

# McIntosh

## *MC 250*



## SERVICE INFORMATION

STARTING WITH SERIAL NO. 23L48

MCINTOSH LABORATORY INC. 2 CHAMBERS STREET BINGHAMTON, NEW YORK

MC 250

## ELECTRICAL SPECIFICATIONS

### Power Output:

100 watts RMS continuous, 50 watts per channel operating simultaneously, into 4 ohm, 8 ohm, or 16 ohm loads.

### Harmonic Distortion:

Less than 0.25% at rated power output from 20Hz to 20,000Hz.

### Intermodulation Distortion:

Less than 0.25% for any combination of frequencies between 20 Hz and 20,000 Hz.

### Frequency Range:

At rated output both channels: +0 to -0.25dB from 20Hz through 20,000Hz.

### Output Damping Factor:

Greater than 10 for any output tap.

### Input Sensitivity & Impedance:

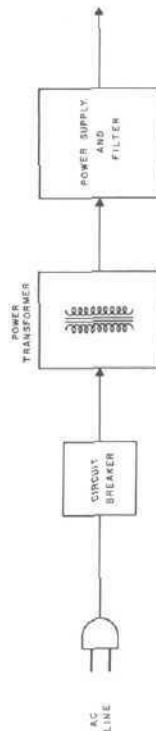
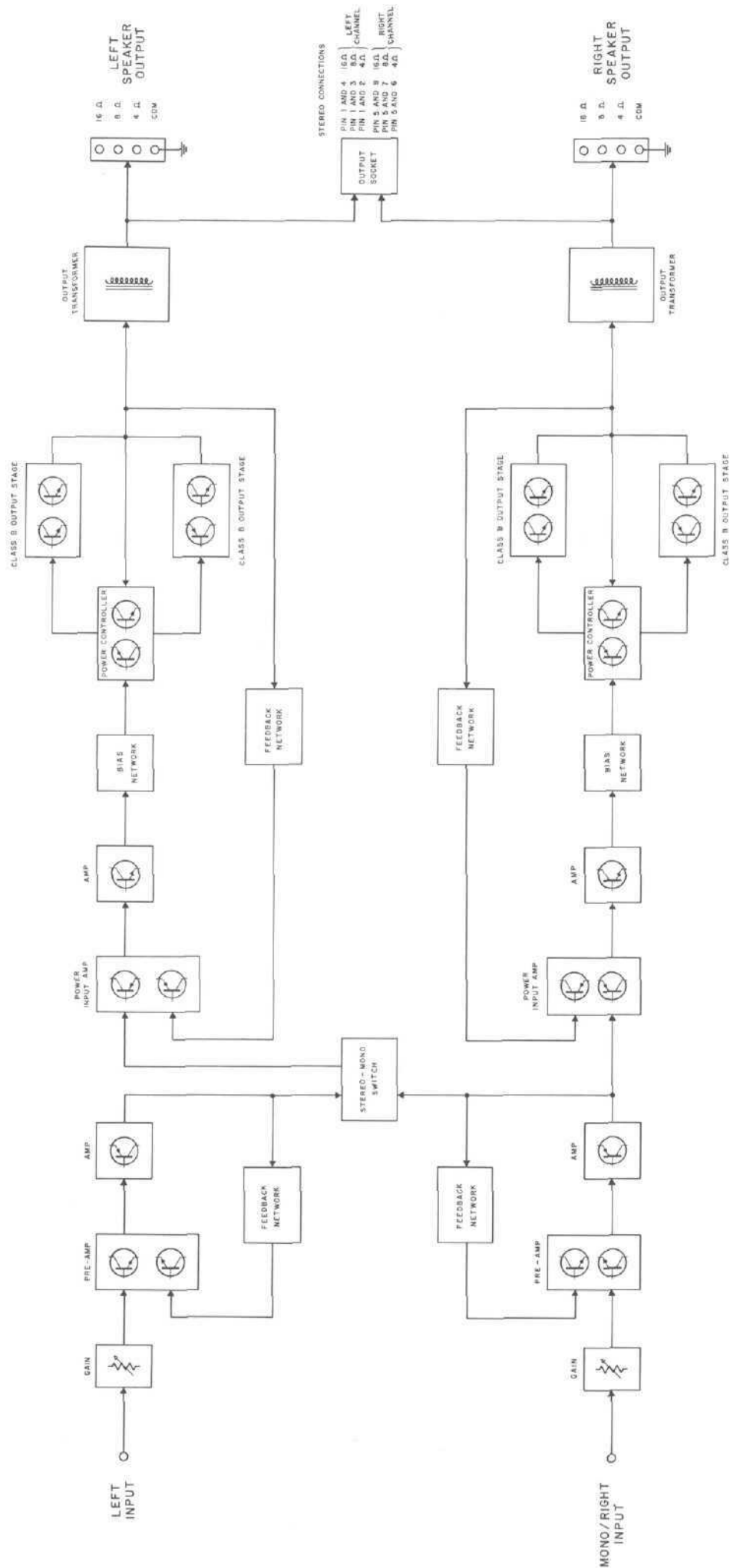
Input sensitivity is 0.5 volts. Input impedance is 200K ohms.

