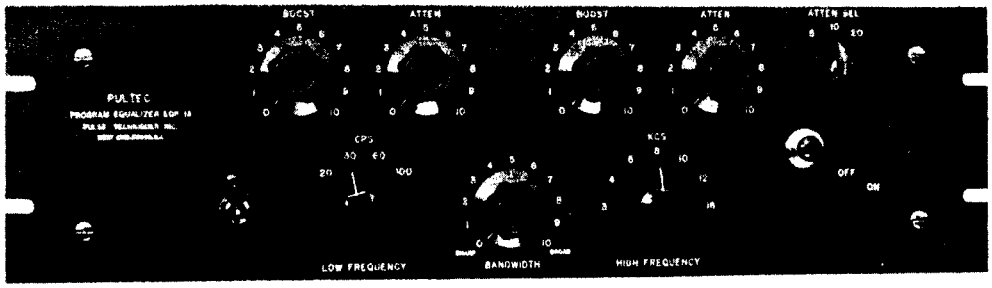
PROGRAM EQUALIZER

PULTEC®

MODEL

EQP-1A



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 PREVIOUSLY RECORDED ON EQUIPMENT OF INFERIOR QUALITY OR DIFFERING CHARACTERISTICS.*

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 noise. All controls are clickless and a key permits cutting the equalizer in and out on cue.

NO LOSS: Passive equalizer plus push-pull 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 or changes in level.

Specifications

20, 30, 60, 100 cps shelf boost, 0 to 13.5 db.

20, 30, 60, 100 cps shelf attenuate, 0 to 17.5 db.

3, 4, 5, 8, 10, 12, 16 kcs peak boost, 0 to 18 db.

5, 10, 20 kcs shelf attenuate, 0 to 16 db.

INPUT TRANSFORMER: 600, 250 and 150 ohms.

OUTPUT TRANSFORMER: For use into loads of 600, 250 and 150 ohms.

NOISE: 92 db below + 10 dbm.

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

LOSS: None. Insertion loss restored by amplifier.

AMPLIFIER: Flat, 20 cps to 20 kcs; +0, −1 db.

TUBES: 1 each ECC-82/12AU7, ECC-83/12AX7, 6X4 included.

POWER REQUIRED: 117 volts, 50/60 cps, 25 watts.

PANEL SIZE: 5¼" x 19". Depth behind panel 7¾".

PANEL FINISH: Pultec blue-gray baked enamel. Engraved.

MOUNTING: Standard EIA rack mount.

NET WEIGHT: 15 pounds.

Licensed under patents of the Western Electric Company

PULSE TECHNIQUES, INC.

1411 PALISADE AVE., WEST ENGLEWOOD, NEW JERSEY

201 TEANECK 7-2575

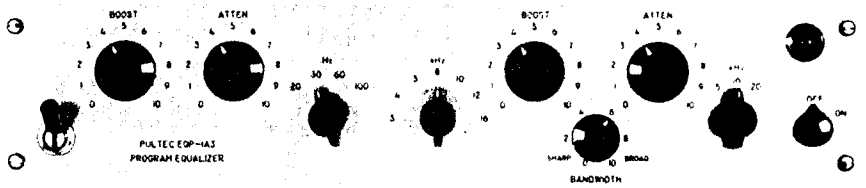
PULTEC®

PROGRAM EQUALIZER

Solid State

MODEL

EQP-1A3



USED *BY RADIO STATIONS, RECORD COMPANIES AND RECORDING STUDIOS . . .*

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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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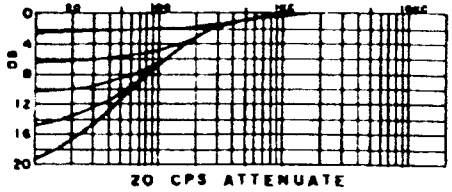
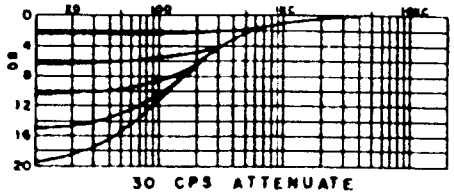
PULSE TECHNIQUES, INC.

