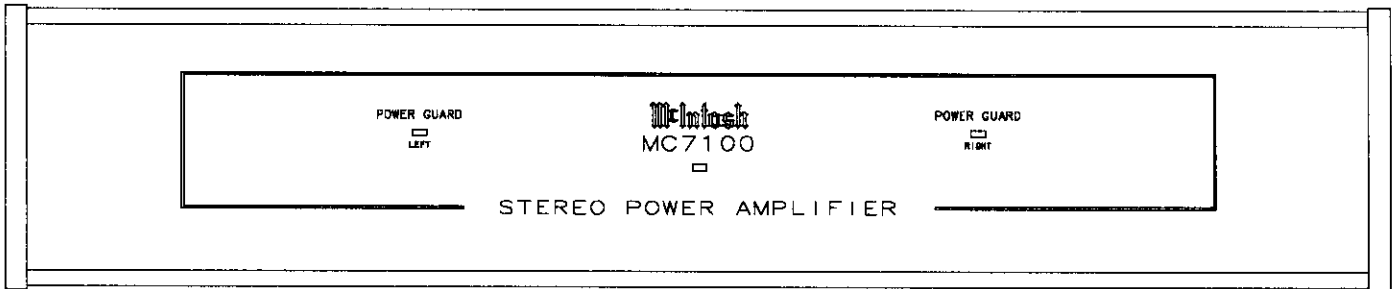


MC7100

POWER AMPLIFIER

Starting with serial no. KC1001



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Performance Specifications

STEREO POWER OUTPUT

150 watts into 4 ohm loads or 100 watts into 8 ohm load minimum sine wave continuous average power output per channel, both channels operating.

The output RMS voltage is:

28.3V across 8 ohms

24.5V across 4 ohms

MONOPHONIC (BRIDGED)

300 watts into an 8 ohm load minimum sine wave continuous average power output. The output RMS voltage is: 49 volts across 8 ohms.

OUTPUT LOAD IMPEDANCE

STEREO

8 or 4 ohms

MONOPHONIC

8 ohms

RATED POWER BAND

20Hz to 20,000Hz

TOTAL HARMONIC DISTORTION

0.005% maximum harmonic distortion at any power level from 250 milliwatts to rated power output.

IHF DYNAMIC HEADROOM

8 ohms, 1.7dB

4 ohms, 2.1dB

FREQUENCY RESPONSE

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

+0, -3.0dB from 10Hz to 100,000Hz

INPUT SENSITIVITY

1.4 volts (2.5 volts at gain control center detent)

A-WEIGHTED SIGNAL-TO-NOISE

95dB (115dB below rated output)

INTERMODULATION DISTORTION, SMPTE

0.005% maximum if instantaneous peak power output does not exceed twice the output power rating.

RATINGS

WIDE BAND DAMPING FACTOR

8 ohms, 200

4 ohms, 100

INPUT IMPEDANCE

20,000 ohms

POWER GUARD

Clipping is prevented and THD does not exceed 2% with up to 14dB overdrive at 1000Hz.

POWER REQUIREMENTS

120 volts, 50/60Hz, 3.0 amps UL/CSA

MECHANICAL

SIZE: Front Panel is 17-1/2 inches (44.5cm) wide, by 3-9/16 inches (9cm) high. Depth is 16-1/2 inches (41.9cm) deep, including connectors. Panel clearance required in front of the mounting surface is 3/4 inch (1.9cm).

FINISH: Glass with special gold/teal nomenclature illumination. Chassis and chassis cover are black.

WEIGHT: 24 pounds (11Kg) net; 35 pounds (15.9Kg) in shipping carton.

