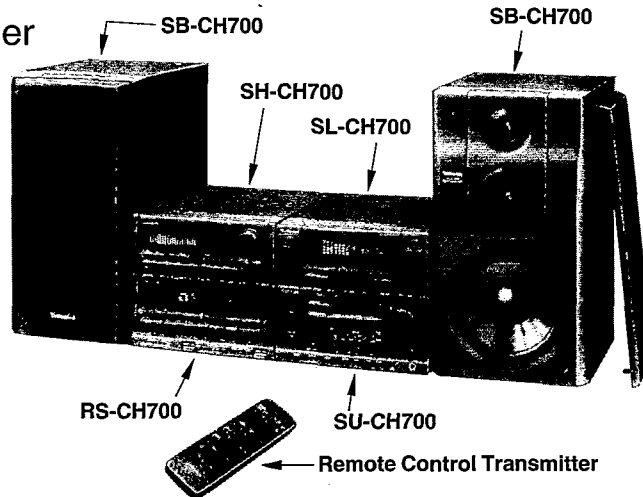


Service Manual

Power Amplifier



Amplifier

SU-CH700

Colour

(K) Black Type

Areas

Suffix for Model No.	Area	Colour
(E)	Continental Europe.	(K)
(EB)	Great Britain.	
(EG)	Germany and Italy.	
(GC)	Asia, Latin America, Middle Near East and Africa.	
(GN)	Oceania.	

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

■ SPECIFICATIONS

■ POWER AMPLIFIER SECTION

Power output

Front+Surround:

DIN 1 kHz THD 1% 6Ω, 2×40 W

Total Harmonic distortion

Half power at 1 kHz:

0.09% (6Ω)

Impedance

Front:

6Ω

Surround:

8Ω

■ PRE AMPLIFIER SECTION

Input sensitivity/Impedance

Front:

200 mV/47 kΩ

Mic:

0.7 mV/12 kΩ

Loudness:

5 dB (60 Hz)/for volume position -30 dB

■ GENERAL

Power consumption:

250 W (SYSTEM)

Power supply

For Great Britain and Oceania:

AC 50/60 Hz, 230~240 V

For Germany, Italy and

Continental Europe:

AC 50/60 Hz, 230 V

For others:

AC 50/60 Hz, 110 V/127 V/220 V/240 V

Dimensions (W×H×D):

215×110×346 mm

Weight:

5.1 kg

Notes:

- Specifications are subject to change without notice.
- Weight and dimensions shown are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

System: SC-CH700

System	Tuner/CD player	Sound Processor	Power Amplifier	Cassette Deck	Speakers
SC-CH700	SL-CH700	SH-CH700	SU-CH700	RS-CH700	*SB-CH700

*(E), (EB), (EG) areas... Made in PAES

Technics

CONTENTS

	Page		Page
BEFORE REPAIR	2	PRINTED CIRCUIT BOARDS	15~18
PROTECTION CIRCUITRY	2	WIRING CONNECTION DIAGRAM	19
ACCESSORIES	2	DESCRIPTION OF FL PANEL	20
LOCATION OF CONTROL	3~4	BLOCK DIAGRAM	21~22
CONNECTIONS	4	FUNCTION OF IC TERMINALS	23
DISASSEMBLY INSTRUCTION	5~7	REPLACEMENT PARTS LIST	24~27, 30
SCHEMATIC DIAGRAM (Operation/FL/Headphones circuit)	8~10	CABINET PARTS LOCATION	28, 29
SCHEMATIC DIAGRAM (Input-Output/Main circuit)	11~14	PACKAGING	31

BEFORE REPAIR

- Turn off the power supply. Using a 10Ω, 10 W resistor, connect both ends of power supply capacitors (C703, C704) in order to discharge the voltage.
- Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60 Hz in NO SIGNAL mode is mode should be shown below with respect to supply voltage 110 V/120 V/ 220 V/240 V.

Power supply voltage	AC 110 V	AC 120 V	AC 220 V	AC 230 V	AC 240 V
Consumed current 50 Hz	279~518 mA	264~491 mA	142~265 mA	152~283 mA	133~248 mA
Consumed current 60 Hz	229~426 mA	222~413 mA	120~223 mA	125~232 mA	112~208 mA

PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

*No sound is heard when the power is switched ON.

*Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

- Switch OFF the power.
- Determine the cause of the problem and correct it.
- Switch ON the power once again.

Note:

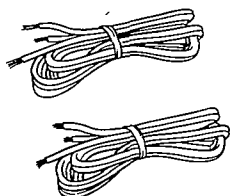
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

ACCESSORIES

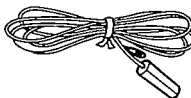
Attachment plug 1 pc.
<SJP9009> for (EB) area



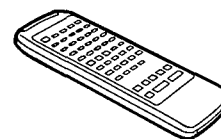
Speaker cord 2 pcs.
<SWXS257M>



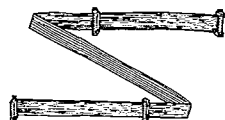
TV/FM indoor antenna 1 pc.
<RSA0006> for (GC) (GN) area
<RSA0007> for (E) (EB) (EG) area



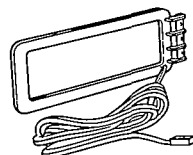
Remote control transmitter 1 pc.
<RAK-SC514W>



Flat cable 1 pc.
<REX0402>



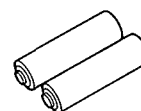
AM loop antenna 1 pc.
<SPB1163T>



Antenna holder 1 pc.
<SMA233-1M>



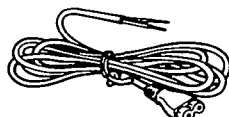
Remote control batteries ... 2 pcs.
<R03>



Optical cable 1 pc.
<SJP2281>



AC Power supply cord 1 pc.
<RJA0019-1K> for (E) (EG) area
<SJA193> for (EB) area
<RJA0004> for (GC) area
<SJA173> for (GN) area

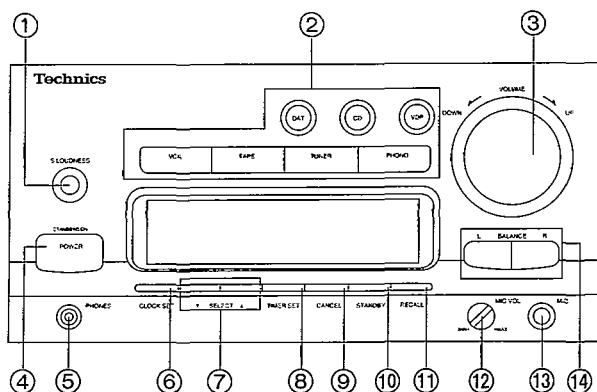


Screws 2 pcs.
<XTN3+10AFZ>



AC plug adaptor 1 pc.
<SJP9215> for (GC) area

LOCATION OF CONTROL

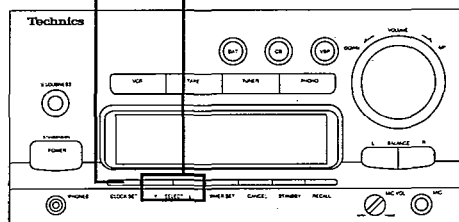


- ① **Loudness button (S. LOUDNESS)**
This button is used to boost the dynamic low frequency ranges in a low volume level.
- ② **Input select buttons (DAT, CD, VDP, VCR, TAPE, TUNER, PHONO)**
These buttons are used to select the sound source to be heard.
- ③ **Volume level control (VOLUME)**
This control is used to adjust the volume level.
Note that "-- dB" is the lowest volume setting and "0 dB" is the highest level setting.

- ④ **Power "STANDBY \odot /ON" switch (POWER STANDBY \odot /ON)**
This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the STANDBY \odot position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.
- ⑤ **Headphones jack (PHONES)**
- ⑥ **Clock set button (CLOCK SET)**
This button is used to set the present time.
- ⑦ **Timer select buttons (∇ SELECT \blacktriangle)**
These buttons are used when setting the time, making the timer setting, selecting the type of timer operation, etc.
- ⑧ **Timer set button (TIMER SET)**
This button is used to enable the timer set mode and the current selection, selected by the timer select buttons.
- ⑨ **Timer cancel button (CANCEL)**
This button is used to cancel the timer setting.
- ⑩ **Timer standby button (STANDBY)**
This button is used to cancel the timer setting temporarily.
- ⑪ **Timer setting confirmation button (RECALL)**
This button is used to confirm the timer settings.
- ⑫ **Microphone volume control (MIC VOL.)**
This control is used to adjust the microphone volume level.
- ⑬ **Microphone Jack (MIC)**
- ⑭ **Balance adjustment buttons (BALANCE)**
These buttons are used to adjust the volume balance.

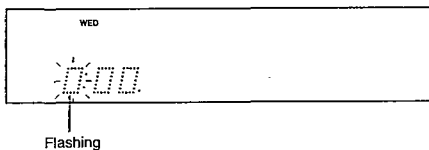
Setting the time

1·3·5·7 2·4·6

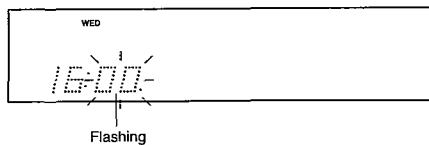


For example:
To set the time at 16:25 on Wednesday (4:25 pm).
Have you switched on the power?

- 1 **Press the clock set button.**
The day indicator will start to flash.
- 2 **Press one of the timer select buttons to select "WED".**
- 3 **Press the clock set button.**
- 4 **Press one of the timer select buttons to select "16".**
- 5 **Press the clock set button.**



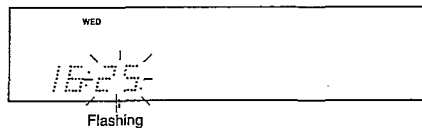
Flashing



Flashing

- 6 **Press one of the timer select buttons to select "25".**

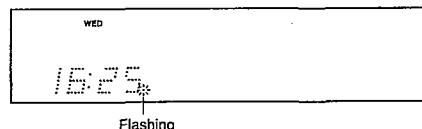
Note that the minute "00" display appears following "59", but the hour display is not changed.



Flashing

- 7 **Press the clock set button to finish setting the time.**

The dot indicator will start to flash to indicate the clock is working.



Flashing

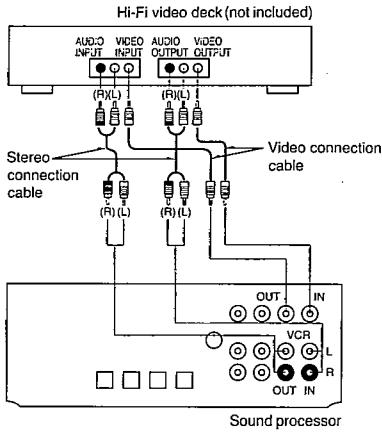
Note:

•"E" appears on the display when the power cord is connected or by electricity failure. Set the time once again.

