, manual and take-up reel. **\$227.50** Net Each.

**Tandberg Model 823F**—Same as above but built-in solenoids and foot pedal. Net Each. **\$315.00**

**Tandberg Model 826**—Model 823 with built-in carrying case. Net Each. **\$249.00**

**Tandberg Model 843**—Two-speed, quarter-track version of Model 823. Net Each. **\$245.00**

**Tandberg Model 843F**—Same as above, but built-in solenoids and foot pedal. Net Each. **\$330.00**

**Tandberg Model 846**—Model 843 with built-in carrying case. Net Each. **\$266.50**

# Tape Recorders, Needles

## NORELCO CASSETTE AND REEL-TO-REEL TAPE RECORDERS



**CASSETTE TAPE RECORDERS**

Utilize the famous Norelco cassette that loads in 1 second flat. Snaps into the recorder without threading, tangling or spilling. Standardized throughout the world, it fits all compact cassette tape recorders. Available in monophonic or stereo and playable on either type machine. Only 4" x 2 1/2" x 1/2", it plays or records up to an hour and a half; endlessly reusable. Automatic stop at end of each side. Special safety feature prevents accidental erasure. Contains 1/2" tape with 2-track facility. Available with pre-recorded music featuring the world's outstanding performers in all categories of music.

**CARRY-CORDER® "150" COMPACT CASSETTE**

Most handy tape recorder made; loads instantly with the Norelco cassette for up to 90 minutes of fine quality recording or playback. Precision construction utilizes capstan drive and constant speed, transistor-regulated motor. Operates on five C flashlight batteries with a life of approx. 20 hours. Output jack permits use with external speaker. Viewing window in lid. Built-in battery life indicator and record level meter. Single control handles all functions: Start, stop, wind and rewind. Deluxe polystyrene cabinet in matte black, trimmed with anodized, brushed aluminum. **Tape Speed:** 1 1/2 ips, constant speed. **No. of Tracks:** 2. **Frequency Response:** +3 db, 80-10,000 Hz. **Wow and Flutter:** 0.1% rms. **Signal-to-Noise Ratio:** Better than -45 db. **Fast Forward and Rewind:** 70 sec. for 2 x 30 min. cassette. **Size:** 7 3/8" x 4 1/2" x 2 3/4". Weight, 3 lbs., with batteries. **Norelco Carry-Corder "150"**—With pre-recorded tape cassette, dynamic mike with switch; fitted carrying case and patch cord. **Net Each.....\$89.50**

**CONTINENTAL "350" COMPACT CASSETTE**

Modern, solid state monophonic recorder provides two-track record and playback facilities with cassette loading ease. Up to 90 minutes of playing time. Features include: Dynamic omnidirectional microphone, digital counter, VU meter, automatic or manual record, pause control, tone control and sound deflector. Gleaming teakwood cabinetry matches any decor. All audio is self-contained for complete recording and playback; includes wide-range Norelco speaker. Inputs provide for mike, radio/phone and TV. Outputs for external speaker or headphones, external amplifier (radio, TV or phono). **Tape Speed:** 1 1/2 ips, constant. **No. of Tracks:** 2 for monophonic record or playback. **Frequency Response:** 60-10,000 Hz. **Wow and Flutter:** Less than 0.10% rms. **Signal-to-Noise Ratio:** Better than -45 db. **Playing Time:** Up to 1 1/2 hours on a cassette; fast forward and rewind in 70 sec. **Power Required:** 15 watts, 110-120 VAC, 60 Hz. **Size:** 14 3/4" x 8 3/4" x 3 1/2". Weight, 8 1/2 lbs. **Norelco Continental "350"**—Net Each.....\$129.50

**CONTINENTAL "450" STEREO CASSETTE**

Compatible compact cassette recorder plays and records 4-track stereo or 2-track monophonic in an all solid state instrument. Two satellite speakers in matching teakwood cabinets for full stereo play. Two satellite stereo mikes offer unlimited recording; detach from stand for maximum separation. Stereo record level control; tone, balance and loudness controls; provision for PA system; VU meter and digital counter. Self-contained audio system has dual recording and playback amplifiers and preamplifiers. Single 2-channel input for stereo mike; two inputs for phono, radio or tuner. Outputs provided for external speakers or stereo headphones, and external (stereo) amplifier. **Tape Speed:** 1 1/2 ips, constant. **No. of Tracks:** 4 stereo; 2 monophonic. **Frequency Response:** +3 db, 60-10,000 Hz. **Wow and Flutter:** 0.1% rms. **Signal-to-Noise Ratio:** Better than -45 db. **Playing Time:** Up to 1 1/2 hours per cassette; fast forward and rewind in 60 sec. **Power Required:** 20 watts, 110-120 VAC, 60 Hz. **Size:** Recorder, 12 1/2" x 8 1/2" x 3 1/2"; speakers, 10 3/4" x 7 1/4" x 7 3/4" each. Weight: 8 lbs., recorder; 5 lbs., each speaker. **Norelco Continental "450"**—Net Each.....\$199.50

**CONTINENTAL "420" REEL-TO-REEL STEREO TAPE RECORDER**

Three-speed, 4-track recorder for monophonic or stereo record and playback is fully self-contained. Professional facilities include mixing, parallel play, duoplay and multiploy. Comes with stereo mike, actually two microphones in one, or unlimited recording convenience. Balanced stereo controls; monitoring provisions; public address system use. Handsome teakwood cabinetry. Has dual recording and playback preamplifiers and amplifiers; two Norelco wide-range speakers, one in lid. Pushbutton-reset, 4-digit program indicator. Single 2-channel input for stereo mike; two inputs for phono, radio or tuner, monophonic or stereo. Outputs for external speakers or headphones, external stereo amplifier, and monitoring with stereo headphones. **Tape Speeds:** 7 1/2, 3 3/4, and 1 1/2 ips. **No. of Tracks:** 4 individual tracks. **Frequency Response:** +3 db, 40-18,000 Hz at 7 1/2 ips; 60-15,000 Hz at 3 3/4 ips; 60-10,000 Hz at 1 1/2 ips. **Wow and Flutter:** 0.105% at 3 3/4 ips. **Signal-to-Noise Ratio:** Better than -45 db. **Playing Time:** Up to 16 hours on 7" reel; fast forward and rewind, less than 180 sec for 1800-ft., 7" reel. **Power Required:** 60 watts, 110-120 VAC, 60 Hz. **Size:** 17" x 14" x 9". Weight, 22 lbs. **Norelco Continental "420"**—Net Each.....\$239.50

| ACCESSORIES           |   | Net Each |
|-----------------------|---|----------|
| <b>Norelco Number</b> | <b>Description</b>                        |          |
| BE56                  | AC adapter for "150"                      | \$19.90  |
| CP96                  | Close-talking mike for "150"              | 29.25    |
| FP86                  | Foot pedal for "150"                      | 17.75    |
| EL3984/15             | Foot pedal for "420"                      | 17.75    |
| CCY-150               | Adapter cable for "150"                   | 7.50     |
| HP-86                 | Listening headset for "150"               | 12.75    |
| EL3775/37             | Stereo headset for "420"                  | 17.15    |
| 2A1048                | Mike adapter for "420"                    | 4.80     |
| TP86                  | Telephone pick-up coil for "150" or "350" | 7.45     |
| TP3449                | Telephone pick-up coil for "420"          | 7.45     |
| CMU-150               | Under-dash car mount bracket for "150"    | 24.95    |
| TC-150                | Tape cassette for "150", "350", or "450"  | 2.65     |
| CMR-2x30              | Cassette mailer for TC-150                | .05      |

| RHEEM-CALIFONE NEEDLES  |          |      |            |
|---|----------|------|------------|
| Replaces Type   | No. For. |      | List Price |
|   | LP       | 78   |            |
| 4UJ, 5J, 6J, 6U, 6UJ, 6AJ, 8V, 12MU, MUV, P2; 12VJ8, 18MJ, 18MUV, 24MUV, 24V, 40V   | 303      | 302  | \$2.50     |
| 5J, 7V, 11AJ (1953/54)  | 370      | 371  | 2.50       |
| 6U, 8V-5, 10J, 12V-5, J8-5, 24V-5, 40V-5  | 385      | Dual | 3.50       |
| 5J, 7V-5 (1955/56)  | 393      | Dual | 3.00       |
| 11AJ-5, 7   | 401      | 400  | 2.50       |
| 8VP2, 10P2, 5, 400, 400-5, B; 401-5, B; 16VP2-5, 18VP2-5, 12VP2, 12MU-P2, 12MUV-P2, 10P2-7, 12P2-8, 16VP2-7, 16VP2-9, 9; 400-9  | 418      | 419  | 3.50       |
| 5J-7, A, B; 6U-7, AB; 7V-7, B, 8V-7, 10J-7, A, 12V-7, 12V8-7, 12VJ8-7, 14V-7, 24V-7, 25V-8, 26V-8A, 40V-7   | 427      | Dual | 3.50       |
| 5J-6, 7V-6  | 434      | 435  | 1.50       |
| 3J  | 464      | 466  | 2.50       |
| 16VP2-9, 26VP-2   | 470      | 471  | 3.50       |
| 4J, 4J-8, B; 5J-7C, 6U-7C, 7V-7C, 9J-4, 9VJ-4, 10J-7B, 12MHS, 12MV, 12V-9, A; 12VJ8-9, 14V-9, 15M, 15MV, 15V, 15V8, 26V, 40V-9, 42V, 62VA, 1030, 1420, 1430, 1450, 1470 | SIT      | Dual | 3.95       |
| 1835, 1865  | 89T      | Dual | 3.95       |



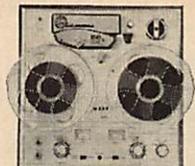
# Tape Recorders, Accessories



807  
Playback  
Unit



423 Stereo



"88 Stereo Compact"



RP83 Preamplifier

## "87" SERIES TAPE TRANSPORTS

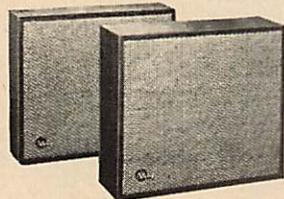
Designed for true connoisseurs of high fidelity stereo music. Same transport mechanism as used in "88 Stereo-Compact". Hyperbolic contour heads (erase, record and playback) are laminated, metal face construction. Revised brake design permits use of dissimilar reel sizes (up to 7") without tape spillage. Features: "Erase-Protek" safety interlock prevents accidental erasure. Automatic run-out switch stops tape at end of reel or upon tape breakage. Digital tape counter. Flutter-filter belt drive with 2 lb., non-magnetic and dynamically balanced capstan wheel. Two speed. Oil impregnated bearings need no lubrication. Convenient head shift control. Concentric control for fast forward, rewind, neutral, play or cue. May be mounted vertically or horizontally. **Frequency Response:**  $\pm 3$  db, 30-18,000 Hz using Viking amplifiers and pre-amplifiers. **Tape Speeds:**  $7\frac{1}{2}$ " / sec. and  $3\frac{3}{4}$ " / sec. **Flutter and Wow:** Less than 0.2% rms. **Power Required:** 110-115 VAC, 60 Hz.

| Model | Description  | Net Each |
|-------|--|----------|
| 87P   | $\frac{1}{2}$ -tr. mono playback   | \$138.00 |
| 87R   | $\frac{1}{2}$ -tr. stereo and mono record and playback   | 144.00   |
| 87RQ  | $\frac{1}{2}$ -tr. mono record; $\frac{1}{4}$ - and $\frac{1}{2}$ -tr. stereo and mono playback            | 165.25   |
| 87Q   | $\frac{1}{4}$ - and $\frac{1}{2}$ -tr. stereo and mono playback  | 141.05   |
| 87ES  | $\frac{1}{2}$ -tr. stereo and mono record and playback; two heads  | 157.85   |
| 87ESM | $\frac{1}{2}$ -tr. stereo and mono record and playback; three heads  | 185.50   |
| 87ERQ | $\frac{1}{2}$ -tr. stereo and mono record; $\frac{1}{4}$ - and $\frac{1}{2}$ -tr. stereo and mono playback | 178.65   |
| 87RMQ | $\frac{1}{4}$ -tr. stereo and mono record; $\frac{1}{4}$ - and $\frac{1}{2}$ -tr. stereo and mono playback | 170.30   |

## MODEL 807 TAPE PLAYBACK UNIT

The "Turntable of the Tape Age" plays prerecorded tapes with phonograph record convenience. Strictly a playback unit without electronics, the 807 easily plugs into tape head or magnetic phono inputs of any music system. Special head mechanism permits playing full,  $\frac{1}{2}$  or  $\frac{1}{4}$ -track tapes in monaural or stereo. Has automatic shut-off, Cuing, Counter and Pause. Two motors; adjustable tandem brakes. **Speeds:**  $7\frac{1}{2}$  and  $3\frac{3}{4}$  ips. **Frequency Response:** 30-18,000 Hz at  $7\frac{1}{2}$  ips with suitable, equalized amplifiers. **Wow and Flutter:** Below 0.2% rms at  $7\frac{1}{2}$  ips. **Reel Size:** 7" max. **Power Required:** 115 VAC, 60 Hz. **Size:**  $13\frac{1}{2}$ " w. x  $10\frac{1}{2}$ " d. x  $6\frac{1}{2}$ " h. (18" w. x  $10\frac{1}{2}$ " d. with reels). Weight, 20 lbs. **Viking Model 807—With walnut base. Net Each.....\$124.95**

## MODEL 4400 STEREO SPEAKER SYSTEM WITH SOLID STATE STEREO POWER AMPLIFIER



- Makes a complete music system with any standard tape deck, preamplified tuner or phonograph.
- Makes a superb extension speaker system in den, patio or anywhere, energized by its own power amplifier.
- Adds big sound to radio or TV by connecting to ear-phone jack output.
- Connects with sound output of motion picture or slide projector for a top quality show.

Model 4400 speaker system comes in two walnut finished enclosures with matching cane grille cloth. Each speaker contains an 8" woofer,  $3\frac{1}{2}$ " tweeter, cross-over network, and is ported for extra base response. Acoustical glass wool insulation dampens undesirable resonance. Solid state, 60 W stereo power amplifier is housed in one of the speaker enclosures with rear access to on/off volume control, stereo headphone jack, bass boost switch and connections. Complete overload protection; amplifier and speakers are fused separately for maximum safety. **Frequency Response:**  $\pm 2$  db, 20-20,000 Hz at full power. **Impedance:** Speakers, 8 ohms; stereo headphones, 4-600 ohms. **Harmonic Distortion:** Less than 1.0% at full power at 1,000 Hz. **Input Sensitivity:** 1 V for 30 W IHF stereo music output; 100,000 ohms impedance. **Output Power:** 60 W peak (30 W per channel). **Power Consumption:** 90 W max., 110-120 VAC, 50/60 Hz. **Size:**  $16\frac{1}{2}$ " w. x  $5\frac{1}{2}$ " d. x  $14\frac{1}{2}$ " h. **Viking Model 4400 Speaker System—Net Each.....\$119.00**

## MODEL 423 STEREO TAPE RECORDER

Three-motor, three-speed, four-track solid state tape recorder eliminates the complicated linkages which so often cause service problems with single motor consumer-priced recorders. Features dynamic braking system; separate hyperbolic erase, record/playback heads; directional control levers; pause, record-interlock; illuminated recording meters. **Speeds:**  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{1}{2}$  ips. **Frequency Response:** 50-15,000 Hz at  $7\frac{1}{2}$  ips; 50-10,000 Hz at  $3\frac{3}{4}$  ips; 60-5,000 Hz at  $1\frac{1}{2}$  ips. **Bias/Erase Freq.:** 80 kHz. **Reel Size:** 7" max. **Counter:** 4-digit pushbutton, resettable. **Fast Forward and Rewind:** 70 sec. for 1200 ft. **Power Required:** 115 VAC, 60 Hz. **Size:**  $15\frac{3}{4}$ " w. x  $12\frac{3}{4}$ " h. x  $6\frac{1}{2}$ " d. behind panel.

**Viking Model 423 without Base—Net Each.....\$249.00**  
**Viking Model 423 with Walnut Base—Net Each..... 269.00**  
**Remote Pause Control Accessory—Net Each..... 25.00**

## MODEL 88 STEREO COMPACT TAPE RECORDER

Pause control, pilot light and pushbutton counter, improved automatic stop, plus excellent response, off-the-tape monitoring, sound-on-sound recording, and separate hyperbolic erase, record and playback heads. **Speeds:**  $7\frac{1}{2}$  and  $3\frac{3}{4}$  ips, instantly selected. **Frequency Response:**  $\pm 3$  db, 30-18,000 Hz at  $7\frac{1}{2}$  ips. **Wow and Flutter:** Below 0.2% rms at  $7\frac{1}{2}$  ips. **Equalization:** NAB  $7\frac{1}{2}$  ips, automatically selected. **Bias/Erase Freq.:** 95 kHz. **Reel Size:** 7" max. **Power Required:** 115 VAC, 60 Hz. **Size:**  $13\frac{1}{2}$ " w. x  $7\frac{1}{2}$ " d. x  $13\frac{1}{2}$ " h. approx. Wt., 25 lbs.

**Viking Model 88—Net Each.....\$339.95**  
**Viking "1600" Cabinet—Oiled walnut. Net Each..... 29.95**  
**Viking "1500" Enclosure—Oiled walnut. Net Each.... 18.95**

## MODEL 880 PORTABLE STEREO RECORDER

Portable version of "88 Stereo Compact" has additional 10-watt stereo power amplifier, headphone facilities, detachable two-way speaker systems with 5" woofers,  $2\frac{1}{2}$ " tweeters, and electrical crossover. Handsome portable case with handle and removable front cover with reel storage. **Size:**  $21\frac{1}{2}$ " w. x  $9\frac{1}{4}$ " d. x  $14\frac{1}{8}$ " h., plus handle. Weight, 48 lbs.

**Viking Model 880—Net Each.....\$439.95**

## PLAYBACK AMPLIFIER

**Viking Model PA94F Playback Amplifier—**Compact, low heat, solid-state power amplifier. Perfect for background music and high fidelity use. Tape and mike inputs. Separate tape and mike volume controls. Frequency response,  $\pm 2$  db, 60-16,000 Hz. Signal-to-noise ratio, 60 db mike; 50 db tape. Output impedance, 4 and 8 ohms (screw terminals); 8-ohm and 70 V (3-pin socket). Power output, 10 watts IHFM at 2% total harmonic distortion. Power required, 110-120 VAC, 50/60 Hz, 30 watts max. **Size:**  $8\frac{1}{2}$ " w. x  $6\frac{1}{4}$ " d. x  $2\frac{3}{4}$ " h. Shpg. Wt., 7 lbs. **Net Each.....\$84.95**

**Viking Model PA94G—220-volt version. Net Each..... \$84.95**

## PREAMPLIFIERS

**Viking Model PB13 and PB10-22 Playback Preamplifiers—**Compact, solid state units include variable tape speed NAB equalization from  $1\frac{1}{2}$  to 15 ips. For all high and low-impedance heads, 100 to 800 mH (4 mV max. output at reference level). Controls: Tone; Volume/Off. Power Required: 1 watt max., 110-120 VAC, 50/60 Hz (220 VAC, 50 Hz models available on special order at same price). **Size:**  $4\frac{1}{2}$ " w. x  $7\frac{1}{2}$ " d. x  $2\frac{1}{4}$ " h. Shpg. Wt., 3 lbs. **Viking Model PB10—**Response:  $\pm 2$  db, 30-18,000 Hz at  $7\frac{1}{2}$  ips. Output impedance: Below 13k ohms. **Net Each.....\$34.50**

**Viking Model PB-10-22—**Includes output transformer for working into 600-ohm loads, with taps for 6/150/1500 ohms. Response:  $\pm 2$  db, 50-18,000 Hz at  $7\frac{1}{2}$  ips. **Net Each.....\$44.00**

**Viking Model RP83 Record/Playback Preamplifier—**Monophonic or stereo; VU meter, mike and phone monitoring jacks. Independent controls for professional mixing. For tape speeds of  $3\frac{3}{4}$  and  $7\frac{1}{2}$  ips. Frequency response, 25-16,000 Hz (80 kHz bias). Signal-to-noise ratio, 55-60 db. Distortion, less than 2%. **Size:**  $13\frac{1}{2}$ " w. x  $2\frac{3}{4}$ " h. x  $6\frac{1}{2}$ " d. behind panel. Weight,  $6\frac{1}{2}$  lbs. **Net Each.....\$92.50**

**Viking Model RP83D—220-volt version. Net Each..... 95.00**

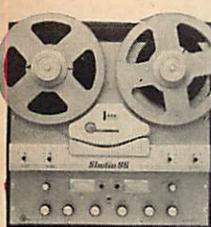
**Viking Model RP83-3—**Third lead for 3-head decks. **Net. 94.50**

**Viking Model RP83D-3—220-volt version. Net Each..... 97.00**

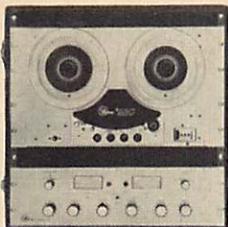


# Tape Recorders, Accessories

## COMMERCIAL AND INDUSTRIAL TAPE EQUIPMENT



Studio 96 Transport with RP10-R2 Amplifier in 100 Portable Case



Model 230 Transport with RP120 Amplifier in 100 Portable Case

### STUDIO 96 PROFESSIONAL TAPE TRANSPORT

Heavy-duty transport for broadcasting commercial or other critical recording applications. Accommodates up to 4 hyperbolic heads in any configuration for full, half or quarter track. Features automatic sequence function, dynamic braking, 2-speed hysteresis synchronous capstan motor and heavy-duty reel drive motor, remote control receptacle. Special circuit provides smooth tape starting by momentarily applying over 2 times the torque required for normal running. Solenoid controlled full-safe brake stops transport in event of power failure; photo-electric run-out switch stops transport in event of tape-break or run-out. Mounts 5", 7" or 10 1/2" reels. "Cuing" feature releases all brakes, allowing manual rotation of the reels for cuing or editing purposes. Plug-in control box contains all control relays allowing quick and easy exchange with a spare. **Signal-to-Noise Ratio:** 55 db below peak recording level at 1 1/2 ips. **Flutter and Wow:** Less than 0.1% rms at 15 ips; 0.1% at 7 1/2 ips. **Fast Forward or Rewind Time:** 2400 ft. reel, 70 seconds. **Controls:** 4 telephone-type lever or key switches: Reel Size Selector, Speed Selector, Play-Cue and Fast-Forward-Stop-Rewind. **Counter:** 3 digit, resettable. **Power Requirements:** Standard model, 150 W nom., 117 VAC, 60 Hz. (Available at 117 VAC, 50 Hz at no extra charge or at 230 VAC, 50 Hz with step-down transformer for an additional \$18.50, specify.) Designed for standard EIA relay rack mounting in vertical or horizontal position. Hammertone gray finish. **Size:** 19" x 12 1/2" clearance; 22 1/2" x 15" clearance with 10 1/2" reels in place. Front clearance, 2"; behind panel clearance, 7". **Spec. Wt.,** 56 lbs.

**Specify Tape Speed:** 15"/sec and 7 1/2"/sec, 7 1/2"/sec and 3 3/4"/sec or 3 3/4"/sec and 1 1/2"/sec. Extra tape speed pulleys are available for converting speeds. (Tape speed of 15 ips is not recommended for the lower motor speed at 50 Hz. Additional cooling fan, not included, is required for 50 Hz operation.)

| Viking Number* | Variants   |                                    | Net Each |
|----------------|------------|------------------------------------|----------|
|                | Tracks     | Heads                              |          |
| 96FTRM         | Full, Mono | Record, Erase, Play-or-Monitor     | \$624.95 |
| 96M            | 2, Mono    | Record, Erase, Play-or-Monitor     | \$385.45 |
| 96ESM          | 2, Stereo  | Record, Erase, Play-or-Monitor     | 605.45   |
| 96RMQ          | 4, Stereo  | Record, Erase, Play-or-Monitor     | 598.95   |
| 96FTR          | Full, Mono | Erase, Record/Play                 | 589.95   |
| 96P            | 2, Mono    | Play                               | 557.45   |
| 96R            | 2, Mono    | Erase, Record/Play                 | 565.95   |
| 96E            | 2 Channels | Erase, Rec./Play Tr. 2; Play Tr. 1 | 585.45   |
| 96EB           | 2 Channels | Sep. Erase, Rec./Play Ea. Track    | 589.95   |
| 96ES           | 2, Stereo  | Erase, Record/Play                 | 577.95   |
| 96Q            | 4, Stereo  | Play                               | 563.95   |
| 96HQ           | 4, Stereo  | Erase, Record/Play                 | 576.95   |
| 96EQ           | 4 Channels | Erase, Record/Play†                | 612.95   |
| 96QRM          | 4 Channels | Erase, Record, Play-or-Monitor†    | 765.95   |

\*All configurations are low impedance for solid state electronics. High impedance configurations for vacuum tube electronics are optional. †Staggered 1/4-tr. ‡Simultaneous 1/4-tr.

### MODELS RP110 AND RP120 SOLID STATE AMPLIFIERS FOR USE WITH MAGNETIC TAPE TRANSPORTS

Monaural and stereo tape recording and playback amplifiers are completely transistorized and incorporate latest modular design concepts. For use with electrically controlled transports with separate erase, record and play heads. Exceed NAB standards. Solid state circuitry on etched, glass epoxy plug in boards. Two inputs per channel for line and microphone on rear panel. Two-speed equalization switch, "A-B" monitor switch, head phone jack, illuminated VU meter and record pushbutton (each channel). A 24 VDC record interlock with connecting cable is standard. Standard models supplied adjusted for half track optimum heads. **Frequency Response:** ±2 db; 30-25,000 Hz at 15 ips, 30-16,000 Hz at 7 1/2 ips, 30-10,000 Hz at 3 3/4 ips, 30-6,000 Hz at 1 1/2 ips. **Signal-to-Noise Ratio:** 55 db or more below peak recording level at 7 1/2 ips. **Distortion:** 1% at 1000 Hz at 7 1/2 ips at 0 VU. **Power:** 20 W max., 110-120 VAC, 50/60 Hz. **Size:** Standard EIA rack mount panel, 19" w. x 5 1/4" h. x 8" d. behind panel. **Spec. Wt.,** 19 lbs.

**Mono RP110** (for 230 transport), **RP110-R2** (for 96 transport)—Net Each. . . . . \$299.00\*

**Stereo RP120** (for 230 transport), **RP120-R2** (for 96 transport)—Net Each. . . . . \$399.00\*

### MODEL 230 VERSATILE TAPE TRANSPORT

Designed for advanced technology in industry, business, research or education. For remote controlled language labs, home music systems, monitoring radio broadcasts and in aviation or law enforcement communications centers. For use with reels up to 7" dia. and all types of 1/4" tape, especially for applications requiring instantaneous start and stop. Wide variety of head configurations and capstan drive motors. Unitized head block assembly is interchangeable. Available with or without special features including digital counter and photoelectric run-out sensor. Adaptable to captive-tape operation and to automatic reeling. All functions may be remotely controlled. Mechanical tape lifters and tensions pads. Solenoid activated brake system for all operating conditions including power failure. Built-in 24 VDC, full wave, 1 amp power supply. (Available without power supply for use with common power source when more than one transport is used.) Laminated hyperbolic contour heads mounted on unitized, easily interchangeable assemblies. Relays are of the plug-in type with removable covers. **Wow and Flutter:** 0.2 rms at 7 1/2"/sec. **Speed Regulation:** 0.5%. **Speeds Available:** Single Speed: 15, 7 1/2, 3 3/4 or 1 1/2"/sec.; Two-Speed: 15 and 7 1/2, 7 1/2 and 3 3/4, or 3 3/4 and 1 1/2"/sec. **Heads:** 5 max; 4 heads with photoelectric or mechanical type shut-off; 3 heads with 2 photoelectric sensors. **Fast Forward and Rewind Time:** 1200 ft. reel, 45 sec. **Controls:** Momentary push-button relay; Rewind, Stop, Play, Fast Forward. **Power Required:** 150 W, max., 115 VAC, 60 Hz. **Size:** 16" w. x 10 1/2" h. x 6" d. behind stainless steel panel; 8" overall depth. **Weight,** 22 lbs. **Viking Model 230 Basic Transport**—With standard single-speed 4-pole capstan motor and standard head assemblies. Configurations shown below are available in either low impedance for solid state electronics or in high impedance for vacuum tube electronics.

| Viking Number* | Variants   |                                    | Net Each |
|----------------|------------|------------------------------------|----------|
|                | Tracks     | Heads                              |          |
| 230FTRM        | Full, Mono | Record, Erase, Play-or-Monitor     | \$379.25 |
| 230RM          | 2, Mono    | Record, Erase, Play-or-Monitor     | 346.75   |
| 230ESM         | 2, Stereo  | Record, Erase, Play-or-Monitor     | 367.95   |
| 230RMQ         | 4, Stereo  | Record, Erase, Play-or-Monitor     | 353.25   |
| 230FTR         | Full, Mono | Erase, Record/Play                 | 344.25   |
| 23P            | 2, Mono    | Play                               | 322.00   |
| 23OR           | 2 Channels | Erase, Record/Play†                | 327.25   |
| 230BE          | 2 Channels | Erase, Rec./Play Tr. 2; Play Tr. 1 | 346.75   |
| 230EB          | 2 Channels | Sep. Erase, Rec./Play Ea. Track    | 350.25   |
| 230ES          | 2, Stereo  | Erase, Record/Play                 | 340.95   |
| 230Q           | 4, Stereo  | Play                               | 324.85   |
| 230HQ          | 4, Stereo  | Erase, Record/Play                 | 337.85   |
| 230EQ          | 4 Channels | Erase, Record/Play†                | 373.85   |
| 230QRM         | 4 Channels | Erase, Record, Play-or-Monitor†    | 528.25   |

\*All configurations at low impedance for solid state electronics. High impedance configurations for vacuum tube electronics are optional. †Staggered 1/4-tr. ‡Simultaneous 1/4-tr.

### ELECTIVE FEATURES

| Description   | Add to Net |
|---|------------|
| <b>CAPSTAN MOTOR OPTIONS (Specify Speed)</b>            |            |
| Single speed, 4-pole motor, 115 V 50 Hz**               | **         |
| Single speed, 4-pole motor, 230 V 50 Hz*                | \$10.00    |
| Single speed hysteresis synchronous motor, 115 V, 60 Hz | 23.95      |
| Single speed hysteresis synchronous motor, 230 V, 50 Hz | 33.95      |
| Two speed hysteresis synchronous motor, 115 V, 60 Hz    | 43.50      |
| Two speed hysteresis synchronous motor, 230 V, 50 Hz    | 53.50      |
| <b>OPTIONS AND ACCESSORIES</b>                          |            |
| EIA rack mount panel, 19" wide                          | 3.00       |
| Mechanical tape run-out (1 head position)               | 6.25       |
| Single photo cell run-out (1 head position)             | 18.95      |
| 2 photo cell run-out (with re-cue, 2 positions)         | 36.00      |
| Remote control (conn. plugs less cable)                 | 38.00      |
| 3-digit resettable counter                              | 9.00       |
| Elimination of power supply                             | 13.45†     |

\*15 ips not available. †Deduct from net. \*\*No extra cost.

### PORTABLE CASE FOR TRANSPORT AND AMPLIFIER

For Studio 96 transport or Model 230 transport each with either RP110 or RP120 amplifier. Wood case covered with black vinyl. Detachable covers front and back for easy accessibility. Includes screen filter panels for ventilation. Size with covers, 20" w. x 12 1/2" d. x 20" h. **Wt. case only,** 20 1/2 lbs. **Viking Model No. 100 Case with Panels**—Net Each. . . . . \$59.50 On case orders without equipment, panels are extra. **Add** 3.00

### \*OPTIONS FOR RP110 AND RP120 AMPLIFIERS

| Add Suffix | Description                                   | Add to Net    |
|------------|---|---------------|
| E1         | Evaluation for 1 1/2 and 3 3/4 ips            |               |
| E2         | Evaluation for 7 1/2 and 15 ips               | No Extra Cost |
| L1         | Balanced output line, 150-250 ohms, ±4 W nom. |               |
| H1         | Adjustment for full track head for RP110      |               |
| H2         | Adjustment for quarter track head for RP120   |               |
| V2         | Power option: 220-240 VAC, 50/60 Hz           |               |

### ACCESSORY PLUG-IN INPUT MODULES

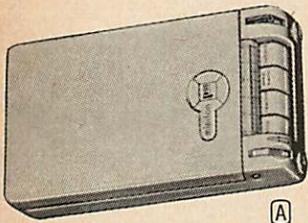
Each of the inputs (2 for RP110, 4 for RP120) accepts any of the following:

|    |   |         |
|----|---|---------|
| P1 | Unbalanced bridging, 150 K, 100 mV sensitivity*                     | \$ 2.00 |
| P2 | Balanced bridging, 10 K, transformer isolated for 150-600 ohm lines | 23.50   |
| P3 | High Imped. unbalanced microphone, 200 K, 1 mV sensitivity*         | 16.00   |
| P4 | Low Imped. balanced microphone, 50-250 ohms, -70 to -30 dbm         | 30.00   |

\*One supplied on standard RP110, two on standard RP120.

# Miniature Recorders, Accessories

## ITT MINIFON POCKET-SIZE PUSHBUTTON RECORDERS

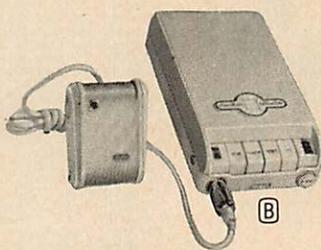


A

### MINIFON SPECIAL WIRE RECORDERS (FIG. A)

Using the world's smallest precision motor, these transistorized wire recorders though small and light enough to be concealed in your pocket, will make speech recordings for up to four hours (two hours for 360S) on a single reel. Record, playback and re-record thousands of times anywhere, any time and by any one. Operates on dry battery, battery eliminator, rechargeable accumulator, or any car battery, 6 or 12 v. Pre-amplifier available for remote recording up to 650 ft. Instantaneous pushbutton control of record, playback, rewind and stop. Automatic wire end light indicator and stop. Calibrated volume control. Message or time indicator quickly locates recorded message. Battery condition meter. **Wire Speed:** 13.4"/sec. (360S); 9.05"/sec. (240L). **Rewind Speed:** 4.5 times forward speed. **Wire Diameter:** .002". **Frequency Response:** 200-5500 cps (360S); 300-3500 cps (240L). **Input Impedance:** 2000 ohms. **Input Voltage:** 0.4 mv. **Output Impedance:** 400 and 2000 ohms. **Output Voltage:** 0.8 v. at 400 ohms, 2 v. at 2000 ohms. **Amplifier:** Three-stage transistor amplifier. **Power Required:** 6 to 12 v. DC using dry battery, 110 or 220 v. AC (with Model 313), rechargeable accumulator (Model 805), 6 or 12 v. car battery. **Size:** 3 1/4" w. x 6 1/2" d. x 1 1/4" h. **Weight:** 28 oz., approx. **ITT Minifon Special Model 240L Wire Recorder**—Complete with 30 minutes recording wire reel, direct playback dynamic microphone, and battery for 15 **\$269.95** 15 hours use. Net Each.....

**ITT Minifon Special Model 360S Wire Recorder**—Complete with 20 minutes recording wire reel, direct playback dynamic microphone and battery for 15 **\$249.95** hours use. Net Each.....



B

### MINIFON ATTACHE MAGAZINE TAPE RECORDER (FIG. B)

Pocket-size pushbutton recorder with sealed tape magazine for dictating and transcribing anywhere at any time. Operates on self-contained battery, rechargeable accumulator, car battery or AC power. Features automatic tape end light indicator and stop, roller counter index, one hand microphone stop and start control with red signal light, fast forward and rewind, built-in battery condition meter, numbered volume control, shock-proof, precision-built mechanism, instantaneous operation, etc. Light, instant loading 30 minutes tape can be easily unrolled. **Recording Medium:** 1/2" tape in magazine. **Recording Period:** 30 min. (15 min. dual track); 60 min. (30 min. dual track). **Tape Speed:** 1 7/8"/sec. **Frequency Response:** 250-4500 cps. **Fast Forward and Rewind:** 30:1. **Rapid Erasure:** 30:1. **Normal Erasures:** By re-recording. **Amplifier:** Three-stage transistor amplifier. **Motor:** Precision miniature motor with electrical governor. **Input Impedance:** 2000 ohms. **Input Voltage:** 0.5 mv. **Output Impedance:** 200 and 2000 ohms. **Output Voltage:** 2.5 v., approx. **Power Required:** 6 to 12 v. DC using dry battery, 110 or 220 v. AC (with Model 313), rechargeable accumulator (Model 805), 6 or 12 v. car battery. **Size:** 3 1/4" w. x 6 1/4" d. x 1 1/4" h. **Weight:** 28 oz., approx.

**ITT Minifon Attache Model 178A Magazine Tape Recorder**—Complete with 30 minutes dual track tape magazine, start-stop dynamic microphone, stethoset earphones and battery. **\$259.95** Net Each.....

### MINIFON HI-FI MAGAZINE TAPE RECORDER (FIG. B)

Similar to Minifon Attache but has a frequency response of = 3 db, 40-12000 cps for professional and hobby use in high fidelity recording and playback.

**ITT Minifon Hi-Fi Model 978H Magazine Tape Recorder**—Complete with 30 minutes dual track tape magazine, start-stop dynamic microphone, stethoset ear- **\$329.95** phones and battery. Net Each.....

### ACCESSORIES

| No.      | Description   | Net Ea.  |
|----------|---|----------|
| 501      | Leather recorder case                                 | \$ 19.95 |
| 502      | Leather stethoset case                                | 4.95     |
| 503      | Leather carrying case for recorder and accessories    | 39.95    |
| 517      | Nylon shoulder holster                                | 8.95     |
| 105      | Wristwatch dynamic mike                               | 59.95    |
| 106      | Throat dynamic mike                                   | 39.95    |
| 111      | Telephone pickup                                      | 11.95    |
| 118      | Special aircraft mike                                 | 49.95    |
| 119      | Clip-on microphone                                    | 49.95    |
| 122      | Wide band (Hi-Fi) mike                                | 79.95    |
| 307      | Moving coil dynamic mike                              | 44.95    |
| 329      | Reporter directional mike                             | 69.95    |
| 104      | Table loudspeaker & mike                              | 79.95    |
| 323      | Radio-Mike-Loudspeaker Set                            | 129.95   |
| 101      | Stethoset earphones                                   | 9.95     |
| 115      | Single earset   | 9.95     |
| 325      | Monitoring stethoset                                  | 15.95    |
| 015/128  | 30 min. tape magazine* (2 x 15 min. dual-track)       | 7.95     |
| 3015/128 | 30 min. hi-fi tape magazine* (2 x 15 min. dual-track) | 8.95     |
| 3030/128 | 60 min. hi-fi tape magazine* (2 x 30 min. dual-track) | 9.95     |
| 908*     | Wire spool, 90 min. "L" type†                         | 16.50    |
| 909*     | Same, 120 min. "L" type†                              | 22.50    |
| 911*     | Same, 180 min. "L" type†                              | 26.00    |
| 913*     | Same, 240 min. "L" type†                              | 39.75    |
| 112      | Foot control  | 14.95    |
| 127      | Typist hand control                                   | 24.75    |
| 133      | Remote pocket control                                 | 14.95    |
| 805      | Motor battery, 12 v., for Hi-Fi, Attache & Special    | 3.95     |
| 802      | Rechargeable accumulator                              | 79.95    |
| 313      | AC power supply                                       | 29.95    |

\*In Plexiklas® container. †For "S" type recorder, time reduced by 1/2. ®Registered Rohm & Haas trademark.

## EDITall® TAPE EDITING AND SPLICING BLOCKS

Used by professionals all over the world because it is the only precision editing block especially designed with a curved groove that takes the time and inconvenience out of tape editing. Each block contains two guide slots: Diagonal for editing sound; vertical for editing information-recorded tape. Never gouges; provides neat, smooth splices that will not separate, faster splicing, without trimming. Tape is held perfectly straight and will not stick together. Spliced tape may be used over and over. Tiny bits of tape can be reassembled and spliced. Instruction folder included.



Blocks are brushed aluminum unless otherwise noted.

- EDITall Model P-2**—Plastic block only for 1/4" tape. Net. **\$1.50**
- EDITall Model KP-2 Kit**—For professional results. Includes: Plastic editing block, 30 spinning tapes, demagnetized razor blade grease pencil, tape guide and instructions. Net Each. **\$3.50**
- EDITall Model S-2**—Block only for 1/4" tape. Fits on compact machines. Adhesive bottom, no mounting holes. Size, 4" x 3/4" x 3/4". Net Each. **\$6.50**
- EDITall Model KS-2 Kit**—For 1/4" tape. Includes S-2 block, marking pencil, roll of 1/2" wide splicing tape, cutting blade and instruction folder. Net Each. **\$7.50**
- EDITall Model S-3**—Block only for 1/4" tape. Fits on console machines. Countersunk 1/8" mounting holes. Size, 5 3/4" x 1" x 3/4". Net Each. **\$8.00**

- EDITall Model KS-3 Kit**—For 1/4" tape. Includes S-3 block, marking pencil, 1/2" splicing tape, cutting blade and instructions. Net Each. **\$9.00**
- EDITall Model S-3.5**—Block only for 1/2" tape. Countersunk 1/8" mounting holes. Size, 5 3/4" x 1 1/4" x 3/4". Net Each. **\$24.00**
- EDITall Model KS-3.5**—Kit for 1/2" tape. Includes block, splicing tape, carbon pencil, cutting blade, instructions. 5 3/4" x 1 1/4" x 3/4". Net Each. **\$25.00**
- EDITall Model S-3.75**—Countersunk 1/8" mtg. holes. For 3/4" tape. 5 3/4" x 1 1/2" x 3/4". Net Each. **\$29.00**
- EDITall Model KS-3.75**—Kit for 3/4" tape. Includes block, splicing tape, carbon pencil, cutting blade and instructions. 5 3/4" x 1 1/2" x 3/4". Net Each. **\$30.00**
- EDITall Model S-4**—Countersunk 1/8" mtg. holes. For 1" tape. 5 3/4" x 1 3/4" x 3/4". Net Each. **\$34.00**
- EDITall Model KS-4**—Kit for 1" tape. Includes block, splicing tape, carbon pencil, cutting blade and instructions. 5 3/4" x 1 3/4" x 3/4". Net Each. **\$35.00**
- EDITall Model CX-1 EDITab Kit**—Package of 50 precision splicing tabs. Join spliced tape easily without overlap or overflow gunk. Net Each. **\$1.50**
- EDITall Model S-1**—Block only for 1/2" tape. Net Each. **8.00**
- EDITall Model MP Marking Pencil**—Net Each. **.25**
- EDITall Model TCB "Your Tape Recorder" Booklet**—Net **1.00**

®Reg. U.S. Pat. Office.

# TELEX® Acoustic Products

## AIRCRAFT COMMUNICATIONS PRODUCTS

### NOISE-CANCELING MIKE

Handheld, noise-canceling mike ideal for aircraft, ham, CB and other voice communications. Push-to-talk type. FAA Approved under TSO-C58. Case is high-impact ABS plastic. Neoprene-covered coiled cord extends to 5 1/2'; has PJ-068 plug attached. With stainless steel hanger, mounting bracket, hardware.

**Telex TEL-66T Dynamic Mike**—Differential dynamic type. Built-in 2-stage transistorized amplifier with adjustable output. Response, 100-5000 cps. Impedance, 50-800 ohms. Net Eas. **\$32.50**

**Telex TEL-66C Carbon Mike**—Close-talking differential type with carbon element. Response, 100-4500 cps, shaped for maximum intelligibility. Impedance, 50-150 ohms. Net Each. . . . . **\$25.00**

**PUSH-TO-TALK SWITCH ASSEMBLY**  
Fits 1/2" to 1" dia. aircraft control wheel—facilitates pilot's keying of transceivers and activation of mike circuits. Plug on 6' coiled cord for 206" dia. radio mike jack. Has standard 1/4" jack for boom mike. Easy to install.  
**Telex PT-101 Switch Assembly**—  
Net Each. . . . . **\$23.08**

### PILOT EARSET®

Provides excellent in-flight listening without hindering normal cockpit functions. Consists of Earset miniature magnetic speaker, nylon earloop, ear inserts in 3 sizes and 5' cord, with in-line volume control, clothing clip, PJ-055 plug. Weighs under 2 oz. FAA Approved under TSO-C57, Category B. Response, =3 db, 200-3000 cps. Impedance, 500 ohms.

**Telex PEM-77R Earset**—For right ear. Net Each. . . . . **\$13.25**

**Telex PEM-77L**—For left ear. . . . . **\$13.25**

### TWINSET® HEADSET

Lightest headset ever made—just 1.6 oz. Widely used throughout the aviation industry. FAA Approved under TSO-C57. Sensitivity, 120 db above .0002 dynes/cm<sup>2</sup> for 1 mW input. With 5' cord and standard phone plug.

**Telex HTW-2 Twinset**—Impedance, 500 ohms. Net Each. . . . . **\$14.50**

**Telex HTX-2**—1000 ohms. Net. . . . . **\$14.50**

### TELESET® HEADSET

Ruggedly constructed, dual magnetic earphones at modest cost. Of stainless steel and high-impact plastic. Vinyl-covered cord has built-in strain relief. Yoke allows 180° cap rotation. Response, 50-10,000 cps. Sensitivity, 115 db SPL for 1 mW input. Net weight, 8 oz. Color, tan and brown. With 5' cord and standard phone plug.

**Telex HM-500 Earset**—Impedance, 500 ohms. Net Each. . . . . **\$13.50**

**Telex HM-100**—2000 ohms. . . . . **\$13.50**

### 610-1 HEADSET

Low-cost dual magnetic earphones with comfortable ear cushions, 5' cord and standard phone plug. Response, 40-15,000 cps usable. Handles 1/2 watt max. Color, off-white and brown. Impedance, 600 ohms.

**Telex 610-1 Headset**—Net Eas. **\$6.95**

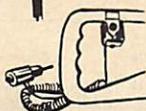
**MAGNA-TWIN MARK III HEADSET**  
Versatile, all-purpose magnetic headsets. Headphones have 50-10,000 cps response with 110 db sensitivity; Impedance, 500-600 ohms. Deluxe foam rubber ear cushions. With 5' cord. Color, gray.

| Telex No. | Description  | Net Each |
|-----------|--|----------|
| MR-6      | Dual phones; std. plug   | \$18.95  |
| MRB-46    | Dual phones; 50-ohm carbon mike* 2 std. plugs  | 30.95    |
| MRB-49PT  | Above, but with 206" dia. mike plug and push-to-talk switch                            | 47.95    |
| MRB-65    | Dual phones; 300-ohm transistorized dynamic mike* for carbon equivalent; 2 std. plugs  | 51.95    |
| MR-11     | Single phone; std. plug  | 12.50    |
| MRB-78    | Single phone; 50-ohm carbon mike*; 2 std. plugs  | 24.95    |
| MRB-85    | Single phone; 300-ohm transistorized dynamic mike* for carbon equivalent; 2 std. plugs | 45.95    |

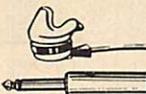
\*Small, noise-cancelling boom-type.



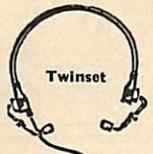
TEL-66 Mike



PT-101 Switch



Pilot Earset



Twinset



Teleset



610-1



MR-6



MRB-46



MRB-85

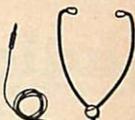
## DICTATION, GENERAL COMMUNICATIONS

### MONOSET® HEADSET

Featherweight (1.2 oz.), under-the-chin headset perfect for use with office dictating machines. Signals come directly to the ear, blocking out background noise. Response, 50-5000 cps. Sensitivity, 88 db above .0002 dynes/cm<sup>2</sup> for 10 mW input. Handles 25 mW max. With 5' detachable cord, standard plug.

**Telex HMV-2 Monoset**—Impedance, 125 ohms. Net Each. . . . . **\$7.95**

**Telex HMY-2**—2000 ohms. Net. **7.95**



Monoset

### TELE-FI® HEADSET

Sound reaches one ear one millisecond after the other ear, creating greater depth and clarity. Ideal for secretarial or entertainment use. Receiver snaps onto headset or slips in slot of plastic Earset. Response, 50-5000 cps. Handles 25 mW max. With 5' cord and standard phone plug.



Tele-Fi

**Telex HFR-91** (15 ohms), **HV-91** (125 ohms), **HFW-91** (500 ohms), **HFX-91** (1000 ohms) or **HFY-91** (2000 ohms) **Tele-Fi**—Net Each. . . . . **\$5.95**

### DYNASET® HEADSET

Versatile, under-the-chin magnetic headset for TV and radio monitoring, record listening, office equipment and commercial applications. Provides clear reproduction of music and speech; sound travels through tubing for better reproduction. Response, 50-5000 cps. Sensitivity, approx. 105 db above .0002 dynes/cm<sup>2</sup> for 1 mW input. Impedance, 15 ohms. Handles 25 mW max. With 5' acoustical tubing, standard plug.

**Telex HUP-01 Dynaset**—Net. . . . . **\$8.50**

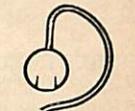


Dynaset

### METAL EARSET®

A hi-fi earphone that slips onto the ear. Weighs only 1/2 oz. Uses sealed, rust-proof receiver. Comfortable listening at 1 mW. With 5' cord, standard plug.

**Telex EMR-2** (15 ohms), **EMV-2** (125 ohms), **EMW-2** (500 ohms), **EMX-2** (1000 ohms) or **EMY-2** (2000 ohms) **Earset**—Net Each. . . . . **\$4.55**



Metal Earset

### RECEIVERS

Replacement receivers for Earsets and Tele-Fi headsets.

**Telex RTR-04** (15 ohms), **RTV-04** (125 ohms), **RTW-04** (500 ohms), **RTX-04** (1000 ohms) or **RTY-04** (2000 ohms) **Receiver**—Net Each. . . . . **\$2.25**



Receiver

### MAGNETIC PILLOW SPEAKER

Palm-sized, weighs only 2.6 oz., easily sterilized in alcohol. Completely shock-proof. Detachable flexible cord. Sensitivity 1 mW, for comfortable listening. Frequency response, 50-4000 cps. 3/8" thick, 2 1/4" diameter. 5' cord and plug.

**Telex SMV-2A** (125 ohms) or **SMY-2A** (2000 ohms) **Pillow Speaker**—Net Each. . . . . **\$5.95**



Magnetic Pillow Speaker

### DYNAMIC PILLOW SPEAKER

Mellow and smooth tonal quality. Durable stainless steel housing, shock-absorbing polyethylene ring around edge. 3 3/8" dia. 1 1/4" thick, weight 4 oz. without cord. Comfortable listening level with 1 mW input to speaker. Maximum power level, 1/2 watt approx. With 5' cord and standard phone plug.

**Telex SDN-2A Pillow Speaker**—32 ohms. Net Each. . . . . **\$6.95**

**Telex SDM-2A**—Above, 10,000 ohms impedance. Net Each. . . . . **\$9.95**

**Telex SDM-7A**—Pillow Speaker, 10,000 ohms, with 5' volume control cord and std. phone plug. Net Each. . . . . **\$11.95**



Dynamic Pillow Speaker

We Handle All Telex Accessory and Replacement Products—Prices on Request

## ACCESSORIES

**EAR CUSHIONS.** Direct replacements for Telex headsets.

**Telex ACD-1**—Deluxe foam rubber. Gray. Net per Pair. . . . . **\$2.95**

**Telex ACV-1**—Vinyl-covered polyurethane. Gray. Standard on Magna-Twin headsets. Net per Pair. . . . . **\$1.50**

**Telex ACT-2**—Brown foam rubber. For Teleset. Per Pair. . . . . **1.00**

**Telex ACT-5**—For 610-1 headset. Net per Pair. . . . . **.70**

**VOLUME CONTROL CORDS.** 5' cords with std. phone plugs.

**Telex No. VYM-2**—For 2,000 ohm Magnetic Pillow speaker. Net Each. . . . . **\$5.95**

**Telex No. VXM-2**—For 1,000 ohm Twinset. Net Each. . . . . **5.95**

**Telex No. VVM-2**—For 125 ohm Magnetic Pillow speaker. Net Each. . . . . **5.95**

**Telex No. VVT-2**—For 15, 64 or 125 ohm Metal Monoset, Earsets, or Tele-Fi. Net Each. . . . . **\$5.95**

**Telex No. VXT-2**—For 500, or 1,000 ohm Metal Monoset Earsets, or Tele-Fi. Net Each. . . . . **\$5.95**

**Telex No. VYT-2**—For 2,000 ohm Metal Monoset, Earsets, or Tele-Fi. Net Each. . . . . **\$5.95**

**Telex No. VMD-2**—For 10K ohm Dynamic Pillow spkr. Net **5.95**

# Recording Accessories, Fan

## AUDIO DEVICES RECORDING DISCS

**audiodiscs**  
FOR EVERY RECORDING NEED

**AUDIODISCS** have kept pace with the constantly increasing demands of the recording industry for over a quarter of a century. Features include: Consistent, uniform thickness; superior tracking qualities; extended stylus life; brilliant high-frequency response; freedom from background noise; positive thread throw; no "groove tearing"; unblemished surface; no advance ball score; micro-mirror surface.

Today's AudiDisc—in keeping with the high professional standards of modern recording engineers—is the finest ever, produced by the most advanced facilities and techniques. AudiDiscs provide a complete line of recording blanks to meet the full range of requirements of discriminating professional recordists with complete

satisfaction. To fulfill the varying needs of the recording engineer, AudiDiscs are available in a broad range of types, each intended to satisfy a specific requirement. And each disc is manufactured to provide complete satisfaction. AudiDiscs . . . they speak for themselves.

| Description   | Audi-disc Type No. | Size, In. | Approx. Thickness, In. | Std. Pkgs. Contain | Wt. per Std. Pkg., Lbs. | List Price per Disc | Net Price per Disc in Std. Pkg. | Net Price per Disc Broken Lots |
|---|--------------------|-----------|------------------------|--------------------|-------------------------|---------------------|---------------------------------|--------------------------------|
| <b>MASTER AUDIODISCS FOR MASTER RECORDINGS</b>  |                    |           |                        |                    |                         |                     |                                 |                                |
| The overwhelming choice of the recording engineer where pressings are to be made by the electroplating process. Their excellence and consistent quality are well known to all record processors. Aluminum base. Available in single face with center hole only. | 10M1               | 10        | .050                   | 25                 | 9                       | \$4.63              | \$2.78                          | \$3.10                         |
|   | 12M1               | 12        | .050                   | 25                 | 18                      | 5.27                | 3.16                            | 3.53                           |
|   | 13M1               | 13 1/4    | .050                   | 25                 | 25 1/2                  | 7.80                | 4.68                            | 5.23                           |
|   | 14M1               | 14        | .050                   | 25                 | 21                      | 8.33                | 5.00                            | 5.58                           |
| <b>RED LABEL AUDIODISCS FOR PROFESSIONAL USE</b>  |                    |           |                        |                    |                         |                     |                                 |                                |
| Standard throughout the recording industry. Red Label AudiDiscs exceed the most exacting demands for optimum quality and dependability. Aluminum base, double-sided. All imprinted except Type 7R2.   | 7R2*               | 7         | .050                   | 25                 | 4                       | 2.43                | 1.46                            | 1.63                           |
|   | 8R2                | 8         | .040                   | 25                 | 5                       | 1.80                | 1.08                            | 1.20                           |
|   | 10R2               | 10        | .040                   | 25                 | 7 1/2                   | 2.32                | 1.39                            | 1.55                           |
|   | 12R2               | 12        | .050                   | 25                 | 13                      | 4.95                | 2.97                            | 3.32                           |
| <b>YELLOW LABEL AUDIODISCS FOR GENERAL USE</b>  |                    |           |                        |                    |                         |                     |                                 |                                |
| A popular choice for all general-purpose recording applications which require high, uniform quality. Aluminum base, double-sided. Imprinted or yellow paper labels available on request.  | 7Y*                | 7         | .050                   | 25                 | 4                       | 2.22                | 1.33                            | 1.49                           |
|   | 8Y                 | 8         | .040                   | 25                 | 5                       | 1.67                | 1.00                            | 1.12                           |
|   | 10Y                | 10        | .040                   | 25                 | 7 1/2                   | 2.00                | 1.20                            | 1.34                           |
|   | 10Y†               | 10        | .050                   | 25                 | 7 1/2                   | 3.17                | 1.90                            | 2.13                           |
|   | 12Y                | 12        | .050                   | 25                 | 13                      | 4.22                | 2.53                            | 2.83                           |
| <b>BLUE LABEL AUDIODISCS FOR AMATEUR USE</b>  |                    |           |                        |                    |                         |                     |                                 |                                |
| Ideal for schools, home, amateur and demonstration work. Same high quality for the very best in recording, but on a thinner aluminum base. Double-sided. Blue paper labels available on request.  | 6A                 | 6 1/2     | .030                   | 50                 | 4 1/2                   | .85                 | .51                             | .57                            |
|   | 8A                 | 8         | .030                   | 50                 | 5                       | 1.27                | .75                             | .85                            |
|   | 10A                | 10        | .030                   | 50                 | 10                      | 1.68                | 1.01                            | 1.13                           |

\*Standard 45 rpm disc with 1 1/2" dia. center hole. Available with conventional center hole; to order, specify "Small Center Hole".  
†Supplied with extra-heavy base.

## SONOCRAFT RECORDING STYLI

**Sonocraft Sapphire No. 7**—This sapphire stylus has long been recognized by recording engineers as the best recording stylus made. The jeweled point, with 87° included angle, correct radius and fine polish, cuts a silent, shiny groove for many hours. It is especially designed to insure proper thread throw. Each stylus is disc tested on a recording machine just before packaging, thus guaranteeing quality and uniformity. Can be resharpened a number of times. Supplied with dural shank. Net Each . . . . . \$5.34

**Sonocraft Sapphire No. 7MIG**—Especially designed for professional microgroove recording. Dural shank. Can be resharpened. Net Each . . . . . \$5.34

**Sonocraft Stellite No. 11**—A favorite with professionals and non-professionals alike. Standard short shank (1 1/2") with "flat" is brass; available in long and/or round shank if specified. Net Each . . . . . \$1.74

**Sonocraft Sapphire No. 5**—A professional recording stylus with brass shank ideally suited for those recordists not requiring the superior quality of Sonocraft No. 7. Can be resharpened. Net Each . . . . . \$3.96

## 3M SCOTCH® BRAND SPECIAL PURPOSE, INDUSTRIAL TAPES

### 1/2" AUDIBLE RANGE TAPES

No. 111: All-purpose, std. length type with 1 1/2-mil plastic base.  
No. 131: Low print tape; reduces "print-through"; 1 1/2-mil plastic base.

No. 150: Extra length, extra strength; on 1-mil polyester base.  
No. 201: High signal-to-noise ratio, for mastering and sub-mastering applications. Excellent high frequency response, long life, low ruboff; anti-static treated; 1 1/2-mil plastic base.

No. 202: Extra strength, with 1 1/2-mil polyester base.  
No. 203: Extra length 1-mil polyester base.

| 3M Number      | Length of Tape and Reel Type | List Price | Net Each 1-4 | 5 Up    |
|----------------|------------------------------|------------|--------------|---------|
| 111-1/2-2500H  | 2500' NAB hub                | \$18.95    | \$11.30      | \$10.17 |
| 111-1/2-2500RO | 2500' NAB 10 1/4" metal reel | 19.40      | 12.93        | 11.64   |
| 131-1/2-2500H  | 2500' NAB hub                | 19.95      | 13.10        | 11.97   |
| 131-1/2-2500RO | 2500' NAB 10 1/4" metal reel | 23.20      | 15.47        | 13.92   |
| 150-1/2-3600H  | 3600' NAB hub                | 23.45      | 15.64        | 14.07   |
| 150-1/2-3600RO | 3600' NAB 10 1/4" metal reel | 26.70      | 17.80        | 16.02   |
| 201-1/2-2500H  | 2500' NAB hub                | 19.95      | 13.10        | 11.97   |
| 201-1/2-2500RO | 2500' NAB 10 1/4" metal reel | 23.20      | 15.47        | 13.92   |
| 202-1/2-2500H  | 2500' NAB hub                | 27.95      | 18.63        | 16.77   |
| 202-1/2-2500RO | 2500' NAB 10 1/4" metal reel | 31.20      | 20.80        | 18.72   |
| 203-1/2-3600H  | 3600' NAB hub                | 28.35      | 18.90        | 17.10   |
| 203-1/2-3600RO | 3600' NAB 10 1/4" metal reel | 31.60      | 21.07        | 19.96   |

See a following page for more Scotch® Brand recording tapes.

## SONOCRAFT BRAND X

### MAGNETIC RECORDING TAPE

Highest quality, splice free recording tape in standard lengths on warp-free plastic reels. All Sonocraft tapes are skin packed in modern, hinged boxes.

#### 1.5 MIL 1/4" ALL PURPOSE PLASTIC

| Sonocraft No. | Description |            | List Price | Net Each 1-11* |
|---------------|-------------|------------|------------|----------------|
|               | Length      | Wound On   |            |                |
| STA-6 (Blue)  | 600'        | 5" Plastic | \$2.25     | \$1.08         |
| STA-12 (Blue) | 1200'       | 7" Plastic | 3.50       | 1.68           |

#### 1.5 MIL 1/4" ALL PURPOSE MYLAR\*

| Sonocraft No. | Description |            | List Price | Net Each 1-11* |
|---------------|-------------|------------|------------|----------------|
|               | Length      | Wound On   |            |                |
| STM-6         | 600'        | 5" Plastic | \$2.82     | \$1.27         |
| STM-12        | 1200'       | 7" Plastic | 4.54       | 2.04           |

#### 1.0 MIL 1/4" EXTRA PLAY PLASTIC

| Sonocraft No. | Description |            | List Price | Net Each 1-11* |
|---------------|-------------|------------|------------|----------------|
|               | Length      | Wound On   |            |                |
| STA-18 (Red)  | 1800'       | 7" Plastic | \$5.50     | \$2.48         |

#### 1.0 MIL 1/4" ALL PURPOSE MYLAR\*

| Sonocraft No.  | Description |            | List Price | Net Each 1-11* |
|----------------|-------------|------------|------------|----------------|
|                | Length      | Wound On   |            |                |
| STM-9 (Brown)  | 900'        | 5" Plastic | \$3.60     | \$1.62         |
| STM-18 (Brown) | 1800'       | 7" Plastic | 6.20       | 2.79           |

\*Registered DuPont Trade Mark. \*Inquire about larger quantity discounts.

## ROTRON WHISPER® FAN KIT

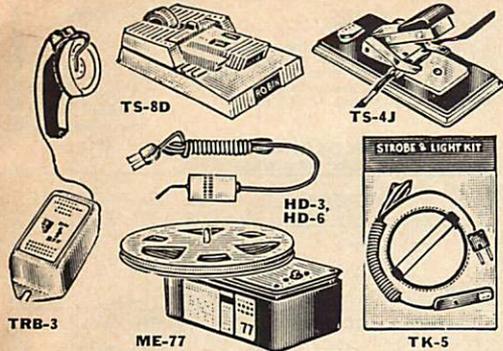


Fan assembly kit especially grouped for the home entertainment field, hi-fi/stereo, TV receivers, ham radio equipment, etc. Supplied with Whisper venturi fan electrical connector, mounting hardware and detailed instructions for mounting in three possible arrangements. Noise level only 18 db (SIL). For 105-120 VAC, 50-60 cps, single phase operation. Size, 4 1/4" sq. x 1 1/2" d. Weight, 1.2 lbs.

**Rotron Whisper Fan Kit**—  
Net Each . . . . . \$14.85



# Robins Recorder Accessories



## GIBSON GIRL® TAPE SPLICERS

**Robins Model TS-500 1/2" Audio/Video Splicer**—Similar to TS-4J but heavy duty for use with Sony, Concord and other video systems as well as audio, computer, telemetry, industrial and special purpose magnetic recording tape. Net Each. **\$11.00**  
**Robins Model TS-1000 1" Audio/Video Splicer**—Same as TS-500 but for use with 1" tape systems such as Ampex. Net. **\$51.00**  
**Robins Model TK-9 Tape Editing Workshop**—For easy, accurate splicing, editing, combining and repairing of recording tapes. Takes all reels up to 7". Consists of two tape winch and Stereo 4 tape splicer attached to walnut-grain, warp-proof base. Accurately calibrated editing/trimming scale on base indicates tape time being added or cut from tape. Size, 6 3/8" x 13 3/4" x 5 1/2" h. Net Each. **\$14.40**

**Robins Model TS-8D Stereo 4 Deluxe Splicer**—Precise splicing of 4-track tapes without loss of program material on outside tracks. Also use with single or two-track tapes. Blade centering adjustment for lifetime accuracy. Replaceable cartridge and cutter pad. See-thru windows show "cut" and "trim" positions. Tape guide and fingers secure tape during splicing. Easy threading tape dispenser is built-in; has 1/2" x 100' splicing tape. Safety-lock protects blades when not in use. Net Each. **\$7.65**  
**Robins Model TS-4S Stereo 4 Standard Splicer**—Same as TS-8D, except without position index windows. Metal and plastic construction. Integral dispenser comes with roll of 3/8" x 100' splicing tape. Net Each. **\$5.70**  
**Robins Model TS-4J Junior Splicer**—Same as TS-4S, but without tape dispenser and splicing tape. Net Each. **\$4.25**  
**Robins Model SP-4 Semi-Pro Splicer**—Compact, low-cost design with tape alignment guide with adhesive back; hand-held Gibson Girl cutter and trimmer with blade cover. Plastic. Net Each. **\$1.50**

**Robins Model H-4 Hobbyist Splicer**—Adhesive-backed plastic tape guide fastens to recorder. Comes with unique curved cutting blades. Net Each. **75c**

## GIBSON GIRL® TAPE SPLICER KITS

**Robins Model TK-8DLX Professional Kit**—Includes TS-8D splicer, ST-500 splicing tape, TT-1 Tape Threader, TC-12 clips, HC-2 head cleaner, RC-2-22 head and guide lubricant, JCT-2 tape cleaning cloth, RH-2 reel holders, SL-30 reel labels and TE-24 guide book to better tape splicing and editing. Each. **\$11.49**  
**Robins Model TK-4ST Standard Kit**—Includes TS-4S splicer, ST-375 splicing tape, TT-1 tape threader, TC-12 clips, HC-2 head cleaner, JCT-2 tape cleaning cloth, reel holders, SL-30 reel labels and TE-24 guide book. Each. **\$8.25**  
**Robins Model TK-4JR Junior Kit**—Same accessories as Standard Kit, but with TS-4J splicer. Each. **\$6.89**  
**Robins Model TK-4H Kare Kit**—With H-4 Hobbyist Splicer, JCT-2 tape cleaning cloth, ST-500 splicing tape, TC-12 clips and TE-24 guide book. Each. **\$1.99**

## CUT-N-SPLICE TAPE SPLICERS

**Robins Model TS-6 Deluxe Splicer**—Easy-to-use splicer with adjustment for cutting tapes at 40° or 90°. Comes with 25 self-stick splicing patches in handy tray built into splicer base. Net. **\$3.00**  
**Robins Model TS-5 Splicer**—Metal splicing block with tape guide and cutting groove for hand-held blade. Sliding tray is built in to hold 25 self-stick splicing patches and blade (supplied). Net. **\$1.89**  
**Robins Model TST-233 Patches**—Pkg. 75 self-stick patches for TS-5 and TS-6 splicers. Net Package. **69c**

## REPLACEMENT KITS FOR SPLICERS

Contain replacement cutter cartridge and two cutter pads.  
**Robins Model RK-2**—For TS-4A series splicers. Each. **99c**  
**Robins Model RK-3**—For TS-4S, TS-4J splicers. Each. **99c**  
**Robins Model RK-8**—For TS-8D splicer. Each. **99c**  
**Robins Model RP-2 Replacement Cutter Pads**—For TS-4S, TS-4J and TS-4A series splicers. Package of 12. Each. **99c**  
**Robins Model RP-8 Replacement Cutter Pads**—For TS-8D splicer. Package of 12. Each. **99c**

## MYLAR® SPLICING AND LEADER TAPE

Special formula, carefully controlled for tackiness, thickness, strength and cold flow. Leader is 1 1/2"-mil, supplied on 2 1/2" reel; ideal for indexing between recorded sections of a reel.

®DuPont trademark.

| Robins No. | Type     | Width x Length | Net Ea. |
|------------|----------|----------------|---------|
| TST-235    | Splicing | 3/4" x 300'    | 60c     |
| TST-376    | Splicing | 3/8" x 275'    | 60c     |
| TST-501    | Splicing | 1/2" x 250'    | 60c     |
| LT-100     | Leader   | 3/4" x 100'    | 69c     |

## MAGNETIC BULK TAPE ERASERS

**Robins Model TM-120**—Erases video and audio from tape as wide as 2". Reduces noise 50-90 db below saturation minimum. For up to 17" reels. Net Each. **\$105.00**  
**Robins Model TM-100**—For up to 10 1/2" reels. Net. **\$53.99**  
**Robins Model ME-93**—Completely erases recorded and unwanted signals in seconds. Reduces background noise levels 3 to 6 db below normal erase head level. Takes reels up to 10 1/2" dia. x 1/2" wide. U/L Listed; 110 VAC, 60 cps. Net Each. **\$27.60**  
**Robins Model ME-77**—Low cost eraser reduces noise 2 to 4 db below erase head level. Takes reels to 7" x 1/4" w. For 110 VAC, 60 cps. Net Each. **\$15.90**  
**Robins Model ME-66**—Hand-held with unique handle containing momentary contact switch. Erases entire tape reel in seconds without rewinding. For any size reel of 1/4" tape. Rated 4 amps, 110-120 VAC, 60 cps. Net Each. **\$12.59**  
**Robins Model ME-55**—Economy hand-held eraser. Weight, 2 lbs. Requires 4 amps, 110-120 VAC, 60 cps. Net Each. **\$10.00**

## TAPE HEAD DEMAGNETIZERS

**Model HD-6**—Easy-to-use, compact design. Removes signal-damaging magnetism from tape head. U/L Listed; 110 VAC, 60 cps. Net Each. **\$6.59**  
**Model HD-3**—Low-cost version with plastic sleeve on probe tip to prevent damage to head; 110 VAC, 60 cps. Net Each. **\$3.90**

## REPLACEMENT REELS

All reels are attractively peg-packaged.

| Robins Model | Reel Size | Quantity per Pkg. | Each | Robins Model | Reel Size | Quantity per Pkg. | Each |
|--------------|-----------|-------------------|------|--------------|-----------|-------------------|------|
| TR20-6       | 2"        | 6                 | 60c  | TR25-6       | 2 1/2"    | 6                 | 60c  |
| TR30-6       | 3"        | 4                 | 60c  | TR32-4       | 3 3/4"    | 4                 | 60c  |
| TR40-4       | 4"        | 4                 | 69c  | TR50-2       | 5"        | 2                 | 60c  |
| TR70-2       | 7"        | 2                 | 60c  | TR74*        | 7"        | 1                 | 60c  |

\*Low torque, 4" hub. Tape Capacity: 1,600', 1/2 mil; 1,200', 1 mil; 800', 1 1/2 mil. Supplied with box.

## TAPE STROBE AND LIGHT KIT

Checks tape speed, accuracy, flutter and wow at 15, 7 1/2 and 3 3/4 lps speeds. Includes strobe tape, neon light and full instructions. **Robins Model TK-5 Strobe Kit**—Net Each. **\$1.49**

## CLEANERS, CHEMICALS AND KITS

| Robins Model | Description  | Net Each |
|--------------|--|----------|
| HC-2         | Head cleaner removes grime and oxides                | \$0.60   |
| HC-5         | 5" reel treated cloth tape cleaner and lube          | 1.69     |
| THC-3        | Same, but 3" reel                                    | .99      |
| JCT-2        | Pkg. 3 cleaning/lubricating Jockey cloths            | .60      |
| MSW-150      | Pkg. 150 Swabbies (6" lg. cotton swabs)              | .69      |
| RC-2-22      | Silicone-base recording head & guide lube, 2 oz.     | .60      |
| RC-2-23      | Oil for tape and phono drives, 2 oz. bottle          | .45      |
| RC-2-56      | Non-slip for tape and phono drives, 2 oz.            | .69      |
| TK-2         | Kit: HC-2 plus JCT-2                                 | 1.14     |
| TK-6         | Kit: HC-2 plus RC-2-22                               | 1.14     |
| TK-7         | Kit HC-2, RC-2-22, RC-2-56, RC-2-23 plus 50 Swabbies | 2.19     |

## MISCELLANEOUS TAPE ACCESSORIES

| Robins Model | Description  | Net Each |
|--------------|--|----------|
| RH-2         | Set of 2 reel holders to reduce wobbling                                       | \$0.60   |
| TB-12        | Pkg. 12 tape mailing boxes for 3 1/2" reels                                    | .60      |
| TC-5         | Tape storage can for 5" reels; enamel-finished metal, ribbed for stacking      | .39      |
| TC-7         | Same, but for 7" reels   | .54      |
| TC-75        | Pkg. 75 tape holding clips   | .69      |
| TT-15        | Pkg. 15 tape log discs for indexing 7" tapes                                   | .69      |
| TP-3         | Pkg. 3 (black, white, yellow) pencils for marking tapes for editing and cueing | .60      |
| TPP-1        | 60 ass't pre-cut felt pressure pads for replacement on most tape recorders     | .60      |
| TPP-2        | Pkg. 44 pre-cut and 2 U-cut-it-to-fit self-stick ing felt pressure pads        | .69      |
| TL-150       | Pkg. 150 pressure-sensitive 2" x 1/2" labels                                   | .60      |
| TRN-2        | Reel rack holds 7" reels upright; 2 log discs                                  | .60      |
| TT-1         | Tape threader stops fumbling when threading                                    | .60      |

## VU METER

Accurate record or play level readings made easy. Dual impedance output. Model V-1007S, -20 to -3 db. Sensitivity, 200 mA. Shunts for 1.2 and 12 V "zero" VU. Size, 4 1/2" x 1 1/2" d.; mounts in 2 3/4" hole.

**Robins Model VU-100**—Net Each. **\$19.20**

## TELEPHONE PICKUP COILS AND BEEPER

**Robins Model TRB-3 Tele-Tape Beeper and Pickup Coil**—Transistorized unit injects 1 kc beep into phone and recorder every 15 seconds while picking up phone conversation. Fastens by spring to phone. With on-off switch, 6-ft. cable for phone and 6-ft. cable for recorder. Requires standard 22 1/2-volt battery (not supplied). Net Each. **\$1.20**  
**Robins Model TRP-1 Tele-Tape Pickup Coil**—High efficiency ferrite inductor for 3-5 db gain; high signal-to-noise ratio. Easily attached to phone. With 6-ft. cable. Net Each. **\$3.75**  
**Robins Model TRP-2 Economy Pickup**—Fastens to phone with suction cup. With 6-ft. cable. Net Each. **\$1.89**

## BOOKS AND MANUALS

| Robins Model | Title   | No. Pages | Net Each |
|--------------|---|-----------|----------|
| TE-24        | Tape Editing and Splicing Guide Book          | 24        | 24c      |
| TE-48        | Television Tape Recording                     | 48        | 60c      |
| TE-96        | What You Should Know About Your Tape Recorder | 96        | 60c      |
| TE-129       | Tape Recording the Sounds of Your Life        | 128       | 89c      |
| TE-127       | How to Get the Most Out of Your Tape Recorder | 128       | 89c      |

# audiotape Tape and Accessories

Trade Mark



Supplied on 5-inch and 7-inch four spoke "C-Slot" plastic reels for standard recorders. Unique design for threading eliminates kinks and twists; makes threading easier. All reels are self-locking. Reels packed in sturdy, scuff-resistant color coded boxes for instant identification. Audiotape supplied on colored reels, 5-inch and 7-inch size, at no increase in price. Specify: RR-red; YR-yellow; GR-green or BR-blue. Example: 1231TYR means 1200 feet of "Tempered" Mylar® Tape on a 5-inch yellow reel.



## AUDIOTAPE AND ACCESSORIES

### LOW PRINT MASTER RECORDING ON 1 1/2-MIL PLASTIC

| Audio-tape No. | Description |                 | Std. Qty. | List Price | Net Each            |           |
|----------------|-------------|-----------------|-----------|------------|---------------------|-----------|
|                | Lgth.       | Wound On        |           |            | Less than Std. Qty. | Std. Qty. |
| 651-M          | 600'        | 5" Plastic      | 10        | \$ 2.75    | \$ 1.83             | \$ 1.65   |
| 1251-M         | 1200'       | 7" Plastic      | 10        | 4.30       | 3.40                | 2.98      |
| 2551H-M        | 2500'       | NAB Hub         | 5         | 9.25       | 6.17                | 5.55      |
| 2551R-M        | 2500'       | 10 1/2" AL Reel | 5         | 12.20      | 8.14                | 7.32      |
| 2551FS-M       | 2500'       | 10 1/2" AL Reel | 5         | 12.20      | 8.14                | 7.32      |
| 5051H-M        | 5000'       | NAB Hub         | 5         | 16.95      | 11.30               | 10.17     |
| 5051R-M        | 5000'       | 14" AL Reel     | 5         | 23.90      | 15.93               | 14.34     |

### DOUBLE RECORDING "TEMPERED" MYLAR

Tempered 1/2-mil Mylar for extra long life.

| Audio-tape No. | Description |                 | Std. Qty. | List Price | Net Each            |           |
|----------------|-------------|-----------------|-----------|------------|---------------------|-----------|
|                | Lgth.       | Wound On        |           |            | Less than Std. Qty. | Std. Qty. |
| 331T#          | 300'        | 3" Plastic*     | 10        | \$ 1.60    | \$ 1.07             | \$ 0.96   |
| 1231T          | 1200'       | 5" Plastic      | 10        | 5.45       | 3.63                | 3.27      |
| 1831T          | 1800'       | 5 1/2" Plastic  | 10        | 6.75       | 4.50                | 4.05      |
| 2431T          | 2400'       | 7" Plastic      | 10        | 8.50       | 6.33                | 5.70      |
| 4831T-R        | 4800'       | 10 1/2" AL Reel | 5         | 22.00      | 14.67               | 13.20     |
| 4831T-FS       | 4800'       | 10 1/2" AL Reel | 5         | 22.00      | 14.67               | 13.20     |

### DOUBLE RECORDING ON 1/2-MIL MYLAR

Gives twice as much recording time per reel.

|       |       |                |    |        |        |        |
|-------|-------|----------------|----|--------|--------|--------|
| 331   | 300'  | 3" Plastic     | 10 | \$1.37 | \$0.91 | \$0.82 |
| 1231# | 1200' | 5" Plastic     | 10 | 3.50   | 2.34   | 2.10   |
| 1831# | 1800' | 5 1/2" Plastic | 10 | 5.00   | 3.33   | 3.00   |
| 2431# | 2400' | 7" Plastic     | 10 | 6.50   | 4.33   | 3.90   |

### LOW NOISE 1 1/2-MIL PLASTIC BASE

High signal-to-noise ratio; extra low hiss level.

|       |       |                 |    |         |        |        |
|-------|-------|-----------------|----|---------|--------|--------|
| 1257  | 1200' | 7" Plastic      | 10 | \$ 4.30 | \$2.86 | \$2.58 |
| 2577H | 2500' | NAB Hub         | 5  | 11.00   | 6.17   | 5.55   |
| 2577R | 2500' | 10 1/2" AL Reel | 5  | 12.20   | 8.14   | 7.32   |

### LOW NOISE ON 1 1/2-MIL MYLAR

Maintains a high signal-to-noise ratio.

|       |       |                 |    |         |        |        |
|-------|-------|-----------------|----|---------|--------|--------|
| 1277  | 1200' | 7" Plastic      | 10 | \$ 5.10 | \$3.40 | \$3.06 |
| 2577H | 2500' | NAB Hub         | 5  | 11.00   | 7.00   | 6.60   |
| 2577R | 2500' | 10 1/2" AL Reel | 5  | 13.50   | 9.00   | 8.10   |

### LOW NOISE ON 1-MIL MYLAR

|       |       |                 |    |         |         |         |
|-------|-------|-----------------|----|---------|---------|---------|
| 1867  | 1800' | 7" Plastic      | 10 | \$ 7.35 | \$ 4.90 | \$ 4.41 |
| 3667H | 3600' | NAB Hub         | 5  | 14.20   | 9.47    | 8.52    |
| 3667R | 3600' | 10 1/2" AL Reel | 5  | 17.15   | 11.43   | 10.29   |

### LUBRICATED TAPE

Designed for use in continuous-loop tape cartridges.

|          |       |            |    |         |        |        |
|----------|-------|------------|----|---------|--------|--------|
| 1761Lube | 1700' | 7" Plastic | 10 | \$ 5.85 | \$3.87 | \$3.52 |
|----------|-------|------------|----|---------|--------|--------|

### SNAP-LOAD CARTRIDGE

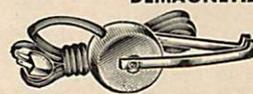
Super-durable 1-mil Mylar polyester film wound on twin hubs in dust-resistant plastic magazine. Easy loading; 560-foot tape. Audio No. C560—List Price \$4.50; Net Price, 1-9, \$3.00; 10, \$2.70

### REELS, BOXES, LEADER TAPE

| Audio No. | Description                    | Std. Qty. | List Price | Net Each | Net Ea. |
|-----------|--------------------------------|-----------|------------|----------|---------|
| 3PMB      | 3" plastic reel, mall. box     | 10        | \$0.25     | \$0.17   | \$0.15  |
| 3.25PMB   | 3 1/4" plastic reel, mall. box | 10        | .40        | .27      | .24     |
| 4PB       | 4" plastic reel in box         | 10        | .55        | .37      | .33     |
| 5PB       | 5" plastic reel in box         | 10        | .65        | .43      | .39     |
| 7PB       | 7" plastic reel in box         | 10        | .75        | .50      | .45     |
| 8.25PB    | 8 1/4" plastic reel, mall. box | 10        | 2.90       | 1.94     | 1.74    |
| 10RB      | 10 1/2" aluminum reel in box   | 5         | 4.50       | 3.00     | 2.70    |
| 10FS      | 10 1/2" fiberglass EIA, box    | 5         | 4.50       | 3.00     | 2.70    |
| 14RB      | 14" aluminum reel in box       | 5         | 8.70       | 5.80     | 5.20    |
| 10H       | NAB metal hub                  | 5         | .75        | .50      | .45     |
| 5PB       | Red                            | 10        | .65        | .43      | .39     |
| 5PB       | Yellow                         | 10        | .65        | .43      | .39     |
| 5PB       | Green                          | 10        | .65        | .43      | .39     |
| 5PB       | Blue                           | 10        | .65        | .43      | .39     |
| 7PB       | Red                            | 10        | .75        | .50      | .45     |
| 7PB       | Yellow                         | 10        | .75        | .50      | .45     |
| 7PB       | Green                          | 10        | .75        | .50      | .45     |
| 7PB       | Blue                           | 10        | .75        | .50      | .45     |
| 3MB       | Mailing box for 3" reel        | 10        | .15        | .10      | .09     |
| 3.25MB    | Mailing box for 3 1/4" reel    | 10        | .15        | .10      | .09     |
| 4B        | Empty box for 4" reel          | 10        | .20        | .13      | .12     |
| 5B        | Empty box for 5" reel          | 10        | .20        | .13      | .12     |
| 7B        | Empty box for 7" reel          | 10        | .20        | .13      | .12     |
| 10B       | Empty box for 10 1/2" reel     | 5         | .75        | .50      | .45     |
| 14B       | Empty box for 14" reel         | 5         | 1.00       | .67      | .60     |
| 5M        | Corrug. mailing box, 5"        | 10        | .15        | .10      | .09     |
| 7M        | Corrug. mailing box, 7"        | 10        | .20        | .13      | .12     |
| 10M       | Corrug. mailing box, 10 1/2"   | 10        | .30        | .20      | .18     |
| 3L        | Self-timing leader, 100'       | 10        | .30        | .60      | .54     |
| 30AL      | 30, 2" x 1/2" adhesive labels  | 10        | .20        | .13      | .12     |

### DEMAGNETIZER NO. 400

An AC magnet assembly provided with extended pole pieces. Will remove any permanent magnetism accumulated in recording head. 110-115 v., 60 cps. Audio No. 400—Net... \$600



### ALIGNMENT TAPE NO. 200

Prerecorded at 2 kc, 10 kc and 15 kc for precise alignment of magnetic recording heads. Recorded at 15 ips; 300'; 4" reel. Audio No. 200—Net Each... \$6.00

### RECORDING HEAD CLEANER

Liquid designed specifically for cleaning recording heads; superior to carbon tetrachloride. Comes in one-ounce bottle with brush. Audio No. 2HC—Net Each... \$6.7c

### MASTER RECORDING ON 1 1/2-MIL MYLAR

|          |       |                 |    |         |        |        |
|----------|-------|-----------------|----|---------|--------|--------|
| 671-M    | 600'  | 5" Plastic      | 10 | \$ 3.20 | \$2.13 | \$1.92 |
| 1271-M   | 1200' | 7" Plastic      | 10 | 4.25    | 2.83   | 2.55   |
| 2571H-M  | 2500' | NAB Hub         | 5  | 11.00   | 7.73   | 6.60   |
| 2571R-M  | 2500' | 10 1/2" AL Reel | 5  | 13.50   | 9.00   | 8.10   |
| 2571FS-M | 2500' | 10 1/2" AL Reel | 5  | 13.50   | 9.00   | 8.10   |

### STANDARD RECORDING ON 1 1/2-MIL MYLAR

High-strength, super-durable. Withstands extreme temperature, is virtually immune to humidity, gives maximum tape life.

| Audio-tape No. | Description |                 | Std. Qty. | List Price | Net Each            |           |
|----------------|-------------|-----------------|-----------|------------|---------------------|-----------|
|                | Lgth.       | Wound On        |           |            | Less than Std. Qty. | Std. Qty. |
| 671            | 600'        | 5" Plastic      | 10        | \$ 2.65    | \$ 1.77             | \$ 1.59   |
| 1271           | 1200'       | 7" Plastic      | 10        | 4.25       | 2.83                | 2.55      |
| 2571H          | 2500'       | NAB Hub         | 5         | 11.20      | 7.20                | 6.42      |
| 2571R          | 2500'       | 10 1/2" AL Reel | 5         | 11.20      | 7.20                | 6.42      |
| 2571FS         | 2500'       | 10 1/2" AL Reel | 5         | 11.20      | 7.20                | 6.42      |
| 5071H          | 5000'       | NAB Hub         | 5         | 16.65      | 11.10               | 9.99      |
| 5071R          | 5000'       | 14" AL Reel     | 5         | 24.50      | 16.33               | 14.70     |

### STANDARD RECORDING ON PLASTIC BASE

Maximum fidelity, uniformity, frequency response and freedom from noise and distortion. Base is 1 1/2 mil acetate.

|        |       |                 |    |         |         |         |
|--------|-------|-----------------|----|---------|---------|---------|
| 351#   | 150'  | 3" Plastic      | 10 | \$ 0.70 | \$ 0.47 | \$ 0.42 |
| 351    | 300'  | 4" Plastic      | 10 | 1.35    | .90     | .81     |
| 651#   | 600'  | 5" Plastic      | 10 | 2.25    | 1.50    | 1.35    |
| 851#   | 850'  | 5 1/2" Plastic  | 10 | 2.95    | 1.97    | 1.77    |
| 1251#  | 1200' | 7" Plastic      | 10 | 3.50    | 2.34    | 2.10    |
| 2551H  | 2500' | NAB Hub         | 5  | 7.85    | 5.23    | 4.71    |
| 2551R  | 2500' | 10 1/2" AL Reel | 5  | 10.40   | 7.20    | 6.48    |
| 2551FS | 2500' | 10 1/2" AL Reel | 5  | 10.80   | 7.20    | 6.48    |
| 5051H  | 5000' | NAB Hub         | 5  | 14.40   | 9.60    | 8.64    |
| 5051R  | 5000' | 14" AL Reel     | 5  | 21.35   | 14.23   | 12.81   |

### LONGER RECORDING ON PLASTIC BASE

50% more recording time per reel on low-cost 1-mil cellulose acetate base, affording maximum economy.

| Audio-tape No. | Description |                 | Std. Qty. | List Price | Net Each            |           |
|----------------|-------------|-----------------|-----------|------------|---------------------|-----------|
|                | Lgth.       | Wound on        |           |            | Less than Std. Qty. | Std. Qty. |
| 941            | 900'        | 5" Plastic      | 10        | \$ 3.50    | \$ 2.34             | \$ 2.10   |
| 1241           | 1200'       | 5 1/2" Plastic  | 10        | 3.75       | 2.50                | 2.25      |
| 1841           | 1800'       | 7" Plastic      | 10        | 5.50       | 3.67                | 3.30      |
| 3641H          | 3600'       | NAB Hub         | 5         | 9.85       | 6.57                | 5.91      |
| 3641R          | 3600'       | 10 1/2" AL Reel | 5         | 12.80      | 8.53                | 7.68      |
| 3641FS         | 3600'       | 10 1/2" AL Reel | 5         | 12.80      | 8.53                | 7.68      |
| 7241H          | 7200'       | NAB Hub         | 5         | 18.40      | 12.27               | 11.04     |
| 7241R          | 7200'       | 14" AL Reel     | 5         | 25.35      | 16.90               | 15.21     |

### LONGER RECORDING ON MYLAR

On 1-mil Mylar polyester film, provides 50% more recording time per reel. Exceptional strength, durability and storage life.

| Audio-tape No. | Description |                 | Std. Qty. | List Price | Net Each            |           |
|----------------|-------------|-----------------|-----------|------------|---------------------|-----------|
|                | Lgth.       | Wound on        |           |            | Less than Std. Qty. | Std. Qty. |
| 261T#          | 225'        | 3" Plastic*     | 10        | \$ 1.00    | \$ 0.67             | \$ 0.60   |
| 961#           | 900'        | 5" Plastic      | 10        | 3.60       | 2.40                | 2.16      |
| 1261#          | 1200'       | 5 1/2" Plastic  | 10        | 4.15       | 2.75                | 2.49      |
| 1861#          | 1800'       | 7" Plastic      | 10        | 6.20       | 4.13                | 3.72      |
| 2461           | 2400'       | 8 1/4" Plastic  | 10        | 9.45       | 6.20                | 5.65      |
| 3661H          | 3600'       | NAB Hub         | 5         | 11.40      | 7.60                | 6.84      |
| 3661R          | 3600'       | 10 1/2" AL Reel | 5         | 14.35      | 9.57                | 8.61      |
| 3661FS         | 3600'       | 10 1/2" AL Reel | 5         | 14.35      | 9.57                | 8.61      |
| 7261H          | 7200'       | NAB Hub         | 5         | 24.00      | 16.00               | 14.40     |
| 7261R          | 7200'       | 14" AL Reel     | 5         | 30.00      | 20.00               | 18.00     |

### TRIPLE RECORDING "TEMPERED" MYLAR

Three times as much recording time per reel as standard tape.

|       |       |                 |    |         |        |        |
|-------|-------|-----------------|----|---------|--------|--------|
| 633T# | 600'  | 3 1/4" Plastic* | 10 | \$ 2.95 | \$1.97 | \$1.77 |
| 1833T | 1800' | 5" Plastic      | 10 | 6.95    | 4.63   | 4.17   |
| 3633T | 3600' | 7" Plastic      | 10 | 11.95   | 7.97   | 7.17   |

\*Supplied with mailing box at same price; add suffix MB. †10 1/2" fiberglass reel (EIA) with solid hub and 1/2" center hole. ‡Also available in plastic self-mailer at same price; add suffix Tal. §Available with 40° colored leader reversal strips; green at start, red at hub. Add suffix L and 30c to List Price; 20c to Net Price. §Supplied with self-mailing box. ©DuPont trademark.