Rear Panel

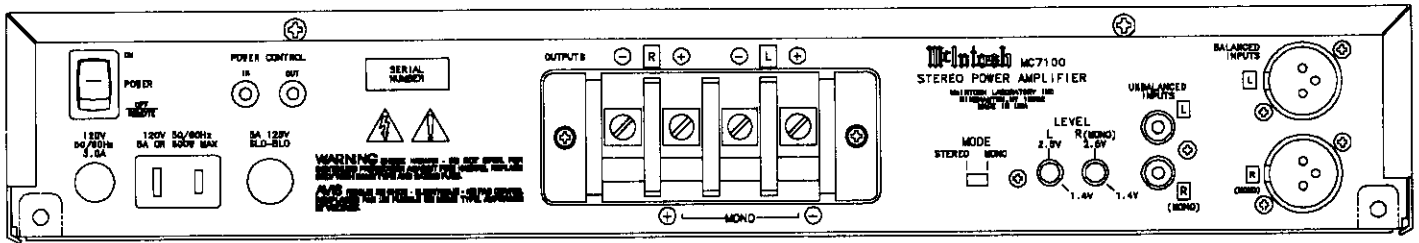

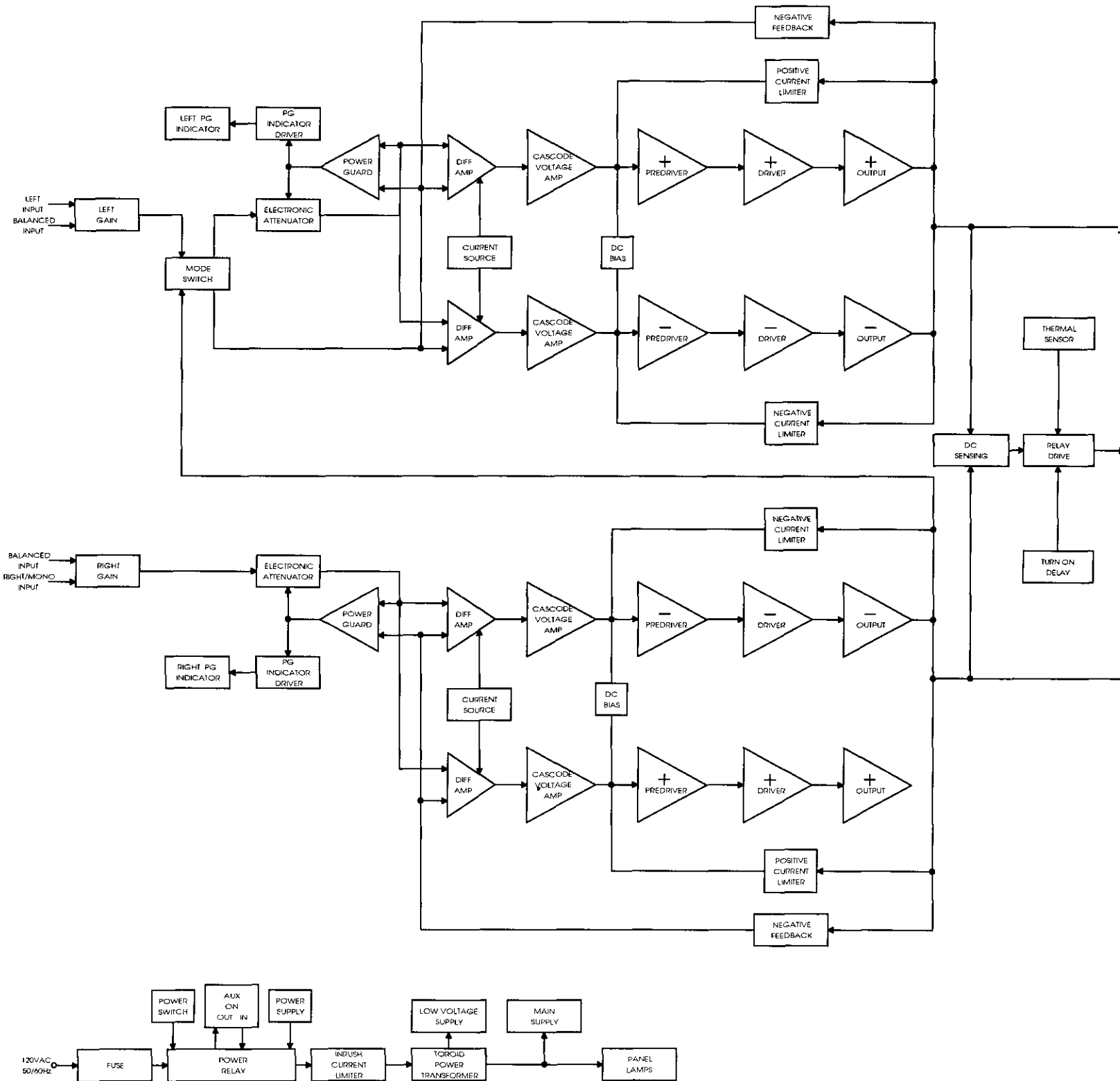


Figure 1. Rear View

Notes

1. The heavy lines on the schematics denote the primary signal path.
2. Unless otherwise specified:
 - a. Resistor values are in ohms.
 - b. All voltages are $\pm 10\%$ with respect to ground. A high impedance (10 megohm) voltmeter must be used.
3. The voltages enclosed in a box are signal voltages that are measured with a 1.4V, 1kHz signal connected to the input.
