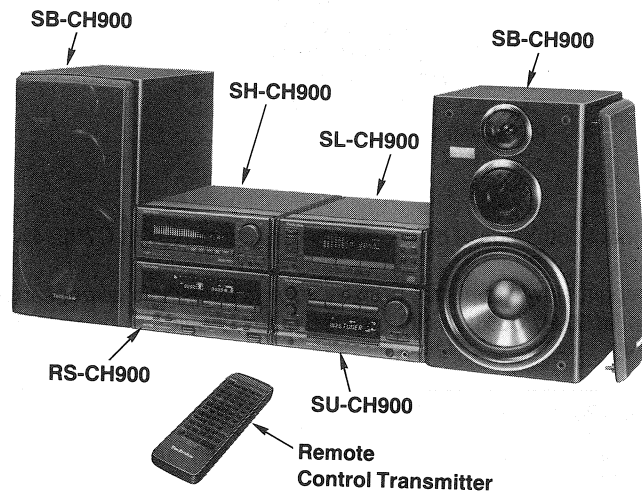


# Service Manual

Amplifier

Amplifier

## SU-CH900



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

### Color

(K) ..... Black Type

### Areas

Country Code	Area	Color
(E)	Continental Europe.	(K)
(EB)	Great Britain.	
(EG)	Germany and Italy.	
(GC)	Asia, Latin America, Middle Near East and Africa.	
(GN)	Oceania.	

### System: SC-CH900

## SPECIFICATIONS

### ■ MAIN AMP. SECTION

#### Power output

DIN 1 kHz THD 1%, both channel driven

FRONT	2×50 W (6Ω)
REAR	2×5 W (8Ω)

#### Total harmonic distortion

Rated power at 1 kHz

FRONT	1% (6Ω)
REAR	1% (8Ω)

Half power at 1 kHz

FRONT	0.07% (6Ω)
-------	------------

Headphones output level/impedance 351 mV/240Ω

#### Load impedance

FRONT	6Ω
REAR	8Ω

### ■ PRE AMP. SECTION

#### Input sensitivity/impedance

FRONT	200 mV/47 kΩ
REAR	200 mV/47 kΩ
CENTER	200 mV/47 kΩ
MIC	0.7 mV/12 kΩ

S/N (rated power) FRONT 84 dB (IHF, A 88 dB)

#### Frequency response

FRONT 30 Hz–30 kHz (–3 dB)

Muting –20 dB

Loudness (vol. –30 dB) 60 Hz, +5 dB

Channel separation (1 kHz) 57 dB

### ■ VIDEO SECTION

#### Video out

MONITOR OUT	1 V <sub>pp</sub> /75Ω
VCR OUT	1 V <sub>pp</sub> /75Ω

### ■ TIMER SECTION

#### Clock

Quartz-lock type, 24-hour indication

#### Functions

24-hour programmable;

Sleep (120 min. 1 min. intervals).

Weekly (1 time), Once (1 time).

#### Setting

1 minute–23 hours 59 minutes (1 min.)

### ■ GENERAL

#### Power consumption

330 W

#### Power supply

For Continental Europe, Germany and Italy

AC 50 Hz/60 Hz, 230 V

For Great Britain and Oceania AC 50 Hz/60 Hz, 230 V~240 V

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

#### Dimensions (W×H×D)

230×110×346 mm

#### Weight

5.8 kg

#### Notes:

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

System	Tuner/CD player	Sound Processor	Amplifier	Cassette Deck	Speakers
SC-CH900	SL-CH900	SH-CH900	SU-CH900	RS-CH900	*SB-CH900

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

# Technics

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## BEFORE REPAIR

- (1) Turn off the power supply. Using a 10Ω, 5 W resistor connect both ends of power supply capacitors (C701, C702, 45 V 4700 μF) in order to discharge the voltage.
- (2) 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 Hz/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110 V/120 V/220 V/230 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:

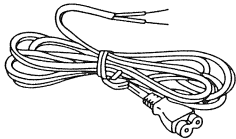
1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

**Note:**

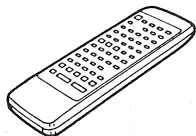
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

## ACCESSORIES

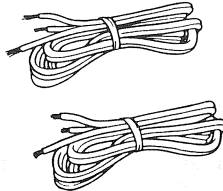
- AC power supply cord ..... 1 pc.  
(RJA0019-1K) for (E, EG) areas  
(SJA193) for (EB) area  
(RJA0004) for (GC) area  
(SJA173) for (GN) area



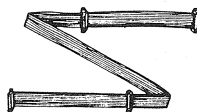
- Remote controller ..... 1 pc.  
(RAK-SC515W)



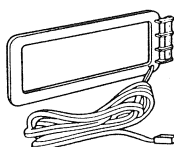
- Speaker cords ..... 2 pcs.  
(SWXS257M)



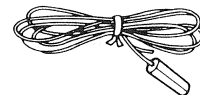
- Flat cable ..... 1 pc.  
(REX0402)



- AM loop antenna ..... 1 pc.  
(SPB1163T)



- FM antenna ..... 1 pc.  
(RSA0007) for (E, EB, EG) areas  
(RSA0006) for (GC, GN) areas



- Antenna holder ..... 1 pc.  
(SMA233-1M)



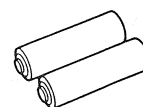
- Screws ..... 2 pcs.  
(XTN3+10AFZ)



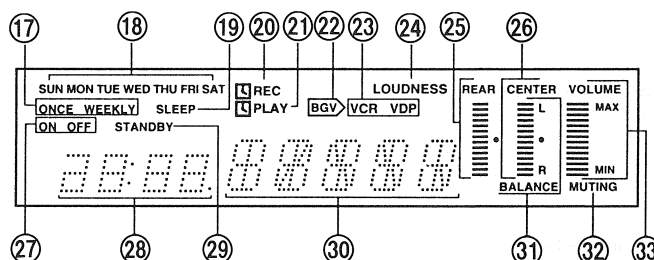
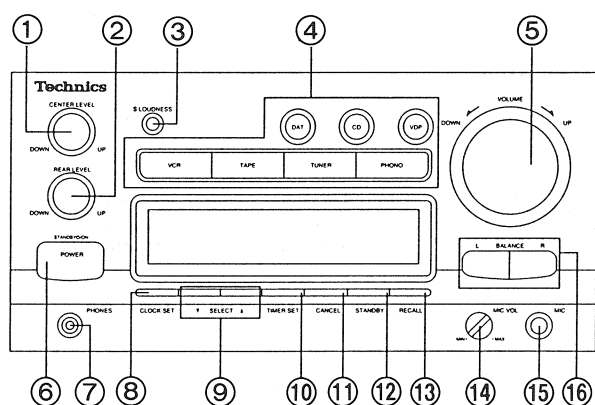
●Optical cable ..... 1 pc.  
(SJP2281)

●Attachment plug ..... 1 pc.  
(SJP9009) for (EB) area

●AC plug adaptor ..... 1 pc.  
(SJP9215) for (GC) area  
●Remote control batteries ..... 2 pcs.  
(R03)



## ■ LOCATION OF CONTROLS



- ① Center channel level control (CENTER LEVEL)
- ② Rear channel level control (REAR LEVEL)
- ③ Loudness button (S. LOUDNESS)
- ④ Input select buttons (DAT, CD, VDP, VCR, TAPE, TUNER, PHONO)
- ⑤ Volume level control (VOLUME)
- ⑥ Power “STANDBY (⏻)/ON” switch (POWER STANDBY (⏻)/ON)
- ⑦ Headphones jack (PHONES) (∅3.5)
- ⑧ Clock set button (CLOCK SET)
- ⑨ Timer select buttons (▼ SELECT ▲)
- ⑩ Timer set button (TIMER SET)
- ⑪ Timer cancel button (CANCEL)
- ⑫ Timer standby button (STANDBY)
- ⑬ Timer setting confirmation button (RECALL)
- ⑭ Microphone volume control (MIC VOL.)
- ⑮ Microphone jack (MIC) (∅6)
- ⑯ Balance adjustment buttons (BALANCE)

- ⑰ Timer mode indicator (ONCE, WEEKLY)
- ⑱ Day indicators (SUN~SAT)
- ⑲ Sleep indicator (SLEEP)
- ⑳ Timer recording indicator (☐ REC)
- ㉑ Timer play indicator (☐ PLAY)
- ㉒ BGV (background visual) indicator
- ㉓ Visual source indicator
- ㉔ Loudness indicator (LOUDNESS)
- ㉕ Rear level meter (REAR)
- ㉖ Center level meter (CENTER)
- ㉗ Timer on/off indicator (ON, OFF)
- ㉘ Time display
- ㉙ Timer standby indicator (STANDBY)
- ㉚ Multi display
- ㉛ Balance display (BALANCE)
- ㉜ Muting indicator (MUTING)
- ㉝ Volume level display

# CONNECTIONS

## Flat cable

### Connecting

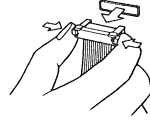
Hold the connector with the recessed part up and press in at the center until you hear a click.

