

PULTEC

MODEL EQP-1A3

SERIAL No.

PULSE TECHNIQUES, INC.

1411 PALISADE AVE., WEST ENGLEWOOD, NEW JERSEY

INSTALLATION AND OPERATING INSTRUCTIONS
PULTEC MODEL EQP-1A3 PROGRAM EQUALIZER

GENERAL

THE PULTEC MODEL EQP-1A3 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.

PHASE: SEE ACCOMPANYING SHEET FOR PHASE CONNECTIONS
(IMPORTANT IN MULTI-CHANNEL SYSTEMS).

POWER SUPPLY: 117 VOLTS, 50/60 CPS, 25 WATTS.

OPERATION

THE "CPS" 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 "KCS" SELECTOR SWITCH IN THE CENTER OF THE PANEL DETERMINES THE CURVE ON WHICH THE ADJACENT "BOOST" CONTROL IS EFFECTIVE. THE "KCS" SWITCH ON THE RIGHT SIDE OF THE PANEL SELECTS THE CURVE ON WHICH THE ADJACENT "ATTEN" CONTROL OPERATES. CONSEQUENTLY, IT IS PRACTICAL, AND SOMETIMES VERY DESIRABLE, TO OPERATE THE HIGH FREQUENCY 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

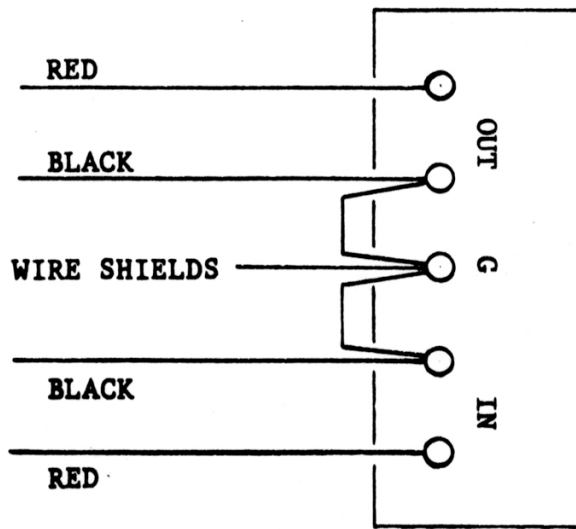
The Types ECC-82 and ECC-83 tubes are equivalent to the 12AU7 and 12AX7 respectively. The manufacturers of these tubes claim, and our experience confirms, that the ECC series average substantially lower hum and microphonics than the 12AU7 and 12AX7.

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.

PHASE CONNECTIONS

PULTEC MODELS EQP-1A3 EQH-2 MEQ-5

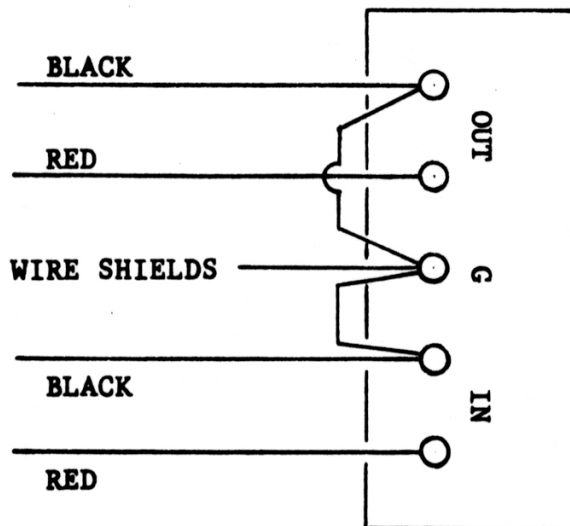
(FOR MODEL EQP-1A SEE NOTE BELOW)



