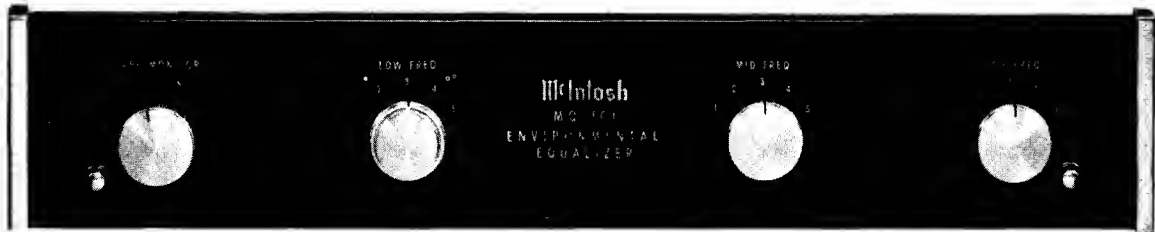


# McIntosh

## *MQ 101*

*ENVIRONMENTAL EQUALIZER*



## SERVICE INFORMATION

STARTING WITH SERIAL NO. 1V001

McINTOSH LABORATORY INC. 2 CHAMBERS STREET BINGHAMTON, NEW YORK

MQ 101

## ELECTRICAL SPECIFICATIONS

## FREQUENCY RESPONSE

$\pm 0.5$ dB from 20Hz to 20,000Hz (with low frequency switch in position 1 and mid and high frequency switches in position 3.)

## DISTORTION

Less than 0.1% at rated output level, 20Hz to 20,000Hz

## HUM AND NOISE

85dB below rated output (140 $\mu$ V)

## INPUT SENSITIVITY AND IMPEDANCE

Main and tape input 2.5 volts at 60k $\Omega$  for rated output at 1000Hz.

## INPUT ATTENUATOR

Switched 0dB, -6dB, or -12dB

## OUTPUT

Main: 2.5 volts into 47k $\Omega$  or greater load, 20Hz to 20,000Hz

Tape: 2.5 volts with rated input

## EQUALIZATION

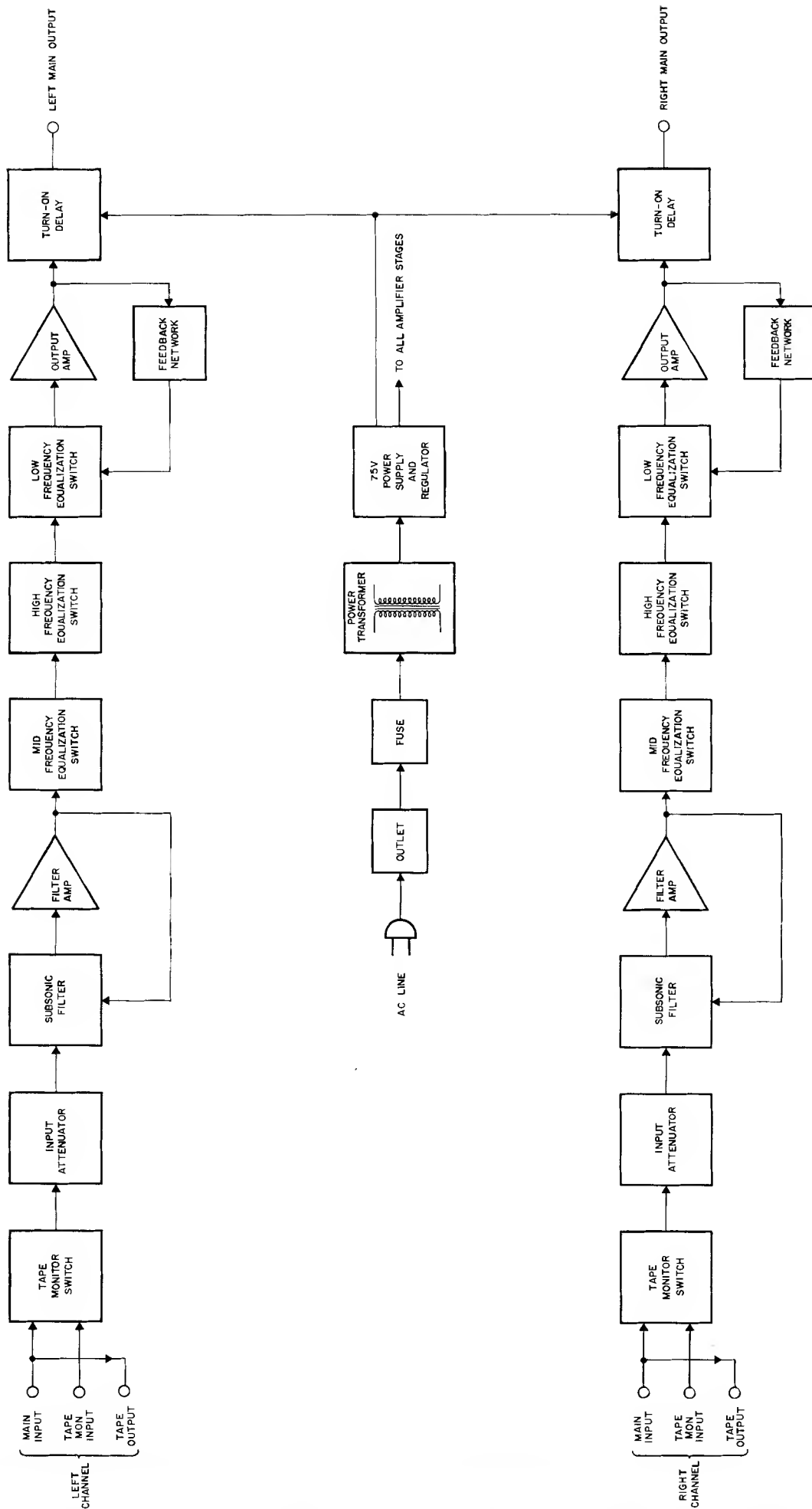
Low frequency: 0 to +17dB at 20Hz in 5 steps (0, +6, +9, +13, +17dB in positions 1, 2, 3, 4, 5 respectively)