### Hum & Noise :

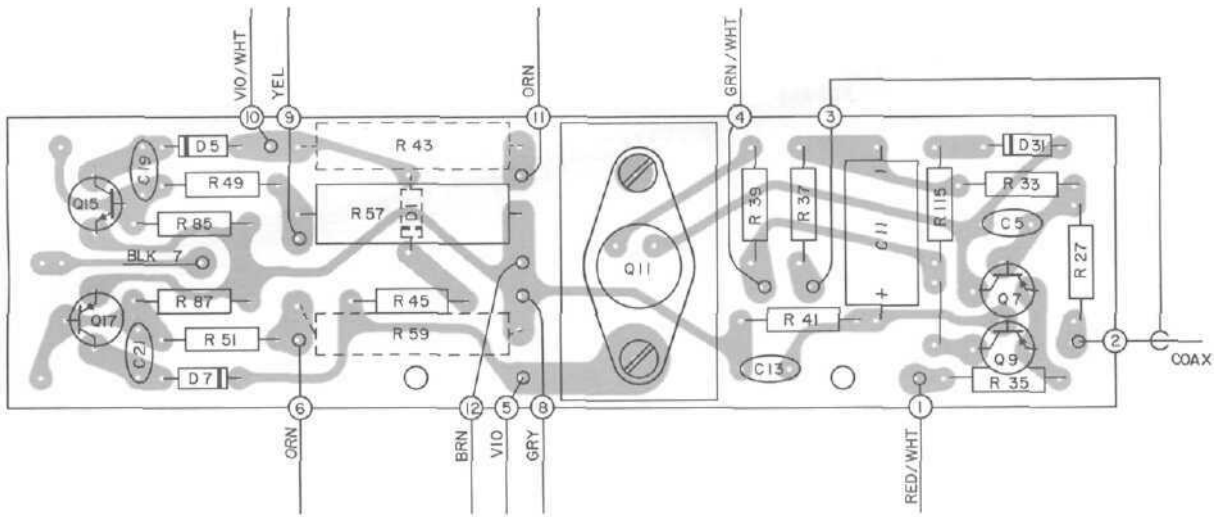
Greater than 90dB below rated output.