4. On PC Board Drawings, Square Pad Indicates:
 - a. Polarized Capacitors - Positive
 - b. Diode - Cathode
 - c. Others - Pin 1
5. **WARNING:**
Part marked with the symbol  have critical characteristics. Use **ONLY** replacement parts recommended by the manufacturer.

Block Diagram



Section Locations

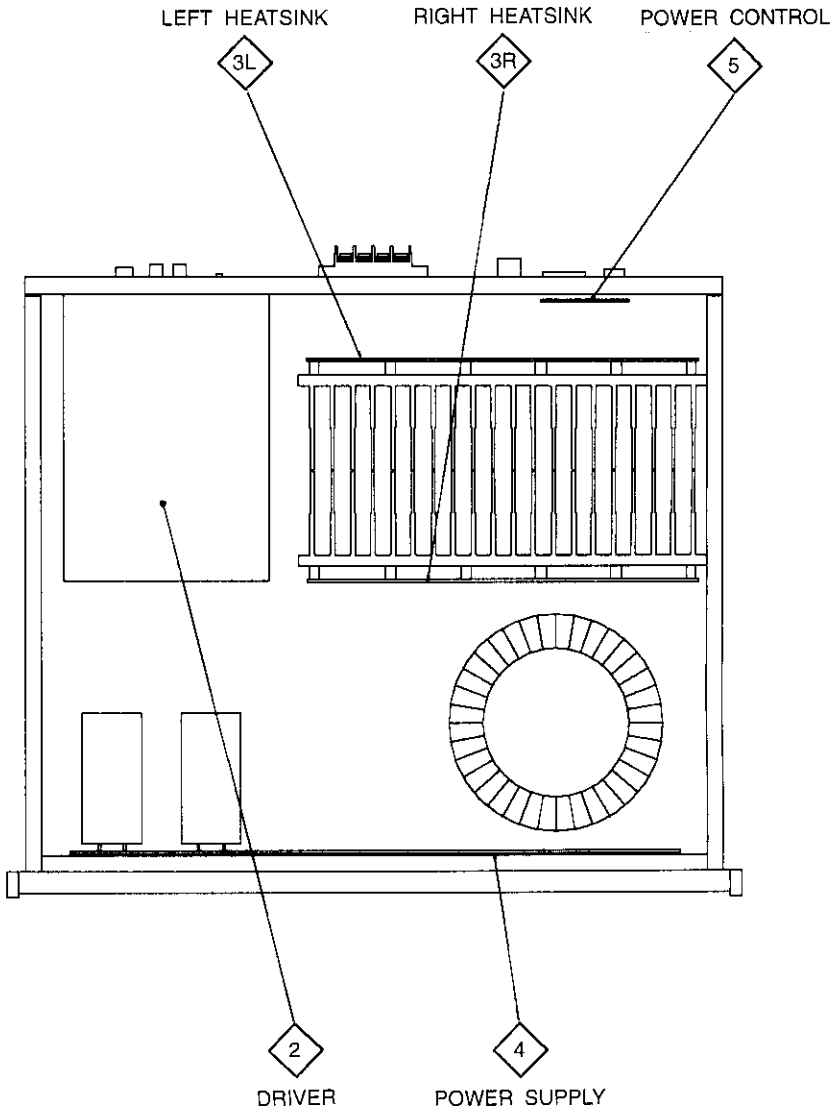
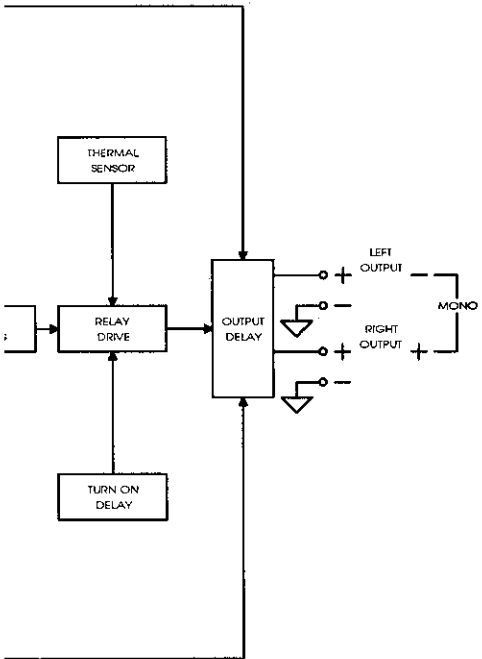
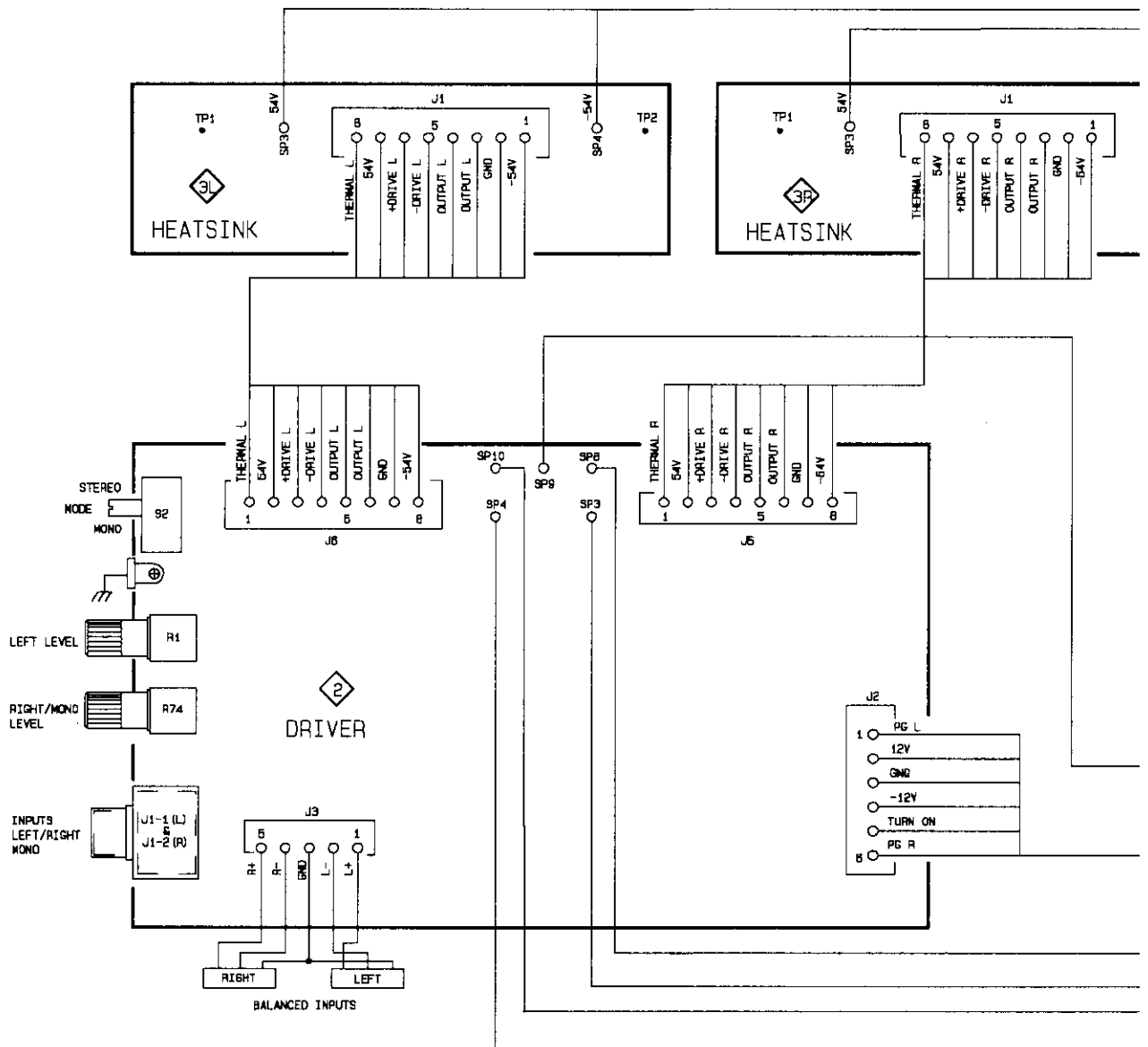