Mid frequency: -5 to +5dB at 4000Hz in 5 equal steps

High frequency: -4 to +4dB at 20,000Hz in 5 equal steps

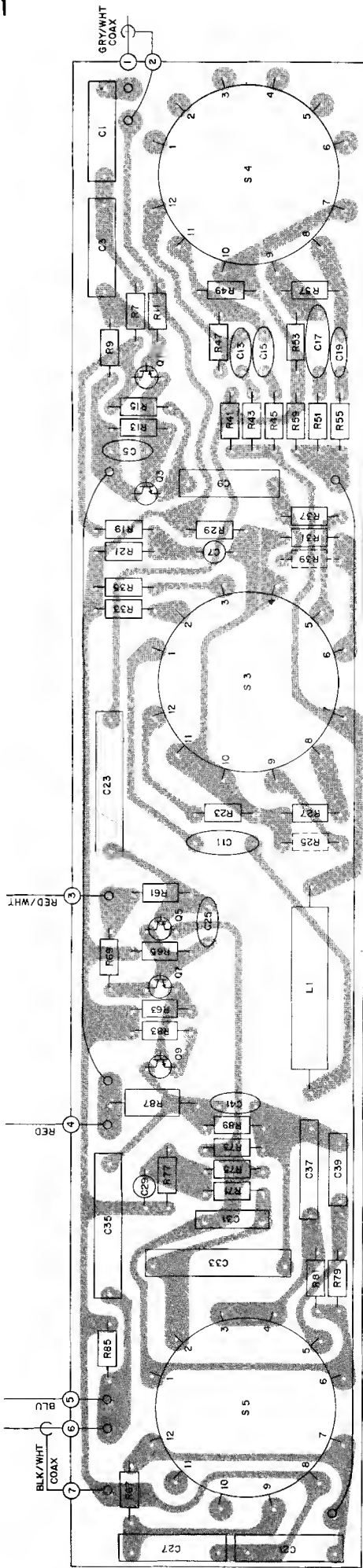
