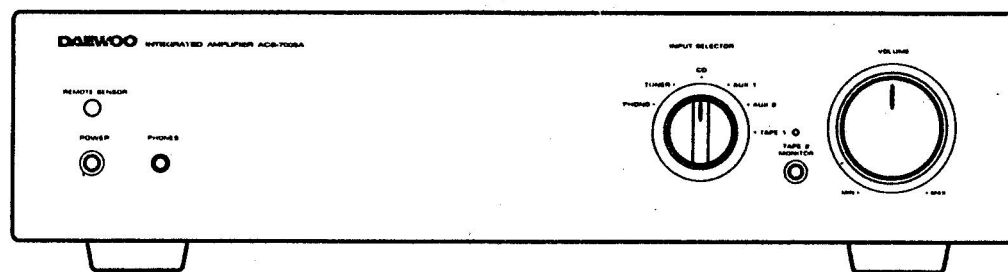


ACS-7000A

STEREO INTEGRATED AMPLIFIER



■ CONTENTS ■

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DAEWOO



SAFETY PRECAUTIONS

WARNING

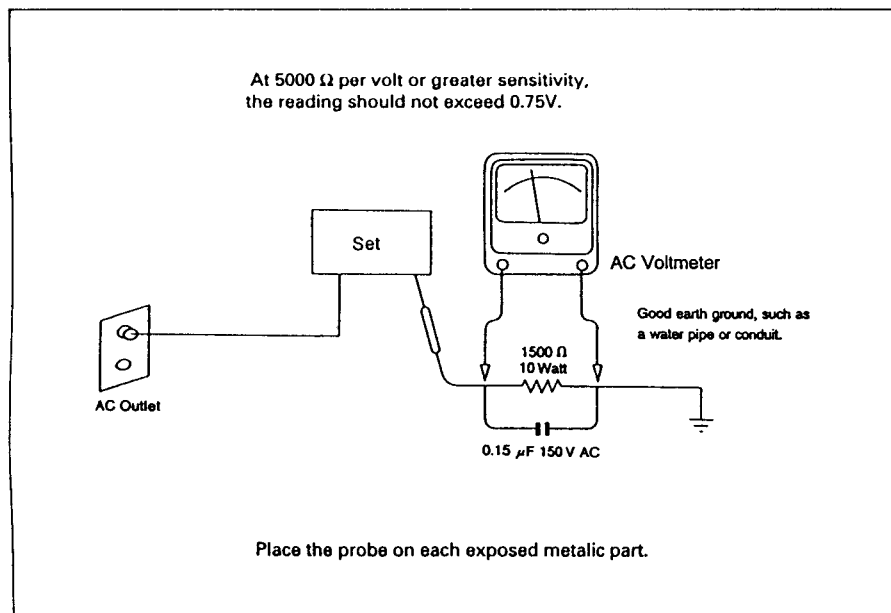
Before servicing this unit, familiarize yourself with the following precautions:

- 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.

- 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 danger of electrical shock. 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 5000 Ω per volt or greater. Then connect a 1500 Ω 10 watt resistor, paralleled by a 0.15 μ F 150 V AC capacitor, between a known good earth ground (such as a water pipe, or conduit) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of a 1500 Ω resistor and a 0.15 μ 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

Description		Unit	Normal	Limit
RMS output power: both channels driven, into 8 Ω load, from 20 Hz to 20 kHz, with no more than 0.05 % THD.		W	52	50
both channels driven, into 8 Ω load, at 1 kHz with no more than 0.7 % THD.		W	63	60
both channels driven, into 4 Ω load, at 1 kHz with no more than 0.7 % THD.		W	94	90
Total harmonic distortion: at 8 Ω load, 50 W output, 1 kHz.		%	0.007	0.015
at 4 Ω load, 80 W output, 1 kHz.		%	0.009	0.02
Intermodulation distortion: at 8 Ω load, 50 W output, 60 Hz: 7 kHz=4:1 SMPTE		%	0.004	0.01
Signal to noise ratio ("A" WTD, UNWTD/WTd):		PHONO CD/AUX, ETC	dB dB	72/76 93/103
				66/70 87/97
Frequency response at 1 W output:		PHONO(RIAA): 30 Hz-20 kHz CD, AUX, ETC: -1 dB	dB kHz	±0.5 5-180
				±1 10-150
Input sensitivity at 50 W output, 1 kHz, 8 Ω load:		PHONO CD, AUX, ETC	mV mV	2.6 160
				2.3-2.9 140-180
PHONO Input overload at 1 kHz, 0.7 % THD.		mV	180	150
Function crosstalk:	CD→ AUX	1 kHz 10 kHz	dB dB	92 91
				85 84
	CD→ TAPE 1	1 kHz 10 kHz	dB dB	92 91
				85 84
CD→ TAPE 2 MON.	1 kHz 10 kHz	dB dB	92 91	85 84
CD→ PHONO	1 kHz 10 kHz	dB dB	72 72	65 65
Channel separation	CD/AUX, ETC	1 kHz 10 kHz	dB dB	83 68
				73 55
Damping factor at 1 kHz 8 Ω load.		-	100	70

General

Speaker load impedance	4-16 Ω
Power consumption	360 W
Dimensions(WxHxD)	440 x 100 x 330 mm (17.3 x 3.9 x 13 inch)
Weight(Net)	10.5 kg (24.1 lbs)

Power requirements:

- A: 120 V 60 Hz for American/Canadian version
- B: 120/220 V 60/50 Hz for multy voltage version(switchable)
- D: 230 V 50 Hz for German General European version
- E: 240 V 50 Hz for UK/Australian version
- G: 220 V 50 Hz for Other Area

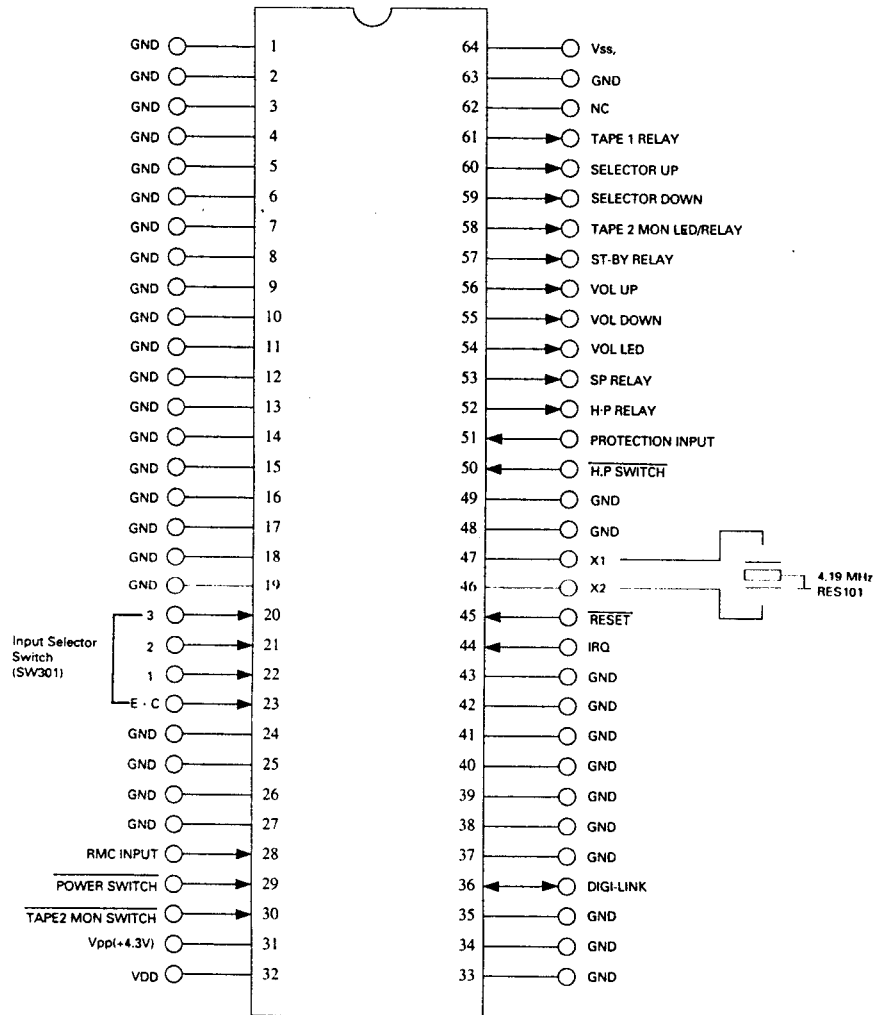
Note :

1. Nominal specs represent the design specs. All units should be able to approximate these some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable: in no case should a unit fail to meet limit specs.
2. This manual is based on the General European (D) standard, and provides information on regional circuit modification through the use of alternate schematic diagrams or wiring diagram, and information on regional component variations through the use of parts lists. Design and specifications subject to change without notice.