The white line should be on the right side.  
In case of the amplifier, the white line should be on the below side.



After connection, fold and press the cable as flat to the back of the unit as possible.

### Disconnecting



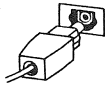
## Optical cable

Connect the optical cable to the CD player/tuner and the sound processor.

- Remove a dust-protection cap in the terminal.



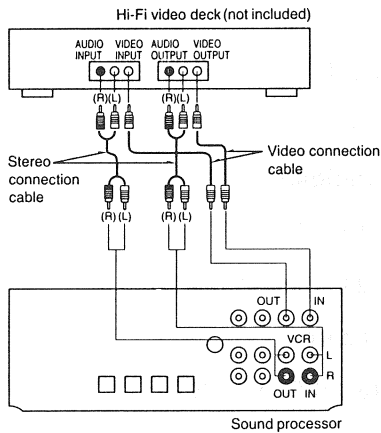
- Connect an optical cable.



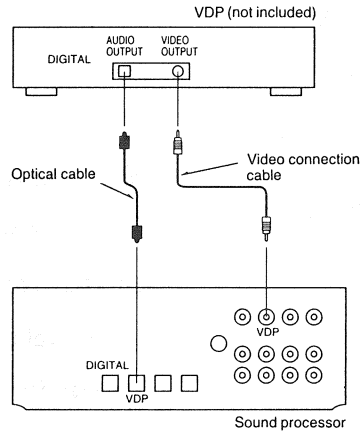
Please keep the dust-protection cap.

## External unit connection

### Video deck

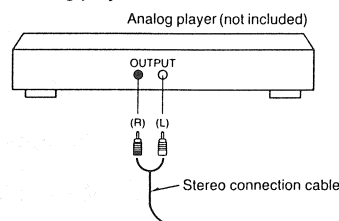


### Video disc player



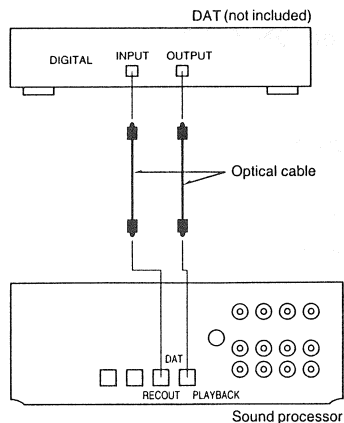
- To use an analogue disc player or video disc player without optical output, connect its stereo connection cable to the VCR IN terminal of the sound processor. To play the above external unit, press the input select button marked "VCR".
- To use the analogue video disc, connect the video disc player to the VCR IN terminal of the sound processor.

### Analog player

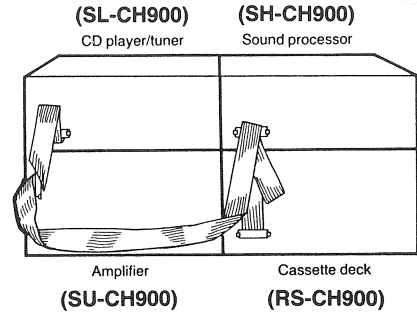


### DAT (digital audio tape deck)

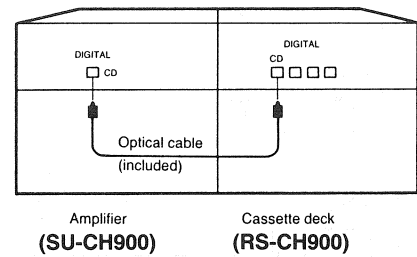
(with optical cables)



## Installing the components horizontally



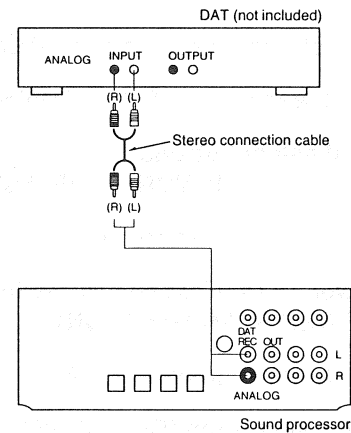
### (SL-CH900) (SH-CH900)



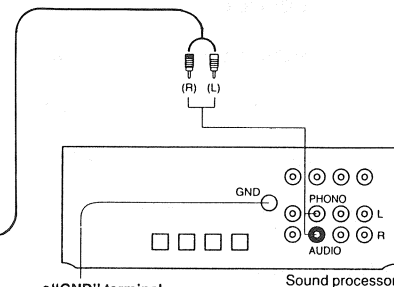
### Amplifier (SU-CH900) Cassette deck (RS-CH900)

### DAT (only recording out)

(with stereo connection cables)



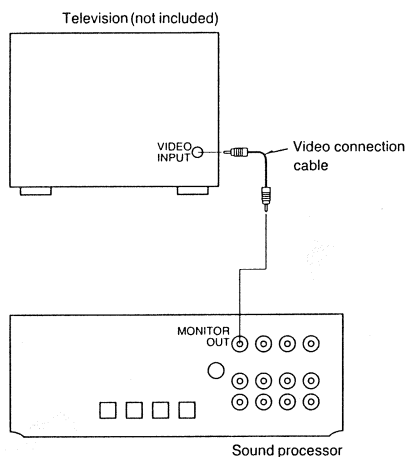
You can record the original sound that you have created with this system to DAT tape.



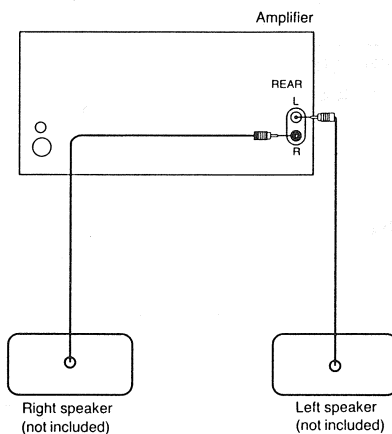
### • "GND" terminal

This terminal is for use with turntables which have a ground wire.

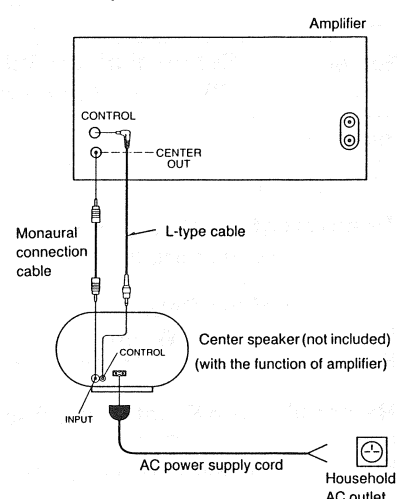
■ Television



■ Rear speakers



■ Center speaker



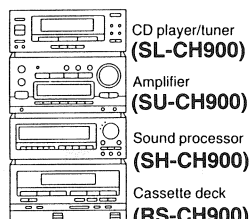
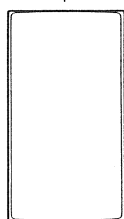
■ INSTALLATION OF THE SYSTEM

Install the various components as shown in the figure.

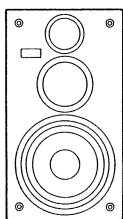
Do not place any objects on top of this unit. It may interfere the open/close function of the CD tray.

