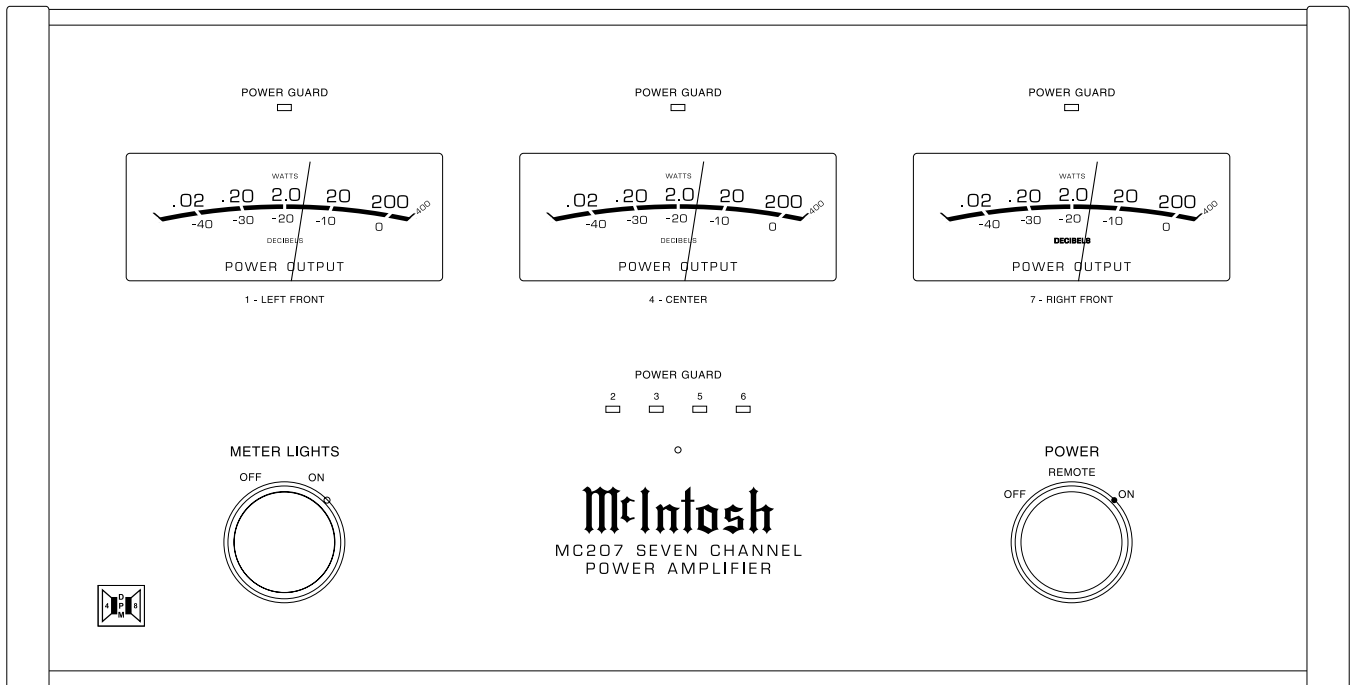




MC207

POWER AMPLIFIER



CONTENTS

Performance Specifications	2	Heatsink 2-Channel Schematic and PCB	21 - 26
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SERVICE MANUAL

PERFORMANCE SPECIFICATIONS

Power Output

Minimum sine wave continuous average power output per channel, all channels operating is: 200 watts into 4 ohm or 8 ohm load

Rated Power Band

20Hz to 20,000Hz

Total Harmonic Distortion

Maximum Total Harmonic Distortion at any power level from 250 milliwatts to rated power output is: 0.005% for 4 or 8 ohm loads

Dynamic Headroom

1.7dB

Frequency Response

+0, -0.25dB from 20Hz to 20,000Hz
+0, -3dB from 10Hz to 100,000Hz

Sensitivity

1.0 Volt Unbalanced with a 4 ohm Loudspeaker
2.0 Volt Balanced with a 4 ohm Loudspeaker
1.4 Volt Unbalanced with a 8 ohm Loudspeaker
2.8 Volt Balanced with a 8 ohm Loudspeaker

A-Weighted Signal To Noise Ratio

89dB (112dB below rated output)

Intermodulation Distortion

Maximum Intermodulation Distortion if instantaneous peak output per channel does not exceed twice the rated output, for any combination of frequencies from 20Hz to 20,000Hz, with all channels operating is: 0.005% for 4 or 8 ohm loads

Input Impedance

20,000 ohms Balanced
10,000 ohms Unbalanced

Wide Band Damping Factor

Greater than 60 at 4 ohms
Greater than 140 at 8 ohms

Power Requirements

100 Volts, 50/60Hz at 1440 watts
110 Volts, 50/60Hz at 13.0 amps
120 Volts, 50/60Hz at 12.0 amps
220 Volts, 50/60Hz at 6.0 amps
230 Volts, 50/60Hz at 6.0 amps
240 Volts, 50/60Hz at 6.0 amps

Note: Refer to the rear panel of the MC207 for the correct voltage.


Dimensions

Front Panel: 17-1/2 inches (44.45cm) wide, 9-7/16 inches (23.97cm) high. Depth behind front mounting panel is 18-3/4 inches (47.63cm), including clearance for connectors.

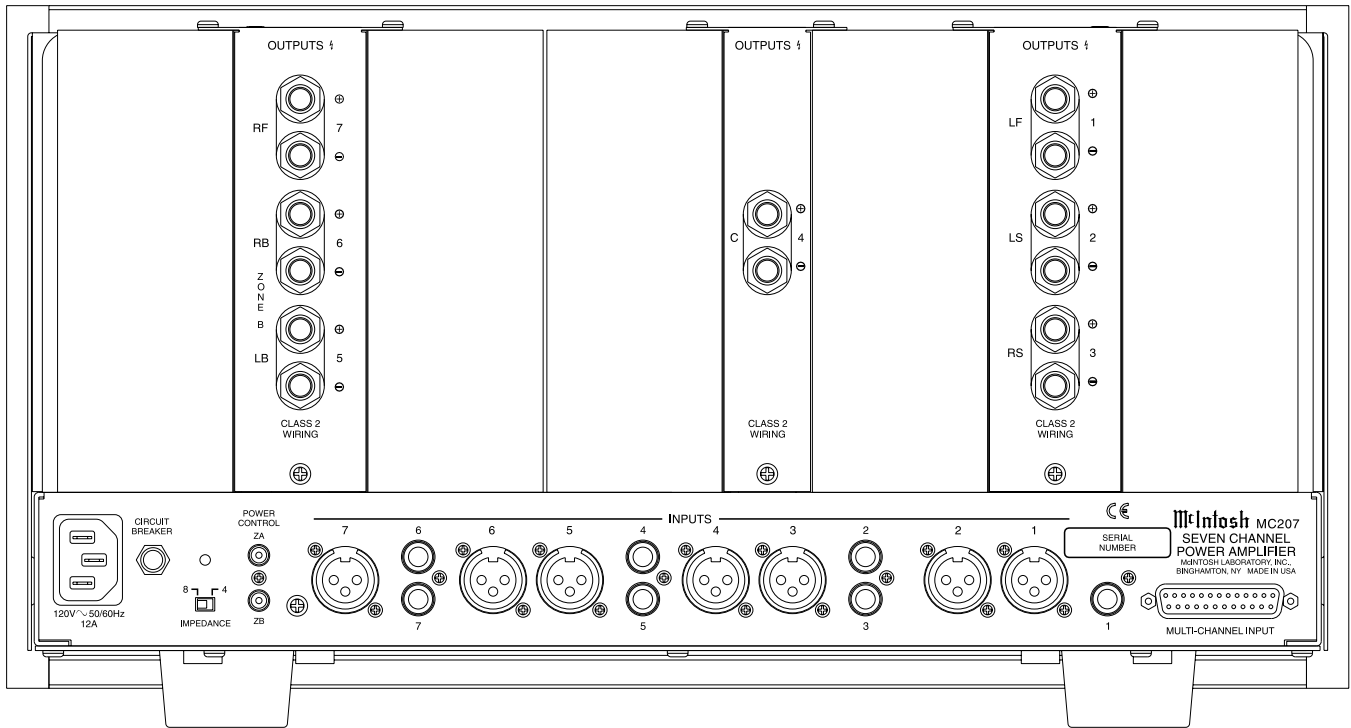
Weight

83 pounds (37.6kg) net, 116 pounds (52.6kg) in shipping carton

NOTES

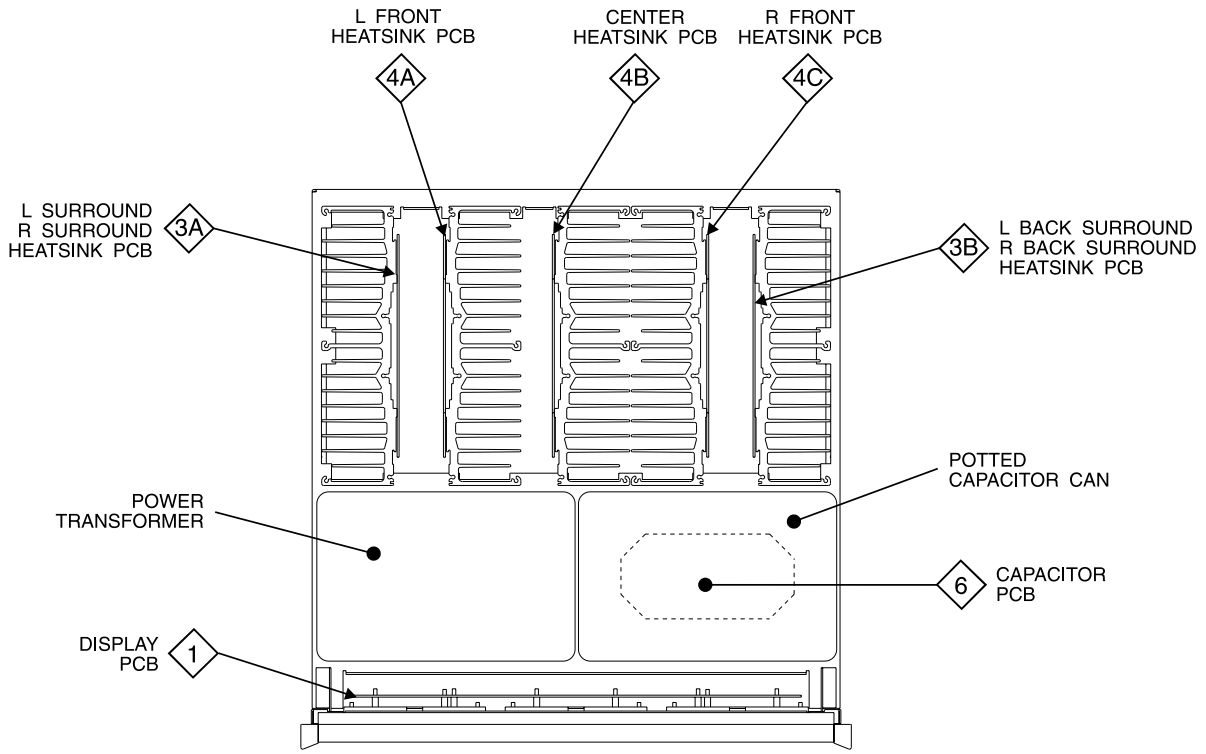
1. The heavy lines on the schematic denote the primary signal path.
2. Unless otherwise noted, all voltages indicated on the schematics are measured under the following conditions:
 - a. AC input at 120 volts, 50/60Hz.
 - b. All voltages are +/-10% with respect to ground. A high impedance (10 megaohm) voltmeter must be used.
3. Unless otherwise specified:
 - a. Resistor values are in ohms.
 - b. Capacitor values are microfarads (uF).
 - c. Inductor values are in microhenries (uH).
4. On PC board drawings, Square pad indicates:
 - a. Polarized Capacitors - Positive
 - b. Diodes - Cathode
 - c. Others - Pin 1
5. **WARNING**
Parts marked with the symbol  have critical characteristics. Use only replacement parts recommended by the manufacturer.