OUTPUT IS IN SAME
PHASE AS INPUT

FOR UNGROUNDED OPERATION
OMIT JUMPERS

CONNECTION #1



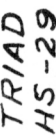
OUTPUT IS IN REVERSE
PHASE FROM INPUT

FOR UNGROUNDED OPERATION
OMIT JUMPERS

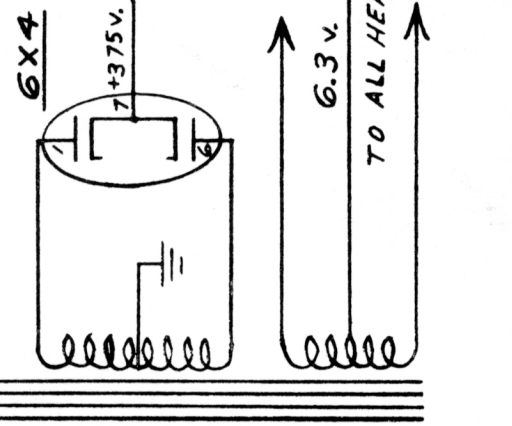
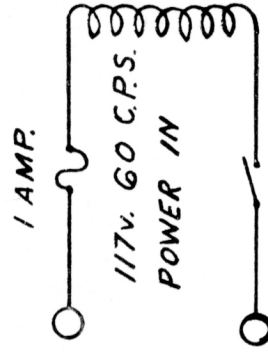
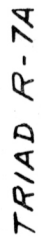
CONNECTION #2

NOTE: For Model EQP-1A (now replaced by EQP-1A3) Connection #1 gives output in reverse phase from input. Connection #2 gives output in same phase as input.

TRIAD HS-56

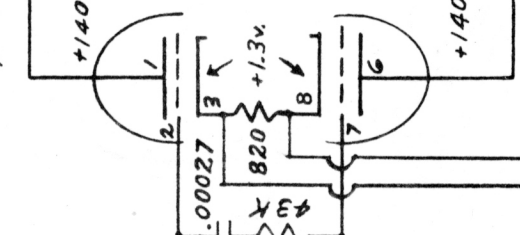


OVERALL GAIN WITH INPUT & OUTPUT TRANSFORMERS CONNECTED FOR SAME IMPEDANCE IS 0 DB.

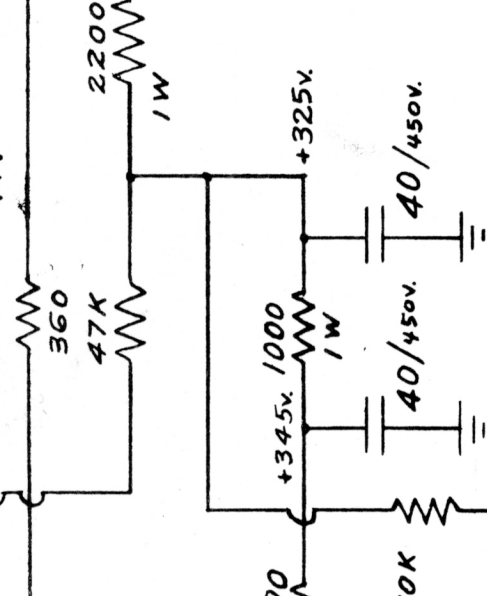


TO ALL HEATERS → 62K

A circuit diagram showing a battery (represented by two parallel lines of unequal length) connected in series with a resistor (represented by a zigzag line).