Installing the components vertically

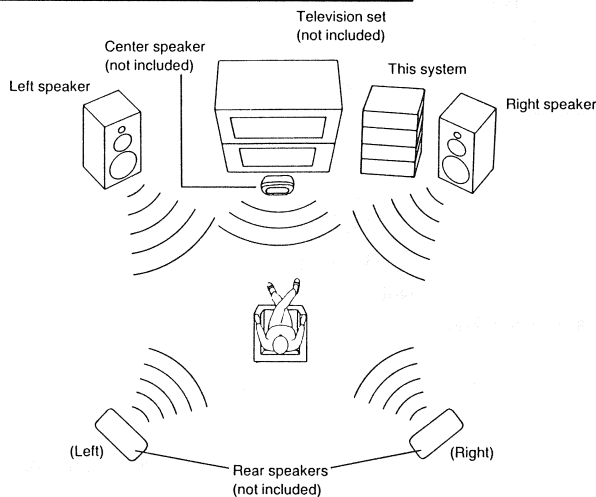
(SB-CH900)  
Left speaker



(SB-CH900)  
Right speaker

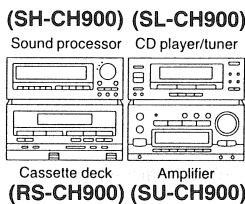
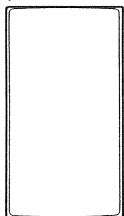


System layout

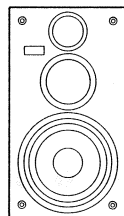


Installing the components horizontally

(SB-CH900)  
Left speaker

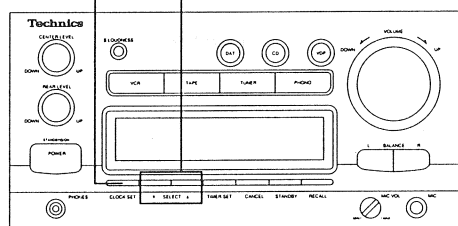


(SB-CH900)  
Right speaker



■ SETTING THE TIME

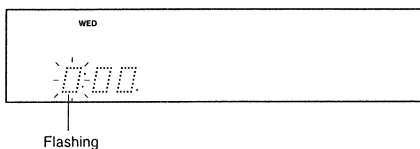
1.3.5.7    2.4.6



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

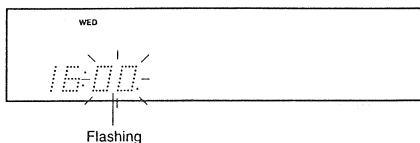
- 1 Press the clock set button.  
The day indicator will start to flash.
- 2 Press one of the timer select buttons to select "WED".

3 Press the clock set button.



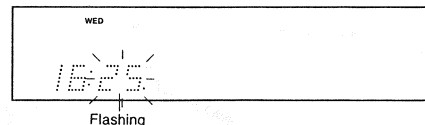
4 Press one of the timer select buttons to select "16".

5 Press the clock set button.



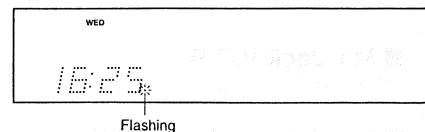
6 Press one of the timer select buttons to select "25".

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



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

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



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

# DISASSEMBLY INSTRUCTIONS

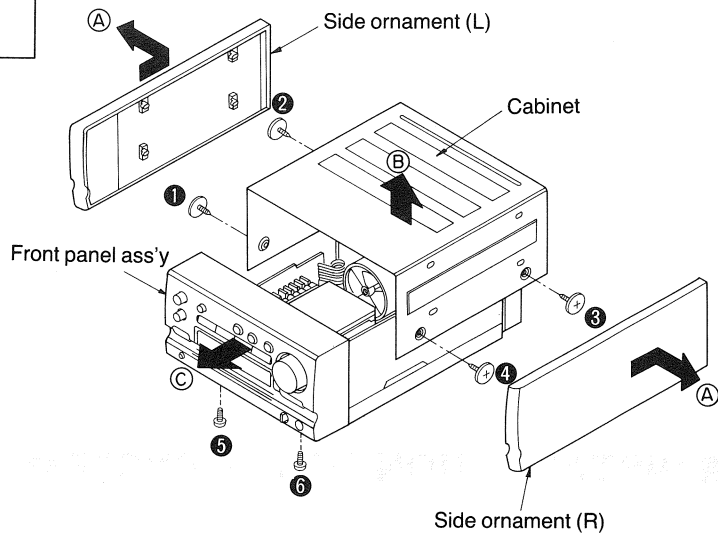
**“ATTENTION SERVICER”**

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

<b>Ref. No.</b> 1	<b>Removal of the Side Ornaments (L), (R), Cabinet and front Panel Ass'y</b>
----------------------	--

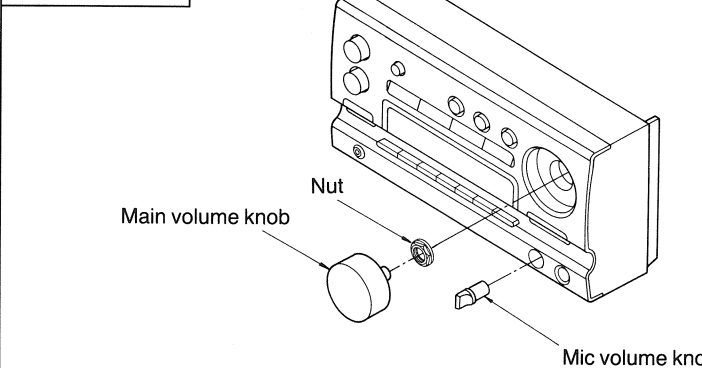
<b>Procedure</b> 1
-----------------------

- **Removal of the Side Ornaments (L), (R).**
  - Remove the side ornaments (L), (R) in the direction of arrow (A).
- **Removal of the Cabinet.**
  1. Remove the 4 screws (1~4).
  2. Remove the cabinet in the direction of arrow (B).
- **Removal of the Front Panel Ass'y**
  1. Remove the 2 screws (5, 6).
  2. Remove the front panel ass'y in the direction of arrow (C).

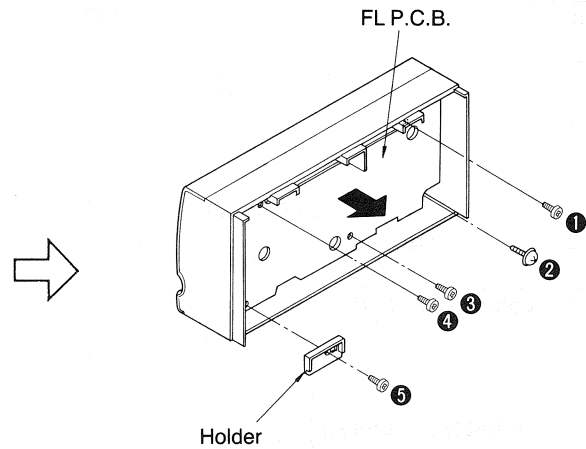


<b>Ref. No.</b> 2	<b>Removal of the FL P.C.B.</b>
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<b>Procedure</b> 1→2
-------------------------



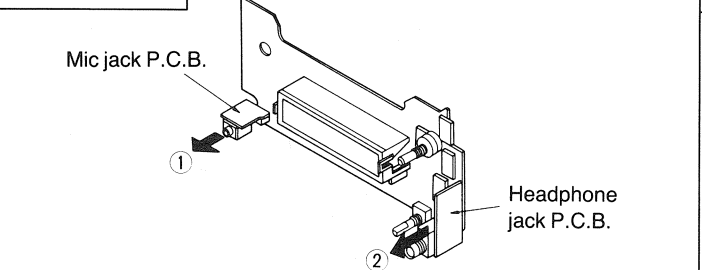
1. Pull out the main volume knob and mic volume knob.
2. Remove the nut.



3. Remove the 5 screws (1~5).
4. Remove the holder.
5. Remove the FL P.C.B. in the direction of arrow.

<b>Ref. No.</b> 3	<b>Removal of the Mic Jack P.C.B. and Headphone Jack P.C.B.</b>
----------------------	---

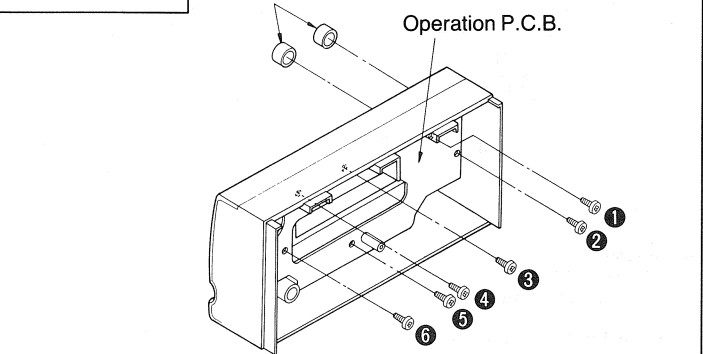
<b>Procedure</b> 1→2→3
---------------------------