REAR PANEL

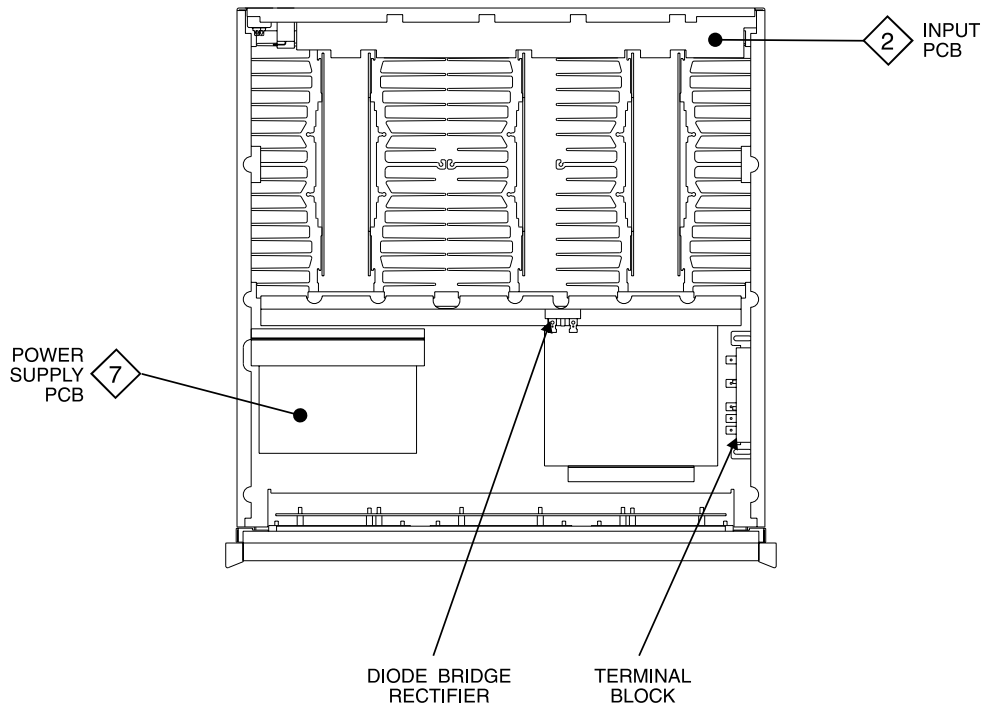


NOTES

SECTION LOCATIONS



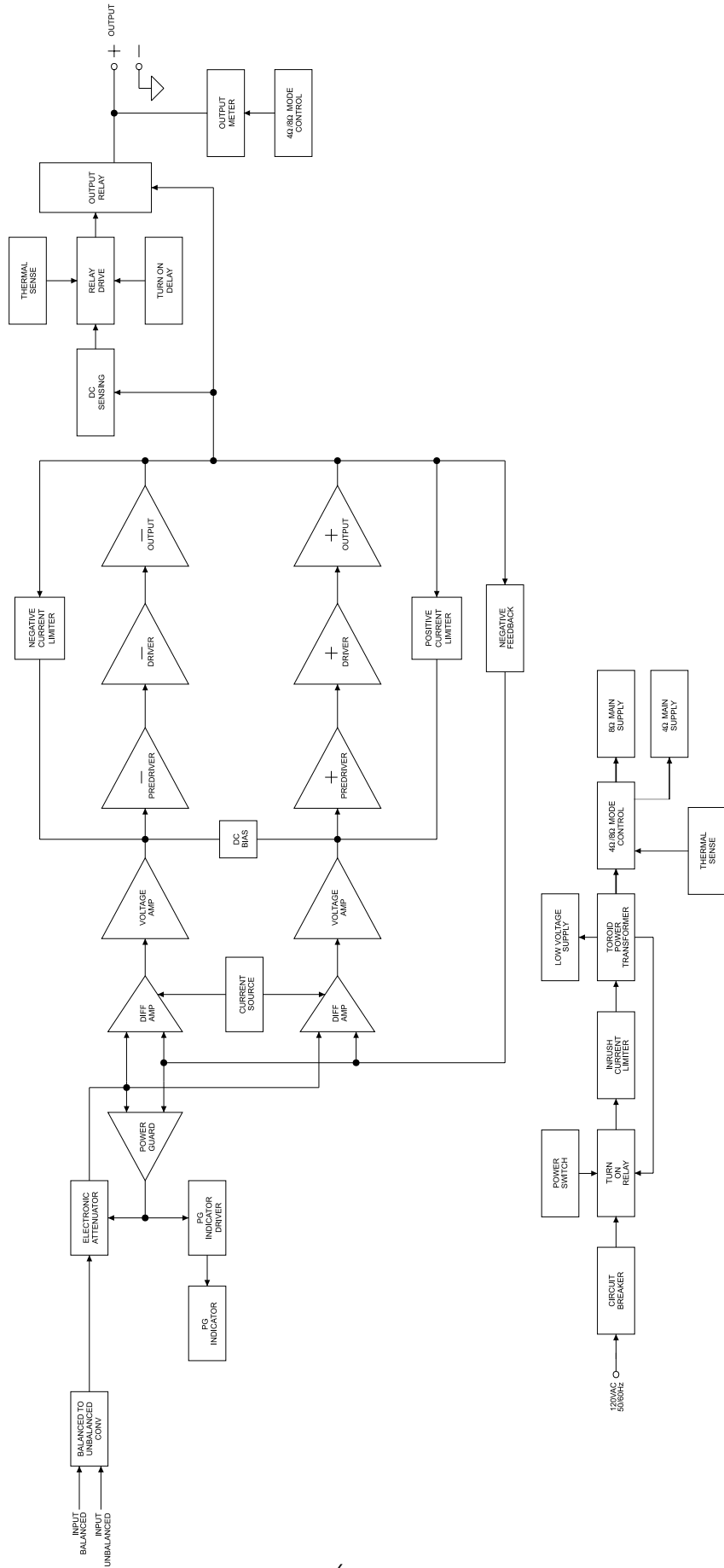
TOP VIEW



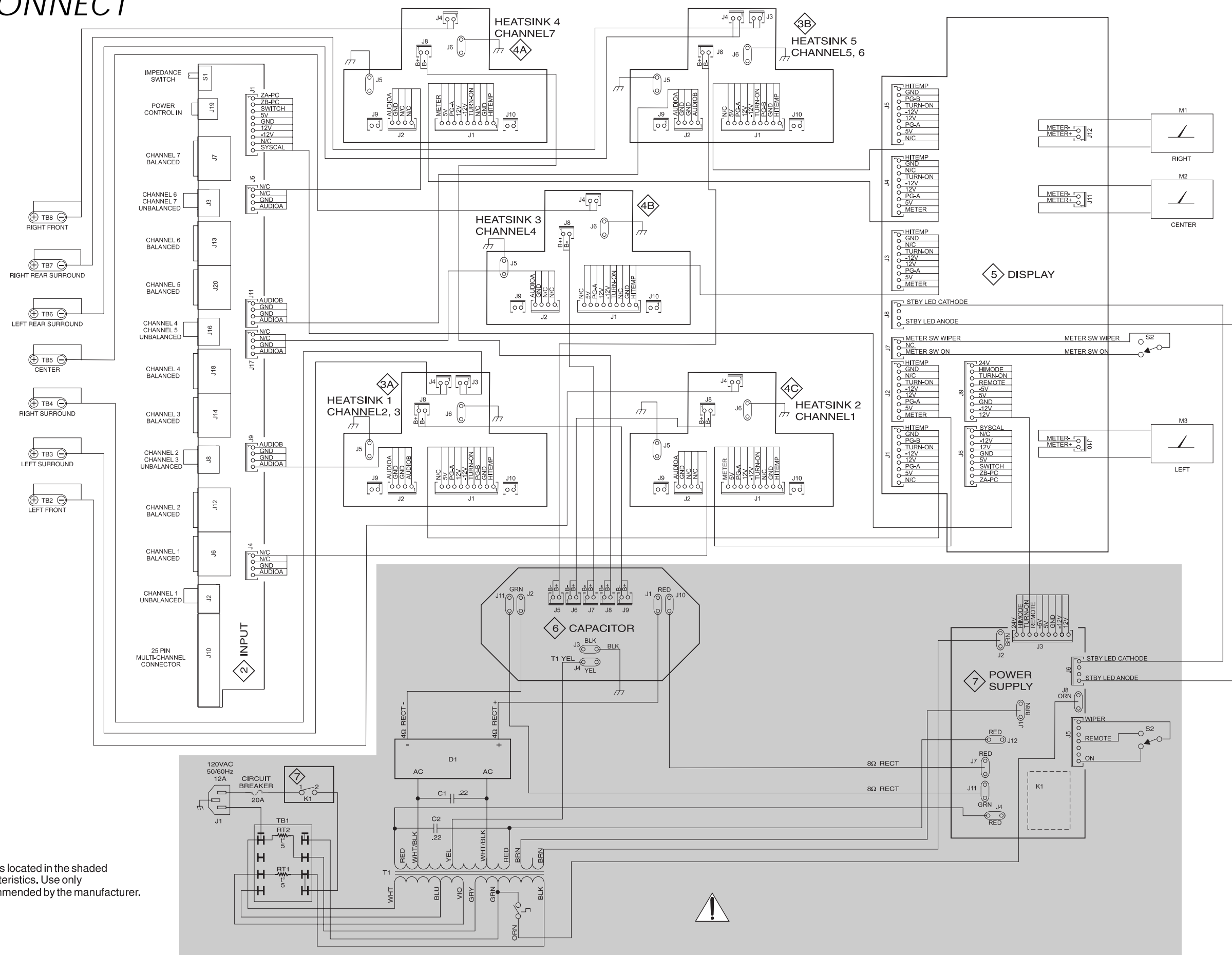
TOP VIEW WITH COVER REMOVED

BLOCK DIAGRAM

One Channel Shown

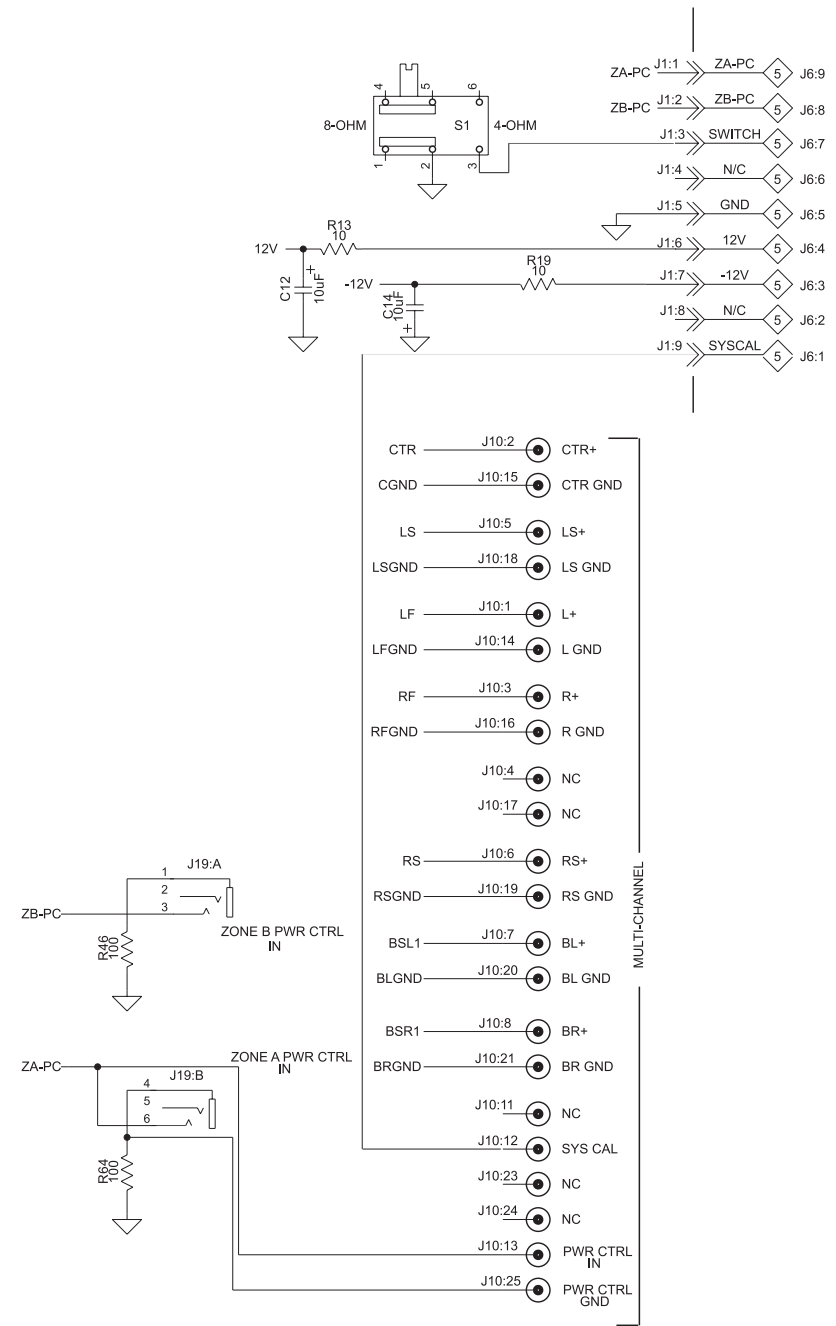
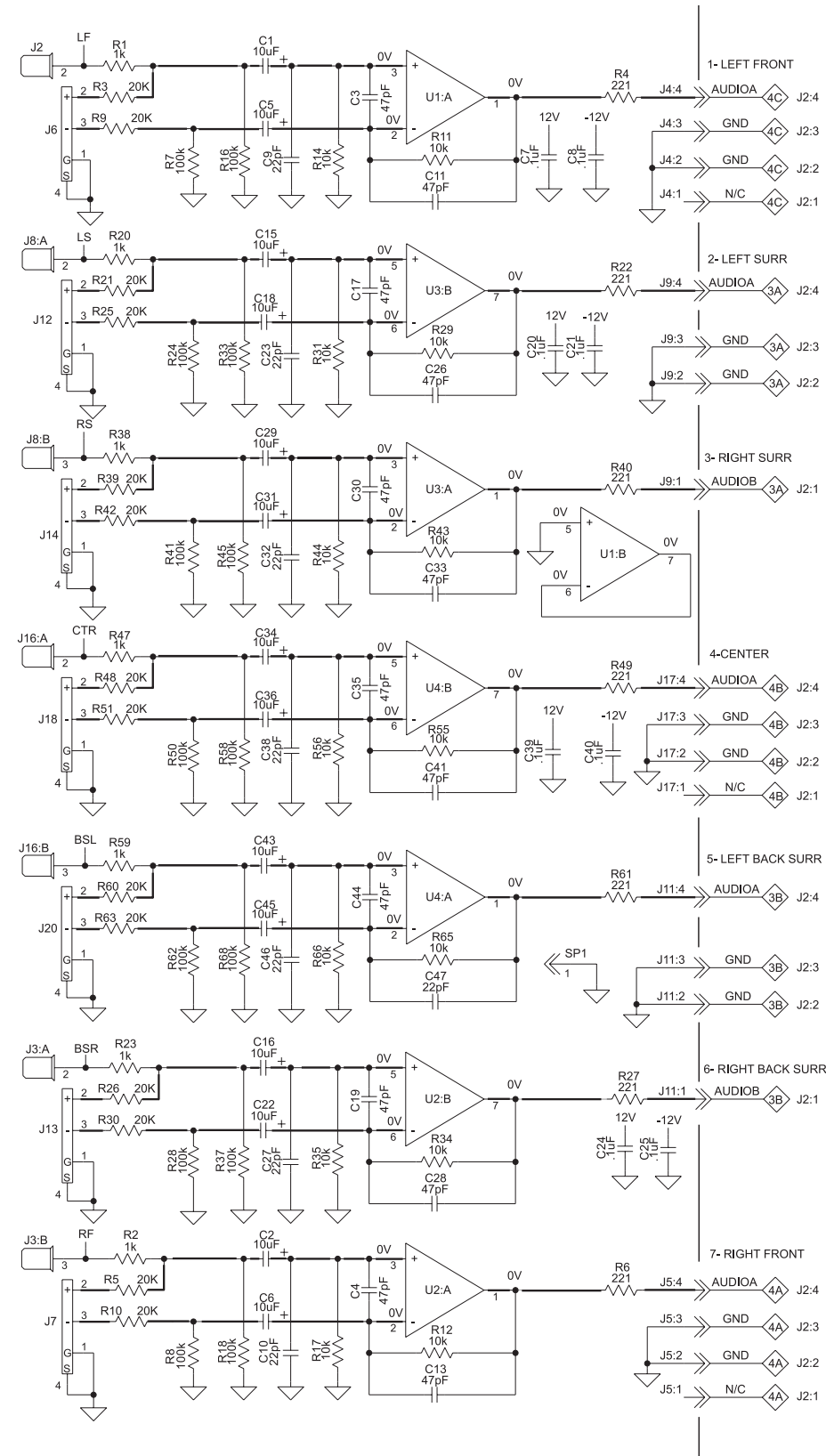


1 INTERCONNECT



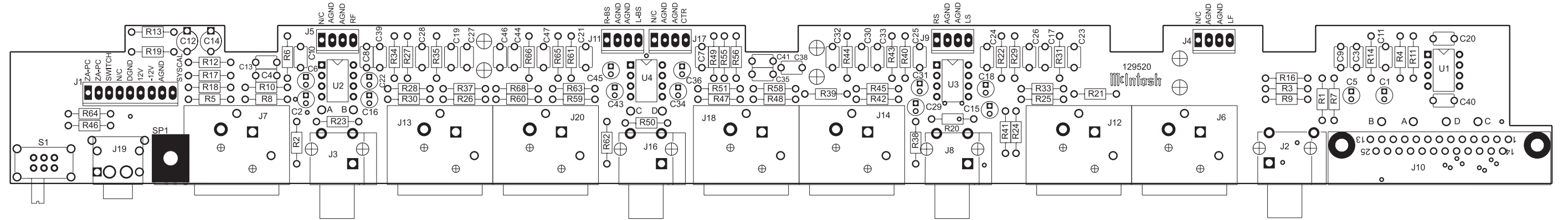
! WARNING Parts located in the shaded area have critical characteristics. Use only replacement parts recommended by the manufacturer.

2 INPUT 050065



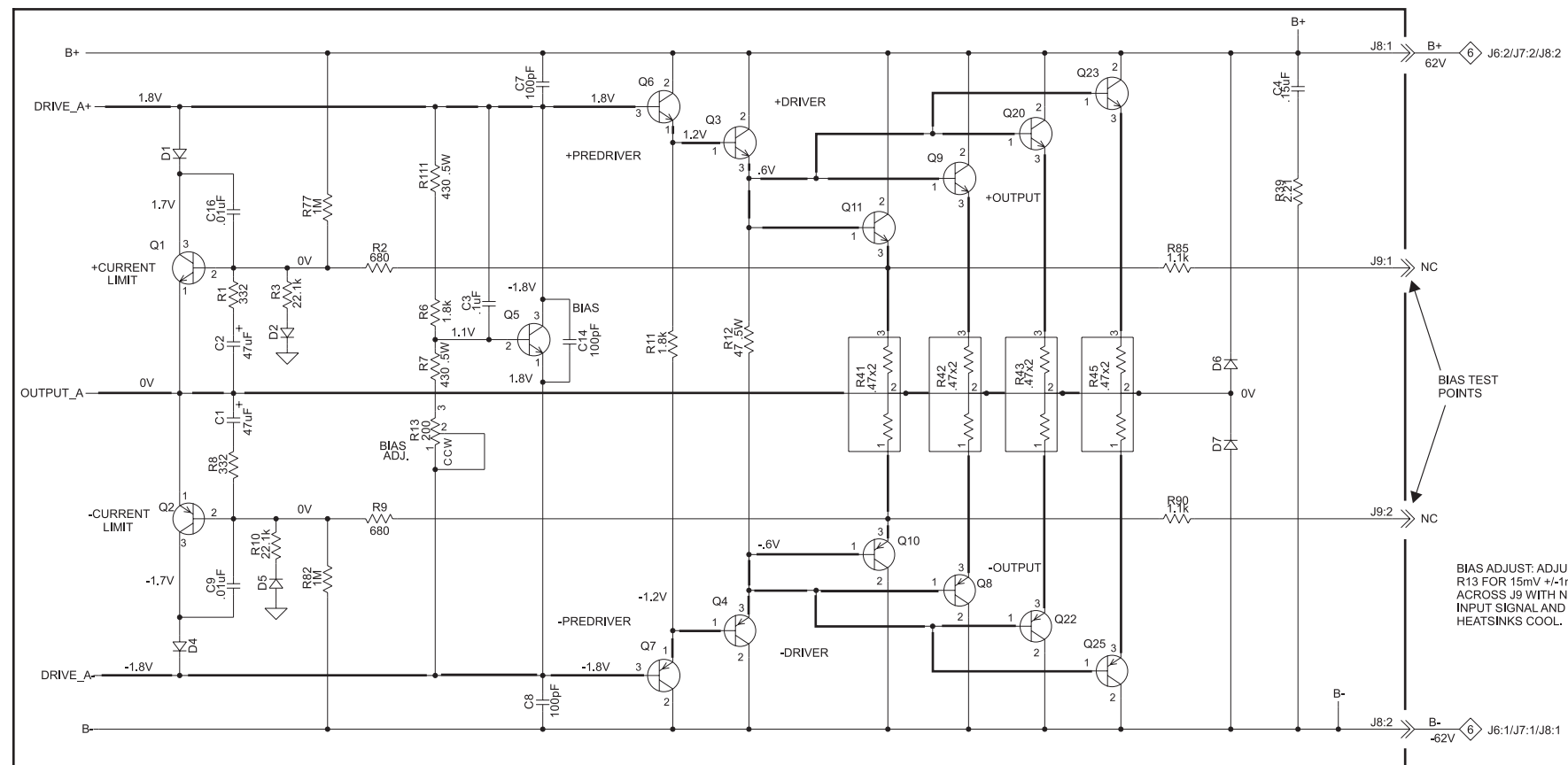
POWER TABLE			
REF DES	DGND	-12V	12V
S1	10 9 8 7		
U1		4	8
U2		4	8
U3		4	8
U4		4	8

