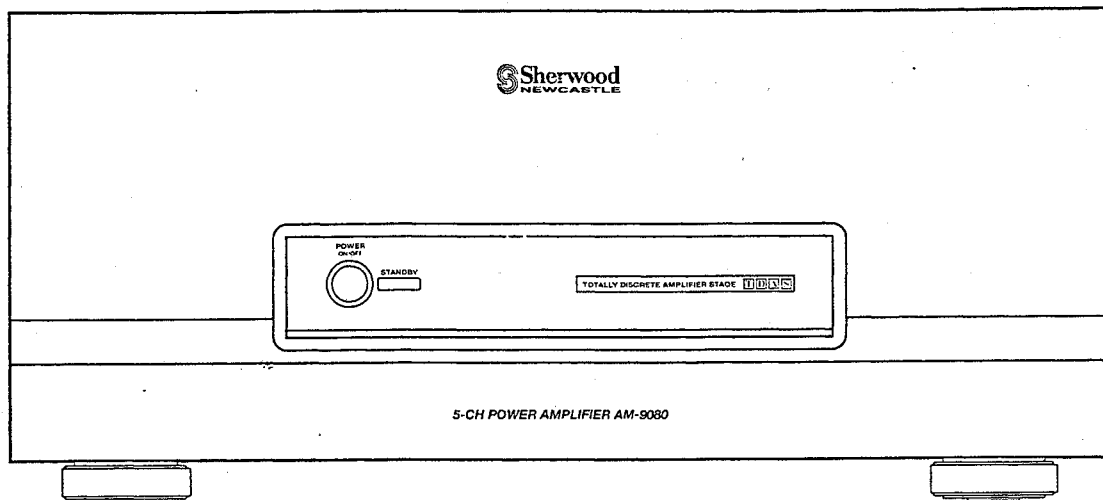


SERVICE MANUAL

AM-9080/B Sherwood 5-CH POWER AMPLIFIER



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SAFETY PRECAUTIONS

WARNING

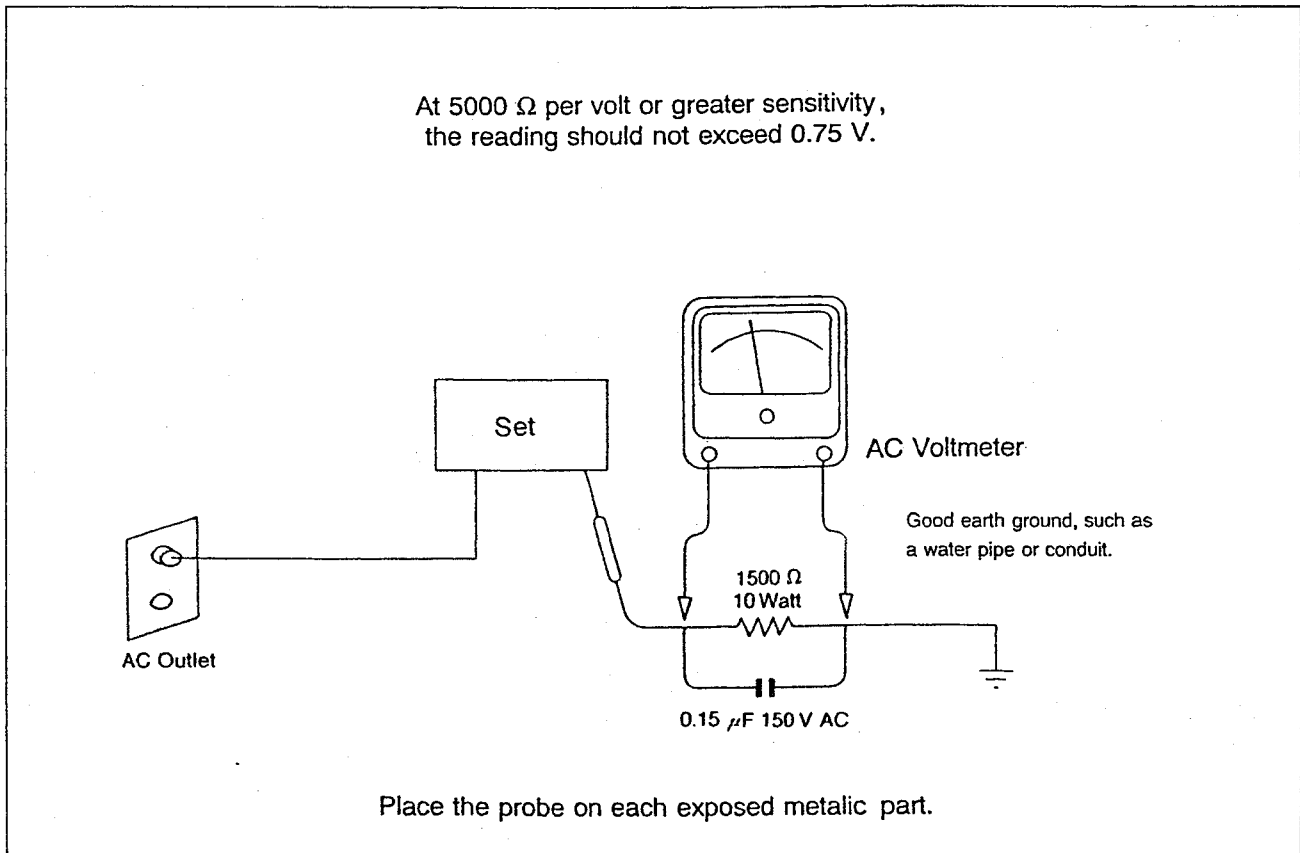
Before servicing this unit, familiarize yourself with the following precautions:

1. Many electrical and mechanical parts in this chassis have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by Δ in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the

exposed metal parts of the cabinet, such as terminals, screw heads, and metal overlays, to be sure the set is safe to operate. Plug the AC line cord directly into a 120 V AC outlet (120 V AC version only). (Do not use a line isolation transformer during this check.) Be sure your AC voltmeter has a sensitivity of 5000Ω per volt or greater. Then connect a 1500Ω 10 watt resistor, paralleled by a $0.15 \mu\text{F}$ 150 V AC capacitor, between a known good earth ground (such as a water pipe, or conduit) and the exposed metallic is parts, one at a time. Measure the AC voltage across the combination of a 1500Ω resistor and a $0.15 \mu\text{F}$ capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75V RMS . This corresponds to 0.2 mA AC . Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



SPECIFICATIONS

Power output, stereo mode, 8 Ω (THD:0.05%,20Hz~20KHz)	2 X 110W
4 Ω (THD:0.09%.20Hz~20KHz)	2 X 180W
5 - CH mode, 8 Ω (THD:0.05%,1KHz)	5 X 120W
4 Ω (THD:0.09%,1KHz)	5 X 200 W
Dynamic power, stereo mode, 8 Ω ,	2 X 170 W
4 Ω ,	2 X 270 W
5 - CH mode, 8 Ω	5 X 165 W
4 Ω	5 X 260 W
Total harmonic distortion, 8 Ω , 20 Hz ~ 20 kHz, 1W	0.03%
Intermodulation distortion, 8 Ω , SMPTE, 1W	0.03%
Input sensitivity, 47k Ω	1000 mV
Signal to noise ratio, IHF "A" weighted	
Reference 100W, 8 Ω , 0 dB	115 dB
Reference 1W, 8 Ω , 0 dB	100 dB
Frequency Response, 5 Hz ~ 450 kHz	+0, -3 dB
Channel separation	
1 kHz	80 dB
10 kHz	70 dB
Damping factor	125