Fig. 2. Top view with cover removed.



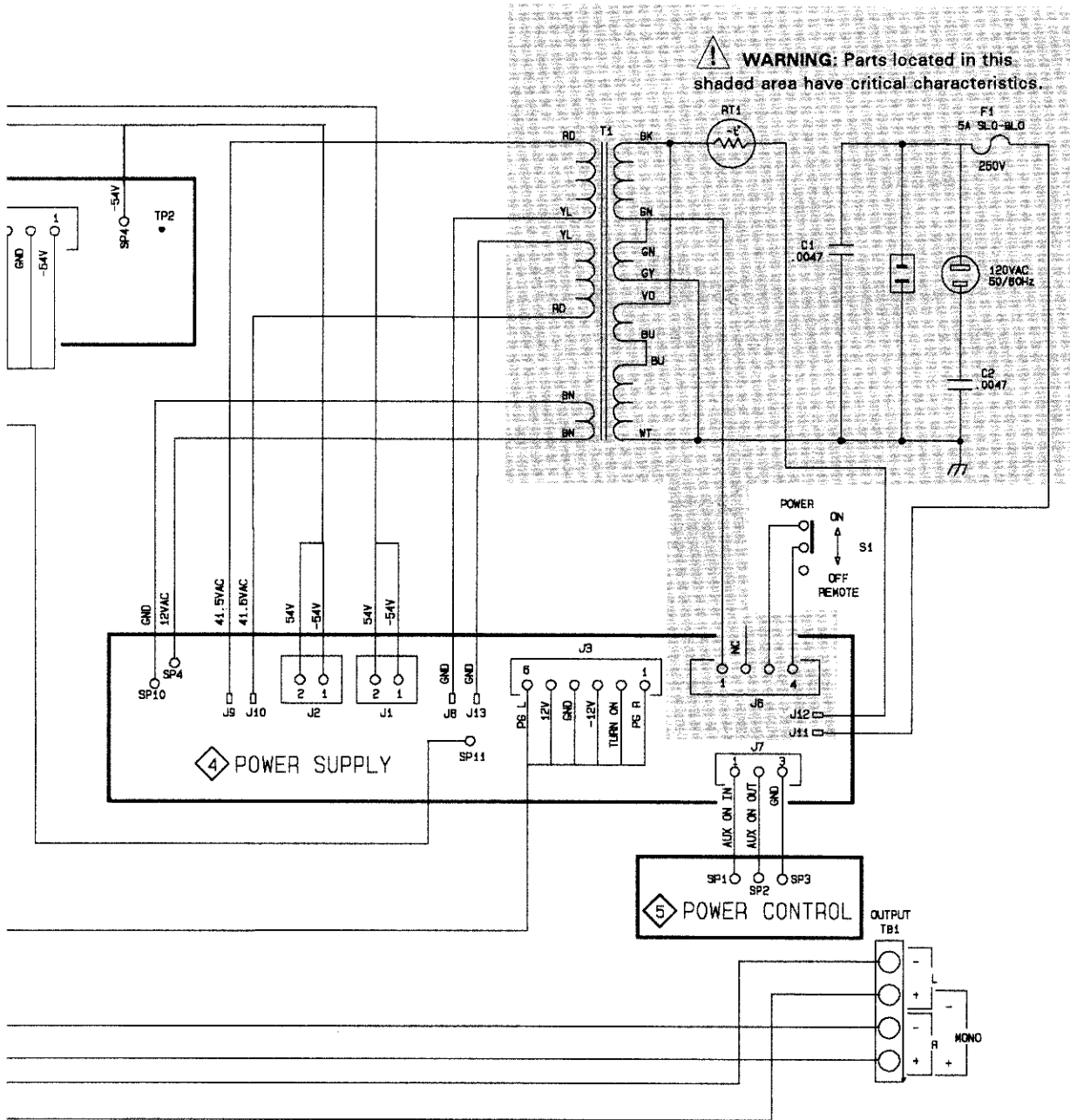
INTERCONNECTION PARTS LIST

Symbol	Part	Description
CAPACITORS		
C1,C2	061276	CD, .0047, 400V, UL/CSA
FUSES		
F1	089007	Fuse, 5A, Slo-Blo, 250V
THERMISTORS		
RT1	144151	Thermistor, 5 ohm
SWITCHES		
S1	153024	Rocker Switch DPDT, 8A
TRANSFORMERS		
T1	159223	Power Transformer

FRONT PANEL AND TRIM PARTS LIST

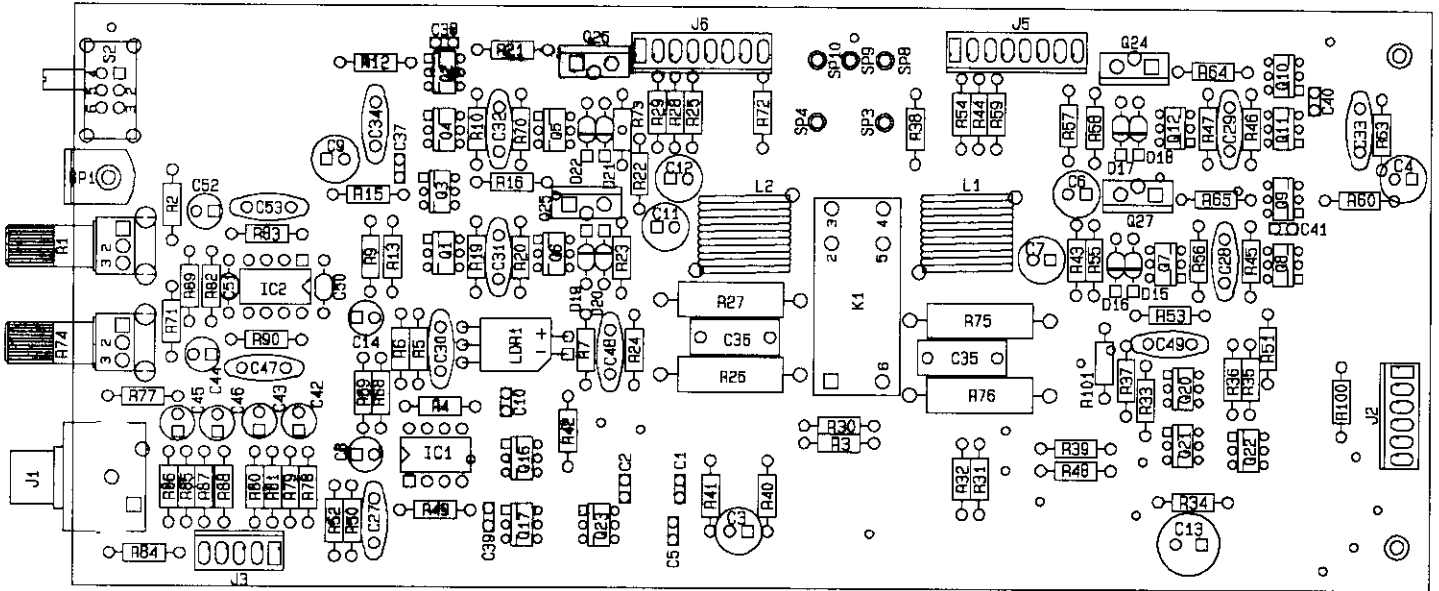
Part	Description
047414	Front Panel, Complete
047413	Front Panel, Glass
018438	End Cap
018439	Top Panel Rail
018440	Bottom Extrusion