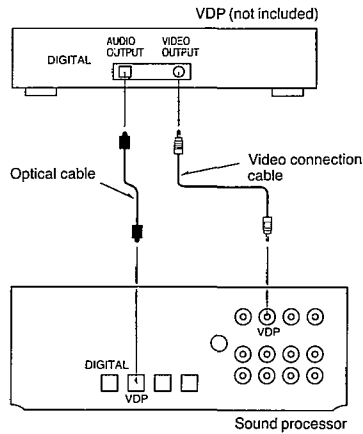
CONNECTIONS

External unit connection

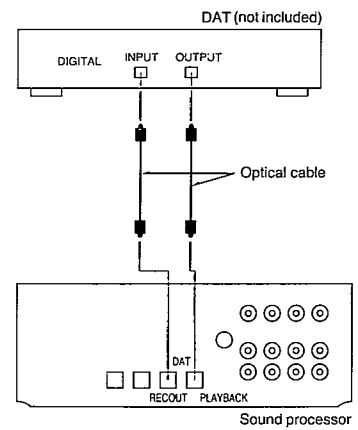
Video deck



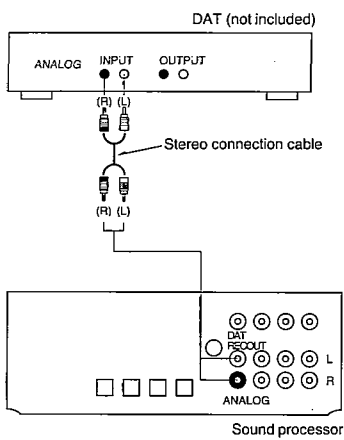
Video disc player



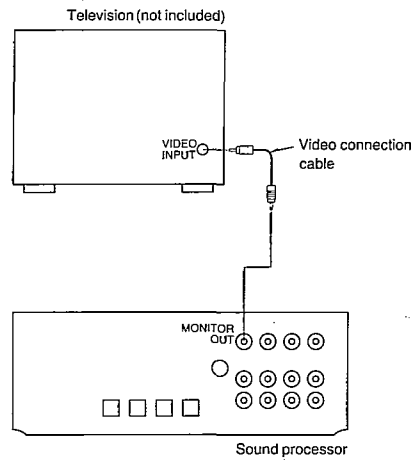
DAT (digital audio tape deck) (with optical cables)



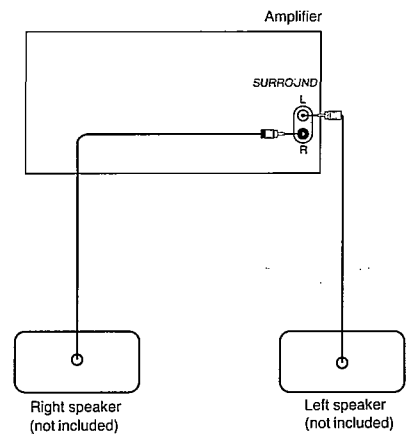
DAT (only recording out) (with stereo connection cables)



Television



Surround speakers

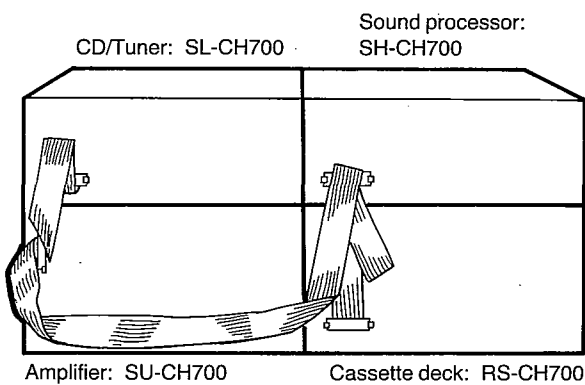


Be sure to connect both speaker systems. If only one side is connected, no sound will be heard.

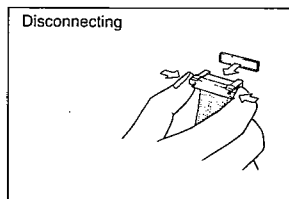
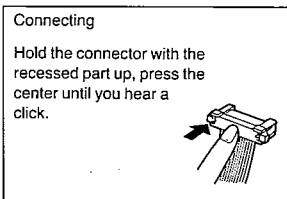
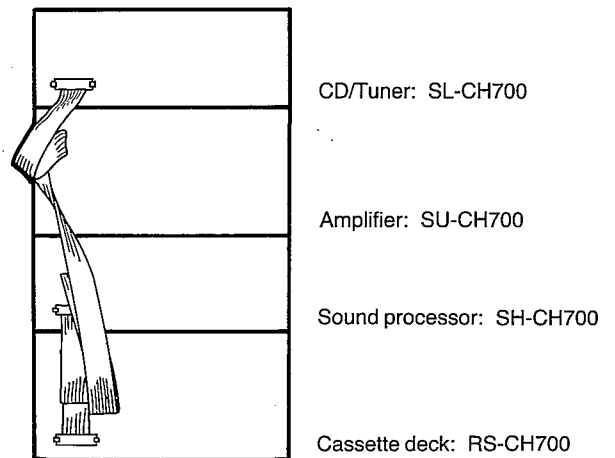
You can record the original sound that you have created with this system to DAT tape.

Connect the flat cables

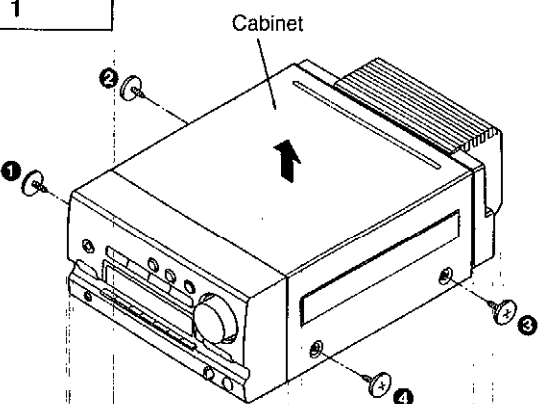
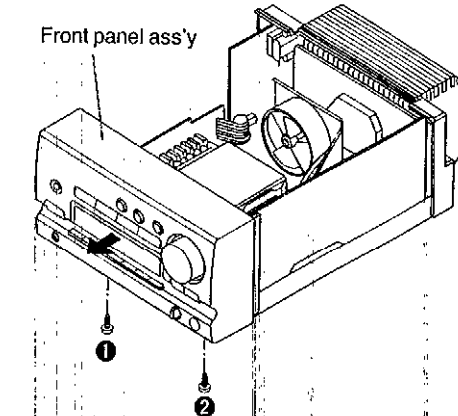
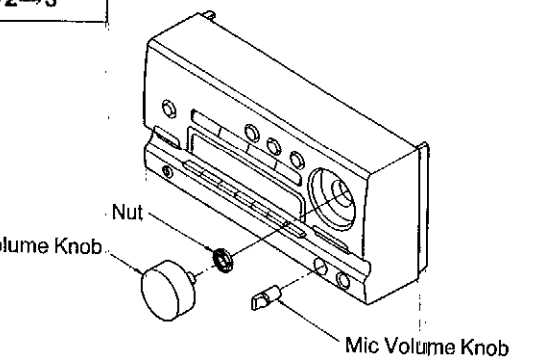
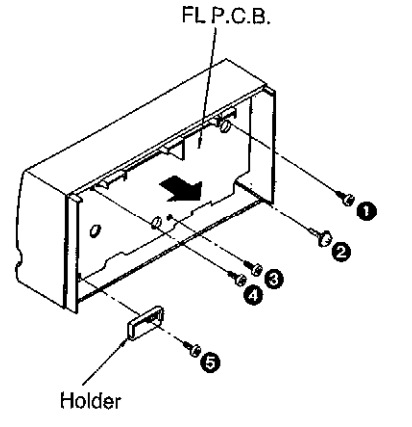
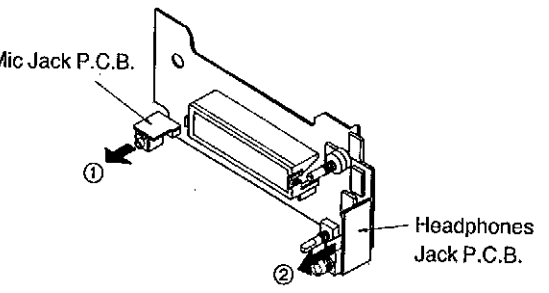
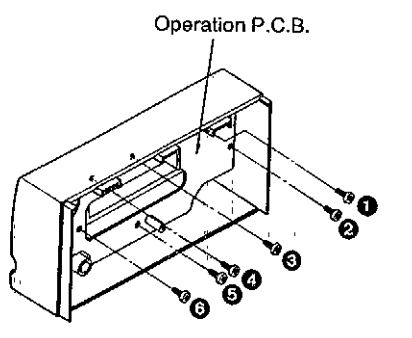
When installing the components horizontally, fold the cable as shown in the figure below.

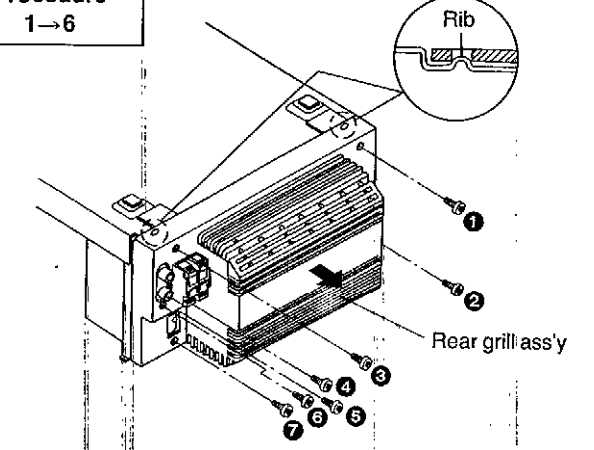
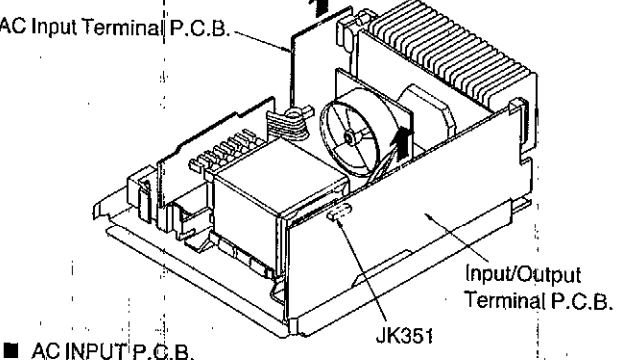
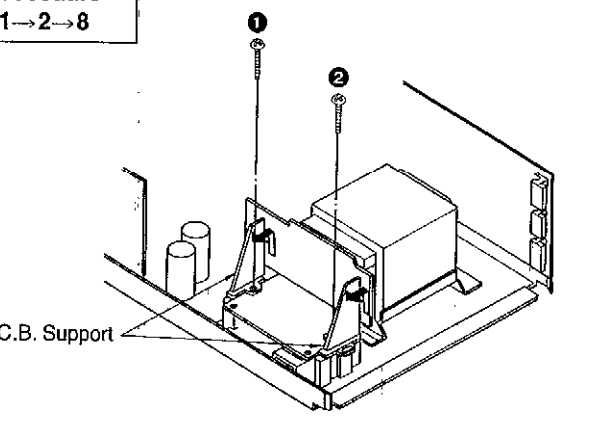
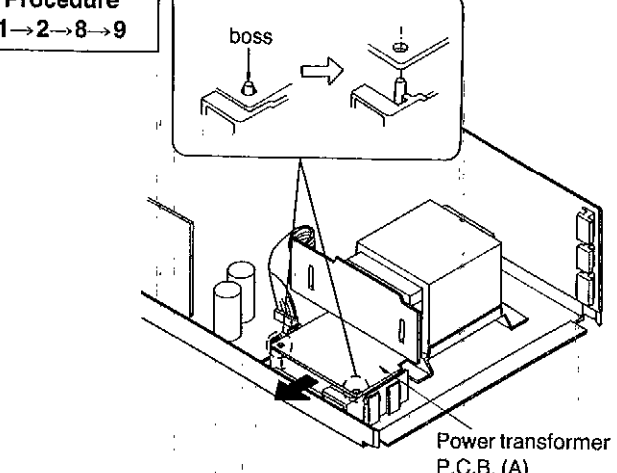
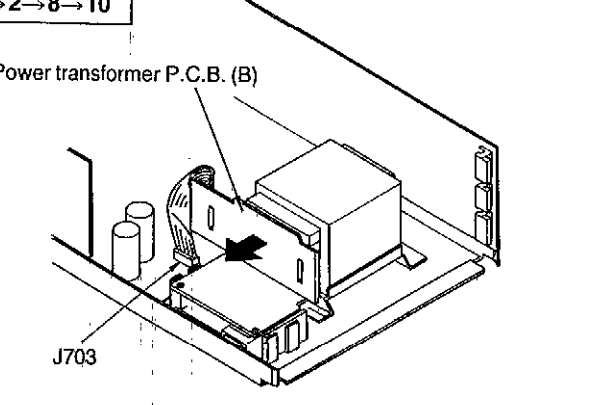
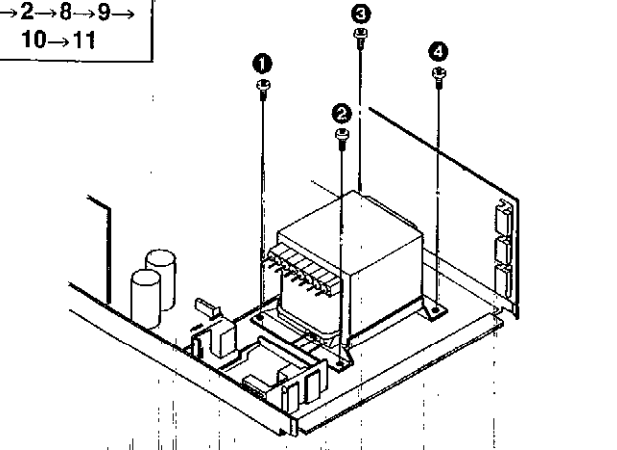


