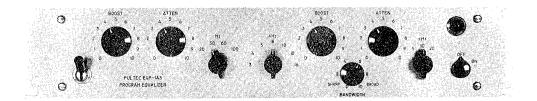
PROGRAM EQUALIZER

Solid State MODEL

EOP-IA3



USED

BY RADIO STATIONS, RECORD COMPANIES

AND RECORDING STUDIOS . . .

TO

ADD THAT "FINAL TOUCH" TO THE BALANCE OF GOOD PROGRAM MATERIAL, AND TO

GREATLY

IMPROVE THE QUALITY OF PROGRAM MATERIAL PRE-VIOUSLY RECORDED ON EQUIPMENT OF INFERIOR QUALITY OR DIFFERING CHAR-

ACTERISTICS.

The wide range of equalization curves provided makes it possible to boost the very low or very high frequency notes of the orchestra without "muddying up" the middle register instruments. Continuously variable controls permit changing the amount of equalization on sustained tones without steps in level, or clicks. A key permits cutting the equalizer in and out on cue.

NO LOSS: Passive equalizer

plus operational amplifier

VERSATILE:

4 low 7 high

Boost frequencies

4 low

3 high

Attenuate frequencies

SHAPE CONTROL:

High boost curves variable sharp to broad.

IN-OUT KEY: Switches equalization in and out without clicks.

Specifications

PEAK BOOST: 3, 4, 5, 8, 10, 12, 16 kHz; 0 to 18 dB.

SHELF ATTENUATE: 5, 10, 20 kHz; 0 to 16 dB.

SHELF BOOST: 20, 30, 60, 100 Hz; 0 to 13.5 dB.

SHELF ATTENUATE: 20, 30, 60, 100 Hz; 0 to 17.5 dB.

NOISE: Below -80 dBm.

DISTORTION: 0.15% at +10 dBm into 600 ohms.

PANEL SIZE: 3½ x 19 in. Depth behind panel is 7½ in.

PANEL FINISH: Brushed aluminum satintone.

MOUNTING: Standard EIA rack mount,

POWER REQUIRED: 117 volts, 50/60 Hz, 5 watts. 234 volts, 50/60 Hz available on order.

LOSS: None. Equalizer loss restored by operational amplifier. Over-all result is no loss and no gain.

INPUT LEVEL: -20 dBm provides greater than 60 dB signal to noise ratio. +4 dBm allows generously for signal peaks without clipping.

OUTPUT LEVEL: +21 dBm maximum.

INPUT TRANSFORMER: 600 ohms, matching. Connections can be changed for 250 or 150 ohms.

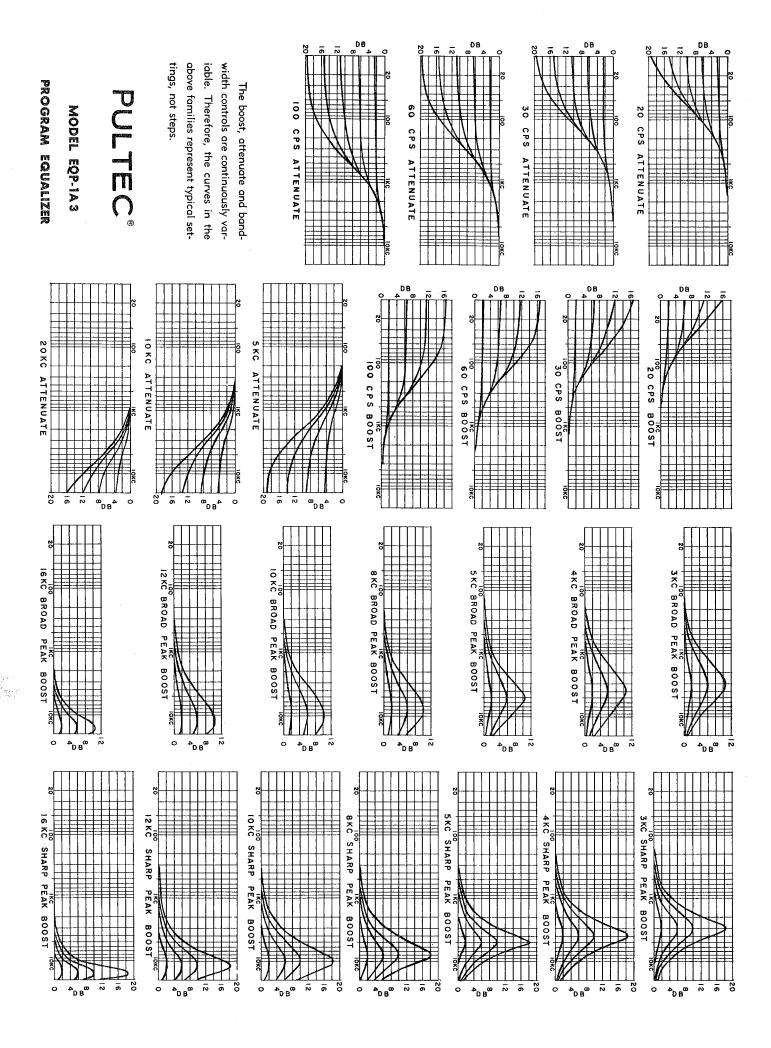
OUTPUT TRANSFORMER: Feeds a 600 ohm load. Connections can be changed for 250 or 150 ohms.