**NO. 201 "DYNARANG"**  
Provides increased signal-to-noise ratio. For mastering and sub-mastering uses; superb fidelity at slow speeds. Anti-static treated; 1 1/2-mil plastic base.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 201-1/4-600    | 600        | 5" plastic    | \$ 2.80    | \$ 1.87           | \$ 1.68 |
| 201-1/4-1200   | 1200       | 7" plastic    | 4.40       | 2.93              | 2.64    |
| 201-1/4-2500H  | 2500       | NAB hub       | 9.25       | 6.17              | 5.56    |
| 201-1/4-2500H* | 2500       | 10 1/2" metal | 12.20      | 8.14              | 7.32    |
| 201-1/4-5000H  | 5000       | NAB hub       | 21.00      | 11.30             | 10.17   |
| 201-1/4-5000R  | 5000       | 14" NAB       | 23.90      | 15.93             | 14.34   |

**NO. 202 "DYNARANG" EXTRA STRENGTH**  
Same as No. 201 but with 1 1/2-mil polyester backing for added strength; resists extreme temperature and humidity.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 202-1/4-600    | 600        | 5" plastic    | \$ 2.85    | \$ 1.90           | \$ 1.71 |
| 202-1/4-1200   | 1200       | 7" plastic    | 5.10       | 3.40              | 3.06    |
| 202-1/4-2500H  | 2500       | NAB hub       | 11.10      | 7.40              | 6.66    |
| 202-1/4-2500H* | 2500       | 10 1/2" metal | 13.90      | 9.27              | 8.34    |
| 202-1/4-5000H  | 5000       | NAB hub       | 21.00      | 14.00             | 12.60   |
| 202-1/4-5000R  | 5000       | 14" NAB       | 27.50      | 18.33             | 16.50   |

**NO. 203 "DYNARANG" EXTRA LENGTH**  
Same recording characteristics as No. 201, plus 1-mil polyester backing for 50% more recording time.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 203-1/4-900    | 900        | 5" plastic    | \$ 4.25    | \$ 2.83           | \$ 2.55 |
| 203-1/4-1800   | 1800       | 7" plastic    | 7.35       | 4.90              | 4.41    |
| 203-1/4-3600H  | 3600       | NAB hub       | 14.20      | 9.47              | 8.52    |
| 203-1/4-3600H* | 3600       | 10 1/2" metal | 17.15      | 11.43             | 10.29   |
| 203-1/4-7200H  | 7200       | NAB hub       | 27.10      | 18.07             | 16.48   |
| 203-1/4-7200R  | 7200       | 14" NAB       | 34.05      | 22.70             | 20.43   |

**NO. 175<sup>®</sup> STANDARD LENGTH**  
Heavy duty coating on 1 1/2-mil Tenzar<sup>®</sup> base; lasts 15 times longer than ordinary tapes. Improved conductivity drains off static. Red, blue, green, yellow or clear (standard) reels; specify.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 175-1/4-600    | 600        | 5" plastic    | \$ 2.40    | \$ 1.60           | \$ 1.44 |
| 175-1/4-1200   | 1200       | 7" plastic    | 3.75       | 2.50              | 2.25    |
| 175-1/4-2500H  | 2500       | NAB hub       | 8.20       | 5.47              | 4.92    |
| 175-1/4-2500R* | 2500       | 10 1/2" metal | 11.00      | 7.33              | 6.60    |

**NO. 102 STANDARD LENGTH, EXTRA STRENGTH**  
Especially suited for irreplaceable recordings on long term storage; 1 1/2-mil polyester base, unaffected by temperature and humidity.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 102-1/4-600    | 600        | 5" plastic    | \$ 2.65    | \$ 1.77           | \$ 1.59 |
| 102-1/4-1200   | 1200       | 7" plastic    | 4.25       | 2.83              | 2.55    |
| 102-1/4-2500H  | 2500       | NAB hub       | 8.55       | 5.70              | 5.13    |
| 102-1/4-2500R* | 2500       | 10 1/2" metal | 11.35      | 7.57              | 6.81    |
| 102-1/4-5000H  | 5000       | NAB hub       | 18.50      | 12.33             | 11.10   |
| 102-1/4-5000R  | 5000       | 14" NAB       | 25.00      | 16.67             | 15.00   |

**NO. 111<sup>®</sup> STANDARD LENGTH**  
For all general recording needs. Base, 1 1/2-mil plastic.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 111-1/4-150    | 150        | 3" plastic    | \$ 0.70    | \$ 0.47           | \$ 0.42 |
| 111-1/4-300    | 300        | 4" plastic    | 1.60       | 1.07              | .96     |
| 111-1/4-600    | 600        | 5" plastic    | 2.25       | 1.50              | 1.35    |
| 111-1/4-1200   | 1200       | 7" plastic    | 3.50       | 2.33              | 2.10    |
| 111-1/4-2500H  | 2500       | NAB hub       | 7.85       | 5.23              | 4.71    |
| 111-1/4-2500R* | 2500       | 10 1/2" metal | 10.80      | 7.20              | 6.48    |
| 111-1/4-5000H  | 5000       | NAB hub       | 14.40      | 9.60              | 8.64    |
| 111-1/4-5000R  | 5000       | 14" NAB       | 21.35      | 14.23             | 12.81   |

**NO. 120 HIGH OUTPUT**  
For sensitive recording applications; 100% more output. Prevents overloading of passages. Has 1 1/2-mil plastic backing.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 120-1/4-600    | 600        | 5" plastic    | \$ 2.25    | \$ 1.50           | \$ 1.35 |
| 120-1/4-1200   | 1200       | 7" plastic    | 3.50       | 2.34              | 2.10    |
| 120-1/4-2500H  | 2500       | NAB hub       | 7.85       | 5.23              | 4.71    |
| 120-1/4-2500R* | 2500       | 10 1/2" metal | 10.80      | 7.20              | 6.48    |
| 120-1/4-5000H  | 5000       | NAB hub       | 14.40      | 9.60              | 8.64    |
| 120-1/4-5000R  | 5000       | 14" NAB       | 21.35      | 14.23             | 12.81   |

**NO. 131 LOW PRINT**  
Minimizes print-through to a point below noise level of most professional machines. Has 1 1/2-mil plastic backing.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 131-1/4-1200   | 1200       | 7" plastic    | \$ 4.40    | \$ 2.93           | \$ 2.64 |
| 131-1/4-2500H  | 2500       | NAB hub       | 9.25       | 6.17              | 5.56    |
| 131-1/4-2500R* | 2500       | 10 1/2" metal | 12.20      | 8.14              | 7.32    |
| 131-1/4-5000H  | 5000       | NAB hub       | 16.90      | 11.30             | 10.17   |
| 131-1/4-5000R  | 5000       | 14" NAB       | 23.90      | 15.93             | 14.34   |

**NO. 138 LOW PRINT, EXTRA STRENGTH**  
Same magnetic and recording characteristics as No. 131 but with extra tough 1 1/2-mil polyester base.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 138-1/4-1200   | 1200       | 7" plastic    | \$ 5.10    | \$ 3.40           | \$ 3.06 |
| 138-1/4-2500H  | 2500       | NAB hub       | 11.10      | 7.40              | 6.66    |
| 138-1/4-2500R* | 2500       | 10 1/2" metal | 13.90      | 9.27              | 8.34    |
| 138-1/4-5000H  | 5000       | NAB hub       | 21.00      | 14.00             | 12.60   |
| 138-1/4-5000R  | 5000       | 14" NAB       | 27.50      | 18.33             | 16.50   |

**NO. 139 LOW PRINT, EXTRA STRENGTH, EXTRA LENGTH**  
Same recording characteristics as No. 131, plus 1-mil polyester backing for almost 50% more recording time.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 139-1/4-1800   | 1800       | 7" plastic    | \$ 7.35    | \$ 4.90           | \$ 4.41 |
| 139-1/4-3600H  | 3600       | NAB hub       | 14.20      | 9.47              | 8.52    |
| 139-1/4-3600R* | 3600       | 10 1/2" metal | 17.15      | 11.43             | 10.29   |
| 139-1/4-7200H  | 7200       | NAB hub       | 27.10      | 18.07             | 16.48   |
| 139-1/4-7200R  | 7200       | 14" NAB       | 34.05      | 22.70             | 20.43   |

**NO. 150 EXTRA STRENGTH, EXTRA LENGTH**  
Extra tough 1-mil polyester backing. Super potent oxide for greater response, crisper tones. For use in outdoor recording and in extremes of temperature and humidity.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 150-1/4-900    | 900        | 5" plastic    | \$ 3.60    | \$ 2.40           | \$ 2.16 |
| 150-1/4-1800   | 1800       | 7" plastic    | 6.20       | 4.13              | 3.72    |
| 150-1/4-3600H  | 3600       | NAB hub       | 11.40      | 7.60              | 6.84    |
| 150-1/4-3600R* | 3600       | 10 1/2" metal | 14.35      | 9.57              | 8.61    |
| 150-1/4-7200H  | 7200       | NAB hub       | 24.00      | 16.00             | 14.40   |
| 150-1/4-7200R  | 7200       | 14" NAB       | 30.95      | 20.63             | 18.57   |

**NO. 190 EXTRA LENGTH**  
Allows 50% more recording time from a conventional size reel. High potency oxide. Thin 1 1/2-mil plastic backing.

| 3M Number      | Lgth., Ft. | Reel          | List Price | Net Each, Lots of |         |
|----------------|------------|---------------|------------|-------------------|---------|
|                |            |               |            | 1-11              | 12 Up   |
| 190-1/4-900    | 900        | 5" plastic    | \$ 3.50    | \$ 2.34           | \$ 2.10 |
| 190-1/4-1800   | 1800       | 7" plastic    | 5.50       | 3.67              | 3.30    |
| 190-1/4-3600H  | 3600       | NAB hub       | 9.85       | 6.57              | 5.90    |
| 190-1/4-3600R* | 3600       | 10 1/2" metal | 12.80      | 8.53              | 7.68    |
| 190-1/4-7200H  | 7200       | NAB hub       | 18.40      | 12.27             | 11.04   |
| 190-1/4-7200R  | 7200       | 14" NAB       | 25.35      | 16.90             | 15.21   |

**NO. 200 DOUBLE LENGTH, DOUBLE STRENGTH**  
Provides twice the playing time of conventional tapes. High potency oxide on tensitized 3/4-mil polyester backing.

| 3M Number       | Lgth., Ft. | Reel         | List Price | Net Each, Lots of |         |
|-----------------|------------|--------------|------------|-------------------|---------|
|                 |            |              |            | 1-11              | 12 Up   |
| 200-1/4-1200    | 1200       | 5" plastic   | \$ 5.45    | \$ 3.63           | \$ 3.27 |
| 200-1/4-2400    | 2400       | 7" plastic   | 9.50       | 6.33              | 5.70    |
| 200-1/4-4800RPS | 4800       | 10 1/2" EIA† | 22.00      | 14.67             | 13.20   |

**NO. 282 SANDWICH TAPE**  
Micro-thin protective plastic coating over oxide eliminates oxide rub-off; reduces head wear. Unaffected by temperature and humidity. Base, 1 1/2-mil polyester. Specify blue, clear, green, red or yellow reels.

| 3M Number    | Lgth., Ft. | Reel       | List Price | Net Each, Lots of |         |
|--------------|------------|------------|------------|-------------------|---------|
|              |            |            |            | 1-11              | 12 Up   |
| 282-1/4-600  | 600        | 5" plastic | \$ 3.10    | \$ 2.07           | \$ 1.86 |
| 282-1/4-1200 | 1200       | 7" plastic | 4.95       | 3.30              | 2.97    |

**NO. 290 TRIPLE REEL**  
For maximum recording time on given size reel. Ideal for recording meetings, etc.; 3/4-mil tensitized polyester backing.

| 3M Number    | Lgth., Ft. | Reel       | List Price | Net Each, Lots of |         |
|--------------|------------|------------|------------|-------------------|---------|
|              |            |            |            | 1-11              | 12 Up   |
| 290-1/4-1800 | 1800       | 5" plastic | \$ 6.95    | \$ 4.63           | \$ 4.17 |
| 290-1/4-3600 | 3600       | 7" plastic | 11.95      | 7.97              | 7.17    |

**"LIVING LETTERS" TAPES AND ACCESSORIES**  
Three tape lengths on 3" reels. Plastic container doubles as reusable mailer or storage unit.

| 3M Number     | Lgth., Ft. | Reel         | List Price | Net Each, Lots of |         |
|---------------|------------|--------------|------------|-------------------|---------|
|               |            |              |            | 1-11              | 12 Up   |
| 111-1/4-150LL | 150        | 3" plastic   | \$ 0.90    | \$ 0.60           | \$ 0.54 |
| 200-1/4-300LL | 300        | 3" plastic   | 1.85       | 1.23              | 1.11    |
| 290-1/4-600LL | 600        | 3" plastic   | 2.95       | 1.97              | 1.77    |
| LL-1/4-3      |            | Empty box    | .45        | .30               | .27     |
| RL-1/4-3      |            | Reel and box | .60        | .40               | .36     |

**NO. 8000 QUICK-LOAD CARTRIDGE**  
Compact cartridge slips into place easily. No. 150 tape with 1-mil polyester backing; 560 ft. length in gray opaque plastic (-O) or transparent (-C) case; 320 ft. in transparent only.

| 3M Number      | Length | List   | Net Each, Lots of |        |
|----------------|--------|--------|-------------------|--------|
|                |        |        | 1-11              | 12 Up  |
| 8000-1/4-320-C | 320'   | \$4.00 | \$2.67            | \$2.40 |
| 8000-1/4-560-O | 560'   | 4.50   | 3.00              | 2.70   |
| 8000-1/4-560-C | 560'   | 4.50   | 3.00              | 2.70   |

**NO. 23 AND 24 PLASTIC LEADER AND TIMING TAPE**  
For identification of ends of tape and selections within roll.

| 3M Number    | Length       | List   | Net Each, Lots of |        |
|--------------|--------------|--------|-------------------|--------|
|              |              |        | 1-11              | 12 Up  |
| 23W-1/4-1000 | 1/4" x 1000' | \$4.50 | \$3.00            | \$2.70 |
| 24W-1/4-100  | 1/4" x 100'  | .90    | .60               | .54    |
| 24Y-1/4-100  | 1/4" x 100'  | .90    | .60               | .54    |

**NO. 41 SPLICING TAPE**  
Self-sticking, for neat, noiseless splices. In metal dispensers.

| 3M Number | Length      | List   | Net Each, Lots of |        |
|-----------|-------------|--------|-------------------|--------|
|           |             |        | 1-11              | 12 Up  |
| 41-1/2-5  | 1/2" x 150' | \$0.39 | \$0.39            | \$0.27 |
| 41-1/2-66 | 1/2" x 66'  | .76    | .76               | .53    |
| 41-3/4-66 | 3/4" x 66'  | 1.01   | 1.01              | .71    |
| 41-7/8-66 | 7/8" x 66'  | .57    | .57               | .40    |

**NO. 51 ALUMINIZED SENSING TAPE**  
For recorders with electronic sensing controls. This thin, flexible, strong conductive foil tape has a pressure-sensitive adhesive.

| 3M Number   | Length      | List   | Net Each, Lots of |        |
|-------------|-------------|--------|-------------------|--------|
|             |             |        | 1-11              | 12 Up  |
| 51-1/2-12.5 | 1/2" x 150' | \$1.89 | \$1.89            | \$1.32 |

**NO. PRST-7 SELF-THREADING REEL**  
Self-threading plastic reel with instant, fumble-free tape threading. Holds tape firmly but gently. No hooks, slots, or attachments. Threads all tape thicknesses, with or without leaders. Self-storing reel has snap-tight plastic collar, plus solid sides to seal against dust and damage. Complete with two pressure sensitive reel labels plus collar label for recording pertinent information.

| 3M Number | Length          | List   | Net Each, Lots of |        |
|-----------|-----------------|--------|-------------------|--------|
|           |                 |        | 1-11              | 12 Up  |
| PRST-7    | 7" plastic reel | \$1.50 | \$1.00            | \$0.90 |

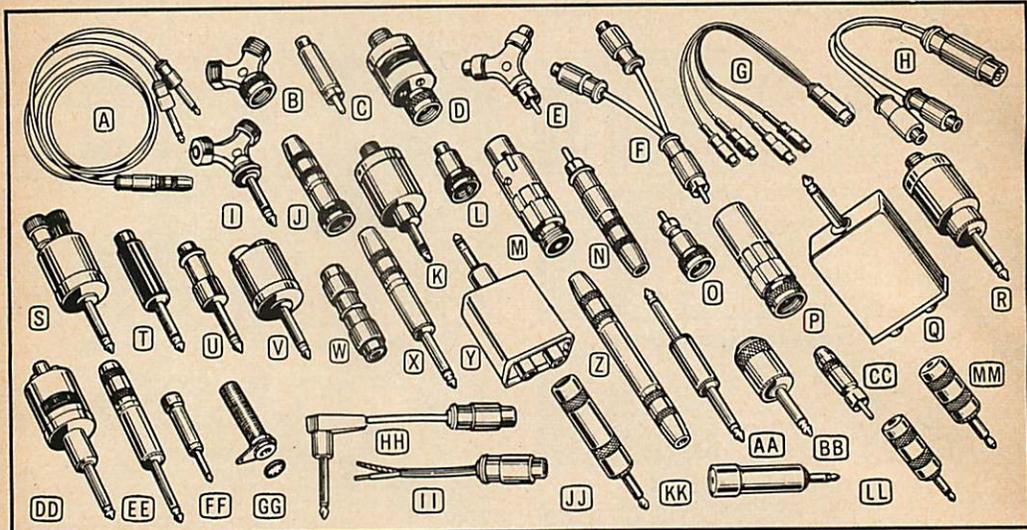
**NO. 12-1/4-10 END-OF-REEL TAPE CLIP**  
Clips onto tape end and fits into reel, preventing spilling. Tapered, smooth edges can't harm tape. Card of 10 clips.

| 3M Number | Length   | List | Net Each, Lots of |       |
|-----------|----------|------|-------------------|-------|
|           |          |      | 1-11              | 12 Up |
| 12-1/4-10 | 10 clips | 21c  | 11c               | 10c   |

**NOTES**  
\*Standard NAB type; also available on 10 1/2" plastic reel with 3" NAB center hole (RPL) and with 1/2" EIA center hole (RPS) at same price. †Plastic with 1/4" EIA center hole. Empty reels and boxes available.

# SWITCHCRAFT<sup>®</sup> ADAPTERS AND MOLDED COILED CORD CABLE ASSEMBLIES

## SWITCHCRAFT ADAPTERS



A complete line of versatile adapters for interconnecting components without mating jacks and/or plugs. For hi-fi, stereo, phonographs, turners, tape recorders, amplifiers, PA systems, etc. Positive mating design prevents line losses. Nickel-plated finish for long life.

| Part No. | Fig.  | Description (Connector Terminals)   | Net Ea. |
|----------|-------|---|---------|
| 05FH81   | A     | <b>Stereo Headphone Adapter</b> —Two std. 2-conductor phone plugs wired to a 3-cond. phone jack; shielded 4' cable                        | \$2.88  |
| 25Y      | B     | <b>Y Adapter</b> —Two parallel male mike connectors to one female mike connector  | 1.17    |
| 328A     | C     | <b>Auto Equalizer</b> —Converts ceramic phono cartridge to magnetite input; phono jack input to phono plug output                         | 4.17    |
| 329      | D     | <b>High Impedance Volume Control Adapter</b> —Female mike connector to male mike connector  | 1.17    |
| 330F     | E     | <b>Y Adapter</b> —Two parallel phono jacks to a phono plug; shielded  | 1.35    |
| 330F1    | F     | <b>Flexible Y Adapter</b> —Two parallel phono jacks to a phono plug; shielded 4' cable  | 1.35    |
| 330F2    | ..... | <b>Flexible Y Adapter</b> —Same, but jack and plug to plug arrangement  | 1.35    |
| 330F3    | ..... | <b>Flexible Y Adapter</b> —Same as 330F1, but two phono plugs to one phono plug   | 1.35    |
| 330H     | G     | <b>Stereo Cable Adapter</b> —European 5-pin plug to four phono jacks; shielded, color-coded 12" stereo cables†                            | 3.60    |
| 330I     | H     | <b>Flexible Y Adapter</b> —European 3-pin plug to two phono jacks; shielded, color-coded 5' cable†  | 2.25    |
| 330M     | I     | <b>Y Adapter</b> —Two parallel male mike connectors to a 2-conductor phone plug   | 1.35    |
| 330PJ    | J     | <b>Y Adapter</b> —Same, but two phono jacks to a 2-conductor phone plug; shielded   | 1.17    |
| 332A     | K     | <b>Phone Jack Input to female mike connector output adapter*</b>  | 1.65    |
| 333      | L     | <b>American Golsco Recorder Adapter</b> —Phone jack to special 2-conductor plug   | .96     |
| 334A     | L     | <b>Phone Jack Input to female mike connector output adapter; shielded*</b>  | 2.10    |
| 334B     | M     | <b>Same, but phone Jack input to male mike connector output; shielded</b>   | 2.10    |
| 335      | M     | <b>Switchcraft 2501MP (Amphenol 75PCIM) 2-conductor input to Cannon XL-3-11 output; unsoldered internal wire, one end</b>                 | 1.17    |
| 336A     | N     | <b>Shielded 2-conductor phone Jack input to phone plug output</b>   | 1.17    |
| 336B     | ..... | <b>Same, but 2-conductor phone Jack input to phone Jack output</b>  | .75     |
| 338A     | ..... | <b>Phone plug input to male mike connector output; shielded</b>   | .84     |
| 338B     | O     | <b>Phone plug input to female mike connector output; shielded*</b>  | 2.10    |
| 339      | P     | <b>Switchcraft 2501F (Amphenol 75MCIF) output connector to Cannon XL-3-12 input connector</b>   | 2.40    |
| 340      | Q     | <b>Two parallel 2-conductor phone Jack inputs to 2-conductor phone plug output; shielded</b>  | 1.98    |
| 341      | R     | <b>Silent Plug Adapter</b> —2-cond. phone Jack to 2-cond. phone plug; circuit-closing device stops amplifier squeal                       | 1.77    |
| 342      | S     | <b>Dual purpose binding post/banana Jack input to 2-conductor phone plug output</b>   | 1.17    |
| 343      | T     | <b>Phone Jack to phone plug; built-in limiting resistor for Webcor recorders</b>  | 1.87    |
| 345A     | U     | <b>Phone plug output to phone Jack input adapter</b>  | 1.50    |
| 346      | V     | <b>Tip Jack input to 2-conductor phone plug output</b>  | .75     |
| 349A     | W     | <b>Phone Plug Coupler</b> —Mates with phone plug at each end; shielded  | 1.35    |
| 352      | X     | <b>Stereo to Mono Adapter</b> —3-conductor phone Jack to 2-conductor phone plug; shielded   | 2.85    |
| 353      | Y     | <b>Stereo Headphone Adapter</b> —Permits two stereo headphones on single 3-circuit Jack; shielded tan metal case                          | 1.50    |
| 354      | Z     | <b>Coupler</b> —2-conductor phone Jack at each end; shielded  | 1.85    |
| 362      | Z     | <b>Coupler</b> —Same, but 3-conductor phone Jack at each end; shielded  | 1.05    |
| 363      | AA    | <b>Coupler</b> —2-conductor phone plug at each end; shielded  | 1.05    |
| 364A     | BB    | <b>Adapter</b> —2-conductor "Tini-Jax" $\frac{1}{4}$ " dia. sleeve to 2-conductor $\frac{1}{4}$ " O.D. phone plug; shielded               | 1.05    |
| 365      | CC    | <b>Adapter</b> —2-conductor "Tini-Jax" input to phono Jack output; shielded   | 2.97    |
| 368      | DD    | <b>Volume Control</b> —Phono Jack input to 2-conductor phone plug output; shielded  | 1.35    |
| 369      | EE    | <b>2-conductor Reverse/Wollensak phone Jack to standard 2-conductor phone plug; shielded</b>  | .54     |
| 370      | FF    | <b>Phone Jack to 2-conductor "Tini-Plug" (<math>\frac{1}{4}</math>" finger); shielded</b>   | .54     |
| 371      | GG    | <b>Thick Panel Adapter</b> —For 3501P phone Jack in panels up to 1 $\frac{1}{2}$ " thick  | 1.17    |
| 372      | HH    | <b>Molded 2-conductor right angle phone plug to molded phono Jack; 2" shielded cable</b>  | .54     |
| 373      | HH    | <b>Molded 2-conductor phono Jack to 3" shielded cable, stripped and tinned leads</b>  | 1.17    |
| 374      | IJ    | <b>Phone Jack input to 2-conductor "Tini-Plug" (<math>\frac{1}{4}</math>" dia. finger) output; shielded, nickel plated brass handles</b>  | 1.05    |
| 375      | KK    | <b>Phone Jack input to 2-conductor "Micro-Plug" (.097" dia. finger) output; shielded, nickel plated brass handles</b>                     | 1.05    |
| 376      | LL    | <b>"Tini-Jax" input to 2-conductor "Micro-Plug" (.097" dia. finger) output; shielded, nickel plated brass handles</b>                     | 1.05    |
| 377      | MM    | <b>"Micro-Jax" input to 2-conductor "Tini-Plug" (<math>\frac{1}{4}</math>" dia. finger) output; shielded, nickel plated brass handles</b> | 1.05    |

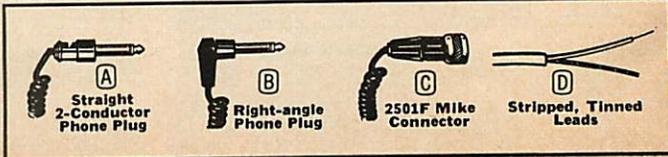
\*May be used as male or female mike connector with coupling ring supplied. †For Grundig, Norelco, Sony or Korting tape recorders.

## MOLDED COILED CORD SHIELDED CABLE ASSEMBLIES

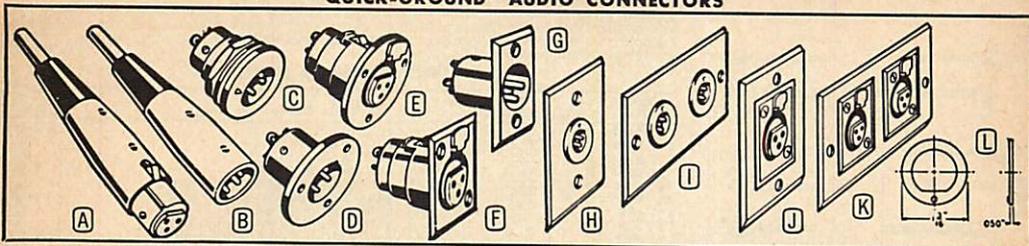
Black neoprene jacketed, single-conductor, shielded cable with molded-on phone plugs and/or mike connectors.

| No.    | End #1 | End #2 | Lnth.* | Net Ea. |
|--------|--------|--------|--------|---------|
| 05LH84 | A      | D      | 4'     | \$2.16  |
| 05LP05 | A      | A      | 12'    | 4.95    |
| 05LP15 | A      | B      | 12'    | 4.95    |
| 05LP87 | A      | A      | 12'    | 5.04    |
| 05LT05 | A      | A      | 20'    | 6.93    |
| 05LT15 | A      | B      | 20'    | 6.93    |
| 05LH84 | A      | B      | 4'     | 2.16    |
| 87LH84 | C      | D      | 4'     | 2.22    |

\*Extended.



## "QUICK-GROUND" AUDIO CONNECTORS



Automatic grounding between mating connector shells upon engagement. "Captive Design" eliminates possible loss of insert screw.

"Wedge Action" Insert Assembly insures firm, reliable positioning.

**No. of Contacts:** Choice of three or four; (H) (M) type has dual 3- or 4-contact. **Socket Contacts:** Phosphor bronze, chrome plated, Body or Shell: Diecast zinc alloy. **Finish:** Satin nickel except as noted. **Insert Dielectric:** High-impact resistant thermosetting plastic. **Latchlock:** Molded high strength plastic. **Dual Pressure Plates:** Provide a secure cable lock and strain relief for all standard size cable. **Cable Strain Relief:** Neoprene, keyed to shell.

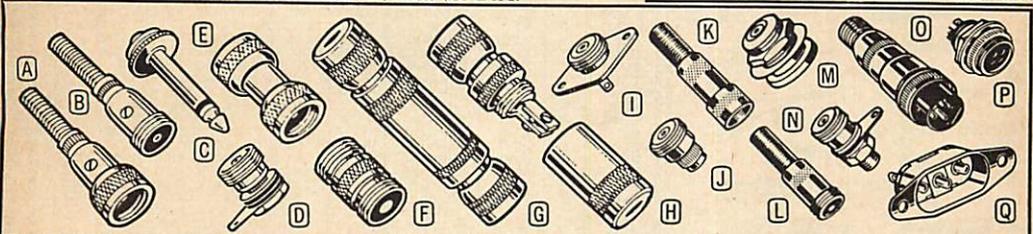
"Ground Terminal" connected to shell for grounding. Offer 4- and 6-contact versatility.

Interchangeable and mates with Cannon XLR-3, XLR-4 or Amphenol 91-850.

| 3 Con-tacts* | 4 Con-tacts* | Fig. | Description   | Insert | Size, Inches<br>Length x Diameter               |
|--------------|--------------|------|---|--------|---|
| A3F          | A4F          | A    | Cord plug, takes 1/2" cable                               | Skt.   | 3 1/4 x 3/4                                     |
| A3M          | A4M          | B    | Cord plug, removable insert                               | Pin    | 2 1/2 x 3/4                                     |
| B3M          | B4M          | C    | Receptacle, 3-130" mtg. holes                             | Pin    | 1 1/4 x 1 1/4                                   |
| C3F          | C4F          | D    | Receptacle, 3-130" mtg. holes                             | Skt.   | 1 1/4 x 1 1/4                                   |
| D3F          | D4F          | E    | Receptacle, rectangular flange                            | Pin    | 1 1/4 w. x 1 1/4 d. x 1 1/4 h.                  |
| D3M          | D4M          | F    | Receptacle, narrow flange                                 | Pin    | 3/4 w. x 1 1/4 d. x 1 1/4 h.                    |
| G3M          | G4M          | H    | Single-gang/Brass finish wall plate                       | Pin    | Incl. one B3M†; wall plate, 2 1/4 w. x 4 1/2 h. |
| G3MS         | G4MS         | H    | Single-gang/Stainless steel wall plate                    | Pin    | Incl. two B3M†; wall plate, 2 1/4 w. x 4 1/2 h. |
| H3M          | H4M          | I    | Two-gang/Brass finish wall plate                          | Pin    | Incl. two B3M†; wall plate, 2 1/4 w. x 4 1/2 h. |
| H3MS         | H4MS         | I    | Two-gang/Stainless steel wall plate                       | Pin    | Incl. two B3M†; wall plate, 2 1/4 w. x 4 1/2 h. |
| J3F          | J4F          | J    | Single-gang/Brass finish wall plate                       | Skt.   | w./D3F or D4F, wall plate, 2 3/4 w. x 4 1/2 h.  |
| J3FS         | J4FS         | J    | Single-gang/Stainless steel wall plate                    | Skt.   | w./D3F or D4F, wall plate, 2 3/4 w. x 4 1/2 h.  |
| K3F          | K4F          | K    | Two-gang/Brass finish wall plate                          | Skt.   | w./D3F or D4F, wall plate, 2 3/4 w. x 4 1/2 h.  |
| K3FS         | K4FS         | K    | Two-gang/Stainless steel wall plate                       | Skt.   | w./D3F or D4F, wall plate, 2 3/4 w. x 4 1/2 h.  |
| S-3519       | L            | L    | Mounting adapter, use with B3 (or 4) M to prevent turning | Skt.   | 4.74 x 4.33                                     |

\*F in part number indicates female connector; M, male. †Or B4M.

| Part No. | Net Each, Lots of |        |        |         |         |
|----------|-------------------|--------|--------|---------|---------|
|          | 1-24              | 25-49  | 50-99  | 100-249 | 250-999 |
| A3F      | \$1.38            | \$1.27 | \$1.15 | \$0.92  | \$0.874 |
| A3M      | 1.20              | 1.10   | 1.00   | .80     | .772    |
| A4F      | 1.71              | 1.57   | 1.43   | 1.14    | 1.08    |
| A4M      | 1.26              | 1.16   | 1.05   | .84     | .798    |
| B3M      | 1.74              | 1.60   | 1.45   | 1.16    | 1.10    |
| B4M      | 1.80              | 1.65   | 1.50   | 1.20    | 1.14    |
| C3F      | 1.86              | 1.71   | 1.55   | 1.24    | 1.18    |
| C4F      | .84               | .77    | .70    | .532    | .504    |
| C4M      | .90               | .825   | .75    | .60     | .57     |
| D3F      | 1.92              | 1.76   | 1.60   | 1.28    | 1.22    |
| D3M      | 1.14              | 1.05   | .95    | .76     | .722    |
| D4M      | 1.98              | 1.84   | 1.65   | 1.32    | 1.25    |
| D4M      | 1.20              | 1.10   | 1.00   | .80     | .772    |
| G3M      | 3.00              | 2.75   | 2.50   | 2.00    | 1.90    |
| G3MS     | 3.00              | 2.75   | 2.50   | 2.00    | 1.90    |
| G4M      | 2.85              | 2.61   | 2.38   | 1.90    | 1.81    |
| G4MS     | 3.15              | 2.89   | 2.63   | 2.10    | 2.00    |
| H3M      | 3.90              | 3.58   | 3.25   | 2.60    | 2.47    |
| H3MS     | 4.20              | 3.85   | 3.50   | 2.80    | 2.66    |
| H4M      | 4.20              | 3.85   | 3.50   | 2.80    | 2.66    |
| H4MS     | 4.50              | 4.13   | 3.75   | 3.00    | 2.85    |
| J3F      | 2.82              | 2.59   | 2.35   | 1.88    | 1.79    |
| J3FS     | 3.12              | 2.86   | 2.60   | 2.08    | 1.98    |
| J4F      | 2.97              | 2.72   | 2.48   | 1.98    | 1.88    |
| J4FS     | 3.27              | 3.00   | 2.73   | 2.18    | 2.07    |
| K3F      | 4.14              | 3.80   | 3.45   | 2.76    | 2.62    |
| K3FS     | 4.44              | 4.07   | 3.70   | 2.96    | 2.81    |
| K4F      | 4.44              | 4.07   | 3.70   | 2.96    | 2.81    |
| K4FS     | 4.74              | 4.33   | 3.90   | 3.16    | 3.00    |
| S-3519   | .24               | .22    | .20    | .16     | .152    |



## MICROPHONE CONNECTORS

Standard microphone connectors with 3/4"-27 threads. Designed for use with single conductor microphone cable with 1/2" max. O.D. **2501F Female Connector (Fig. A)**—With removable coupling ring for fast change of female to male type. Spring assembled into body. Cable braid and spring clamped by hollow set screw. **2501M Male Connector (Fig. B)**. **44 Phone Plug Adapter (Fig. C)**—Adapts 2501F to fit standard 2-conductor phone jack. **2501IMP Panel Receptacle (Fig. D)**—Male type, mounts in .385" hole. **2501MPC Panel Receptacle (Fig. E)**—Same as 2501MP except closed circuit type. **2501FT Double Female Connector (Fig. F)**—One female connector at each end. **2501MT Double Male Connector (Fig. F)**—One male connector at each end. **2501FL Screw Terminal Female Connector (Fig. G)**—Two piece handle with built-in cable clamp. No soldering needed for connecting cables with stripped ends. **2501FS Screw Terminal Connector (Fig. H)**—Same as 2501FL except: No cable clamp; short handle. **2501MBL Insulated Male Panel Receptacle (Fig. I)**. **2501MPF Male Panel Receptacle (Fig. J)**—Press-fit mounting.

| Part No. | Fig. | Connector Type | Net Each, Lots of |         |         |         |         |
|----------|------|----------------|-------------------|---------|---------|---------|---------|
|          |      |                | 1-24              | 25-49   | 50-99   | 100-249 | 250-999 |
| 2501F    | A    | Female         | \$0.39            | \$0.358 | \$0.325 | \$0.26  | \$0.247 |
| 2501M    | B    | Male           | .30               | .278    | .25     | .20     | .19     |
| 44       | C    | Adapter        | .33               | .303    | .275    | .22     | .209    |
| 2501MBL  | I    | Panel Recept.  | .36               | .33     | .30     | .24     | .228    |
| 2501MPF  | D    | Panel Recept.  | .30               | .275    | .25     | .20     | .19     |
| 2501MPC  | D    | Panel Recept.  | .36               | .33     | .30     | .24     | .228    |
| 2501MPF  | D    | Panel Recept.  | .30               | .275    | .25     | .20     | .19     |
| 2501F    | E    | 2-Female       | .75               | .688    | .625    | .50     | .475    |
| 2501MT   | F    | 2-Male         | .75               | .688    | .625    | .50     | .475    |
| 2501FL   | G    | Screw Term.    | 1.50              | 1.38    | 1.25    | 1.00    | .95     |
| 2501FS   | H    | Screw Term.    | 1.08              | .99     | .90     | .72     | .684    |

"MINI-CON" MINIATURE CONNECTORS  
Miniature microphone connectors for use with single conductor shielded cable up to 1/2" O.D. Only 1/2 the size of standard micro-

phone connectors. Nickel-plated brass bodies. Ideal for miniaturized audio equipment, lapel microphones, musical instruments, etc. **5501F Female Cord Connector (Fig. K)**—With removable coupling ring for quick converting to male type. Cable-braid spring clamped to body by hollow point set screw. **5501M Male Cord Connector (Fig. L)**. **5501MF Male Panel Connector (Fig. M)**—Mounts by lock-nut front side of panel, in 3/8" dia. hole. **5501MP Male Panel Connector (Fig. N)**—Mounts back side of panel in 1/2" dia. hole. **5501MPC Male Panel Connector**—Same as 5501MP except shorting type.

| Part No. | Fig. | Connector Type | Net Each, Lots of |         |         |         |         |
|----------|------|----------------|-------------------|---------|---------|---------|---------|
|          |      |                | 1-24              | 25-49   | 50-99   | 100-249 | 250-999 |
| 5501F    | K    | Female         | \$0.39            | \$0.358 | \$0.325 | \$0.26  | \$0.247 |
| 5501M    | L    | Male           | .30               | .275    | .25     | .20     | .19     |
| 5501MF   | M    | Male           | .30               | .275    | .25     | .20     | .19     |
| 5501MP   | N    | Male           | .24               | .22     | .20     | .16     | .152    |
| 5501MPC  | N    | panel          | .48               | .44     | .40     | .32     | .304    |

"SLIM-LINE" CONNECTORS  
Small 4-contact connectors for audio and communication equipment. High-impact, thermo-plastic barrel insert assembly. No. 2504M plug has coupling ring, polarized D-shaped barrel assembly and large cable clamp. No. 2504FP receptacle only 1/4" dia., 3/4" depth behind panel. Bright nickel-plated.

| Part No. | Fig. | Connector Type | Net Each, Lots of |        |        |         |         |
|----------|------|----------------|-------------------|--------|--------|---------|---------|
|          |      |                | 1-24              | 25-49  | 50-99  | 100-249 | 250-999 |
| 2504M    | O    | Male           | \$1.50            | \$1.38 | \$1.25 | \$1.00  | \$0.95  |
| 2504FP   | P    | Female         | 1.50              | 1.38   | 1.25   | 1.00    | .95     |

**AC RECEPTACLES**  
Highly dependable 3-pin receptacles for use in all electrical/electronic equipment. "Chassis hugging" recessed type mounting. Brass contact pins are silver plated, chromate dipped. No. AC3, ungrounded; No. AC3G, grounded, includes self-aligning feature. Pins #1 and #2 move, #3 is stationary. Receptacles mate with Belden No. 17258 Cord. Rated 115 V., 7 amps.

| Part No. | Fig. | 3-pin Recept. | 1-24   | 25-49  | 50-99  | 100-249 | 250-999 |
|----------|------|---------------|--------|--------|--------|---------|---------|
| AC3      | Q    | 3-pin         | \$0.48 | \$0.44 | \$0.40 | \$0.32  | \$0.304 |
| AC3G     | Q    | Recept.       | .45    | .413   | .375   | .30     | .285    |

# Barker Stereo-Audio Cables

The world's largest listing of Hi-Fi, Stereo and Audio cables. Plugs are solid plastic units, molded directly onto the wire ends to provide unfalling performance and unexcelled appearance. Made by the inventors of exclusive "Venar" molding process, famous for reliability. "Molded-On\*" plugs are completely shielded, noise free, low loss, low capacity, waterproof and indestructible.

## PHONO-STEREO SERIES

| Model No. | Fig. | Cable Length | Type Cable and Plugs                                  | Net Each |
|-----------|------|--------------|---|----------|
| 18" MM    | A    | 18 in.       | Shielded cable; 2 phono plugs                         | \$0.69   |
| 36" MM    | A    | 36 in.       | Shielded cable; 2 phono plugs                         | .78      |
| 72" MM    | A    | 72 in.       | Shielded cable; 2 phono plugs                         | .96      |
| 12" MM    | A    | 12 ft.       | Shielded cable; 2 phono plugs                         | 1.35     |
| 36" RM    | B    | 36 in.       | Shielded cable; 2 right-angle phono plugs             | .96      |
| 72" RM    | B    | 72 in.       | Shielded cable; 2 right-angle phono plugs             | .63      |
| 36" MS    | C    | 36 in.       | Shielded cable; stripped end, phono plug              | .75      |
| 72" MS    | C    | 72 in.       | Shielded cable; stripped end, phono plug              | 1.20     |
| 12" MS    | C    | 12 ft.       | Shielded cable; stripped end, phono plug              | .63      |
| 36" RS    | D    | 36 in.       | Shielded cable; stripped end, right-angle phono plug  | .75      |
| 72" RS    | D    | 72 in.       | Shielded cable; stripped end, right-angle phono plug  | .96      |
| 18" MF    | E    | 18 in.       | Shielded cable; phono plug, phono jack                | 1.17     |
| 36" MF    | E    | 36 in.       | Shielded cable; phono plug, phono jack                | 1.56     |
| 72" MF    | E    | 72 in.       | Shielded cable; phono plug, phono jack                | 1.17     |
| 12" MF    | E    | 12 ft.       | Shielded cable; phono plug, phono jack                | 1.56     |
| 12" MC    | F    | 12 ft.       | Parallel cord; phono plug, alligator clips            | 1.17     |
| M-FF      | G    | 4 in.        | 2 parallel shielded cables; phono plug, 2 phono jacks | 1.20     |
| M-MM      | H    | 4 in.        | Shielded cable; phono pin jacks, 2 banana plugs       | 1.26     |
| M-ZB      | I    | 4 in.        | 2 shielded cables*; 2 phono plugs, 2 stripped ends    | 1.65     |
| 36" D2S   | J    | 36 in.       | 2 shielded cables*; 2 phono plugs, 2 stripped ends    | 1.89     |
| 72" D2S   | J    | 72 in.       | 2 shielded cables*; 2 phono plugs, 2 stripped ends    | 2.46     |
| 36" D4    | K    | 36 in.       | 2 shielded cables*; 4 phono plugs                     | 2.38     |
| 72" D4    | K    | 72 in.       | 2 shielded cables*; 4 phono plugs                     | 3.00     |
| 12" D4    | K    | 12 ft.       | 2 shielded cables*; 4 phono plugs                     | 3.00     |

\*Each cable individually shielded; color-coded to identify each circuit.

## PHONO-STEREO SERIES

|          |   |         |   |        |
|----------|---|---------|---|--------|
| 72" LPM  | L | 72 in.  | Shielded cable; long phone plug, short phono plug   | \$1.41 |
| 12" LPM  | L | 12 ft.  | Shielded cable; long phone plug, short phono plug   | 1.89   |
| 72" RPM  | M | 72 in.  | Shielded cable; right-angle phone plug, phono plug  | 1.41   |
| 12" RPM  | M | 12 ft.  | Shielded cable; right-angle phone plug, phono plug  | 1.89   |
| 72" LPP  | N | 72 in.  | Shielded cable; 2 long phone plugs  | 2.01   |
| 12" LPP  | N | 12 ft.  | Shielded cable; 2 long phone plugs  | 2.16   |
| 72" RPP  | O | 72 in.  | Shielded cable; 2 right-angle phone plugs   | 2.01   |
| 12" RPP  | O | 12 ft.  | Shielded cable; 2 right-angle phone plugs   | 2.16   |
| 72" LPS  | P | 72 in.  | Shielded cable; stripped end, long phone plug   | 1.29   |
| 12" LPS  | P | 12 ft.  | Shielded cable; stripped end, long phone plug   | 1.79   |
| 72" RPS  | Q | 72 in.  | Shielded cable; stripped end, right-angle phone plug  | 1.74   |
| 12" RPS  | Q | 12 ft.  | Shielded cable; stripped end, right-angle phone plug  | 1.74   |
| 72" LPC  | R | 72 in.  | Parallel cord; long phone plug, alligator clips   | 1.38   |
| 12" LPC  | R | 12 ft.  | Parallel cord; long phone plug, alligator clips   | 1.50   |
| 72" RPC  | S | 72 in.  | Parallel cord; right-angle phone plug, alligator clips  | 1.38   |
| 12" RPC  | S | 12 ft.  | Parallel cord; right-angle phone plug, alligator clips  | 1.50   |
| 72" L3RC | T | 72 in.  | Input cable to recorder; phone plug, alligator clips  | 2.10   |
| 12" L3RC | T | 12 ft.  | Input cable to recorder; phone plug, alligator clips  | 2.40   |
| 72" L3RM | U | 72 in.  | Input cable to recorder; phone plug, phono plug   | 2.04   |
| 12" L3RM | U | 12 ft.  | Input cable to recorder; phone plug, phono plug   | 2.40   |
| 72" TPS  | V | 72 in.  | Shielded cable; min. phone plug, stripped end   | 1.50   |
| 12" TPS  | V | 12 ft.  | Shielded cable; min. phone plug, stripped end   | 1.56   |
| 36" TPM  | W | 36 in.  | Shielded cable; min. phone plug, phono plug   | 1.65   |
| 72" TPM  | W | 72 in.  | Shielded cable; min. phone plug, phono plug   | 2.01   |
| 12" PJW  | X | 12 ft.  | Shielded cable; Wollensak phone plug and jack   | 2.40   |
| 24" PJW  | X | 24 ft.  | Shielded cable; Wollensak phone plug and jack   | 3.00   |
| 12" PJ   | Y | 12 ft.  | Shielded cable; shielded phone jack, long phone plug  | 2.40   |
| 24" PJ   | Y | 24 ft.  | Shielded cable; shielded phone jack, long phone plug  | 3.00   |
| 12" PJ   | Y | 12 ft.  | Shielded cable; shielded phone jack, long phone plug  | 2.10   |
| 3PJ-DM   | Z | 108 in. | 72" shielded 2-cond. cable with 3-cond. phone jack; two 36" shielded cables with phono pin plugs          | 3.75   |
| 3PJ-D2P  | Y | 108 in. | Same as above, but with two phone plugs   | 4.05   |
| 3LP-3PJ  | Y | 12 ft.  | 2-cond. shielded cable; 3-cond. phone jack, phone plug  | 2.85   |
| 2LP-2PJ  | Y | 6 in.   | Similar to above, but two shielded cables in parallel to a 2-cond. phone plug and two 2-cond. phone jacks | 2.85   |
| 3LP-2PJ  | Y | 6 in.   | Same, but phone plug is 3-conductor type  | 3.00   |

## FULLY SHIELDED MICROPHONE CONNECTOR SERIES

|            |    |        |   |        |
|------------|----|--------|---|--------|
| 72" MIC-S1 | AA | 72 in. | Shielded cable; mike connector, stripped end    | \$1.50 |
| 12" MIC-S1 | AA | 12 ft. | Shielded cable; mike connector, stripped end    | 1.74   |
| 72" MIC-2  | BB | 72 in. | Shielded cable; mike connectors, each end       | 1.80   |
| 12" MIC-2  | BB | 12 ft. | Shielded cable; mike connectors, each end       | 2.04   |
| 48" FM-M   | CC | 48 in. | Shielded cable; mike connector, phono plug      | 1.32   |
| 72" FM-M   | CC | 72 in. | Shielded cable; mike connector, phono plug      | 1.56   |
| 72" FM-PL  | DD | 72 in. | Shielded cable; mike connector, long phone plug | 1.71   |
| 12" FM-PL  | DD | 12 ft. | Shielded cable; mike connector, long phone plug | 2.10   |

## FULLY SHIELDED ADAPTERS

| Model  | Fig.  | Description  | Net Ea. |
|--------|-------|--|---------|
| APF    | EE    | Phono jack to phone plug adapter                       | \$0.75  |
| APF3R  | FF    | Phono jack to Webcor phone plug with 22K-ohm resistor* | 1.35    |
| AFF    | GG    | Phono jack to phono jack adapter                       | .60     |
| PJM    | HH    | Phono jack to phono plug adapter                       | 1.35    |
| MF     | II    | Ceramic phono cartridge jack to mag. output phono plug | 1.11    |
| ATF    | JJ    | Min. 2-cond. phone plug to phono pin jack adapter      | 1.30    |
| MMPM-H | KK    | Female phone jack to 2-cond. phone plug adapter        | 1.50    |
|        | ..... | Male mike input to phone plug output adapter           | .33     |

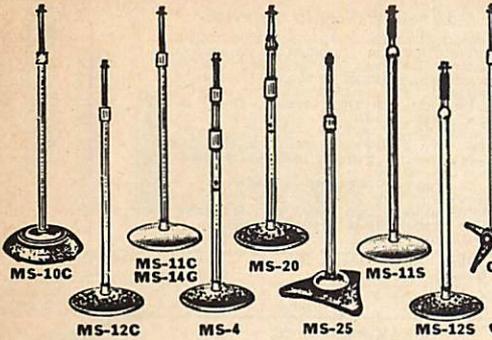
\*Fits Webcor tape recorders, 1946 to present.

## CONNECTORS, PLUGS, WIRE AND FM ANTENNA

|           |       |   |        |
|-----------|-------|---|--------|
| FM-1      | LL    | Twinlead FM dipole indoor antenna; 6' lead-in, spade lugs                                 | \$1.65 |
| FMIC-H    | ..... | Female mike connector with flexible spring and set screw                                  | .36    |
| MMCI-H    | ..... | Male mike connector with flexible spring and set screw                                    | .30    |
| MP-5      | ..... | Cadmium-plated brass phono plug with 1/8" l. pin  | .30    |
| 10' SMC-2 | ..... | 7 strand, 22 ga. tinned shielded copper wire with non-migrating vinyl jacket; pkg. 10 ft. | .54    |
| 15' SMC-2 | ..... | Same, but pkg. 15 ft.   | .84    |
| 25' SMC-2 | ..... | Same, but pkg. 25 ft.   | 1.35   |



# Microphone Stands, Accessories



### CLUTCH-ACTION STANDS

"Full Grip" clutch offers extended length body, permitting secure, full-hand grip. Clutch inner-lined with wear-proof locking collet. Include self-leveling, shock-absorbing pads, plus three additional "anti-tip" points between pads. Tube assemblies are "super-chrome" plated. Terminate in  $\frac{3}{8}$ "-27 machined thread.

| Atlas No. | Base Finish   | Height, Adjust. | Base Diameter | Lbs. Wt. | Net Each |
|-----------|---------------|-----------------|---------------|----------|----------|
| MS-10C    | Gray Shrivel  | 35"-63"         | 10"           | 10       | \$ 6.45  |
| MS-12C    | Gray Shrivel  | 34"-62"         | 10"           | 12       | 6.90     |
| MS-11C    | Full-Chrome   | 34"-62"         | 10"           | 13       | 8.70     |
| MS-14G    | Gold          | 34"-62"         | 10"           | 12       | 11.25    |
| MS-4      | Gray Shrivel  | 25"-65"         | 10"           | 10       | 10.05    |
| MS-25     | Gray Shrivel  | 37"-66"         | 12"           | 15       | 10.80    |
| MS-11S    | Chrome & Gray | 38"-67"         | 17"           | 22       | 17.70    |
| CS-1      | Cadmium plate | 23"-62"         | Collapsible   | 5        | 13.50    |
| CS-32     | Chrome Legs   | 36"-64"         | Demountable   | 5        | 7.95     |
| CS-33     | Chrome Legs   | 26"-64"         | Demountable   | 4        | 9.30     |
| CS-42     | Gray Shrivel  | 34"-62"         | 18"           | 9        | 8.70     |
| CS-52     | Gray Shrivel  | 34"-62"         | 15"           | 9        | 7.50     |

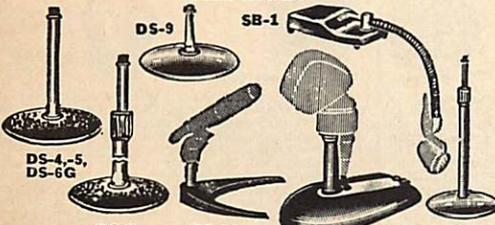
\*37" telescoping tube, 1  $\frac{1}{2}$ " base tube. †"Safety Air Lock Cushion" prevents accidental or sudden slippage of telescoping section. ‡13-section, collapsible. †Collapses to min. 22  $\frac{1}{2}$ " in 3 sections.

### SLEEVE-ACTION STANDS

Provide full automatic means of adjusting the height of the stand. Slight forward pressure on "sleeve-action" control permits lowering of telescoping section. Cannot change position without deliberate pressure on the actuating sleeve control.

|        |              |         |     |    |         |
|--------|--------------|---------|-----|----|---------|
| MS-11S | Full Chrome  | 39"-62" | 10" | 13 | \$15.60 |
| MS-12S | Gray Shrivel | 39"-62" | 10" | 12 | 14.10   |

### DESK STANDS



Atlas No. DS-4 Desk Stand—Offers new look in stand design. Highly polished phenolic base; beige color. Excellent accessory for tape recorders. Light weight. Base 5" dia. Tube finished  $\frac{1}{2}$ " in chrome. Tube, 4", Shpg. Wt., 1 lb. Net Each. \$1.50

Atlas No. DS-5 Desk Stand—General purpose, non-adjustable type. Base is 6" dia. cast iron; gun-metal shrivel finish. Equipped with pads. Tube 4" h.; chrome finish; threaded  $\frac{3}{8}$ ". Shpg. Weight, 2 lbs. Net Each. \$2.10

Atlas No. DS-6G Gold Desk Stand—Same as DS-5, but gold finished for special decor needs. Shpg. Wt., 2  $\frac{1}{2}$  lbs. Net Each. \$3.45

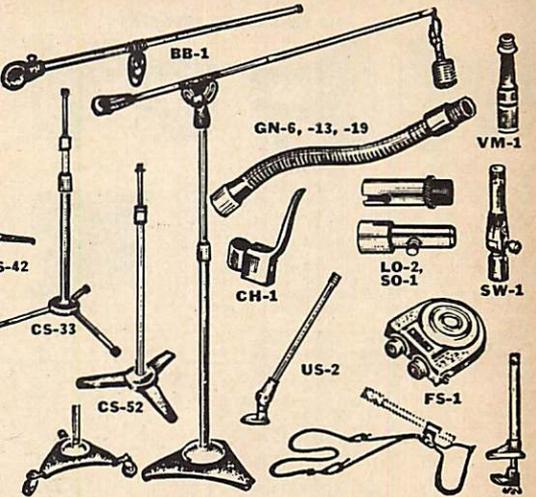
Atlas No. DS-7 Adjustable Desk Stand—Full-sized "Velvet Action" clutch mechanism. Chrome finished tube assembly adjustable 8" to 13". Gun-metal shrivel base, 6" dia. With pads. \$3.60 Shipping Weight, 3 lbs. Net Each.

Atlas No. DS-9 Professional Desk Stand—Low silhouette 8" base, tapered 4" tube. Satin chrome finished, with pads. Shpg. Weight, 4 lbs. Net Each. \$5.10

Atlas No. DS-10 "Streamliner" Desk Stand—Mike cable concealed in slot under center section of chrome trim strip on base; directed out rear. Cable held down by base; can't drag. Gun-metal opalescent enamel finish; chrome trim. Threaded  $\frac{3}{8}$ "-27. \$3.60 Rubber bumpers. Shipping Weight, 1  $\frac{1}{2}$  lbs. Net Each.

Atlas No. DS-14 Contemporary Desk Stand—For slim, elongated microphones. Gun-metal shrivel base, 3" chrome finish 2" tube, with pads. Shpg. Wt., 2 lbs. Net Each. \$2.70

Atlas No. SB-1 Switchboard Mike Support—Holds mike over switchboards, etc. Flexible 12" goose-neck on spring-loaded swivel so mike can be swung aside. Feed-through hides cable. Heavy, gray shrivel base rear loaded to prevent tipping. Base 9" x 6", rubber bumpers. Weight, 13 lbs. Net Each. \$10.80



Atlas No. TS-8 Adjustable Banquet Stand—Modern low silhouette 8" base and upright with "super chrome" finish. Adjustable 14  $\frac{1}{2}$ "-26". "Full Grip" control. Shpg. Wt., 5  $\frac{1}{2}$  lbs. Net Each. \$6.45

### MICROPHONE BOOMS

Atlas No. BS-36 Professional Boom Stand—All advantages of "Floating Action" plus secure and dependable locking. Features "Air-Lock Cushion" and new gyrostatic swivel joint at mike end. Boom 62" long; adjustable 48" to 72" vertically. All tubular section "super-chrome" plated. Modern base. Shipping \$4.20 Weight, 38 lbs. Net Each.

Atlas No. BS-36W Mobile—Identical to Model BS-36, except has ball bearing, hard rubber, swivel caster base. Shipping \$4.80 Weight, 38 lbs. Net Each.

Atlas No. BB-1 "Baby Boom" Arm—Attaches to any mike stand; locks in any position. Castings in gun-metal shrivel. Boom 31" long; chrome plated. Threaded  $\frac{3}{8}$ "-27. Wt., 3 lbs. Net.

### MICROPHONE ACCESSORIES

Atlas No. US-2 Multi-purpose Mike Support—Vertical and horizontal spring-load adjust. Cable feeds through swivel and boom. All parts polished chrome. Boom arm 12  $\frac{1}{4}$ " long. Adjusts 180° vertical; 360° rotation. Net Each. \$7.10

Atlas No. VM-1 Shock Mount—Reduces mechanical vibration pick-up. Fits all mikes. Polished chrome. Net Each. \$4.50

Atlas No. BC-1 Bracket Clamp—Usable with BB-1, GN-13, etc. Can be removed and top flange bolted into position. Chrome tube 8" long;  $\frac{3}{8}$ "-27 thread. Shpg. Wt., 1 lb. Net Each. \$2.40

Atlas No. CH-1 Cable Hanger—Proven necessity on every mike stand. Fits all tubes. Single screw mounting. Chrome \$1.65 finish. Net Each.

Atlas No. FS-1 Mike Foot Switch—Press-to-open switch, normally closed, thereby shorting mikes. Fits all mikes having single-ended inputs. Gray enamel finish. Size, 2" x 3". Net Each. \$2.40

Atlas No. GN-6 Flexible Goose Neck—Attach to any stand or fixture. Ends have  $\frac{3}{8}$ "-27 male and female threads; 6"  $\frac{1}{2}$ " long. Polished chrome finish. Net Each. \$1.20

Atlas No. GN-13—Same, but 13" long. Net Each. \$1.65

Atlas No. GN-19—Same, but 19" long. Net Each. \$2.40

Atlas No. NS-1 "Chesty" Neck-Supported Mike Holder—Adjustable three ways so mike is always in a suitable "close talking" position; reduces acoustic feedback. Wt., 6 oz. Net Each. \$3.80

Atlas No. SW-1 Swivel—Permits mike adjustment to any angle; locks in position. Chrome plated. Net Each. \$3.15

Atlas No. LO-2 Lock-On Accessory—Permits mike attachment or removal from stand quickly, without threading. Positive locking design, pushbutton release. Net Each. \$2.10

Atlas No. SO-1 Snap-On Accessory—Identical to LO-2 but less pushbutton locking feature. Net Each. \$1.65

### MICROPHONE ADAPTERS AND FITTINGS

| Model | Description   | Net    |
|-------|---|--------|
| AD-1  | $\frac{3}{8}$ "-27 female to $\frac{1}{4}$ " pipe thd. male (RCA Adapter)   | \$0.63 |
| AD-2  | $\frac{1}{4}$ " pipe female to $\frac{3}{8}$ "-27 male                      | .45    |
| AD-3  | $\frac{1}{4}$ " pipe female to $\frac{3}{8}$ "-27 female                    | .45    |
| AD-4  | $\frac{3}{8}$ " long, $\frac{3}{8}$ "-27 male running thread                | .30    |
| AD-5  | $\frac{3}{8}$ "-27 female to $\frac{3}{8}$ "-27 female coupling             | .48    |
| AD-6  | $\frac{3}{8}$ "-27 female to $\frac{3}{8}$ "-27 female coupling             | .81    |
| AD-7  | 3" long tube $\frac{3}{8}$ "-27 male each end                               | .54    |
| AD-8  | 6" long tube $\frac{3}{8}$ "-27 male each end                               | .60    |
| AD-9  | $\frac{3}{8}$ "-27 female to $\frac{3}{8}$ "-27 female                      | .45    |
| AD-10 | $\frac{3}{8}$ "-24 female to $\frac{3}{8}$ "-27 female (W. E. Adapter)      | .90    |
| AD-11 | Flange, $\frac{3}{8}$ "-27 female. Base diameter 1 $\frac{1}{4}$ "          | .60    |
| AD-12 | Flange, $\frac{3}{8}$ "-27 male. Base holes on 1 $\frac{1}{4}$ " mtg. ctrs. | .60    |
| AD-13 | $\frac{3}{8}$ "-27 male to $\frac{3}{8}$ "-27 female                        | .45    |
| AD-14 | Right angle bent tube: $\frac{3}{8}$ "-27 male and female each end          | 1.05   |
| AD-15 | Cable feed-thru adapter; $\frac{3}{8}$ "-27 male and female each end        | .99    |

Note: Thread sizes specified as  $\frac{3}{8}$ " pipe are I.P.S. (Electrical fitting); measures approx.  $\frac{3}{8}$ " dia. All adapters chrome plated.



# Atlas Speakers and Drivers

## PAGING AND TALK-BACK SPEAKERS



EC-10

HU Series

TP Series

Extremely efficient; override high level background noises; for "talk-back" applications. EC-10 horn sections molded of tough, all-weather acrylic plastic; HU and TP of spun aluminum; CJ made of non-resonant Fiberglass. EC-10 finish beige-brown, others gun metal gray. Adj. steel mtg. bracket on EC-10, "Versalock" on HU and CJ, 10° angle universal bracket for TP. Impedance, 8 ohms. Available in 45 ohms; specify when ordering and add 30c to Net Price.



CJ Series

| Atlas Model | EC-10      | HU-12N     | HU-15N     | HU-24N     | CJ-14N          | CJ-30N       | TP-15N     | TP-24N     |
|-------------|------------|------------|------------|------------|-----------------|--------------|------------|------------|
| Power*      | 6 w.       | 7.5 w.     | 25 w.      | 25 w.      | 7.5 w.          | 25 w.        | 25 w.      | 25 w.      |
| Freq. cps   | 400-13,000 | 350-13,000 | 250-13,000 | 200-13,000 | 350-13,000      | 250-13,000   | 250-13,000 | 200-13,000 |
| Lgth.       | 6 3/4"     | 7 1/4"     | 8 3/4"     | 12 1/4"    | 8"              | 11 1/4"      | 16 1/4"    | 23"        |
| Bell Dia.   | 6 1/4"     | 7 1/2"     | 9 3/4"     | 11 1/4"    | 9 1/4" x 5 1/4" | 14" x 9 3/4" | 9 3/4"     | 11 1/4"    |
| Level db†   | 112        | 115        | 123        | 124        | 115             | 121          | 120‡       | 121‡       |
| Disp.       | 125°       | 120°       | 100°       | 95°        | #               | #            | 100‡       | 95‡        |
| Shpg. Wt.   | 2 lbs.     | 3 1/4 lbs. | 6 lbs.     | 6 lbs.     | 3 1/2 lbs.      | 7 lbs.       | 7 1/2 lbs. | 8 lbs.     |
| Net Ea.     | \$14.25    | \$16.80    | \$20.70    | \$23.10    | \$18.60         | \$26.10      | \$32.10    | \$35.70    |

\*Input range limited to frequencies above horn cut-off. †Measured at 4 ft. on axis rated power. ‡Each horn. †120° x 60°.

## ATLAS DECOR SPEAKERS

**Atlas Model DU-12N DeCor Projector**—Combines the same driver assembly as Model HU-12N. Combines intelligibility, directivity and high efficiency with high styling. Two-way adjustable bracket has feed-thru for connections. Specifications: Power, 7.5 watts; Impedance, 8 ohms; frequency response, 350-13,000 cps; sound level, 115 db; dispersion 110°; length, 14"; bell dia., 7". Natural brushed satin aluminum finish. Shipping Weight, 4 lbs. Net Each. . . . . \$21.60

**Atlas Model DC-5 DeCor Cone Projector**—Identical in appearance to Model DU-12N. Heavy-duty, high efficiency 5", weather resistant cone speaker produces both voice and music pleasingly. Specifications: Power, 6 watts; Impedance, 8 ohms; frequency response, 120-7,000 cps. Shpg. Wt., 3 lbs. Net Each. . . . . \$14.25

## SPEAKER TRANSFORMERS

Line matching transformers with wide range of 25/70 v. power steps and impedances for proper matching. T-3, T-4, T-11 and T-17 include weatherproof housing and bracket.

| Atlas Model | Watts | Line Volts | For Speaker                     | Net. Each |
|-------------|-------|------------|---------------------------------|-----------|
| T-3         | 5     | 25         | EC-10                           | \$3.75    |
| T-4         | 5     | 70         | EC-10                           | 3.00      |
| T-5         | 7.5   | 70         | DU-12N, DC-5                    | 3.90      |
| T-10        | 15    | 25/70      | C-46 "Columair," general use    | 5.55      |
| T-11        | 15    | 25/70      | HU, CJ, TP Series               | 9.90      |
| T-17        | 50    | 70         | CJ-44 and high power use        | 5.10      |
| T-18        | 50    | 70         | C-66 "Columair," high power use |           |

## ATLAS DR PROJECTORS

The result of many years of acoustic research. Acoustical paths are clean and uniform, without steps or pockets to cause distortion. Come with heavy-duty U-bracket. High luster, baked enamel finish in gun metal gray; resistant to all weather. Length shown in table is without driver.

| Atlas Model | Air Column | Low Freq. | Bell Dia. | Lgth.   | Shpg. Wt., Lbs. | Net Each |
|-------------|------------|-----------|-----------|---------|-----------------|----------|
| DR-54       | 4 1/2"     | 115 cps   | 26"       | 19"     | 23              | \$29.40  |
| DR-42       | 3 1/2"     | 140 cps   | 21"       | 16"     | 14              | 21.60    |
| DR-32       | 2 1/2"     | 190 cps   | 16 1/2"   | 12 1/2" | 10              | 18.00    |

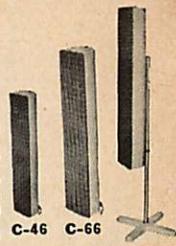
## EXPLOSION-PROOF SPEAKERS

U/L Approved for hazardous locations with explosive atmospheres. Exclusive explosion barrier design for high efficiency. Two types and sizes available. Write for full details and specifications. Units listed are 16 ohms impedance; for 45 ohms, add \$1.50 to Net.

| Atlas Model | Net Each | Atlas Model | Net Each |
|-------------|----------|-------------|----------|
| HLE-1-30    | \$73.50  | HLE-1-32    | \$82.20  |
| HLE-2-30    | 85.50    | HLE-2-32    | 94.20    |

## "COLUMAIR" SOUND COLUMNS

Consist of six speakers in a vertical array providing a flat, fan-shaped dispersion pattern. Reduces feedback and results in smooth, uniform coverage. Handsome to blend into most decors. Comes with easy-mount, universal bracket. **Distribution Angle:** 120°-180° horizontal, both models; 26-36° vertical. C-46: 22-32° vertical. C-66: Power: 20 watts C-46, 40 watts C-66 constant program material. **Impedance:** 16 ohms. **Atlas Model S5-4 Stand**—For portable or permanent use. Requires MK-1 for attachment to column. Net Each. \$13.50 **Atlas Model MK-1 Mounting Kit**—Net Each. . . . . \$1.20



| Atlas Model | Spkr. Size | Freq. Res. cps | Size, Inches   | Net Wt., Lbs. | Net Each |
|-------------|------------|----------------|----------------|---------------|----------|
| C-46        | 4"         | 200-10,000     | 28 x 5 1/4 x 5 | 8 1/4         | \$37.50  |
| C-66        | 6"         | 125-10,000     | 42 x 7 3/4 x 6 | 18 1/2        | 57.00    |

## "COAX-PROJECTOR"

**Atlas Model WT-6 "Coax-Projector"**—High fidelity, all-weather, outdoor-indoor reproducer. Combines two drivers (one weatherproof cone type with 6" throat for lows; one pressure type for highs), two horns, built-in crossover. **Power Input:** 40 watts continuous duty. **Dispersion:** 120° average. **Frequency Response:** 100-15,000 cps. Crossover at 1,000 cps. **Impedance:** 8 ohms. **Size:** 15" bell opening; 12" overall depth. **Shipping Weight,** 16 lbs. Net Each. . . . . \$36.00



**Atlas Model W-6 Projector**—Similar to Model WT-6, but incorporates single driver. Used where extra-high frequency response is not required. **Power Input:** 15 watts, continuous duty. **Frequency Response:** 100-8,000 cps. **Impedance:** 8 ohms. **Dispersion:** 120°. **Shipping Weight,** 14 lbs. Net Each. . . . . \$27.00

## KING COBRA-JECTOR

All-weather speaker with a coust-matched driver. Maximum conversion efficiency. Controlled response; holds within frequency limits most useful in PA and high-level music reproduction. Speaker output energy is not wasted in non-contributive frequencies. **Power Input:** 40 watts, continuous. **Power Equalized Response:** 60 watts. **Impedance:** 16 ohms. **Frequency Response:** 115-12,000 cps. **Dispersion:** 120° x 60°. **Horn Opening:** 23" x 13". **Length:** 19". **Shipping Weight,** 19 lbs. **Atlas Model CJ-44 King Cobra-Jector**—Net Each. . . . . \$47.70



## SUPER-EFFICIENT ALNICO V DRIVERS

**PD-4V** For all applications. Low cost; high performance and efficiency; reliable. Full range response. **Model PD-5VH:** The industry's standard. Overize magnetic circuit. Double sealed against weather. Self-aligning diaphragm. **Model PD-5VT:** Same as PD-5VH, but with line-matching transformer tapped at 16, 125, 250, 500, 1K and 2K ohms; 40, 20, 10, 5, and 2.5 watts. **Model PD-60:** Advanced design provides maximum efficiency at super power inputs. For maximum of dependable sound energy. Double sealed. **Model PD-60T:** Same as PD-60, but with line matching transformer tapped at 16, 85, 125, 250, 500, 1K and 2K ohms; 60, 40, 20, 10, 5 and 2.5 watts.

| Atlas Model | Power, Watts | Freq. Res., cps | Sound Level† | Shpg. Wt., Lbs. | Net Each |   |         |
|-------------|--------------|-----------------|--------------|-----------------|----------|---|---------|
| PD-4V       | 30           | 50              | 16           | 85-7,000        | 128 db   | 4 | \$17.70 |
| PD-5VH      | 40           | 60              | 16           | 80-12,000       | 131 db   | 5 | 22.50   |
| PD-5VT      | 40           | 60              | 16           | 80-12,000       | 131 db   | 7 | 30.50   |
| PD-60       | 60           | 100             | 16           | 70-12,000       | 136 db   | 8 | 30.50   |
| PD-60T      | 60           | 100             | 16           | 70-12,000       | 136 db   | 8 | 37.20   |

\*Integrated speech and music full range. †Input range limited to frequencies above horn cut-off. ‡Measured 4 ft. on axis, 6 ft. air column with integrated full power output.

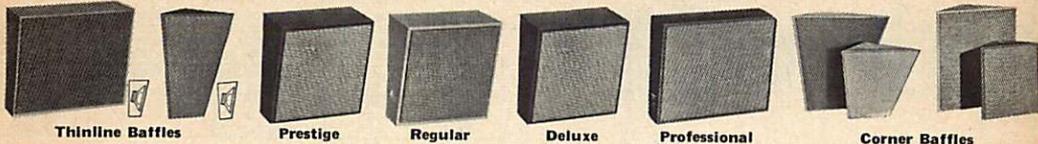
## SPEAKER STANDS

**Atlas Model S5-2 Heavy Duty**—All purpose model mounts CJ-44 and DR projectors. With "easy-off" feature; permits removal of speaker without tools. Double lock device provides extra safety margin against accidental release. Adjustable 5 to 10 ft. Shpg. Wt., 29 lbs. Net Each. . . . . \$27.30



**Atlas Model S5-4 Stand**—For medium weight speakers such as WT-6 and W-6. With "easy-off" attachment. Requires minimum of floor space. Shpg. Wt., 20 lbs. Net Each. . . . . \$14.10

# Argos Baffles, Speaker-Baffles, PA's



**THINLINE WALL BAFFLES**  
Attractive, wider, but a third thinner wall baffles with heavy-duty PA-quality speaker installed and wired; screw terminals. Top, sides and bottom covered in heavy, wood-grained vinyl; specify blond or walnut. Cane grille. Front angled 10°. Impedance, 8 ohms.

**WITH 8" DUAL-CONE SPEAKER**  
Rated 10 watts; 4.8 oz. ceramic magnet. Size, 12 3/4" w. x 4 3/4" d. x 9 3/4" h. Shpg. Wt.: 5 lbs.; with transformer, 5 1/2 lbs.  
**Argos No. WB-408CS**—With speaker. Net Each. . . . . \$ 9.75  
**Argos No. WB-408CSL**—Same, with L-pad. Net Each. . . . . \$ 11.95  
**Argos No. WB-408CST**—With 70.7-volt transformer. Net Each. . . . . \$12.50  
**Argos No. WB-408CSLT**—With 70.7-volt transformer and L-pad. Net Each. . . . . \$14.50

**WITH 12" JENSEN SPEAKER**  
Rated 18 watts; 10-oz. ceramic magnet. Size, 16 1/4" w. x 6 1/4" d. x 14" h. Shpg. Wt.: 5 1/2 lbs., less speaker; 9 3/4 lbs., with speaker; 10 1/4 lbs., with speaker and transformer.  
**Argos No. WB-212CS**—With speaker. Net Each. . . . . \$15.75  
**Argos No. WB-212CSL**—Same, but with L-pad. Net Each. . . . . \$17.95  
**Argos No. WB-212CST**—With speaker and 70.7-volt transformer. Net Each. . . . . \$18.75  
**Argos No. WB-212CSLT**—Speaker, L-pad and 70.7-volt transformer included. Net Each. . . . . \$20.55  
**Argos No. WB-212C**—Baffle only; for speaker 4 3/4" d. Net . . . . . \$ 6.38

**LOW-LEVEL WITH 8" SPEAKER**  
Rated 6 watts; 1 oz. magnet. Size, 12 1/4" w. x 9 3/4" d. x 9 3/4" h. Shpg. Wt.: 4 1/2 lbs.; with transformer, 5 lbs.  
**Argos No. WB-108CS**—With speaker only. Net Each. . . . . \$ 7.95  
**Argos No. WB-108CSV**—Same, with volume control. Net . . . . . \$10.00  
**Argos No. WB-108CST**—With speaker and 70.7-volt transformer. Net Each. . . . . \$10.70  
**Argos No. WB-108CSVT**—With speaker, volume control and 70.7-volt transformer. Net Each. . . . . \$12.95

**SLANTING CORNER STYLE WITH 8" JENSEN SPEAKER**  
**Argos No. SCB-2085**—Rated 15 watts; 6 oz. ceramic magnet. Size, 12 1/2" w. x 6 3/4" d. x 18" h. Shpg. Wt., 6 lbs. Net Each. . . . . \$13.95

**PRESTIGE BAFFLES WITH 8" JENSEN SPEAKER**  
Furniture-finished wood cabinet in choice of antique birch or dusk walnut; cane grille. Speaker rated 15 watts; 6 oz. magnet. Impedance, 8 ohms. Size, 11" w. x 5 3/4" d. x 9 3/4" h. Front angled 10°. Shpg. Wt.: 5 1/2 lbs.; with transformer, 6 3/4 lbs.  
**Argos No. PB-508CS**—With speaker only. Net Each. . . . . \$11.95  
**Argos No. PB-508CSL**—Same, but with L-pad. Net Each. . . . . \$14.15  
**Argos No. PB-508CST**—With speaker and 70.7-volt transformer. Net Each. . . . . \$14.70  
**Argos No. PB-508CSLT**—With speaker, L-pad and 70.7-volt transformer. Net Each. . . . . \$16.70

## HALLMARK TWO-FACED SPEAKER SYSTEM

For bi-directional sound such as corridor paging; as effective as two single-faced speakers. Mounts easily on ceiling or wall. Dual-cone 8" speaker has 4.8 oz. magnet; rated 10 watts; 8 ohms impedance. Specify antique birch or dusk walnut finish; cane grille. Size, 10 3/4" sq. x 3 3/4" d. Shpg. Wt., 6 lbs.  
**Argos No. TCB-85**—Net Each. . . . . \$14.95



## SOUND DIRECTOR® SOUND COLUMNS

For fully intelligible PA coverage of large audiences in schools, auditoriums, churches, etc. Choice of 6, 8 or 10-speaker types. Impedance, 16 ohms. Walnut grain vinyl finish; cane grille. Easy to install; with full instructions.  
**Argos No. SD-1060**—With 6 speakers for rooms up to 60 ft. long. Power, 30 watts. Size, 7" w. x 3 3/4" d. x 30 3/4" h. Shpg. Wt., 10 lbs. Net Each. . . . . \$44.50  
**Argos No. SD-1100**—With 10 speakers for rooms up to 200 ft. long. Power, 50 watts. Size, 7" w. x 6" d. x 49 3/4" h. Shpg. Wt., 26 3/4 lbs. Net Each. . . . . \$67.00  
**Argos No. ESD-1061**—Similar to SD-1060, but genuine walnut cabinetry in flare design. Response, 100-12,000 cps. Size, 10 1/2" w. x 4" d. x 33 3/4" h. Shpg. Wt., 16 lbs. Net Each. . . . . \$48.95  
**Argos No. MSD-1060**—With 6 full-range speakers providing 60 watts power. Response, 70-15,000 cps. For voice or music under poor acoustic conditions. Size, 10 3/4" w. x 8 3/4" d. x 50 3/4" h. Shpg. Wt., 38 lbs. Net Each. . . . . \$82.00  
**Argos No. SD-1082**—Weatherproof, outdoor column with 8 speakers. Rated 40 watts. Response, 200-10,000 cps. Heavily vinyl clad. Size, 9 3/4" w. x 4 1/2" d. x 49 1/2" h. Shpg. Wt., 37 lbs. Net Each. . . . . \$169.50

Many other models available for voice and music reproduction.

## SOUND CADDY

**Argos No. SC-2D5**—Two 12", 18-watt, 8-ohm speakers in portable case with space for amplifiers and turntables. Size, 17 3/4" w. x 13 1/4" d. x 22" h. Shpg. Wt., 28 1/2 lbs. Net Each. . . . . \$44.95  
**Argos No. SC-2D**—Same, less speakers. Shipping weight, 20 lbs. Net Each. . . . . \$26.58

**PROFESSIONAL, DELUXE AND REGULAR BAFFLES**  
Professional wall baffle (PWB) has wider shape for better appearance, more volume. Wood-grain vinyl, blond or walnut (specify). Deluxe wall baffles (DWB) are natural hardwoods. Dusk walnut or antique birch finish (specify). Regular wall baffles (WB) are the standard of the industry for quality reproduction and appearance. Wood-grain vinyl, walnut or blond (specify). All baffles have Speedy Mounting Clips.

## PROFESSIONAL WALL BAFFLE

| Argos No. | Size, Inches |                     |  | Cubic In. | Shpg. Lbs. | Net Each |
|-----------|--------------|---------------------|--|-----------|------------|----------|
|           | Sprk.        | W. x D. x H.        |  |           |            |          |
| PWB-8C    | 8            | 16 1/4 x 6 3/4 x 14 |  | 1000      | 6          | \$6.50   |

## DELUXE WALL BAFFLES

|         |    |                        |  |      |        |        |
|---------|----|------------------------|--|------|--------|--------|
| DWB-8A  | 8  | 9 3/4 x 6 1/2 x 10 3/4 |  | 400  | 5 1/2* | \$6.00 |
| DWB-12A | 12 | 13 3/4 x 9 3/4 x 14    |  | 1180 | 9*     | 8.40   |

## REGULAR WALL BAFFLES

|         |       |                         |  |      |     |        |
|---------|-------|-------------------------|--|------|-----|--------|
| WB-4/5D | 4-5   | 6 1/2 x 4 x 6 3/4       |  | 100  | 3*  | \$3.23 |
| WB-6D   | 6     | 8 3/4 x 5 x 8 3/4       |  | 210  | 4*  | 3.90   |
| WB-6/9D | 6 x 9 | 10 x 6 1/2 x 10 3/4     |  | 400  | 6*  | 4.65   |
| WB-8D   | 8     | 10 x 6 1/2 x 10 3/4     |  | 400  | 6*  | 4.65   |
| WB-10D  | 10    | 12 1/2 x 7 1/2 x 12 1/2 |  | 800  | 8*  | 6.38   |
| WB-12D  | 12    | 13 3/4 x 9 3/4 x 14 1/4 |  | 1180 | 11* | 8.38   |

\*Shipping weight of two in a carton.

## CORNER BAFFLES

Easily hung on Speedy Mounting Clips. Front panel held by two clips and concealed screw. Screw-type exterior speaker terminals. Bass reflex design, acoustic padding for superior sound. Specify walnut or blond wood-grain vinyl.

## SLANTING CORNER BAFFLES

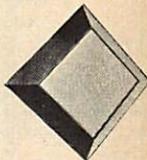
**Argos No. SCB-8D**—For 8" speaker; volume, 680 cubic inches. Size, 17 3/4" w. x 9" d. x 15" h. Shpg. Wt., 6 lbs. Net Each. . . . . \$9.15  
**Argos No. SCB-12D**—For 12" speaker; volume, 1240 cubic inches. Size, 20 3/4" w. x 10 3/4" d. x 20" h. Shpg. Wt., 8 lbs. Net. . . . . \$12.95

## REGULAR CORNER BAFFLES

**Argos No. CB-8D**—For 8" speaker; volume, 525 cubic inches. Size, 12 1/4" w. x 6 1/2" d. x 14" h. Shpg. Wt., 4 1/2 lbs. Net Ea. . . . . \$7.65  
**Argos No. CB-12D**—For 12" speaker; volume, 1520 cubic inches. Size, 17 3/4" w. x 9" d. x 20" h. Shpg. Wt., 8 1/2 lbs. Net Ea. . . . . \$11.85

## NEW TROUBADOR SPEAKER SYSTEM WITH ATTRACTIVE ART FRAME

For horizontal or diamond mounting. Dual-cone 8" speaker, rated 15 watts, is ideal for voice or music. Choice of dusk walnut or antique birch finish; Belgian linen grille. Impedance, 8 ohms. Size, 13 3/4" sq. x 3 3/4" d. Shpg. Wt., 5 1/4 lbs.  
**Argos No. TSW-85**—Net Each. . . . . \$13.95



## "PATIO" OUTDOOR SPEAKER

Durable 14" w. x 3 3/4" d. x 10 1/2" h. redwood enclosure with cane grille. Moisture-resistant speaker. Marine-grade plywood baffle board. Built-in volume control. Shipping Weight, 5 1/2 lbs.  
**Argos No. PAT-10**—Net \$14.95



## PORTABLE SOUND COLUMN PA SYSTEMS

### VOICE DIRECTOR

Combines Argos six-speaker sound column with 25-watt transistor amplifier. System includes microphone, full-size stand and 15 ft. cable. Provides uniform, intelligible coverage of audiences of 700 to 800. Operates on flashlight batteries (not supplied). Fitted Case: 10" w. x 7" d. x 30" h. Shpg. Wt., 30 lbs.  
**Argos No. PSD-5060**—Net Each. . . . . \$169.95  
Other models and accessories available.



### SPEECH DIRECTOR

Case becomes lectern with 15" x 15" reading table. Has Argos 4-speaker sound column, 20-W transistor amplifier and unidirectional, cardioid mike with built-in volume control. Amplifier operates on batteries or 115 VAC. Battery life, 400 hours or more. Gossneck mike stand and 18" cable. Fitted case with luggage handle. Size, 16" w. x 7 1/2" d. x 21" h. Shipping Weight, 25 lbs.  
**Argos No. LSD-6040**—Net Each. . . . . \$229.95

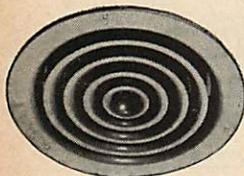
# Soundolier Baffles and Housings



60, 61



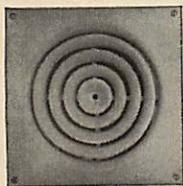
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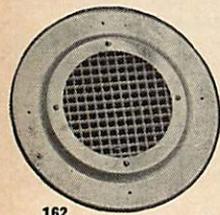
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110



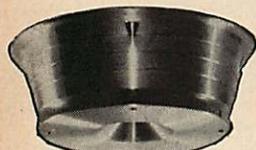
17



162



210



23



260

## RECESSED CEILING BAFFLES

### SERIES 60 TRIM RING BAFFLES

Handsome aluminum trim ring with satin brushed finish. Simple lines assure modern flush appearance. Undercoated backing stops mechanical resonance and vibration. Standard finish is satin brushed aluminum. Use with Series 95 enclosures, Series 75 plaster ring. See Note A\* for other finishes available.

| Soundolier No. | Speaker Size | Baffle Size Diameter x Depth | Mounting Hole | Net Each |
|----------------|--------------|------------------------------|---------------|----------|
| 60-5           | 5"           | 11" x 1 1/2"                 | 7"            | \$3.00   |
| 60-6           | 6"           | 11" x 1 1/2"                 | 7"            | 3.00     |
| 60-7           | 7"           | 12 3/4" x 1 1/2"             | 8 1/4"        | 3.33     |
| 60-8           | 8"           | 12 3/4" x 1 1/2"             | 8 1/4"        | 3.33     |
| 60-10          | 10"          | 17" x 1 1/2"                 | 12 1/4"       | 4.56     |
| 60-12          | 12"          | 17" x 1 1/2"                 | 12 1/4"       | 4.56     |

### SERIES 61 TRIM RING BAFFLES

Similar to Series 60, but steel construction with high polish finish. Baked varnish coating prevents rusting. Extra strong; won't give from mounting pressure; prevents resonance. Welded stud arrangement eliminates screw head exposure. Use with Series 95 enclosures, Series 75 plaster rings. Simulated stainless steel finish. See Note B\* for other finishes.

| 61-5  | 5"  | 11" x 1 1/2"     | 7"      | \$2.80 |
|-------|-----|------------------|---------|--------|
| 61-6  | 6"  | 11" x 1 1/2"     | 7"      | 2.80   |
| 61-7  | 7"  | 12 3/4" x 1 1/2" | 8 1/4"  | 3.11   |
| 61-8  | 8"  | 12 3/4" x 1 1/2" | 8 1/4"  | 3.11   |
| 61-10 | 10" | 17" x 1 1/2"     | 12 1/4" | 4.25   |
| 61-12 | 12" | 17" x 1 1/2"     | 12 1/4" | 4.25   |

### SERIES 66 LOUVERED BAFFLES

Match the more expensive air diffusers; heavy steel construction welded against vibration. Designed to diffuse high frequencies. Simulated stainless steel finish has baked coating. Use with Series 95 enclosures, Series 75 plaster rings.

| 66-5  | 5"  | 12 1/2" x 1 1/2" | 8 1/4"  | \$ 9.18 |
|-------|-----|------------------|---------|---------|
| 66-7  | 7"  | 15 1/2" x 1 1/2" | 12 1/4" | 12.52   |
| 66-8  | 8"  | 15 1/2" x 1 1/2" | 12 1/4" | 12.52   |
| 66-10 | 10" | 17 1/2" x 1 1/2" | 15"     | 17.52   |
| 66-12 | 12" | 17 1/2" x 1 1/2" | 15"     | 17.52   |

### SERIES 67 ECONOMY LOUVERED BAFFLE

Similar to Series 66. Welded construction with aluminum paint finish. Size, 12" dia. x 1/4" deep for 10 1/4" ceiling hole. See Note C\* for other finishes.