## POWER REQUIREMENT

120 volts, 50/60Hz, 20 watts

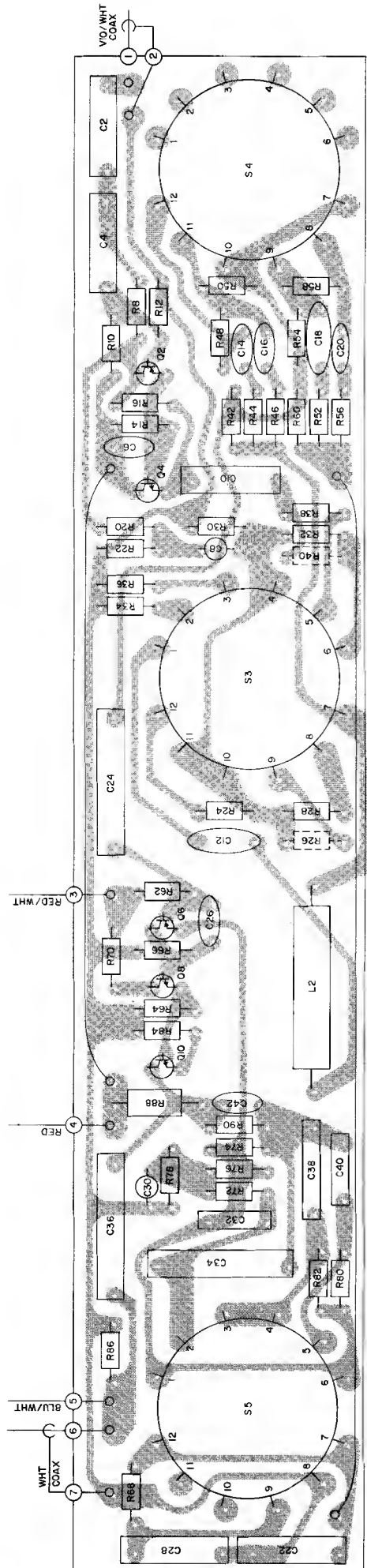


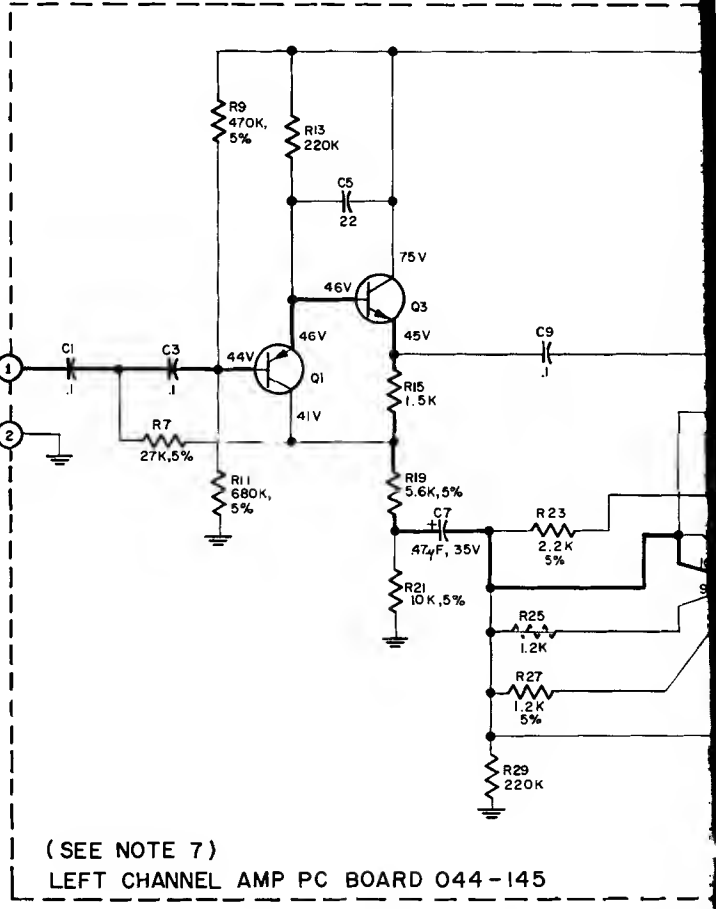
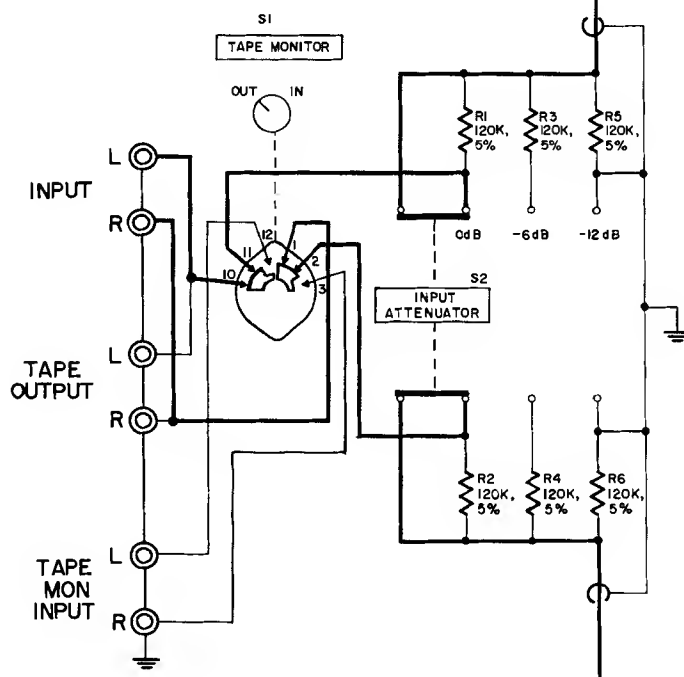
BLOCK DIAGRAM