AMPLIFIER RESPONSE: Including input and output transformers, 20 Hz to 20 kHz; +0, -1 dB from 1000 Hz reference. Transformers have 70 dB magnetic shielding.

NET WEIGHT: 9 pounds.

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Pulse Techniques, inc.



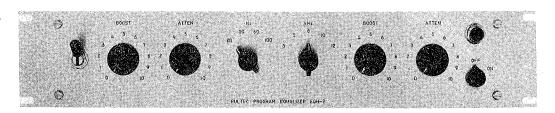
NO LOSS

PASSIVE

PROGRAM EQUALIZER

Solid State MODEL

EQH-2



It is usually those tones on the extreme ends of the musical spectrum which lose their proper perspective in the many steps between the musician and the ultimate listener. The wide range of equalization curves provided in the Model EQH-2 makes it possible to correct the low and high frequency notes of the orchestra without "muddying up" the middle register instruments.

In addition to the generous choice of frequencies provided, the effectiveness of this equalizer is further enhanced by the availability of 16 dB of boost and 16 dB of attenuation on the high frequency curves. Low frequency curves provide up to 13.5 dB of boost and 17 dB of attenuation.

Continuously variable controls permit changing the amount of equalization, even on sustained tones, without steps in level, or clicks.

LOSSLESS:

Amplifer follows Passive equalizer

CAPABLE:

20, 30, 60, 100 Hz Shelf 3, 5, 8, 10, 12 kHz Peak Boost 20, 30, 60, 100 Hz Shelf 10 kHz Shelf Attenuate

IN-OUT KEY: Switches equalization in and out without clicks.

- Specifications .

PEAK BOOST: 3, 5, 8, 10, 12 kHz; 0 to 16 dB.

SHELF ATTENUATE: 10 kHz; 0 to 16 dB.

SHELF BOOST: 20, 30, 60, 100 Hz; 0 to 13.5 dB. **SHELF ATTENUATE**: 20, 30, 60, 100 Hz; 0 to 17.5 dB.

NOISE: Below -75 dBm.

DISTORTION: 0.15% at +10 dBm into 600 ohms.

PANEL SIZE: 3½ x 19 in. Depth behind panel is 7½ in.

PANEL FINISH: Brushed aluminum satintone.

MOUNTING: Standard EIA rack mount.

NET WEIGHT: 8% pounds.

POWER REQUIRED: 117 volts, 50/60 Hz, 5 watts.

234 volts, 50/60 Hz available on order.

LOSS: None. Equalizer loss is restored by operational amplifier. Over-all result is no loss and no gain.

INPUT LEVEL: -15 dBm provides greater than 60 dB signal to noise ratio. +4 dBm allows generously for signal peaks without clipping.