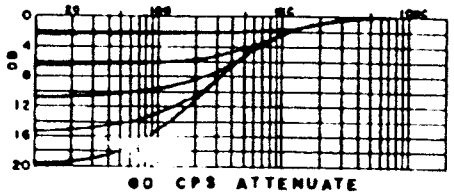
1411 PALISADE AVENUE, TEANECK, NEW JERSEY 07666

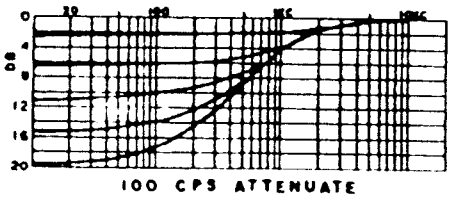
TELEPHONE
(201) 837-2575

CABLE ADDRESS: PULTEC, TEANECK, NEW JERSEY







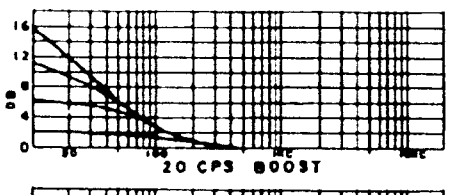


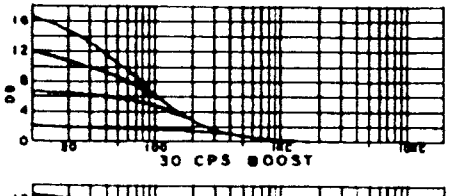
The boost, attenuate and bandwidth controls are continuously variable. Therefore, the curves in the above families represent typical settings, not steps.