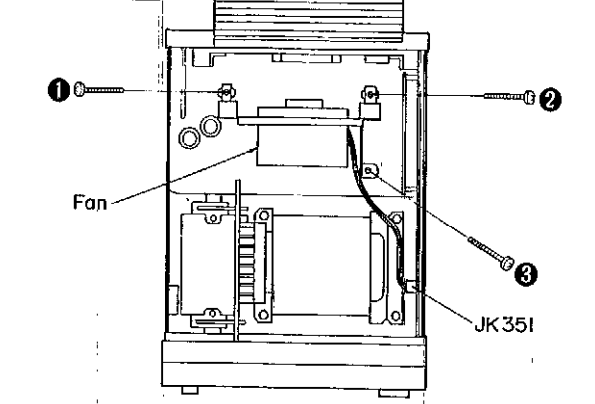
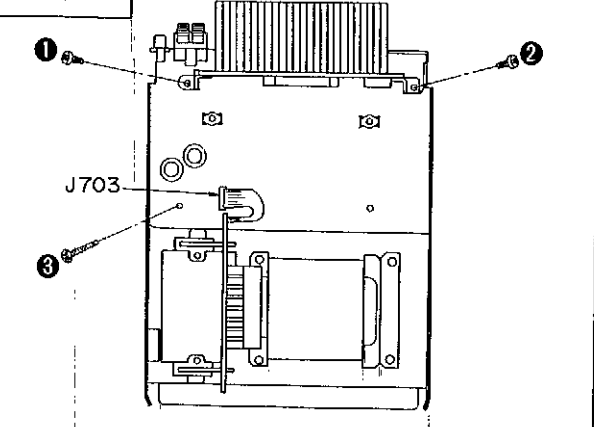
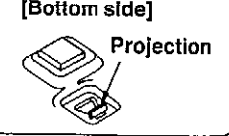
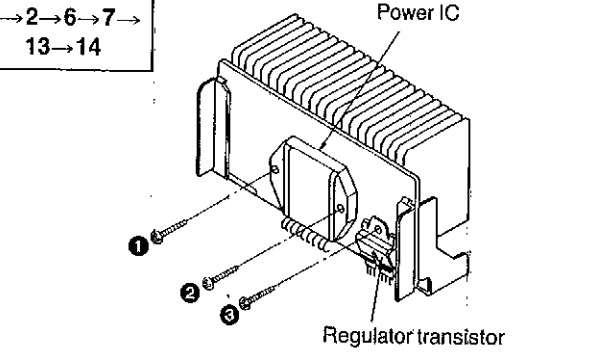
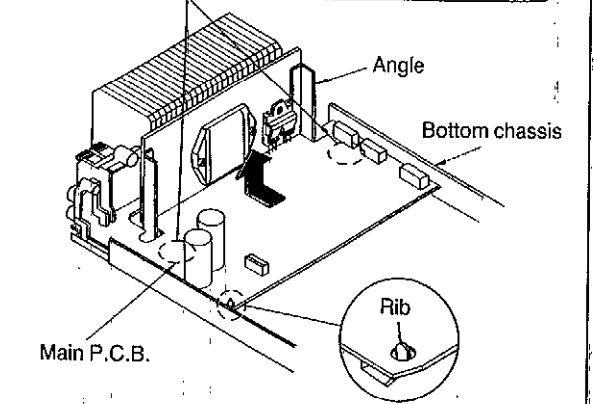
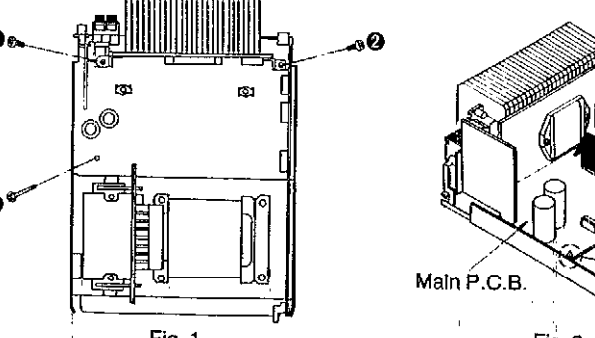
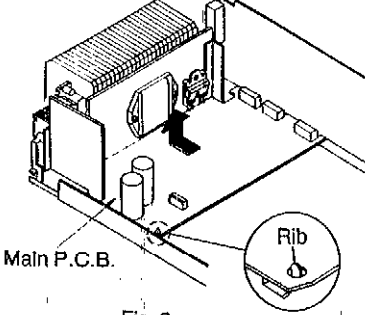
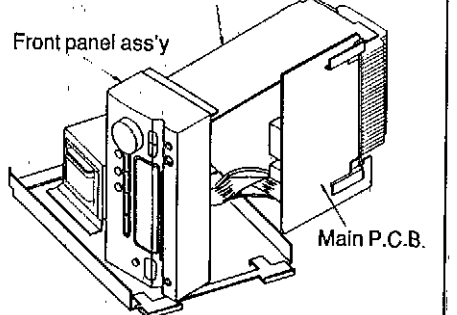
When installing the components vertically, fold the cable as shown in the figure below.

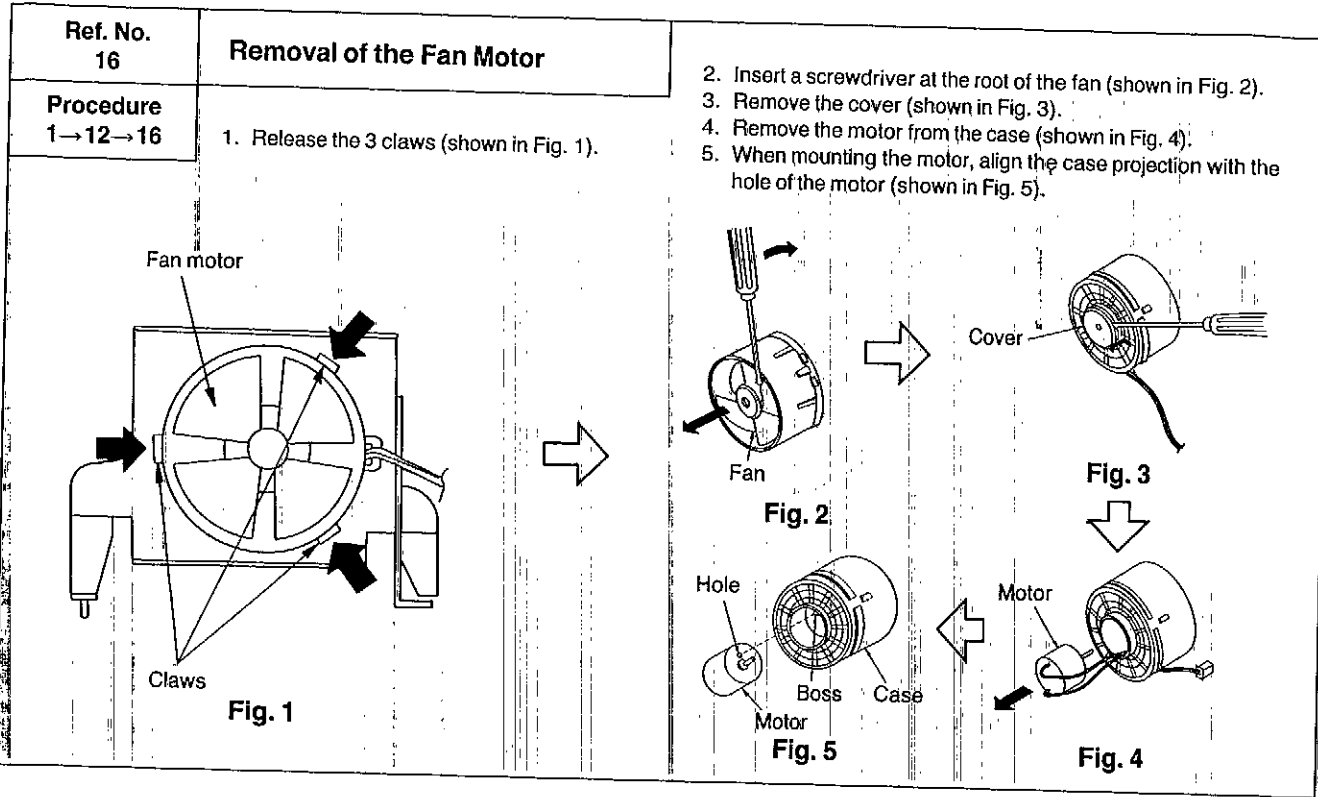


DISASSEMBLY INSTRUCTIONS

Ref. No. 1	Removal of the Cabinet	Ref. No. 2	Removal of the Front Panel Ass'y
Procedure 1	 ●Remove the 4 screws (1~4).	Procedure 1→2	 1. Remove the 2 screws (1, 2). 2. Remove the front panel ass'y in the direction of the arrow.
Ref. No. 3	Removal of the FL P.C.B.		
Procedure 1→2→3	 1. Pull out the 2 knobs (Volume and Mic knob). 2. Remove the Nut.		 3. Remove the 5 screws (1~5). 4. Remove the holder. 5. Remove the FL P.C.B. in the direction of the arrow.
Ref. No. 4	Removal of the Mic Jack P.C.B. and Headphones Jack P.C.B.	Ref. No. 5	Removal of the Operation P.C.B.
Procedure 1→2→3→4	 ■ Mic Jack P.C.B. ●Remove the Mic P.C.B. in the direction of the arrow ①. ■ Headphones Jack P.C.B. ●Remove the headphones jack P.C.B. in the direction of the arrow ②.	Procedure 1→2→3→5	 ●Remove the 6 screws (1~6).

Ref. No. 6	Removal of the Rear Grill Ass'y	Ref. No. 7	Removal of the AC Input Terminal P.C.B. and Input/Output Terminal P.C.B.
Procedure 1→6	 1. Remove the 7 screws (1~7). 2. Remove the 2 ribs and then remove the rear grill ass'y in the direction of the arrow.	Procedure 1→2→6→7	 ■ AC INPUT P.C.B. ●Remove the P.C.B. in the direction of the arrow. ■ INPUT/OUTPUT TERMINAL P.C.B. 1. Remove the connector (JK351). 2. Remove the P.C.B. in the direction of the arrow.
Ref. No. 8	Removal of the P.C.B. support	Ref. No. 9	Removal of the Power Transformer P.C.B. (A)
Procedure 1→2→8	 1. Remove the 2 screws (1, 2). 2. Remove the 2 support in the direction of the arrow.	Procedure 1→2→8→9	 1. Remove the 2 boss. 2. Remove the P.C.B. in the direction of the arrow.
Ref. No. 10	Removal of the Power Transformer P.C.B. (B)	Ref. No. 11	Removal of the Power Transformer
Procedure 1→2→8→10	 1. Remove the flat cable (J703). 2. Remove the P.C.B. in the direction of the arrow.	Procedure 1→2→8→9→10→11	 ●Remove the 4 screws (1~4).