### Power Requirements:

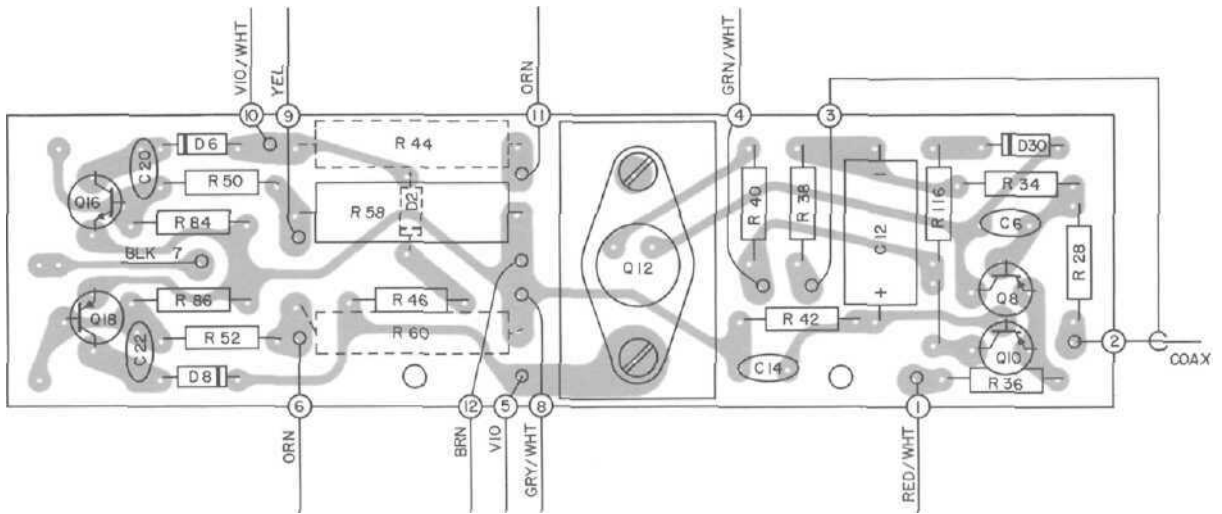
117 volts AC, 50-60Hz, 50 watts at zero signal output, 250 watts at rated output.