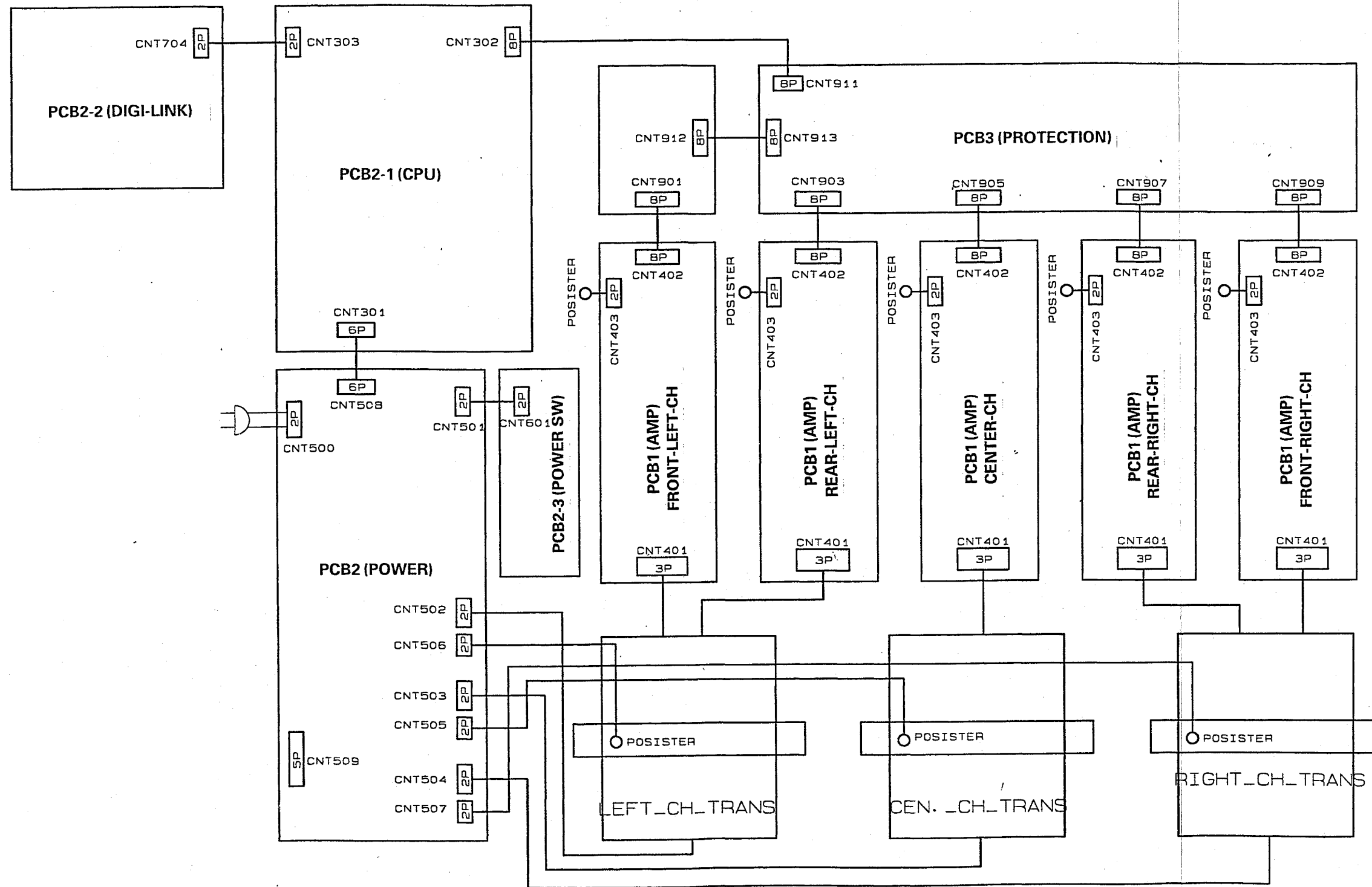
GENERAL

Power supply	AC 230V, 50 Hz
Power consumption, stanby mode	1 W
operating (power on) mode	1900 W
Dimensions	440 X 180 X 450 mm (17-3/8 X 7-1/16X 17-3/4 inches)
Weight (Net)	32 kg (70.5 lbs)

Note : Design and specifications are subject to change without notice for improvements.

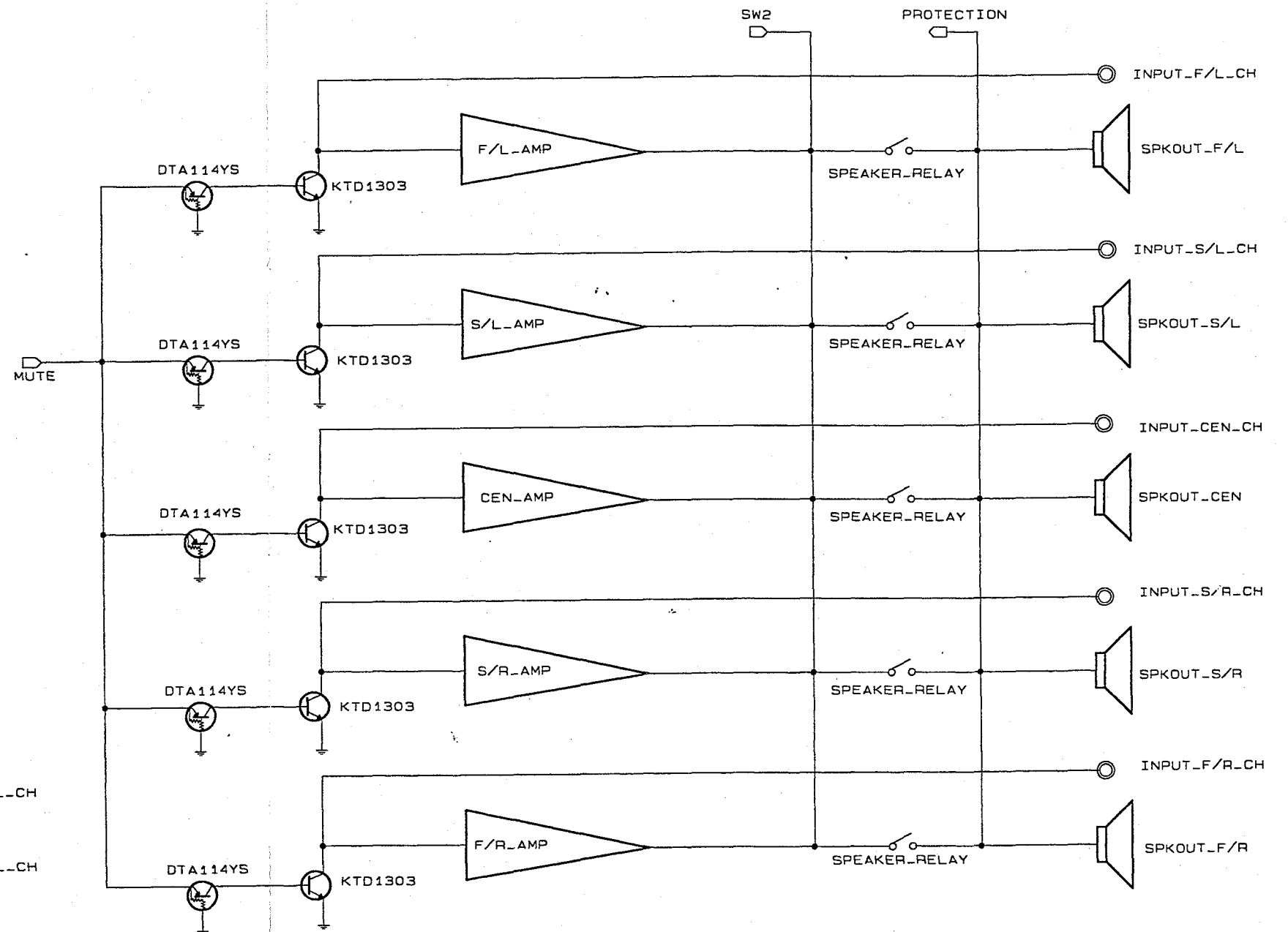
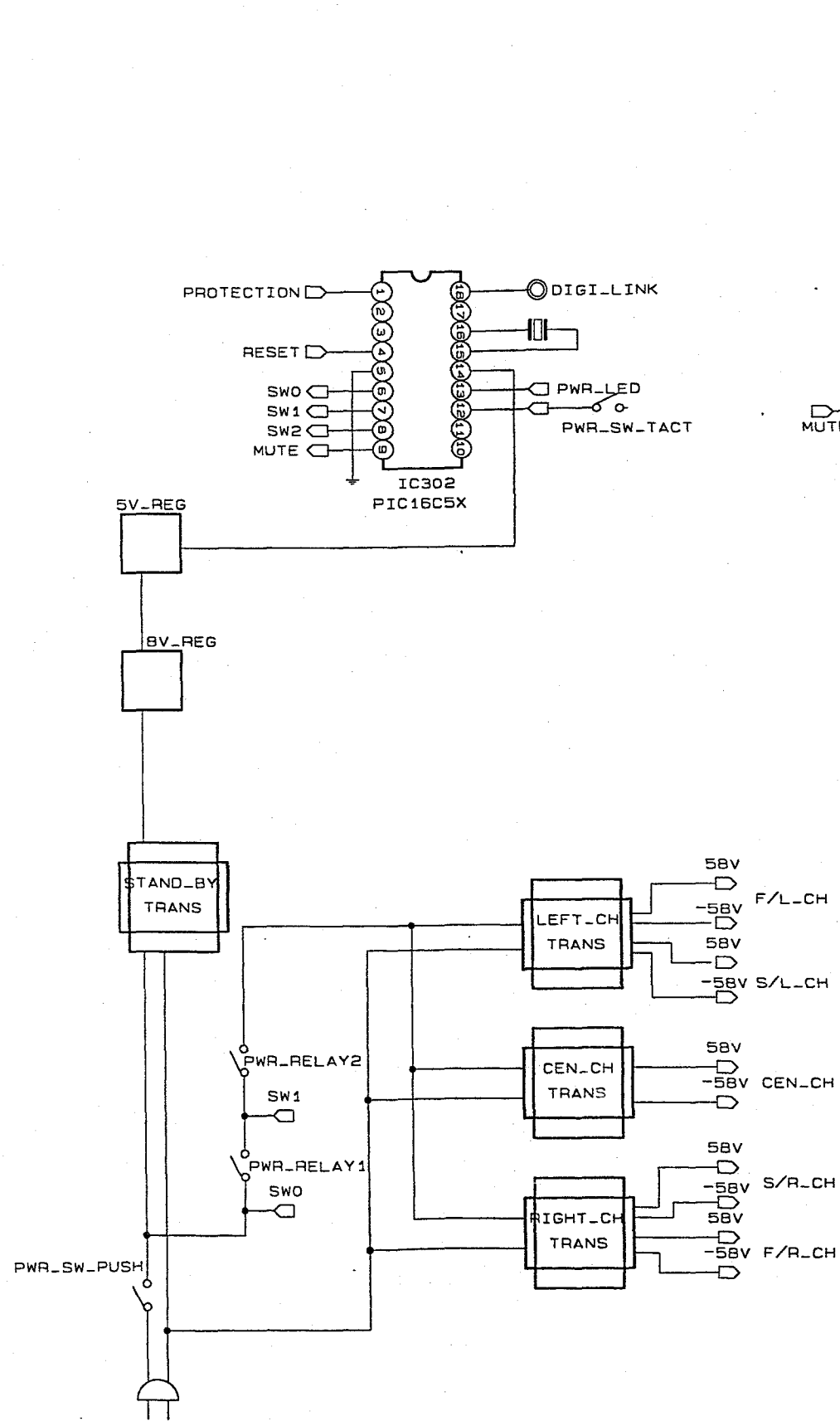
WIRING DIAGRAM

