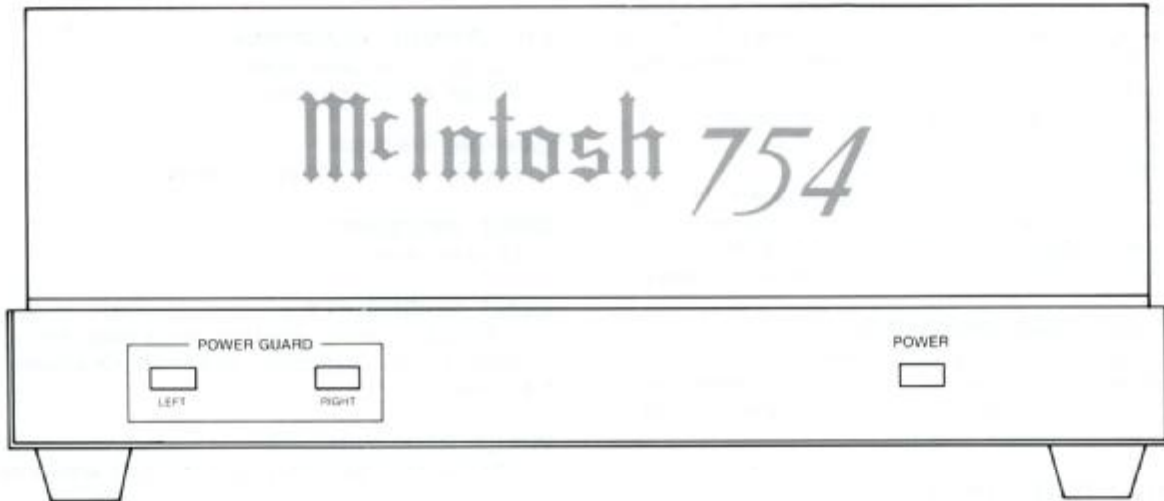


# MC 754

POWER AMPLIFIER



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**McIntosh® Service Manual**

# Performance Specifications

## POWER OUTPUT

### STEREO

100 watts across 8 ohms or 4 ohm loads is the minimum sine wave continuous average power output per channel for 20Hz to 20,000Hz with both channels operating, which is:

28.3 volts RMS across 8 ohms or

20.0 volts RMS across 4 ohms.

### MONO (Bridged)

200 watts across an 8 ohm load is the minimum sine wave continuous average power output from 20Hz to 20,000Hz, which is 40.0 volts RMS across 8 ohms.

## OUTPUT LOAD IMPEDANCE

STEREO 4 ohms or 8 ohms.

MONO 8 ohms obtained by connecting across the output terminals of both channels.

## RATED POWER BAND

20Hz to 20,000Hz

## TOTAL HARMONIC DISTORTION

### STEREO

0.02% maximum harmonic distortion at any power level from 250 milliwatts to rated power per channel from 20Hz to 20,000Hz, both channels operating.

### MONO

0.02% maximum harmonic distortion at any power level from 250 milliwatts to rated power from 20Hz to 20,000Hz.

## INTERMODULATION DISTORTION

### STEREO

0.02% maximum if instantaneous peak power output is 200 watts or less per channel with both channels operating for any combination of frequencies, 20Hz to 20,000Hz.

### MONO

0.02% maximum if instantaneous peak power output is 400 watts or less for any combination of frequencies, 20Hz to 20,000Hz.

## FREQUENCY RESPONSE (at one watt output)

+0, -0.25dB from 20Hz to 20,000Hz

+0, -3.0dB from 12Hz to 70,000Hz

## IHF DYNAMIC HEADROOM

2.3dB at 4 ohm load

1.6dB at 8 ohm load

## DAMPING FACTOR

Greater than 90 at 8 ohms

## INPUT IMPEDANCE

20,000 ohms

## INPUT SENSITIVITY

1.4 volt, level control provides for higher input voltages; 2.5 volt position indicated

## POWER REQUIREMENTS

120 volts, 50/60Hz, 0.3 to 5.0 amperes

## POWER GUARD

Clipping is prevented and total harmonic distortion does not exceed 2.0% with up to 20dB overdrive at 1,000Hz.

