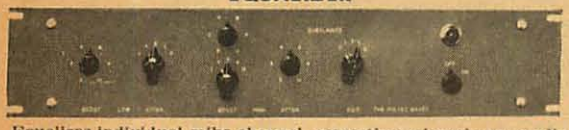
Pultec® Program Equipment

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, 0 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 Output both transformer, 600/250/150 ohms. Net Each **$475.00**

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:** 3½" 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:** OFF, 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 OFF. **Impedance:** 500-600 ohms input and output; space to mount transformers for others. **Input Level:** −70 dbm +28 dbm. **Insertion Loss:** Zero. **Power Required:** None. **Circuit:** Constant K. **Size:** 3½" x 19", standard rack panel; 7½" depth 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 input signal −120 dbm or lower, −72 dbm at maximum gain. **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; 7¾" deep. Weight 10 lbs.
Pultec Model MB-1—Net Each..... **$178.00**

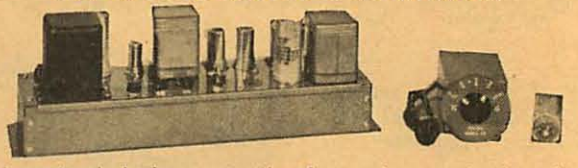
MODEL EQH-2 PROGRAM EQUALIZER

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. Net Each..... **$330.00**

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 network loss. **Inputs:** 600 ohms 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, 10½ 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 3½" x 3⅜" 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. Cartridge may be easily changed at any time. Gain control, plus vernier controls to boost or attenuate 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 1 kc varies less than ±1 db for RIAA to other positions. **Frequency Response:** ±1 db 30-20,000 cps; −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, 2½" x 3" x 5¼" high; plug-ins, 1½" x 1½" x 3½" high. **Weight:** Amplifier, 11½ lbs.; control box, 2½ 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" (EMI) 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 kcs; +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:** 3½″ h. x 19″ w.; depth behind panel, 7¾″. **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 jingle 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, +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, 6AQ5, 6X4. **Power Required:** 25 watts, 117 volts, 50/60 cps. **Panel Size:** 3½″ x 19″; depth behind panel, 7¾″. **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

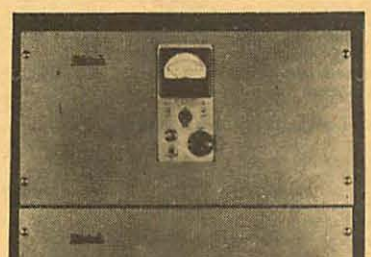
When producing stereo tapes and discs, it usually becomes necessary to mix down from three or four original tracks to two tracks. During this mix down, the material on each of the original tracks must be acoustically located in exactly the preferred position somewhere between extreme left and extreme 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 pan 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, +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, 2-6AQ5, 1-6X4. **Power Required:** 35 watts, 117 volts, 50/60 cps. **Panel Size:** 5¼″ x 19″; depth behind panel, 7¾″. **Panel Finish:** Pultec blue-gray baked enamel; engraved. **Mounting:** Standard EIA rack mtg. Wt., 13 lbs.

Pultec Model SP-3—Net Each..... **$495.00**

McINTOSH INDUSTRIAL POWER AMPLIFIERS



MI-200AB

MODEL MI-200AB 200-WATT AMPLIFIER

High efficiency output circuitry delivers high power and distortion-free performance for laboratory and industrial audio requirements. May be operated from any signal source delivering 0.5 volt or more; or directly from a McIntosh audio compensator. Components used are of the highest quality to assure long, trouble-free performance. An input transformer socket provides plug-in low-Z or isolated bridging inputs. **Power Output:** 200 watts, continuous; 400 watts peak. **Frequency Response:** ±0.2 db, 20-20,000 cps at 200 watts. **Distortion:** Less than 1% harmonic at 200 watts, 20-20,000 cps; less than 1% IM if instantaneous peak is below 400 watts. **Hum and Noise:** −85 db or more at rated output. **Input:** 0.5 volt will drive amplifier to 200 watts; gain control provided to handle input levels up to 20 volts; greater sensitivity possible by use of plug-in transformer. **Impedance:** Input, 250K Ω; output, 4, 8, 16.5 (57½ v.), 25 (70.7 v.), 66 (117 v.) 100 (141.4 v.) and 600 ohms (balanced to ground); low-Z outputs may be balanced or unbalanced as well as isolated from ground. **Damping Factor:** 10:1 or greater, 20-20,000 cps. **Controls:** On-Off Switch; Gain; Meter Switch for built-in Output Meter on front panel. **Tubes:** 1-12AX7, 1-12AU7, 2-6AV5, 2-6BX7, 2-8005, 4-5U4, 2-5Y3. **Power Required:** 300-600 watts, 108/117/125 v. AC, 50/60 cps; fused. **Size:** 10½″ h. x 19″ w. (standard rack) panel; 9″ behind panel for amplifier, 7″ w. x 9″ behind panel, power supply. Panel finished in dark gray hammertone. Weight, 140 lbs.

McIntosh Model MI-200AB Amplifier—Net Each..... **$640.00**

MODEL MI-75 75-WATT AMPLIFIER

Industrial amplifier provides 75 watts of distortion-free power output for applications requiring exceptional performance, long life and maintenance-free operation. High flexibility in output impedance and voltage taps provide for many applications in PA, sound and laboratory uses. **Power Output:** 75 watts continuous. **Frequency Response:** +0, −0.2 db, 20–20,000 cps at full power. **Distortion:** Less than 0.5% harmonic at full output; 0.5% IM, instantaneous peak output up to 150 watts. **Hum and Noise:** −90 db or more at rated output. **Input:** 0.5 volt; gain control accommodates inputs to 30 volts; greater sensitivity possible using accessory plug-in input transformers. **Impedance:** 250,000 ohms. **Outputs:** 4, 8, 16, 67, 150 and 600 ohms, isolated from ground; 25, 70.7, 115 and 230 volts, isolated from ground. **Controls:** On-Off Switch; Gain; Pilot Lamp and Fuse on front panel. **Tubes:** 2-KT88/6550, 1-12AX7, 1-12AU7, 1-12BH7, 1-12AZ7. **Power Required:** 140–240 watts, 117/125 v. AC, 50/60 cps. **Size:** 19″ w. x 8¾″ h. (standard rack) x 7¾″ d. behind panel. Weight, 46 lbs.

McIntosh Model MI-75 Amplifier—Net Each..... **$275.00**

ACCESSORY PLUG-IN INPUT TRANSFORMERS

McIntosh Number	Description	Net Each
M-107	Double mag. shielded; 50, 250 or 600 ohm input at −14 dbm level	$23.00
M-107A	Triple magnetically shielded version of M-107	24.50
M-108	20K bridging input at approx. −2 dbm level	20.00
M-180	250 or 600-ohm input at approx. −24 dbm level	24.50

Note: Max. input level for above transformers must be limited to +10 dbm.