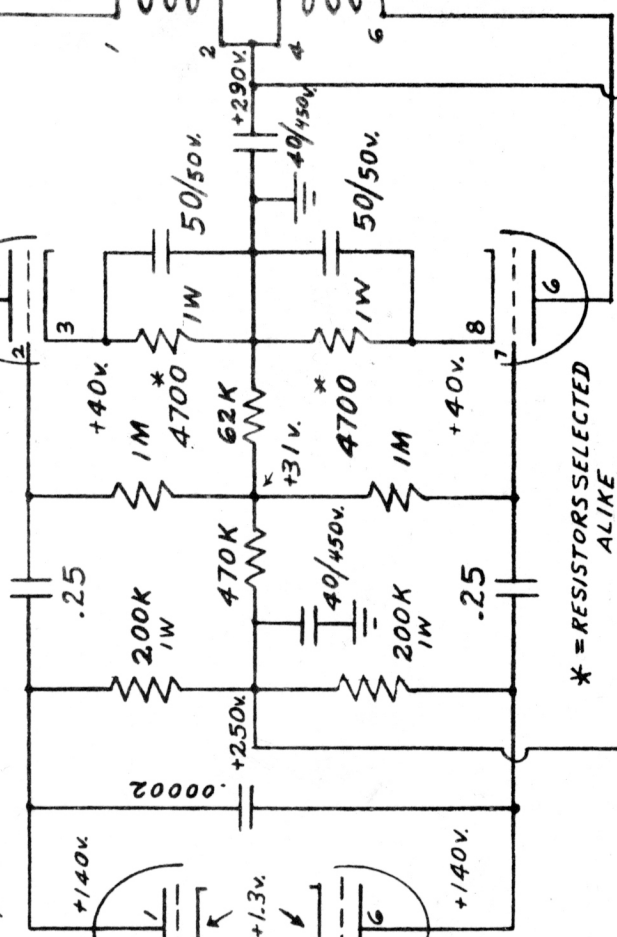
* = RESISTORS SELECTED ALIKE



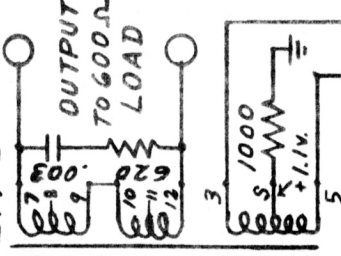
NOTE:
VOLTAGES SHOWN ARE TYPICAL
AVERAGE VALUES READ ON AN
11 MEGOHM VOLTMETER.