1 Interconnection Diagram



2 Driver

DRIVER PCB 048093



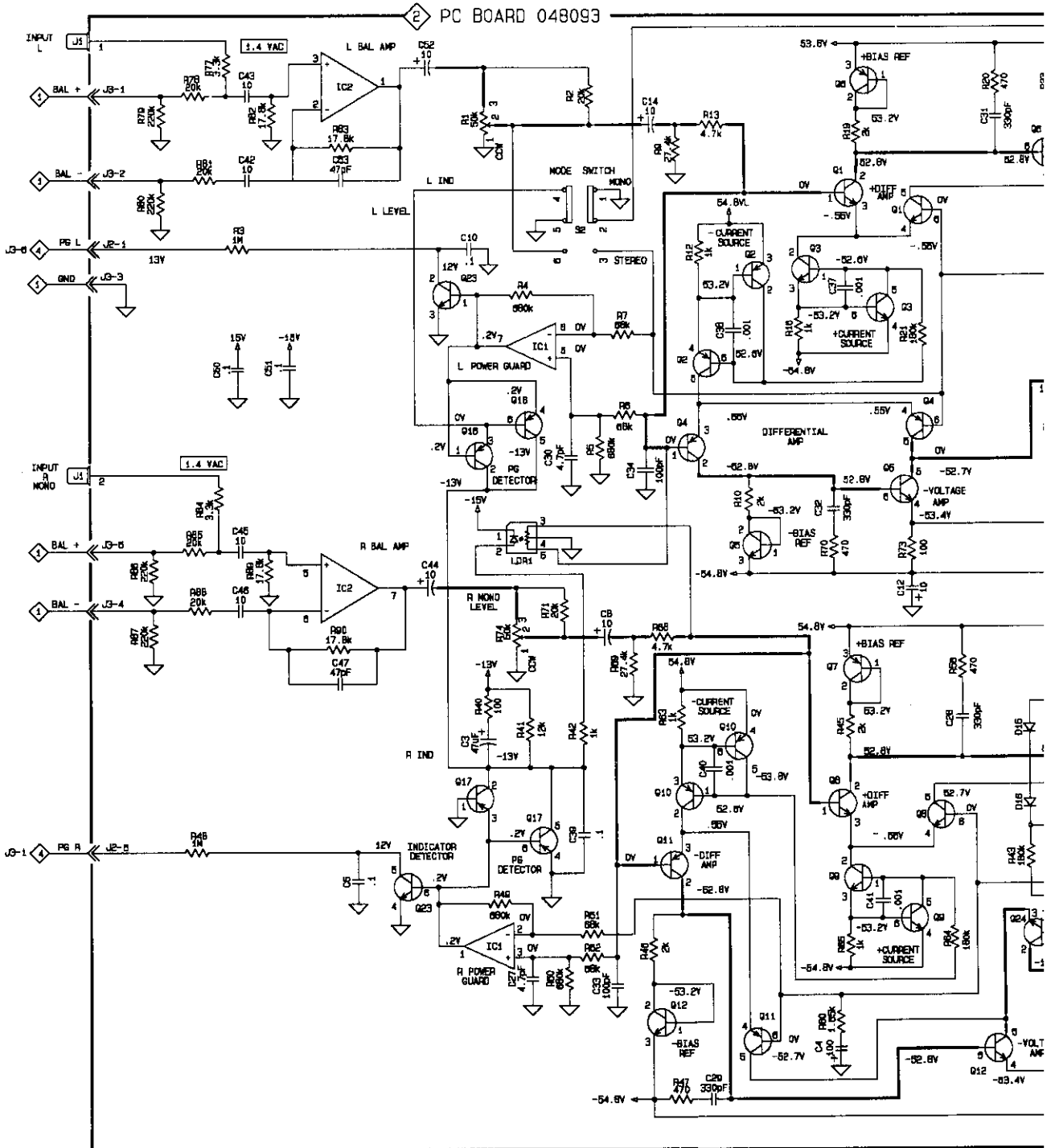
DRIVER PARTS LIST

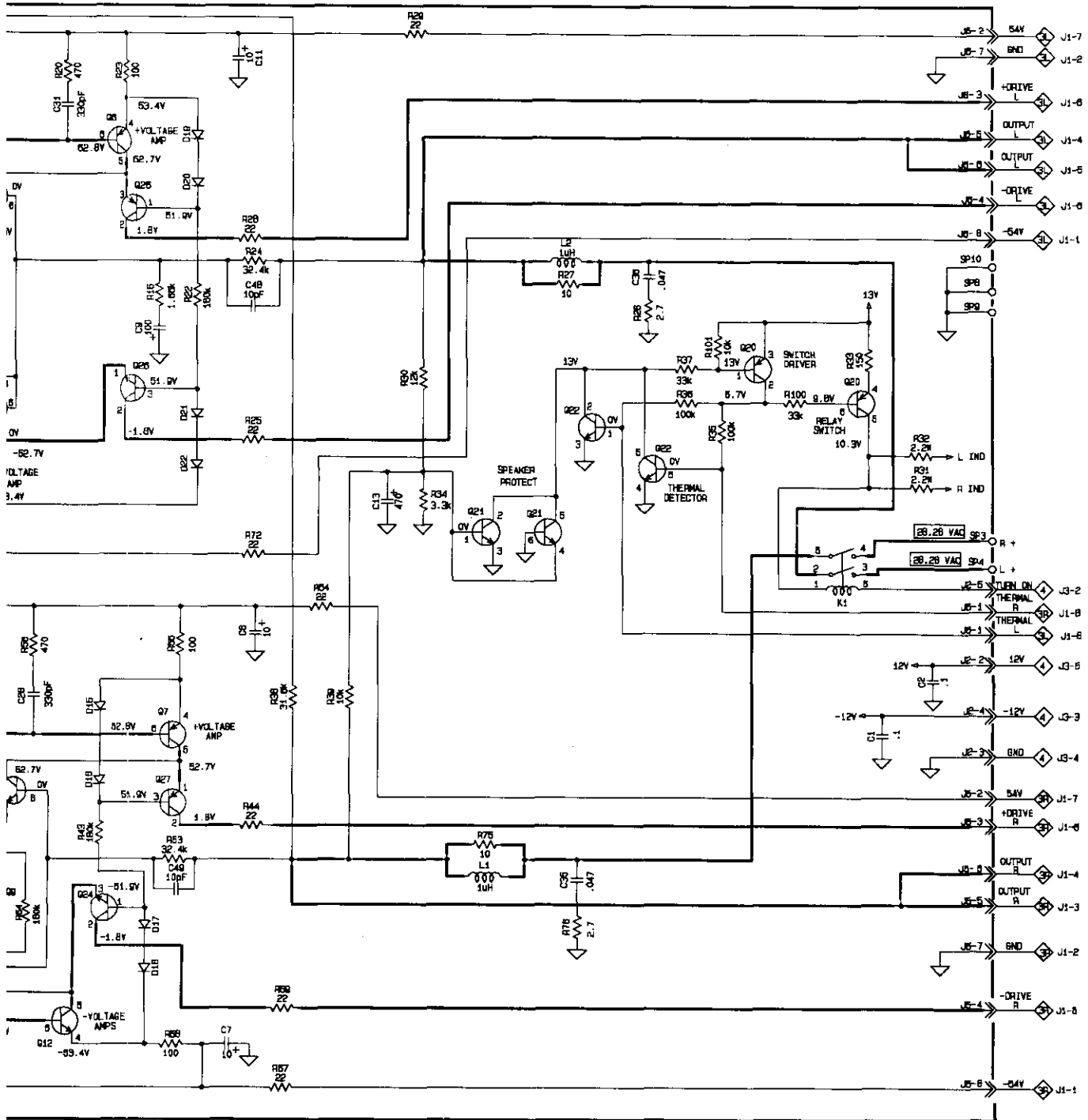
Symbol	Part	Description
INTEGRATED CIRCUITS		
IC1, IC2	133094	Dual OP AMP, NE5532N
JACKS		
J1	117436	Phono Jack, Gold, PJ261G
RELAYS		
K1	087057	Relay DSPT, 24VDC, 5A
COILS & INDUCTORS		
L1, L2	122277	Output Choke, 1uH
LIGHT DEPENDENT RESISTORS		
LDR1	144248	LDR Network, Dual
TRANSISTORS		
Q1, Q3, Q8, Q9	132250	NPN, Dual, 2SC3066G
Q2, Q4, Q10, Q11, Q17	132251	PNP, Dual, 2SA1239G
Q5, Q12, Q21, Q22, Q23	132252	NPN, Dual, 2SC3064G
Q6, Q7, Q16, Q20	132253	PNP, Dual, 2SA1237G
Q24, Q26	132248	NPN, 2SC3790D or 2SC3790E
Q23, Q25	132249	PNP, Dual, 2SA1237G
RESISTORS		
R1, R74	134450	POT, 50K
SWITCHES		
S2	148059	Slide Switch PDT