2 INPUT 050065



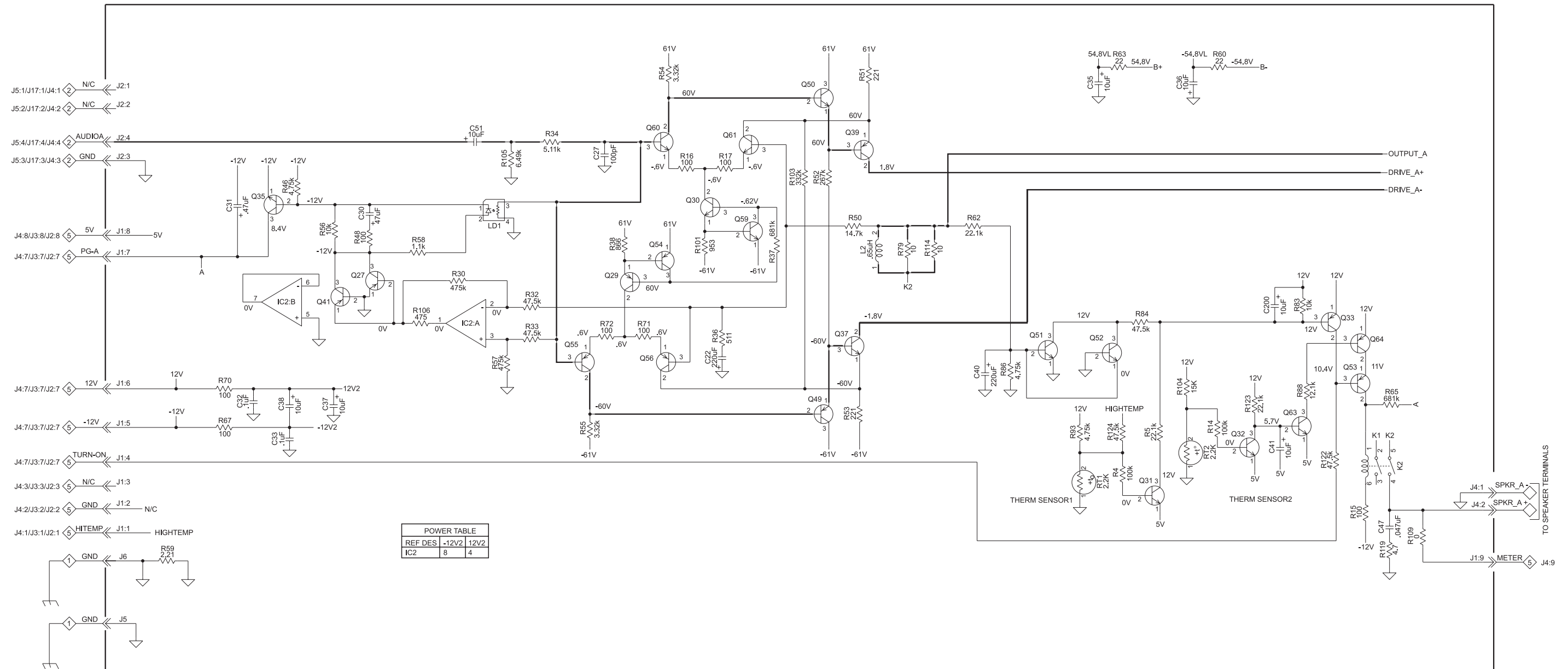


HEATSINK 1-CHANNEL 050070



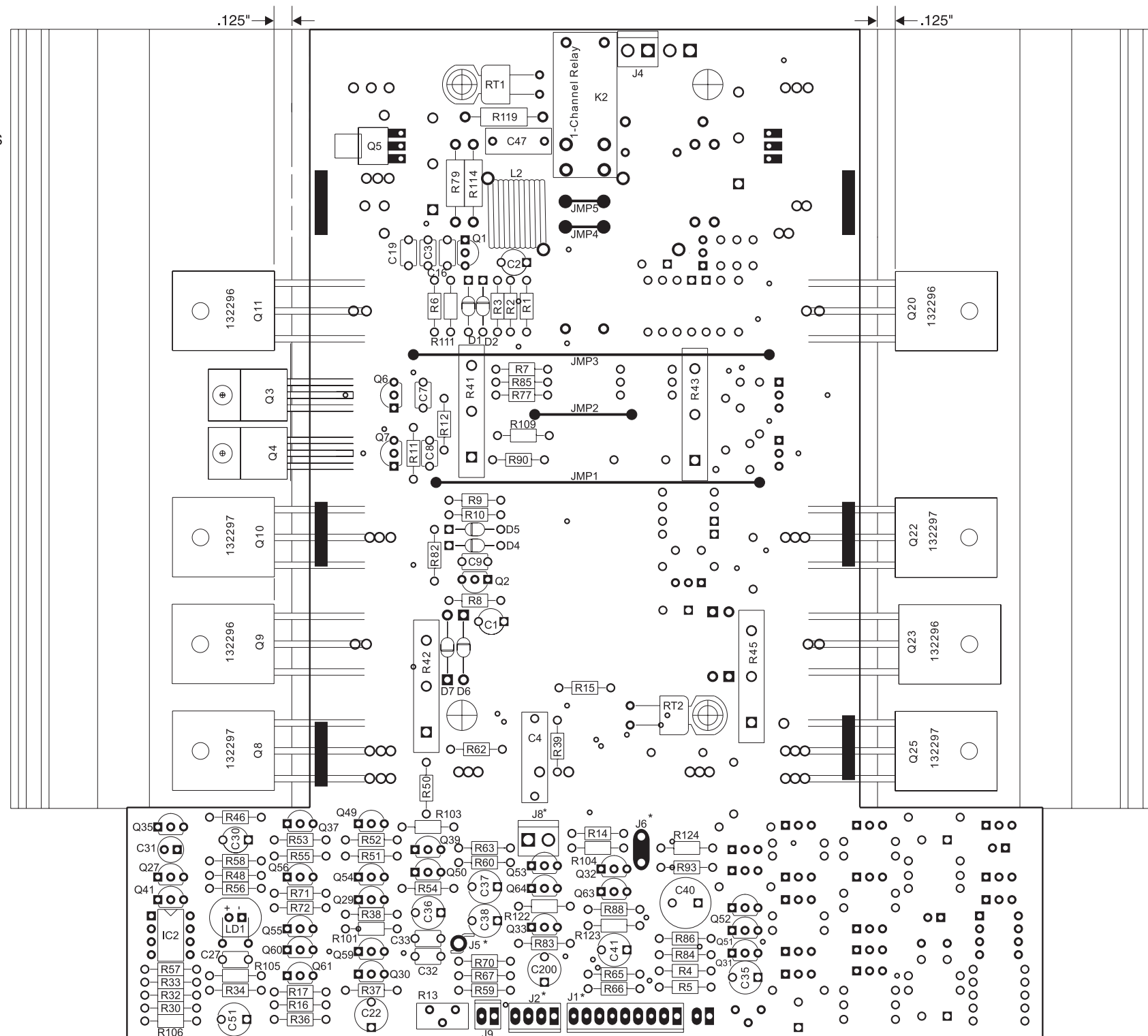


HEATSINK 1-CHANNEL DRIVER SECTION 050070



POWER TABLE		
REF DES	-12V2	12V2
IC2	8	4

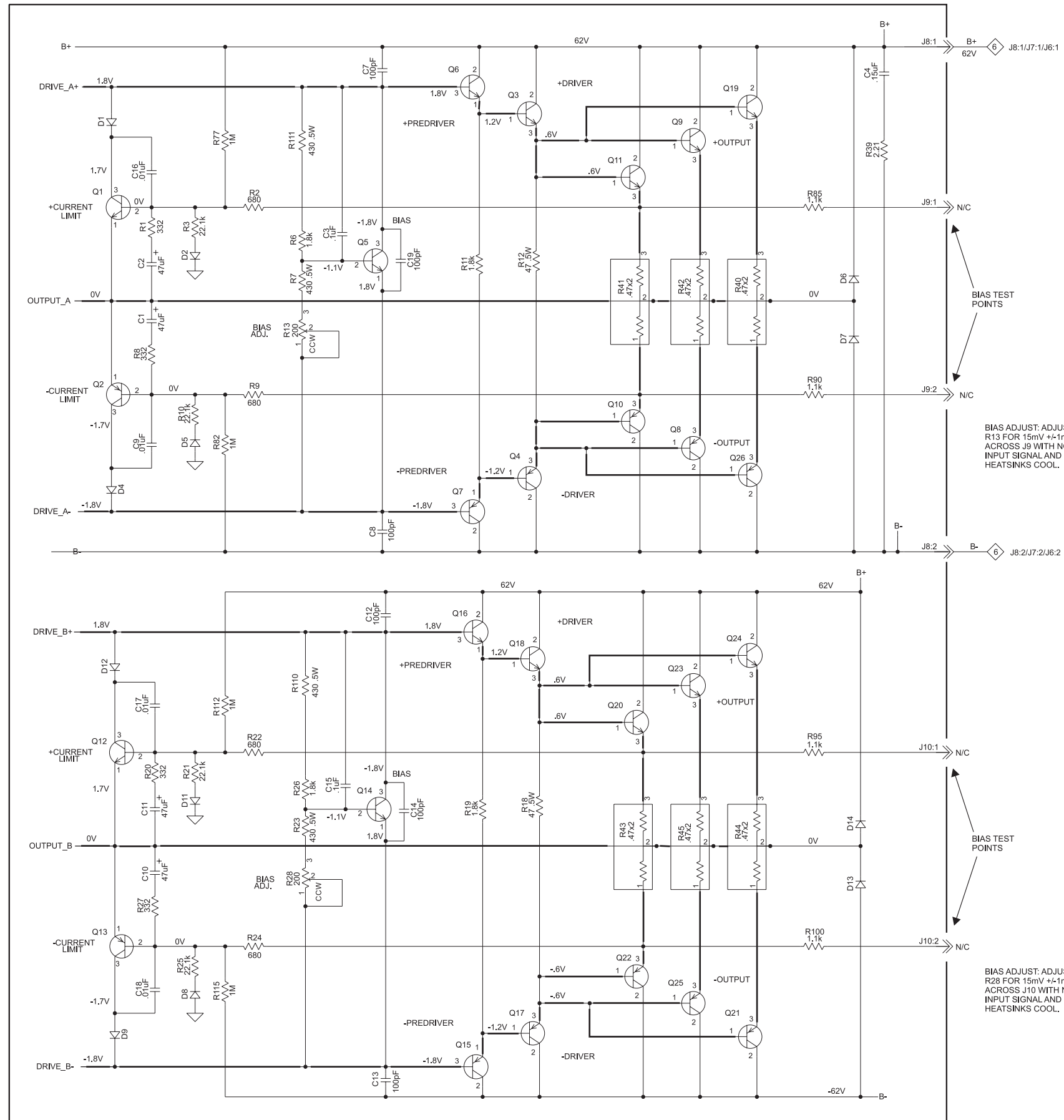
NOTE:
.125" SPACING IS
CRITICAL WHEN
REPLACING
TRANSISTORS.

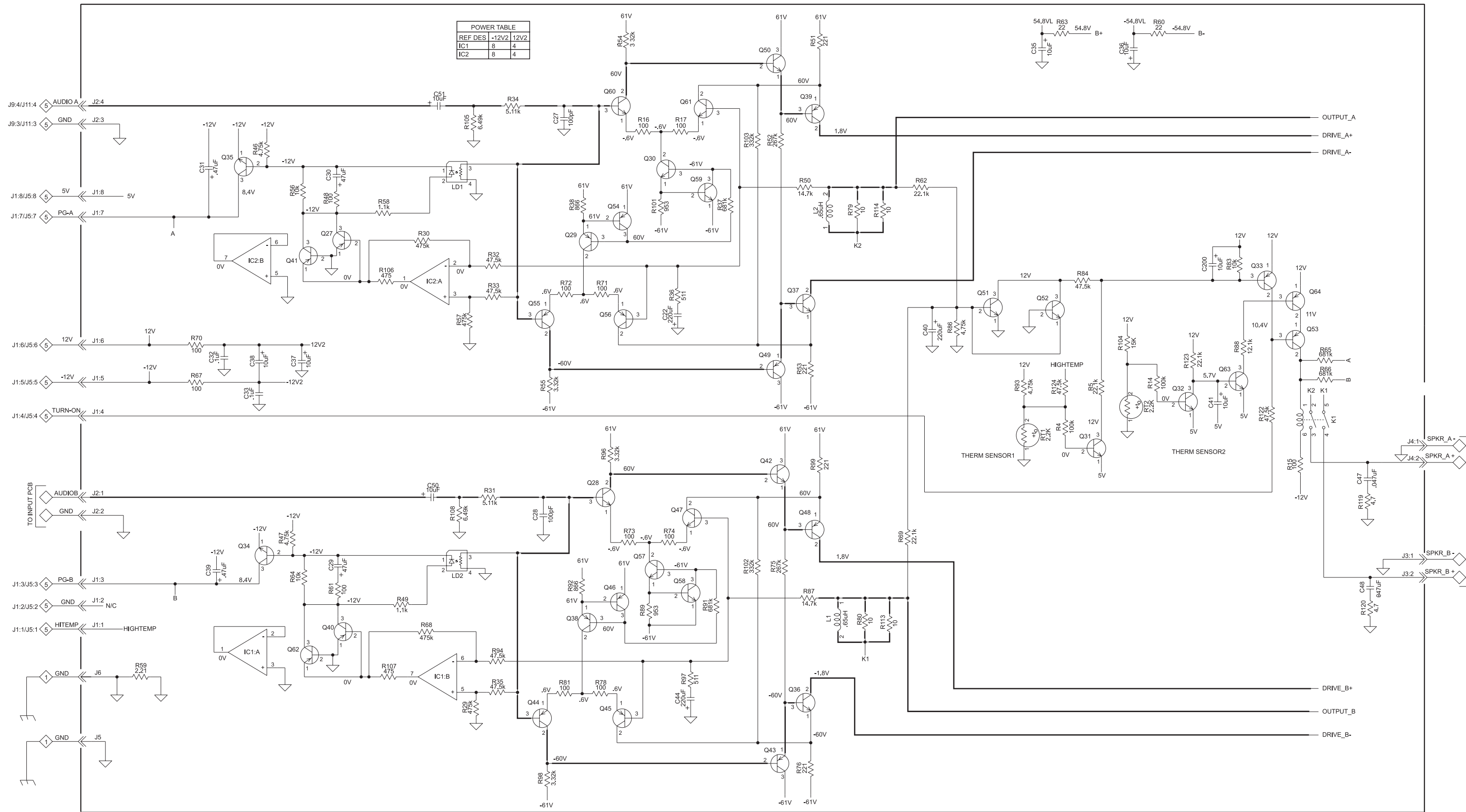


* Denotes components on reverse or backside of PC Board.

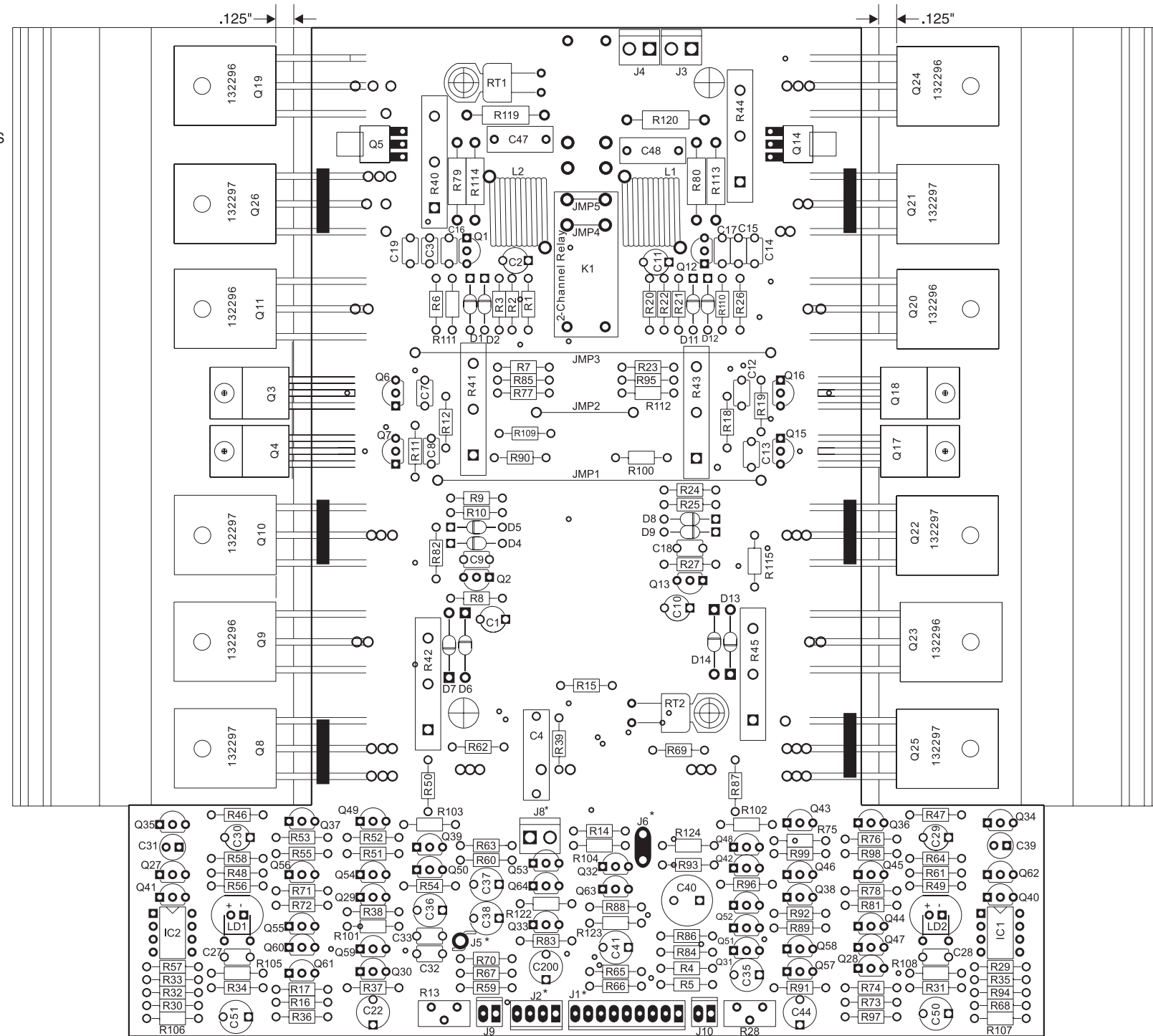
NOTES

HEATSINK 2-CHANNEL 050064

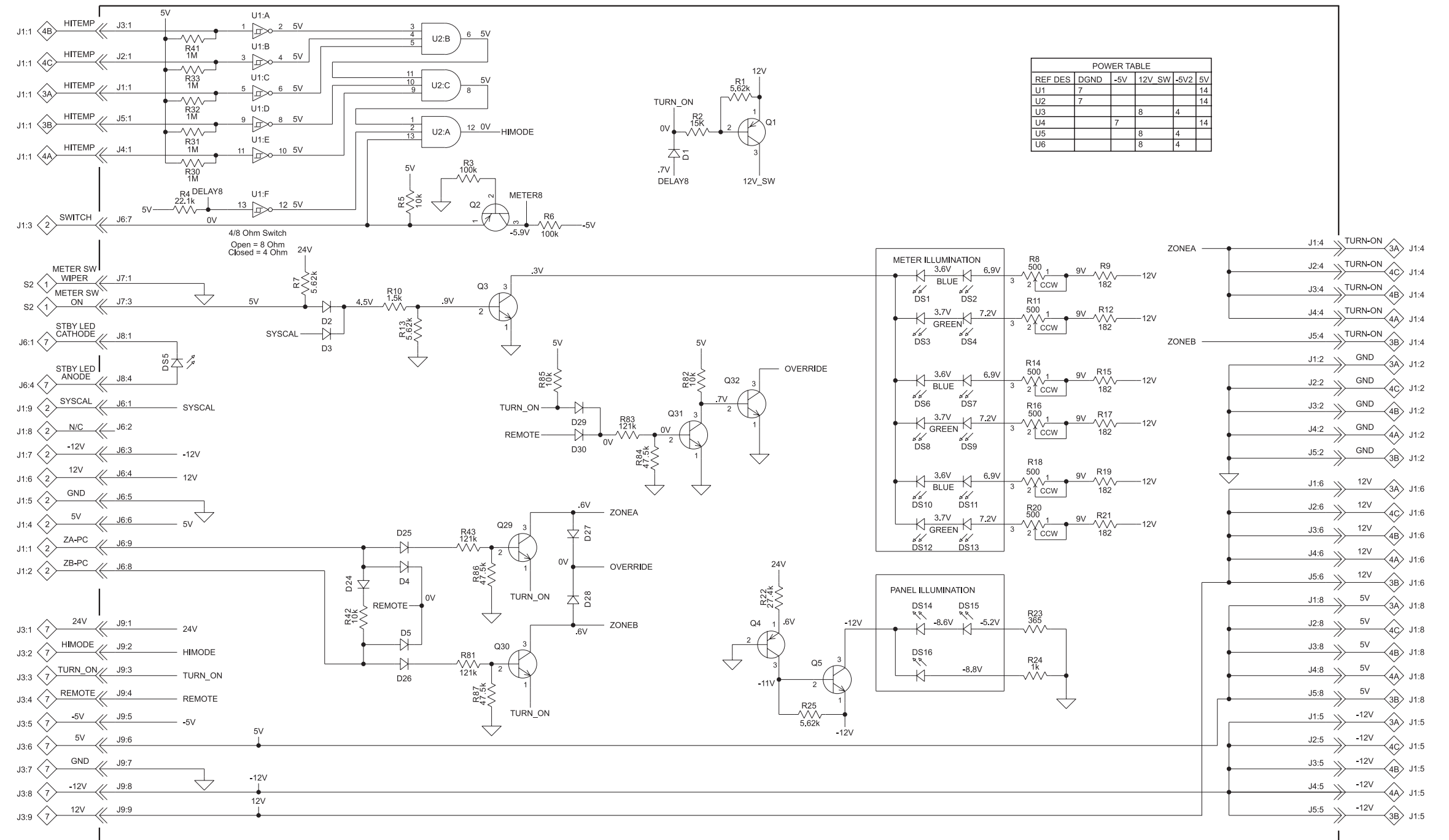




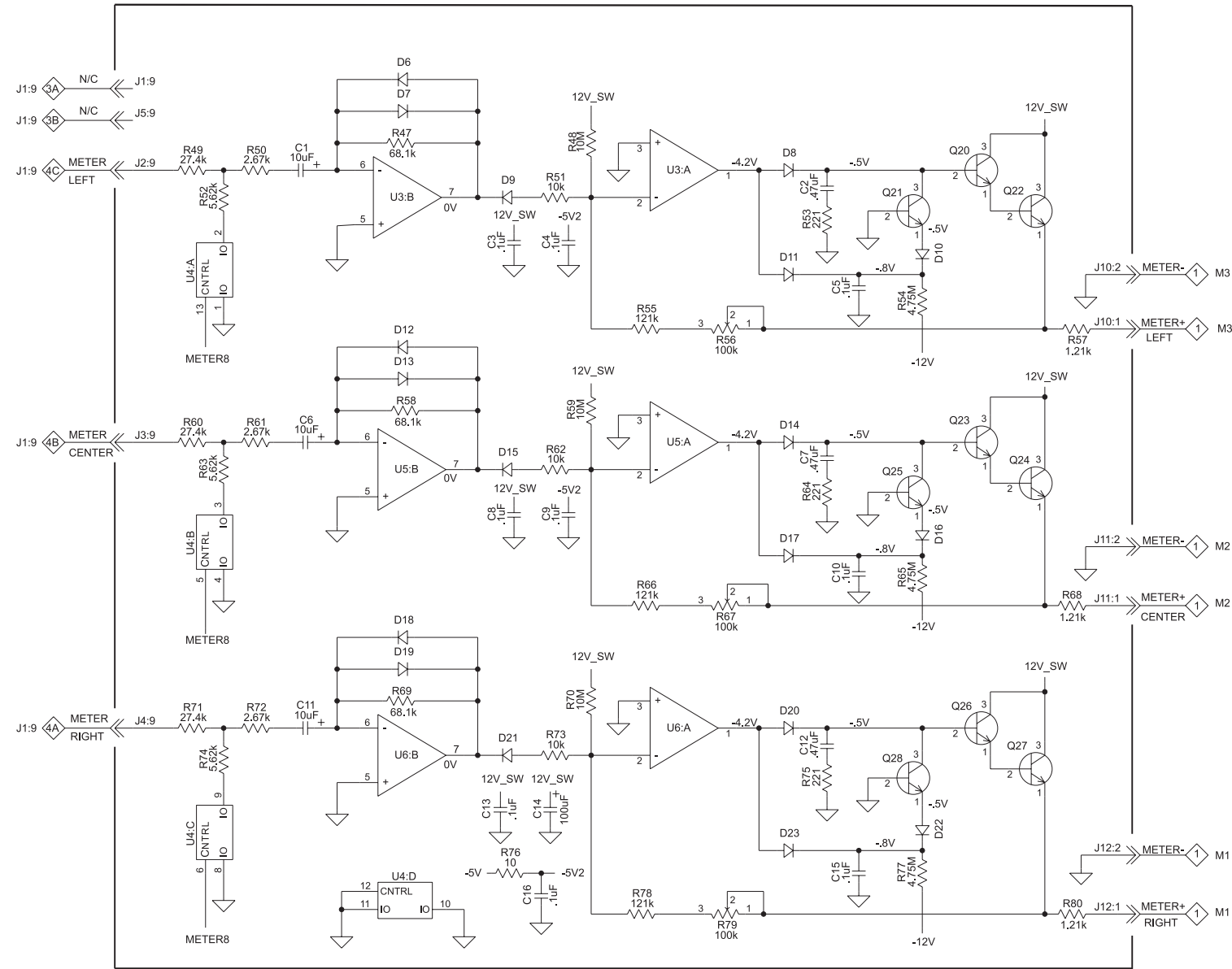
NOTE:
.125" SPACING IS
CRITICAL WHEN
REPLACING
TRANSISTORS.



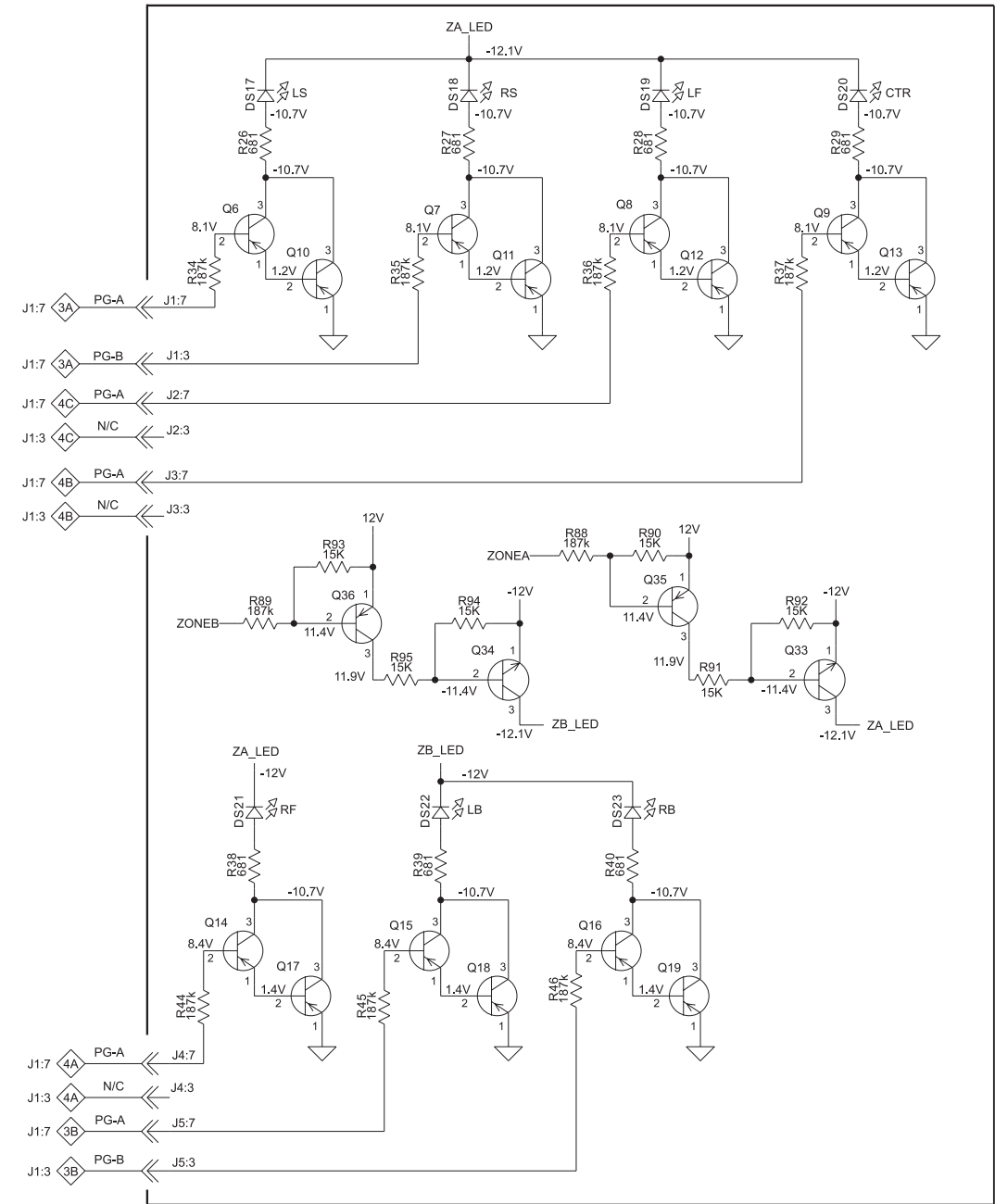
* Denotes components on reverse or backside of PC Board.