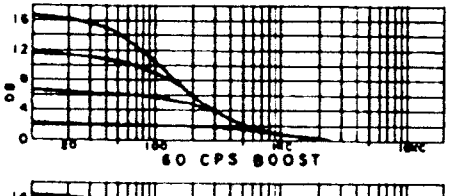
PULTEC

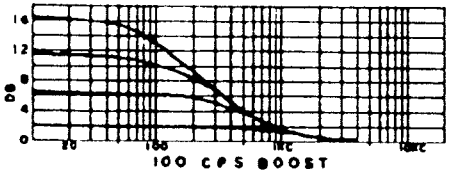
MODEL EQP-1A

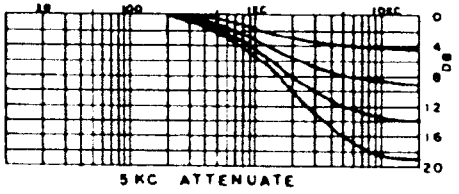
PROGRAM EQUALIZER

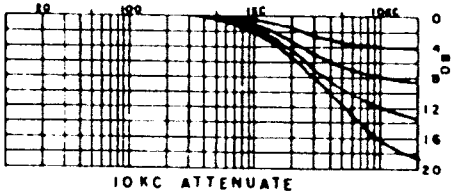


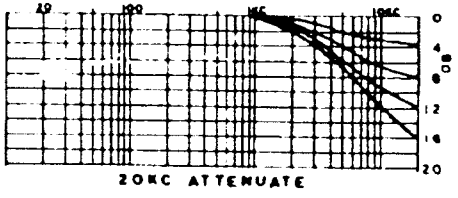


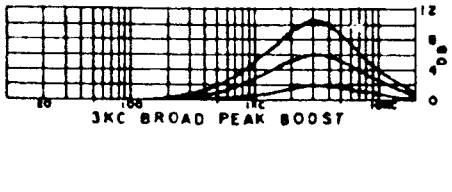


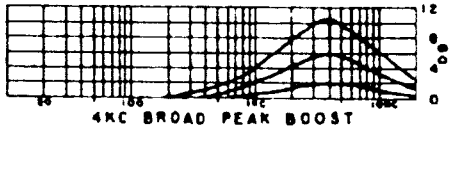


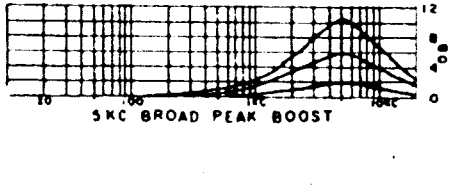


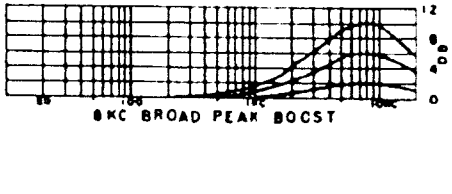


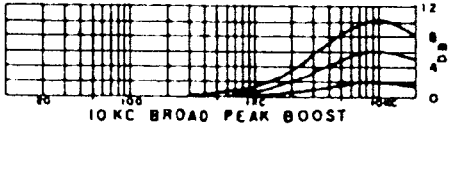


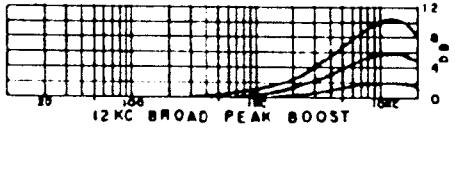


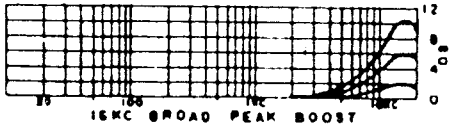


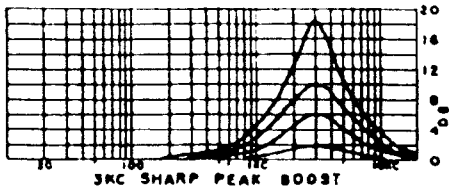


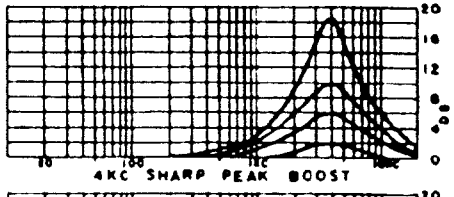


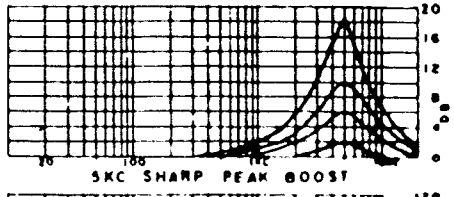


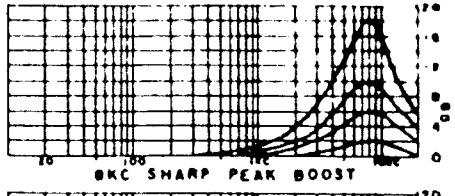


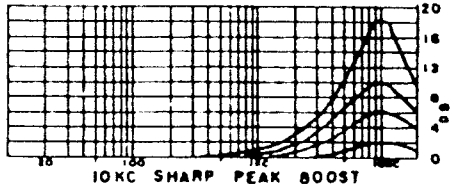


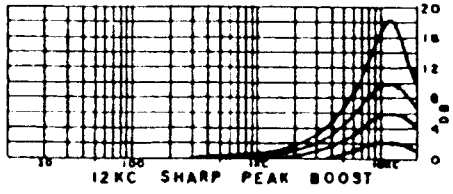


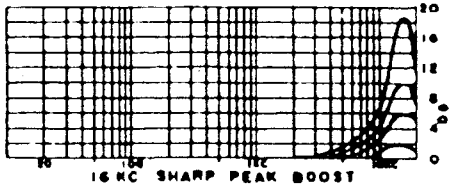












INSTALLATION AND OPERATING INSTRUCTIONS
PULTEC MODEL EQP-1A PROGRAM EQUALIZER

GENERAL

The PULTEC Model EQP-1A Program Equalizer consists of a passive equalizer, an amplifier and self contained power supply. The amplifier restores the insertion loss of the equalizing network, thus providing a no loss, no gain unit.

INSTALLATION

INPUT IMPEDANCE: 600 ohms, matching, transformer input. Can be strapped for 250 or 150 ohms.

OUTPUT IMPEDANCE: Transformer, feeds a 600 ohm load. Can be strapped to feed loads of 300 or 150 ohms.

When installing in an unbalanced circuit, strap one input terminal and one output terminal to the chassis ground terminal.