Soundolier No. 67-8—For 8" speaker. Net Each.....\$4.77

## SERIES 68 LOW CEILING BAFFLES

Recessed trim ring has brushed aluminum diffractor to eliminate beaming in low ceiling installations. Modern design in satin brushed aluminum finish. Use with Series 95 enclosures, Series 75 plaster rings. See Notes A\* and E\* for other finishes.

| Soundolier No. | Speaker Size | Baffle Size Diameter x Depth | Mounting Hole | Net Each |
|----------------|--------------|------------------------------|---------------|----------|
| 68-6           | 6"           | 11" x 1 1/2"                 | 7"            | \$4.50   |
| 68-7           | 7"           | 12 3/4" x 1 1/2"             | 8 1/4"        | 7.29     |
| 68-8           | 8"           | 12 3/4" x 1 1/2"             | 8 1/4"        | 7.29     |

## SERIES 162 ACOUSTILOUVER TRIM RINGS

Recessed design matches modern louvers; molded polystyrene with satin finish ring. Gasket backing guards against vibration and rattle. Standard is brushed aluminum finish. Use with Series 95 enclosures, Series 75 plaster rings. See Note A\* for other finishes.

| Soundolier No. | Speaker Size | Baffle Size Diameter x Depth | Mounting Hole | Net Each |
|----------------|--------------|------------------------------|---------------|----------|
| 162-6          | 6"           | 11" x 1 1/2"                 | 7"            | \$4.47   |
| 162-7          | 7"           | 12 3/4" x 1 1/2"             | 8 1/4"        | 7.26     |
| 162-8          | 8"           | 12 3/4" x 1 1/2"             | 8 1/4"        | 7.26     |
| 162-10         | 10"          | 17" x 1 1/2"                 | 12 1/4"       | 9.15     |
| 162-12         | 12"          | 17" x 1 1/2"                 | 12 1/4"       | 9.15     |

## SERIES 110, 112 WIDE ANGLE BAFFLES

Unit includes an acoustical horn to radiate the sound from the rear for increased coverage and efficiency. Throat provides phase inverter action to extend bass response. Integral enclosure has patched jute lining, undercoating and concentric reinforcement rings to prevent resonances. Complete with plaster ring, 4" outlet box and hardware. Model 112 is engineered for low resonance speakers to increase volume; has provisions to mount an 8" loudspeaker. Standard finish has outer enclosure of polar white, inner of brushed aluminum. See Note D\* for other finishes.

| Soundolier No. | Speaker Size | Size, O.D. | Mounting Hole Diameter x Depth | Net Each |
|----------------|--------------|------------|--------------------------------|----------|
| 110-6          | 6"           | 14 3/4"    | 12 1/2" x 5 1/2"               | \$10.77  |
| 110-7          | 7"           | 16 3/4"    | 14 1/2" x 5 1/2"               | 15.42    |
| 110-8          | 8"           | 16 3/4"    | 14 1/2" x 5 1/2"               | 15.42    |
| 110-10         | 10"          | 20 3/4"    | 19" x 8"                       | 22.92    |
| 110-12         | 12"          | 20 3/4"    | 19" x 8"                       | 22.92    |
| 112-8          | 8"           | 20 3/4"    | 19" x 8"                       | 22.92    |

## ACOUSTICAL TILE REPLACEMENT BAFFLES

Series 10 (Not illus.)—Matches a 12" x 12" tile block for ideal concealment of loudspeakers. Standard finish is flat polar white. Specify "R" for random pattern; specify pattern (if known) and tile thickness (5/8" or 3/4") when ordering. Use with Series 95 enclosures, Series 75 plaster rings.

| Soundolier No. | Speaker Size | Net Each | Soundolier No. | Speaker Size | Net Each |
|----------------|--------------|----------|----------------|--------------|----------|
| 10-7           | 7"           | \$4.14   | 10-8           | 8"           | \$4.14   |
| 10-7R          | 7"           | 4.81     | 10-8R          | 8"           | 4.81     |

Series 12 (Not illus.)—Round speaker cutouts with flat white finish. Matches a 12" x 12" acoustical tile block; without perforations. Use with Series 95 enclosures, Series 75 plaster rings.

|      |    |        |      |    |        |
|------|----|--------|------|----|--------|
| 12-7 | 7" | \$4.14 | 12-8 | 8" | \$4.14 |
|------|----|--------|------|----|--------|

Series 15 (Not illus.)—Simulated striated tile finish matches 12" x 12" acoustical tile. Circular speaker cutout provided.

|      |    |        |      |    |        |
|------|----|--------|------|----|--------|
| 15-7 | 7" | \$4.81 | 15-8 | 8" | \$4.81 |
|------|----|--------|------|----|--------|

Series 17—Modern louvered design similar to many air diffusers. All-welded construction ideal for high frequency diffusion, without vibration or rattle. Flat polar white finish. Matches 12" x 12" acoustical tile block.

Soundolier No. 17-8—For 8" speaker. Net Each.....\$10.07

## SURFACE CEILING BAFFLES

### SERIES 23 LOW CEILING BAFFLES

Polished aluminum diffractor is ported for extended bass; decreases beaming. Adaptable for mounting to an outlet box. Features patched jute lining, undercoating and concentric reinforcement rings to prevent mechanical and acoustical resonances. Aluminum finish is standard. May be used with Series 182 adapters. See Note A\* for other finishes available.

| Soundolier No. | Speaker Size | Baffle Size Diameter x Depth | Net Each |
|----------------|--------------|------------------------------|----------|
| 23-6           | 6"           | 11" x 1 1/2"                 | \$ 7.80  |
| 23-7           | 7"           | 16 1/4" x 5 1/2"             | 13.20    |
| 23-8           | 8"           | 16 1/4" x 5 1/2"             | 13.20    |

### SERIES 210, 212 WIDE ANGLE BAFFLES

Same as Series 110, 112 except for surface mounting. Standard finish is polar white outer with brushed aluminum inner section. See Note D\* for other finishes.

| 210-6  | 6"  | 12" x 4 1/2"     | \$ 7.80 |
|--------|-----|------------------|---------|
| 210-7  | 7"  | 14 1/2" x 4 1/2" | 13.20   |
| 210-8  | 8"  | 14 1/2" x 4 1/2" | 13.20   |
| 210-10 | 10" | 18 1/2" x 6 1/2" | 16.20   |
| 210-12 | 12" | 18 1/2" x 6 1/2" | 16.20   |
| 212-8  | 8"  | 18 1/2" x 6 1/2" | 16.20   |

### SERIES 260 CEILING BAFFLES

Simple, straight lines for modern interiors. Four bass reflex ports assure smooth bass response. Jute lining, undercoating and reinforcement rings prevent resonances. Adaptable for mounting to a 4" outlet box through Series 183 adapters. Satin brushed aluminum finish is standard. See Note A\* for other finishes.

|       |    |                  |        |
|-------|----|------------------|--------|
| 260-5 | 5" | 11 1/4" x 3 3/8" | \$6.60 |
| 260-6 | 6" | 11 1/4" x 3 3/8" | 6.60   |
| 260-7 | 7" | 13 1/4" x 4 3/8" | 8.70   |
| 260-8 | 8" | 13 1/4" x 4 3/8" | 8.70   |

\*NOTES APPEAR ON FACING PAGE.

# Soundolier Baffles and Housings

## SUSPENSION CEILING BAFFLES SERIES 310, 312 WIDE ANGLE BAFFLES

Acoustical radiating horn provides wide coverage and high efficiency using phase inverter action for extended bass response. For use with Series 335 hangers (not included). Has patched jute lining, undercoating and concentric reinforcement rings to reduce resonances. Series 312 designed for low resonance speakers for additional volume. White outer, brushed aluminum inner enclosures with aluminum husk. See Note D for other finishes.

| Soundolier No. | Speaker Size | Baffle Size Diameter x Depth            | Net Each |
|----------------|--------------|---|----------|
| 310-7          | 7"           | 14 $\frac{1}{2}$ " x 8 $\frac{1}{4}$ "  | \$18.00  |
| 310-8          | 8"           | 14 $\frac{1}{2}$ " x 8 $\frac{1}{4}$ "  | 18.00    |
| 310-10         | 10"          | 18 $\frac{1}{2}$ " x 11 $\frac{3}{4}$ " | 22.20    |
| 310-12         | 12"          | 18 $\frac{1}{2}$ " x 11 $\frac{3}{4}$ " | 22.20    |
| 312-8          | 8"           | 18 $\frac{1}{2}$ " x 11 $\frac{3}{4}$ " | 22.20    |

## SERIES 315 SPHERICAL BAFFLE

Exclusive design is hand polished, brushed finish. Hemispheres are interconnected with brass inserts, jute lining and heavy undercoating in large interior extend bass and eliminate resonances. Use with Series 335 hangers (not included). Brushed aluminum is standard finish. Size: 18" dia., 16 $\frac{1}{2}$ " deep, 9" dia. flat speaker grille. See Note A for other finishes.

Soundolier No. 315-8—For 8" speaker. Net Each.....\$22.20

## SERIES 335 SUSPENSION HANGERS

Brushed aluminum canopy with nickel-plated, hang-straight swivel, zinc-plated  $\frac{1}{4}$ " steel rod and all necessary hardware. Provisions are made for mounting to a 4" outlet box. See Note A for other finishes.

Soundolier No. 335-2—Length, 2 ft. Net Each.....\$1.80  
Soundolier No. 335-3—Length, 3 ft. Net Each.....2.10  
Soundolier No. 335-4—Length, 4 ft. Net Each.....2.40

## RECESSED WALL BAFFLES

### SERIES 164 TRIM SQUARES

Handsome beveled edge trim square with rectangular cutout has speaker mounting plate for extended bass response. Standard finish is flat polar white. Require 8 $\frac{1}{4}$ " mounting hole. Use with Series 191-78 enclosure, Series 177-78 plaster ring. See Note F for other finish.

Soundolier No. 164-8—For 8" speaker. Net Each.....\$8.21

### SERIES 165 TRIM SQUARES

Aluminum trim square has small rectangular cutout for direct speaker mounting. Standard finish is brushed aluminum. Use with Series 95 enclosures, Series 75 plaster rings. See Notes A and E for other finishes.

Soundolier No. 165-8—For 8" speaker. Net Each.....\$5.32  
Soundolier No. 165-12—For 12" speaker. Net Each.....6.88

### SERIES 63 TRIM SQUARES

Economical beveled edge unit similar to Series 164 except has small round speaker cutout. Standard finish is polar white. Use with Series 95 enclosures and Series 75 plaster rings. See Note F for other finish available.

Soundolier No. 63-8—For 8" speaker. Net Each.....\$4.29  
Soundolier No. 63-10—For 10" speaker. Net Each.....5.87  
Soundolier No. 63-12—For 12" speaker. Net Each.....6.87

## WALL AND CORRIDOR BAFFLES

### SERIES 420 WALL BAFFLES

Controlled directional type has a 15° offset in the direction of radiation. One-piece construction with heavy undercoating, patched jute lining and reinforcement rings to prevent resonances. Brushed aluminum finish is standard. Size: 12 $\frac{1}{4}$ " dia. x 5 $\frac{1}{2}$ " depth. See Note A for other finishes.

Soundolier No. 420-7—For 7" speaker. Net Each.....\$12.51  
Soundolier No. 420-8—For 8" speaker. Net Each.....12.51

### SERIES 510 BIDIRECTIONAL CORRIDOR BAFFLES

Satin brushed aluminum finish and spun grille for handsome appearance. Patched jute lining and heavy undercoating assure resonance-free performance. See Note A for other finishes.

| Soundolier No. | Speaker Size | Baffle Size Length x Depth | Net Each |
|----------------|--------------|----------------------------|----------|
| 510-5          | 5"           | 8 $\frac{1}{2}$ " x 5"     | \$ 7.50  |
| 510-6          | 6"           | 8 $\frac{1}{2}$ " x 5"     | 7.50     |
| 510-7          | 7"           | 10" x 5 $\frac{1}{2}$ "    | 10.80    |
| 510-8          | 8"           | 10" x 5 $\frac{1}{2}$ "    | 10.80    |

### SERIES 410 WALL BAFFLES

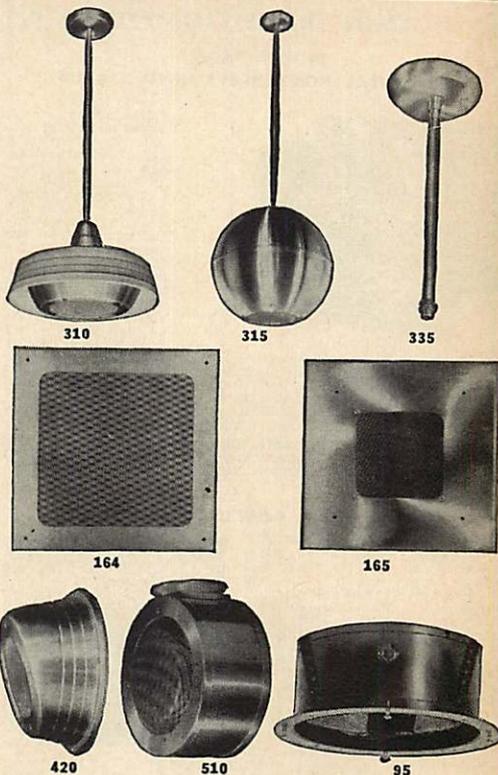
Similar in appearance to Series 510, but wall surface mounting, single direction unit. Compact for limited space uses. Brushed aluminum finish. See Note A for other finishes.

|       |    |                                       |        |
|-------|----|---------------------------------------|--------|
| 410-5 | 5" | 8" x 4 $\frac{1}{2}$ "                | \$6.66 |
| 410-6 | 6" | 8" x 4 $\frac{1}{2}$ "                | 6.66   |
| 410-7 | 7" | 9 $\frac{3}{4}$ " x 5 $\frac{1}{2}$ " | 7.83   |
| 410-8 | 8" | 9 $\frac{3}{4}$ " x 5 $\frac{1}{2}$ " | 7.83   |

## PROTECTIVE ENCLOSURES AND RINGS

### SERIES 95 ENCLOSURES

Welded construction of heavy gauge steel; have jute lining and undercoating to prevent resonances. Ideal for existing or new construction installations. Easy installing design; have rust preventative coating. Series 95 does not require additional plaster ring.



### SERIES 95 ENCLOSURES—CONTINUED

| Soundolier No. | Speaker Size | Baffle Size Diameter x Depth          | Net Each |
|----------------|--------------|---------------------------------------|----------|
| 95-6           | 5-6"         | 8 $\frac{1}{2}$ " x 4"                | \$4.10   |
| 95-8           | 7-8"         | 9 $\frac{3}{4}$ " x 4 $\frac{1}{2}$ " | 5.22     |
| 95-10          | 9-10"        | 12 $\frac{1}{2}$ " x 7"               | 6.62     |
| 95-12          | 11-12"       | 14 $\frac{1}{2}$ " x 7"               | 7.38     |

### SERIES 75 PLASTER RINGS

Circular plaster frame for mounting baffles. One piece construction; rust preventative coating.

|       |       |  |        |
|-------|-------|--|--------|
| 75-6  | 5-6"  | 8 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ "  | \$1.32 |
| 75-8  | 7-8"  | 9 $\frac{3}{4}$ " x 6 $\frac{1}{2}$ "  | 1.74   |
| 75-10 | 9-10" | 12 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ " | 2.16   |
| 75-12 | 12"   | 14 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " | 2.25   |

### SERIES 191 PROTECTIVE ENCLOSURES

Same as Series 95, except rectangular construction. Each unit has four  $\frac{1}{4}$ " conduit knockouts. Available with fixed or adjustable mounting arms. Add suffix "F" when fixed arms are desired.

| Soundolier No. | Speaker Size | Size, L. x W. x D.                           | Net Each |
|----------------|--------------|--|----------|
| 191-78         | To 12"       | 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " x 4" | \$7.67   |
| 191-78-1       | To 9"        | 9 $\frac{3}{4}$ " x 12 $\frac{1}{2}$ " x 4"  | 6.22     |

### SERIES 177 PLASTER RINGS

Rectangular plaster frames for mounting baffles similar to those using Series 191 enclosures.

| Soundolier No. | Speaker Size | Size, L. x W.                           | Net Each |
|----------------|--------------|---|----------|
| 177-78         | To 10"       | 10 $\frac{1}{2}$ " x 10 $\frac{1}{2}$ " | \$2.82   |
| 177-78-1       | To 9"        | 9 $\frac{3}{4}$ " x 9 $\frac{3}{4}$ "   | 2.70     |
| 178            | To 15"       | 23 $\frac{1}{2}$ " x 15 $\frac{1}{2}$ " | 4.97     |

## NOTES

**Note A**—For brushed brass finish, add suffix "BS" to number and 5% to price. For brushed bronze, add suffix "BE" to number and 5% to price.

**Note B**—For prime coat finish add "P" to number; no extra charge.

**Note C**—For flat polar white finish add suffix "W"; to number; no extra charge.

**Note D**—For white outer, brass inner portion, add suffix "BS" and 5% to price. For white outer, bronze inner, add suffix "BE", and 5% to price. For brushed aluminum inner and outer, add suffix "2A1" and 20% to price. For all brass, add suffix "2BS" and 20% to price. For all bronze, add suffix "2BE" and 20% to price.

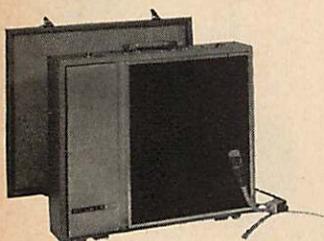
**Note E**—For polished steel with baked varnish coating, add suffix "SL" to number; no extra charge.

**Note F**—For aluminum painted finish, add suffix "AL" to number; no extra charge.

# PA Equipment, Video Cameras

## HOLMIN TRANSISTORIZED PA POWER EQUIPMENT AND ACCESSORIES

### MODEL "300" PERSONAL PORTABLE SOUND SYSTEM



Self-powered, self-contained PA system that is ideal for use at sales meetings, clubs, lectures, etc. Completely adjustable for large or small groups. Sets up in seconds: On-off and volume controls are at the microphone for maximum control and convenience. Self-powered by two flashlight batteries: low current, drain transistorized amplifier results in long battery life.

Cardioid microphone provides high speech fidelity while rejecting whine feedback and other noises. Mike can be worn as lavalier, held in hand, or mounted on desk stand. Two high quality speakers, mounted in case as "sound column", provide wide horizontal coverage. Handsome, rugged, lightweight vinyl case. Size: 17 1/2" x 4 1/2" x 15". Weight, 15 lbs.

**Holmin Model "300" Portable Sound System**—Complete with cardioid microphone (with stand, volume control, on-off switch), cable and connector. Net Each. . . . . **\$165.00**

### VOICE GUN® POWER MEGAPHONE

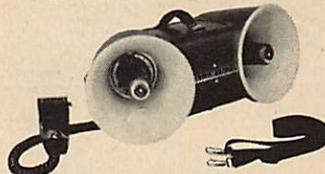
A rugged, self-contained, portable PA system. Consists of mike, transistor amplifier, speaker and power supply—all in one unit. Rugged unit will take all kinds of abuse. Horn, handle and mouthpiece are made of molded "Cycolac", which is virtually unbreakable. Functions perfectly in heat, rain, snow and sub-zero cold. No warm-up period—just push the button in the pistol grip and speak. No adjustments or volume control—your simply raise or lower your voice. No tubes, cords or separate power units. Operates on eight ordinary penlight cells that fit in removable clip and slip into the handle. Amplifier: Two stage push-pull class B printed circuit; uses one driver and two output transistors. Microphone: Water-proofed, controlled magnetic. Speaker: Industrial paging type, 8 ohms impedance. Switch: Dual spring, push-to-talk type. Size: Bell diameter, 7 1/2"; overall length, 9 1/2"; overall height, 10 1/2". Weight, 3 1/4 lbs., with batteries.



**Holmin Model A-12 Voice Gun**—With adjustable 1/2" leather strap with nickel-plated clasp and slide. Net Ea. **\$89.96**

\*Registered Borg-Warner trademark.

### VOICE GUN® PORTABLE PUBLIC ADDRESS SYSTEM



Transistors give this public address system long life and efficiency. Portable and easy to use yet weatherproof and virtually unbreakable. Has voice power and wide angle coverage for use with larger crowds. Completely self-contained; only controls are push-

to-talk button and volume control. New microphone design cancels out noise and allows full 20-watt peak power without feedback. Elements of weather-proofed microphone are of magnetic type for clear, intelligible speech. Unit may be placed on almost any surface or carried over the shoulder. **Power Output:** 20 watts peak, 10 watts rms. **Amplifier:** Four stage class B output. **Transistors:** Three power, two medium power. **Batteries:** Two 6 v. **Microphone:** Magnetic anti-feedback, noise-cancelling type. **Size:** 17 1/2" w. x 11" d. x 8" h. Weight, 11 lbs. with batteries. **Holmin Model 120 Transistorized Portable Public Address System**—Complete with batteries. Net Each. **\$177.00**

### MINIATURE DYNAMIC MICROPHONES

**H-40 Series**—Unidirectional, cardioid, dynamic microphone small enough to be worn as a lavalier but large enough for stage and auditorium applications. Increases usable output of PA and other sound systems. Features unique gain control at base of flexible 6" gooseneck for immediate adjustment to acoustical conditions. Black satin, anodized alum. alloy housing; gooseneck finished in satin chrome. **Frequency Response:** 45-12,000 cps. **Impedance:** 150 ohms or high-Z. **Output:** -56 db (EIA: Low, -149 db; high, -151 db). **Polar Pattern:** Unidirectional cardioid with at least 15 db attenuation at 180° with balanced modification below 500 cps. **Size:** Microphone, 3 1/2" lg. x 1 1/8" O.D. and 6" gooseneck. Weight, 3 1/2 oz. Includes 18" miniature, two-conductor, shielded cable with cadmium bronze conductors and rubber jacket.

**Holmin Model H-40C**—For stand mount; less gain control. Stand adapter, 3/8"-27 thread; cable. Net Each. . . . . **\$41.25**

**Holmin Model H-40S**—Same as H-40C, but with on-off switch at base of gooseneck. Net Each. . . . . **\$45.50**

**Holmin Model H-40V**—With gain control and thread stand adapter. Net Each. . . . . **\$49.50**

**Holmin Model H-40L**—With gain control, folding legs for desk stand, neck cord and cable for hand use. Net Each. . . . . **\$56.50**

**H-30 Series**—Omnidirectional version of H-40. **Frequency Response:** 70-12,000 cps. **Output:** -55 db (EIA: Low, -150 db; high -152 db). Non-directional characteristics. Other specifications are the same as the H-40.

**Holmin Model H-30S**—Same as H-30G, but with on-off switch at base of gooseneck. Net Each. . . . . **\$38.50**

**Holmin Model H-30V**—With gain control and thread stand adapter. Net Each. . . . . **\$42.50**

**Holmin Model H-30L**—With gain control, folding legs for desk stand, neck cord and cable for hand use. Net Each. . . . . **\$49.50**

## CONCORD CLOSED-CIRCUIT TELEVISION CAMERAS

### MTC-12 SERIES FOR GENERAL-PURPOSE USE

Versatile, modest-cost camera with many important uses in business, industry, education, and in the home. A practical tool for surveillance, pilferage control, sales and service training, teaching, in-store promotions, exhibits and displays. Easy to install and operate. Can be connected to any video monitor or TV set; picture appears on channel 5 or 6 of TV set. Compact size permits unobtrusive mounting; once focused, camera needs no further attention. Built-in electronic circuit automatically adjusts camera for bright, clear picture under varying light conditions; circuit operates with any lens used. High-level video output permits use of long cables between camera and receiver without need for video amplifiers. Rugged, solid state design for years of reliable operation.

Scanning frequencies—horizontal, 15,750 cps; vertical, 60 cps. Video bandwidth, 5 Mc. Video resolution, 550 lines. RF carrier frequency, 76-88 Mc (tunable to channels 5 and 6). Output impedance, 75 ohms. Output voltages—RF, over 30 mV; video, 1.4 V. Camera tube, vidicon 7735A. Light intensity, 40 lux min. with f/1.8 lens. Power required—11 watts, 105-130 VAC, 60 cps. Size, 3" w. x 9 3/4" d. x 5 1/4" h. With 10-ft. AC cord, 18-ft. coaxial cable, junction box with 75 to 300-ohm impedance-matching transformer.

**Concord Model MTC-12 TV Camera With Standard 1" f/1.8 Lens**—Shipping Weight, 12 lbs. Net Each. . . . . **\$299.50**

**Concord Model MZL-12 TV Camera With 20-55 mm f/2.8 Zoom Lens**—Video resolution 450 lines. Shipping Weight, 14 lbs. Net Each. . . . . **\$439.50**

**Concord Model MTC-8 TV Camera**—MTC-12 camera less lens. Shipping Weight, 12 lbs. Net Each. . . . . **\$279.50**



- Both RF and Video Output
- Solid State Design
- Easy to Attach and Use
- Automatic Light Compensation
- Use With Any TV Set or Video Monitor
- Vidicon Tube and Standard or Zoom Lens Included

### ADDITIONAL CAMERA LENSES

| Concord No. | Lens Description             | Shpp. Wt. | Net Each |
|-------------|------------------------------|-----------|----------|
| Z-9015      | 20-90 mm f/1.5 zoom lens     | 3 lbs.    | \$429.00 |
| TVL-20      | 1 1/2" f/1.4 wide-angle lens | 1 lb.     | 110.00   |
| TVL-12      | 1" f/1.95 high-speed lens    | 1 lb.     | 122.00   |
| TVL-76      | 3" f/1.4 telephoto lens      | 1 lb.     | 110.00   |
| TVL-50      | 3" f/1.4 telephoto lens      | 1 lb.     | 79.50    |
| TVL-75      | 3" f/1.9 telephoto lens      | 1 lb.     | 59.50    |

### AMPLI-VOX ROVING ROSTRUM®

Completely portable, battery-powered, high volume sound system in a single, streamlined case. Provides 25 watts of audio power—sufficient for audiences of 1,000 persons—yet weighs only 22 lbs. Fidelity and clarity is amazing on both voice and music. All-transistor design. Operates on long-lasting flashlight batteries; can be used indoors or out, requiring no electrical outlets; gives maximum reliability and dependability; needs no warm-up time. Handsome, luggage style case of scuff-proof Royalite® has built-in, retractable legs for greatest convenience. **Amplifier:** 25-watt, push-pull, all-transistor; 40 watts peak. **Microphone:** Low impedance, omnidirectional dynamic type, with 10-ft. cable. Adjustable gooseneck stand and lavalier cord. Cardiod mike also available (50-15,000 cps): High quality, directional for greater talking distance from mike and better performance. **Speakers:** Two 6" x 9", full-fidelity types with 10 oz. ceramic magnets; supplied in anti-feedback enclosures—one in reading table, other in case cover with 40' cable. **Inputs:** For mike and auxiliary. **Outputs:** For aux speaker or tape recorder. **Power Source:** Ten Type "D" batteries (alkaline type recommended) provide 200 hours of operation; AC power supply available. **Size:** Overall, 16 3/4" w. x 17 1/4" d. x 8 3/4" h. **Weight,** 22 lbs. with batteries. **Warranty:** One full year. \*U.S. Rubber trademark.



**Perma-Power Model S120 Roving Rostrum**—With cardiod mike; less batteries. Net Each. . . . . **\$189.95**

**Perma-Power Model S110 Roving Rostrum**—With omnidirectional mike; less batteries. Net Each. . . . . **\$149.95**

**Perma-Power Model S1400 AC Power Supply**—Net. . . . . **29.95**

**Perma-Power Model S1100 Reading Lamp**—(117 v. AC only). Net Each. . . . . **\$4.95**

### AMPLI-VOX DIPLOMAT

Complete high volume, battery-powered PA system in attaché-type carrying case. Operates on 10 flashlight batteries; weighs only 16 1/2 lbs.—yet delivers perfect sound to audiences of over 500 people, indoors or out. All-transistor design; needs no warm-up, sets up in seconds. Ideal for mobile use, clubs, picnics, rallies, dances, sales meetings, lectures, etc. Entire system is contained in one handsome sturdy case. **Amplifier:** All-transistor, push-pull design; delivers 25 watts, 40 watts peak. **Inputs:** For mike and auxiliary. **Outputs:** For aux speaker or tape recorder. **Power Source:** Ten "D" batteries (alkaline recommended) provide 200 hours of operation. **Microphone:** Low-Z, omnidirectional dynamic; with 10' cable and lavalier. **Speaker:** Full-fidelity, 6" x 9", with 10 oz. ceramic magnet and 40' cable for optional use away from amplifier. Extra cable and extension speaker may be added. Matched to carrying case. **Overall Size:** 19" w. x 4 1/2" d. x 12" h. **Weight,** 16 1/2 lbs. with batteries.

**Perma-Power Model S200 Diplomat**—With omnidirectional microphone but less batteries. Net Each. . . . . **\$119.95**

Use S1020 Audience Participation Kit to convert the Diplomat to cardiod microphone use.

**Perma-Power Model S1410 AC Power Supply**—Permits operation from 117 v. AC line power. Net Each. . . . . **\$29.95**

**Perma-Power Model S-700 Portable Amplifier Only—Frequency Response:** 50-15,000 cps. **Inputs:** Low-Z mike up to 50K ohms, 105 db gain; hi-Z aux, 500K ohms for phono, tuner, tape recorder, etc., requiring 0.3 V for full output. **Outputs:** Two 8-ohm speaker. **Size:** 8 3/4" x 3 3/4" x 8 3/4" d. Wt., 7 lbs with batteries (batteries not included). Net Each. . . . . **\$69.95**

### AMPLI-VOX SOUND CRUISER

Complete mobile sound system. Consists of S300 Amplifier (see listing for specifications), two weatherproof horn speakers and a noise-cancelling microphone. Speakers supplied mounted on car-top carrier, can be swivelled and locked in any direction. Microphone has 5' coil cord, push-to-talk switch and mounting clip. **Weight,** 20 lbs.

**Perma-Power Model S310 Sound Cruiser**—Net Each. . . . . **\$169.95**

### AMPLI-VOX MOBILE AMPLIFIER

All-transistor 32-watt (50-watt peak) amplifier. Mounts by handle under dash. Controls include volume, tone, loudness, contour, phono volume, and tone control. **Amplifier:** All-transistor, push-pull design, rated 32 watts E.I.A. music power. **Response:** 50-15,000 cps for maximum voice penetration and intelligibility with less than 5% distortion at full output. **Signal-To-Noise Ratio:** 80 db. **Inputs:** Low-Z mike up to 50K ohms, 105 db gain; hi-Z aux, 500K ohms, full power at 0.3 v., to accommodate radios, tuners, recorders, etc. **Outputs:** Two, 8 or 16 ohm speakers or recorder. **Power Source:** 12 v. DC using adapter and cord into auto cigarette lighter socket; automatically polarizes to system. Amplifier idle power, 40 ma. AC and flashlight battery power packs also available. **Size:** 8 3/4" x 3 3/4" x 8 3/4" d. **Weight,** 8 lbs.

**Perma-Power Model S300 Amplifier**—Net Each. . . . . **\$79.95**

**Perma-Power Model S1410 AC Power Adapter**—For 105-125 v., 50/60 cps AC operation of system or amplifier. Net Ea. **\$29.95**

**Perma-Power Model S1420 Battery Pack**—Separate power pack uses 10 flashlight batteries (not supplied). Net Each. . . . . **\$7.50**

**Perma-Power Model S1210 Car Top Speaker Assembly**—Two weatherproof horn speakers supplied mounted on car-top carrier ready to clamp to car. Completely wired. Use with S300 amplifier with S310 system. Shpg. Wt., 17 lbs. Net Per Assem. **\$89.95**

### AMPLI-VOX SOUND COLUMN LECTERN

A sturdy lectern that contains a complete battery-operated sound system. Ideal for schools, churches, sales meetings, auctions, etc. Hidden wheels allow convenient mobility. Delivers clear, powerful sound to audiences as large as 3,000 people. Six built-in speakers in integrated sound column assure wide, penetrating coverage. All-transistor design assures dependability; requires no warm-up, indoors or inside; AC adapter available. Convenient design provides height adjustment for reading table; amplifier controls placed for easy adjustment in use. Sturdy heavy-duty wood construction with deluxe walnut Formica® furniture finish. **Amplifier:** 25 watt, push-pull all-transistor; 40 watts peak. **Microphone:** High quality directional cardiod; with gooseneck stand and lavalier cord. **Speakers:** Six full-fidelity speakers in integrated sound-directing column provides high volume without feedback. **Inputs:** For microphone and auxiliary equipment. **Power Source:** Ten flashlight batteries (alkaline type recommended) for 200 hours operation. **Size:** Reading table, 13" x 20" with height adjustable 36" to 46"; lectern, 15" d. x 21" v. **Weight,** 40 lbs., with batteries.

**Perma-Power Model S-500 Sound Column Lectern**—With mike and cables; less batteries. Net Each. . . . . **\$349.50**

**Perma-Power Model S1410 AC Power Supply**—Net Ea. **29.95**

**Perma-Power Model S1100 Reading Lamp**—117 v. AC. **4.95**

\*Registered Synthane Corp. trademark.

### AMPLI-VOX BACKGROUND MUSIC AND PAGING SYSTEM

Complete background music and paging system. Consists of S400 amplifier (see listing for specifications), desk stand paging mike and two background music 6" x 9" ceramic magnet speakers. Mike has push-to-talk switch, desk stand, 6' cable. Speakers are pre-mounted in walnut vinyl bass reflex enclosures, 100' cable each.

**Perma-Power Model S410 Background Music & Paging System**—Net Each. . . . . **\$189.95**

### MODEL 5400 COMMERCIAL AMPLIFIER

Powerful all-transistor amplifier for background music and paging applications. Ideal for small industrial plants, restaurants, hotels and motels, schools, churches, meeting rooms, clubs, supermarkets, dept. stores, etc. Compact size perfect for mounting in desk drawers, under tables or counters, in cabinets, etc. Volume control has loudness contour to permit maximum utilization of power at all levels. Operates from 117 v. AC source. **Power Output:** 35 watts E.I.A. music; 50 watts peak. **Frequency Response:** 50-15,000 cps. **Distortion:** Less than 2% at 20 watts. **Inputs:** Low-Z mike, up to 50K ohms, 105 db gain; hi-Z aux 1 megohms for phono, tuner, tape, etc., requires 0.3 V for full output. **Outputs:** 8 and 16 ohms; 25 V and 70.7 V line; 600 ohms telephone line. **Controls:** Master Volume; Aux Volume; Tone. **Power Source:** 55, watts, 105-125 v. AC. 50/60 cps. **Size:** 8 3/4" x 3 3/4" x 8 3/4" d. Wt., 9 lbs.

**Perma-Power Model S400 Commercial Amplifier**—Net. . . . . **\$79.95**

# BOGEN PREAMPLIFIERS, BOOSTER AMPLIFIERS



MXM-A



RTP-1



RP-2 With CAGVU2



MX6A



MO30A, MO100A

## MXM-A MIXER-PREAMPLIFIER

Self-powered professional unit accommodates 7 mixed input signals simultaneously. One mike input converts to an equalized mag. phono cartridge or tape playback head. Two aux are connected to a fader control. Accepts signals from a remote preamplifier or a zero level line. Three units in parallel will provide 21 inputs (up to 15 mikes). Output level monitored by headset or VU meter. Speech filters for all mike inputs. Separate bass and treble controls. Sockets for plus-in low impedance transformers and remote control. **Power Output:** 20 V into high impedance load at 1%; 4 V into 600 ohms at 1%; 0.1 V into 1 meg. **Frequency Response:** ±1 db, 18-38,000 cps. **Output Impedance:** High impedance (less than 3,000 ohms); 500/600 ohms with TL600 transformer. **Sensitivity:** High Imped., 2 mV; low Imped., 0.1 V. mag., 1 mV; bridging, 0.5 V; Aux, 0.1 V. **Hum:** Mike, 60 db below rated output. **Tone Controls:** Treble, +12 db to -12 db at 10 kc; bass, +14 db to -8 db at 50 cps. **Tubes:** 6 plus 3 silicon rectifiers. **Power Consumption:** 47 watts, 117 VAC, 50/60 cps. **Size:** 16½" w. x 12" d. x 4¾" h. Shipping Weight, 20 lbs.

Bogen Model MXM-A Mixer-Preamplifier—Net Price ..... \$164.95  
Zone 2: 167.20

## RTP-1 ALL SILICON TRANSISTOR PREAMPLIFIER

Will drive any number of booster amplifiers or packaged amplifiers over a 500/600 ohms line even several miles away. Two units in parallel provide 6 mixed inputs. Headphone monitor; output level meter reads VU and db. Extremely low battery drain. Built-in battery tester and output transformer. **Power Output:** At 0 db, 1.8 V into 500 ohms (1%); at +12 db, 7 V into 500 ohms (2.5%); no high impedance output. **Frequency Response:** ±1 db, 20-20,000 cps. **Output Impedance:** Split output, 125/150 ohms and 125/150 ohms or 500/600 ohms balanced. **Input Impedance:** Mike, high or low with transformer; aux, 0.1 meg. **Sensitivity:** Low Imped. mike (500 ohms), 0.5 mV; high Imped. mike, 5 mV; aux, 25 V. **Gain:** Mike, 72 db; aux, 55 db; bridging, 60 db. **Bass Cut:** -12 db at 50 cps. **Hum:** Mike, -65 db; aux, -70 db. **Transformers:** 9 silicon plus 3 silicon diodes. **Power Consumption:** 5 watts, 117 VAC, 50/60 cps; 0.3 amp, 12 VDC. Internal batteries or external DC power supply. **Size:** 9" w. x 9¾" d. x 3½" h. Shipping Weight, 6½ lbs.

Bogen Model RTP-1 Preamplifier—Net Price ..... \$114.95  
Zone 2: 115.60

## RP-2 LOW NOISE PROGRAM PREAMPLIFIER

For use at remote pickup points. One mike and one phono inputs with separate controls for mixing. Feeds booster amplifier or a low Imped. line separately or simultaneously. Bass cut-off switch for speech clarity. **Output Impedance:** Hi-Imped., cathode follower driver, 10K ohms, min. load; low, 600 ohms (50 and 200 ohms). **Input Impedance:** ½ meg., convertible to low Imped. **Gain:** Mike, 76 db; phono, 35 db. **Sensitivity:** Mike, 3.5 mV; phono, 4 V. **Power Consumption:** 20 watts, 117 VAC, 60 cps. **Tubes:** 4. **Size:** 11" w. x 7¾" d. x 5¼" h. Shpg. Wt., 8 lbs. extra.

Bogen Model RP-2 Preamplifier—Less cage. Net Price ..... \$72.00  
Zone 2: 72.80

Bogen Model CAGVU2 Cage and Meter—Net Price ..... 26.90  
Zone 2: 27.35

## MX6A MIXER-PREAMPLIFIER

Self-powered unit for mixing any combination of four of its six inputs, including four high impedance microphone inputs and two radio-phonograph inputs. Permits up to 400 feet physical separation from amplifier. **Frequency Response:** ±2 db, 50-15,000 cps. **Gain:** Microphone, 59 db; phono, 30 db. **Hum:** -70 db below rated output. **Input Impedance:** Mike, 0.5 meg; phono, 5 megs. **Output Impedance:** Less than 1000 ohms, cathode follower. **Tubes:** (3) 2-12AX7, 1-12AT7. **Power Required:** 10 watts, 117 VAC, 60 cps. **Size:** 8" w. x 5¾" d. x 4¾" h. Shipping Weight, 5 lbs.

Bogen Model MX6A Mixer-Preamplifier—Net Price ..... \$42.00  
Zone 2: 42.25

## MO SERIES BOOSTER AMPLIFIERS

Embodiment of the most advanced developments in design and techniques of construction. Deliver maximum power from a small package, with exceptionally wide-range response characteristics. Ideal for sound systems in industrial plants, airports, stadiums, schools, or wherever undistorted power is required. Built-in provision permits paralleling any number of power amplifiers to multiply power output. Bogen MXM-A and RTP-1 are excellent preamplifiers for use with these boosters. **High Impedance Input:** 0.5 megohm with sensitivity of better than 2 volts. **Low Impedance Input** (with TL600 line transformer): MO200A and MO100A, 500/600 ohms; MO30A, 600 ohms. With TL600 transformer, all models have low impedance sensitivity of better than 0.5 volt. **Hum:** 80 db below rated output. **Power Required:** 117 volts AC. **Size:** MO200A, 18" w. x 11½" d. x 6" h.; others, 8" w. x 13" d. x 6¾" h.



MO200A

| Bogen Model | Power Output                              | Freq. Response       | Output Impedance, Ohms†                      | Tubes, Rects., Diodes | Power Cons. | Wt., Lbs. | Net Price |          |
|-------------|---|----------------------|--|-----------------------|-------------|-----------|-----------|----------|
|             |   |                      |  |                       |             |           | Zone 1    | Zone 2   |
| MO200A      | 200 W*; full power, ±1 db, 21-50,000 cps† | ±1 db, 8-50,000 cps  | 8, 3 (25 VCT), 25 (70 VCT), 66 (115 V)‡      | 10, 3                 | 500 W       | 48        | \$247.50  | \$251.55 |
| MO100A      | 100 W*; full power, ±1 db, 21-50,000 cps† | ±1 db, 8-50,000 cps  | 16, 6.25 (25 VCT), 49 (70 VCT), 132 (115 V)‡ | 5, 3                  | 250 W       | 29        | 142.40    | 145.40   |
| MO30A       | 30 W*; full pwr., ±1½ db, 21-40,000 cps†  | ±2 db, 10-40,000 cps | 4, 8, 16, 21 (25 V), 163 (70 V)              | 3, 2, 1               | 105 W       | 23        | 89.95     | 92.00    |

\*At less than 2% distortion. †At 5% distortion. ‡Balanced output impedance  
‡For industrial applications.

# BOGEN NEW SOLID STATE PUBLIC ADDRESS EQUIPMENT

## NEW BOGEN "MTA" SERIES SOLID STATE PUBLIC ADDRESS EQUIPMENT

The first complete, packaged amplifier line of its kind in commercial sound, Bogen's new MTA Series features highly advanced, solid state circuitry at moderate cost. Consists of six models... three amplifiers, one mixer-preamplifier, and two boosters... in power ratings from 10 to 100 watts. All transistors used are of the efficient silicon type (except for germanium transistors in the output stage of MTA10), to provide consistent performance over a lifetime of use.

A number of other exclusive features for ultra-reliability are included. Plug-in printed circuit boards allow for highest possible quality control, as well as ease of servicing. Chimney-type heat sinks, together with heat-sensing "thermo-guards", permit safe, continuous-duty operation up to 70° C (158° F). Use of tantalum capacitors in all critical circuits also contributes to reliable, trouble-free operation.

All output stages are fuse protected, guaranteeing that shorted or open speakers or speaker lines will not damage the amplifier. Models with low-impedance microphone inputs have built-in capacitive or capacitive-inductive type RF filters which strongly attenuate any RF pickup. No transformer is required for low-impedance mikes. Output transformer windings are completely balanced and floating (except for the 4 and 8-ohm windings on MTA10). All MTA amplifiers (excluding boosters) have tape/booster jack.

Most models have auxiliary high-level, high-impedance inputs for ceramic or crystal phono cartridges, tuners, or tape recorders, as well as built-in provision for remote volume or precedence control on all inputs. With the optional WMT-1 transformer accessory, amplifier input or output will match 500/600-ohm telephone lines. A complete line of accessories for the MTA Series is available for even greater versatility of operation. Prices on request.

### MTA10 10-WATT AMPLIFIER

**Power Output:** 10 watts rms (20 watts peak) at less than 3% distortion. **Frequency Response:** 50-20,000 cps;  $\pm 1$  db. **Power Response:**  $\pm 2$  db, 50-16,000 cps at 10 watts with less than 5% distortion. **Gain:** Microphone, 105 db; aux, 95 db. **Hum and Noise:** Microphone, -60 db; aux, -80 db below rated output. **Sensitivity:** Microphone, 0.4 mV; aux, 0.2 V. **Tone Control:** Treble, -23 db at 10 kc. **Inputs:** 1 microphone (low impedance); 1 aux (high impedance, high level); 1 for optional WMT-1 (500/600 ohms) transformer; 1 bridging. **Output Impedances:** 4 and 8 ohms; 16 ohms balanced; 25 V CT (62 ohms) balanced; 70 V (500 ohms) balanced. **Printed Circuit Boards:** 2 plug-in. **Semiconductors:** 3 silicon; 2 germanium; 2 silicon diode rectifiers. **Power Required:** 30 watts, 120 VAC, 50/60 cps. **Size:** 10 3/4" w. x 6 1/2" d. x 5" h. Shipping Weight, 10 lbs.

**Bogen Model MTA10 Amplifier—Net Price.....\$71.95**  
Zone 2: 72.85

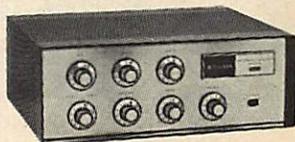


MTA10

### MTA30 30-WATT AMPLIFIER

**Power Output:** 30 watts rms (60 watts peak) at less than 3% distortion. **Frequency Response:** 30-20,000 cps,  $\pm 1$  db. **Power Response:**  $\pm 2$  db, 40-12,000 cps at 30 watts with less than 5% distortion. **Gain:** Microphone, 125 db; aux, 110 db. **Hum and Noise:** Microphone, -68 db; aux, 70 db below rated output. **Sensitivity:** Microphone, 0.33 mV; aux, 0.15 V. **Tone Controls:** Treble, +10.5 db to -10 db at 10 kc; bass, +10 db to -10.5 db at 50 cps. **Inputs:** 3 microphone (200 ohms unbalanced convertible to 200 ohms balanced with T525U, or to mag phono/tape head with PMC-1 plug-in module); 2 aux on fader. **Output Impedances:** (Balanced) 4, 8, 16 ohms; 25 VCT (16 ohms); 70 V (163 ohms). **Printed Circuit Boards:** 5 plug-in. **Semiconductors:** 13 transistors; 6 diodes. **Power Required:** 75 watts, 105-125 VAC, 50/60 cps or 24-30 VDC. **Size:** 12 1/2" w. x 9 3/4" d. x 4 1/2" h. Shipping Weight, 16 lbs.

**Bogen Model MTA30 Amplifier—Net Price.....\$119.90**  
Zone 2: 121.45

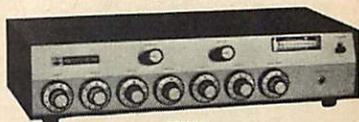


MTA30, MTA60

### MTA60 60-WATT AMPLIFIER

**Power Output:** 60 watts rms (110 watts peak) at less than 3% distortion. **Frequency Response:** 7-20,000 cps,  $\pm 1$  db. **Power Response:**  $\pm 2$  db, 40-10,000 cps at 60 watts with less than 5% distortion. **Gain:** Microphone, 125 db; aux, 110 db. **Hum and Noise:** Microphone, -60 db; aux, -72 db below rated output. **Sensitivity:** Microphone, 0.38 mV; aux, 0.15 V. **Tone Controls:** Treble, +9 db to -11 db at 10 kc; bass, +12 db to -10 db at 50 cps. **Inputs:** Same as Model MTA30. **Output Impedances:** (Balanced) 2.6, 8 and 16 ohms; 25 V CT (10.4 ohms); 70 V (82 ohms). **Printed Circuit Boards:** 5 plug-in. **Semiconductors:** 13 transistors; 7 diodes. **Power Required:** 115 watts, 105-125 VAC, 50/60 cps. **Size:** 12 3/4" w. x 9 3/4" d. x 4 1/2" h. Shipping Weight, 18 3/4 lbs.

**Bogen Model MTA60 Amplifier—Net Price.....\$149.95**  
Zone 2: 151.75



MTM

### MTM MIXER-PREAMPLIFIER

**Output:** 1.8 V (0 db) into 500 ohms; 7 V (12 db) into 500 ohms (100 mW rms). **Frequency Response:**  $\pm 1 1/2$  db, 40-15,000 cps at full output. **Gain:** Microphone, 75 db; aux, 60 db. **Hum and Noise:** Microphone, -65 db; aux, 70 db. **Sensitivity:** Microphone, 0.10 mV; 0.15 V. **Tone Controls:** Treble cut at 10 kc; bass cut at 50 cps. **Inputs:** 4 microphone (200 ohms unbalanced convertible to 200 ohms balanced with T525U, or to mag phono/tape head with PMC-1 plug-in module); 2 aux. **Output Impedances:** 125/150 and 125/150 ohms split, or 500/600 ohms balanced. **Printed Circuit Boards:** 7 plug-in. **Semiconductors:** 11 transistors; 5 diodes. **Power Required:** 105-125 VAC, 50/60 cps or 12-15 VDC external battery. **Size:** 16 3/4" w. x 8 3/4" d. x 3 3/4" h. Shipping Weight, 9 lbs.

**Bogen Model MTM Mixer-Preamplifier—Net Price.....\$134.95**  
Zone 2: 135.75



MBT60, MT100

### MBT60 60-WATT BOOSTER AMPLIFIER

**Power Output:** 60 watts rms (110 watts peak) at less than 3% distortion. **Frequency Response:** 12-20,000 cps,  $\pm 1$  db. **Power Response:**  $\pm 2$  db, 40-10,000 cps at 60 watts with less than 5% distortion. **Gain:** High impedance, 110 db. **Hum and Noise:** High impedance, -78 db below rated output. **Sensitivity:** High impedance, 0.15 V. **Inputs:** 1 high impedance; low impedance, 500/600 ohms with TL600 transformer; 10,000 ohms with TL10K transformer. **Output Impedances:** (Balanced) 2.6, 8 and 16 ohms; 25 V CT (10.4 ohms); 70 V (82 ohms). **Printed Circuit Boards:** 1 plug-in. **Semiconductors:** 7 transistors; 7 diodes. **Power Required:** 115 watts, 105-125 VAC, 50/60 cps. **Size:** 8" w. x 6 3/4" h. Shipping Weight, 17 lbs.

**Bogen Model MBT60 Booster Amplifier—Net Price.....\$112.40**  
Zone 2: 114.05

### MT100 100-WATT BOOSTER AMPLIFIER

**Power Output:** 100 watts (150 watts peak) at 1%. **Power Response:**  $\pm 1$  db, 20-20,000 cps at 100 watts with less than 5% distortion. **Frequency Response:**  $\pm 1$  db, 15-35,000 cps. **Hum and Noise:** 80 db below rated output. **Sensitivity:** High impedance, 0.75 V; low impedance, 0.2 V with TL600 transformer. **Inputs:** High impedance, 0.1 meg.; low impedance, 500/600 ohms with TL600 transformer; 10,000 ohms with TL10K transformer. **Output Impedance:** 16 ohms balanced; 25 V CT (6 ohms) and 70 V CT (49 ohms) balanced; 115 V (132 ohms) bal. for industrial uses. **Semiconductors:** 14 silicon transistors, 1 zener diode, 2 silicon rectifiers. **Power Required:** 215 watts, 105-125 VAC 50/60 cps; 12 amps, 16 VDC. **Size:** 8" w. x 13" d. x 8" h. Shpg. Wt., 30 lbs.

**Bogen Model MT100 Booster Amplifier—Net Price.....\$220.45**  
Zone 2: 223.25

### RACK PANEL MOUNTING KITS

Include all hardware. When ordering, specify Model No. of Bogen equipment to be mounted.

| Bogen Model | For Amplifier | Net Price |         |
|-------------|---------------|-----------|---------|
|             |               | Zone 1    | Zone 2  |
| RPK-18*     | MBT60, MT100  | \$19.15   | \$19.95 |
| RPK-23      | MTA10         | 16.45     | 17.25   |
| RPK-24      | MTA30, MTA60  | 19.15     | 19.95   |
| RPK-26      | MTM           | 16.45     | 17.25   |

\*Mounts 2 amplifiers.

WE ALSO STOCK A COMPLETE LINE OF ACCESSORIES FOR THESE BOGEN AMPLIFIERS, INCLUDING REMOTE CONTROL UNITS, PLUG-IN TRANSFORMERS, AND CARRYING CASES.

# BOGEN CHALLENGER "CHB" SERIES PUBLIC ADDRESS AMPLIFIERS

Systems-tested circuitry for continuous, heavy duty operation; protection against circuit damage caused by accidental shorting or disconnecting of speaker lines; master volume control; separate bass and treble controls; no "double duty" control devices; "Memory Markers" for resetting controls to previously determined levels. Reserve power for volume peaks with wide frequency response. High input sensitivity; low noise and hum. Fixed grid bias in push-pull output stage assures low distortion at maximum

output. Constant-voltage output taps simplify addition of matching transformers for multiple speaker systems. Two speaker sockets plus screw terminals. Models CHB35A, CHB50 and CHB100 also offer simultaneous mixing of three input signals, two microphones and tuner or phono; accept magnetic phono and tape recorder; built-in remote vol. control. All models except CHB1225 have provision for 500/600 ohm phone line input for wired background music and require 105-125 VAC, 50-60 cps.

## CHB1225 20-WATT UNIVERSAL MOBILE AMPLIFIER

Transistorized: Operates within a temperature range of -20° C to +65° C. **Power Output:** 20 watts at 10%, continuous; 30 watts peak. **Frequency Response:** = 2 db, 60-20,000 cps. **Gain:** Mike, 120 db; aux, 90 db. **Hum and Noise:** Microphone, -65 db; aux, -70 db. **Sensitivity:** Low impedance microphone, 2 mV; high impedance microphone, 3 mV; aux, 0.5 V. **Inputs:** Two microphone, two aux. **Output Impedance:** 4, 8 and 16 ohms; 25 V balanced (25 ohms); 70 V balanced (196 ohms). **Tone Controls:** Treble, -11

db at 10 kc; bass, -9 to +9 db at 50 cps. **Transistors:** (1) 9-2N2712, 2-RCA40050 (matched); 3 silicon rectifiers, 1-50D100D, 2-50D100A. **Power Consumption:** 12 W at 117 VAC quiescent; 50 W at 117 VAC full power; 0.3 amp at 14 VDC quiescent; 2.5 amps at 14 VDC full power. **Size:** 13 3/4" w. x 10" d. x 4 3/4" h. **Shipping Weight:** 11 lbs.

**Bogen Model CHB1225 Amplifier—Net Price.....\$110.85**  
Zone 2: **112.20**



CHB1225



CHB50, CHB35A



CHB100 Shown with Phono Top



CHB20A



CHB14A



CHB10A

## CHB50 50-WATT AMPLIFIER

**Power Output:** 50 watts at 5% distortion. **Frequency Response:** = 2 db, 20-20,000 cps. **Gain:** Microphone, 120 db; aux, 95 db; mag. phono cartridge, 110 db. **Hum and Noise:** Microphone, 70 db; aux, 80 db below rated output. **Sensitivity:** Microphone, 5 mV; aux, 0.3 V; magnetic phono, 15 mV. **Inputs:** Two high impedance microphones; one magnetic phono; two aux (high impedance, high level). **Output Impedance:** 4, 8 and 16 ohms; 25-volt line (12 ohm); 70-volt line (100 ohm). **Tone Controls:** Treble, +10 db to -15 db at 10 kc; bass, +11 db to -10 db at 50 cps. **Tubes:** (5) 1-6EU7, 1-12AX7, 2-6L6GC, 1-6C4; 1 silicon rectifier. **Power Consumption:** 150 watts. **Size:** 15 3/4" w. x 10" d. x 6 3/4" h. **Shipping Weight:** 21 lbs.

**Bogen Model CHB50 Amplifier—Net Price.....\$91.45**

Zone 2: **93.35**

## CHB35A 35-WATT AMPLIFIER

**Power Output:** 35 watts at 5% distortion. **Frequency Response:** = 2 db, 20-20,000 cps. **Gain:** Microphone, 125 db; aux, 100 db; mag. phono cartridge, 115 db. **Hum and Noise:** Microphone, 65 db; aux, 80 db below rated output. **Sensitivity:** Microphone, 4 mV; aux, 0.2 V; magnetic phono, 12 mV. **Inputs:** Two high impedance microphones; one magnetic phono; two aux (high impedance, high level). **Output Impedance:** 4, 8 and 16 ohms; 25-volt line (18 ohm); 70-volt line (143 ohm). **Tone Controls:** Treble, +10 db to -16 db at 10 kc; bass, +14 db to -10 db at 50 cps. **Tubes:** (5) 1-6EU7, 2-7868, 1-12AX7, 1-6C4; 2 silicon rectifiers; 1 silicon diode. **Power Consumption:** 125 watts. **Size:** 15 3/4" w. x 10" d. x 6 3/4" h. **Shipping Weight:** 21 lbs.

**Bogen Model CHB35A Amplifier—Net Price.....\$77.25**

Zone 2: **79.05**

## CHB100 100-WATT AMPLIFIER

**Power Output:** 100 watts at 5% distortion. **Frequency Response:** = 2 db, 20-20,000 cps. **Gain:** Microphone, 125 db; aux, 100 db; mag. phono cartridge, 115 db. **Hum and Noise:** Microphone, 70 db; aux, 80 db below rated output. **Sensitivity:** Microphone, 5 mV; aux, 0.3 V; magnetic phono, 15 mV. **Inputs:** Two high impedance microphones; one magnetic phono; two aux (high impedance, high level). **Output Impedance:** 4, 8 and 16 ohms; 25 V line bal. (6 ohm); 70-volt line (50 ohm). **Tone Controls:** Treble, +12 db to -15 db at 10 kc; bass, +14 db to -9 db at 50 cps. **Tubes:** (7) 1-6EU7, 1-12AX7, 4-7868, 1-6C4; 1 silicon rectifier. **Power Consumption:** 300 watts. **Size:** 15 3/4" w. x 10" d. x 6 3/4" h. **Shipping Weight:** 25 lbs.

**Bogen Model CHB100 Amplifier—Net Price.....\$122.95**

Zone 2: **125.20**

## CHB20A 20-WATT AMPLIFIER

**Power Output:** 20 watts at 5% distortion. **Frequency Response:** = 2 db, 20-20,000 cps. **Gain:** Microphone, 125 db; aux, 100 db. **Hum and Noise:** Microphone, 65 db; aux, 80 db below rated output. **Sensitivity:** Microphone, 3 mV; aux, 0.5 V. **Inputs:** One high impedance microphone; two aux (high impedance, high level). **Output Impedance:** 4, 8 and 16 ohms; 25 volt balanced line (31 ohm); 70 volt line (250 ohm). **Tone Controls:** Treble, +10 db to -16 db at 10 kc; bass, +14 db to -10 db at 50 cps. **Tubes:** (3) 1-6EU7, 2-6GW3; 2 silicon rectifiers; 1 silicon diode. **Power Consumption:** 90 watts. **Size:** 15 3/4" w. x 10" d. x 6 3/4" h. **Shpg. Wt., 17 lbs.**

**Bogen Model CHB20A Amplifier—Net Price.....\$63.75**

Zone 2: **65.30**

## CHB14A 14-WATT AMPLIFIER

Same features as CHB20A, 35A, 50 and 100. Two speaker sockets and screw terminals. **Power Output:** 14 watts at 5% distortion. **Frequency Response:** = 2 db, 20-20,000 cps. **Gain:** Microphone, 120 db; aux, 95 db. **Hum and Noise:** Microphone, 55 db; aux, 80 db below rated output. **Sensitivity:** Microphone, 4 mV; aux, 0.4 V. **Inputs:** One high impedance microphone; two aux (high impedance, high level). **Output Impedance:** 4, 8, 16 ohms; 25 V (45 ohms); 70 V (355 ohms). **Tone Controls:** Treble, -15 db at 10 kc; bass, -17 db at 50 cps. **Tubes:** (3) 1-6AU6, 2-ECL86; 2 silicon rectifiers. **Power Consumption:** 70 watts. **Size:** 15 3/4" w. x 10" d. x 6 3/4" h. **Shpg. Wt., 16 lbs.**

**Bogen Model CHB14A Amplifier—Net Price.....\$49.45**

Zone 2: **51.00**

## CHB10A 10-WATT AMPLIFIER

Ideal for wired background music. One speaker socket and screw terminals. A available with or without enclosure. **Power Output:** 10 watts. **Frequency Response:** = 2 db, 40-12,000 cps. **Gain:** Microphone, 110 db; phono, 90 db. **Hum and Noise:** Microphone, 60 db; phono, 75 db below rated output. **Sensitivity:** Microphone, 6 mV; phono, 0.2 V. **Inputs:** One high impedance mike, one phono (high impedance, high level); provision for 500/600 ohm telephone line input for wired background music. **Output Impedance:** 4, 16 ohms; 25 V (62 ohms); 70 V (500 ohms). **Tone Control:** Treble, -24 db at 10 kc. **Tubes:** (2) 1-12AX7/ECC83; 1-7868, rectifier. **Power Consumption:** 50 watts. **Size:** 11 1/4" w. x 8 1/4" d. x 6 3/4" h. **Shipping Weight:** CHB10A, 12 lbs.; CHB10A-LC, 10 lbs.

**Bogen Model CHB10A Amplifier—With cage. Net Price.....\$40.35**

Zone 2: **41.45**

**Bogen Model CHB10A-LC Amplifier—Less cage. Net Price.....37.50**

Zone 2: **38.40**

# BOGEN MOBILE PUBLIC ADDRESS AMPLIFIERS AND BACKGROUND MUSIC AMPLIFIERS

## TRANSISTORIZED MOBILE AMPLIFIERS

### BT35A TRANSISTORIZED MOBILE 35-WATT PA AMPLIFIER

Ideal for police, fire, Civil Defense and navigation applications. Radio receiver easily connected to auxiliary input. Chassis sealed securely in cabinet with splashproof gasket. Accessory generator available, providing siren tone fog horn. Built-in RF and line filters; polarity protection. Mounts with adjustable fixed lock bracket. Operates over temperature range of  $-20^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$ . **Power Output:** 35 watts at less than 10% distortion, continuous; 55 watts with siren generator. **Peak Power:** 55 watts. **Frequency Response:**  $\pm 3$  db, 150-15,000 cps. **Gain:** Microphone, 110 db; aux., 90 db. **Hum and Noise:** Microphone,  $-90$  db; aux.,  $-95$  db below rated output. **Sensitivity:** Microphone, 1 mV; aux., 0.4 V. **Inputs:** One low impedance microphone; one high level aux. for tuner/tape/phone; one high level aux. for accessory tone signal. **Output Impedance:** 4, 8 and 16 ohms; output for accessory generator. **Controls:** Microphone; Aux. Volume; 4-Position Selector/Power Switch. **Transistors:** 2-2N2431, 1-2N555, 2-2N1557; 1 silicon diode. **Power Consumption:** 3.6 amps at full power, .42 amp quiescent, 12-15 VDC. **Size:** 8" w. x 6 $\frac{1}{4}$ " d. x 3" h. Shipping Weight, 3 lbs.

**Bogen Model BT35A Amplifier—Net Price.....\$80.90**  
Zone 2: **81.65**  
**Bogen Model SF-1 Siren/Fog Horn Generator**—Completely silicon transistorized, easily attached to dashboard or to bottom of Model BT35A. Provision for remote foot switch operation. May be operated either automatically or manually. Complete with 6 ft. cable and plug for attaching to BT35. **Net Price.....\$54.70**  
Zone 2: **54.95**



BT35A



BT20A

### BT20A TRANSISTORIZED MOBILE 25-WATT PA AMPLIFIER

Economical design for general, mobile public address applications. **Power Output:** 25 watts at less than 10%, continuous. **Gain:** 110 db, mlke; 90 db, aux. **Hum and Noise:**  $-90$  db at rated output, mlke;  $-95$  db, aux. **Sensitivity:** 1 mV, mlke; 0.4 volt, aux. **Inputs:** One low impedance microphone; one aux (tuner, tape or phone). **Output Impedance:** 4, 8 and 16 ohms. **Controls:** Microphone; Aux./Power. **Transistors:** 2-2N2926, 1-40234, 2-DTG-110. **Power Consumption:** 2.8 amps at full power; 0.26 amp quiescent, 6-15 VDC (6 watts output on 6 VDC). **Size:** 4 $\frac{1}{2}$ " w. x 4" d. x 6 $\frac{1}{2}$ " h. Shipping Weight, 5 lbs.

**Bogen Model BT20A Amplifier—Net Price.....\$59.95**  
Zone 2: **60.50**

### MU1250 UNIVERSAL 50-WATT MOBILE PA AMPLIFIER

Transistorized amplifier operates on either 12 volts DC or 117 volts AC, at a temperature range of  $-20^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$ . Inputs provided for two microphones (high or low impedance), one magnetic phono or tape playback head and two auxiliary inputs. Separate bass, treble, and master-volume controls. Includes A.C. and D.C. power cables and back cover. Plug-in transformer not required. **Power Output:** 50 watts at 10% continuous. **Peak power,** 70 watts. **Frequency Response:**  $\pm 2$  db, 30-15,000 cps. **Gain:** Microphone, 125 db; aux., 95 db. **Hum and Noise:** Microphone,  $-65$  db; aux.,  $-70$  db below rated output. **Inputs:** Two microphone (high or low impedance); one mag. phono or tape head; two auxiliary. **Output Impedance:** 4, 8 and 16 ohms; balanced 25-volt line; 70-volt (122 ohms balanced); transformers and silicon Rectifiers: (14) 2-2N3053, 7-2N2712, 2-2N1557, 3-MR322. **Power Consumption:** 117 VAC, 12 VDC; 116 watts, 6.7 amps; (quiescent) 16 watts, .3 amp. **Size:** 16 $\frac{1}{2}$ " w. x 10" d. x 6 $\frac{1}{4}$ " h. Shipping Weight, 23 lbs.

**Bogen Model MU1250 Amplifier—Net Price.....\$149.95**  
Zone 2: **151.20**



MU1250

### BT500 MOBILE 450-WATT PA AMPLIFIER

Excellent for use in aircraft for directing ground operations, for emergency police and fire vehicles, boats, and as a standby PA amplifier. Choice of square or sine-wave operation. Operates at 14 or 28 volts DC with full output from  $-20^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$ . Has one microphone, one auxiliary, and one siren/fog horn input. RF filter in microphone circuit. Use noise-canceling microphone and minimum of four Bogen Model BP-5 reflex horn/driver units with this amplifier. **Power Output:** Square wave—450 watts with 28 VDC input, 150 watts with 14 VDC input; sine wave—390 watts with 28 VDC input, 100 watts with 14 VDC input. **Inputs:** One microphone (low impedance); one auxiliary (high level, high impedance); one siren/fog horn generator. **Output Impedance:** 32, 16, 8, 4 and 2 ohms with 28 VDC input; 16, 8, 4, 2 and 1 ohm with 14 VDC input. **Transistors:** 20, all silicon. **Power Consumption:** 25 amps square wave, 21 amps sine wave, 1.5 amps quiescent at 28 VDC; 13 amps square wave, 11 amps sine wave, 2.5 amps quiescent at 14 VDC. Positive or negative ground with polarity protection. **Size:** 3 $\frac{1}{2}$ " w. x 14 $\frac{1}{4}$ " d. x 7 $\frac{1}{4}$ " h. Shipping Weight, 11 lbs.

**Bogen Model BT500 Amplifier—Net Price.....\$742.50**  
Zone 2: **744.30**



BT500

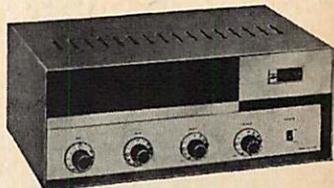
## BACKGROUND MUSIC AMPLIFIERS

Each of the handsomely styled units described below has one microphone input channel, and is ideal for commercial background music applications.

### MU130 30-WATT AMPLIFIER

One microphone channel, plus one auxiliary channel. Has provision for remote control of one microphone. Separate bass, treble, master-volume controls. One plug-in low impedance transformer socket. Constant output taps. **Power Output:** 30 watts at 2% distortion. **Peak power,** 50 watts. **Frequency Response:**  $\pm 2$  db, 20-20,000 cps. **Gain:** Microphone, 122 db; aux., 95 db. **Hum and Noise:** Microphone,  $-65$  db; aux.,  $-80$  db below rated output. **Inputs:** One microphone, one auxiliary. **Output Impedance:** 4, 8 and 16 ohms (16 ohms balanced); balanced 25-volt (use 16 ohm tap); 70-volt (163 ohms). **Tubes:** (4) 1-6EU7, 1-7247, 2-7868; 3 silicon rectifiers. **Power Consumption:** 120 watts, 105-125 VAC, 50/60 cps. **Size:** 15 $\frac{1}{2}$ " w. x 10" d. x 6 $\frac{1}{4}$ " h. Shipping Weight, 20 lbs.

**Bogen Model MU130 Amplifier—Net Price.....\$89.95**  
Zone 2: **91.75**



MU130

### RP150-BM 15-WATT TUNER/AMPLIFIER

A 15-watt, high fidelity, AM-FM radio/amplifier that can power from one to 60 loudspeakers, and more by adding a Bogen auxiliary booster amplifier. For paging and announcements, the touch of a button silences music and amplifies voice. Provision for playing records, tapes, and automatic tape. **Power Output:** 15 watts at less than 2% distortion, 30 watts peak. **Inputs:** One mike/magnetic phono; one crystal/ceramic phono; one auxiliary. **Audio Frequency Response:** FM, phono and aux.  $\pm 1$  db, 20-20,000 cps; AM,  $\pm 1$  db, 20-4,500 cps; mlke,  $\pm 3$  db, 50-12,000 cps. **Hum and Noise:**  $-55$  db. **Output Impedance:** 8 and 16 ohms; balanced 25-volt line. **Tubes:** 13, plus 3 crystal diodes. **Power Consumption:** 117 VAC, 60 cps, 0.85 amp. **Size:** 15" w. x 11 $\frac{1}{2}$ " d. x 4 $\frac{1}{2}$ " h. Shipping Weight, 21 lbs.

**Bogen Model RP150-BM Tuner/Amplifier—Less cabinet.\* Net Each...\$179.95**  
Zone 2: **181.85**



RP150-BM

\*Accessories available include vinyl-clad metal enclosure, microphone assembly, remote control microphone precedence relay, transcription player, and rack panel kit. Prices on request.

# BOGEN PUBLIC ADDRESS AMPLIFIER ACCESSORIES

## MANUAL PHONO TOPS

For Bogen PA amplifiers. Each manual phono top is supplied complete with all necessary hardware, tone arm and turn-over cartridge.

**Bogen Model LPC-4**—Four-speed, for CHB14A, CHB20A, CHB35A, CHB50, CHB100, M60A, M330A, MU130, MX30A, MX60A, MXM-A, M120, MTA30, MTA60, MTX30B.

Net Each. . . . . Zone 1: **\$24.90**

Zone 2: **25.55**

**Bogen Model LPD-3**—Three-speed, for CHB1225 and MU1250.

Net Each. . . . . Zone 1: **\$33.90**

Zone 2: **34.55**

## HI-FI FM-AM MONO TUNER

Solid state circuitry, built-in FM antenna. AFC circuit prevents overload; AFC tuner. Meter indicator for visual precision tuning. Facilities to connect FM and AM external antennas; output for connecting amplifier.

**Frequency Response:** FM: ±1 db, 25-15,000 cps; AM: ±3 db, 50-5,000 cps. **Sensitivity:** FM, 2 μV, 20 db quieting at 300 ohms input. **Size:** 11½" w. x 7" d. x 3½" h.

**Bogen Model TP150-CAG Tuner with Enclosure**—Net Each. . . . . Zone 1: **\$124.80**

Zone 2: **125.50**

**Bogen Model TP150-RPK Tuner on Rack Panel**—Gray metallustre rack is 19" x 5½". Net Each. . . . . Zone 1: **\$124.80**

Zone 2: **125.55**

## MONITORING ACCESSORIES

**Bogen Model MMS-1 Monitor Meter and Speaker**—Allows operator to check sound levels both by eye and ear. For use with Models MTX30B, MX60A and MX30A. Net Price. . . . . Zone 1: **\$29.90**

Zone 2: **30.00**

**Bogen Model MSK-1 Monitor Speaker and Panel**—For Models MTX30B, MX60A, MX30A, M120, M60A and M330A. Net Price. . . . . Zone 1: **\$8.95**

Zone 2: **9.05**

## CARRYING CASES, SPEAKERS

Carrying cases for portable systems are available with or without speakers. With speakers installed, each half of the split case acts as a baffle. Cases with speakers include 25' cables with plugs.

**Bogen Model PC125**—For M330A, MU130, CHB35A, CHB20A, CHB14A, MTA10, MTA30. With two 12" ceramic magnet speakers. Size, 17¾" w. x 12" d. x 23¾" h. Wt., 23 lbs. Net Each. . . . . Zone 1: **\$59.85**

Zone 2: **61.70**

**Bogen Model PC12**—Case only. Shipping Weight, 20 lbs. Net Each. . . . . Zone 1: **\$32.95**

Zone 2: **34.75**

**Bogen Model PC85**—For CHB10A-LC. With one 8" Alnico V PM speaker. Size, 12¾" w. x 9¾" d. x 13" h. Shpg. Wt., 13 lbs. Net Each. . . . . Zone 1: **\$34.45**

Zone 2: **35.60**

**Bogen Model PC8**—Case only. Shipping Weight, 10 lbs. Net Each. . . . . Zone 1: **\$26.95**

Zone 2: **27.85**

## CARRYING COVER

**Bogen Model CC-1**—For MTM. Metal, with handle. Protects controls from tampering. Net Each. . . . . Zone 1: **\$14.90**

Zone 2: **15.25**

## RY-2 RELAY

Plug-in relay or tuner/amplifier silences music automatically when microphone is in use. Required only when microphone is not located near RP150-BM.

**Bogen Model RY-2**—Net Each. . . . . Zone 1: **\$11.90**

Zone 2: **12.00**

## PLUG-IN TRANSFORMERS

Microphone and line transformers designed for use with Bogen amplifiers.

## MICROPHONE INPUT TRANSFORMERS

| Bogen Model | Ohms   | Net Price |         |
|-------------|--------|-----------|---------|
|             |        | Zone 1    | Zone 2  |
| T200        | 200    | \$12.40   | \$12.50 |
| T500        | 500    | 13.50     | 13.60   |
| T525U*      | 50-600 | 12.75     | 12.85   |
| T50         | 50     | 12.40     | 12.50   |

## LINE TRANSFORMERS

|        |          |         |         |
|--------|----------|---------|---------|
| WMT-1  | 500/600† | \$10.10 | \$10.20 |
| TL600‡ | 500/600  | 12.75   | 12.85   |

## BRIDGING TRANSFORMERS

|        |        |         |         |
|--------|--------|---------|---------|
| TL10K§ | 10,000 | \$18.75 | \$18.85 |
|--------|--------|---------|---------|

†Input, for any amplifier with aux input; output, for any amplifier with 25 V output.  
§For MT100, MBT60, M300A, MO100A, MO200A and MXM-A. \*For MTA30, MTA60, MTM balanced microphone lines.

## RACK PANEL MOUNTING KITS

Includes all hardware. When ordering, specify Model No. of amplifier or pre-amplifier to be mounted. Gray metallustre finish. Size, 19" w. x 7" h. except RPK-20, 3½" h., and RPK-26, 5½" h.

| Bogen Model | For Amplifier                              | Net Price |         |
|-------------|--|-----------|---------|
|             |  | Zone 1    | Zone 2  |
| RPK-1       | RP-2                                       | \$13.45   | \$14.15 |
| RPK-13      | CHB14A                                     | 16.45     | 17.25   |
| RPK-14      | CHB35A, CHB50, CHB100, MU1250              | 16.45     | 17.25   |
| RPK-15      | CHB20A                                     | 16.45     | 17.25   |
| RPK-16      | MX30A, MX60A, MTA30B, MXM-A, M120          | 19.15     | 19.95   |
| RPK-18*     | MT100, M300A, M600A, MO100A, MO200A, MBT60 | 19.15     | 19.95   |
| RPK-19      | MU130                                      | 16.45     | 17.25   |
| RPK-20      | One RTP-1                                  | 13.45     | 14.15   |
| RPK-21      | M60A, M330A                                | 16.45     | 17.25   |
| RPK-22      | RP150BM                                    | 16.45     | 17.25   |
| RPK-23      | MTA10                                      | 16.45     | 17.25   |
| RPK-24      | MTA30, MTA60                               | 19.15     | 19.95   |
| RPK-26      | MTM  | 16.45     | 17.25   |

\*Mounts two amplifiers (only one MO-200A).

## LWM WALL-MOUNTING KIT

For M60A, M120, M330A, MTX30B, MX60A and MX30A amplifiers; MXM-A preamp. Keeps your equipment ready when you need it, yet safely, neatly out of the way when not in use. Kit is complete with hardware, template and complete instructions. Net Each. . . . . Zone 1: **\$11.50**

Zone 2: **11.50**

## CONTROL-GUARD LOCKING PLATE

Protects advanced settings from tampering. **Bogen Model LK-5**—For CHB14A, CHB20A, CHB35A, CHB50, CHB100, MU130, MU1250. Net Each. . . . . Zone 1: **\$6.75**

Zone 2: **6.85**

**Bogen Model LK-6**—For MTX30B, MX30A, MX60A, MXM-A, M120. Net Each. . . . . Zone 1: **\$10.35**

Zone 2: **10.60**

**Bogen Model LK-7**—For CHB1225. Net Each. . . . . Zone 1: **\$8.25**

Zone 2: **8.45**

**Bogen Model LK-8**—For M60A, M330A. Net Each. . . . . Zone 1: **\$8.25**

Zone 2: **8.45**

**Bogen Model LK-9**—For MTA30 and MTA60. Net Each. . . . . Zone 1: **\$8.90**

Zone 2: **9.00**

## STANDBY CONTROLLERS

Plugs into MO200A and MO100A. Lengthens amplifier life; reduces high voltage power consumption.

**Bogen Model KR6**—Net Ea. . . . . Zone 1: **\$24.00**

Zone 2: **24.25**

**Bogen Model LVP-1**—Same except for use with MT100 and MBT60. (Also see descriptions of RVC-1 controller and PVP-1 peak limiter.) Net Each. . . . . Zone 1: **\$5.25**

Zone 2: **5.35**

## REMOTE VOLUME CONTROLS

Permit mixing, fading or frequent changes in gain of individual channels; up to 2000 feet away.

**Bogen Model SR-2**—Two-channel for CHB35A, CHB50, CHB100, M60A, M330A, MU130, MX30A, MX60A, MXM-A, M120. Size, 6" w. x 1¼" d. x 3½" h. Shpg. Wt., 2 lbs. Net Ea. . . . . Zone 1: **\$10.30**

Zone 2: **10.50**

**Bogen Model SR-4**—Four-channel for M60A, MX60A, MX30A, MXM-A, M330A, M120. Net Each. . . . . Zone 1: **\$13.90**

Zone 2: **14.15**

**Bogen Model RVC-1**—Provides channel muting for precedence or remote volume control (of aux channel or master gain) for MX60A, MX30A and MXM-A; use with one LVP-1 controller (see above) with these amplifiers. Also provides channel muting for microphone precedence (in aux channel) for MTX30B, MTA30, MTA60 and MTM; with these amplifiers, use one LVP-1 and one RVC-1 in each microphone channel for remote volume control. Net Each. . . . . Zone 1: **\$10.45**

Zone 2: **10.55**

**Bogen Model MPC-1**—Priority control and compressor provides precedence over second music and mike channel on CHB35A, CHB50, CHB100, M60A, MU130, M330A and M120. Net Each. . . . . Zone 1: **\$37.45**

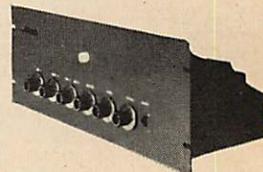
Zone 2: **37.55**



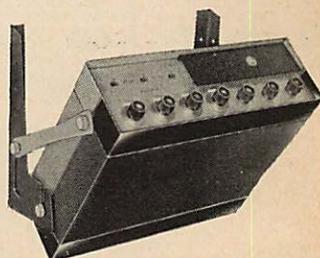
LPC-4



PC-8



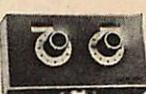
RPK-14 with CHB35A



LWM with MX Amplifier



LR- Series



SR-2

## PEAK LIMITER

**Bogen Model PVP-1**—Provides automatic limiting of Model MTM output to any predetermined level; requires one LVP-1 controller. Net Each. . . . . Zone 1: **\$6.75**

Zone 2: **6.85**

## PMC-1 PLUG-IN MAGNETIC CARTRIDGE MODULE

For Bogen MTA30 and MTA60 amplifiers, and MTM mixer-preamp. Net. . . . . Zone 1: **\$7.45**

Zone 2: **7.55**

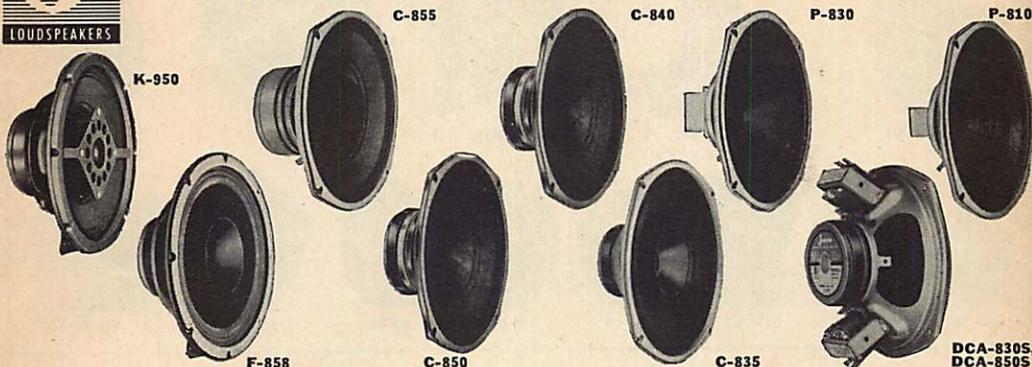
## CON-1 MICROPHONE CONNECTOR

For all Bogen PA amplifiers except BT20A, BT35A, MTA10, MTA30, MTA60, MU-1250 and all CHB models, which use MC1-F connector. Net Each. . . . . **\$1.19**



# Professional Series Speakers

**8" SPEAKERS FOR DISTRIBUTED SOUND**  
**VALUE ENGINEERED FOR LOWEST INSTALLED COST**



This new line of Jensen 8-inch Professional Series loudspeakers is specially designed to meet the exacting rigorous demands of commercial sound service. The 8-inch size is ideal for the majority of all distributed sound systems giving more than adequate low frequency range with a minimum of enclosure and mounting complications.

A complete line of speakers value engineered for lowest installed cost with such features as the handy 10-pack, preattached transformers, exclusive solderless connectors, weather and corrosion resistant designs . . . and many more. A wide selection of models to meet every need—from the lowest cost highly competitive application to the most sophisticated, highest quality system. Four conventional type speakers with varying sensitivity and

power rating (magnetic energy) with the typical 90° coverage angle. Two models have dual cone radiating system with 95° coverage angle and unusually high frequency range. Another basic model is an 8" coaxial with 110° coverage angle and unusual frequency range and smoothness for the finest quality and intelligibility. This 110° coverage angle provides approximately twice the coverage area, so fewer are required for a given installation. Still another model is the unique Jensen FLEXAIR® with dual-cone radiator; super-low resonance for those small acoustic enclosures and back boxes; big-speaker lows with the remarkable H-F range to match. Two models have dual voice coil for emergency channel access and similar applications.

## PREATTACHED TRANSFORMERS

The nine basic models mentioned above are all available with preattached 25-volt or 70.7-volt "constant voltage" transformers, Models 25CV4 or 70CV4. Factory attachment insures lowest cost to the end user.

## AVAILABLE IN HANDY 10-PACK

All of these speakers are available at added savings and convenience bulk-packed ten per carton (with or without transformers). These handy 10-pack cartons have individual sleeves for each speaker thus giving speaker protection of odd lots until actual installation.

## KWIKON\* INSTANT CONNECTORS

Simply twist bare ends of two 12" wire leads supplied for each speaker to incoming signal cable leads, insulate with wire-nut or tape. Slide sleeve clips onto input terminal lugs of speaker or preattached transformer as speaker assembly is raised into place. KWIKON\* instant connectors also provide simple fast power tap readjustment on transformer.

\*T.M.

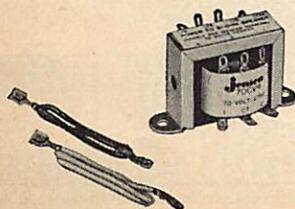


| Model   | Type                 | Power Rating <sup>1</sup> | Sensitivity <sup>1</sup> | Magnet <sup>1</sup> Wt., Oz. | Freq. Range, CPS | Nom. V.C. Dia. | Max. Depth | W/O Transformer |               |                     | Transformer Preattached |                |                     |
|---------|----------------------|---------------------------|--------------------------|------------------------------|------------------|----------------|------------|-----------------|---------------|---------------------|-------------------------|----------------|---------------------|
|         |                      |                           |                          |                              |                  |                |            | List            | Net Ea. Boxed | Net Each in 10-Pack | List                    | Net Ea. Single | Net Each in 10-Pack |
| K-950   | Coaxial <sup>1</sup> | 16                        | 85.5 db                  | 10.0                         | 30-14,000        | 1"             | 3 1/4"     | \$27.85         | \$16.71       | \$15.03             | \$30.85                 | \$18.51        | \$16.66             |
| F-858   | FLEXAIR              | 12.0                      | 85.5 db                  | 10.0                         | 30-18,000        | 1"             | 3"         | 19.80           | 11.88         | 10.69               | 24.50                   | 9.70           | 13.23               |
| C-855   | Dual Cone            | 12                        | 85.0 db                  | 10.0                         | 30-18,000        | 1"             | 3 1/4"     | 11.85           | 7.11          | 6.40                | 16.60                   | 9.96           | 8.96                |
| C-850   | Conventional         | 12                        | 85.5 db                  | 10.0                         | 30-13,000        | 1"             | 3"         | 11.25           | 6.75          | 6.08                | 16.00                   | 9.60           | 8.64                |
| C-840   | Conventional         | 11                        | 84.5 db                  | 6.0                          | 30-13,000        | 1"             | 2 11/16"   | 10.25           | 6.15          | 5.54                | 15.00                   | 9.00           | 8.10                |
| C-835   | Dual Cone            | 10.0                      | 84.0 db                  | 5.4                          | 35-18,000        | 1"             | 2 11/16"   | 9.55            | 5.73          | 5.16                | 14.30                   | 8.58           | 7.72                |
| P-830   | Conventional         | 10                        | 84.0 db                  | 2.5                          | 40-13,000        | 1"             | 3 1/2"     | 7.40            | 4.44          | 4.00                | 11.93                   | 7.16           | 6.44                |
| P-810   | Conventional         | 9                         | 82.0 db                  | 1.47                         | 60-13,000        | 3/4"           | 3 1/2"     | 5.55            | 3.33          | 3.00                | 10.07                   | 6.04           | 5.44                |
| DCA-830 | Dual Voice           | 10                        | 82.0 db                  | 5.4                          | 30-12,000        | 1"             | 2 11/16"   | 10.00           | 6.00          | 5.40                | 19.50                   | 11.70          | 10.53               |
| DCA-850 | Coil                 | 12                        | 83.0 db                  | 10.0                         | 30-12,000        | 1"             | 3"         | 12.00           | 7.20          | 6.48                | 21.50                   | 12.90          | 11.61               |

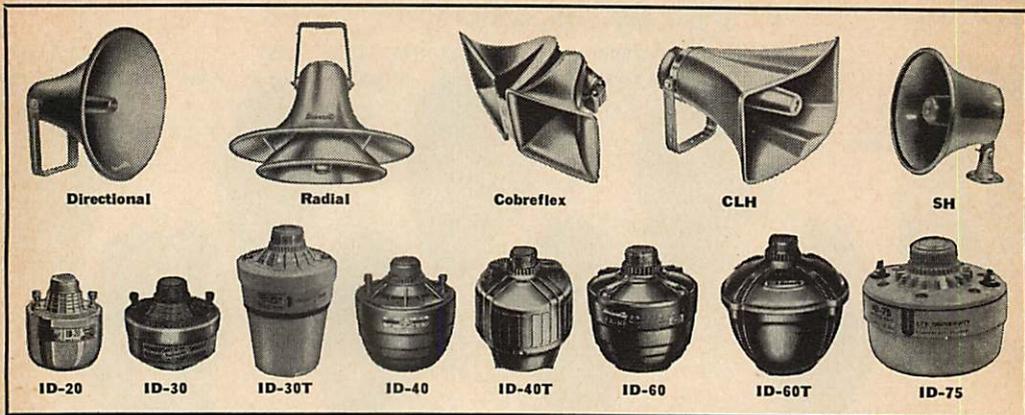
<sup>1</sup>V.C. and magnet information pertain to L-F unit only. <sup>2</sup>Maximum speech and music level as indicated on standard VU meter (peak power is substantially higher). <sup>3</sup>Axial free field sound pressure level at a distance of 10 ft. for an input of 1.0 watt 800-1,250 cps warble frequency band (re .000204 dynes/cm<sup>2</sup>). <sup>4</sup>All magnets are Jensen Syntox-6® except P-810 and P-830 with DP-Alnico-5.

## "CONSTANT VOLTAGE" TRANSFORMERS

Specially designed for use with the popular "constant voltage" distribution systems. Primary (input) windings are center-tapped for balanced-to-ground input circuits or for special circuit needs. Tapped secondary windings provide adjustment of power to the 8-ohm speaker in 3 db steps from 1/4 watt to 4 watts. Nominal core size 3/8" x 5/8". Two 3/16" dia. mounting holes on 2 3/8" centers. Available separately or preattached to these special 8-inch speakers.



| Model  | Line    | Packing | List   | Net    | Net Ea. 50-Pack |
|--------|---------|---------|--------|--------|-----------------|
| 25CV4  | 25-volt | Single  | \$5.00 | \$3.00 |                 |
| 25CV4B | 25-volt | 50-Pack | 5.00   | 3.00   | \$2.70          |
| 70CV4  | 70-volt | Single  | 5.00   | 3.00   |                 |
| 70CV4B | 70-volt | 50-Pack | 5.00   | 3.00   | 2.70            |



**DIRECTIONAL MODELS**

These models, designed to concentrate acoustic energy in a relatively narrow angle of sound dispersion, are incomparable for applications requiring maximum penetration of distance and noise. Rigid adherence to time-proven design formula achieves peak attainable conversion efficiency, resulting in higher sound pressure output and greater utilization of amplifier power. Five trumpet sizes satisfy every need. The GH has very low cut-off for finest reproduction of music. LH is excellent for general use where music quality, voice intelligibility and penetration are important considerations. The PH has wider dispersion and may be used for both music and voice where cost is a factor. The SMH is ideal for speech and for covering wider areas with good penetrative qualities. All models take any University driver unit; have positive-lock, serrated swivel "U" mounting bracket. The Model SH is exceptionally compact for use in limited spaces; handles all drivers up to 75 watts; features patent Omni-lok swivel bracket.

**RADIAL MODELS**

Economical and efficient, these models provide uniform horizontal dispersion in all directions from a single projector. Fewer loudspeakers needed to cover an area. Using University drivers, they give as much as 500% more output than radials using cone speakers. Especially popular for high-ceilinged factories, hangars, church interiors and towers, warehouses, etc. Rugged, weather-resistant; ideal as well in installations subject to high humidity and dust-laden atmosphere. Model RLH has longest air column for maximum low frequency response. RPH has higher cut-off; is suitable for music and speech in general purpose uses. RSH is for good speech at lower costs.

**WIDE-ANGLE REFLEX TRUMPETS**

**Cobreflex**—Unmatched for ruggedness and high speech articulation in fixed or mobile applications requiring coverage of areas having greater width than depth. "Dual Exponential Flare" design . . . two one-piece all die-cast aluminum combination air column/bell castings form integrated, indestructible and scientifically perfect twin wide-angle reflex trumpet. Takes any University driver unit; use singly or in clusters. Adjustable positive-lock "U" mounting bracket.

**Model CLH**—The CLH combines longest air column length and wide-angle bell designed for maximum low frequency response and compact low silhouette dimensions. Omni-directional positive-lock mounting bracket permits speaker to be placed where most convenient and rotated horizontally and vertically for optimum projection. Dispersion can be literally tuned to avoid echo and reverberation, or used to specifically include elusive "dead spots". CLH is perfect, too, for multi-speaker cluster arrays; can be "stacked" in any configuration, for any sound distribution pattern. Uses any University driver.

