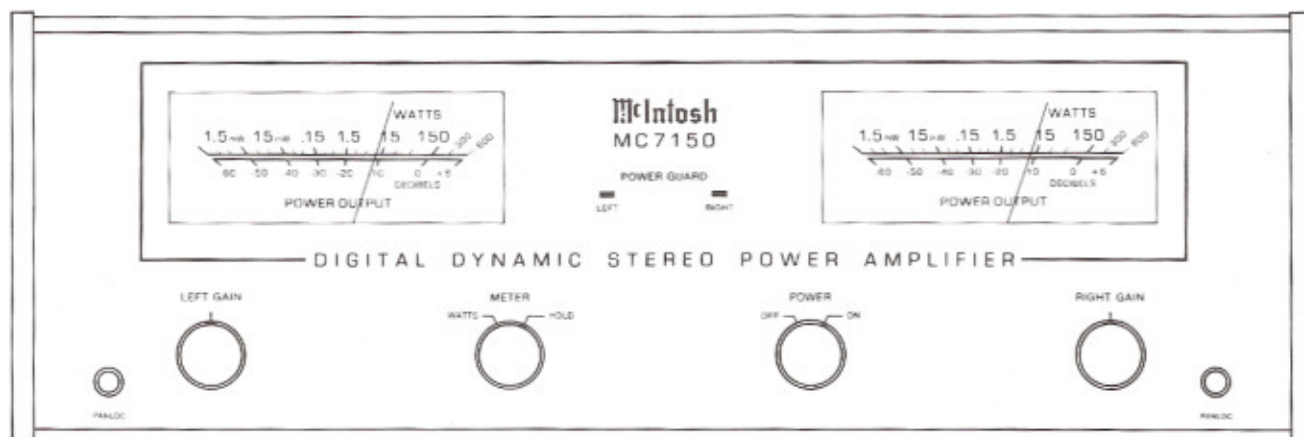


# MC 7150

## STEREO POWER AMPLIFIER



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# Performance Specifications

## STEREO POWER OUTPUT

150 watts into 8, 4 or 2 ohm loads is the minimum sine wave continuous average power output per channel from 20Hz to 20,000Hz with both channels operating.

The output RMS voltage is:

- 34.6 across 8 ohms
- 24.5 across 4 ohms
- 17.3 across 2 ohms

## OUTPUT LOAD IMPEDANCE

Stereo: 8, 4 or 2 ohms by connecting to the proper output terminals.

## RATED POWER BAND

20Hz to 20kHz

## TOTAL HARMONIC DISTORTION

Stereo: 0.005% maximum harmonic distortion at any power level from 250 milliwatts to rated power per channel from 20Hz to 20,000Hz, both channels operating.

## INTERMODULATION DISTORTION

Stereo: 0.005% maximum if instantaneous peak power output does not exceed twice the output rating per channel, with both channels operating, for any combination of frequencies from 20Hz to 20,000Hz.

## FREQUENCY RESPONSE (at one watt output)

- +0, -0.25dB from 20Hz to 20,000Hz
- +0, -3.0dB from 10Hz to 100,000Hz

## HUM AND NOISE (A-weighted)

110dB below rated output

## IHF DYNAMIC HEADROOM

1.8dB

## DAMPING FACTOR

Greater than 40

## INPUT IMPEDANCE

20,000 ohm

## INPUT SENSITIVITY

1.4 volts (2.5V at gain control center detent)

## POWER REQUIREMENT

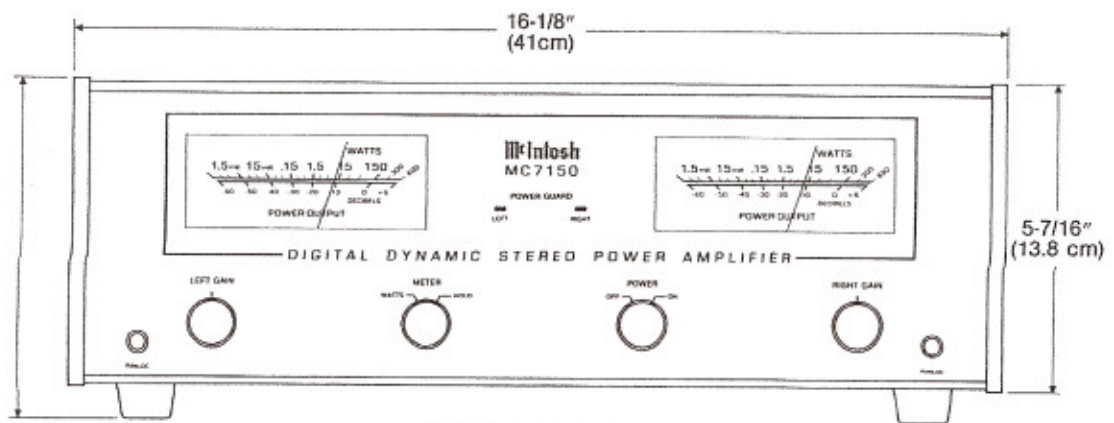
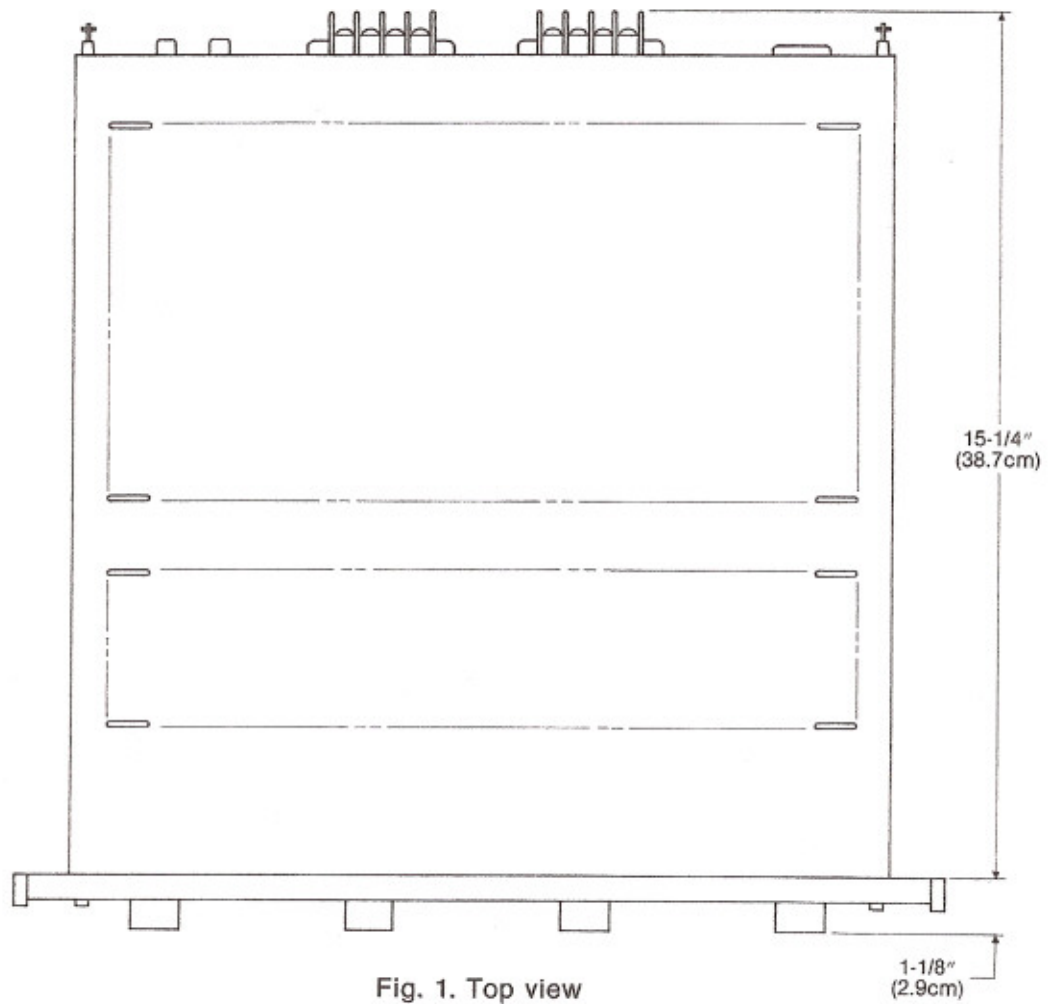
120 volts, 50/60Hz, .5 to 7 amperes

## Notes

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1. The heavy lines on the schematics denote the primary signal path.
2. Unless otherwise specified:
  - a. Resistor values are in ohms.
  - b. Capacitor values smaller than 1 are in microfarads ( $\mu\text{F}$ ) and greater than 1 are in picofarads ( $\text{pF}$ ).
  - c. Inductor values are in microhenries ( $\mu\text{H}$ ).
3. Unless otherwise noted, all voltages indicated on the schematics are measured under the following conditions:
  - a. AC input at 120 volts, 50/60Hz.
  - b. All voltages are  $\pm 10\%$  with respect to ground.  
A high impedance (10 megohm) voltmeter must be used.
  - c. Front panel controls are set at:  
POWER.....ON  
LEFT GAIN.....FULLY CW  
RIGHT GAIN.....FULLY CW  
METER SELECTOR.....WATTS
4. The voltages enclosed in a box are signal voltages that are measured with a 1.4V, 1kHz signal connected to both inputs.