POWER CONNECTIONS	
IC1, IC2	14 = 5V 7 = gnd
R1, R74	4 = gnd 5 = gnd
J1	3 = gnd

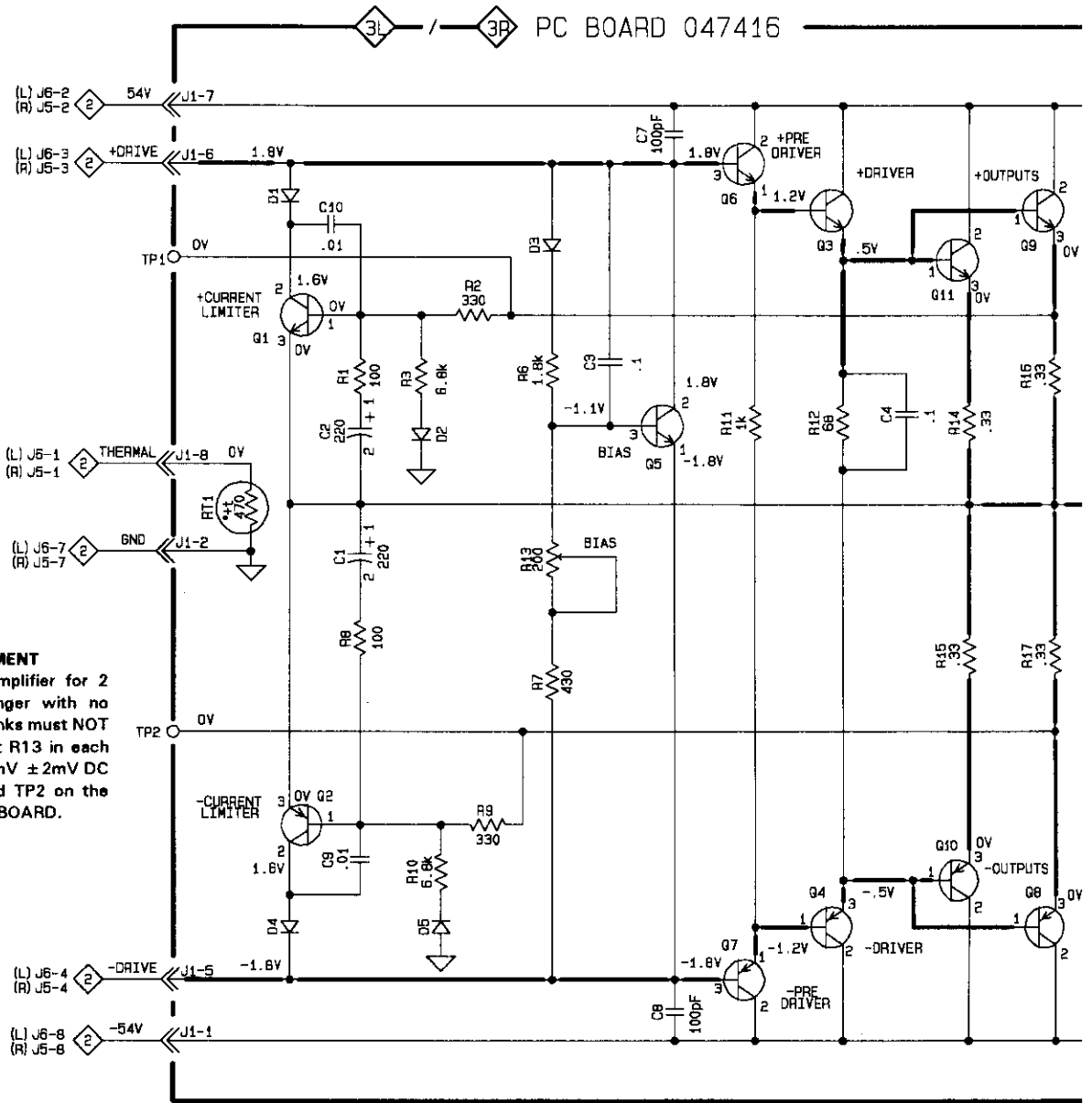
Driver

2



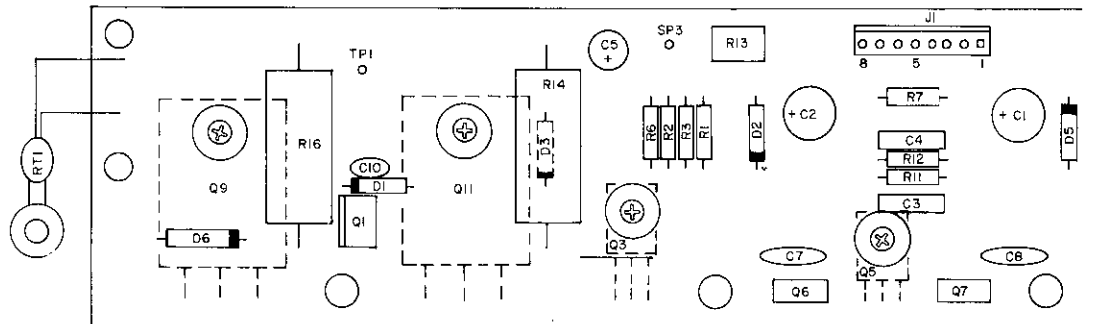


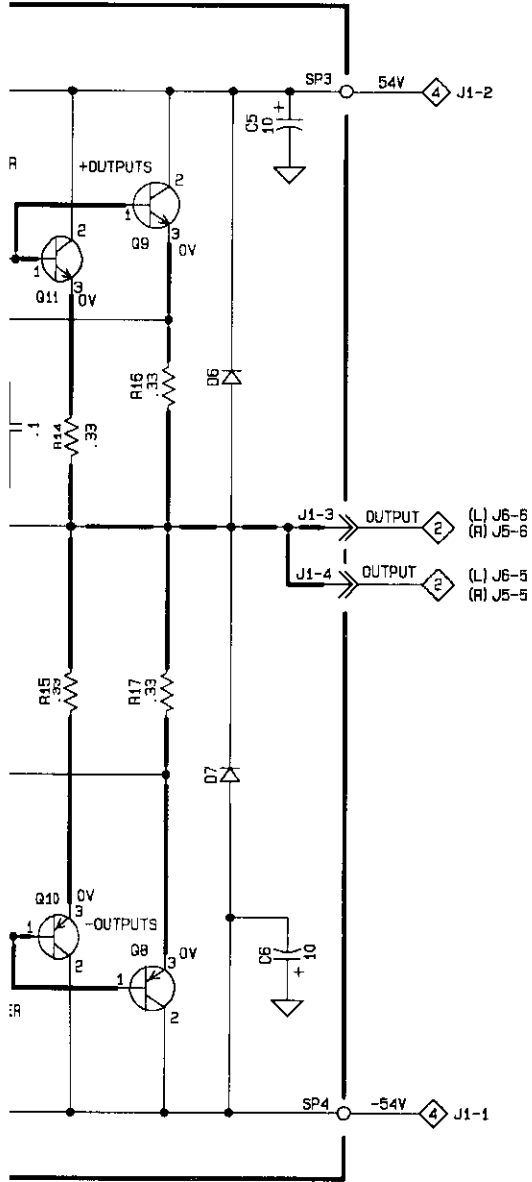
3 Heatsink



BIAS ADJUSTMENT
 Operate the amplifier for 2 minutes or longer with no output. Heatsinks must NOT be hot. Adjust R13 in each channel for 12mV \pm 2mV DC across TP1 and TP2 on the HEATSINK PC BOARD.