OUTPUT LEVEL: +21 dBm maximum.

INPUT TRANSFORMER: 600 ohms, matching. Connections can be changed for 250 or 150 ohms.

OUTPUT TRANSFORMER: Feeds a 600 ohm load. Connections can be changed for 250 or 150 ohms.

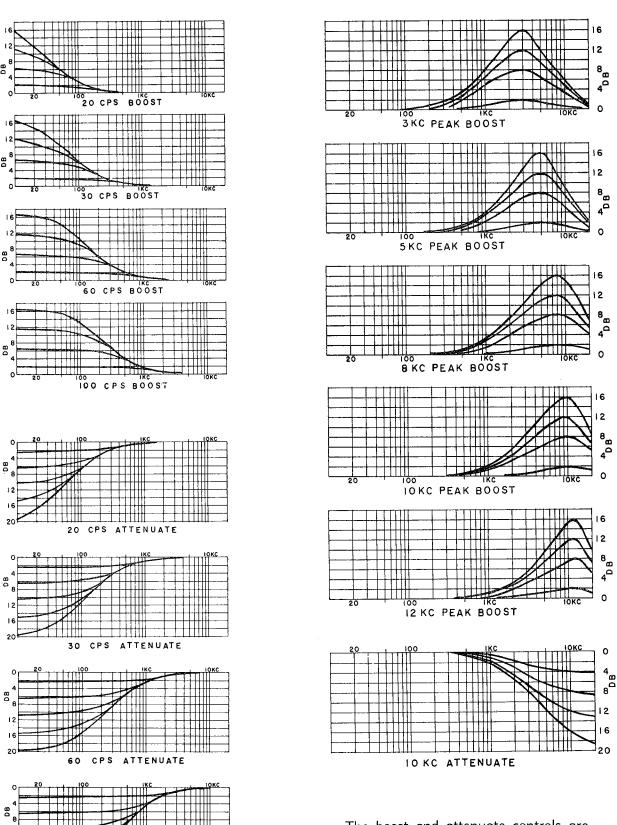
AMPLIFIER RESPONSE: Including input and output transformers, 20 Hz to 20 kHz; +0, -1 dB from 1000 Hz reference. Transformers have 70 dB magnetic shielding.

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PULTEC® MODEL EQH-2 PROGRAM EQUALIZER



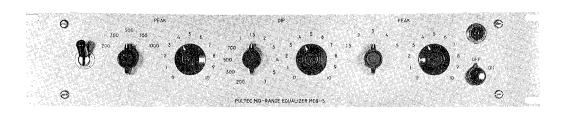
100 CPS ATTENUATE

The boost and attenuate controls are continuously variable. Therefore, the curves in the above families represent typical settings, not steps.

PULTEC® MID-RANGE EQUALIZER

Solid State MODEL







Three independent sets of controls make it possible to boost on a peak curve at 200, 300, 500, 700 or 1000 Hz while simultaneously boosting on a peak curve at 1.5, 2, 3, 4 or 5 kHz while simultaneously dipping at 200, 300, 500, 700, 1000, 1500, 2000, 3000, 4000, 5000 or 7000 Hz. Thus two selectable peak boost areas and one selectable dip area are available for simultaneous use.

ADD BODY AND PRESENCE to music already thought to be well balanced.

HIGHLIGHT OR SUBDUE a vocalist, where the vocal is already mixed with the orchestra.

ROUND OUT a vocal group,

or make it stand out.

IMPROVE THE BASIC QUALITY of voices or instruments by altering their fundamental and overtone relationships.

EQUALIZE DIALOGUE

The MEQ-5 provides exacting control of the "power region" in program material, that frequency range from about 300 Hz to about 5000 Hz in which most of the sound energy is concentrated. The ear is especially sensitive to sounds in this region. It is here that pre-emphasis, de-emphasis and cross over networks must blend together smoothly. In this region, even small resonances in studio acoustics and microphone and speaker responses are very evident in their effect on the listenability of the sound.

Specifications .