Model No. : AM-9080/B



BLOCK DIAGRAM

Model No. : AM-9080/B



TROUBLESHOOTING

If a fault occurs, please consult the table below before taking your power amplifier in for repair. If the fault persists, please attempt to solve it by switching the power amplifier off and then on again.

If this fails to resolve the situation, consult your dealer.

Under no circumstances should you attempt to repair the power amplifier yourself as this could cause injury and invalidate the warranty.

No power	<ul style="list-style-type: none"> • The AC input cord is disconnected. • Poor connection at AC wall outlet or the outlet is inactive. 	<ul style="list-style-type: none"> • Connect cord securely. • Check the outlet using a lamp or another appliance.
No sound	<ul style="list-style-type: none"> • Speaker cords are disconnected. • Incorrect connections between the components. • Incorrect operation of the pre amplifier. 	<ul style="list-style-type: none"> • Check the speaker connections. • Make connections correctly. • Check the functions of the pre amplifier and operate correctly.
No sound from one channel	<ul style="list-style-type: none"> • Speaker cords are connected incorrectly or incompletely. • Incorrect connections between the components. • Defective speaker. 	<ul style="list-style-type: none"> • Check the speaker connections and reconnect them. • Make connections correctly. • Check the speaker and repair it or replace by new one.
Excessive hum at normal volume level	<ul style="list-style-type: none"> • The hum is induced from other components. • Defective connection cords. 	<ul style="list-style-type: none"> • Place the power amplifier away from the pre amplifier and record player. • Replace by new ones.
Distorted sound	<ul style="list-style-type: none"> • The power amplifier overdriven. • Too low impedance speakers are connected. 	<ul style="list-style-type: none"> • Decrease the volume on the pre amplifier. • Check the speakers and use the speakers with the impedance of 4~8Ω.

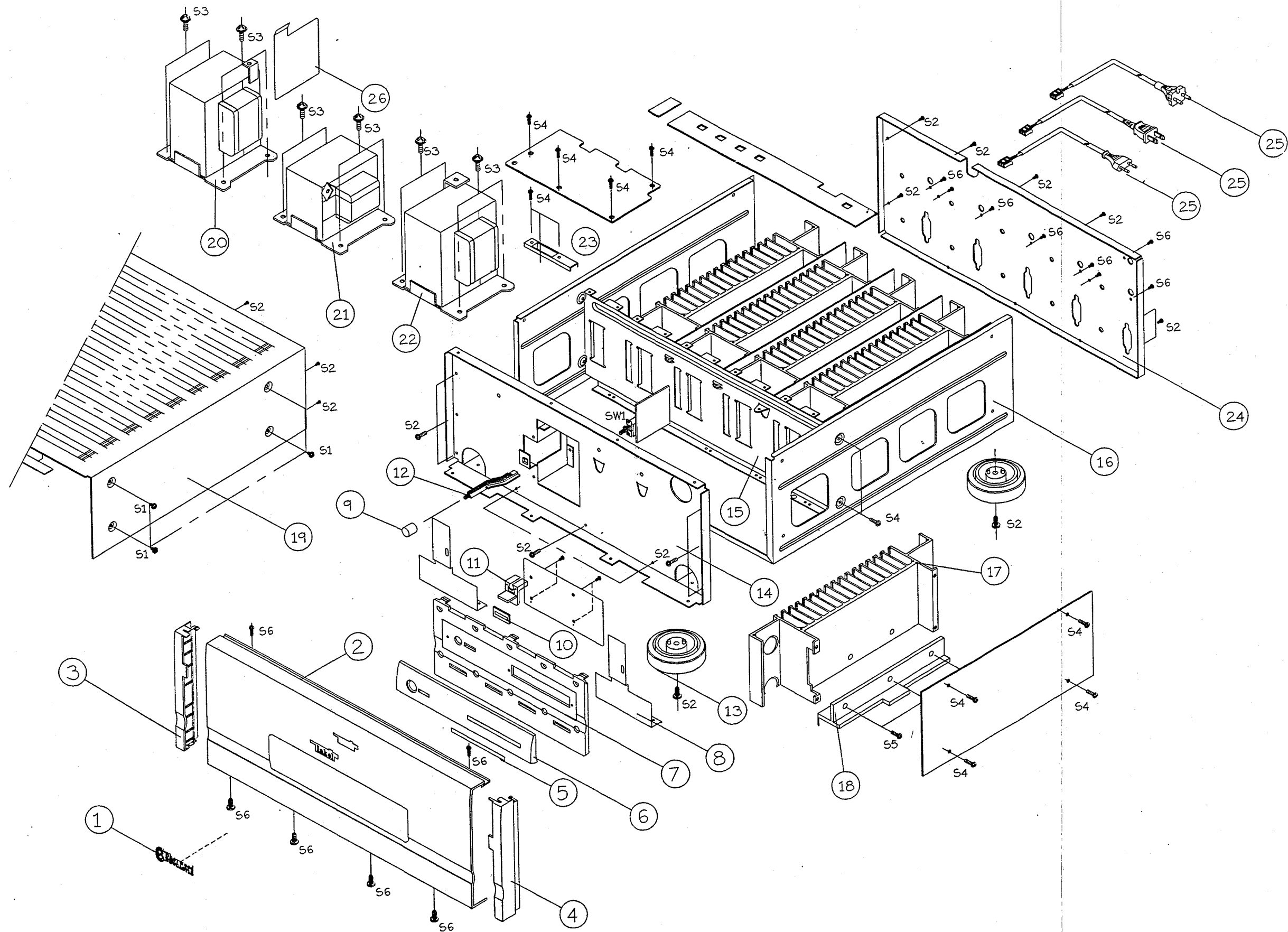
MECHANICAL PARTS LIST

* Parts without Parts No are not supplied.