**Model L30-1**—Horn stacking kit clamps the bell rims of above wide angle trumpets. Order one kit per two horns. Shpg. Wt., 6 oz. Net Each . . . . . \$1.05

| Univ. Model  | GH                       | LH                       | PH                       | SMH                      | SH                       | RLH                      | RPH                      | RSH                      | Cobreflex                | CLH                      |
|--------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Low Cut-off  | 85 Hz                    | 120 Hz                   | 150 Hz                   | 200 Hz                   | 350 Hz                   | 120 Hz                   | 140 Hz                   | 180 Hz                   | 200 Hz                   | 120 Hz                   |
| Distribution | 65°                      | 75°                      | 85°                      | 95°                      | 100°                     | 360°                     | 360°                     | 360°                     | 120° x 60°               | 120° x 60°               |
| Air Column   | 6 1/2 ft.                | 4 1/2 ft.                | 3 1/2 ft.                | 2 1/2 ft.                | 1 1/2 ft.                | 5 ft.                    | 4 ft.                    | 3 ft.                    | 2 1/2 ft.                | 4 1/2 ft.                |
| Horn Length  | 28"                      | 19"                      | 15 1/4"                  | 12"                      | 7"                       | 18 1/2"                  | 13 3/4"                  | 11"                      | 10 1/4"                  | 20"                      |
| Bell Dia.    | 31"                      | 25 3/4"                  | 20 3/4"                  | 16 1/4"                  | 8 3/4"                   | 28 1/4"                  | 25 3/4"                  | 19"                      | 18 1/4" x 9 1/4"         | 21 1/2" x 11 1/2"        |
| Weight       | 22 lbs.                  | 16 1/2 lbs.              | 11 1/4 lbs.              | 8 lbs.                   | 2 3/4 lbs.               | 25 lbs.                  | 19 lbs.                  | 13 lbs.                  | 10 1/4 lbs.              | 13 1/4 lbs.              |
| Net Each     | <b>\$50<sup>70</sup></b> | <b>\$31<sup>20</sup></b> | <b>\$24<sup>90</sup></b> | <b>\$21<sup>60</sup></b> | <b>\$21<sup>60</sup></b> | <b>\$40<sup>50</sup></b> | <b>\$32<sup>40</sup></b> | <b>\$31<sup>80</sup></b> | <b>\$27<sup>60</sup></b> | <b>\$30<sup>00</sup></b> |

**DELUXE HIGH EFFICIENCY COMPRESSION DRIVERS**

Fulfill every requirement of power, performance and price. Offer unusually wide response. Feature breakdown-proof mechanisms and full weatherproof protection. Exclusive acrylic finish for long-lived beauty in all weather.

**MODEL ID-20**

Ideal for low-cost, medium power speech and music systems. Wide range with high efficiency. Power rated, 20 watts.

**MODEL ID-30/ID-30T**

For use wherever maximum speech intelligibility is essential. Maintains "balance" when used with high cut-off frequency trumpets. Model ID-30T identical, but with built-in line matching transformer for 25-V and 70-V lines tapped at 30/15/10/5/2.5/1.25 watts. Impedance taps at 167/335/500/1000/2000/4000 ohms. Power, 30 watts IPM.

**MODEL ID-40/ID-40T**

For critical PA and industrial requirements. Provides extra power to penetrate high noise level areas. Model ID-40T is identical, but with built-in line matching transformer for 25 and 70 volts with tap at 40/20/10/5/2.5 watts. Impedance taps are 45/122/250/500/1000/2000 ohms. Power rated, 40 watts IPM.

**MODEL ID-60/ID-60T**

Meets highest standards for power handling capacity. Maximum sensitivity with widest frequency response. Rugged lifetime construction. Model ID-60T is a deluxe version with extended high and low ranges for highest continuous-duty conversion efficiency. It has built-in line matching transformer with 25-V and 70-V lines tapped at 60/30/20/10/5/2.5 watts. Impedances are 16/80/165/250/500/1000/2000 ohms. Power rated, 60 watts IPM.

**MODEL ID-75**

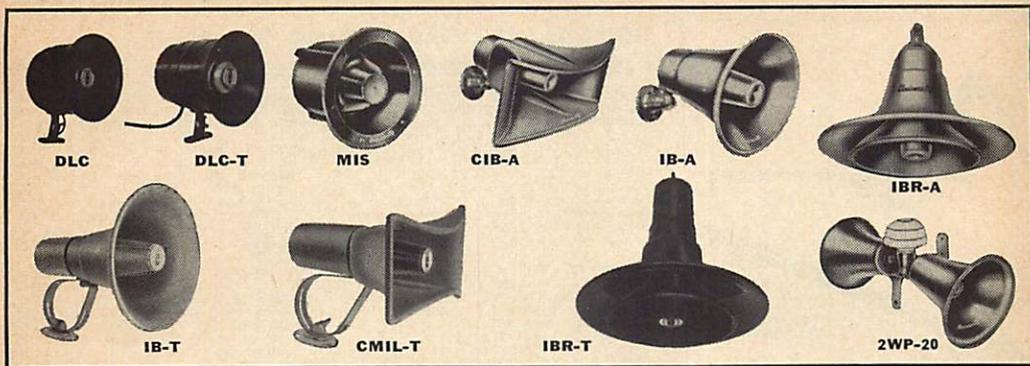
Super power version for electronic siren and special purpose, high-power PA applications. Rugged convex/concave diaphragm design results in greater power handling capacity and dependability. Power rated, 75 watts.

| Univ. Model   | ID-20                    | ID-30                    | ID-30T                   | ID-40                    | ID-40T                   | ID-60                    | ID-60T                   | ID-75                    |
|---------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Response, Hz* | 120-6500                 | 85-7500                  | 85-7500                  | 80-12,000                | 80-12,000                | 70-12,000                | 70-12,000                | 150-7000                 |
| Power, Watts  | 20                       | 30                       | 30                       | 40                       | 40                       | 60                       | 60                       | 75                       |
| Imped., Ohms  | 16                       | 16                       | 16                       | 16                       | 16                       | 16                       | 16                       | 16                       |
| Dimensions    | 3 1/2" x 3 3/4"          | 4 1/4" x 3 3/4"          | 4 1/4" x 6"              | 4 1/2" x 4 1/8"          | 5" x 6 1/4"              | 4 1/4" x 5"              | 6 3/4" x 6 3/4"          | 4 3/4" x 6 1/4"          |
| Weight, Lbs.  | 2 1/2                    | 3                        | 4                        | 4 1/4                    | 5 3/4                    | 4 1/4                    | 6 1/2                    | 5                        |
| Net Each      | <b>\$16<sup>50</sup></b> | <b>\$19<sup>50</sup></b> | <b>\$27<sup>90</sup></b> | <b>\$24<sup>90</sup></b> | <b>\$33<sup>60</sup></b> | <b>\$34<sup>50</sup></b> | <b>\$41<sup>70</sup></b> | <b>\$44<sup>70</sup></b> |

\*Low frequency limit based on capability of driver unit; if horn cut-off is higher than rated low frequency limit of driver, horn will be determining factor.

# PAGING/TALK-BACK AND SPECIAL SPEAKERS

**UNIVERSITY SOUND**  
A DIVISION OF LTV—LING ALTEC, INC.



**DLC**  
Paging/talk-back speaker for low power, indoor-outdoor use. Front-loaded reflex baffle has integrated, compression-drive diaphragm. Exceptional voice and music quality, reflex baffle is contoured for balanced, peak-free high end response and natural, definitive bass. Functional mounting bracket with single control for rapid adjustment. Cable is wired in. Impedance, 8 or 45 ohms.

**DLC-T**  
Same as DLC, but with built-in line transformer with integral terminals labelled in wattage and impedance on 70.7 V and 25 V constant-voltage lines. Taps at 7.5/5/2.5/1.25/.65 watts. Imped., 84/125/250/500/960 ohms, 25 V line; 667/1000/2000/4000 ohms, 70 V.

**MODEL MIS**  
Compact reflex like MIL-A, but for flange or flush mounting in walls, cabinets, bulkheads, dashboards, ceilings, etc. Tropicalized, hermetically sealed. Ideal replacement for less efficient cone speakers; provides more output, greater reliability. With cork neoprene flange gasket.

**MODEL 2WP-20**  
The 2WP-20 is a bi-directional paging speaker that efficiently covers two opposite 120° areas with one 20 watt driver (included). The 2WP horn may be purchased separately and used with any other University driver with the exception of Model ID-60T.

**MODEL IB-A**  
Medium power speaker for paging, talk-back. Tropicalized and weather-proofed. Special rising frequency characteristic, wide range response for high performance in noisy areas. "OMNI-LOK" mounting bracket; fits 1/2" pipe.

**MODEL IBR-A**  
Very compact unit complete with built-in driver. Uniform 360° dispersion for economical installations requiring omnidirectional coverage with a minimum number of speakers. For cube-like areas where speakers can be ceiling suspended. Tropicalized and hermetically sealed.

**MODEL CIB-A**  
"Cobra" horn for uniform sound with optimum vertical dispersion where noise level not excessive. Minimizes feedback. "OMNI-LOK" swivel mounting bracket for best direction adjustment.

**MODEL CMIL-A**  
Similar to CIB-A. For use in low power operations. Offers high efficiency and intelligibility. Has "OMNI-LOK" bracket.

**MODEL MIL-A**  
Same as IB-A, but smaller. Triples effect of low power systems using cone speakers.

| Model                      | DLC               | DLC-T                 | IB-A                 | MIL-A                         | CMIL-A                  | MIS                     | IBR-A                   | 2WP-20                 |
|----------------------------|-------------------|-----------------------|----------------------|-------------------------------|-------------------------|-------------------------|-------------------------|------------------------|
| Freq. Resp.                | 400-10,000 Hz     | 400-10,000 Hz         | 250-13,000 Hz        | 350-13,000 Hz                 | 350-13,000 Hz           | 500-13,000 Hz           | 300-13,000 Hz           | 350-6,500 Hz           |
| Power Rating               | 7.5 watts         | 7.5 watts             | 30 watts             | 10 watts                      | 10 watts                | 7.5 watts               | 30 watts                | 20 watts               |
| Impedance                  | 8, 45 ohms        | Transf.               | 4, 8, 45 ohms        | 4, 8, 45 ohms                 | 4, 8, 45 ohms           | 4, 8, 45 ohms           | 4, 8, 45 ohms           | 16 ohms                |
| Dispersion                 | 120°              | 120°                  | 105°                 | 120°                          | 120° x 60°              | 150°                    | 360°                    | 120° each horn         |
| Pressure Level*            | 104 db            | 104 db                | 126 db               | 119 db                        | 119 db                  | 115 db                  | 120 db                  | 123 db                 |
| Sensitivity at Microphone† | -30 dbm           | -30 dbm               | -20 dbm              | -22 dbm                       | -22 dbm                 | -22 dbm                 | -25 dbm                 | -25 dbm                |
| Size                       | 5 3/8" dia. 4" d. | 5 3/8" dia. 6 3/8" d. | 10 1/2" dia. 9" deep | 7 3/8" high 14" wide 12" deep | 7 1/8" dia. 6 3/8" deep | 6 3/8" high 4 1/2" deep | 10 1/2" dia. 11 1/4" d. | 8 3/8" dia. 20 3/8" d. |
| Shpg. Wt.                  | 1 3/4 lbs.        | 2 3/4 lbs.            | 4 3/8 lbs.           | 6 lbs.                        | 3 3/4 lbs.              | 4 lbs.                  | 5 3/8 lbs.              | 7 3/8 lbs.             |
| Net Ea.—8 ohms             | \$10.77           | Xformer:              | \$21.90              | \$27.60                       | \$17.85                 | \$20.25                 | \$31.20                 | \$36.60†               |
| 4 or 45 ohms               | <b>10.77</b>      | <b>\$13.77</b>        | <b>24.09</b>         | <b>30.36</b>                  | <b>19.65</b>            | <b>22.29</b>            | <b>34.32</b>            | .....                  |

\*Sound pressure readings taken at 4 ft. on axis with "Full Range" power input. Reduce by 6 db each time distance is doubled. †Dbm re 10 dynes/cm<sup>2</sup>. †16-ohm model only. ‡Six holes on 4 3/8" mounting diameter. #Model 2WP same as 2WP-20 less driver. Net Ea. \$21.60

## NEW "T" SERIES WITH BUILT-IN TRANSFORMER

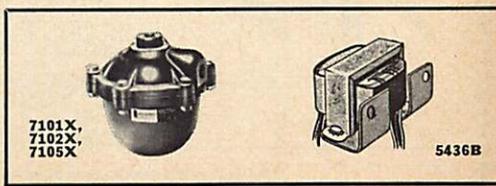
University "T" Series paging/talk-back speakers are identical to their transformerless counterparts excepting for mounting bracket. "T" Series brackets permit one-hand adjustment for positioning the horn 360° horizontally and 105° vertically.

| University Model | Frequency Response | Power Rating | Impedance | Dispersion | Sound Pressure Level‡ | Sensitivity§ | Size                               | Shipping Weight | Net Each |
|------------------|--------------------|--------------|-----------|------------|-----------------------|--------------|------------------------------------|-----------------|----------|
| IB-T             | 250-13,000 Hz      | 30 watts     | *         | 105°       | 126 db                | -20 dbm      | 10 1/4" dia. x 11 1/8" d.          | 4 3/8 lbs.      | \$27.90  |
| CIB-T            | 250-13,000 Hz      | 30 watts     | *         | 120° x 60° | 126 db                | -22 dbm      | 14" w. x 14 1/2" d. x 7 3/8" h.    | 6 lbs.          | 33.60    |
| MIL-T            | 350-13,000 Hz      | 10 watts     | †         | 120°       | 119 db                | -23 dbm      | 7 1/8" dia. x 9 1/8" d.            | 3 3/4 lbs.      | 24.60    |
| CMIL-T           | 350-13,000 Hz      | 10 watts     | †         | 120° x 60° | 119 db                | -26 dbm      | 9 1/2" w. x 10 1/4" d. x 6 3/4" h. | 4 lbs.          | 27.00    |
| IBR-T            | 300-10,000 Hz      | 30 watts     | *         | 360°       | 120 db                | -28 dbm      | 13" dia. x 12 1/8" d.              | 5 3/8 lbs.      | 35.85    |

\*Voice coil impedance: 8 ohms. Terminals are labeled in Impedance and in watts of power consumed on 70 and 25 V "constant voltage" lines. Transformer impedances: 167/335/500/1000/2000/4000 ohms. Wattage taps: 30/15/10/5/2.5/1.25 watts. †Voice coil impedance: 8 ohms. Terminals are labeled in impedance and in watts of power consumed on 70 and 25 V "constant voltage" lines. Transformer impedances: 500/667/1000/2000/4000/8000 ohms. Wattage taps: 10/7.5/5/2.5/1.25/.65 watts. ‡Sound pressure readings taken at 4 ft. on axis with "Full Range" power input. Reduce by 6 db each time distance is doubled. Reduce by 3 db each time power input is halved; increase by 3 db when power input is doubled. §Dbm re 10 dynes/cm<sup>2</sup>.

## EXPLOSION PROOF DRIVERS

U/L Approved for 100% safe systems where flammable liquids, gases, dust, etc., are present; University Model 5436B transformer and bracket assembly kit recommended. Freq. resp. to 12,000 Hz. Cut-off freq. depends on horn used. Recommended for use with PH and SMH horns but may be used with any University horn. Power capacity 60 W. Voice coil imped., 16 ohms. Size, 7 3/8" dia. x 7 3/8" d. Shpg. Wt., 14 lbs.  
**Model 7101X**—For Class I, Groups C and D. Net Each... **\$64.80**  
**Model 7102X**—Same, plus Class II, Groups E, F and G. Net Each... **\$5.50**  
**Model 7105X**—For Class I, Groups B, C and D; Class II, Groups E, F and G. Net Each... **\$130.80**  
**Model 5436B Transformer Kit**—Net Each... **15.42**



# Electro-Voice® BC-TV-PA-RECORDING MICROPHONES

## BROADCAST-TV-RECORDING DYNAMICS

### CARDILINE\* UNIDIRECTIONAL MICROPHONES

**Model 642**—A highly directional dynamic microphone combining the best characteristics of cardioid and distributed front-opening designs. Essentially cardioid unidirectional up to 500 cps; highly directional over balance of range. Working distance is 2 to 3 (or more) times that of conventional types. Excellent for boom use with Model 356 shock mount. Minimum mechanical shock transfer and wind noise interference. Response: Flat from 30 to 10,000 cps or choice of 5 or 10 db low frequency reduction steps by screwdriver adjustment. Acoustalloy® diaphragm; 50, 150 and 250 ohms, externally adjustable. Output level: -48 db. Cast aluminum case with non-reflecting gray finish. Supplied with Cannon UA-3-14 connector, 20-ft. 3-conductor shielded broadcast cable and UA-3-11 Cannon connector. Length, 17 $\frac{1}{2}$ " max. diameter, 3 $\frac{1}{4}$ ". Must be used with Model 356 shock mount or Model 327 windscreens mount. Net Weight, 3 lbs., 4 oz. Net Each. . . . . **\$234.00**

**Model 643**—Similar to Model 642 above, but designed for more specialized and extended long-range pickup. Provides cardioid pickup pattern to 100 cps and is highly directional over balance of range. Integral 2-position bass tilt-down switch; 100 cps cutoff filter. Impedance: 50, 150 or 250 ohms changed by internal connection. Lightweight cast and extruded aluminum case with integral shock mount and removable wind filter. Output level: -48 db. Response: 30 to 10,000 cps. Length, 7' 2"; max. dia. 4". Cannon UA-3-14 and UA-3-11 connectors; supplied with 20-ft. cable and storage case. Fits  $\frac{3}{8}$ "-27 or  $\frac{1}{2}$ " pipe threads. Net Each. . . . . **\$936.00**  
\*Electro-Voice trademark.

### CARDIOID UNIDIRECTIONAL MICROPHONES

**Model 668**—Continuously Variable-D cardioid designed specifically for boom use in broadcasting and recording. Extremely smooth cardioid pattern for maximum reduction of ambient noise and reverberation. Integral windscreens eliminates noise caused by motion of boom-mounted microphone through the air. Built-in equalizer provides choice of four response curves in both high and low frequency ranges. Acoustalloy diaphragm. Response: 40-12,000 cps. Output: -51 db. Impedance: 50, 150 or 250 ohms, internally selectable. Size: 9 $\frac{3}{8}$ " lg. x 3 $\frac{3}{4}$ " dia. Non-reflecting gray finished aluminum case. Two-foot mechanical isolation cable and twenty-foot three-conductor shielded broadcast-type cable included. Supplied complete with shock isolating boom mount. Net Each. . . . . **\$297.00**

**Model 667A**—Same as Model 668, but incorporates selection of three low frequency and two high frequency response curves. Net Each. . . . . **\$207.00**

**Model RE15 Super Cardioid**—New, for exacting professional applications. Super cardioid directional pattern provides maximum rejection at 150° off-axis; maintains essential cardioid pattern at other positions. Response is virtually identical at any position around microphone, eliminating off-axis coloration. With "bass tilt" switch. Rugged case and inner construction. Non-reflecting nickel finish. Response: 60-15,000 cps. Output: -55 db. Impedance: Low. Size: 6 $\frac{1}{4}$ " lg. x 1 $\frac{3}{4}$ " dia.; shank  $\frac{3}{4}$ " dia. Comes with metal case, 310 clamp and 18-ft. 2-conductor shielded broadcast cable. Net Each. . . . . **\$159.00**

**Model 666 Cardioid**—Variable-D® cardioid principle for high discrimination against sounds from back. Permits close talking without bass accentuation. Working distance increased by 1.71 over pressure microphones. Single moving element is exclusive, rugged Acoustalloy® diaphragm. Response: 30 to 16,000 cps. Output: -58 db. 250 ohms. Internal connector pin impedance change. Wired for 150 ohms; taps at 50 and 250 ohms. Non-reflecting gray finish aluminum case. Built-in Cannon UA-3 connector. Clamp-on stand mount with  $\frac{3}{8}$ "-27 thread and  $\frac{1}{2}$ " pipe thread adapter, and 20-ft. cable. Length, 7 $\frac{3}{4}$ "; diameter, 1 $\frac{3}{4}$ ". Net Weight, 11 oz. Net Each. . . . . **\$153.00**

**Model 666R Rising Response Cardioid**—Like Model 666, but with response which rises 4 $\frac{1}{2}$  db from 100 to 2,000 cps, reducing pickup of low frequency reverberations, room "rumble" and prop noise. Particularly suited to boom use. Output: -57 db. Net Each. . . . . **\$153.00**

**Model 665 Cardioid**—Similar in design and function to the Model 666, but for less exacting applications. Uniform response 50 to 14,000 cps. Recessed switch provides 50 or 250 ohms. Pressure-cast zinc case. Non-reflecting gray finish. Diameter, 1 $\frac{1}{2}$ "; length, 7 $\frac{3}{4}$ "; 18-ft. cable. Net Weight, 1 lb. 10 oz. Net Each. . . . . **\$90.00**

### OMNIDIRECTIONAL MICROPHONES

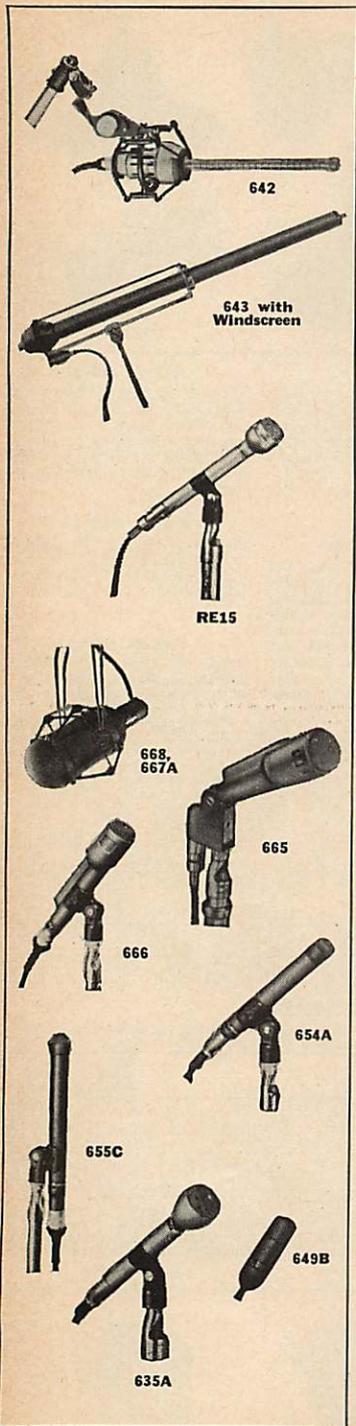
**Model 655C Slim-Trim TV Dynamic**—Frequency response: 40 to 20,000 cps. Output level: -68 db. Excellent level affords high signal-to-thermal noise ratio. Can be used on stand, in hand or on boom. Easily concealed in studio props. Acoustalloy® diaphragm. Pop-proof grille. Impedance: 50, 150 and 250 ohms. Impedance easily changed at internal terminal board. Cannon UA-3 connector. Clamp-on stand mount included with  $\frac{3}{8}$ "-27 thread and  $\frac{1}{2}$ " pipe thread adapter. Size: Length, 10 $\frac{1}{2}$ " without connector; diameter, 1". With 20-ft. cable. Net Weight, 7 oz. Net Each. . . . . **\$120.00**

**Model 654A Slim-Trim Broadcast Dynamic**—Frequency response: 50 to 16,000 cps. Output level: -57 db. Can be used stand-mounted, hand-held or as lavalier. Matches all low impedance inputs. Built-in Cannon XLR-5 connector. Acoustalloy® diaphragm. Mounts to  $\frac{3}{8}$ "-27 thread. With 18-ft. cable. Length, 6 $\frac{1}{4}$ "; diameter, 1 $\frac{1}{4}$ ". Non-reflecting gray finish. Net Weight, 17 oz. Supplied with Model 300 clamp and lavalier neck cord. Net Each. . . . . **\$60.00**

**Model 649B Miniature Lavalier**—Smallest dynamic lavalier—weighs only 31 grams without cable; length, 2 $\frac{3}{4}$ "; diameter,  $\frac{3}{4}$ ". Ideal for programming where unobtrusive or concealed microphone placement is desirable. Frequency response: 70 to 10,000 cps. Output level: -61 db. Acoustalloy® diaphragm. Omnidirectional. Matches all low impedance inputs. With 30-ft. shielded cable. Aluminum case has non-reflecting gray finish. Complete with neck cord assembly. Net Each. . . . . **\$63.00**

**Model 635A Broadcast Dynamic**—Redesigned and improved microphone perfect for hand or stand use by entertainers and vocalists. Rugged, lightweight turned steel case provides magnetic shielding. Four-stage pop and dust filter. Response: 60 to 15,000 cps (rising). Output: -55 db. Acoustalloy® diaphragm. Low impedance. Cannon XL-3 connector. Non-reflecting satin chrome finish. With 310 clamp and 18-ft. cable. Dia., 1 $\frac{3}{8}$ "; length, 6". Weight, 6 oz. Net Each. . . . . **\$49.20**

All E-V microphones (except crystals) are eligible for FCDA purchases.



## UNIDIRECTIONAL LINE MICROPHONE

**Model 644 Sound Spot**—Another Electro-Voice development, the Sound Spot is a combination cardioid and distributed front opening microphone, making it the most directional of all. The Model 644 has better than 2.5 times the working distance of pressure types. Work close or far away without change of frequency response. Cancellation from the rear and sides exceeds 20 db above 700 cps, giving practically complete rejection of unwanted sound. Cardioid performance below 700 cps. This feature gives extremely high random noise rejection. Reverberation and feedback are vastly lower than for any other PA mike, allowing much greater leeway in loudspeaker placement.

The effective front acceptance angle is 45° each side of center giving best isolation of individual performers. The Model 644 is 9 db better on the rejection of wind noise and has far less response to shock than most other microphones.

Frequency response is smooth from 40 to 10,000 cps. Acoustalloy® diaphragm. High Output: -53 db. Dual high low impedance is selected by changing one tap on MC-4M cable connector. The case is high-pressure diecast zinc with 3/4" aluminum tube; satin chrome finish. Rear diameter, 2 1/4"; length, 16". With 16-ft. cable. Weight, 2 lbs. 9 oz. Net Each. . . . . **\$66.00**

## CARDIOID UNIDIRECTIONAL DYNAMIC MICROPHONES

**Model 674 Cardioid Dynamic**—New design brings professional quality to general purpose applications. Exclusive Continuously Variable-D® mike assures uniform cardioid pattern at all frequencies. Response: 60-15,000 cps. Highest discrimination against feedback and unwanted sound. Exclusive 3-position switch controls low-frequency attenuation to overcome rumble and feedback. Stud-mount for use on floor or desk stand with 3/8"-27 thread. Output: -57 db. Impedance: Lo-Z or Hi-Z changed by moving one wire in cable connector. Rugged high pressure diecast construction; satin chrome finish. With on-off switch and 15-ft. cable. Size: 7 3/8" lg. x 1 1/4" dia., excluding stud. Shpg. Wt., 2 lbs. Net Each. . . . . **\$60.00**

**Model 676 Cardioid Dynamic**—Similar to Model 674, but without mounting stud and on-off switch. With Model 300 stand-mount clamp so mike can be easily removed for hand-held use. Size: 7 3/8" lg. x 1 1/4" dia. Shpg. Wt., 2 lbs. Net Each. . . . . **\$60.00**

**Model 664 Cardioid Dynamic**—Similar to Model 666, but designed specifically for PA. Cardioid pattern at all frequencies. Permits close talking without boom or bass accentuation. Provides better discrimination against unwanted sound. Less feedback than any cardioid PA microphone built. Blast filter minimizes wind effect. Acoustalloy® diaphragm shielded from dust and magnetic particles. Response: 60-15,000 cps. Output: -58 db. Impedance: Dual lo-z and hi-z, changed by moving one wire in MC-4 cable connector. Pressure-cast case with chrome finish; on-off switch and 15-ft. cable. Size, 7 1/4" long (less stand coupler) x 1 1/4" dia. Net Weight, 1 lb. 10 oz. Net Each. . . . . **\$51.00**

**Model 664A**—Non-reflecting gray finish. Wired for lo-z. Net Each. . . . . **\$51.00**

**Model 664G**—Gold finish. Net Each. . . . . **\$4.00**

## OMNIDIRECTIONAL MICROPHONES

**Model 631 "Hand and Stand" Dynamic**—High quality entertainers' mike. Omnidirectional; may be used close up without blasting, pops or distortion. Silent, magnetic on-off switch with removable actuator button. Rugged and shockproof. Output: -55 db. With cable and 310 stand clamp. Size: 5 3/4" lg. x 3/4" shank dia. Shpg. Wt., 1 lb. Specify Hi-Z or Lo-Z when ordering. Net Each. . . . . **\$31.50**

**Model 641 Modern, Two-tone Dynamic**—High output, high and wide range response for PA, home, communications, communications, electronic teaching aids and paging systems. Integral "on-off" switch. Wide Frequency Response: 70-10,000 cps. Output Level: -57 db. Case is chrome-plated diecast zinc and gray high impact plastic. Standard 3/8"-27 stand connector; 16-ft. cable. Hi-Z or balanced 150 ohms to match standard low impedance inputs, specify. Shipping Weight, 1 lb. Net Each. . . . . **\$37.50**

**Model 634A**—Similar to Model 641 except furnished without stand mounting stud or on-off switch. Fits any stand, boom or gooseneck with complete cable concealment. Ideal for desk mounting on electronic teaching aids, amateur and commercial communications and switchboard mounting for paging systems. Cable length, 6 ft. Standard 3/8"-27 threads in rear of case. Hi-Z or balanced 150 ohms. Specify when ordering. Net Each. . . . . **\$18.00**

**Model 636 "Slim" Dynamic**—Exceptionally fine for PA, recording and general use. Response: 60-13,000 cps. Output: -58 db. Pop-proof grille. Wide pickup range. On-off switch. Satin chrome finish. Tilttable head. Built-in MC-4 connector. Threaded 3/8"-27. High or low impedance by changing one wire in connector. With 16-ft. cable. Size, 10 1/4" long (including stud) x 1 1/4" max. dia. Net Each. . . . . **\$48.50**

**Model 636G**—Gold finish. Net Each. . . . . **\$48.50**

**Model 630 High Fidelity, High Output Dynamic**—Famous for quality at low cost. Response: 60-11,000 cps. Output Level: -55 db. Unaffected by heat or humidity. Acoustalloy® diaphragm. Tilttable head; built-in MC-3 connector; on-off switch. Satin chrome finish. Available in hi-z or lo-z balanced to ground, specify. Size, 2" x 6 1/4". With 16-ft. cable. Net Weight, 1 lb. Net Each. . . . . **\$51.00**

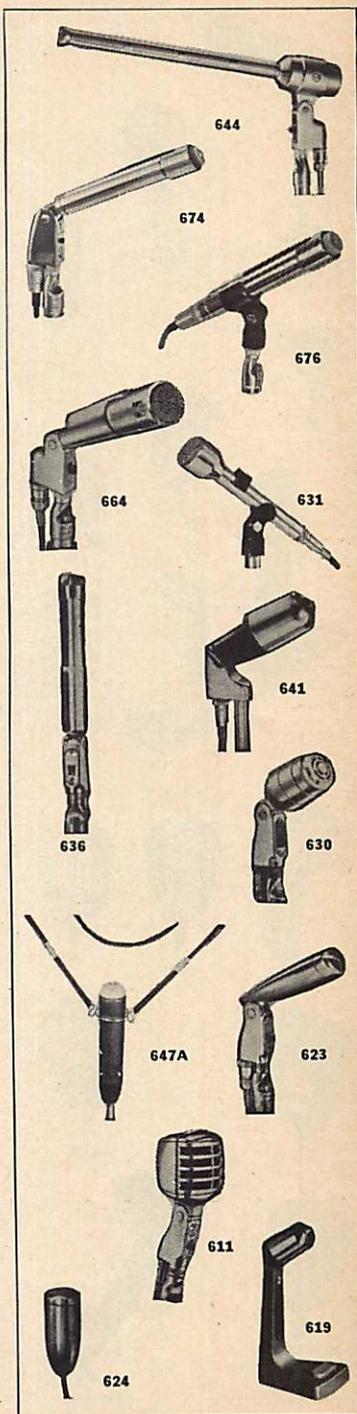
**Model 647A Lavalier Dynamic**—Small and rugged for chest or hand use. With neck cord, support clip and 18-ft. cable. Response: 70-10,000 cps. Output Level: -60 db. Impedance: Hi-Z or balanced 150 ohms, must be specified. Acoustalloy® diaphragm. Built-in connector. Non-reflecting gray finish. Size, 3 3/4" long x 3/4" dia. Net Weight, 2 oz., less cable. Net Each. . . . . **\$51.00**

**Model 623 Slim Dynamic**—Ideal for PA, recording and general use. Use on stand or in hand. Response: 60-12,000 cps. Output Level: -56 db. High or low impedance by changing one wire in connector. Pressure cast with satin chrome finish. Tilttable head; on-off switch; built-in MC-4 connector. Threaded 3/8"-27. Size, 7 1/2" x 1 1/4". With 16-ft. cable. Net Weight, 15 oz. Net Each. . . . . **\$34.20**

**Model 611 "Mercury" Dynamic**—Traditional styling, fine performance for general sound pickup. Response: 50-9,000 cps. Output Level: -58 db. Omnidirectional. Acoustalloy® diaphragm. Tilttable head; on-off switch; built-in MC-3 connector. Threaded 3/8"-27. Satin chrome finish. Available in hi-z or lo-z balanced to ground, specify. Size, 2 3/4" w. x 2 3/4" d. x 6 3/4" h. With 16-ft. cable. Net Weight, 1 1/4 lbs. Net Each. . . . . **\$27.00**

**Model 624 Dynamic Lavalier**—Most economical dynamic lavalier on the market. For chest or hand use. Supplied with neck cord, support clip and 18-ft. cable. Non-reflecting gray finish. Wire mesh head acoustically treated for wind and moisture protection. Response: 100-7,000 cps. Output Level: -56 db. Acoustalloy® diaphragm. Hi-Z or 150 ohms, not balanced to ground. Size, 3 3/8" lg. x 1 1/4". Cable has integral strain relief. Net Weight, 14 oz. Net Each. . . . . **\$27.00**

**Model 619 Press-to-Talk Dynamic**—Modern, reliable base-station microphone ideal for ham, CB or business communications and paging. Frequency Response: 70-10,000 cps. Output Level: -57 db. Rugged diecast stand in communications gray and contrasting, chrome plated diecast head. Press-to-talk switch on base may be moved into upper part of stand for grip-to-talk operation. Switch shorts mike in off position and provides for relay operation or electronic switching. With 16-ft. cable for hi-z; 6 3/4" for lo-z model. Hi-Z or balanced lo-z; specify. Size, 4 3/4" w. x 4 3/4" d. x 9" h. Net Weight, 2 lbs. 2 oz. Net Each. . . . . **\$28.50**



All E-V microphones (except crystals) are eligible for FCDA purchases.

# Electro-Voice® MICROPHONES

## CRYSTAL AND CERAMIC MICROPHONES

**Model 951 Cardioid Crystal**—Mike uses same Variable D® principle as E-V's BC-TV cardioids to obtain uniform directivity at all frequencies with high discrimination against unwanted sound. An excellent, wide-range all-purpose PA microphone for a great variety of acoustic conditions; especially useful where background noise and reverberation are problems. Response: 50-11,000 cps. Output: -60 db. High impedance. On-off switch; pressure-cast case with metalure gray finish. With 16-ft. cable and MC-1 connector. Size, 5 3/4" long (excluding stud) x 1 3/4" dia., overall. Net Weight, 1 1/4 lbs. less cable. Net Each. . . . . \$32.70

**Model 911 Crystal**—Same smart design and fine performance as E-V Model 611. Response: 50-10,000 cps. Output: -50 db. Metal seal crystal. High impedance. MC-1 connector and 16-ft. cable. Net Weight, 1 1/4 lbs. Net Each. . . . . \$22.50

**Model 920 "Spherex" Crystal**—Omnidirectional mike. Response: 60-10,000 cps. Output -50 db. Strong wire-mesh head acoustically treated for wind and moisture protection. High capacity, moisture sealed crystal. High impedance. Satin chrome finish; 3/4"-27 threaded. Dia., 2 1/4". With 16-ft. cable. Net Weight, 8 oz. Net Each. . . . . \$16.50

**Model 924 Lavalier Crystal**—Unique crystal lavalier for chest or hand use. Response: 60-8,000 cps. Output: -60 db. High impedance. Wire-mesh head acoustically treated for wind and moisture protection. Non-reflecting gray. With neck cord, support clip and 18-ft. cable with integral strain relief. Size, 3 1/2" x 1 1/4". Net Weight, 8 oz. Net Each. . . . . \$14.10

**Model 714 Ceramic**—High output, ceramic, hand-held communications microphone for paging, ham radio or "Citizens" Band. High level, hi-Z output. DPDT switch shorts mike in "off" and closes relay circuit in "on". Response: 100-7,000 cps. Level: -55 db. Coiled cord; hang-up bracket. Size, 2 1/2" x 1 1/4" x 3 3/8". Weight, 8 oz. Net Each. . . . . \$9.90

**Model 717 Ceramic**—Similar to Model 714 except close-talking cardioid pickup pattern. Rejects unwanted background noise and feedback. Specially designed ceramic element, with apertures on either side of diaphragm provides effective attenuation of sounds arriving from rear and sides. Response: 100-7,000 cps. Output: -55 db. Net Each. . . . . \$11.70

**Model 729 Ceramic Cardioid**—The lowest priced cardioid ever made. Random noise, reverberation and feedback reduced by 67%. Front pickup range nearly double that of pressure microphones. Response: 60-8,000 cps. Output:

-60 db. High impedance only. Finished with metalure gray front with medium gray back. Desk stand and floor stand adapter supplied. Net Weight, 9 oz. less cable and stand. Net Each. . . . . \$14.70

**Model 729SR**—With relay control switch. Net Each. . . . . \$15.90

**Model 727 Slim Ceramic**—A new approach to the design of ceramic mikes for PA, recording and general use. Similar in appearance to Model 729. Withstands extremes of temperature and humidity. Response: 60-8,000 cps. Output: -55 db. High impedance. With 8 3/4-ft. cable. Metalure gray front with medium gray back. Size, 7 3/4" x 1 1/2" x 1 1/2". With attractive desk stand and floor stand connector. Net Weight, 9 oz. less cable and stand. Net Ea. . . . . \$12.00

**Model 727SR**—With relay control switch. Net Each. . . . . \$14.10

**Model 715 Ceramic**—Use in any position: In hand, on table or stand, or overhead. Omnidirectional. Response: 60-7,000 cps. Output: -55 db. High impedance. With 5-ft. cable. Metalure gray finish. Size, 3" x 2 1/4" x 1". With 3/4"-27 adapter, AC-DC insulated. Net Weight, 6 oz. Net Each. . . . . \$8.85

**Model 721 Ceramic**—New, amazingly inexpensive microphone features high output level and light weight for recording, experimenting and general use. High impact, gray plastic case. Use hand-held or with integral fold-out stand. Response: 100-5,000 cps. Output: -52 db. High impedance. With 5-ft. cable. Size: 2 3/4" w. x 1" d. x 3 3/8" h. Net Wt., 3 oz. Net Each. . . . . \$3.90

**Model 719 Press-to-Talk Ceramic**—Versatile, low cost base-station mike. Switch can be moved to stand's upper part for grip-to-talk use; shorts in "off" for relay or electronic switching. Response: 70-7,000 cps. Output: -56 db. Hi-Z. Size, 4 3/8" x 4 3/8" x 9". With 6 1/2-ft. cable. Net Wt., 2 lbs. 2 oz. Net Ea. \$16.50

## DIFFERENTIAL AND SPECIAL PURPOSE MICROPHONES

**Model 606 Differential Dynamic**—Close talking, noise cancelling. Accepts sounds of close origin (1/2") and rejects sounds of distant origin. Response: 100-5,000 cps. Output: -65 db at 1/4". Acoustalloy® diaphragm. Threaded 3/4"-27. Built-in MC-1 connector. Satin chrome finish. Lo-Z (matches 50-250 ohms) or hi-Z; hi-Z not balanced; specify. With 16-foot cable. Size, 2" dia. x 3 1/4" h. including stud. Net Each. . . . . \$31.50

**Model 600E Dynamic Mobile**—Improved design for reliability. High impact case and rugged dynamic construction protects against shocks. Easy-action switch shorts mike in "off"; eliminates electrical noise and closes relay circuit when depressed. Response: 100-7,000 cps matched for high intelligibility. Output Level: -55 db. Hi-Z or balanced Lo-Z; specify. Gray finish; with hang-up bracket and 5-ft. coiled cord. Size, 2 1/2" x 1 1/4" x 4". Wt., 10 oz. Net Each. . . . . \$23.40

**Model 602F Dynamic Mobile**—Differential, close talking, noise cancelling. Response: 200-5,000 cps. Output: -55 db. Has gray high impact case, press-to-talk switch, 5-ft. coiled cord. Specify Hi-Z or balanced Lo-Z. Size, 2 1/2" x 1 1/4" x 4". Net Wt., 10 oz. Net Each. . . . . \$34.50

**Model 603TR Transistorized Mobile**—Noise cancelling, dynamic, for aircraft. Replaces carbon units. Has 48-db gain transistor amplifier, adjustable output to -16 db; magnetic hanger, Acoustalloy® diaphragm, 6-ft. coiled cord. Resp.: 200-4,000 cps. Lo-Z. Size, 2 3/4" x 1 3/4" x 3 1/2". Wt., 8 oz. Net Each. . . . . \$84.00

**Model 602TR**—Similar to 603TR, with different case design and conventional hanger (supplied). Output: -53 db. Response: 100-5,000 cps. 2 1/2" x 2" x 4". Net Wt., 13 oz. Net Each. . . . . \$55.80

**Model 210E Carbon**—Similar to Model 600E, but single-button carbon. Output: -50 db. Press-to-talk switch; 5-ft. coiled cord. Net Each. . . . . \$21.00

**Model 205STCKK Differential Carbon**—Close-talking, noise-cancelling, single button carbon. FAA approved (Cert. No. 1040) for aircraft and emergency communications. Blastproof, waterproof and shock resistant. Output: -55 db at 1/4". Black phenolic case; press-to-talk switch; mounting bracket and 5-ft. coiled cord. Size, 2 1/4" x 2" x 4". Net Weight, 8 oz. less cable. Net Each. . . . . \$30.00

**Model 205STCKP**—Same as above, but with PJ-068 plug. Net Ea. \$32.85

**Model 625SKK Dynamic Differential Handset**—For paging, intercom and communications. Sturdy phenolic housing contains noise-cancelling 250-ohm microphone and 150-ohm magnetic receiver. Response: 100-5,000 cps. Output Level: -55 db. Switch-operated microphone and relay circuit. Five foot, five-conductor coiled cord. Size, 8 1/2" x 3" x 2 3/8". Net Wt., 1 1/2 lbs. Net Ea. \$51.00

**Model 625TRSKK**—Identical to Model 625SKK above except with two-stage transistor amplifier for direct replacement in carbon microphone circuits. FAA type certificate: 3R42-2. Net Each. . . . . \$73.50



All E-V microphones (except crystals) are eligible for FCDA purchases.

# Electro-Voice® MICROPHONES AND ACCESSORIES

## SPECIAL PURPOSE MICROPHONES

**Model 648 Dynamic Microphone**—Extremely versatile teaching lab, paging, intercom or PA mike. Response: 50-10,000 cps. Output: -58 db. Choice of Lo-Z (matches 50-250 ohms) or high impedance. Omnidirectional. Acoustalloy® diaphragm. Non-reflecting gray. Less cable. Size: 6 $\frac{1}{4}$ " x 1" (including  $\frac{3}{8}$ "-27 thread adapter). Net Weight (with adapter), 8 $\frac{1}{2}$  oz. Net Each.....**\$33.60**

**Model 805 Contact**—For guitar, banjo, other stringed instruments. Hi-Z. Sealed crystal. Chrome finish. 15' cable. Net Each.....**\$12.00**

**Model 327 Shock Mount and Windscreen**—For use with Model 642 mike. Fabricated of Acoustifoam®, eliminates blast caused by fast panning of boom, or when used outdoors. Consists of 324 shock mount and 326 windscreen. Net Weight, 1 lb. 8 oz. Net Each..**\$60.00**

**Model 324 Shock Mount**—Suspension mount for Model 642 microphone. Will accept Model 326 windscreen. Net Each.....**\$36.90**

**Model 326 Windscreen Kit**—Acoustifoam windscreen for Model 642 microphone. Compatible with Model 324 Shock Mount. Net Each....**\$26.10**

**Model 335A Windscreen**—Acoustifoam® windscreen fits 630, 634, 638 and 641 microphones. Net Weight,  $\frac{1}{2}$  oz. Net Each.....**\$7.50**

**Model 355 Windscreen**—Designed to reduce or eliminate wind noise. Made of Acoustifoam®, a material which will not alter frequency response or polar characteristics of mike. Also protects against mechanical shock damage and pickup of dust and magnetic particles. For use with Models 655C, 654A, 676, 636, 623, 647 and 926. Gray color. Size: 9" x 3 $\frac{1}{4}$ ". Net Weight,  $\frac{1}{2}$  oz. Net Each..**\$6.60**

**Model 524A Windscreen**—Designed specifically for use with Model 666 microphone. Minimizes wind effect on boom operation or when used outdoors. Made of Acoustifoam®. Net Weight,  $\frac{1}{2}$  oz. Net Each.....**\$7.20**

\*Electro-Voice Trademark.

**Model 418 Desk Stand**—Use with microphones using small-type stud such as Models 611, 623, 630, 635, 636, 641, 911 and 951. Die cast base. Gray finish. Net Each.....**\$ 7.80**

**Model 418S**—With switch. Net **10.50**

**Model 419 Desk Stand**—Similar to Model 418 but for use with microphones using large-type stud such as Models 644, 664 and 665. Net Each....**\$ 7.80**

**Model 419S**—With switch. Net **10.50**

**Model 419G**—Same as Model 419, but has gold finish to match Model 664G microphone. Net Each.....**\$9.75**

**Model 420 Desk Stand**—Heavy cast iron stand finished in TV gray. Specifically designed for use with Models 666, 655C, 654A, 652, 652A, 676 or mikes with 1" dia. using clamp attachment;

## MICROPHONE ACCESSORIES

**Model 356 Suspension Shock Mount**—For use with Model 642 on boom or floor stand. Excellent isolation. Net. **\$30.00**

**Model 300 Detachable Microphone Clamp**—Light weight adapter fits any 1" cylindrical microphone. Positive stand mounting.  $\frac{1}{4}$ " pipe thread, adapter for  $\frac{3}{8}$ "-27. Net Each.....**\$4.50**

**Model 310 Detachable Microphone Clamp**—Similar to Model 300 above, but designed for  $\frac{3}{4}$ " diameter microphones. Net Each.....**\$3.60**

**Model 311 Snap-In Clamp**—Cut back to allow snap-in, snap-out mounting of  $\frac{3}{4}$ " dia. microphones. Net Ea...**\$3.60**

**Model 502B Matching Transformer**—Designed for use in series with mike line. Transformer windings have low distributed capacity and are amply shielded against inductive hum by a shield inside pressure cast case. Designed for 60, 150 and 250 ohms—to Hi-Z. Broadcast fidelity response: 30-20,000 cps. Size: 1" dia. x 3 $\frac{1}{4}$ " lg. Net Each.....**\$9.90**

**Model 513 Filter**—For use with low impedance microphones, has switch to match 50, 150 or 250 ohms. When used in line between mike and preamplifier, it rejects unwanted noise below 100 cps. 2 $\frac{1}{4}$ " dia. x 5 $\frac{1}{2}$ " long. Net Weight, 1 lb. 10 oz. Net Each.....**\$57.00**

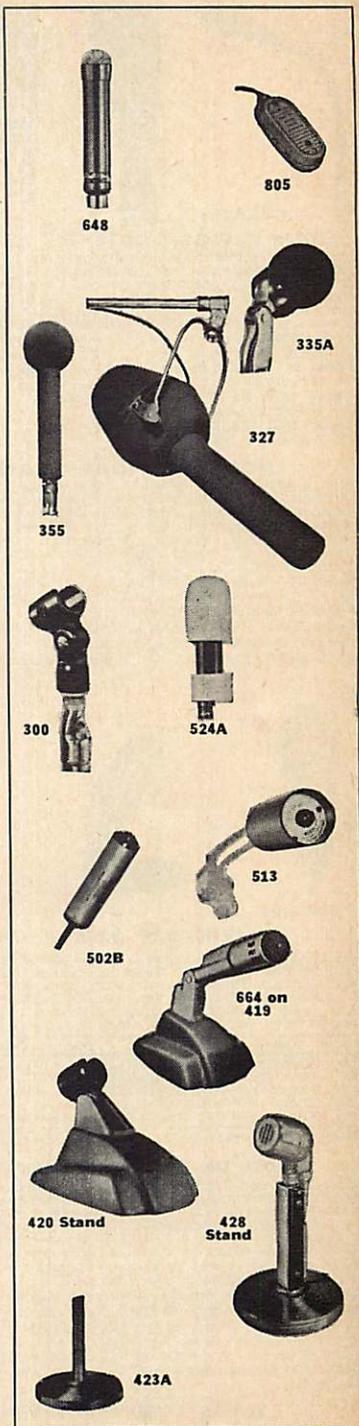
## MICROPHONE STANDS

mounts without tools. Base holds mike in position when subjected to ordinary strain. Net Wt., 3 lbs. Net Ea. **\$12.00**

**Model 420G**—Same as Model 420, but has gold finish to match Model 676G microphone. Net Each.....**\$15.75**

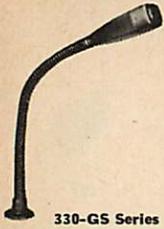
**Model 423A Desk Stand**—Sturdy, smartly styled, round die-cast matte black base, 5 $\frac{1}{2}$ " diameter. Rests firmly on rubber base buttons. Threaded  $\frac{3}{8}$ "-27. With 5" chrome stem riser. Net Weight, 1 lb. Net Each.....**\$3.60**

**Model 428 Touch-To-Talk Stand**—Fits standard  $\frac{3}{8}$ "-27 thread. Lever-type DPDT switch for relay operation or microphone On-Off—closes or opens instantly or locks in "talk" position. Satin chrome; gray plastic switch lever with locking button. 7" x 5 $\frac{1}{2}$ " base diameter. Net Weight, 1 $\frac{1}{4}$  lbs. Net Each.....**\$18.00**



All E-V microphones (except crystals) and accessories are eligible for FCDA purchases.

# ASTATIC Microphones, Accessories



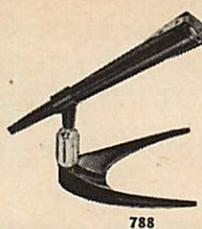
330-GS Series



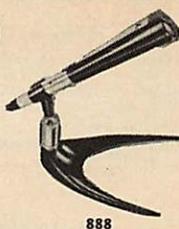
77



77-L



788



888



988

## SERIES 330-GS GOOSENECK MICROPHONES

Professional performing, all purpose gooseneck microphones for intercommunications, tape recording, amateur language laboratories and many other applications. Gooseneck is permanently attached, 13" in length. Satin chrome finish for both microphone and gooseneck assembly. Complete with 7' single conductor, shielded cable (335L-GS, 2-cond. for balanced line).

- Model 332-GS Crystal—Output, —54 db; response, 30—15,000 cps. Net Each. . . . . **\$14.70**
- Model 333-GS Ceramic—Output, —58 db; response, 30—10,000 cps. Net Each. . . . . **\$14.70**
- Model 335H-GS Dynamic Hi-Z—Output, —56 db; response, 100—12,000 cps. Net Each. . . . . **\$19.80**
- Model 335L-GS Dynamic Lo-Z—Output, —57 db; response, 100—12,000 cps. Net Each. . . . . **\$18.00**

## MODEL 77 DYNAMIC CARDIOID

Most positive feedback mike ever built. Also available in gold finish. Unidirectional design has suspended cartridge; eliminates external shock mounts. Built-in impedance selector. **Front-to-Back Pick-up:** 18 db differential. **Output:** —48 db. **Frequency Response:** 30—15,000 cps. **Impedance:** Low-Z, 30—50 ohms; medium, 150—250 ohms; high, 40,000 ohms. Shipping Weight, approximately 3 lbs., less stand.

- Model 77—With on-off switch and provisions for locking in "on" position. Net Each. . . . . **\$49.50**
- Model 77 Gold Finish—Net Each. . . . . **\$55.50**
- Model 77-L—Head only for mounting on G Stand. Net. . . . . **\$43.50**
- Model 77-L Gold Finish—Net Each. . . . . **49.50**
- Model G-77—Includes G Stand and 8' cable. Net Each. . . . . **58.47**

## MODEL 788 "METRO" DYNAMIC

Wide range and rugged construction for voice and music reproduction in PA, recording and TV, indoor or outdoor. **Response:** 60—13,000 cps. **Output:** —58 db, lo-Z; —56 db, hi-Z. Black die cast alloy housing with brushed gold trim. Omnidirectional. Balanced high or low imp. by simple change. Max. dia. 1 3/8" x 8 3/4" h. Built-in On-Off switch. Desk-floor stand adapter, lavalier cord and assembly, belt clip, 20' cable. Net Weight, 8 oz. **\$47.70**

Model 788—Dynamic Microphone. Net Each. . . . . **\$47.70**

## MODEL 888 "TEMPO" DYNAMIC

High fidelity and advance styling for applications in color TV, sound stage and deluxe PA systems. **Response:** 50—15,000 cps. Multi-impedance, 50—200, balanced, and hi-Z. **Output Level:** —58 db, lo-Z; —56 db, hi-Z. Die cast alloy housing in satin black with brushed chrome finish; 9 3/8" long x 1 1/2" max. dia. Includes SA-8 desk-floor stand adapter, lavalier cord and assembly with belt clip and 20' two-wire shielded cable. Weight, 9 oz. **\$66.00**

Model 888—Dynamic Microphone. Net Each. . . . . **\$66.00**

## MODEL 988 "VOGUE" DYNAMIC

Beauty and high fidelity for the most exacting color TV and broadcast requirements. **Response:** 40—17,000 cps. **Output Level:** —56 db, hi-Z. Adjustable imp.: 50, 150 or 250 ohms for balanced line. Black housing with brushed gold finish, 9 1/2" long x 1 1/2" max. dia. With desk-floor stand adapter, lavalier cord and assembly and 20' cable. Net Weight, 8 3/4 oz. **\$90.00**

Model 988—Dynamic Microphone. Net Each. . . . . **\$90.00**

## MODEL A-8 "FUTURA" DESK STAND

For Models 788, 888, and 988 mikes. Has 3/8"-27 thread. **\$4.95**

Model A-8 Desk Stand (illus. on Models listed)—Net. . . . . **\$4.95**



330 Series



A-7



DN-50



JT-30



10-C, 10-D



D-104

## SERIES 330 MICROPHONES

Small, slim mikes with quality performance for various applications at real low price. Model 331 has momentary on, spring-return switch, furnished with hang-up bracket. Cable provides for audio and relay connections. All other models have slide switch with "lock-on" position complete with lavalier and stand adapter with 3/8"-27 thread. High impedance except No. 335L.

| Model | Type    | Output | Freq.    | Body    | Grille | Cap    | Net            |
|-------|---------|--------|----------|---------|--------|--------|----------------|
| 331   | Ceramic | —58 db | 300—7000 | Black   | Black  | Chrome | <b>\$10.74</b> |
| 332   | Crystal | —54 db | 30—15000 | Chrome  | Black  | Chrome | <b>10.74</b>   |
| 333   | Ceramic | —58 db | 30—10000 | Black   | Black  | Chrome | <b>10.74</b>   |
| 335H  | Dynamic | —56 db | 100—12kc | TV Gray | Chrome | Chrome | <b>15.90</b>   |
| 335L  | Dynamic | —57 db | 100—12kc | TV Gray | Chrome | Chrome | <b>14.10</b>   |

Model A-7 Desk Stand—With adjustable swivel. Net Ea. **\$1.47**

## MODEL DN-50 "THE COMMENTATOR"

General purpose. Unitary moving coil system, carefully proportioned acoustic circuit. **Response:** 50—10,000 cps. **Output:** DN-50, —51 db; DN-HZ, —52 db. Semi- or non-directional. Opalescent gray and bright chrome finish. With 10' cable. Size: 6 3/8" h, 2 3/8" grille dia., 4 3/8" d. Net Wt., 1 lb. 12 oz. (mike only). **\$20.10**

- Model DN-50—Dynamic Mike, 50 ohms Imped. Net Ea. **\$20.10**
- Model GDN-50—Same as above with grip-to-talk stand; 6' two conductor shielded cable. Net Each. . . . . **\$31.62**
- Model UG8-DN50—Same as above, but balanced. Net. . . . . **34.62**
- Model DN-HZ—Same, but HI-Z. Net Each. . . . . **23.82**
- Model GDN-HZ—Same as DN-HZ with grip-to-talk stand; 6' two conductor shielded cable. Net Each. . . . . **\$35.94**
- Model G Stand—With grip-to-talk on-off switch. Net. . . . . **14.97**
- Model UG8 Stand—Same as Model G; use with DN balanced line. Net Each. . . . . **\$17.97**

## SERIES JT-30 "SPOKESMAN"

Streamline die-cast alloy housing; gray Hammerlin finish with chrome grille and fittings; includes handle and interlocking base. Concentric cable connector. For general PA, recording and communication. 8" high, 2 3/4" grille dia., 5 3/8" base dia. Weight, 21 oz.

Model JT-30 Crystal—Output, —49 db; impedance, 1—5 megs; response 30—10,000 cps. Complete with 8' single-conductor shielded cable. Net Each. . . . . **\$11.04**

Model JT-30-C Ceramic—Same as JT-30 except with —54 db output and 5' cable. Net Each. . . . . **\$11.34**

Model JT-30-F Crystal (Head Only)—Same as Model JT-30, except less handle and desk stand. Threaded 3/8"-27 for mounting. Net Each. . . . . **\$9.54**

Model JT-30-CF Ceramic (Head Only)—Same as Model JT-30-C, except less handle and desk stand. Threaded 3/8"-27 for mounting. Net Each. . . . . **\$9.84**

## MODELS 10-C, 10-D "THE VOICE"

Ideal for SSB, AM transmitters, paging and industrial applications. High impedance. **Output:** —52 db, Model 10-D; —54 db, Model 10-C. **Range:** 300—3,000 cps. Plug-in 3/8"-27 thread mounting with 6' cable. **\$17.82**

- Model 10-C Ceramic—Gray chrome grille. Net Each. . . . . **\$17.82**
- Model G-10-C Ceramic—Same as above, but with "G" (grip-to-talk) stand. Net Each. . . . . **\$29.94**
- Model G-10-D Dynamic—Chrome body and grille. Net Ea. . . . . **23.82**
- Model G-10-D Dynamic—Same as above, but with "G" (grip-to-talk) stand. Net Each. . . . . **\$35.94**

## SERIES D-104 "PREMIER"

The radio amateur's first choice. Balanced performance. Machined brass parts; heavy mesh grille; chrome finish. Standard 3/8"-27 thread mounting; adaptable to SC-11 lock-switch adapter or can be mounted on Model G (grip-to-talk) stand. Metal seal crystal offers protection against moisture and dryness. Ceramic immune to excessive heat and humidity; 3" dia., 1 1/2" deep. Weight, 14 oz. Complete with 5' single conductor shielded cable. **\$18.60**

- Model D-104 Crystal—Output, —46 db; impedance, 1—5 megs; response, 30—7,500 cps rising 500—4,000 cps. Net. . . . . **\$18.60**
- Model D-104C Ceramic—Output, —49 db; all other characteristics similar to D-104. Net Each. . . . . **\$18.60**
- Model SC-11 Adapter—Net Each. . . . . **5.40**
- Model G Stand—With grip-to-talk on-off switch. Net. . . . . **14.97**

### MODEL SM5 UNIDIRECTIONAL BOOM MICROPHONE

For motion picture, television boom and difficult remote pickups. Exceptionally uniform and symmetrical cardioid polar pattern minimizes sound coloration due to off-axis pickup. Excellent rejection of background noise; highly effective integral windscreens; internal mechanical isolation; lightweight. **Frequency Response:** 50 to 15,000 Hz. **Polar Pattern:** Unidirectional. **Output Level:** -57 db. **Impedance:** 50 ohms (SMA), or 150 ohms (SMB). **Size:**  $3\frac{1}{2}$ " dia. x  $9\frac{1}{2}$ " long. **Accessories:** Cannon XLR-3-11C receptacle attached. Standard  $\frac{3}{8}$ " boom mounting;  $\frac{3}{8}$ "-27 adapter supplied. Shpg. Wt., 4  $\frac{1}{2}$  lbs.  
**Shure Model SM5A Unidirectional Boom Microphone—Net Each..... \$225.00**  
**Shure Model SM5B Unidirectional Boom Microphone—Net Each..... 225.00**  
**Shure Model 533C Accessory Desk Mount—For SM5 Microphone—Net Each 15.00**

### MODELS SM56 AND SM57 UNIDIRECTIONAL DYNAMIC MIKES

Exceptionally uniform and effective cardioid pickup pattern minimizes effects of studio or location acoustics and background noise. Shock-mounted cartridge. Very effective for announcing, narration, dialogue, vocal mikes and rhythm pickups. **Frequency Response:** 50 to 15,000 Hz. **Polar Pattern:** Unidirectional. **Impedance:** Dual: 50 ohms and 150 ohms. **Output Level:** -56 db. Textured gray case. With 20-ft. two-conductor, shielded cable and Cannon XLR-3-11C connector.  
**Shure Model SM56 Unidirectional Dynamic Microphone—Permanent swivel—shock mount with impedance switch. Adapter for converting impedance switch for "On-Off" use included. Stand threaded  $\frac{3}{8}$ "-27. Size, 1  $\frac{1}{4}$ " dia. x  $5\frac{1}{2}$ " long. Shpg. Wt., 2  $\frac{3}{4}$  lbs. Net Each..... \$81.00**  
**Shure Model SM57 Unidirectional Dynamic Microphone—Hand-held version for remote and interview-type use and for vocalists where "handability" is important. Supplied with slip-in swivel adapter for  $\frac{3}{8}$ "-27 thread. Size, 1  $\frac{1}{4}$ " dia. x  $6\frac{1}{2}$ " long. Shpg. Wt., 2  $\frac{3}{4}$  lbs. Net Each..... \$63.00**

### MODEL SM58 UNIDIRECTIONAL DYNAMIC MICROPHONE

Unusually uniform cardioid pickup pattern combines with highly effective built-in wind and "pop" filters. For remote, sports, news, interviews, location and studio vocal music recording. Integral, spherical filter minimizes explosive breath sound ("pop"), breath, and wind noises. Shock-mounted cartridge. Slip-in swivel adapter for  $\frac{3}{8}$ "-27 stand thread. **Frequency Response:** 50 to 15,000 Hz. **Polar Pattern:** Unidirectional. **Impedance:** Dual: 50 and 150 ohms. **Output Level:** -56 db. **Size:** 2" dia. x  $6\frac{1}{4}$ " long. With 20-foot, two-conductor shielded broadcast type cable and Cannon XLR-3-11C connector. Textured dark gray enamel chrome finish. Shpg. Wt., 2  $\frac{3}{4}$  lbs.  
**Shure Model SM58 Unidirectional Dynamic Microphone—Net Each..... \$81.00**

### MODEL SM33 UNIDIRECTIONAL RIBBON MICROPHONE

Wide-range response and super-cardioid directional pattern for both voice and music. Low frequency response switch. Permanent 115° swivel shock mount fits  $\frac{3}{8}$ "-27 stand thread. **Frequency Response:** 40 to 15,000 Hz. **Polar Pattern:** Super-cardioid (unidirectional). **Impedance:** Dual: 50 ohms and 150 ohms. **Output Level:** -58.5 db. **Size:** 1  $\frac{3}{4}$ " wide x 2  $\frac{1}{4}$ " dia. x 7  $\frac{1}{2}$ " length. Die-cast zinc case in light and dark gray. With 20-foot cable and Cannon XLR-3-11C attached. Shpg. Wt., 3  $\frac{1}{2}$  lbs.  
**Shure Model SM33 Unidirectional Ribbon Microphone—Net Each..... \$129.00**

### MODEL SM60 OMNIDIRECTIONAL DYNAMIC MICROPHONE

Ideal on-camera or on-stage mike for vocalists and MC's for studio and remote interviews, news, sports, etc. Attractively styled and rugged. Smooth natural sound and built-in wind and "pop" filter to minimize breath and wind noise. Includes slip-in swivel adapter for  $\frac{3}{8}$ "-27 stand thread. **Frequency Response:** 45 to 15,000 Hz. **Polar Pattern:** Omnidirectional. **Impedance:** 150 ohms. **Output Level:** -59 db. **Size:** 1  $\frac{1}{4}$ " dia. x  $6\frac{1}{2}$ " length. Case is finished in matte chrome. With 20-foot cable and Cannon XLR-3-11C connector. Shpg. Wt., 2 lbs.  
**Shure Model SM60 Omnidirectional Dynamic Microphone—Net Each..... \$49.20**

### MODEL SM76 OMNIDIRECTIONAL DYNAMIC MICROPHONE

Unusually extended and smooth response for critical applications in broadcasting and recording. Slender, yet rugged for all working conditions. Steel case for a magnetic shielding. Slip-in swivel adapter for  $\frac{3}{8}$ "-27 threaded stand. **Frequency Response:** 45 to 20,000 Hz. **Polar Pattern:** Omnidirectional. **Impedance:** Dual: 50 and 150 ohms. **Output Level:** -60 db. **Size:**  $2\frac{1}{2}$ " dia. x  $8\frac{1}{2}$ " long. Textured gray case. With 20-foot cable and Cannon XLR-3-11C connector. Shpg. Wt., 2 lbs., 2 oz.  
**Shure Model SM76 Omnidirectional Dynamic Microphone—Net Each..... \$105.00**

### MODEL SM50 OMNIDIRECTIONAL DYNAMIC MICROPHONE

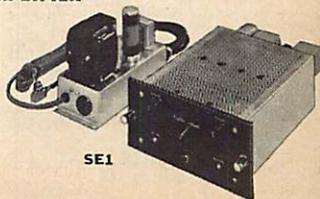
Self-windscreened, rugged mike withstands the most severe field use. Built-in acoustic filter virtually eliminates wind noise, "blasting", and "pop". Ideal for remote interviews, news, sports pickups, and other field and studio applications. Smooth, natural sounding response. Slip-in swivel adapter for  $\frac{3}{8}$ "-27 threaded stand. **Frequency Response:** 40 to 15,000 Hz. **Polar Pattern:** Omnidirectional. **Impedance:** Dual: 50 ohms and 150 ohms. **Output Level:** -58 db. **Size:** 1  $\frac{1}{2}$ " dia. x  $6\frac{1}{4}$ " long. Aluminum and zinc die-cast case has dark gray finish. With 20-foot, two-conductor shielded cable and Cannon XLR-3-11C connector. Shpg. Wt., 2 lbs., 5 oz.  
**Shure Model SM50 Omnidirectional Dynamic Microphone—Net Each..... \$75.00**

### MODEL SM51 DYNAMIC LAVALIER MICROPHONE

Small, rugged, dynamic lavalier design for television, motion pictures, radio, and similar professional applications. Positive-locking lavalier holder has adjustable clip and belt clip for the cable. Smooth contours and recessed grille for minimum clothing noise. **Frequency Response:** 70 to 12,000 Hz. (optimized for lavalier use). **Polar Pattern:** Omnidirectional. **Impedance:** 50 to 250 ohms. **Output Level:** -60.5 db. **Size:**  $1\frac{1}{2}$ " dia. x  $2\frac{1}{4}$ " long. Non-reflecting gray case; with stainless steel recessed grille. With 30-foot, non-detachable, two-conductor shielded cable. Shpg. Wt., 1  $\frac{1}{2}$  lbs.  
**Shure Model SM51 Dynamic Lavalier Microphone—Net Each..... \$63.00**

### MODEL SE1 STEREO TRANSCRIPTION PREAMPLIFIER

Designed specifically for stereo broadcasting, recording studio and mastering room playback and related applications where the highest quality of disc reproduction is required. Provides precise RIAA equalization from magnetic phono reproducers at line levels. Features separate high and low frequency response trimmers on each channel and includes a flat position for calibration checks and special applications. Performance meets the most critical standards with exceptionally low distortion, noise level and susceptibility to stray RF fields. **Gain:** +4 dbm min. with 0.012 V input. **Frequency Response:** -1 db from RIAA or 30-15,000 Hz, flat. **Hum and Noise:** -64 db at +4 dbm output. **Input Impedance:** 47,000 ohms. **Output:** +4 to +8 dbm nominal at 600 or 150 ohms (strapped to users choice). **Channel Separation:** Greater than 37 db at 10 kHz. **Controls:** Flat/RIAA; Low Frequency Filter; High Frequency Filter; Left Channel Balance; Right Channel Balance; Pilot Light. **Power Supply:** Separate, with pilot line switch. **Mounting:** Pre-amplifier,  $3\frac{1}{2}$ " x 7" opening with 11" rear clearance; power supply,  $3\frac{1}{2}$ " x 7" x 7".  
**Shure Model SE1 Stereo Transcription Pre-amplifier—Net Each..... \$295.00**



SE1

# SHURE Studio Microphones

## STUDIO MICROPHONES

### MODEL 576 DYNAMIC OMNIDIRECTIONAL PROBE

Broadcast-quality dynamic microphone designed for superior performance in television, radio and critical PA applications. Ultra-modern, rugged design meets highest standards under typical broadcast conditions. Ultra-slim styling assures maximum view of performance for on-camera use. Smooth, natural, wide-range response assures authentic pickup of voice or music. Dual impedances selectable by moving pin jacks inside case. Comes complete with Model A575 slip-in swivel adapter permitting mike to be tilted 90° from vertical to horizontal; 3/8"-27 threaded. Rugged steel case in non-reflecting gray finish provides effective magnetic shielding as well as beauty. Stainless steel grille. May be used with Shure S33B stand, A95A transformer, S39A isolation stand, or A45 isolation unit. Order in matched pairs for stereo broadcasting and recording. **Frequency Response:** 40-20,000 cps. **Polar Pattern:** Omnidirectional. **Impedance:** 50 or 150 ohms, internally selectable. **Output:** 60 db below 1 mW/10 microbars; 50 ohms, .050 mV/microbar; 150 ohms, .095 mV/microbar. **Cable:** 25-ft., three-conductor, shielded broadcast cable supplied. **Size:** 3/4" dia. x 8 3/4" lg., overall. **Net Wt., 7 oz.**  
**Shure Model 576 Dynamic Probe Microphone—Net Each..... \$105.00**

### MODEL 570 MINIATURE LAVALIER MICROPHONE

Professional quality and miniature size combine in dynamic mike for lavalier use in television, lectures, etc. Special "shaped" response gives superior performance; reduces pickup of clothing and cable noise. Inconspicuous "Flex-Grip" lavalier assembly (supplied) holds mike firmly; yet, permits easy quick removal. Lavalier clip opens left or right; or, can be removed. Optional line transformer A95A may also be used. Employs Duraconic diaphragm and magnet. Omnidirectional polar pattern. Comes with lightweight, flexible 30-ft., two-conductor shielded cable attached; best in super-quiet grade. Non-reflecting gray metal case has stainless steel grille. **Frequency Response:** 50-12,000 cps, shaped for optimum lavalier performance with rising response to 6000 cps. **Impedance:** 150 ohms to match low-Z inputs. **Output:** 59 db below 1 mW/10 microbars; .095 mV/microbar. **Size:** 3/4" dia. x 2 3/4" lg., overall. **Weight, 2 oz.**  
**Shure Model 570 Lavalier Microphone—Net Each..... \$570.00**  
**Shure Model 570S—Same but with built-in on-off switch—Net Each..... \$63.00**

### NEW MODEL 571 MINIATURE OMNIDIRECTIONAL MICROPHONE

Studio quality dynamic microphone for voice applications. Can be used on stand, hand-held, suspended over stage, concealed in studio or other broadcast, motion picture, theatrical or public address applications. Rugged construction, with steel case for magnetic shielding, finished in non-reflecting gray. Supplied with Model A67R swivel adapter and nondetachable 30 ft., two-conductor shielded cable. **Frequency Response:** 50-10,000 cps. **Impedance:** Matches all low impedance inputs, 50-250 ohms. **Output:** -60.5 db (0 db = 1 mW/10 microbars), .085 mV/microbar. **Size:** 3/4" dia. x 2 3/4" lg., w. ft., 2 oz.  
**Shure Model 571 Microphone—Net Each..... \$570.00**

### MODEL 330 UNIDIRECTIONAL RIBBON MICROPHONE

A truly fine and rugged microphone for discriminating users with the most exacting requirements for high-fidelity recording in the home. A small, super-cardioid microphone, recommended for finest quality indoor PA installations. Unidirectional design reduces random noise energy 73%. Patented "Uniphase" system. Horn loaded ribbon transducer for smooth response and production uniformity guaranteed to ±2 1/2 db, 30-15,000 cps. Features anti-impedance switch, anti-P.E.F. filter screen, and auto-adjusting lifetime swivel. Sturdy one-piece metal case with vibration-isolation unit mounted in live rubber. Connector is Cannon XL-3-11. **Impedance/Output Level:** Low (50 ohms) output level is 59 db (Model 333, -60 db) below 1 mW per 10 microbar signal; medium (150 ohms), 57 db (Model 333, 59 db) below 1 mW per 10 microbar signal; high-medium (250 ohms), 55 db (Model 333, 59 db) below 1 mW per 10 microbar signal. Furnished with 20' two-conductor shielded cable. Anise finish; Model 330, Satin-chrome; Model 333, Bronze-Tone. **Shipping Weight, Model 330, 3 1/4 lbs.; Model 333, 4 1/4 lbs.**  
**Shure Model 330 Professional Uni-Ron Mike—Net Each..... \$720.00**  
**Shure Model 333 Studio Uni-Ron Mike—Net Each..... \$150.00**

### MODEL 300 BIDIRECTIONAL GRADIENT MICROPHONE

A rugged, high fidelity, multi-impedance mike widely used for TV, radio, Hi-Fi uses, and professional recording. Reduces random noise and reverberation by 66%; combining the best features of conventional velocity mikes with advanced acoustic design. Bidirectional polar pattern is effective over a wide frequency range. **Frequency Response:** ±2 1/2 db, 15-15,000 cps guaranteed. Anti-P.E.F. filter screen eliminates unwanted noise. Gradient factor permits placing the mike at a 73% greater distance from the performer than is possible with omnidirectional mikes; bidirectional feature reduces all sounds at both sides of the mike but with excellent pickup at front and rear. Features voice-mute switch, vibration-isolation unit mounted in live rubber, and multi-impedance switch. **Impedances/Output Level:** Low (30-50 ohms), output level 60 db below 1 mW per 10 microbar signal; medium (150-250 ohms), output level 55 db below 1 mW per 10 microbars and high, 57 db below 1 volt per microbar. Supplied with 20 ft. two-conductor shielded broadcast type cable with Cannon XL-3-11 connector attached. Use Model S33 as accessory desk stand. **Size:** 1 1/4" w. x 2 1/4" d. x 9 1/2" h. **Shipping Weight, 4 lbs.**  
**Shure Model 300 Bidirectional Gradient Mike—Net Each..... \$900.00**

### MODEL 5565 "UNIDYNE II" CARDIOID DYNAMIC MIKE

Specially designed to meet the high technical requirements of broadcast and TV studios. Endures heavy punishment of daily use and abuse, operating at optimum efficiency when conventional mikes are out of service. Offers close tolerances in frequency response and directivity. Ideal for station and remote broadcasting, PA, theater-stage sound systems and recording applications. Provided with vibration-isolation unit of live rubber construction; completely eliminates metal-to-metal contact between mike and stand. **Frequency Response:** 40-15,000 cps, ±2 1/2 db guaranteed. **Polar Pattern:** Ultra-Cardioid (unidirectional); response at rear -15 db from front. **Impedance/Output Level:** Low (35-50 ohms), -54 db; medium (150-250 ohms), -55 db; high, -57 db. **Case:** Diecast zinc w/ satin chrome finish. **Output Level:** 45° forward, 80° backward; with Cannon XL-3-11 connector and 20 ft., two-conductor shielded broadcast type cable. **Size:** 3/8"-27 threaded. **Size:** 2 1/4" w. x 3 3/4" d. x 7 3/4" h.  
**Shure Model 5565 "Unidyne II" Dynamic Mike—Net Each..... \$810.00**

### MODEL 546 "UNIDYNE III" CARDIOID BROADCAST MIKE

Uniform cardioid pickup pattern in slim dynamic design. Recommended for critical broadcast and theater-stage sound systems, PA and recording applications. Diecast zinc case with "Armo-Dur" in satin chrome and black; 180° swivel. Special vibration-isolation shock mount of live rubber. Stand 3/8"-27 threaded. Comes with 20 ft., two-conductor shielded cable and Cannon XL-3-11 connector. **Frequency Response:** 50-15,000 cps. **Output Level:** -55 db below 1 mW per 10 microbars. **Impedance:** Choice of 50 ohms or 150 ohms by switch. **Size:** 1 1/4" dia. x 6 1/2" lg., less swivel.  
**Shure Model 546 "Unidyne III" Cardiod Mike—Net Each..... \$810.00**

### MODEL A95A CABLE TRANSFORMER

High quality, cable-type transformer for matching low impedance mike (35-50 ohms and 150-250 ohms) to high impedance amplifier. Solves problem of excessive high frequency loss and objectionable hum when long lengths of cable are used. May also be used in matching high impedance to low impedance circuits. **Frequency Response:** ±1 db, 20-20,000 cps. Gray and black, magnetically shielded case. Furnished with Cannon XL-3-11 Input and Amplifier A.I.F. output. **Size:** 2 1/2" lg. x 3/4" dia. **\$10.50**  
**Shure Model A95A Cable Transformer—Net Each..... \$10.50**  
**Models 546, 5565 and 576 available in matched pairs for stereo at no extra cost.**  
**Models 330, 333 and 300 are adaptable to stereo.**



## VIBRATION ISOLATION STAND

Ideal for table, desk, stage footlight, remote broadcast such as sporting events, conferences, panels, etc. where vibration is a problem. Gives maximum isolation from extreme vibrations. Fits all Shure mikes and swivel adapters. Extension adapter supplied to increase height of certain mikes requiring cable connector clearance. Durable black crackle finished plastic with heavy-duty foam rubber isolation. **Net Wt., 2 1/2 lbs. Shpg. Wt., 2 3/4 lbs.**  
**Shure Model S39A—Net Each..... \$150.00**

## BROADCAST DESK STANDS

**Shure Model S33—Baked bronze finish.** Use with 300, 333, 525 and 535 microphones. **Net Each..... \$90.00**  
**Shure Model S33B—Same, but black finish.** Use with 350, 530, 544, 545, 546, 566S, 576, 578, 415 and 430 mikes. **Net Each..... \$90.00**

# SHURE PUBLIC ADDRESS AND RECORDING MICROPHONES

## PUBLIC ADDRESS AND RECORDING MICROPHONES

### MODEL 578 OMNIDYNE ULTRA-SLIM PROBE

Outstanding PA dynamic mike combines extra slim design with exceptional performance. Slender, inconspicuous shape built-in wide mesh "pop" filter which reduces breath noises. Extremely rugged construction provides quality PA use indoors and out. Smooth natural response. Carefully balanced for comfortable handling. Built-in "on-off" switch with optional locking plate to hold switch in "on" position. Dual impedance: Low and high to meet any requirement. Swivel adapter,  $\frac{3}{8}$ "-27 threaded, supplied. Employs Duraacoustic diaphragm and Alnico V magnet. May be used with S33B desk stand, A92A transformer, S30A isolation stand, or A45 isolation unit. Satin chrome steel case provides magnetic shielding. Available in matched pairs ( $\pm 1$  db, level;  $\pm 1\frac{1}{2}$  db, response) for stereo recording. **Frequency Response:** 60-17,000 cps. **Impedance:** Selectable 200 ohms and high. **Output:** High impedance, 59 db below 1 mW/microbar; low, 60 db below 1 mW/10 microbars. **Cable:** Shielded three-conductor cable 18 ft. long supplied. **Size:**  $\frac{3}{8}$ " dia. x  $7\frac{3}{4}$ " lg., overall. **Net Weight,** 7 oz., less cable. **\$49.50\***

**Shure Model 578S**—Same but mounted on swivel-switch assembly with attached Cannon XL-3-11 cable connector. **Net Each.**..... **\$54.00\***

### "UNIDYNE III" MOVING COIL, WIDE-RANGE CARDIOID

Smallest cardioid dynamic microphone available. Wide range reproduction of voice and music; highly flexible for hand or stand use. Dependable for fine quality PA systems, tape recording, etc. Reduces or eliminates feedback and background noise in adverse acoustic conditions. Permits placement at 75% greater distance from sound source than possible with omnidirectional types. Rugged; will operate for years without deviation from original standards. **Frequency Response:** 50-15,000 cps. **Impedance/Output Level:** Low (50-250 ohms), 57 db below 1 mW per 10 microbars; high, 55 db below 1 volt per microbar. **Pattern:** Cardioid. **Info:** Dicast zinc case and "Armo-Dur" in satin chrome and black;  $5\frac{1}{2}$ " lg. x  $1\frac{1}{4}$ " dia. With eqval. Amph. MC4M plug, 18 ft. three-conductor shielded cable, and A25B swivel adapter. Use with S33B desk stand. Models 545 and 545S available in matched sets (within 2 db) for stereo recording at no extra cost. **Shipping Weight,**  $2\frac{3}{4}$  lbs. **\$51.00\***

**Shure Model 545**—**Net Each.**..... **\$51.00\***  
**Shure Model 545S**—Same as above but with gooseneck, **Net Each.**..... **\$53.97\***  
**Shure Model 544-G6**—Same, but mounted on 6" flexible gooseneck with mounting flange. With 7' cable; A25B adapter, not supplied. **Net Each.**..... **\$49.80**  
**Shure Model 544-G12**—Same, but on 12" gooseneck. **Net Each.**..... **50.25**  
**Shure Model 544-G18**—Same, but on 18" gooseneck. **Net Each.**..... **51.00**  
**Shure Model 544**—Same, but less gooseneck. **Net Each.**..... **48.00**  
**Shure Model S33B**—Handsome black finished desk stand. **Net Each.**..... **5.00**

### MODEL 555 "UNIDYNE II" DYNAMIC

World-famous for faithfulness of sound reproduction; features patented "Uni-plus" network system. Recommended for PA and theater sound systems, recording and remote broadcasting. **Frequency Response:** 50-15,000 cps. **Impedance/Output Level:** Low (35-50 ohms), 54 db below 1 mW per 10  $\mu$ bars; medium (150-250 ohms), 55 db below 1 mW per 10  $\mu$ bars; high, 57 db below 1 V per  $\mu$ bar. Furnished with 18 ft. cable and plug assembly. **Shure Model 555**—**\$49.80\***

**Net Each.**..... **\$49.80\***  
**Shure Model 555W**—Same but with on-off switch. **Net Each.**..... **\$51.00\***

### MODEL 315

#### BIDIRECTIONAL GRADIENT

A rugged, high fidelity, multi-impedance mike. Bidirectional "fig. 8" pickup pattern eliminates side noise, picks up sound from front and rear. **Frequency Response:** 50-12,000 cps. Anti-"PFF" filter. Supplied with 18 ft. two-conductor shielded cable, and equivalent of Amphenol 91-MC3M plug. **Impedance/Output Level:** Low (35-50 ohms), 59.5 db below 1 mW per 10  $\mu$ bars; medium (150-250 ohms), 60 db below 1 mW per 10  $\mu$ bars; high, 57 db below 1 volt per  $\mu$ bar. **Size:** 6" high,  $1\frac{1}{2}$ " wide,  $1\frac{1}{4}$ " deep. **Shpg. Wt.,**  $3\frac{1}{4}$  lbs. **\$53.70**

**Shure Model 315**—**Net Each.**..... **\$53.70**  
**Shure Model 315S**—Same as 315 but with on-off switch. **Net Each.**..... **\$54.90**

### MODEL 560 DYNAMIC

Dual impedance dynamic mike with response "tailored" for lavalier applications. Move pin jacks to change from high to low impedance. Black satin finished all-metal case, stainless steel grille, clip-rip lavalier assembly, lightweight 18-ft. two-conductor shielded cable. **Impedance/Output Level:** Low (35-50 ohms), 55 db below 1 mW per 10 mW per 10  $\mu$ bars; high, 56.5 db below 1 volt per  $\mu$ bar. **Shpg. Wt.,**  $1\frac{1}{4}$  oz. **\$25.50**

**Net Each.**..... **\$25.50**

### MODEL 51 SONODYNE MULTI-IMPEDANCE

Ideal for PA, recording, etc. Built-in receptacle, 15-ft., two-cond. shielded cable, with mike plug attached. **Frequency Response:** 60-10,000 cps. **Impedance/Output Level:** Low (35-50 ohms), 52 db below 1 mW per 10  $\mu$ bars; medium (150-250 ohms),  $52\frac{1}{2}$  db below 1 mW per 10  $\mu$ bars; high, 49.5 db below 1 V per  $\mu$ bar. Satin chrome finish. **Wt.,** 3 lbs., 2 oz. **\$29.70**

**Shure Model 51S**—**Net Each.**..... **\$29.70**  
**Shure Model 51**—Same but with on-off switch. **Net Each.**..... **\$30.80**

### NEW MODEL 580S

#### "UNIDYNE A" DYNAMIC

Ideal for controlling feedback in economy PA systems and improving home record-

ings. True cardioid pickup pattern; rugged, shock-mounted dynamic element; on-off switch. **Frequency Response:** 50-13,000 cps. **Output:** 58 db. **Impedance:** Low, 150-250 ohms; high, Satin chrome case with "Armo-Dur" cap and stainless steel grille. With 15-ft. attached shielded cable with strain relief. **Size:**  $1\frac{1}{4}$ " dia. x  $6\frac{1}{2}$ " lg. **Shure Model 580SA**—High Imp.—**\$35.40**

**Shure Model 580SB**—Low Impedance. **Net Each.**..... **\$31.20**

### MODEL 550S "PROBE-DYNAMIC"

Rugged, omnidirectional, dynamic microphone features smooth, wide range response. Excellent for pickup of voice and music. Ideal for use in meeting rooms, auditoriums, for tape recordings, etc. **Frequency Response:** 50-15,000 cps. **Impedance:** 60 to 250 ohms and high. **Output:** -57.5 db. Complete with on-off switch, swivel and 18 ft. two-conductor cable. Satin chrome case. **Size:**  $1\frac{1}{2}$ " dia. x  $6\frac{1}{2}$ " lg. excluding swivel. **Net Weight,** 15 oz., less cable. **Shure Model 550S**—**\$41.40\***

**Net Each.**..... **\$41.40\***

### MODEL 540S "SONODYNE II" DUAL-IMPEDANCE DYNAMIC

The "Sonodyne II" features adjustable frequency response (provisions for alternate response for extra voice intelligibility). **Frequency Response:** 60-10,000 cps. **Impedance/Output Level:** Low (50-250 ohms), 56.5 db below 1 mW/microbar; high, 55 db below 1 volt/microbar. **Polar Pattern:** Omnidirectional. **Case:** Dicast zinc and "Armo-Dur" in satin chrome and black;  $3\frac{3}{8}$ " lg. x  $1\frac{1}{2}$ " dia. With equivalent Amphenol connector, MC3M, resonator plate and set-screw for changing response; 15-ft. two-conductor cable, and self-adjusting "positive-action" swivel. Use with Shure S33B desk stand and Model 56A cable-type transformer. **Shipping Weight,**  $3\frac{1}{4}$  lbs. **\$29.97**

**Shure Model 540S**—**Net Each.**..... **\$29.97**  
**Shure Model 540**—Same but without switch. **Net Each.**..... **\$28.77**

### MODEL 245 "UNIPLEX"

Low-cost solution to feedback problems. Excellent for stereo home recording. Swivel stand adapter included. Rugged ceramic cartridge performs at temperatures from -40° to +170° F. **Frequency Response:** 50-7000 cps. **Output:** -59 db. **Impedance:** High (1-5 megohms recommended). **Polar Pattern:** Cardioid. Dicast zinc case. **Size:**  $\frac{1}{2}$ " x  $1\frac{1}{2}$ " dia. (mike only). **Shpg. Weight,**  $\frac{3}{8}$  lb. **Shure Model 245**—Includes A25B swivel stand adapter and removable single conductor, 15' shielded cable. **\$21.00**

**Shure Model 245S**—Same, but with built-in on-off switch. **Net Each.**..... **\$22.20**



**Shure Model 245G**—Gooseneck mounting version of 245 without adapter; 7-ft. single conductor cable. **Net Each.**..... **\$18.00**  
**Shure Model 245GS**—Gooseneck mounting version of 245S without adapter. On-off switch, fixed 7-ft. single conductor shielded cable. **Net Each.**..... **\$19.20**

### MODEL 575S "VERSADYNE"

Smooth response from 40-15,000 cycles per second. Rugged, high performance dynamic cartridge. High or low impedance models. Complete with switch, stand adapter and lavalier cord. May be hand-held, stand-mounted or used as lavalier. Omnidirectional polar pattern. Single-cond. 7 ft. shielded cable. High-impact plastic body, satin anodized cap, stainless steel grille. **Size:**  $4\frac{3}{4}$ " lg. x  $1\frac{1}{4}$ " dia. **Weight,** 5 oz. **Shure Model 575S**—For PA amplifiers requiring moderate length of cable. **Impedance:** High (100,000 ohms recommended). **Output Level:** 59 db  $\pm 1.40$  below 1 V/microbar. **Net Each.**..... **\$14.40**

**Shure Model 575SB**—For use where long cable lengths are required or with transistor amplifiers requiring medium or low impedance mike. **Impedance:** 150-250 ohms. **Output Level:** -52 db (0 db = 1 mW per 10 microbars). **Net Each.**..... **\$12.60**  
**Shure Model 275S "Versaplex"**—Ceramic model. **Response:** 40-12,000 cps. **Impedance:** High (1-5 megs). **Output Level:** -59.5 db (0 db = 1 V/microbar). Complete with switch, stand adapter, lavalier assembly. **Net Each.**..... **\$9.00**

\*Available in gold finish, add \$6.00 to price shown.