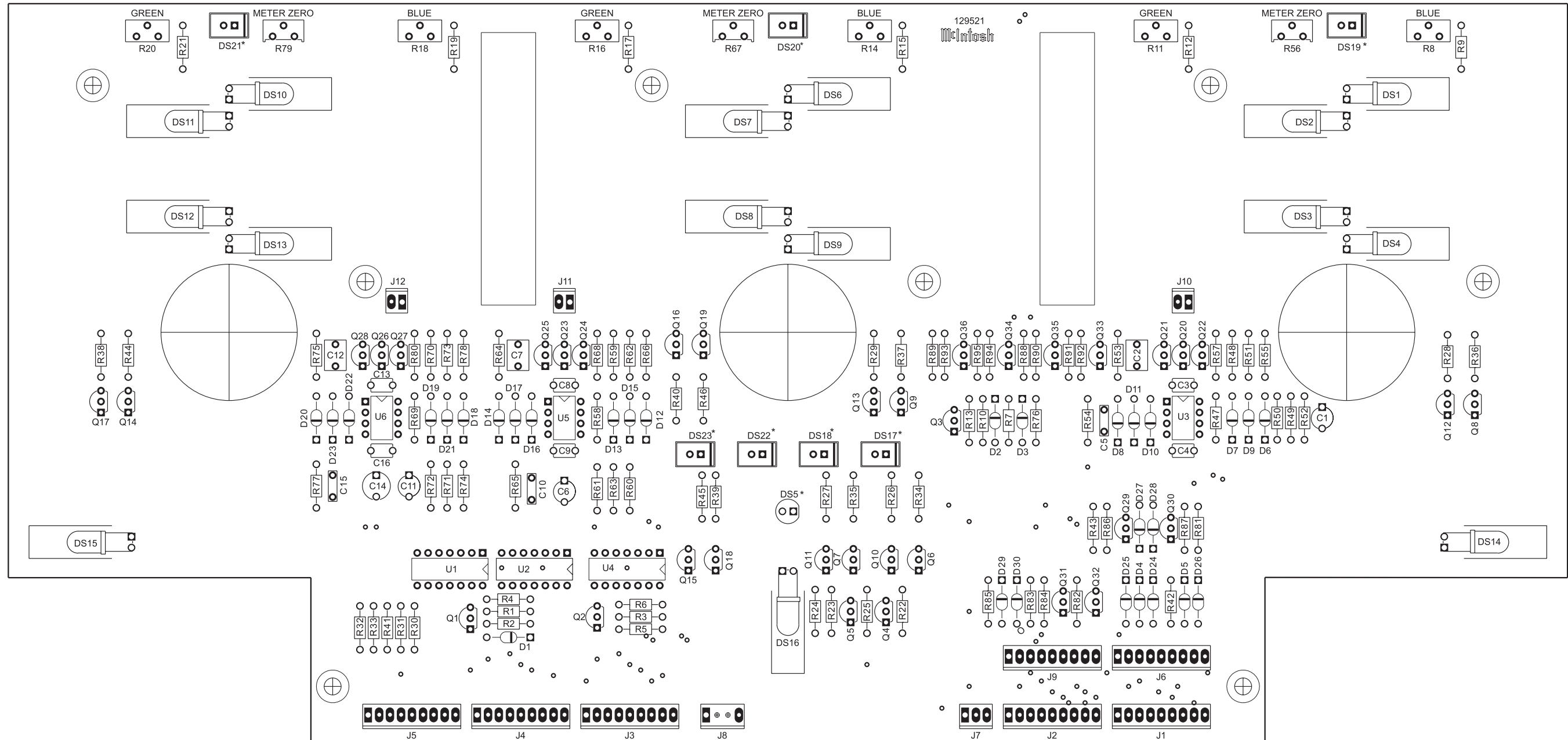
5 DISPLAY METER SECTION 050066



5 DISPLAY POWER GUARD SECTION 050066



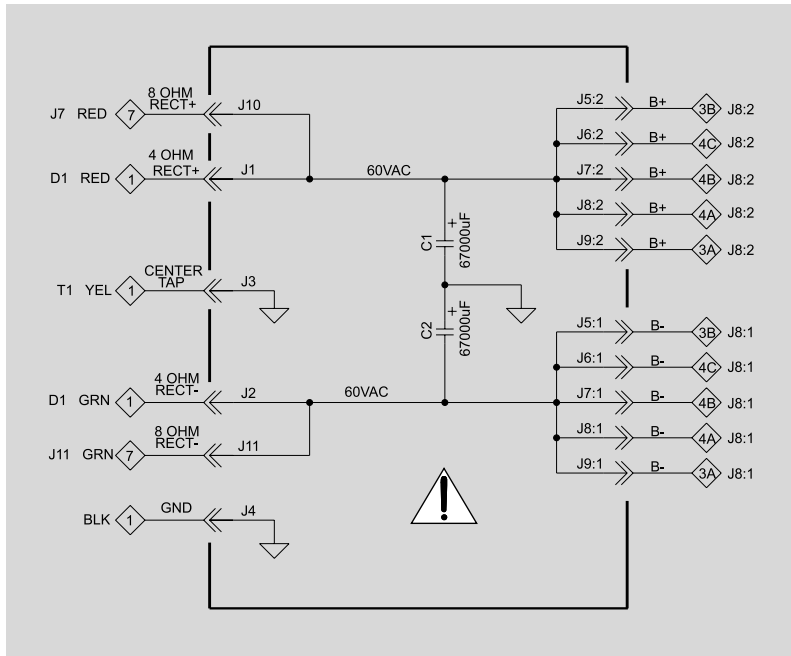
5 DISPLAY 050066



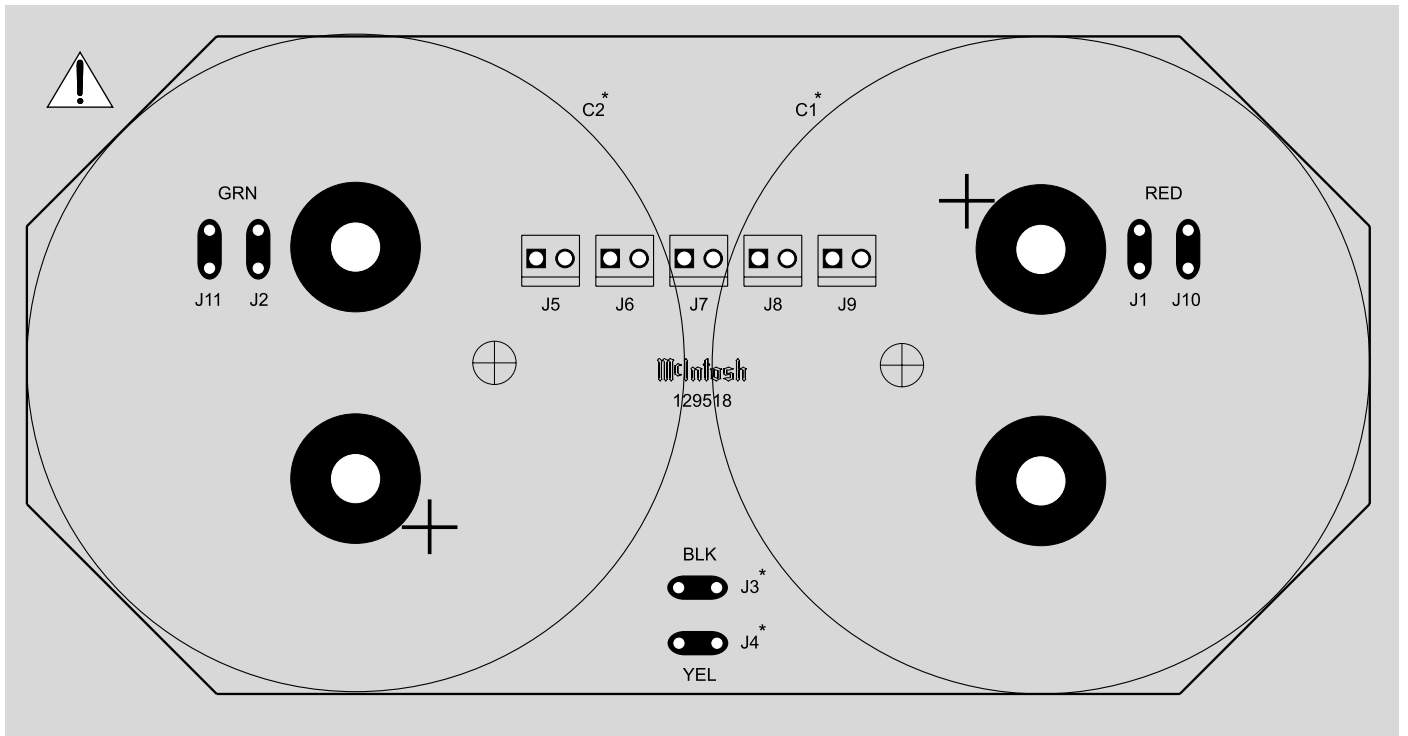
* Denotes components on reverse or backside of PC Board.

6

CAPACITOR 050063



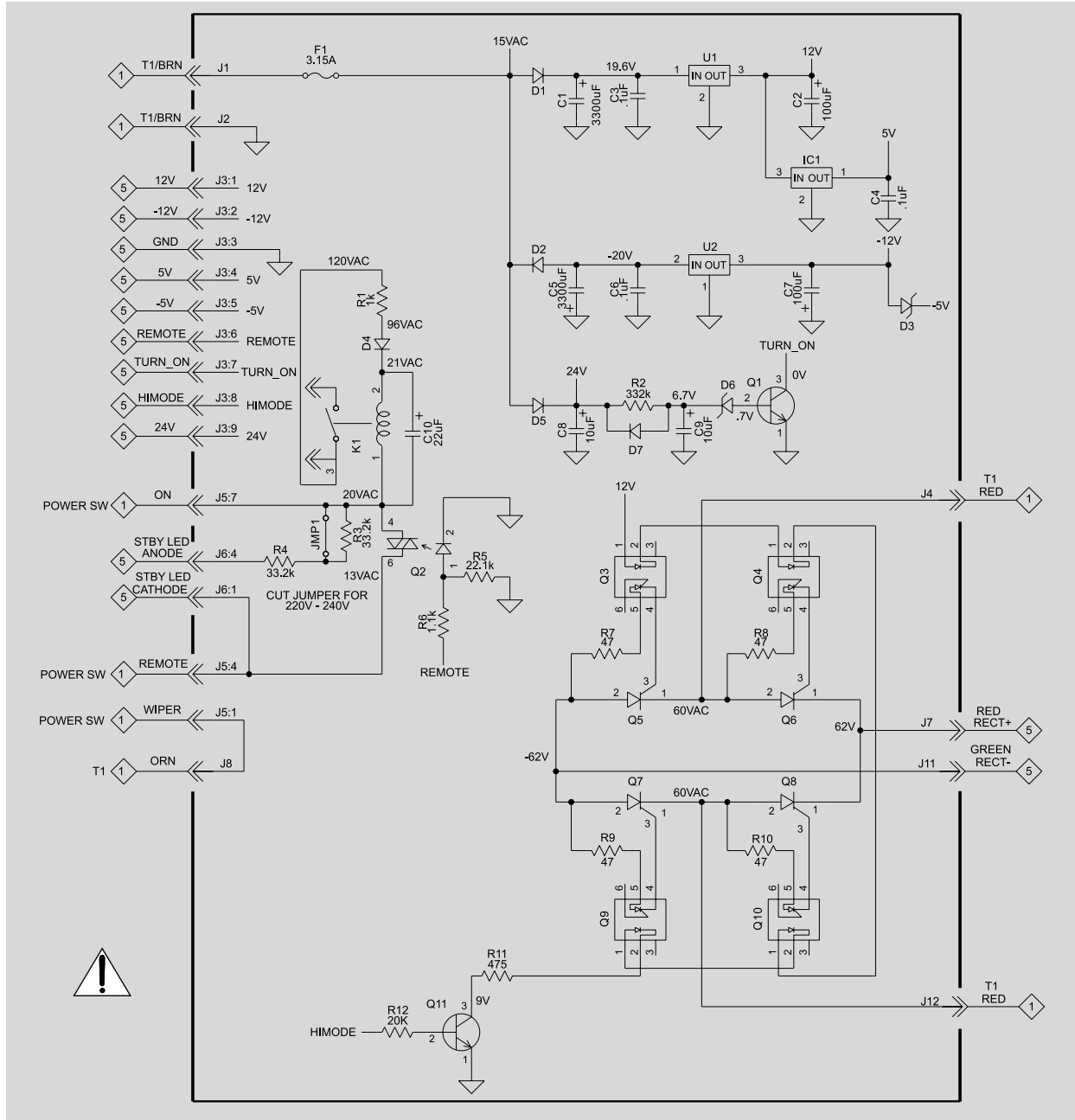
! WARNING Parts located in the shaded area have critical characteristics. Use only replacement parts recommended by the manufacturer.



* Denotes components on reverse or backside of PC Board.

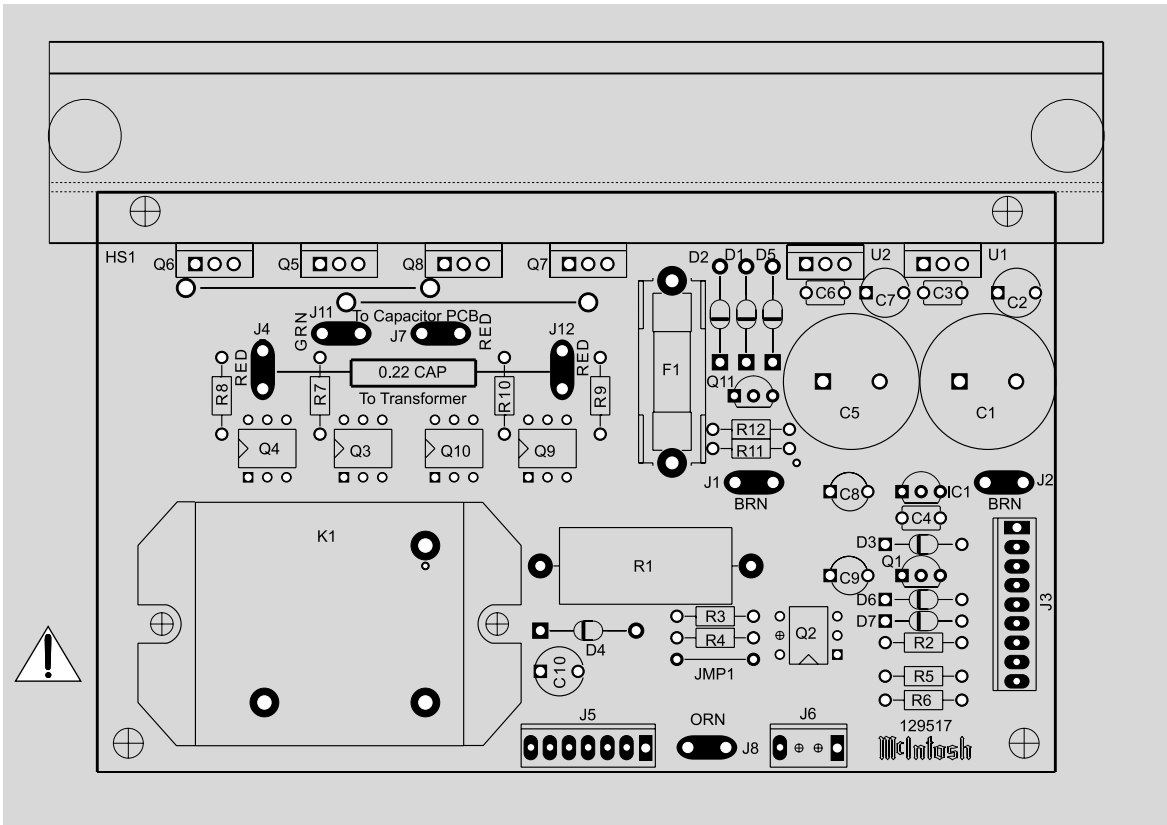
7

POWER SUPPLY 050062



WARNING Parts located in the shaded area have critical characteristics. Use only replacement parts recommended by the manufacturer.

7 POWER SUPPLY 050062



! WARNING Parts located in the shaded area have critical characteristics. Use only replacement parts recommended by the manufacturer.