NO INPUT SIGNAL.

ECC 82/12AU7

ECC-83 / 12AX7



PEERLESS
S-217-D



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

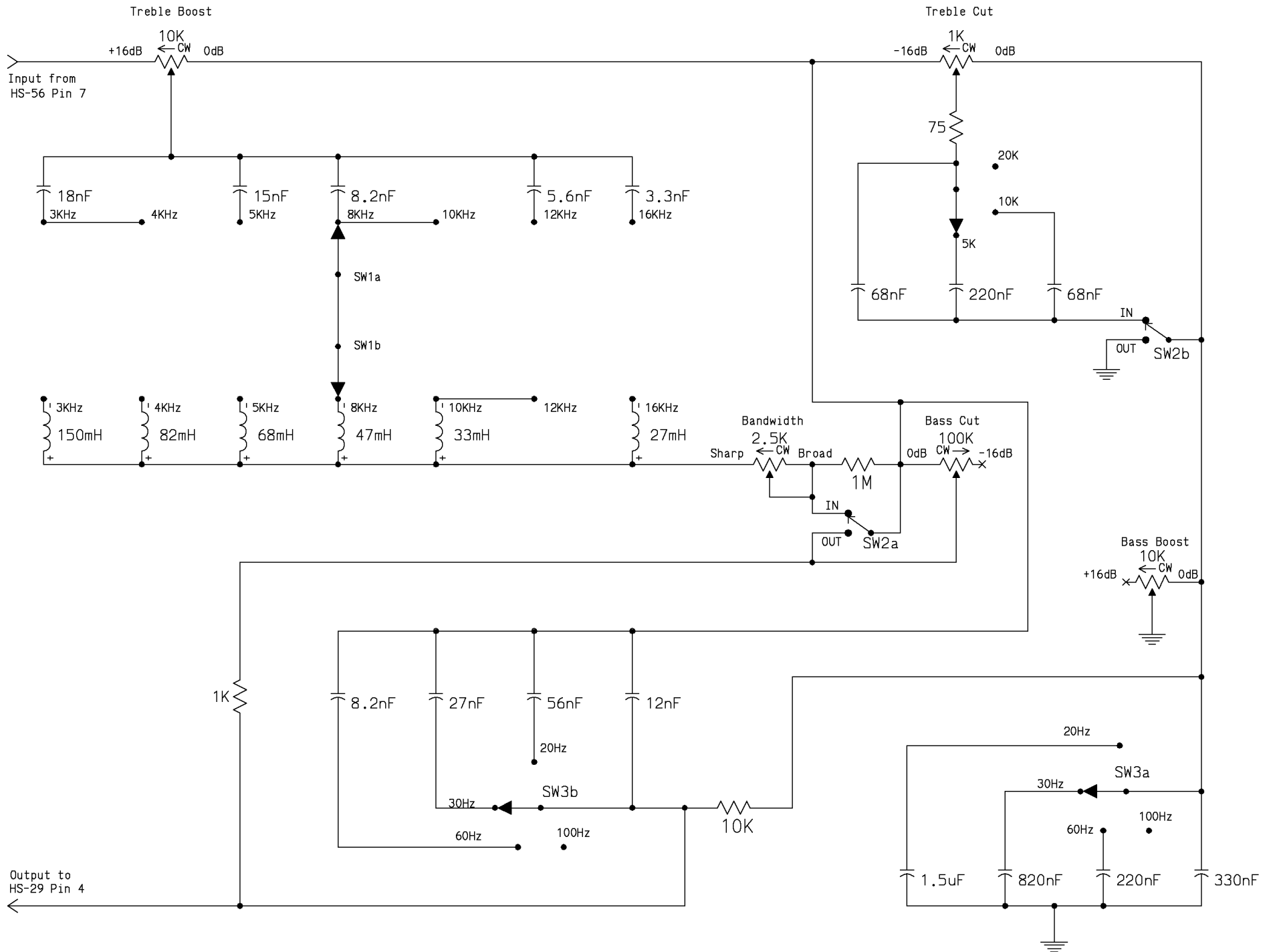
SERIAL No.