Ref. No. 12	Removal of the Fan	Ref. No. 13	Removal of the Main P.C.B.
Procedure 1→12	 1. Remove the connector (JK351). 2. Remove the 3 screws (1~3).	Procedure 1→2→6→7→13	 1. Remove the 3 screws (1~3). ■ NOTE ●Insert the projection on the angle into the hole of the bottom chassis and then install the Main P.C.B. 
Ref. No. 14	Removal of the Power IC and Regulator Transistor		
Procedure 1→2→6→7→13→14	 1. Remove the 3 screws (1~3). 2. Unsolder the power IC and regulator transistor. ●When mounting the Power IC or regulator transistor, Apply silicone compound (RFKX0002) to the rear side of power IC or regulator transistor.		 2. Remove the rib and then remove the Main P.C.B. in the direction of the arrow.
Ref. No. 15	Check the Main P.C.B.		
Procedure 1→2→6→15	 1. Remove the 3 screws (1~3).  2. Remove the rib and then remove the Main P.C.B. in the direction of the arrow.		 3. Reinstall the front panel ass'y to the INPUT/OUTPUT terminal P.C.B. 4. When checking the soldered surface of the main P.C.B. do as shown in the Fig. 3.



- Notes:**
- S601 : Clock set switch
 - S602 : Select down switch
 - S603 : Select up switch
 - S604 : Timer set switch
 - S605 : Cancel switch
 - S606 : Standby switch
 - S607 : Recall switch
 - S608 : Balance (L) control switch
 - S609 : Balance (R) control switch
 - S610 : BS select switch
 - S611 : Tuner select switch
 - S612 : CD select switch
 - S613 : DAT select switch
 - S614 : Tape select switch
 - S615 : VDP select switch
 - S616 : VCR select switch
 - S618 : S. Loudness switch
 - S619 : Power switch
 - S701 : Voltage select switch in "220 V" position (110 V/127 V/220 V/240 V) for (GC) area only

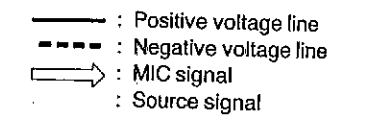
•The supply part number is described alone in the replacement parts list.

Ref. No.	Production Parts No.	Supply Parts No.
IC151 IC202 IC203	BA4558FT1	SV1BA4558F
IC301	M5218AL	M5218L

•Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

•Important safety notice:
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

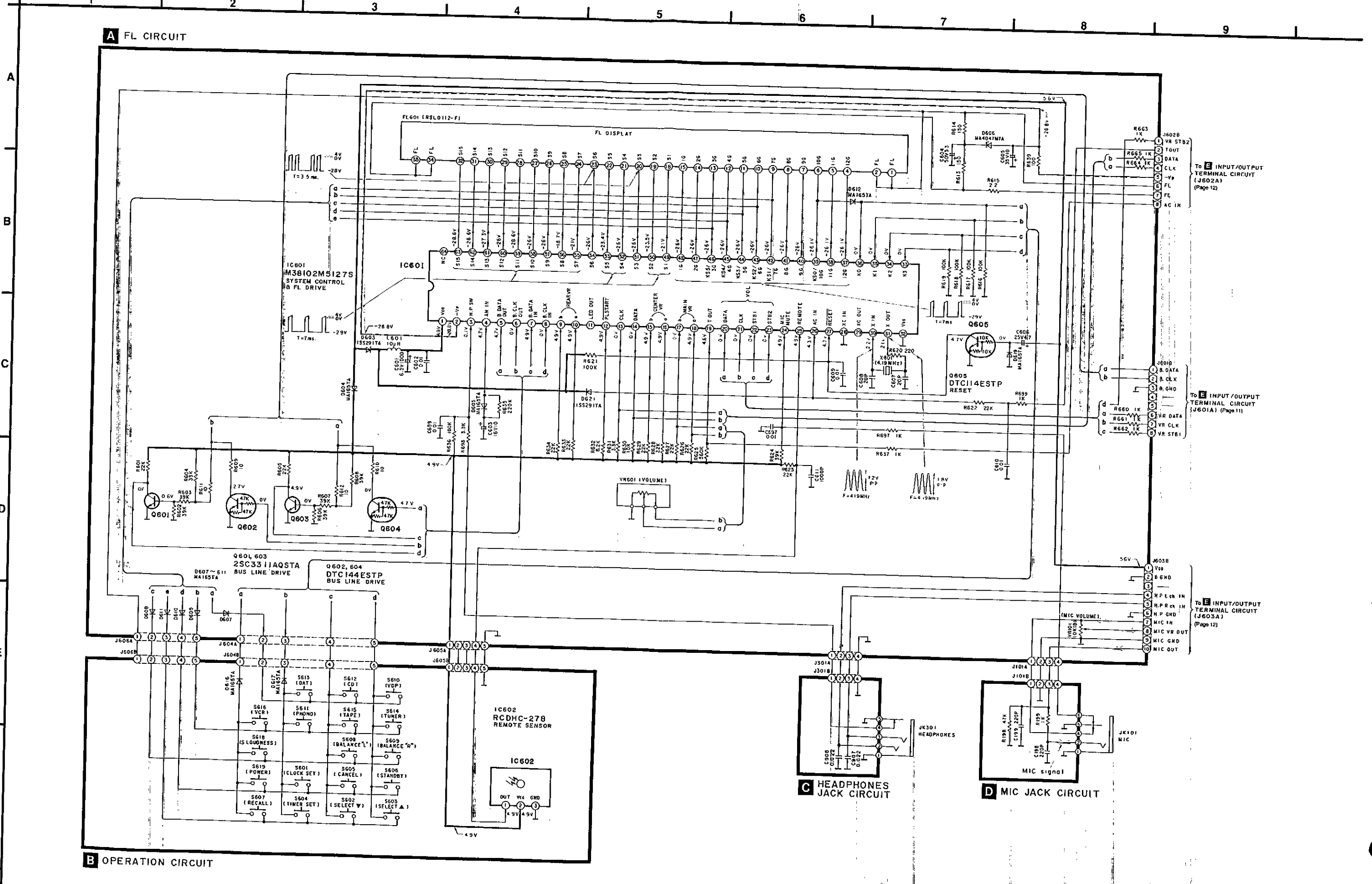
•This schematic diagram may be modified at any time with the development of new technology.



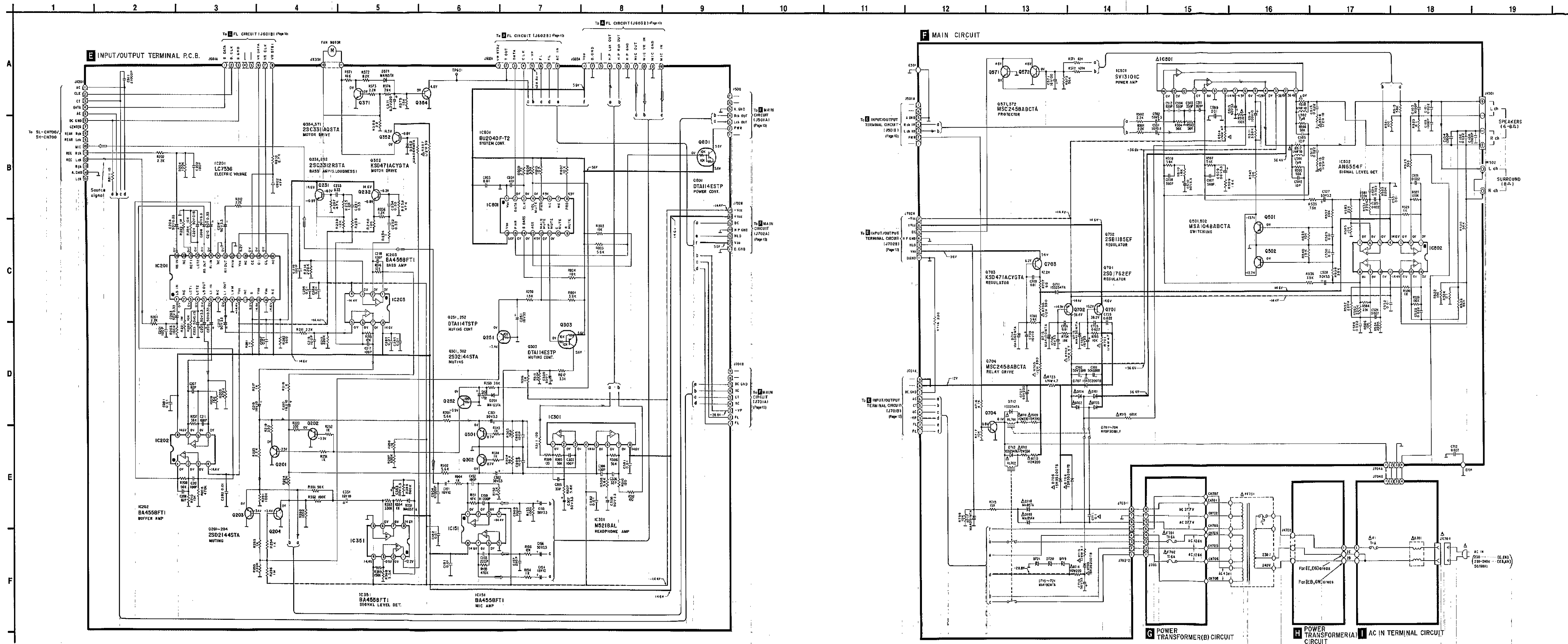
Caution!

- IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

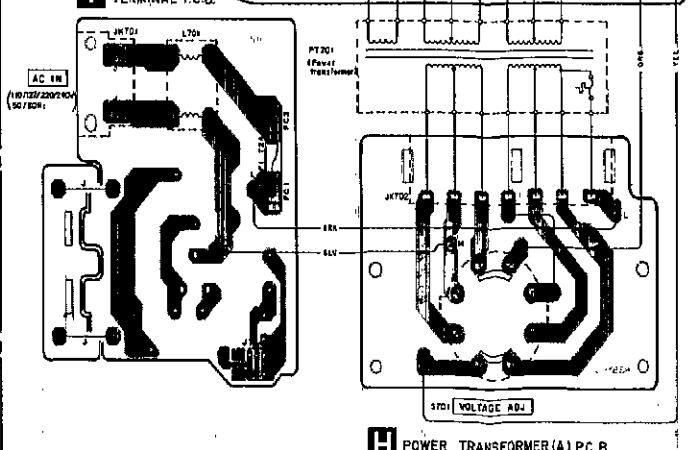
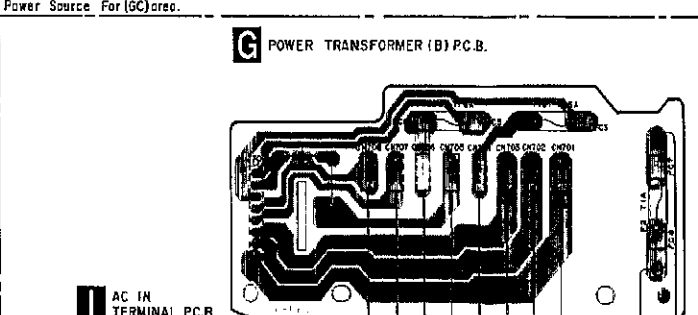
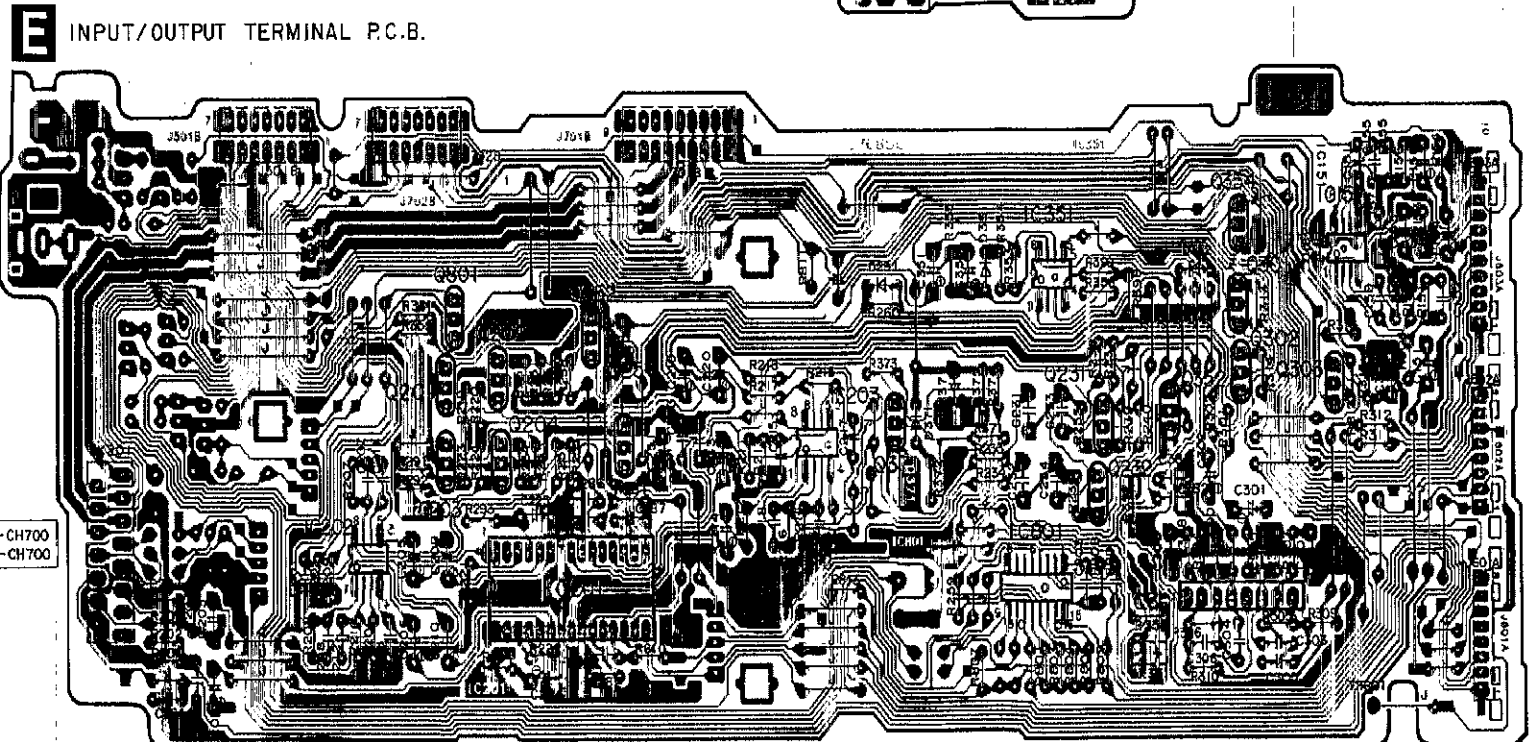
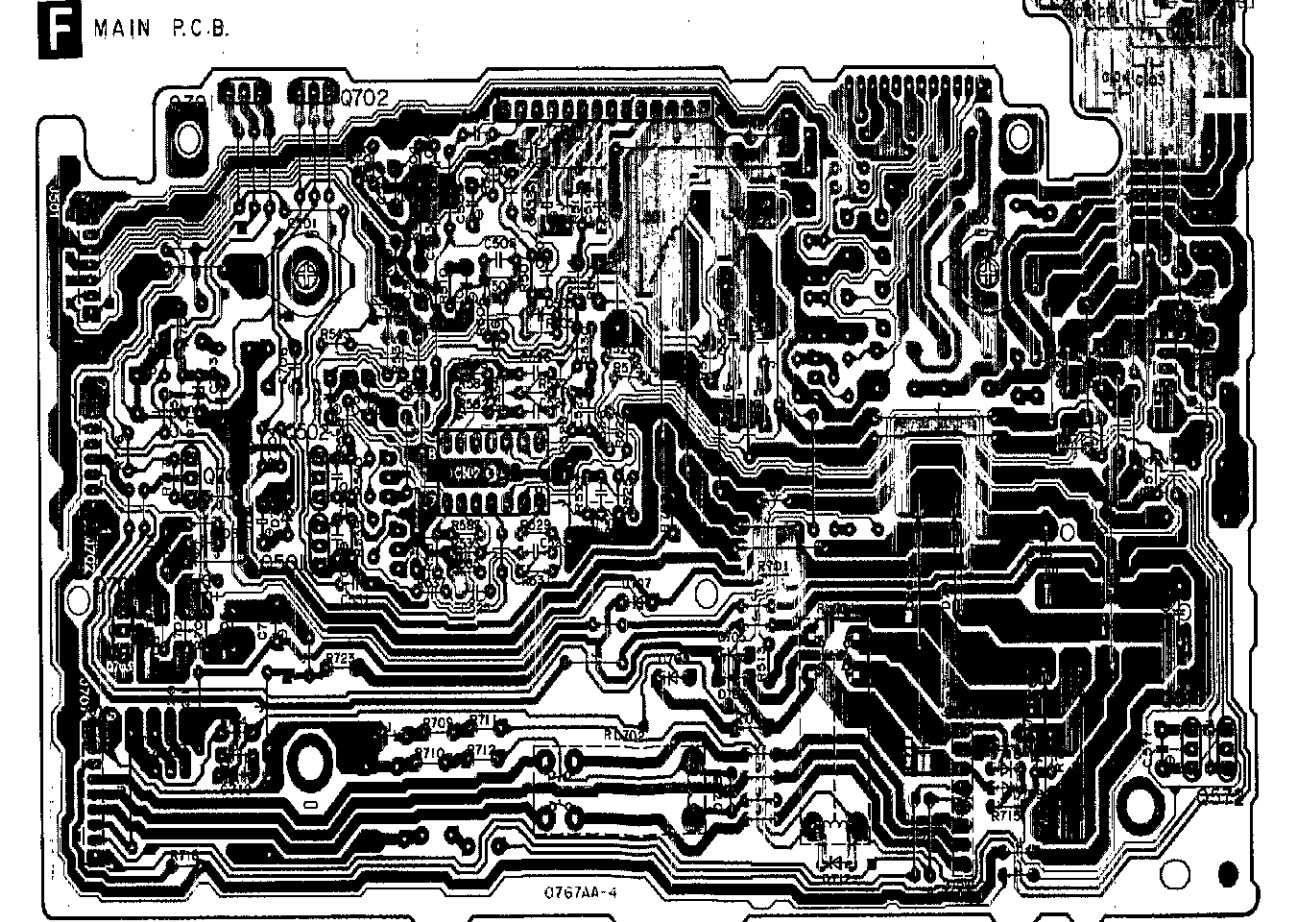
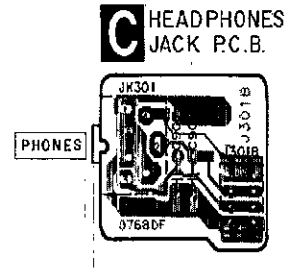
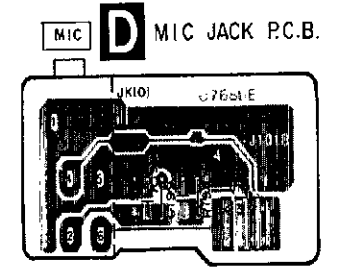
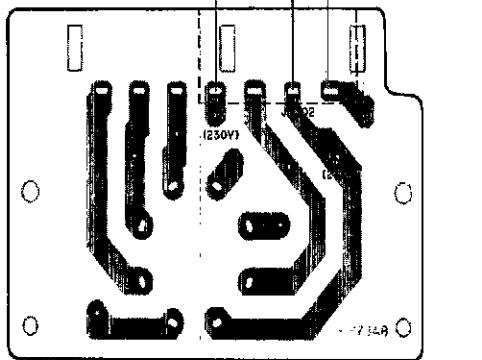
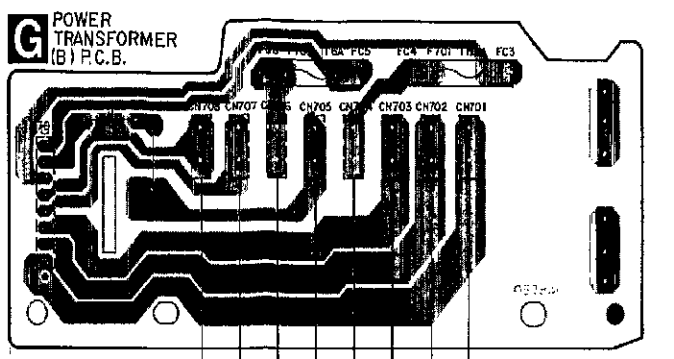
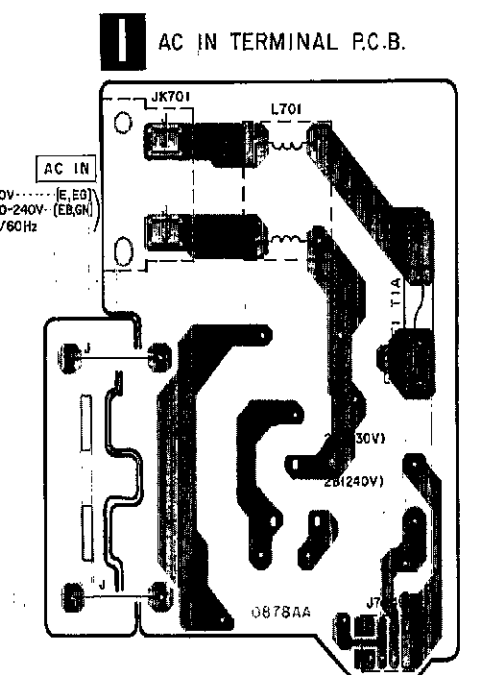
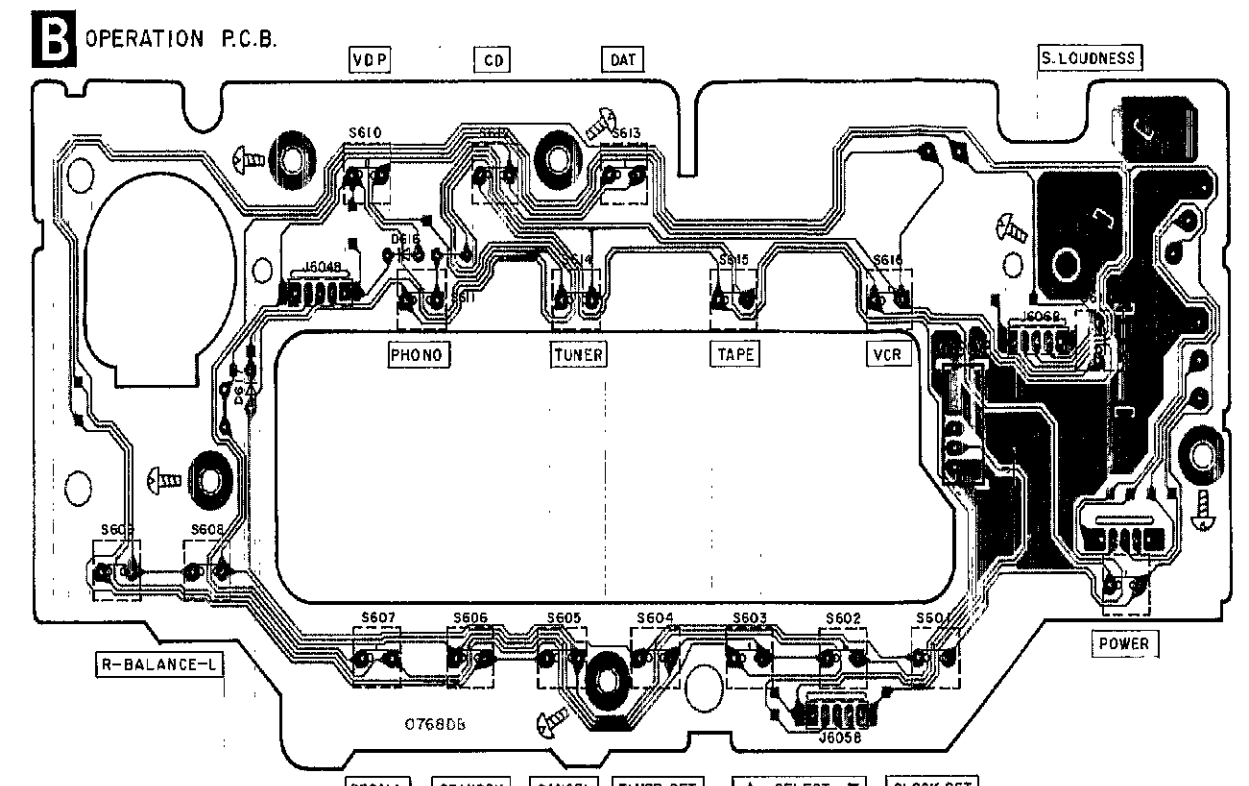
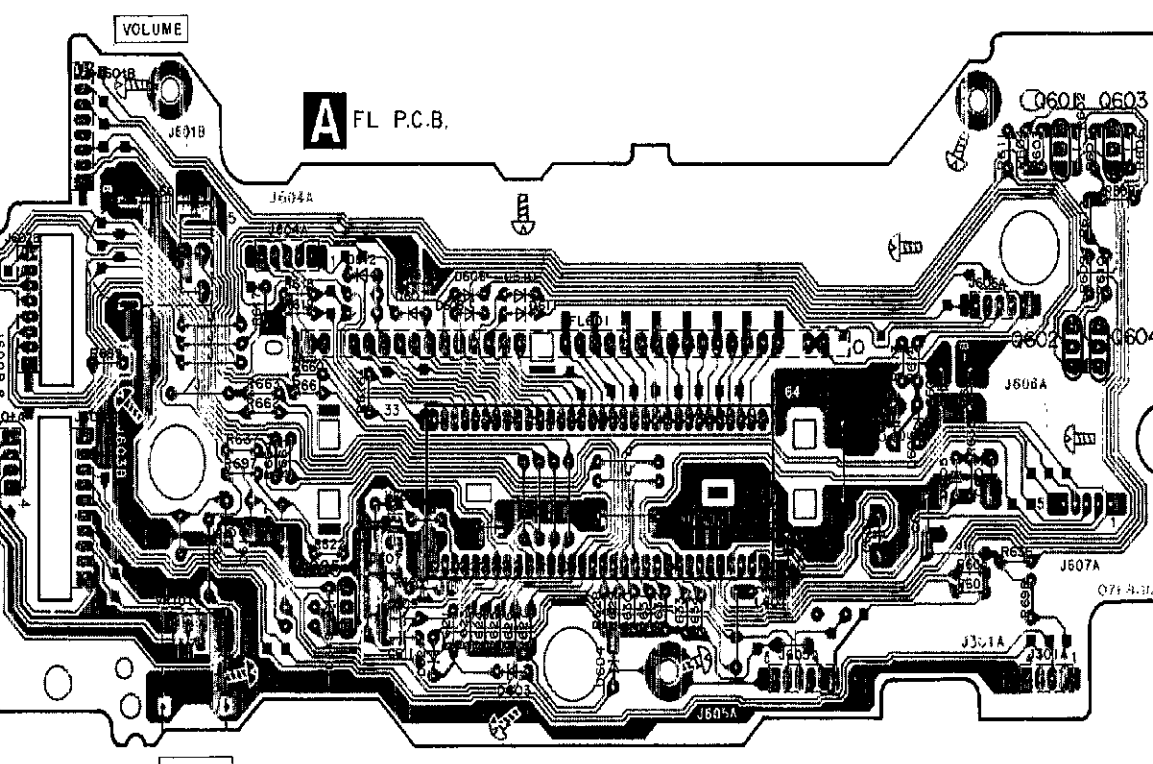
SCHEMATIC DIAGRAM (Operation/FL/Headphones circuit) (Part list on pages 24~27.)