## SEMICONDUCTOR COMPLEMENT

43 silicon transistors

27 silicon diodes

2 integrated circuits

## WEIGHT

21 lbs. (9.5 Kg) net

25 lbs. (11.3 Kg) in shipping carton

# Mechanical Views

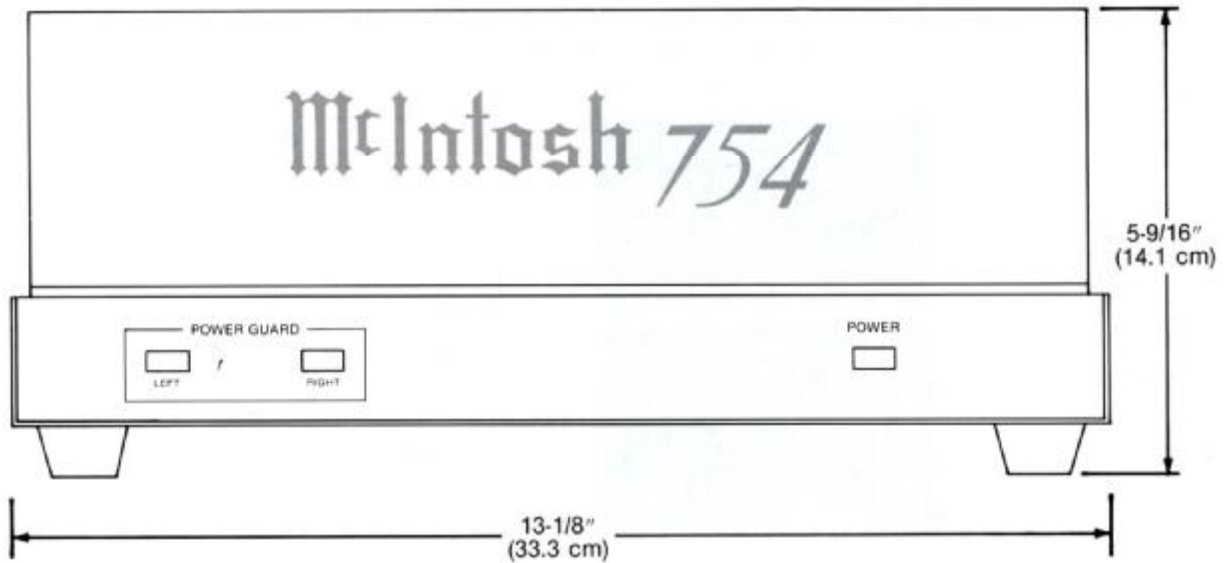


Fig. 1. Front view