PARTS LIST

Ref No.	Part No.	Description
①	050065	INPUT PCB
	C1	CAP ELECT 10UF 16V 4X5 CASE 066382
	C2	CAP ELECT 10UF 16V 4X5 CASE 066382
	C3	CAP MONO 47PF 200V 10% NPO 061299
	C4	CAP MONO 47PF 200V 10% NPO 061299
	C5	CAP ELECT 10UF 16V 4X5 CASE 066382
	C6	CAP ELECT 10UF 16V 4X5 CASE 066382
	C7	CAP MONO .1uF 50V 20% Z5U 061305
	C8	CAP MONO .1uF 50V 20% Z5U 061305
	C9	CAP MONO 22PF 200V 10% NPO 061298
②	C10	CAP MONO 22PF 200V 10% NPO 061298
	C11	CAP MONO 47PF 200V 10% NPO 061299
	C12	CAP ELECT 10UF 50V 066445
	C13	CAP MONO 47PF 200V 10% NPO 061299
	C14	CAP ELECT 10UF 50V 066445
	C15	CAP ELECT 10UF 16V 4X5 CASE 066382
	C16	CAP ELECT 10UF 16V 4X5 CASE 066382
	C17	CAP MONO 47PF 200V 10% NPO 061299
	C18	CAP ELECT 10UF 16V 4X5 CASE 066382
	C19	CAP MONO 47PF 200V 10% NPO 061299
	C20	CAP MONO .1uF 50V 20% Z5U 061305
	C21	CAP MONO .1uF 50V 20% Z5U 061305
	C22	CAP ELECT 10UF 16V 4X5 CASE 066382
	C23	CAP MONO 22PF 200V 10% NPO 061298
	C24	CAP MONO .1uF 50V 20% Z5U 061305
	C25	CAP MONO .1uF 50V 20% Z5U 061305
	C26	CAP MONO 47PF 200V 10% NPO 061299
	C27	CAP MONO 22PF 200V 10% NPO 061298
	C28	CAP MONO 47PF 200V 10% NPO 061299
	C29	CAP ELECT 10UF 16V 4X5 CASE 066382
	C30	CAP MONO 47PF 200V 10% NPO 061299
	C31	CAP ELECT 10UF 16V 4X5 CASE 066382
	C32	CAP MONO 22PF 200V 10% NPO 061298
	C33	CAP MONO 47PF 200V 10% NPO 061299
	C34	CAP ELECT 10UF 16V 4X5 CASE 066382
	C35	CAP MONO 47PF 200V 10% NPO 061299
	C36	CAP ELECT 10UF 16V 4X5 CASE 066382
	C38	CAP MONO 22PF 200V 10% NPO 061298
	C39	CAP MONO .1uF 50V 20% Z5U 061305
	C40	CAP MONO .1uF 50V 20% Z5U 061305
	C41	CAP MONO 47PF 200V 10% NPO 061299
	C43	CAP ELECT 10UF 16V 4X5 CASE 066382
	C44	CAP MONO 47PF 200V 10% NPO 061299
	C45	CAP ELECT 10UF 16V 4X5 CASE 066382
	C46	CAP MONO 22PF 200V 10% NPO 061298
	C47	CAP MONO 22PF 200V 10% NPO 061298
	J1	CONN MALE 9 POS FRICTION LOCK 117244
	J2	JACK RCA BLK 117847
	J3	JACK RCA 1X2 BLK/BLK 14MM 117848
	J4	CONN 4 PIN 117215
	J5	CONN 4 PIN 117215
	J6	RECEPTACLE XLR FEMALE 117685
	J7	RECEPTACLE XLR FEMALE 117685
	J8	JACK RCA 1X2 BLK/BLK 14MM 117848
	J9	CONN 4 PIN 117215
	J10	CONN D 25-PIN 117501
	J11	CONN 4 PIN 11721
	J12	RECEPTACLE XLR FEMALE 117685
	J13	RECEPTACLE XLR FEMALE 117685

PARTS LIST con't

J14	RECEPTACLE XLR FEMALE	117685	R49	RES MF 221 OHM 1% 1/4W	144172
J16	JACK RCA 1X2 BLK/BLK 14MM		R50	RES MF 100K 1% 1/4W	144113
	117848		R51	RES MF 20K 1% 1/4W	144104
J17	CONN 4 PIN	117215	R55	RES MF 10K 1% 1/4W	144053
J18	RECEPTACLE XLR FEMALE	117685	R56	RES MF 10K 1% 1/4W	144053
J19	"JACK HEADPHONE DUAL BLACK 1/ 8"" ,117825"""		R58	RES MF 100K 1% 1/4W	144113
J20	RECEPTACLE XLR FEMALE	117685	R59	RES MF 1K 1% 1/4W	144090
R1	RES MF 1K 1% 1/4W	144090	R60	RES MF 20K 1% 1/4W	144104
R2	RES MF 1K 1% 1/4W	144090	R61	RES MF 221 OHM 1% 1/4W	144172
R3	RES MF 20K 1% 1/4W	144104	R62	RES MF 100K 1% 1/4W	144113
R4	RES MF 221 OHM 1% 1/4W	144172	R63	RES MF 20K 1% 1/4W	144104
R5	RES MF 20K 1% 1/4W	144104	R64	RES MF 100 OHM 1% 1/4W	144196
R6	RES MF 221 OHM 1% 1/4W	144172	R65	RES MF 10K 1% 1/4W	144053
R7	RES MF 100K 1% 1/4W	144113	R66	RES MF 10K 1% 1/4W	144053
R8	RES MF 100K 1% 1/4W	144113	R68	RES MF 100K 1% 1/4W	144113
R9	RES MF 20K 1% 1/4W	144104	S1	SWITCH SLIDE	148059
R10	RES MF 20K 1% 1/4W	144104	SP1	BRACKET PCB CARD MOUNTING	
R11	RES MF 10K 1% 1/4W	144053		003611	
R12	RES MF 10K 1% 1/4W	144053	U1	IC DUAL OPERATIONAL AMPLIFIER	
R13	RES MF 10 OHM 1% 1/4W	144157		133260	
R14	RES MF 10K 1% 1/4W	144053	U2	IC DUAL OPERATIONAL AMPLIFIER	
R16	RES MF 100K 1% 1/4W	144113		133260	
R17	RES MF 10K 1% 1/4W	144053	U3	IC DUAL OPERATIONAL AMPLIFIER	
R18	RES MF 100K 1% 1/4W	144113		133260	
R19	RES MF 10 OHM 1% 1/4W	144157	U4	IC DUAL OPERATIONAL AMPLIFIER	
R20	RES MF 1K 1% 1/4W	144090		133260	
R21	RES MF 20K 1% 1/4W	144104		050064 HEATSINK1 PCB	
R22	RES MF 221 OHM 1% 1/4W	144172	C1	CAP ELECT 47UF 35V	066446
R23	RES MF 1K 1% 1/4W	144090	C2	CAP ELECT 47UF 35V	066446
R24	RES MF 100K 1% 1/4W	144113	C3	CAP MONO .1uF 50V 20% Z5U	
R25	RES MF 20K 1% 1/4W	144104		061305	
R26	RES MF 20K 1% 1/4W	144104	C4	CAP POLYPROP 0.15UF 10% 250VDC	
R27	RES MF 221 OHM 1% 1/4W	144172		064363	
R28	RES MF 100K 1% 1/4W	144113	C7	CAP MONO 100PF 100V 10% NPO	
R29	RES MF 10K 1% 1/4W	144053		061300	
R30	RES MF 20K 1% 1/4W	144104	C8	CAP MONO 100PF 100V 10% NPO	
R31	RES MF 10K 1% 1/4W	144053		061300	
R33	RES MF 100K 1% 1/4W	144113	C9	CAP MONO .01UF 50V 20% X7R	
R34	RES MF 10K 1% 1/4W	144053		061304	
R35	RES MF 10K 1% 1/4W	144053	C14	CAP MONO 100PF 100V 10% NPO	
R37	RES MF 100K 1% 1/4W	144113		061300	
R38	RES MF 1K 1% 1/4W	144090	C16	CAP MONO .01UF 50V 20% X7R	
R39	RES MF 20K 1% 1/4W	144104		061304	
R40	RES MF 221 OHM 1% 1/4W	144172	C22	CAP ELECT 220UF 25V	066507
R41	RES MF 100K 1% 1/4W	144113	C27	CAP MONO 100PF 100V 10% NPO	
R42	RES MF 20K 1% 1/4W	144104		061300	
R43	RES MF 10K 1% 1/4W	144053	C30	CAP ELECT 47UF 35V	066446
R44	RES MF 10K 1% 1/4W	144053	C31	CAP ELECT .47UF 50V	066244
R45	RES MF 100K 1% 1/4W	144113	C32	CAP MONO .1uF 50V 20% Z5U	
R46	RES MF 100 OHM 1% 1/4W	144196		061305	
R47	RES MF 1K 1% 1/4W	144090	C33	CAP MONO .1uF 50V 20% Z5U	
R48	RES MF 20K 1% 1/4W	144104		061305	

3A
3B

PARTS LIST con't

C35	CAP ELECT 10UF 100VDC	066462	Q41	TRANSISTOR PNP	132224
C36	CAP ELECT 10UF 100VDC	066462	Q49	TRANSISTOR PNP	132224
C37	CAP ELECT 10UF 100VDC	066462	Q50	TRANSISTOR NPN	132223
C38	CAP ELECT 10UF 100VDC	066462	Q51	TRANSISTOR NPN	132223
C40	CAP ELECT 220UF 50V 20%	066254	Q52	TRANSISTOR NPN	132223
C41	CAP ELECT 10UF 100VDC	066462	Q53	TRANSISTOR PNP POWER	132255
C47	CAP POLYPROP .047UF 10% 250VDC		Q54	TRANSISTOR PNP	132224
	064364		Q55	TRANSISTOR PNP POWER	132255
C51	CAP ELECT 10UF 100VDC	066462	Q56	TRANSISTOR PNP POWER	132255
C200	CAP ELECT 10UF 100VDC	066462	Q59	TRANSISTOR NPN	132223
D1	DIODE SILICON	070047	Q60	TRANSISTOR SI NPN 25V	132254
D2	DIODE SILICON	070047	Q61	TRANSISTOR SI NPN 25V	132254
D4	DIODE SILICON	070047	Q63	TRANSISTOR NPN	132223
D5	DIODE SILICON	070047	Q64	TRANSISTOR PNP POWER	132255
D6	DIODE RECTIFIER	070131	R1	RES MF 332 OHM 1% 1/4W	144446
D7	DIODE RECTIFIER	070131	R2	RES MET OX 680 OHM 5% .5W	
IC2	IC DUAL AMP 133259			137093	
J1	CONN MALE 9 POS FRICTION LOCK		R3	RES MF 22.1K 1% 1/4W	144187
	117244		R4	RES MF 100K 1% 1/4W	144113
J2	CONN 4 PIN	117215	R5	RES MF 22.1K 1% 1/4W	144187
J4	CONN HEADER 2 PIN 0.156	117404	R6	RES MET OX 1.8k 5% .5W	137094
J5	BLADE FASTON .110	117712	R7	RES MET OX 430 OHM 5% .5W	
J6	BLADE FASTON W/FEET	117708		137095	
J8	CONN HEADER 2 PIN 0.156	117404	R8	RES MF 332 OHM 1% 1/4W	144446
J9	CONN 2 PIN MALE	117213	R9	RES MET OX 680 OHM 5% .5W	
K1	RELAY 24VDC 5A 277VAC	087057		137093	
K2	RELAY 24VDC 5A 277VAC	087057	R10	RES MF 22.1K 1% 1/4W	144187
L2	CHOKE 0.65UH OUTPUT	122297	R11	RES MET OX 1.8k 5% .5W	137094
LD1	LDR NETWORK VTL5C9	144179	R12	RES MET OX 47 OHM 5% .5W	
Q1	TRANSISTOR NPN	132223		137096	
Q2	TRANSISTOR PNP	132224	R13	POT TRIM 200 OHM 20% HORIZ AD	
Q3	TRANSISTOR NPN	132268		134390	
Q4	TRANSISTOR PNP	132267	R14	RES MF 100K 1% 1/4W	144113
Q5	TRANSISTOR NPN	132223	R15	RES MF 100 OHM 1% 1/4W	144196
Q6	TRANSISTOR NPN 25C3334C	132285	R16	RES MF 100 OHM 1% 1/4W	144196
Q7	TRANSISTOR PNP 2SA32IC	132286	R17	RES MF 100 OHM 1% 1/4W	144196
Q8	TRANSISTOR PNP POWER	132297	R30	RES MF 475K 1% 1/4W	144364
Q9	TRANSISTOR NPN POWER	132296	R32	RES MF 47.5K 1% 1/4W	144108
Q10	TRANSISTOR PNP POWER	132297	R33	RES MF 47.5K 1% 1/4W	144108
Q11	TRANSISTOR NPN POWER	132296	R34	RES MF 5.11K 1% 1/4W	144083
Q20	TRANSISTOR NPN POWER	132296	R36	RES 511 OHM 1% 1/4W	144123
Q22	TRANSISTOR PNP POWER	132297	R37	RES MF 681K 1% 1/4W	144443
Q23	TRANSISTOR NPN POWER	132296	R38	RES MF 866 OHM 1% 1/4W	144028
Q25	TRANSISTOR PNP POWER	132297	R39	RES MF 2.21 OHM 1/4W 1%	144378
Q27	TRANSISTOR PNP	132224	R41	RES WW DUAL .47 OHM 5% 3W	
Q29	TRANSISTOR PNP POWER	132255		139244	
Q30	TRANSISTOR SI NPN 25V	132254	R42	RES WW DUAL .47 OHM 5% 3W	
Q31	TRANSISTOR NPN	132223		139244	
Q32	TRANSISTOR NPN	132223	R43	RES WW DUAL .47 OHM 5% 3W	
Q33	TRANSISTOR PNP POWER	132255		139244	
Q35	TRANSISTOR NPN	132223	R45	RES WW DUAL .47 OHM 5% 3W	
Q37	TRANSISTOR NPN 25C3334C	132285		139244	
Q39	TRANSISTOR PNP 2SA32IC	132286	R46	RES MF 4.75K 1% 1/4W	144097

4A
4B
4B

PARTS LIST con't

R48	RES MF 100 OHM 1% 1/4W	144196	C7	CAP MONO 100PF 100V 10% NPO	
R50	RES MF 14.7K 1% 1/4W	144149		061300	
R51	RES MF 221 OHM 1% 1/4W	144172	C8	CAP MONO 100PF 100V 10% NPO	
R52	RES MF 267K 1% 1/4W	144118		061300	
R53	RES MF 221 OHM 1% 1/4W	144172	C9	CAP MONO .01UF 50V 20% X7R	
R54	RES MF 3.32K 1% 1/4W	144095		061304	
R55	RES MF 3.32K 1% 1/4W	144095	C10	CAP ELECT 47UF 35V	066446
R56	RES MF 10K 1% 1/4W	144053	C11	CAP ELECT 47UF 35V	066446
R57	RES MF 475K 1% 1/4W	144364	C12	CAP MONO 100PF 100V 10% NPO	
R58	RES MF 1.1K 1% 1/4W	144091		061300	
R59	RES MF 2.21 OHM 1/4W 1%	144378	C13	CAP MONO 100PF 100V 10% NPO	
R60	RES FP 22 OHM 1/4W 5%	137033		061300	
R62	RES MF 22.1K 1% 1/4W	144187	C14	CAP MONO 100PF 100V 10% NPO	
R63	RES FP 22 OHM 1/4W 5%	137033		061300	
R65	RES MF 681K 1% 1/4W	144443	C15	CAP MONO .1uF 50V 20% Z5U	
R67	RES MF 100 OHM 1% 1/4W	144196		061305	
R70	RES MF 100 OHM 1% 1/4W	144196	C16	CAP MONO .01UF 50V 20% X7R	
R71	RES MF 100 OHM 1% 1/4W	144196		061304	
R72	RES MF 100 OHM 1% 1/4W	144196	C17	CAP MONO .01UF 50V 20% X7R	
R77	RES MF 1M 1/4W	144269		061304	
R79	RES CF 10 OHM 5% 1/2W	141165	C18	CAP MONO .01UF 50V 20% X7R	
R82	RES MF 1M 1/4W	144269		061304	
R83	RES MF 10K 1% 1/4W	144053	C19	CAP MONO 100PF 100V 10% NPO	
R84	RES MF 47.5K 1% 1/4W	144108		061300	
R85	RES MF 1.1K 1% 1/4W	144091	C22	CAP ELECT 220UF 25V	066507
R86	RES MF 4.75K 1% 1/4W	144097	C27	CAP MONO 100PF 100V 10% NPO	
R88	RES MF 12.1K 1% 1/4W	144154		061300	
R90	RES MF 1.1K 1% 1/4W	144091	C28	CAP MONO 100PF 100V 10% NPO	
R93	RES MF 4.75K 1% 1/4W	144097		061300	
R101	RES MF 953 OHM 1/4W 1%	144473	C29	CAP ELECT 47UF 35V	066446
R103	RES MF 332K 1% 1/4W	144119	C30	CAP ELECT 47UF 35V	066446
R104	RES MF 15K 1% 1/4W	144412	C31	CAP ELECT .47UF 50V	066244
R105	RES MF 6.49K 1% 1/4W	144140	C32	CAP MONO .1uF 50V 20% Z5U	
R106	RES MF 475 OHM 1% 1/4W	144086		061305	
R109	RES CF 0 ohm	141389	C33	CAP MONO .1uF 50V 20% Z5U	
R111	RES MET OX 430 OHM 5% .5W			061305	
	137095		C35	CAP ELECT 10UF 100VDC	066462
R114	RES CF 10 OHM 5% 1/2W	141165	C36	CAP ELECT 10UF 100VDC	066462
R119	RES MO 4.7 OHM 1W 5%	144464	C37	CAP ELECT 10UF 100VDC	066462
R122	RES MF 47.5K 1% 1/4W	144108	C38	CAP ELECT 10UF 100VDC	066462
R123	RES MF 22.1K 1% 1/4W	144187	C39	CAP ELECT .47UF 50V	066244
R124	RES MF 47.5K 1% 1/4W	144108	C40	CAP ELECT 220UF 50V 20%	066254
RT1	THERMAL	144249	C41	CAP ELECT 10UF 100VDC	066462
RT2	THERMAL	144249	C44	CAP ELECT 220UF 25V	066507
			C47	CAP POLYPROP .047UF 10% 250VDC	
				064364	
050064	HEATSINK2 PCB		C48	CAP POLYPROP .047UF 10% 250VDC	
C1	CAP ELECT 47UF 35V	066446		064364	
C2	CAP ELECT 47UF 35V	066446	C50	CAP ELECT 10UF 100VDC	066462
C3	CAP MONO .1uF 50V 20% Z5U		C51	CAP ELECT 10UF 100VDC	066462
	061305		C200	CAP ELECT 10UF 100VDC	066462
C4	CAP POLYPROP 0.15UF 10% 250VDC		D1	DIODE SILICON	070047
	064363		D2	DIODE SILICON	070047

PARTS LIST con't

D4	DIODE SILICON	070047	5	Q26	TRANSISTOR PNP POWER	132297
D5	DIODE SILICON	070047		Q27	TRANSISTOR PNP	132224
D6	DIODE RECTIFIER	070131		Q28	TRANSISTOR SI NPN 25V	132254
D7	DIODE RECTIFIER	070131		Q29	TRANSISTOR PNP POWER	132255
D8	DIODE SILICON	070047		Q30	TRANSISTOR SI NPN 25V	132254
D9	DIODE SILICON	070047		Q31	TRANSISTOR NPN	132223
D11	DIODE SILICON	070047		Q32	TRANSISTOR NPN	132223
D12	DIODE SILICON	070047		Q33	TRANSISTOR PNP POWER	132255
D13	DIODE RECTIFIER	070131		Q34	TRANSISTOR NPN	132223
D14	DIODE RECTIFIER	070131		Q35	TRANSISTOR NPN	132223
IC1	IC DUAL AMP	133259		Q36	TRANSISTOR NPN 25C3334C	132285
IC2	IC DUAL AMP	133259		Q37	TRANSISTOR NPN 25C3334C	132285
J1	CONN MALE 9 POS FRICTION LOCK	117244		Q38	TRANSISTOR PNP POWER	132255
J2	CONN 4 PIN	117215		Q39	TRANSISTOR PNP 2SA32IC	132286
J3	CONN HEADER 2 PIN 0.156	117404		Q40	TRANSISTOR PNP	132224
J4	CONN HEADER 2 PIN 0.156	117404		Q41	TRANSISTOR PNP	132224
J5	BLADE FASTON .110	117712		Q42	TRANSISTOR NPN	132223
J6	BLADE FASTON W/FEET	117708		Q43	TRANSISTOR PNP	132224
J8	CONN HEADER 2 PIN 0.156	117404		Q44	TRANSISTOR PNP POWER	132255
J9	CONN 2 PIN MALE	117213		Q45	TRANSISTOR PNP POWER	132255
J10	CONN 2 PIN MALE	117213		Q46	TRANSISTOR PNP	132224
K1	RELAY 24VDC 5A 277VAC	087057		Q47	TRANSISTOR SI NPN 25V	132254
K2	RELAY 24VDC 5A 277VAC	087057		Q48	TRANSISTOR PNP 2SA32IC	132286
L1	CHOKE 0.65UH OUTPUT	122297		Q49	TRANSISTOR PNP	132224
L2	CHOKE 0.65UH OUTPUT	122297		Q50	TRANSISTOR NPN	132223
LD1	LDR NETWORK VTL5C9	144179		Q51	TRANSISTOR NPN	132223
LD2	LDR NETWORK VTL5C9	144179		Q52	TRANSISTOR NPN	132223
Q1	TRANSISTOR NPN	132223		Q53	TRANSISTOR PNP POWER	132255
Q2	TRANSISTOR PNP	132224		Q54	TRANSISTOR PNP	132224
Q3	TRANSISTOR NPN	132268		Q55	TRANSISTOR PNP POWER	132255
Q4	TRANSISTOR PNP	132267		Q56	TRANSISTOR PNP POWER	132255
Q5	TRANSISTOR NPN	132223		Q57	TRANSISTOR SI NPN 25V	132254
Q6	TRANSISTOR NPN 25C3334C	132285		Q58	TRANSISTOR NPN	132223
Q7	TRANSISTOR PNP 2SA32IC	132286		Q59	TRANSISTOR NPN	132223
Q8	TRANSISTOR PNP POWER	132297		Q60	TRANSISTOR SI NPN 25V	132254
Q9	TRANSISTOR NPN POWER	132296		Q61	TRANSISTOR SI NPN 25V	132254
Q10	TRANSISTOR PNP POWER	132297		Q62	TRANSISTOR PNP	132224
Q11	TRANSISTOR NPN POWER	132296		Q63	TRANSISTOR NPN	132223
Q12	TRANSISTOR NPN	132223		Q64	TRANSISTOR PNP POWER	132255
Q13	TRANSISTOR PNP	132224		R1	RES MF 332 OHM 1% 1/4W	144446
Q14	TRANSISTOR NPN	132223		R2	RES MET OX 680 OHM 5% .5W	137093
Q15	TRANSISTOR PNP 2SA32IC	132286		R3	RES MF 22.1K 1% 1/4W	144187
Q16	TRANSISTOR NPN 25C3334C	132285		R4	RES MF 100K 1% 1/4W	144113
Q17	TRANSISTOR PNP	132267		R5	RES MF 22.1K 1% 1/4W	144187
Q18	TRANSISTOR NPN	132268		R6	RES MET OX 1.8k 5% .5W	137094
Q19	TRANSISTOR NPN POWER	132296		R7	RES MET OX 430 OHM 5% .5W	137095
Q20	TRANSISTOR NPN POWER	132296		R8	RES MF 332 OHM 1% 1/4W	144446
Q21	TRANSISTOR PNP POWER	132297		R9	RES MET OX 680 OHM 5% .5W	137093
Q22	TRANSISTOR PNP POWER	132297		R10	RES MF 22.1K 1% 1/4W	144187
Q23	TRANSISTOR NPN POWER	132296		R11	RES MET OX 1.8k 5% .5W	137094
Q24	TRANSISTOR NPN POWER	132296				
Q25	TRANSISTOR PNP POWER	132297				