# Mechanical Views



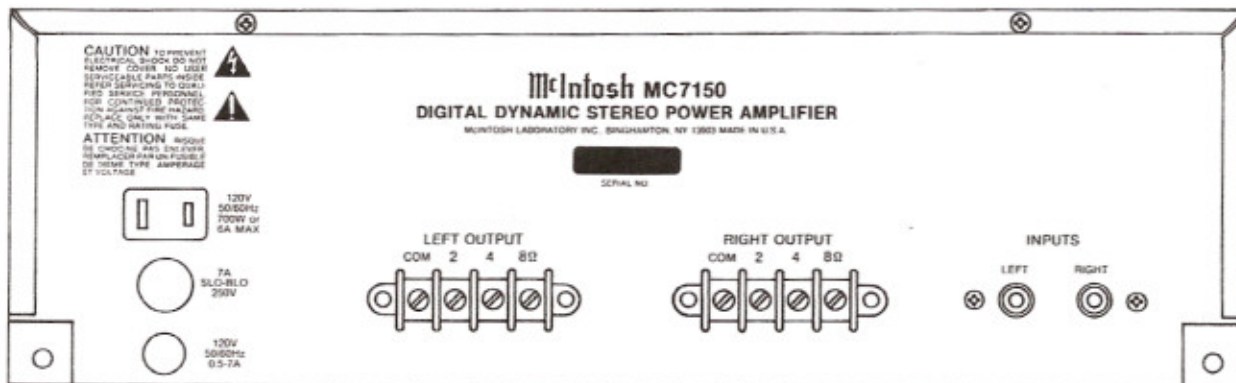


Fig. 3. Rear view

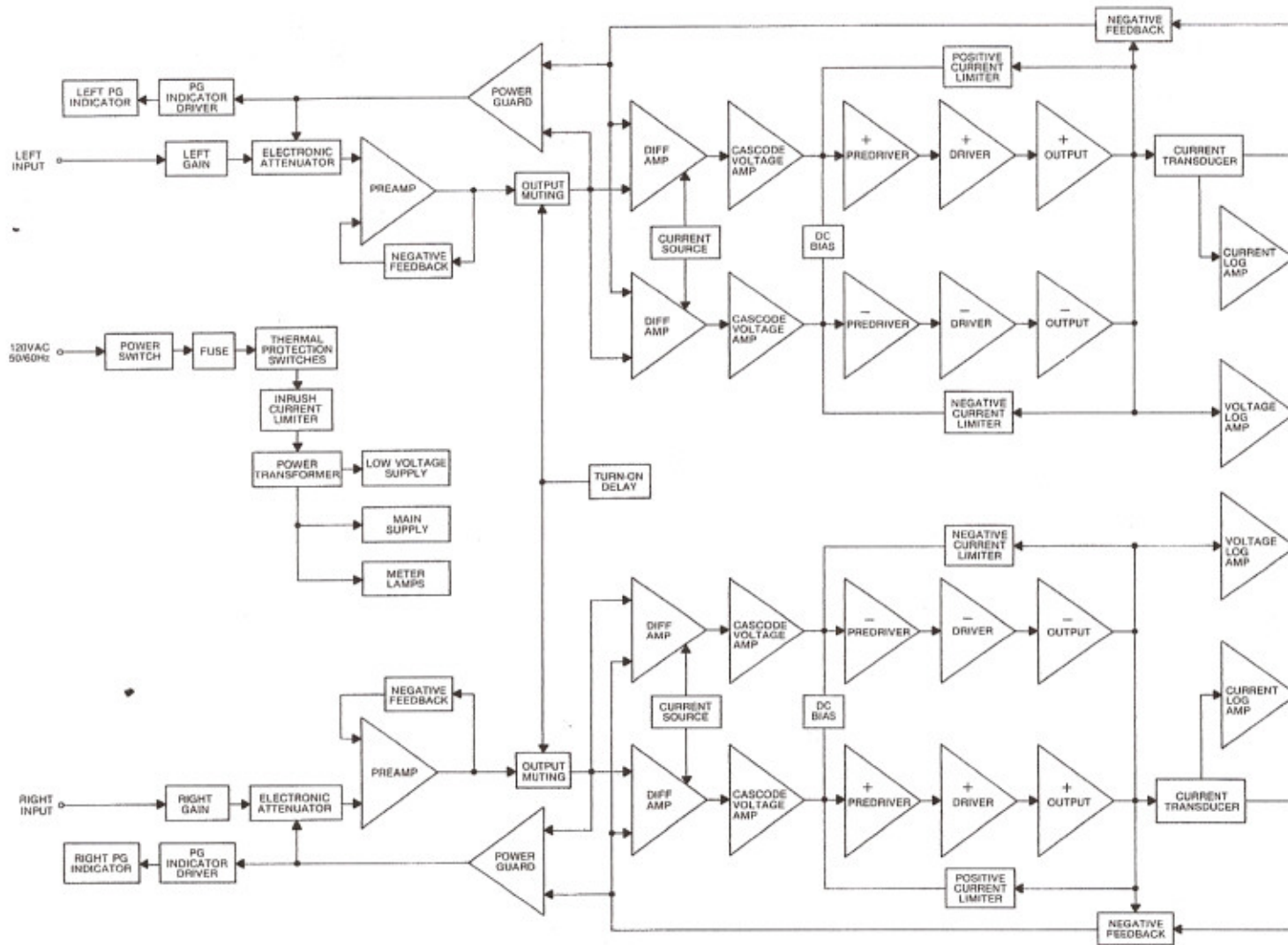
### FRONT PANEL AND TRIM PARTS LIST

Part	Description
047149	Front Panel, Complete
047148	Front Panel, Glass
018232	End Cap
090214	Knob, Gain Controls
090224	Knob, Power, Meter
018369	Top Panel Rail
018397	Bottom Extrusion

### INSTALLATION PARTS LIST

Part	Description
045142	Hardware Package
043401	Mounting Strips
260752	Mounting Template
003923	Panloc Bracket, Right
003924	Panloc Bracket, Left
017218	Plastic Feet