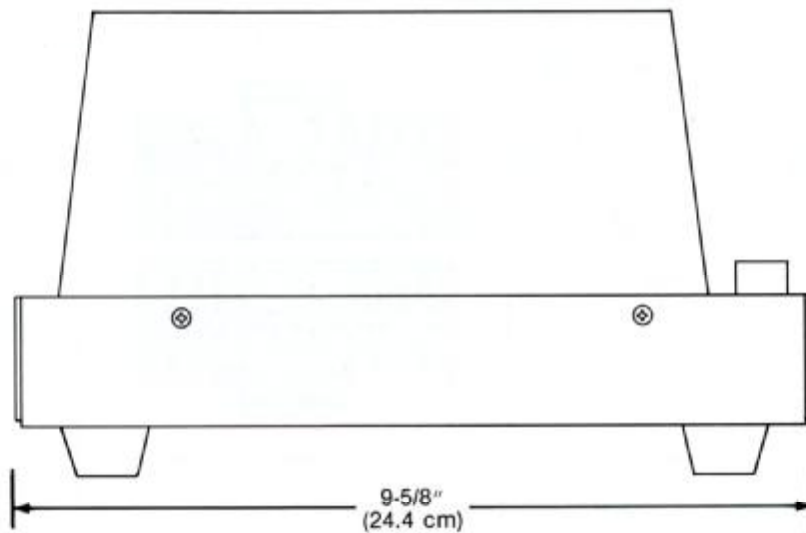


Fig. 2. Side view

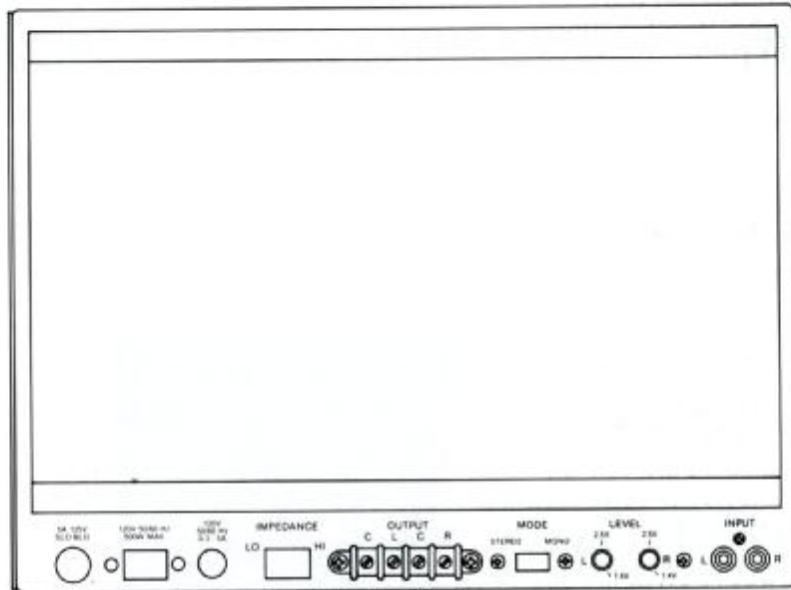


Fig. 3a. Top View

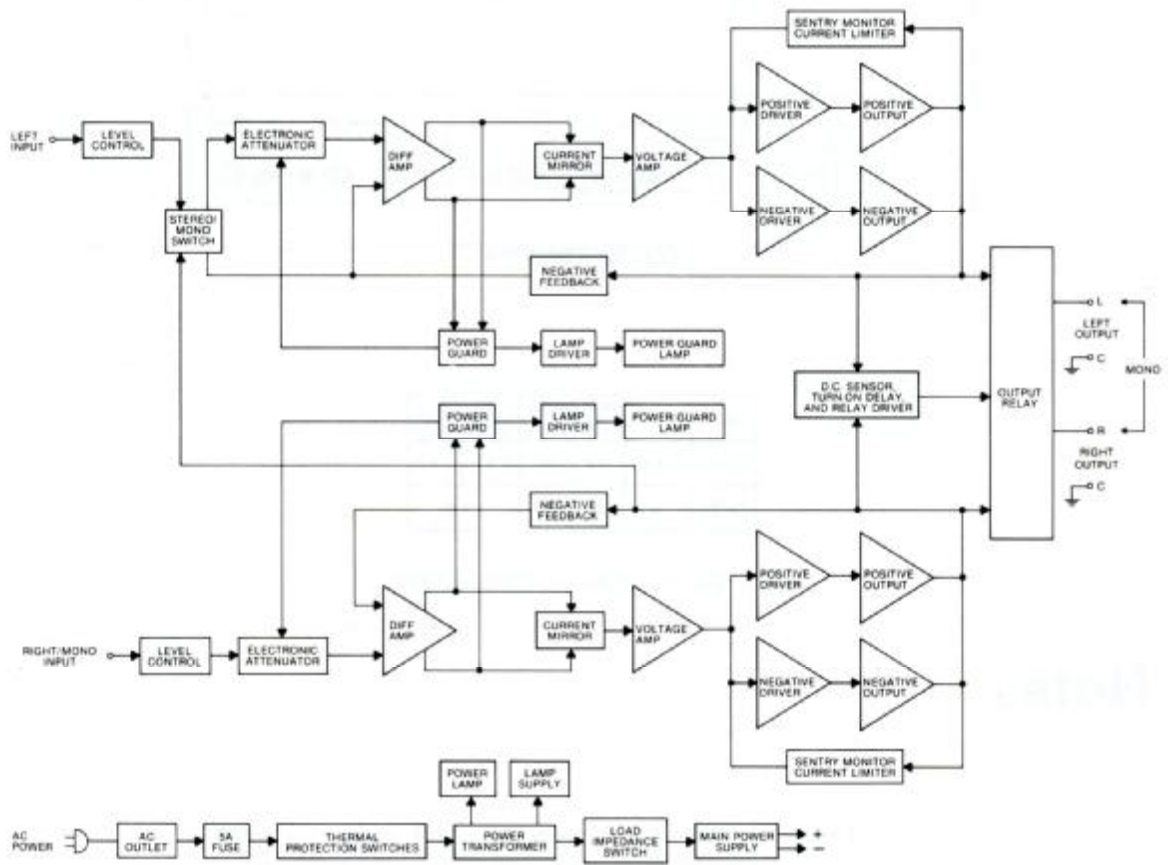
MODE	INPUT	IMPEDANCE		OUTPUT	
		LO	HI	LEFT	RIGHT
STEREO	L & R	4Ω	8Ω	C & L	C & R
MONO (BRIDGE)	R	8Ω	16Ω	L & R	