LEFT CHANNEL AMPLIFIER PC BOARD 044-145

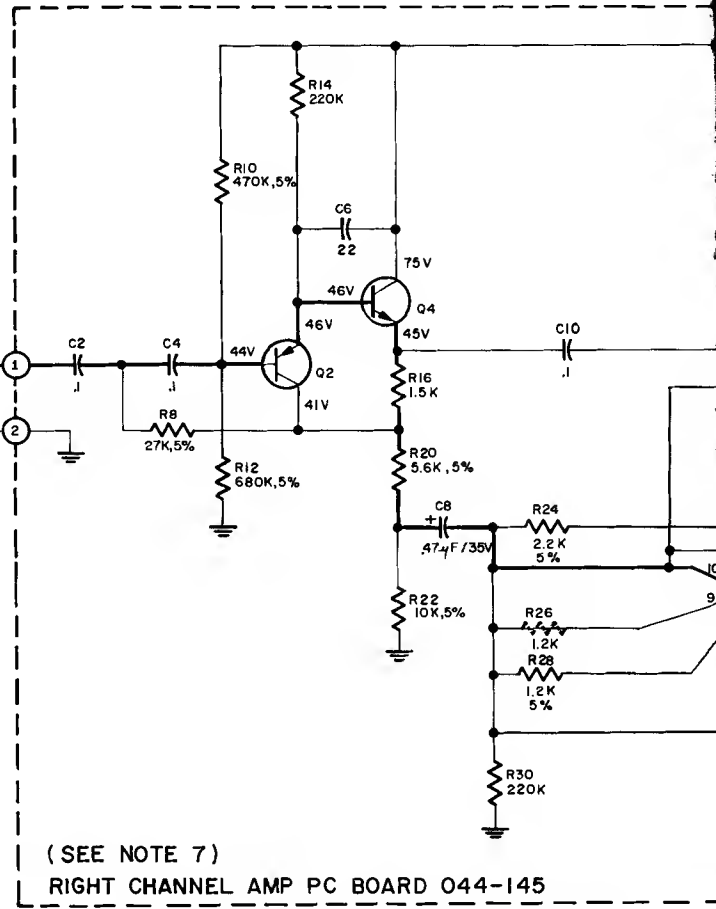


RIGHT CHANNEL AMPLIFIER PC BOARD 044-145

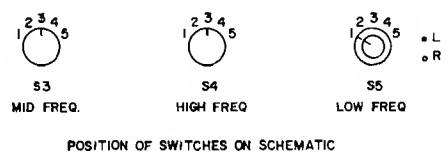




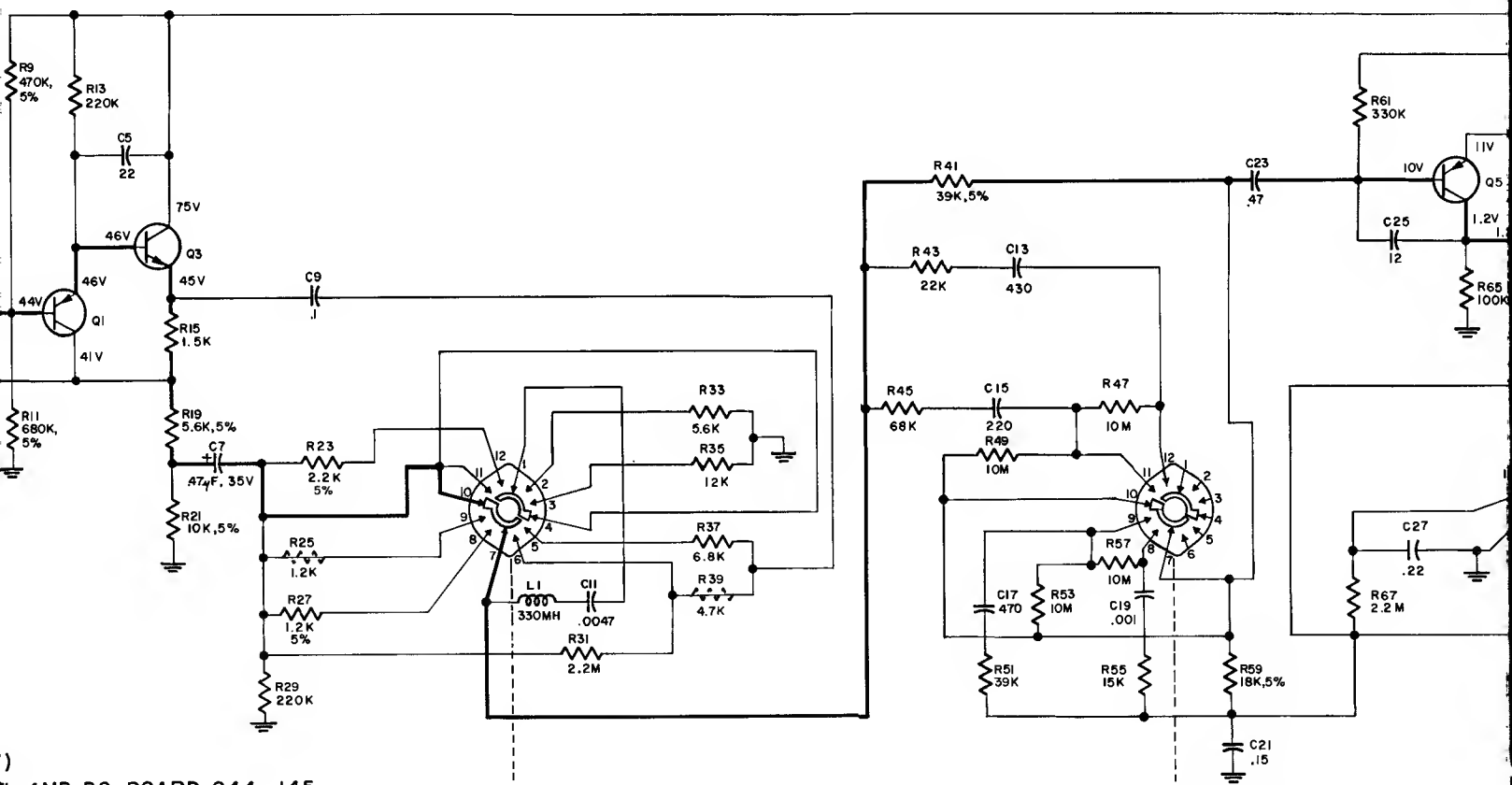
(SEE NOTE 7)  
LEFT CHANNEL AMP PC BOARD 044-145