# Block Diagram



# Section Locations

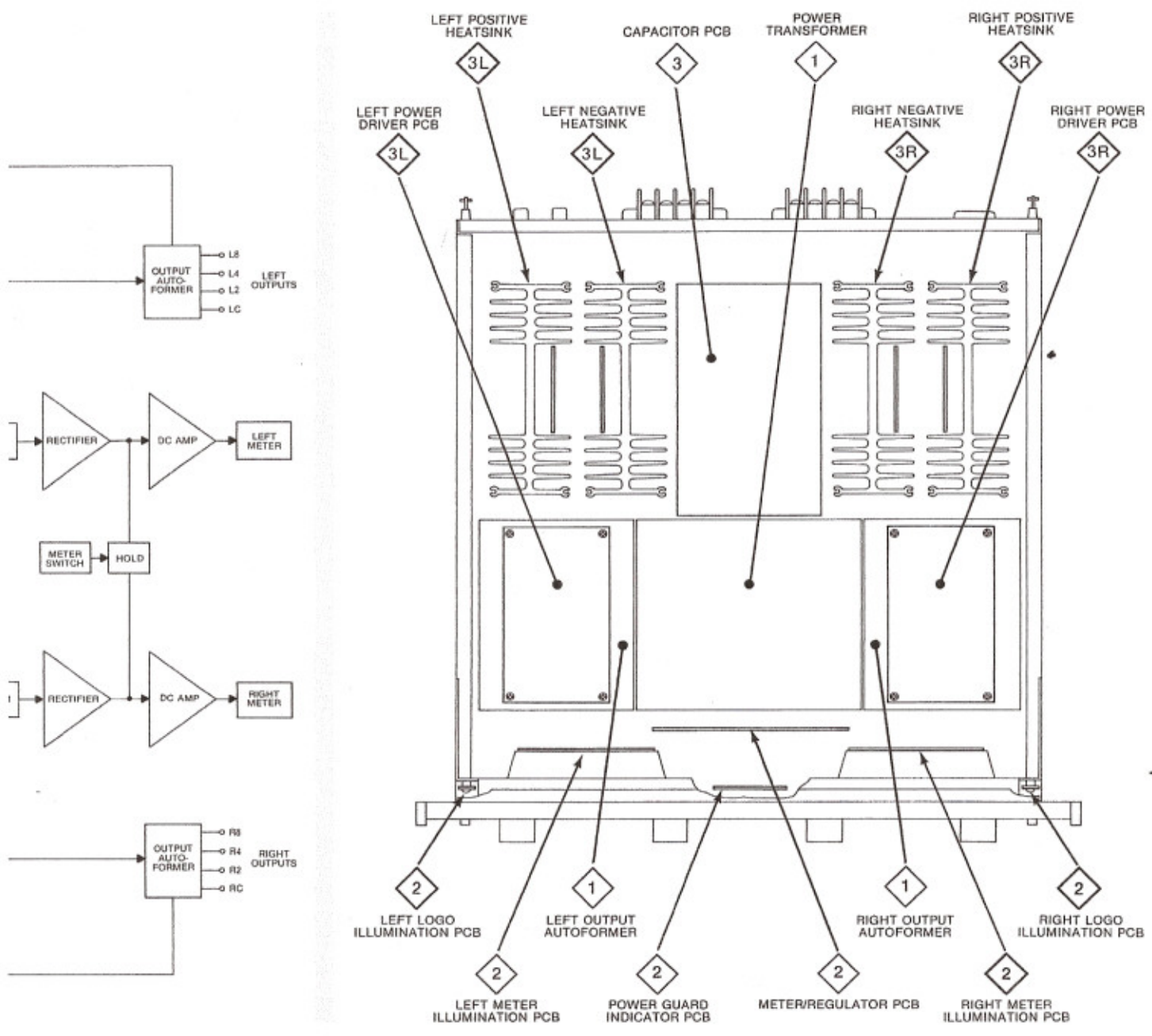
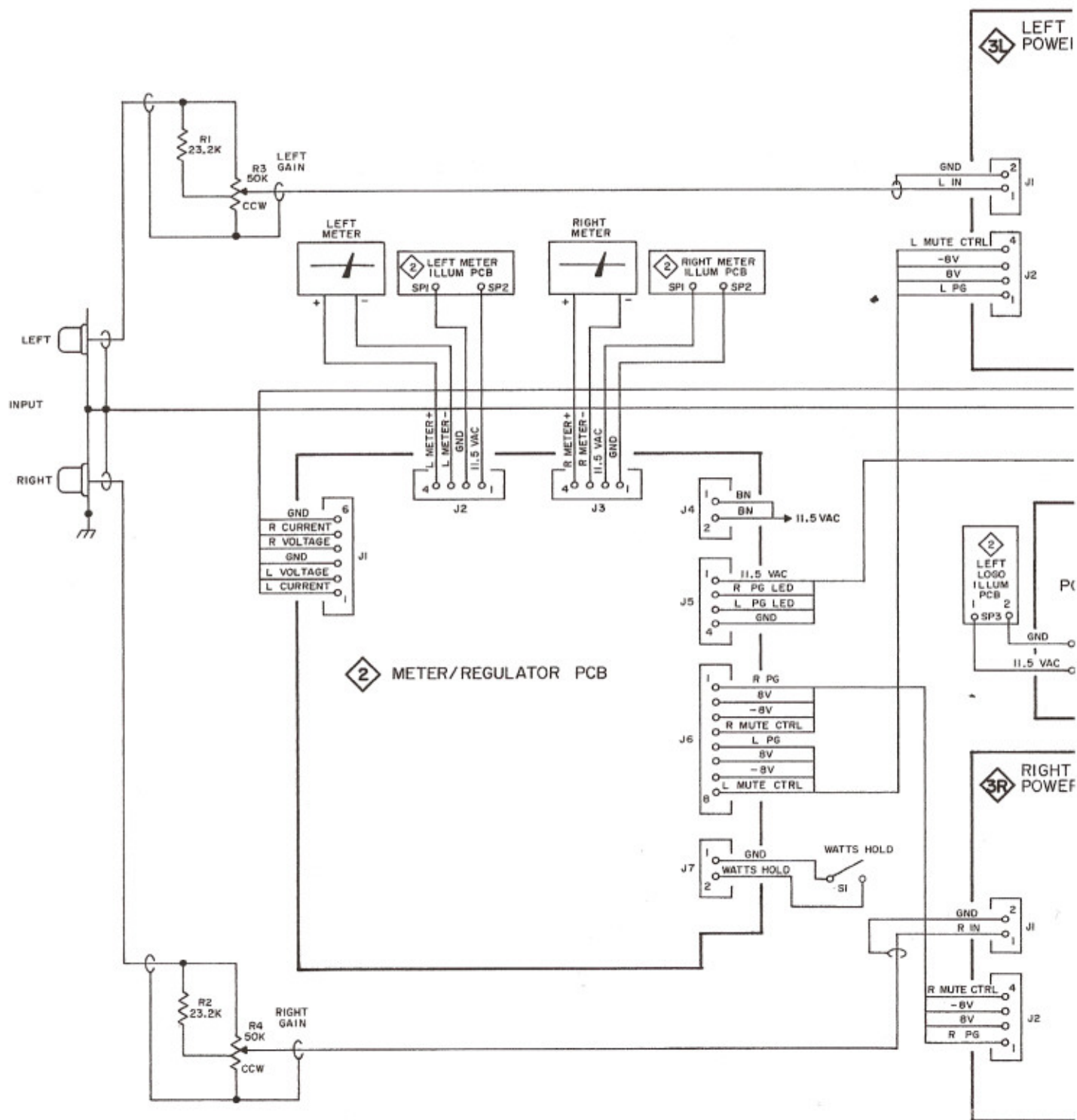
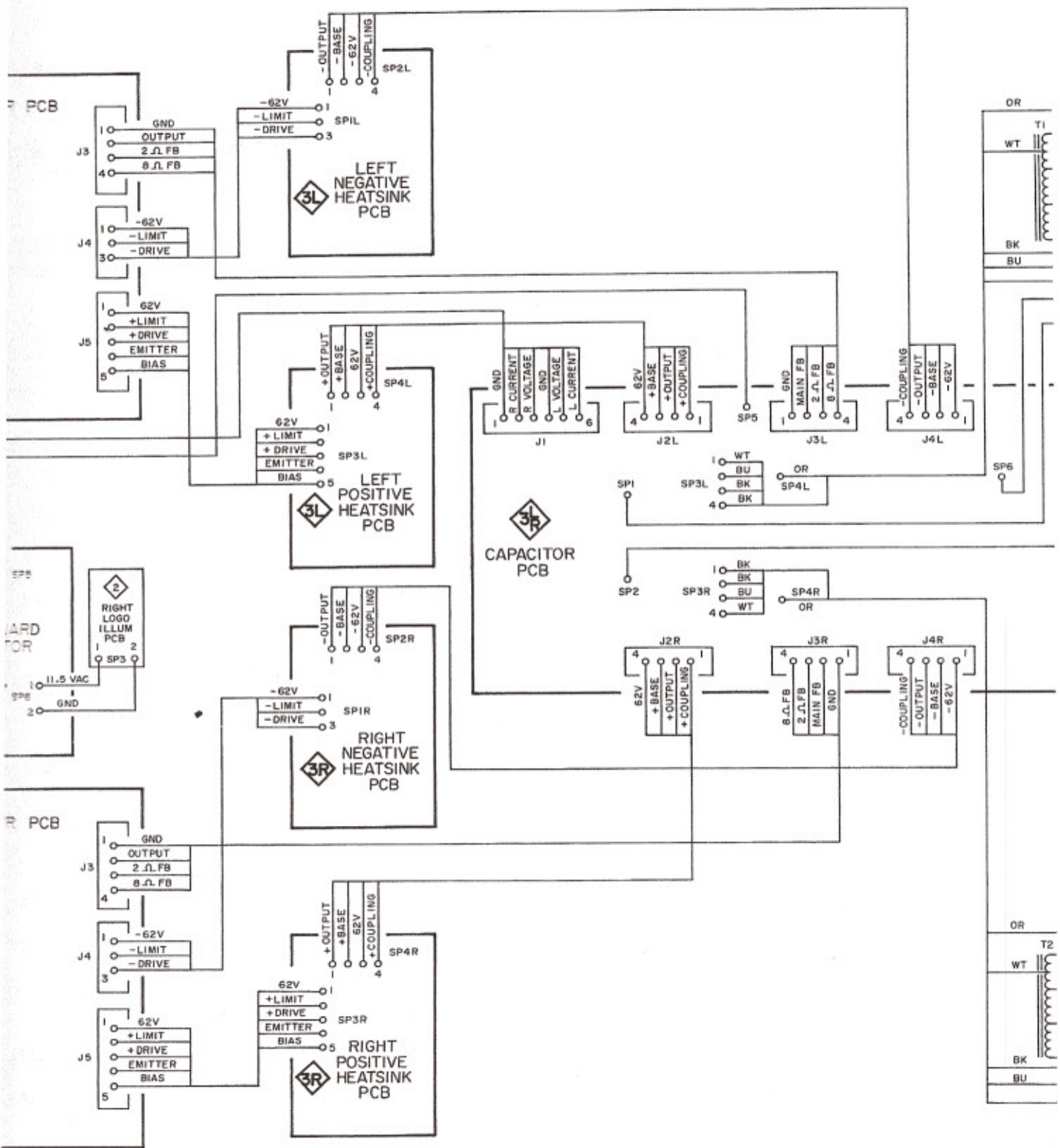