Fig. 3b. Input/Output Connections

## Notes

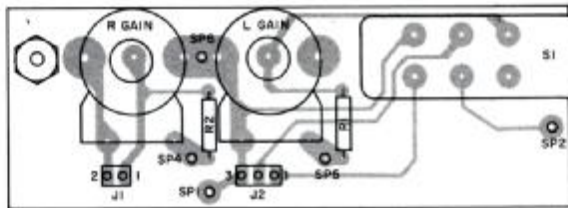
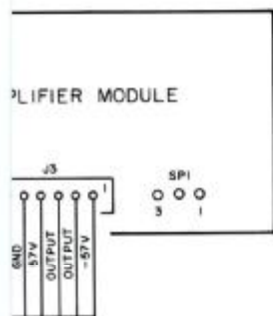
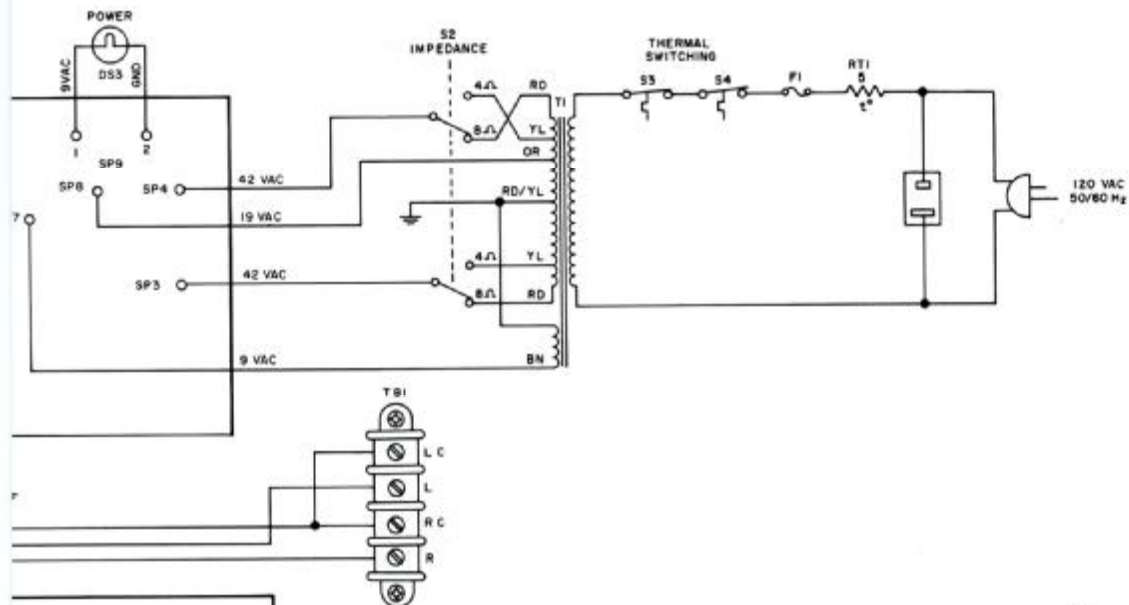
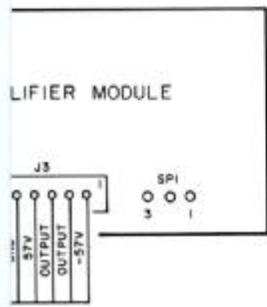
- Unless otherwise noted, all voltages indicated on the following schematics are measured under the following conditions:
  - AC input at 120 volts, 50/60Hz.
  - All voltages are  $\pm 10\%$  with respect to ground.  
A high impedance (10 megohm) voltmeter must be used.
  - Controls set at:  
IMPEDANCE .....HI  
MODE.....STEREO
- The heavy lines on the schematics denote the primary signal paths.
- The voltages enclosed in a box (Section 2) are signal voltages that are measured with a 1.4V, 1kHz signal connected to both channels of the INPUT jacks.