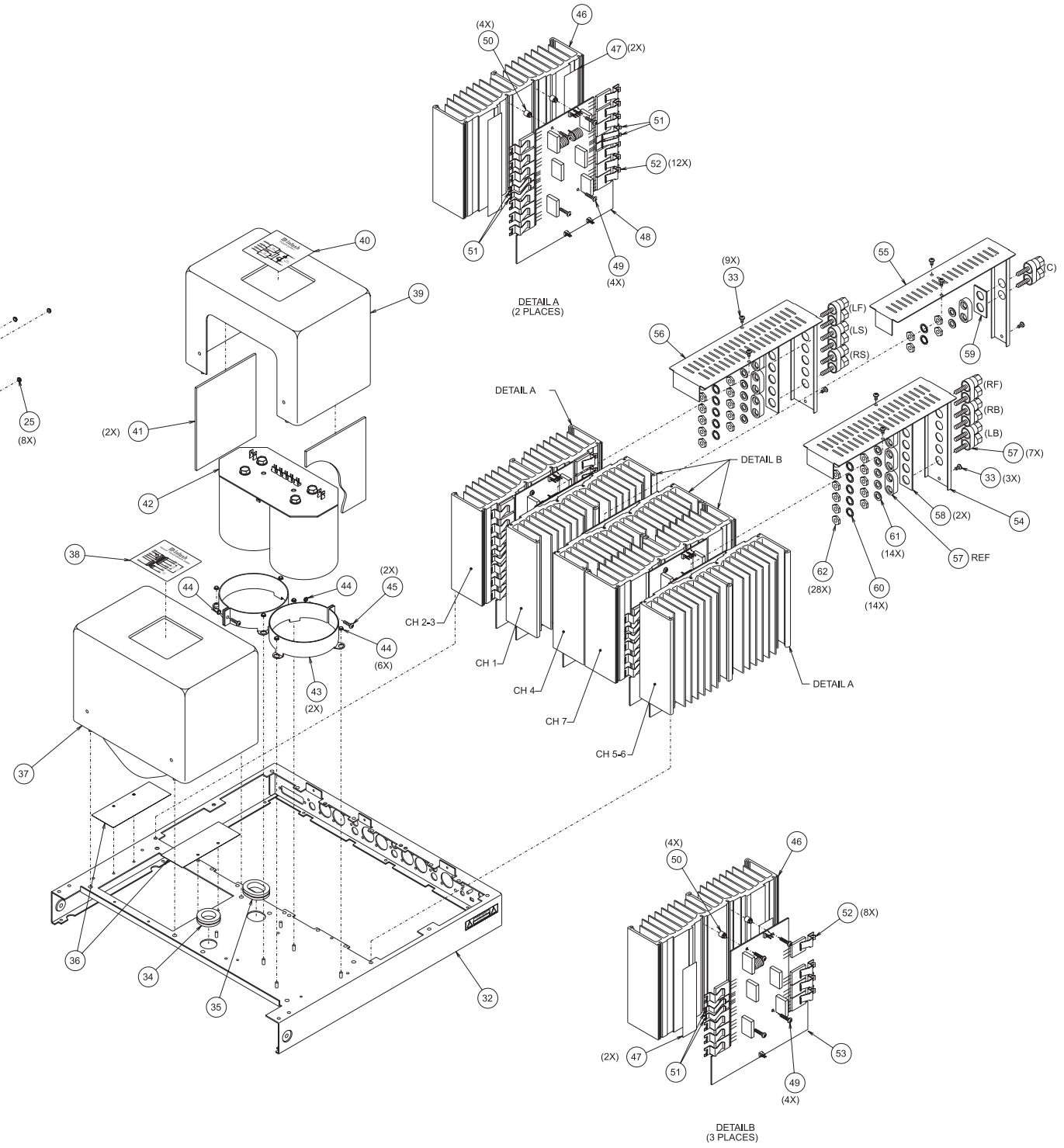
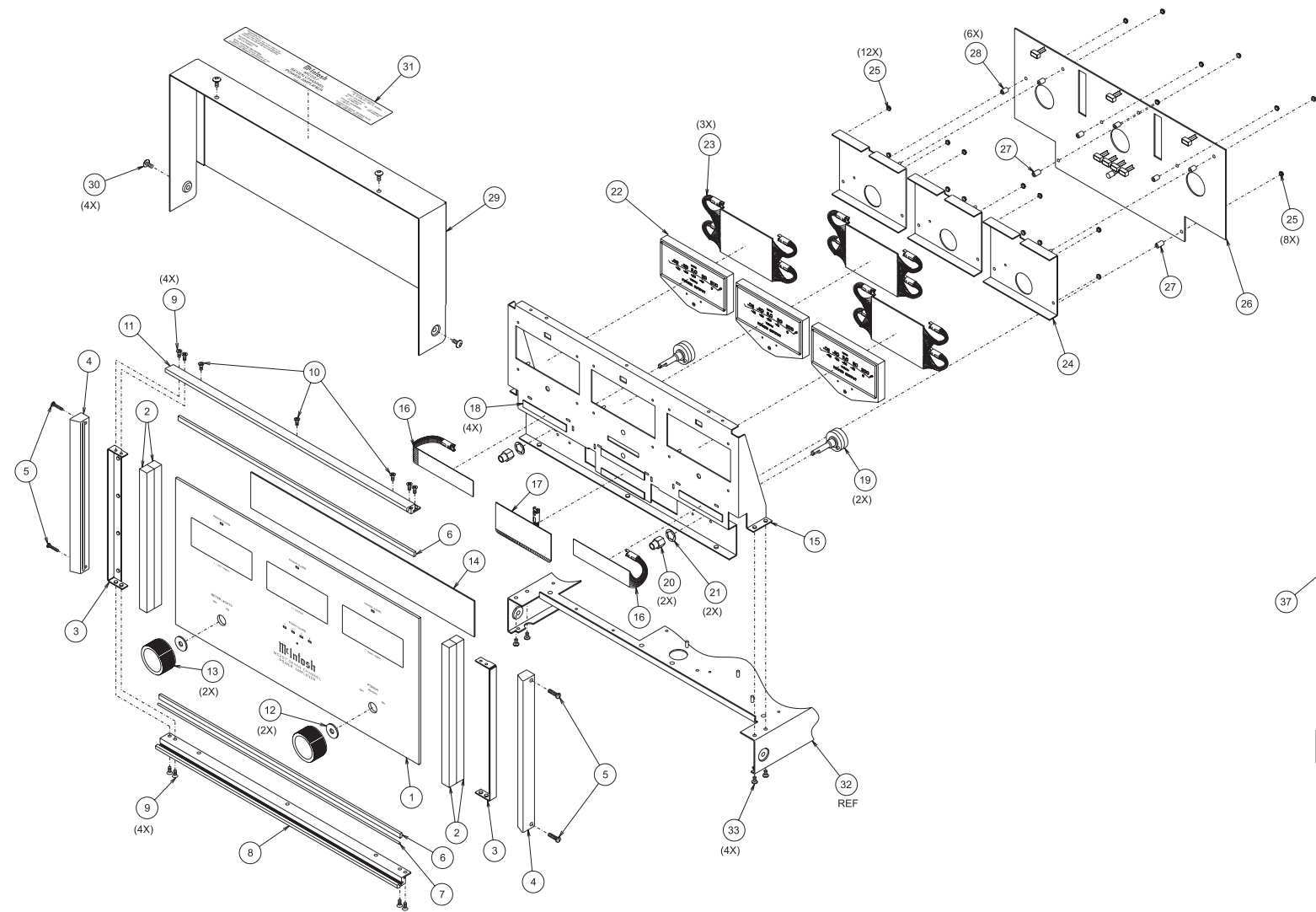
PARTS LIST con't

R12	RES MET OX 47 OHM 5% .5W		
	137096		
R13	POT TRIM 200 OHM 20% HORIZ AD		
	134390		
R14	RES MF 100K 1% 1/4W	144113	
R15	RES MF 100 OHM 1% 1/4W	144196	
R16	RES MF 100 OHM 1% 1/4W	144196	
R17	RES MF 100 OHM 1% 1/4W	144196	
R18	RES MET OX 47 OHM 5% .5W		
	137096		
R19	RES MET OX 1.8k 5% .5W	137094	
R20	RES MF 332 OHM 1% 1/4W	144446	
R21	RES MF 22.1K 1% 1/4W	144187	
R22	RES MET OX 680 OHM 5% .5W		
	137093		
R23	RES MET OX 430 OHM 5% .5W		
	137095		
R24	RES MET OX 680 OHM 5% .5W		
	137093		
R25	RES MF 22.1K 1% 1/4W	144187	
R26	RES MET OX 1.8k 5% .5W	137094	
R27	RES MF 332 OHM 1% 1/4W	144446	
R28	POT TRIM 200 OHM 20% HORIZ AD		
	134390		
R29	RES MF 475K 1% 1/4W	144364	
R30	RES MF 475K 1% 1/4W	144364	
R31	RES MF 5.11K 1% 1/4W	144083	
R32	RES MF 47.5K 1% 1/4W	144108	
R33	RES MF 47.5K 1% 1/4W	144108	
R34	RES MF 5.11K 1% 1/4W	144083	
R35	RES MF 47.5K 1% 1/4W	144108	
R36	RES 511 OHM 1% 1/4W	144123	
R37	RES MF 681K 1% 1/4W	144443	
R38	RES MF 866 OHM 1% 1/4W	144028	
R39	RES MF 2.21 OHM 1/4W 1%	144378	
R40	RES WW DUAL .47 OHM 5% 3W		
	139244		
R41	RES WW DUAL .47 OHM 5% 3W		
	139244		
R42	RES WW DUAL .47 OHM 5% 3W		
	139244		
R43	RES WW DUAL .47 OHM 5% 3W		
	139244		
R44	RES WW DUAL .47 OHM 5% 3W		
	139244		
R45	RES WW DUAL .47 OHM 5% 3W		
	139244		
R46	RES MF 4.75K 1% 1/4W	144097	
R47	RES MF 4.75K 1% 1/4W	144097	
R48	RES MF 100 OHM 1% 1/4W	144196	
R49	RES MF 1.1K 1% 1/4W	144091	
R50	RES MF 14.7K 1% 1/4W	144149	
R51	RES MF 221 OHM 1% 1/4W	144172	
R52	RES MF 267K 1% 1/4W	144118	
R53	RES MF 221 OHM 1% 1/4W	144172	
R54	RES MF 3.32K 1% 1/4W	144095	
R55	RES MF 3.32K 1% 1/4W	144095	
R56	RES MF 10K 1% 1/4W	144053	
R57	RES MF 475K 1% 1/4W	144364	
R58	RES MF 1.1K 1% 1/4W	144091	
R59	RES MF 2.21 OHM 1/4W 1%	144378	
R60	RES FP 22 OHM 1/4W 5%	137033	
R61	RES MF 100 OHM 1% 1/4W	144196	
R62	RES MF 22.1K 1% 1/4W	144187	
R63	RES FP 22 OHM 1/4W 5%	137033	
R64	RES MF 10K 1% 1/4W	144053	
R65	RES MF 681K 1% 1/4W	144443	
R66	RES MF 681K 1% 1/4W	144443	
R67	RES MF 100 OHM 1% 1/4W	144196	
R68	RES MF 475K 1% 1/4W	144364	
R69	RES MF 22.1K 1% 1/4W	144187	
R70	RES MF 100 OHM 1% 1/4W	144196	
R71	RES MF 100 OHM 1% 1/4W	144196	
R72	RES MF 100 OHM 1% 1/4W	144196	
R73	RES MF 100 OHM 1% 1/4W	144196	
R74	RES MF 100 OHM 1% 1/4W	144196	
R75	RES MF 267K 1% 1/4W	144118	
R76	RES MF 221 OHM 1% 1/4W	144172	
R77	RES MF 1M 1/4W	144269	
R78	RES MF 100 OHM 1% 1/4W	144196	
R79	RES CF 10 OHM 5% 1/2W	141165	
R80	RES CF 10 OHM 5% 1/2W	141165	
R81	RES MF 100 OHM 1% 1/4W	144196	
R82	RES MF 1M 1/4W	144269	
R83	RES MF 10K 1% 1/4W	144053	
R84	RES MF 47.5K 1% 1/4W	144108	
R85	RES MF 1.1K 1% 1/4W	144091	
R86	RES MF 4.75K 1% 1/4W	144097	
R87	RES MF 14.7K 1% 1/4W	144149	
R88	RES MF 12.1K 1% 1/4W	144154	
R89	RES MF 953 OHM 1/4W 1%	144473	
R90	RES MF 1.1K 1% 1/4W	144091	
R91	RES MF 681K 1% 1/4W	144443	
R92	RES MF 866 OHM 1% 1/4W	144028	
R93	RES MF 4.75K 1% 1/4W	144097	
R94	RES MF 47.5K 1% 1/4W	144108	
R95	RES MF 1.1K 1% 1/4W	144091	
R96	RES MF 3.32K 1% 1/4W	144095	
R97	RES 511 OHM 1% 1/4W	144123	
R98	RES MF 3.32K 1% 1/4W	144095	
R99	RES MF 221 OHM 1% 1/4W	144172	
R100	RES MF 1.1K 1% 1/4W	144091	
R101	RES MF 953 OHM 1/4W 1%	144473	
R102	RES MF 332K 1% 1/4W	144119	
R103	RES MF 332K 1% 1/4W	144119	
R104	RES MF 15K 1% 1/4W	144412	

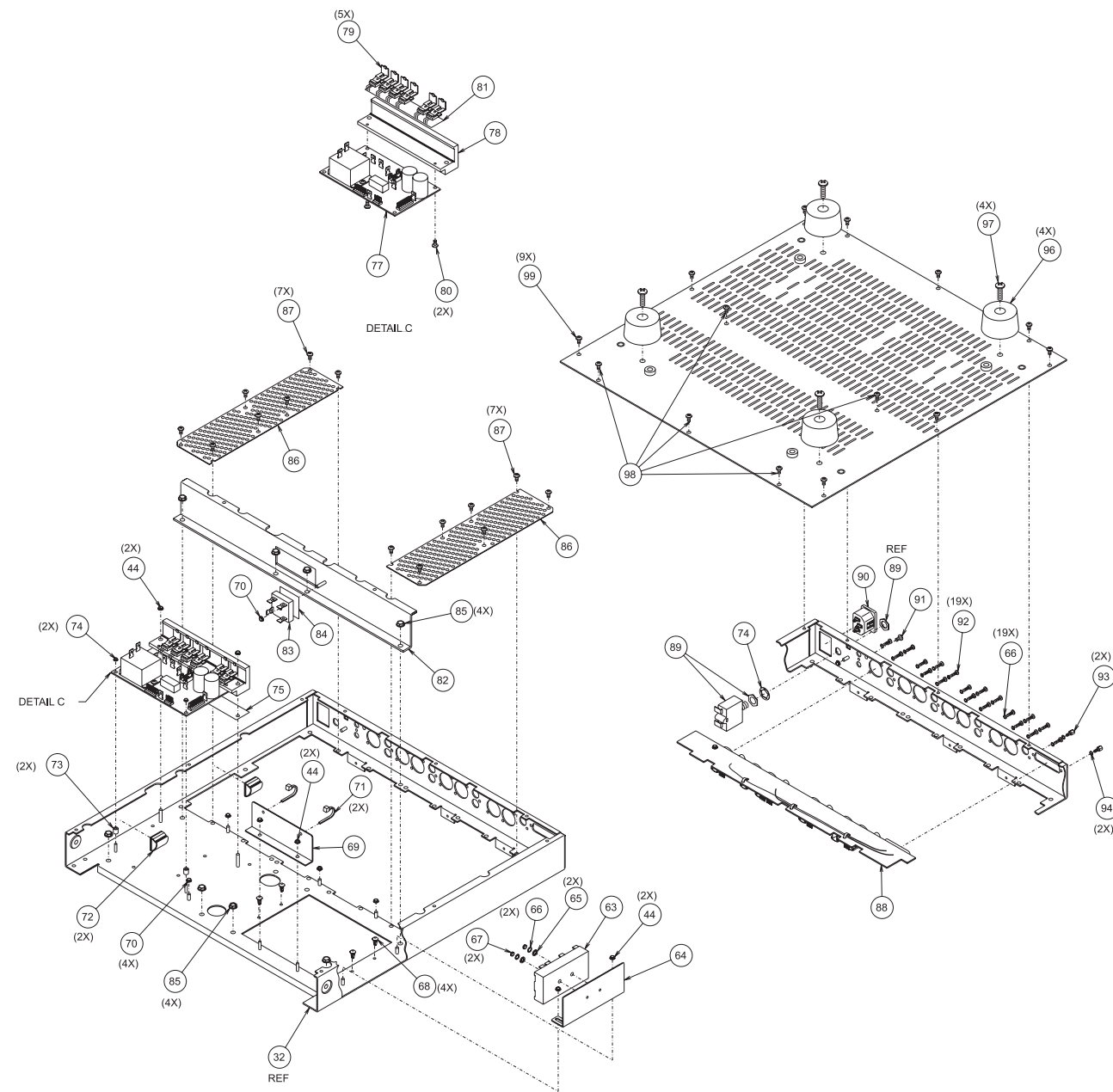
PARTS LIST con't

R105	RES MF 6.49K 1% 1/4W	144140	D5	DIODE SILICON	070047	
R106	RES MF 475 OHM 1% 1/4W	144086	D6	DIODE SILICON	070047	
R107	RES MF 475 OHM 1% 1/4W	144086	D7	DIODE SILICON	070047	
R108	RES MF 6.49K 1% 1/4W	144140	D8	DIODE SILICON	070047	
R109	RES CF 0 ohm	141389	D9	DIODE SILICON	070047	
R110	RES MET OX 430 OHM 5% .5W	137095	D10	DIODE SILICON	070047	
R111	RES MET OX 430 OHM 5% .5W	137095	D11	DIODE SILICON	070047	
R112	RES MF 1M 1/4W	144269	D12	DIODE SILICON	070047	
R113	RES CF 10 OHM 5% 1/2W	141165	D13	DIODE SILICON	070047	
R114	RES CF 10 OHM 5% 1/2W	141165	D14	DIODE SILICON	070047	
R115	RES MF 1M 1/4W	144269	D15	DIODE SILICON	070047	
R119	RES MO 4.7 OHM 1W 5%	144464	D16	DIODE SILICON	070047	
R120	RES MO 4.7 OHM 1W 5%	144464	D17	DIODE SILICON	070047	
R122	RES MF 47.5K 1% 1/4W	144108	D18	DIODE SILICON	070047	
R123	RES MF 22.1K 1% 1/4W	144187	D19	DIODE SILICON	070047	
R124	RES MF 47.5K 1% 1/4W	144108	D20	DIODE SILICON	070047	
RT1	THERMAL	144249	D21	DIODE SILICON	070047	
RT2	THERMAL	144249	D22	DIODE SILICON	070047	
050066 DISPLAY PCB			D23	DIODE SILICON	070047	
C1	CAP ELECT 10UF 50V	066445	D24	DIODE SILICON	070047	
C2	CAP MPF 0.47UF 5% 50/63VDC	064333	D25	DIODE SILICON	070047	
6	C3	CAP MONO .1uF 50V 20% Z5U	061305	D26	DIODE SILICON	070047
	C4	CAP MONO .1uF 50V 20% Z5U	061305	D27	DIODE SILICON	070047
	C5	CAP MPF 0.1UF 5% 63VDC	064325	D28	DIODE SILICON	070047
	C6	CAP ELECT 10UF 50V	066445	D29	DIODE SILICON	070047
	C7	CAP MPF 0.47UF 5% 50/63VDC	064333	D30	DIODE SILICON	070047
	C8	CAP MONO .1uF 50V 20% Z5U	061305	DS1	LED BLUE 5MM HI-INTENSITY	
	C9	CAP MONO .1uF 50V 20% Z5U	061305	"VF[V] 3.6"""	058166(1)112108(1)	
	C10	CAP MPF 0.1UF 5% 63VDC	064325	DS2	LED BLUE 5MM HI-INTENSITY	
	C11	CAP ELECT 10UF 50V	066445	"VF[V] 3.6"""	058166(1)112108(1)	
	7	C12	CAP MPF 0.47UF 5% 50/63VDC	064333	DS3	LED GREEN 5MM HI-INTENSITY
		C13	CAP MONO .1uF 50V 20% Z5U	061305	"VF[V] 3.5"""	058165(1)112108(1)
		C14	CAP ELECT 100UF 16V OR 25V	066447	DS4	LED GREEN 5MM HI-INTENSITY
		C15	CAP MPF 0.1UF 5% 63VDC	064325	DS5	LED RED HIGH EFFICIENCY 058148
		C16	CAP MONO .1uF 50V 20% Z5U	061305	DS6	LED BLUE 5MM HI-INTENSITY
		D1	DIODE SILICON	070047	"VF[V] 3.6"""	058166(1)112108(1)
		D2	DIODE SILICON	070047	DS7	LED BLUE 5MM HI-INTENSITY
		D3	DIODE SILICON	070047	"VF[V] 3.6"""	058166(1)112108(1)
		D4	DIODE SILICON	070047	DS8	LED GREEN 5MM HI-INTENSITY
					"VF[V] 3.5"""	058165(1)112108(1)
					DS9	LED GREEN 5MM HI-INTENSITY