Fig. 4. Top view with cover removed

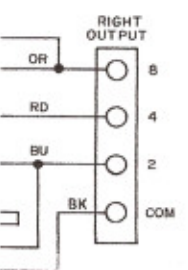
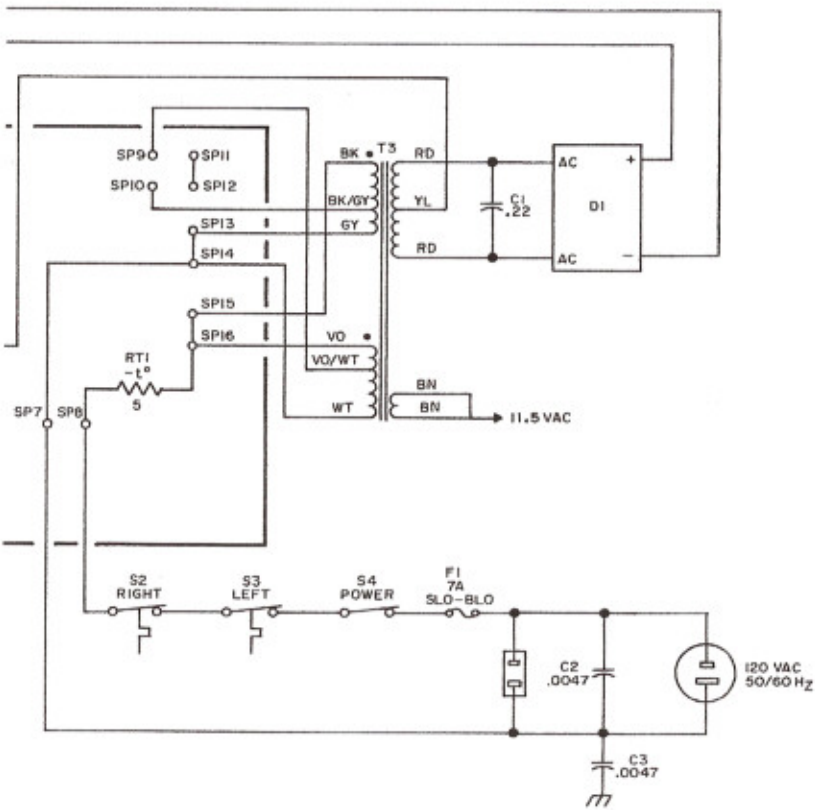
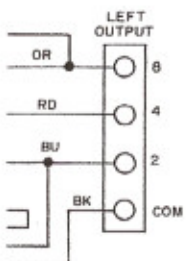
# Interconnection Diagram

# 1



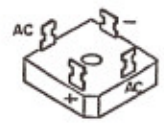






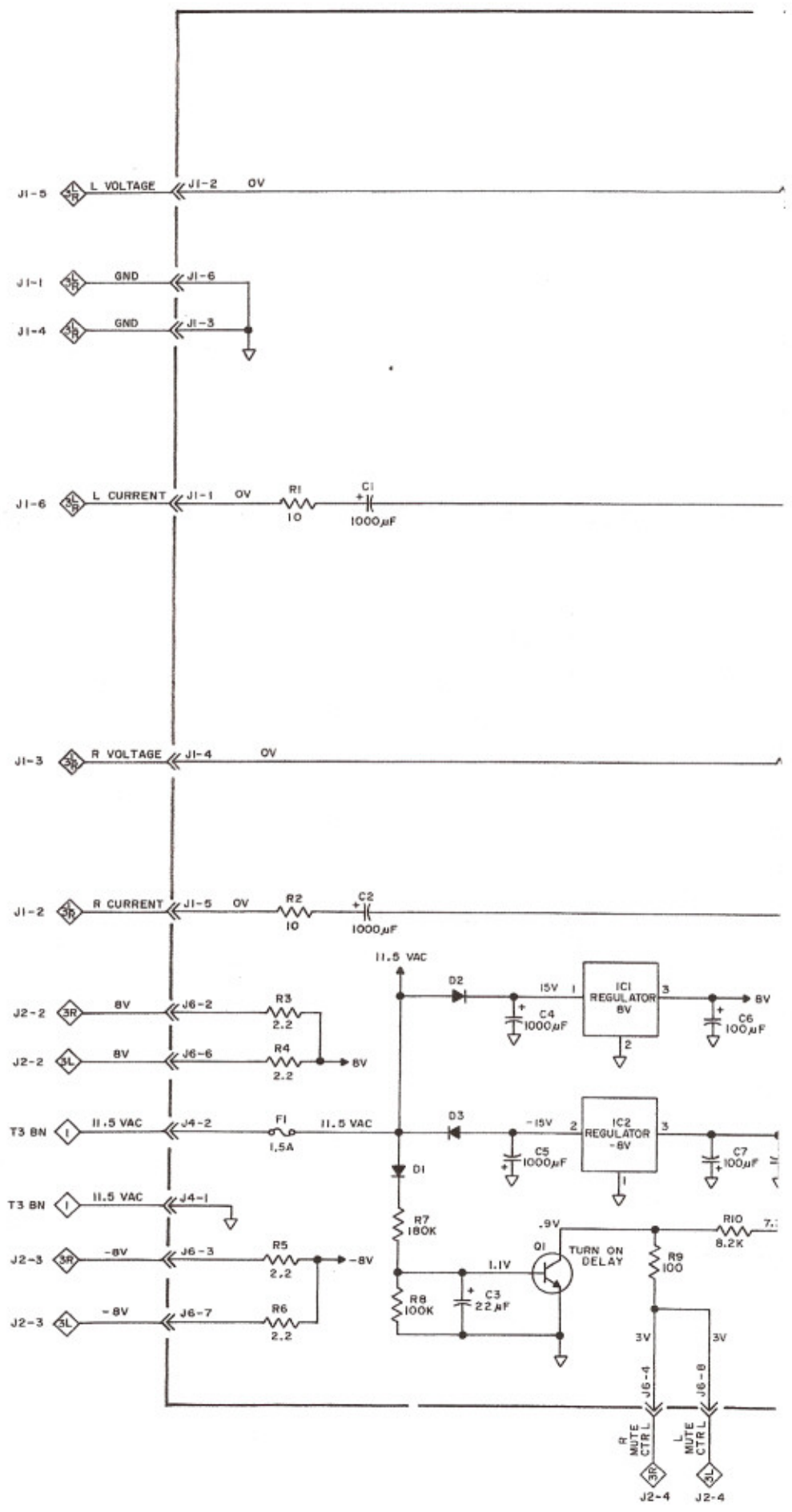
INTERCONNECTION PARTS LIST

Symbol	Part	Description
<b>CAPACITORS</b>		
C2,C3	016276	CD, 0.0047uF, 400V, UL/CSA
<b>DIODES</b>		
D1	070137	BRID, Rect, 400V, MDI4040
<b>FUSES</b>		
F1	089054	Fuse, SB, 7A, 250V
<b>RESISTORS</b>		
R3,R4	134442	POT, 50K ohm, Gain Control
<b>THERMISTORS</b>		
RT1	144151	Thermistor, 5 ohm
<b>SWITCHES</b>		
S1,S4	146183	Power Switch (on-off)
S2,S3	153017	Thermal Switch
<b>TRANSFORMERS</b>		
T1,T2	047142	Audio
T3	047141	Power