**MODELS 315, 315S, 555, 555W, 545, 545S, 550S, 578, 578S AND 580SA AVAILABLE IN MATCHED SETS FOR STEREO AT NO EXTRA COST.**

## MOBILE AND GENERAL PURPOSE MICROPHONES

### MODEL 450 "DISPATCHER"

Features telescoping height adjustment; push-to-talk switch bar with locking feature. Relay portion is normally open, mike portion either normally open or closed. Controlled magnetic element with impedance switch. With 7-ft. four-conductor (two shielded) cable. **Frequency Response:** 100-9,000 cps. **Impedance:** Switchable for 50-250 ohms or high-impedance. **Output:** High, -52.5 db; low, -54 db. **Size:** 4" w. x 5 1/4" d. x 10 1/2" h. (adjustable). **Net Weight, 1 3/4 lbs. \$29.70**  
**Shure Model 450—Net Each... \$29.70**

### MODEL 520SL "DISPATCHER"

Handles the most severe field requirements of paging, dispatching systems. Operates both mike and relay circuits dependably. Grip-to-talk DPST switch normally closed, normally open. **Frequency Response:** 100-9,000 cps. **Impedance:** 50-250 ohms. **Output Level:** 52.5 db below 1 V per microbar. Has 7 ft. 2 conductor shielded cable; eqv. Amphenol MC3M plug. Shipping Weight, 3 3/4 lbs. **Shure Model 520SL—Net Ea... \$27.00**  
**Shure Model 520SLB—Same as low impedance (150-250 ohms); 51.0 db below 1 mV/10 microbars, output level. With 4-conductor (2 shielded), 7 ft. cable and eqv. Amphenol MC4M plug. Net Each... \$29.55**

### MODEL 488

#### NOISE-CANCELLING MICROPHONES

Differential type mikes with Controlled Reactance cartridge effectively cancels background noise; permit transmission under conditions impossible for other microphones. **Frequency Response:** 200-4,000 cps. Supplied with heavy duty push-to-talk switch, 5 1/2 ft. extended, coiled cable and mounting bracket. High impact "Armo-Dur" gray steel case with perforated steel grille and rubber lip-guard. **Size:** 2 3/8" w. x 2 3/4" d. x 3 1/4" h. Wt., 3/4 lb. **Shure Model 488A—Mike switch circuit normally closed with provision for change to normally open. Impedance:** High (recommended load 100,000 ohms). **Output Level:** -18 db; 125 V (1 volt per 100 microbars). Three-conduc- **\$34.50**  
**Shure Model 488B—Mike switch circuit normally open with provision for change to normally closed. Impedance:** Low (recommended load 100,000 ohms). **Output Level:** -37 db; 100 V (1 V per 100 microbars). Four-conductor (two shielded) cable. **\$34.50**  
**Shure Model 488C—Mike switch circuit normally open. Transistorized for direct replacement of carbon mikes. Impedance:** 500 ohms. **Output:** 45 db using 6 V and 500-ohm load. Four-conductor cable. **Net Each... \$37.50**  
**Shure Model 488T—Mike switch circuit normally open. Transistorized for direct replacement of carbon mikes; FAA certified for aircraft. Impedance:** Recommended load 100-800 ohms AC, 6-18 VDC across loaded mike. **Output Level:** 0.71 V (-3 db) using 12 volts and 500-ohm load. Three-conductor tinsel coiled **\$43.50**  
 cord with P-7068 plug. Net Each

### NEW MODEL 419 RANGER II

#### NOISE CANCELLING MICROPHONES

Permit transmission under conditions impossible with other microphones (except 488 Series, above). Ideally suited for outdoor and indoor use in exceptionally noisy areas. **Frequency Response:** 200-4,000 cps. **Output:** -55 db. With heavy-duty DPST leaf switch. Case of high-impact, textured "Armo-Dur"; with retractable cable. **Shure Model 419A—High Im- \$37.50**  
 pedance. Net Each...  
**Shure Model 419B—Low Impedance. Net Each... \$37.50**

### 100 SERIES CARBON MICROPHONES

"Armo-Dur" high impact, corrosion-proof microphone for police, taxi, bus, track, commercial or professional two-way communication applications. Lightweight and compact size fits in palm of hand perfectly. Bracket for permanent placement in portable or mobile equipment. **Frequency Response:** 300-4,000 cps. **Output:** 5 db below 1 V for 100 microbar speech signal. **Impedance:** 50-100 ohms. **Size:** 2 3/8" w. x 1 1/4" d. x 3 1/4" h. Complete with coiled cord with

triflame and tinned leads. Shpg. Wt., 1 lb. **Shure Model 104A—DPST normally open switch to control microphone \$18.00** and relay. Net Each...  
**Shure Model 104B—SPST normally open relay switch (no microphone switch). Net Each... \$18.00**

### THE "COMMANDO"

Rugged mikes suitable for use indoors or outdoors. Models 415 and 430 can be held in the hand or set on a floor or desk stand. Ideal for general purpose applications in home tape recording, theater-restaurant and outdoor PA systems, lecturing, paging and dispatching systems, interview-type shows, etc. **Frequency Response:** 60-10,000 cps. **Impedances:** Model 415, high; others, high and low. **Output Level:** High, 52 db below 1 V per microbar; low, 52 db below 1 mW per 10 microbars.

**Shure Model 430—Furnished with press-to-talk switch, normally closed; switch locking plate; 15-ft., 2-conductor, shielded cable; Amphenol MC2M cable connector; A25B swivel adapter; 3/8"-27 stand thread. High impact, polystyrene, impact-resistant zinc case; satin chrome and non-reflecting gray finish. **Size:** 6 1/2" lg. x 1 1/2" dia. (top); handle, 1 1/2" dia. \$23.10**  
 Net Each

**Shure Model 430SL—Paging microphone. Press-to-talk locking or non-locking switch controls both mike circuit and external relay or control circuit. Includes desk stand and A25B swivel adapter. Three-conduc. 15 ft. cable. \$29.97**  
 Net Each

**Shure Model 415—Similar in appearance to Model 430. High impedance only. With 7-ft. non-detachable single conductor shielded cable; Mod. A25B swivel adapter; 3/8"-27 stand thread. No switch. **Size:** 6 1/2" lg. x 1 1/2" dia.; handle, 1 1/2" dia. \$16.50**  
 Net Each

**Shure Model 420—Dual Impedance, lavalier type. Impact-resistant polystyrene case; non-reflecting gray finish. With 20-ft., 2-conductor, 100-ohm, detachable shielded cable; detachable lavalier cord and clip assembly. **Size:** 3 1/4" lg. x 1 1/2" dia. Net Each... \$18.00**

**Shure Model 425—Electrically identical to Model 420, but with special adapter to accommodate flexible gooseneck and mtg. flange. With 7 ft., 2-conduc., non- \$18.00**  
 detachable, shielded cable. Net Each...  
**Shure Model 425-G—Same, with 6" flexible gooseneck and mtg. flange. \$19.80**  
 Net Each...  
**Shure Model 425-G12—Same, with 12" flexible gooseneck and mtg. flange. \$20.25**  
 Net Each...  
**Shure Model 425-G18—Same, with 18" flexible gooseneck and mtg. flange. \$21.00**  
 Net Each...

### MODEL 444 HAM MICROPHONE

Designed for amateur radio enthusiasts. Press-to-talk switch with locking for relay control and muting mike. Separate switch for disabling relay for VOX operation. Adjustable stand. Controlled-magnetic element; two-tone gray "Armo-Dur" case. With 7-ft., two-conductor shielded cable. **Frequency Response:** 300-3000 cps. **Impedance:** High. **Output:** -52.5 db. **Size:** 4" w. x 5 1/4" d. x 10 1/2" h. (adjustable). **Net Weight, 1 1/2 lbs. \$25.50**  
**Shure Model 444—Net Each... \$25.50**

### MODELS "440" AND "440SL"

Response characteristic tailored to meet the demands of radio communications; especially suited for SSB operation. Rising response characteristic with sharp cutoff below 300 and above 3000 cps eliminates need for audio filters. Controlled magnetic type microphones have omnidirectional polar pattern. **Frequency Response:** 300-3000 cps. **Impedance/Output Level:** High, 52.5 db below 1 volt per microbar.

**Shure Model 440—Satin chrome finish. Use with 534B or 536A desk stands. With 7 ft. shielded single conductor; fits 3/8"-27 thread stand. 2 1/2" dia. x 3 1/2" h. \$15.00**  
 Shpg. Wt., 1 1/4 lbs. Net Each...  
**Shure Model 440SL—With grip-to-talk switch; satin chrome with gray base; 7 ft. shielded 2-conductor and eqv. Amph. MC3M plug; 3/8" h. x 5/8" w. x 7/8" d., incl. stand. Fringing Weight, 3 3/4 lbs. \$28.50**  
 Net Each...  
**Shure Model 487K Modification Kit—For use with 440SL for flexibility in VOX or push-to-talk operation. Net Ea. \$1.95**



450, 444

520SL, 440SL



430SL

430

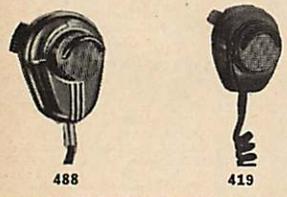
561



420

104

425-G



488

419

### MODEL 561 TAMPER-PROOF DYNAMIC GOOSENECK

Compact, high quality, tamper-proof dynamic mike for general audio use. Language lab systems, paging applications, communications, talk-back and cuing from control-room, etc. Designed for direct mounting on flexible gooseneck or fixed pipe to conceal and protect cable. Comes with attached 4-ft., two-conductor shielded cable, standard 3/8"-27 thread and Allen wrench to lock on mounting thread and remove microphone head. Low impedance permits unusually long cable lengths to be used without affecting response or level. Black and chrome satin finished all-metal case with stainless steel grille. Rugged dynamic cartridge easily replaced in field. **Frequency Response:** 40-10,000 cps with rising characteristic to 4500 cps. **Impedance:** Matches 50 to 250 ohms. **Output:** 56 db below 1 mW/10 microbars; 1.41 mV/microbar. **Size:** 1 1/2" dia. x 2 1/4" lg., overall. Shipping Weight, 9 oz. **\$19.50**  
**Shure Model 561—Net Each... \$19.50**

# SHURE MOBILE AND GENERAL USE MICROPHONES

## MOBILE AND GENERAL PURPOSE MICROPHONES

### MODELS 201 AND 401 PALM MICROPHONES

For CB, amateur, fixed station or mobile uses. "Shaped" voice response pattern after professional mobile and SSB amateur response curves for maximum intelligibility. Choice of ceramic or controlled magnetic elements. **Frequency Response:** 200-4000 cps, free from undesirable peaks. Omnidirectional polar pattern. Push-to-talk, non-locking switch. Shatter-proof plastic case. Kink-proof 5 ft. extended coiled cord. Hang-up bracket. **Size:** 2 3/4" w. x 1 3/4" d. x 4" h. Mounting bracket furnished.

**Shure Model 201**—Ceramic type. **Impedance:** High, recommended load, 15 megs. **Output Level:** 55.5 db below 1 V per microbar. Three-conductor (one shielded) cable. Net Wt., 10 oz. **\$10.80**  
Net Each.....

**Shure Model 202**—Same as 201 but features special noise cancelling and -50.5 db output. Net Each..... **\$12.00**

**Shure Model 401A**—Controlled magnetic type. **Impedance:** High (recommended load 100,000 ohms or more). **Output Level:** 49 db below 1 V per microbar. Three-conductor (one shielded) cable. Net Wt., 12 oz. **\$13.20**  
Net Each.....

**Shure Model 401B**—Controlled magnetic type. **Impedance:** Low (recommended load impedance 150-250 ohms). **Output Level:** -48 db below 1 mW per 10 microbars. Four-conductors (two shielded) cable. Net Wt., 12 oz. **\$13.20**  
Net Each.....

### MODEL 206 MOBILE CERAMIC

Develops high output. Includes push-to-talk relay operating switch to control mike plus external relay or control circuit. Switching circuitry makes Model 206 a universal replacement for all communications equipment using ceramic mikes. **Frequency Response:** 200-4,000 cps. **Output:** -52 db. Furnished with hang-up bracket and 5 ft. (extended) retractable cable. Light gray, high-impact plastic case, resistant to temperature changes. Red switch button. **Size:** 2 1/4" w. x 1 1/2" d. x 3 3/4" h. Net Weight, 8 oz. **\$9.00**  
**Shure Model 206**—Net Each....

### THE "404" SERIES

Rugged, hand-held mike that is ideal for outdoor applications and where long lines are used. Built for high speech intelligibility. Push-to-talk switch. Fits in palm of hand. **Size:** 2 3/4" w. x 1 1/4" d. x 3 1/4" h.

**Shure Model 404B**—**Frequency Response:** 200-4,000 cps. **Impedance:** 150-250 ohms. **Output Level:** 50 db below 1 milliwatt per 10 microbars. With 5 1/2-ft., 4-conductor (2-conductor shielded) coiled cord and mounting bracket for permanent placement. High Impact gray **\$19.80**  
"Armo-Dur" case. Net Each....

**Shure Model 404C**—**Frequency Response:** 200-3,000 cps. **Impedance:** High (recommended load, 100,000 ohms or more). **Output Level:** 50.5 db below 1 volt per microbar. With 5 1/2-ft., 3-conductor (1-conductor shielded) coiled cord and mounting bracket. High Impact gray **\$19.80**  
"Armo-Dur" case. Net Each....

**Shure Model 405T**—Incorporates a transistor amplifier, housed in the case and powered by current from the carbon mike circuit. **Frequency Response:** 200-4,000 cps. **Impedance:** 100-500 ohms. **Output Level:** 1 db (loaded with 500 ohms) below 1 milliwatt per 100 microbars. Furnished with 5 ft. extended, 4-conductor, stranded, coiled cord. High Impact gray **\$29.10**  
"Armo-Dur" case. Net Each....

### NEW MODEL 414 "RANGER II"

Similar to Model 404, but smaller in size. Textured, easy-grip "Armo-Dur" case. Positive action switch and long-life retractable cable. **Frequency Response:** 200-4000 cps. **Output:** -52.5 db. **Size:** 2 1/4" w. x 1 3/4" d. x 2 7/8" h.

**Shure Model 414A**—High Imp.—**\$19.80**  
pendance. Net Each.....

**Shure Model 414B**—Low Impedance. Net Each..... **\$19.80**

### "SLIM-X" ALL-PURPOSE

Good performing, rugged little 6-oz. mike. Can mount in swivel desk stand or cradle. Can move quickly for walk-around uses. **Frequency Response:** 60-10,000 cps. **Impedance:** High. **Output Level:** 62 db below 1 volt per microbar. Disconnect-type, 7 ft. single-conductor cable, shielded. Moisture-proof "Metal Seal" crystal for long life. Finished in rich satin chrome overall. **Size:** 4 1/2" lg. x 1" dia. All models are supplied with lavaller cord; threaded 3/8"-27. Shipping Weight, 3/4 lbs.

**Shure Model 777**—Mike with **\$15.00**  
molded stand adapter. Net Ea....

**Shure Model 777A**—Same as 777 with S-38 stand. Net Each..... **\$19.80**

**Shure Model 777S**—Mike with switch and molded stand adapter. Net Ea. **\$16.20**

**Shure Model 775A**—Same as 777S with S-38 stand. Net Each..... **\$21.00**

### MODEL 737A MONOPEX

The only super-cardioid crystal mike made. Reduces random noise pickup 73%. Moisture-proof "Metal Seal" crystal for long life. Case pivots at rear for omnidirectional pickup. High impedance. **Output Level:** 63.0 db below 1 volt per microbar output. Has 15 ft. shielded cable. Rich satin chrome finish. **\$27.60**  
**Shure Model 737A**—Net Each.....

### THE "REX"

Low-priced hand mike for "hams" or low-cost PA systems. Broad tip-proof base eliminates need for desk stand; floor stand adapter provided. **Frequency Response:** 60-4,000 cps. **Impedance:** High. **Output Level:** 50 db below 1 volt per microbar. Burgundy red metallic finish. **Size:** 2 3/4" wide, 3 3/4" high, 1 1/2" thick. With 5 ft. shielded cable. **\$7.20**  
**Shure Model 710A**—Net Each....  
**Shure Model 710S**—With switch. **\$8.40**  
Net Each.....

### MODEL 707A

Good quality performance at low cost: ideal for PA systems, amateur use, etc. **Impedance:** High. **Output Level:** 50 db below 1 volt per microbar. Gray case with rich satin chrome finish on grille. Use with S34B or S36A desk stands. Diameter 2 3/4". 7 ft. shielded cable. **\$11.70**  
**Shure Model 707A**—Net Each.....

### THE "STARLITE"

Excellent for voice and music reproduction in home recording, intercom systems and inexpensive PA systems. Can be held in the hand or used on a desk.

**Shure Model 215**—Ceramic mike. **Frequency Response:** 50-8,000 cps. **Output Level:** 56.5 db below 1 volt per microbar output. With 5-ft. fabric covered single conductor, shielded cable. Impact-resistant polystyrene case: black front, gray back, light gray grille. **Size:** 2 1/4" w. x 1 1/2" d. x 3 3/4" h. Net Each..... **\$4.80**

**Shure Model 715**—Crystal mike. Same as Model 215 except: **Frequency Responses:** 50-10,000 cps. **Output Level:** 50 db below 1 volt per microbar. Has gray front, black back and black grille. **\$4.80**  
Net Each.....

### MODEL 2755K "VERSAPLEX"

Ceramic mike ideal for replacing original equipment crystal or ceramic CB mikes. With brackets for hook-up to high impedance and coiled cord. Push-to-talk momentary switch activates relay circuit. **Frequency Response:** 40-10,000 cps. **Impedance:** High (recommended load 1/2 to 5 meg-ohms). **Output Level:** 59.5 db below 1 V per microbar. Omnidirectional polar pattern. Three-conductor (one shielded) 5 ft. (extended) coiled cord. **Size:** 1" x 1 1/2" dia. Net Weight, 6 oz. **\$9.90**  
**Shure Model 2755K**—Net Each....

### MODEL CA5A

#### ULTRA-MINIATURE CERAMIC

Rugged, ultra-miniature ceramic mike with high stability. Ideal for hearing aids, dictaphones, security work, etc. High impedance. **Frequency Response:** 50-4,500 cps. **Output Level:** -73 db. **Temperature Range:** -20° to +200° F. **Size:** 1" x 1/4" x 1/10". **\$12.00**  
**Shure Model CA5A**—Net Each.....

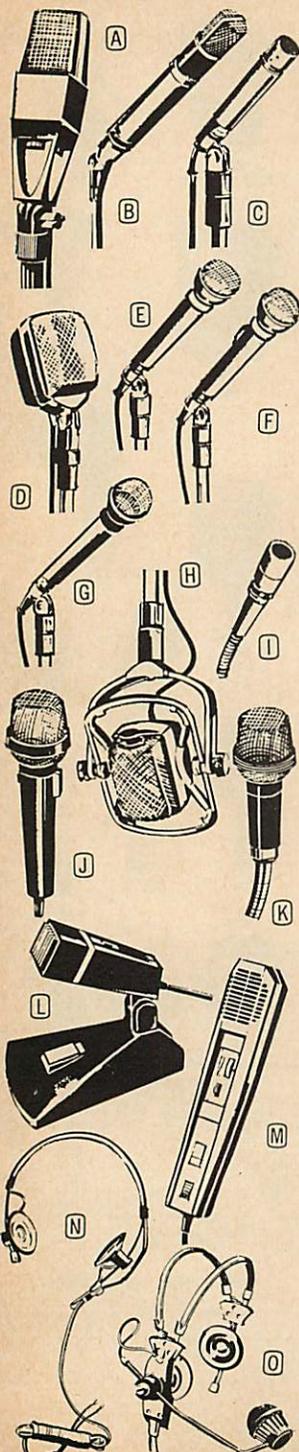


### THE "GREEN BULLET"

Immune to high temperature and humidity. **Frequency Response:** 100-7,000 cps. Tops for PA uses. Supplied with 7 ft. single conductor shielded cable. Use with S34B or S36A desk stand. **Model 520** is high impedance. **Output Level:** 62.5 db below 1 volt per microbar output. **Model 520B** Imped., 150-250 ohms, 51 db below 1 mW per 10 microbars. Metallic green finish with chrome plated grille. **\$13.50**  
**Shure Model 520**—Net Each....  
**Shure Model 520B**—Two conductor shielded cable. Net Each..... **\$13.50**

### MINIATURE MICROPHONES

Controlled magnetic for limited space and weight use. Rugged; withstands mechanical shock, variable heat and humidity. **Frequency Response:** 400-4,000 cps; to 4,500 cps MC20A-J; to 3,500 cps MC30-J. **Impedance:** MC11-J, 1,000 ohms; MC20A-J, 2,000 ohms; MC30-J, 1,850 ohms. **Output Level:** MC11-J, MC20A-J, -73 db; MC30-J, -76 db below 1 volt per microbar. Cadmium-plated finish. **\$7.50**  
**Shure Model MC11-J**—Net Ea....  
**Shure Model MC20A-J**—Net Ea.... **\$8.40**  
**Shure Model MC30-J**—Net Ea.... **12.00**



**C-12A CONDENSER MIKE**

**A** Specially designed for use in broadcasting, film and recording studios. Pattern selector and bass roll off switch in power supply. Nuvistor and printed circuit connection in amplifier. **Directional Characteristics:** Omni-directional/cardiod/bi-directional. **Frequency Range:** 20-20,000 cps,  $\pm 2$  db. **Sensitivity:** -44 db. **Impedance:** 200 ohms. **Front-to-Back Ratio:** 20 db. **Distortion:** 0.3%. **Power Supply:** 110 V.C. Size:  $3\frac{1}{4}''$  w. x  $1\frac{1}{2}''$  d. x  $3\frac{1}{4}''$  h. Shpg. Wt., 9 lbs. for system.

**Norelco Model C-12A**—Condenser microphone, including power supply/remote control and cable set. Net Each. **\$480.00**

**C-24 STEREO CONDENSER MIKE**

**B** Same as Model C-12A but incorporates two mike systems for MS or XY stereo recording. Remote controlled variable pattern. Nine patterns selectable. **Sensitivity:** -39 db. **Impedance:** 50/200 ohms. **Size:**  $10''$  lg. x  $1\frac{1}{4}''$  dia. Shpg. Wt., 29 lbs. 12.8 oz. for system.

**Norelco Model C-24**—Includes tube 6072, power supply N-24, remote control unit, 3 cables with connectors and case. Net Each. **\$885.00**

**C-60 CONDENSER MIKE**

**C** Light, compact mike with professional reproduction quality. For use on stages, for broadcasting work, and as a hand mike for reporters. Ideal for TV and film studios. Cardiod capsule can be replaced by a CK24 omni-directional capsule in seconds. **Directional Characteristics:** Cardiod or omni-directional. **Frequency Range:** 30-18,000 cps,  $\pm 2.5$  db. **Sensitivity:** -42 db. **Impedance:** 50/200 ohms. **Front-to-Back Ratio:** 20 db. **Cardiod.** **Size:**  $3\frac{1}{2}''$  lg. x  $\frac{1}{2}''$  dia. Net Weight, 3 lbs. for system.

**Norelco Model C-60**—Complete with tube AC701, power supply N-60, cable MK-60 with connectors, mating AF plug, and case. Net Each. **\$280.00**

**D-12 DYNAMIC MIKE**

**D** Cardiod mike for bandstand, night club, studio, and PA applications. **Frequency Range:** 40-15,000 cps,  $\pm 3$  db. **Sensitivity:** -54 db. **Impedance:** 50-250 ohms. **Front-to-Back Ratio:** 18 db. **Size:**  $2\frac{3}{4}''$  w. x  $2\frac{3}{4}''$  d. x  $5\frac{3}{4}''$  h. Shpg. Wt., 3 lbs. 4.8 oz.

**Norelco Model D-12**—Net Ea. **\$99.00**

**D-19E/200 DYNAMIC MIKE**

**E** Cardiod microphone with bass cut switch for clear response even at very low voice frequencies. **Frequency Range:** 40-16,000 cps,  $\pm 3$  db. **Sensitivity:** -53 db. **Impedance:** 60 or 200 ohms. **Front-to-Back Ratio:** 15 db. **Size:**  $6''$  lg. x  $1\frac{1}{4}''$  dia. Shpg. Wt., 1 lb. 9.6 oz.

**Norelco Model D-19E/200**—With Cannon 3-pole plug. Net Each. **\$58.00**

**D-119CS, D-119ES DYNAMIC MIKES**

**F** Similar to D-19E/200 except as noted below.

**Norelco Model D-119CS**—With bass cut switch and on-off switch. Impedance, 200 ohms. Net Each. **\$66.00**

**Norelco Model D-119ES**—With bass cut switch and on-off switch. Impedance, 50/200/Hi Z. Size,  $7\frac{1}{4}''$  lg. x  $1\frac{1}{4}''$  dia. Net Weight, 7 oz. Connections, 5-pin. Net Each. **\$69.00**

**D-24E DYNAMIC MIKE**

**G** Cardiod mike for use in sound, TV, film studios and electro-acoustic installations. **Frequency Range:** 30-16,000 cps,  $\pm 2.5$  db. **Sensitivity:** -53 db. **Impedance:** 60 or 200 ohms. **Front-to-Back Ratio:** 20 db. **Size:**  $6\frac{1}{2}''$  lg. x  $1\frac{1}{4}''$  dia. Shpg. Wt., 2 lbs. 3.2 oz.

**Norelco Model D-24E**—With bass cut switch and case. Net Each. **\$160.00**

**D-25B DYNAMIC MIKE**

**H** Cardiod mike for high quality motion picture, TV and studio applications, indoors and outdoors. Rubber shock mounted within a swivel frame. **Frequency Range:** 30-16,000 cps,  $\pm 2.5$  db. **Sensitivity:** -54 db. **Impedance:** 60 or 200 ohms. **Front-to-Back Ratio:** 20 db. **Size:**  $7\frac{1}{2}''$  x  $3\frac{3}{4}''$ . Shpg. Wt., 4 lbs. 9.6 oz.

**Norelco Model D-25B**—Complete with case. Net Each. **\$225.00**

**Norelco Model D-20B**—Same as D-25B but less rubber shock mount in frame. Size,  $7\frac{1}{2}''$  x  $2\frac{3}{4}''$ . Shpg. Wt., 3 lbs. 11.2 oz. Net Each. **\$90.00**

We carry a complete line of Norelco microphones, handsets, microphones, speakers, and various accessories including hand-held poles, cables, cable dispenser reels, transformers, adapters, etc. Write for complete information.

**D-58E DYNAMIC SUBMINIATURE DIFFERENTIAL MIKE**

**I** Differential design cancels sound originating farther away from the mike. Ideal for close range voice applications in noisy surroundings. Shielded against dust and stray magnetic fields. Withstands very high humidity. **Frequency Range:** 70-12,000 cps,  $\pm 3$  db. **Sensitivity:** -66 db. **Impedance:** 60 or 200 ohms. **Front-to-Back Ratio:** 25 db. **Size:**  $1\frac{1}{2}''$  lg. x  $\frac{1}{2}''$  dia. Net Weight, 1.1 oz.

**Norelco Model D-58E**—Complete with 3-pin connector. Net Each. **\$43.00**

**D-503 DYNAMIC MIKES**

**J** **Directional Characteristics:** Cardiod/omni-directional. **Frequency Range:** 50-15,000 cps,  $\pm 3.5$  db. **Sensitivity:** -55 db. **Impedance:** 200 ohms. **Front-to-Back Ratio:** 15 db. Net Weight, 10 oz.

**Norelco Model D-501**—Size,  $6\frac{1}{2}''$  lg. x  $2\frac{3}{4}''$  dia. Net Each. **\$48.00**

**Norelco Model D-503**—Size,  $1\frac{1}{2}''$  lg. (with shaft) x  $2\frac{3}{4}''$  dia. Net. **\$55.00**

**D-810 DYNAMIC MIKE**

**L** Omni-directional mike. **Frequency Range:** 80-12,000 cps,  $\pm 4$  db. **Impedance:** High.

**Norelco Model D-810**—Complete with cable stand, lavaller attachment, stand adapter and on-off switch. Net. **\$29.00**

**DX-11 DYNAMIC AND REVERBERATION MIKE**

**M** Cardiod mike with built-in reverberation element adjustable on microphone. **Frequency Range:** 50-15,000 cps,  $\pm 3.5$  db. **Sensitivity:** Low, -54 db; high, -36 db. **Impedance:** Low, 250 ohms; high, 10,000 ohms. **Front-to-Back Ratio:** 15 db. **Size:**  $2\frac{1}{2}''$  w. x  $1\frac{1}{4}''$  d. x  $10\frac{1}{4}''$  h. Net Weight, 1 lb.

**Norelco Model DX-11**—Net. **\$99.00**

**K-50 STEREO/MONO HEADPHONE**

**N** Dynamic headphone set provides excellent reproduction of stereo and monophonic recordings and broadcasts. Ideal for monitoring or editing applications in radio, TV, recording and sound film studios. **Frequency Range:** 20-25,000 cps. **Impedance:** 75 or 400 ohms. **Power Required:** 1.56 mW average for a sound pressure of 95 db. **Undistorted Power Level:** 127 db. **Distortion:** Less than 1%. Net Weight, 4.6 oz.

**Norelco Model K-50**—Net Ea. **\$22.50**

**K-59 HEADPHONE-MICROPHONE**

**O** Consists of K-50 stereo headphone and D-58E differential microphone on boom. Separate connections to each headphone and mike.

**Norelco Model K-59**—Net Ea. **\$79.50**

**ACCESSORIES**

**MICROPHONE TABLE STANDS**

**Norelco Model ST-10**—Fits Models C-60, D-12, D-20B, D-25B, D-58E, etc. Net Each. **\$6.50**

**Norelco Model ST-15**—Fits D-19E/200, D-119CS, D-119ES, D-24E, etc. Net Each. **\$5.50**

**MICROPHONE FLOOR STANDS**

**Norelco Model ST-200**—Shock proof collapsible base. For all microphones. Net Each. **\$47.00**

**Norelco Model ST-201**—Light folding floor stand for all microphones. Net. **\$21.00**

**WINDSCREENS**

**Norelco Model W-17**—For Model C-60. Net Each. **\$22.00**

**Norelco Model W-24**—For Models D-19E/200, D-24E, etc. Net Each. **\$31.00**

**Norelco Model W-25A**—For D-20B and D-25B. Net Each. **\$95.00**

**FLEXIBLE SHAFTS (GOOSENECK)**

**Norelco Model MSH-58E**—Includes connector. For Models D-24E and D-58E. Net Each. **\$17.00**

**Norelco Model MSH-58E**—With built-in connector. For Model C-60. Net. **\$13.50**

**SUSPENSIONS**

**Norelco Model H-12**—Elastic suspension for Model C-24, etc. Net Each. **\$13.50**

**Norelco Model H-24**—Elastic suspension, silicon rubber. For Models D-19E/200, D-24E, etc. Net Each. **\$16.50**

**Norelco Model H-60**—Elastic suspension, silicon rubber. For Model C-60. Net Each. **\$16.50**

**RUBBER EAR CUSHIONS**

**Norelco Model Z-50**—For Model K-50 headphones. Net Each. **\$1.90**

Net Each. **\$190.00**

# AMPEX Recorders/Reproducers

## NEW AG-440 SERIES PROFESSIONAL AUDIO TAPE RECORDERS

Latest in the famous line of Ampex professional audio recorders, the AG-440 Series is designed for the broadcast and recording industry, as well as the professional equipment user in government, education, industry and medicine. Offers new tape transport rigidity, easy convertibility to either  $\frac{1}{4}$ " or  $\frac{1}{2}$ " tape, ability to "build up" from one channel to two, three or four, and improved solid state, plug-in modular electronics.

**Transport Features:** Precision-milled die-cast frame, never before available in medium-priced professional units, eliminates flexing and misalignment problems that can occur with aluminum plate or sheet steel—even when recorder is operated all day in the most demanding studio or mobile applications. Frame will withstand weight of heavy-duty motors and fully dampens motor resonance that affects flutter characteristics. Standard transport guides rotate for either  $\frac{1}{4}$ " or  $\frac{1}{2}$ " tape. Tension controls are adjustable to accommodate any reel size up to 11 $\frac{1}{2}$ " European versions. Jewel-bearing scrape flutter idler minimizes flutter, especially important to precise production of master tapes. Engineered for easy, quick, front-panel operation. Many unique editing features.

**Electronics Features:** Redesigned slim-style electronics require only 3 $\frac{1}{2}$ " of vertical space; because power is supplied from transport, chassis is less crowded, permitting easy access to all circuits. Solid state Bias Amplifiers, Record, and Reproduce modules plug into front of chassis with all necessary adjustments accessible from the front. Master Bias Oscillator in tape transport feeds up to four channels and, by providing a single bias frequency source, eliminates interchannel beat and assures stable performance. Modulation noise is reduced by using a higher (450 kc) bias and erase frequency. Built-in SEL-SYNC\* (selective synchronization) allows temporary conversion of record heads to playback functions for synchronized sound-on-sound or track revising on two or more channel recordings. Equalizers plug into record and playback boards to match transport speeds. Illuminated VU meter reads recorder input, reproducer output, or bias current.

**Head Assembly Features:** The newest, finest assemblies in Ampex's history! You can convert a recorder from  $\frac{1}{2}$ " to  $\frac{1}{4}$ " operation or change track configuration in under four minutes by removing three screws and inserting a new assembly; registration dowel pins assure quick alignment. Head gate opens fully for easy editing, cleaning or demagnetizing. Heads are low impedance, which reduces microphonics and permits longer head cables without high-frequency loss. Playback heads have triple shields with lapped housing and covers for absolute minimum noise.

### AG-440 SERIES RECORDERS/REPRODUCERS

All machines convertible to  $\frac{1}{4}$ " or  $\frac{1}{2}$ " by rotating guides and substituting appropriate head assembly, and are 117 VAC with NAB equalizers supplied. Multiple versions and CCR curves available on special order. SEL-SYNC feature is built into electronics, and furnished with balanced bridging input transformers. Model AG-440-1 is designed for broadcast, education, industry and medical applications. Model AG-440-2 is for stereo broadcast, language lab masters, industry training and medical. Model AG-440-3 is ideal for recording studios, industry quality-control vibration testing, and specialized government/defense multichannel applications. Model AG-440-4 is for recording studios, master music tapes, and critical industrial and lab multichannel applications. All recorders are available in choice of console, portable or unmounted styles. Complete with 3-wire grounding power cord, and operations and maintenance manual.

| Ampex Model | Ampex Catalog No. | Channels   | Tape Width | NAB Tape Speed, ips. | Heads (Tracks)                      | Mounting        | Net Each  |
|-------------|-------------------|------------|------------|----------------------|-------------------------------------|-----------------|-----------|
| AG-440-1    | 4010071-01        | 4010071-02 | One        | $\frac{1}{2}$ "      | 7 $\frac{1}{2}$ and 15              | Full Unmounted  | \$1970.00 |
| AG-440-1    | 4010071-03        | 4010071-04 | One        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Full Console    | 2350.00   |
| AG-440-1    | 4010071-05        | 4010071-06 | One        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Full Portable   | 2130.00   |
| AG-440-1    | 4010071-07        | 4010071-08 | One        | $\frac{1}{2}$ "      | 7 $\frac{1}{2}$ and 15              | Half Unmounted  | 1970.00   |
| AG-440-1    | 4010071-09        | 4010071-10 | One        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Half Console    | 2350.00   |
| AG-440-1    | 4010071-11        | 4010071-12 | One        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Half Portable   | 2130.00   |
| AG-440-1    | 4010071-13        | 4010071-14 | One        | $\frac{1}{2}$ "      | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Full Unmounted  | 1970.00   |
| AG-440-1    | 4010071-15        | 4010071-16 | One        | $\frac{1}{4}$ "      | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Full Console    | 2350.00   |
| AG-440-1    | 4010071-17        | 4010071-18 | One        | $\frac{1}{4}$ "      | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Full Portable   | 2130.00   |
| AG-440-1    | 4010071-19        | 4010071-20 | One        | $\frac{1}{2}$ "      | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Half Unmounted  | 1970.00   |
| AG-440-1    | 4010071-21        | 4010071-22 | One        | $\frac{1}{4}$ "      | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Half Console    | 2350.00   |
| AG-440-1    | 4010071-23        | 4010071-24 | One        | $\frac{1}{4}$ "      | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Half Portable   | 2130.00   |
| AG-440-2    | 4010072-01        | 4010072-02 | Two        | $\frac{1}{2}$ "      | 7 $\frac{1}{2}$ and 15              | Two Unmounted   | 2640.00   |
| AG-440-2    | 4010072-03        | 4010072-04 | Two        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Two Console     | 3020.00   |
| AG-440-2    | 4010072-05        | 4010072-06 | Two        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Two Portable    | 2780.00   |
| AG-440-2    | 4010072-07        | 4010072-08 | Two        | $\frac{1}{2}$ "      | 7 $\frac{1}{2}$ and 15              | Two Unmounted   | 2690.00   |
| AG-440-2    | 4010072-09        | 4010072-10 | Two        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Two Console     | 3070.00   |
| AG-440-2    | 4010072-11        | 4010072-12 | Two        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Two Portable    | 2820.00   |
| AG-440-2    | 4010072-13        | 4010072-14 | Two        | $\frac{1}{2}$ "      | 7 $\frac{1}{2}$ and 15              | Two Unmounted   | 2640.00   |
| AG-440-2    | 4010072-15        | 4010072-16 | Two        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Two Console     | 3070.00   |
| AG-440-2    | 4010072-17        | 4010072-18 | Two        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Two Portable    | 2820.00   |
| AG-440-2    | 4010072-19        | 4010072-20 | Two        | $\frac{1}{2}$ "      | 7 $\frac{1}{2}$ and 15              | Two Unmounted   | 2690.00   |
| AG-440-2    | 4010072-21        | 4010072-22 | Two        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Two Console     | 3070.00   |
| AG-440-2    | 4010072-23        | 4010072-24 | Two        | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Two Portable    | 2830.00   |
| AG-440-3    | 4010073-01        | 4010073-02 | Three      | $\frac{1}{2}$ "      | 7 $\frac{1}{2}$ and 15              | Three Unmounted | 3370.00   |
| AG-440-3    | 4010073-03        | 4010073-04 | Three      | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Three Console   | 3750.00   |
| AG-440-3    | 4010073-05        | 4010073-06 | Three      | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Three Portable  | 3400.00   |
| AG-440-4    | 4010074-01        | 4010074-02 | Four       | $\frac{1}{2}$ "      | 7 $\frac{1}{2}$ and 15              | Four Unmounted  | 4150.00   |
| AG-440-4    | 4010074-03        | 4010074-04 | Four       | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Four Console    | 4540.00   |
| AG-440-4    | 4010074-05        | 4010074-06 | Four       | $\frac{1}{4}$ "      | 7 $\frac{1}{2}$ and 15              | Four Portable   | 4310.00   |

### AG-445 SERIES REPRODUCERS

Employ same unit as the AG-440 Series Recorders/Reproducers, but contain playback facilities only. Available in  $\frac{1}{4}$ " one- and two-channel (also two- and four-track stereo with selector switch) versions and three- and four-channel versions. One 3 $\frac{1}{2}$ " chassis accommodates one to four channels of playback electronics modules.

|          |            |            |       |                 |                                     |                 |           |
|----------|------------|------------|-------|-----------------|-------------------------------------|-----------------|-----------|
| AG-445-1 | 4010081-01 | 4010081-02 | One   | $\frac{1}{2}$ " | 7 $\frac{1}{2}$ and 15              | Full Unmounted  | \$1490.00 |
| AG-445-1 | 4010081-03 | 4010081-04 | One   | $\frac{1}{4}$ " | 7 $\frac{1}{2}$ and 15              | Full Console    | 1870.00   |
| AG-445-1 | 4010081-07 | 4010081-08 | One   | $\frac{1}{4}$ " | 7 $\frac{1}{2}$ and 15              | Half Unmounted  | 1490.00   |
| AG-445-1 | 4010081-09 | 4010081-10 | One   | $\frac{1}{2}$ " | 7 $\frac{1}{2}$ and 15              | Half Console    | 1870.00   |
| AG-445-1 | 4010081-13 | 4010081-14 | One   | $\frac{1}{4}$ " | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Full Unmounted  | 1490.00   |
| AG-445-1 | 4010081-15 | 4010081-16 | One   | $\frac{1}{4}$ " | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Full Console    | 1870.00   |
| AG-445-1 | 4010081-19 | 4010081-20 | One   | $\frac{1}{2}$ " | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Half Unmounted  | 1490.00   |
| AG-445-1 | 4010081-21 | 4010081-22 | One   | $\frac{1}{4}$ " | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Half Console    | 1870.00   |
| AG-445-2 | 4010082-01 | 4010082-02 | Two   | $\frac{1}{2}$ " | 7 $\frac{1}{2}$ and 15              | Two Unmounted   | 1720.00   |
| AG-445-2 | 4010082-03 | 4010082-04 | Two   | $\frac{1}{4}$ " | 7 $\frac{1}{2}$ and 15              | Two Console     | 2100.00   |
| AG-445-2 | 4010082-07 | 4010082-08 | Two   | $\frac{1}{2}$ " | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Two Unmounted   | 1720.00   |
| AG-445-2 | 4010082-09 | 4010082-10 | Two   | $\frac{1}{4}$ " | 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ | Two Console     | 2100.00   |
| AG-445-3 | 4010083-01 | 4010083-02 | Three | $\frac{1}{2}$ " | 7 $\frac{1}{2}$ and 15              | Three Unmounted | 2150.00   |
| AG-445-3 | 4010083-03 | 4010083-04 | Three | $\frac{1}{4}$ " | 7 $\frac{1}{2}$ and 15              | Three Console   | 2530.00   |
| AG-445-4 | 4010084-01 | 4010084-02 | Four  | $\frac{1}{2}$ " | 7 $\frac{1}{2}$ and 15              | Four Unmounted  | 2630.00   |
| AG-445-4 | 4010084-03 | 4010084-04 | Four  | $\frac{1}{4}$ " | 7 $\frac{1}{2}$ and 15              | Four Console    | 3020.00   |

\*Ampex Corp. trademark. †Plus quarter-track playback.



### SPECIFICATIONS

**Tape Speeds:** 7 $\frac{1}{2}$  and 15 ips, or 3 $\frac{3}{4}$  and 7 $\frac{1}{2}$  ips. **Tape Width:** Standard  $\frac{1}{4}$ " or  $\frac{1}{2}$ ". **Reel Size:** 10 $\frac{1}{2}$ ", adjustable up to 11". **Overall Frequency Response:**  $\pm 2$  db, 30-18,000 cps at 15 ips;  $\pm 2$  db, 40-10,000 cps ( $\pm 2$ , -4 db, 30-15,000 cps) at 7 $\frac{1}{2}$  ips;  $\pm 2$  db, 50-7500 cps at 3 $\frac{3}{4}$  ips. **Signal-to-Noise Ratio:** 68 db full track, 60 db two track, 62 db three track, and 60 db four track at 15 and 7 $\frac{1}{2}$  ips; 63 db full track, 56 db two track, 57 db three track, and 56 db four track at 3 $\frac{3}{4}$  ips (peak record level to unweighted noise, 30-18,000 cps). Includes bias, erase and playback amplifier noise using 3M type 201 tape or equivalent). **Flutter (ASA 257.1-1954 standard):** Below 0.08% rms at 15 ips, 0.1% rms at 7 $\frac{1}{2}$  ips, and 0.15% rms at 3 $\frac{3}{4}$  ips. **Record Input:** 100K unbalanced bridging; 20K balanced bridging; -17 dbm to produce recommended operating level. **Equalization:** NAB (CCR curves available). **Start Time:** Tape at full speed in less than 1/10 sec. **Stop Time:** Tape moves less than two inches after pressing stop button (at 15 ips). **Rewind Time:** Approx. one min. for 2400-ft. NAB reel; 30 sec for 1200-ft. EIA reel. **Playback Output:** +8 dbm into 600 ohms, retraceable for +4 dbm, balanced or unbalanced; maximum of +29 dbm before clipping. **Playback Timing Accuracy:**  $\pm 0.2\%$  ( $\pm 3.6$  sec in 30 min recording time). **Electronic Adjustments:** Front panel—equalization, reproduce level, record level, reproduce calibration, record calibration, bias adjustment, bias calibration, erase adjust; rear of chassis—SEL-SYNC level, bias track adjustment. **Power Required:** 117 VAC, 60 or 50 cps.

### ACCESSORIES

|  |  |  |
|--|--|--|
| Ampex 4010080-01   | Remote Control—Desk type with 50-ft. cable. Net. \$50.00                 |  |
| Ampex 4010066-01   | Microphone Pickup Module—Plugs in. Net Each. \$55.00                     |  |
| Ampex 4580200-01   | Balanced Bridging Input Transformer—Plugs in. Net. \$20.00               |  |
| Ampex 4580200-02   | Line Matching Input Transformer—Plugs in. Net Ea. \$20.00                |  |
| Ampex 4010069-01   | Record Scrape Flutter Idler Kit—Net Each. \$50.00                        |  |
| Console Rear Cover Assemblies—Used where all console cables are to be concealed. Net Each. \$36.00 |  |  |
| Ampex 4010076-01   | 1-channel. \$36.00   |  |
| Ampex 4010076-02   | 2-channel. \$36.00   |  |
| Ampex 4010076-03   | 3-channel. \$50.00   |  |
| Ampex 4010076-04   | 4-channel. \$57.00   |  |
| Extender Boards—Permit servicing or testing electronics while in operation. Net Each. \$15.00      |  |  |
| Ampex 4020151-01   | For reproduce. Net Each. \$15.00   |  |
| Ampex 4020152-01   | For record. Net Each. \$15.00  |  |
| Ampex 4020153-01   | For bias amp. Net Each. \$15.00  |  |
| Ampex 4020154-01   | For power supply. Net Each. \$15.00                                      |  |
| Ampex 4020269-03   | Equalizer—7 $\frac{1}{2}$ and 15 ips record CCR curve. Plugs in. \$25.00 |  |
| Ampex 4020084-01   | Console Cabinet—With single overbridge. Net Ea. \$400.00                 |  |
| Ampex 426040-01  | Console Overbridge Riser Castings—Net Ea. \$9.50                         |  |
| Portable Cases—One transport and one electronics case with mtg. hardware. Net Ea. \$185.00         |  |  |

| Ampex No. | Transport Description | Net Each |
|-----------|-----------------------|----------|
| 4010086-  |                       |          |
| 01        | 1-ch. AG-440 or 445   | \$165.00 |
| 02        | 2-ch. AG-440-2        | 165.00   |
| 03        | 3-ch. AG-440-3        | 185.00   |
| 04        | 4-ch. AG-440-4        | 185.00   |

# AMPEX Recorders/Reproducers

## NEW AG-350 SOLID STATE TAPE RECORDERS/REPRODUCERS

A series of professional units designed for trouble-free continuous duty operation in the most exacting applications. Cover all monophonic and stereo recording and playback requirements where quality, reliability, economy and low maintenance are "musts". Widely used in broadcasting, recording studios, industry, medicine, business, government and defense. The rugged, dependable tape transport retains the time-proven qualities of the previous Ampex 350 Series but incorporates a number of additional features for greater operator efficiency and convenience. The completely redesigned, more compact electronics unit is 100% solid state for cool operation and low power consumption; the plug-in transistors

used are readily available and easily replaced. Special head-gate design allows wider opening for easier editing, cleaning and threading. Equalization is automatic. Switching is done when tape speed is selected. Head assembly has ferrite-type erase head, individually mu-metal shielded record and playback heads, and nonwearing, glass tape lifters. Large, easy-to-read VU meters have selector reading input, tape level, bias and erase current; necessary electronic adjustments can be made from the front panel. Units offer a host of other features to maintain professional recording excellence. Available in dual-speed 7½ and 15 ips or 3¾ and 7½ ips models.

**Tape Speeds:** 7½ and 15 ips, or 3¾ and 7½ ips. **Tape Width:** Standard ¼" tape. **Reel Size:** 10½" max. **Overall Frequency Response:** ±2 db, 30-18,000 cps at 15 ips; ±2 db, 40-10,000 cps (+2, -4 db, 30-15,000 cps) at 7½ ips; ±2 db, 50-7,500 cps at 3¾ ips. **Flutter (ASA 257.1-1954 standard):** Below 0.11% rms at 15 ips; 0.14% rms at 7½ ips; 0.18% rms at 3¾ ips. **Signal-to-Noise Ratio:** 60 db full track and 55 db two track at 15 and 7½ ips; 55 db full track and 50 db two track at 3¾ ips (peak record level to unweighted noise; includes bias, erase and playback amplifier noise). **Record Input:** 100k bridging; 20 dbm to produce recommended operating level. **Equalization:** NAB (CCIR curves available on special order). **Start Time:** Tape at full speed in less than 1/10 sec. **Stop Time:** Tape moves less than two inches after pressing stop button (at 15 ips). **Playback Timing Accuracy:** ±0.2% (= 3.6 sec in 30 min. recording time). **Rewind Time:** Approx. 1 min. for 2400-ft. NAB reel; 30 sec for 1200-ft. EIA reel (thin base tapes proportionately longer). **Electronic Adjustments:** (Front Panel) Equalization; reproduce level; record level; reproduce calibration; record calibration; bias adjustment. **Power Required:** 117 VAC, 2 amps for single channel, 2.5 amps for two channels. **Size:** Console, 24¾" w. x 27¼" d. x 52" h.; rack-mount transport, 19" x 15½"; rack-mount electronics, 19" x 5¼" (two electronics required for two-channel stereo).



Model AG-350-2  
Two-Channel Console

| Ampex Model | Catalog Number | Mode   | Track | Speeds (ips) | Mounting  | Net Each  |
|-------------|----------------|--------|-------|--------------|-----------|-----------|
| AG-350-1    | 4010035-01     | Mono   | Full  | 7½ and 15    | Unmounted | \$1750.00 |
| AG-350-1    | 4010035-05     | Mono   | Full  | 7½ and 15    | Portable  | 1870.00   |
| AG-350-1    | 4010035-03     | Mono   | Full  | 7½ and 15    | Console   | 2075.00   |
| AG-350-1    | 4010035-13     | Mono   | Full  | 3¾ and 7½    | Unmounted | 1750.00   |
| AG-350-1    | 4010035-17     | Mono   | Full  | 3¾ and 7½    | Portable  | 1870.00   |
| AG-350-1    | 4010035-15     | Mono   | Full  | 3¾ and 7½    | Console   | 2075.00   |
| AG-350-1    | 4010035-07     | Mono   | Half  | 7½ and 15    | Unmounted | 1750.00   |
| AG-350-1    | 4010035-19     | Mono   | Half  | 3¾ and 7½    | Unmounted | 1750.00   |
| AG-350-2    | 4010036-01     | Stereo | Two   | 7½ and 15    | Unmounted | 2345.00   |
| AG-350-2    | 4010036-05     | Stereo | Two   | 7½ and 15    | Portable  | 2475.00   |
| AG-350-2    | 4010036-03     | Stereo | Two   | 7½ and 15    | Console   | 2670.00   |
| AG-350-2    | 4010036-07     | Stereo | Two   | 3¾ and 7½    | Unmounted | 2345.00   |
| AG-350-2    | 4010036-11     | Stereo | Two   | 3¾ and 7½    | Portable  | 2475.00   |
| AG-350-2    | 4010036-09     | Stereo | Two   | 3¾ and 7½    | Console   | 2670.00   |
| AG-350-2    | 4010036-13     | Stereo | Two*  | 7½ and 15    | Unmounted | 2395.00   |
| AG-350-2    | 4010036-19     | Stereo | Two*  | 3¾ and 7½    | Unmounted | 2395.00   |
| AG-350-2    | 4010036-15     | Stereo | Two*  | 7½ and 15    | Console   | 2720.00   |
| AG-350-2    | 4010036-21     | Stereo | Two*  | 3¾ and 7½    | Console   | 2720.00   |

\*With four-position head.

## NEW AG-355 SOLID STATE TAPE REPRODUCERS

Employ the same basic tape transport as the AG-350 Series Recorders/Reproducers, but contain playback facilities only. Series AG-355 electronics are also completely solid state. One-channel reproducers have full-track or half-track head; two-channel models have two-track reproduce head assembly, or two-track and four-track switchable head assembly. **Playback Frequency Response:** ±1 db, 50-10,000 cps (±1½ db at 15 kc) at 15 ips; ±1 db, 50-10,000 cps (±2 db at 12 kc) at 7½ ips; ±1 db, 50-5,000 cps (±2 db at 7.5 kc) at 3¾ ips. **Playback Output:** +8 dbm into 600 ohms, restrappable for +4 dbm, balanced or unbalanced; maximum of +28 dbm before clipping. See AG-350 Series Recorders/Reproducers for other specs.

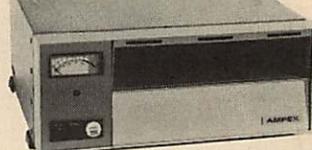
| Ampex Model | Catalog Number | Mode   | Track        | Speeds (ips) | Mounting  | Net Each  |
|-------------|----------------|--------|--------------|--------------|-----------|-----------|
| AG-355-1    | 4010037-01     | Mono   | Full         | 7½ and 15    | Unmounted | \$1325.00 |
| AG-355-1    | 4010037-03     | Mono   | Full         | 7½ and 15    | Console   | 1595.00   |
| AG-355-1    | 4010037-15     | Mono   | Full         | 3¾ and 7½    | Unmounted | 1325.00   |
| AG-355-1    | 4010037-15     | Mono   | Full         | 3¾ and 7½    | Console   | 1595.00   |
| AG-355-1    | 4010037-07     | Mono   | Half         | 7½ and 15    | Unmounted | 1325.00   |
| AG-355-1    | 4010037-09     | Mono   | Half         | 7½ and 15    | Console   | 1595.00   |
| AG-355-1    | 4010037-19     | Mono   | Half         | 3¾ and 7½    | Unmounted | 1325.00   |
| AG-355-1    | 4010037-21     | Mono   | Half         | 3¾ and 7½    | Console   | 1595.00   |
| AG-355-2    | 4010038-13     | Stereo | Two          | 7½ and 15    | Unmounted | 1525.00   |
| AG-355-2    | 4010038-15     | Stereo | Two          | 7½ and 15    | Console   | 1820.00   |
| AG-355-2    | 4010038-19     | Stereo | Two          | 3¾ and 7½    | Unmounted | 1525.00   |
| AG-355-2    | 4010038-21     | Stereo | Two          | 3¾ and 7½    | Console   | 1820.00   |
| AG-355-2    | 4010038-01     | Stereo | Two and four | 7½ and 15    | Unmounted | 1595.00   |
| AG-355-2    | 4010038-03     | Stereo | Two and four | 7½ and 15    | Console   | 1890.00   |
| AG-355-2    | 4010038-07     | Stereo | Two and four | 3¾ and 15    | Unmounted | 1595.00   |
| AG-355-2    | 4010038-09     | Stereo | Two and four | 3¾ and 15    | Console   | 1890.00   |

AG-350/AG-355 SERIES ACCESSORIES AVAILABLE INCLUDE MODEL MX-10 STEREO/MONO MIXER, REMOTE CONTROL UNITS, PLUG-IN EQUALIZERS AND PLUG-IN INPUT UNITS. WRITE FOR PRICES.

## NEW AG-100 CUE-MATIC\* MAGNETIC MAT RECORDER/REPRODUCER

Introduces a new concept in short-duration monophonic recording and playback for recording studios, radio stations, advertisers and their agencies. Offers easy operation, day-in day-out dependability of performance, easy maintenance, and improved recording quality at lower cost. Cue-Matic utilizes an 11¼" magnetic mat instead of reel-to-reel tape; mat is easily slipped into the front of the recorder and automatically cued. Cue time runs from under ½ to 5 seconds maximum depending on position of cue slot on mat; timing is operator controlled. Maximum playing time is 3¾ minutes, excellent for individual spots, complete 45's or LP album excerpts. Indicator lights show Cue, Ready, and Run modes. Safety device prevents accidental recording. Automatic, inaudible 30-cps tone at end of recording releases mat, and may be used to start a second Cue-Matic or other equipment, or to re-cue the same mat. All solid state electronics. **Recording/Playing Time:** 3 min., 45 sec. **Timing Accuracy:** ±0.2%. **Flutter and Wow:** Below 0.15% rms. **Start Time:** Approximately 0.1 sec. **Cuing Time:** ½ to 5 sec., operator controlled. **Frequency Response:** ±3 db, 70-12,000 cps during first minute, to ±3 db, 70-10,000 cps at max. record/play time. **Signal-to-Noise Ratio:** 50 db. **Power Required:** 105-125 volts, 60 cps, single phase (50 cps models available). **Size:** 19" w. x 17" d. x 7" h. Can be mounted in standard 19" rack with brackets. Weight, 65 lbs.

**Ampex Model AG-100 Cue-Matic Recorder/Reproducer 4010039-01—Net Each. \$1395.00**  
**Ampex Model AG-105 Cue-Matic Reproducer 4010039-02—Playback function identical to Model AG-100. Net Each. \$1145.00**



Model AG-100 Cue-Matic

Cue-Matic

### CUE-MATIC ACCESSORIES

**Ampex Cue-Mat\* No. 672-EGLLJY Magnetic Recording Mat—** 11¼" diameter, 3-mil polyester mats coated with a special random-oriented magnetic formulation. Maintains all the broadcast quality sound requirements and durability of tape. Can be quickly bulk erased. Includes one pressure-sensitive label per mat. Package of 50.....\$22.50  
**Ampex No. 4010045-01 Accessory File Case—** Provides convenient index and file system for 100 to 200 magnetic recording mats. Includes 100 dividers. Net Each.....\$19.50  
 \*Ampex Corp. trademark.

## AMPEX AG-300 SERIES SOLID STATE MASTER RECORDERS

Solid state circuitry comes to the famous Ampex 300 Series, for 17 years recognized world-wide as "the standard" in master recorders. Modern, functionally-designed transport, electronics, and console provide unexcelled performance, enhanced versatility, improved reliability, and easier maintenance. Rigid tape transport, reinforced in the critical alignment area with a massive 2" die-cast frame, eliminates flexing, maintains positive alignment of precision capstan drive, heads, reel idlers, and tape guiding components. Flutter and wow kept substantially below audible levels even in 4th and 5th generation recordings. Equalization is changed automatically when tape speed is changed. Positive, self-locking head adjustments for azimuth and zenith. Maximum advantage of transistor capability: Trouble-free dependability; long life; cool operation; low power consumption. Gain controls are locking type. Plug-in transistors are standard types, readily available and easily changed. Multi-channel recording features reduce costs in recording sessions, permit re-balancing of orchestral sections and soloists after the session. Sel-Sync\*, unique Ampex switching system, further increases flexibility. It converts any single or combination of recording tracks into temporary playback heads while recording continues on the remaining heads; permits sound-on-sound recording. **Tape Speed:** 3.75 lps, 7.5 lps, 15 lps, 30 lps. **Reel Size:** 10 1/2". **Frequency Response:** +2 db 30-18,000 cps at 15 lps; +2 db 40-10,000 cps, +2 -4 db 30-15,000 cps at 7.5 lps. **Signal-to-Noise Ratio:** 60 db, full track 3/4" and 3 track 1/2"; 57 db, 2 track 3/4" and 4 track 1/2". Noise is measured when erasing signal of peak recording level in absence of new signal, 50-15,000 cps. **Flutter and Wow:** Less than .07% rms at 15 lps; less than .14% at 7 1/2 lps. **Equalization:** All standard models supplied with NAB equalization. CCIR curves available on special order. **Input:** 100K bridging, 18 dbm to produce recommended operating level. **Output:** +8 dbm into 600 ohms, restrappping for +4 dbm output, balanced or unbalanced. Maximum of +28 dbm before clipping. **Controls:** Stop, Start, Record pushbuttons, relay operated; remote control optional. Normal Play, Fast Forward, Rewind on selector switch. Operation of Record button on tape transport actuates record relays on all channels. Record-Safe switch on electronics. **Start Time:** 1/10 sec. for 1/2" tape; 1/2 sec. for 3/4" tape. **Stop Time:** 2" tape past head at 15 lps; 1" at 7.5 lps. **Time Accuracy:** 0.2% or +3.6 sec. for 30 min. recording. **Power Required:** 117 VAC, 60 cps; 50 cps also available. Single channel recorders require 2.5 amps; add 0.15 amps for each additional channel.



| Ampex Model | Ampex Catalog No. | Tape Width | NAB Tape Speed, lps | Track | Mounting  | Net Each  |
|-------------|-------------------|------------|---------------------|-------|-----------|-----------|
| AG-300-1    | 4010051-01        | 1/2"       | 7.5/15              | Full  | Unmounted | \$2630.00 |
| AG-300-1    | 4010051-03        | 1/2"       | 7.5/15              | Full  | Console   | 3080.00   |
| AG-300-1    | 4010051-07        | 1/2"       | 7.5/15              | 1/2   | Console   | 3080.00   |
| AG-300-1    | 4010051-11        | 1/2"       | 3.75/7.5            | Full  | Console   | 3080.00   |
| AG-300-2    | 4010052-01        | 1/2"       | 7.5/15              | 2     | Unmounted | 3230.00   |
| AG-300-2    | 4010052-03        | 1/2"       | 7.5/15              | 2     | Console   | 3680.00   |
| AG-300-2    | 4010052-07        | 1/2"       | 15/30               | 2     | Console   | 3680.00   |
| AG-300-2    | 4010052-11        | 1/2"       | 3.75/7.5            | 2     | Console   | 3680.00   |
| AG-300-3    | 4010053-03        | 1/2"       | 7.5/15              | 3     | Console   | 4730.00   |
| AG-300-3    | 4010053-09        | 1/2"       | 7.5/15              | 3     | Unmounted | 4380.00   |
| AG-300-3    | 4010053-11        | 1/2"       | 7.5/15              | 3     | Console   | 5080.00   |
| AG-300-3    | 4010053-15        | 1/2"       | 15/30               | 3     | Console   | 5080.00   |
| AG-300-4    | 4010054-09        | 1/2"       | 7.5/15              | 4     | Unmounted | 5080.00   |
| AG-300-4    | 4010054-11        | 1/2"       | 7.5/15              | 4     | Console   | 5790.00   |
| AG-300-4    | 4010054-15        | 1/2"       | 15/30               | 4     | Console   | 5790.00   |
| AG-300-4    | 4010054-03        | 1/2"       | 7.5/15              | 4     | Console   | 5340.00   |

\*Sel-Sync (Selective Synchronization) Ampex Corp. trademark.

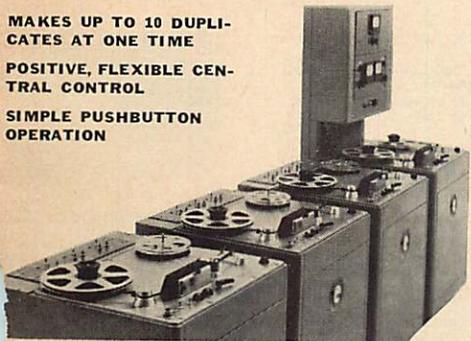
### ACCESSORIES

**Four-Position Stereo Head Assembly:** Fits same space as standard 3-position stereo assembly; adds 4-track playback head; 3/4" tape only. **Mixer—Model MX-10:** Four-position, two channel mixer; feeds 4 mike or 2 mike and 2 line inputs to either or both channels. **Speaker/Amplifier—Model 622:** Ideal portable monitor for professional recorders. Studio sound in compact size; 8" speaker enclosure; 10 watt push-pull amplifier. **Microphone Preamps:** Required for direct microphone use with AG-300 series recorders; plug-in type, one per channel required. Low impedance input: 40 db/60 db, switchable. **Prices on Request.**

## SERIES 3000 TAPE DUPLICATORS

### 3200 SYSTEM

- MAKES UP TO 10 DUPLICATES AT ONE TIME
- POSITIVE, FLEXIBLE CENTRAL CONTROL
- SIMPLE PUSHBUTTON OPERATION



Duplicates high quality tapes at low cost in either single or mass production runs. Meets the demands of audio engineers, broadcast technicians, educators and other critical users for high quality unit. A full system using a double-track master and ten slave units can reproduce in 8 minutes the material that would require 20 hours using two standard recorders. Provides simultaneous duplication of both tracks of a double track tape. Identical quality of the duplicated material is assured once the proper replicating level is determined; tested and proved by thousands of hours of successful commercial operation. Low cost duplication obtained by low set-up time, high duplicating speed, simultaneous use of ten slaves, simplified quality control and the long lived nature of the equipment. The basic system consists of a master playback unit, master amplifier panel, master bias oscillator, master control panel and one duplicating recorder; additional slaves may be added at any time up to a maximum of ten. **Features:** Simultaneous control by master panel of all components. Pushbutton start; full speed attained in 5 to 10 seconds. Master unit and each slave equipped with full controls. Any slave may be stopped or started during duplication without affecting operation of others. All operations are meter-monitored. Handles reels up to

1 1/2" dia. Duplicates single or double-track masters in one pass of the tape. Produces 1200 hours of playback material in an 8-hour work day. Runs master tapes "backward" to eliminate need for rewinding duplicates before using. **Tape Speeds:** 30"/sec. and 60"/sec. **Frequency Response:** +2 db, 50-5,000 cps (+4 db, 50-7,500 cps) for 33 1/3"/sec. duplicate from 3 1/4" or 7 1/2"/sec. master; +2 db, 50-15,000 cps for 7 1/2"/sec. duplicate from 7 1/2" or 15"/sec. master. **Signal-to-Noise Ratio:** Duplicates exceed 55 db in 7 1/2"/sec. made at either 30" or 60"/sec. speed from 15" or 7 1/2"/sec. masters. **Controls:** Central Start, Stop and Record for all units from master control panel; Optional individual controls for each unit; Tape Speed, Reel Selector, Power Switch, Pilot Light, Rewind/Fast Forward/Play selector for each unit. **Monitoring:** Individual metering jacks for each head circuit for use with VTVM and audio oscillator. **Head Assemblies:** Plug-in type with two half-track play heads (one only is used for single-track duplication) for master; plug-in type with two half-track and one full-track heads for recording. **Power Required:** 115 v. AC, 60 cps; 50 cps available at no extra charge if specified. **Size:** 25 1/2" x 26" x 36 1/2" h. with rack extending 23" above top plate, consoles; 49" rack space, master; 8 3/4" rack space, master oscillator; 8 3/4" rack space, master amplifier panel; 3 1/2" rack space, master control panel; 29 1/2" rack space, each duplicating recorder.

**Ampex Model 3201-C Master Playback Unit No. 16295-03**—To drive 1-10 slaves; with electronics housing; operates at 30"/sec. and 60"/sec. Net Each. . . . . \$4950.00

**Ampex Model 3202-C Slave Console Unit No. 16294-03**—Operates at same speeds as playback master for re-recording. Net Each. . . . . \$2550.00

**Ampex No. TM-2008 Manual**—Operation and maintenance manual for 3200 System. Net Each. . . . . \$7.00

### 3300 SYSTEM

Identical to above system except designed for duplicating 4-track 1/2" tape onto 4-track 3/4" tape. Four-track operation only. Extra fast master unit has tape speeds of 60"/sec. and 120"/sec. Slaves operate at 30"/sec. and 60"/sec. All other features and specifications same as for 3200 System.

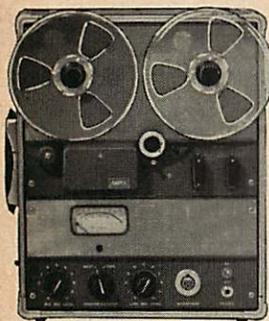
**Ampex Model 3301-C Custom Master Unit**—Available in console cabinet or uncase version. Custom-made to order only. Specify if to feed over 5 slaves. **Price, delivery and availability on request.**

**Ampex Model 3302-C Slave Console Unit No. 30636-01**—Operates at 30"/sec. and 60"/sec. for simultaneous recording \$2775.00 for 4-track 1/2" tape. Net Each. . . . .

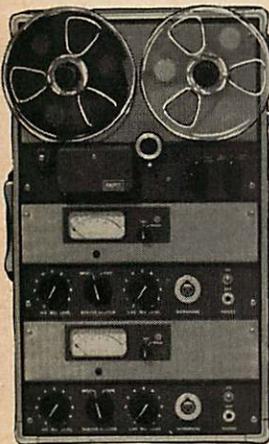
**Ampex No. TM-2007 Manual**—Operation and maintenance manual for 3300 System. Net Each. . . . . \$7.00

# AMPEX Tape Recorders, Accessories

## SERIES 602 COMMERCIAL/PROFESSIONAL FIELD RECORDERS



602-1



602-2

- ALL NEW ELECTRONICS • SILICON DIODE RECTIFIERS FOR COOL OPERATION
- IMPROVED TRANSPORT • BUILT-IN LOW IMPEDANCE MIKE TRANSFORMER
- HYSTERESIS-SYNCHRONOUS DRIVE MOTOR
- RECORD/SAFE SWITCH ON EACH CHANNEL • VERSATILE, PORTABLE, DEPENDABLE
- DC FILAMENT FOR LOW NOISE OPERATION
- REDESIGNED CLUTCHES GIVE UP TO 10 TIMES LONGER LIFE

Versatile instrument offers full portability without compromising its reliability for professional studio performance. Improved version of the famous Ampex 600 Series, this field recorder delivers dependable, versatile recording and playback facilities for the most discriminating user. Available in two channel stereo, or monophonic models and matching speaker/amplifier to meet every field or studio requirement. Carry it with you; or, rack mount it for custom installation. Superior electronics permits monitoring tape or source while recording with separate heads and amplifiers for record and playback. Separate mixing controls for mike and line; two mikes can be mixed on one channel with accessory plug-in preamp in line circuit. Facility to feed 600-ohm remote broadcast line; built-in low impedance mike transformer. Cool operation by use of silicon diode rectifiers; DC filament holds noise to a minimum. Professional 3" VU meters permit monitoring during recording or playback. Sturdy parts and high quality components assure reliable operation under rugged operating conditions. Electronic adjustments accessible through "window" in rear of portable case. Improved transport employs hysteresis-synchronous drive motor; may be operated either horizontally or vertically. Redesigned clutches give up to 10 times longer life. Actually costs less per hour than low quality recorders due to fewer adjustments and parts replacements. Easy-to-carry, durable case is lightweight; single channel model weighs only 28 lbs. Full one-year warranty on all parts.

### SPECIFICATIONS

**Frequency Response:**  $\pm 2$  db, 40-10,000 cps at  $7\frac{1}{2}$ " / sec.; down no more than -4 db at 15,000 cps.  $+2$ , -4 db, 40-8,000 cps at  $3\frac{3}{4}$ " / sec. **Flutter and Wow:** Less than 0.17% at  $7\frac{1}{2}$ " / sec.; less than 0.25% at  $3\frac{3}{4}$ " / sec., ASA standard. **Signal-to-Noise Ratio:** Over -57 db Model 602-1 with full track head; -55 db, half-track head. Model 602-2, over -55 db at  $7\frac{1}{2}$ " / sec. **Timing Accuracy:**  $\pm 0.2\%$  at  $7\frac{1}{2}$ " / sec. ( $\pm 3.6$  sec. in 30 minute recording). **Tape Speeds:** Separate models for  $7\frac{1}{2}$ " / sec. and  $3\frac{3}{4}$ " / sec.; both with fast forward and rewind (90 sec. for 1200-ft. reel). **Reel Size:** Up to 7". **Inputs:** Each channel has two with individual gain controls: Low-Z mike requires 150  $\mu$ v for recording; 100K ohms unbalanced line requires -10 dbm for recording. All have Cannon XL line input connectors. Provision for use of plug-in balanced line or bridging input transformers. Line input may be used for second mike with accessory plug-in preamplifier. **Equalization:** For 117 v. AC, 60 cps models:  $7\frac{1}{2}$ " / sec., NAB;  $3\frac{3}{4}$ " / sec., 120  $\mu$ sec. For 115/230 v. AC, 50 cps models:  $7\frac{1}{2}$ " / sec., NAB or CCIR;  $3\frac{3}{4}$ " / sec., 120 or 200  $\mu$ sec. **Outputs:** Each channel: +4 db into 600 ohms, balanced or unbalanced; headphone jack on front panel with monitor selector knob for monitoring from either the input source or tape playback while recording. **Power Required:** Model 602-1, 70 VA; Model 602-2, 105 VA. Standard models 117 v. AC, 60 cps; 115/230 v. AC, 50 cps also available. **Size:** Transport area  $9\frac{1}{2}$ " x  $12\frac{1}{2}$ "; electronic top area,  $6\frac{1}{2}$ " x  $12\frac{1}{2}$ " (two on Model 602-2); depth, 5" below top plate. Overall with case: Model 602-1,  $8\frac{1}{2}$ " x  $13\frac{1}{2}$ " x  $16\frac{1}{2}$ "; Model 602-2,  $8\frac{1}{2}$ " x  $13\frac{1}{2}$ " x 23". Weight, 28 lbs., Model 602-1; 42 lbs., Model 602-2.

### STANDARD MODELS

For 117 v. AC, 60 cps operation. Uncased and full-track versions of  $3\frac{3}{4}$ " / sec. model available on special request.

**Ampex Model 602-1 Portable, Catalog No. 602-01 ( $7\frac{1}{2}$ " / sec.,  $\frac{1}{2}$ -track), No. 602-02 ( $62500$ ) ( $7\frac{1}{2}$ " / sec., full-track) or No. 602-17 ( $3\frac{3}{4}$ " / sec.,  $\frac{1}{2}$ -track) Monophonic Recorder—Net.**

**Ampex Model 602-1 Uncased, Catalog No. 602-03 ( $7\frac{1}{2}$ " / sec.,  $\frac{1}{2}$ -track) or 602-04 ( $7\frac{1}{2}$ " / sec., full-track) Monophonic Recorder—Less case. See accessories, below, for rack mount adapter. Net Each. . . . . \$575.00**

**Ampex Model 602-2 Portable, Catalog No. 6022-01 ( $7\frac{1}{2}$ " / sec., 2-track) or 6022-07 ( $3\frac{3}{4}$ " / sec., 2-track) Stereo Recorder—Two complete channels in portable case. Net Each. . . . . \$875.00**

**Ampex Model 602-2 Uncased, Catalog No. 6022-02 ( $7\frac{1}{2}$ " / sec., 2-track) Stereo Recorder—Less case. See accessories, below, for rack mount adapter. Net Each. . . . . \$795.00**

### MODEL 622 SPEAKER/AMPLIFIER

Combined 8" speaker and 10 watt amplifier in matching portable case for use with above 602 Series recorders. Controls include volume, bass-treble, power switch and on-off indicator light. Concentric pin type audio input connector; built-in AC power outlet. External speaker jack automatically cuts out the built-in speaker and reciprocal network, delivering flat amplifier output to an external speaker. Single control on front panel provides boosting bass and attenuating treble, or vice versa; maximum boost 6 db, relative to opposite end. Special design 8" speaker gives full range frequency response. **Frequency Response:** Essentially flat, 65-10,000 cps. **Power Output:** 10 watts without audible harmonic distortion; speaker can handle full power. **Impedance:** Inputs, 100K ohms; output, 12 ohms to external speaker. **Power Required:** 55 watts, 0.5 amp, 117 v. AC, 50 or 60 cps. **Size:**  $13\frac{1}{2}$ " x  $16\frac{1}{2}$ " x 11", in portable case. Weight, 25 lbs. U/L Approved.

**Ampex Model No. 622 Portable Speaker/Amplifier—Net Each. . . . . \$189.50**



622

### SERIES 602 TAPE RECORDER ACCESSORIES

**Ampex Model 89-0080 Operation and Maintenance Manual—For all 602 Models, Net Each. . . . . \$8.00**

**Ampex Model 89-0099 Operator's Guide for 622 Amplifier/Speaker—Net Each. . . . . \$1.00**

**Ampex Model 820 Head Demagnetizer—Net Each. . . . . 9.95**

**Ampex Model 823 Head Cleaner—4 oz. can, Net Each. . . . . 1.45**

**Ampex Model 825 Lubricating Oil—In plastic oiler, Net. . . . . .35**

**Ampex Model 854 Portable Case—For all single-channel models. Net Each. . . . . \$59.50**

**Ampex Model 855 Portable Case—For all 2-channel stereo models. Net Each. . . . . \$89.50**

**Ampex Model 863 Rack Mount Adapter—Permits installation in all 1-channel models in standard 19" rack. Takes  $17\frac{1}{2}$ " vertical space when installed. Net Each. . . . . \$17.50**

**Ampex Model 865 Rack Mount Adapter—Same as 864, but for all 2-channel stereo models. Takes  $23\frac{3}{4}$ " vertical space when installed. Net Each. . . . . \$25.00**

**Ampex Model 894 Professional Accessory Kit—Includes head cleaner, demagnetizer, motor oil and Q-tips. Net Each. . . . . \$12.50**

**Ampex Model 897 Minor Hardware Kit—Net Each. . . . . 11.95**

**Ampex Model 830 Alignment Tape—Designed for alignment on full track,  $7\frac{1}{2}$ " / sec. Net Each. . . . . \$21.95**

**Ampex Model 831 Alignment Tape—Designed for alignment on full track,  $3\frac{3}{4}$ " / sec. Net Each. . . . . \$21.95**

**Ampex Model 835 Alignment Tape—Designed for alignment of tracks 1 and 3 on 4-track tape at  $7\frac{1}{2}$ " / sec. Net Each. . . . . \$21.95**

# AMPEX Tape Recorders, Tapes

## SERIES PR-10 PORTABLE RECORDERS



- **WORLD'S MOST ADVANCED PROFESSIONAL RECORDER**
- **MONOPHONIC AND STEREO-MONOPHONIC MODELS**
- **PLUG-IN PREAMPS, EQUALIZERS**
- **4-POSITION, 2-CHANNEL MIXER**

The first fully-portable, 2-speed compact recorder with professional studio features and quality. Exclusive electro-dynamic clutch system introduces smoothest tape handling mechanism ever designed; faster, gentler, starts without throwing tape loops; lower operating and braking tensions permits use of thin-base tapes; gives maximum tape-to-head contact without pressure pads. Four-position head assembly with separate erase, record and playback heads for long life; extra position for optional, 4-track stereo playback or special requirements. Plug-in equalizers provide easy selection of NAB (supplied) or AME curves. Front-panel accessibility to all bias, level and equalization alignment controls. Positive pushbutton control; relay-solenoid operation permits full remote control. Automatic shut-off switch releases pressure roller and brake solenoids. Large, continuous duty, hysteresis synchronous motor for horizontal or vertical operation. Compact electronics include "record-safe" switch, "A-B" monitor switches and hi-to speed equalization switches. Record selector on 2-channel model selects A, A and B, or B; permits half track stereo, or parallel track monophonic and sound-on-sound recording. Two track heads permit conversion to two-channel, two-track stereo without changing heads. Write for available information on four-track playback head installed on any PR-10-1 or PR-10-2, complete with integral switch for two or four-track playback selection. Two 200-ohm slide VU meters give simultaneous reading and balancing of channels. Mounts in standard 19" rack in only 14" of space.

### SPECIFICATIONS

Guaranteed minimum performance specifications listed are based on accurate measurements and professional standards for long range usage. **Speeds:** 7 1/2" and 15" sec. or 3 3/4" and 7 1/2" sec. **Frequency Response:** ±3 db, 30-15,000 cps at 15" sec. or 40-12,000 cps at 7 1/2" sec.; 40-6,000 cps at 3 3/4" sec. **Signal-to-Noise Ratio:** Better than 55 db at 7 1/2" and 15" sec.; 50 db at 3 3/4" sec. **Flutter and Wow:** Less than 0.15% rms 15" sec.; 0.18% rms at 7 1/2" sec.; 0.25% at 3 3/4" sec. **Timing Accuracy:** ±0.25% at 7 1/2" and 15" sec.; ±0.40% at 3 3/4" sec. **Outputs:** -4 dbm into 600-ohm balanced or unbalanced load. Cannon XL connectors. Single and 2-channel headphone jacks provided. **Inputs:** Single Channel Model—Low-Z mike and unbalanced bridging with provisions for plug-in balanced bridging transformers (or low-Z plug-in mike preamp). Two-Channel Model—One unbalanced bridging input per channel with provision for plug-in balanced bridging or low-Z plug-in mike preamp. Model MX-10 accessory mixer designed to feed unbalanced bridge inputs. **Power Required:** 117 v. AC, 60 cps. **Size:** 8 3/4" x 19" rack space for transport; 6 1/2" x 19", electronics. **Weight:** 63 lbs. portable.

**Ampeg Model PR-10-1 Single Channel Recorder 96001-11 (Full-Track) or 96001-03 (Two-Track)—Unmounted; for \$1045.00**  
3 3/4" and 7 1/2" sec. Net Each.

**Ampeg Model PR-10-1 Single Channel Recorder 96001-09 (Full-Track) or 96001-01 (Two-Track)—Unmounted; for \$1045.00**  
7 1/2" and 15" sec. Net Each.

## AMPEX LABORATORY-STANDARD

Ampeg alignment tapes are the standard of the recording and broadcast industry, used by development labs, service depots, recording and broadcast studios throughout the world. All are recorded on the finest Ampeg mastering equipment by skilled engineers working under laboratory conditions.

All signal information on Ampeg alignment tapes is an original recording, not a duplication. Exclusive with Ampeg, this procedure holds deviations from standard to an absolute minimum; assures maximum uniformity from one tape to another.

Ampeg standard alignment tapes are made to agree with published standards of appropriate technical organizations (NAB, CCIR) and are available for various speeds, tape widths and track requirements.

**Custom Alignment Tapes:** Also available on a special order basis to meet various manufacturers, R & D and service organizations needs. Typical tapes include: Manufacturer's checkout tapes; tapes used for development of heads, recorders, etc.; and tapes to complement special machines. Inquiries for your special requirements are invited.

### CALIBRATED FLUTTER TEST TAP

Provides program of 600 ft. of 3 kc signal at 2 db above operating level. With meter calibration segment.

| Ampeg Number | Tape Speed | Description                         | Net Each |
|--------------|------------|-------------------------------------|----------|
| 31326-01     | 3 3/4"     | 30 min. playback time, 1/4" tape    | \$21.95  |
| 31326-01     | 7 1/2"     | 15 min. playback time, 1/4" tape    | \$21.95  |
| 31316-01     | 15"        | 7 1/2 min. playback time, 1/4" tape | \$21.95  |

- Ampeg Model PR-10-1 Single Channel Recorder 96001-36 (Full-Track) or 96001-34 (Two-Track)—Portable mount—\$1125.00**  
Incl. for 3 3/4" and 7 1/2" sec. Net Each.
- Ampeg Model PR-10-1 Single Channel Recorder 96001-35 (Full-Track) or 96001-33 (Two-Track)—Portable mount—\$1125.00**  
Incl. for 7 1/2" and 15" sec. Net Each.
- Ampeg Model PR-10-1 Single Channel Recorder 96001-40 (3 3/4" and 7 1/2" sec.), 96001-17 (7 1/2" and 15" sec. NAB) or 96001-18 (7 1/2" and 15" sec. CCIR)—Full-track; unmounted. \$1095.00**  
Multi-volt, 50 cps. Net Each.
- Ampeg Model PR-10-2 Two-Channel Recorder 96000-03 (3 3/4" and 7 1/2" sec.) or 96000-01 (7 1/2" and 15" sec.)—\$1245.00**  
Unmounted stereo-monophonic recorder-player. Net.
- Ampeg Model PR-10-2 Two-Channel Recorder 96000-18 (3 3/4" and 7 1/2" sec.) or 96000-17 (7 1/2" and 15" sec.)—\$1325.00**  
Two-track; portable mounting. Net Each.
- Ampeg Model PR-10-2 Two-Channel Recorder 96000-04 (3 3/4" and 7 1/2" sec.) 96000-02 (7 1/2" and 15" sec. CCIR) or 96000-09 (7 1/2" and 15" sec. NAB)—Two-track; unmounted stereo-monophonic recorder-player. Multi-volt, 50 cps. \$1295.00**  
Net Each.
- Ampeg Model PR-10-4 Two-Channel Recorder 4018004-01 (Quarter-Track) with four- and two-track playback. Signal-to-noise ratio better than 55 db at 3 3/4" and 7 1/2" sec. \$1295.00**  
All unmounted. Net Each.
- Ampeg Model PR-10-2 Two-Channel Recorder 4018004-03—Same as above, but portable. Net Ea. \$1375.00**
- Ampeg Model PR-10-4 Two-Channel Recorder 4018004-06—Same as Model 4018004-01, except multi-volt version, 50 cps. Unmounted. Net Each. \$1345.00**
- Ampeg Model PR-10-4 Two-Channel Recorder 4018004-08—Same as above model, but portable. \$1425.00**  
Net Each.

### ACCESSORIES AND CASES

- Ampeg Model MX-10 Stereo/Monophonic Two-Channel Mixer 96900-01—Four low-Z mike and two high level bridging inputs; each feeds channel A, A and B or B by switch selection. Facilities for coupling up to four MX-10 mixers provided. Matches design and finish of PR-10. Size, 5 1/4" x 19". Unmounted. \$395.00**  
Net Each.
- Ampeg Model 622 Speaker-Amplifier 01-0622—Ideal companion to PR-10 Series, 602 Series and other portable recorders. Gives studio sound in compact size. Matched speaker enclosure and 10-watt, push-pull amplifier. Net Each. \$189.50**

| Ampeg Number | Description                                     | Net Each |
|--------------|---|----------|
| 15-0200-01   | Portable PR-10 case                             | \$ 75.00 |
| 96940-01     | Portable case for PR-10 and MX-10               | 125.00   |
| 96015-01     | 4-track play head, mtg. hardware and switch     | 79.50    |
| 96121-01     | 7 1/2" NAB/15" NAB record equalizer             | 9.90     |
| 96120-01     | 3 3/4" NAB/7 1/2" NAB record equalizer          | 9.90     |
| 96122-01     | 7 1/2" NAB/15" AME record equal. for PR-10-1    | 9.90     |
| 96111-03     | 7 1/2" NAB reproduce equalizer                  | 9.90     |
| 96110-03     | 3 3/4" (120 cps) 7 1/2" NAB reproduce equalizer | 9.90     |
| 96112-03     | 7 1/2" NAB/15" AME reproduce equal. PR-10-1     | 14.50    |
| 96114-03     | 3 3/4" (200 cps) 7 1/2" NAB reproduce equalizer | 9.90     |
| 96510-01     | Remote control with 30' cable                   | 87.50    |
| 96520-01     | Panel mounting version remote, less cord        | 55.00    |
| 58-0116-01   | Plug-in bridging input transformer              | 14.50    |
| 58-0116-02   | Plug-in matching 600-ohm transformer            | 14.50    |
| 96440-01     | Plug-in 40 db mike preamplifier                 | 45.00    |
| 96440-04     | Plug-in 60 db mike preamplifier                 | 60.00    |

\*For full track units change suffix to -05 (example: 96611-05). †Specify 120 or 200 speed. ‡For Models PR-10-1 and PR-10-2.

## ALIGNMENT AND TEST TAPES

### CALIBRATED LEVEL SET TAPE

Provides program of 400 ft. of 700 cps signal at operating level.

| Ampeg Number | Tape Speed | Description                      | Net Each |
|--------------|------------|----------------------------------|----------|
| 31325-01     | 7 1/2"     | 10 min. playback time, 1/4" tape | \$17.50  |
| 31315-01     | 15"        | 5 min. playback time, 1/4" tape  | 17.50    |

### ALIGNMENT TAP

**Common Program Sequence, Nos. 31311-01, 31312-01, 31313-01, 31314-01, 31315-01:** operating level 700 cps, 15 secs.; 15 kc, 30 secs.; 12 kc, 10 kc, 7.5 kc, 5 kc, 2.5 kc, 1 kc, 500 cps, 250 cps, 100 cps, 50 cps and 30 cps for 10 secs. each. **Nos. 31321-01, 31323-01, 31321-04 and 31321-05:** 10 db below operating level, 700 cps, 15 secs.; 15 kc, 30 secs.; 12 kc, 10 kc, 7.5 kc, 5 kc, 2.5 kc, 1 kc, 500 cps, 250 cps, 50 cps for 10 secs. each.; operating level, 700 cps, 15 secs. **No. 31324-04:** has additional first signal 3 kc tone for one minute at operating level for vertical head adjustment. **Nos. 31331-01 and 31334-01:** 10 db below operating level 500 cps, 15 secs.; 7.5 kc, 30 secs.; 5 kc, 20 secs.; 2.5 kc, 1 kc, 500 cps, 250 cps, 100 cps and 50 cps for 10 secs. each; final 500 cps at operating level for 15 secs.

| Ampeg Number | Tape Speed | Description                             | Net Each |
|--------------|------------|---|----------|
| 31331-01     | 3 3/4"     | 1/4" full track, 120 $\mu$ sec.         | \$21.95  |
| 31334-01     | 3 3/4"     | 1/4" full track, 200 $\mu$ sec.         | 21.95    |
| 31321-01     | 7 1/2"     | 1/4" full track, 50 $\mu$ sec.          | 21.95    |
| 31321-04     | 7 1/2"     | 1/4" tracks 1 & 3 (of 4), 50 $\mu$ sec. | 21.95    |
| 31311-01     | 15"        | 1/4" full track NAB, 50 $\mu$ sec.      | 21.95    |
| 31312-01     | 15"        | 1/4" full track AME                     | 21.95    |
| 31321-05     | 15"        | 1/4" full track, 50 $\mu$ sec.          | 31.50    |
| 31311-05     | 15"        | 1/4" full track NAB, 50 $\mu$ sec.      | 31.50    |
| 31312-05     | 15"        | 1/4" full track AME                     | 31.50    |

# Tape Reproducers, Mixers, Amplifiers

## AMPEX MR-70 SERIES MASTER RECORDERS/REPRODUCERS

- UNSURPASSED PERFORMANCE, RELIABILITY AND OPERATING CONVENIENCE
- ABILITY TO RECORD UP TO EIGHT CHANNELS ON ONE RECORDER
- USES STANDARD 1/4, 1/2 OR 1" TAPES ● COMPATIBLE WITH EXISTING LIBRARIES
- HEAVY DIE-CAST FRAME FOR PERFECT ALIGNMENT OF COMPONENTS
- EASY, FAMILIAR EDITING PROCEDURES ● BUILT-IN SAFETY BRAKING
- OFFER "SOUND-ON-SOUND" RECORDING OR "OVER-DUBBING" CAPABILITY

Precision-made monophonic and stereo masters offering major design innovations to meet the exacting requirements of the recording industry. With today's low noise tapes, an improvement of 10 db in broadband (20-15,000 cps) signal-to-noise ratio is realized; units are capable of even higher ratios with future tape improvements. "Scrape flutter" (FM noise) is virtually eliminated through head assembly design employing a precision idler in the critical unsupported tape path. Components are permanently aligned to rigid, massive heavy-ribbed casting for stable, precise tape motion and tracking. Tape speed is "repeatable" and identical from reel to reel and from day to day. Distortion in the record and reproducer amplifiers is under 1% from 30-15,000 cps. All-nuvisitor electronics section uses only two types of military/industrial grade nuvisitors for maximum reliability. Operational features include: Variable speed wind/rewind; fully automatic tape lifters; panel pushbutton editing (foot pedal optional) and illuminated pushbutton controls for all functions; drop-down gate for easy access to heads. **Tape Speeds:** Dual track 7 1/2 and 15 and 30 ips. **Reel Size:** 1 1/2" max.; EIA, NAB or CCIR reels, or hubs. **Input:** 20K ohms unbalanced or balanced (with plug-in bridging transformer). Accept line levels from -20 to +12 VU. **Output:** Strappable for 150 or 600 ohms, balanced or unbalanced, with nom. line levels of +4 or +8 VU. **Equalization:** Switching automatic by transport speed selector. Choice of curves at each speed provides for NAB, CCIR, or AME (15 ips only); adjustments for other curves in the 17 1/2-100 cps range. **Overall Frequency Response:** ±1 db, 50-12,000 cps or ±2 db, 30-20,000 cps at 15 ips NAB; ±1 db, 50-12,000 cps or ±2 db, 40-15,000 cps at 7 1/2 ips NAB; ±1 db, 50-20,000 cps at 30 ips (17 1/2 usec), full track heads; ±1 db, 100-20,000 cps or ±2 db, 50-20,000 cps at 30 ips (17 1/2 usec), multi-track heads. **Flutter and Wow:** Below 0.05% rms at 15 and 30 ips; 0.08% rms at 7 1/2 ips. **Timing Accuracy:** Better than ±0.15%. **Power Required:** 115 VAC, 60 cps, with selector switch for 105 or 125 VAC. **Size:** Transport, 17" x 24 1/2" x 12"; electronics unit, 19" x 5 1/2" x 12" d. per channel; console (4-channel), 29" w. x 29 1/2" d. x 62 1/2" h.