AVERAGE INPUT LEVEL: Optimum range -15 dbm to +8 dbm.

MAXIMUM PEAK OUTPUT LEVEL: +21 dbm.

POWER SUPPLY: 117 volts, 50/60 cps, 25 watts.

OPERATION

The "LOW FREQUENCY" selector switch determines the curve on which the left hand "BOOST" and "ATTEN" controls are effective. EITHER the boost control OR the attenuate control should be operated as required. Do not attempt to boost and attenuate simultaneously on the low frequencies.

The "HIGH FREQUENCY" selector switch determines the curve on which the left hand "BOOST" control is effective. The "ATTEN SEL" switch selects the curve on which the right hand "ATTEN" control operates. Consequently, it is possible, and sometimes very desirable, to operate the right hand boost and attenuate controls simultaneously. For example, it may be desired to roll off on the 20 kcs attenuate curve and also to brighten the signal somewhat at a lower frequency by using the boost control.

The "BANDWIDTH" control adjusts the width of the high frequency boost curves. This bandwidth control is continuously variable from sharp to broad.

Operating the key switch away from the "IN" position is equivalent to returning ALL boost and attenuate controls to their zero positions. The amplifier remains in the circuit.

TUBES & POTENTIOMETERS IN PULTEC EQUALIZERS

The Types ECC-82 and ECC-83 tubes are equivalent to the 12AU7 and 12AX7 respectively. The manufacturers of these tubes claim, and our experience confirms, that the ECC series average substantially lower hum and microphonics than the 12AU7 and 12AX7.

MODEL EQP-1A
MODEL EQP-1A3

The Low Boost control is Allen-Bradley Type JA-1031. This is a 10,000 ohm potentiometer with "Audio" or Logarithmic taper.

The Low Attenuate control is Allen-Bradley Type JA-1041 or Ohmite Type CA-1041. This is a 100,000 ohm potentiometer with "Audio" or Logarithmic taper.

The High Boost control is Allen-Bradley Type JU-1031 or Ohmite Type CU-1031. This is a 10,000 ohm potentiometer with "Linear" taper.

The High Attenuate control is Allen-Bradley Type JU-1021 or Ohmite Type CU-1021. This is a 1000 ohm potentiometer with "Linear" taper.

The Bandwidth control is Allen-Bradley Type JU-2521 or Ohmite Type CU-2521. This is a 2500 ohm potentiometer with "Linear" taper.

MODEL EQH-2

The Low Boost control is Allen-Bradley Type JA-5031. This is a 50,000 ohm potentiometer with "Audio" or Logarithmic taper.

The Low Attenuate control is Allen-Bradley Type JA-2541 or Ohmite Type CA-2541. This is a 250,000 ohm potentiometer with "Audio" or Logarithmic taper.

The High Boost control is Allen-Bradley Type JU-5031 or Ohmite Type CU-5031. This is a 50,000 ohm potentiometer with "Linear" taper.