MC 250 BLOCK DIAGRAM

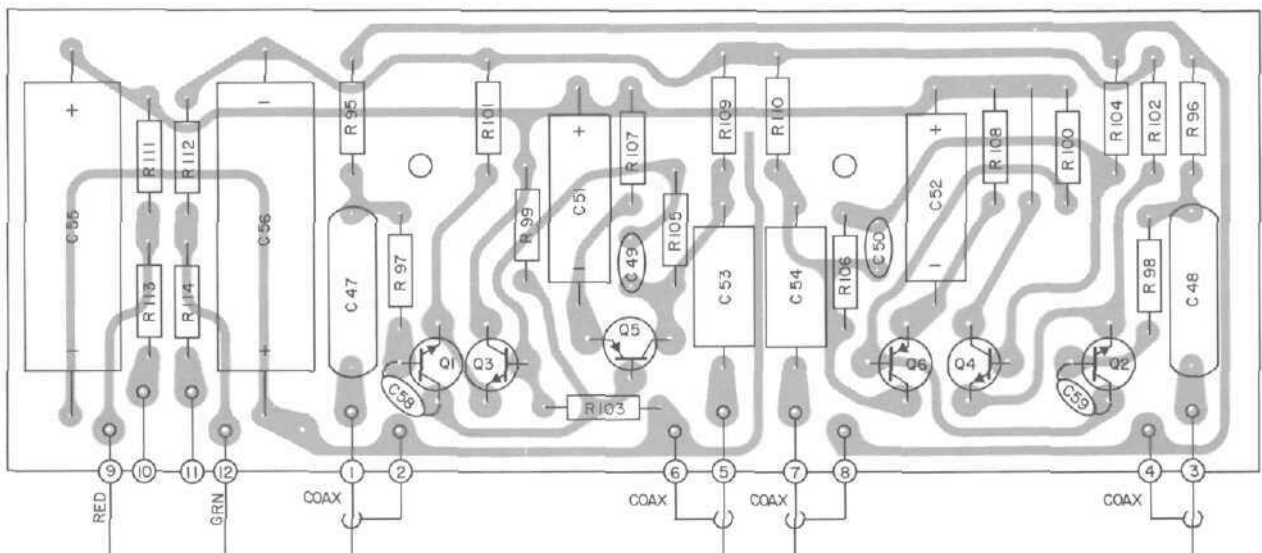


LEFT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916



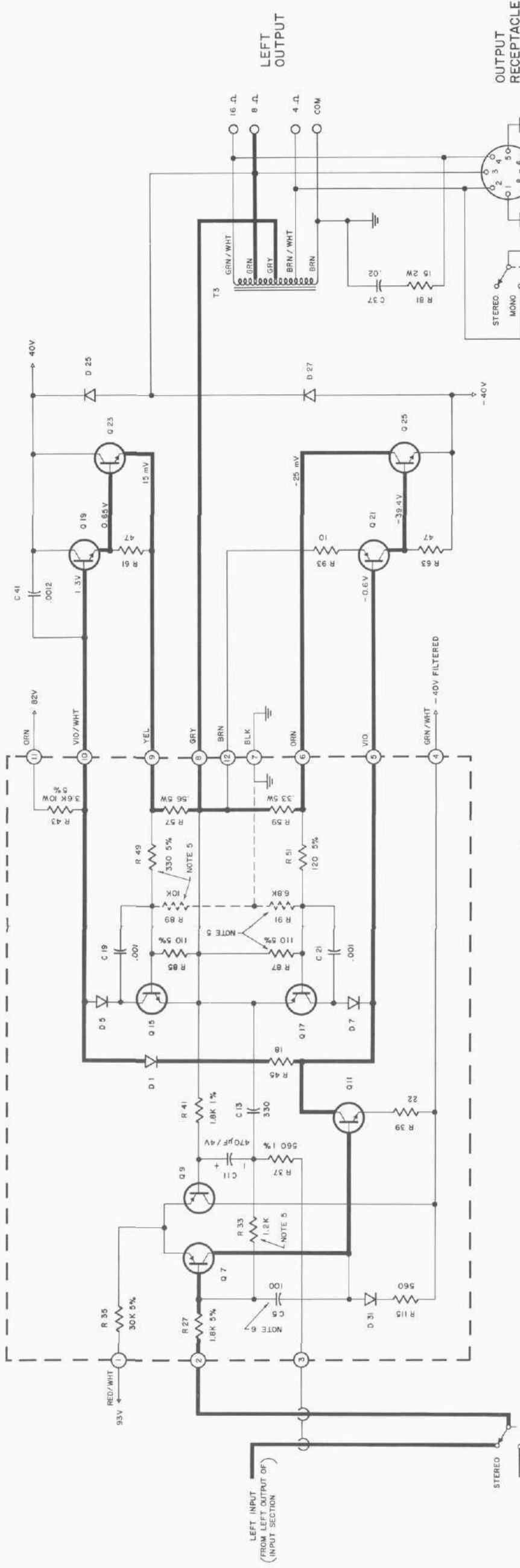
RIGHT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916