MR-70-4  
Four-  
Channel  
Console



### ACCESSORIES

**Ampeg No. 4012107-01 Sel-Sync\* Plug-In Preamp**—Equalized plug-in playback preamp allows recording head to be used as playback head. Incorporates 50 usec post-emphasis characteristics plus compensation for gap loss of record head. One Sel-Sync per channel is required. Net Each. ...\$110.00  
\*Ampeg Corp. trademark.

**Ampeg No. 4012121-01 Editing Foot Pedal**—Leaves operator's hands free during editing in "Stop", "Play" or "Fast" modes. Net Each. ....\$29.50

### NOTE

Standard models for 115 VAC, 50 cps, or 230 VAC (with selector switch for 220 or 240 V) 50 or 60 cps operation available at same prices. Special six and eight-channel models (1" tape width) also can be supplied. Write for complete information.

### STANDARD MR-70 SERIES TAPE RECORDERS

All with inline heads. Available in single-channel (full track), two, three or four channels, and in dual-speed 7 1/2 and 15 or 15 and 30 ips models.

| Ampeg Model | Channels | Tape Width | Tape Speeds (ips) | Playback Azimuth | Unmounted   |           | Console     |           |
|-------------|----------|------------|-------------------|------------------|-------------|-----------|-------------|-----------|
|             |          |            |                   |                  | Catalog No. | Net Each  | Catalog No. | Net Each  |
| MR-70-1     | One      | 1 1/2"     | 7 1/2 and 15      | Variable         | 4017011-01  | \$4005.00 | 4017011-03  | \$4410.00 |
| MR-70-1     | One      | 1 1/2"     | 7 1/2 and 15      | Fixed            | 4017011-05  | 4050.00   | 4017011-07  | 4455.00   |
| MR-70-1     | One      | 1 1/2"     | 15 and 30         | Variable         | 4017011-13  | 4050.00   | 4017011-11  | 4410.00   |
| MR-70-1     | One      | 1 1/2"     | 15 and 30         | Fixed            | 4017011-13  | 4050.00   | 4017011-15  | 4455.00   |
| MR-70-2     | Two      | 1 1/2"     | 7 1/2 and 15      | Variable         | 4017012-01  | \$175.00  | 4017012-03  | \$625.00  |
| MR-70-2     | Two      | 1 1/2"     | 7 1/2 and 15      | Fixed            | 4017012-05  | \$220.00  | 4017012-07  | \$670.00  |
| MR-70-2     | Two      | 1 1/2"     | 15 and 30         | Variable         | 4017012-09  | \$175.00  | 4017012-11  | \$625.00  |
| MR-70-2     | Two      | 1 1/2"     | 15 and 30         | Fixed            | 4017012-13  | \$220.00  | 4017012-15  | \$670.00  |
| MR-70-2     | Two      | 1 1/2"     | 15 and 30         | Fixed            | 4017012-17  | \$355.00  | 4017012-19  | \$850.00  |
| MR-70-2     | Two      | 1 1/2"     | 7 1/2 and 15      | Fixed            | 4017012-21  | \$355.00  | 4017012-23  | \$805.00  |
| MR-70-3     | Three    | 1 1/2"     | 7 1/2 and 15      | Variable         | 4017013-01  | \$255.00  | 4017013-03  | \$885.00  |
| MR-70-3     | Three    | 1 1/2"     | 7 1/2 and 15      | Fixed            | 4017013-05  | \$300.00  | 4017013-07  | \$930.00  |
| MR-70-3     | Three    | 1 1/2"     | 15 and 30         | Variable         | 4017013-09  | \$255.00  | 4017013-11  | \$885.00  |
| MR-70-3     | Three    | 1 1/2"     | 15 and 30         | Fixed            | 4017013-13  | \$300.00  | 4017013-15  | \$930.00  |
| MR-70-4     | Four     | 1 1/2"     | 7 1/2 and 15      | Variable         | 4017014-01  | \$425.00  | 4017014-03  | \$1005.00 |
| MR-70-4     | Four     | 1 1/2"     | 7 1/2 and 15      | Fixed            | 4017014-05  | \$470.00  | 4017014-07  | \$1100.00 |
| MR-70-4     | Four     | 1 1/2"     | 15 and 30         | Variable         | 4017014-09  | \$425.00  | 4017014-11  | \$1055.00 |
| MR-70-4     | Four     | 1 1/2"     | 15 and 30         | Fixed            | 4017014-13  | \$470.00  | 4017014-15  | \$1100.00 |
| MR-70-4     | Four     | 1"         | 7 1/2 and 15      | Fixed            | 4017014-17  | \$650.00  | 4017014-19  | \$820.00  |
| MR-70-4     | Four     | 1"         | 15 and 30         | Fixed            | 4017014-21  | \$650.00  | 4017014-23  | \$820.00  |

## ALTEC LANSING RECORDING COMPONENTS

### MODEL 1567A MIXER PREAMPLIFIER

For PA and broadcast applications or as a remote, portable mixer. Four low-level, one high-level inputs with individual volume controls plus a master gain control. Facility provided for accessory VU meter. Two outputs: Main for hi-Z load or low-Z using 15005 plug-in transformer; second for signal to tape recorders is unaffected by master gain or tone controls. Exceeds FCC requirements for AM and FM broadcasting. Model 12866 portable case available. **Frequency Response:** ±1 db, 30-15,000 cps. **Gain:** 97 db max., channels 1-4; 55 db max., channel 5. **Source Impedance:** 30/50 ohms; 120/200 ohms using plug-in transformer. **Noise Level:** -68 dbm, master gain control closed. **Controls:** Five Mixer Gains, Meter, Gain, Bass, Treble, Illumination, VU Range and Power. **Size:** 3-12AX7, 1-6CG7. **Power Required:** 20 watts, 117 v. AC, 60 cps. **Size:** 19" w. x 5 1/4" h. x 6 3/4" d. Shipping Weight, 24 lbs. **\$189.00**

Altec Lansing Model 1567A—Dark green finish. Net Each. ....\$189.00

### ACCESSORIES FOR 1567A

|  |         |
|--|---------|
| Altec Lansing Model 12862 VU Meter Assembly—Net Each. ....   | \$28.50 |
| Altec Lansing Model 12864 Phono Equalizer Assembly—Net Each. ....                                  | 5.25    |
| Altec Lansing Model 12863 XL Connector Assembly—Net Each. ....                                     | 30.00   |
| Altec Lansing Model 12866 Portable Carrying Case—Net Each. ....                                    | 57.00   |
| Altec Lansing Model 4722 Plug-In Mike Transformer—Net Each. ....                                   | 12.75   |
| Altec Lansing Model 15095 Plug-In Line Transformer—For 150/600 ohms line impedance. Net Each. .... | \$12.75 |

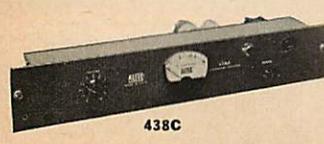
### MODEL 438C COMPRESSOR AMPLIFIER

Designed for PA use but valuable in broadcast, recording and communication applications. Provides high gain preamplification plus complete automatic compression line amplifier. Assures high intelligibility, free from "blasting". A 600-ohm line bridging input is supplied for other sources. Proper balancing of both sources results in automatic "fading" of background material during pauses. Serves as a microphone preamplifier without compression by removing the 6AL5 tube from the circuit. Conveniently hinged front panel. **Gain:** 90 db, mike input; 40 db, bridging 600-ohm line. **Compression:** 30 db, max. **Power Output:** +19 dbm at 30 db compression; +24 dbm as straight amplifier. **Frequency Response:** ±1.5 db, 40-10,000 cps. **Source Impedances:** 150 and 300 ohms. **Noise Level:** -50 dbm output, gain control at min. **Controls:** Gain; AC power switch; Threshold; Release Time. **Attack Time:** 50 milliseconds. **Harmonic Distortion:** Less than 1.5%, 35-15,000 cps at 25 db compression; 2.5%, 35-10,000 cps at 30 db. **Tubes:** 1-12AY7, 1-6BC8, 1-6CG7, 1-6AL5. **Power Required:** 22 watts, 115 v. AC, 60 cps. **Size:** 19" w. x 3 1/2" h. x 6" d. Shipping Weight, 17 lbs. **\$199.00**

Altec Lansing Model 438C—Dark green finish. Net Each. ....\$199.00



1567A



438C

# Amplex Replacement Parts

## 300/350/351/354 SERIES SPARE PARTS

| Amplex Number* | Description                                   | Prof. User Net Price |
|----------------|---|----------------------|
| 4030127-10     | Capstan Assembly 15, 30, 60 lps               | \$140.00             |
| 4030127-30     | Capstan Assembly 7 1/2, 15 lps                | 85.00                |
| 4030127-40     | Capstan Assembly 3 3/4, 7 1/2 lps             | 85.00                |
| 4100131-50     | Capstan Dust Cap 1 1/2"                       | 7.30                 |
| 4100131-30     | Capstan Dust Cap 3/4"                         | 12.00                |
| 420147-10      | Capstan Felt Washer-Dust Seal                 | -.20                 |
| 430-050        | Capstan TRU-ARC Retainer                      | -.35                 |
| 4030116-10     | Capstan Idler Assembly 7 1/2, 15 lps          | 31.00                |
| 4030116-80     | Capstan Idler Assembly 3 3/4, 7 1/2 lps, 1/4" | 31.00                |
| 4330106-10     | Capstan Idler Arm                             | 13.00                |
| 4201126-10     | Capstan Idler Arm Bearing                     | 6.50                 |
| 4590063-10     | Capstan Idler Solenoid                        | 7.80                 |
| 4270176-10     | Capstan Solenoid Return Spring                | -.30                 |
| 4270162-10     | Capstan Idler Adjusting Spring                | -.15                 |
| 4030131-05     | Drive Motor 60 cps 3 3/4, 7 1/2 lps           | 150.00               |
| 4030131-08     | Drive Motor 60 cps 7 1/2, 15 lps              | 150.00               |
| 4030131-07     | Drive Motor 60 cps 15, 30 lps                 | 150.00               |
| 4030131-12     | Drive Motor 50 cps 7 1/2, 15 lps              | 160.00               |
| 4030131-11     | Drive Motor 50 cps 15, 30 lps                 | 160.00               |
| 4270179-10     | Drive Motor Return Spring-Console             | -.55                 |
| 4270180-01     | Drive Motor Return Spring-Rack                | -.70                 |
| 4590063-10     | Drive Motor Solenoid                          | 7.80                 |
| 4201175-10     | Drive Motor Pressure Adjusting Spring         | 7.80                 |
| 4030113-40     | Take Up Assembly-Complete, 1/4"               | 160.00               |
| 4030115-40     | Rewind Assembly-Complete, 1/4"                | 160.00               |
| 4030114-10     | Take Up Brake Assembly, 1/4"                  | 50.00                |
| 4030114-30     | Take Up Brake Assembly, 3/8"                  | 55.00                |
| 4030114-20     | Rewind Brake Assembly, 1/4"                   | 50.00                |
| 4030114-40     | Rewind Brake Assembly, 3/8"                   | 55.00                |

### Parts common to Take Up and Rewind Assembly

|            |  |          |
|------------|--|----------|
| 4850050-01 | Motor Assembly                             | \$130.00 |
| 4040414-10 | Brake Band-Raybestos                       | 3.70     |
| 4040467-01 | Brake Band-Felt                            | 3.70     |
| 4270164-10 | Brake Band Leaf                            | .45      |
| 4590067-10 | Brake Solenoid                             | 4.30     |
| 4330116-10 | Turntable                                  | 3.80     |
| 4330105-10 | Turntable Pad-Cork                         | -.35     |
| 4030135-20 | Rotary Tape Guide, 1/2"                    | 65.00    |
| 4030135-10 | Rotary Tape Guide, 1"                      | 55.00    |
| 4040469-10 | Reel Guard-10 1/2"                         | 3.40     |
| 4110172-10 | Reel Guard-14"                             | 2.80     |
| 4030111-80 | Take Up Tension Arm, 1/4"                  | 34.00    |
| 4030111-10 | Take Up Tension Arm, 3/8"                  | 34.00    |
| 4210183-20 | Tape Guide, Tension Take Up Arm, 1/4"      | 3.00     |
| 4210183-10 | Tape Guide, Tension Take Up Arm, 3/8"      | 3.40     |
| 4230158-10 | Hook Guide, Tension Take Up Arm            | 1.30     |
| 4040407-15 | Reel Idler Assembly 7 1/2, 15 lps, 1/4"    | 75.00    |
| 4040407-08 | Reel Idler Assembly 7 1/2, 15 lps, 3/8"    | 70.00    |
| 4040407-03 | Reel Idler Assembly 3 3/4, 7 1/2 lps, 1/4" | 85.00    |
| 4290272-10 | Base, Reel Idler Assembly                  | 33.00    |
| 4040408-50 | Reel Idler Pulley 7 1/2, 15 lps            | 25.00    |
| 4040408-10 | Reel Idler Pulley 3 3/4, 7 1/2 lps, 1/4"   | 25.00    |
| 4210188-20 | Reel Idler Assembly Tape Guide, 1/4"       | 4.00     |
| 4210188-10 | Reel Idler Assembly Tape Guide, 3/8"       | 4.50     |
| 4250115-10 | Reel Idler Flywheel                        | 18.00    |
| 4100132-10 | Guard, Record Pushbutton                   | 1.00     |
| 4100124-10 | Guard, Stop & Start Pushbutton             | 4.40     |
| 230-010    | Knob, Speed Change                         | -.15     |
| 230-002    | Knob, Mode Selector                        | 1.00     |
| 132-005    | Pilot Lamp Base, Amber (single track 300)  | 2.00     |
| 132-006    | Pilot Lamp Base, Red                       | 2.60     |
| 132-011    | Pilot Lamp Base, Amber (multichannel 300)  | 2.70     |

### Parts common to all Transports

|            |                                  |         |
|------------|----------------------------------|---------|
| 4040590-01 | Capacitor, Drive Motor 5MED      | \$ 5.00 |
| 4540292-30 | Capacitor, Rewind Motor, 60 cps  | 3.00    |
| 4540292-10 | Capacitor, Take Up Motor, 60 cps | 4.50    |
| 020-006    | Relay                            | 6.50    |
| 120-062    | Switch, Safety                   | 3.00    |
| 122-014    | Switch, Speed                    | 4.40    |
| 120-003    | Switch, Power                    | 2.40    |
| 122-029    | Switch, Mode Selector            | 13.00   |
| 120-014    | Switch, Pushbutton, Stop         | 3.20    |
| 120-013    | Switch, Pushbutton, Record       | 1.20    |
| 120-025    | Switch, Pushbutton, Play         | 7.60    |
| 582-001    | Rectifier                        | 3.80    |

\*If only one part number with same suffix is shown, it is the same for either 1/4" or 3/8" equipment.

## 300 MULTICHANNEL 30960-11 AND -12

### ELECTRONIC PARTS—All for 1/4" equipment

| Amplex Number | Description                    | Prof. User Net Price |
|---------------|--------------------------------|----------------------|
| 4050124-01    | Power Supply Board             | \$55.00              |
| 4050122-06    | Record Board                   | 65.00                |
| 4050125-03    | Reproduce Board                | 47.00                |
| 4590061-01    | Relay, Record                  | 9.20                 |
| 020-065       | Relay                          | 4.20                 |
| 582-031       | Rectifier, Bias Coupling Relay | 3.00                 |
| 581-001       | Rectifier, Selenium            | 3.80                 |
| 4140012-10    | Meter, VU                      | 43.00                |
| 62-0130       | Switch, Rotary Input Transfer  | 1.60                 |
| 62-0132-01    | Switch, Equalization           | 3.90                 |
| 62-0131-01    | Switch, Meter and Output       | 2.90                 |
| 122-016       | Switch, Line Termination       | 2.80                 |
| 120-005       | Switch, Power                  | 3.80                 |
| 120-013       | Switch, Record                 | 1.20                 |
| 132-003       | Light, Record Indicator        | 1.10                 |
| 4580022-01    | Transformer, Input             | 17.00                |
| 4040340-10    | Transformer, Output            | 3.60                 |
| 4040341-01    | Transformer, Power             | 9.00                 |
| 4580115-10    | Transformer, Oscillator        | 8.10                 |
| 4580122-10    | Transformer, Microphone        | 42.00                |

## 350 SERIES TRANSPORTS—All for 1/4" equipment

| Amplex Number | Description                           | Prof. User Net Price |
|---------------|---------------------------------------|----------------------|
| 4850049-01    | Drive Motor, 7 1/2, 15 lps, 60 cps    | \$160.00             |
| 4850049-05    | Drive Motor, 7 1/2, 15 lps, 50 cps    | 170.00               |
| 4850049-04    | Drive Motor, 3 3/4, 7 1/2 lps, 60 cps | 160.00               |
| 4850049-03    | Drive Motor, 3 3/4, 7 1/2 lps, 50 cps | 170.00               |
| 4040591-02    | Drive Motor Capacitor                 | 7.80                 |
| 4250114-10    | Drive Motor Flywheel, Bodine          | 12.00                |
| 4250115-10    | Drive Motor Flywheel, Ashland         | 12.00                |
| 591-001       | Drive Motor Fan                       | 2.60                 |
| 4030113-30    | Take Up Assembly                      | 160.00               |
| 4030115-30    | Rewind Assembly                       | 160.00               |
| 4040406-20    | Capstan Dust Cap 7 1/2, 15 lps        | 7.80                 |
| 4040406-10    | Capstan Dust Cap 3 3/4, 7 1/2 lps     | 16.50                |
| 120-014       | Switch, Stop                          | 1.20                 |
| 120-013       | Switch, Play, Fast Forward, Rewind    | 1.20                 |
| 020-006       | Relay                                 | 6.50                 |
| 582-016       | Rectifier                             | 8.50                 |

## 300 AND 350 SERIES HEAD ASSEMBLY

### REPLACEABLE PARTS—All for 1/4" equipment

|            |                       |         |
|------------|-----------------------|---------|
| 4270166-10 | Gate Spring           | \$ 0.20 |
| 403-006    | Gate Pin              | -.05    |
| 4210181-30 | Glass Rod—1 1/2" long | 1.10    |
| 4210181-10 | Glass Rod—1 1/4" long | 1.10    |
| 403189-01  | Gate—1 1/4" Trape     | 45.00   |
| 4030189-06 | Gate—1 1/2" long      | 60.00   |

## ELECTRONICS—All for 1/4" equipment

|            |                                  |         |
|------------|----------------------------------|---------|
| 4050124-01 | Power Supply Board               | \$55.00 |
| 4050122-01 | Record Board 7 1/2, 15 lps       | 55.00   |
| 4050122-02 | Record Board 3 3/4, 7 1/2 lps    | 55.00   |
| 4050125-01 | Reproduce Board 7 1/2, 15 lps    | 47.00   |
| 4050125-02 | Reproduce Board 3 3/4, 7 1/2 lps | 48.00   |
| 4590061-01 | Relay, Record-351                | 9.00    |
| 020-066    | Relay, Bias Coupling             | 6.50    |
| 4590088-10 | Relay, Record-350                | 10.00   |
| 582-031    | Rectifier, Bias Coupling         | 2.30    |
| 581-001    | Rectifier, Selenium              | 3.80    |
| 132-003    | Lamp, Record Indicator           | 1.10    |
| 4140012-01 | Meter, VU                        | 43.00   |
| 62-0130    | Switch, Input                    | 1.60    |
| 62-0131-01 | Switch, Equalization             | 1.30    |
| 62-0132-01 | Switch, Meter & Output           | 3.90    |
| 122-016    | Switch, Line Termination         | 2.80    |
| 122-005    | Switch, Power                    | 3.80    |
| 120-013    | Switch, Record                   | 1.20    |
| 4040492-10 | Hold Down Knob                   | 1.20    |
| 4030145-10 | Editting Knob                    | 4.90    |
| 4330143-10 | Reel Centering Adapter           | 1.10    |

## SERIES PR-10 SPARE PARTS

| Amplex Number | Description                               | Prof. User Net Price |
|---------------|---|----------------------|
| 4030185-10    | Capstan Assembly 3 3/4, 7 1/2 lps         | \$120.00             |
| 4030185-20    | Capstan Assembly 7 1/2, 15 lps            | 120.00               |
| 4030184-10    | Capstan Idler Assembly                    | 11.00                |
| 4590090-10    | Solenoid, Capstan Idler                   | 5.80                 |
| 4310051-10    | Belt, Capstan Drive                       | 5.50                 |
| 4230121-10    | Fork, Speed Shift, 3 3/4, 7 1/2 lps       | 5.40                 |
| 4040326-10    | Motor Assembly, Drive 7 1/2, 15 lps       | 120.00               |
| 4310052-20    | Belt, Clutch Drive                        | 2.10                 |
| 4040485-02    | Supply Arm Assembly (Brake with lining)   | 4.40                 |
| 4040485-01    | Setup Arm Assembly (Brake with lining)    | 4.40                 |
| 4590018-10    | Solenoid, Brake                           | 4.30                 |
| 4590050-10    | Relay, Transport                          | 3.90                 |
| 4220144-10    | Switch, Pushbtn (Forward/Rewind/Play)     | 1.50                 |
| 120-138       | Switch, Safety                            | 1.60                 |
| 4150090-01    | Pulley, Belt Idler                        | 8.00                 |
| 4030183-10    | Belt, Separator Assembly                  | 10.00                |
| 4140013-01    | Meter, VU                                 | 31.00                |
| 4520138-10    | Pot. Assembly (Level Control PR-10-2)     | 1.90                 |
| 4520138-20    | Pot. Assembly (Level Control PR-10-1)     | 1.40                 |
| 4590050-10    | Relay, 3PDT                               | 3.90                 |
| 62-0126-01    | Switch, Equalization (Rec-Select PR-10-1) | 1.50                 |
| 62-0126-02    | Switch, Equalization (Rec-Select PR-10-2) | 2.40                 |
| 4620125-01    | Switch, Record-Select                     | 1.60                 |
| 4580115-10    | Transformer, OSC                          | 6.10                 |
| 4580118-01    | Transformer, Output                       | 3.90                 |

## SERIES 601 AND 602 SPARE PARTS

|            |                                |         |
|------------|--------------------------------|---------|
| 4030024-10 | Capstan Idler Assembly         | \$ 3.30 |
| 4040174-10 | Pulley, Idler                  | 47.20   |
| 4850091-10 | Motor, Drive (601, 602)        | 6.00    |
| 4250068-10 | Pulley, 7 1/2 lps, 60 cps      | 11.00   |
| 4250068-30 | Pulley, 3 3/4 lps, 60 cps      | 14.00   |
| 4250044-10 | Clutch, Play Takeup            | -.85    |
| 4040165-10 | Disc Assembly                  | 2.20    |
| 4040165-20 | Disc Assembly                  | 2.30    |
| 4040166-10 | Clutch Assembly                | 9.80    |
| 85-0033-01 | Brake Assembly Kit             | 1.40    |
| 4040160-10 | Shock Relief Assembly          | 2.40    |
| 4040161-10 | Wheel, Idler Capstan           | 1.90    |
| 05-0245-01 | Switch Deck Assembly (602)     | 2.10    |
| 05-0037-01 | Switch Deck Assembly (601)     | 1.90    |
| 05-0245-02 | Switch Deck Assembly (602-2)   | 2.50    |
| 4620035-20 | Switch Mechanism               | 1.00    |
| 4040157-10 | Flywheel Assembly, Capstan     | 9.00    |
| 4310007-10 | Belt, Drive, 60 cps, 7 1/2 lps | 4.70    |
| 4310007-20 | Belt, Drive, 50 cps, 7 1/2 lps | 4.70    |
| 432-010    | Belt, Takeup                   | 50      |
| 060-013    | Bulb, Neon                     | -.90    |
| 4130028-10 | Knob, Reel Holdown             | -.95    |
| 4140003-10 | Meter, VU                      | 37.00   |
| 4580118-01 | Transformer, Output (602)      | 3.90    |
| 4580144-10 | Transformer, Oscillator (602)  | 3.90    |

# Ampex Components

## TAPE TRANSPORTS—POWER REQUIRED 117 V

| Ampex Number | Used in Series | Description      | Tape Speeds  | Freq. cps | Prof. User Net Price |
|--------------|----------------|------------------|--------------|-----------|----------------------|
| 4020267-03   | AG-300 3/4     | 1/2-inch         | 7 1/2, 15    | 60        | \$2120.00            |
| 4020267-04   | AG-300 3/4     | 1/2-inch         | 7 1/2, 15    | 50        | 2120.00              |
| 4020267-05   | AG-300 3/4     | 1/2-inch         | 7 1/2, 15    | 60        | 2290.00              |
| 4020267-06   | AG-300 3/4     | 1/2-inch         | 7 1/2, 15    | 50        | 2290.00              |
| 02-7870-01   | 3200           | 14" Reel Cap.    | 30-60        | 60        | 2090.00              |
| 02-7870-02   | 3200           | 14" Reel Cap.    | 30-60        | 50        | 2090.00              |
| 4020254-01   | AG-350/355     | 1/2 and 1/4-inch | 7 1/2, 15    | 60        | 1150.00              |
| 4020254-02   | AG-350/355     | 1/2 and 1/4-inch | 7 1/2, 15    | 50        | 1150.00              |
| 4020271-01   | AG-440/445     | 1/2 and 1/4-inch | 7 1/2, 15    | 60        | 1295.00              |
| 4020271-02   | AG-440/445     | 1/2 and 1/4-inch | 7 1/2, 15    | 50        | 1295.00              |
| 4020271-03   | AG-440/445     | 1/2 and 1/4-inch | 3 3/4, 7 1/2 | 60        | 1295.00              |
| 4020271-04   | AG-440/445     | 1/2 and 1/4-inch | 3 3/4, 7 1/2 | 50        | 1295.00              |
| 02-0219      | 602-1          | Single Channel*  | 7 1/2, 3 3/4 | 60/50     | 315.00               |
| 02-0210      | 602-2          | For Stereo*      | 7 1/2, 3 3/4 | 60/50     | 320.00               |
| 2-96200-01   | PR-10          |                  | 7 1/2, 15    | 60        | 730.00               |
| 2-96200-02   | PR-10          |                  | 7 1/2, 15    | 50        | 751.00               |
| 2-96200-03   | PR-10          |                  | 3 3/4, 7 1/2 | 60        | 730.00               |
| 2-96200-04   | PR-10          |                  | 3 3/4, 7 1/2 | 50        | 751.00               |

\*602 Transports do not include head cover, head shield, head tape guide and associated hardware.

- Note:
1. Transports do not include heads, hold-down knobs, reels, AC power cord or manuals.
  2. Electronic components do not include any cables, plugs, etc. unless captive or otherwise specified above.
  3. All components listed are those currently in production, and may not be interchangeable with units delivered earlier. If replacements are desired, consult the appropriate manual.

### HEAD ASSEMBLIES: NEW AND REBUILT

Under heading, Description, E=Eraser, R=Record, P=Playback.  
**ONE CHANNEL, FULL TRACK, 1/4" TAPE WIDTH**

| Ampex Number | Used in Series | Description        | Prof. User Net |          |
|--------------|----------------|--------------------|----------------|----------|
|              |                |                    | New            | Rebuilt  |
| 4020475-02   | 300            | ERP                | \$231.00       | \$135.00 |
| 4020261-02   | AG-300/350     | ERP                | 245.00         | .....    |
| 4020475-13   | 350/351        | ERP                | 131.20         | 135.00   |
| 4020475-23   | 352            | Playback only      | 152.25         | 55.00    |
| 4020272-01   | AG-440         | ERP                | 245.00         | .....    |
| 4020261-04   | AG-355         | Playback only      | 155.00         | .....    |
| 4020272-04   | AG-445         | Playback only      | 155.00         | .....    |
| 4020101-10   | 600/601        | ERP                | 99.75          | .....    |
| 4020236-01   | 602            | ERP                | 99.75          | .....    |
| 4020236-01   | MR-70          | ERP, fx. playback  | 610.00         | .....    |
| 4020236-02   | MR-70          | ERP, adj. playback | 530.00         | .....    |

### ONE CHANNEL, HALF TRACK, 1/4" TAPE WIDTH

|            |            |               |          |          |
|------------|------------|---------------|----------|----------|
| 4020261-01 | AG-300/350 | ERP           | \$245.00 | .....    |
| 4020475-11 | 350/351    | ERP           | 220.50   | \$125.00 |
| 4020475-22 | 352        | Playback only | 147.00   | 50.00    |
| 4020261-03 | AG-355     | Playback only | 155.00   | .....    |
| 4020101-20 | 600/601    | ERP           | 99.75    | .....    |
| 4020242-02 | 602        | ERP           | 99.75    | .....    |

### TWO CHANNEL, 1/4" TAPE WIDTH

|            |             |                       |          |          |
|------------|-------------|-----------------------|----------|----------|
| 2-30028-01 | 300/350     | FT, Erase; 2T, RP     | \$309.75 | \$195.00 |
| 2-30028-02 | 300/351-354 | 2T ERP                | 341.25   | 225.00   |
| 4020262-01 | AG-300/350  | 2T ERP                | 325.00   | .....    |
| 4020272-02 | AG-440      | 2T ERP                | 325.00   | .....    |
| 02-0102-01 | 600-2/601-2 | 2T ERP (FT, Erase)    | 120.75   | .....    |
| 4020243-01 | 602-2       | 2T ERP                | 120.75   | .....    |
| 2-96200-03 | 300/350-1-4 | 2T ERP, 1/2T Playback | 414.75   | 270.00   |
| 2-96200-05 | AG-350      | 2T ERP, 1/2T Playback | 420.00   | .....    |
| 2-96200-04 | 352-2       | 2/4T Playback         | 288.75   | 150.00   |
| 4020262-04 | AG-355-2    | 3/4T Playback         | 225.00   | .....    |
| 2-30028-04 | 352-2       | 2T Playback           | 183.75   | 85.00    |
| 4020272-05 | AG-445      | 2T Playback           | 175.00   | .....    |
| 4020272-06 | AG-445      | 2/4T Playback         | 225.00   | .....    |
| 4020262-02 | AG-355      | 2T Playback           | 175.00   | .....    |

### THREE CHANNEL, THREE TRACK, 1/2" TAPE WIDTH

|            |        |               |          |          |
|------------|--------|---------------|----------|----------|
| 2-30471-04 | 300    | ERP           | \$546.00 | \$395.00 |
| 4020263-01 | AG-300 | ERP           | 500.00   | .....    |
| 4020273-01 | AG-440 | ERP           | 500.00   | .....    |
| 4020273-03 | AG-445 | Playback only | 250.00   | .....    |

### FOUR CHANNEL, FOUR TRACK, 1/2" TAPE WIDTH

|            |        |               |          |          |
|------------|--------|---------------|----------|----------|
| 2-31055-01 | 300    | ERP           | \$735.00 | \$575.00 |
| 4020264-01 | AG-300 | ERP           | 615.00   | .....    |
| 4020273-02 | AG-440 | ERP           | 615.00   | .....    |
| 4020273-04 | AG-445 | Playback only | 295.00   | .....    |

### DUPLICATORS, 1/4" TAPE WIDTH

|            |      |                   |          |          |
|------------|------|-------------------|----------|----------|
| 4020475-26 | 3201 | P dual staggered  | \$236.25 | \$120.00 |
| 4020475-28 | 3202 | R dual staggered* | 288.75   | 170.00   |

### TWO CHANNEL, TWO TRACK, 1/4" TAPE WIDTH

|            |      |                 |          |       |
|------------|------|-----------------|----------|-------|
| 1815668-01 | 3201 | Playback inline | \$530.00 | ..... |
| 1815667-01 | 3202 | Record inline   | 550.00   | ..... |

### FOUR CHANNEL, FOUR TRACK, DUAL 2T STAGGERED

|            |      |                     |          |          |
|------------|------|---------------------|----------|----------|
| 2-80001-01 | 3301 | Playback, 1/2" tape | \$546.00 | \$395.00 |
| 2-80001-01 | 3302 | Record, 1/2" tape   | 498.75   | 350.00   |

\*Plus full track record.

### HEAD STACKS

| Ampex Number | Used in Series | Description | Prof. User Net |
|--------------|----------------|-------------|----------------|
| 4040076-04   | 601/600        | 2T Playback | \$42.00        |
| 4040076-05   | 601/600        | 2T Record   | 42.00          |
| 4040076-06   | 601/600        | 2T Erase    | 42.00          |
| 4040084-10   | 601/600        | FT Erase    | 32.00          |
| 4040084-11   | 601/600        | FT Record   | 32.00          |
| 4040084-30   | 601/600        | FT Playback | 32.00          |

## HEAD STACKS (Cont'd)

| Ampex Number | Used in Series | Description          | Prof. User Net |
|--------------|----------------|----------------------|----------------|
| 4040084-40   | 601/600        | 1/2T Erase           | \$ 32.00       |
| 4040084-50   | 601/600        | 1/2T Record          | 32.00          |
| 4040084-60   | 601/600        | 1/2T Playback        | 32.00          |
| 4040684-03   | 602            | 2T Playback          | 42.00          |
| 4040684-04   | 602            | 2T Record            | 42.00          |
| 4040684-05   | 602            | 2T Erase             | 42.00          |
| 4040684-06   | 602            | FT Erase             | 32.00          |
| 4040684-07   | 602            | FT Record            | 32.00          |
| 4040684-08   | 602            | FT Playback          | 32.00          |
| 4040684-09   | 602            | 1/2T Erase           | 32.00          |
| 4040684-10   | 602            | 1/2T Playback        | 32.00          |
| 4040684-11   | 602            | 1/2T Record          | 32.00          |
| 4040684-12   | 602            | 1/2T Erase           | 32.00          |
| 2-96170-01   | PR-10          | 2T Playback          | 74.00          |
| 2-96170-02   | PR-10          | 2T Record            | 74.00          |
| 2-96170-03   | PR-10          | 2T Erase             | 68.00          |
| 2-96192-01   | PR-10          | FT Playback          | 63.00          |
| 2-96192-02   | PR-10          | FT Record            | 63.00          |
| 2-96192-03   | PR-10          | FT Erase             | 53.00          |
| 4020228-01   | CL-10/PR-10-4  | 1/2T Playback, 1 & 3 | 53.00          |
| 4020228-02   | CL-10/PR-10-4  | 1/2T Record, 1 & 3   | 53.00          |
| 4020228-03   | CL-10/PR-10-4  | 1/2T Erase, 1 & 3    | 53.00          |
| 2-96170-07   | PD-10          | 2T Playback          | 79.00          |
| 2-96170-08   | PD-10          | 2T Record            | 80.00          |
| 4040438-63   | 300            | FT Erase             | 34.00          |
| 4040438-52   | 350/351/AG-350 | FT Playback          | 47.00          |
| 4040438-57   | 350/351        | FT Record            | 47.00          |
| 4040438-64   | 350/351        | FT Erase             | 47.00          |
| 4040534-01   | 300-3          | 3T Playback, 100 ml* | 131.00         |
| 4040534-02   | 300-3          | 3T Record, 100 ml*   | 135.00         |
| 4040534-03   | 300-3          | 3T Erase*            | 121.00         |
| 4040558-01   | 300-4          | 4T Playback*         | 189.00         |
| 4040558-02   | 300-4          | 4T Record*           | 189.00         |
| 4040564-01   | 300-4          | 4T Erase*            | 179.00         |
| 4040438-51   | AG-300         | 1/2T Playback*       | 35.00          |
| 4040438-56   | AG-350         | 1/2T Erase           | 40.00          |
| 4040438-57   | AG-350         | FT Record            | 45.00          |
| 4040438-58   | AG-350         | FT Erase             | 45.00          |
| 4040437-01   | 300/351/354    | 2T Playback          | 70.00          |
| 4040426-01   | 300/351/354    | 2T Erase             | 65.00          |
| 4040437-02   | 300/351/354    | 2T Record            | 70.00          |
| 4040437-03   | AG-350         | 2T Erase             | 70.00          |
| 4040437-04   | AG-350         | 2T Erase             | 70.00          |
| 4040534-01   | AG-350         | 3T Playback, 100 ml* | 125.00         |
| 4040534-05   | AG-300         | 3T Record, 100 ml*   | 125.00         |
| 1231886-01   | AG-300         | 3T Erase*            | 125.00         |
| 4040558-04   | AG-300         | 4T Record*           | 170.00         |
| 4040558-05   | AG-300         | 4T Playback*         | 170.00         |
| 1231888-01   | AG-300         | 4T Erase*            | 170.00         |
| 1231757-01   | AG-350/AG-355  | 2T Playback (Stereo) | 70.00          |
| 4040829-02   | AG-440/445     | FT Erase             | 100.00         |
| 4040438-67   | AG-440/445     | FT Record            | 45.00          |
| 4040438-68   | AG-440/445     | FT Playback          | 45.00          |
| 4040831-02   | AG-440/445     | 2T Erase             | 70.00          |
| 4040437-05   | AG-440/445     | 2T Record            | 70.00          |
| 4040437-06   | AG-440/445     | 2T Playback          | 70.00          |
| 4350037-01   | AG-440/445     | 1/2T Playback        | 70.00          |
| 1231886-03   | AG-440/445     | 3T Erase*            | 125.00         |
| 4040534-05   | AG-440/445     | 3T Record*           | 125.00         |
| 4040534-04   | AG-440/445     | 3T Playback*         | 125.00         |
| 4040438-03   | AG-440/445     | 4T Erase*            | 170.00         |
| 4040558-04   | AG-440/445     | 4T Record*           | 170.00         |
| 4040558-05   | AG-440/445     | 4T Playback*         | 170.00         |
| 4040438-54   | 3200           | 1/2T Playback upper  | 53.00          |
| 4040438-55   | 3200           | 1/2T Playback lower  | 53.00          |
| 4040438-56   | 3200           | FT Record            | 53.00          |
| 4040438-61   | 3200           | 1/2T Record lower    | 53.00          |
| 4040438-62   | 3200           | 1/2T Record upper    | 53.00          |
| 4040542-10   | 3300           | 1, 2T Record         | 158.00         |
| 4040542-20   | 3300           | 1, 3T Record         | 158.00         |
| 4040519-03   | 3300           | 1, 3T Playback*      | 179.00         |
| 4040519-04   | 3300           | 2, 4T Playback*      | 179.00         |

\*Tape width, 1/2".

### RECORDER/REPRODUCER ELECTRONICS

|             |            |                                   |           |
|-------------|------------|-----------------------------------|-----------|
| 4020251-06  | AG-300     | Electronics w/o Equalizer         | \$ 505.00 |
| 4025993-01  | 3200/3300  | Master-Control Panel              | 184.00    |
| 4025997-01  | 3200/3300  | Panel Asmbly, Slave Sw.           | 175.00    |
| 02-30637-03 | 3200/3300  | Master Repro. Amplifier           | 425.00    |
| 02-30638-01 | 3200/3300  | Master Bias Oscillator            | 746.00    |
| 02-30639-01 | 3200/3300  | Recorder Amplifier                | 1029.00   |
| 4020251-05  | AG-350     | Master Chan. w/o Equal.           | 505.00    |
| 4020251-06  | AG-350     | Slave w/o Equalizer               | 505.00    |
| 4010661-01  | AG-355-1   | Single Channel Rep.               | 250.00    |
| 4010661-02  | AG-355-2   | Dual Channel Rep.                 | 560.00    |
| 4020260-01  | AG-440     | Electronics w/o Equalizer         | 560.00    |
| 4020150-01  | AG-445     | Elec. Module w/o Equal.           | 240.00    |
| 4040346-01  | AG-445     | Electronics Tray                  | 50.00     |
| 4020211-01  | 602-1      | 7 1/2 or 3 3/4                    | 257.00    |
| 4020211-02  | 602-2      | Master                            | 257.00    |
| 4020211-03  | 602-2      | Slave                             | 242.00    |
| 2-96050-01  | PR-10-1    | 3 3/4, 7 1/2, 7 1/2, 15; FT, 1/2T | 415.00    |
| 2-96052-01  | PR-10-2    | 3 3/4, 7 1/2, 7 1/2, 15           | 551.00    |
| 4020252     | AG-300/350 | Equalizers, All Values            | 25.00     |
| 4020269-01  | AG-440     | Rec. Equalizer, 7 1/2-15          | 25.00     |
| 4020269-02  | AG-440     | Rec. Equalizer, 3 3/4-7 1/2       | 25.00     |
| 4020270-01  | AG-440     | Rec. Equalizer, CGTR              | 25.00     |
| 4020270-01  | AG-440     | Playback Equalizer                | 25.00     |
| 4020274-01  | AG-440     | Power Supply                      | 225.00    |
| 4020274-02  | AG-445     | Power Supply                      | 225.00    |
| 4050434-01  | AG-440     | Rec. Elec. Bd. w/o Equal.         | 125.00    |
| 4050435-01  | AG-440/445 | E/ Elec. Bd. w/o Equal.           | 125.00    |
| 4050436-01  | AG-440     | Bias Amp. Board                   | 125.00    |
| 4050432-01  | AG-440     | Power Supply                      | 125.00    |
| 4050432-02  |            |                                   |           |

**Scully**

# Professional Tape Recorders

## SERIES 280 PROFESSIONAL SOLID STATE TAPE RECORDERS

### MODEL 280 SOLID STATE TAPE RECORDERS

Professional quality recorder for broadcast and recording studio applications. Records up to 4 channels on  $\frac{1}{2}$ " tape. Transport mechanism features Scully patented disc brakes and automatic tape lifters for extra reliability. Uses direct-drive, heavy duty hysteresis synchronous capstan motor for low wow and flutter. Fully transistorized electronics are mounted on  $3\frac{1}{2}$ " x 19" rack panels, one for each channel, with calibration and adjustment controls at the front. Separate line and microphone input transformers and jacks permit input selection by panel switch. Modes include microphone, line, non-record and demagnetization. Bias, operating levels and gain are unaffected by line voltage variations up to 20%. Tapped toroidal transformers and silicon rectifiers in power supply reduce operating heat. Three separate, plug-in etched circuit boards house the microphone, record and playback preamplifiers, plus erase oscillator and bias generator for each amplifier. Military standard, epoxy glass boards are hand soldered for reliability. Each assembly includes a VU meter with settings for zero, +4 and +8 dbm with direct reading of bias and erase levels. All heads, reel hubs, relays, and amplifier cards are plug-in design. Scratch-resistant control panel features individual reel size selector switches and edit control button. The 24 VDC control circuit has plug-in relays with military type harness wiring. Flexible operation, with quick head interchangeability and positive alignment adjustments. Separate record and playback amplifiers permit monitoring while recording. **Tape Speeds:** 3 $\frac{3}{4}$  and 7 $\frac{1}{2}$  ips; or 7 $\frac{1}{2}$  and 15 ips. Other speeds available on request. **Frequency Response:** 30-18,000 cps,  $\pm 2$  db at 15 ips; 50-15,000 cps,  $\pm 2$  db at 7 $\frac{1}{2}$  ips; 50-7500 cps,  $\pm 2$  db at 3 $\frac{3}{4}$  ips. **Wow and Flutter:** 0.08% rms at 15 ips; 0.1% at 7 $\frac{1}{2}$  ips; 0.2% at 3 $\frac{3}{4}$  ips. **Signal-to-Noise Ratio:** -70 db peak, 50-15,000 cps, 7 $\frac{1}{2}$  or 15 ips full track; -60 db, 7 $\frac{1}{2}$  or 15 ips stereo; -55 db, 3 $\frac{3}{4}$  ips full track. **Start Time:** Full speed in 0.1 second. **Stop Time:** Tape moves less than  $1\frac{1}{2}$ " after pressing stop at 15 ips. **Timing Accuracy:** 99.9% ( $\pm 1.5$  seconds for 30-minute tape). **Playback Distortion:** Less than 0.5% at  $\pm 18$  dbm. **Equalization:** Transport speed switch controlled to NAB standard. **Erase Frequency:** 60 kc. **Bias Frequency:** 180 kc. **Rewind Time:** 75 seconds approx. for 2400 ft. **Reel Size:** Up to 11 $\frac{3}{8}$ ". **Input:** Bridging 600-ohm balanced or unbalanced; microphone. **Output:** +4 or +8 dbm (+18 peak); 600-ohm balanced line. **Controls:** Power; Record; Left and Right Reel Size; Rewind; Fast Forward; Stop; Play; Speed; Edit. **Remote Control:** On; Off; Record; Rewind; Fast Forward; Stop; Play. **Power Required:** 275 watts, 117 VAC, 50/60 cps. Supplied less console cabinet; may be rack mounted. Specialty tape speeds.



Model 282-4



280 Amplifier Unit

### MODEL 284-8 8-TRACK RECORDER

Same as Model 282-4, but with eight amplifier units on  $3\frac{1}{2}$ " x 19" rack panels, for 8-track recording and reproducing with 1" tape. Special  $\frac{1}{2}$ " deck plate with unique tape guidance system and advanced braking system assure smooth operation. Supplied with console.

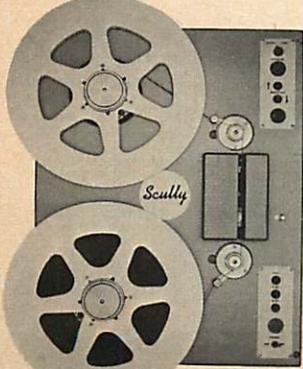
**Scully Model 284-8 Tape Recorder—Net Each... \$11,850.00**  
**Scully Model 284-8P Tape Reproducer—Same, but for playback operation only. Net Each... \$7900.00**

- Scully Model 280—Full-track monophonic ( $\frac{1}{2}$ " tape). Net Each... \$1975.00**
- Scully Model 280-1—Half-track monophonic. Net... 1975.00**
- Scully Model 280-2—Two-track stereo. Net Each... 2465.00**
- Scully Model 280-4—Four-track stereo. Net Each... 2465.00**
- Scully Model 282-3—Three-channel for  $\frac{1}{2}$ " tape. Equipped with Sel-Sync. Net Each... \$3680.00**
- Scully Model 282-4—Same as 282-3, but 4-channel.. 4150.00**
- Scully Model 280-4 Console Cabinet—Net Each... 290.00**
- Scully Model 280-2 Console Cabinet—Net Each... 280.00**
- Scully Plug-in 3-track Head Assembly—Converts 280 to a 3-track unit for extra flexibility. Net Each... \$586.00**
- Scully Adjustable Tape Guides— $\frac{1}{2}$ " and  $\frac{3}{4}$ ". Net Ea.. 35.00**
- Scully Model 280 Remote Control—With 30-ft. cable. 80.00**
- For 14" Reel Capacity on above Tape Recorders—Add. 100.00**

## MODEL 270 PROFESSIONAL LONG PLAY TAPE REPRODUCER

Fully transistorized reproducer is designed for broadcast stations, background music operators, or any application where long life, reliability and exacting performance are essential. One-piece, solid frame construction with instant access for maintenance. Features disc brakes, automatic start torque tension control, and direct drive heavy duty motors. (Two torque and one hysteresis synchronous speed reversible capstan type.) Plug-in amplifiers and reel hubs, with removable face plate. Control system operates at 24 VDC with plug-in relays. Adjustable electrical control for tape tension. All controls except motor speed can be operated remotely. Low current transistor switch with mechanical memory provides effective reversing. Chassis frame is  $\frac{3}{8}$ " cast aluminum, 2" deep, with aluminum panel. **Tape Speeds:** 3 $\frac{3}{4}$  and 7 $\frac{1}{2}$  ips; or, 7 $\frac{1}{2}$  and 15 ips (specify). **Tape Size:**  $\frac{1}{2}$ " or  $\frac{3}{4}$ ". **Head Configuration:** Monophonic half- or full-track; or 2-channel stereo.  $\frac{1}{4}$  or 2 track. **Reel Size:** Up to 14". **Frequency Response:** 50-15,000 cps,  $\pm 1\frac{1}{2}$  db at 15 ips; 50-15,000 cps,  $\pm 2$  db at 7 $\frac{1}{2}$  ips; 50-7500 cps,  $\pm 2$  db at 3 $\frac{3}{4}$  ips. **Playing Time:** 1 $\frac{1}{2}$  mil tape: 8 hours at 3 $\frac{3}{4}$  ips, 4 hours at 7 $\frac{1}{2}$  ips.  $\frac{1}{2}$  mil tape: 16 hours at 3 $\frac{3}{4}$  ips; 8 hours at 7 $\frac{1}{2}$  ips. **Start Time:** 0.1 second. **Stop Time:** 0.2 second. **Fast Wind Time:** 105 seconds with 4800-ft. reel. **Wow and Flutter:** 0.08% rms at 15 ips; 0.1% at 7 $\frac{1}{2}$  ips; 0.2% at 3 $\frac{3}{4}$  ips. **Signal-to-Noise Ratio:** Full track, -60 db at 7 $\frac{1}{2}$  or 15 ips. **Timing Accuracy:** Better than 99.8% with 30-minute reel. **Distortion:** Less than 0.5% at  $\pm 18$  dbm. **Amplifier Output:** +18 dbm, 600 ohms balanced. **Controls:** Play; Fast; Direction Change; Stop; Speed; Equalization. **Power Required:** 275 watts, 117 VAC, 50/60 cps. **Size:** 19" x 24 $\frac{1}{2}$ " x 8 $\frac{3}{4}$ ". **Weight:** 79 lbs. Specify tape speeds and head type desired when ordering.

- Scully Model 270—Full-track monophonic for  $\frac{1}{2}$ " tape. Net Each... \$1465.00**
- Scully Model 270-2—2-channel monophonic. Net... 1465.00**
- Scully Model 270-4—4-track stereo for  $\frac{1}{2}$ " tape. Net... 1595.00**
- Scully Model 270-4—4-track stereo for  $\frac{3}{4}$ " tape. Net... 1645.00**



# Pultec® Program Equipment

## MODEL EQP-1A PROGRAM EQUALIZER



Very useful in electronic and acoustic research and control. Three low and five high boost frequencies. **Shape Control:** High boost curves variable sharp to broad. **No Loss:** Passive equalizer plus push-pull amplifier. **Professional:** 600, 250 and 150 ohms. In and out. Low noise and distortion. Toroid coils, Peerless audio and Chicago/Stancor power transformers are used for low noise and distortion with high dependability. Separate low and high frequency boost and attenuate controls, continuously variable to permit stepless adjustment on sustained notes. Separate low and high frequency selector switches. In-Out Key switches equalizer in and out without changes in level, or clicks. **Shelf Boost:** 20, 30, 60 and 100 cps to 13.5 db. **Peak Boost:** 3, 4, 5, 8, 10, 12, and 16 kc—0 to 18 db. **Shelf Attenuate:** 20, 30, 60 and 100 cps—0 to 17.5 db; 5, 10 and 20 kc—0 to 16 db. **Noise:** 92 db below +10 dbm. **Distortion:** 0.15% at +10 dbm. **Loss:** None. Insertion loss restored by amplifier. **Input and Load Impedances:** 600, 250 and 150 ohms, balanced/unbalanced. **Circuit:** Push-pull, transformer in and out, 20 db feedback. **Tubes:** 1-ECC-82, 1-ECC-83, 1-6X4. **Power:** 25 watts, 117 v, 50/60 cps. **Size:** 5¼" x 19"; 7¾" deep behind panel. Net Weight, 15 lbs. **Pultec Model EQP-1A—Balanced, Input and Out—\$475.00** put both transformer, 600/250/150 ohms. Net Each

## MAVEC MIKE AMPLIFIER AND VARIABLE EQUALIZER



Equalizes individual mike channel, correcting microphone, studio and performer deficiencies. Supplied, connected for 30 db gain, 250 ohms in, feed 600 ohm load, unless other requested. **Peak Boost:** 2, 3, 5, 8 and 16 kc, continuously variable from 0-13 db of boost. **Shelf Attenuate:** 10 kc attenuate curve variable to 16 db of cut. **Low Boost:** 60 cps curve variable 0 to 10 db of boost. **Low Attenuate:** Four curves effective in reducing vocal microphone boominess and studio rumble and in creation of special sounds. **"S" Cut:** 4 curves effective in reducing vocal sibilance. **Output:** +20 dbm to 600 ohms with less than 0.5% harmonic distortion. **Frequency Response:** 20 cps to 20 kc, +0 db, -1 db from 1 kc reference. **Power Required:** (Self contained), 35 watts, 117 v, 50/60 cps. **Size:** 3¼" x 19" x 7¾" deep behind panel. Finished in blue-gray enamel. Net Weight, 11 lbs. **Pultec Model MAVEC—Net Each...\$395.00**

## MODEL HLF-3C PROGRAM-SOUND EFFECTS FILTER



A very wide range program and sound effects filter designed for musical and dramatic presentations. Removes rumble and hum, hiss and harmonic distortion with a minimum loss of content. As a sound effects filter it includes many most- useful frequencies for effects as: telephone conversations, midget radios, sounds from "outer space" etc. Shielded toroid coils cut hum. Switches are clickless. "Off" position on each selector provides full frequency transmission. A key switch permits pre-set low and high filter selections to be thrown in and out of circuit on cue. **Low Cut-Off:** OEF, 50, 80, 100, 150, 250, 500, 750, 1000, 1500, and 2000 cps. **High Cut-Off:** 1.5, 2, 3, 4, 5, 6, 8, 10, 12, 15 kcs and OEF. **Impedance:** 500-600 ohms input and output; space to mount transformers for others. **Input Level:** -70 dbm +28 dbm. **Insertion Loss:** Zero. **Power Required:** Constant. **Size:** 3½" x 19", standard rack panel; 7¼" deep behind panel. Finished in blue-gray baked enamel with engraved dials. Net Weight, 9½ lbs. **Pultec Model HLF-3C—Net Each...\$296.00**

## MODEL MB-1 MICROPHONE AMPLIFIER

Three-stage, high-gain, low-noise preamplifier or program booster amplifier for broadcast, recording, and laboratory use. Gain continuously adjustable from 28 db to 48 db by changing a resistor across pair of terminals to adjust feedback. Provides 42 db negative feedback at minimum gain, 22 db at maximum. **Tubes:** 1-ECC-82, 1-ECC-83, 1-6X4 rectifier. **Output Noise:** Equivalent to -70 dbm at 20 cps, -72 dbm at maximum gain. **Input signal:** 120 dbm or lower. **Distortion:** Less than 0.5% total harmonic 50-20,000 cps, and less than 1% at 30 cps with output level of +20 dbm into 600 ohms. **Inputs:** 50, 150 CT, 300, and 600 CT ohms. Input transformer has electrostatic and 90 db magnetic shielding; may be operated loaded or unloaded for extra 6 db gain. **Outputs:** 50, 150, 300, and 600 ohms. **Frequency Response:** ±0.5 db with loaded input transformer. **Panel Size:** Standard 3½" x 19" rack mount; 7¼" deep. Weight 10 lbs. **Pultec Model MB-1—Net Each...\$178.00**

## MODEL EQH-2 PROGRAM EQUALIZER



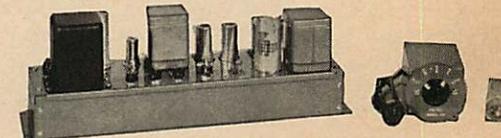
Has 16 db of boost or attenuation on the high frequency curves. Low frequency curves provide up to 13.5 db of boost and 17 db of attenuation. Separate boost and attenuate controls permit boosting on any high frequency while attenuating on the 10 kc curve. Continuously variable controls allow variation of the amount of equalization, even on sustained tones, without steps in level, or noise. Key permits cutting the equalizer in or out on cue. **Shelf Boost:** 30, 60 and 100 cps—0 to 13.5 db. **Peak Boost:** 3, 5, 8, 10 and 12 kc—0 to 16 db. **Shelf Attenuate:** 30, 60 and 100 cps—0 to 17 db; 10 kc—0 to 16 db. **Distortion:** 0.15% at +10 dbm into 600 ohms. **Noise:** 87 db below +10 dbm. **Response:** Flat, 20-20,000, +0, -1 db. **Loss:** None. Insertion loss restored by amplifier built-in following passive equalizer. Toroid coils, Peerless audio and Chicago/Stancor power transformers are used for low noise and distortion with high dependability. **Tubes:** 1-ECC-82, 1-ECC-83, 1-6X4. **Power:** 117 v, 50/60 cps, 25 watts. **Panel Size:** 3½" x 19"; 7¾" deep behind panel. Panel finished in blue-gray baked enamel; standard EIA rack mounting. Net Weight, 12 lbs. **Pultec Model EQH-2—Low Impedance, Transformer Input and Transformer Output: 600/250/150 ohms...\$330.00** Net Each

## RECORDING EQUALIZERS



**MODEL RE-12** provides five accurately calibrated curves for correct high frequency pre-emphasis in disc recording systems. **Compensation Above Crossover:** Flat (compensator off), 8 db boost, 10 db boost, RIAA, and 16 db boost (corresponds to old NAB standard). Passive equalizer is followed by quality amplifier to restore the program loss. **Inputs:** 600 ohm or 10,000 ohms unbalanced. **Outputs:** 50, 150, 300, and 600 ohms. Designed to provide output level of -10 dbm to 0 dbm for excellent signal-to-noise ratio, plus plenty of peak handling capacity with full 16 db pre-emphasis. **Response:** Uniform ±1.0 db from 20 cps to 20,000 cps with selector switch in "off" (flat) position. Mounts on standard 3½" x 19" rack panel. Weight, 10¼ lbs. **MODEL RE-23** provides high frequency pre-emphasis for disc recording. Strap terminals for 10, 12, RIAA or 16 db. **Insertion Loss:** 23 db. **Impedance:** 500-600 ohms. **Size:** 2¾" x 3¼" x 3¾" h. **Pultec Model RE-12 (Illus.)—Net Each...\$235.00**  
**Pultec Model RE-23—Net Each...\$48.00**

## MODEL PC-10 RECORD COMPENSATOR



Accurate playback compensation for precise reproduction of phonograph records with any magnetic cartridge. Has self-contained power supply. Available with either 5-position control box, or fixed plug-in equalizers. Features input matching transformer plus stage of tube gain ahead of compensation network to make equalization independent of cartridge L-C-R characteristics. Accommodates all low impedance (ESL, Fairchild, etc.) and high impedance (GE, Pickering, etc.) cartridges. Cartridges may be easily changed at any time. Gain control plus vernier controls to adjust amount of 4 db at 30 cps and 5 db at 10,000 cps to correct for particular cartridge used. **Equalization:** Control box has built-in equalizers for: (1) "Flat" response (flat above 1000 cps, with RIAA compensation below 1000 cps); (2) "European" (old British EMI curve) with 250 cps turnover and 6 db rolloff at 10,000 cps); (3) "RIAA" (modern standard, also identical with New Orthophonic and revised AES and NAB standards); (4) "NAB" (old transcription standard originally adopted in 1942); (5) "Noisy" (like RIAA, but with sharp cut-off above 3500 cps); RIAA and NAB curves within ±1 db of official standards at all points, and gain of system at 10 cps varies less than ±1 db for RIAA or -2 db at 20 cps. **Noise:** Better than 60 db below +10 dbm output with RIAA compensation. **Distortion:** 0.5% at +20 dbm into 600 ohms. **Outputs:** 600, 300, 150, and 50 ohms. **Size:** Amplifier, 17" x 5" x 6" high (also available on special order in 5¼" x 19" rack panel); control box, 2¾" x 3" x 5¼" high; plug-ins, 1½" x 1½" x 1¼" high. **Weight:** Amplifier, 11½ lbs.; control box, 2¼ lbs.; plug-ins, ½ lb. each. **Pultec Model PC-10—Amplifier only, Net Each...\$292.00**  
**Pultec Model C2—Control box for PC-10, Net Each...\$88.00**  
**Pultec Model C4—"Flat" plug-in equalizer, Net Each...10.00**  
**Pultec Model C5—"RIAA" plug-in equalizer, Net Each...10.00**  
**Pultec Model C6—"European" (EMD) equalizer, Net...10.00**  
**Pultec Model C7—"NAB" plug-in equalizer, Net...10.00**  
**Pultec Model C8—"Noisy" plug-in equalizer, Net Each...15.00**

# Professional Audio Equipment

## PULTEC® MIXER, EQUALIZER AND STEREO PANNER

### MODEL MH-4 MIXER



Designed for mixing tape outputs, disc playbacks, film channels, and echo signals. Re-records and edits signals from any source with 0.1-50 v. level, high or low impedance. Mixes stereo signals to make ideal monophonic signals even while recording stereo, if desired. High impedance signals are accepted and delivered at low impedance. Connection of four high level bridging inputs to low impedance busses prevents matching or loading upset. Isolation of 60 db between inputs when either bridging or matching 600-ohm feeds; permits connection of four inputs across four stereo tracks or busses without causing crosstalk between stereo tracks. Potentiometers provide noise free mixing, stepless level adjustment, and smooth fades; dials calibrated in db. Transformer output designed for maximum flexibility.

#### SPECIFICATIONS

Gain: 10 db from any input to 600 ohm load, all controls at maximum. Distortion: 0.1% at +10 dbm into 600 ohms. Maximum Output Level: +20 dbm into 600 ohms. Output Noise: Lower than -70 dbm. Input Level: 0.1 v. (-18 dbm in 600 ohms) provides over 60 db signal-to-noise ratio. Frequency Response: 20 cps to 20 kc.;  $\pm 0.1$  db from 1000 cps reference. Output Impedance: 600, 250, 150 and 50 ohms. Input Impedance: Each input, 50,000 ohms, unbalanced. Power Required: 25 watts, 117 volts, 50/60 cps. Panel Size:  $3\frac{1}{2}$ " h. x  $19\frac{1}{2}$ " w.; depth behind panel,  $7\frac{3}{4}$ ". Panel Finish: Pultec blue-gray baked enamel; engraved. Mounting: Standard EIA rack mounting. Net Weight, 11 lbs.

Pultec Model MH-4—Net Each. . . . . **\$225.00**

### MODEL MEQ-5 MID-RANGE EQUALIZER



Provides for exacting control in program material of the "power region"—that frequency range from approximately 300 cps to 5000 cps in which most of the sound energy is concentrated. The ear is more sensitive to sounds in this region than to other sounds. It is here that pre-emphasis, de-emphasis and crossover networks must blend together smoothly so as not to produce hills or valleys in the sound. It is in this region that even small resonances in studio acoustics and microphone and speaker responses are most evident in their effect on the listenability of the sound.

Three independent sets of controls. These make it possible to boost on a peak curve at 200, 300, 500, 700 or 1000 cps while simultaneously boosting on a peak curve at 1.5, 2, 3, 4, or 5 kc, while simultaneously dipping at 200, 300, 500, 700, 1000, 1500, 2000, 3000, 4000, 5000, or 7000 cps. Thus, two selectable peak boost areas and one selectable dip area are available for simultaneous use. Among the purposes of the MEQ-5 are: To add body and presence to music already considered to be well balanced. To highlight or subdue a vocalist where the vocal is already mixed with the orchestra. Usually this is accomplished at frequencies below the sibilance region. To round out a vocal group; or, for the single trade, to make it stand out. To improve the basic quality of individual or group voices or instruments by altering their fundamental and/or overtone characteristics. To equalize the dialog in narration and dramatics.

#### SPECIFICATIONS

Peak Boost: At 200, 300, 500, 700 and 1000 cps, 0 to 10 db; at 1.5, 2, 3, 4, and 5 kc, 0 to 8 db. Dip Attenuate: At 200, 300, 500, 700, 1000, 1500, 2000, 3000, 4000, 5000 and 7000 cps, 0 to 10 db. In-Out Key: Switches equalizer "in" and "out" without changes in level or clicks. Insertion Loss: Zero; network loss is restored by amplifier. Response: Flat, 20 cps to 20 kc.  $\pm 0.1$  db from 1000 cps reference. Distortion: 0.15% at +10 dbm into 600 ohms. Noise: 85 db below +10 dbm. Input Transformer: 150/250/600 ohms. Output Transformer: For use into loads of 150/250/600 ohms. Tubes: One each ECC-83/12AX7, 6A05, 6X4. Power Required: 25 watts, 117 volts, 50/60 cps. Panel Size:  $3\frac{1}{2}$ " x  $19\frac{1}{2}$ " depth behind panel,  $7\frac{3}{4}$ ". Panel Finish: Pultec blue-gray baked enamel; engraved. Mounting: Standard EIA rack mounting. Net Weight, 12 pounds.

Pultec Model MEQ-5—Net Each. . . . . **\$388.00**

### MODEL SP-3 STEREO PANNER



When producing stereo tapes and discs, it usually becomes necessary to mix down from three or four original tracks to two tracks. During this mix down, the material on each of the original tracks must be acoustically located in exactly the preferred position somewhere between extreme left and extreme right in the final two channel output. Echo is often added at this time. The Pultec Model SP-3 Stereo Panner does all of these things easily and simply. The SP-3 accepts four input channels (and three echo returns) and mixes them down to a two channel stereo output. Each of the four input channels can be individually, fully and continuously panned (positioned) from left to right in the two channel stereo output of the SP-3. If three tracks of a tape playback are fed into the Left, Center and Right inputs of the SP-3, then the two-channel (left and right) stereo output will contain all three input signals split between left and right according to the settings of the pots. Any input signal can be "walked" by turning its pan pot. If the tape playback has a fourth track, it can be fed into the Spare input of the SP-3 and panned to any position in the Left-Right outputs. Of course, any signal, whether related to the program material or not, can be connected to the Spare input and panned at will. Three independent echo returns (signals from the echo chambers) also are accepted as input signals to the SP-3. Each of these echo signals can be individually set (by means of a switch) to be entirely in the Left stereo output or in the Right stereo output or to pan between the outputs with the corresponding input signal. Regardless of where the echo is positioned, an associated level pot controls the percentage of echo.

#### SPECIFICATIONS

Insertion Loss: Zero; network loss is restored by amplifier. Input Impedance: All inputs, 600 ohms, unbalanced. Output: Transformers feed loads of 600/250/150/50 ohms. Output Level: +20 dbm maximum, each channel. Response: Flat, 20 cps to 20 kc.  $\pm 0.1$  db from 1000 cps reference. Noise: Lower than -70 dbm at the output, each channel. Isolation: Between Left, Center, Right and Spare inputs exceeds 70 db at all frequencies. Tubes: 2-ECC-83/12AX7, 6A05, 6X4. Power Required: 35 watts, 117 volts, 50/60 cps. Panel Size:  $5\frac{1}{2}$ " x  $19\frac{1}{2}$ " depth behind panel,  $7\frac{3}{4}$ ". Panel Finish: Pultec blue-gray baked enamel; engraved. Mounting: Standard EIA rack mtg. Wt., 13 lbs.

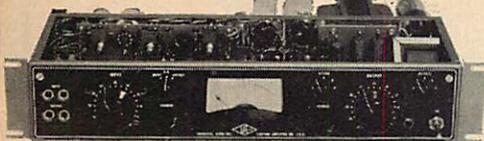
Pultec Model SP-3—Net Each. . . . . **\$495.00**

## UNIVERSAL AUDIO PEAK LIMITING AMPLIFIER

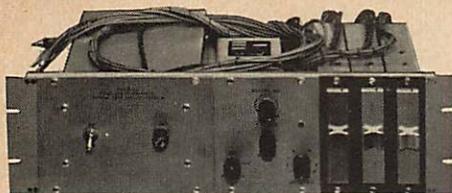
### MODEL 175B

An extremely versatile, professional quality peak limiting amplifier designed for use in the recording, broadcasting and motion picture industries as well as other high quality audio systems. Requires only  $3\frac{1}{2}$  inches of rack space on standard 19-inch racks. Hinged front panel provides accessibility to inner components. Plug-in type "FP" electrolytic capacitors are used for ease of replacement. Balancing and rebalancing may be accomplished without test equipment; internal test switch is provided. Screwdriver adjustment on front panel allows VU meter to be adjusted with panel closed. VU meter may be switched to indicate input and output level as well as gain reduction in db. Attenuators are detented in 2 db steps, with vernier adjustments in excess of 2 db for each step. All control functions are accessible on the front panel. Terminal strip located on the rear of unit provides a dual means of interconnecting amplifier with another system. Terminal strip can also be used for connecting a remote VU meter. Limit defeat switch is mounted on rear of attack control. Frequency Response:  $\pm 1$  db, 20-20,000 cps, without limiting;  $\pm 1$  db, 20-20,000 cps, with 5 db limiting. Signal-to-Noise Ratio: 90 db. Impedance: 600 ohms, input and output unbalanced. Gain: 24 db, with jumper in low gain position; 34 db, with jumper in high gain position. Compression Ratio: 12 to 1, above threshold of limiting. Attack Time: From 100 to 1000 microseconds, adjustable. Release Time: From 27 to 527 microseconds, adjustable. Power Output: Less than 1% THD from 50-15,000 cps at 24 db, maximum;  $\pm 13$  db maximum at threshold of limiting. Input Level: Minimum to accomplish limiting, -12 dbm, jumper in low gain position; -24 dbm, jumper in high gain position. Tube Complement: One each: 6BC6, 12AX7, 12BH7, 6AL5, 6B2 and GZ34. Size:  $9\frac{1}{2}$ " w. x  $9\frac{1}{2}$ " h. x  $1\frac{1}{2}$ " d. Weight, 17 lbs.

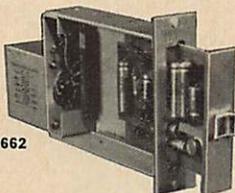
Universal Audio Model 175B Limiting Amplifier—Net **\$456.00**



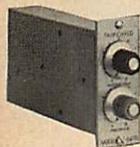
- MOST COMPACT PROFESSIONAL UNIT AVAILABLE
- MILITARY TYPE PRINTED CIRCUITRY
- COMPLETELY SELF-CONTAINED UNIT WITH POWER SUPPLY



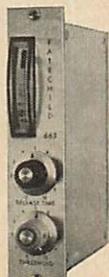
658A



662



661TL



663



750 on 751



664

### MODEL 750 STEREO TURNTABLE

**The Turntable Designed for Stereo Broadcasting!** Professional three-speed 16" playback turntable with a belt drive. Provides maximum isolation between motor and table to minimize vertical and lateral rumble. Two-speed hysteresis synchronous motor keeps pulley diameter changes to a minimum to avoid belt stretching and assures locked-in speed. Ample room for mounting all arms; mounting plate takes 16" arm. Quiet operation permits use close to open microphones. Can be remotely started. No idlers to develop "flats". Maximum flywheel effect achieved by a 35 lb. no wobble turntable. Rubber belt is machined to .0001" tolerance to insure correct speed and low wow. Attractive aluminum dress plate with 2" space below allows mounting of controls on the plate with ease. **Turntable:** Aluminum, 18" dia.; undercut for easy record handling and cueing; Denseite filled, dynamically balanced; weight 25 lbs. **Motor:** Two-speed hysteresis synchronous 1/42 hp, 1/20 at 78 rpm. **Speeds:** 33 1/3, 45, and 78.26 rpm. Speeds constant within 1/10 of 1%. **Cuing Time:** 33 1/3 rpm, 1/2 rev. max.; 45 rpm, 1/4 rev. max.; 78.26 rpm, 1/4 rev. max.; all with Fairchild universal felt-padded cue disc. **Rumbles:** 65 db below 7 cm/sec. at 1 kc. **Wow and Flutter:** Better than 0.03% peak-to-peak. **Power Required:** 110-120 v., 60 cycles, single phase, 1 amp, 120 watts. **Dimensions:** 24" w. x 24" d. x 10" h. **Weight:** Mechanism alone with mounting board, 60 lbs. **Finish:** Black or walnut mounting board; satin finish, aluminum trim.

**Fairchild Model 750 (Black) or 750W (Walnut) Three-Speed Turntable**—With Formica® top mtg. board. Net Ea. **\$595.00**  
**Fairchild Model 750-2 (Black) or 750-2W (Walnut) Two-Speed Turntable**—For 33 1/3 and 45 rpm only. With Formica top mtg. board. Net Ea. **\$485.00**

**Fairchild Model 751 (Black) or 751W (Walnut) Mounting Cabinet**—Formica finish. For use with Models 750 or 750-2. Has front pedestal for turntable On-Off foot switch. **Size:** 24" w. x 24" d. x 34" h. Net Ea. **\$160.00**

**Fairchild Model 753 (Black) or 753W (Walnut) Mounting Cabinet**—Formica finish. For use with Models 750 or 750-2. **Size:** 24" w. x 24" d. x 28" h. Net Ea. **\$160.00**

### MODEL 658A "REVERBERTRON" SYSTEM

A dynamic reverberation system designed to enhance sound quality in radio stations and recording studios . . . the compact, professional answer to the creation of reverberated sound effects. Employs six electro-mechanical delay lines, each tuned differently, to produce the effect; these mechanical devices are especially isolated to prevent building rumble and general environmental noise pickup. Unit comes in two sections: A complete electronics system (see illus.), and an electro-mechanical shock-mounted delay generator (not illus.). Offers three basic reverberation periods: Short; moderate 1.5 sec.; and a prolonged effect of about five sec. Electronic time switch on front panel permits instant, easily noiseless changes in time effect; also has front-panel control for all mixing of reverberated to straight signals. Easily rack mounted or carried into the field. **Input Impedance:** Up to 600 ohms, unbalanced. **Output Impedance:** 150 and 600 ohms, balanced or unbalanced. **Electronics unit,** 19" w. x 5 1/4" h.; **delay generator,** 19" w. x 19 1/4" h.; overall, 19" w. x 24 1/2" h. **Fairchild Model 658A Reverbertron**—Net Each. **..... \$995.00**

### INTEGRA/SERIES\* AUDIO COMPONENTS

#### MODEL 661TL AUTO-TEN® NOISE ATTENUATOR

Fully transistorized high speed, no-distortion automatic attenuator (not a limiter or compressor) used between any two amplifiers or line amplifiers in balanced or unbalanced lines. Typical applications include: Keeping tight sound on close-up mikes in large halls; eliminating need for acoustic screens in studios; improving signal-to-noise ratios and separation; minimizing tape print-through (such as on language instruction and dramatic tapes); maintaining quiet during LP spirals; automated control room operation; reducing noise on film recording or in multi-track tape transfer; minimizing PA feedback. Auto-Ten can also be used as a "ducker", handling two inputs, one input automatically reducing the gain of the other program input. **Input Level Requirements:** -35 dbm to +25 dbm. **Input and Output Impedances:** 150 to 47,000 ohms, balanced or unbalanced. **Insertion Loss:** 2 db loss at 150 ohms, 0.5 db loss at 600 ohms. **Frequency Response:** Flat (resistive network). **Distortion:** None. **Controls:** Threshold Control (determines point of operation, i.e., point where it reduces gain automatically); Adjustable Release Time Control (can be set between 0.3 and 7 sec.). **Transistors and Diodes:** 2-2N508/2N35, 2-2N323/2N307, 1-1N36, 4-1N645. **Power Required:** 6.3 v. AC, 60/50 cps at 200 ma; 8 v. DC at 200 ma. **Weight:** 8 1/2 oz. **Fairchild Model 661TL Auto-Ten**—**Size:** 1 1/2" w. x 6 1/2" d. x 3" h. Net Ea. **..... \$135.00**

#### MODEL 662 PREAMP/LINE AMPLIFIER

Completely transistorized printed circuit preamplifier. Can also be used as line amplifier. Variable gain adjustable by screwdriver. Transformer-isolated output may be operated balanced or unbalanced. Temperature range up to 100° F. New module thin line design permits easy installation in consoles or racks. **Gain:** 50 db, variable from 15 to 50 db. **Output:** +2 dbm with 0.5% distortion. **Low Noise Level:** -120 dbm. **Response:** +1 db, 30, 20,000 cycles. **Power Required:** 18 v., 85 ma. **Size:** 1 1/2" w. x 6" d. x 4" h.

**Fairchild Model 662 Preamplifier**—Net Each. **..... \$145.00**  
**Fairchild Model 662TX1 Preamplifier**—Same as Model 662, but with input transformer for 150/600 ohms. Net Each. **..... \$160.00**

#### MODEL 663 COMPRESSOR

A compact, easy-to-install compressor for effective audio level control. Utilizes miniature parts in a special no-distortion compressor circuit. Minimum space required, no larger than a slide-type attenuator. Small size permits installation of compressor for every microphone channel in recording studio, PA and broadcast consoles. Guaranteed no distortion. **Impedance:** Works into low impedance circuits from 50 to 1,000 ohms. **Control Level:** Permits control of microphone levels of plus 4 levels; up to 20 db of compression. **Attack Time:** 2 millisees. **Release Time:** Variable from 300 millisees. to 7 sec. **Controls:** Metering; Threshold Control; Variable Release Control. **Size:** 1 1/2" w. x 4" d. x 7" h.

**Fairchild Model 663 Compressor**—Net Each. **..... \$165.00**  
**Fairchild Model 663ST Stereo Compressor**—Net Ea. **..... 225.00**

#### MODEL 664 PROGRAM EQUALIZER

Allows user to boost at the frequencies of 4, 6, 8, 10 and 15 kc in steps of 2 db for a total compensation of 12 db at selected frequency. Roll-off in 2 db steps also available. Low frequency boost of 10 db in 2 db steps at 100 cps. Low cut can also be rolled off in 2 db steps. **Insertion Loss:** 1 db. **Input:** Up to 600 ohms. **Output:** 50, 150, 300 and 600 ohms. **Size:** 1 1/2" w. x 6" d. x 4" h.

**Fairchild Model 664 Program Equalizer**—Net Each. **..... \$155.00**

#### MODEL 665 PROGRAM EQUALIZER/AMPLIFIER

Combination of Model 664 Equalizer and Model 662 Preamplifier/Line Amplifier on one module mounting setup. **Size:** 19" w. x 10" d. x 5 1/4" h.

**Fairchild Model 665 Program Equalizer/Amplifier**—With power supply. Net Ea. **..... \$395.00**  
**Fairchild Model 665TX1 Program Equalizer/Amplifier**—Same as Model 665, but with input transformer. Net Ea. **..... \$425.00**

#### MODEL 667 POWER SUPPLIES FOR INTEGRA/SERIES

**Fairchild Model 667 Power Supply**—For use with 661TL, 662, 663 and 668. Accommodates up to 20 units. Net Ea. **..... \$180.00**  
**Fairchild Model 667AA Power Supply**—Accommodates up to four type 662, ten type 661TL or ten type 663. Net Ea. **..... \$110.00**  
**Fairchild Model 667B Power Supply**—For one type 662. Has 6.3 V for up to ten type 661TL or 663. Net Ea. **..... \$75.00**

\*Trademark of Fairchild Recording Equipment Corp. ®Trademark: Formica of Synthane Corp.; Auto-Ten of Fairchild Recording Equipment Corp.

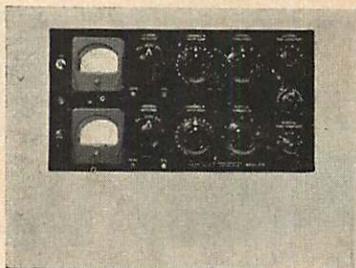
### MODEL 670 STEREO LIMITER

A radical departure from the classical limiter design, characterized by the complete absence of audible thumps, distortion and noise. Another feature is its extreme stability over long periods of time.

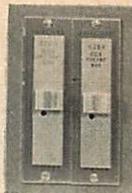
The Fairchild Model 670 may be operated either as two independent limiters or as a vertical-lateral component limiter. Function change made by the flick of a switch. The complete unit is enclosed within 14 inches of rack space.

A special feature of the unit is its ability to produce full limiting effect during the first 10,000th of a second (unlike conventional limiters that pass short transients due to their slowness of attack).

**Input Impedance:** 600 ohms each channel. **Output Impedance:** 600 ohms each channel. **Input Level Range:** 0 dbm to +16 dbm. **Gain:** 7 db. **Frequency Response:** ±1 db, 20–15,000 cps. **Separation:** 60 db, A-B position; 40 db, Vertical-Lateral position. **Release Time:** Adjustable 0.3 to 25 seconds in 6 positions. **IM or Harmonic Distortion:** Less than 1% at any level up to +18 dbm output (no limiting). Less than 1% at 10 db limiting +12 dbm output. **Power Required:** 3 amps, 115 v. AC, 50–60 cps. **Fairchild Model 670 Stereo Limiter—Net Each. . . . \$1895.00**  
**Fairchild Model 660 Single Channel Limiter—Net. . . \$1150.00**



Model 670



Model 676A

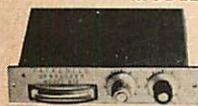
### MODEL 676A EQUALIZED DISC PLAYBACK PREAMPLIFIER

Equalized disc playback preamplifier for use with virtually any magnetic phono cartridge. Offers more than sufficient gain for present or future phono pickups. Employs silicon transistors to accurately and properly compensate for the NAB curve in record playback. Designed with minimal amount of controls to eliminate operating problems. Lack of de-emphasis switch assures continuous operating quality of broadcast station transmitters without high frequency overload; for lab use, however, a subminiature switch can be easily installed to deactivate the de-emphasis network. **Gain:** 70 db max. at 1 kc; 1 mV will produce +10 dbm out. **Frequency Response:** Within .75 db NAB, 30–15,000 cps. **Output Level:** +14 dbm max. **Distortion:** 0.25% at +14 dbm. **Noise:** 60 db below +10 dbm out with input of 5 mV at 1 kc. **Input Impedance:** 47,000 ohms. **Output Impedance:** 20 ohms emitter-follower. **Power Required:** 18 mA at 18 VDC. **Size:** 1 1/2" w. x 7 1/2" d. x 5 1/4" h. **Fairchild Model 676A Disc Preamp—Net Each. . . . \$125.00**  
**Fairchild Model 676B Tape Preamp—Net Each. . . . 140.00**

### MODEL 673 DYNALIZER

Automatic dynamic equalizer continually introduces a dynamic loudness curve similar to the Fletcher-Munson curve into an audio channel. As level drops, low and high frequency ends of the audio range are boosted to create "apparent loudness", without restricted, monotonous sound or harsh background music systems, etc. **High End Boost:** 10 db max. **Low End Boost:** 14 db max. **Input Impedance:** Up to 1000 ohms. **Output Impedance:** Up to 50K ohms. **Levels Accommodated:** -20 to +20 dbm. **Insertion Loss:** 17 db. **Controls:** Threshold; High Frequency Response. **Power Required:** 6.3 v. AC or 9 v. DC at 150 ma. **Size:** 7" w. x 4 1/2" d. x 1 1/2" h.

**Fairchild Model 673 Dynalizer—Net Each. . . . \$199.00**  
**Fairchild Model 673ST Stereo Dynalizer—Net Each. . . 395.00**



### CONAX 600 SERIES AUDIO CONTROL DEVICES



A new concept in limiting devices, especially developed for use in systems with treble pre-emphasises such as disc recording and FM/TV sound transmission. Its action is instantaneous and inaudible for most program material; allows 4 to 6 db higher cuttings or transmitting levels. Also effective in tape and optical recording. **Input Impedance:** 600/150 ohms each channel. **Output Impedance:** 600/150 ohms, each channel. **Input Level:** +4 VU or +8 VU. **Output Level:**

+4 VU or +8 VU (no overload before +27 dbm). **Frequency Response:** ±1 db, 30–15 kc, normal operating conditions; 2–15 kc roll-off depending on level, instantaneous. **Noise:** ±4 dbm, -70 db. **Distortion:** Less than 1% below filter threshold.

**Fairchild Model 602 Stereo Conax—Net Each. . . . \$675.00**  
**Fairchild Model 600 Single Channel Conax—Net. . . . 445.00**  
**Fairchild Model 600A Single Channel Conax—Optical recording. Net Each. . . . \$445.00**  
**Fairchild Model 601 Single Channel Conax—For mixing stages; 40 db gain. Net Each. . . . \$495.00**

### LUMITEN SERIES NOISE-FREE ATTENUATORS

#### LOW IMPEDANCE LUMITENS

Maximum Impedance variation of 10% over entire impedance range. Easily installed, with plug-in connector. Fits into existing cutouts for conventional attenuators. **Attenuation Range:** Zero to 70 db, then to infinity; range may be changed anywhere from 25 to 70 db. **Insertion Loss:** 3 db. **Response:** Flat to 100,000 ohms. **Max. Level:** +20 dbm. **Impedance:** 150 or 600 ohms. **Power Required:** 6 volts AC or DC at 300 ma.

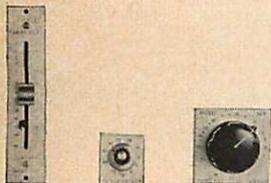
**Fairchild Model 668—Vertical slide-type attenuator, 600 ohms. Net Each. . . . \$68.00**  
**Fairchild Model 668-1—Vertical slide-type attenuator, 150 ohms. Net Each. . . . 68.00**  
**Fairchild Model 668ACT—Remote control actuator, 150 or 600 ohms. Net Each. . . . 35.00**  
**Fairchild Model 668RAC—Remote control atten. cell, 600 ohms. Net Each. . . . 45.00**  
**Fairchild Model 668-IRAC—Remote control atten. cell, 150 ohms. Net Each. . . . 45.00**  
Any of above 668 Lumitens available with Cue position. To order add letter Q to number and \$9.00 to price.

**Fairchild Model 669—Rotary type attenuator, 600 ohms. Net Each. . . . \$55.00**  
**Fairchild Model 669-1—Rotary type attenuator, 150 ohms. Net Each. . . . 55.00**  
**Fairchild Model 669ACT—Remote control actuator, 150 or 600 ohms. Net Each. . . . 15.00**  
**Fairchild Model 669RAC—Remote control atten. cell, 600 ohms. Net Each. . . . 45.00**  
**Fairchild Model 669-IRAC—Remote control atten. cell, 150 ohms. Net Each. . . . 45.00**

#### HIGH IMPEDANCE LUMITENS

**Input Impedance:** Accepts 50 or 60 to 100K ohms. **Output Impedance:** 10K ohms and up. **Attenuation Range:** Zero to 70 db. **Insertion Loss:** 2 db, no distortion. **Max. Input:** +20 dbm (40 v. peak). **Power Required:** 6 v. AC or DC at 60 ma.

**Fairchild Model 678—Vertical slide type attenuator. Net Each. . . . \$49.00**  
**Fairchild Model 679—Rotary type attenuator. Net Each. . . . 24.00**  
**Fairchild Model 678HACT—Vertical slide remote control actuator. Net Each. . . . 35.00**  
**Fairchild Model 679HACT—Rotary type remote control actuator. Net Each. . . . 8.00**  
**Fairchild Model 677HRAC—Remote atten. cell for 678HACT, 679HACT. Net. . . . 19.00**



668

679

669

Audio level controls require only a beam of light to vary the gain of an audio circuit. Design guarantees noiseless operation and permits inexpensive and versatile remote control circuits, without use of shielded cable. Only 6 volt AC or DC control voltage is required between the actuator and attenuation cell. More than one circuit can be controlled from one remote control device. Available in high or low impedance, with either rotary or vertical slide-type action. Specify impedance when ordering.

# Professional Recording Equipment

## REK-O-KUT PROFESSIONAL DISC CUTTING EQUIPMENT

### IMPERIAL III RECORD CUTTER/PLAYBACK UNIT

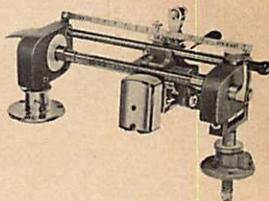


Complete disc cutting system includes Model DR Record Cutter and Model RBB Recording Amplifier, with vinyl covered carrying cases for each unit. **CUTTER:** Records masters from 6" to 13 1/4" with Model M-12S Overhead Lathe, at 33 1/3 or 45 rpm. Includes idler and adapter for 78 rpm. Simple, fingertip speed control. Shock mounted, hysteresis synchronous motor is fitted with laminated drive pulley. Lathe has hand crank for run-in and run-off spiral grooves. Equipped with standard 120-line lead screw; interchangeable lead screws available for other sizes, standard and micro-groove. Liftomatic safety cam prevents double cutting and stylus damage, automatically raises cutter as center of disc is approached. With calibrated timing scale, Model RH-5 recording head provides response from 30-13,000 cps. Playback arm with dual sapphire cartridge takes records to 13 1/4". **AMPLIFIER:** Power Output: 20 watts. **Frequency Response:** ±2 db, 20-20,000 cps at full output. **Harmonic Distortion:** 0.3% at 1000 cps. **Inter-modulation Distortion:** 0.8%. **Hum:** Tape, -60 db; mike, -64 db; phono, -61 db. **Inputs:** Mike, tape, phono-mixing, high level tuner. **Outputs:** Speaker and cutter (4, 8 and 16 ohms); monitor; preamp. **Controls:** Speaker, Mike and Tape Level; Master Volume; Bass; Treble; Playback/Record; Power; Damped VU Meter. **Tubes:** 3. **Transistors:** 8, plus rectifier. **Power Required:** 115 watts, 117 VAC, 50-60 cps. **Size:** 20 1/2" x 10" x 7". **Weight:** Cutter, 45 lbs.; amplifier, 25 lbs.