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.	REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
	PACKAGE				22	POWER TRANS, 220V/60HZ (150MA)	8200281018570	1	K
	CUSHION,SNOW	6230045184010	1			POWER TRANS, 230V/50HZ (130MA)	8200281018270	1	B/D
	DIGI LINK, GOLD	L063040790000	1			POWER TRANS, 120V/60HZ (230MA)	8200281018870	1	A
	GIFT BOX	6007040740100	1	A	23	BRACKET, HEAT SINK	4010057136010	1	
	GIFT BOX	6007040740200	1	B/D/K	24	BACK CHASSIS	3207056456010	1	K
	INSTRUCTION MANUAL	5707046970010	1	A		BACK CHASSIS	3207056456020	1	A
	INSTRUCTION MANUAL	5707046970020	1	K		BACK CHASSIS	3207056456030	1	B/D
	INSTRUCTION MANUAL	5707046970031	1	B/D	25	CORD ASSY, 15A250V (2400MM)	L068000990010	1	K
	POLY BAG (330*240*0.05)	6330040062010	1			CORD ASSY, 16A/250A (2800MM)	L068001000010	1	B/D
	POLY BAG, 800(W)*900(D)*0.08T	6330041319010	1			CORD ASSY, 15A/125V (2500MM)	L068001010010	1	A
	RCA CORD (1500MM*6)	L063115200010	1		26	POWER SHIELD	3070200012010	1	A
	WARRANTY CARD	5727040060010	1	K		SCREWS			
	WARRANTY CARD	5727041620020	1	B/D	S1	SCREW,+3S 4*8 BK/BH	B020940083B10	1	
	WARRANTY CARD	5727041630010	1	A	S2	SCREW +2S 3*8 B-TYPE BK/BH	B020030083B10	1	
	WARRANTY CARD (NORSAT)	5727041040020	1	K	S3	SCREW +WSAM 4X8B	B020940083W10	1	
	CABINET & CHASSIS				S4	SCREW WPTT3X6Y	B020030061W10	1	
1	BADGE, INKEL	5637041181010	1	K	S5	SCREW, WASHER ZNY+2S 3*16	1507041146010	1	
	BADGE, NEWCASTLE	5637041237010	1	A/B/D	S6	SCREW, COATING GND	1507040996020	1	
2	FRONT PANEL	3067046428010	1	K	S7	SCREW,+#2FTC 3X8B	B010530083F10	1	
	FRONT PANEL	3067046428020	1	A/D		MISCELLANEOUS			
	FRONT PANEL	3067046428030	1	B		BUSHING	2410040353010	1	B/D
3	END CAP "L"	4317049991010	1	A/D/K		TERMINAL GND	3790040766010	1	B/D
	END CAP "L"	4317049991020	1	B		CUSHION, 20*1*50	4050043515020	1	B/D
4	END CAP "R"	4317049981010	1	A/D/K		CUSHION, 20*1*260	4050043525010	1	B/D
	END CAP "R"	4317049981020	1	B		CABLE TIE DACT-100A	4330040343010	1	B/D
5	BADGE, TDAS	5637041171010	1	K					
6	COVER PANEL	3067046498010	1	D/K					
	COVER PANEL	3067046498020	1	A					
	COVER PANEL	3067046498030	1	B					
7	DECORATION, GRAY PANEL	5127041101010	1	A/D/K					
	DECORATION, BLACK PANEL	5127041101020	1	B					
8	SHIELD COVER	3070046750010	1						
9	BUTTON PUSH	5088041338010	1	A/D/K					
	BUTTON PUSH	5088041338020	1	B					
10	CUSHION, BUTTON ST-BY	4050048019010	1						
11	BUTTON, STAND BY	5090091001010	1						
12	SHAFT SWITCH	2400041551010	1						
13	FOOT	4007041021010	4						
14	FRONT CHASSIS	3200056466010	1						
15	CENTER CHASSIS	3200056456010	1						
16	MAIN CHASSIS	3200056476010	1						
17	HEAT SINK, MAIN	2120044998010	1						
18	HEAT SINK, SUB	2120045008010	1						
19	TOP CABINET	3007045466010	1						
20	POWER TRANS, 220V/60HZ (150MA)	8200281018470	1	K					
	POWER TRANS, 230V/50HZ (130MA)	8200281018170	1	B/D					
	POWER TRANS, 120V/60HZ (230MA)	8200281018770	1	A					
21	POWER TRANS, 220V/60HZ (100MA)	8200281018670	1	K					
	POWER TRANS, 230V/50HZ (130MA)	8200281018370	1	B/D					
	POWER TRANS, 120V/60HZ (180MA)	8200281018970	1	A					