INPUT SECTION PRINTED CIRCUIT BOARD 043-795



LEFT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD

043-916

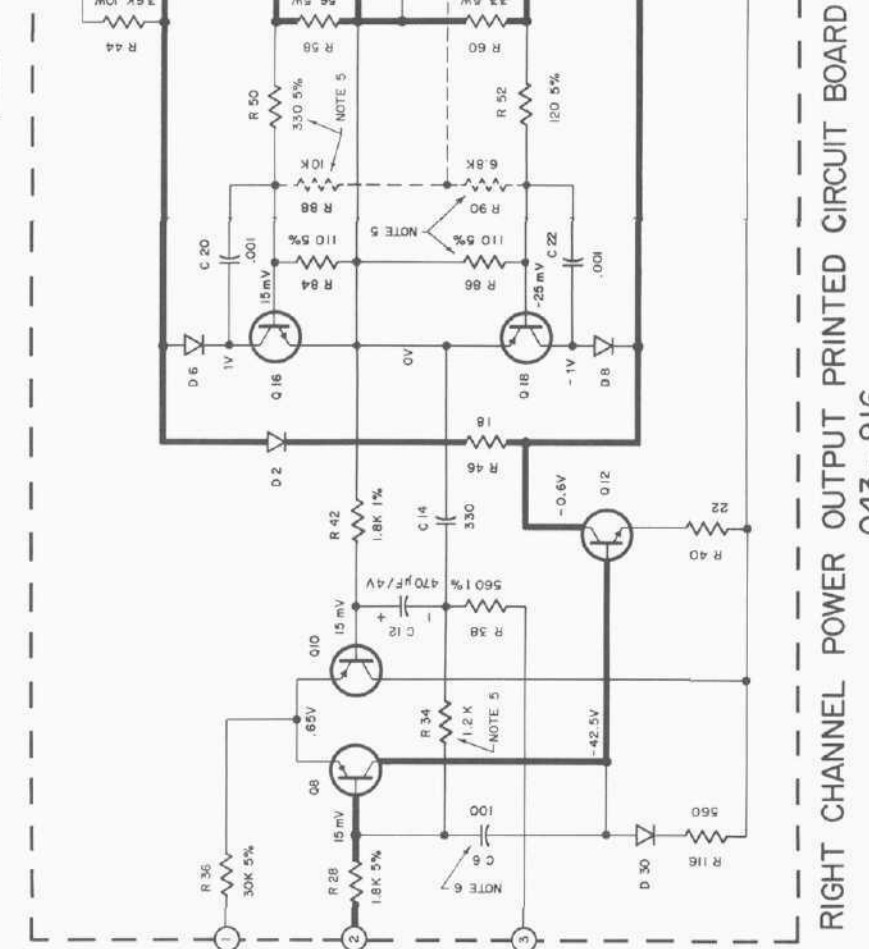


LEFT INPUT  
(FROM LEFT OUTPUT OF  
INPUT SECTION)

RIGHT INPUT  
(FROM RIGHT OUTPUT  
OF INPUT SECTION)