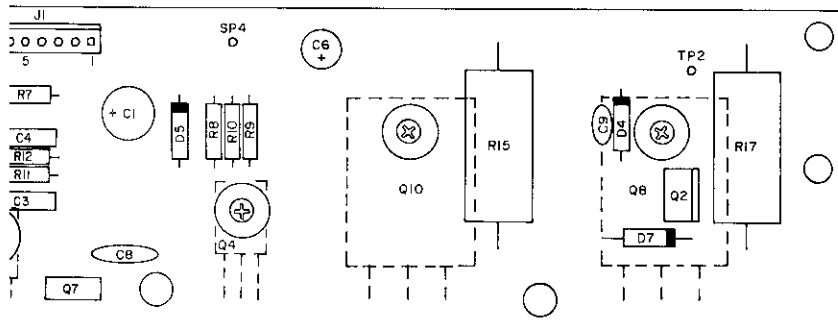
HEATSINK PCB 047416



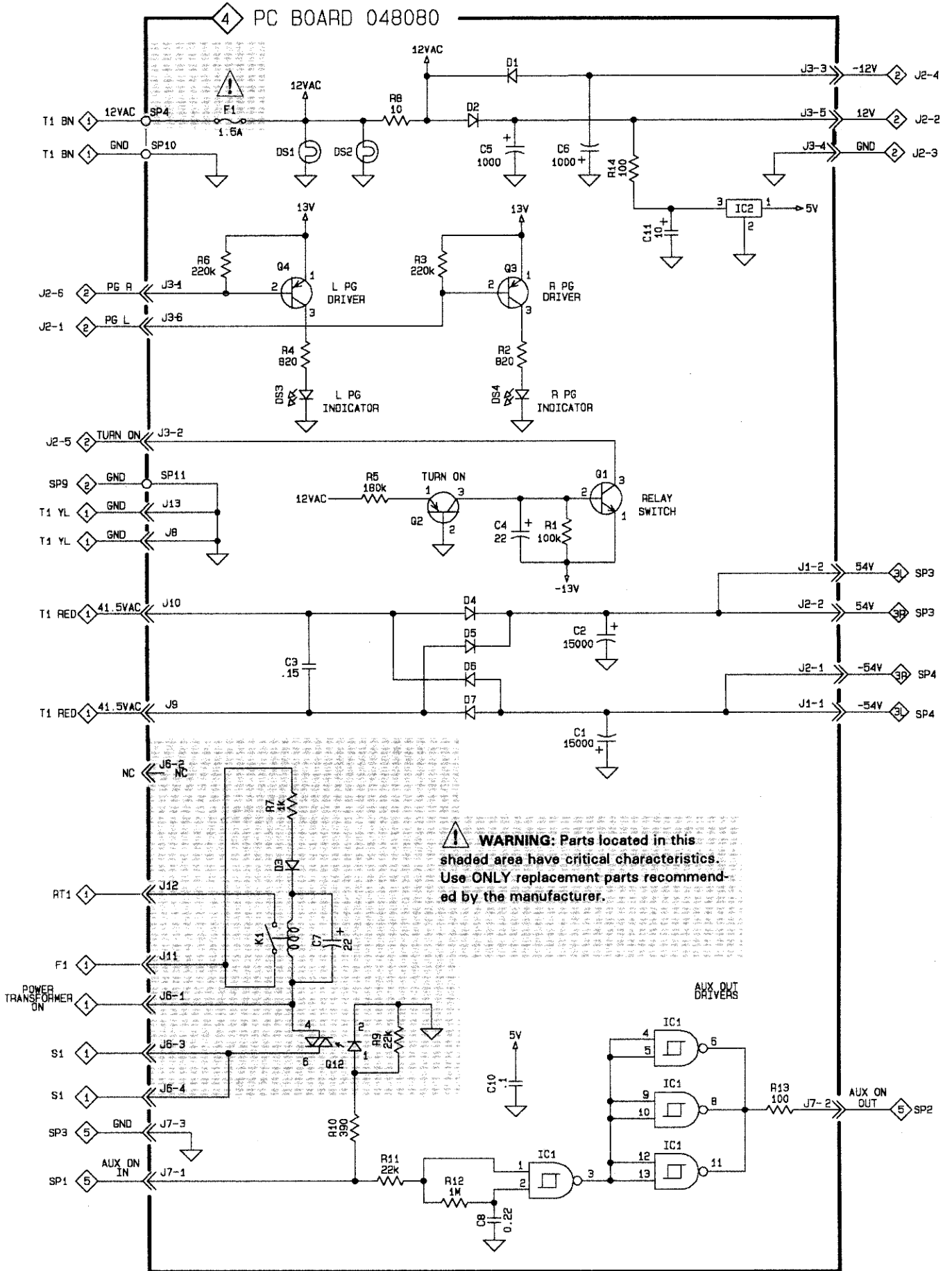


HEATSINK PARTS LIST

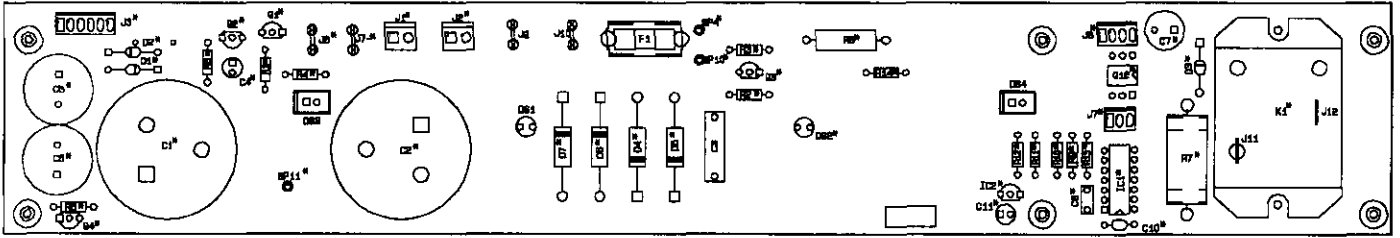
Symbol	Part	Description
TRANSISTORS		
Q1	132227	PNP, TIP4113
Q2	132228	PNP, TIP42B
Q3	132231	NPN, 2SC3298B-0
Q4	132232	PNP, 2SA1306V-0
Q5, Q6	132248	NPN, 2SC3790D or 2SC3790E
Q7	132249	PNP, 2SA1480D or 2SA1480C
Q8, Q10	132239	PNP, 2SC1302
Q9, Q11	132238	NPN, 2SC3281
POTENTIOMETER		
R13	134390	TRIM POT, 220 ohm, 20%
THERMISTORS		
RT1	144249	Thermistor, 470 ohm



5 Power Supply



POWER SUPPLY PCB 048080



ASTERIXED (*) COMPONENTS LOCATED ON THE REVERSE OR BACKSIDE OF THE BOARD.