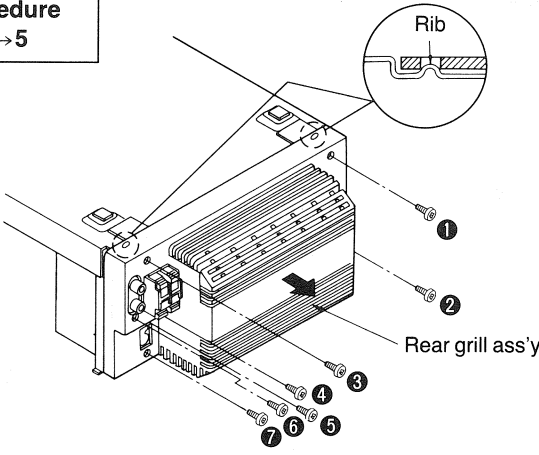
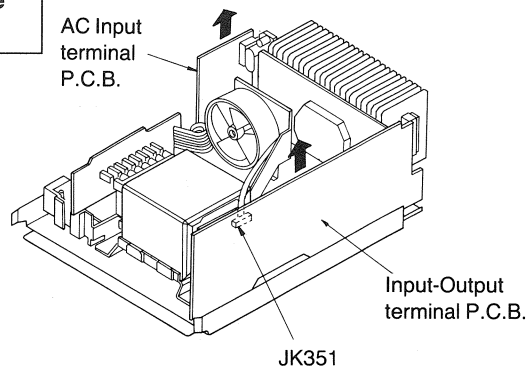
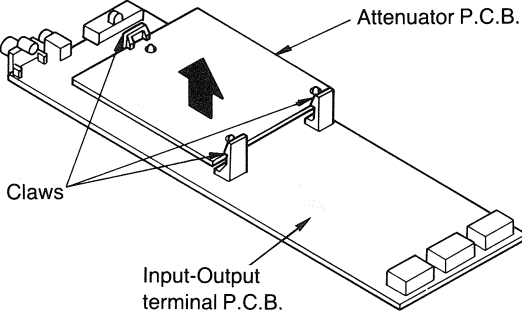
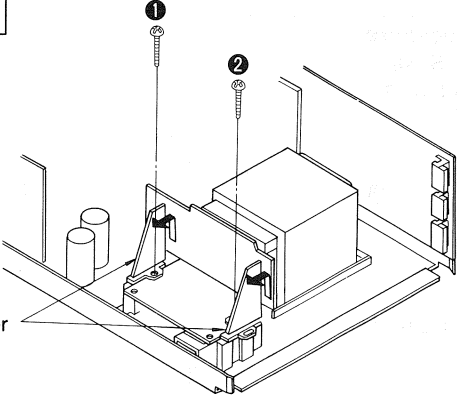
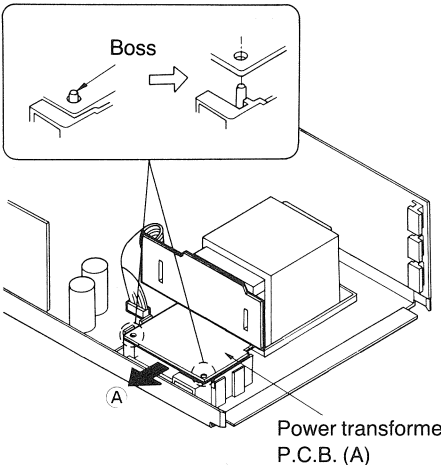
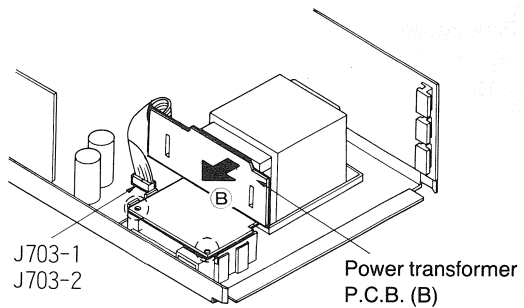
- **Mic Jack P.C.B.**
  - Remove the mic jack P.C.B. in the direction of arrow (1).
- **Headphone Jack P.C.B.**
  - Remove the headphone jack P.C.B. in the direction of arrow (2).

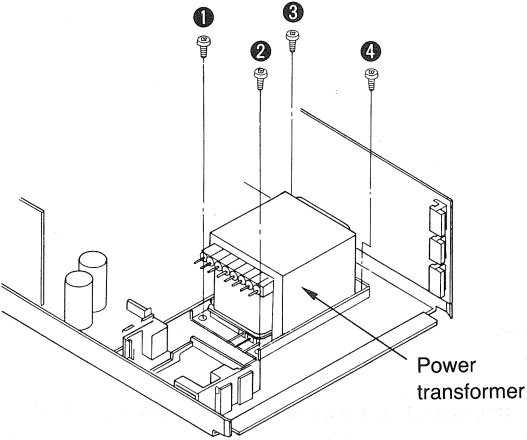
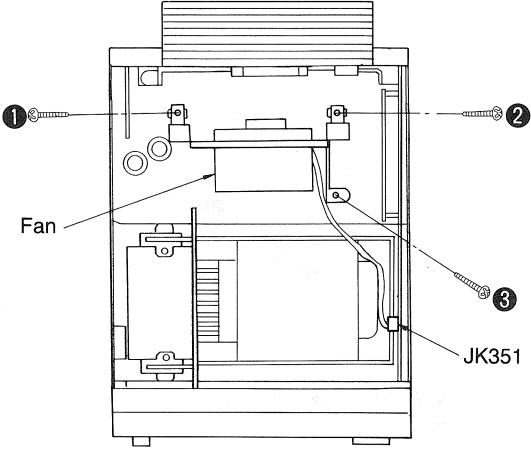

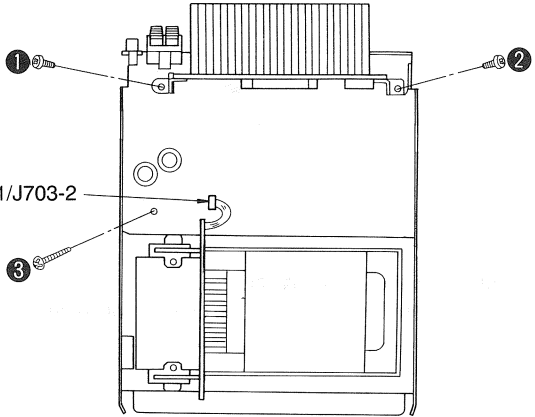
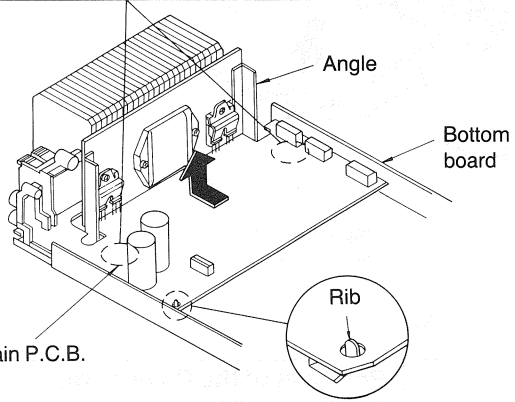
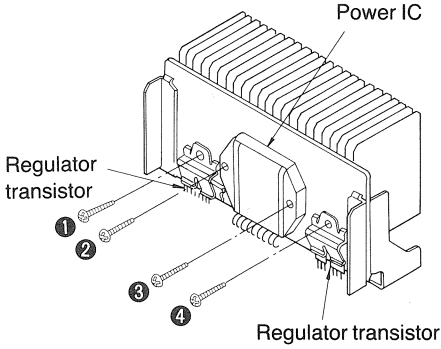
<b>Ref. No.</b> 4	<b>Removal of the operation P.C.B.</b>
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<b>Procedure</b> 1→2→4
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1. Remove the 6 screws (1~6).
2. Pull out the 2 knobs.