POWER OUTPUT  
SECTION

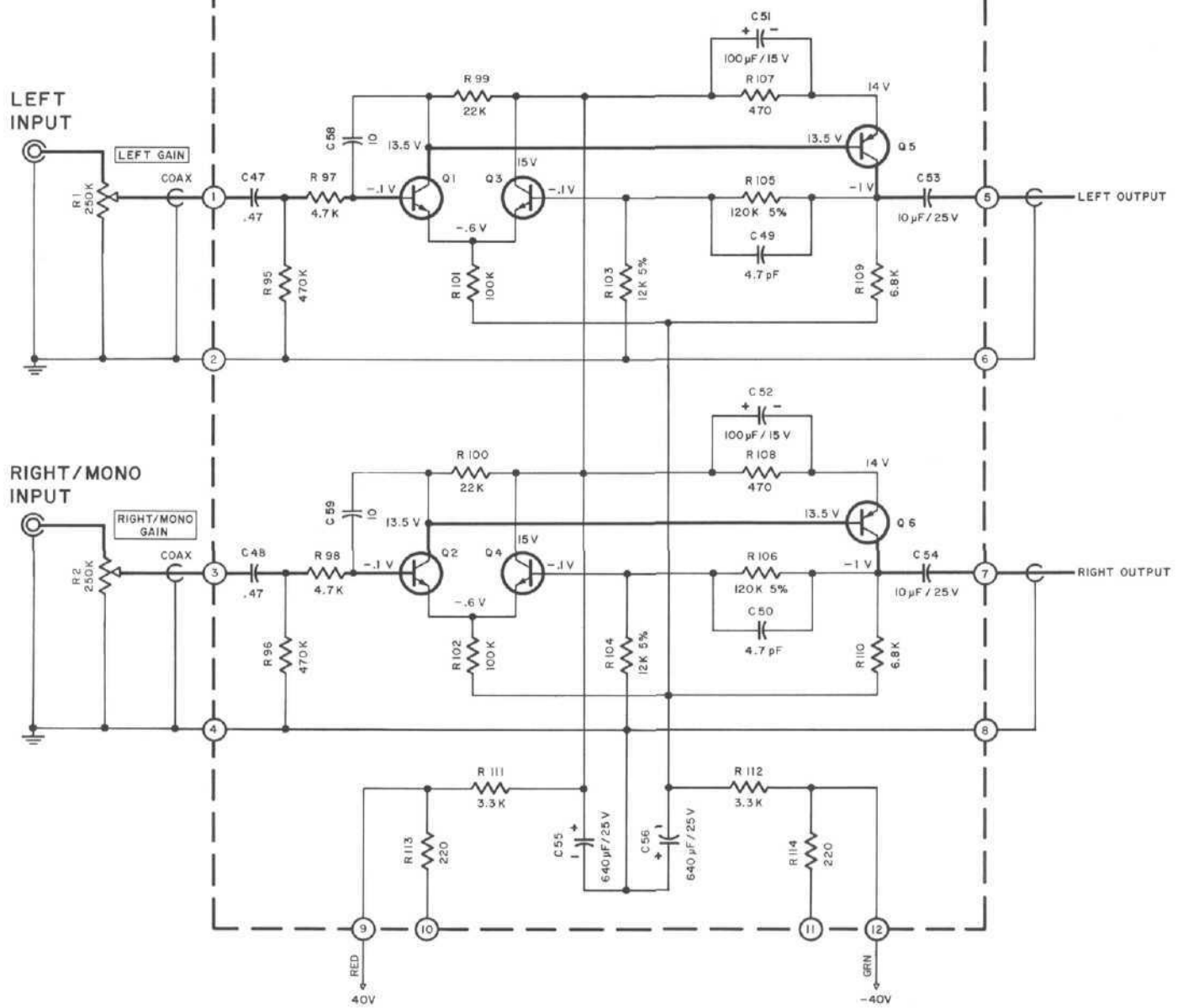
MC 250 154-464



RIGHT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD

043-916

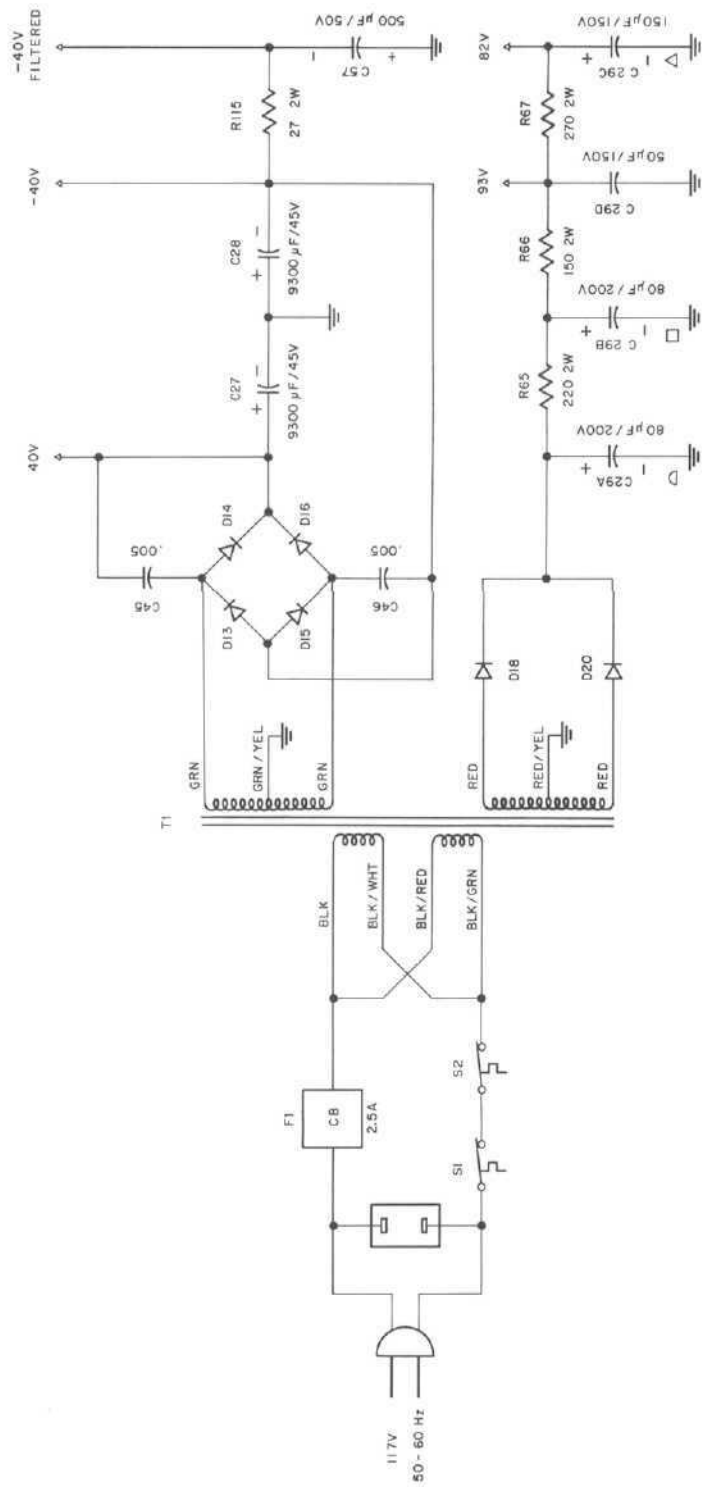
INPUT SECTION PRINTED CIRCUIT BOARD 043 - 795