PEAK BOOST: 200, 300, 500, 700, 1000 Hz; 0 to 10 dB.

PEAK BOOST: 1.5, 2, 3, 4, 5 kHz; 0 to 8 dB.

DIP ATTENUATE: 200, 300, 500, 700, 1000 Hz and

1.5, 2, 3, 4, 5, 7 kHz; 0 to 10 dB.

NOISE: Below - 75 dBm.

DISTORTION: 0.15% at +10 dBm into 600 ohms.

PANEL SIZE: 3½ x 19 in. Depth behind panel is 7½ in.

PANEL FINISH: Brushed aluminum satintone.

MOUNTING: Standard EIA rack mount.

NET WEIGHT: 9 pounds.

POWER REQUIRED: 117 volts, 50/60 Hz, 5 watts.

234 volts, 50/60 Hz available on order.

LOSS: None. Passive equalizer loss is restored by operational amplifier. Over-all result is no loss and no gain.

IN-OUT KEY: Switches equalization in and out without clicks.

INPUT LEVEL: -15 dBm provides greater than 60 dB signal to noise ratio. +4 dBm allows generously for signal peaks without clipping.

OUTPUT LEVEL: +21 dBm maximum.

INPUT TRANSFORMER: 600 ohms, matching. Connections can be changed for 250 or 150 ohms.

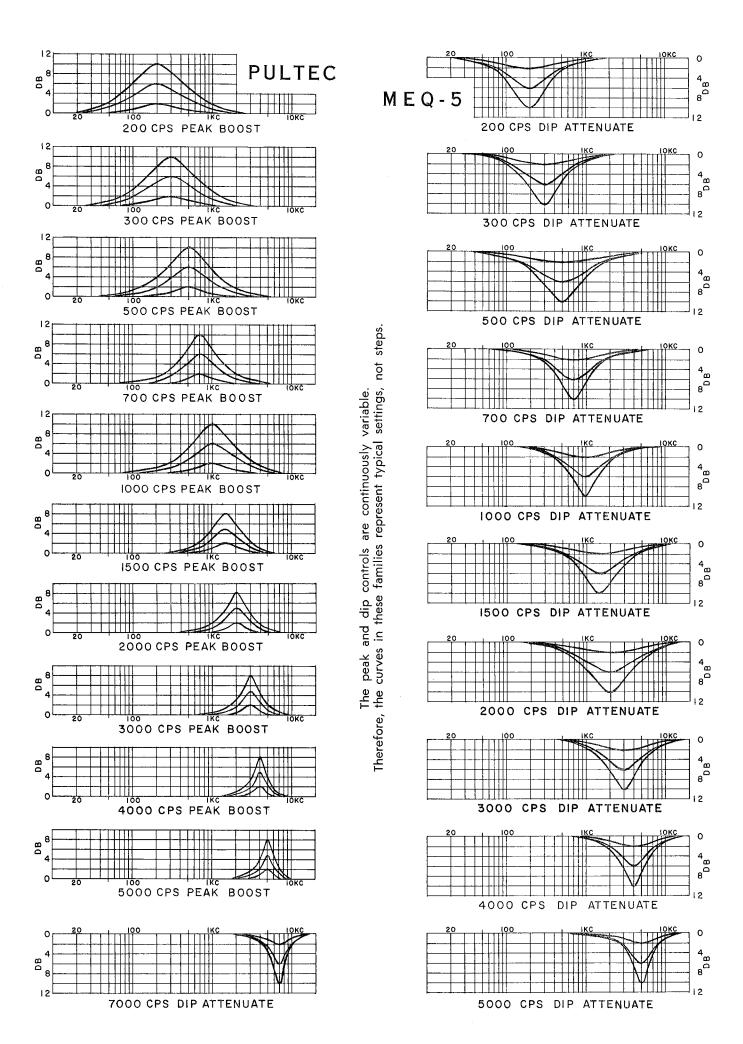
OUTPUT TRANSFORMER: Feeds a 600 ohm load. Connections can be changed for 250 or 150 ohms.