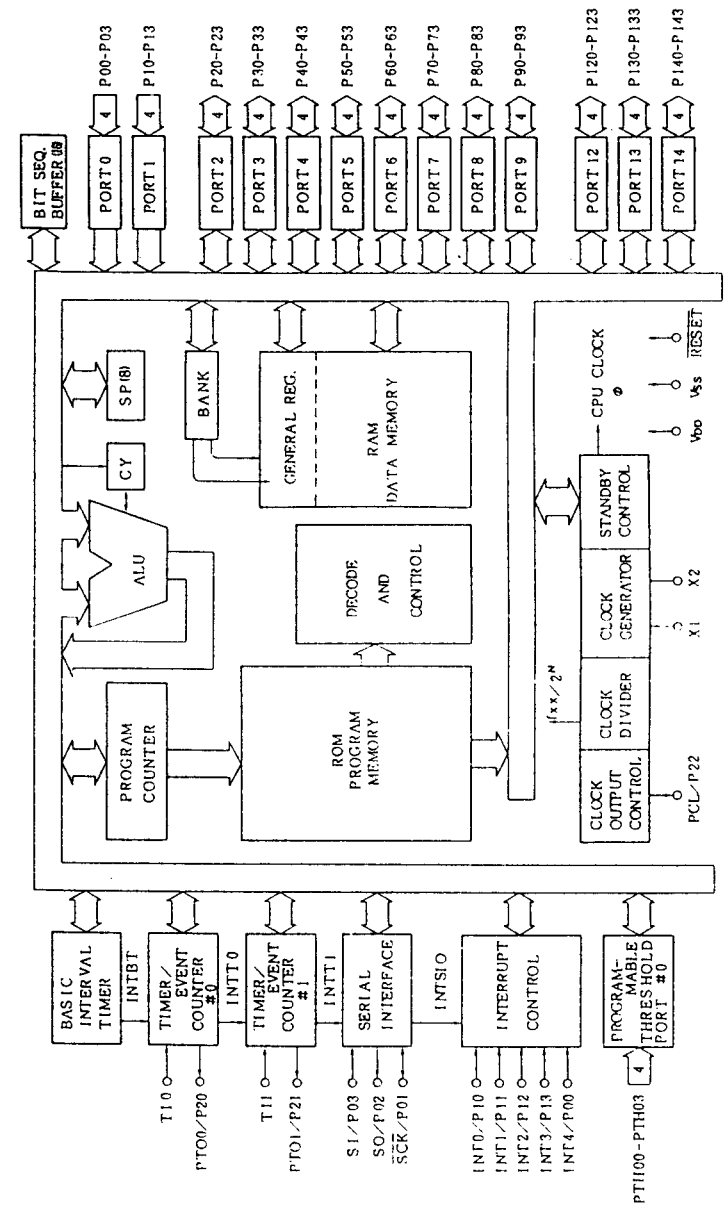
CIRCUIT DESCRIPTION

IC102: μ PD 75108CW14

1. Pin Connection



Block Diagram

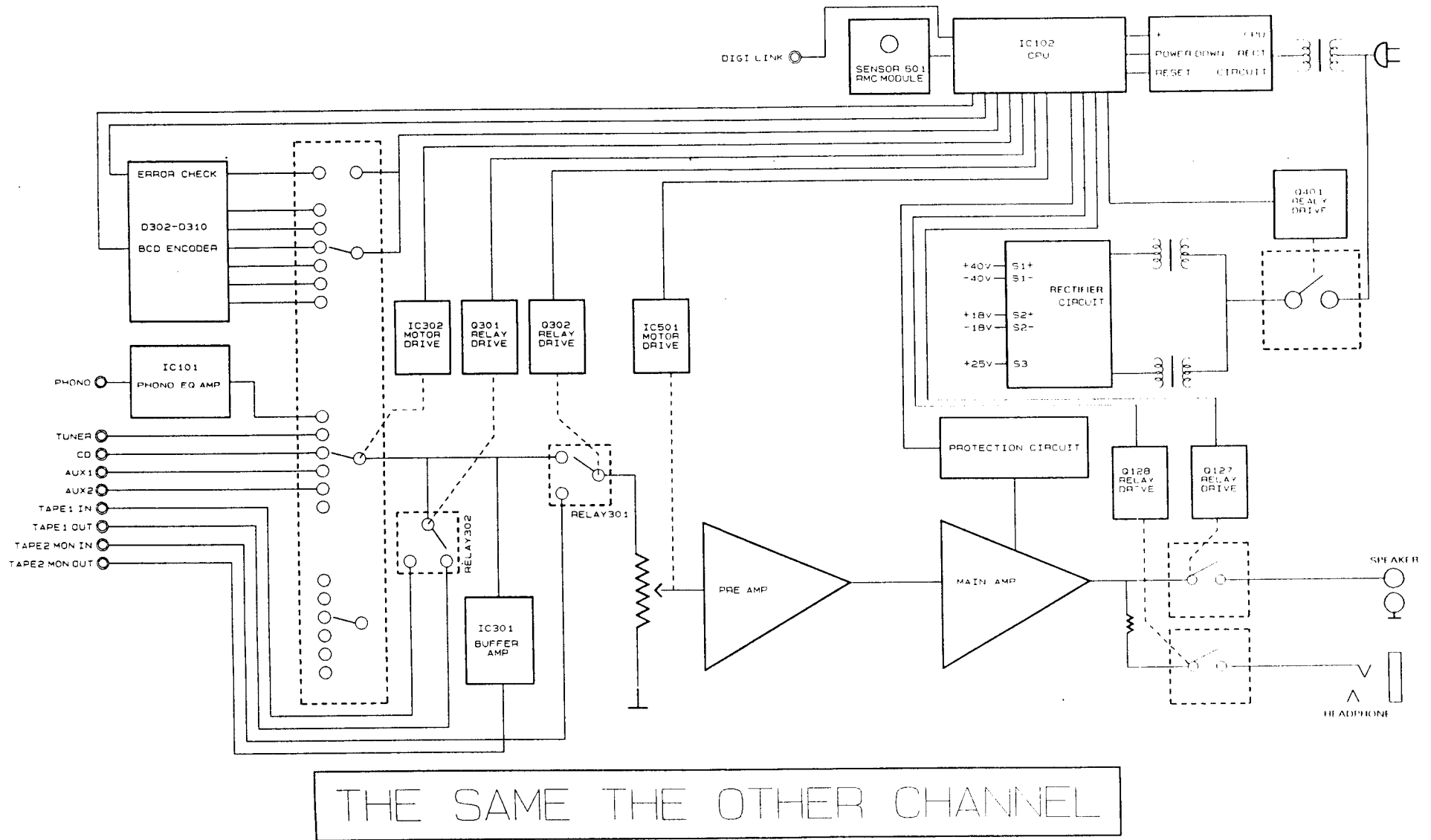


3. Input and Output Terminal Function

Pin Code	I/O	Compatible Port	Function	When Reset
P00	I	INT4	4 bit input port (port 0)	Input
P01	I/O	SCK		
P02	I/O	S0		
P03	I	S1		
P10	I	INT0	4 bit input port (port 1)	Input
P11		INT1		
P12		INT2		
P13		INT3		
P20	I/O	PTO0	4 bit input port (port 2)	Input
P21		PTO1		
P22		PCL		
P23		-		
P30-P33	I/O	-	Programmable 4 bit I/O port (port 3) Each bit can be specified as a input or output individually.	Input
P40-P43	I/O	-	Programmable 4 bit I/O port (port 4)	Input
P50-P53	I/O	-	Programmable 4 bit I/O port (port 5)	Input
P60-P63	I/O	-	Programmable 4 bit I/O port (port 6) Each bit can be specified as a input or output individually.	Input
P70-P73	I/O	-	Programmable 4 bit I/O port (port 7)	Input
P80-P83	I/O	-	Programmable 4 bit I/O port (port 8)	Input
P90-P93	I/O	-	Programmable 4 bit I/O port (port 9)	Input
P120 P123	I/O	-	N-ch. open drain 4 bit I/O port (port 12) Each bit can contain blow up resistor. (mask option) Open drain voltage:12V	Input
P130-133	I/O	-	N-ch. open drain 4 bit I/O port (port 13) Each bit can contain blow up resistor. (mask option) Open drain voltage:12V	Input
P140-143	I/O	-	N-ch. open drain 4 bit I/O port (port 14) Each bit can contain blow up resistor. (mask option) Open drain voltage:12V	Input
PTH00-PTH03	I	-	Variable threshold voltage 4 bit analog inpt port.	
P10	I	-	Timer/event pulse input port.	
P11				
PTO0	I/O	P20	Timer/event pulse output port.	Input
PTO1		P21		
SCK	I/O	P01	Serial clock I/O port.	Input
S0	I/O	P02	Serial data output port.	Input
S1	I	P03	Serial data input port.	Input
INT4	I	P00	Interruption input port (detect edge vector).	Input
INT0	I	P10	Interruption input port (detect edge vector).	Input
INT1		P11	Detect edge testable input port.	Input
INT2	I	P12		
INT3		P13		
PCL	I/O	P22	Clock output port.	Input
X1, X2	-	-	System Clock connection port.	
RESET	I	-	System reset input port(L: active)	
NC	-	-	No connection.	
V _{DD}	-	-	Constant voltage supply port.	
V _{SS}	-	-	Ground potential supply port.	