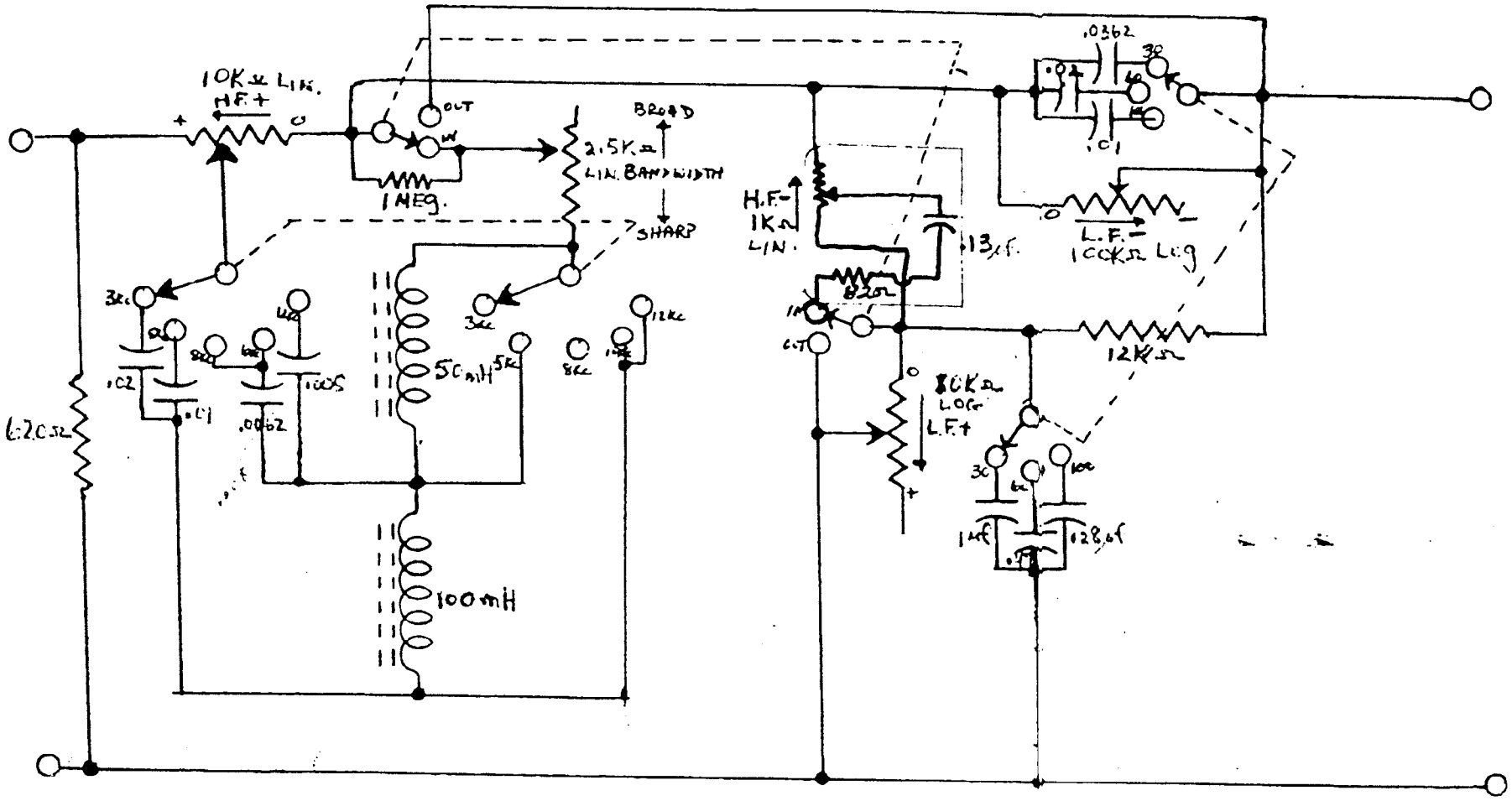
The High Attenuate control is Allen-Bradley Type JU-5021 or Ohmite Type CU-5021. This is a 5000 ohm potentiometer with "Linear" taper.