SCHEMATIC DIAGRAM (Input/Output Terminal/Main circuit) (Parts list on pages 24~27.)

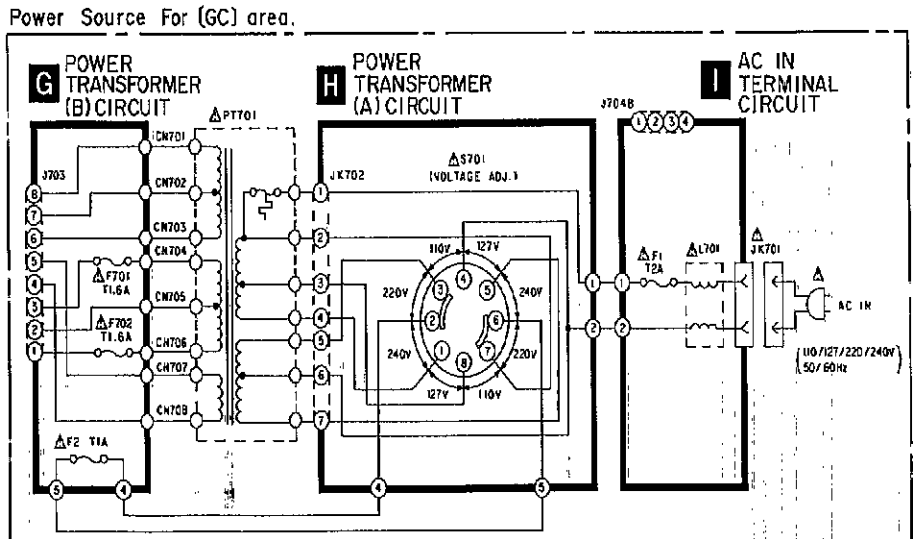


PRINTED CIRCUIT BOARDS

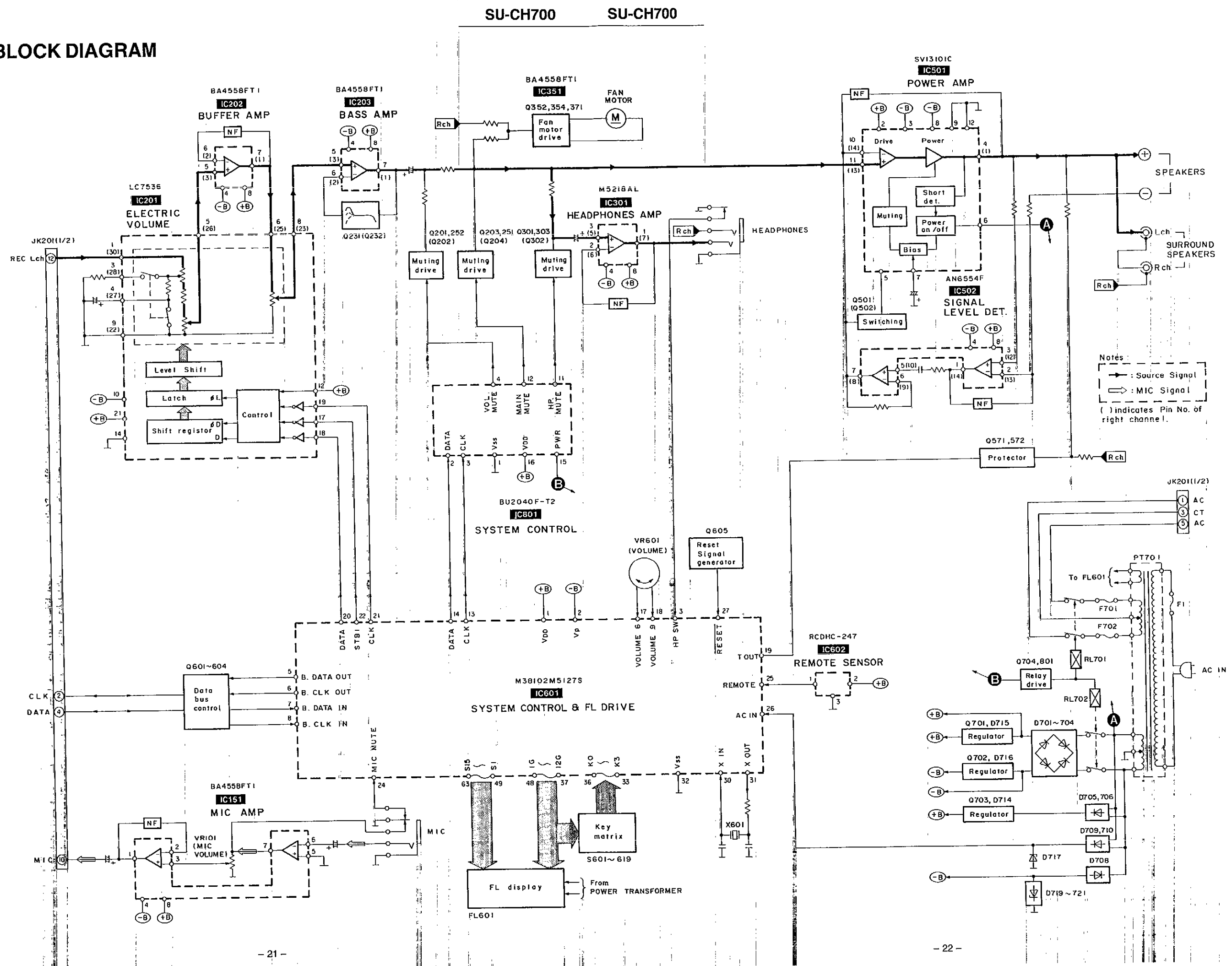


• Terminal guide of IC's, transistors and diodes

BA4558FT1 	BU2040F-T2 	M38102M5127S 	M5218AL
	AN6554F 14Pin LC7536 30Pin	SVI3101C 	RCDHC-278
KSD471ACYGTA 	MSA1048ABCTA MSC2458ABCTA 2SD2144STA DTA114ESTP DTA114TSTP DTC114ESTP DTC114TSTP	2SC3311AQSTA 2SC3312RSTA 	
2SB1185EF 2SD1762EF 	MA165TA MA185TA 1SS254TA 1SR35200TB 	MA4100MTA MA4150MTA 	
	MA4047MTA MA4051MTA MA4062MTA MA4068MTA 	RVDP300DLF 	1SS291TA



■ BLOCK DIAGRAM



■ FUNCTION OF IC TERMINALS

● IC601 (M38102M5127S)

Pin No.	Terminal Name	I/O	Function
1	V _{DD}	I	Power supply (+5)
2	-VP	I	Pull down voltage input
3	HPSW	I	Headphone output control signal input
4	AN IN	I	Back-up power input
5	B. DATA OUT	O	Data base signal output
6	B. CLK OUT	O	
7	B. DATA IN	I	Data base signal input
8	B. CLK IN	I	
9	REAR VR b	I	Level encoder volume control signal input (Connect to V _{DD} , Not used)
10	REAR VR a	I	
11	S. BASS	O	Not used
12	PLSTART	I/O	Phone mode select signal input/output
13	CLK	O	Clock signal output for IC801 (BU2040F-T2)
14	DATA	O	Data signal output for IC801 (BU2040F-T2)
15	CENTER VR b	I	Level encoder volume control signal input (Connect to V _{DD} , Not used)
16	CENTER VR a	I	
17	MAIN VR b	I	Level encoder volume control signal input
18	MAIN VR a	I	
19	T OUT	I/O	Clock signal monitor input/output (131.072 kHz)
20	VOL DATA	O	PMW control signal output for electronic volume (IC201 LC7536)
21	VOL CLK	O	PMW clock signal output for electronic volume (IC201 LC7536)
22	VOL STB1	O	PMW strobe signal output for electronic volume (IC201 LC7536)
23	VOL STB2	O	
24	MIC MUTE	I	Mic muting signal input
25	REMOTE	I	Remote control receiving signal input