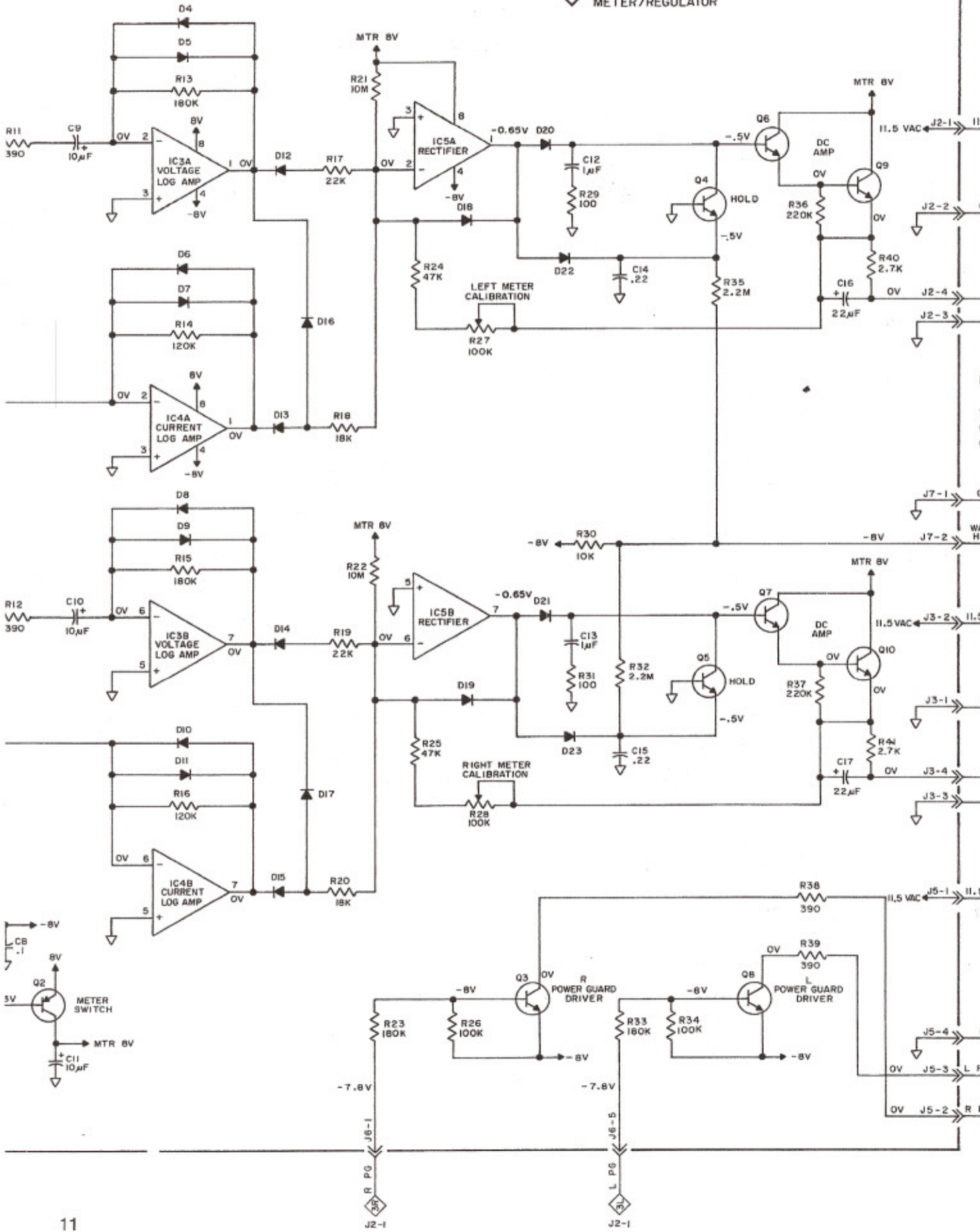


D1

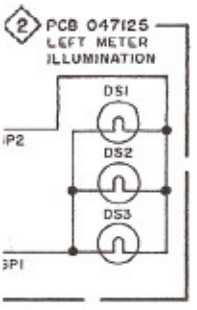
# 2 Power Supply/Meter



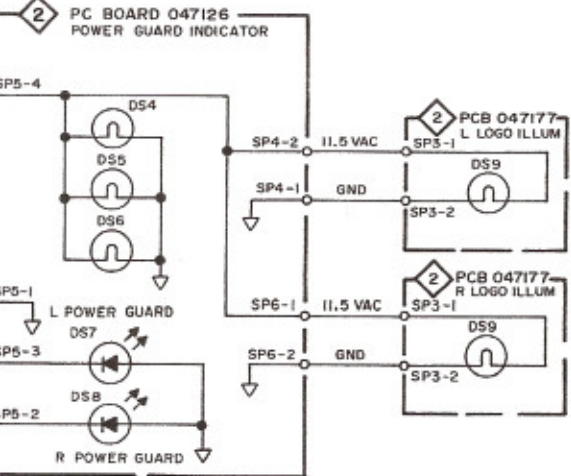
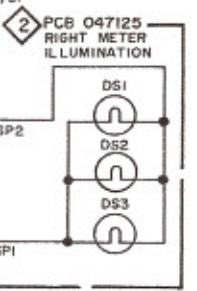
2 PC BOARD 047115  
METER/REGULATOR



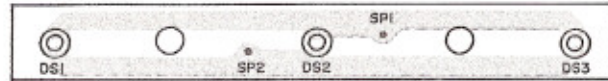
2



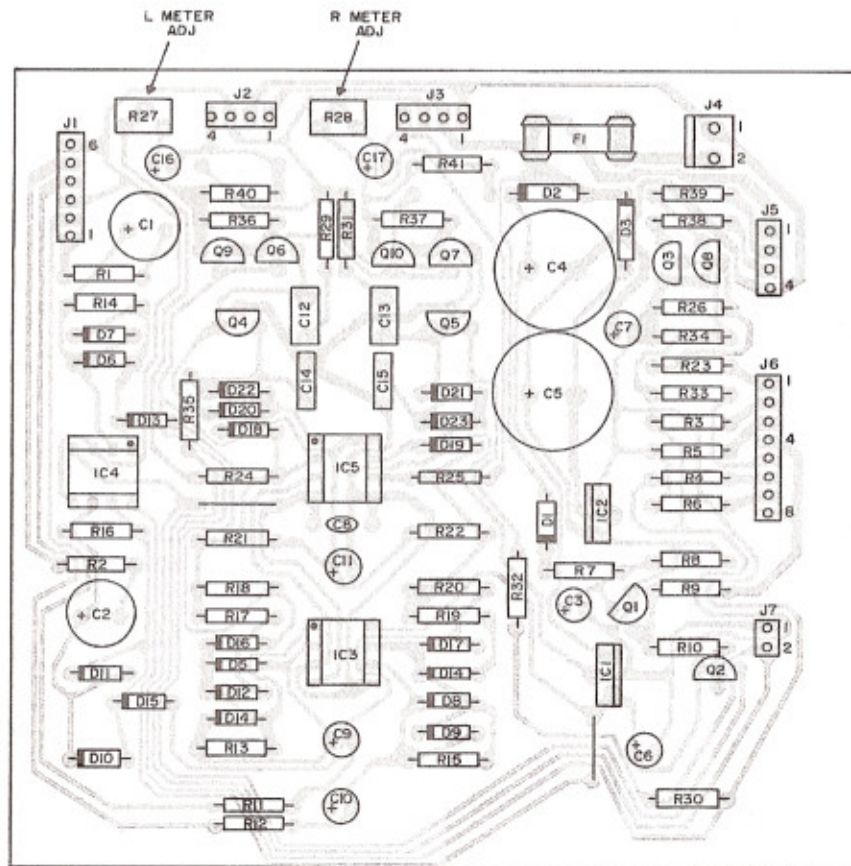
**CALIBRATION**  
rate the amplifier at 1kHz with 150 into 8 ohm loads. Adjust both ation pots R27 (left) and R28 (right) so meter reads 150 watts.



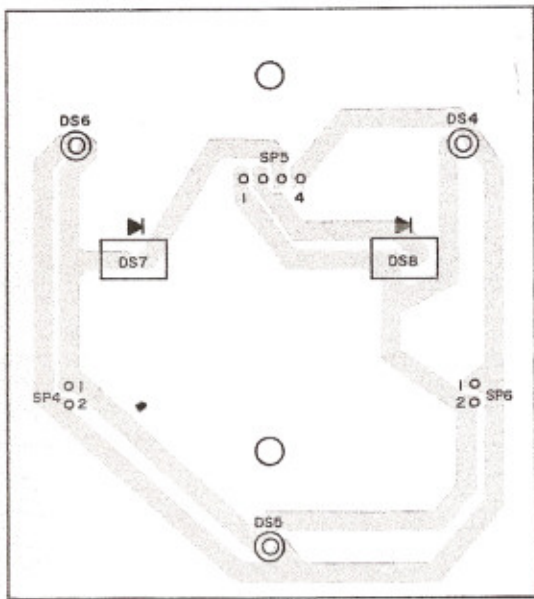
# Power Supply/Meter 2



**METER ILLUMINATION  
PCB 047125**



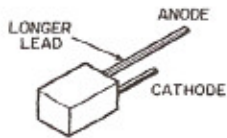
**METER REGULATOR  
PCB 047115**



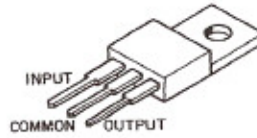
**POWER GUARD INDICATOR  
PCB 047126**



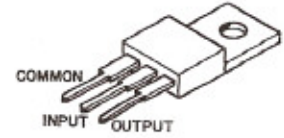
**LOGO  
ILLUMINATION  
PCB 047177**



DS7, DS8



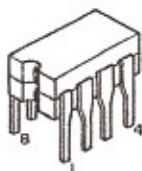
IC1



IC2

## POWER SUPPLY/METER PARTS LIST

Symbol	Part	Description
<b>DIODES</b>		
D1	070047	SIG, 75V, 150mA, 1N4148
D2, D3	070131	RECT, 400V, 1A, 1N4004
D4-D19	070047	SIG, 75V, 150mA, 1N4148
D20, D21	070136	SIG, Low Leakage, FDH300
D22, D23	070047	SIG, 75V, 150mA, 1N4148
<b>LIGHTING DEVICES</b>		
DS1-DS3	058120	INC, 14V, 7373
DS4, DS6	058061	INC, 14V, 7382
DS5	058120	INC, 14V, 7373
DS7, DS8	058121	LED, Amber Bar, MV15-3101
D9	058120	INC, 14V, 7373
<b>FUSES</b>		
F1	089052	Fuse, 5B, 1.5A, 250V, 2AG
<b>INTEGRATED CIRCUITS</b>		
IC1	133165	+8V Regulator, 78M08CT
IC2	133166	-8V Regulator, 7908CT
IC3, IC4	133028	Dual HI-speed Operational Amp, MC4558CP1
IC5	133094	Dual Operational Amp, NE5532N
<b>METERS</b>		
M1, M2	124046	Meter
<b>TRANSISTORS</b>		
Q1, Q3	132090	NPN, DAR, MPSA25
Q2	132224	PNP, MPS4126
Q4, Q5	132223	NPN, MPS4124
Q6, Q7	132254	NPN, 2SC2362KG
Q8	132090	NPN, DAR, MPSA25
Q9, Q10	132254	NPN, 2SC2362KG