INPUT SECTION

MC 250

154 - 369



# POWER SUPPLY SECTION

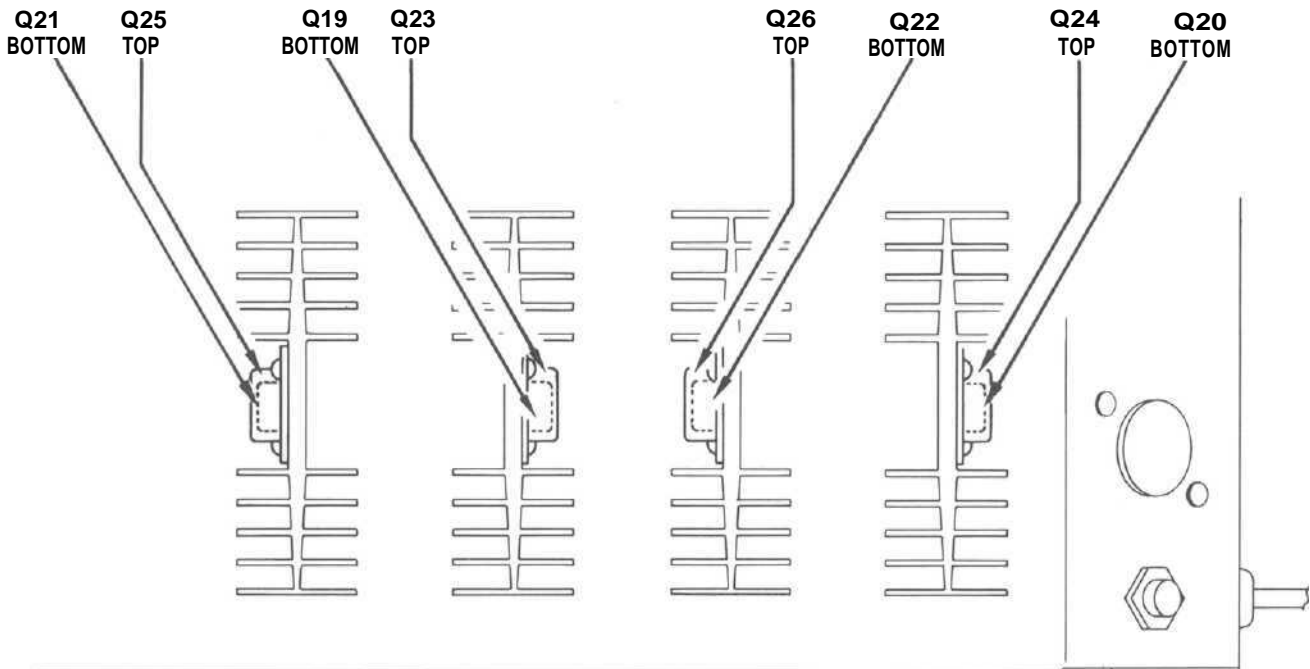
MC 250

154-370

SCHEMATIC NOTES

1. Unless otherwise specified: Resistance values are in ohms, 1/2 watt, and 10% tolerance; capacitance values smaller than 1 are in microfarads ( $\mu\text{F}$ ); capacitance values greater than 1 are in picofarads (pF); inductors are in microhenries ( $\mu\text{H}$ ).
2. Printed circuit board components are outlined on the schematics by dotted lines. The circled numbers on 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. All voltages indicated on the schematics are measured under the following conditions :
  - a. Use of an 11 megohm impedance VTVM.
  - b. All voltages  $\pm 10\%$  with respect to chassis ground.
  - c. No signal at input terminals.
  - d. AC input at 117 volts, 50/60Hz.
  - e. Front panel controls at:
 

Left Gain	Fully CCW
Right Gain	Fully CCW
Mode	Stereo
5. In units with Serial No.'s below 28L21: R88, R89, R90 & R91 are used; R49 & R50 are 2200W; R86 & R87 are 160W; and R33 & R34 are 33k.
6. In units with Serial No.'s from 28L60 to 37L75, C5 & C6 are 180pF.



LOCATION OF TRANSISTORS NOT ON PRINTED CIRCUIT BOARDS



## 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
C11,12	Elect. 470 $\mu$ F 4V	066-136
C27,28	Elect. 9300 $\mu$ F 45V	066-106
C29	Elect. 80/80/150/50 $\mu$ F 200/200/150/150V	066-095
C47,48	Mylar .47 $\mu$ F	064-045
C51,52	Elect. 100 $\mu$ F 15V	066-127
C53,54	Elect. 10 $\mu$ F 25V	066-005
C55,56	Elect. 640 $\mu$ F 25V	066-157
C57	Elect. 500 $\mu$ F 50V	066-137

## DIODES

D1,2	reference diode	070-046
D5,6	Si. rectifier diode	070-022
07,8	Si. rectifier diode	070-022
D13,14	Si. rectifier diode	070-04
D15,16	rectifier diode	070-041
D18	Si. rectifier diode	070-031
D20	Si. rectifier diode	070-031
D25,26	Si. rectifier diode	070-031
D27,28	Si. rectifier diode	070-031
D31,32	Si. rectifier diode	070-022

## FUSES

F1	2.5A circuit breaker	088-001
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## TRANSISTORS

Q1,2	Si. NPN transistor	132-054
Q3,4	Si. NPN transistor	132-054
Q5,6	Si. PNP transistor	132-056
Q7,8	Si. PNP transistor	132-056
Q9,10	Si. PNP transistor	132-056
Q11,12	Si. NPN transistor	132-515
Q15,16	Si. NPN transistor	132-021
Q17,18	Si. PNP transistor	132-032
Q19,20	Si. NPN transistor	132-524
Q21,22	Si. PNP transistor	132-530

Q23,24	Si. NPN transistor	132-070
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Q25,26	Si. NPN transistor	132-070
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## POTENTIOMETERS

R1	Left gain	134-206
R2	Right/mono gain	134-206

## RESISTORS

R43,44	Wirewound 3.6k 5W	139-065
R57,58	Wirewound .56W 5W	139-048
R59,60	Wirewound .33W 5W	139-071

## SWITCHES

S1,2	Thermal cut out	153-007
S3	Modeselector	153-008

## TRANSFORMERS

T1	Power transformer	043-605
T2	Output transformer (right)	043-667
T3	Output transformer (left)	043-668

## MISCELLANEOUS ITEMS

Plastic feet	017-040
Owners manual	038-287
Gain control knob	090-017
Shipping carton	033-077
AC power cord	170-021