- Rek-O-Kut Imperial III System**—Complete. Net Ea. \$1150.00  
**Rek-O-Kut Model DR Record Cutter Only**—Net Ea. 825.00  
**Rek-O-Kut Model C-DR Case for Above**—Net Ea. 65.00  
**Rek-O-Kut Model RBB Amplifier Only**—Net Ea. 325.00  
**Rek-O-Kut Model C-B Case for Above**—Net Ea. 35.00  
**Rek-O-Kut Model SPK-44 Portable Dual Speaker Set** 79.95

### MODEL M-12S 12" OVERHEAD LATHE

Professional lathe for precision recording features interchangeable leadscrews, hand crank for run-in and run-off spiral grooves, and timing scale. Takes standard cutting heads, automatically lifts cutter as it approaches end of lead screw. Cut depth adjustment. With 120-line lead screw, less cutter. Replaces M-12.  
**Rek-O-Kut Model M-12S Overhead Lathe**—  
 Net Each. . . . . \$160.00



### INTERCHANGEABLE LEADSCREWS FOR OVERHEAD LATHES

Types with 210 lines/inch or more are microgroove.

| Lines/Inch | For Model M-5S |          | For Model M-12S |          | For Model M-12 |          |
|------------|----------------|----------|-----------------|----------|----------------|----------|
|            | Rek-O-Kut No.  | Net Each | Rek-O-Kut No.   | Net Each | Rek-O-Kut No.  | Net Each |
| 120        | MS-120         | \$50.00  | M12S-120        | \$50.00  | M12-120        | \$26.50  |
| 210        | MS-210         | 65.00    | M12S-210        | 60.00    | M12-210        | 40.00    |
| 216        |                |          |                 |          | M12-216        | 40.00    |
| 240        | MS-240         | 65.00    | M12S-240        | 60.00    | M12-240        | 40.00    |
| 270        | MS-270         | 65.00    | M12S-270        | 60.00    |                |          |

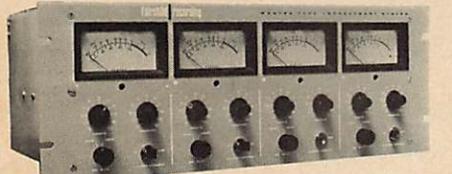
### MODEL RH-5 RECORDING CUTTER HEAD

Vertical mounting, specially designed for use with Rek-O-Kut overhead lathes; fits standard lathe brackets. **Frequency Response:** ±2 db, 1000-13,000 cps; response to 30 cps; built-in attenuation per R. **Impedance:** 8-15-500 ohms. **Sensitivity:** 1.8 watts approx. at 1000 cps for 6.3 cm/sec peak recorded velocity. **Distortion:** 1.2% at 1000 cps. **Stylus:** Short shank steel or sapphire, 5/8" long overall (not included). **Mounting Centers:** 1 1/4".  
**Rek-O-Kut Model RH-5 Cutter Head**—Net Each. . . . . \$159.50

### MODEL TR-43H 12" RECORDING TURNTABLE

Similar in design to 16" professional turntables, for use with M-12S overhead lathe. Operates at 33 1/3 and 45 rpm, with idler for 78 rpm. Cast ribbed aluminum chassis, neoprene compound idlers. Self-lubricating shafts and bearings. Instant speed shift. Size, 16" w. x 16 1/2" d. x 1 3/4" h. above motor board, 5" deep below motor board. Less lathe and cutter head.  
**Rek-O-Kut Model TR-43H Turntable**—Net Each. . . . . \$275.00

## FAIRCHILD MASTER TAPE IMPROVEMENT SYSTEM



New compatible tape system radically improves signal-to-noise characteristics of tape recording. "Focused-gap" head design reduces bias-induced noise to a point no more than 1.5 db greater than the noise of virgin tape; overall signal-to-noise ratio of 72 db with 75-mil track width. Compatible packaging concept permits easy installation in all current American-made tape recorders, including Ampex 300 and 350, Scully 280 and 3M 401. Can also be integrated into European recorders, including EM1, Phillips and Telefunken. Available for use with one to eight channel recorders. Installation consists of replacing existing heads with special Fairchild MTIS heads, in conjunction with the rack mounting basic record/reproduce system, with four complete channels on a 7" high panel. Separate chassis contains bias oscillator and buffer amplifiers, with separate power supply. Specifications apply to up to four channels; for eight channels, two record/reproduce panels are required. **Frequency Response:** ±2 db, 30-17,000 cps at 15 ips speed, down 3 db at 20,000 cps; ±2 db, 30-12,000 cps at 7 1/2 ips speed, down 4 db at 15,000 cps. **Signal-to-Noise Ratio:** -72 db at 15 ips speed with 3M 301 or 202 tape, 75-mil minimum track width, reference 1% third harmonic distortion at 200 cps per NAB curve; -65 db at 7 1/2 ips speed under same conditions. **Distortion:** 0.5% THD at zero db operating level. **Bias Noise:** 1 1/2 db above virgin tape noise (weighted). **Equalization:** NAB for 7 1/2 or 15 ips speeds. **Monitoring:** Selector switch for input or output monitoring. **Input:** +4 dbm nominal 10K bridging; adjustable -10 to +22 dbm. **Output:** 600 ohms; transformer type. A variety of models are available for one, two, three or eight channels, with 1/4", 1/2" or 1" tape, with or without selective erase function for each channel. Call our Professional Department for prices and delivery information, stating your specific requirements.

## UNIVERSAL AUDIO DIGITAL METRONOME, AMPLIFIER

### MODEL 962 DIGITAL METRONOME



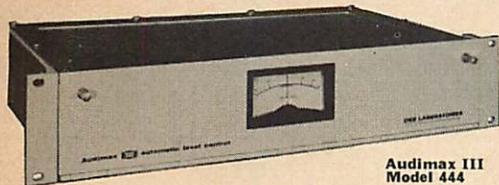
Precision, solid state instrument produces tempo beats for motion picture scoring, replacing optical and magnetic film "click track loops". Provides accurately spaced beats to earphone circuits without background "hash" and noise. Operates on the principle of multiplication and division of the 60-cycle power line frequency. Selection available from zero to 40 frames per beat, in 1/2-frame steps, based on standard sound film speed of 24 frames per second. Designed for simple operation by non-technical personnel, with settings required only for the output gain control and thumb-wheel tempo selector. Front panel includes instant start and stop controls. Mounted on 3 1/2" high panel, for rack mounting. Component-type circuit insures accuracy for all film synchronizing applications.  
**Universal Audio Model 962**—Net Each. . . . . \$749.00

### MODEL 176 LIMITING AMPLIFIER WITH VARIABLE COMPRESSOR

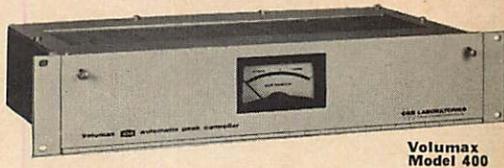
Variable compression peak limiting amplifier features choice of ratios 2:1, 4:1, 8:1 and 12:1 without altering attack or release times. The 2:1, and 4:1 ratio positions are on the order of compression curves, for use where reduction of dynamic range is required. Input and output unbalanced ladder attenuator controls are detented in 20 db steps, with vernier fine tuning. Internal signal permits dynamic balancing without external test equipment. The VU meter can be switched to either input or output levels. Designed for rack mounting. Available with Bridged-T attenuator for increased output, and with Bridged-T attenuators in both input and output at additional cost.  
**Universal Audio Model 176**—Net Each. . . . . \$480.00  
**Universal Audio Model 175**—Same as above, without variable compression. Net Each. . . . . \$425.00

# Professional Audio Equipment

## CBS LABORATORIES PROFESSIONAL AUDIO EQUIPMENT



**Audimax III  
Model 444**



**Volumax  
Model 400**

**AUDIMAX® III AUTOMATIC LEVEL CONTROL**  
The new solid state Audimax III acts as a trained, super-alert engineer in maintaining maximum modulation or recording level and signal quality. Unlike ordinary compressors or AGC amplifiers with constantly rising or falling gain, the unit operates on a "platform" principle which completely preserves the short term dynamic fidelity and prevents thumping or pumping. Adopted by numerous independent stations as well as by the CBS Radio and Television networks, it has many applications in broadcasting, recording, background music, public address and paging systems. When program levels are too high, Audimax automatically reduces its gain with inaudible speed. When program levels are too low, Audimax automatically turns up the gain without pumping or having to wait for the slow discharge of recovery time elements. When program levels are correct, the gain is not changed. Audimax's exclusive "platform" mode of operation completely preserves short term dynamic fidelity. When pauses occur, Audimax recognizes that only noise or background effects are present. Gated Gain Stabilizer maintains constant gain so that background sounds will neither disappear nor come swishing up during these intervals. All decisions to raise, lower or maintain constant gain are based on an analysis of the previous 10-second history of the program as compared with the incoming signal at any time. Audimax will not be confused by such special effects as pistol shots and barking dogs. If the level of these bursts is too high, Audimax will temporarily reduce its gain, but then immediately return to the pre-burst level. There are no "holes" in the program. In addition to its normal gain riding activities, Audimax subtly boosts program levels to achieve an average of 6 db higher modulation than with normal manual control methods. For the standby condition at the end of programs, such as occur in recording and film studios or with intermittently-used network lines, the Return-to-Zero control waits approximately 10 seconds and then slowly returns the gain to normal. **Frequency Response:** Flat within 1 db, 50-15,000 cps. **Harmonic Distortion:** Less than 1%, 50-15,000 cps at +16 dbm output. **Noise Level:** Below -60 dbm at normal gain. **Control Characteristic:** ±10 db of gain control. **Gated Gain Stabilizer:** Threshold adjustable from -24 db to normal input. **Return-to-Zero Function:** Returns gain to normal during pauses greater than 10 sec. **Maximum Gain:** 50 db. **Input and Output Impedance:** 600 ohms, balanced or unbalanced (150 ohms optional). **Normal Output Level:** +11 VU. **Maximum Output:** +25 dbm. **Minimum Input Level:** -30 VU. **Power Required:** 15 watts at 115/230 VAC, 50/60 cps. **Size:** 9 5/8" d. x 3 3/4" h., standard 19" rack mounting. Shipping Weight, 17 lbs.

**CBS Laboratories Audimax III Model 44 Automatic \$665.00**  
Level Control—Net Each.

**AUDIMAX III-S  
STEREO AUTOMATIC LEVEL CONTROL**  
Consists of two Audimax III instruments physically and electronically coupled to provide simultaneous gain control in both channels. Since this gain control is a function of the stereophonic sum signal (L+R), it preserves spatial perspective and prevents undesirable "ping-pong" effects. **Size:** 9 5/8" d. x 7" h., standard 19" rack mounting. Shipping Weight, 34 lbs.

**CBS Laboratories Audimax III-S Model 445 Stereo \$1390.00**  
Automatic Level Control—Net Each.

**VOLUMAX® AUTOMATIC PEAK CONTROLLER**  
Like its companion-piece, the Audimax III, the completely solid state Volumax is a tool to help the broadcaster obtain maximum program power from each watt of carrier power. Unit doubles effective radiated program power compared with conventional peak limiters; when used along with the Audimax, astonishing power improvements of nearly 8 to 1 have been achieved. Prevents carrier over-modulation caused by instantaneous program peaks without audio distortion and "pumping" effects, and without the necessity of a reduction in program level or wasting valuable modulation capability. Analyzes all program material and automatically chooses the appropriate regulation speed with gentle or micro-second-fast limiting action, depending on the nature of the program waveform. The result is a more even, pleasant sound that can be safely transmitted at twice the program power levels to be expected from conventional limiters. In AM broadcasting, negative peaks must be kept below 100% modulation to prevent carrier cut-off, but positive peaks may modulate the carrier over 100%. Since the Volumax can be operated asymmetrically at the option of the user, limiting levels for negative peaks may be kept below the 100% modulation level while positive peaks may be allowed to modulate over 100%. Unit is normally used in conjunction with the Audimax III or another automatic level control. **Frequency Response:** Flat within 1 db, 50-15,000 cps. **Harmonic Distortion:** Less than 1%, 50-15,000 cps throughout normal control range. **Noise Level:** -70 db. **Maximum Gain:** +50 db. **Input and Output Impedance:** 600 ohms. **Maximum Output Level:** +20 dbm. **Input Level:** -25 to +8 dbm. **Attack Time:** Less than 1 msec or 4 msec, depending on program waveform. **Maximum Operating Temperature:** 55° C. **Power Required:** 15 watts at 117 VAC, 50/60 cps. **Size:** 9 5/8" d. x 3 3/4" h., standard 19" rack mounting. Shipping Weight, 17 lbs.

**CBS Laboratories Volumax Model 400 Automatic \$665.00**  
Peak Controller—Net Each.

## CINEMA TAPE ACCESSORIES

### MODEL 9205-A TAPE AND FILM DEGAUSSER



Recommended for the most complete erasure of program and residual noise from magnetic tape and film. Two powerful fields demagnetize up to 5400 foot reels of 1/4" tape and 1000 feet of 35 mm film. Designed for industrial use with heavy duty double pole switches, double fused, with dual pilot lights. Degaussing accomplished by rotating reels by hand on top surface of case (black phenolic top has locating spindle). As reels are withdrawn from the field, rotation is continued. Furnished in heavy steel case, gray baked enamel finish. **Power Requirements:** 115 VAC, 60 cps, 2000 watts. **Size:** 3 3/4" x 12" x 14". Weight, 33 lbs.; Shipping, 37 lbs.

**Cinema Model 9205-A Degausser—Net Each. \$75.40**  
**Cinema Model 9205-A-220—Same as above but 220 VAC, 60 cps. Net Each. \$88.26**  
**Cinema Model 12975 Coil—Net Each. 18.75**  
**Cinema Model 12297 Switch—Net Each. 4.86**  
**Cinema Model 12651-2 Panel—Net Each. 7.50**

### MODEL 64221 COMPACT DEGAUSSER

For complete erasure of tapes and films. Capable of erasing recorded signal to more than 50 db below saturation. Designed

for home or industrial use. Will handle any reel up to 10 1/2" dia. x 1" thick; 2" reels demagnetized by reversing reel; two locating spindles. Unit housed in heavy-duty case with brown phenolic panel. Degaussing is accomplished by manual rotation of reel. Rotation of reel should be continued as reel is withdrawn from field. Gray enamel finish with rubber feet. Features a vibrating reed for aural indication when in operation. **Power Requirements:** 115 VAC, 50/60 cps, 1000 watts. Fused for 15 amps. **Size:** 3 3/4" x 6" x 8". Weight, 17 lbs.

**Cinema Model 64221 Compact Degausser—Net Each. \$49.95**

### MODEL 8905 MAGNETIC ERASING PENCIL



For erasing limited, small areas of magnetic tape or film. A syllable or a complete word may be erased. Thus, errors and editing may be accomplished without complete reworking of area involved. Made of black phenolic material, with a six foot cord and press-to-operate switch. It generally resembles a large fountain pen. Active area at tip, .250" diameter. **Power Requirements:** 115 volts, 60 cps AC, 10 watts. **Overall Dimensions:** 5/8" diameter, 8" long, plus six foot cord. Weight: Net, 6 oz.; Shpg., 12 oz.

**Cinema Model 8905 Magnetic Erasing Pencil—\$15.00**  
Net Each.

# Professional Power Amplifiers

## C/M LABORATORIES PROFESSIONAL POWER AMPLIFIERS



### MODEL 35MRM SOLID STATE AMPLIFIER (FIG. A)

Professional quality amplifier features almost zero output impedance, providing increased power output as load impedance is reduced. Adequate peak power is assured with any variation in program material. High damping factor reduces spurious cone and cabinet resonance, for greater clarity, transparency and freedom from boom. Ideal for multiple speaker installations, as levels of individual speakers are unaffected by switching others in and out. The reduction of spurious ringing and feedback also reduce intermodulation with original program signals. Automatic protection is provided against over-dissipation due to improper loads. Solid state design also features wide bandwidth, fast recovery from clipping overloads, stability and low distortion at all power levels. **Power Output:** 50 watts into 8 ohms; 40 watts into 4 or 16 ohms; 200 watts peak power. **Frequency Response:**  $\pm 1$  db, 20-20,000 cps at rated output;  $\pm 3$  db, 1-100,000 cps at 1 watt. **Input Sensitivity:** Variable, 3 to 0.6 volts rms maximum for full output at loads from 16 to 4 ohms. **Input Impedance:** 50K minimum, 20-20,000 cps. **Harmonic Distortion:** Less than 0.5% THD, 20-20,000 cps at rated power with 8-ohm load. **Intermodulation Distortion:** Less than 0.5%, 0.5 to 50 watts equivalent single-frequency amplitude into 8 ohms. **Hum and Noise:** -80 db at rated output. **Damping Factor:** Better than 200 at 20-20,000 cps, 8-ohm load. **Overload Response:** Recovery from clipping, 10  $\mu$ sec maximum. **Ambient Temperature:** 0 to 50° C operating; convection cooling required. **Relative Humidity:** 0 to 85%. **Power Required:** 15 watts no signal, 200 watts full power, 117 VAC, 60-400 cps. **Semiconductors:** 10 transistors, 2 rectifiers, 3 signal diodes, reference zener diode. **Size:** 5 3/4" x 19" rack panel; 13" deep overall. Weight, 32 lbs.

**C/M Model 35MRM Power Amplifier—Net Each. . . . . \$237.00**  
**C/M Model 80MRM Power Amplifier—**Same as above, except 80 watts per output into 8 ohms; 50 watts into 4 or 16 ohms; 300 watts peak. Sensitivity, 1.5 to 0.75 volts. Intermodulation less than 0.5%, 0.8 to 80 watts. Net Each. . . . . **\$297.00**  
**C/M Line Output Transformer—70 volts. Net Each. . . . . 36.00**

### MODEL 911 200-WATT STEREO AMPLIFIER (NOT ILLUS.)

High power, solid state amplifier satisfies the most demanding requirements, with high peak power, high damping and low distortion level. Drives low or high efficiency speaker systems with reserve power over 1 kW. For use with loads of 4 to 16 ohms, with sufficient power to assure unusually faithful reproduction with any input source. Enclosed in brown steel cabinet with cover. **Power Bandwidth:** +0, -3 db, 10-30,000 cps; 0 db reference at 1 kc; 0 db at rated output. **Power Output:** 100 watts rms per channel into 8-ohm load; 60 watts into 16 ohms; 90 watts into 4 ohms; 1.1 kW peak power. **Frequency Response:**  $\pm 0.5$  db, 20-20,000 cps;  $\pm 3$  db, 1-100,000 cps. **Input Sensitivity:** 1 to 1.65 volts rms maximum for full output into 4- to 16-ohm loads; level controls for each channel. **Input Impedance:** Better than 50,000 ohms. **Total Harmonic Distortion:** Less than 0.5%. **Intermodulation Distortion:** Less than 0.5% at power from 1 to 100 watts equivalent single frequency into 8-ohm load. **Hum and Noise:** -70 db at rated output. **Damping Factor:** Better than 200 with 8 ohm load, 20-20,000 cps. **Overload Response:** Recover from 100% clipping overload, 10  $\mu$ sec maximum; automatic protection against shorts, open circuits, mismatching. **Semiconductors:** 23 transistors (8 output), 2 zener diodes, 3 silicon diodes, 2 silicon rectifiers. **Power Required:** 70 watts no signal, 6 amps at full output, 120 VAC. **Size:** 14 3/4" w. x 11 3/4" d. x 8 3/4" h. Weight, 40 lbs.

**C/M Model 911 Stereo Amplifier—Net Each. . . . . \$477.00**

### MODEL 35D 70-WATT STEREO AMPLIFIER (FIG. B)

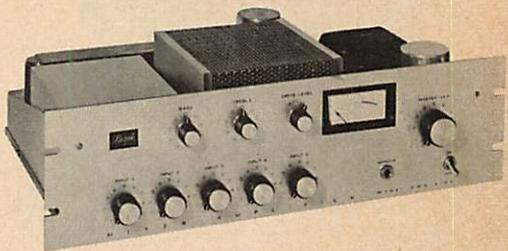
High quality stereo amplifier provides actual power output of 35 watts per channel or better, with 350 watts available peak power. Features ultra-low distortion at all power levels, as low as 0.2% total, for pure sound reproduction. Damping factor is over 500 over entire frequency range of 20-20,000 cps, to reduce spurious responses at the speaker. Operates into loads of 4, 8 or 16 ohms without loss of power; automatic short and open circuit protection. Lightweight, low heat design, completely solid state, with printed circuit board construction. Each unit is individually checked, calibrated and warranted for two years. **Frequency Response:**  $\pm 0.5$  db, 20-20,000 cps;  $\pm 3$  db, 1-100,000 cps at 1 watt. **Power Output:** 35 watts rms per channel at 20-20,000 cps into 4, 8 or 16 ohm load; 350 watts peak power. **Input Sensitivity:** 1.3 to 0.65 volts rms for full output with loads from 16 to 4 ohms. **Input Impedance:** 100K ohms, 20-20,000 cps. **Total Harmonic Distortion:** Less than 0.5% at rated power, 20-20,000 cps into 8-ohm load. **Intermodulation Distortion:** Less than 0.5% at power from 0.35 to 35 watts equivalent single frequency power into 8-ohm load. **Hum and Noise:** -70 db at rated output. **Damping Factor:** Better than 500 for 16 ohms, 20-20,000 cps. **Overload Response:** Recovery from clipping, 10  $\mu$ sec maximum. **Semiconductors:** 22 transistors, 5 rectifier diodes, 2 zener reference diodes. **Power Required:** 5 watts no signal, 200 watts at full output, 117 VAC, 50-400 cps. **Size:** 10 3/4" w. x 12 3/4" d. x 8 3/4" h. Weight, 25 lbs.

**C/M Model 35D Stereo Amplifier—Net Each. . . . . \$285.00**

## BOZAK MODEL CMA-5-50 FIVE-CHANNEL MIXER/AMPLIFIER

Concert quality, five-channel mixer combined with a 50-watt power amplifier, for use wherever sound from several sources must be mixed into one signal and amplified. Features wide frequency response plus extremely low distortion and wide dynamic range, ideal for schools, theaters, and many other indoor and outdoor professional applications. Specially designed for use with Bozak sound columns and other high quality input and output equipment, to assure top performance. Solid state circuit, with interchangeable plug-in printed circuit cards for input channels. Three types of input cards provide complete flexibility: low level microphone preamplifier; phono preamplifier with RIAA equalization; high level input with flat response for auxiliary equipment. High impedance output provided for driving external amplifiers at higher power. Mounted on 5 1/4" rack panel. Complete overload and short-circuit protection. **Frequency Response:**  $\pm 1 1/2$  db, 20-20,000 cps. **Power Output:** 50 watts into 8-ohm load at 20 volts. **Input Impedance:** Low level channels, 100,000 ohms; high level, 25,000 ohms. **Gain:** Low level, 95 db maximum; high level, 65 db maximum. **Distortion:** 0.5% maximum at 50-watt output. **Noise Level:** -125 dbm equivalent input noise. **Bass Range:**  $\pm 3$  to  $\pm 13$  db at 50 cps. **Treble Range:**  $\pm 13$  db at 10,000 cps. **Drive Level Control:** 3-positions: zero, -10 and -20 dbm; permits monitoring low level signals. **Front Panel Controls:** Level for each channel; Master Output Gain; Output Bass; Output Treble; Illuminated VU Meter; Drive Level Switch; Monitor Phone Jack; **Power:** **Power Required:** 130 watts, 120 VAC, 60/60 cps. **Size:** 5 1/4" x 19" rack panel; 14 3/4" deep. **Weight:** 28 lbs. net, 36 lbs. shipping.

**Bozak Model CMA-5-50 Mixer/Amplifier—Net Ea. . . . . \$412.50**



SEE FOLLOWING PAGE FOR ADDITIONAL  
 BOZAK MIXERS, AMPLIFIERS AND  
 ACCESSORIES

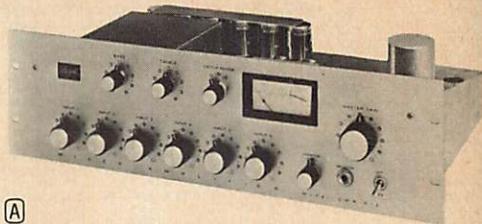


# Bozak Professional Equipment

## MODEL CMA-6-1 SIX-INPUT MIXER/ PREAMPLIFIER (FIG. A)

Professional type, concert quality mixer-preamplifier has six monophonic inputs, for continuous duty use. For applications where up to six sound sources must be mixed into one signal with maximum naturalness, to drive high quality power amplifiers. Ideal control unit for schools, auditoriums, arenas, theaters, stadiums, outdoor concerts, recording studios and many other professional applications. Features wide range frequency response with close tolerance, and virtually distortion-free operation even at full gain. All solid state circuit, specially designed to drive Bozak Model CMA-1-50 power amplifier (listed below) or similar top quality audio amplifiers. Designed for rack mounting; accessory carrying case available for portable use. Input circuits consist of interchangeable plug-in cards for unusual flexibility in a variety of applications. Three types of input cards can be used, plugged into any of the six input positions: low level microphone preamplifier, phono preamplifier with RIAA equalization, and high level card with flat response for use with auxiliary equipment that contains internal preamplification. Microphone preamplifiers can be used directly with high impedance microphones; for low impedance, a plug-in input transformer must be added. Output is 600 ohms unbalanced, with 7 volts maximum. Output transformer available for use with balanced line. Each input has an individual, continuously variable control on the front panel. Other front panel controls include master output gain, separate bass and treble controls, monitor level control, on-off switches for the unit and for controlling remote power amplifiers, monitor phone jack. Includes illuminated VU meter with 3-position range switch. Rear panel contains six Cannon XLR-3-31 input connectors, XLR output connector, fuse receptacle and 3-wire power cord. Mounted on anodized, brushed aluminum rack panel, 19" wide and 5 1/4" high; front-to-back depth, 11". **Frequency Response:** ±1 db, 30-20,000 cps. **Gain:** 98 db maximum with CM50-5-2 microphone card and CMA-481 input transformer; 43 db maximum with CM60-5-8 high level card. See accessory listing below for cards and transformers. **Power Output:** +19 dbm or 7 volts. **Distortion:** Less than 0.2% total harmonic distortion at 19 dbm output, 1 kc. **Hum and Noise:** 65 db below rated output. **Input Impedances:** Low level direct, 100K ohms; with microphone transformer, 150 ohms; magnetic phono, 47K ohms; high level, 50K ohms. **Output Impedance:** 600 ohms unbalanced. **Bass Control:** +3 to -13 db at 50 cps. **Treble Control:** +13 to -13 db at 10,000 cps. **Monitor Output:** 7 volts no-load; minimum load, 8 ohms. **Power Required:** 10 watts, 120 VAC, 50-60 cps. Net Weight, 20 lbs.

**Bozak Model CMA-6-1 Mixer/Preamplifier**—Less input cards (see listing below). Net Each ..... **\$335.00**



(A)

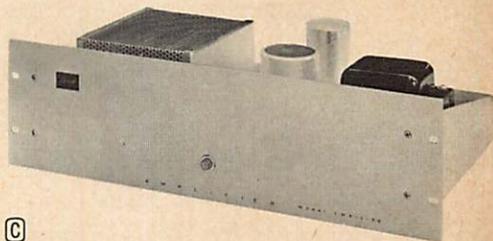


(B)

## MODEL CMA-10-1 TEN-INPUT MIXER/ PREAMPLIFIER (FIG. B)

Concert quality, solid state mixer-preamplifier has ten monophonic inputs, designed for continuous duty operation. Makes a perfect control unit for any application where ten or more high sound sources must be mixed into one signal. Designed to drive Bozak Model CMA-1-50 solid state 50-watt power amplifier (listed below) with wide response and extremely low distortion. Construction and specifications are identical to the Model CMA-6-1 Mixer-Preamplifier listed above, but with four additional inputs for added flexibility. Input circuits use interchangeable cards (listed below) any card may be plugged into any of the 10 inputs. Mounted on 19" rack panel, 5 1/4" high, 11" deep.

**Bozak Model CMA-10-1 Mixer/Preamplifier**—Less input cards (see listing below). Net Each ..... **\$369.00**



(C)

## MODEL CMA-1-50 SOLID STATE 50-WATT POWER AMPLIFIER (FIG. C)

Professional, general purpose power amplifier offers reliable, continuous duty operation for use in recording, monitoring, sound reinforcement and similar applications. Ideal for full power use in schools, churches, theaters, auditoriums, arenas, theaters where high sound power, natural sound is required. Especially ideal for use with Bozak CMA-6-1 or CMA-10-1 Mixer/Preamplifier and Bozak sound column loudspeakers, for superior sound quality, indoors or outdoors. Built-in protective features minimize maintenance problems. Mounted on 19" rack panel, 5 1/4" high and 10" deep, made of anodized aluminum to match the CMA-6-1 and CMA-10-1 Mixer/Preamplifiers. Accessory portable carrying case available (see listing, right). Includes self-contained power supply. Output is designed to feed directly into an 8-ohm load; provision on chassis for mounting accessory 70.7-volt line output transformer when required. Front panel contains only the pilot light, which dims if the protective circuit is activated. Rear panel contains XLR input connector, input level control, output screw terminals, power switch and 3-wire power cord. **Power Output:** 50 watts (+47 dbm) into 8-ohm load, 120-volt line. **Sensitivity:** 0.5 volts for rated output. **Frequency Response:** Within 0.5 db, 20-20,000 cps. **Power Bandwidth:** Within 1 db, 20-20,000 cps. **Harmonic Distortion:** 0.5% maximum, 20-10,000 cps; 0.75% to 20,000 cps. **Noise:** 80 db below rated output, unweighted. **Input Impedance:** 50,000 ohms; accessory transformer available for 600 ohm balanced input. **Load Impedance:** 8 ohms. **Power Required:** 140 watts, 120 VAC, 50-60 cps. Net Weight, 23 lbs.

**Bozak Model CMA-1-50 Power Amplifier**—Net Each ..... **\$257.50**

## ACCESSORIES FOR BOZAK PROFESSIONAL EQUIPMENT

- Bozak Model CM50-5-2 Microphone Preamplifier Card**—For use with CMA-6-1 and CMA-10-1 Mixer/Preamplifiers, and CMA-5-50 Mixer/Amplifier. Net Each ..... **\$10.00**
- Bozak Model CM50-5-8 High Level Preamplifier Card**—For CMA-6-1, CMA-10-1, and CMA-5-50. Net Each ..... **\$1.50**
- Bozak Model PH-1 Magnetic Phono Preamplifier Card**—For CMA-6-1, CMA-10-1, and CMA-5-50. Net Each ..... **\$16.50**
- Bozak Model CMA-481 Microphone Input Transformer**—For CMA-6-1 and CMA-10-1 Mixer/Preamplifiers. Net Ea. .... **\$15.00**
- Bozak Model CMA-483 Portable Carrying Case**—For all Bozak models listed. Net Each ..... **\$49.50**
- Bozak Model CMA-519 Line Matching 70.7-Volt Transformer**—For CMA-1-50 Power Amplifier. Net Each ..... **\$35.00**
- Bozak Model CMA-549 Line Matching 25-Volt Transformer**—For CMA-1-50 Power Amplifier. Net Each ..... **\$35.00**
- Bozak Model CMA-558 Balanced 600-Ohm Line Mixer Output Transformer**—For CMA-6-1 and CMA-10-1. Net Ea. .... **\$38.75**
- Bozak Model CMA-559 Balanced 600-Ohm Line Input Transformer**—For CMA-1-50 Power Amplifier. Net Each ..... **\$36.00**

SEE PRECEDING PAGE FOR BOZAK MODEL  
CMA-5-50 FIVE-CHANNEL 50-WATT  
MIXER/AMPLIFIER.

# Wireless Mike Systems

## VEGA-MIKE® WIRELESS MICROPHONE SYSTEMS

The Vega-Mike® is a professional microphone without a trailing cord to restrict user's mobility. By means of a self-contained low-power miniature FM transmitter and power supply, it transmits through the air to a separately located Vega Receiver whose outputs feed the signal to the user's existing sound system amplifier or control board, tape recorder, etc. Absence of a tethering, kinking cord, frees the speaker or performer to walk anywhere in the auditorium or classroom, even out into the audience (ideal for outdoor use) . . . yet will hear every word distinctly heard. The one-piece Vega-Mike® microphone-transmitter is small, lightweight (only 7½ oz.), unobtrusive, completely self-contained, including mercury-battery power supply. Can be hung from the neck so user's hands are free, or held in the hand; even passed from one person to another. Used by radio-TV networks and stations, schools in audio-visual applications, sales meetings, conventions, sports event broadcasting, on floor/indoors sound reinforcement. Range, up to ¼ mile, depending on environment conditions. Typical Basic System: One Vega-Mike® microphone-transmitter and one Vega-Mike® receiver.

### VEGA-MIKE® MICROPHONE-TRANSMITTER

Available in lavallier or hand-held types. Requires no warm-up time; fully transistorized. Contains own professional dynamic microphone, FM transmitter and mercury battery. Uses only one 6.75 v. Mallory TR-115R mercury battery for 20 hours operation. Two batteries supplied. **Standard Frequencies:** 33.14, 35.02, 30.84 and 31.16 Mc for general use; 26.10 to 26.48 Mc for radio/TV low power broadcast auxiliary stations as assigned. **Non-Standard Special Frequencies:** Available on special order in the 25-45 mc range, with evidence of FCC assignment. **Frequency Response:** 80-14,000 cps. **Size:** 1" dia. x 5" long; hand-held type, 5½" lg. Shpg. Wt., 1 lb.

**Vega-Mike® Model 01-0001 Lavallier**—Neck cord serves as part of antenna. Specify standard frequency (see above). Two Models: **Standard Model Lavallier** (single rotary switch turns on or off simultaneously both audio and transmitter) . . . **\$249<sup>75</sup>**  
**Net Each.** . . . . .

**EC-Model Lavallier** (separate on-off switches for audio & transmitter). **Net Each.** . . . . . **\$288.00**

**Vega-Mike® Model 01-0002 Hand-Held**—With telescoping whip antenna, 5½"-22¾" long, attached by swivel joint at base of mike. Specify standard frequency (see above). Stand- **\$249<sup>75</sup>**  
and model (single rotary switch) only. **Net Each.** . . . . .

**For Non-Standard Special Frequencies**—(See above).  
Add to net. . . . . **\$35.00**

### VEGA-MIKE® FM RECEIVER

The Vega-Mike Receiver is available with built-in whip antenna for full portability; includes an antenna input plug UG-260/BU for use with RG-59/U coax feed from remote antenna permitting longer range operation with semi-portability. Incorporates extremely efficient AFC and AVC control circuitry; assures fixed frequency operation with very constant output. Continuous tuning, 25-45 mc, with 3:1 reduction tuning drive. Calibrated squelch control on rear panel quiets the output unless a signal exceeds the pre-set level. Fuse holder and output for Vegatrol® also supplied on rear panel. Two cathode follower outputs: Line level, 2 volts; mike level, -40 dbm; feed either low or high impedance circuits. Built-in amplifier and 4" x 8" speaker. External headphone jack and gain control on front panel are not coupled to receiver; provide monitoring on PA, broadcast or recording amplifiers fed in association with the receiver. Comes with operating manual and output plug. **Frequency Response:** 20-20,000 cps. **Tubes:** 11, plus 2 diodes. **Size:** 6½" x 11½" d. x 9¾" h. **Wt.,** 21 lbs. **\$297<sup>15</sup>**  
**Vega-Mike Model 01-0003-05 FM Receiver**—**Net Ea.** . . . . .

### VEGATROL® CONTROL RELAY

Extends the use of the system as a carrier-operated wireless, remote-control device. Activated by on-off switch on Vega-Mike. Permits user to operate related equipment (tape recorders, cuing lights, etc.) from the mike-transmitter. Powered by the receiver. Terminal strip with 10 terminals provides SPDT facility. Heavy-duty 115 v. AC outlet and jack for external switching of AC circuits, 5 amps. Heavy-duty relay with 4PDT capacity provides switching for Vegatrol. **Controls:** On-Off Switch; Power-On and Inventory Work, and outdoors events. With 36" cable and plug. **Tube:** 1-12AT7. **Size:** 4¼" w. x 7¾" d. x 5½" h. **Shipping Weight,** 4 lbs. **\$69.00**  
**Vegatrol® Model 01-0010-01 Control Relay**—**Net Each.** . . . . .



### ACCESSORIES

**Vega-Mike® Model 01-0008-01 Rack Mount Adapter Kit**—Provides permanent rack-mount installation of Vega-Mike FM receivers. Simple instructions guide installation. Receiver mounts with cover removed and speaker re-located. Requires 10½" rack space on standard 19" panel rack. Includes solid ¼" aluminum panel, monitor speaker face plate and mounting hardware. **Size:** 19" w. x 11¾" d. x 10¾" h. **Shpg. Wt.,** 4 lbs. **\$3.95**  
**Net Each.** . . . . .

**Vega-Mike® Model 01-0004-01 Helmet**—Used with hand-held mike Model 01-0002 to extend the effective range, and aid in spotting the announcer. Socket in top of helmet provides accommodation for whip antenna. Comes with 32" extension cable. Made of lightweight, white styrene with adjustable head-size and chin strap. With black vinyl zipper carrying case with long strap for carrying receiver and helmet; room for storing Vega-Mike microphones, spare batteries, etc., inside helmet. **Size:** 5¼" h. x 7¾" w. x 10½" front to back including sun visor. **Shpg. Wt.,** 12 oz. **\$27.90**  
**Net Each.** . . . . .

**Vega-Mike® Model 01-0012 Lavallier "Press-To-Talk" Accessory**—For momentary on-off operation of the Vega-Mike® microphone. Same dia. as the case, extends 1¼" below case; replaces the battery retainer at the bottom of the Vega-Mike®. Pushbutton on the side switches transmitter power on or off. **Net Ea.** **\$17.00**

**Vega-Mike® Model 01-0013 Hand-Held "Press-To-Talk" Accessory**—Case extends 4¼" below Vega-Mike® case and is used as a handle. **Net Each.** . . . . . **\$18.00**

**Spare Batteries Number 93-0001-01**—For Vega-Mike microphone-transmitters. Box contains two Mallory type TR-115R batteries. **Net per Box.** . . . . . **\$4.75**

**Slip Cover For Vega Receiver**—Easily put on and taken off to protect receiver. When used with Helmet Hand-Held accessory, the two allow one-handed carrying of receiver and helmet with room for storing Vega-Mikes, spare batteries, etc. Black vinyl plastic with gray heading; edges well stitched for extra strength, durability. **Shipping Weight,** 12 oz. **Net Each.** . . . . . **\$4.95**

### BASIC VEGA-MIKE SYSTEMS

**System L**—Consists of: One Standard Model Lavallier Vega-Mike (specify which standard frequency), one Vega portable FM receiver. Packed with two batteries. **Shpg. Wt.,** 21 lbs. **\$546<sup>90</sup>**  
**Net Each.** . . . . .

**System L-EC**—Consists of: One EC-Model Lavallier Vega-Mike (specify which standard frequency), one Vega portable FM receiver. Packed with two batteries. **Shpg. Wt.,** 21 lbs. **\$585<sup>15</sup>**  
**Net Each.** . . . . .

**System H**—Consists of: One Hand-Held Vega-Mike (specify which standard frequency), one Vega portable FM receiver. Packed with two batteries. **Shipping Weight** 21 lbs. **\$546<sup>90</sup>**  
**Net Each.** . . . . .

## KINEMATIX FM WIRELESS MICROPHONES

- SO SMALL IT FITS INTO A PACK OF CIGARETTES
- ACTUALLY A SHIRT-POCKET FM TRANSMITTER
- A HOST OF USES INDOORS AND OUTDOORS

Extremely compact and completely transistorized, the Kinematix Imp II has a built-in pin-head microphone which can pick up voices up to 40 feet away. Ideal for use as a burglar alarm, highly sensitive baby sitter, or for delivering lectures to large groups when used with a large-speaker FM radio. Many other applications in theatrical and TV productions, surveillance and inventory work, and outdoors events. With a portable PA system is employed. Performs with excellent fidelity without restraining wires or cables; free of static and background noise. Tunable transmitter permits finding interference-free spots on an



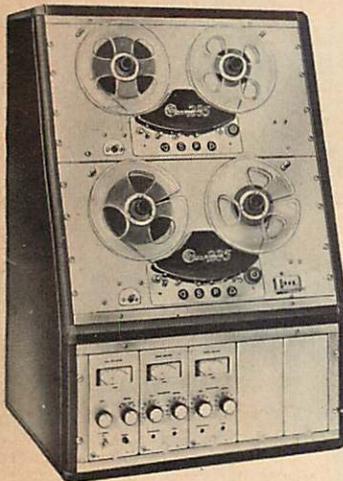
- EXCELLENT FIDELITY—NO WIRES OR CABLES
- USE ITS BUILT-IN PIN-HEAD MIKE . . . OR
- PLUG IN YOUR OWN LOW-IMPEDANCE MIKE

FM tuner or receiver; has an effective transmitting range of up to 225 feet. Provides up to 300 hours of operation when powered by one easy-to-obtain mercury battery. Handsome, black leather case. **Frequency Range:** 88 to 108 Mc. **Frequency Response:** 30-20,000 cps. **Input Impedance:** 1000 ohms (for external microphone). **Power Requirements:** Mallory TR-133, RCA VS-199, Burgess H133R, or equivalent mercury battery (not supplied). **Size:** 2¾" x 1½" x 2¾"; in leather case, 3" x 1½" x 2¾". **Weight,** 7½ oz.

**Kinematix Model IMP II/M-222**—**Net Each.** . . . . . **\$49<sup>95</sup>**

# Tape Duplicators, Repeaters

## VIKING SERIES 235 TAPE DUPLICATING SYSTEM



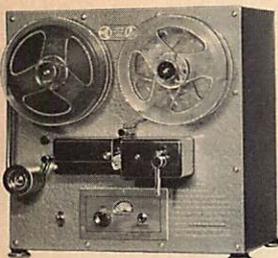
Solid state, plug-in modular system designed for educational, broadcast and commercial tape duplicating. Basic table-top console includes one master and one slave transport; accepts up to 10 slave units, two in each additional console. Easy operation with single power switch. Entire system is operated from the master transport pushbuttons when recording or duplicating, for click-free operation. All tracks of a master tape can be simultaneously copied in one pass. Available in full-, half- or quarter-track; one, two or four channels. Heavy-duty transports have 2-speed hysteresis capstan drive, separate reel drive motors and differential braking, plus photoelectric run-out and speed switch. Master unit includes digital counter, provision for remote control. Interlock stops entire system if master tape breaks. Solid state amplifier modules with illuminated VU meters and built-in regulated power supplies provided stable operation, permit use of 10 slaves without signal drop. Bias oscillator provides 260 kc bias for clean recording of 40 kc and beyond. Equalization control permits use with tapes from 1 1/2 to 15 ips. Auxiliary inputs for tuner, phono, etc. Basic system in single console includes master and one slave transport, amplifier chassis with space for 5 plug-in modules, bias oscillator module, and one, two or four slave record amplifier modules, one for each channel in the system. One and Three system includes two additional slaves in another console. **Tape Speed:** 7 1/2 and 15 ips. **Frequency Response:** +3 db, 80-40,000 cps at 15 ips; 40-20,000 cps at 7 1/2 ips; 40-10,000 cps at 3 3/4 ips; 40-5000 cps at 1 1/2 ips. **Signal-to-Noise Ratio:** 55 db peak; less than 3 db degradation from master. **Crosstalk:** Better than -50 db. **Distortion:** Less than 1% THD at 1 kc, 0 VT. **Speed Regulation:** 0.5%. **Wow and Flutter:** 0.17% rms at 15 ips; 0.2% at 7 1/2 ips. **Reel Size:** 7 in. **Heads:** Laminated hyperbolic. No pressure pads needed. **Power Required:** 340 watts max., 105-130 VAC, 50/60 cps for basic system; additional slaves, 150 watts max. **Console Size:** 21" w. x 18" d. x 32" h.; transports mounted at 67° angle.

| Viking Model | System Type          | Track   | No. of Channels | Net Each  |
|--------------|----------------------|---------|-----------------|-----------|
| 235-11       | Master and one slave | Full    | One             | \$1850.00 |
| 235-21       | Master and one slave | Half    | One             | 800.00    |
| 235-22       | Master and one slave | Half    | Two             | 1995.00   |
| 235-42       | Master and one slave | Quarter | Two             | 1995.00   |
| 235-44       | Master and one slave | Quarter | Four            | 2600.00   |
| 235-11       | Master, three slaves | Full    | One             | 2650.00   |
| 235-21       | Master, three slaves | Half    | One             | 2575.00   |
| 235-22       | Master, three slaves | Half    | Two             | 2695.00   |
| 235-42       | Master, three slaves | Quarter | Two             | 2695.00   |
| 235-44       | Master, three slaves | Quarter | Four            | 3475.00   |

Complete Basic 2-Channel System

**Additional Slave Units—Specify track and channels.**  
 Quarter track, four channel. Net Each ..... \$425.00  
 Full track, Net Each ..... \$375.00  
 All other types, Net Each ..... \$375.00  
**Additional Consoles—Identical in size to master console. Each holds two slave units.**  
 Net Each ..... \$70.00

## CURTIN MULTIPLE REEL MAGNETIC TAPE DUPLICATOR



Solid state, high speed duplicator operates at 30 ips; meets a full range of tape duplication needs for educational applications. Patented multiple-reel transport with dynamic stabilizer provides perfect contact without pressure pads. The ball bearing mounted stabilizer, plus capstan flywheel, virtually eliminate wow and flutter. Rugged mechanism of chrome-plated steel has porous bronze bearings for long life. Clutch knobs and reel spacers provide smooth hold-back and take-up tension. All solid state recording amplifier, bias oscillator and power supply, with plus-in preamps. Heads are laminated core with hyperbolic face, for half-track monophonic or two-track stereo. Duplicates all tracks simultaneously with tapes of any speed. Continuous duty, internally-cooled motor with automatic shut-off. Includes VU meter, single control for duplicating/stop, single level control for each channel. Master automatically starts and stops slave units. Jacks provided for monitoring. Sturdy steel cabinet with louvers, cushioned glides. **Frequency Response:** 50-12,000 cps more at 1 1/2 ips; amplifier response more than 60 kc. **Tape Speed:** 30 ips. **Power Required:** 2 amps, 117 VAC, 60 cps. **Size:** 16" x 16" x 14". **Weight:** 40 lbs. **Curtin Model 662M Master—**Makes two copies and both tracks simultaneously; no need to rewind copies. Net Each ..... \$1395.00  
**Curtin Master 663M Master—**Makes three copies and both tracks simultaneously. Net Each ..... \$695.00  
**Curtin Model 662S Slave—**Makes three additional copies when used with either master unit above. Net Each ..... \$995.00

## COUSINO AUDIO ANNOUNCERS, TAPE AND ACCESSORIES

### ALL-TRANSISTOR AUDIO ANNOUNCERS

SR-7341 Syncro-Repeater



**Cousino Model SR-7341 Syncro-Repeater—**Compact unit with all record and playback facilities including trip tone recording and playback. Ideal for synchronized audio-visual projection. Remains stationary from pushbutton, not a hand capacity switch, etc. (below), switch for replay or automatic shut-off by meter foil tab or trip tone. Built-in amplifier and speaker, with 75-watt power outlet for animation. Heavy-duty, fan-cooled motor. Tape speed, 3 3/4 ips; uses tape at left. Response, 40-7500 cps; S/N ratio, 45 db. Wow and flutter, 0.4% max. Output, 4 watts peak. Size, 6" x 6" x 9". Wt., 9 lbs. Less microphone. Net Each ..... \$229.95  
**Cousino Model RR-7331 Recorder-Repeater—**Compact, motorless box unit. Tape recordings are changed frequently. Ideal for display use, automatic playback, etc. Quick response with pushbutton or other switches; foil strip automatic shut-off. Specifications same as SR-7341 above. Less microphone. Net Each ..... \$169.95  
**Cousino Model AR-7328 Audio-Repeater—**Single unit playback repeater, for displays and audio playback use with fast response, "end of cycle" shut-off. Specifications same as above. Net Each ..... \$124.95  
**Cousino Model R-7320 Repeater—**Low-cost model less speaker, for feeding telephone receivers, earphones. For announcements, PA use, etc. when used with amplifier. Automatic shut-off. Specifications same as models above. Net Each ..... \$99.95

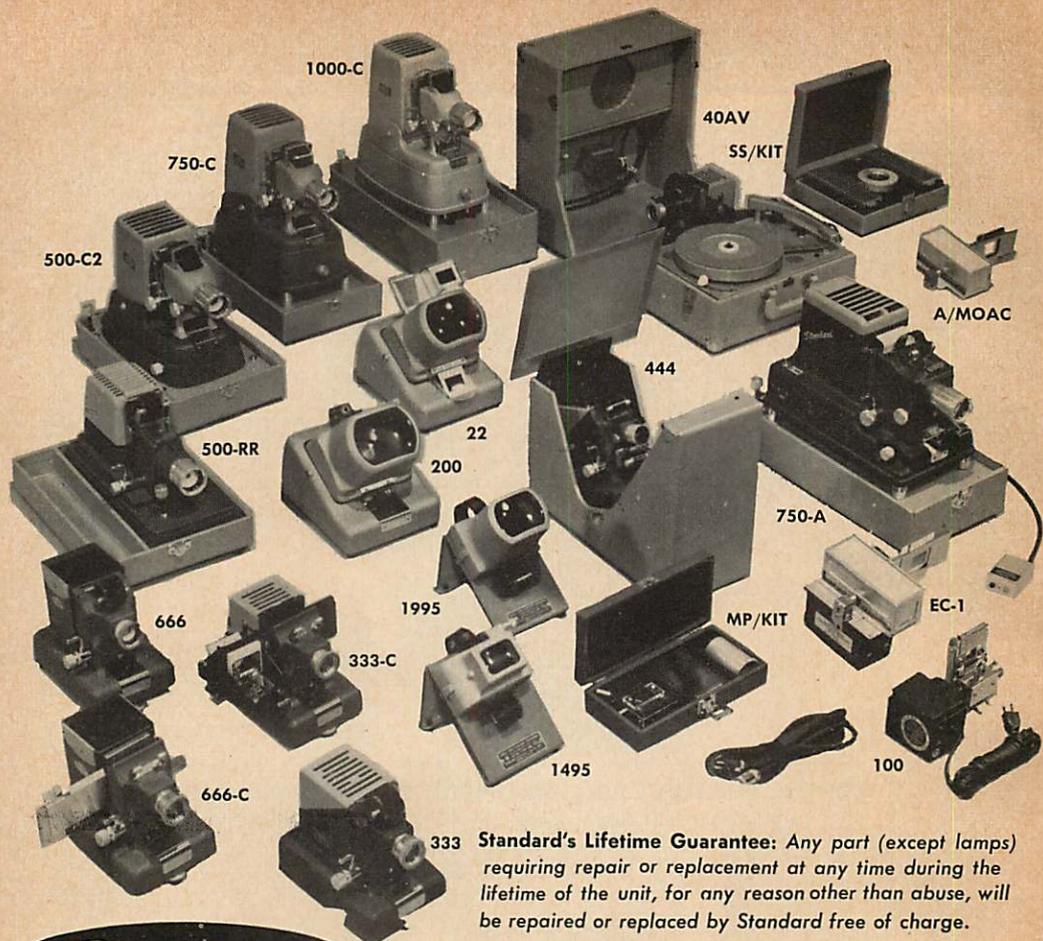
### ECHO-MATIC TAPE CARTRIDGES

For Audio Announcers at right. Filled with friction-free tape, for up to 40 minutes at 3 3/4 ips. Audio Announcers convert to 1 1/2 ips speed with simple belt change.

| Cousino Model | Playing Time at 3 3/4 ips | Net Each |
|---------------|---------------------------|----------|
| 1410-3        | 3 minutes                 | \$3.25   |
| 1410-6        | 6 minutes                 | 3.75     |
| 1410-10       | 10 minutes                | 4.25     |
| 1410-12       | 12 minutes                | 4.65     |
| 1410-15       | 15 minutes                | 4.95     |
| 1430-30       | 30 minutes                | 5.95     |
| 1430-40       | 40 minutes                | 7.95     |

### ACCESSORIES FOR AUDIO ANNOUNCERS

**Cousino Model PC-4541 Remote Start Switch—**Pushbutton, for all models. Net. \$ 4.50  
**Cousino Model MS-4541 Mute Switch—**Parts unit when stepped on. Net. \$ 2.50  
**Cousino Model DS-4516 Driveway Switch—**With driveway hose. Net Each. \$ 26.00  
**Cousino Model AS-4549 Animation Power Switch—**Increases 75 watt animation output to 1000 watts. Turns projectors, displays on and off. Net Each. \$30.65  
**Cousino Model RT-4515 Restart Timer—**Starts units at preset intervals. Net. \$ 29.00  
**Cousino Model CS-4548 Capacity Switch—**For touch starting through windows, display boards, etc. Net Each. \$26.00  
**Cousino Model M-4312 Microphone—**Low-Z for SR-7341, RR-7331. Net Ea. \$ 17.95



**333 Standard's Lifetime Guarantee:** Any part (except lamps) requiring repair or replacement at any time during the lifetime of the unit, for any reason other than abuse, will be repaired or replaced by Standard free of charge.

**Standard**

projectors and accessory equipment are designed and manufactured to meet the specific requirements of the school, church and industrial fields. They are the result of the newest technical advances and many years of specialized experience. Only the finest, proven materials and components are used. That is why Standard can offer the most liberal guarantee in the industry.

| MODEL  | DESCRIPTION   | PRICE LAMP INCL. | CARRYING CASE |
|--------|---|------------------|---------------|
| 333    | 150 watt Filmstrip Projector. Patented positive action film advance. Fan cooled. Foolproof threading. All aluminum housing. High efficiency optical system.         | 3 for \$100      | \$8.00        |
| 333-C  | 150 watt Filmstrip/Slide Projector. Choice of Prestomatic (as shown) or standard slide changer (as shown on #666-C) Converts in only 5 seconds.                     | 3 for \$150      | \$9.00        |
| 333-RC | 150 watt Remote Control Filmstrip Projector. Features a built-in remote control mechanism. Control button and 20' cord included. Other features same as #333.       | 3 for \$190      | \$9.00        |
| 666    | 300 watt Filmstrip Projector. Except for increased cooling capacities and a higher wattage lamp, the features of the #666 are the same as the #333.                 | 3 for \$150      | \$8.00        |
| 666-C  | 300 watt Filmstrip/Slide Projector. Choice of the standard slide changer (as shown) or the Prestomatic (as shown on #333-C).  | 3 for \$200      | \$9.00        |
| 666-RC | 300 watt Remote Control Filmstrip Projector. Features a built-in remote control mechanism. Control button and 20' cord included. Other features same as #666.       | 3 for \$290      | \$9.00        |
| 500-C2 | 500 watt Filmstrip/Slide Projector. All metal construction. Foolproof threading and advance mechanisms. Built-in pointer. High efficiency precision lenses.         | \$114.80         | Incl.         |
| 750-C  | 750 watt Filmstrip/Slide Projector. Features same as #500-C2 except for an enlarged cooling system. Recommended for extra large and/or hard to darken rooms.        | \$144.80         | Incl.         |
| 1000-C | 1000 watt Filmstrip/Slide Auditorium Projector. In addition to the features of the #750-C, the 1000-C has dual cooling systems to cool films and projector.         | \$229.80         | Incl.         |
| 500-RR | 500 watt Filmstrip/Slide Projector. All metal. Specially designed to meet requests for a lower cost, high quality projector suitable for the educational field.     | \$89.90          | Incl.         |
| 750-A  | 750 watt Automatic Filmstrip/Slide Projector . . . truly the ultimate in fine projectors. It has just about every feature you ever heard of . . . plus a few more!  | \$214.80         | Incl.         |
| 1495   | Filmstrip Previewer. The all metal, easy to use 1495 is the low cost answer to your previewing requirements. 110VAC or DC.  | \$17.95          | \$8.00        |
| 1995   | Filmstrip Previewer. Similar to model 1495 but with magnified wide screen viewer. 110VAC only.  | \$24.95          | \$8.00        |
| 22     | Automatic Slide Viewer. Holds 25, 2x2 or super slides. Extra wide adjustable viewer. 3 stage illumination (Batteries, 110VAC, & both). Restacks slides in order.    | \$39.95          | \$12.00       |
| 200    | Deluxe Filmstrip Viewer. Identical to model 22 except that it is equipped for filmstrips instead of slides. (Without Battery circuit \$34.95).                      | \$37.95          | \$12.00       |
| 444    | Filmstrip Previewer. Ideal for previewing and small groups. One thumbscrew releases Standard 333 projector (included) for use as conventional projector.            | \$89.50          | Incl.         |
| EC-1   | Electric Automatic Slide Changer. Installs in just seconds without tools on 500-C2, 750-C, 1000C & 750-A. One standard 2x2 magazine & 20' RC cord included.         | \$44.90          | NA            |
| MP/KIT | Micro Projector Kit. Converts models 500-C2, 750-C and 1000-C to micro projectors in seconds. 10X lens (150 times magnification at 7 feet). Built-in micro pointer. | \$49.50          | Incl.         |
| 40AV   | Sound/Filmstrip Combination #1. The perfect answer to your audio/visual requirements in a single case. High quality 4 speed phonograph and #333 projector.**        | \$90.00          | Incl.         |

**Kodak**

# Slide and Movie Projectors

## KODAK CAROUSEL SLIDE PROJECTORS AND ACCESSORIES

### MODEL AV-900 CAROUSEL REMOTE CONTROL PROJECTOR SYSTEM

Provides complete, uninterrupted slide showings with no-spill, 80-slide tray. Gravity feed prevents jamming; slides are never forced into gate. Accepts any slide in 2" x 2" mount; slides are removable for instant editing. Top-mounted circular tray permits automatic, continuous shows; number of slide being shown is shown opposite gate index. Adjustable timer automatically changes slides at 5, 8 or 15 second intervals, or slides can be changed manually. Complete remote control provides motorized focusing, forward and reverse—can override the timer if desired. Projector also has manual controls for forward and reverse, plus select-o-matic switch for picking out a particular slide for projection. Hi-Lo power setting selects either 500 or 425 watts brilliance. Includes cooling fan and built-in circuit breaker. Slides are pre-conditioned by warm air with built-in duct to prevent "popping". Elevation control raises image by 6 1/2"; rear leveling control. Heavy-duty motor is rated at 2000 hours, with nylon gears, cam mechanism and lifetime lubrication. Compact design (only 4" high, 11" wide, 11" deep) is lightweight and portable with handy carrying handle. Weighs only 10 1/2 lbs. Die-cast gray and black magnesium body. Available with choice of lens types to suit special needs. Operates from 105-125 VAC with 10-ft. 3-wire power cord. Includes 500-watt DEK projection lamp, slide tray, title slide, 12-ft. remote control cord, case. Accessories available for dissolving, synchronized sound-slide presentations, and simulated motion.

|   |          |
|---|----------|
| Kodak AV-900 with Ektanar 3" f/3.5 Lens—Net Ea. | \$169.50 |
| Kodak AV-900 with Ektanar 4" f/3.5 Lens—Net Ea. | 169.50   |
| Kodak AV-900 with Ektanar 5" f/3.5 Lens—Net Ea. | 169.50   |
| Kodak AV-900 with Ektanar 5" f/2.8 Lens—Net Ea. | 193.50   |
| Kodak AV-900 with Ektanar 7" f/3.5 Lens—Net Ea. | 193.50   |
| Kodak AV-900 with Zoom 4-6" f/3.5 Lens—Net Ea.  | 199.50   |
| Kodak AV-900 without Lens—Net. Each.            | 15.00    |
| Kodak DEK 500-watt Lamp—Net. Each.              | 5.85     |

### ACCESSORIES FOR MODEL AV-900 CAROUSEL

**Kodak Carousel Dissolve Control**—Links two projectors in parallel for smooth dissolve bridges from one slide to another. Alternately dims and brightens lamps while changing slide. Alternates "fade-ins" and "fade-outs," special effects. Slide changes controlled by built-in timer (6-, 10- or 14-second intervals) or remote control "forward" button. Plugs directly into the AV-900 projectors. For 110-125 VAC. Net. Each. . . . . \$199.50

**Kodak Model 1 Carousel Programmer**—Links Carousel to most standard tape recorders, to synchronize slides and sound. Provides tripping signals on the recording tape, to automatically advance projector. Same tape carries narration, for complete automatic sound-slide shows. Can also be used as mixer for two different recording sources. For 105-125 VAC. Net. Each. . . . . \$99.50

**Kodak Carousel Universal Slide Tray**—For cardboard, plastic glass mounts to 1/8" thick. Gray. Net. Each. . . . . \$3.95

**Kodak Carousel Slide Tray**—For cardboard, plastic, thin glass mounts to 1/10" thick. Black. Net. Each. . . . . \$2.95

**Kodak Projection Lenses**—Lumenized, for superb edge-to-edge sharpness and color clarity. Rack focusing.

Ektanar 3" f/3.5—Net. . . . \$12.50; Ektanar 5" f/2.8—Net. . . . \$36.50

Ektanar 4" f/3.5—Net. . . . 12.50; Ektanar 7" f/3.5—Net. . . . 36.50

Ektanar 5" f/3.5—Net. . . . 12.50; Zoom 4-6" f/3.5—Net. . . . 42.50



AV-900 Carousel with Remote Control

### MODEL RA-950 CAROUSEL SLIDE PROJECTOR

Top quality remote control projector provides instantaneous image retrieval, for screen, console, overlay, and video information-display applications. Remote random-access control panel gives access to 80 slides, with less than 4 second search using "shortest way" principle. Set the dial to slide desired, push the button, and requested slide drops into projection gate. Remote panel also gives complete control of all projector functions—smooth motorized focus, single-slide "forward" and "reverse" plus on/off switch. Indicator dial shows the number of the slide being projected, plus the next slide to be shown. Non-spill tray takes 80 slides in 2" x 2" mounts, with jamproof gravity feed and easy access to each slide. Built-in warm air duct preconditions each slide. Heavy-duty motor with nylon gears, cam operation, is rated at 2000 hours. Lumenized Kodak lenses give superb edge-to-edge sharpness and color clarity. Compact projector unit is similar in appearance to Model AV-900 above, 11" w. x 13 1/2" d. x 4" h., with carrying handle; manual controls provided for "select" and focus, plus high and low lamp power. Elevation wheel raises projector 6 1/2"; rear horizontal control. Remote control panel is 6" x 7" x 2", with 20-ft. cord. Built-in circuit breaker. Weight, 15 lbs. Kodak RA-950 with Ektanar 5" f/3.5 Lens—Net Ea. . . . \$795.00

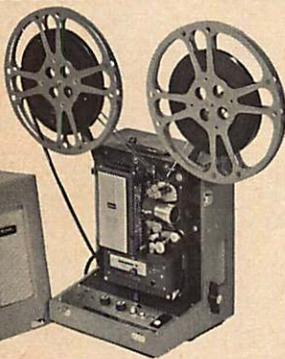
Kodak RA-950 Without Lens—Net. Each. . . . . 782.50

## KODAK 16 MM SOUND AND SILENT MOVIE PROJECTORS

### MODEL AV-126-TR "PAGEANT" SOUND PROJECTOR

Portable 16 mm projector features transistorized 12-watt amplifier plus solar cell sound pickup for a "lifetime" sound system. Fidelity control assures full-range sound reproduction. Heavy duty, well-baffled 11" x 6" oval speaker is built into lift-off slide cover; projector and speaker combine into a single case with twin handles for easy portability. Instant film reversal, with simplified threading. Soft-tension safety gate and spring-loaded sockets protect film. Kodak Ektanar Lumenized 2" f/1.6 lens and 750-watt projection lamp produce brilliant pictures, sharp from edge to edge. Balanced centrifugal fan gives full ventilation. Non-skip ball-bearing pivoted tandem-tooth movement, with self-compensating film take-up arm. Constant speed motor and automatic shifting Super 40 two and three blade shutter give optimum projection at both sound and silent speeds (16 or 24 frames/second); 40% extra illumination at sound speed. Quiet operation, with nylon gears and lifetime lubrication. Single 5-position control for motor and lamp; tone control. Attached overhead reel arms fold for storage; space provided for storing 12-ft. power cord. Self-locking elevation control. Receptacles provided for microphone or phono. Film capacity, 2000-ft. of 16 mm film. Speaker impedance, 6 ohms. Amplifier rated 12 watts HiFi music power. Compact case, 16" x 12 1/2" x 11 1/2". For 105-125 VAC, 60 cps. Weight: projector alone, 28 1/2 lbs.; unit, 35 1/2 lbs.

Kodak Model AV-126-TR Projector—Net. Each. . . . \$650.00



AV-126-TR

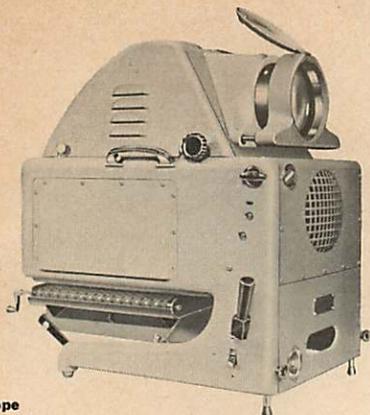
### KODAK "ANALYST" 16 MM MOTION STUDY MOVIE PROJECTOR

Specially designed, heavy duty projector for analysis of sports films by teams and coaches, time and motion studies, film editing. Daylight Viewer permits table-top viewing in normally lighted rooms; image is as brilliant as conventional screens in darkened rooms. Film reverses instantly without screen blackout or loss of brilliance by flipping direction switch or pressing remote reverse switch. Variable rheostat and governor permit variable projection speeds (5 to 24 frames per second) for critical study. One motor drives film; separate motor drives blower for continuous cooling regardless of projector speed or direction. Simplified threading,

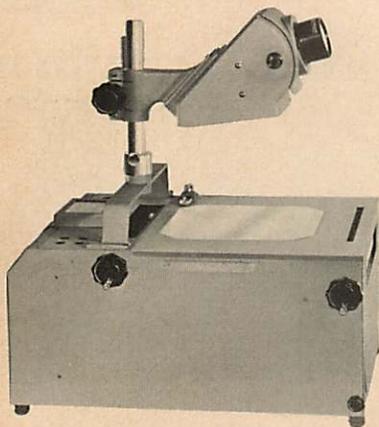
with attached and geared reel arms. Non-skip film movement. Lumenized Ektanar 2" f/1.6 lens with field flattener gives brilliant image, high corner definition. Heavy duty construction with nylon gears and few moving parts assures quiet operation for use with small groups. Compact case, 10 1/2" x 12 1/2" x 14 1/2" high, has space for storing power cord, remote reverse switch, viewer, extra lamp, take-up reel; projector is operated in its case. For 105-125 VAC. Weight, 25 lbs.

Kodak "Analyst" Projector—Net. Each. . . . . \$465.00

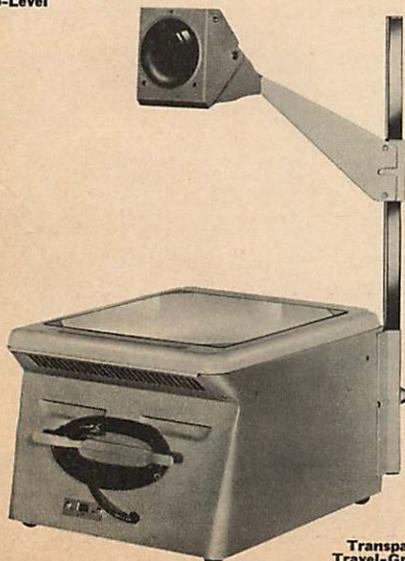
# PROJECTION OPTICS Projectors



Opa-Scope



Transpaque Auto-Level



Transpaque Travel-Graph

## OPA-SCOPE® OPAQUE PROJECTORS

Project all types of subject matter, even three-dimensional material—on a screen. You need no prior preparation. Just place pictures, graphs, reports, sketches, maps, charts, books, or even models and actual products on the platen. Projects a bright, clear image on the screen in natural color. Lets you maintain control of confidential, expensive, or fragile materials, yet exhibit them clearly before a large group of persons. No need to convert original copy to a photographic slide. Makes an ideal teaching aid in schools, industry, offices, etc. Special 18" E.F. 5" diameter f3.6 color-corrected lens provides superbly sharp, clear images, even at distances over 20-feet. Has smooth operating platen that drops 2 inches to accept material up to 10 x 10 inches. No spring or snap movement to endanger fingers or dislocate material. Dual powerful fans cool lamp and protect copy from heat, prevent copy flutter, and eliminate need for mounting flat material. Virtually silent, too—won't interfere with or distract attention from your presentation and screen image. Built-in drawer accommodates glass pressure plate that holds material flat. Adjustable spring-loaded legs provide maximum of 12° elevation to compensate for uneven table surfaces and imperfect screen positioning. Optional Auto-Feed manually operated conveyor belt continuously feeds copy in and out of projection area. Eliminates disturbing light flutters and flashes. Optional Opti-Pointer directs attention to any desired part of the screen using a sharp beam of light from the projector while you conduct the meeting. With 1000-watt, T20 medium pre-focus base lamp. **Output:** 140 lumens. **Size:** 20" x 14" x 23" high. With lens, 15' power cord, sliding drawer, lens cover.

**Model 20000**—For 110 VAC. Less Opti-Pointer and Auto-Feed. Net Each..... **\$307.00**

**Model 20005**—Same as above, but with Opti-Pointer and Auto-Feed. Net Each..... **\$344.00**

## TRANSPAQUE® MODEL 20400 AUTO-LEVEL PROJECTOR

Tilt-head overhead transparency projector. Ideal for classroom use, as well as use in industry and business. Super low silhouette head has special mechanical tilting device for raising or lowering desired screen image. No tilting or slanting of transparency is necessary for clear, true images. Prevents obstructing screen images, yet permits ample space between light box and head for comfortable writing position and added convenience when showing liquids, and flipping overlays. Adjustable elevating legs tilt projector giving additional screen image elevation for special situations. Always projects a true image. And, ellipsoidal reflective system eliminates humpback effect, provides undistorted screen images, sharp corner to corner. Projects a brilliant image even in broad daylight, or in a fully lighted room. Utilizes all-glass reflector system—no plastics to cause distortion. What's more, it's comfortable to operate—never directs glare into operator's eyes. Extremely simple operation—just place slide into position, lamp turns on. Remove slide, lamp goes off. Two-way writing roll compartment has dual knobs that may be turned in either direction. You can sketch, draw, or write in advance, or as you teach. Also offers tamper-proof design—no tools needed to change lamp or make repairs. Special blower system provides self-cleaning of interior, operates silently and efficiently. Smooth positive no-slip focusing rack. Compact design provides easy portability. Accepts copy up to 10" x 10". Has 14" E.F. coated anastigmat lens. Uses 1000-watt, T-20 medium pre-focus base lamp. **Table Size:** 17" x 23". Convenience AC outlet. With 15-ft., 3-wire cord and 2-prong adapter. Heavy gauge aluminum construction with hi-temperature oven baked enamel finish. For 115 VAC.

**Model 20400**—Net Each..... **\$425.00**

## TRAVEL-GRAPH® OVERHEAD PROJECTOR

Overhead transparency projector—a precision instrument compactly designed for teachers and business men who desire a portable, yet highly efficient projector. Ruggedly engineered and precision constructed to withstand years of hard use. Has big professional size 10" x 10" platen that accepts standard transparencies. Provides flawless screen image without corner distortion. Instantly adjustable 30° image elevation with a flip of the wrist. The 14" E.F. f3.5 lens provides needle sharp resolution. Model 21000CC uses a 420-watt quartz iodine lamp to provide brilliant projections, even in broad daylight, or in a fully lighted room. Models 21000RxBCC and 21000RxCOC have 600-watt lamps. All feature simplified maintenance. Straight through lamp changing ease, thanks to full sized access door with hinged top. Lamp socket spreader permits removal of lamp at a touch of a lever. Automatic power disconnect when cover is raised. Overheat cooling—highly efficient blower system draws cool air in from the operator's side, maintains proper interior temperature. Has three-position switch: Off, Fan Only (for quick cooling), Fan and Lamp (for projecting). Unique thermal switch keeps blower in operation even after lamp has been turned off. Automatically stops when safe interior temperature has been reached. Knob-controlled friction drive gives infinitely adjustable focusing with automatic lock in any position—smooth, precise. Can't slip or jam, no gear teeth to mesh. All steel construction (except optics) with high-temperature oven-baked enamel finish. **Power Required:** 110-120 VAC, 60 cps. **Size:** 12 1/2 x 14 1/2 x 10". Weight, 17 lbs. With 15-ft. cord and cord-storage bracket, U/L and CSA Approved.

**Model 21000CC**—Net Each..... **\$175.00**

**Model 21000RxBCC**—Net Each..... **\$185.00**

**Model 21000RxCOC**—Net Each..... **\$199.00**

## LANGUAGE LABORATORY

Modern electronic instruction centers designed for maximum teacher/student productivity. Components adaptable for all language laboratory teaching methods. Rheem Califone the most reliable, scientifically engineered, field tested and field proven over the years. Advise Sonocraft of your teaching requirements and they will submit their recommendations accordingly. **Instructor's Console**—Califone LC-253, with or without locking cover houses master tape and phono/program sources, student control panels, amplifiers, power supplies, etc. . . . everything at the teacher's easy reach. Outer surfaces are covered with high pressure laminated plastic for durability; trim is hand-rubbed, oil-finish solid walnut. Includes two drawers and storage compartment. Console is 39" high overall, with 30" desk height; 62" wide, 31" deep writing surface. **Student positions**—Either audio-active (listen/respond) or audio-active-record where student position includes a tape recorder. May also be provided for student's independent study, at teacher's discretion only. **Sonocraft is able to provide complete guidance in planning your Language Laboratory system, or adding to its effectiveness. Write or call for full information on products available that will meet your particular needs.**



LC-253 Console

## VOCALETTE MOBILE LANGUAGE LABORATORY

Compact, advanced design console has all the components for full audio programming in the classroom; rolls anywhere on 4" swivel casters, plugs into standard AC outlet. Modular construction permits integration into any system, or serves as a central instruction center in itself. Console includes easy-to-use tape deck and complete controls for Record, Playback, and Student Monitoring. Transistorized amplifiers and headphone/microphones for instructor and 12 students are stored in lower compartment; adapters available for additional student stations. Desk surface unfolds to 30" height, locks over controls when not in use. Made of lightweight vinyl-clad aluminum. Each headphone/mike unit has a volume control. Includes complete intercom and P.A. systems, with 5" x 7" speaker, auxiliary inputs, conference facilities, group program selection and VU meter. Fully transistorized, operating at 22 VDC. **CONSOLE: Wow and Flutter:** Less than .18%. **Frequency Response:** ±3 db, 75–12,500 cps. **Distortion:** 3% THD. **Signal-to-Noise Ratio:** 50 db. **STUDENT AMPLIFIERS: Frequency Response:** ±1 db, 30–15,000 cps. **Distortion:** 1% at 0 db. **Signal-to-Noise Ratio:** 65 db. **Write for Prices.**



Vocalette Language Lab

## HIGHLIGHTS OF REMEDIAL READING PROGRAM

This program is remedial for grades 1-9, and has been successfully used for senior high students and adult illiterates.

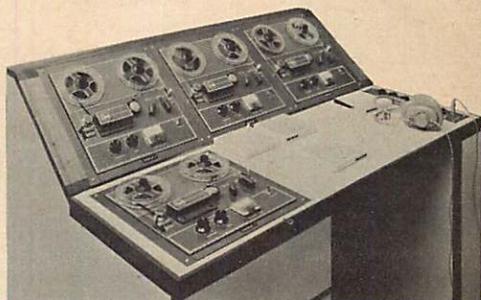
A thoroughly tested and valid package of materials and equipment designed to give the under-achieving reader a 3-month gain in a 1-month time, on the average, working 1-hour per day, 5-days per week.

Emphasis is on the perceptually involved child of "normal" abilities who has had difficulty in learning to read because of these perceptual involvements.

It presents a MULTI-MODAL approach to remediation, and uses every sensor-motor avenue to learning. The techniques are at once visual, auditory, kinesthetic, tactile and speech tactile; and make use of bone conduction hearing. Physiological and perceptual training in hand-eye-ear coordination is stressed throughout, and equipment is adapted for ease of use.

The training tapes are designed to reinforce the teacher lesson, and the teacher will find tapes to reinforce every concept taught in reading instruction. The 12 series include: whole word approach, phonics, syllabication, tracking, vocabulary, comprehension, and the beginnings of developmental reading. Common words, vocabulary, and tracking are taught in context.

The TEACHERS' MANUAL provides directions for diagnosis, evaluation and suggestions for teacher lessons and activities. Materials for teacher lessons are described and illustrated.

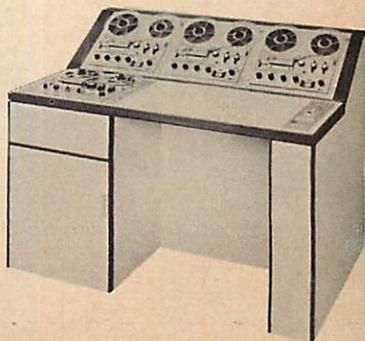


Remedial Reading Console

## MODEL 470-TA TAPE DUPLICATOR SYSTEM

Economy tape duplicator for general purpose applications as well as classroom use, easy to load and operate. Has master playback and three slave recorders for half-track monophonic operation at 15 ips. Attractive console holds entire unit, including group start-and-stop controls; provides work and storage space. Controls located for fingertip operation. Console is covered in plastic laminate for long life, with oiled walnut turret and trim. Makes three duplicates simultaneously, has separate VU meters, 3-digit tape counters, level and function controls for each channel. Individual tape transport controls, tape lifters on each transport. Switch for simultaneous starting; headphone monitoring jack. **Speed:** 15 ips; 7½ and 3¾ ips optional. **Wow and Flutter:** Less than .15% rms. **Frequency Response:** 50–12,500 cps. **Speed Stability:** Better than 1.8%. **Write for Price.**

470-TA Tape Duplicator



# CLASSROOM RECORD PLAYERS, RECORDERS, ACCESSORIES

## PORTABLE CLASSROOM RECORD PLAYERS

**Rheem Model 1470 Transistorized Record Player with Variable Speed**—Features exclusive Pause Control to start and stop the turntable instantly, plus variable speed motor (+5% to -15%) for flexibility in the classroom. Positive-action 8" turntable locks on 4 standard speeds, takes 12" records. Simple controls with output jack for connection to headphone listening center. Extended range, dual cone 6" x 9" speaker is canted at 45° to radiate sound up and out. Spring feet prevent groove-jumping; has needle guard, snap lock arm rest. Instant warm-up solid state 20-watt amplifier; plug-in ceramic cartridge. Metal reinforced case has fold-away handle. Frequency Response, 50-15,000 cps. Signal-to-Noise Ratio, -55 db. Distortion, 1%. Size, 14 3/8" x 12 3/4" x 9 1/2". Wt., 17 lbs. Net Ea. **\$92.50**

**Rheem Model 1450 Transistorized Record Player**—Same as Model 1470, but without Variable Speed feature. Net Each. **\$76.50**

**Rheem Model 1430 Transistorized Record Player**—Rugged, economical player has 20-watt output with canted, extended range speaker to radiate sound through the classroom. Plays all 4 speeds; record sizes to 12". Push-lock arm rest with needle guard, spring feet to prevent groove jumping. Separate volume and wide range tone controls, jack for external speaker or headphones, plug-in ceramic cartridge. Metal reinforced case with folding handle. Response, 50-15,000 cps. Signal-to-Noise Ratio, -40 db. Distortion, 1%. Size, 14 3/8" x 12 3/4" x 9 1/2". Weight, 17 lbs. Net Each. **\$69.95**

**Rheem Model 1440 Classroom Record Player**—4-speed player for records to 12"; with twist-up 45 rpm adapter. Dual cone 5" x 7" speaker canted at 45° for effective sound radiation; 10-watt amplifier. Separate volume and tone controls, external speaker/phone jack. Push lock arm rest, needle guard. Metal reinforced case, fold-away handle. Weight, 17 lbs. Net Each. **\$59.95**

**Rheem Model 1826 Transistorized Stereo Record Player**—All solid state, with 18-watt per channel audio output and two detachable 9" dual-cone speakers with long extension cords. 4-speed turntable, spring lock arm rest, spring feet. Volume, tone and balance controls; stereo headphone output. Weight, 25 lbs. Net Each. **\$159.95**

## TRANSISTORIZED RECORD PLAYER/PUBLIC ADDRESS SYSTEMS

**Rheem Model 1865 Transcription Player/PA System**—Features Strobeselector motor with illuminated stroboscope, center drive with speed variable from 16 to 84 rpm. Output 75 watts; with two 12" detachable dual cone extended range speakers. Pushbutton tone arm for 7" to 16" records, spring suspension. Two mike inputs; mike and phono volume and tone controls; auxiliary input and output. Response, 50-15,000 cps. Signal-to-noise ratio, -55 db. Size, 16 1/2" x 14 1/4" x 9 1/4"; weight, 22 1/2 lbs. Speaker unit 16 1/2" x 14 1/4" x 12 1/4"; 18 lbs. Net Each. **\$239.95**

**Rheem Model 1835 Transcription Player/PA System**—Same as 1865, with single speaker unit; 40-watt output; less mike tone control; single mike input. Size, 16 1/2" x 14 1/4" x 12 1/4". Weight, 26 lbs. Net Each. **\$159.95**

**Rheem Model 1815 Record Player/PA System**—Features variable speed control and strobe card, plus pause control for instant start and stop. Plays all 4 speeds with 25-watt output; takes records to 12". Detachable 12" extended range dual cone speaker. Bass and treble control, mixer control for mike and record player. High compliance cartridge insures safe playing of stereo records. Spring feet, spring lock arm rest. Size, 13 1/2" x 13 1/4" x 13 1/4". Weight, 20 lbs. Net Each. **\$114.95**

**Rheem Model 1810 Record Player/PA System**—Same as 1815, without variable speed feature. Net Each. **\$99.95**

## PORTABLE CLASSROOM TAPE RECORDERS

**Rheem Model 3080-T Transistorized Monophonic Tape Recorder**—Classroom recorder has dual track deck with "gear shift" controls. Easy to operate, with professional VU meter, digital counter, protection from accidental erasing. Plays at 1 1/2, 3 3/4 or 7 1/2 ips; with 10-watt output and built in 8" x 4" speaker. Provision for monitoring through speaker while recording, and for PA system. Inputs for mike, high and low level line. Scuff-resistant, vinyl-covered case with storage compartment for reels, power cord, mike and patch cords. Wow and flutter, under .18%. Sensitivity: Tape head 2 mV; mike 8 mV; high level, 1 V; low level, 250 mV. Signal-to-Noise ratio, 35 db. With high impedance microphone. Size, 15" x 13 1/2" x 8". Weight, 23 lbs. Net Each. **\$149.50**

**Rheem Model 70-TC Transistorized Monophonic Recorder**—Rugged dual track recorder operates at 3 3/4 and 7 1/2 ips (15 ips optional), has foolproof Accutrack deck with heavy duty motor. Pause/Edit lever stops tape instantly. Automatic shutoff, VU meter, digital counter, safety button to prevent accidental erasing. Mike and line inputs, provision for monitoring and PA use. Output 20 watts; with 8" extended range speaker. Response, 50-15,000 cps. Wow and flutter, under .18%. Signal-to-Noise ratio, 50 db. Lightweight case, 13 1/2" x 13 1/4" x 9" with storage compartment; for horizontal or vertical operation. With high impedance microphone. Weight, 21 lbs. Net Each. **\$199.50**

**Rheem Model 3200-A Stereo Recorder**—Provides monophonic to 4-track stereo recording; 2- and 4-track stereo playback at 3 3/4 or 7 1/2 ips (15 ips optional). Tracks can be recorded independently, played back simultaneously. Two built-in 6" speakers; 10 watts output per channel. Two high-Z mike and two high-Z line inputs; two high-Z and two 8-ohm outputs. Dual volume controls, Accutrack deck, heavy duty motor, 2 VU meters. Weight, 25 lbs. Net Each. **\$269.95**

## LANGUAGE LAB HEADPHONES AND MICROPHONES

**Rheem Model LT-300 Dynamic Headphones**—Overhead type. Vinyl-covered ear cushions. With cord and phone plug. Net Each. **\$24.00**

**Rheem Model HP 7-78 Stethoscope Headphones**—With single reproducer, cord and plug. Net Each. **\$6.10**

**Rheem Model HP 7-108 Magnetic Headphones**—Overhead type, with cord and phone plug. Net Each. **\$4.30**

**Rheem Model C-15 Subminiature Dynamic Microphone**—Provides undistorted sound, free of harshness. Snap-on desk stand with removable lavaller. Response, 100-10,000 cps. Output level, -58 db. Impedance, 50K. Size, 0.8" x 4". Weight, 3 oz. With 6-ft. cable. Sold only in matched stereo pairs. Net per Pair. **\$19.95**

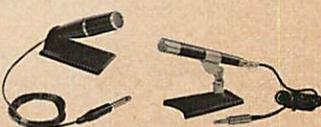
**Rheem Model C-21 Omnidirectional Dynamic Microphone**—Full 360° sensitivity, wide response (50-12,500 cps). Heavy removable desk stand. Output, -58 db. Impedance, 50K. Size, 1" x 7". Weight, 10 oz. With 8-ft. cable. Net Each. **\$21.95**



LT-300

HP 7-78

HP 7-108



C-15

C-21



1470



1835



3080-T



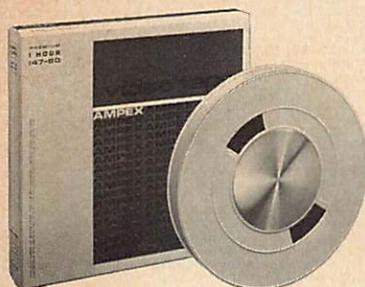
70-TC



3200-A

# Videotape and Accessories

## VIDEOTAPE, REELS AND ACCESSORIES



### AMPEX VIDEOTAPE

For use with Ampex 6000 and 7000 video tape recorders.

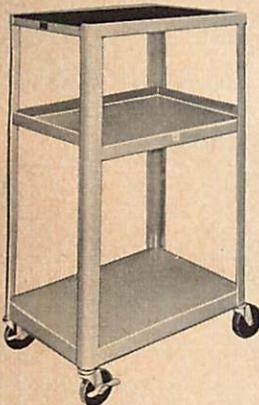
| Ampex Number | Tape Lgth. | Tape Width | Tape Wind. | Net Each |
|--------------|------------|------------|------------|----------|
| 147-30       | 1475'      | 1"         | A          | \$ 44.95 |
| 147-60       | 2950'      | 1"         | A          | 59.95    |
| 142-9AAJIB   | 600'       | 2"         | B*         | 32.50    |
| 142-9GTCIC   | 1200'      | 2"         | B*         | 72.70    |
| 142-9TGDIB   | 2400'      | 2"         | B*         | 127.35   |

\*For Ampex VR-660B.

### AMPEX VIDEOTAPE ACCESSORIES

| Ampex Number | Description                 | Tape Width | Net Each |
|--------------|-----------------------------|------------|----------|
| A24F9        | Empty reel                  | 1"         | \$8.95   |
| C-244U       | Empty box                   | 1"         | 1.95     |
| B-5546A      | Mailing container           | 1"         | 5.40     |
| C-1132       | Aluminum splicing tape, 66' | 1/2"       | 3.25     |
| C-1133       | Aluminum splicing tape, 66' | 1/2"       | 4.87     |

## PIXMOBILE® AV-441 PROJECTION TABLE AND ACCESSORIES



Projection and TV table moves easily on large 4" swivel casters, permits showing of television programs or motion pictures anywhere. Easy to load, even with the heaviest audiovisual equipment. Spacious shelves hold two complete sets of equipment for versatility; three-sided ledge around shelves allows equipment to be slid in from the open side. Ribbed hard-rubber pad on top shelf insures silent operation, gives a non-slip hold. Rigid all-steel, all-welded construction holds up to 300 lbs.; shelves will not sag or warp. Casters have built-in anti-simmy springs, plus dual ball bearing system for extra strength. Top-operated wheel brakes hold firm, even on inclined floors. Bracket provided for cord storage. Unit is 42" high, with three shelves, each 18" x 24", 12" space from top to middle shelf, 21" from middle to bottom shelf. High gloss, baked enamel finish. U/L Approved. Unconditionally guaranteed. Shpg. Wt., 41 lbs.

- baked enamel finish. U/L Approved. Unconditionally guaranteed. Shpg. Wt., 41 lbs.
- PIXMOBILE Model AV-441 Projection Table—Net Each. . . \$30.95
  - PIXMOBILE Model AV-541 Extension Cord Set—Cord, rack and dual receptacle, 20-ft. long. Attaches to table in seconds. Capacity, 1250 watts. Net Each. . . \$8.75
  - PIXMOBILE Model AV-542 Screen Carrier Assembly—Carries 70" x 70" screen in vertical position. Metal cup holds base of screen; web strap at top shelf fastens it vertically. Net Each. . . \$5.75
  - PIXMOBILE Model AV-543 Utility Basket—Holds audio-visual accessories, attaches in seconds to projection table with wing nuts. 17 1/4" x 12" x 6". Net Each. . . \$8.75
  - PIXMOBILE Model AV-547 Lectern—Speaker's stand with 18" x 23" surface fits on top shelf of projection table, holds material at 17° angle for easy readability. Net Each. . . \$11.95

## 3M/SCOTCH® VIDEOTAPE

Series 351 Videotape is longitudinally oriented, for use with helical scan video tape recorders. Offers high signal-to-noise ratio and excellent wear characteristics. For use with Sony Model 2010, Shihaden SU 700, Panasonic HUR, and Concord 600 recorders except as noted.

| 3M Number         | Lgth. | Tape Width | Tape Wind. | Reel Size | Reels/ Carton | Net Each |
|-------------------|-------|------------|------------|-----------|---------------|----------|
| 351 1/2-1250-PRST | 1250' | 1/2"       | A          | 7"        | 5             | \$21.95  |
| 351 1/2-2400-PRST | 2400' | 1/2"       | A          | 7"        | 5             | 39.95    |
| 351B-1-1500-R73B  | 1500' | 1"         | B*         | 9"        | 2             | 44.95    |
| 351B-1-3000-R73B  | 3000' | 1"         | B*         | 9"        | 2             | 59.95    |
| 351-1-1800-VDRB   | 1880' | 1"         | A†         | 7"        | 2             | 49.50    |
| 8959-1/2-3600     | 3600' | 1/2"       | A          | 7"        | 5             | 59.95    |

\*For Norelco videotape recorders. †For use with Dage type reel.

## 3M VIDEOTAPE ACCESSORIES

| 3M Number    | Description                  | Size         | Per Ctn. | Net Each |
|--------------|------------------------------|--------------|----------|----------|
| R73B-1-9     | Empty reel in box            | 1" x 9"      | 2        | \$ 6.03  |
| VDRB-1-7     | Empty reel in box            | 1" x 7"      | 2        | 16.50    |
| VB-1-10-1/2  | Empty box*                   | 1" x 10 1/2" | 2        | 1.53     |
| VDB-1-7      | Empty reel in book style box | 1" x 7"      | 2        | 1.53     |
| R86B-1/2-7   | Empty reel in book style box | 1/2" x 7"    | 5        | 3.00     |
| VB-1/2-7     | Empty book style box         | 1/2" x 7"    | 5        | 1.65     |
| VIC-1-10-1/2 | Empty round plastic case     | 1" x 10 1/2" | 5        | 4.73     |
| 390-1/4-66   | Splicing tape, 0.5 milt      | 1/4" x 66'   | 12       | 3.25     |
| 390-1/2-66   | Splicing tape, 0.5 milt      | 1/2" x 66'   | 12       | 4.87     |
| 391-1/4-66   | Splicing tape, 0.25 milt     | 1/4" x 66'   | 12       | 3.25     |
| 391-1/2-66   | Splicing tape, 0.25 milt     | 1/2" x 66'   | 12       | 4.87     |

\*For 1" x 9" reel. †Aluminized.