IC3-IC5

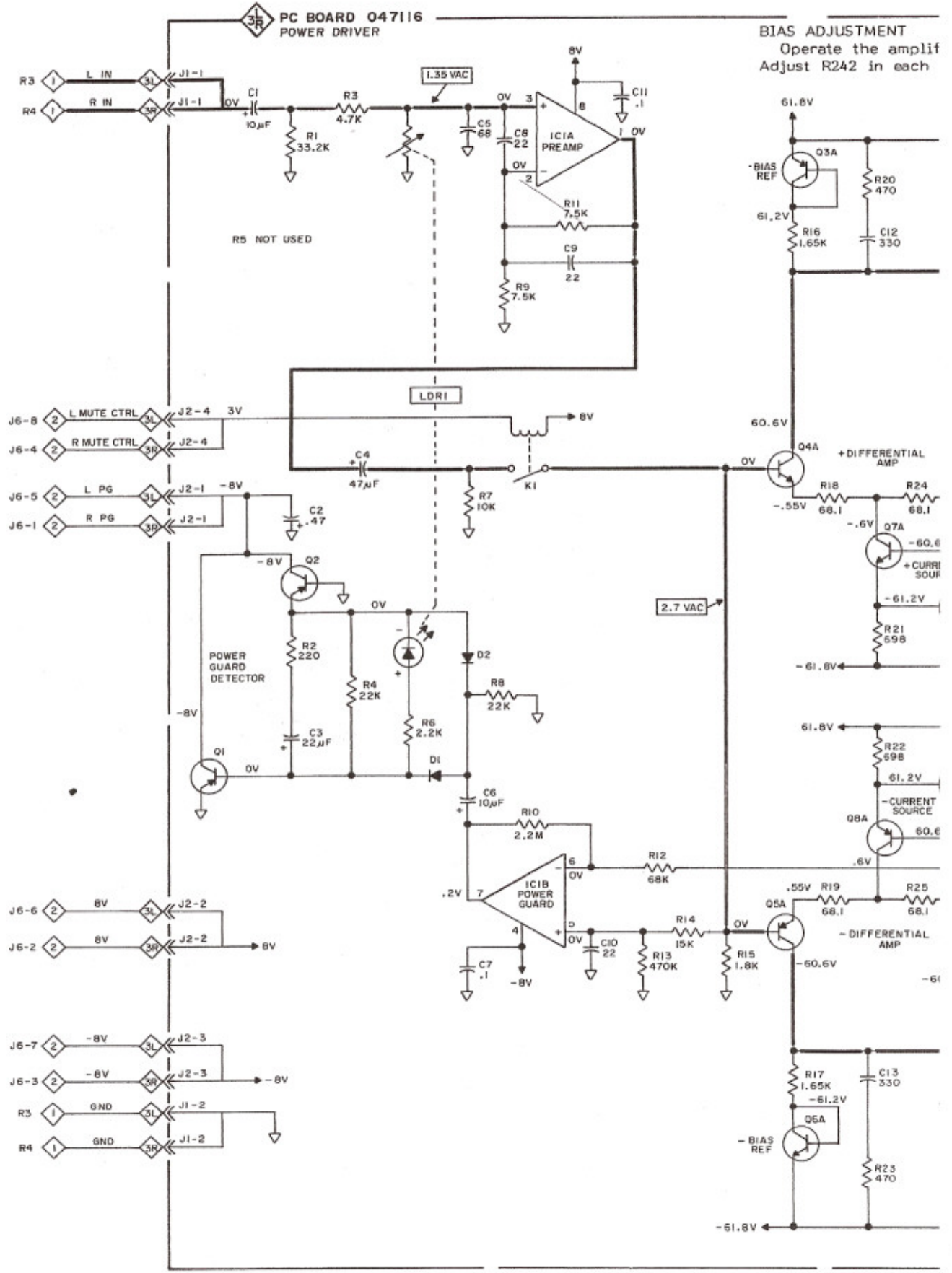


Q1-Q5, Q8



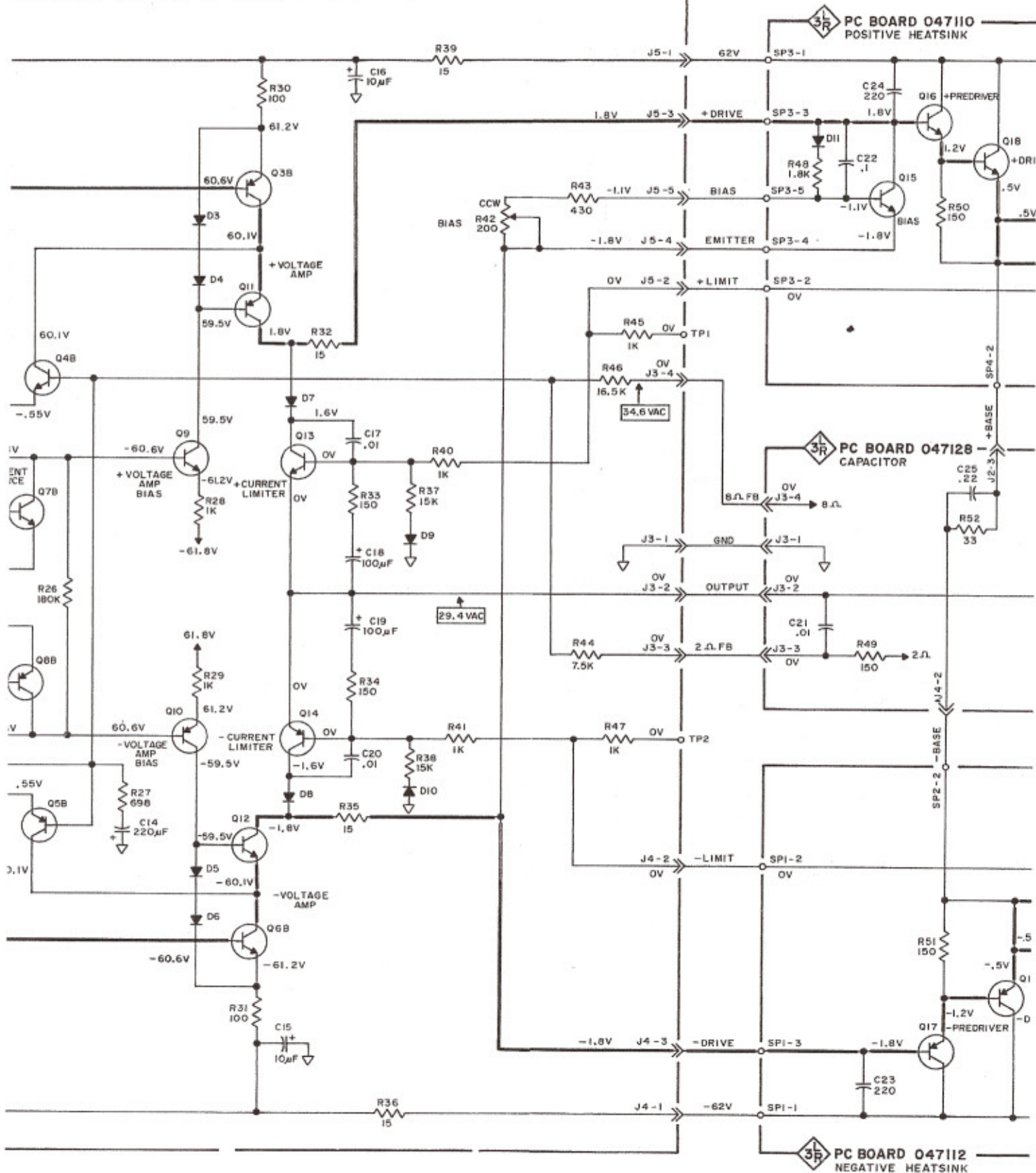
Q6, Q7, Q9, Q10

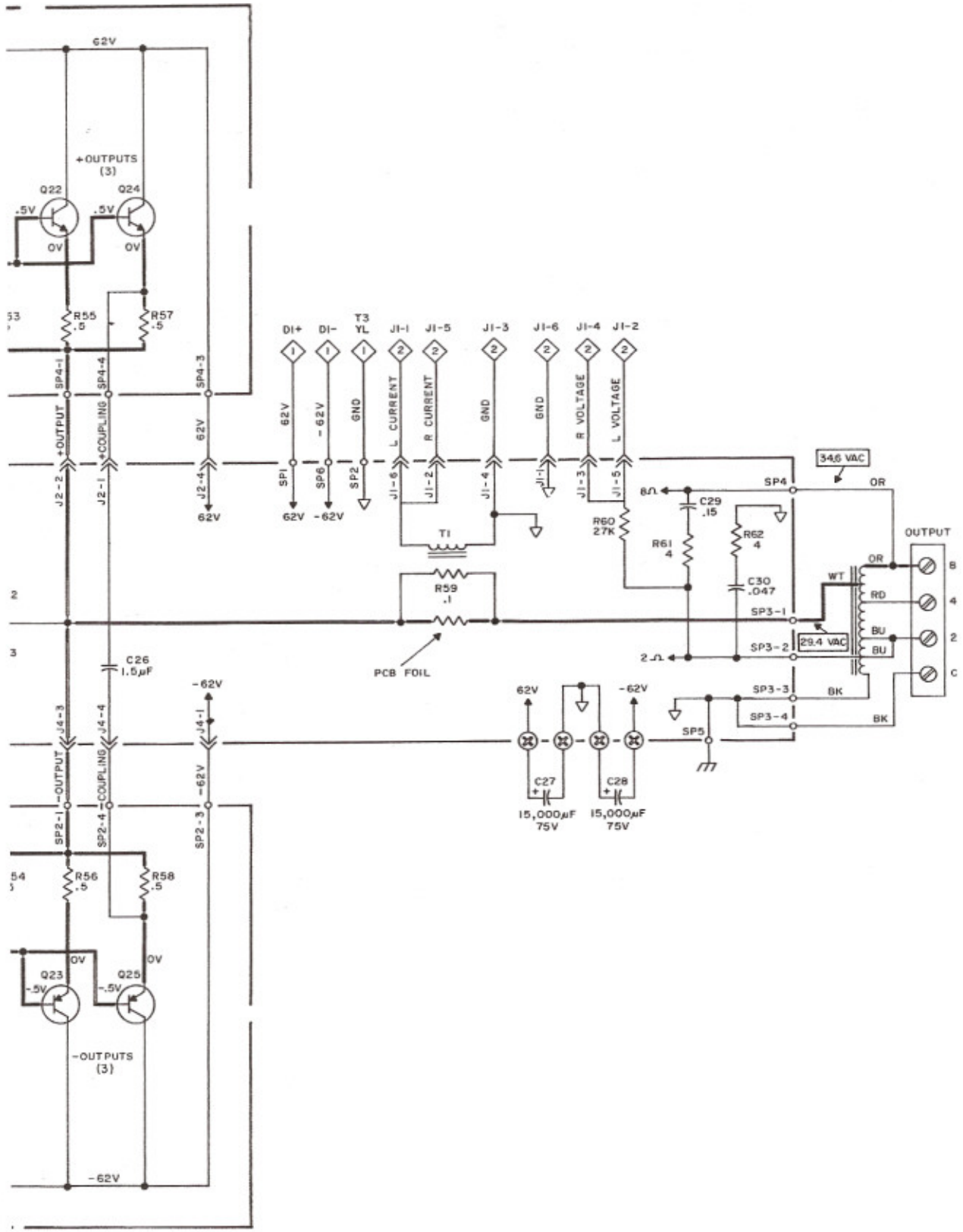
# 3 Amplifier

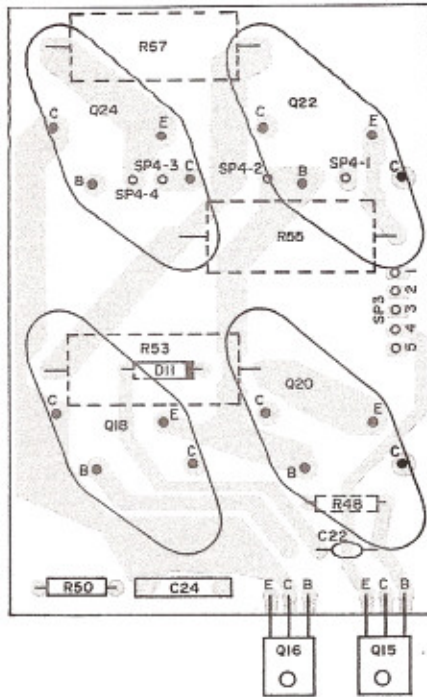




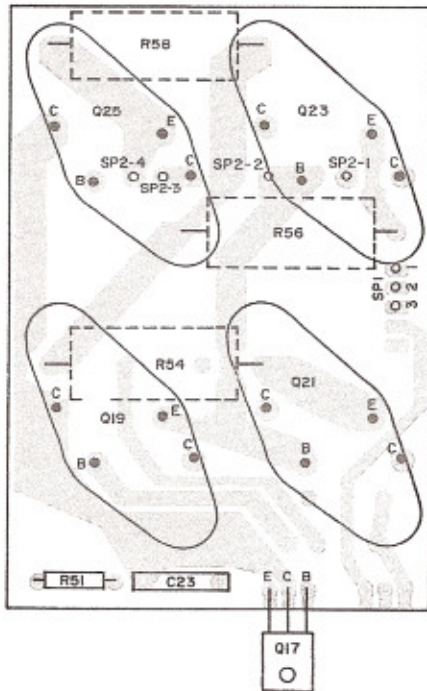
ier for 2 minutes or longer with no output. Heatsinks must NOT be hot.  
channel for  $13 \pm 2mV$  DC across TP1 and TP2 on the Power Driver PC board.