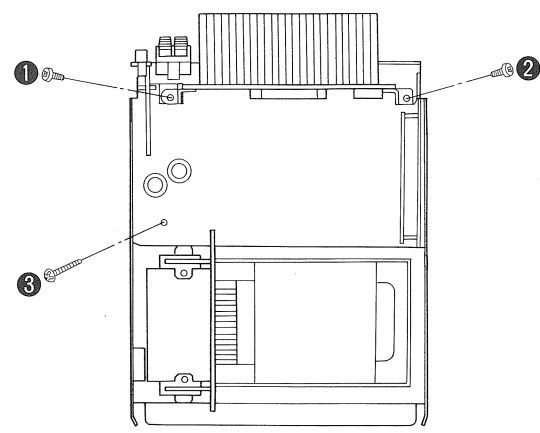
<p>Ref. No. 5</p>	<p><b>Removal of the Rear Grill Ass'y</b></p>	<p>Ref. No. 6</p>	<p><b>Removal of the AC Input Terminal P.C.B. and Input-Output Terminal P.C.B.</b></p>
<p>Procedure 1→5</p>	 <p>1. Remove the 7 screws (①~⑦). 2. Remove the 2 ribs. 3. Remove the rear grill ass'y in the direction of arrow.</p>	<p>Procedure 1→5→6</p>	 <p><b>■ Removal of the AC Input Terminal P.C.B.</b> ● Remove the AC input terminal in the direction of arrow.</p> <p><b>■ Removal of the Input-Output Terminal P.C.B.</b> 1. Remove the connector (JK351). 2. Remove the input-output terminal P.C.B. in the direction of arrow.</p>
<p>Ref. No. 7</p>	<p><b>Removal of the Attenuator P.C.B</b></p>	<p>Ref. No. 8</p>	<p><b>Removal of the P.C.B. Holder</b></p>
<p>Procedure 1→5→6→7</p>	 <p>● Remove the 3 claws.</p>	<p>Procedure 1→8</p>	 <p>1. Remove the 2 screws (①, ②). 2. Remove the P.C.B. holder in the direction of arrow.</p>
<p>Ref. No. 9</p>	<p><b>Removal of the Power Transformer P.C.B. (A), (B)</b></p>		
<p>Procedure 1→8→9</p>	 <p><b>■ Removal of the Power Transformer P.C.B. (A)</b> 1. Remove the 2 bosses. 2. Remove the power transformer P.C.B. (A) in the direction of arrow ①.</p>		 <p><b>■ Removal of the Power Transformer P.C.B. (B)</b> 1. Remove the flat cable (J703-1, J703-2). 2. Remove the power transformer P.C.B. (B) in the direction of arrow ②.</p>

<p><b>Ref. No.</b> 10</p>	<p><b>Removal of the Power Transformer</b></p>	<p><b>Ref. No.</b> 11</p>	<p><b>Removal of the Fan</b></p>
<p><b>Procedure</b> 1→8→9→10</p>	<p><b>Procedure</b> 1→11</p>		
 <p>Power transformer</p> <p>●Remove the 4 screws (①~④).</p>		 <p>Fan</p> <p>JK351</p> <ol style="list-style-type: none"> <li>1. Remove the connector (JK351).</li> <li>2. Remove the 3 screws (①~③).</li> </ol>	
<p><b>Ref. No.</b> 12</p>	<p><b>Removal of the Main P.C.B.</b></p>	<div data-bbox="857 825 1372 961" style="border: 1px solid black; padding: 5px;"> <p>■ <b>NOTE</b></p> <p>●Insert the projection on the angle into the hole of the bottom board and then install the Main P.C.B.</p>  </div>  <p>J703-1/J703-2</p> <ol style="list-style-type: none"> <li>1. Remove the 3 screws (①~③).</li> <li>2. Remove the flat cable (J703-1/J703-2).</li> </ol> <div data-bbox="844 966 1388 1365">  <p>Angle</p> <p>Bottom board</p> <p>Main P.C.B.</p> <p>Rib</p> <ol style="list-style-type: none"> <li>3. Remove the rib.</li> <li>4. Remove the main P.C.B. in the direction of arrow.</li> </ol> </div>	
<p><b>Ref. No.</b> 13</p>	<p><b>Removal of the Power IC and Regulator Transistor</b></p>	 <p>Power IC</p> <p>Regulator transistor</p> <p>Regulator transistor</p> <ol style="list-style-type: none"> <li>1. Unsolder the power IC or regulator transistors.</li> <li>2. Remove the 4 screws (①~④).</li> </ol> <p>●When mounting the power IC or regulator transistor. Apply silicone compound (RFKX0002) to the rear side of power IC or regulator transistors.</p>	

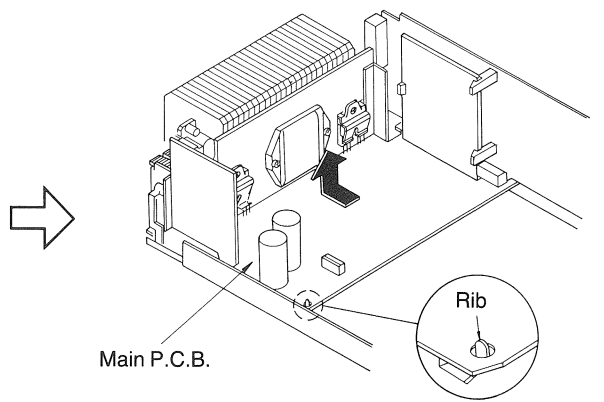


Ref. No. 14 Check the Main P.C.B.

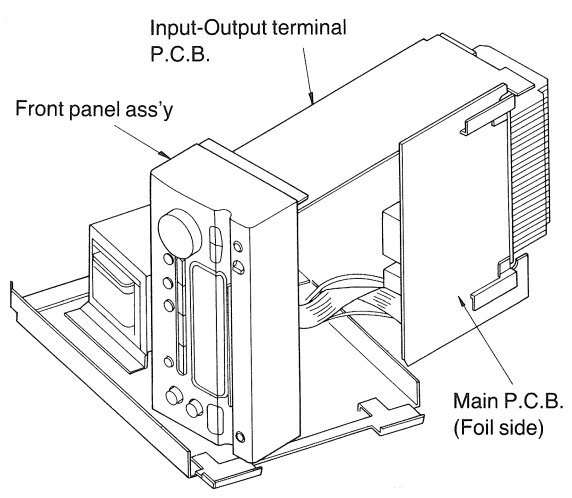
Procedure 1→5→11→14



1. Remove the 3 screws (1~3).



2. Remove the rib.  
3. Remove the main P.C.B. in the direction of arrow.



4. Reinstall the front panel ass'y to the input-output terminal P.C.B.  
5. Check the main P.C.B. as shown in the figure.

Ref. No. 15 Removal of the Fan Motor

Procedure 1→11→15

1. Release the 3 claws (shown in Fig. 1).

2. Insert a screwdriver at the root of the fan (shown in Fig. 2).  
3. Remove the cover (shown in Fig. 3).  
4. Remove the motor from the case (shown in Fig. 4).  
5. When mounting the motor, align the case projection with the hole of the motor (shown in Fig. 5).