# Block Diagram

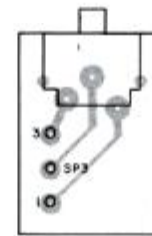








LEVEL PCB 046900 A



INPUT PCB 046900 B

**SECTION 1 PARTS LIST**

Symbol No.	Part No.	Description
------------	----------	-------------

**LIGHTING DEVICES**

DS1-DS3	058042	INC, 14V, 80mA
---------	--------	----------------

**FUSES**

F1	089007	Fuse, SB, 5A, 125V, MDL-5
	178122	Fuseholder

**JACKS**

J1, J2	117350	Dual Phono Jack
--------	--------	-----------------

**RESISTORS**

R3, R4	134306	Pot, 100K ohm
--------	--------	---------------

**THERMISTORS**

RT1	144151	Thermistor, 5 ohm
-----	--------	-------------------

**SWITCHES**

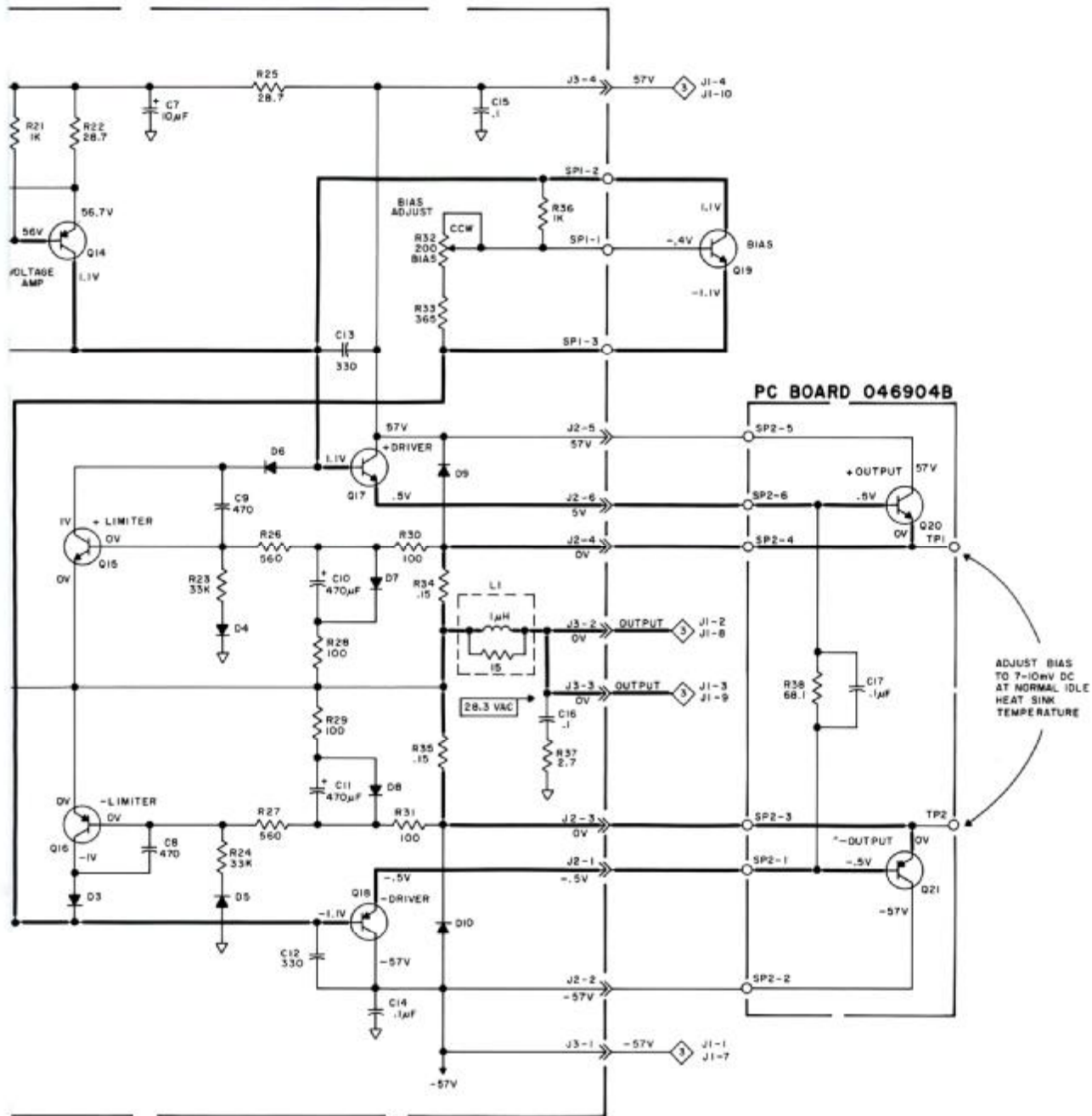
S2	153024	Rocker Switch, DPDT
S3, S4	153017	Thermal Switch