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

**MODEL EQP-1A3
PROGRAM EQUALIZER**

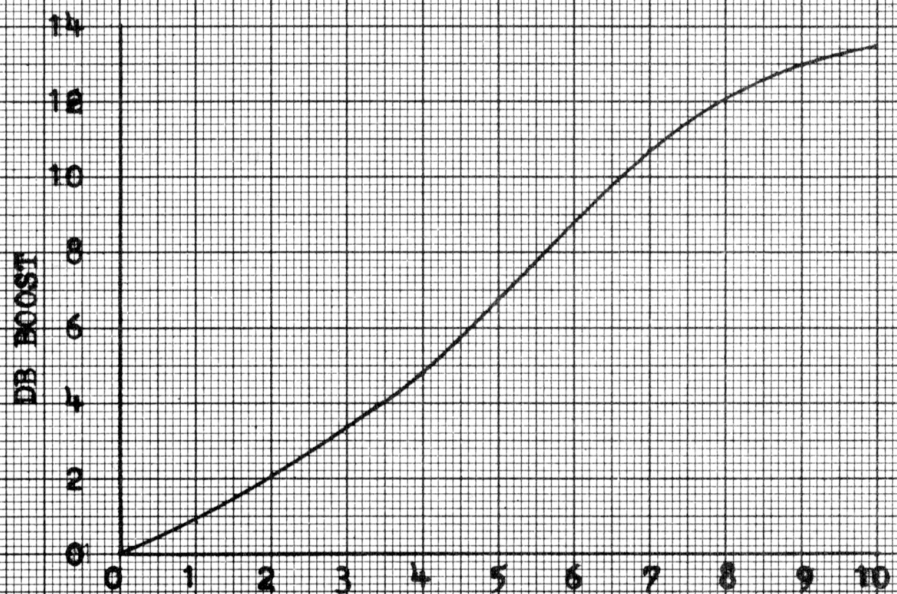
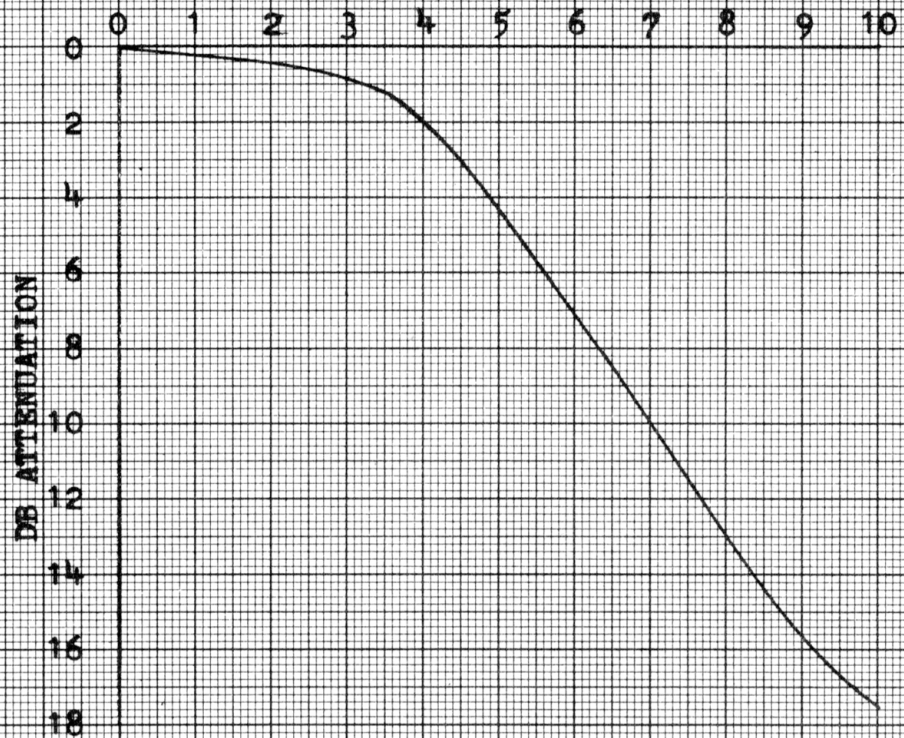
DWG. E-72,658-3