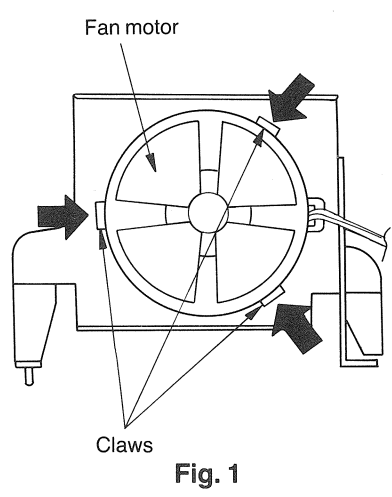


Fig. 1

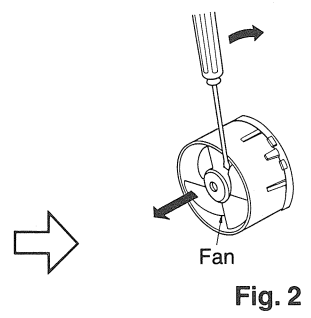


Fig. 2

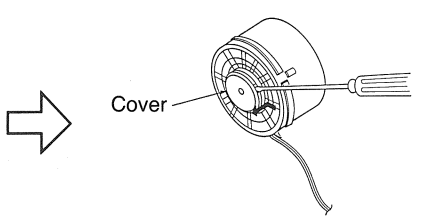


Fig. 3

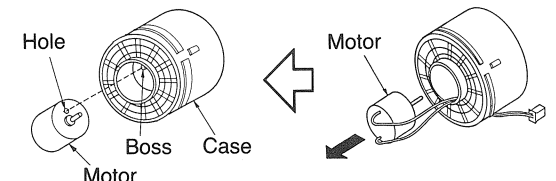


Fig. 4

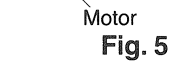
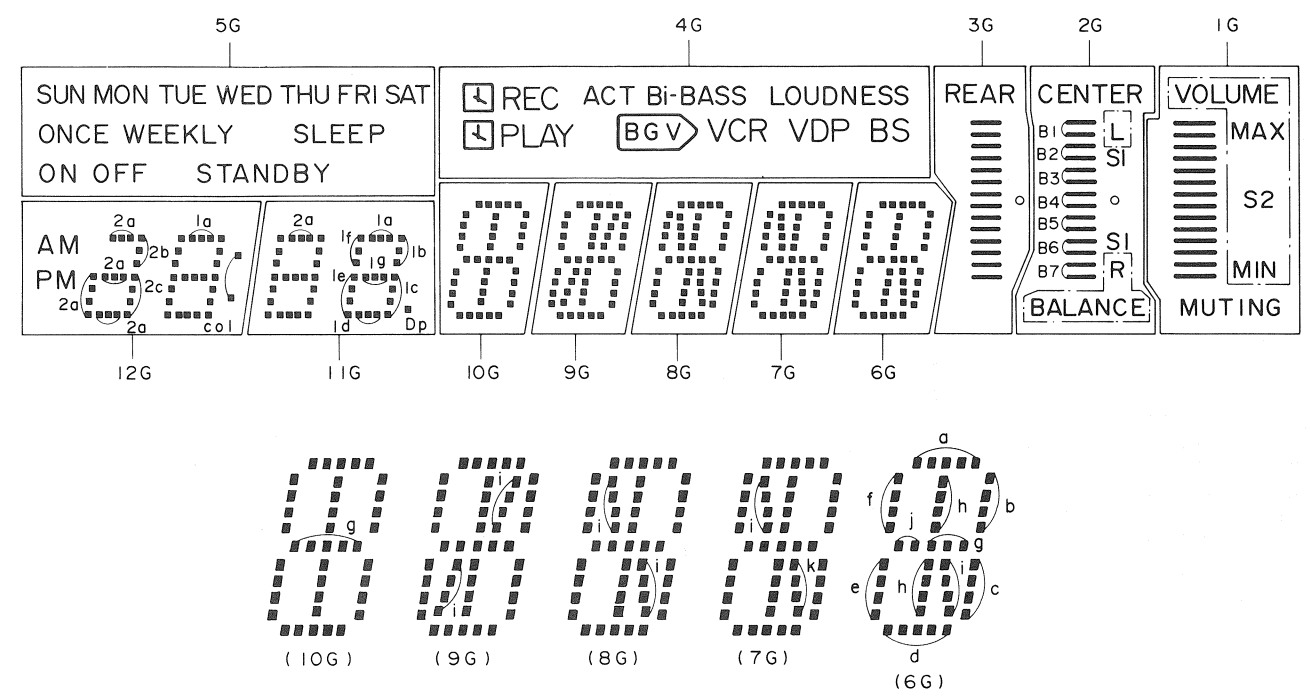


Fig. 5

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

Grid assignment



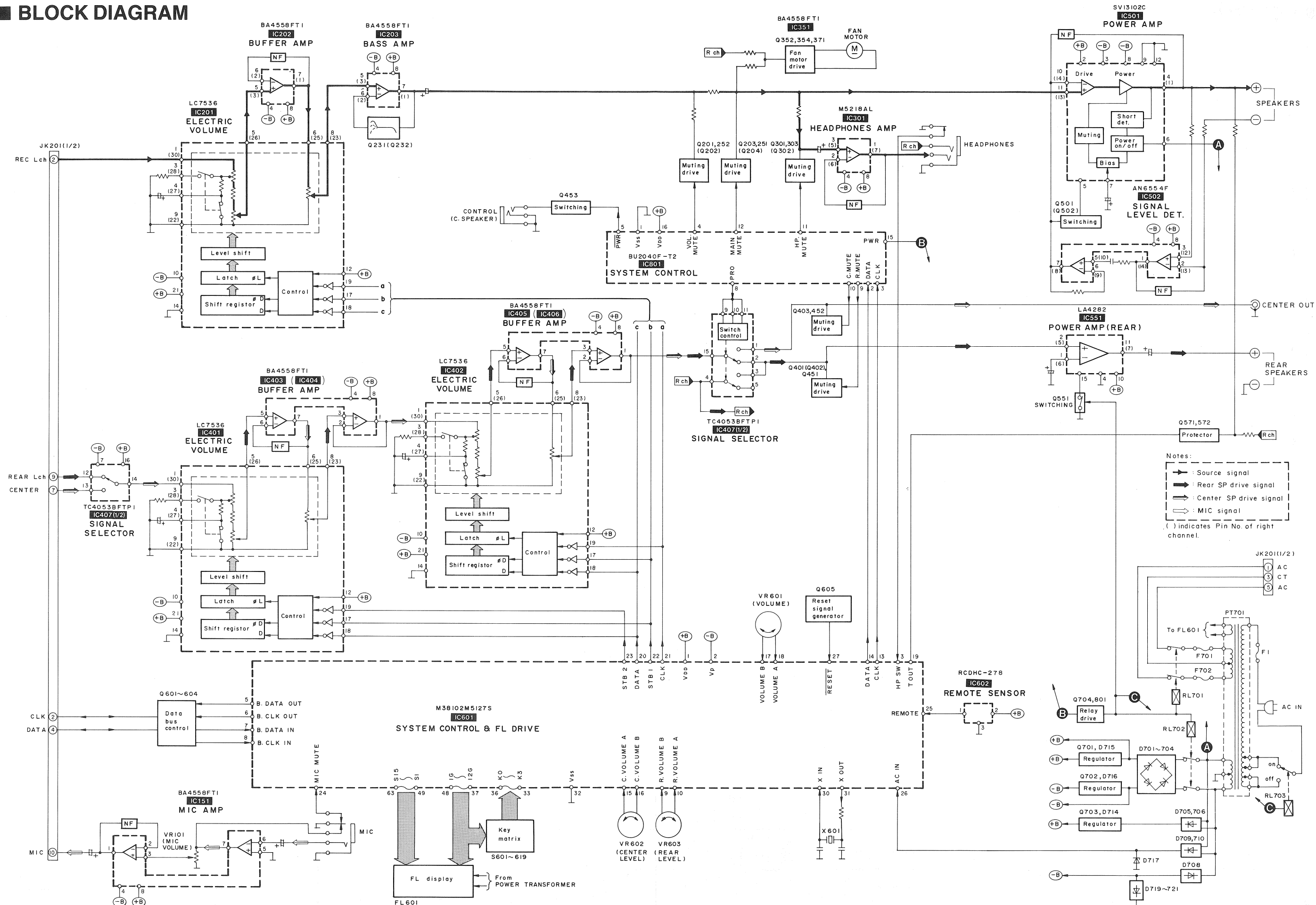
Pin connection

Pin No.	3	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	9	8	7	6	5	4	3	2	1					
Connection	F	F	N	P	P	P	P	P	P	P	P	P	P	P	N	N	2	1	1	1	1	1	0	9	8	7	6	5	4	3	2	1	N	F	F
	1	1	P	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	N	F	F				