MC207 EXPLODED VIEW



MC207 EXPLODED VIEW and PARTS LIST



Ref No.	Part No.	Description	Ref No.	Part No.	Description
1	016507	GLASS	51	114118	TRANSISTOR CLIP 218
2	094360	TAPE FOAM 1/2 X 1/2	52	114119	TRANSISTOR CLIP 214
3	004939	BRACKET EXTRUSION	53	005007	ASSY HEATSINK PCB 1 CH
4	018615	END CAP 9"	54	005439	COVER HEATSINK CH 5-6
5	101042	SCREW TS 4-40 X 1/2 SLOT FILL	55	005406	HEATSINK COVER CENTER
6	094016	TAPE FOAM 1/4 X 1/8	56	005405	COVER HEATSINK CH 1-3
7	098113	CORD DIAL .027 BLACK BRAID SILK	57	084124	POST BINDING DUAL
8	018706	EXTRUSION BOTTOM	58	005419	OUTPUT PLATE TRIPLE
9	100149	SCREW MACH 6-32 X 1/4 FL U/H ST	59	005418	OUTPUT PLATE SINGLE
10	101232	SCREW 6-32 X 1/4 PH FLAT	60	104130	WASHER LOCK #10 SPLIT PHOS/BRNZ
11	018619	EXTRUSION TOP	61	104148	WASHER FLAT BRASS
12	104164	WASHER BLK FELT 1 X 1/4 X 1/16	62	110009	NUT M5 X 0.8 BRASS W/GOLD PLATE
13	049321	ASSY KNOB	63	074091	TERMINAL BLOCK AC
14	092413	ACETATE FILTER BLUE DISPLAY	64	005435	TERMINAL BRACKET
15	005407	SUBPANEL	65	104001	WASHER FLAT STEEL 4 X 9/32 X .025
16	017901	LOGO PUSHBUTTON BACKLIGHT	66	104142	WASHER LOCK 2.5mm INT STAR ZINC
17	017921	LOGO/SELECTOR BACKLIGHT	67	102022	NUT MACH 4-40 X 3/16 X 1/16
18	094429	FOAM TAPE WHITE 1/32" THK	68	114072	RIVET PLASTIC
19	146243	SWITCH POWER	69	005434	TRANSFORMER BRACKET
20	021159	BUSHING SWITCH	70	102003	NUT MACH 6-32 W/LOCK
21	104014	WASHER INT STAR 3/8 X .507 X .002	71	094255	CABLE TIE PANDUIT PLT1M-M
22	124089	METER MC207	72	017452	KLIP WIRE
23	017922	METER BACKLIGHT	73	021094	SPACER 4 X 1/4
24	005411	METER PLATE	74	104014	3/8 INT STAR WASHER
25	102001	NUT KEP 4-40 CADMIUM PLATE	75	084209	THERMSTRATE MC207
26	050066	ASSY METER/DISPLAY PCB	76	102020	NUT MACH 6-32 SELF LOCK
27	112038	SPACER STEEL 4 X 3/8L NCKL PLT	77	050062	ASSY POWER SUPPLY PCB
28	112060	SPACER 4 X 5/16 STEEL	78	018751	SUB HEATSINK
29	005404	DUST COVER	79	114141	CLIP RIGHT ANGLE
30	100287	SCREW MACH 8-32 X 3/8 PH TRUSS HD	80	100250	SCREW MACH SEMS 6-32 X 1/4 PH PN
31	126999	DECAL DUST COVER	81	084208	ISOSTRATE POWER SUPPLY
32	005408	CHASSIS	82	005410	CHASSIS SUPPORT REAR
33	101054	SCREW TAPTITE 6-32 X 1/4 PH PN BLK	83	070139	DIODE BRIDGE RECTIFIER
34	078024	GROMMET RUBBER 1" ID	84	084207	THERMAL PAD 1.25 X 1.25 ALUMINUM
35	078040	GROMMET 3/4" X 1"	85	102006	NUT MACH 10-32 W/LOCK
36	017956	TRANSFORMER SHIELD	86	005401	HEATSINK VENT
37	050061	POTTED TRANSFORMER POWER	87	101176	SCREW TC 6-32 X 1/2 PH PN TYPE F
38	166001	DECAL POWER TRANSFORMER	88	005065	ASSY INPUT PCB
39	050090	CAN POTTED CAPACITOR	89	088023	CIRCUIT BREAKER 10A 240VAC
40	166002	DECAL CAPACITOR COVER	90	117487	RECEPTACLE AC LINE
41	094450	SOUND DAMPING PAD MC207	91	100250	SCREW MACH SEMS 6-32 X 1/4 PH PN
42	050063	ASSY CAPACITOR PCB	92	101197	SCREW HI-LO 4-24 X 3/8 PH RD BLK
43	005413	CAPACITOR CLAMP	93	112015	STANDOFF
44	102045	NUT KEP 6-32 X 1/2 PH PN	94	104004	WASHER LOCK 5 X .255 INT STAR
45	100118	SCREW MACH 6-32 X 1/2 PH PN	95	005400	BOTTOM COVER
46	018750	HEATSINK	96	017937	FOOT
47	084183	ISOSTRATE	97	100159	SCREW MACH 10-32 X 3/4 PH PN
48	050064	ASSY HEATSINK PCB 2 CH	98	101078	ST 8-32 X 5/16 PH PN
49	101059	SCREW SM 6 X 5/8 PH PN TYPE A	99	100173	MS 8-32 X 1/4 PH PN
50	112087	SPACER PCB 1/4"			

REPACKING INSTRUCTION

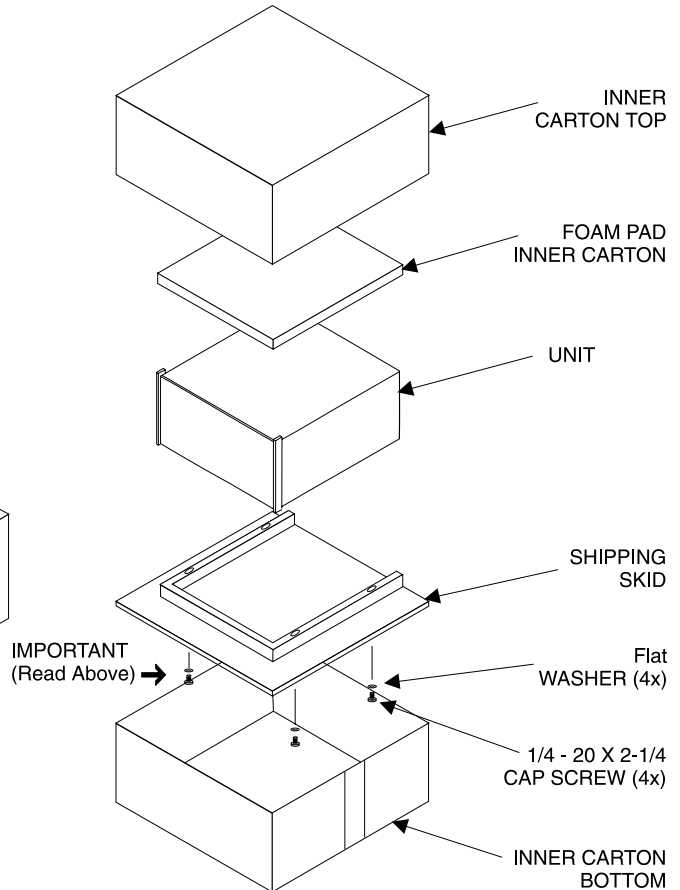
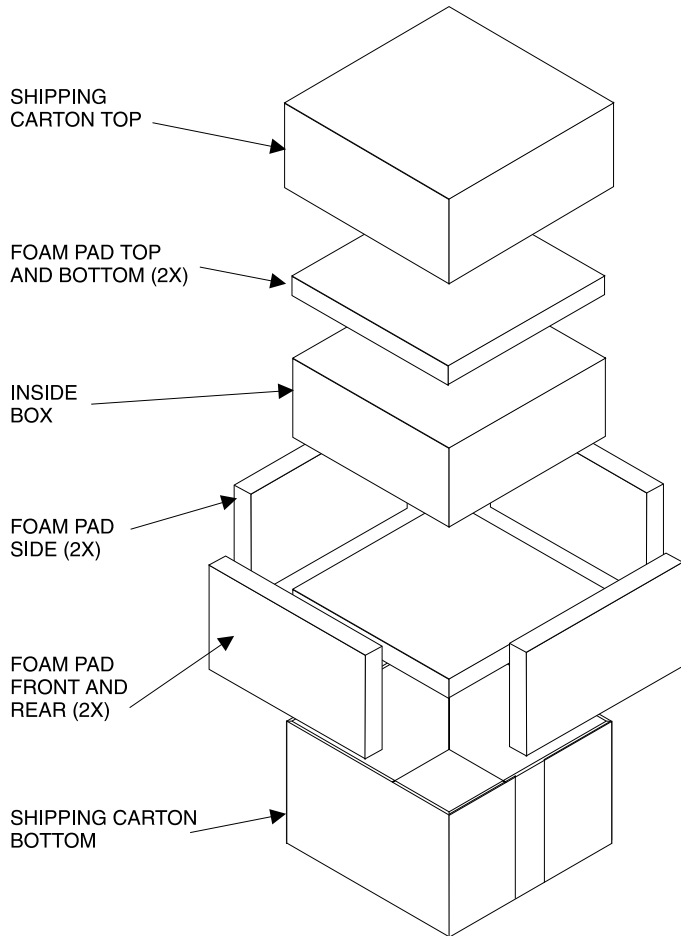
In the event it is necessary to repack the unit for shipment, the unit must be packed exactly as shown below.

IMPORTANT - For ease of shipment, attach the four feet to the bottom of the unit. Four, 1/4 - 20 x 2-1/4 bolts with washers must be used to fasten the unit securely to the 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 in good serviceable condition.

Qty.	Part No.	Description
1	034051	Shipping carton bottom
2	034186	Foam pad (front and rear)
2	034187	Foam Pad (side)
2	034054	Foam pad (top and bottom)
1	034052	Shipping carton (top)
1	034137	Inner carton (bottom)
1	034264	Shipping skid
1	034188	Foam pad (inner carton)
1	034136	Inner carton (top)
4	101212	1/4 - 20 x 2-1/4 cap screw
4	104058	Flat washer



MC207

POWER AMPLIFIER

SERVICE MANUAL



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.



MC207

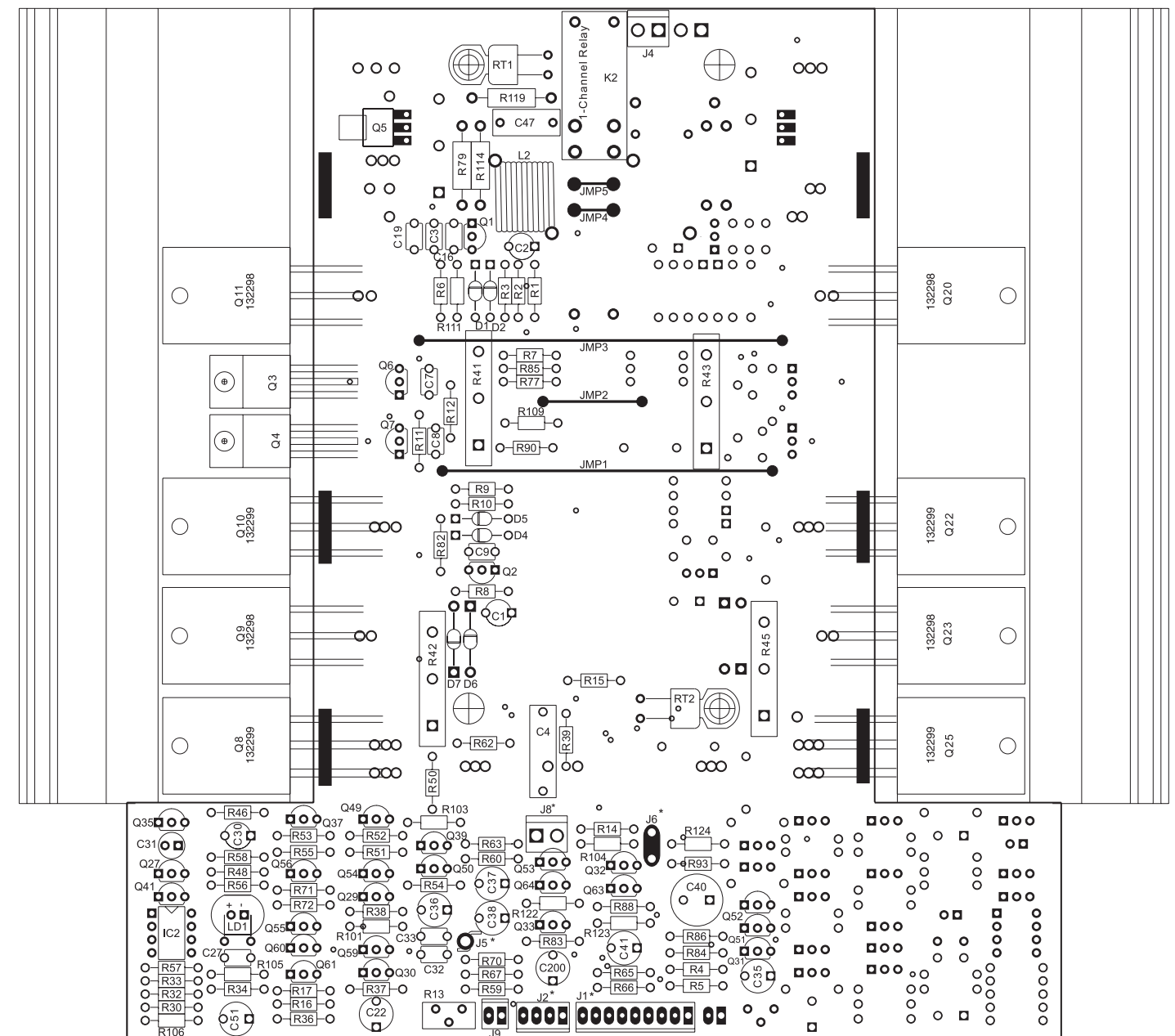
POWER AMPLIFIER

SERVICE MANUAL ADDENDUM

3A
B

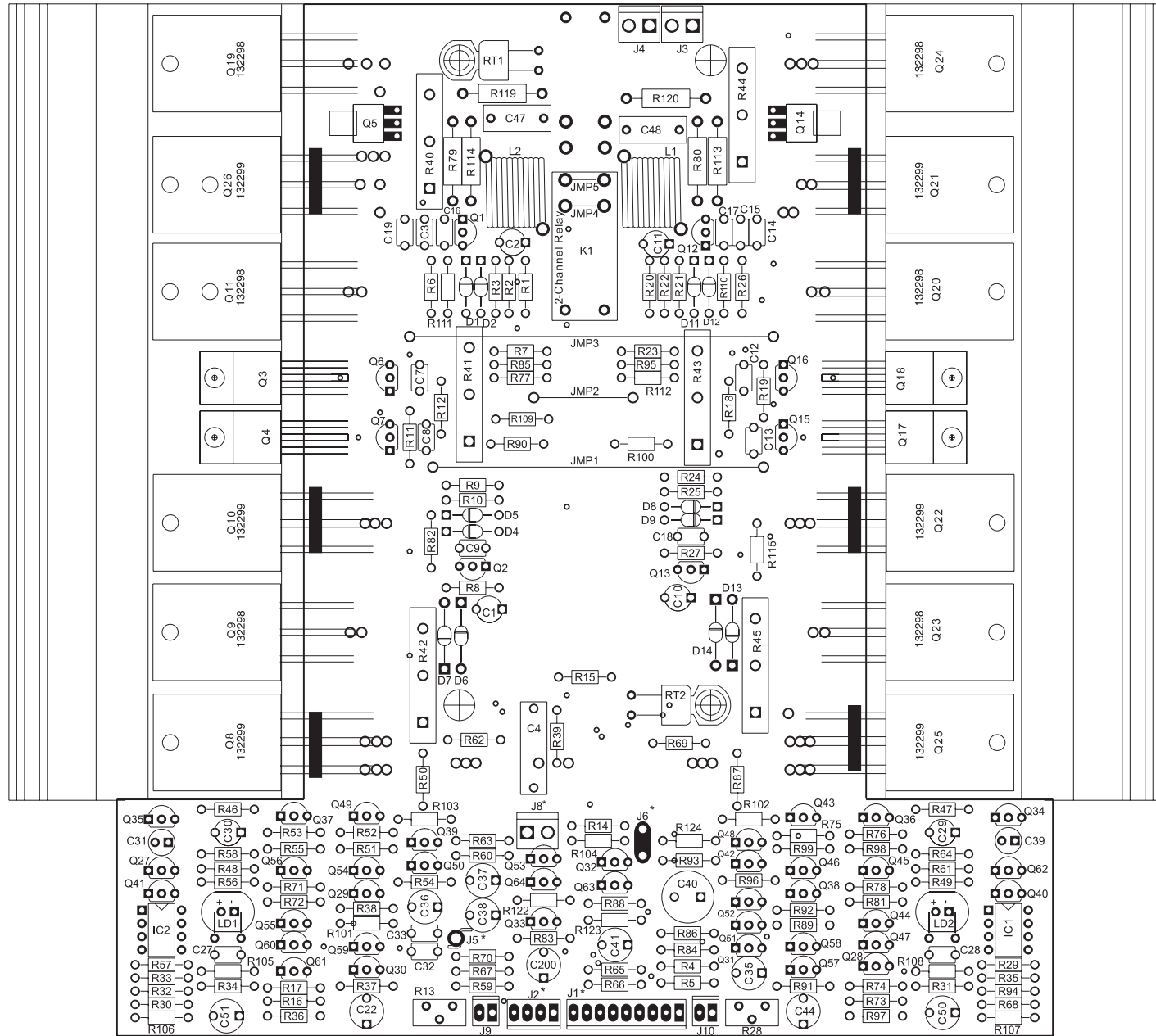
HEATSINK 1-CHANNEL 050070 HEATSINK ASSEMBLY 050187