PASSIVE EQUALIZER CIRCUIT PULTEC EQP-1A



PULTEC EQP-1
EQUALIZER

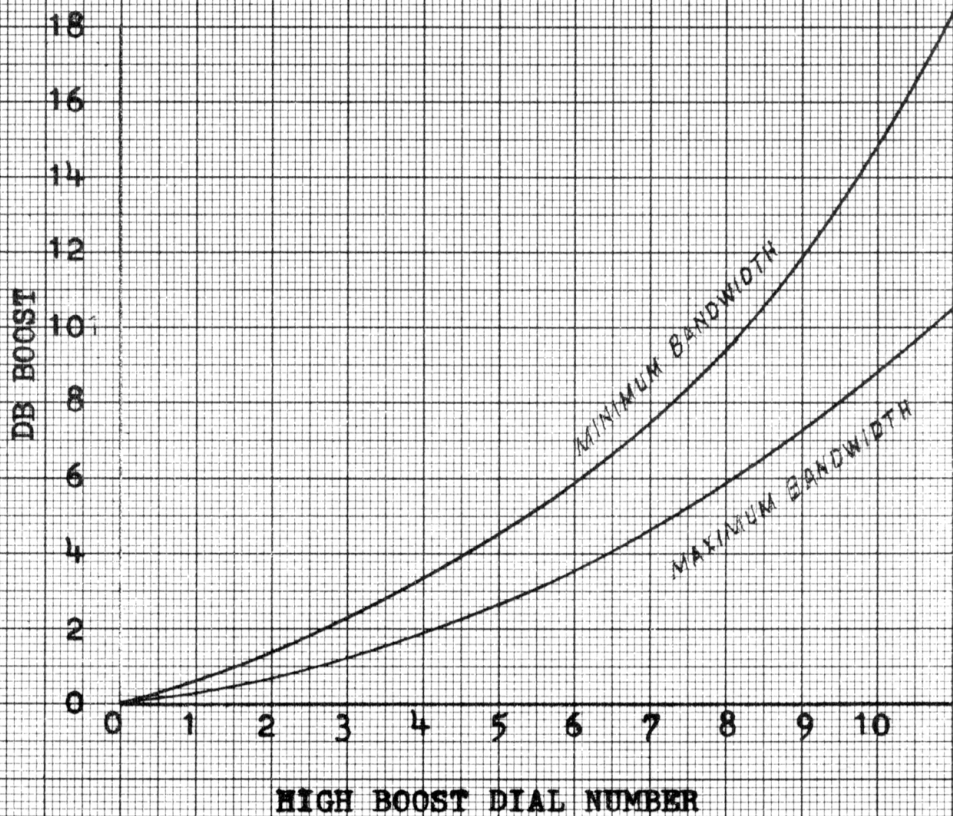
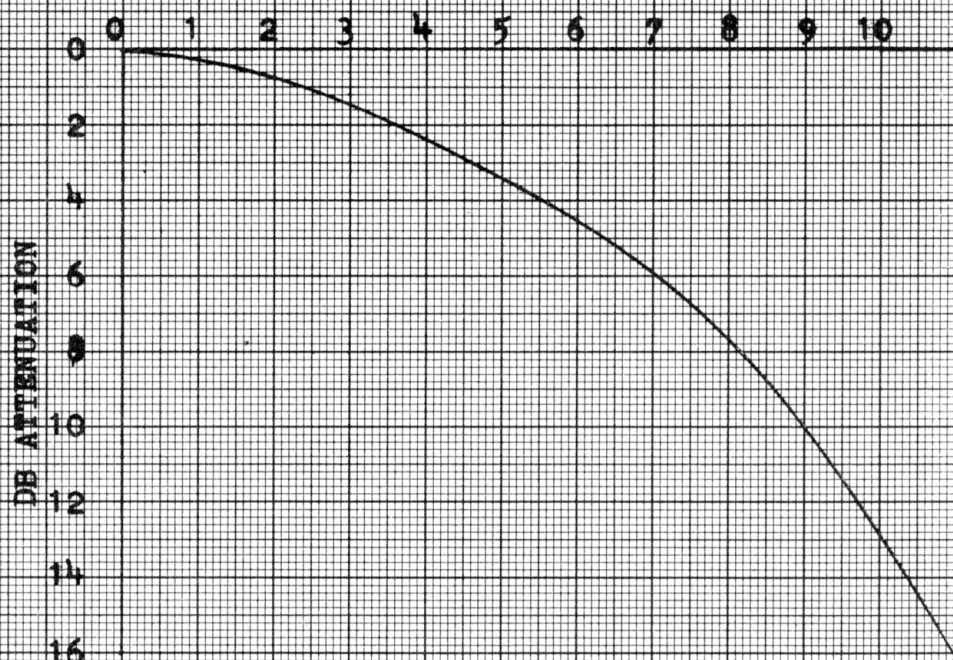
LOW ATTENUATE DIAL NUMBER



LOW BOOST DIAL NUMBER

**PULTEC EQP-1
EQUALIZER**

HIGH ATTENUATE DIAL NUMBER



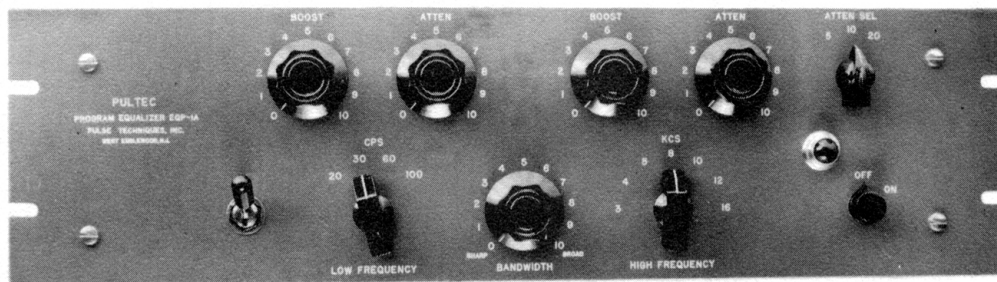
PROGRAM EQUALIZER

NOW
EQP-1A3
ONLY 3½" HIGH
SAME PARTS
SAME SPECS
REPLACES EQP-1A

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

The wide range of equalization curves pro-
vided 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 } **Boost** frequencies.
7 high }

4 low } **Attenuate** frequencies.
3 high }

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.