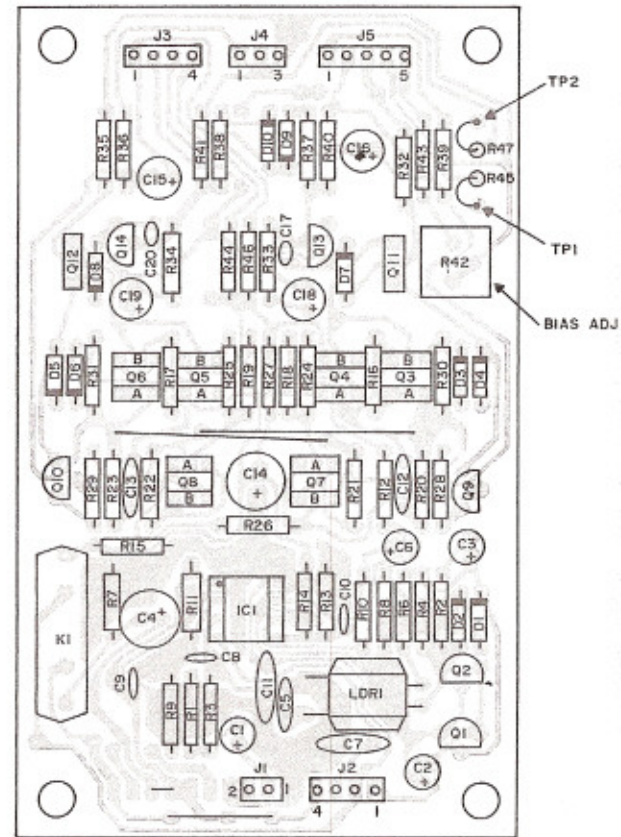




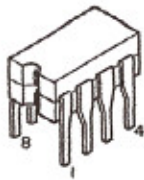
**POSITIVE HEATSINK  
PCB 047110**



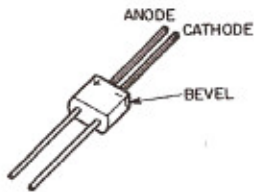
**NEGATIVE HEATSINK  
PCB 047112**



**POWER DRIVER  
PCB 047116**



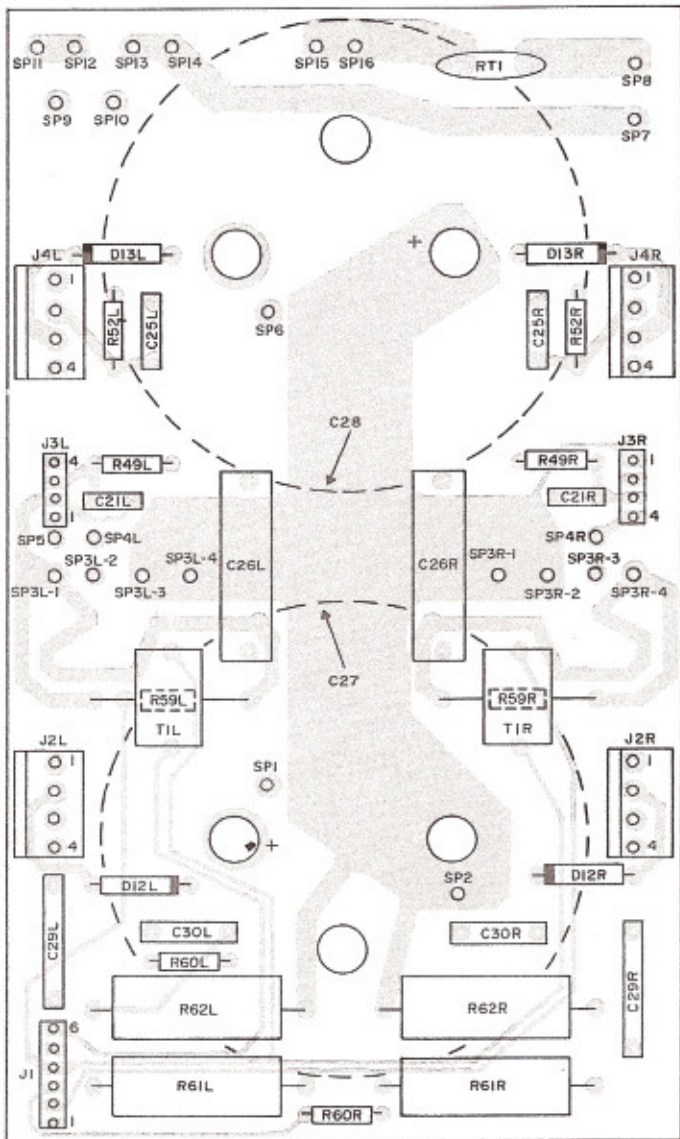
IC1



LDR1



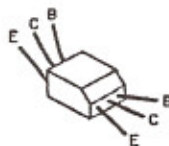
Q1, Q2, Q9, Q10,  
Q13, Q14



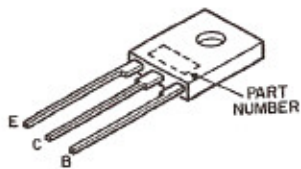
**CAPACITOR  
PCB 047128**

**AMPLIFIER PARTS LIST**

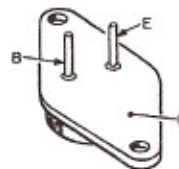
Symbol	Part	Description
<b>CAPACITORS</b>		
C27, C28	066405	ELECT, 15,000uF, 75V
<b>DIODES</b>		
D1-D11	070047	SIG, 75V, 150mA, 1N4148
D12, D13	070031	RECT, 400V, 1.5A
<b>INTEGRATED CIRCUITS</b>		
IC1	133094	Dual Operational Amp, NE5532N
<b>RELAYS</b>		
K1	087050	SPST, 5VDC, Reed, HE3321A0400
<b>LIGHT DEPENDENT RESISTORS</b>		
LDR1	144179	LDR, VTL5C9
<b>TRANSISTORS</b>		
Q1, Q2	132224	PNP, MPS4126
Q3	132253	PNP, Dual, 2SA1237G
Q4	132250	NPN, Dual, 2SC3066G
Q5	132251	PNP, Dual, 2SA1239G
Q6	132252	NPN, Dual, 2SC3064G
Q7	132250	NPN, Dual, 2SC3066G
Q8	132251	PNP, Dual, 2SA1239G
Q9	132136	NPN, MPSA42
Q10	132147	PNP, MPSA92
Q11	132249	PNP, 2SA1480D or 2SA1480E
Q12	132248	NPN, 2SC3790D or 2SC3790E
Q13	132223	NPN, MPS4124
Q14	132224	PNP, MPS4126
Q15, Q16	132248	NPN, 2SC3790D or 2SC3790E
Q17	132249	PNP, 2SA1480D or 2SA1480E
Q18	132246	NPN, MJ15020
Q19	132247	PNP, MJ15021
Q20	132212	NPN
Q21	132213	PNP
Q22	132212	NPN
Q23	132213	PNP
Q24	132212	NPN
Q25	132213	PNP
<b>TRANSFORMERS</b>		
T1	159215	Current



Q3-Q8



Q11, Q12, Q15-Q17



Q18-Q25

# Repacking Instructions

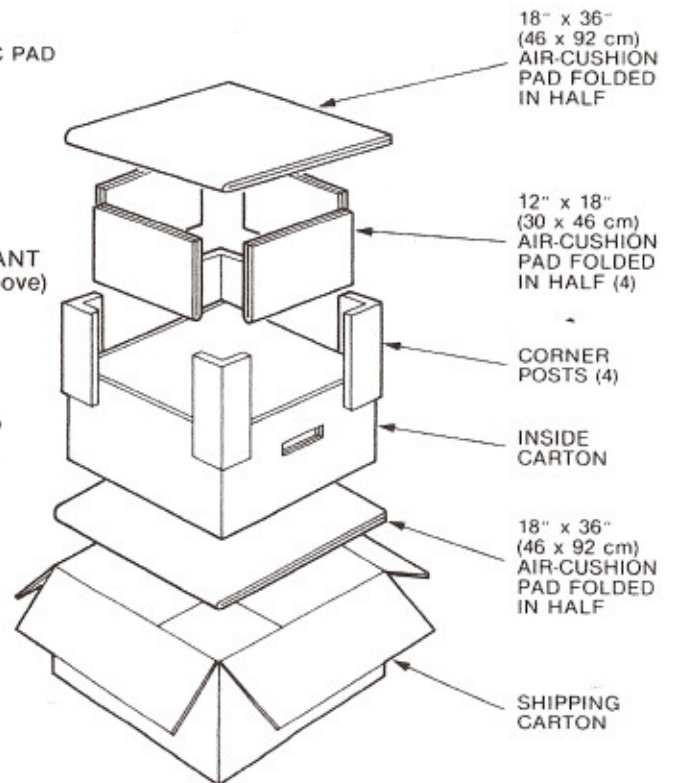
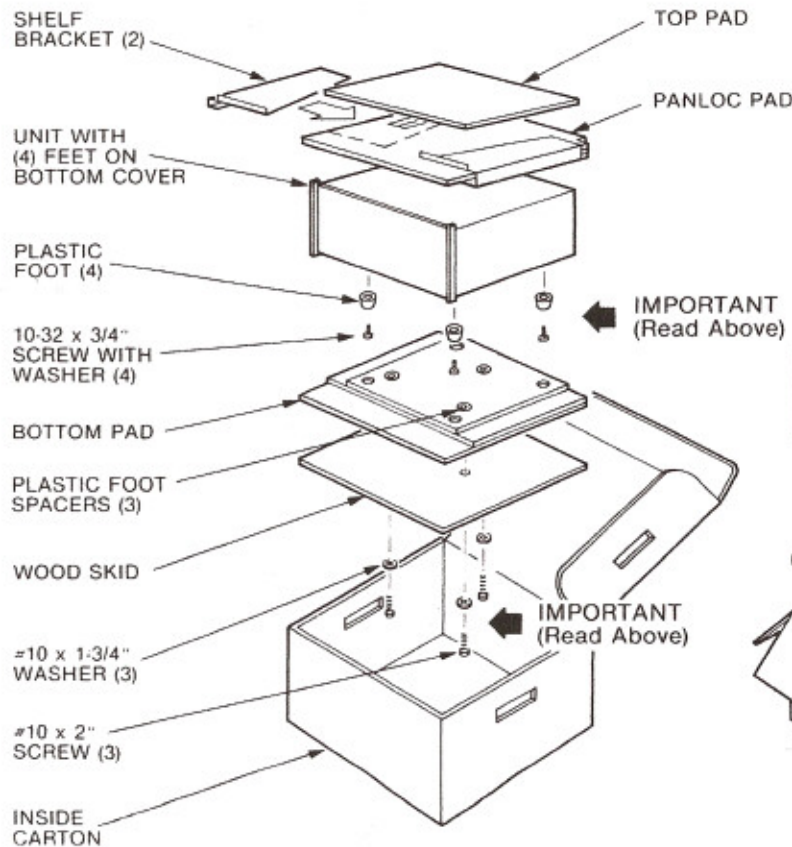
In the event it is necessary to repack the MC 7150 for shipment, the unit must be packed exactly as shown below. The shelf brackets do not have to be included in the carton for the unit to be packed properly, but their position in the carton is indicated.

**IMPORTANT** - The four plastic feet must be attached to the bottom of the MC 7150 so they will locate in the four holes of the bottom pad. Three #10 x 2" screws and washers must be used to fasten the unit securely to the bottom pad and wood skid. 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 number.

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

Qty	Part No.	Description
1	033572	Shipping carton only
2	033087	18" x 36" Air-cushion pad
4	033086	12" x 18" Air-cushion pad
4	033579	Corner post
1	033578	Inside carton only
1	033336	Top pad
1	033525	Panloc pad
1	033573	Bottom pad
1	033571	Wood skid
3	101034	#10 x 2" Sheetmetal screw
3	104033	#10 x 1-3/4" Flat washer
4	017218	Plastic foot
4	100159	#10-32 x 3/4" Machine screw
4	104083	#10 x 7/16" Flat washer
1	033587	Shipping carton complete with all the above parts



# McIntosh<sup>®</sup>

## MC7150 STEREO 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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Part No. 039749

Printed in U.S.A.

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