**TRANSFORMERS**

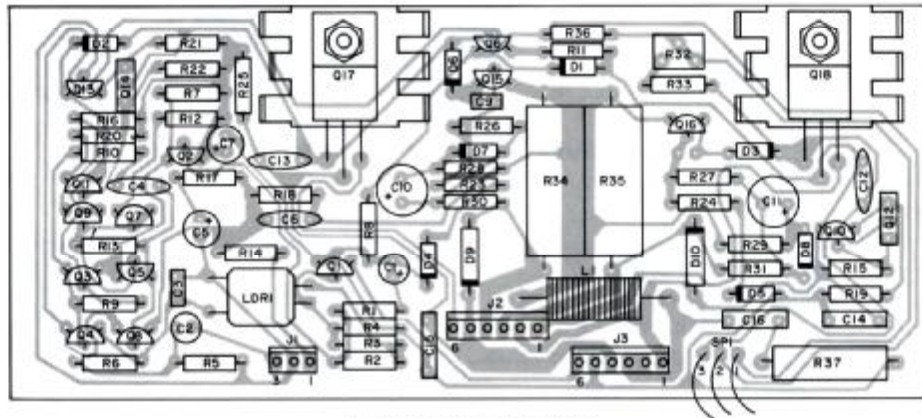
T1	159200	Power
----	--------	-------



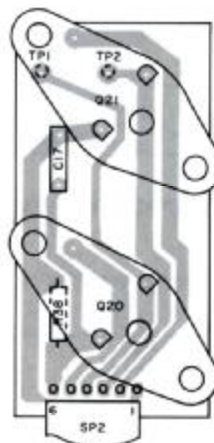




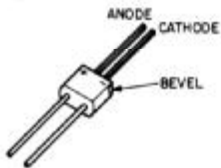
# Power Amplifier 2



**DRIVER PCB 046904 A**



**PCB 046904 B**



LDR1

## SECTION 2 PARTS LIST

Symbol No.	Part No.	Description
------------	----------	-------------

### DIODES

D1	070085	ZN, 6.2V, 5%, 500mW, 1N5234B
D2	070098	SIG, 175V, 500mW, FDH400
D3-D8	070047	SIG, 75V, 150mA, 1N4148
D9-D10	070131	RECT, 400V, 1A, 1N4004

### COIL AND INDUCTORS

L1	122222	Choke, 1uH
----	--------	------------

### LIGHT DEPENDENT RESISTORS

LDR	144179	LDR, VTL5C9
-----	--------	-------------

### TRANSISTORS

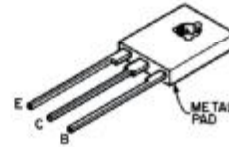
Q1	132223	NPN, MPS4124
Q2	132236	PNP, 2SA970-BL
Q3	132223	NPN, MPS4124
Q4	132235	NPN, 2SC2240-BL
Q5	132223	NPN, MPS4124
Q6	132235	NPN, 2SC2240-BL
Q7	132224	PNP, MPS4126
Q8	132235	NPN, 2SC2240-BL
Q9	132224	PNP, MPS4126
Q10	132223	NPN, MPS4124
Q11	132224	PNP, MPS4126
Q12	132233	NPN, 2SC3423
Q13	132236	PNP, 2SA970-BL
Q14	132234	PNP, 2SA1360
Q15	132223	NPN, MPS4124
Q16	132224	PNP, MPS4126
Q17	132231	NPN, 2SC3298B-O
Q18	132232	PNP, 2SA1306B-O
Q19	132233	NPN, 2SC3423
Q20	132189	PNP
Q21	132188	NPN