EXPLODED VIEW

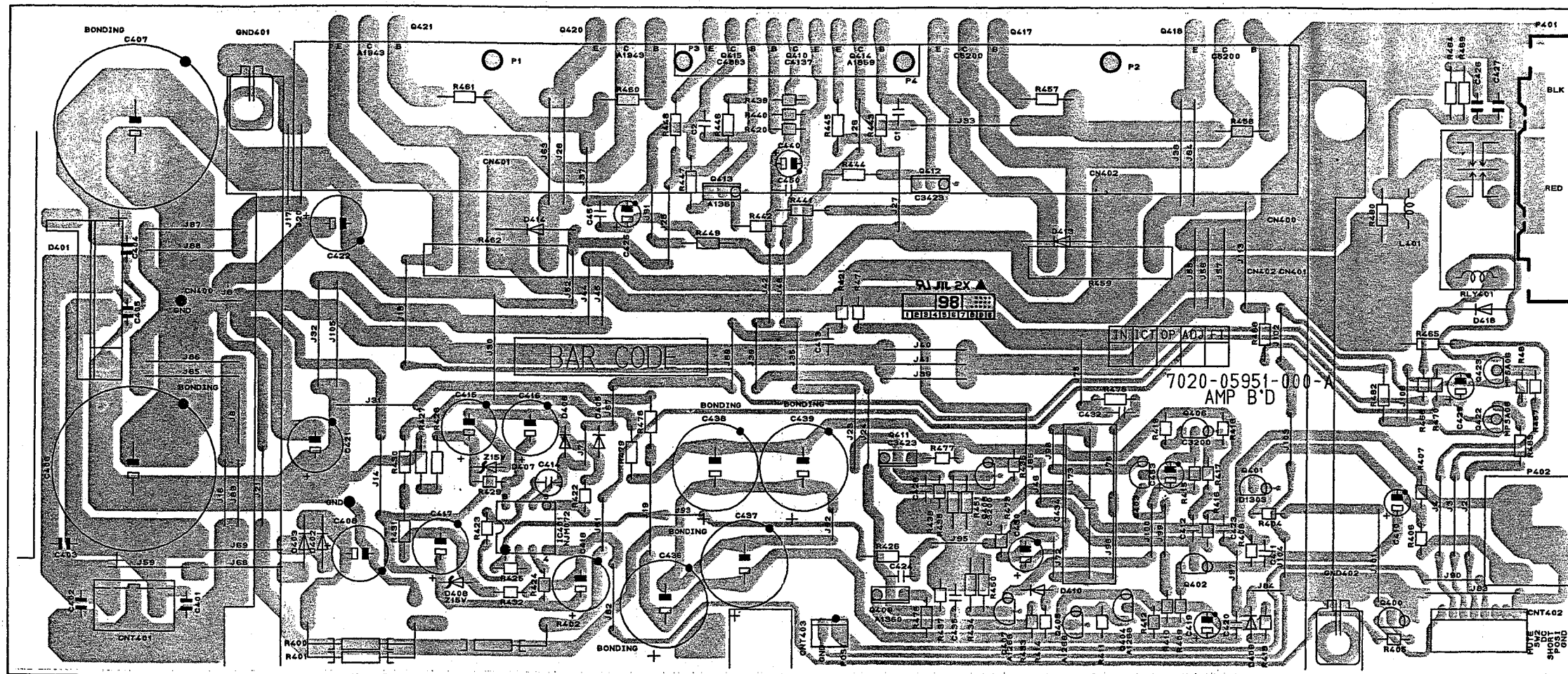
Model No. : AM-9080/B



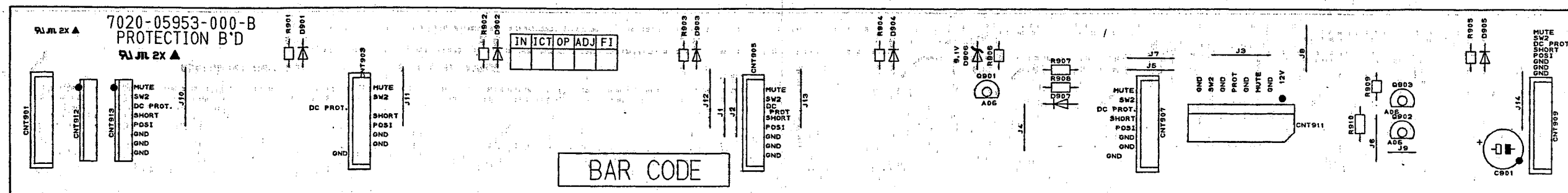
PRINTED CIRCUIT BOARDS

Model No. : AM-9080/B

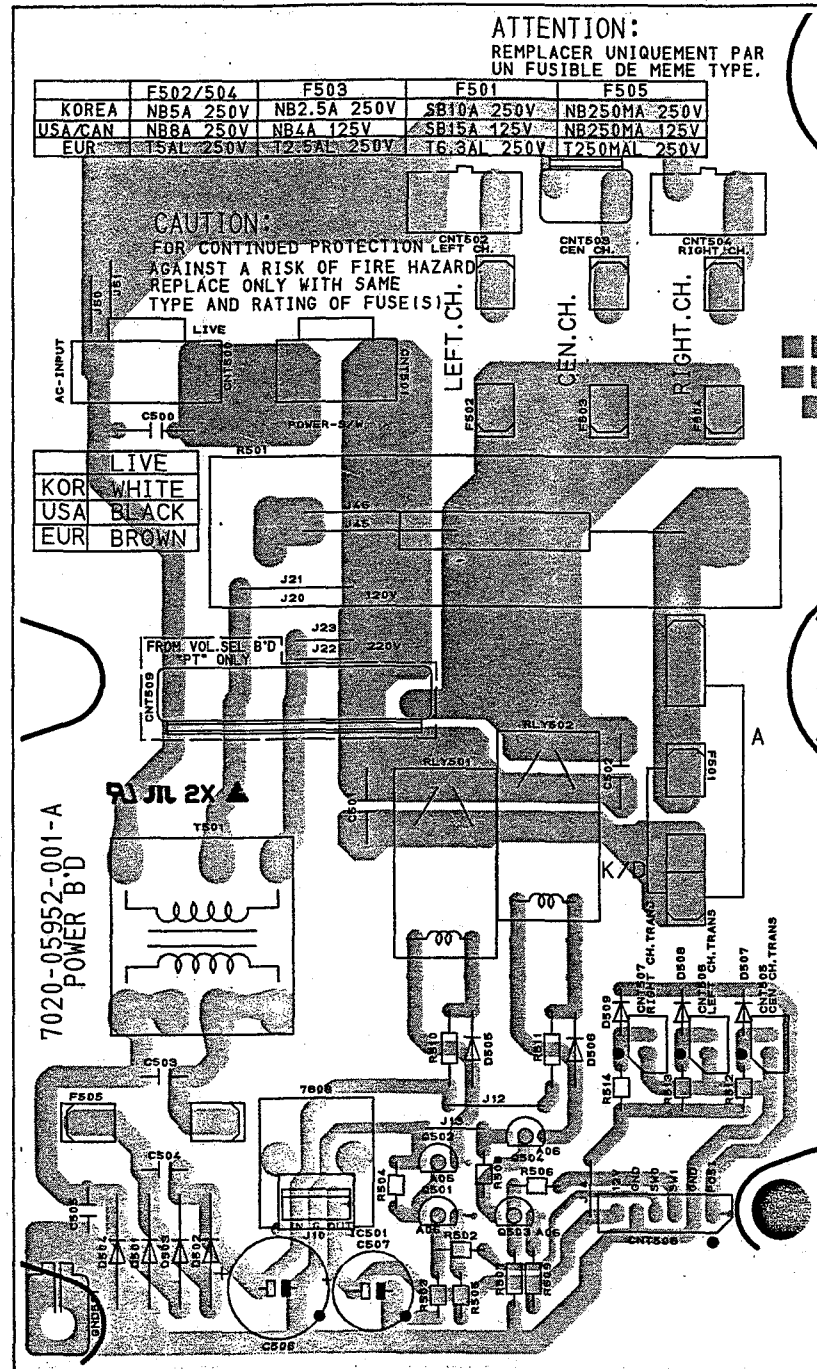
PCB1 (AMP)



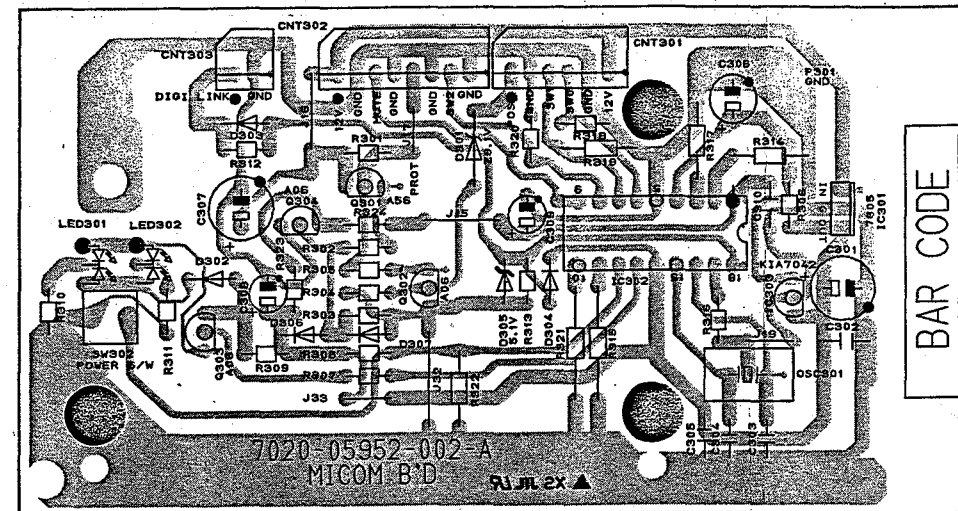
PCB3 (PROTECT)



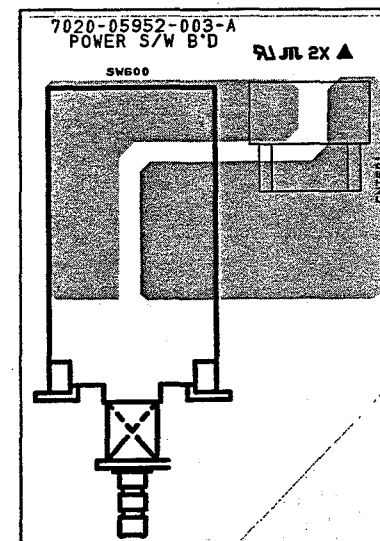
PCB2 (POWER)



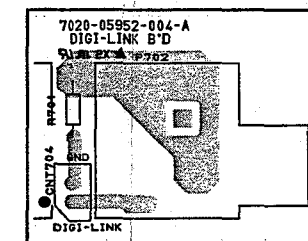
PCB2-1 (CPU)



PCB2-3
(POWER SW)



PCB2-2 (DIGI-LINK)



REF NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
CNT500	CN.WAFER (3P)	1	L10903000010	
CNT501	CN.WAFER (2P)	1	L10902000010	
CNT502	CN.WAFER 3.96MM	1	L104353280200	
CNT503	CN.WAFER 7.92MM (2P)	1	L108202000220	
CNT504	CN.WAFER 3.96MM	1	L104353280200	
CNT505-CNT507	CN.WAFER 2.5MM (2P)	3	L102526700200	
CNT508	CN.WAFER 2.5MM (6P)	1	L102526700600	
DIODES				
D501-D506	1N4003, RECTIFIER	6	K040400300520	
D507-D509	1SS133T, SWITCHING	3	K000013300520	
POISISTERS				
CNT505/507	POSISTOR WIRE 180 (2.5P)	2	F328380001830	
CNT506	POSISTOR WIRE 280 (2.5P)	1	F328380002830	
CNT302-911	CN.WIRE 2.5MM (CTM0870)	1	L003701082600	
CNT303-704	CN.WIRE 2.5MM (CTM0270)	1	L003701022600	
CNT501-601	CN.WIRE (CTJ0218)	1	L001181021800	
CNT508-301	CN.WIRE 2.5MM (CTM0650)	1	L003501062600	
FUSES				
F501	FUSE, 250V/S10A	1	G650103251140	K
F501	FUSE, 250V/T6.3A	1	G650632251160	B/D
F501	FUSE, 125V/S15A	1	G651153121100	A
F502	FUSE, 250V/S3NM5A	1	G650502251150	K
F502	FUSE, 250V/T5A	1	G650502251160	B/D
F502	FUSE, 250V/NM8A	1	G650802251050	A
F503	FUSE, 250V/NM2.5A	1	G650252251150	K
F503	FUSE, 250V/T2.5A	1	G650252251160	B/D
F503	FUSE, 125V/NM4A	1	G650402121160	A
F504	FUSE, 250V/S3NM5A	1	G650502251150	K
F504	FUSE, 250V/T5A	1	G650502251160	B/D
F504	FUSE, 250V/NM8A	1	G650802251050	A
F505	FUSE, 250V/NM250MA	1	G650251251150	A/K
F505	FUSE, 250V/T250MA	1	G650251251160	B/D
WIRES				
J12-J14	CN.WIRE 1P	3	L045084006040	
J20-J23	CN.WIRE 1P	4	L045084006040	
J45/J46	CN.WIRE 1P	2	L045084006040	
J50/J51	CN.WIRE 1P	2	L045084006040	
TRANSISTORS				
Q501-Q504	MPSA05, NPN	4	J5020600Y0050	
RESISTORS				
R501	MSP30H 4.7 30W, WIRE WOUND	1	C1204R706J100	
R502	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R503/R504	CARBON FILM	100 kohm 1/5W J	2	C00001046P520
R505/R506	CARBON FILM	10 kohm 1/5W J	2	C00001036P520
R507/R508	CARBON FILM	100 kohm 1/5W J	2	C00001046P520
R509	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R510/R511	METAL FILM	68 ohm 1/5W J	2	C06006806P520
R512-R514	CARBON FILM	22 kohm 1/5W J	3	C00002236P520
RELAYS				
RLY501/RLY502	RELAY, JR1aF-DC12V 16A/250V TV5	2	G680120163000	B/D
RLY501/RLY502	RELAY, OSZ-SS-112DM8(TV-8)	2	G680128020000	A/K
TRANS				