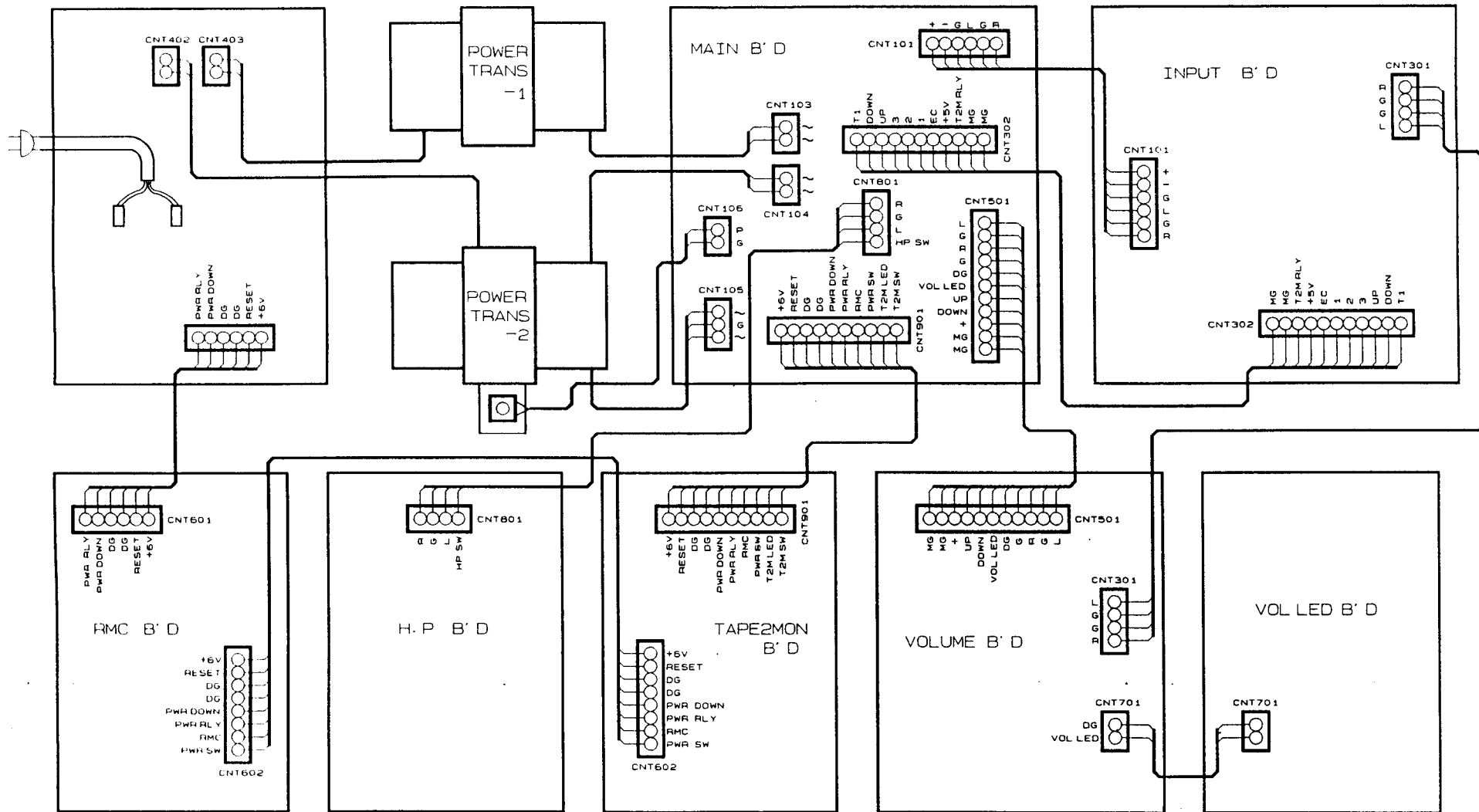
BLOCK DIAGRAM

Model No.: ACS-7000A



WIRING DIAGRAM

Model No.: ACS-7000A



TROUBLESHOOTING

Symptom	Cause and Remedy
Amplifier inoperative	- Faulty AC power cord. Replace. - Defective power switch. Replace. - Broken wire in the power transformer. Replace the power transformer. - Defective power transformer. Replace. - Damaged rectifying diodes D114, D115. Replace the defective diode(s). - Short in the rectifying circuit. Repair the short.
No sound from both channels or one channel	- Defective in transistor Q127. Replace. - Defective in relay RLY 101. Replace.
Headphones inoperative.	- Defective in transistor Q128. Replace. - Defective in relay RLY 102. Replace.
The stand-by function does not work.	- Damaged rectifying diodes D401 to D404. Replace the defective diode(s). - Defective in relay RLY401. Replace. - Defective stand-by transformer TRANS 401. Replace. - Defective in transistor Q401. Replace. - Defective stand-by circuit. Repair. - Defective IC102. Replace.
The indicators are not on.	- Defective IC102. Replace. - Defective LED701, LED901. Replace.
Volume motor does not work.	- Defective motor volume. Replace. - Defective IC 501. Replace.
Function selector inoperative.	- Defective function selector motor. Replace. - Defective IC 302. Replace. - Defective function selector switch SW301. Replace.

MECHANICAL PARTS LIST

Ref.No.	Description	Part No.	Q'ty	Version	Ref.No.	Description	Part No.	Q'ty	Version
PACKAGE					39	Jack RCA 4P, Black	4448114610	1	
	Film Soft PE	971500510	1		40	Chassis Back, SECC, Black	046102041111	1	KS
	Cushion Poly	9722038510	1			Chassis Back, SECC, Black	046102041121	1	A
	Box Carton	049604125111	1	KS		Chassis Back, SECC, Black	046102041131	1	B
	Box Carton	049604125163	1	D		Chassis Back, SECC, Black	046102041141	1	C
	Box Carton	049604125113	1	PT INDO		Chassis Back, SECC, Black	046102041151	1	D
ACCESSORIES						Chassis Back, SECC, Black	046102041161	1	E
	Ass'y Commander	058581000164	1	KS		Chassis Back, SECC, Black	046102041171	1	F
	Battery 1.5V AA (R6M)	5518001610	1			Chassis Back, SECC, Black	046102041191	1	PT INDO
	Manual Instruction	9007017941	1	PT INDO	41	System Ground with Nut, Gold	4463100420	1	
	Manual Instruction	9007017942	1	D	42	Cover Top, SECC, Silver Gold	046122029011	1	
	Manual Instruction	9007017940	1	KS	43	AC Outlet, Black	4448105510	1	KS
CABINET & CHASSIS						AC Outlet, Black	4448103210	1	A
	P.C. Board RMC	4005113730	1			AC Outlet, Black	4448103610	1	B,C,D,F
1	2iSEN6011 Sensor Remote	2408000131	1		44	Cord AC Power	4308007310	1	KS
3	Switch Tact	4658003710	2			Cord AC Power	4308009140	1	A
4	P.C. Board Headphone	4001100120	1			Cord AC Power	4308000430	1	B,C,D,F
5	Jack Phone, Black	4438005510	1			Cord AC Power	4308007610	1	E
6	Body Front, ABS HF-380, Black	8521008810	1		45	Stopper Cold	6518002320	1	
7	Window Sensor, PC LNI250, Dark Wine	8555048910	1		46	Terminal Ground	4235007210	3	
8	Knob Power, Aluminum, ABS HF-380	048643006911	1		47	P.C. Board Stand By	4005113710	1	
9	Panel Front, Aluminum, ABS HF-380	048602019211	1	KS(Only)	48	Power Transformer, 220 V 60 Hz (1)	2828001097	1	KS
	Panel Front, Aluminum, ABS HF-380	048602019212	1	PT INDO		Power Transformer, 230 V 50 Hz (1)	2828001297	1	D
10	Knob Input Selector, Aluminum, ABS HF-380	048643005521	1		49	Power Transformer, 110/220 V 50/60 Hz (1)	2828001277	1	PT IN DO
11	Knob universal, Aluminum, C 3601, Brass	058555043820	1			Power Transformer, 220 V 60 Hz (2)	2828001107	1	KS
12	LED, Red	2308220142	2			Power Transformer, 230 V 50 Hz (2)	2828001307	1	D
13	Knob Main Volume, ABS HF-380	048643006811	1			Power Transformer, 110/220 V 50/60 Hz (2)	2828001287	1	PT IN DO
14	P.C. Board Volume LED	4001100110	1		50	Heatsink Regulator TR, Aluminum	7505206620	4	
15	Knob Main Volume, ABS HF-380	048643007011	1		51	Switch Tact	4658004010	1	
16	Indicator LED, ABS, Milky	8555049010	1		52	Switch Slide 3P	4618006610	1	8,PT INDO
17	Volume Main, Silver Gold	3208068310	1		53	Switch Slide 6P	4618006510	1	8,PT INDO
18	P.C. Board Tape Monitor	4005113740	1		54	Adapter Plug	4428300410	1	8,PT INDO
19	P.C. Board Tape Monitor	4005113720	1		55	P.C. Board Voltage Selector	4001100130	1	B
20	Frame Solid "L", SECC	6121613310	1						C,D,F
21	Foot, ABS HF-380, Black	6035103810	4		5	Screw #2BTC 3 x 8B	8109230083	40	
22	Heatsink Main Power, AL 6063	75022008210	1		51	Screw #1PTC 3 x 10B	8119130103	11	
23	Bracket Heatsink, SECC	6505137710	1		52	Screw Ground	8155000710	2	
24	Screw HEXM 3 x 12Y	8099130121	10		53	Screw Mecha	8155001210	2	
25	Shaft Universal, Brass	057015004910	1		54	Screw #2WPTC 3 x 8B	8159230081	15	
26	P.C. Board Main	4001100100	1		55	Screw WSAM 4 x 8Y	8159440081	8	
27	Frame Side "R"	6123017210	1		56	Screw WSAM 4 x 8B	8159440083	4	
28	Cover Bottom, SECC	6122420010	1		57	Screw 2WTC 3 x 8N	8198002010	2	
29	Bracket PCB	6505139610	1		This parts list is applied for only "DEAWOO" model number (ACS-7000A)				
30	Plate Ground	6165143510	1		Ref. No. Description				
31	Terminal Speaker, Black	4408107720	1			Part No.	Q'ty		
32	Jack RCA 2PIR, W, Black	4448305510	1			Box Carton	049605256719	1	
33	Bracket PCB Signal, SECC	6505137810	1			Manual Instruction	9007017945	1	
34	Jack RCA 2P(G), Black	4448305520	1			Ass'y Commander	541810113175	1	
35	Sponge Rubber, Black	6715025310	1		1	Panel Front	048602019214	1	
36	Switch Input Selector	4618009910	1		17	Chassis Back	0461020411521	1	
37	P.C. Board Input	4005113700	1						
38	Jack RCA 6P, Black	4448114710	2						