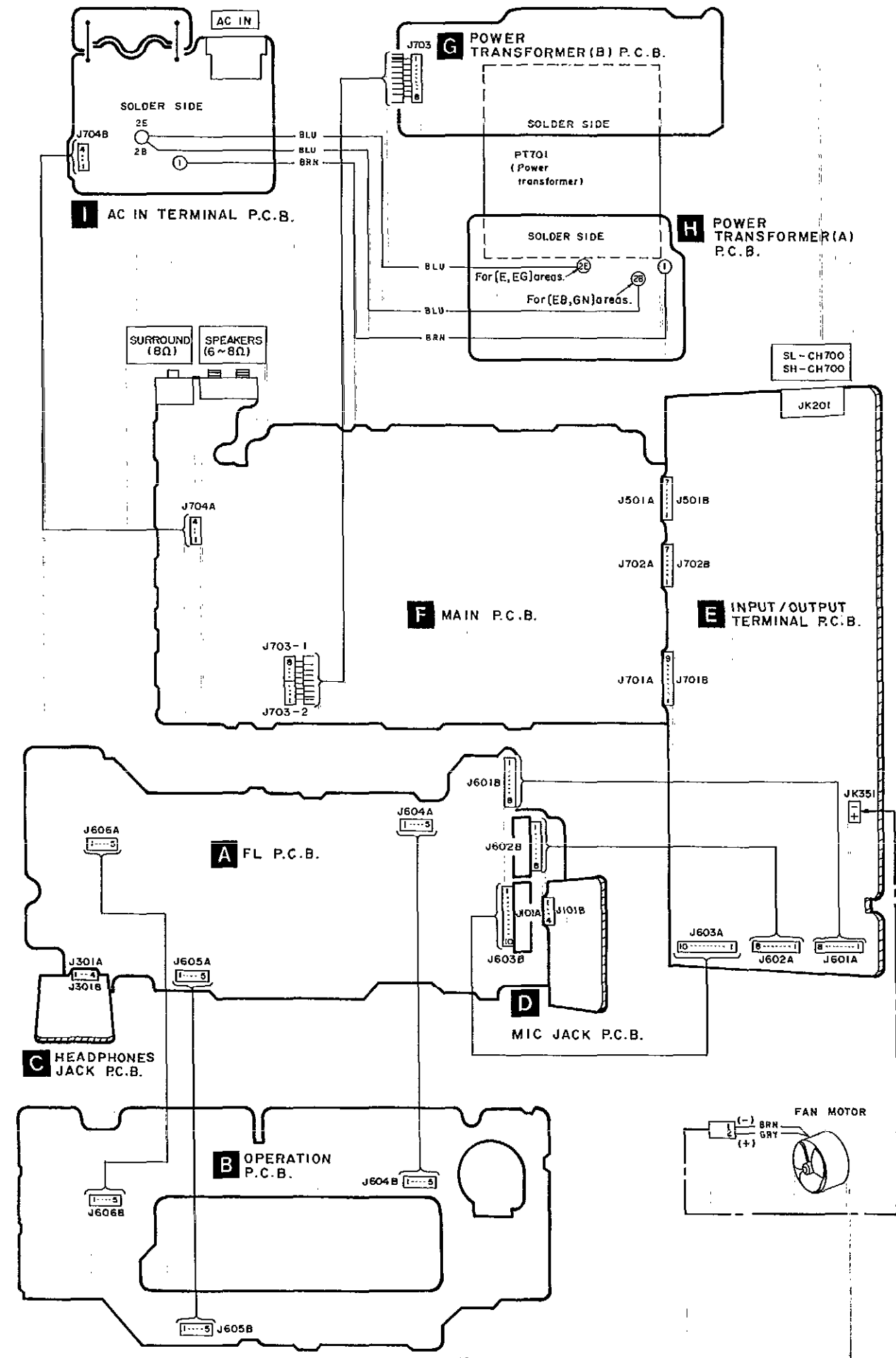
Pin No.	Terminal Name	I/O	Function
26	AC IN	I	50/60 Hz x 2 AC voltage signal input
27	RESET	I	Reset signal input
28	XC IN	I	Not used (open)
29	XC OUT	O	
30	X IN	I	Ceramic Oscillator connection (4.194304 MHz)
31	X OUT	O	
32	V _{SS}	I	GND
33~36	K3~K0	I	Key control signal input
37~41	12G~8G	O	FL digit signal output
42~46	7G~3G	O	Key control signal and FL digit signal output
47, 48	2G, 1G	O	FL digit signal output
49~63	S1~S15	O	FL segment signal output
64	NC	-	Not used (open)

REPLACEMENT PARTS LIST

Notes: * Important safety notice: Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts. ...

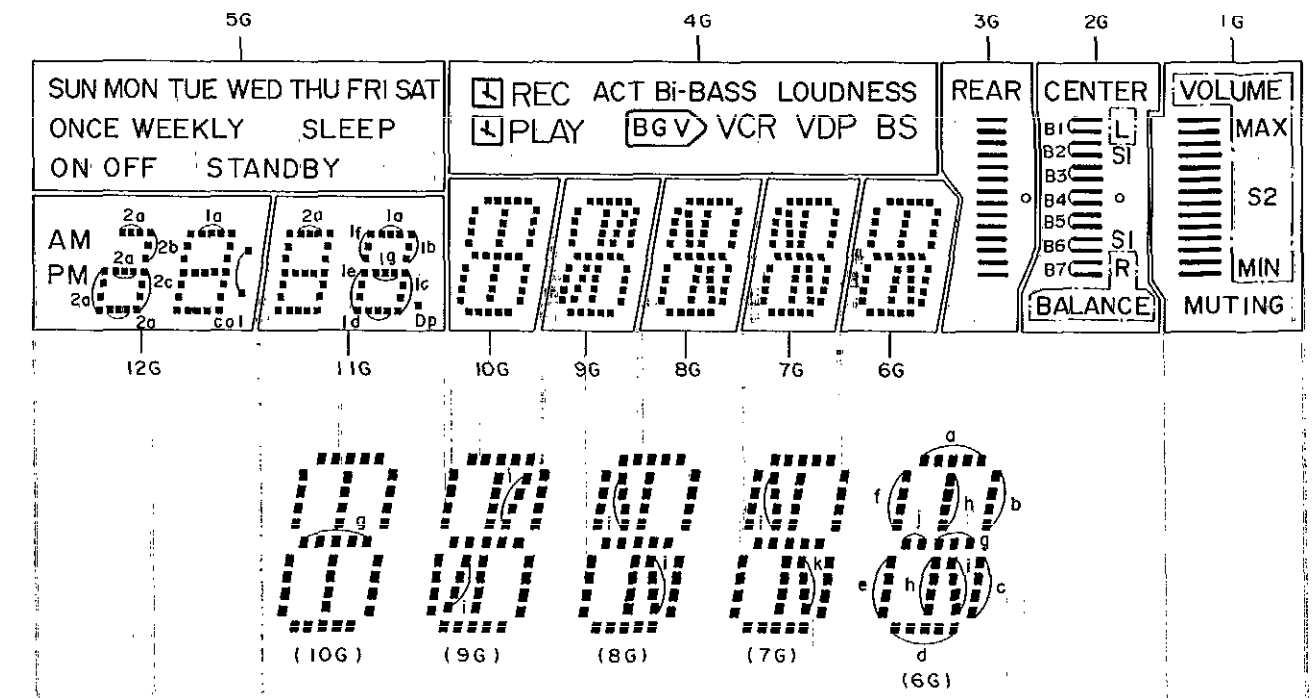
Table with 4 columns: Ref. No., Part No., Part Name & Description, Remarks. Lists various electronic components like diodes, transistors, and fuses.

WIRING CONNECTION DIAGRAM



DESCRIPTION OF FL PANEL [FL601 (RSL0112-F)]

Grid assignment



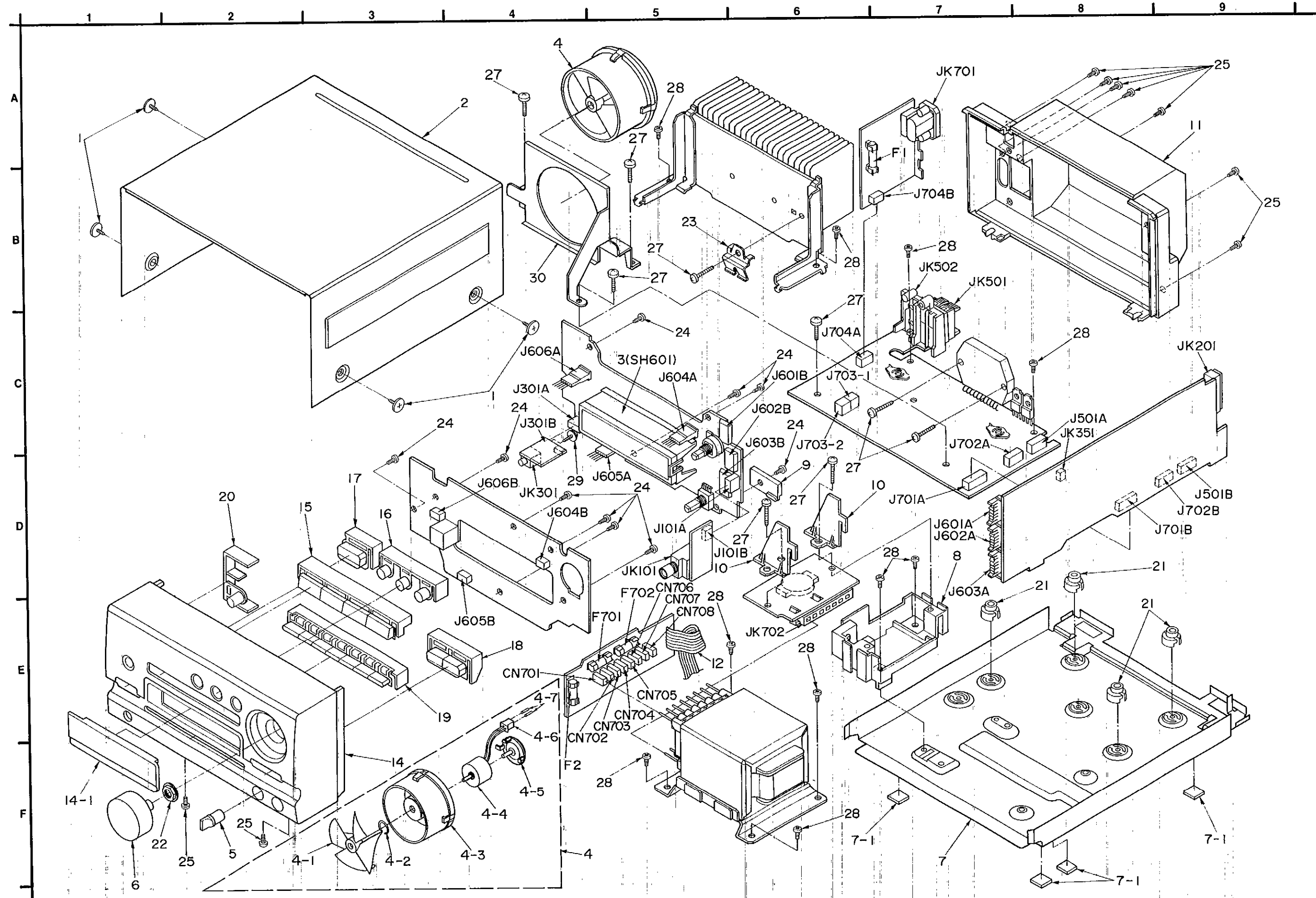
Pin connection

Table mapping Pin No. (3-15) to Connection (F, N, P) for various grid positions.