REF NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
T501	ST-BY TRANS, 230V	1	B20028000077B	B/D
T501	TRANS ST/BY, 220V/60Hz	1	B201350000060	K
T501	TRANS ST/BY, 120V/60Hz	1	B201350000070	A
MISCELLANEOUS				
GND501	TERMINAL GND	1	3790040876010	
F501	FUSE CLIP	1	6250040126010	A
F501/1	FUSE CLIP	1	6250040126010	A
F501	FUSE CLIP	1	G645000050010	B/D/K
F501/1	FUSE CLIP	1	G645000050010	B/D/K
F502-F505	FUSE CLIP	4	G645000050010	
F502/1	FUSE CLIP	1	G645000050010	
F503/1	FUSE CLIP	1	G645000050010	
F504/1	FUSE CLIP	1	G645000050010	
F505/1	FUSE CLIP	1	G645000050010	
PCB2-1 ASSEMBLY P.C.BOARD CPU				
CAPACITORS				
C301	ELECT GE 85C	220 uF 50V M	1	D040221084060
C302	CERAMIC HIK AXIAL	0.1 uF 50V Z	1	D005104597530
C305	CERAMIC HIK AXIAL	0.1 uF 50V Z	1	D005104597530
C306	ELECT GE 85C	1 uF 50V M	1	D040010087080
C307	ELECT GE 85C	220 uF 50V M	1	D040221084060
C308/C309	ELECT GE 85C	22 uF 50V M	2	D040220083070
C310	CERAMIC HIK AXIAL	0.1 uF 50V Z	1	D005104597530
CONNECTORS				
CNT301	CN.WAFER 2.5MM (6P)	1	L102526806010	
CNT302	CN.WAFER 2.5MM (8P)	1	L102526808010	
CNT303	CN.WAFER 2.5MM (2P)	1	L102526802010	
DIODES				
D301	MTZJ9.1B, ZENER	1	K06009R144520	
D302-D304	1SS133T, SWITCHING	3	K000013300520	
D305	MTZJ5.1B, ZENER	1	K06005R144520	
D306/D307	1SS133T, SWITCHING	2	K000013300520	
INTEGRATED CIRCUITS				
IC301	KA7805, REGULATER	1	J126780500270	
IC302	PIC16C56XT/P, CPU	1	J020165600020	
IC303	KIA7042P, RESET	1	J125704200010	
LEDS				
LED301/LED302	LED, SPR-54MDW3	2	K500055106070	
RESONATOR				
OSC301	RESONATOR, CST4.00MGW	1	E830400000070	
TRANSISTORS				
Q301	MPSA56, PNP	1	J5005600Y0050	
Q302-Q304	MPSA05, NPN	3	J5020600Y0050	
RESISTORS				
R301	CARBON FILM	47 kohm 1/5W J	1	C00004736P520
R302/ R303	CARBON FILM	10 kohm 1/5W J	2	C00001036P520
R304	CARBON FILM	47 kohm 1/5W J	1	C00004736P520
R305/R306	CARBON FILM	10 kohm 1/5W J	2	C00001036P520
R307	METAL FILM	1 ohm 1/5W J	1	C06001026P520
R308	METAL FILM	4.7 kohm 1/5W J	1	C06004726P520
R309	METAL FILM	100 ohm 1/5W J	1	C06001016P520
R310/R311	METAL FILM	10 ohm 1/5W J	2	C06001006P520

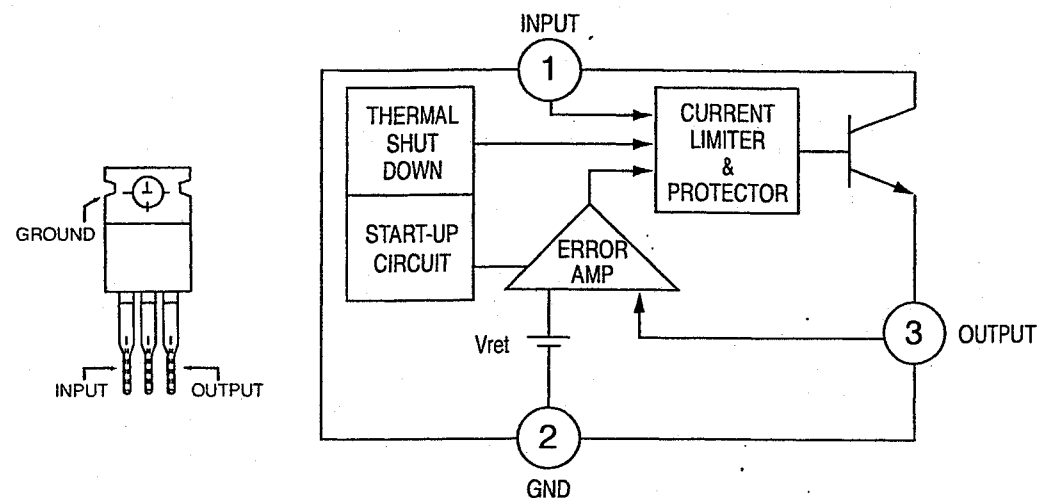
REF NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.	
R312	CARBON FILM	22 kohm 1/5W J	1	C00002236P520	
R313	CARBON FILM	220 kohm 1/5W J	1	C00002246P520	
R314-R316	METAL FILM	1 ohm 1/5W J	3	C06001026P520	
R318-R322	CARBON FILM	47 kohm 1/5W J	5	C00004736P520	
R323	CARBON FILM	10 kohm 1/5W J	1	C00001036P520	
R324	METAL FILM	1 ohm 1/5W J	1	C06001026P520	
MISCELLANEOUS					
J15-J17	CN.WIRE 1P	3	L045084006040		
J19	CN.WIRE 1P	1	L045084006040		
J32/J33	CN.WIRE 1P	2	L045084006040		
SW302	TACT SW, SKHV1092A	1	G180000270010		
PCB2-2 ASSEMBLY P.C.BOARD DIGI-LINK					
CNT704	CN.WAFER 2.5MM (2P)	1	L102526700200		
P702	TER,RCA 1PIN	1	G600010127030		
R701	METAL FILM	1 kohm 1/5W J	1	C06001026P520	
PCB2-3 ASSEMBLY P.C.BOARD POWER SW					
CNT601	CN.WAFER, 250V/12A (2P)	1	L109020000020		
SW500	PUSH SW, ESB-99364T	1	G000041380000	A	
SW500	PUSH SW, ESB-99713V	1	G000041380000	B/D/K	
PCB3 ASSEMBLY P.C.BOARD PROTECT					
CAPACITOR					
C901	ELECT GE 85C	470 uF 10V M	1	D040471082060	
CONNECTORS					
CNT911	CN.WAFER 2.5MM (8P)	1	L102526808010		
CNT901-CNT905	CN.WAFER 2.0MM (8P)	5	L101080020020		
CNT912/CNT913	CN.WIRE 2MM	2	L002800082600		
DIODES					
D901-D905	1SS133T, SWITCHING	5	K000013300520		
D906	MTZJ9.1B, ZENER	1	K06009R144520		
D907	1SS133T, SWITCHING	1	K000013300520		
TRANSISTORS					
Q901-Q903	MPSA05, NPN	3	J5020600Y0050		
RESISTORS					
R901-R905	CARBON FILM	68 kohm 1/5W J	5	C00006836P520	
R906	CARBON FILM	47 kohm 1/5W J	1	C00004736P520	
R907	CARBON FILM	10 kohm 1/5W J	1	C00001036P520	
R908	METAL FILM	4.7 kohm 1/5W J	1	C06004726P520	
R909	METAL FILM	470 kohm 1/5W J	1	C06004716P520	
R910	CARBON FILM	10 kohm 1/5W J	1	C00001036P520	
MISCELLANEOUS					
J10-J14	CN.WIRE 1P	5	L045084006040		
J1-J9	CN.WIRE 1P	9	L045084006040		

✦ POWER PCB ASS'Y (PCB2) INCLUDES THE FOLLOWING BOARDS.