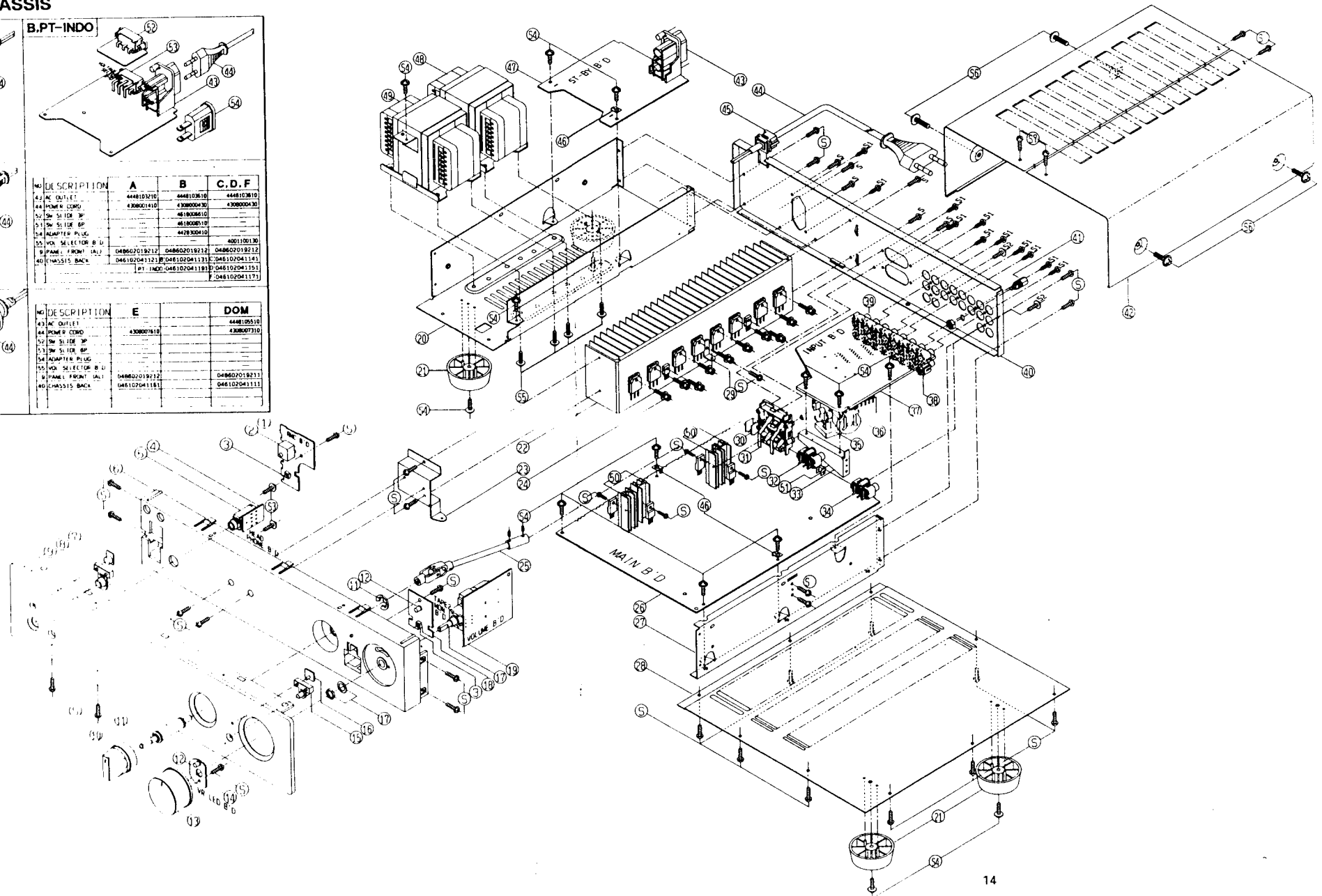
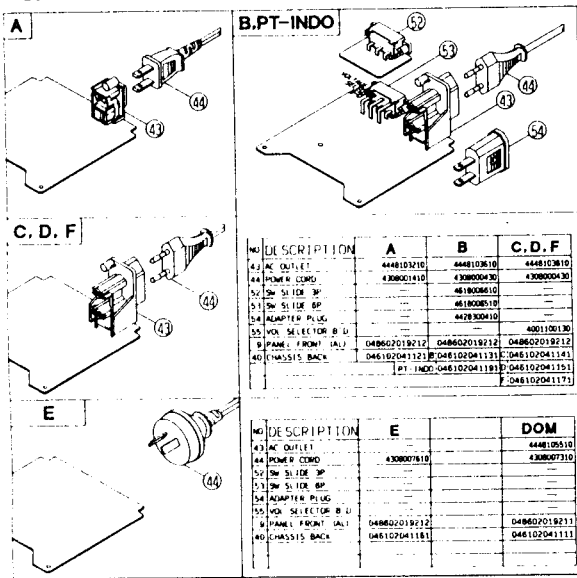
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ! in the parts list and the safety can be of special significance. When replacing a component identified with !, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

EXPLODED VIEW I

Model No.: ACS-7000A

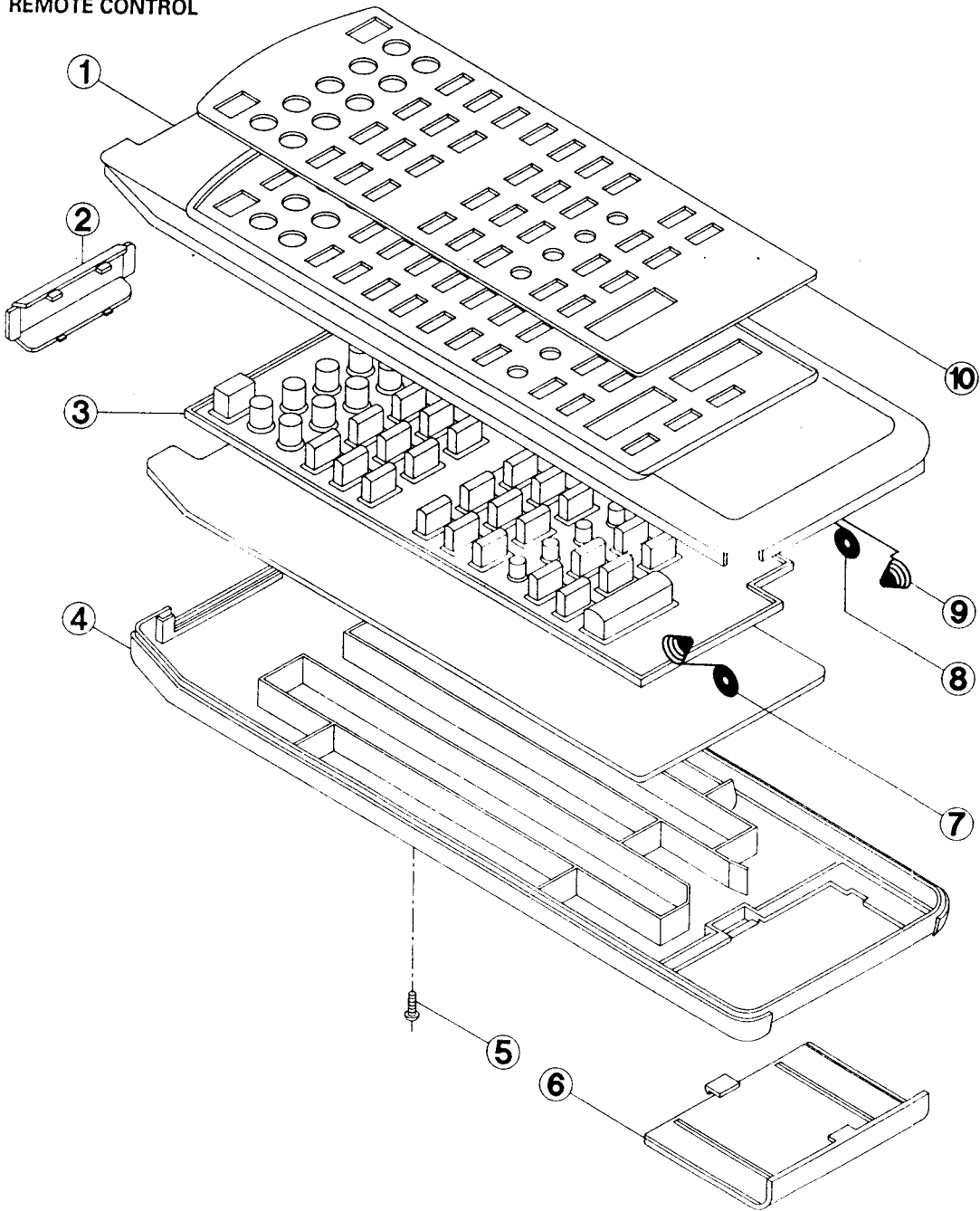
CABINET & CHASSIS



EXPLODED VIEW II

REMOTE CONTROL

Model No.: ACS-7000A



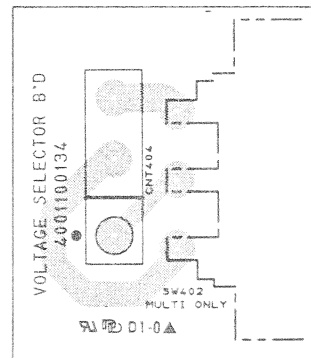
PARTS LIST.

NO.	PARTS NO.	DESCRIPTION	QTY	REMARKS
1	048582001125	COVER TOP	1	KS
	048582001126	COVER TOP	1	D,PT INDO,A,C,D
2	8555040210	UPPER COVER	1	D,PT INDO,A,C,D
3	048722001111	BUTTON SILICON	1	D,PT INDO,A,C,D
	048722001112	BUTTON SILICON	1	D,PT INDO,A,C,D
4	048582001221	COVER BOTTOM	1	
5	8119620084	SCREW #2 PT 2X8N	1	
6	048583004421	COVER BATTERY	1	
7	6555605310	SPRING BATTERY (+, -)	1	
8	6555009710	SPRING BATTERY (+)	1	
9	6555009810	SPRING BATTERY (-)	1	
10	048552003841	INLAY COMMANDER	1	KS
	048552003842	INLAY COMMANDER	1	PT INDO,A,C,D

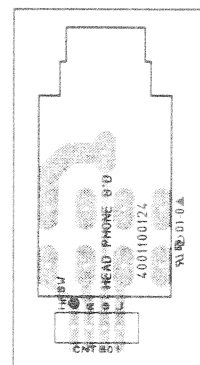
PRINTED CIRCUIT BOARDS

P.C. Board Main (4001100104)