AMPLIFIER RESPONSE: Including input and output transformers, 20 Hz to 20 kHz; +0, -1 dB from 1000 Hz reference. Transformers have 70 dB magnetic shielding.

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Pulse Techniques, inc.

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PROGRAM IMPROVEMENT

SOUND **EFFECTS** **FILTERS**

MODEL HLF-3C



for producing good music and dramatic presentations EFFECTIVE HELP

MODEL **HLF-23C**



Model HLF-23C is a dual HLF-3C

As a Program Filter, the wide range of the PULTEC makes it possible to remove rumble and hum as well as hiss and harmonic distortion components with a minimum loss of program content.

As a Sound Effects Filter, the PULTEC includes the frequencies that have proven most useful in the past, plus several intermediate frequencies; thus making it ideal for the creation of such effects as telephone conversations, midget radios, sounds from outer space, etc.

Shielded toroid coils minimize hum pickup. Switches are clickless. An "off" position on each selector switch provides full frequency transmission.

LOW CUT-OFF: Eleven positions — OFF, 50, 80, 100, 150, 250, 500, 750, 1000, 1500, 2000 Hz.

HIGH CUT-OFF: Eleven positions — 1.5, 2, 3, 4, 5, 6, 8, 10, 12, 15 kHz and OFF.

IN-OUT KEY: Permits cutting the filter in and out on cue.

IMPEDANCE: 500-600 ohms, input and output.

Space to mount transformers for other impedances.

INSERTION LOSS: None.

CIRCUIT: Constant "K".

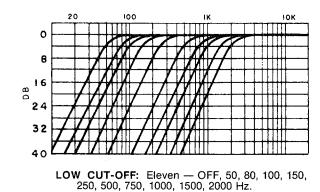
LEVEL: +28 dbm maximum.

POWER REQUIRED: None.

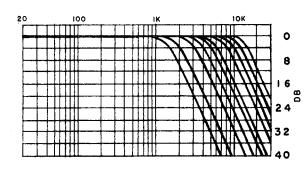
PANEL SIZE: 3½" x 19". Depth behind panel 7½ inches.

PANEL FINISH: Brushed aluminum satintone. MOUNTING: Standard EIA rack mount.

NET WEIGHT: Model HLF-3C 10 pounds. Model HLF-23C 124 pounds.







HIGH CUT-OFF: Eleven — 1.5, 2, 3, 4, 5, 6, 8, 10, 12, 15 kHz and OFF

PULSE TECHNIQUES, INC.

PROGRAM IMPROVEMENT

FILTERS

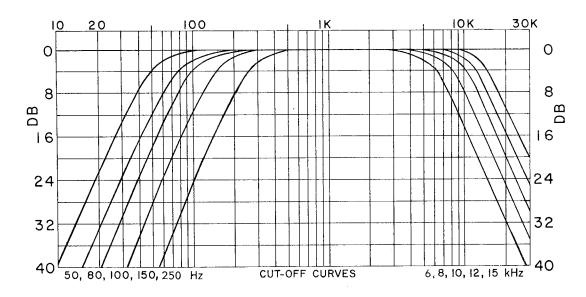
These filters have cutoffs that help control rumble, hum, hiss and harmonic distortion

MODEL **HLF-26** LOW CUT-OFF POLTEC FILTER HLF-26

LOW & HIGH

CUTS

TWO INDEPENDENT FILTERS — each filter has a low cut-off selector, a high cut-off selector and an in-out key.





MODEL LC-6

LOW CUTS

unit filters

MODEL **HC-6**

HIGH CUTS



ALL MODELS

LOW CUT-OFF: Six positions — OFF, 50, 80, 100, 150, 250 Hz.

HIGH CUT-OFF: Six positions — 6, 8, 10, 12, 15 kHz and OFF.

IN-OUT KEY: Model HLF-26 only.

Permits cutting the filter in and out on cue.

IMPEDANCE: 500-600 ohms, input and output.

INSERTION LOSS: None. CIRCUIT: Constant "K". LEVEL: +28 dBm maximum. POWER REQUIRED: None.