MODEL MEQ-5

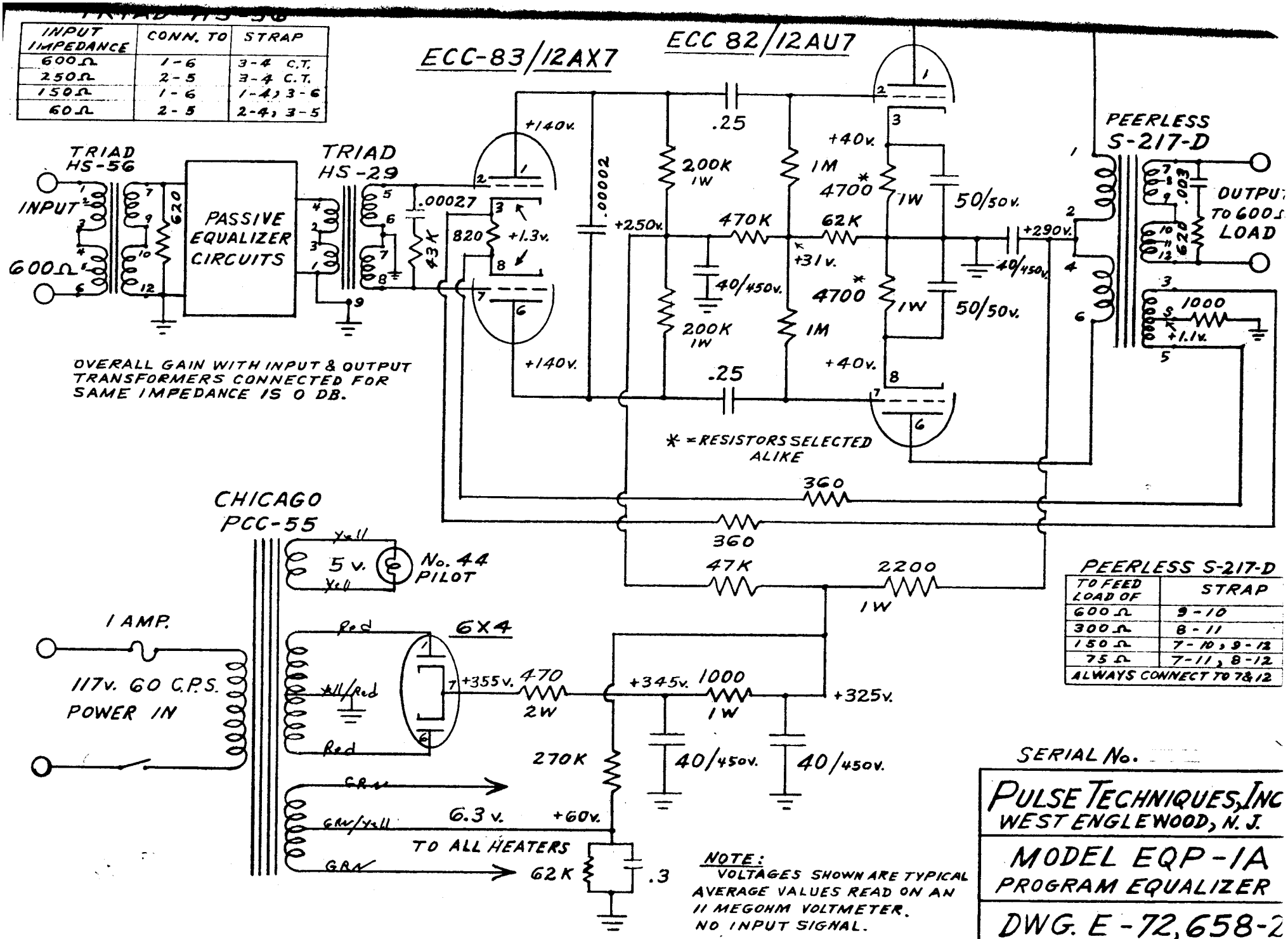
The Low Peak control is Allen-Bradley Type JU-2521 or Ohmite Type CU-2521. This is a 2500 ohm potentiometer with "Linear" taper.

The High Peak control is Allen-Bradley Type JU-1031 or Ohmite Type CU-1031. This is a 10,000 ohm potentiometer with "Linear" taper.

The Dip control is Allen-Bradley Type CB-2521. This is a 2500 ohm potentiometer with counter clockwise Logarithmic taper.