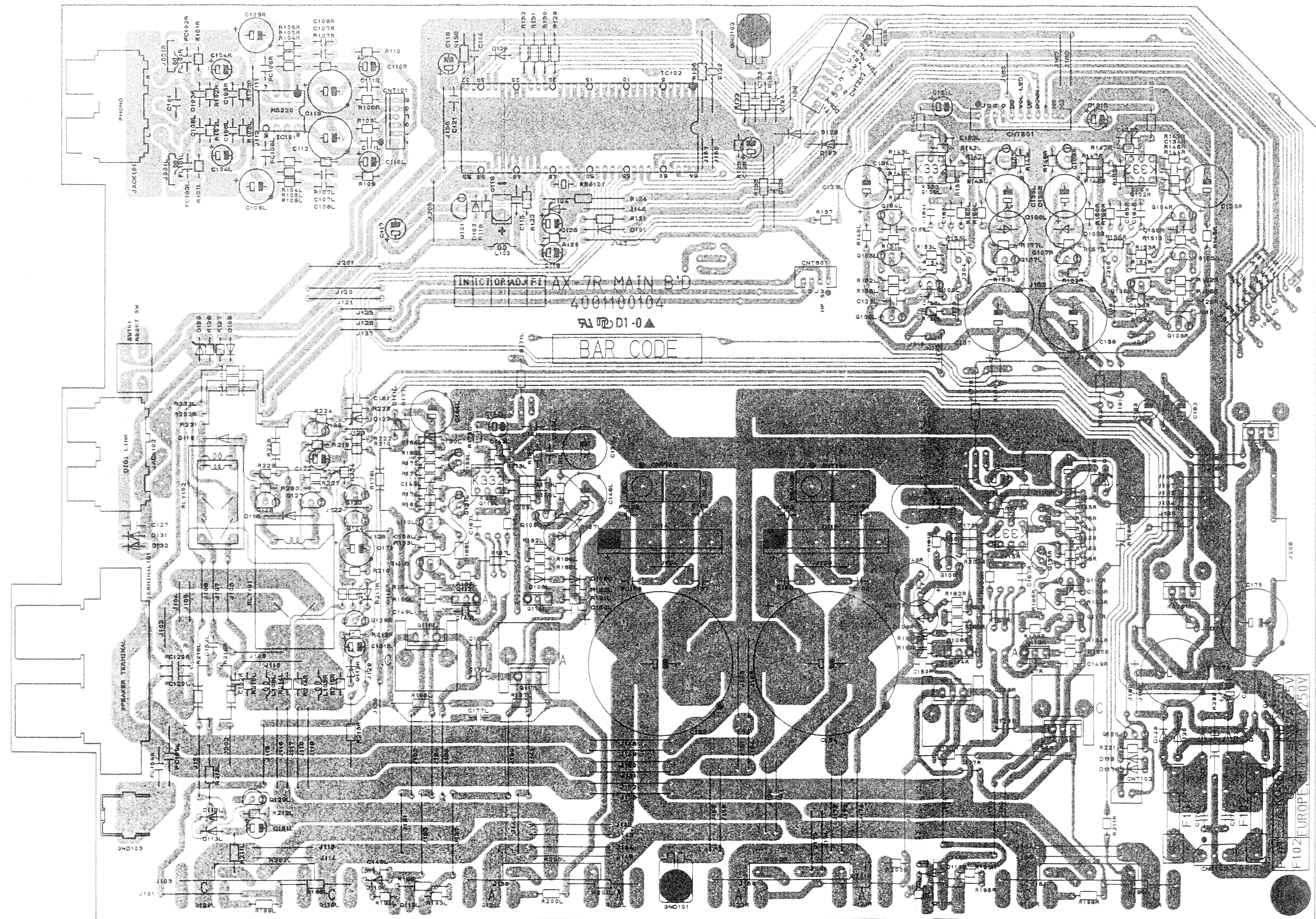
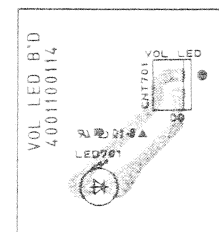
P.C. Board Voltage Selector
(4001100134)



P.C. Board Headphone
(4001100124)



P.C. Board Vol. LED
(4001100114)



ELECTRICAL PARTS LIST

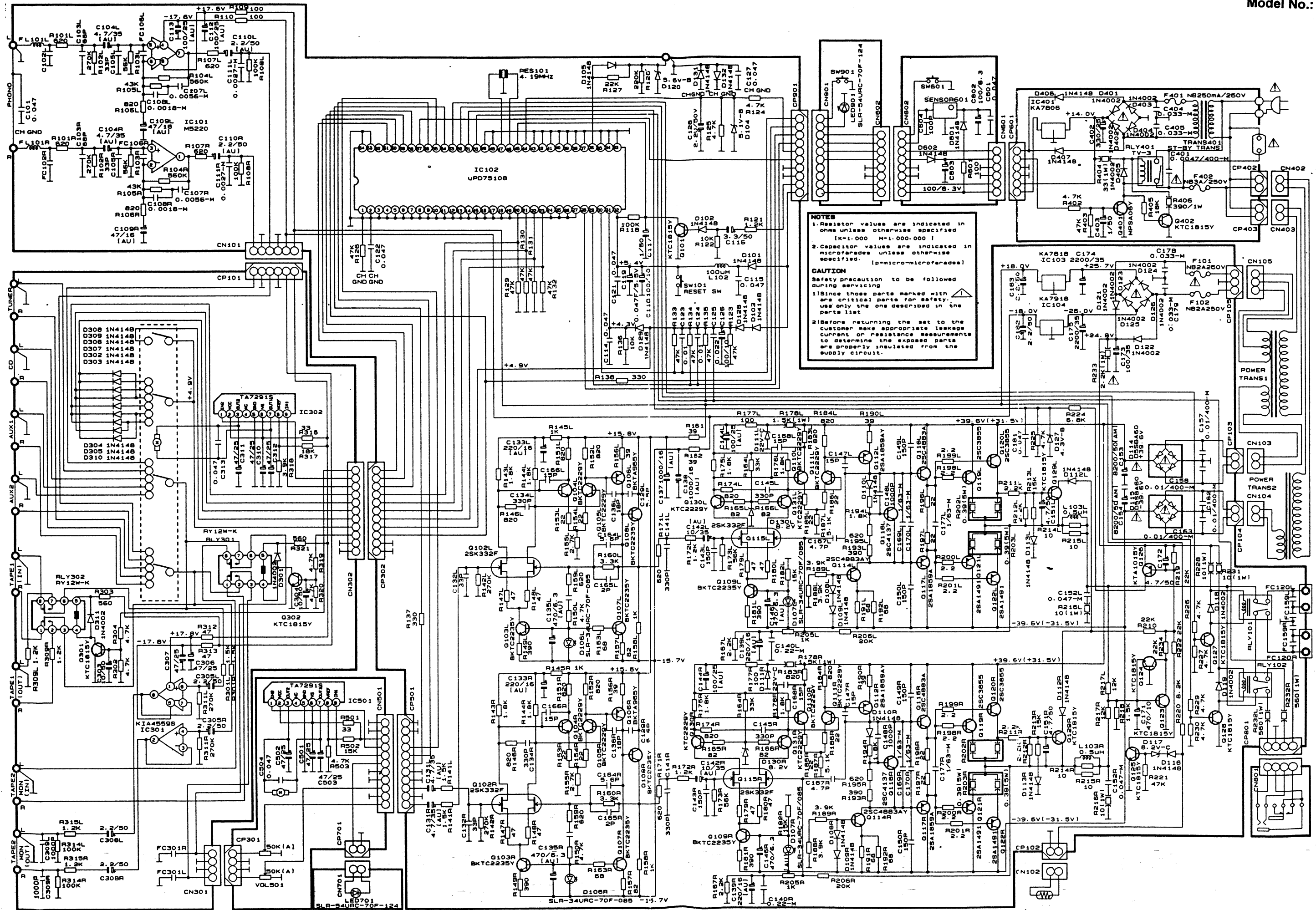
PRODUCT SAFETY NOTICE : Products marked with ! have special characteristics important to safety. If you replace of these components, read carefully the product safety notice in this manual.
Don't degrade the safety of the product through improper servicing.
Resistor/Capacitor Tolerance, D: (±0.5%), J: (±5%), K: (±10%), M: (±20%), Z: (+80, -20%).