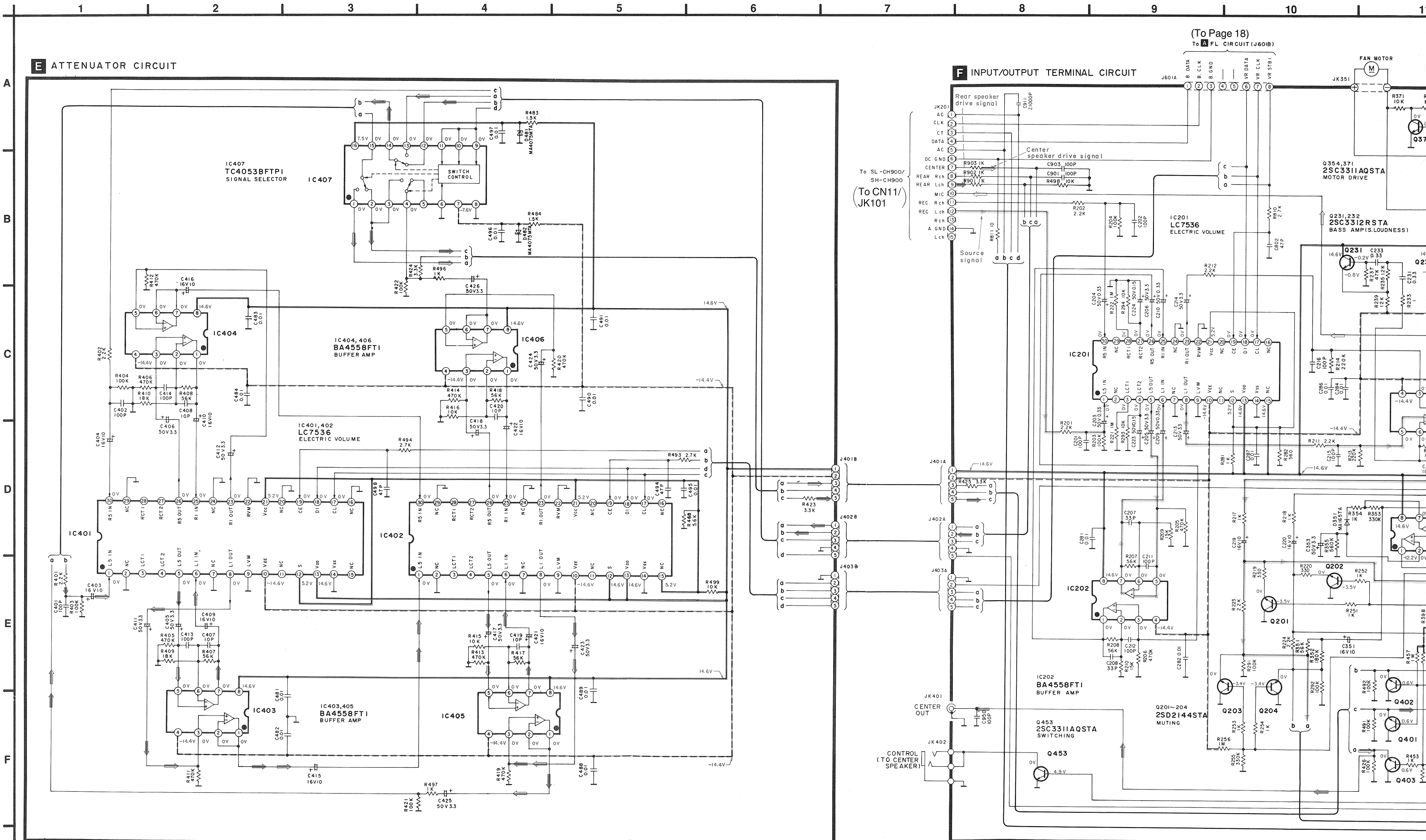
Anode connection

	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	AM	2d	d	d	d	d	d	SLEEP	REC	B7	B7	B7
P2	PM	2e	e	e	e	e	e	ON	PLAY	B6	B6	B6
P3	2c	2c	c	c	c	c	c	WEEKLY	ACT BI-BASS	B5	B5	B5
P4	—	2g	g	g	g	g	g	OFF	—	B4	B4	B4
P5	—	2f	f	f	f	f	f	ONCE	LOUDNESS	B3	B3	B3
P6	2b	2b	b	b	b	b	b	STANDBY	—	B2	B2	B2
P7	2a	2a	a	a	a	a	a	—	BGV	B1	B1	B1
P8	Col	Dp	h	h	h	h	h	SAT	VCR	REAR	CENTER	S2
P9	1d	1d	—	i	i	i	i	FRI	VDP	—	S1	MUTING
P10	1e	1e	—	j	j	j	j	THU	BS	—	—	—
P11	1c	1c	—	—	—	k	—	WED	—	—	—	—
P12	1g	1g	—	—	—	—	—	TUE	—	—	—	—
P13	1f	1f	—	—	—	—	—	MON	—	—	—	—
P14	1b	1b	—	—	—	—	—	SUN	—	—	—	—
P15	1a	1a	—	—	—	—	—	—	—	—	—	—

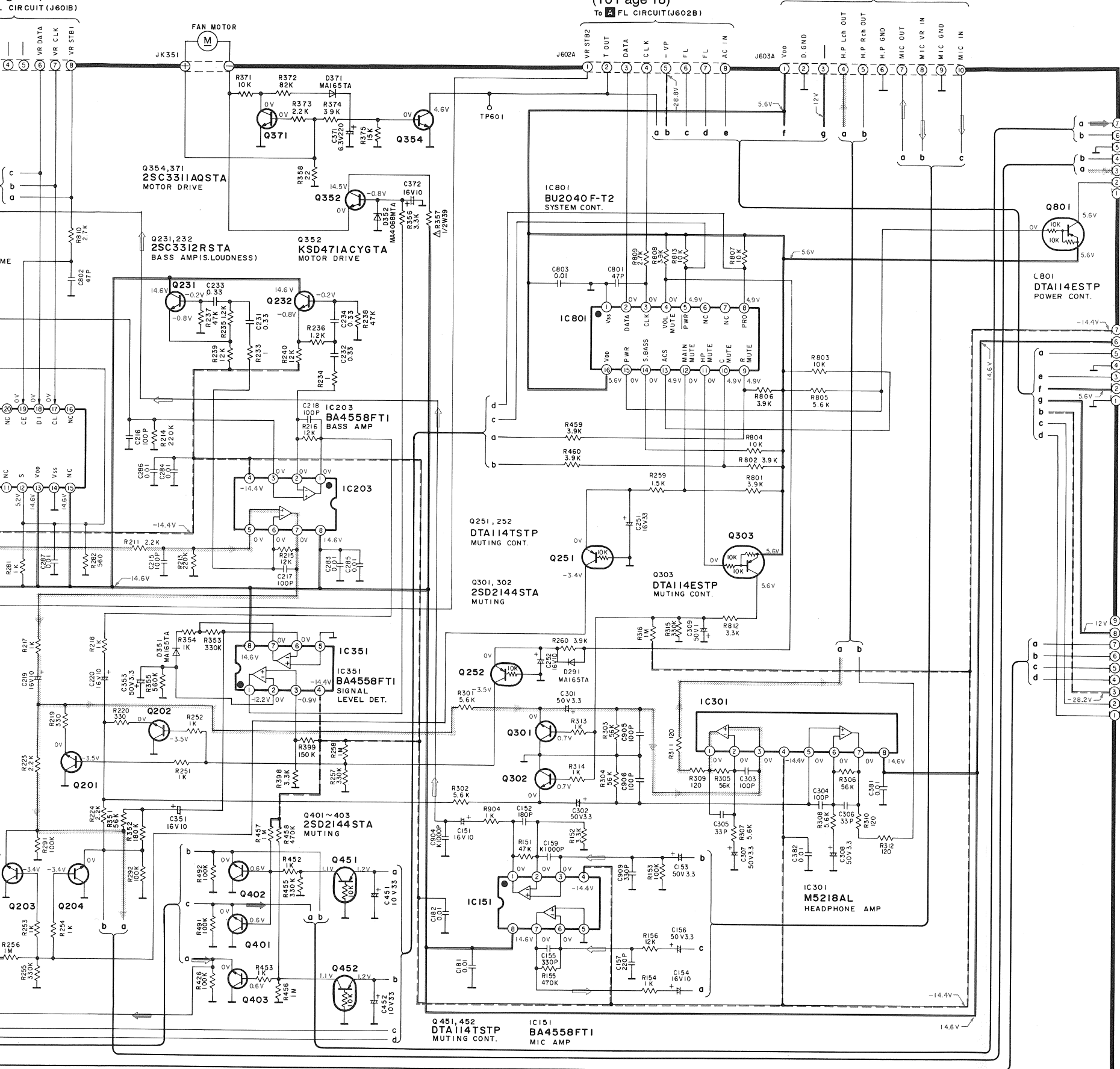
# BLOCK DIAGRAM



SCHEMATIC DIAGRAM (Input/Output Terminal Attenuator/Power Transformer/AC IN circuit) (Parts list on pages 27~30)



Page 18)

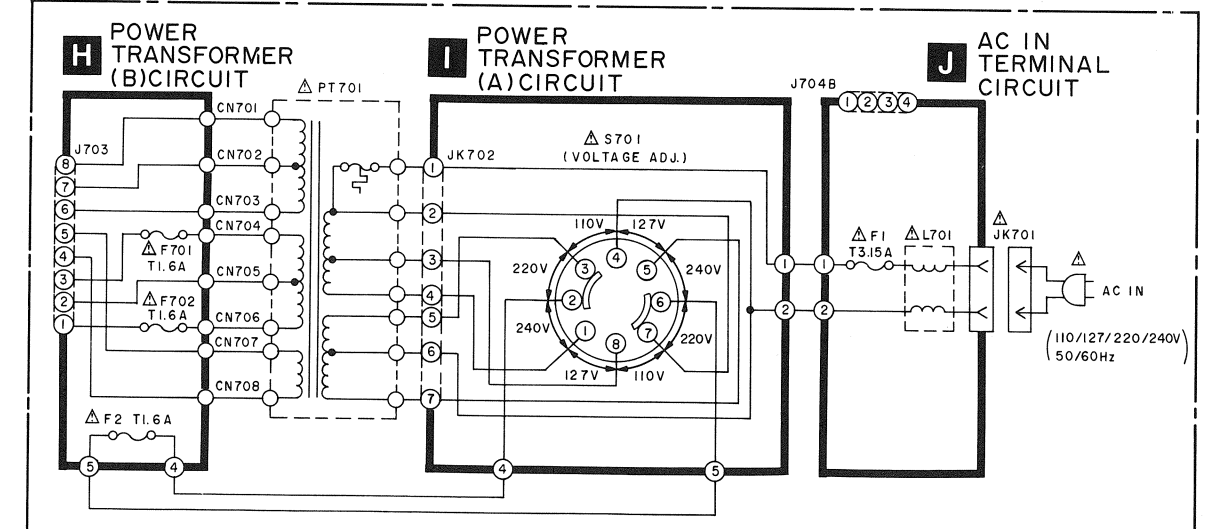


To [G] MAIN CIRCUIT (J501A) (To Page 19)