Specifications

HLF-26

PANEL SIZE: 31/2 x 19 inches.

PANEL FINISH: Brushed aluminum

satintone.

DEPTH BEHIND PANEL: 7½ inches.

MOUNTING: Standard EIA rack mount.

NET WEIGHT: 12½ pounds.

LC-6 & HC-6

234 x 31/8 inches.

Laminated plastic, Blue-gray, engraved.

61/2 inches.

2 screws under knob.

2½ pounds.

Shielded toroid coils minimize hum pickup. Switches are clickless. An "off" position on each selector provides

full frequency transmission.

Pulse Techniques, inc.

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TELEPHONE: (201) 837-2575

CABLE ADDRESS: PULTEC, TEANECK, NEW JERSEY

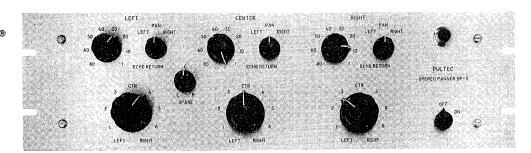
STEREO PANNER

MIXES & POSITIONS STEREO SOUND

Solid State

PULTEC®

MODEL SP-3



Accepts 4 Sound Tracks and 3 Echo Return Signals

Supplies 2 Channel Stereo Output

When producing stereo tapes and discs, it is usually necessary to mix down from three or more tracks to 2 tracks. During this mix down, each of the original tracks must be acoustically located in exactly the preferred position somewhere between extreme left and right in the final 2 channel output. Echo is often added at this time.

If 4 tracks of a tape playback are fed into the LEFT, CENTER, RIGHT and SPARE inputs, then the 2 channel (left and right) stereo output will contain all 4 input signals split between left and right according to the settings of the pan pots. Any input signal can be "walked", if desired, by turning its pan pot.

Three echo returns (signals **from** the echo chambers) are also accepted as input signals. Each of these echo signals can be selected 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 amount of echo.

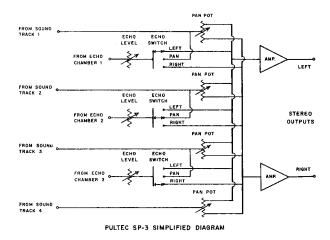
FIX THE LOCATION OF EACH SOUND TRACK Anywhere from extreme left to right.

MOVE OR WALK ANY TRACK ANY TIME Smoothly over any part of sound stage.

SET AMOUNT & LOCATION OF EACH ECHO Independently of direct signal.

7 INPUTS — EACH CONTROLLED

2 OUTPUTS - LEFT and RIGHT



Specifications

GAIN: 0 dB. No gain, no loss from any input to the output to which the particular input is fully panned.

INPUT LEVEL: -10 dBm provides greater than 60 dB signal to noise ratio. +4 dBm allows generously for signal peaks without clipping.

OUTPUT LEVEL: +21 dBm maximum into 600 ohms.

NOISE: Below -70 dBm.

FREQUENCY RESPONSE: 20 Hz to 20kHz; +0, -1 dB

from 1000 Hz reference.

DISTORTION: 0.10% at +10 dBm into 600 ohms.

NET WEIGHT: 91/2 pounds.

ISOLATION: Between Left, Center, Right and Spare Inputs exceeds 70 dB at all frequencies.

INPUT IMPEDANCE: All inputs are 600 ohms, unbalanced.

OUTPUT TRANSFORMERS: Feed 600 ohm loads. Connections can be changed for 250 or 150 ohms.

POWER REQUIRED: 117 volts, 50/60 Hz, 6 watts. 234 volts, 50/60 Hz available on order.

PANEL SIZE: $5\frac{1}{4}$ x 19 in. Depth behind panel is $6\frac{3}{4}$ in.

PANEL FINISH: Brushed aluminum satintone.

MOUNTING: Standard EIA rack mount.

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Pulse Techniques, inc.