PULTEC EQP-1R
EQUALIZER



INPUT IMPEDANCE	CONN. TO	STRAP
600Ω	1-6	3-4 C.T.
250Ω	2-5	3-4 C.T.
150Ω	1-6	1-4, 3-6
60Ω	2-5	2-4, 3-5

PEERLESS S-217-D	
TO FEED LOAD OF	STRAP
600Ω	9-10
300Ω	8-11
150Ω	7-10, 9-12
75Ω	7-11, 8-12
ALWAYS CONNECT TO 7 & 12	

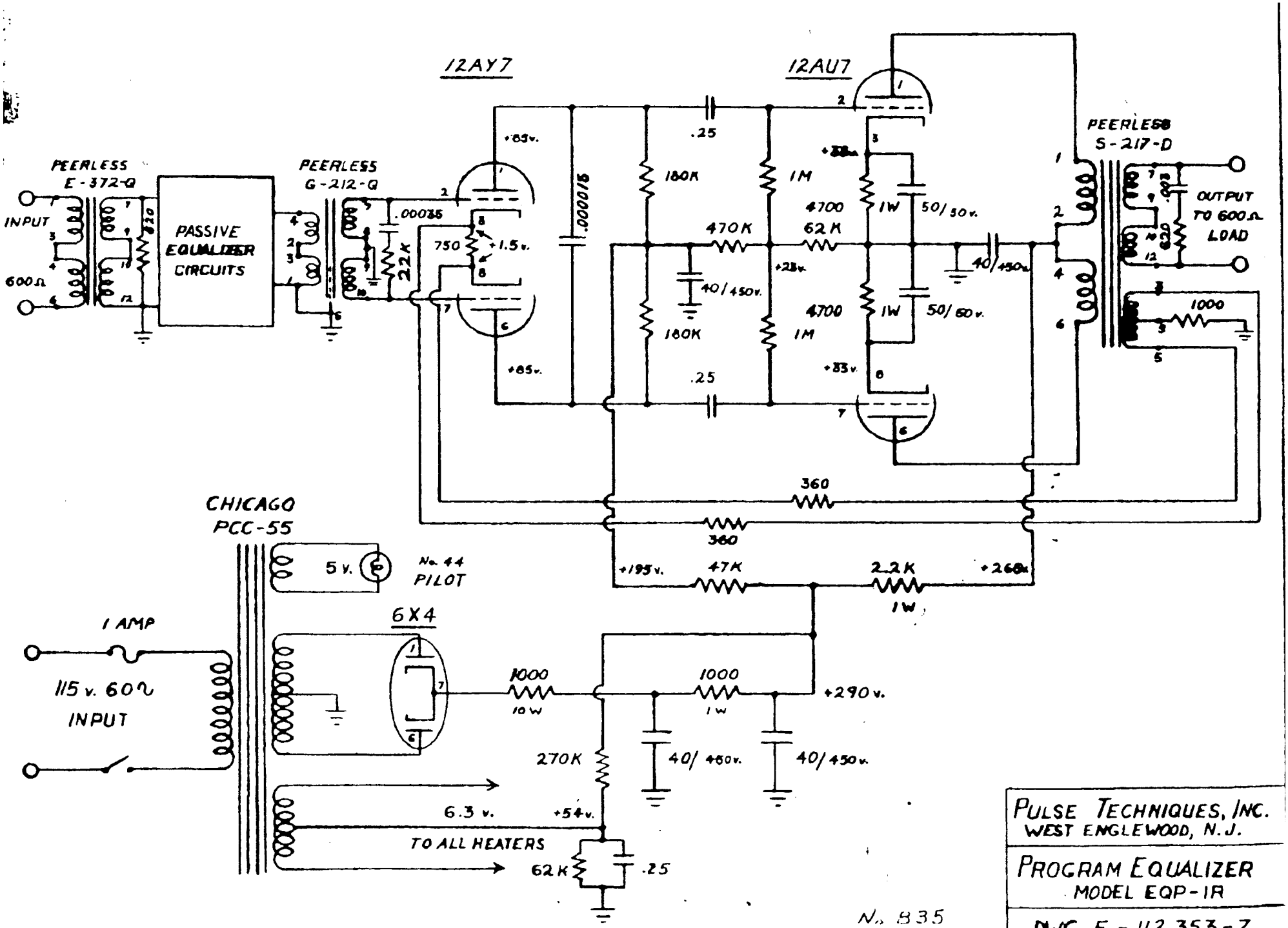
NOTE: VOLTAGES SHOWN ARE TYPICAL AVERAGE VALUES READ ON AN 11 MEGOHM VOLTMETER. NO INPUT SIGNAL.

SERIAL No. _____

PULSE TECHNIQUES, INC
WEST ENGLEWOOD, N. J.

MODEL EQP-1A
PROGRAM EQUALIZER

DWG. E-72,658-2



PULSE TECHNIQUES, INC.
WEST ENGLEWOOD, N.J.

PROGRAM EQUALIZER
MODEL EQP-1R

DWG. E-112,353-7

No. 835