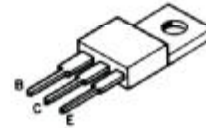
Q1, Q3, Q5, Q7  
Q9-Q11, Q15, Q16



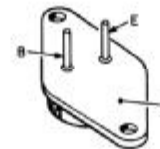
Q2, Q4, Q6  
Q8, Q13



Q12, Q14, Q19

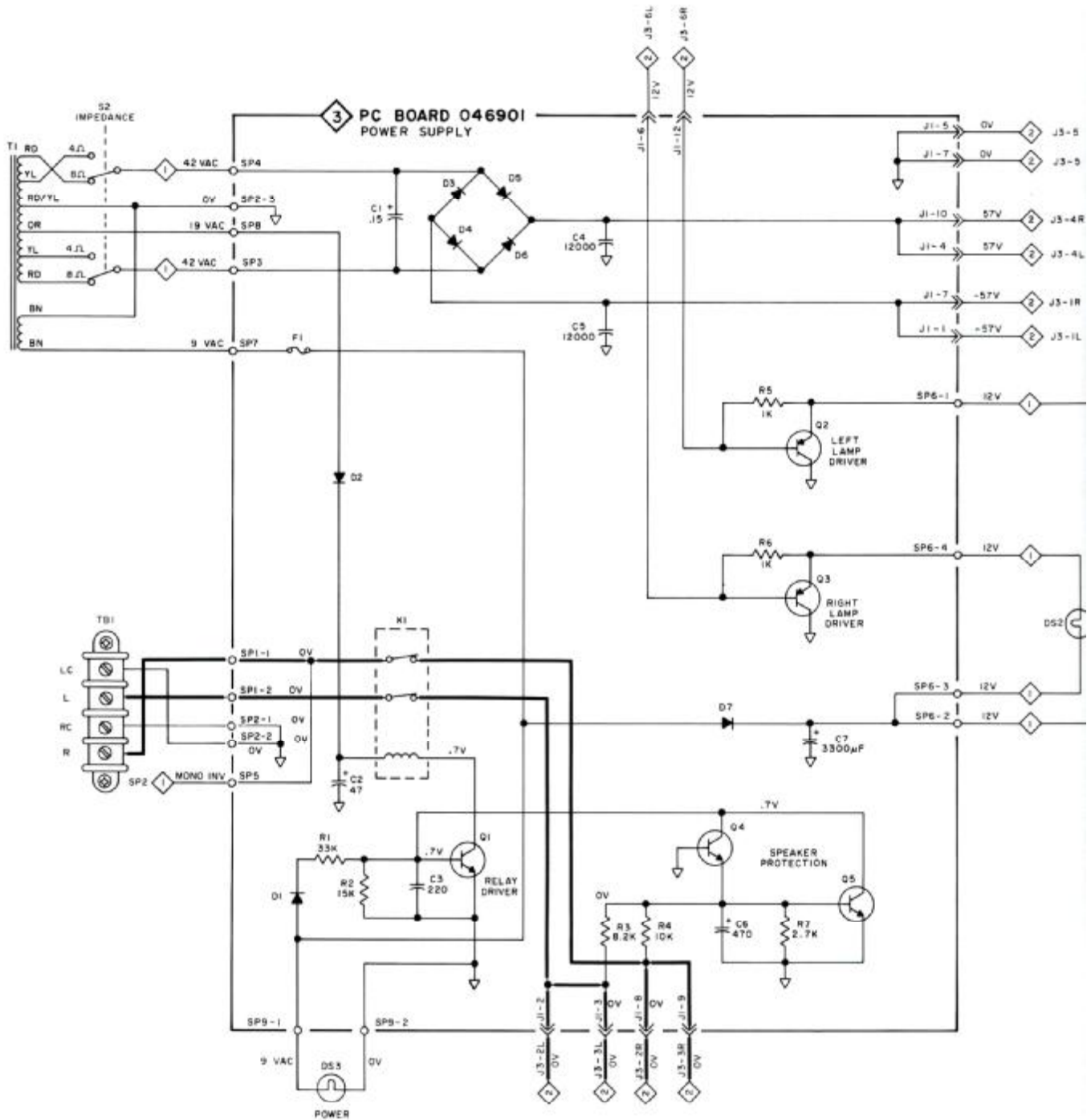


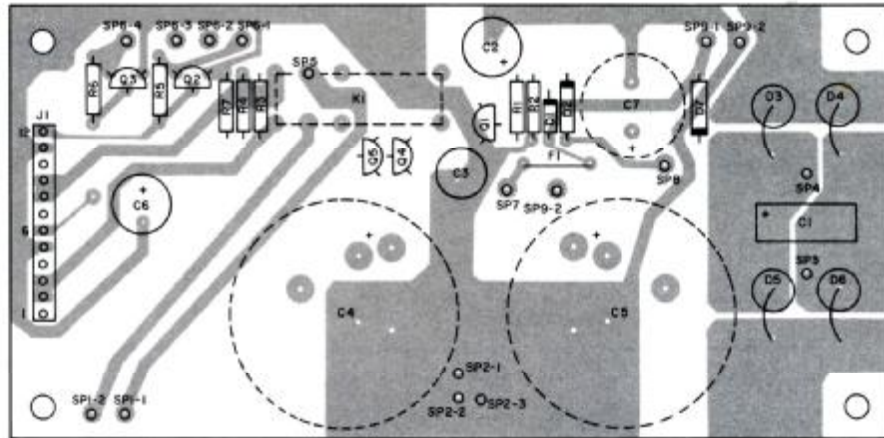
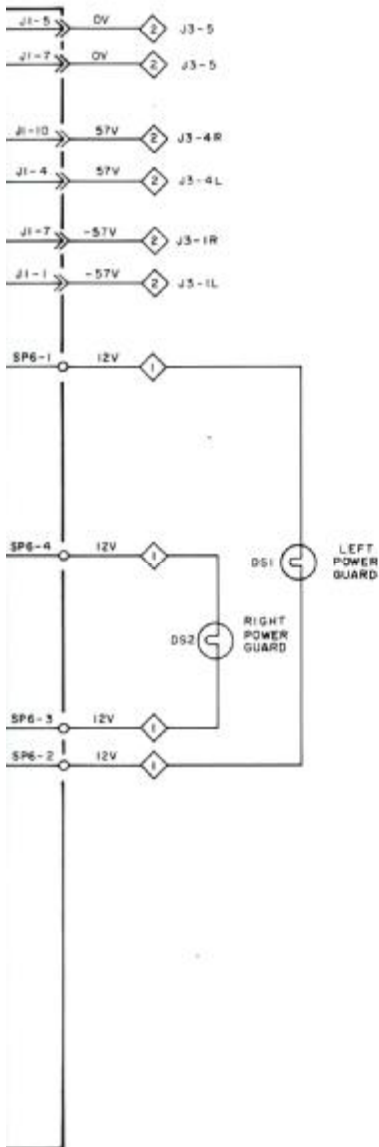
Q17, Q18