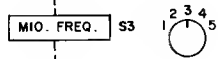
(SEE NOTE 7)  
RIGHT CHANNEL AMP PC BOARD 044-145



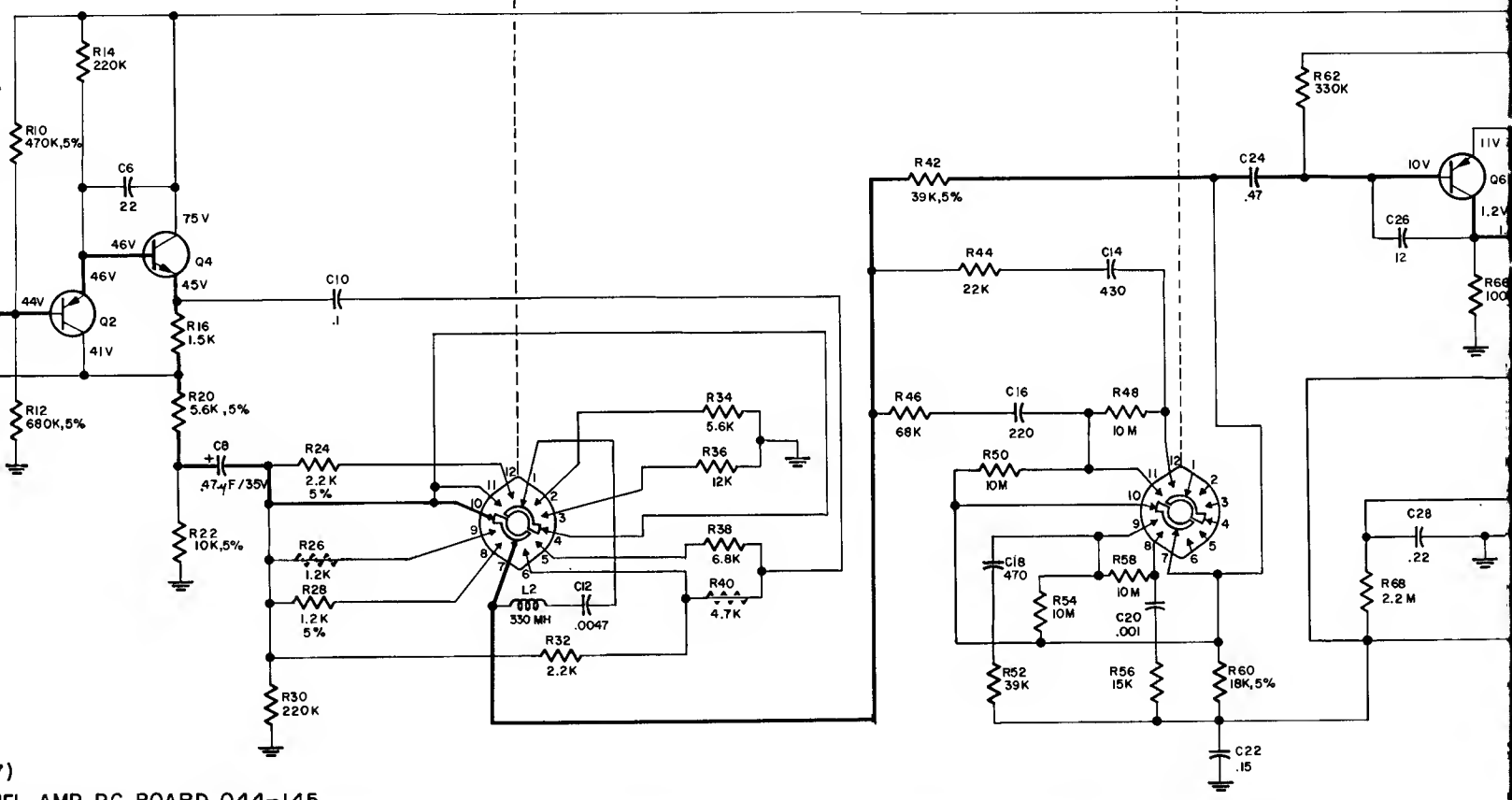
POSITION OF SWITCHES ON SCHEMATIC



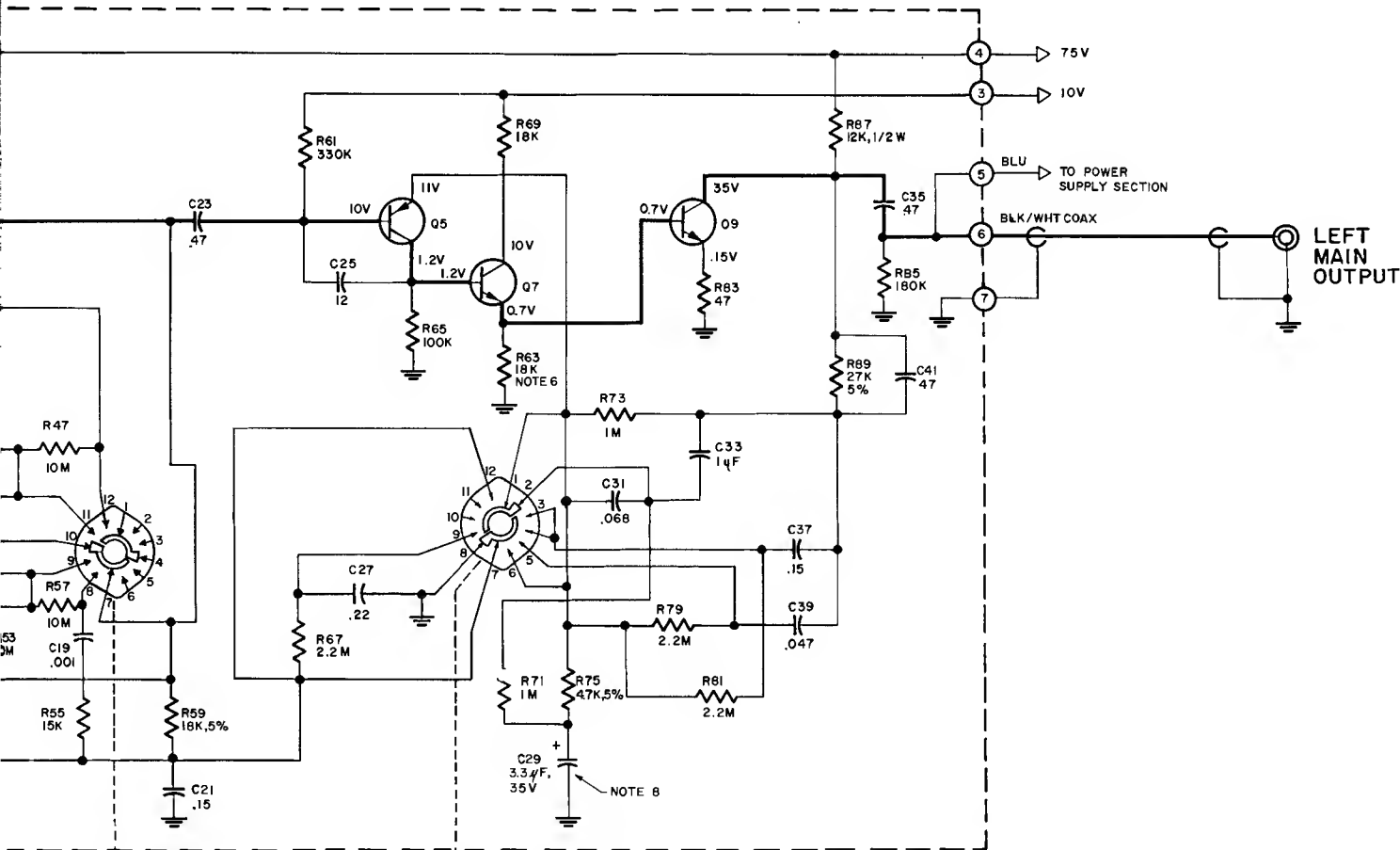
EL AMP PC BOARD 044-145



LOW



EL AMP PC BOARD 044-145

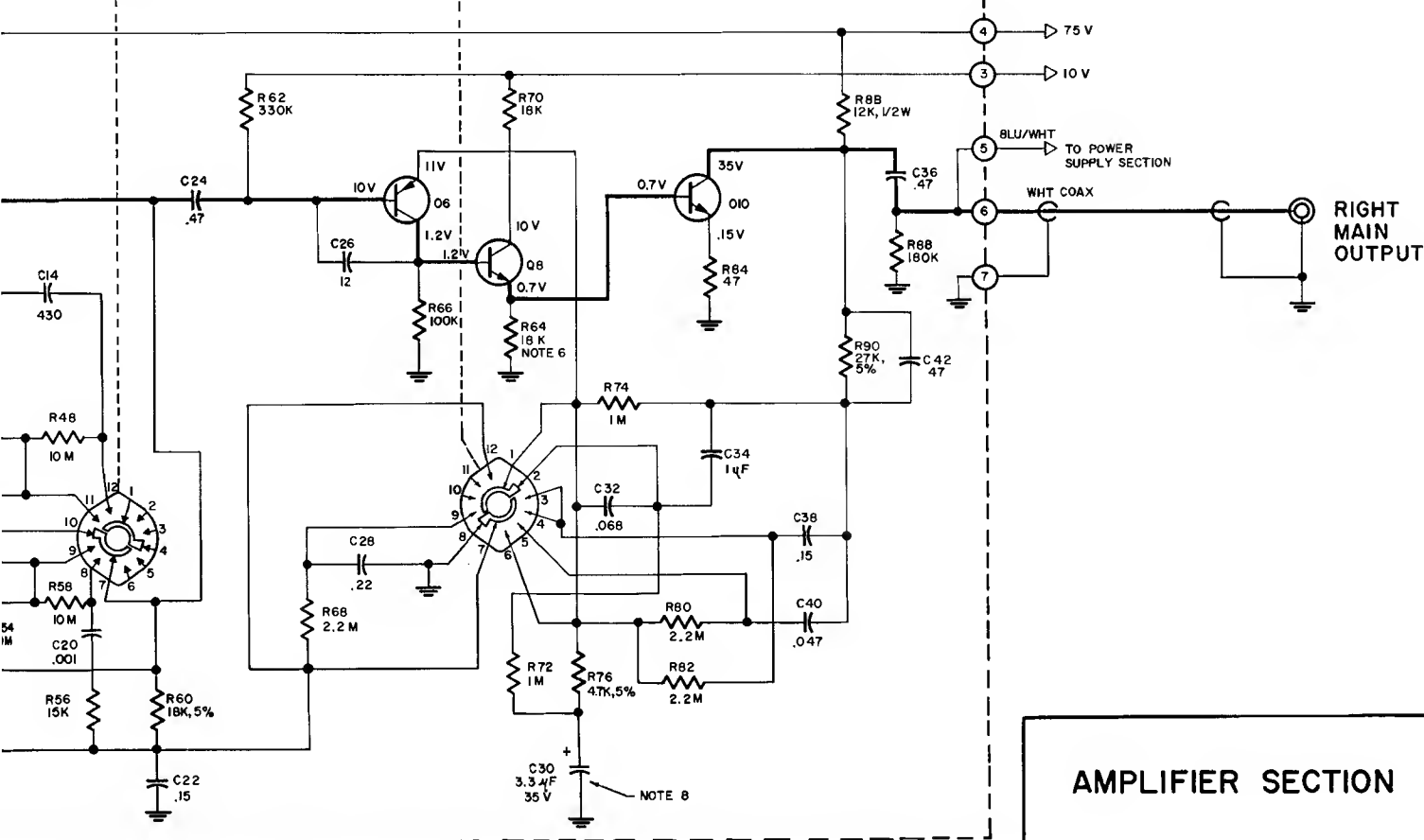


LEFT MAIN OUTPUT

HIGH FREQ. S4

LOW FREQ. S5

L  
R



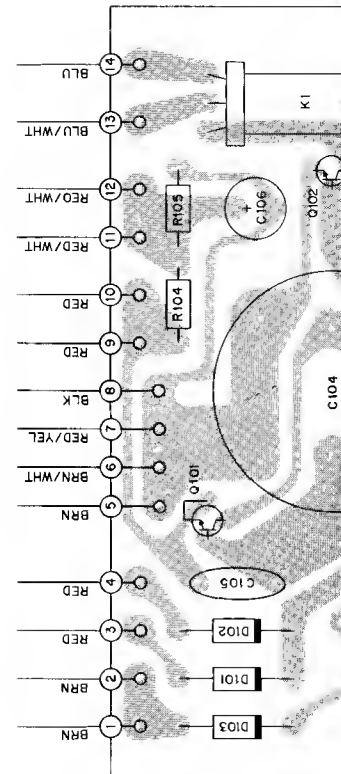
RIGHT MAIN OUTPUT

**AMPLIFIER SECTION**

MQ101 154-588

## SCHEMATIC NOTES

1. Unless otherwise specified: Resistance values are in ohms, 1/4 watt, and 10% tolerance; capacitance values smaller than 1 are in microfarads ( $\mu\text{F}$ ); capacitance values greater than 1 are in picofarads (pF).