## SONY VIDEOTAPE

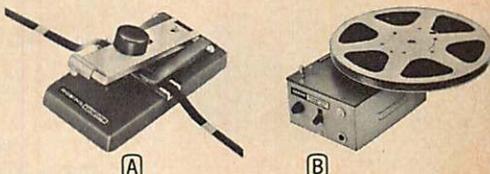
For Sony Model 2000 Video Tape Recorder Series, Shihaden SU 700, Panasonic HUR, and Concord 600. Tape width, 1/2".

Sony Type V-31 Videotape—7" reel, 1240-ft. for 1/2 hour playing time. In plastic storage case. Net Each. . . . . \$21.95

Sony Type V-32 Videotape—7" reel, 2370-ft. for 1 hour playing time. In plastic storage case. Net Each. . . . . \$39.95

Sony Type RH-7V Empty Reel—7" size. Net Each. . . . . 2.95

## ROBINS VIDEOTAPE SPLICERS AND ERASERS



### GIBSON GIRL® VIDEOTAPE SPLICERS (FIG. A)

Heavy duty magnetic tape splicers for video, audio, computer, telemetry, industrial and special purpose tape. Designed for easy, professional editing. Tape guide and arms secure tape; knob on operating lever has precision "cut" and "trim" positions. "Gibson Girl" waists at side of splicer blade prevent adhesive from contacting recording head. Precision blades centering adjustment insures lifetime accuracy. Blades and cutter pad are replaceable.

- Robins Model TS-500 Splicer—1/2" for Sony, Concord, etc. tape systems. Net Each. . . . . \$85.00
- Robins Model TS-1000 Splicer—1" for Ampex. Net Each. . . . . 85.00
- Robins Model RE-1 Replacement Blade—1/2kg. of 12. . . . . 3.25
- Robins Model TZ-500 Replacement Cutter Pad—For TS-500 splicer. Net Each. . . . . \$2.00
- Robins Model TZ-1000 Replacement Cutter Pad—For TS-1000 splicer. Net Each. . . . . \$2.00
- Robins Model TST-501 Splicing Tape—1/2" wide, 250' long. Net Each. . . . . \$1.00
- Robins Model TST-751 Splicing Tape—3/4" wide, 150' long. Net Each. . . . . \$1.00

### MAGNETIC BULK TAPE ERASERS (FIG. B)

Erases video and audio from recording tape up to 1" wide in one operation. Tape to 2" wide can be erased by reversing reel. For Sony, Ampex and other videotape systems. Reduces noise level 50 to 90 db below saturation minimum. Includes overheating indicator, individually fused circuits, heavy duty switches and power cord. Operates from 115 VAC, 50/60 cps.

- Robins Model TM-120 Eraser—With blower system, for reels to 1 1/2" dia. Duty cycle: 10 minutes on, 10 minutes off. Size, 3 3/4" x 12" x 4". Net Each. . . . . \$165.00
- Robins Model TM-100 Eraser (Not Illus.)—For reels to 1 1/4" dia. Duty cycle: 5 minutes on, 15 minutes off. Size, 3 3/4" x 8" x 8". Net Each. . . . . \$85.00

# AMPEX Videotape Recorders

## MODEL VR-6275 VIDEOTAPE RECORDER



VR-6275

Low cost, high quality helical scanning videotape recorder in attractive oiled walnut case. For light-duty commercial or home use. Simple to operate, provides excellent picture quality. Requires no additional equipment to record television programs. Connects directly to antenna terminals of any conventional television receiver. Receives all-channels VHF and UHF. Lets you record one channel while listening to another. With Model 6400 Camera (accessory) it lets you make your own "movies". Utilizes Ampex-proven helical scanning principle with slow-moving tape and fast-moving head to deliver 2.5 mc bandwidth, 39 db signal-to-noise ratio, horizontal resolution of 250 lines. Easily replaceable scanning head. Provision for stop motion viewing. Offers maximum recording time of 60 minutes using a single 3000-ft. reel of 1-inch Ampex Series 147 Videotape. Utilizes Ampex exclusive video control center, consists of a solid state TV receiver circuit, less picture tube and deflection circuits; an audio/video switching system, an audio amplifier and speaker; and a video transmitter (modulator). Receives all UHF and VHF channels. Lets you record one channel while you listen to another. **Video Inputs:** (switch selectable) Video In—75 ohms unbalanced, terminated internally; 1 volt peak-to-peak composite video, negative going sync, EIA or Industrial sync. Camera—eleven-pin connector for use with mating plug of Model 6400 camera. Video control center—internally connected to recorder by switching circuits. **Audio Inputs:** (switch selectable) Line In—50,000 ohms unbalanced; phone jack; mike in—50,000 ohms, phone jack; VCC—internally connected to recorder by switching circuits. **Video Output:** RF out—modulator output to TV receiver or monitor, Channels 2 through 5. **Audio Output:** Speaker out—phone jack connects to external speaker. **Video Response:** 30 cps to 2.5 mc  $\pm$  3 db. **Signal-to-Noise Ratio:** 39 db minimum, peak-to-peak signal to rms noise. **Horizontal Resolution:** 250 lines limiting visual resolution on monoscope test pattern. **Audio Response:**  $\pm$  4 db, 90-9,000 cps. **Audio Signal-to-Noise:** 40 db from peak recorder level. **Audio Flutter and Wow:** Less than 0.3% rms. **Antenna Inputs:** VHF and UHF. **Tape Speeds:** 9.6 ips. **Video Writing Speed:** 1000 lps. **Rewind Time:** 4 minutes for 3000 feet of tape. **Fast Forward:** 14 minutes for 3000 feet of tape. **VCC Operating Controls:** UHF Channel Selector; UHF Fine Tuning; Tuning Indicator; VHF Channel Selector; Mode; Audio Volume.

**Ampex Model VR-6275 Video Recorder**—Detachable 3-wire cable and plug. **\$1495.00**  
For 105-125 VAC, 60 cps. Net Each.....

**Ampex Model VR-6270 Video Recorder**—As above, in portable case. Net Ea. **\$1595.00**

**Ampex Model VM-9A Video Monitor**—9" portable monitor for use with above. Net Each..... **\$195.00**



VR-660B

## MODEL VR-660B PORTABLE VIDEOTAPE RECORDER

Compact yet completely self-contained transistorized videotape recorder. Built to broadcast standards, yet priced low enough for closed circuit TV applications. Features broadcast compatibility. Easy provision for new (optional) plug-in electronic editing circuitry. Simple proven operation—joy stick control of all tape motion. Minimized control functions during normal recording and playback. Second audio channel included. Rotating helical heads are guaranteed for 500 hours operating life. Provides up to five hours continuous recording on a 12" reel of Ampex Series 145 Videotape. Minimum maintenance, too—designed for rugged use. **Controls:** Record, Playback, Fast Forward, Fast Rewind, Stop, Video Level, Audio Levels. **Tape Counter:** Provides reference for locating any desired segment of tape. **Tape Speed:** 3.7 ips. **Rewind Time:** 80 seconds for 8" reel. **Video Response:**  $\pm$  3 db, 10 cps to 3 megacycles. **Signal-to-Noise Ratio:** 40 db or better on interchanged tapes, peak-to-peak video to rms noise. **Inputs:** 75 ohms unbalanced, terminated internally. Composite signal, negative sync. Either standard EIA or industrial sync. Interlaced or noninterlaced may be used. Any number of scanning lines at 60 fields/second can be accommodated. **Video Input:** Adjustable; minimum level is 0.5 volt peak-to-peak composite. **Output:** 75 ohms unbalanced, 1 volt  $\pm$  10% peak-to-peak composite. **Horizontal Stability:** within U.S.A. FCC standards of good engineering practice, III, A, 3687a (8). **Audio Response:**  $\pm$  3 db, 50-9,000 cps. **Audio Signal-to-Noise Ratio:** 45 db below 3% distortion level at 400 cps. **Audio Inputs:** (2) 600 ohms unbalanced line at  $\pm$  10 dbm minimum, terminated internally; mike inputs, nominal  $\frac{1}{2}$  millivolt across 50,000 ohms. **Audio Output:** 600 ohms balanced or unbalanced at  $\pm$  8 dbm nominal;  $\pm$  16 dbm maximum. **Size:** 14  $\frac{1}{2}$ " x 29  $\frac{1}{2}$ " x 17  $\frac{1}{2}$ " deep. Weight, 100 lbs.

**Ampex Model VR-660B Video Recorder**—For operation from 105-130 **\$8000.00**  
VAC, 60 cps; from 200-250 VAC after simple change of transformer tap. Net



VR-7000

## MODEL VR-7000 VIDEOTAPE RECORDER

New low-cost professional quality videotape recorder for all closed circuit TV applications. Performance comparable to equipment costing many times more. Utilizes helical scanning to deliver bandwidth of 3.5 mc, plus 42 db signal-to-noise ratio, horizontal resolution of 350 lines. Guaranteed 500-hour head life. Stop motion provision. Offers maximum recording time of 60 minutes, using 3000-ft. reel of one-inch Ampex Series 147 Videotape. Two video outputs: composite video for any conventional television receiver, Channels 2 through 5. **Video Input:** 75 ohms unbalanced, 1 V peak-to-peak; composite video, negative sync; EIA or Industrial sync. **Video Output:** 75 ohms unbalanced, 1 V peak-to-peak. **Audio Input:** 200 ohms mike at 0.2 mV min.; 100 K balanced and unbalanced line at  $\pm$  6 dbm. **Audio Output:** 600 ohms balanced or unbalanced line,  $\pm$  4 dbm nominal output,  $\pm$  20 dbm clipping level. **Audio Signal-to-Noise:** 46 db. **Audio Wow and Flutter:** Less than 0.15% rms. **Tape Speed:** 9.6 ips. **Video Writing Speed:** 1000 lps. **Audio Response:** 50-12,000 cps. **Size:** 29" x 15" x 19  $\frac{1}{2}$ " deep. Weight, 114 lbs.

**Ampex Model VR-7000 Video Recorder**—Rugged portable case. For 117 VAC, 60 cps. With 3-wire cable and plug and 6-minute monoscope test pattern video—**\$3150.00**  
tape. Net Each.....

**Ampex Model VR-7050 Videotape Recorder**—Above, without case. Net Ea. **\$2950.00**

**Ampex Model VR-7300 Videotape Playback Unit**—No record provision. Speaker, case. Net Each..... **\$1750.00**

**Ampex Model VR-7350 Videotape Playback Deck**—No record provision, no case. Net Each..... **\$1550.00**

**Ampex Model AC-100 Accessory Case**—For all videotape recorder/reproducers. Foam mounted interior space for standard TV set, camera and cables. **Price on Request.**



VR-7100

## MODEL VR-7100 VIDEOTRAINER SYSTEM

Complete balanced system for recording and playback. Includes a VR-7000 Videotape Recorder, six-minute monoscope test pattern tape, television television monitor, audio amplifier/speaker. Model CC-324 Vidicon Camera with 12.5 mm, 25 mm, 50 mm f/1.4 and 75 mm f/1.9 "C" mount lenses, heavy-duty tripod, 7012 Cardiod Microphone and floor stand, all necessary switching facilities, connecting cables. Ample storage space for tape and equipment is provided in the mobile console. **Size:** 41  $\frac{1}{2}$ " x 43" x 22" deep.

**Ampex Model VR-7100 Videotrainer**—**\$5945.00**  
Net Each.....

# AMPEX TV Cameras, Monitor, Switcher

## MODEL CC-6400 VIDICON CAMERA (FIG. A)

Produces a high-quality electronic picture. Designed for use with Ampex Model 6200 and 7000 Videotape recorders, opposite page. Compact, lightweight. Automatic electronic circuitry makes external controls unnecessary—only control is an on-off switch. Exceptionally convenient for non-technical operating personnel, features single multi-purpose cable between camera and recorder; pushbuttons on camera start and stop recorder. Optical viewfinder shows picture area being recorded. Microphone may be directly plugged into camera when instantaneous sound recording is desired. Tally light on camera shows when recorder is operating. Uses silicon solid state devices throughout. Provides continuous service through a wide range of lighting and ambient temperature conditions. Complete with Ampex 25 mm,  $f/1.4$  close-focus lens and high-quality long life Ampex Type 4508 Vidicon tube. **Video Response:** 3 db at 10 Mc. **Low Frequency Tilt:** less than 10%. **Blanking:** Horizontal duration, 10.5  $\mu$ sec. Vertical duration, 1300  $\mu$ sec. **Sync:** horizontal duration, 5  $\mu$ sec, front and back porch intervals essentially equal. Vertical duration, 300  $\mu$ sec, start coincident with start of vertical blanking. **Video Output:** Composite video (black negative) nominal 1 volt peak-to-peak, 0.4 volt sync into 75 ohm load. Permanently attached cable and connector; 300 feet of cable may be driven. **Horizontal Sync Frequency:** Nominal 15,750 cycles per line. **Vertical Sync Interlace:** 2:1. **Deflection:** Locked at 60 cps power line frequency. **Signal-to-Noise Ratio:** (10 ft/lamberts scene brightness), 3% max. **Beam:** Electromagnetic, basic 40 gauss field. Focus current electronically regulated to 1%. **Beam:** Electronic automatic beam current control. **Automatic Light Compensation:** Video level maintained constant within 2 db under scene illumination changes equal to 6 f/stops. **Resolution:** With EIA test chart, 500 minimum lines at center, 350 minimum at corners. **Size:** 7 3/4" x 4 1/4" x 12". **Weight:** 6 lbs.

**Ampex Model CC-6400 Camera**—Has standard 1/4-20 tripod thread. Accepts standard "C" mount lenses, below. Net Each. . . . . **\$549.95**

**Ampex Model CC-6450 Camera Outfit**—Complete camera outfit for closed circuit television applications. Includes: Ampex Model 6400 Vidicon Camera, described above, with heavy-duty camera tripod, Ampex Model 2001 Microphone with lavalier cord and protective case, 25 feet of multi-conductor cable complete with connectors, and package of lens tissue. Net Each. . . . . **\$589.95**

**Ampex Model CC-6450-02 Accessory Outfit**—Same as CC-6450, but less camera. Net Each. . . . . **\$39.95**

## MODEL CC-324 VIDICON CAMERA (FIG. B)

Meets most stringent requirements of a closed circuit Television system. Fully transistorized camera requires only 117 VAC power source, accepts standard "C" mount lenses in its three-lens turret. Only operating control is on-off switch. When used in combination with Ampex Series VR-7000 Videotape Recorders, camera's internal horizontal oscillator serves to complement stop-motion performance of the recorders. Needs only normal room lighting to obtain excellent pictures. Electronic circuitry compensates for lighting changes, operating over a 25 foot-candle range. Provides 100 lines composite video and sync output, plus modulated RF output. Achieves 550 lines resolution at center, 400 lines at corners of standard EIA test chart. Accepts external sync for multi camera operation. Close-focus lens supplied focuses from 6" to infinity. **Vidicon:** Ampex Type 4508, 1" tube. **Video Response:**  $\pm 3$  db, 10 Mc. **Low Frequency Tilt:** Less than 10%. **Horizontal Blanking:** 10.5  $\mu$ sec. **Vertical Blanking:** 1300  $\mu$ sec. **Sync:** Horizontal duration 5  $\mu$ sec, front and back porch intervals essentially equal. Vertical duration 350  $\mu$ sec, start coincident with start of vertical blanking pulse. **Video Output:** Composite video (black negative) nominal 1 volt peak-to-peak video, 0.4 volt sync into 75-ohm load. **RF Output:** Modulated RF, Channels 2-5, nominal 50 mV into 300-ohm load. **Internal Sync:** Vertical sync locked to 60-cycle power line frequency; horizontal sync crystal-control 15,750 cps. **External Sync:** Accepts external sources of negative 2.5 volts,  $\pm .5$  volt. **Deflection:** Electromagnetic, geometric distortion 3% max. **Focus:** Electromagnetic, basic 40 gauss field, electronically regulated to within 1%. **Beam:** Electronic automatic beam current control. **Signal-to-Noise:** (10 ft. lamberts scene brightness) 36:1 peak-to-peak video plus noise to peak-to-peak noise. **Lens:** Supplied with  $f/1.4$ , 25 mm close-focus lens. **Size:** 7 3/4" x 4 1/4" x 12". **Ampex Model CC-324 Camera**—Mounts on standard 1/4-20 threaded tripod. **\$995.00** Accepts three "C" mount lenses. For 117 V, 60 cps. Net Each. . . . .

## MODEL 322V AUTOMATIC SOLID STATE VIDICON CAMERA (NOT ILLUS.)

Self-contained camera for automatic operation features a four-lens turret and 7" high intensity monitor; wide range of accessories and remote controls add to flexibility in educational, industrial and broadcast applications. Focus field of 50 gauss provides high picture quality with horizontal resolution of 600 lines, 500 lines at corners. Different vidicons may be used, including new separate-mesh type that improves corner resolution and shading. (Automatic black level control maintains uniform picture under varying light conditions; automatic sensitivity control compensates for brightness. Horizontal scanning is free running, random interlace; sync generators available for 2:1 interlace or EIA. Viewfinder mounts above camera, can be used as monitor; controls for brightness and contrast. Camera is fully automatic, with only power and optical focus controls required. Lens turret accepts four lenses, with focal lengths of 1/4" to 4" or 1" to 6"; zoom lenses can also be used. Includes focus capstan for studio use, headset jack. **Video Output:** 1.0 V composite or non-composite into 75 ohms. **RF Output:** 100 mV rms with 70% negative modulation at peak white; choice of three pre-tuned channels from 50-88 Mc. **Bandwidth:**  $\pm 0.5$  db at 7 Mc; less than -3 db at 7.5 Mc. **Scanning:** 625 lines, 50 fields; or, 525 lines, 60 fields. **Sensitivity:** Usable picture at 1.5 ft.-Lamberts with  $f/1.85$  **Ambient Temperature:** -10° C to +45° C. **Power Required:** Camera, 35 watts, 110-125 VAC; viewfinder, 65 watts. **Size:** 8" x 16 1/2" x 12 1/2". **Weight:** 48 lbs.

**Ampex Model 322V Automatic Camera**—Less lenses. Net Each. . . . . **\$4190.00**  
**Ampex Model 322**—Same, but without monitor and lenses, turret. Net Ea. . . . . **\$1960.00**

## ACCESSORY LENSES FOR ABOVE VIDICON CAMERAS

|  |                 |
|--|-----------------|
| <b>Ampex Model 7076000</b> —25 mm lens, $f/1.4$ . Net Each. . . . .              | <b>\$ 53.00</b> |
| <b>Ampex Model 7076001</b> —Wide Angle (x2) 12.5 mm, $f/1.4$ . Net Each. . . . . | <b>110.00</b>   |
| <b>Ampex Model 7076002</b> —Telephoto (x2) 50 mm, $f/1.4$ . Net Each. . . . .    | <b>93.00</b>    |
| <b>Ampex Model 7076004</b> —Close-Focus 25 mm, $f/1.4$ . Net Each. . . . .       | <b>98.00</b>    |
| <b>Ampex Model 7076011</b> —High-Speed 25 mm, $f/1.1$ . Net Each. . . . .        | <b>159.00</b>   |
| <b>Ampex Model 7076003-01</b> —Telephoto (x3) 75 mm, $f/1.9$ . Net Each. . . . . | <b>55.00</b>    |

## MODEL VM-9A PORTABLE MONITOR (FIG. C)

Solid state 9" monitor gives an excellent picture over wide range of line voltages and temperature conditions. Bandwidth to 7 Mc assures high resolution. Stable operation with varying composite input levels, from 0.5 to 1.5 volts peak-to-peak. Lightweight and compact, it carries its carrying handle. Low power consumption, low line regulation. Input impedance can be switched from 75 ohms to high impedance; bridge connection included. **Composite Video Input:** 1.0 V p-p; video positive, sync negative. **Bandwidth:** 100 kc to 5 Mc within 1 db; to 7 Mc within 3 db. **Gain:** More than 30 db. **Power Required:** 30 watts, 117 VAC, 60 cps; 1.2 amps at 120 VDC. **Size:** 9 1/2" w. x 10 1/4" d. x 10 1/2" high. **Weight:** 15 lbs.

**Ampex Model VM-9A Portable Monitor**—Net Each. . . . . **\$195.00**



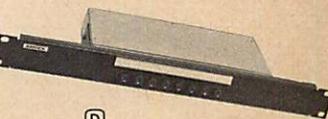
A



B



C



D

## MODEL VS-8 VIDEO SWITCHER (FIG. D)

Rugged 8-input unit for closed circuit TV and monitor switching. Switches are SPDT, interlocked so only one source can be selected at a time. Inputs terminated in 75 ohms; single output connector. Contacts provided for selection of audio, lights, etc. Mounted on 1 1/2" rack panel.  
**Ampex Model VS-8**—Net Ea. **\$175.00**

# SONY Home Videocorders

## SONY HOME VIDEOCORDER

Sony Videocorders are specially designed for home use to record both picture and sound from any black-and-white telecast on special tape, for viewing at any later time. Important programs can be recorded and viewed again and again, and a home videotape library can be built of news, sports or dramatic television programs. With the optional, easy-to-operate Sony Camera Kit and Microphone, you have a complete home television studio for recording "live" family events, performances, etc., for permanent preservation. The complete unit is simple to use, similar in operation to ordinary tape recorders. Recorded tapes can be reversed and played back immediately, without waiting for developing or processing, the same as instant playback on commercial television stations. Built-in monitor shows exactly what you are recording, to insure high quality tapes, ideal for industrial, educational and business applications as well as home use. Solid state circuitry and durable construction provide reliable and trouble-free operation. Uses slow-moving tape (7 1/2 ips) and helical tracking with rotary 2-head video drum to record one full hour on a single 7" reel of videotape. Records 30 fields per second with double-scanning for 60 impressions per second, to minimize flicker. Head assembly is belt-driven by hysteresis motor, servo-controlled to maintain constant speed. The built-in 9" monitor can also be used as a standard television receiver with VHF and UHF reception. Videotapes can be spliced and edited, or erased for new recordings, the same as a standard audio tape recorder. Any external monitor can be used, or unit can be adapted to work with a standard TV set. Tape is 1/2" wide, designed for low tape consumption and minimum breakage. Available as a portable unit that folds into carrying case with handles, or in a deluxe model in walnut cabinet with timer for taping programs automatically. Both models operate from standard AC current.

### MODEL TCV-2010 PORTABLE VIDEOCORDER (FIG. A)

Portable unit has handy carrying handles, folds into easy-to-carry case. Complete with built-in 9" monitor that can be used as a regular television receiver. Receives, records and plays back both video and audio signals conforming to U.S. standards. Rotating 2-head video section produces 525-line pictures. One head is used for recording, both for playback for 60 fields per second. Stationary audio control head, plus full track erase head. **Picture Tube:** 9" aluminum screen, 90° deflection. **Channel Coverage:** VHF, 2-13; UHF, 14-83 for use as standard TV receiver; monitor can be removed from unit. **Camera Input:** For Sony Model CVC-2000 camera (see kit below). **Mike Input:** 600 ohms unbalanced, -60 db. **Audio Auxiliary Input:** High impedance balanced, -20 db. **Audio Line Output:** High impedance unbalanced, zero db. **Audio Output:** 300 mW undistorted; 2 3/4" x 4" speaker with 40 ohm impedance. **Semiconductors:** 76 transistors including Mesa and SEP types; 38 diodes including Esaki type; 4 thermistors; 1 selenium rectifier. **Antennas:** Built-in telescopic antenna; jack for 75 ohm external antenna. **Recording Time:** 60 minutes continuous. **Power Required:** 103 watts, 117 VAC, 60 cps. **Size:** 27 1/2" x 16 1/4" x 11". Weight, 66 lbs.

**Sony Model TCV-2010 Videocorder**—With 15-minute tape, reel, earphone, head cleaner set. Net Each.....\$995.00  
**Sony Model CV-2000 Videotape Deck**—Same, less monitor. Net Each.....\$730.00

### MODEL TCV-2020 DELUXE VIDEOCORDER (FIG. B)

Enclosed in beautiful walnut cabinet without carrying handles, for stationary use. Has all the features of the Model TCV-2010, plus a timing device that can be preset to record programs when the owner is not present. **Size:** 28 3/4" x 16 3/4" x 11 1/4". Weight, 70 lbs.

**Sony Model TCV-2020 Deluxe Videocorder**—Net. \$1150.00  
**Sony Model CV-2000 Deluxe Videotape Deck**—Same, but without monitor. Net Each.....\$695.00

### MODEL VCK-2000 VIDEO CAMERA KIT (FIG. C)

Compact, easy-to-operate Vidicon camera kit, designed for use with Sony Videocorders above for recording of live events. Takes high quality pictures indoors or outdoors, with automatic light compensation for sudden changes in lighting. Built-in viewfinder frames the subject; easy-to-use focus, distance and lens controls sharpen the picture. Monitor on the Videocorder unit shows exactly what the pictures will look like. Uses solid-state circuit for years of trouble-free operation. Operates on ordinary AC current with extremely low power drain. The Model CVC-2000 camera has wide-coverage f/1.9, 25 mm, "C" mount lens; telephoto and wide-angle lenses can also be used. Complete kit includes the camera with 1 1/2-foot cable, 10-foot extension AC cord, Model VCT-10 tripod, Model F-87LM Cardloid dynamic microphone and 1 1/2-foot cord, all in one portable case. **Minimum Luminance:** 100 lux with f/1.9 lens. **AGC Range:** 100 lux to 10 lux with f/1.9 lens. **Semiconductors:** 26 transistors, 25 diodes. **Sony M3016 Vidicon tube.** **Power Required:** 10 watts, 117 VAC; 60 cps. **Camera Size:** 3 1/2" w. x 9 3/8" d. x 5 1/2" h. **Camera Weight:** 5.9 lbs. **Case Size:** 24 3/8" w. x 11 3/8" d. x 4 3/8" h. **Kit Wt.,** 20 lbs.

**Model VCK-2000 Camera Kit**—With all accessories listed, ready for use with Videocorder. Net Each.....\$350.00



A



B



C

### VIDEOCORDER ACCESSORIES

**Sony Model VSC-20 Camera Switcher**—Permits use of 2 or more cameras with one Videocorder. Net Each.....\$15.95  
**Sony Model CVA-3 TV Adapter**—Permits playback of Videocorder through standard TV set. Price on Request.  
**Sony Model GC-1 Videocart**—For easy transportation of Videocorder. Net Each.....\$35.00  
**Sony Model VMG-1C Branch Cord**—For use with large screen video monitors. Net Each.....\$ 15.95  
**Sony Model CVO-1 Dust Cover**—Net Each.....12.95  
**Sony Model CVM-51VWP 8" Monitor Only**—Net Ea.....195.00  
**Sony Model CVM-2300U 23" Monitor**—Net Each.....295.00  
**Sony Model 507 Wide-Angle Camera Lens**—12.5 mm. Net 65.00  
**Sony Model 214 Telephoto Camera Lens**—75 mm. Net 45.00

### SONY VIDEOTAPE

SEE CATALOG INDEX FOR COMPLETE LISTINGS ON  
 SONY VIDEOTAPE FOR EVERY APPLICATION.

# Closed-Circuit Television Monitors

## AMPEX/CONRAC TELEVISION MONITORS

### MODEL CVA23/C 23" DISPLAY MONITOR (FIG. A)

Industrial display monitor gives professional quality pictures on 23" screen, in high ambient light areas. High contrast and stability under varying line voltages, using industrial-type sync pulses. Features high and low voltage regulation. **Video Signal:** 0.25 V p-p minimum, 4.0 V maximum; negative sync. **Input Impedance:** High impedance bridging; can be terminated by internal 75-ohm load with switch on rear panel. **Video Response:** 10 Mc within 1 db. **Resolution:** 800 lines. **Differential Gain:** Below 5% with 50 V kinescope drive. **Linearity:** Within 2% of picture height. **Power Required:** 117/234 VAC, 50/60 cps, 190 watts; specifications met with line voltage from 105 to 130 V.

**Ampex/Conrac Model CVA23/C Display Monitor**—Net Each.....\$400.00  
**Ampex/Conrac Model CVA17/C Display Monitor**—Same as above, but with 17" screen.  
 Net Each.....\$350.00



A

### SERIES ERL MULTIPLE MONITOR CONTROL TELEVISION RECEIVER (FIG. B)

Permits single location control of both picture and sound for any large grouping of local monitors. Easy to operate as a home TV receiver; selects any RF channel off-the-air or on a distribution system. Features front panel switch to change from broadcast to closed-circuit operation. Designed for easy addition of RF channels to any high resolution closed-circuit installation. Built-in video distribution amplifier permits distribution of 10 Mc video signals. Two outputs and looping input controlled by separate gain control allow use with any closed-circuit source; input is connected the same as a standard monitor. Locally originated audio is switched into system on "closed-circuit", replacing off-the-air audio for complete audio control. **Video Signal:** 0.25 V p-p minimum input for 0.25 V p-p at each of two isolated outputs; 1.0-2.0 V p-p for 1.0-2.0 V at each output; negative sync. **Video Input:** High impedance bridging; terminated by external 75-ohm load. **Video Response:** Closed-circuit, 10 Mc within 1 db; off-the-air, 3.75 Mc through 10 Mc output. **RF Signal:** Model ERL 12A, VHF channels 2-13, 75-ohm unbalanced; Model ERL 82A, UHF, 300-ohm unbalanced. **IF Signal:** Picture carrier, 45.75 Mc; sound carrier, 41.25 Mc; intercarrier sound, 4.5 Mc. **Audio Signal:** 1 V input minimum, high impedance, single ended. **Audio Response:** 100-20,000 cps; snap switch for speech/bass/treble/normal. **Audio Output:** 2.5 watts undistorted at 3.2 or 16 ohms. **Power Required:** 85 watts; 110/220 VAC, 60 cps.

**Ampex/Conrac Model ERL 12A**—VHF, 12-channel, Net Each.....\$245.00  
**Ampex/Conrac Model ERL 82A**—VHF/UHF, 82-channel, Net Each..... 275.00

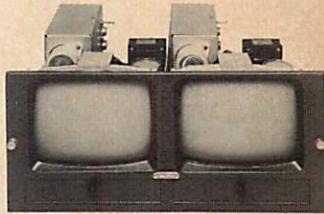


B

### MODEL RNC9/2R TRANSISTORIZED 9" TELEVISION MONITOR (FIG. C)

Dual video monitor for continuous operation in broadcast and industrial application features 9" rectangular tube with 800-line center resolution, 700-line corner resolution. Raster size can be adjusted from front to show all four corners, with linearity within 2% of picture height. Full voltage regulation assures stable pictures at voltages from 100 to 130 VAC. Switch selects 100% or zero DC restoration. Receptacles in video and external sync circuits provide loop-through operation; switch selects composite video or separate video and composite sync. Mounted on 8 3/4" x 8" rack panel, 1 5/8" deep. **Video Signal:** 0.3 V p-p minimum. **Video Response:** To 10 Mc,  $\pm 1$  db. **Differential Gain:** Below 5% with 75 V drive. **External Sync:** 1-8 V. **Input Impedance:** High impedance bridging can be terminated with internal 75-ohm load. **Semiconductors:** 28 transistors, 25 diodes.

**Ampex/Conrac Model RNC9/2R Dual Monitor**—Net Each.....\$845.00  
**Ampex/Conrac Model RNC9/C Single Monitor**—In portable cabinet, Net Ea. 445.00  
**Ampex/Conrac Model RNC9/N Single Monitor**—Chassis only, Net Each... 405.00



C

### ACCESSORIES FOR AMPEX/CONRAC TELEVISION MONITORS

**Ampex/Conrac Model ES23**—Enclosure/Speaker for CVA23/C, Net Each...\$400.00  
**Ampex/Conrac Model M6**—Pedestal mount for CVA17/C, Net Each..... 40.00  
**Ampex/Conrac Model M7**—Ceiling mount for CVA17/C, Net Each..... 30.00  
**Ampex/Conrac Model M8**—Pedestal mount for CVA23/C, Net Each..... 40.00  
**Ampex/Conrac Model M9**—Ceiling mount for CVA23/C, Net Each..... 30.00  
**Ampex/Conrac Model M3**—Three wheel dolly for M6 or M8 mount, to make mobile pedestal for CVA17/C or CVA23/C, Net Each.....\$60.00  
**Ampex/Conrac Model 6013**—Table mounting kit for ERL 12A and ERL 82A with panels and all parts, Net Each.....\$15.00

We Carry the Full Line of Ampex/Conrac Monitors and Accessories. Write Soncraft for Full Information and Prices.

## SETCHELL-CARLSON MODEL 2100 "EDUCATOR" TELEVISION/RECEIVER MONITOR/AUDIO AMPLIFIER

The most desirable audio-visual instrument in its field, with dozens of applications in schools, hospitals, industry. Provides outstanding TV reception plus application as a monitor; one closed circuit camera can power scores of "Educator" monitors by looping. Composite video input, with provision for replacing TV sound with on-the-spot descriptions, using "Command" microphone with on-off switch; returns to TV audio when microphone switch is turned off. Also functions as a public address system with TV off, for use with microphone, tape deck, tuner, phono, etc. Provides 16 watts audio output with two front-mounted 6" speakers; multiple output for external speakers. Concealed front control panel with simple pushbutton selector switches. Exclusive Uni-Tized aluminum chassis with plug-in units for easy maintenance. Hard maple veneer cabinet, 24" w. x 13 1/2" d. x 26" h. All outputs at rear of chassis. **Video Signal:** 1.5 V p-p negative for full contrast. **Input Impedance:** Camera, 72 ohms looped; RF, 72 or 300 ohms. **Resolution:** Better than 325 lines on TV; better than 600 lines on closed-circuit. **Adjacent Channel Rejection:** Picture, -40 db; sound, -55 db or more. **Noise Figure:** Better than 7.5 db. **RF Sensitivity:** Better than 15  $\mu$ V on VHF. **Tuner:** Drum-type VHF with preset fine tuning; transistorized continuous UHF tuner. **Power Supply:** High voltage, 18.5 kV or more; regulation better than 10%. **Audio Output:** 16 watts continuous 3-4 and 6-8 ohms impedance. **Frequency Response:**  $\pm 1$  db, 40-12,000 cps. **Audio Inputs:** High gain, hi-impedance for mike or tape deck; low level, hi-impedance for closed-circuit; low-level, hi-impedance for phono, tape deck, etc. **Controls:** VHF Channel Selector; UHF Channel Selector; TV Volume; TV Tone; Vertical Hold; Video Detail; Mike Volume; Mike Tone; Contrast; Brightness; Pushbuttons for: TV picture with TV sound; camera with studio or auxiliary sound; auxiliary audio input; power off-on. Rear panel has horizontal hold; focus. **Inputs and Outputs:** Microphone; phono; studio sound; 2 camera inputs; external speaker. **Power Required:** 110/125 VAC, 60 cps, 180 watts.

Write for Prices on the "Educator" TV Receiver/Monitor and Full Line of Accessories.



# Norelco® Video Equipment

## MODEL EL3400 PROFESSIONAL QUALITY VIDEO TAPE RECORDER



Compact, precision video tape recorder. Ideal for professional or commercial applications, as well as audio-visual uses in education. Provides excellent picture and sound quality in all applications. Offers simple pushbutton operation, plus direct coupling to any television receiver, monitor, or camera. Plays up to 40 minutes on standard 8" reel of tape supplied; 9" reel permits recording over one hour. Tapes may be reused up to 500 times without loss of quality. Plug-in video head uses helical scanning principle with tape wrap of 355°; inductive coupling between head and rest of system. Head is guaranteed for 500 hours, can be easily and quickly replaced. Unit has recording level controls for both picture and sound, level indicators, 3-digit tape counter with pushbutton reset. Playback controls for tracking and tape tension. Teak side panels, polystyrene lid and tape deck. Provides a complete educational television system when used with closed circuit camera systems listed below. Occupies only small tabletop area. **Camera Inputs:** EIA, random interlace, industrial (30-cycle frame rate) sync; BNC receptacle, 75 ohms, 1 volt positive. **Bandwidth:** 3.5 Mc (6 db). **TV Receiver Input:** IF input picture carrier 45.75 Mc; sound carrier, 41.25 Mc, 20 mV (100% modulation); BNC receptacle, 75-ohm cable. **Video Output:** 75 ohms, 1 volt, 100% modulation. **VHF Output:** 300 ohms; choice of channels 2, 3 or 4. **Audio Inputs:** Mike, 1 mV, 1K ohm internal resistance; Phono, 200 mV, 500K internal resistance. **Audio Output:** 1 volt, 20K ohm source; audio monitoring output available. **Frequency Response:** ±6 db, 120–12,000 cps. **Audio Distortion:** 5%. **Signal-to-Noise Ratio:** 60 db. **Tape Speed:** 9 ips. **Tape Size:** 1" width, 1.5 mil thickness. **Tape Wow:** 0.5% weighted. **Tape to Head Scanning Speed:** 1086 ips. **Video Tracks:** Center zone, .006" width, .007" between tracks; zone width, 0.88". **Sync Track:** .04" width, top track longitudinal. **Sound Track:** Bottom track, .04" width; distance between outer tracks, 0.9" to 0.002". **Wind and Rewind Time:** 4.5 minutes for 1800-ft., 8" reel; 7.2 minutes for 2880-ft., 9" reel. **Playing Time:** 40 minutes with 1800-ft., 8" reel; 60 minutes with 9" reel. **Head Acceleration Time:** 15–20 seconds. **Warm-up Time:** 45 seconds. **Reels:** Metal with NAB hub; max. dia., 9". **Power Required:** 350 watts, 117 VAC, 60 cps. **Size:** 24 3/4" x 16 1/2" x 15 1/4". Weight, 100 lbs. Supplied with 8" reel of videotape. **Norelco Model EL3400 Video Tape Recorder—Net. \$3450.00**

## SCHOOL TRAINER CLOSED CIRCUIT TELEVISION SYSTEMS

Closed circuit television system for educational applications is specially designed for use with the Norelco Video Tape Recorder listed above. Includes School Trainer camera with all accessories needed for producing a variety of educational programs, including special lectures, science demonstrations, sports events, and developmental and remedial programs. When used with the Video Tape Recorder, each program is preserved for permanent or temporary storage and playback on large screen television receivers at convenient times. Camera is equipped with a large 6 1/4" viewfinder and manual focus-iris zoom lens. Heavy-duty tripod has pan-and-tilt head and three-wheel locking dolly. System also includes a beautiful plastic wood finished master console, and large 23" television receiver/monitor for observation by an entire classroom and space for the Video Tape Recorder. Two-door storage area in console holds camera, tripod, cable, tape reels and all supplies. Console is 53 3/4" wide, 16 1/2" deep, 52" high, with swivel casters for easy mobility; recorder is at waist level, monitor at optimum classroom height. The monitor receives regular VHF and UHF television programs as well as closed circuit programming, with provision for separate audio and video playback. Has frosted anti-reflection face plate, tone control, 300-ohm input. Monitor size, 26 3/4" wide, 16 1/2" deep, 18 3/4" high. A variety of optional equipment is available, including special viewfinders and vidicon tubes, various size monitors, sync generators, wave form monitors, remote pan-and-tilt units, and large tape reels. **Write for information and prices.**

### VIEWMASTER MODEL 100 CAMERA

**System:** 525 lines, 60 cps, random interlace. **Sensitivity:** 1 foot-candle f/0.95; extra sensitivity switch, 0.4 foot-candle. **Output:** Simultaneous video, 1.4 V p-p across 75 ohms; RF, channels 2, 3 or 4. **Lens Mount:** C" type. **Viewfinder:** 6 1/4" screen. **Resolution:** Greater than 600 lines. **Geometric Error:** Less than 2% of picture height. **Lens:** "C" mount type (manual zoom-focus-iris; aperture, f/1.9; zoom ratio, 4:1 available). **Circuit:** Transistorized, with nivist input stage for low noise. **Camera Size:** 8 1/4" w. x 18 3/4" d. x 11 3/8" h., plus hood and lens.

**Viewmaster Model 100 Camera—Less vidicon. Net Each. \$2100.00**

### VIEWMASTER MODEL 200 CAMERA

**System:** 525 lines, 60 cps, external sync. **Sensitivity:** 1 foot-candle f/0.95; separate camera control unit can be removed from camera head greater than 1000 feet. **Output:** Two non-composite video, 1 V p-p; two composite video, 1.4 V p-p across 75 ohms. **Resolution:** Greater than 650 lines. **Size, same as Model 100. Camera control unit, CCU, 3.6" x 6.9" x 12.5"; wt., 10 lb., 2 oz.**

**Viewmaster Model 200 Camera—Less vidicon. Net Each. \$4300.00**

### VIEWMASTER MODEL 300 PLUMBICON CAMERA

Utilizes a plumbicon tube, producing signals of high signal-to-noise ratio at low illumination levels. Provides better performance with no lag phenomena, bright effects, or shadowing signals, while adjustments and operation of the camera are as easy as a vidicon camera. Mechanical specifications, same as for Model 200.

**Viewmaster Model 300 Plumbicon Camera—Less plumbicon. Net Each. \$5200.00**

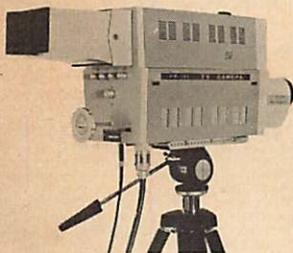


**Viewmaster Model 100 Camera and Tripod**

# CCTV Cameras, Recorders, Lenses

## SHIBADEN CCTV CAMERA

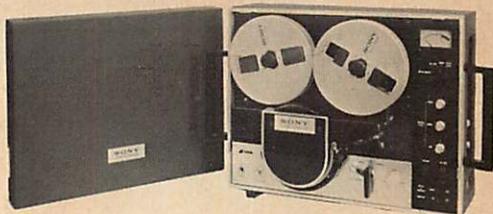
### MODEL FP-107B CAMERA WITH VIEWFINDER



Transistorized camera features zoom lens and 5" electronic viewfinder for outstanding control in a variety of closed circuit applications. High stability, ideal for either studio or outdoor use. **Composite Video:** 1.0 V p-p; 75-ohm load; 1000 lux illumination. **Video Response:** 50 cps to 5 Mc within -3 db; peaked at 4 Mc. **Resolution:** Over 400 lines. **Scanning:** Random interlaced and line locked; 625 horizontal lines and 25 or 30 fields. **Sync Signal:** Internal or external. **Linearity:** Within 2% of picture height. **Zoom Lens:** f/1.8, 25-100 mm; also takes standard 16 mm lens. **Transistors:** Camera: 30, plus 21 diodes, vidicon tube, 3 neon tubes; Viewfinder: 10, plus 14 diodes, 3 tubes, CRT and neon tube. **Controls:** Target; Beam; Focus; ALC/Manual Switch; Lens Focus; Zoom Control; Horizontal Hold; Vertical Hold; Contrast; Brightness; Viewfinder On/Off; Sync Signal Selector and On/Off Switch on control box. Built-in tally and intercom circuits. **Cables:** 18-contact connectors on 49 ft. camera cable; 49-ft. coaxial cable with SO-239 connectors. **Size:** Camera, 7 3/8" x 2 3/8" x 11 1/4"; without zoom lens: wt., 31 lbs. Control box, 16" x 10" x 5"; wt., 10 lbs. Includes 2 handsets, cables, AC cord, control box.

Shibaden Model FP-107B Camera—Net Each.....\$2160.00

## SONY PROFESSIONAL VIDEORECORDER



Portable, easy-to-operate system with advanced features for education and training. Includes slow motion and full stop, tape interchangeability and horizontal or vertical rack mounting. Two audio tracks for student and teacher channels. Plays filmed or taped programs dubbed onto Sony tape. Two-head operation with rotary, slant-track scanning and FM recording. Takes any composite TV signal with 60 Hz field including random-interlaced TV signals. Reproduces tapes recorded by any other EV-200 videorecorder. Playback speed continuously adjustable from 1/2 normal to complete stop for stills. Uses Sony V-11 tape or equivalent 1" wide tape longitudinally oriented. Simultaneous erasure for complete tape width; separate erase head for audio/cue track. Comes with portable metal cabinet with dust cover and handles. **Heads:** 2 Video, 2 Audio and 1 Control; all record/playback. **Signal-to-Noise:** Better than 40 db, video. **Horizontal Resolution:** 320 lines or more. **Audio Response:** 50-12,000 Hz. **Wow and Flutter:** 0.3%. **Reel Size:** 8". **Tape Speed:** 7.8 ips, normal. **Input:** Composite video, sync negative, .5 to 2 V p-p, 75 ohms unbalanced; 600 ohms balanced mike, 70 dbm low level audio. **Output:** Composite video, sync negative, 1.4 V p-p, 75 ohms unbalanced; +4 dbm, 600 ohms, balanced line; +4 db, 10K ohms balanced line. **Power:** 117 VAC (+/- 5 V), 50/60 Hz. **Size:** 26" w. x 17 3/4" d. x 11 3/4" h.

Sony Model EV-200—Net Each.....\$3550.00

Sony Model EV-200C—Color version. Net Each.....4700.00

## SQUIRES-SANDERS SOLID-STATE SUBMINIATURE MODEL SS-310 CCTV CAMERA



Provides quality closed circuit television at modest cost. Transistorized (except vidicon) camera utilizes new 3/8" vidicon tube to permit design of an extremely small unit. Circuitry features include automatic electric-eye response to changing light conditions. Pictures may be displayed on either a commercial video monitor or on a standard television receiver. Uses conventional 8-mm movie camera lenses. Simple installation and operation—mounts on camera tripod, or on simple brackets for permanent wall or ceiling installation. **Signal Outputs:** Two, switch selectable, video or modulated RF (channels 4-6). **Composite Video:** 1.5 V p-p. **Modulated RF:** 0.03 V p-p. **Modulation:** Negative, double sideband. **Sync Polarity:** Negative (for video only). **Output Impedance:** 75 ohms unbalanced, for video and RF. Matching transformer, below, required for use with television receiver inputs. **Resolution:** Video, 350 horizontal lines or better at center of picture; RF, 300 horizontal lines or better at center of picture. **Horizontal Scanning:** 15,750 cps. **Vertical Scanning:** 60 cps locked to line. **Lighting Range:** 10 to 1000 ft.—candles (100 to 10,000 lux) with f/1.4 lens supplied. **Rated Ambient Temperature:** -10° to +48° C. **Power Requirements:** 115 V (+/-10%), 60 cps, 7 VA. **Size:** 3" x 4 1/2" x 7 3/4". **Lens:** f/1.4, 13 mm, iris diaphragm, focusing ring, "D" mount. **Controls:** Electrical focus; on-off; RF/Video Switch. **Connectors:** PL-259.

Squire-Sanders Model SS-310—Net Each.....\$289.95

Squire-Sanders Model SS-310S—Same, but permits two different pictures simultaneously on split screen. Net Each...\$425.00

Matching Transformer—70-300 ohms for TV receiver. 4.60

Auxiliary Lenses: Wide Angle—f/1.4, 6.5 mm. Net. 25.00

Telephoto—Specially f/1.5, 26 mm or f/1.4, 38 mm. Net. 30.00

Vidicon Replacement Tube—Net Each.....75.00

## TELEVISION UTILITIES CORPORATION TRANSISTORIZED TELEVISION CAMERA



Compact, highly dependable television camera. Ideal for use in classroom audio-visual teaching installations, as well as in hospitals, police and security, sales training, sports, advertising, and industry applications. Ideal for home use, when properly connected to video circuitry of an ordinary receiver. Extremely simple to operate—only controls are lens and focus adjustments, and on-off switch. Features automatic light control, produces brilliant, crisp, interference-free pictures—twice the clarity of home TV set reception. Has fully transistorized plug-in circuit boards for long life and trouble free operation. **Output:** 1.4 V p-p composite video. **Power Required:** 15 watts, 115 VAC, 60 cps. **Size:** 9 3/4" x 5 3/8" x 3 3/4" high.

Model TUC-1000V—Complete with cables and detailed installation, operation and instructions. Net Each.....\$345.00

## CANON MOTORIZED ZOOM LENS



Versatile, high resolution lens for use with Vidicon cameras in industrial applications. Bright 16 mm lens features fast f/1.8 speed for entire 25-100 mm zoom range. Lens has 13 elements in 10 groups, divided into focus and relay sections. Pushbutton operation of iris, zoom and focus controls at fast and slow speeds, plus color correction by "Spectra" coating with amber/magenta. Focus range, 6 1/2-ft. to infinity. Iris speed, f/1.8 to f/22. For 100-240 VAC. Lens size, 6.96" x 4.02" x 3.94". Control box size, 8.3" x 3.5" x 5.1".

Canon Model TV-16E Zoom Lens—With cables, control box and metal carrying case. Net Each.....\$1,150.00

Canon Model C-16 Manual Zoom Lens only—25-100 mm, f/1.8; with leather case. Net Each.....\$400.00

SONOCRAFT CARRIES COMPLETE LINE OF CANON, SHNEIDER, BERTHIOT AND ANGENIEN LENSES.

WRITE FOR FULL INFORMATION.

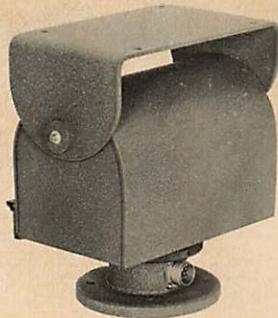
# Closed Circuit TV Accessories

## PELCO REMOTE CONTROL EQUIPMENT FOR CCTV APPLICATIONS

A complete line of specialized remote control accessories, enclosures and lenses, for use in closed circuit television systems. Find many applications in educational, industrial and security installations. Listed are only a few of the many specialized products available. Chances are there's a Pelco product already de-

signed that exactly meets your requirements. Some specialized products include: Monitor enclosures, weather and explosion-proof control units, preset positioning pan and tilt units, vacuum enclosures, etc. Write, wire or phone Sonocraft Corporation for a quotation.

### MODEL PT-550M PAN AND TILT ACCESSORY (FIG. A)



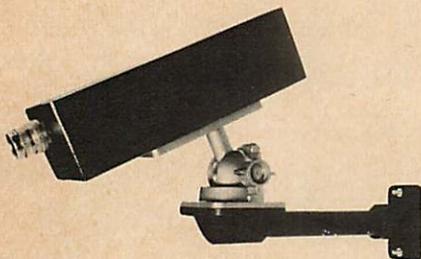
(A)

Ruggedly constructed, weather-environment, medium-duty unit of lightweight aluminum. Provides remote control of closed circuit television cameras or lights that are to be subjected to weather environment. Turns horizontally through 360° circle with provision for limiting movement to smaller angles. Equipment mounting surface can be tilted up or down through an angle of 130° (plus or minus 90° from level). Rugged worm gear drive provides stability, minimizes backlash. Cover is weathertight, yet easily removable without tools. May be used up to 500 feet from Series PT1500 remote control unit (listed below). Both pan and tilt motors are shunt type. Variable speed control and continuous auto-scan functions available on special order; write for information and prices. **Pan Speed:** 9.5° per second, ±1% (no load). **Pan Torque:** 10 ft.-lbs. (with specified applied voltage). **Tilt Speed:** 4.5° per second, ±0.6% (no load). **Tilt Torque:** 20 ft.-lbs. (with specified applied voltage). **Connectors:** M8-3102-R-168-1P on Pan and Tilt unit; SK-19-318 on control unit. Mating body type cable connectors supplied. **Cable:** Requires 6 conductors plus ground. (Auto-Scan function requires 2 additional conductors plus relay in control unit; available on special order.) **Power Required:** 150 watts, 115 VAC. **Size:** 11 3/4" x 9 1/2" x 5 3/4" deep. **Base Mounting Plate:** 6" diameter with three 3/8" mtg. holes on 4 3/4" diameter circle. Weight, 25 lbs.

**Pelco Model PT-550M Accessory—Net Each.....\$580.00**

**Pelco Model PT1500P Pan and Tilt Control Unit—4-way type, fixed speed, mounted on 3 1/2" x 19" aluminum rack panel. For PT-550M Pan and Tilt Unit, above, Net Each.....\$103.00**

### MODEL CMU UNIVERSAL CAMERA MOUNT (FIG. B)



(B)

Lightweight aluminum mount is easily installed, for use with Videcon television cameras. Adjusts and locks at any angle. Illustrated with typical camera. Maximum recommended load, 40 lbs. **Size:** Camera mount, 6" x 3" (4 1/4" above support); support 11 3/4" long to adjusting knob. **Mounting:** Support mounts with two screws; head has 4 slots to accommodate most cameras. **Finish:** Green head, black wrinkle support.

**Pelco Model CMU Camera Mount—Net Each.....\$42.00**

THE ABOVE IS A REPRESENTATIVE LISTING OF PELCO'S LINE OF CLOSED CIRCUIT TELEVISION ACCESSORIES. WRITE SONOCRAFT FOR FULL INFORMATION ON THE WIDE VARIETY OF OTHER PRODUCTS AVAILABLE.

## DAVIS & SANFORD HEAVY DUTY TRIPODS

Heavy-duty tripods with spring balanced pan and tilt head are ideal for closed circuit TV cameras and other heavy optical instruments. Sturdy construction of anodized aluminum, takes up to 150 lb. load. Internal torsion spring balances extreme forward and backward tilts, preventing "dumping" of camera. Head pans 360° tilts forward 90°, backward 70°. Tilt-locking pan handle can be positioned on either side of center column. Adjustable friction drag. Head platform, 4" x 6".

**Davis & Sanford Model BHD-3 Dolly Tripod (Illustrated)—**Has 4" wheels with ball bearings and rubber tread, sure-grip brakes and swivel locks. Extended height, 6'10"; collapsed height, 4'10". Leg spread, 4'4" dia. Wt., 26 lbs. Net Each. . . \$240.00

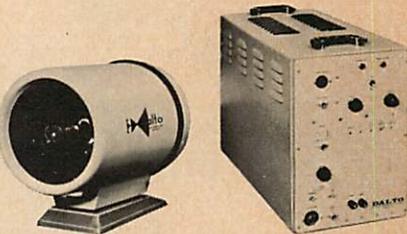
**Davis & Sanford Model BHD Standard Tripod—**Same as above, but without dolly. Extended height, 7'9"; collapsed,



3'6". Leg spread, 3'2" to 5'2" dia. Wt., 17 lbs. Net Each. \$170.00

SONOCRAFT CARRIES THE COMPLETE LINES OF DAVIS & SANFORD, PELCO AND QUICKSET CLOSED CIRCUIT TV ACCESSORIES. WRITE FOR COMPLETE INFORMATION.

## AMPHICON MODEL 200 TELEVISION PROJECTOR



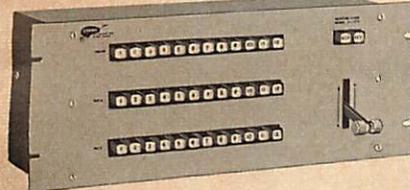
Portable television projector gives bright, clear, sharp pictures on a theater-size screen, from either off-the-air or closed circuit signals. Ideal for a wide variety of applications in schools, hotels, television stations, etc. to project sales meetings, sporting events, lectures and other functions to a large audience. Consists of two units, a projection head and control unit. **Resolution:** 560 lines. **Brightness:** 4 ft.-Lamberts on a 12-ft. wide standard screen with 2.5 gain. **Video Input:** 1/2 to 3 V p-p, negative across 75 ohms. **Video Bandpass:** 8 Mc minimum. **Television Standard:** EIA and CCIR. **Audio Bandpass:** 20-20,000 cps. **Audio Output:** 10 watts into 8-ohm load. **Controls:** Electrical Focus; Mechanical Focus; Contrast; Width; Horizontal Hold; Vertical Hold; Height; Vertical Linearity; Brightness; Audio Volume; On-Off. **Power Required:** 250 watts, 110-120 VAC, 50/60 cps. **Size:** Projection head, 18" dia. x 28" deep; average height, 23". Control unit: 12" w. x 22" d. x 16 1/2" high. **Weight:** Head, 45 lbs.; control unit, 75 lbs.

**Amphicon Model 200 Television Projector—Net Ea. \$2850.00**

# Television Switchers, Generators

## DYNAR SOLID STATE TELEVISION EQUIPMENT

### MODEL VS-121A TELEVISION SWITCHER-FADER



Provides low-cost video programming for small broadcast studios and remotes, educational and industrial applications. Includes all control functions needed for smooth programming in one compact package for standard rack mounting. Instant switching, with controls to fade-in, fade-out, lay dissolve and superimposition. Contains 12 camera inputs; six non-composite and six that can be switched to either composite or non-composite inputs. Operates on broadcast or most industrial syncs, with wide bandwidth for use in high resolution systems. Adjustable sync-insertion level. Easy operation with illuminated pushbuttons and built-in tally light provisions. Input is applied to two program switch buses. Includes preview buss to simplify programming, mounted at top of unit for easy accessibility. Self-contained power supplies eliminate cables, save space. Adaptable to a wide variety of console arrangements. Front panel controls give instant reversal of program and reverse outputs. **Video Inputs:** 12; 75-ohm; 0.5 to 2.0 V p-p. **Syng Input:** One 50K high impedance looping; 2-4 V p-p negative-going. **Video Outputs:** Four (two program and two preview); 1.5 V p-p; 75 ohms. **Video Gain:** Zero (adjustable -3 to +3 db). **Syng Insertion:** 0.1 to 1.0 V p-p; 4 V p-p input. **Output Isolation:** 40 db. **Differential Gain and Phase:** 0.5% at 10%, 50%, 90% APL. **Hum and Noise:** 50 db below 1 V p-p. **Frequency Range:** 10 Mc ( $\pm 0.5$  db); 20 Mc ( $\pm 1$  db); 32 Mc ( $\pm 2$  db). **Fade Linearity:** Over 3%. **Size:** 19" x 7" panel, 6" deep. Wt. 2 lbs. **Dynar Model VS-121A Switcher-Fader—Net Each. \$1650.00**  
**Dynar Model VS-120A Basic Switcher-Fader—Same, but without preview buss, reverse control; 19" x 5 1/4" panel. Net. . . \$980.00**

### MODEL VS-60A TELEVISION SWITCHER-FADER

Provides professional, economical programming for small studios similar to Model VS-120A, but with six inputs. Four inputs are non-composite; two can be switched from composite to non-composite. Wide choice of switching techniques, including instant switching between two inputs, fade-in and fade-out, dissolve, superimposition of two signals. Operates on standard sync signals without separate amplifier. Mounted on 19" x 5 1/4" rack panel, 4 1/4" deep; separate power supply is on 19" x 5 1/4" panel, 7" deep. Illuminated pushbuttons, automatic tally light provision. **Video Inputs:** Four 1-volt non-composite; two 1.4-volt composite or non-composite; 75 ohms. **Syng Input:** 4-volt negative high impedance looping. **Video Output:** 1.4-volt, 75 ohms. **Frequency Response:** 10 Mc,  $\pm 1$  db. **Dynar Model VS-60A Switcher-Fader—Net Each. . . \$980.00**

### SERIES 3000 DISTRIBUTION AMPLIFIER SYSTEMS



Modular video and pulse systems give up to 32 isolated outputs from as many as 8 looping inputs. Complete system, including regulated solid PD-3 power supply, is mounted on 19" x 5 1/4" rack panel 11 1/2" deep. Plug-in modules permit expansion of system at any time. Unit consists of FR-3000A Frame, Power Supply Module, and up to 12 Distribution Amplifier Modules. Designed for color or monochrome signals, with differential gain of less than 0.2%, differential phase less than 0.2°. Bandwidth of 20 Mc  $\pm 5$  db, -3 db at 30 Mc for use in high resolution systems; maximum isolation. Video and pulse modules can be interlinked. Sonocrart carries the complete 3000 series. Write for information on units not listed below.

**Dynar Model FR-3000A Module Frame—**With 15 mounting spaces for power supply and amplifier modules. Net. . . \$190.00  
**Dynar Model PD-3 Power Supply—**17 volts, 50 mA to 1.5 amps. Takes three mounting spaces. Net Each. . . \$150.00  
**Dynar Model PS-3016A Power Supply—**17 volts, 50 mA to 2 amps. Takes five mounting spaces. Net Each. . . \$175.00  
**Dynar Model DA-3060C Video Amplifier—**One looping input, 3 outputs, 8 db gain. Net Each. . . \$165.00  
**Dynar Model DA-3062C High Gain Video Amplifier—**As above, with 20 db gain; requires 95 mA at 17 volts. Net Each. \$190.00  
**Dynar Model DA-3064C Sync Mixing Video Amplifier—**One looping input, looping syng input, 4 outputs, 8 db gain. Takes 2 mounting spaces; requires 100 mA. Net Each. . . \$200.00  
**Dynar Model DA-3065C Pulse Amplifier—**One looping input, 3 outputs; requires 140 mA. Net Each. . . \$185.00  
**Dynar Model VDA-3088C Video System—**Includes frame, power supply, 8 DA-3060C amplifiers. Net Each. . . \$1835.00  
**Dynar Model PDA-3088C Pulse System—**Includes frame, power supply, and 8 PD-3041C amplifiers. Net Each. . . \$1835.00

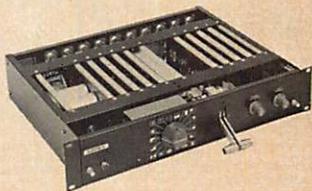
### MODEL TX-4A "DYNA-MOD" AUDIO/VIDEO MODULATOR



Completely new modular design provides low-cost broadcast quality transmission in all closed circuit television applications. Fully transistorized, including self-contained, electronically regulated power supply, with total power consumption of only 9 watts. Provides superior performance in studio, educational, microwave link or industrial applications. Excellent differential phase and gain characteristics assure optimum results with either monochrome or color signals. Broadband linear amplifier stages following modulator give desired vestigial sideband output characteristics. Visual carrier frequency is crystal controlled, assuring stability to 0.005%. Audio carrier frequency is referenced to the video carrier. Clamping circuit on video amplifier board adds to output quality. The input video is clamped at tips-of-sync, preventing variations in RF output due to picture content. Simple installation, requires only modulation and output level adjustments prior to operation; separate front-panel video and audio controls. Mounted on 3 1/2" x 19" rack panel, 9" deep. **Video Input:** 0.6 V p-p, for 87 1/2% modulation; Impedance, 75 ohms unbalanced. **Video Output:** RF Direct, 56 dbm V max.; low level, 41 dbm V max. **Audio Input:** -10 dbm for 100% modulation; 600-ohm impedance. **Audio Output:** RF Direct, 46 dbm V max.; low level, 31 dbm V max. **Output Impedance:** 75 ohms. **Audio Distortion:** 1.5% maximum. **Dynar Model TX-4A Audio/Video Modulator—Net. . . \$850.00**

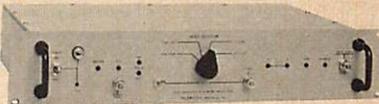
### AMPEX SPECIAL EFFECTS GENERATOR

Versatile unit provides up to 16 special video effects using plug-in cards; integrates up to four video signals so they appear as a quadrant display on a single monitor. Compact design with removable front panel for remote operation. Ideal for closed circuit, broadcast or mobile applications.



Unit includes three standard wipe cards for five special effects (External Key, Matt, Vertical Wipe, Horizontal Wipe, and Corner Insert); space provided for optional quadrant display card and four additional cards, for 12 additional effects. Takes four video inputs, with either composite or non-composite output. **Video Inputs:** 0.7 V p-p,  $\pm 3$  db bridging. **External Input:** 0.7 to 1.0 V p-p. **Horizontal and Vertical Drive:** 1.5 to 4.0 V p-p. EIA bridging. **Syng:** 3.5 to 0 V p-p, EIA, bridging. **Frequency Response:** 0.5-20,000 cps,  $\pm 1$  db. **Non-Composite Output:** 0.7 or 1 volt into 75 ohms. **Composite Output:** 1 or 1.4 volt into 75 ohms. **Low Frequency Tilt:** Less than 1%. **Black Level Shift:** Less than 1%. **Channel Isolation:** Better than 55 db at 10 Mc. **Switching Time:** 50 nanoseconds. **Power Required:** 117 VAC, 60 cps. **Size:** 19" x 3 1/2" x 13".  
**Ampeg Model EF-100 Special Effects Generator—**With three basic wipe cards. Net Each. . . \$1775.00  
**Ampeg Quadrant Display Card—**Price on Request  
**Ampeg Optional Card Set—**Four cards for 12 effects: 3 corner inserts, center wipe, square, cross, diagonal, reverse diagonal, and test center, center wedge, vertical center wipe, circle. **Price on Request.**  
**Ampeg Remote Box—**Half panel for remote use. **Price on Request.**

### TELEMET SYNC GENERATOR



Self-contained, solid state generator provides standard syng, horizontal and vertical signals. Designed for continuous studio operation in broadcast and advanced closed circuit installations. All outputs are 4 volts p-p ( $\pm 5\%$ ) in accordance with EIA RS-170. Switch selects four modes: syng lock; line lock; internal crystal lock; freerun or lock to external 31.5 kc color signal. Circuits are designed for high stability and reliability. Controls and test points for normal operation are on front panel; other controls are internal. Vertical syng generation is controlled by master 525 line counter using silicon Micrologic circuit. Syng lock unit permits locking to remote composite video or syng signal. Mounted on 19" x 3 1/2" rack panel, 12" deep. Wt. 10 lbs. **Telemet Model 3519-A1 Syng Generator—Net Ea. . . \$1600.00**

# Complete Catalog Index

|                   |                                 |   |
|-------------------|---------------------------------|---|
| <b>A</b>          | <b>ADAPTERS</b>                 | Page  |
|                   | Connector . . . . .             | 43, 53, 54, 56                              |
|                   | FM Multiplex . . . . .          | 5, 10                                       |
|                   | Microphone . . . . .            | 57  |
|                   | Record . . . . .                | 15, 18                                      |
| <b>AMPLIFIERS</b> |                                 |   |
|                   | Headphone . . . . .             | 20, 23                                      |
|                   | PA . . . . .                    | 62-67                                       |
|                   | Recording . . . . .             | 46, 47, 88, 90, 92-99                       |
|                   | Stereo . . . . .                | 3, 5-8, 10-13, 20, 23, 46, 47, 90, 93-99    |
|                   | Antennas, FM . . . . .          | 56  |
|                   | Audio Visual Equip't . . . . .  | 102-107                                     |
| <b>B</b>          | <b>Batteries</b>                | 48  |
|                   | Battery Chargers . . . . .      | 45  |
|                   | Books, CATALOGS . . . . .       | 51, 52, 85, 86                              |
| <b>C</b>          | <b>CABLES</b>                   | 32, 68                                      |
|                   | Speaker . . . . .               | 28, 31, 59-61                               |
|                   | Cameras, Video . . . . .        | 108-114                                     |
|                   | <b>CARTRIDGES</b>               |   |
|                   | Phono . . . . .                 | 11, 19, 21-23                               |
|                   | Tape . . . . .                  | 45, 48, 52, 53, 101                         |
|                   | Chargers, Battery . . . . .     | 45  |
|                   | <b>CLEANERS</b>                 |   |
|                   | Record . . . . .                | 16  |
|                   | Tape Head . . . . .             | 41, 51, 52, 86                              |
|                   | Clips, Tape . . . . .           | 51, 53                                      |
|                   | <b>CONNECTORS</b>               |   |
|                   | Audio . . . . .                 | 54-56, 88                                   |
|                   | Microphone . . . . .            | 54-57, 68, 88                               |
|                   | Phone . . . . .                 | 43, 54, 56                                  |
|                   | <b>CONTROLS</b>                 |   |
|                   | Attenuators . . . . .           | 20, 22, 95-99                               |
|                   | Pads . . . . .                  | 22  |
|                   | Remote . . . . .                | 38, 48, 68, 83, 87, 91, 95                  |
|                   | Speaker . . . . .               | 22, 68                                      |
|                   | Volume . . . . .                | 49  |
|                   | <b>CORDS</b>                    |   |
|                   | Headphone . . . . .             | 49, 54, 56                                  |
|                   | Patch . . . . .                 | 16, 54, 56                                  |
|                   | Crossovers . . . . .            | 26, 30                                      |
| <b>D</b>          | <b>Demagnetizer</b>             | 41, 43, 51, 52, 86, 97                      |
|                   | Discs, Recording . . . . .      | 50  |
|                   | Earphones . . . . .             | 23, 41, 43-45, 48, 49, 82, 106              |
|                   | Equalizers . . . . .            | 20, 22, 23, 87, 88, 90, 92-99               |
|                   | Eraser, Tape . . . . .          | 51, 97, 107                                 |
|                   | <b>F</b>                        |   |
|                   | Feet, Rubber . . . . .          | 16  |
|                   | Film Projectors . . . . .       | 102-107                                     |
| <b>H</b>          | <b>Headphones</b>               | 23, 41, 43-45, 48, 49, 82, 106              |
|                   | Hi-Fi Equipment . . . . .       | 3-56  |
| <b>K</b>          | <b>KITS</b>                     |   |
|                   | Fan . . . . .                   | 50  |
|                   | High Fidelity . . . . .         | 10-12                                       |
|                   | Recording Improvement . . . . . | 96  |
| <b>L</b>          | <b>Language Labs</b>            | 105   |
|                   | Lathes, Recording . . . . .     | 96  |
|                   | Lecterns . . . . .              | 63  |
|                   | Lenses, Camera . . . . .        | 109, 110, 113                               |
| <b>M</b>          | <b>Manuals</b>                  | 51, 52, 85, 86                              |
|                   | Megaphones . . . . .            | 62  |
|                   | <b>MICROPHONE</b>               |   |
|                   | Adapters . . . . .              | 54-57                                       |
|                   | Amplifier . . . . .             | 92, 100                                     |
|                   | Booms . . . . .                 | 57  |
|                   | Cable . . . . .                 | 54, 56                                      |
|                   | Connectors . . . . .            | 55, 56, 68                                  |
|                   | Remotes . . . . .               | 100   |
|                   | Stands . . . . .                | 57, 75, 76, 78, 79, 82                      |
|                   | Switches . . . . .              | 45, 87                                      |
|                   | Transformers . . . . .          | 68, 75, 78, 83, 87-89, 99                   |
|                   | Microphones . . . . .           | 41, 43-45, 48, 49, 62, 72-82, 100, 101, 106 |
|                   | Mixers . . . . .                | 22, 43, 64, 87, 88, 92-99                   |
|                   | Motors, Video . . . . .         | 108-115                                     |
|                   | Mounts, Camera . . . . .        | 114   |
|                   | Movie Projectors . . . . .      | 102-107                                     |
|                   | Multiplex Adapters . . . . .    | 5, 10                                       |
| <b>N</b>          | <b>NEEDLES</b>                  |   |
|                   | Phono . . . . .                 | 11, 19, 21-23, 45                           |
|                   | Recording . . . . .             | 50  |
| <b>P</b>          | <b>PA EQUIPMENT</b>             | 58-81, 106                                  |
|                   | <b>PHONOGRAPH</b>               |   |
|                   | Arm Lift . . . . .              | 17  |
|                   | Arms . . . . .                  | 11, 16, 17, 19-22                           |
|                   | Bases . . . . .                 | 15-18                                       |
|                   | Cartridges . . . . .            | 11, 19, 21-23                               |
|                   | Changers . . . . .              | 13-15, 18, 25                               |
|                   | Dust Covers . . . . .           | 15-18, 25                                   |
|                   | Needles . . . . .               | 11, 19, 21-23, 45                           |
|                   | Turntables . . . . .            | 14-18, 25                                   |
|                   | Phono Systems . . . . .         | 13, 15, 25, 106                             |
|                   | Phono Tops, PA . . . . .        | 68  |
|                   | Pickup, Telephone . . . . .     | 43, 45, 51                                  |
| <b>PLUGS</b>      |                                 |   |
|                   | Connector . . . . .             | 43, 54-56                                   |
|                   | Microphone . . . . .            | 55, 56                                      |

|          |                          |  |
|----------|--------------------------|--|
|          | Phone . . . . .          | 54, 56   |
|          | Power Supplies . . . . . | 48, 63, 90                                     |
|          | <b>PREAMPLIFIERS</b>     |  |
|          | PA . . . . .             | 64   |
|          | Recording . . . . .      | 20, 22, 46, 77, 83                             |
|          | Stereo . . . . .         | 3, 8, 10-12, 20, 22, 23, 46, 83, 88, 90, 92-95 |
|          | Tape . . . . .           | 83, 88, 90, 92-95                              |
|          | <b>PROFESSIONAL</b>      |  |
|          | Audio . . . . .          | 82-101   |
|          | Projectors . . . . .     | 102-107, 114                                   |
|          | Speakers . . . . .       | 24   |
| <b>R</b> | <b>Receivers</b>         | 4, 6, 7, 9, 13, 67                             |

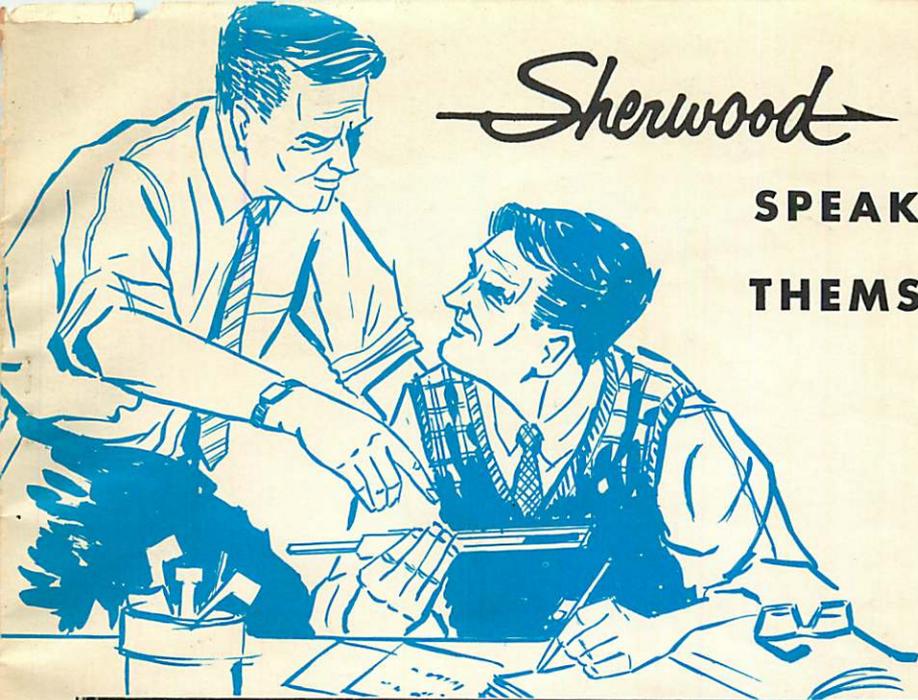
|  |                         |                           |
|--|-------------------------|---------------------------|
|  | Discs . . . . .         | 50                        |
|  | Duplicators . . . . .   | 85, 101, 105              |
|  | Editors . . . . .       | 41, 48, 51, 107           |
|  | Equalizers . . . . .    | 22, 46, 87, 90, 92-99     |
|  | Erasers . . . . .       | 57, 97, 107               |
|  | Heads . . . . .         | 35, 36, 90, 96            |
|  | Lathes . . . . .        | 96                        |
|  | Leadscrews . . . . .    | 96                        |
|  | Magnetic Mat . . . . .  | 84                        |
|  | Mixers . . . . .        | 22, 43, 87, 88, 92-99     |
|  | Needles . . . . .       | 50                        |
|  | Preamplifiers . . . . . | 46, 77, 83, 88, 90, 92-99 |

|          |  |   |
|----------|--|---|
|          | Transformers . . . . .                 | 32, 58, 69                                    |
|          | <b>SPEAKERS</b>                        |   |
|          | Drivers . . . . .                      | 26, 58, 70                                    |
|          | Expansion-Proof . . . . .              | 58, 71  |
|          | Extended Range . . . . .               | 26, 30, 34, 69                                |
|          | Hi-Fi . . . . .                        | 12, 24, 34, 71                                |
|          | Monitor . . . . .                      | 32, 34, 68                                    |
|          | Outdoor . . . . .                      | 30, 53, 71                                    |
|          | PA . . . . .                           | 32, 58, 59, 69-74                             |
|          | Pillow . . . . .                       | 49  |
|          | Sound Columns . . . . .                | 32, 58, 59                                    |
|          | Underwater . . . . .                   | 71  |
|          | Speakers, Tape . . . . .               | 41, 48, 51                                    |
|          | <b>STEREO</b>                          |   |
|          | Adapters . . . . .                     | 5, 10   |
|          | Amplifiers . . . . .                   | 3, 5-8, 12, 13, 20, 23, 46, 47, 88, 90, 92-99 |
|          | Arms . . . . .                         | 11, 16, 19, 20, 22                            |
|          | Cartridges . . . . .                   | 11, 19, 21-23, 45                             |
|          | Changers . . . . .                     | 14, 15, 18                                    |
|          | Compensator . . . . .                  | 20, 93, 98                                    |
|          | Controls . . . . .                     | 20, 22, 92-99                                 |
|          | Decks, Tape . . . . .                  | 37, 40, 41, 44, 46, 47, 90                    |
|          | Disc Recorders . . . . .               | 96  |
|          | Equalizers . . . . .                   | 20, 87, 88, 90, 92-99                         |
|          | Headphones . . . . .                   | 23, 41, 43, 44, 49, 82                        |
|          | Needles . . . . .                      | 11, 19, 21-23, 45                             |
|          | Phono Systems . . . . .                | 13, 25  |
|          | Preamplifiers . . . . .                | 3, 8, 10, 12, 20, 22, 23, 77, 88, 90, 92-99   |
|          | Receivers . . . . .                    | 4, 6, 7, 9, 13                                |
|          | Record Players . . . . .               | 13-18, 25, 29, 106                            |
|          | Speakers . . . . .                     | 12, 24  |
|          | Tape Recorders . . . . .               | 34-47, 83-91, 92-99                           |
|          | Tuner . . . . .                        | 3, 4, 6, 8-10, 12, 13, 24                     |
|          | Stroboscopes . . . . .                 | 16, 51  |
|          | <b>SWITCHES</b>                        |   |
|          | Foot . . . . .                         | 44, 45, 48, 57, 101                           |
|          | Mike . . . . .                         | 45, 57  |
|          | Power . . . . .                        | 101   |
|          | Pushbutton . . . . .                   | 49, 83  |
|          | Speaker . . . . .                      | 122   |
|          | Television . . . . .                   | 115   |
| <b>T</b> | <b>TAPE</b>                            |   |
|          | Alignment . . . . .                    | 52, 86, 87                                    |
|          | Amplifiers . . . . .                   | 46, 47, 88, 90, 92-99                         |
|          | Boxes . . . . .                        | 52  |
|          | Cartridges . . . . .                   | 45, 48, 52, 53, 101                           |
|          | Cleaners . . . . .                     | 41, 51, 52, 86                                |
|          | Clips . . . . .                        | 51, 53  |
|          | Decks . . . . .                        | 37, 40, 41, 44, 46, 47, 90                    |
|          | Degausser . . . . .                    | 41, 43, 51                                    |
|          | Duplicators . . . . .                  | 52, 86, 97                                    |
|          | Editors . . . . .                      | 85, 101, 105                                  |
|          | Erasers . . . . .                      | 51, 97, 107                                   |
|          | Heads . . . . .                        | 36, 37, 90, 96                                |
|          | Labels . . . . .                       | 51, 52  |
|          | Leader . . . . .                       | 51-53   |
|          | Preamplifiers . . . . .                | 46, 77, 83, 88, 90, 92-99                     |
|          | Recorders . . . . .                    | 34-47, 83-91, 92-99                           |
|          | Reels . . . . .                        | 105, 106                                      |
|          | Recording . . . . .                    | 41, 43, 50, 52, 53, 101, 107                  |
|          | Repeats . . . . .                      | 51-53   |
|          | Repeaters . . . . .                    | 101   |
|          | Reproducers . . . . .                  | 36, 37, 83-85, 89, 99                         |
|          | Splicers . . . . .                     | 41, 48, 51, 107                               |
|          | Splicing . . . . .                     | 51  |
|          | Test . . . . .                         | 87  |
|          | Timing . . . . .                       | 53  |
|          | Video . . . . .                        | 107   |
|          | Telephone Pickup . . . . .             | 43, 45, 51                                    |
|          | Television (CCTV) Equipment . . . . .  | 111-115                                       |
|          | <b>TRANSFORMERS</b>                    |   |
|          | Bridging . . . . .                     | 68, 87  |
|          | Input . . . . .                        | 36, 83, 87, 89, 99                            |
|          | Line . . . . .                         | 32, 36, 68, 78, 83, 85, 89, 99                |
|          | Matching . . . . .                     | 32, 36, 58, 69, 75, 78, 83, 87-89, 99         |
|          | Microphone . . . . .                   | 68, 75, 78, 83, 87, 88, 99                    |
|          | Output . . . . .                       | 87, 88, 99                                    |
|          | Triodes . . . . .                      | 36, 89, 99                                    |
|          | Tuners . . . . .                       | 3, 4, 6, 8-10, 12, 13, 24                     |
| <b>V</b> | <b>Video Tape &amp; CCTV Equipment</b> | 108-115                                       |
|          | VU Meters . . . . .                    | 51, 88, 89                                    |
| <b>W</b> | <b>WIRE</b>                            |   |
|          | Hookup and Lead . . . . .              | 16, 49, 54, 56                                |
|          | Recording . . . . .                    | 48  |
|          | Wire Recorders . . . . .               | 48  |

## Index to Manufacturers

|          |                                  |                            |
|----------|----------------------------------|----------------------------|
|          | Page                             |                            |
| <b>A</b> | <b>Acoustech</b> . . . . .       | 12                         |
|          | Acoustic Research . . . . .      | 29                         |
|          | Altec Lansing . . . . .          | 88                         |
|          | PA Equipment . . . . .           | 26, 27                     |
|          | Ampeg . . . . .                  | 41                         |
|          | Audio Tape . . . . .             | 115                        |
|          | Generator . . . . .              | 40, 41                     |
|          | Hi-Fi Tape Recorders . . . . .   | 83-90                      |
|          | Professional Equipment . . . . . | 111                        |
|          | TV Monitors . . . . .            | 114                        |
|          | Video Components, Tape . . . . . | 107-109                    |
|          | Amphleon . . . . .               | 114                        |
|          | Argos . . . . .                  | 59                         |
|          | Astac . . . . .                  | 76                         |
|          | Atlas Sound . . . . .            | 57, 58                     |
|          | Audio Devices . . . . .          | 50                         |
|          | Discs . . . . .                  | 52                         |
|          | Recording Tape . . . . .         | 56                         |
|          | <b>B</b>                         |                            |
|          | Barker . . . . .                 | 23                         |
|          | Beyer . . . . .                  | 56                         |
|          | Bogen . . . . .                  | 64-68                      |
|          | PA Equipment . . . . .           | 17                         |
|          | Stereo Hi-Fi . . . . .           | 30-32, 98, 99              |
|          | <b>B</b>                         |                            |
|          | Bozak . . . . .                  | 45, 105, 106               |
|          | Callifone . . . . .              | 113                        |
|          | Canon . . . . .                  | 97                         |
|          | CBS Labs . . . . .               | 98                         |
|          | Cinetic . . . . .                | 62                         |
|          | C/M Laboratories . . . . .       | 101                        |
|          | Concord . . . . .                | 39                         |
|          | Cousino . . . . .                | 101                        |
|          | Crown . . . . .                  | 101                        |
|          | Curtin . . . . .                 | 114                        |
|          | <b>D</b>                         |                            |
|          | Davis & Sanford . . . . .        | 10, 11                     |
|          | Dynaco . . . . .                 | 115                        |
|          | Dynair . . . . .                 | 48                         |
|          | Edital . . . . .                 | 72-75                      |
|          | <b>E</b>                         |                            |
|          | Electro-Voice . . . . .          | 33                         |
|          | EMI . . . . .                    | 94-96                      |
|          | Fairchild . . . . .              | 7-9                        |
|          | Fisher . . . . .                 | 14, 15                     |
|          | <b>G</b>                         |                            |
|          | Garrard . . . . .                | 23                         |
|          | General Electric . . . . .       | 62                         |
| <b>H</b> | <b>Holmfin</b>                   | 48                         |
| <b>I</b> | <b>ITT Minifon</b>               | 69                         |
| <b>J</b> | <b>Jensen Mfg.</b>               | 13                         |
| <b>K</b> | <b>Kenwood</b>                   | 100                        |
|          | Kinematix . . . . .              | 24, 25                     |
|          | Kodak . . . . .                  | 103                        |
|          | Koss . . . . .                   | 23                         |
|          | <b>RECORD</b>                    |                            |
|          | Adapters . . . . .               | 15, 18                     |
|          | Brush . . . . .                  | 16                         |
|          | Changers . . . . .               | 14, 15, 18                 |
|          | Cleaners . . . . .               | 13, 15, 25, 106            |
|          | Players . . . . .                | 13, 15, 25, 106            |
|          | <b>RECORDERS</b>                 |                            |
|          | Disc . . . . .                   | 96                         |
|          | Magnetic Mat . . . . .           | 84                         |
|          | Tape . . . . .                   | 34-48, 83-91, 101          |
|          | Video . . . . .                  | 108-112                    |
|          | Wire . . . . .                   | 48                         |
|          | <b>RECORDING EQUIP'T</b>         |                            |
|          | Amplifiers . . . . .             | 46, 47, 82-90, 92-99       |
|          | Cutters . . . . .                | 17, 96                     |
|          | Decks, Tape . . . . .            | 37, 40, 41, 44, 46, 47, 90 |
|          | Demagnetizer . . . . .           | 41, 43, 51, 52, 86         |

|          |                             |              |
|----------|-----------------------------|--------------|
|          | Page                        |              |
| <b>L</b> | <b>Lansing, J. B.</b>       | 34           |
| <b>M</b> | <b>Magnecord</b>            | 36, 37       |
|          | Marantz . . . . .           | 3, 17        |
|          | Martel . . . . .            | 38           |
| <b>N</b> | <b>Norelco</b>              | 45, 82, 112  |
| <b>O</b> | <b>Ortofon</b>              | 22           |
| <b>P</b> | <b>Pelco</b>                | 114          |
|          | Perma-Power . . . . .       | 63           |
|          | Pekering . . . . .          | 19           |
|          | Pixmobile . . . . .         | 107          |
|          | Projection Optics . . . . . | 104          |
|          | Pultec . . . . .            | 92, 93       |
| <b>R</b> | <b>Rek-O-Kut</b>            | 17, 96       |
|          | Revox . . . . .             | 45, 105, 106 |
|          | Rheem . . . . .             | 35           |
|          | Roberts . . . . .           | 51, 107      |
|          | Robins . . . . .            | 50           |
|          | <b>S</b>                    |              |
|          | "Scotch" Brand 50 . . . . . | 6            |
|          | Scott, H. H. . . . .        | 111          |
|          | Scully . . . . .            | 4, 5         |
|          | Setchell-Carlson . . . . .  | 113          |
|          | Sherwood . . . . .          | 21           |
|          | Shibaden . . . . .          | 77-81        |
|          | Shure . . . . .             | 20, 77       |
|          | Cartridges .                |              |



# Sherwood SPECS

## SPEAK FOR THEMSELVES



### MODEL S-8800 SOLID-STATE 140-WATT FM-MX RECEIVER

Compare these Sherwood features and specs! All-silicon reliability. Noise-threshold-gated automatic FM stereo/mono switching, FM stereo light, zero-center tuning meter, FM interchannel hush adjustment, front-panel stereo headphone jack. Rocker-action switches provide for tape monitor, noise filter, speaker disconnect and loudness contour. Music power 140 watts (4 ohms) at 0.3% harmonic distortion or 100 watts (8 ohms). IM distortion 0.1% at 10 watts or less. Power bandwidth, 12-35,000 cps. Hum and noise, -70 db on phono. FM sensitivity, 1.6  $\mu$ V for 30 db quieting IHF. FM signal-to-noise, 70 db. Capture ratio, 2.2 db. Drift  $\pm$ .01%. Components: 40 silicon transistors, 14 silicon diodes and rectifiers. Size: 16 $\frac{1}{2}$ " x 14" x 4 $\frac{1}{2}$ " h.

Price (Less Case): **\$35950**

**Model S-7800-FET Solid-State Receiver**, same as above but with AM broadcast band plus FET tuner.

Price (Less Case): **\$40950**



### Model S-9900a Solid-State 140-Watt Control Amplifier

All-silicon transistor amplifier-preamplifier with main and remote speaker switching. 140 watts IHF music power both channels at 4 ohms. Distortion  $\frac{1}{8}$ % at rated output. Hum and Noise, -70 db phono. Front-panel stereo headphone jack. Damping factor, 40. Components: 24 silicon transistors, 4 silicon rectifiers. Size: 14" x 10" x 4" h.

Price (Less Case): **\$22950**



### Model S-3300 Solid-State FM-MX Stereo Tuner

First all-silicon tuner achieves 1.6  $\mu$ V IHF sensitivity. Dual automatic gain control; noise-threshold-gated automatic stereo switching; zero-center tuning meter; FM stereo indicator light; stereo noise filter. Components: 16 silicon transistors, 11 silicon diodes, 1 silicon zener diode. Size: 14" x 10 $\frac{1}{4}$ " x 4" h.

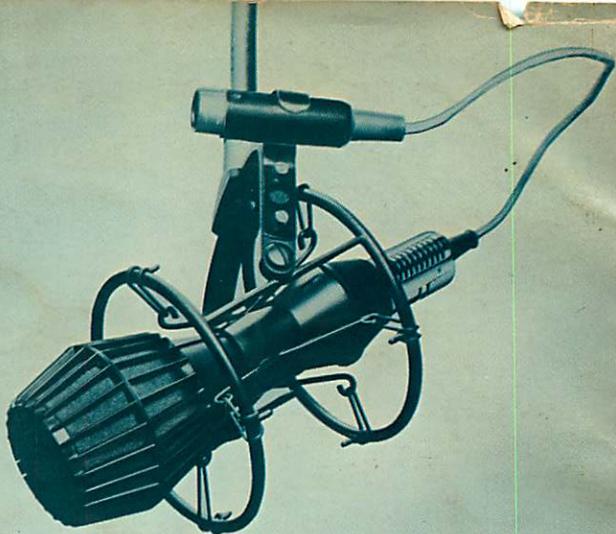
Price (Less Case): **\$16750**

**Three-Year Warranty** now in effect for all Sherwood all-silicon solid-state components, due to their proven reliability. Covers all components including semiconductors. Available at any of Sherwood's 96 Authorized Service Stations.



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