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TELEPHONE: (201) 837-2575

CABLE ADDRESS: PULTEC, TEANECK, NEW JERSEY

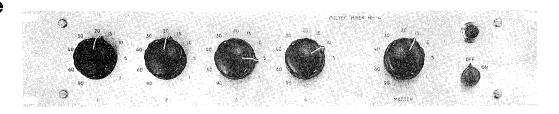
line level

MIXER

Solid State

MODEL

MH-4



FEATURES

BRIDGING INPUTS: Connect them to low impedance busses without upsetting matching or loading. Inputs can be matching. See Specs.

TRANSFORMER OUTPUT: For maximum flexibility.

TIEXIDIIITY.

ISOLATED INPUTS: 60 dB of isolation between inputs when either bridging or matching 600 ohm feeds. Permits connecting the four inputs across 4 audio busses without causing cross-talk between the busses.

STEPLESS CONTROLS: Potentiometers provide smooth, noise free mixing. Dials are calibrated in dB.

MASTER LEVEL CONTROL: Potentiometer permits stepless level adjustment and smooth fades.

10 DB GAIN: From each input to 600 ohm output.

SELF CONTAINED POWER SUPPLY: Operates from 117 volts, 60 Hz line.

USES

RE-RECORDING and EDITING: Mix tape outputs, disc playbacks, film channels, echo signals — any signal having a level from 0.1 volt to 50 volts — from any source, whether high or low impedance.

PRODUCING MONAURAL FROM STEREO: Connect the 4 inputs of the MH-4 to 4 stereo busses and mix an ideal monaural signal. Do this while recording the stereo, if desired.

IMPEDANCE CHANGING: Now and then the professional system must accept signal from devices that cannot feed low impedance inputs. MH-4 solves this problem by accepting signal at high impedance and delivering it at low impedance. If higher than 50,000 ohms is required, a resistor can be added in series with the MH-4 input.

Specifications

GAIN: 10 dB from any input to 600 ohm load, with all controls at maximum.

INPUT LEVEL: -18 dBm (0.1 volt in 600 ohms) provides greater than 60 dB signal to noise ratio. Maximum input level is 50 volts.

OUTPUT LEVEL: +21 dBm maximum into 600 ohms.

NOISE: Below -70 dBm.

FREQUENCY RESPONSE: 20 Hz to 20kHz; +0, -1 dB

from 1000 Hz reference.

DISTORTION: 0.10% at +10 dBm into 600 ohms.

NET WEIGHT: 71/2 pounds.

INPUT IMPEDANCE: Each input is 50,000 ohms, unbalanced. Any input can be changed to 600 ohms or lower by connecting a resistor of that value from the input terminal to ground.

OUTPUT TRANSFORMER: Feeds a 600 ohm load. Connections can be changed for 250 or 150 ohms.

POWER REQUIRED: 117 volts, 50/60 Hz, 5 watts. 234 volts, 50/60 Hz available on order.

PANEL SIZE: 3½ x 19 in. Depth behind panel is 7½ in.

PANEL FINISH: Brushed aluminum satintone.

MOUNTING: Standard EIA rack mount.