Ref.No.	Description	Part No.	Q'ty	Version	Ref.No.	Description	Part No.	Q'ty	Version
30	A'ssy P.C. Board Main	054021010085	1		CP104	Wafer LV, 2P	4428525780	1	
31	Plate Ground	61665143510	1		CP105	Wafer, 3P	44285050710	1	
32	Terminal Speaker, Black(Gold)	4408107720	1		CP302	Wafer, 11P	4428517010	1	
34	Jack RCA 2PR, HI, Black(Gold)	4448305510	1		CP501	Wafer, 11P	4428517010	1	
46	Terminal Ground	4448305520	1		CP601	Wafer, 4P	4428516310	1	
50	Heatsink Regulator TR, Aluminum	4235007210	2		CP901	Wafer, 10P	4428516910	1	
51	Switch Tact	7505206620	4		D101-D103	1N4148M, Switching	2058322101	3	
C101	Ceramic Disc	4658004010	1		D104	Zener, UZ 5.1BSB	2258599103	1	
C103UR	Ceramic Tubular	0.047 μF 50 V Z	3579473530	1	D105	1N4148M, Switching	2058322101	1	
C104UR	Electrolytic AU	68 pF 35 V M	3519860935	2	D106UR	LED, SLR-34URCF25	2371124701	2	
C105UR	Ceramic Tubular	33 pF 50 V J	3479547969	2	D107UR	LED, SLR-34URCF25	2058322101	2	
C107UR	Mylar	0.0056 μF 100 V J	3519330935	2	D108UR	1N4148M, Switching	2371124701	2	
C108UR	Mylar	0.018 μF 100 V J	3679562120	2	D110UR	1N4148M, Switching	2058322101	2	
C109UR	Electrolytic AU	47 μF 16 V M	3679182120	2	D111UR	Zener, UZ 22.0BS	2258599119	1	
C110UR	Electrolytic AU	2.2 μF 50 V M	3479522970	2	D112UR	1N4148M, Switching	2058322101	2	
C111UR	Mylar	0.0027 μF 100 V J	3679271210	2	D113UR	1N4148M, Switching	2058322101	2	
C112C113	Electrolytic AU	100 μF 25 V M	3479510149	2	D114/D115	D55BA60, Bridge	2058322101	2	
C114C115	Ceramic Disc	0.047 μF 50 V Z	3579473530	2	D116	1N4148M, Switching	2058322101	1	
C116	Electrolytic SA	3.3 μF 50 V M	3479233971	1	D117	Zener, UZ 8.2BSB	2258599123	1	
C117	Electrolytic SA	1 μF 50 V M	3479210971	1	D118/D119	1N4002, Rectifier	2258100135	2	
C118	Electrolytic SG	100 μF 10 V M	3479310121	1	D120	Zener, UZ 5.6BSB	2258100135	6	
C119	Backup Capacitor	0.047 μF 5.5 V M	3449347314	1	D121-D126	1N4002, Rectifier	2258599102	1	
C121C122	Ceramic Disc	0.047 μF 50 V Z	3579473530	2	D127	Zener, UZ 4.3BSB	2058322101	2	
C123C124	Ceramic Disc	0.01 μF 50 V Z	3579105330	2	D128/D129	1N4148M, Switching	2258599123	2	
C125	Ceramic Disc	0.022 μF 50 V Z	3579223530	2	D130UR	Zener, UZ 8.2BSB	2058322101	2	
C126	Electrolytic SG	100 μF 10 V M	3479310121	1	D131/D132	1N4148M, Switching	5508202430	1	KS(Only)
C127	Ceramic Disc	0.047 μF 50 V Z	3579473530	2	F101	Fuse, NB 2 A, 250 V	5508202435	1	D.B.PT INDO
C128	Electrolytic SA	2.2 μF 50 V M	347922971	2	F102	Fuse, NB 2 A, 250 V	5508202435	1	KS(Only)
C129UR	Ceramic Tubular	4.7 μF 50 V M	3479547969	2	F103	Fuse, T 2 A, 250 V	4255001010	4	D.B.PT INDO
C131UR	Electrolytic AU	33 μF 50 V J	3519330935	2	F104	Clip Fuse	2168215001	1	
C132UR	Ceramic Tubular	220 μF 16 V M	3479521139	2	IC101	M5220P	2138313217	1	
C134UR	Electrolytic AU	330 pF 50 V J	3519331935	2	IC102	μPD705108CW X14, CPU	2168601106	1	
C135UR	Electrolytic AU	470 pF 6.3 V M	3479547119	2	IC103	KA7818, Regulator	2168601106	1	
C136UR	Ceramic Tubular	18 pF 50 V J	3519180935	2	IC104	KA7915, Regulator	2548610182	1	
C137C138	Electrolytic AU	1000 μF 16 V M	3479510239	2	L102	Coil Inductor, 100 μH	2548610182	1	
C139UR	Electrolytic AU	220 μF 16 V M	3479521139	2	L103UR	Coil Inductor, 0.5 μH	2548610182	1	
C140UR	Mylar	0.22 μF 63 V J	3679224297	2	Q101	KT1815YKT3198, NPN, Silicon	2018217700	2	
C141UR	Ceramic Tubular	330 pF 50 V J	3519331935	2	Q102UR	Z5K33ZF	2018217700	2	
C142UR	Electrolytic AU	10 μF 35 V M	3479510069	2	Q103UR	BKT2225YKT0207, NPN, Silicon	2028406120	2	
C143UR	Ceramic Tubular	150 pF 50 V J	3479510149	2	Q104UR	KTC2225YKT0206, NPN, Silicon	2208606107	2	
C144UR	Electrolytic AU	100 μF 25 V M	3479521139	2	Q105UR	KTC2225YKT0206, NPN, Silicon	2208606107	2	
C145UR	Ceramic Tubular	330 pF 50 V J	3519331935	2	Q106UR	BKT2225YKT0203, PNP, Silicon	2028106107	2	
C146UR	Electrolytic AU	470 pF 6.3 V M	3479547119	2	Q107UR	BKT2225YKT0207, NPN, Silicon	2028406120	2	
C147UR	Ceramic Tubular	15 pF 50 V J	3519150935	2	Q108UR	BKT2225YKT0207, NPN, Silicon	2028406120	2	
C148UR	Ceramic Tubular	1000 pF 50 V J	3519102935	2	Q109UR	BKT2225YKT0207, NPN, Silicon	2028406120	2	
C149UR	Ceramic Tubular	150 pF 50 V J	3519151935	2	Q110UR	KTC2225YKT0206, NPN, Silicon	2208606107	2	
C150UR	Ceramic Tubular	150 pF 50 V J	3519151935	2	Q111UR	KTC2225YKT0206, NPN, Silicon	2208606107	2	
C151UR	Electrolytic SA	4.7 μF 50 V M	3479247971	2	Q112UR	Z5A185A, PNP, Silicon, Power TR	2028016100	2	
C152UR	Mylar	0.047 μF 100 V J	3679473120	2	Q114UR	Z5A185A, PNP, Silicon, Power TR	2018217700	2	
C153C154	Electrolytic AU	8200 μF 50 V M	3419082222	2	Q115UR	Z5K33ZF	2028316100	2	
C157C158	Mylar	0.01 μF 400 V J	3679103267	2	Q116UR	Z5A185A, PNP, Silicon, Power TR	2028016100	2	
C162C163	Mylar	0.01 μF 400 V J	3679103267	2	Q117UR	Z5A185A, PNP, Silicon, Power TR	2028016100	2	
C164UR	Ceramic Tubular	5.6 pF 50 V K	3519056935	2	Q118UR	Z5A185A, PNP, Silicon, Power TR	2028406120	2	
C165UR	Ceramic Tubular	2.2 pF 50 V K	3519022935	2	Q119UR	Z5A185A, PNP, Silicon, Power TR	2028406120	2	
C166UR	Ceramic Tubular	15 pF 50 V K	3519150935	2	Q120UR	Z5A185A, PNP, Silicon, Power TR	2028406120	2	
C167UR	Ceramic Tubular	4.7 pF 50 V K	3519047935	2	Q121UR	Z5A185A, PNP, Silicon, Power TR	202816103	2	
C168UR	Ceramic Tubular	15 pF 50 V K	3519150935	2	Q122UR	Z5A185A, PNP, Silicon, Power TR	2208606104	2	
C169UR	Mylar	1 μF 63 V J	3679105297	2	Q123-Q125	KT1815YKT3198, NPN, Silicon	2208606104	2	
C170UR	Mylar	1 μF 63 V J	3679105297	2	Q126	KT1815YKT3198, NPN, Silicon	2208606104	2	
C171	Electrolytic SG	470 μF 10 V M	3479347121	1	Q127Q128	KT1815YKT3198, NPN, Silicon	2208606104	2	
C172	Electrolytic SA	4.7 μF 50 V M	3479247971	1	Q129UR	KT1815YKT3198, NPN, Silicon	2208606104	2	
C173	Electrolytic SG	100 μF 35 V M	3479310161	1	Q130UR	KTC2225YKT0206, NPN, Silicon	2208606104	2	
C174C175	Electrolytic SG	2200 μF 35 V M	3409322769	2	Q131UR	KTC2225YKT0206, NPN, Silicon	2208606104	2	
C177UR	Mylar	1 μF 63 V J	3679105297	2	R101UR	Carbon Film	3069521970	2	
C178C179	Mylar	0.033 μF 100 V J	3679333120	2	R102UR	Carbon Film	3069521970	2	
C181	Ceramic Disc	0.047 μF 50 V Z	3579473530	1	R103UR	Carbon Film	3069521970	2	
C182C183	Electrolytic SA	2.2 μF 50 V M	347922971	2	R104UR	Carbon Film	3069521970	2	
CN101	Lead Assy, 6P, 160mm	435206168332	1		R105UR	Carbon Film	3069521970	2	
CP102	Wafer, 2P	4428508210	1		R106UR	Carbon Film	3069521970	2	
CP103	Wafer LV, 2P	4428525780	1		R107UR	Carbon Film	3069521970	2	