2. Printed circuit board components are outlined on the schematics by dotted lines. The circled numbers around the dotted lines correspond to the numbers on the PC Board layouts.
3. The heavy lines on the schematics denote the primary signal path.
4. The terminal numbering of rotary switches is for reference only.
5. All voltages indicated on the schematics are measured under the following conditions:
  - a. Use of an 11 megohm input impedance VTVM.
  - b. All voltages  $\pm 10\%$  with respect to chassis ground.
  - c. No signal at input terminals.
  - d. AC input at 117 volts, 50/60 Hz.
6. In units with Serial No.'s below 1V445, R63 and R64 are 47k.
7. In units with Serial No.'s below 3V164: R75 & R76 are 1.5K; R55 & R56 are 18K; R89 & R90 are 30K; R41, R42, R43 & R44 are 100K; R45 & R46 are 220K; C15 & C16 are 68pF; C13 & C14 are 120pF; C21 & C22 are .22 $\mu\text{F}$ ; C17 & C18 are 430pF; C19 & C20 are 680pF; R15 & R16 are 1K; R19 & R20 are 4.7K; R21 & R22 are 2.7K; R23 & R24 are 750 $\Omega$  R25 & R26 are used; R27 & R28 are 3K; R29 & R30 are 47K; R35 & R36 are 8.2K; R37 & R38 are 10K; R39 & R40 are used and C33 & C34 are .47 $\mu\text{F}$ .
8. In units with Serial No.'s below 3V679 C29 & C30 are 10 $\mu\text{F}$ .





NOTES

Resistance values are in ohms; capacitance values are in microfarads ( $\mu F$ ); capacitance values in picofarads (pF).

Points are outlined on the schematic. The circled numbers correspond to the numbers on the test points on the board.

Test points denote the primary test points.

Primary switches is for reference only.