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MODEL	Price Sheet N	ET PRICE
EQP-1A3	PROGRAM EQUALIZER. Most used program equalizer in professional audio. Passive network. No insertion loss. Solid state operational amplifier. Transformers in & out. Connected 600 ohms unless other impedance is requested.	\$597.00
EQH-2	PROGRAM EQUALIZER. Passive network. No insertion loss because solid state operational amplifier is self contained. Transformer in & out. Connected 600 ohms unless other impedance is requested.	485.00
MEQ-5	MID-RANGE EQUALIZER. Full and effective coverage of the audio mid-range. Passive network. No insertion loss because solid state operational amplifier is self contained. Transformers in & out. Connected 600 ohms unless other impedance is requested.	593.00
HLF-3C	PROGRAM & SOUND EFFECTS FILTER. Ten low pass and ten high pass fast cutoffs ranging from 50 Hz to 15 kHz. Constant K sections. 500/600 ohms in and out. No insertion loss.	398.00
HLF-23C	PROGRAM & SOUND EFFECTS FILTER. Consists of two independent HLF-3C filters on one panel. Same size as HLF-3C.	778.00
HLF-26	PROGRAM FILTER. Similar to HLF-23C but five frequency selections on each dial instead of ten.	693.00
HC-6	PROGRAM FILTER. Unit filter has five high cutoffs. Constant K section. $500/600$ ohms in and out. Dial size is $2\frac{3}{4}$ x $3\frac{1}{6}$ inches.	170.00
LC-6	PROGRAM FILTER. Unit filter has five low cutoffs. Constant K section. $500/600$ ohms in and out. Dial size is $2\frac{3}{4}$ x $3\frac{1}{6}$ inches.	180.00
MH-4	MIXER FOR HIGH LEVEL SIGNALS. Accepts 4 signals at 0.1 volt or higher level. Four mixer pots and master pot. Inputs can be used bridging or low impedance. Transformer output connected to feed 600 ohm load, unless other impedance is requested.	287.00
SP - 3	STEREO PANNER. Provides mixdown and acoustical positioning of program material in the production of stereo recordings. Fully and continuously pans each of four input channels between two output channels, left and right. Also accepts three echo return signals and mixes and pans them in the two outputs. Inputs are 600 ohms unbalanced. Transformer outputs. Connected to feed 600 ohm loads, unless other impedance is requested.	589.00

Prices F.O.B. Teaneck, N.J. Subject to change without notice.

Pulse Techniques, inc.

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SOME USERS OF PULTEC AUDIO EQUIPMENT

Most of these companies are long time users who have added to their PULTEC equipment repeatedly

Accurate Film Labs

American Broadcasting Company

Archdiocese of New York

Atlantic Records

Australian Broadcasting Commission

Bell Sound Studios

Bermuda Broadcasting Company

Black Hawk Broadcasting Corporation

Canadian Broadcasting Corporation

Canadian Department of Agriculture

Capital Cities Broadcasting Corp.

Capital Records

Capricorn Sound Studios

Caterpillar Tractor Company

CBS Radio

CBS Records

CBS Television

Commonwealth Broadcasting Company

Cornell University

Cox Broadcasting Corporation

Cue Recordings

Eastman Kodak

East Texas State University

Elektra Records

El Virrey, Industrias Musicales, S.A.

E.M.I. South Africa Pty. Ltd.

Encyclopedia Brittanica

Explotadora Radiomar, S.A.

Federal Bureau of Investigation

Government of the Republic of Korea

Haji Sound Recording Company

Herald's of Hope, Inc.

Hispavox, S.A.

1113pavox, 0.71.

Hubbard Broadcasting, Inc.

Huntsville E.T.V. Center

Indiana University

Industrial Sono Radio, S.A.

Information et Publicite

Intermedia Sound

Israel Broadcasting Authority

Kaye Smith Recording Studios

King Broadcasting Company

Kings Dominion

Life Records - Hong Kong & Singapore

Mainichi Broadcasting Company

Major Network Pty. Ltd.

Manta Sound Company

MCA Recording Studios

Mediasound Studios

Middle Tennessee State University

Minorfon Record Company

Motown Record Corporation

Musicradio Broadcasting Corporation

National Aeronautics & Space Admin.

NBC Radio

NBC Television

New York Public Library

North American Rockwell

Northeastern Illinois University

Ohio State University

Pioneer Recording Studion, Inc.

Point Park College

Radio Atlantida, S.A.

Radio El Sol

Radio Gaucha

Radio Sensacion

RCA Victor Records

Record Plant

RKO Radio

Sausalita Music Factory

Scripps Howard

Societe Française Du Son

Soundtek, Inc.

State University of New York

Syracuse University

Teichiku Record Company

Texas State Network

The Mix Place

Transfer and Edit, Limited

United Press International

U.S. Army Band

U.S. Information Agency

University of Chicago

University of Michigan

University of Missouri

University of Northern Iowa

University of Utah

University of Wisconsin

Venezolana de Promociones y Prensa

Westinghouse Broadcasting - Group W

Wayne State University

World Broadcasting Corporation