Ref.No.	Description	Part No.	Q'ty	Version	Ref.No.	Description	Part No.	Q'ty	Version
R108UR	Carbon Film	100 kohm 1/5 W J	3069104970	2	R203UR	Cement, Dual	0.39 ohm 5 W J	3059039776	2
R109R110	Carbon Film	100 ohm 1/5 W J	3069101970	2	R205UR	Carbon Film	1 kohm 1/5 W J	3069102970	2
R118	Carbon Film	100 kohm 1/5 W J	3069104970	1	R206UR	Carbon Film	20 kohm 1/5 W J	3069203970	2
R121	Carbon Film	1.2 kohm 1/5 W J	3069122970	1	R210	Carbon Film	22 kohm 1/5 W J	3069223970	1
R122	Carbon Film	10 kohm 1/5 W J	3069103970	1	R211UR	Carbon Film	2.2 kohm 1/5 W J	3069223970	2
R123	Carbon Film	47 kohm 1/5 W J	3069473970	1	R212UR	Carbon Film	15 kohm 1/5 W J	3069153970	2
R124R125	Carbon Film	47 kohm 1/5 W J	3069473970	2	R213UR	Carbon Film	10 ohm 1/5 W J	3069100970	2
R126	Carbon Film	47 kohm 1/5 W J	3069473970	1	R214UR	Carbon Film	10 ohm 1/5 W J	3069100970	2
R127	Carbon Film	22 kohm 1/5 W J	3069224970	1	R215UR	Carbon Film	10 ohm 1/5 W J	3069100970	2
R128	Carbon Film	220 kohm 1/5 W J	3069224970	1	R216UR	Metal Film	10 ohm 1 W J	3029100470	1
R129-R135	Carbon Film	47 kohm 1/5 W J	3069473970	1	R217UR	Carbon Film	12 kohm 1/5 W J	3069123970	2
R136	Carbon Film	10 kohm 1/5 W J	3069103970	1	R218	Carbon Film	1.5 kohm 1/5 W J	3069152970	1
R137R138	Carbon Film	330 ohm 1/5 W J	3069331970	2	R219	Carbon Film	22 kohm 1/5 W J	3069223970	1
R141UR	Carbon Film	1.5 kohm 1/5 W J	3069152970	2	R220	Carbon Film	8.2 kohm 1/5 W J	3069822970	1
R142UR	Carbon Film	270 kohm 1/5 W J	3069274970	2	R221	Carbon Film	47 kohm 1/5 W J	3069473970	1
R143UR	Carbon Film	1.8 kohm 1/5 W J	3069182970	2	R222	Carbon Film	22 kohm 1/5 W J	3069223970	1
R144UR	Carbon Film	1.8 kohm 1/5 W J	3069182970	2	R224	Carbon Film	6.8 kohm 1/5 W J	3069682970	1
R145UR	Carbon Film	1 kohm 1/5 W J	3069102970	2	R225-R227	Carbon Film	4.7 kohm 1/5 W J	3069473970	3
R146UR	Carbon Film	820 ohm 1/5 W J	3069821970	2	R228	Metal Film	10 ohm 1 W J	3069473970	2
R147UR	Carbon Film	47 ohm 1/5 W J	3069470970	2	R229R230	Carbon Film	10 ohm 1 W J	3029510470	1
R148UR	Carbon Film	47 ohm 1/5 W J	3069470970	2	R231	Metal Film	10 ohm 1/5 W J	3069473970	2
R149UR	Carbon Film	390 ohm 1/5 W J	3069391970	2	R232UR	Metal Film	560 ohm 1 W J	3029561470	2
R150UR	Carbon Film	4.7 kohm 1/5 W J	3069472970	2	R233	Metal Film	2.2 kohm 1 W J	3029222470	1
R151UR	Carbon Film	820 ohm 1/5 W J	3069821970	2	R234	Carbon Film	22 kohm 1/5 W J	3069223970	1
R152UR	Carbon Film	820 ohm 1/5 W J	3069821970	2	RES101	Resonator, CSB455E	3238001001	1	
R153UR	Carbon Film	22 ohm 1/5 W J	3069220970	2		Ass'y Posistor, 280mm	05243800283	1	
R154UR	Carbon Film	22 ohm 1/5 W J	3069220970	2					
R155UR	Carbon Film	2.7 kohm 1/5 W J	3069272970	2					
R156UR	Carbon Film	39 ohm 1/5 W J	3069390970	2					
R157UR	Carbon Film	82 ohm 1/5 W J	3069820970	2	LED701	LED, SLR, 34URCF03	2371124702	1	
R158UR	Carbon Film	1 kohm 1/5 W J	3069102970	2	CN701	Wire, 2P, 180mm	43581027184	1	
R159UR	Carbon Film	620 ohm 1/5 W J	3069621970	2					
R160UR	Carbon Film	3.3 kohm 1/5 W J	3069332970	2					
R161R162	Carbon Film	39 ohm 1/5 W J	3069390970	2	8	Lead Assy, Black(Gold)	4438005510	1	
R163UR	Carbon Film	68 ohm 1/5 W J	3069680970	2	CN801	Lead Assy, 4P, 450mm	436204453332	1	
R164UR	Carbon Film	33 kohm 1/5 W J	3069333970	2					
R165UR	Carbon Film	82 ohm 1/5 W J	3069820970	2					
R166UR	Carbon Film	82 ohm 1/5 W J	3069820970	2	CP404	Ass'y P.C. Board Voltage Selector	05402110088	1	
R167UR	Carbon Film	82 ohm 1/5 W J	3069820970	2		Waver LV, 3P	4428525790	1	
R168UR	Carbon Film	620 ohm 1/5 W J	3069621970	2					
R169UR	Carbon Film	620 ohm 1/5 W J	3069621970	2					
R170UR	Carbon Film	1.2 kohm 1/5 W J	3069122970	2					
R171UR	Carbon Film	1.2 kohm 1/5 W J	3069122970	2	36	Switch Input Selector	44180090910	1	
R172UR	Carbon Film	1.2 kohm 1/5 W J	3069122970	2	38	Jack RCA 6P, Black(Gold)	4448114710	2	
R173UR	Carbon Film	56 kohm 1/5 W J	3069563970	2	39	Jack RCA 4P, Black(Gold)	4448114610	1	
R174UR	Carbon Film	820 ohm 1/5 W J	3069821970	2	C303/C304	Electrolytic SA	10 uF 50 V M	3479210071	2
R175UR	Carbon Film	1.8 kohm 1/5 W J	3069182970	2	C305UR	Electrolytic SA	2.2 uF 50 V M	3479222971	2
R176UR	Carbon Film	1.8 kohm 1/5 W J	3069182970	2	C306/C307	Electrolytic SG	47 uF 50 V M	3479347041	2
R177UR	Carbon Film	100 ohm 1/5 W J	3069101970	2	C308UR	Electrolytic SA	2.2 uF 50 V M	3479222971	2
R178UR	Carbon Film	1 kohm 1/5 W J	3069102970	2	C309UR	Ceramic Tubular	1000 uF 50 V J	3519102935	2
R179UR	Metal Film	47 ohm 1/5 W J	3069470970	2	C310-C312	Electrolytic Disc	47 uF 25 V M	3479347041	3
R180UR	Carbon Film	47 ohm 1/5 W J	3069470970	2	C313	Ceramic Disc	0.047 uF 50 V Z	3579473530	1
R181UR	Carbon Film	390 ohm 1/5 W J	3069391970	2	CN301	Lead Assy, 4P, 300mm	435204308332	1	
R182UR	Carbon Film	15 kohm 1/5 W J	3069153970	2	CN302	Lead Assy, 11P, 120mm	438211723332	1	
R183UR	Carbon Film	820 ohm 1/5 W J	3069821970	2	CP101	Waffer, Angle, 6P	4428525560	1	
R184UR	Carbon Film	820 ohm 1/5 W J	3069821970	2	D301	1N4002, Rectifier	2256100135	1	
R185UR	Carbon Film	22 ohm 1/5 W J	3069220970	2	D302-D310	1N4148M, Switching	2256922101	9	
R186UR	Carbon Film	22 ohm 1/5 W J	3069220970	2	D311	1N4002, Rectifier	2256100135	1	
R187UR	Carbon Film	5.1 kohm 1/5 W J	3069512970	2	IC301	KA555SR/KA555S, Op Amp	2168200104	2	
R188UR	Carbon Film	3.9 kohm 1/5 W J	3069392970	2	IC302	TAT7915, Motor Driver	2168006104	2	
R189UR	Carbon Film	3.9 kohm 1/5 W J	3069392970	2	R301/C302	KTC1815/KTC198, NPN, Silicon	3069152970	2	
R190UR	Carbon Film	39 ohm 1/5 W J	3069390970	2	R301UR	Carbon Film	1.5 kohm 1/5 W J	3069152970	2
R191UR	Carbon Film	68 ohm 1/5 W J	3069680970	2	R302	Carbon Film	4.7 kohm 1/5 W J	3069472970	1
R192UR	Carbon Film	68 ohm 1/5 W J	3069680970	2	R303	Carbon Film	560 ohm 1/5 W J	3069561970	1
R193UR	Carbon Film	390 ohm 1/5 W J	3069391970	2	R304	Carbon Film	47 kohm 1/5 W J	3069472970	1
R194UR	Carbon Film	1.8 kohm 1/5 W J	3069182970	2	R309UR	Carbon Film	1.2 kohm 1/5 W J	3069122970	2
R195UR	Carbon Film	620 ohm 1/5 W J	3069621970	2	R310UR	Carbon Film	270 kohm 1/5 W J	3069274970	2
R196UR	Carbon Film	22 ohm 1/5 W J	3069220970	2	R312R313	Carbon Film	47 ohm 1/5 W J	3069470970	2
R197UR	Carbon Film	22 ohm 1/5 W J	3069220970	2	R314UR	Carbon Film	100 kohm 1/5 W J	3069104970	2
R198UR	Carbon Film	2.2 kohm 1/5 W J	3069229970	2	R315UR	Carbon Film	1.2 kohm 1/5 W J	3069122970	2
R199UR	Carbon Film	2.2 kohm 1/5 W J	3069229970	2	R316	Carbon Film	33 ohm 1/5 W J	3069330970	1
RES101	Resonator, CST4.19MGW		3938101880	1	R317	Carbon Film	18 kohm 1/5 W J	3069183970	1
RLY101	Relay, JC-2AD-DC24V		5518001450	1	R318	Carbon Film	3.9 kohm 1/5 W J	3069392970	1
RLY102	Relay, OSA-SS-224DM3		5528001610	1	R319R320	Carbon Film	47 kohm 1/5 W J	3069472970	2
GDN101	Ground Plate		423500310	1	R321	Carbon Film	560 ohm 1/5 W J	3069561970	1
GDN102	Ground Plate		423500310	1	RLY301	Relay, GSV-2-HI	55280040001	1	
R200UR	Carbon Film	2.2 ohm 1/5 W J	3069229970	2	RLY302	Relay, GSV-2-HI	55280040001	1	
R201UR	Carbon Film	2.2 ohm 1/5 W J	3069229970	2					
R202UR	Cement, Dual	0.39 ohm 5 W J	3059039776	2					