Anode connection

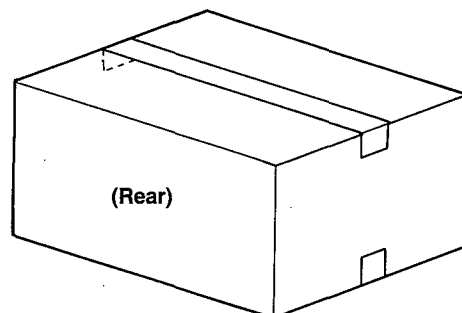
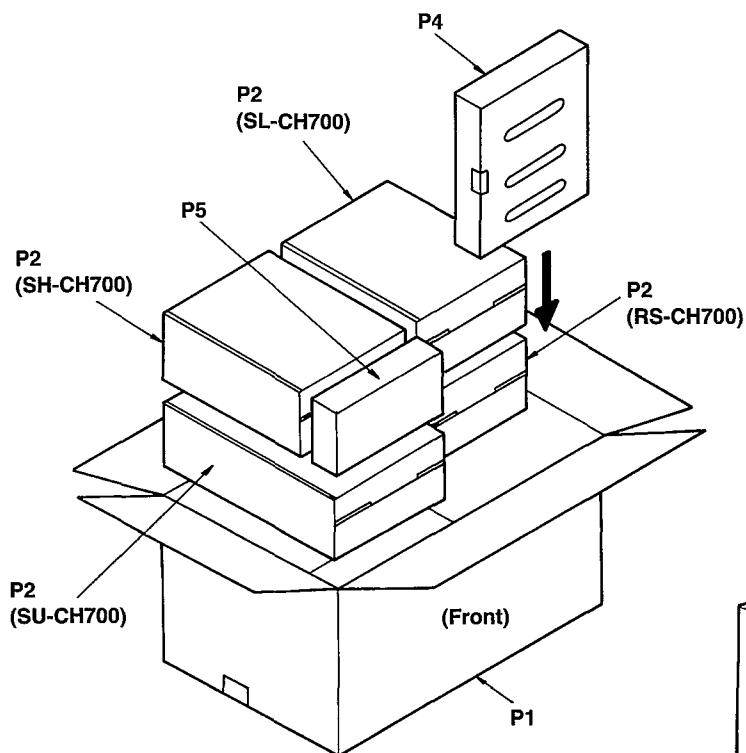
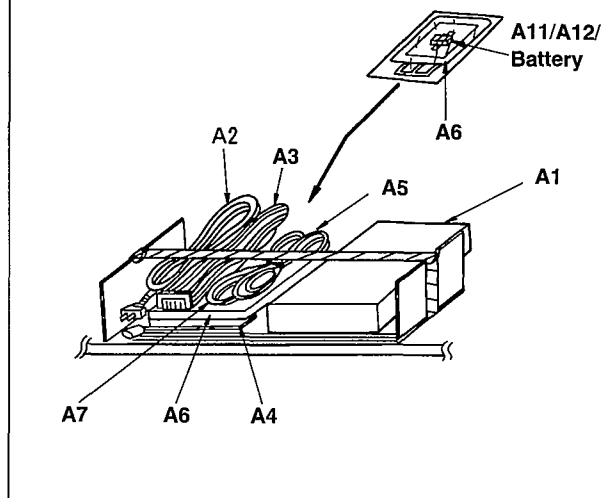
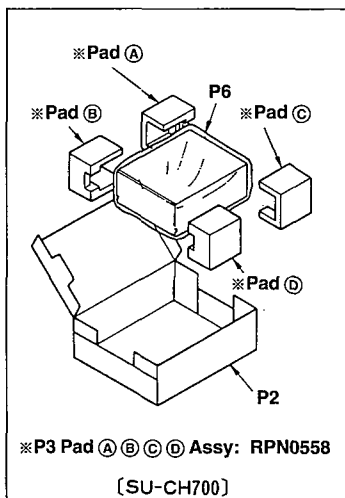
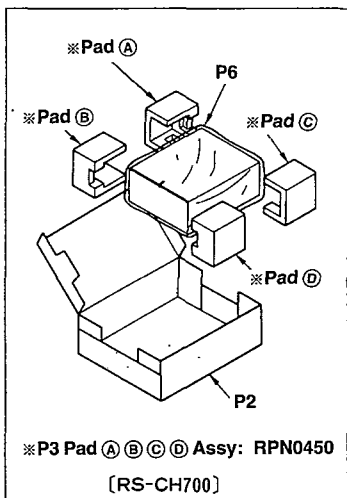
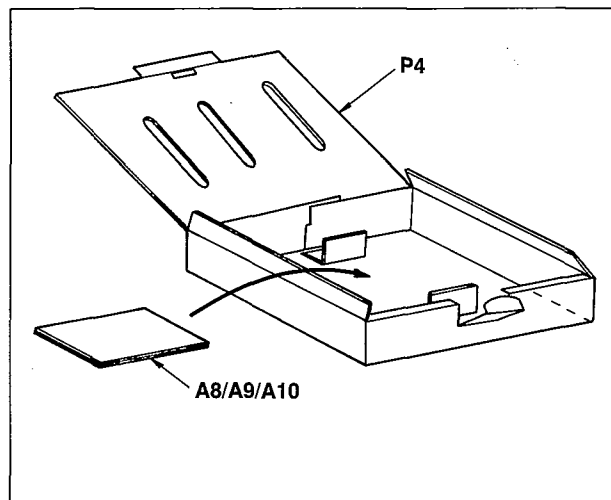
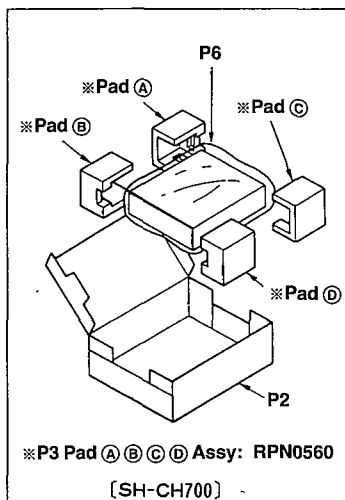
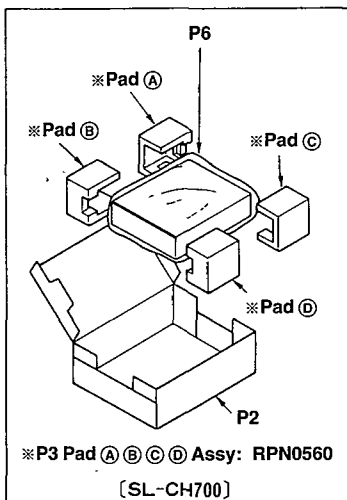
Table mapping Anode (P1-P15) to Grid (1G-12G) and Function (e.g., SLEEP, REC, PLAY, WEEKLY, OFF, ONCE, STANDBY, SAT, FRI, THU, WED, TUE, MON, SUN).

■ CABINET PARTS LOCATION



Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS		P2	RPG1070	PACKING CASE (DECK)	
				P2	RPG1071	PACKING CASE (CD/PROCESSOR)	
				P3	RPN0558	PAD (AMPLIFIER)	
				P3	RPN0450	PAD (DECK)	
				P3	RPN0560	PAD (CD/PROCESSOR)	
				P4	RPOF0029	ACCESSORY BOX	
				P5	RPQ0194	SPACER	
				P6	XZB45X50A01Z	PROTECTION COVER	
						ACCESSORIES	
1	RHD30007	SCREW		A1	RAK-SC514W	REMOTE CONTROLLER	
2	RKN0105C-K	CABINET		A1-1	RK0020-K	BATTERY COVER	
3	RMN0153	HOLDER		A2	RJA0019-1K	POWER CORD, AC	△ (E, EG)
4	SYE1128-2	FAN ASS'Y		A2	SJA173	POWER CORD, AC	△ (GN)
4-1	SHE232	FAN		A2	SJA193	POWER CORD, AC	△ (EB)
4-2	SUS271	SPRING		A2	RJA0004	POWER CORD, AC	△ (GC)
4-3	SHE233	CASE		A3	REX0402	FLAT CABLE	
4-4	MDN-4RB4MRC	MOTOR		A4	SJP2281	OPTICAL CABLE	
4-5	SHE234	CASE COVER		A5	SNXS257M	SPEAKE CORD	
4-6	SJS5215	SOCKET (2P)		A6	SPB1163T	AM LOOP ANTENNA	
4-7	SJT783	TERMINAL		A6-1	SMA233-1M	ANTENNA HOLDER	
5	RGN0105-K	KNOB, MIC		A6-2	XTN3+10AFZ	SCREW	
6	RGN0136-K	KNOB, MAIN VOLUME		A7	RSAD007	FM ANTENNA	(E, EB, EG)
7	RFKJUCH900GC	BOTTOM BOARD ASS'Y	(GC)	A7	RSAD006	FM ANTENNA	(GC, GN)
7	RFKJUCH700NK	BOTTOM BOARD ASS'Y	(E, EB, EG, GN)	A8	RQAD013	WARRANTY CARD	(E, EB, EG)
7-1	RKAD0043	FOOT		A8	RQX74332A	WARRANTY CARD	(GN)
8	RMN0154	HOLDER		A9	RQCB0169	SERVICENTOR LIST	
9	RMN0155	HOLDER		A10	RFKSJUCH700EK	INST. MANUAL	(E)
10	RMN0158	HOLDER		A10	RQT1359-B	INST. MANUAL	(EB, GN)
11	RFKJUCH700GC	BACK GRILL ASS'Y	(GC)	A10	RQT1360-D	INST. MANUAL	(EG)
11	RFKJUCH700EK	BACK GRILL ASS'Y	(E, EG)	A10	RQT1367-G	INST. MANUAL	(GC)
11	RFKJUCH700EB	BACK GRILL ASS'Y	(E, EB, GN)	A11	SJP9009	ATTACHMENT PLUG	(EB)
12	RWJ1808110QQ	FLAT CABLE (8P), J703		A12	SJP9215	AC PLUG ADAPTOR	△ (GC)
14	RFKJUCH700EK	FRONT PANEL ASS'Y				PACKING MATERIALS	
14-1	RKN0186-G	FL. PANEL		P1	RPG1119	PACKING CASE (SYSTEM)	(E)
15	RGU0680A-K	BUTTON, SELECTOR		P1	RPG1146	PACKING CASE (SYSTEM)	(GN)
16	RGU0681A-K	BUTTON, DIGITAL		P1	RPG1123	PACKING CASE (SYSTEM)	(EB)
17	RGU0682-K	BUTTON, POWER		P1	RPG1124	PACKING CASE (SYSTEM)	(EG)
18	RGU0683-K	BUTTON, BALANCE		P1	RPG1147	PACKING CASE (SYSTEM)	(GC)
19	RGU0685-K	BUTTON, TIMER		P2	RPG1069	PACKING (AMPLIFIER)	
20	RGU0686-K	BUTTON, LOUDNESS					
21	SHE185-2	P. C. B. SPACER					
22	SNE4021-1	NUT					
23	SUS894-1	SPRING					
24	XTB326+8J	SCREW					
25	XTB33+8JFZ1	SCREW					
27	XTB3+16JFZ	SCREW					
28	XTB3+8JFZ	SCREW					
29	XTWS3+8T	SCREW					
30	RMN0169	ANGLE					

PACKAGING



16574