POWER SUPPLY PARTS LIST

Symbol	Part	Description
CAPACITORS		
C1,C2	066409	ELECT CAP, 15000uF, 75V
LIGHTING DEVICES		
DS1,DS2	058061	Lamp 14V
DS3,DS4	058121	LED Bar Amber Rectangle
FUSES		
F1	089052	Fuse 1.5A, Slo-Blo, 2AG
INTEGRATED CIRCUITS		
IC1	133192	MC74HC132, NAND SCHMIT
IC2	133093	MC78L05 +5V, REG

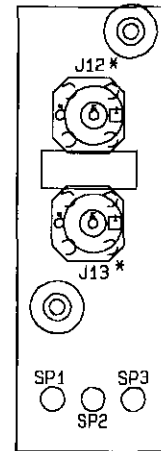
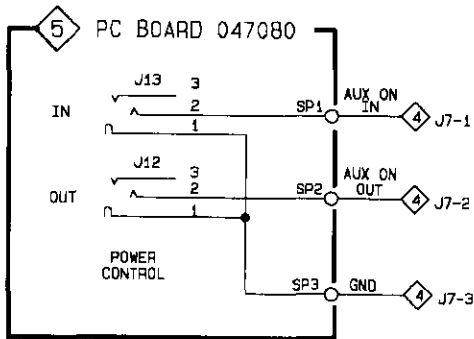
RELAYS

K1	087049	48VDC, VFB 48Hu
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TRANSISTORS

Q1	132254	NPN, 2SC2362KG
Q2	132224	PNP, MPS4126
Q3,Q4	132182	PNP, DAR MP5A64
Q12	131020	OPTO ISO, MOC3023

POWER CONTROL PCB 048080



POWER CONTROL PARTS LIST

Symbol	Part	Description
JACKS		
J12,J13	117462	Phono Jack

POWER CONNECTIONS	
IC1	14 = 5V
	7 = gnd

Repacking Instructions

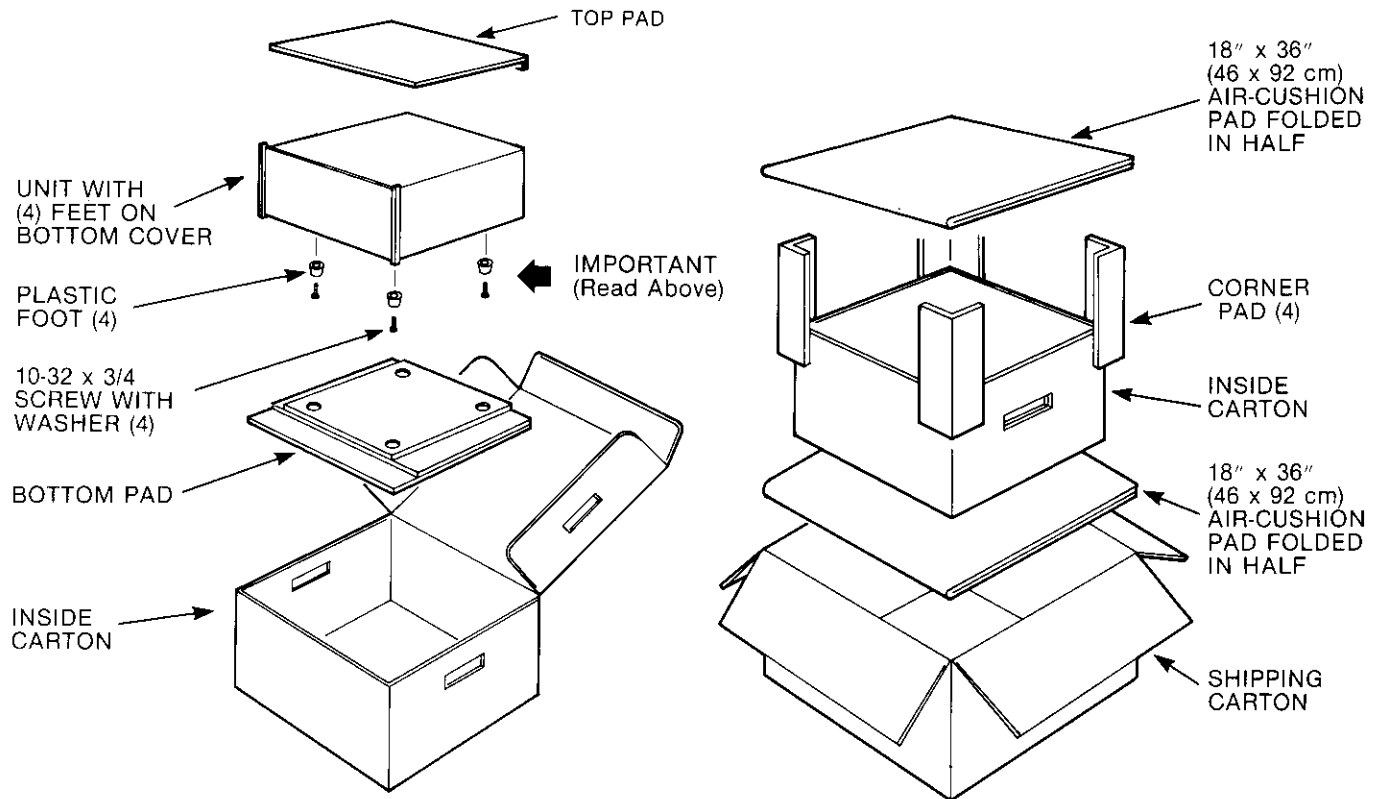
In the event it is necessary to repack the MC7100 for shipment, the unit must be packed exactly as shown below. The shelf brackets do not have to be included in the carton for the unit to be packed properly, but their position in the carton is indicated.

IMPORTANT-The four plastic feet must be attached to the bottom of the unit so they will locate in the four holes of the bottom pad. Failure to do this will result in shipping damage.

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

Use the original shipping carton and interior parts only if they are all in good serviceable condition.

Qty	Part No.	Description
1	033607	Shipping carton only
2	033087	18" x 36" Air-cushion pad
4	033627	Corner pad
1	033606	Inside carton only
1	033726	Top pad
1	033729	Bottom pad
4	017218	Plastic foot
4	100159	#10-32 x 3/4 screw
4	104080	#10 Flat washer
1	048095	Shipping carton complete with all the above parts



McIntosh[®]

MC7100 POWER AMPLIFIER

Starting with serial no. KC1001

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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