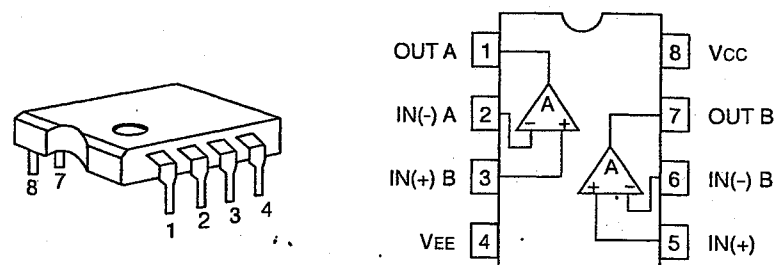
- ① THE ASS'Y PCB CPU (PCB2-1).
- ② THE ASS'Y PCB DIGI-LINK (PCB2-2).
- ③ THE ASS'Y PCB POWER SW (PCB2-3).

IC'S FUNCTIONAL BLOCK DIAGRAM

GD7805 : IC301

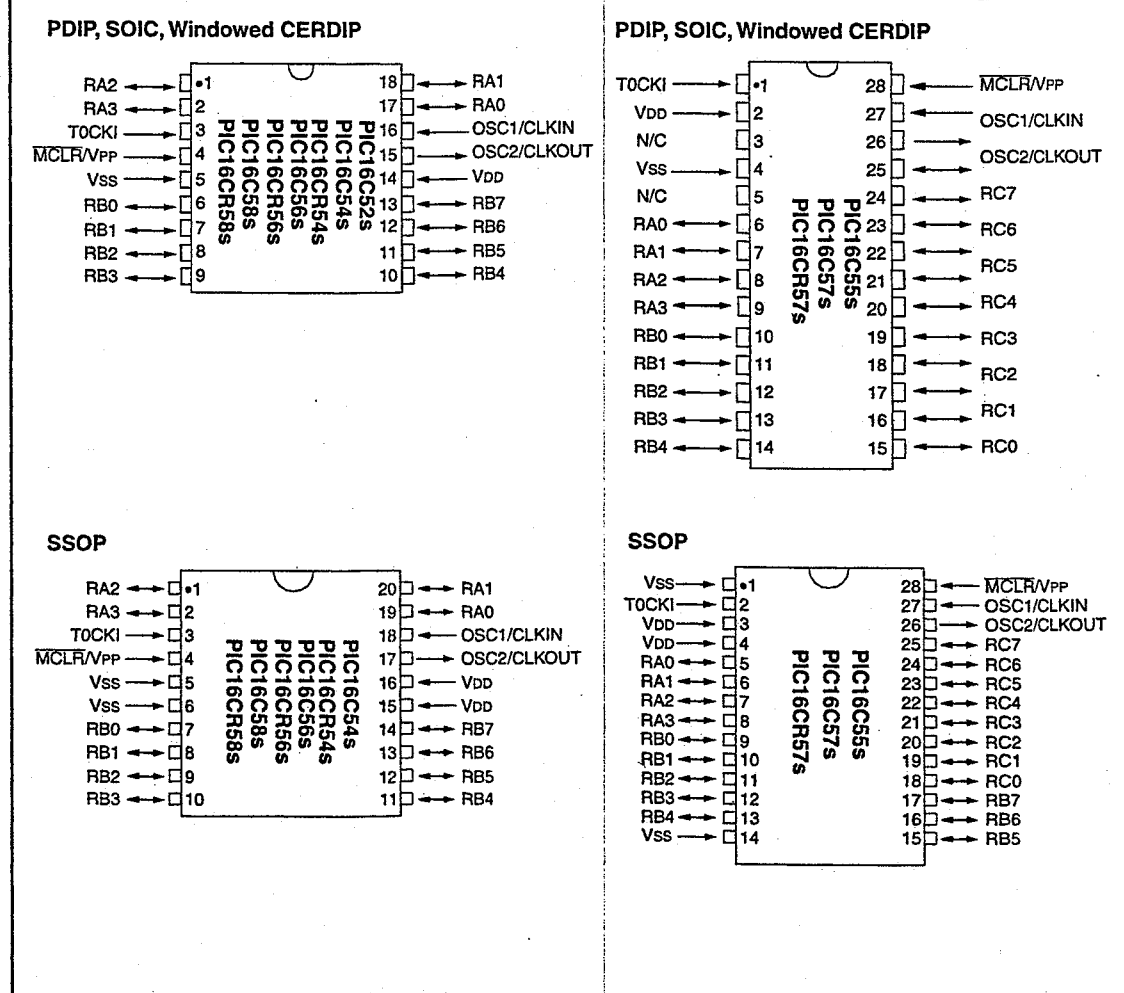


NJM7042 ; IC401

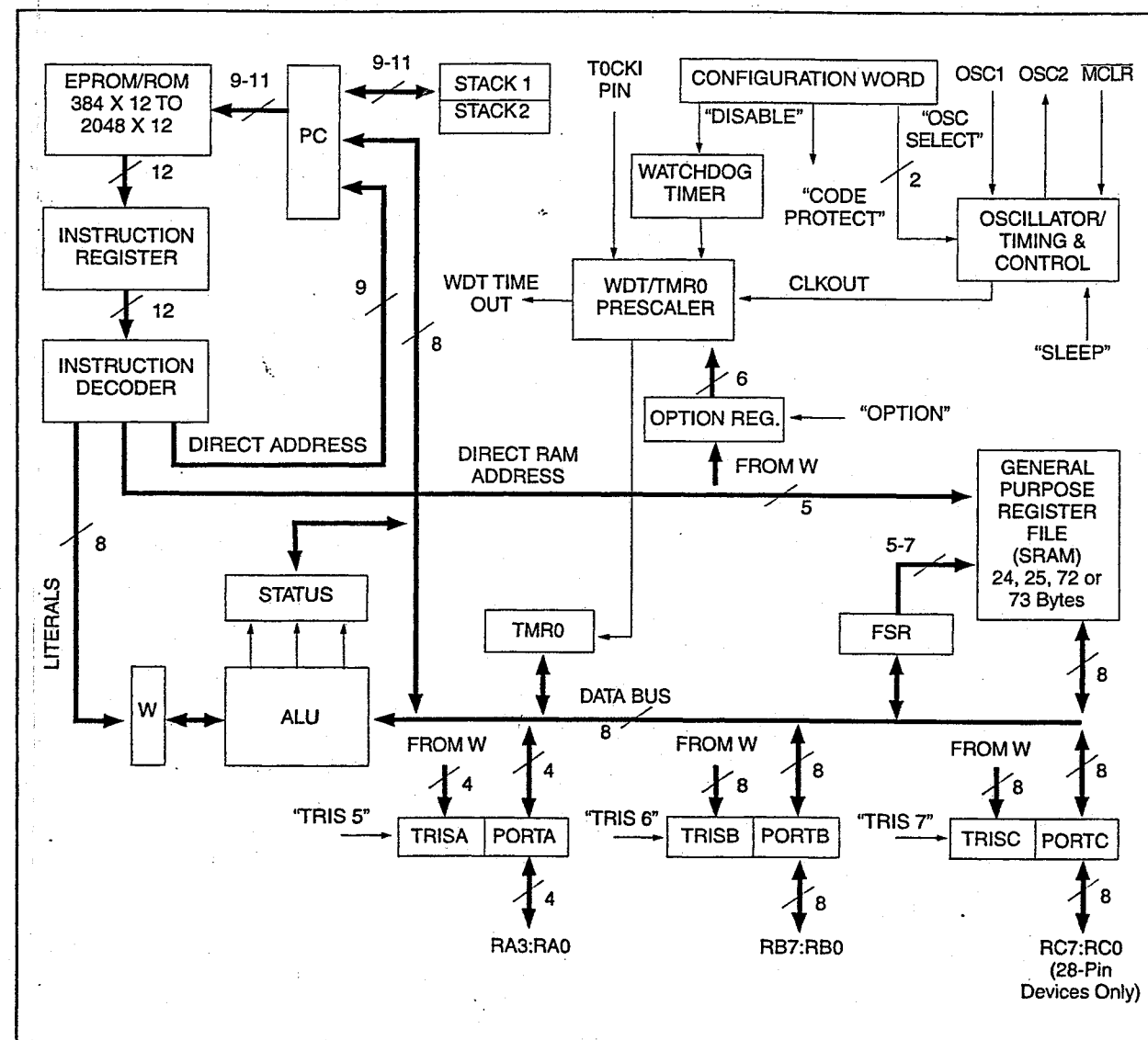


PIC16C56XT : IC302

Pin Diagrams



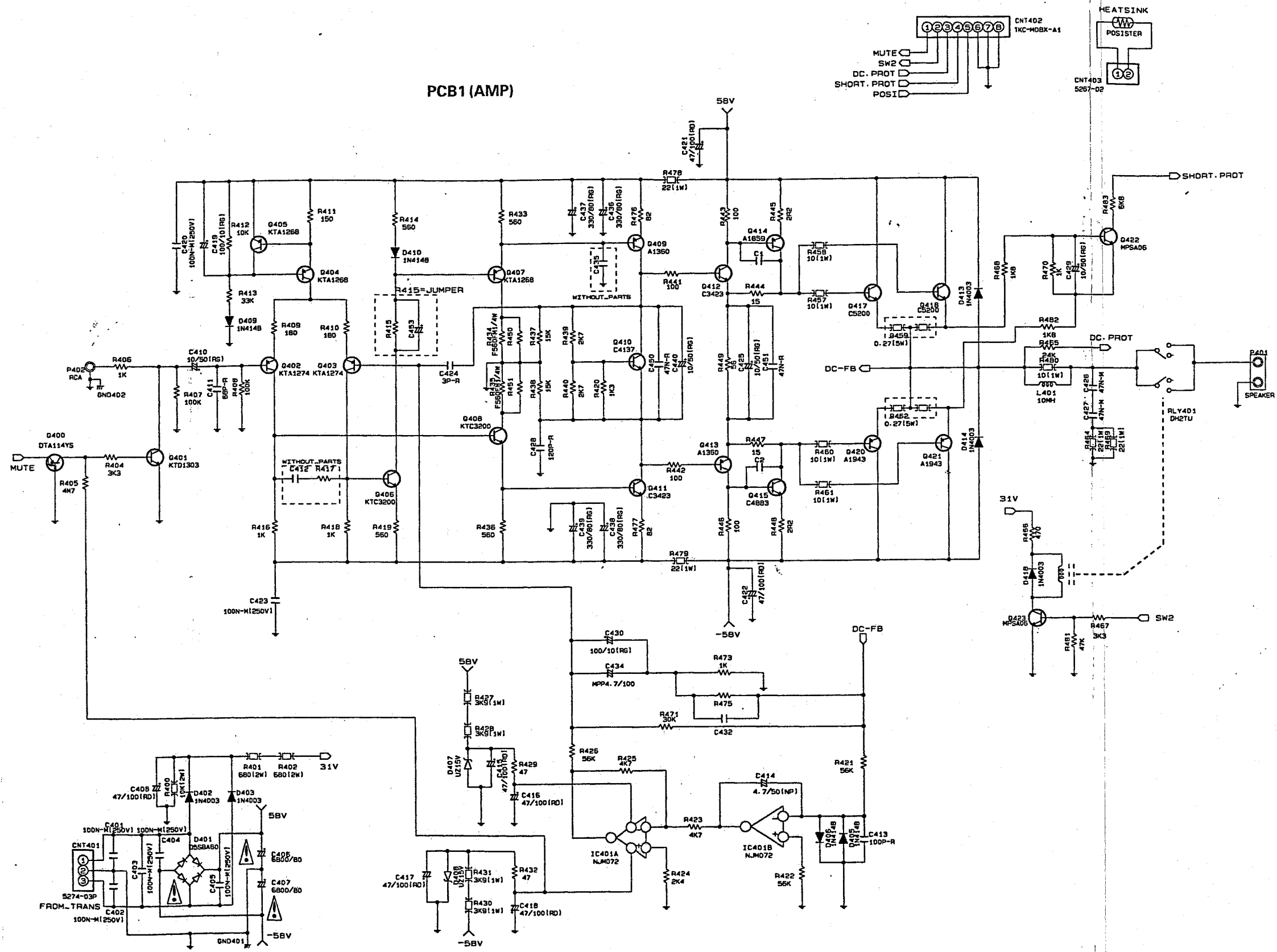
PIC16C56XT - Block Diagram



SCHEMATIC DIAGRAM (I)

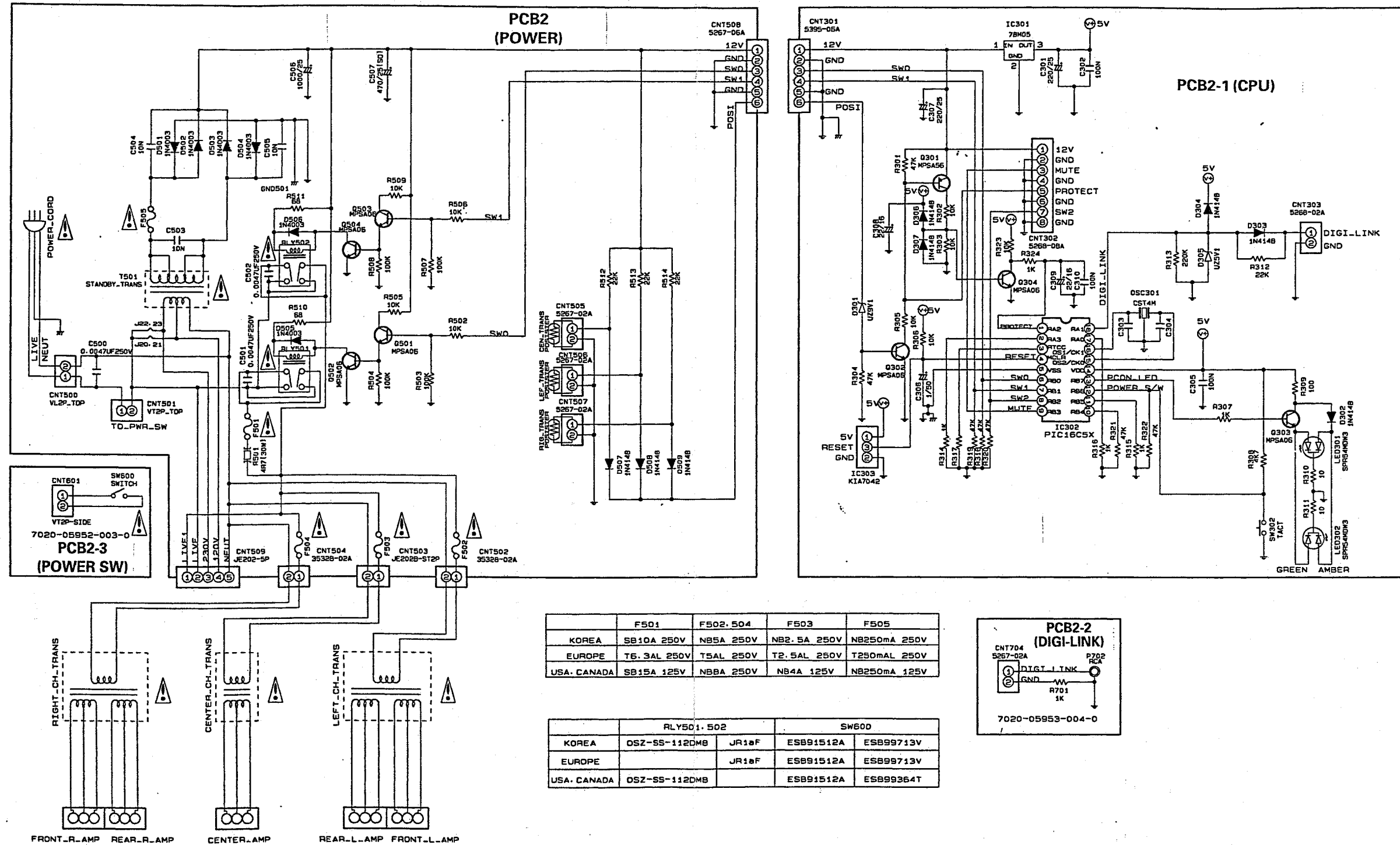
Model No. : AM-9080/B

PCB1 (AMP)



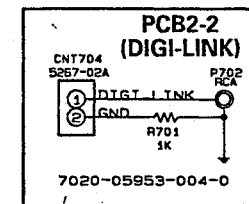
SCHEMATIC DIAGRAM (II)

Model No. : AM-9080/B



	F501	F502-504	F503	F505
KOREA	SB10A 250V	NB5A 250V	NB2.5A 250V	NB250mA 250V
EUROPE	T6.3AL 250V	T5AL 250V	T2.5AL 250V	T250mA 250V
USA-CANADA	SB15A 125V	NB8A 250V	NB4A 125V	NB250mA 125V

	RLY501-502	SW600
KOREA	OSZ-SS-112DMB	JR1aF ESB91512A ESB99713V
EUROPE		JR1aF ESB91512A ESB99713V
USA-CANADA	OSZ-SS-112DMB	ESB91512A ESB99364T



SCHEMATIC DIAGRAM (III)

Model No. : AM-9080/B