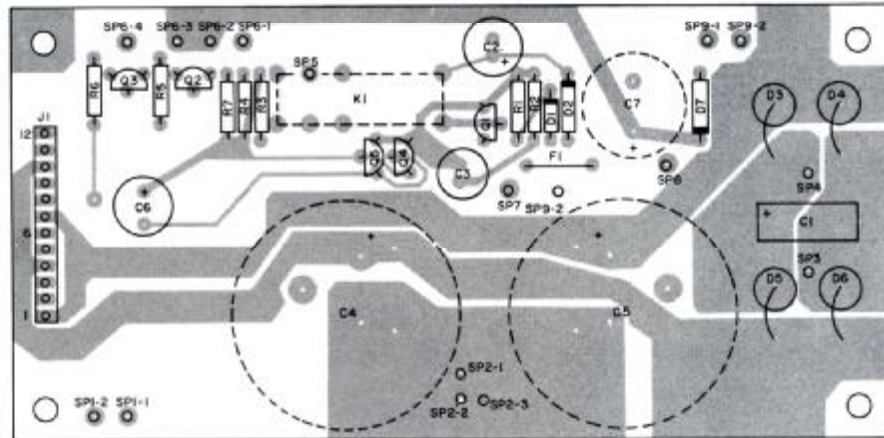
Q20, Q21

# 3 Power Supply





POWER SUPPLY PCB 046901 (component foil shown)



POWER SUPPLY PCB 046901 (circuit foil shown)

SECTION 3 PARTS LIST

Symbol No.	Part No.	Description
------------	----------	-------------

CAPACITORS

C4, C5	066393	ELECT, 12,000uF, 63V
--------	--------	----------------------

DIODES

D1	070047	SIG, 75V, 150mA, 1N4148
D2	070131	RECT, 400V, 1A, 1N4004
D3-D6	070133	RECT, 200V, 6A, M7C5
D7	070131	RECT, 400V, 1A, 1N4004

FUSES

F1	174198	Fuse, 36 Gauge Tinned Copper Wire
----	--------	-----------------------------------

RELAYS

K1	087043	DPDT, 24VDC
----	--------	-------------

TRANSISTORS

Q1	132235	NPN, 2SC2240-BL
Q2, Q3	132182	PNP, DAR, MPSA64
Q4, Q5	132223	NPN, MPS4124



Q1



Q2-Q5

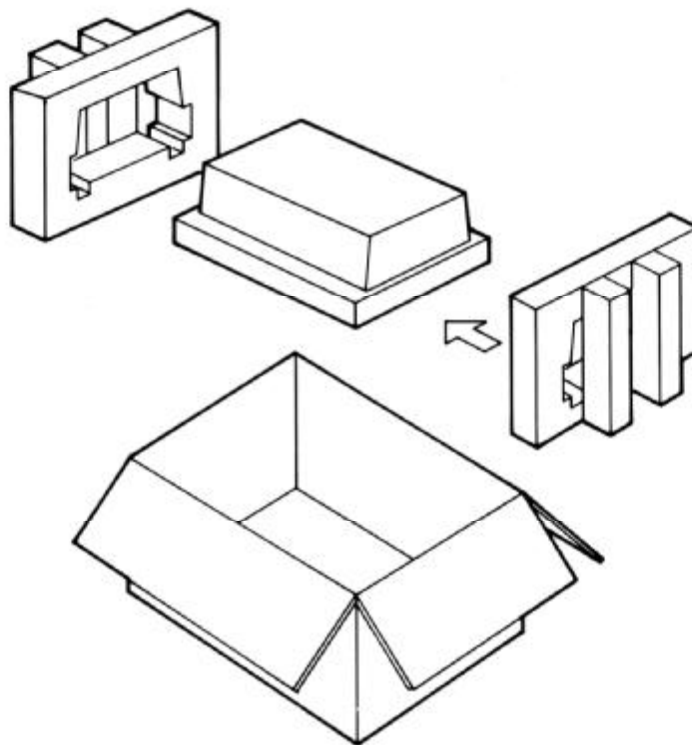
# Repacking Instructions

In the event it is necessary to return the MC754 to McIntosh Laboratory for service, the unit must be packed exactly as shown below.

If a shipping carton is needed, please call or write the Customer Service Department of McIntosh Laboratory. Order parts from the accompanying list by part number.

Use the original shipping carton only if the pads and carton are in good serviceable condition.

Qty.	Part No.	Description
1	033520	Shipping carton only
2	033448	Foam end pads



# McIntosh<sup>®</sup>

## MC 754 POWER AMPLIFIER

The continuous improvement of its products is the policy of McIntosh Laboratory Incorporated, who reserve the right to improve design without notice. Because of the constant upgrading of McIntosh products' circuitry and components, the Company cannot insure, and does not warrant, the accuracy of the within schematic material, which is intended for information only.

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