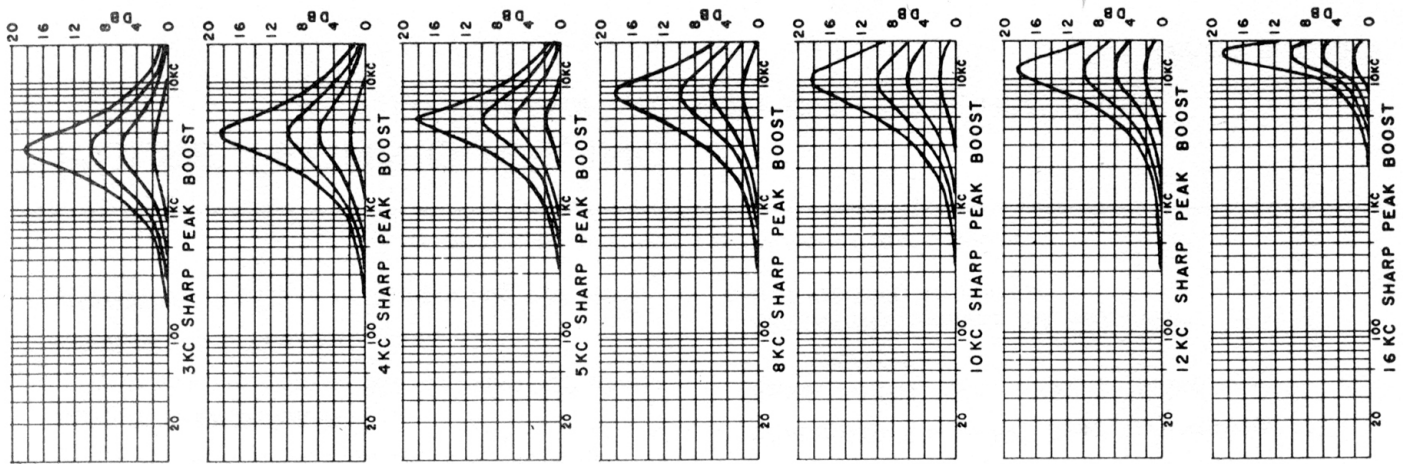
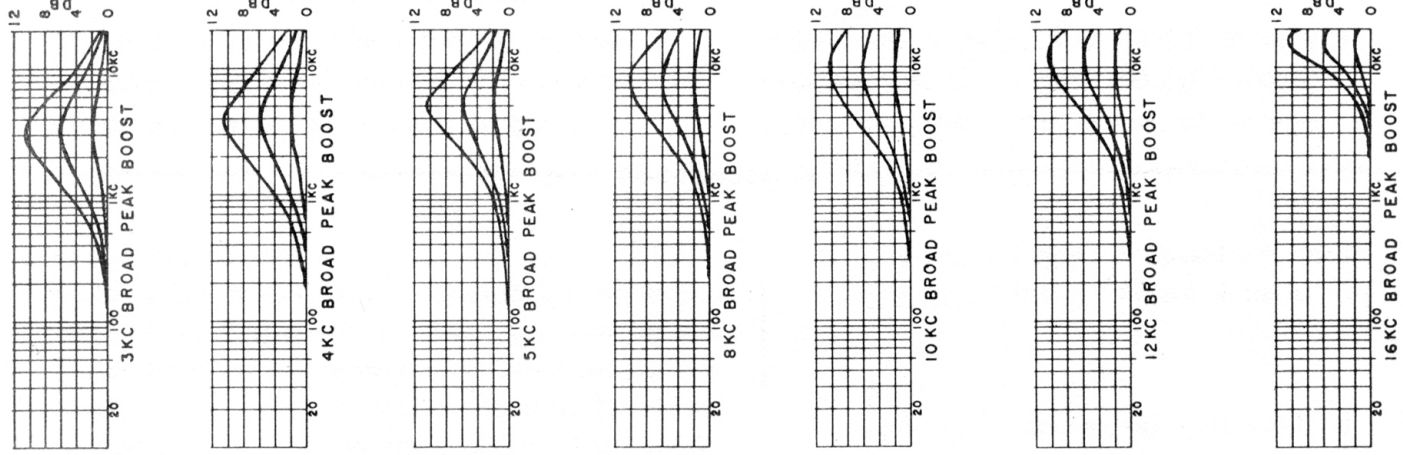
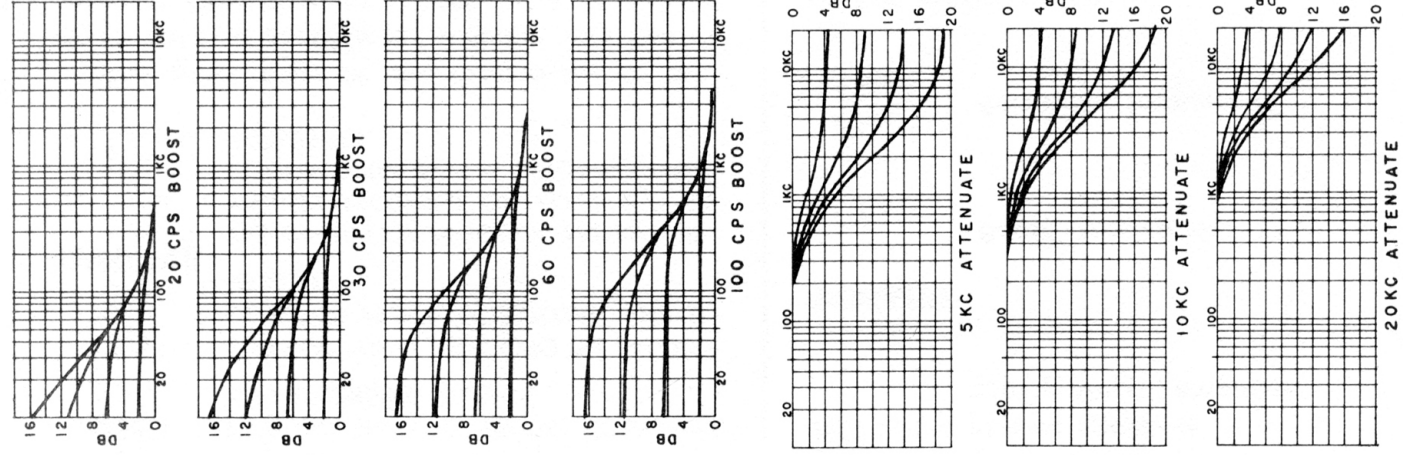
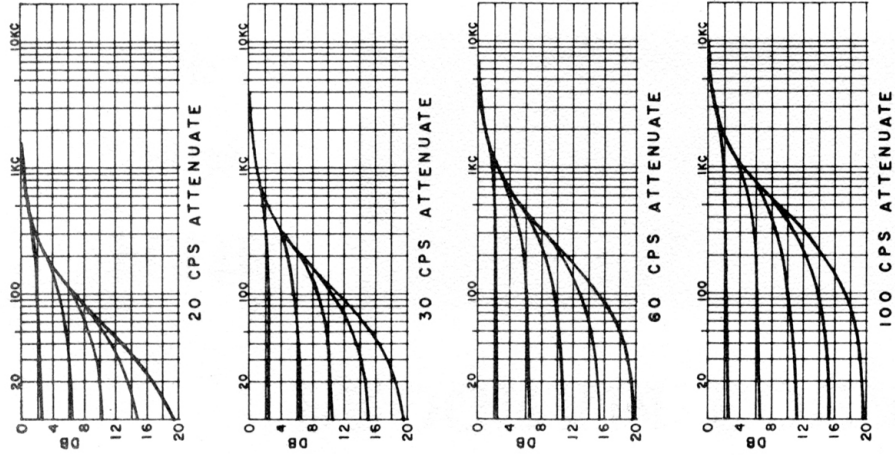
NET WEIGHT: 15 pounds.

Licensed under patents of the Western Electric Company

PULSE TECHNIQUES, INC.

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201 TEANECK 7-2575



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