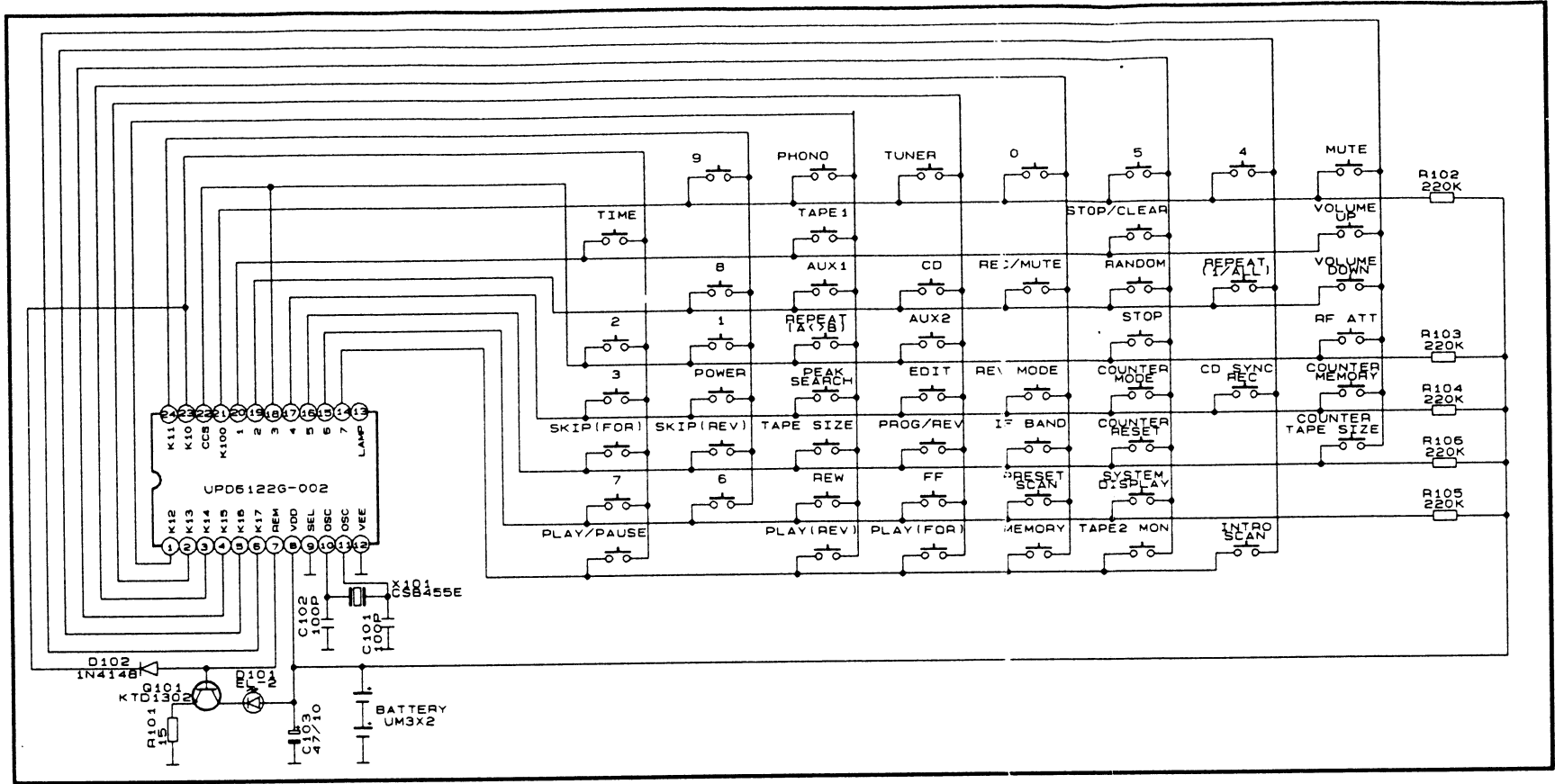
SCHEMATIC DIAGRAM I

Model No.: ACS-7000A



SCHEMATIC DIAGRAM II

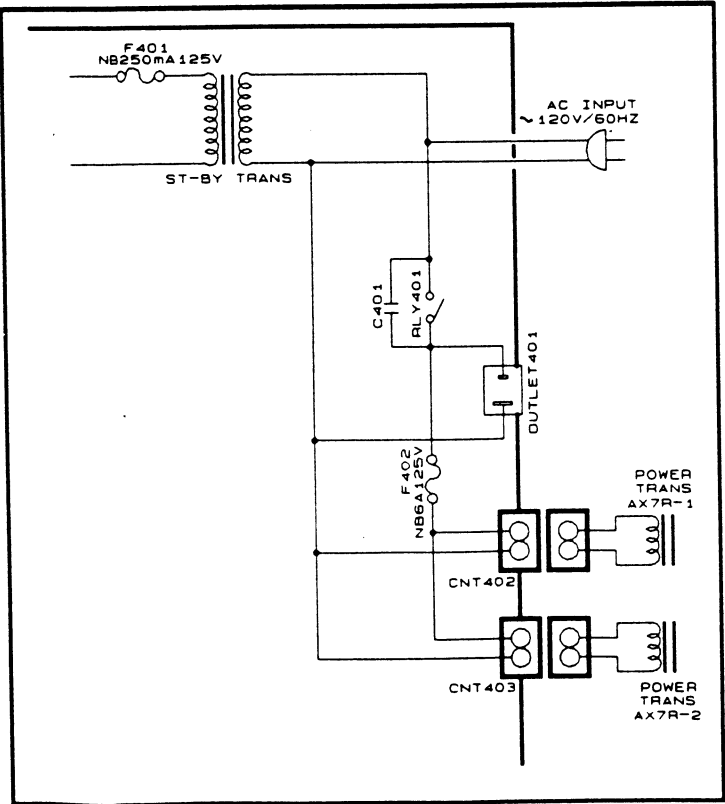
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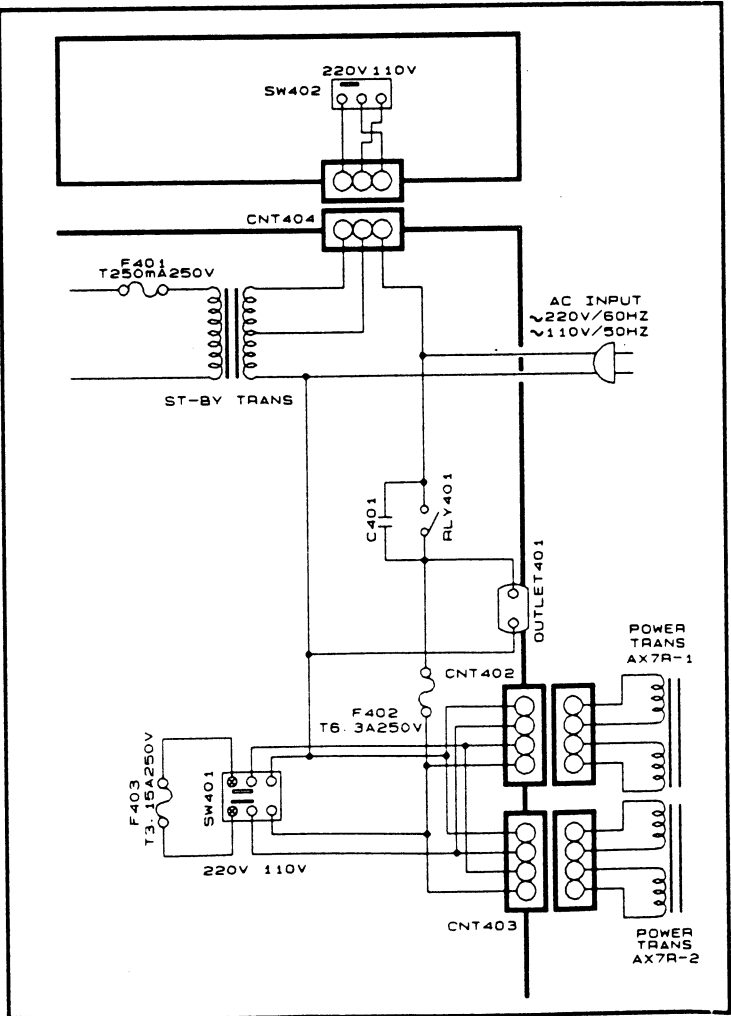
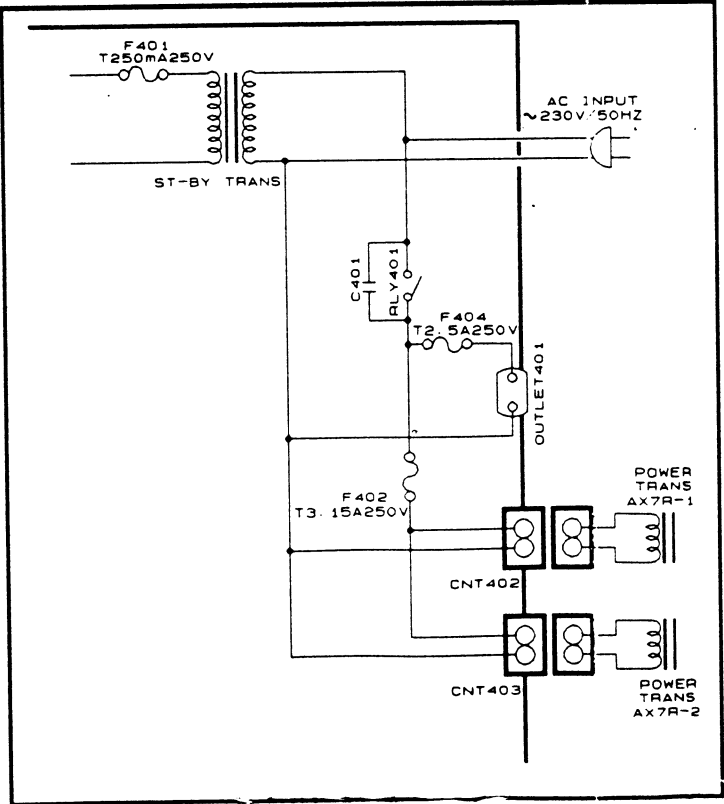
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CONNECTION OF PRIMARY

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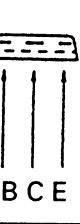
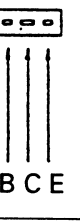
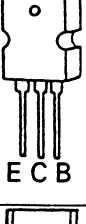
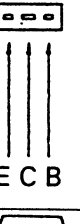
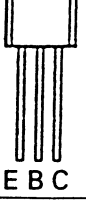
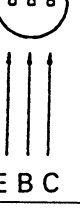
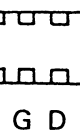


EUROPE



NOTES
1. Resistor values are indicated in ohms unless otherwise specified.
[K=1,000 M=1,000,000]
2. Capacitor values are indicated in microfarads unless otherwise specified. [p=micro-microfarads]
CAUTION
Safety precaution to be followed during servicing:
1) Since those parts marked with a triangle are critical parts for safety, use only the one described in the parts list.
2) Before returning the set to the customer, make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

TRANSISTORS LEAD IDENTIFICATION

Transistor	Front View	Bottom view
KTC 1815Y KTA 1015Y KTC 2229Y KTC 2235Y KTA 965Y		
2SC 3855 2SA 1491		
2SA 1859A-Y 2SC4883A-Y		
2SC4137		
KMPS A 06		
2SK332F		
TERMINAL NAME		
B → BASE S → SOURCE C → COLLECTOR C → GATE E → EMITTER D → DRAIN		