Measurements on the schematics are measured with respect to chassis ground.

Impedance VTVM.

Respect to chassis ground.

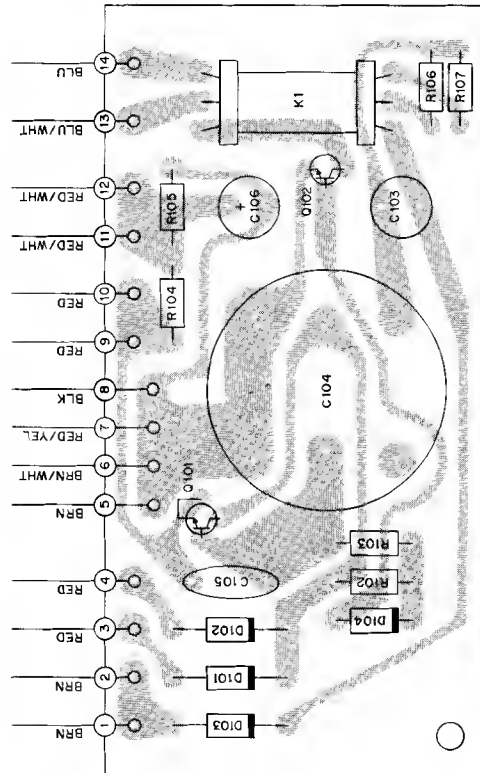
Tests.

60 Hz.

Low 1V445, R63 and R64

Low 3V164: R75 & R76 are 10K; R77, R78, R79, R90 are 30K; R41, R42, R43, R44 are 220K; C15 & C16 are 680pF; R15 & R16 are 2.7K; R17 & R22 are 2.7K; R23, R24, R25, R26 are used; R27 & R28 are 8.2K; R29, R30, R31, R32, R33, R34, R35, R36 are 8.2K; R37, R38, R39 are used and C33 & C34 are used.

Low 3V679 C29 & C30



POWER SUPPLY PC BOARD 044-144

## REPLACEMENT PARTS

All parts not listed are common items obtainable from radio parts jobbers.

Replacement parts may be obtained when ordered by PART NUMBER from:

McIntosh Laboratory, Inc.  
Customer Service Department  
2 Chambers Street  
Binghamton, New York 13903  
(telephone 607-723-3512)

## CAPACITORS

Symbol Number	Description	Part Number
C1,2	Mylar .1 $\mu$ F 250V	064-067
C3,4	Mylar .1 $\mu$ F 250V	064-067
C7,8	Tant. Elect. .47 $\mu$ F 35V	066-244
C9,10	Mylar .1 $\mu$ F 250V	064-067
C21,22	Mylar .22 $\mu$ F 250V	064-096
C23,24	Mylar .47 $\mu$ F 250V	064-069
C27,28	Mylar .22 $\mu$ F 250V	064-096
C29,30	Tant. Elect. 3.3 $\mu$ F 35V	066-238
C31,32	Mylar .068 $\mu$ F 250V	064-095
C33,34	Mylar .47 $\mu$ F 250V	064-069
C35,36	Mylar .47 $\mu$ F 250V	064-069
C37,38	Mylar .15 $\mu$ F 250V	064-100
C39,40	Mylar .047 $\mu$ F 250V	064-085
C103	Elect. 220 $\mu$ F 16V	066-160
C104	Elect. 200/200 $\mu$ F 150/100V	066-159
C106	Elect. 220 $\mu$ F 16V	066-160

## DIODES

D101,102	Si. Rectifier	070-031
D103	Si. Rectifier	070-031
D104	Zener Diode 75V	070-025

## FUSES

F101	Fuse .5 ampere	089-009
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## CHOKES

L1,2	Choke 300MH	122-100
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## TRANSISTORS

Q1,2	Si. PNP transistor	132-074
Q3,4	Si. NPN transistor	132-075
Q5,6	Si. PNP transistor	132-074
Q7,8	Si. NPN transistor	132-075
Q9,10	Si. NPN transistor	132-075

Q101	Power transistor	132-078
Q102	Si. NPN transistor	132-075

## SWITCHES

S1	Tape Monitor	146-142
S2	Input Attenuator	148-026
S3	Mid. Frequency	146-144
S4	High Frequency	146-144
S5	Low Frequency	146-144

## TRANSFORMERS

T101	Power Transformer	159-092
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## LAMPS

#1866 (Front panel)	058-014
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## RELAYS

K1	Relay	087-007
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## FRONT PANEL &amp; TRIM

Front Panel	044-179
Front Panel End Caps	018-137
Tape Monitor Knob	043-253
Mid. Frequency Knob	043-253
High Frequency Knob	043-253
Low Frequency Knob (front)	044-375
Low Frequency Knob (rear)	090-100

## MOUNTING SYSTEM

Shelf Bracket (right)	044-210
Shelf Bracket (left)	044-209
Mounting Template #400	038-429
Hardware Package	044-143

## MISCELLANEOUS ITEMS

Fuseholder	178-001
AC Power Cord	170-021
Shipping Carton	044-211
Owners Manual	038-669
Audio Cable	170-015