Q2	TRANSISTOR PNP	132224	R31	RES MF 5.11K 1% 1/4W	144083
Q3	TRANSISTOR NPN	132268	R32	RES MF 47.5K 1% 1/4W	144108
Q4	TRANSISTOR PNP	132267	R33	RES MF 47.5K 1% 1/4W	144108
Q5	TRANSISTOR NPN	132223	R34	RES MF 5.11K 1% 1/4W	144083
Q7	TRANSISTOR PNP	132286	R35	RES MF 47.5K 1% 1/4W	144108
Q8	TRANSISTOR PNP POWER	132299	R36	RES 511 OHM 1% 1/4W	144123
Q9	TRANSISTOR NPN POWER	132298	R37	RES MF 681K 1% 1/4W	144443
Q10	TRANSISTOR PNP POWER	132299	R38	RES MF 866 OHM 1% 1/4W	144028
Q11	TRANSISTOR NPN POWER	132298	R39	RES MF 2.21 OHM 1/4W 1%	144378
Q12	TRANSISTOR NPN	132223	R40	RES WW DUAL .47 OHM 5% 3W	139244
Q13	TRANSISTOR PNP	132224	R41	RES WW DUAL .47 OHM 5% 3W	139244
Q14	TRANSISTOR NPN	132223	R42	RES WW DUAL .47 OHM 5% 3W	139244
Q15	TRANSISTOR PNP	132286	R43	RES WW DUAL .47 OHM 5% 3W	139244
Q16	TRANSISTOR NPN	132285	R44	RES WW DUAL .47 OHM 5% 3W	139244
Q17	TRANSISTOR PNP	132267	R45	RES WW DUAL .47 OHM 5% 3W	139244
Q18	TRANSISTOR NPN	132268	R46	RES MF 4.75K 1% 1/4W	144097
Q19	TRANSISTOR NPN POWER	132298	R47	RES MF 4.75K 1% 1/4W	144097
Q20	TRANSISTOR NPN POWER	132298	R48	RES MF 100 OHM 1% 1/4W	144196
Q21	TRANSISTOR PNP POWER	132299	R49	RES MF 1.1K 1% 1/4W	144091
Q22	TRANSISTOR PNP POWER	132299	R50	RES MF 14.7K 1% 1/4W	144149
Q23	TRANSISTOR NPN POWER	132298	R51	RES MF 221 OHM 1% 1/4W	144172
Q24	TRANSISTOR NPN POWER	132298	R52	RES MF 267K 1% 1/4W	144118
Q25	TRANSISTOR PNP POWER	132299	R53	RES MF 221 OHM 1% 1/4W	144172
Q26	TRANSISTOR PNP POWER	132299	R54	RES MF 3.32K 1% 1/4W	144095
Q27	TRANSISTOR PNP	132224	R55	RES MF 3.32K 1% 1/4W	144095
Q28	TRANSISTOR SI NPN 25V	132254	R56	RES MF 10K 1% 1/4W	144053
Q29	TRANSISTOR PNP POWER	132255	R57	RES MF 475K 1% 1/4W	144364
Q30	TRANSISTOR SI NPN 25V	132254	R58	RES MF 1.1K 1% 1/4W	144091
Q31	TRANSISTOR NPN	132223	R59	RES MF 2.21 OHM 1/4W 1%	144378
Q32	TRANSISTOR NPN	132223	R60	RES FP 22 OHM 1/4W 5%	137033
Q33	TRANSISTOR PNP POWER	132255	R61	RES MF 100 OHM 1% 1/4W	144196
Q34	TRANSISTOR NPN	132223	R62	RES MF 22.1K 1% 1/4W	144187
Q35	TRANSISTOR NPN	132223	R63	RES FP 22 OHM 1/4W 5%	137033
Q36	TRANSISTOR NPN	132285	R64	RES MF 10K 1% 1/4W	144053
Q37	TRANSISTOR NPN	132285	R65	RES MF 681K 1% 1/4W	144443
Q38	TRANSISTOR PNP POWER	132255	R66	RES MF 681K 1% 1/4W	144443
Q39	TRANSISTOR PNP	132286	R67	RES MF 100 OHM 1% 1/4W	144196
Q40	TRANSISTOR PNP	132224	R68	RES MF 475K 1% 1/4W	144364
Q41	TRANSISTOR PNP	132224	R69	RES MF 22.1K 1% 1/4W	144187
Q42	TRANSISTOR NPN	132223	R70	RES MF 100 OHM 1% 1/4W	144196
Q43	TRANSISTOR PNP	132224	R71	RES MF 100 OHM 1% 1/4W	144196
Q44	TRANSISTOR PNP POWER	132255	R72	RES MF 100 OHM 1% 1/4W	144196
Q45	TRANSISTOR PNP POWER	132255	R73	RES MF 100 OHM 1% 1/4W	144196
Q46	TRANSISTOR PNP	132224	R74	RES MF 100 OHM 1% 1/4W	144196
Q47	TRANSISTOR SI NPN 25V	132254	R75	RES MF 267K 1% 1/4W	144118
Q48	TRANSISTOR PNP	132286	R76	RES MF 221 OHM 1% 1/4W	144172
Q49	TRANSISTOR PNP	132224	R77	RES MF 1M 1/4W	144269
Q50	TRANSISTOR NPN	132223	R78	RES MF 100 OHM 1% 1/4W	144196
Q51	TRANSISTOR NPN	132223	R79	RES CF 10 OHM 5% 1/2W	141165
Q52	TRANSISTOR NPN	132223	R80	RES CF 10 OHM 5% 1/2W	141165
Q53	TRANSISTOR PNP POWER	132255	R81	RES MF 100 OHM 1% 1/4W	144196
Q54	TRANSISTOR PNP	132224	R82	RES MF 1M 1/4W	144269
Q55	TRANSISTOR PNP POWER	132255	R83	RES MF 10K 1% 1/4W	144053
Q56	TRANSISTOR PNP POWER	132255	R84	RES MF 47.5K 1% 1/4W	144108
Q57	TRANSISTOR SI NPN 25V	132254	R85	RES MF 1.1K 1% 1/4W	144091
Q58	TRANSISTOR NPN	132223	R86	RES MF 4.75K 1% 1/4W	144097
Q59	TRANSISTOR NPN	132223	R87	RES MF 14.7K 1% 1/4W	144149
Q60	TRANSISTOR SI NPN 25V	132254	R88	RES MF 12.1K 1% 1/4W	144154
Q61	TRANSISTOR SI NPN 25V	132254	R89	RES MF 953 OHM 1/4W 1%	144473
Q62	TRANSISTOR PNP	132224	R90	RES MF 1.1K 1% 1/4W	144091
Q63	TRANSISTOR NPN	132223	R91	RES MF 681K 1% 1/4W	144443
Q64	TRANSISTOR PNP POWER	132255	R92	RES MF 866 OHM 1% 1/4W	144028
R1	RES MF 332 OHM 1% 1/4W	144446	R93	RES MF 4.75K 1% 1/4W	144097
R2	RES MET OX 680 OHM 5% .5W	137093	R94	RES MF 47.5K 1% 1/4W	144108
R3	RES MF 22.1K 1% 1/4W	144187	R95	RES MF 1.1K 1% 1/4W	144091
R4	RES MF 100K 1% 1/4W	144113	R96	RES MF 3.32K 1% 1/4W	144095
R5	RES MF 22.1K 1% 1/4W	144187	R97	RES 511 OHM 1% 1/4W	144123
R6	RES MET OX 1.8k 5% .5W	137094	R98	RES MF 3.32K 1% 1/4W	144095
R7	RES MET OX 430 OHM 5% .5W	137095	R99	RES MF 221 OHM 1% 1/4W	144172
R8	RES MF 332 OHM 1% 1/4W	144446	R100	RES MF 1.1K 1% 1/4W	144091
R9	RES MET OX 680 OHM 5% .5W	137093	R101	RES MF 953 OHM 1/4W 1%	144473
R10	RES MF 22.1K 1% 1/4W	144187	R102	RES MF 332K 1% 1/4W	144119
R11	RES MET OX 1.8k 5% .5W	137094	R103	RES MF 332K 1% 1/4W	144119
R12	RES MET OX 47 OHM 5% .5W	137096	R104	RES MF 15K 1% 1/4W	144412
R13	POT TRIM 200 OHM 20% HORIZ AD	134390	R105	RES MF 6.49K 1% 1/4W	144140
R14	RES MF 100K 1% 1/4W	144113	R106	RES MF 475 OHM 1% 1/4W	144086
R15	RES MF 100 OHM 1% 1/4W	144196	R107	RES MF 475 OHM 1% 1/4W	144086
R16	RES MF 100 OHM 1% 1/4W	144196	R108	RES MF 6.49K 1% 1/4W	144140
R17	RES MF 100 OHM 1% 1/4W	144196	R109	RES CF 0 OHM 5% 1/4W	141389
R18	RES MET OX 47 OHM 5% .5W	137096	R110	RES MET OX 430 OHM 5% .5W	137095
R19	RES MET OX 1.8k 5% .5W	137094	R111	RES MET OX 430 OHM 5% .5W	137095
R20	RES MF 332 OHM 1% 1/4W	144446	R112	RES MF 1M 1/4W	144269
R21	RES MF 22.1K 1% 1/4W	144187	R113	RES CF 10 OHM 5% 1/2W	141165
R22	RES MET OX 680 OHM 5% .5W	137093	R114	RES CF 10 OHM 5% 1/2W	141165
R23	RES MET OX 430 OHM 5% .5W	137095	R115	RES MF 1M 1/4W	144269
R24	RES MET OX 680 OHM 5% .5W	137093	R119	RES MO 4.7 OHM 1W 5%	144464
R25	RES MF 22.1K 1% 1/4W	144187	R120	RES MO 4.7 OHM 1W 5%	144464
R26	RES MET OX 1.8k 5% .5W	137094	R122	RES MF 47.5K 1% 1/4W	144108
R27	RES MF 332 OHM 1% 1/4W	144446	R123	RES MF 22.1K 1% 1/4W	144187
R28	POT TRIM 200 OHM 20% HORIZ AD	134390	R124	RES MF 47.5K 1% 1/4W	144108
R29	RES MF 475K 1% 1/4W	144364	RT1	SENSOR THERMAL	144249
R30	RES MF 475K 1% 1/4W	144364	RT2	SENSOR THERMAL	144249



* Denotes components on reverse or backside of PC Board.

HEATSINK 2-CHANNEL 050064 HEATSINK ASSEMBLY 050188



* Denotes components on reverse or backside of PC Board.

PARTS LIST

Ref No.	Description	Part No.
3A 050070	HEATSINK 1-CHANNEL PCB	
C1	CAP ELECT 47UF 35V	066446
C2	CAP ELECT 47UF 35V	066446
C3	CAP MONO .1uF 50V 20% Z5U	061305
C4	CAP POLYPROP 0.15UF 10% 250VDC	064363
C7	CAP MONO 100PF 100V 10% NPO	061300
C8	CAP MONO 100PF 100V 10% NPO	061300
C9	CAP MONO .01UF 50V 20% X7R	061304
C14	CAP MONO 100PF 100V 10% NPO	061300
C16	CAP MONO .01UF 50V 20% X7R	061304
C22	CAP ELECT 220UF 25V	066507
C27	CAP MONO 100PF 100V 10% NPO	061300
C30	CAP ELECT 47UF 35V	066446
C31	CAP ELECT .47UF 50V	066244
C32	CAP MONO .1uF 50V 20% Z5U	061305
C33	CAP MONO .1uF 50V 20% Z5U	061305
C35	CAP ELECT 10UF 100VDC	066462
C36	CAP ELECT 10UF 100VDC	066462
C37	CAP ELECT 10UF 100VDC	066462
C38	CAP ELECT 10UF 100VDC	066462
C40	CAP ELECT 220UF 50V 20%	066254
C41	CAP ELECT 10UF 100VDC	066462
C47	CAP POLYPROP .047UF 10% 250VDC	064364
C51	CAP ELECT 10UF 100VDC	066462
C200	CAP ELECT 10UF 100VDC	066462
D1	DIODE SILICON	070047
D2	DIODE SILICON	070047
D4	DIODE SILICON	070047
D5	DIODE SILICON	070047
D6	DIODE RECTIFIER	070131
D7	DIODE RECTIFIER	070131
D8	DIODE SILICON	070047
D9	DIODE SILICON	070047
D11	DIODE SILICON	070047
D12	DIODE SILICON	070047
D13	DIODE RECTIFIER	070131
D14	DIODE RECTIFIER	070131
IC2	IC DUAL AMP	133259
J1	CONN MALE 9 POS FRICTION LOCK	117244
J2	CONN 4 PIN	117215
J4	CONN HEADER 2 PIN 0.156	117404
J5	BLADE FASTON .110	117712
J6	BLADE FASTON W/FEET	117708
J8	CONN HEADER 2 PIN 0.156	117404
J9	CONN 2 PIN MALE	117213
K1	RELAY 24VDC 5A 277VAC	087057
K2	RELAY 24VDC 5A 277VAC	087057
L2	CHOKE 0.65UH OUTPUT	122297

LD1	LDR NETWORK	144179	R83	RES MF 10K 1% 1/4W	144053
Q1	TRANSISTOR NPN	132223	R84	RES MF 47.5K 1% 1/4W	144108
Q2	TRANSISTOR PNP	132224	R85	RES MF 1.1K 1% 1/4W	144091
Q3	TRANSISTOR NPN	132268	R86	RES MF 4.75K 1% 1/4W	144097
Q4	TRANSISTOR PNP	132267	R88	RES MF 12.1K 1% 1/4W	144154
Q5	TRANSISTOR NPN	132223	R90	RES MF 1.1K 1% 1/4W	144091
Q6	TRANSISTOR NPN	132285	R93	RES MF 4.75K 1% 1/4W	144097
Q7	TRANSISTOR PNP	132286	R101	RES MF 953 OHM 1/4W 1%	144473
Q8	TRANSISTOR PNP POWER	132299	R103	RES MF 332K 1% 1/4W	144119
Q9	TRANSISTOR NPN POWER	132298	R104	RES MF 15K 1% 1/4W	144412
Q10	TRANSISTOR PNP POWER	132299	R105	RES MF 6.49K 1% 1/4W	144140
Q11	TRANSISTOR NPN POWER	132298	R106	RES MF 475 OHM 1% 1/4W	144086
Q20	TRANSISTOR NPN POWER	132298	R109	RES CF 0 OHM 5% 1/4W	141389
Q22	TRANSISTOR PNP POWER	132299	R111	RES MET OX 430 OHM 5% .5W	137095
Q23	TRANSISTOR NPN POWER	132298	R114	RES CF 10 OHM 5% 1/2W	141165
Q25	TRANSISTOR PNP POWER	132299	R119	RES MO 4.7 OHM 1W 5%	144464
Q27	TRANSISTOR PNP	132224	R122	RES MF 47.5K 1% 1/4W	144108
Q29	TRANSISTOR PNP POWER	132255	R123	RES MF 22.1K 1% 1/4W	144187
Q30	TRANSISTOR SI NPN 25V	132254	R124	RES MF 47.5K 1% 1/4W	144108
Q31	TRANSISTOR NPN	132223	RT1	SENSOR THERMAL	144249
Q32	TRANSISTOR NPN	132223	RT2	SENSOR THERMAL	144249
Q33	TRANSISTOR PNP POWER	132255			
Q35	TRANSISTOR NPN	132223			
Q37	TRANSISTOR NPN	132285			
Q39	TRANSISTOR PNP	132286			
Q41	TRANSISTOR NPN	132224			
Q49	TRANSISTOR PNP	132224			
Q50	TRANSISTOR NPN	132223			
Q51	TRANSISTOR NPN	132223			
Q52	TRANSISTOR NPN	132223			
Q53	TRANSISTOR PNP POWER	132255			
Q54	TRANSISTOR NPN	132224			
Q55	TRANSISTOR PNP POWER	132255			
Q56	TRANSISTOR PNP POWER	132255			
Q59	TRANSISTOR NPN	132223			
Q60	TRANSISTOR SI NPN 25V	132254			
Q61	TRANSISTOR SI NPN 25V	132254			
Q63	TRANSISTOR NPN	132223			
Q64	TRANSISTOR PNP POWER	132255			
R1	RES MF 332 OHM 1% 1/4W	144446			
R2	RES MET OX 680 OHM 5% .5W	137093			
R3	RES MF 22.1K 1% 1/4W	144187			
R4	RES MF 100K 1% 1/4W	144113			
R5	RES MF 22.1K 1% 1/4W	144187			
R6	RES MET OX 1.8k 5% .5W	137094			
R7	RES MET OX 430 OHM 5% .5W	137095			
R8	RES MF 332 OHM 1% 1/4W	144446			
R9	RES MET OX 680 OHM 5% .5W	137093			
R10	RES MF 22.1K 1% 1/4W	144187			
R11	RES MET OX 1.8k 5% .5W	137094			
R12	RES MET OX 47 OHM 5% .5W	137096			
R13	POT TRIM 200 OHM 20% HORIZ AD	134390			
R14	RES MF 100K 1% 1/4W	144113			
R15	RES MF 100 OHM 1% 1/4W	144196			
R16	RES MF 100 OHM 1% 1/4W	144196			
R17	RES MF 100 OHM 1% 1/4W	144196			
R30	RES MF 475K 1% 1/4W	144364			
R32	RES MF 47.5K 1% 1/4W	144108			
R33	RES MF 47.5K 1% 1/4W	144108			
R34	RES MF 5.11K 1% 1/4W	144083			
R36	RES 511 OHM 1% 1/4W	144123			
R37	RES MF 681K 1% 1/4W	144443			
R38	RES MF 866 OHM 1% 1/4W	144028			
R39	RES MF 2.21 OHM 1/4W 1%	144378			
R41	RES WW DUAL .47 OHM 5% 3W	139244			
R42	RES WW DUAL .47 OHM 5% 3W	139244			
R43	RES WW DUAL .47 OHM 5% 3W	139244			
R45	RES WW DUAL .47 OHM 5% 3W	139244			
R46	RES MF 4.75K 1% 1/4W	144097			
R48	RES MF 100 OHM 1% 1/4W	144196			
R50	RES MF 14.7K 1% 1/4W	144149			
R51	RES MF 221 OHM 1% 1/4W	144172			
R52	RES MF 267K 1% 1/4W	144118			
R53	RES MF 221 OHM 1% 1/4W	144172			
R54	RES MF 3.32K 1% 1/4W	144095			
R55	RES MF 3.32K 1% 1/4W	144095			
R56	RES MF 10K 1% 1/4W	144053			
R57	RES MF 475K 1% 1/4W	144364			
R58	RES MF 1.1K 1% 1/4W	144091			
R59	RES MF 2.21 OHM 1/4W 1%	144378			
R60	RES FP 22 OHM 1/4W 5%	137033			
R62	RES MF 22.1K 1% 1/4W	144187			
R63	RES FP 22 OHM 1/4W 5%	137033			
R65	RES MF 681K 1% 1/4W	144443			
R67	RES MF 100 OHM 1% 1/4W	144196			
R70	RES MF 100 OHM 1% 1/4W	144196			
R71	RES MF 100 OHM 1% 1/4W	144196			
R72	RES MF 100 OHM 1% 1/4W	144196			
R77	RES MF 1M 1/4W	144269			
R79	RES CF 10 OHM 5% 1/2W	141165			
R82	RES MF 1M 1/4W	144269			
Q18	TRANSISTOR NPN	132298			
Q17	TRANSISTOR NPN	132298			
Q24	TRANSISTOR NPN	132298			
Q21	TRANSISTOR NPN POWER	132298			
Q20	TRANSISTOR NPN POWER	132298			
Q22	TRANSISTOR PNP POWER	132299			
Q23	TRANSISTOR NPN POWER	132298			
Q25	TRANSISTOR PNP POWER	132299			
Q27	TRANSISTOR PNP	132224			
Q29	TRANSISTOR PNP POWER	132255			
Q30	TRANSISTOR SI NPN 25V	132254			
Q31	TRANSISTOR NPN	132223			
Q32	TRANSISTOR NPN	132223			
Q33	TRANSISTOR PNP POWER	132255			
Q35	TRANSISTOR NPN	132223			
Q37	TRANSISTOR NPN	132285			
Q39	TRANSISTOR PNP	132286			
Q41	TRANSISTOR NPN	132224			
Q49	TRANSISTOR PNP	132224			
Q50	TRANSISTOR NPN	132223			
Q51	TRANSISTOR NPN	132223			
Q52	TRANSISTOR NPN	132223			
Q53	TRANSISTOR PNP POWER	132255			
Q54	TRANSISTOR NPN	132224			
Q55	TRANSISTOR PNP POWER	132255			
Q56	TRANSISTOR PNP POWER	132255			
Q59	TRANSISTOR NPN	132223			
Q60	TRANSISTOR SI NPN 25V	132254			
Q61	TRANSISTOR SI NPN 25V	132254			
Q63	TRANSISTOR NPN	132223			
Q64	TRANSISTOR PNP POWER	132255			
R19	RES MF 10K 1% 1/4W	144053			
R20	RES MF 47.5K 1% 1/4W	144108			
R21	RES MF 1.1K 1% 1/4W	144091			
R22	RES MF 4.75K 1% 1/4W	144097			
R23	RES MF 12.1K 1% 1/4W	144154			
R24	RES MF 1.1K 1% 1/4W	144091			
R25	RES MF 4.75K 1% 1/4W	144097			
R26	RES MF 953 OHM 1/4W 1%	144473			
R27	RES MF 332K 1% 1/4W	144119			
R28	RES MF 15K 1% 1/4W	144412			
R29	RES MF 6.49K 1% 1/4W	144140			
R30	RES MF 475 OHM 1% 1/4W	144086			
R31	RES CF 0 OHM 5% 1/4W	141389			
R32	RES MET OX 430 OHM 5% .5W	137095			
R33	RES CF 10 OHM 5% 1/2W	141165			
R34	RES MO 4.7 OHM 1W 5%	144464			
R35	RES MF 47.5K 1% 1/4W	144108			
R36	RES MF 22.1K 1% 1/4W	144187			
R37	RES MF 47.5K 1% 1/4W	144108			
R38	RES MF 22.1K 1% 1/4W	144187			
R39	RES MET OX 1.8k 5% .5W	137094			
R40	RES MET OX 430 OHM 5% .5W	137095			
R41	RES MF 332 OHM 1% 1/4W	144446			
R42	RES MET OX 680 OHM 5% .5W	137093			
R43	RES MF 22.1K 1% 1/4W	144187			
R44	RES MF 100K 1% 1/4W	144113			
R45	RES MF 22.1K 1% 1/4W	144187			
R46	RES MET OX 1.8k 5% .5W	137094			
R47	RES MET OX 430 OHM 5% .5W	137095			
R48	RES MF 332 OHM 1% 1/4W	144446			
R49	RES MET OX 680 OHM 5% .5W	137093			
R50	RES MF 22.1K 1% 1/4W	144187			
R51	RES MET OX 1.8k 5% .5W	137094			
R52	RES MET OX 47 OHM 5% .5W	137096			
R53	POT TRIM 200 OHM 20%				