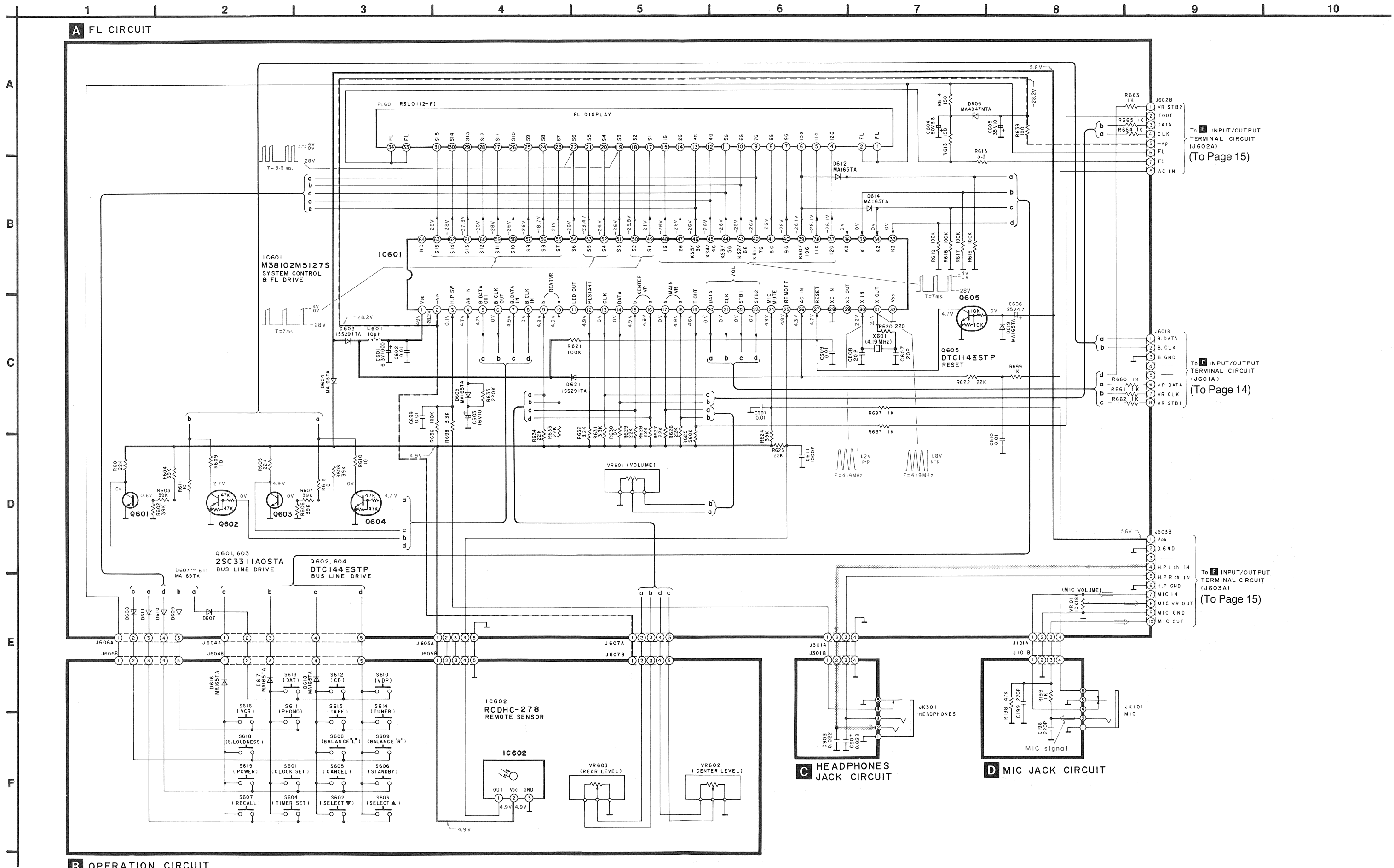
To [G] MAIN CIRCUIT (J702A) (To Page 19)

To [G] MAIN CIRCUIT (J701A) (To Page 19)

Power Source For [GC] area.



SCHEMATIC DIAGRAM (Operation/FL/Headphones/Mic/Main/Power Transformer/AC IN circuit) (Parts list on pages 27~30)



A FL CIRCUIT

B OPERATION CIRCUIT

C HEADPHONES JACK CIRCUIT

D MIC JACK CIRCUIT

r/AC IN circuit) (Parts list on pages 27~30)

6

7

8

9

10

11

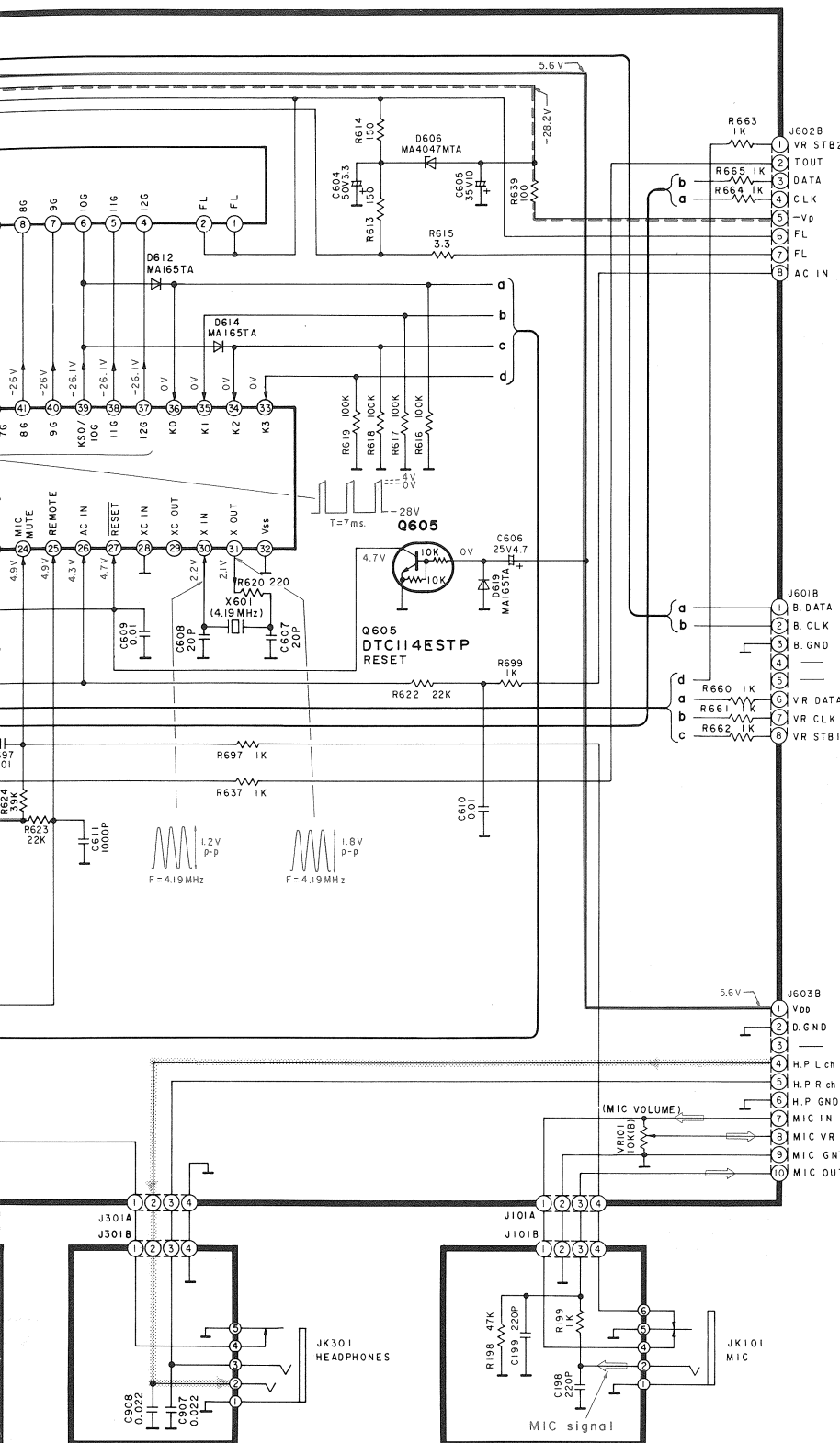
12

13

14

15

16



To [E] INPUT/OUTPUT TERMINAL CIRCUIT (J602A) (To Page 15)

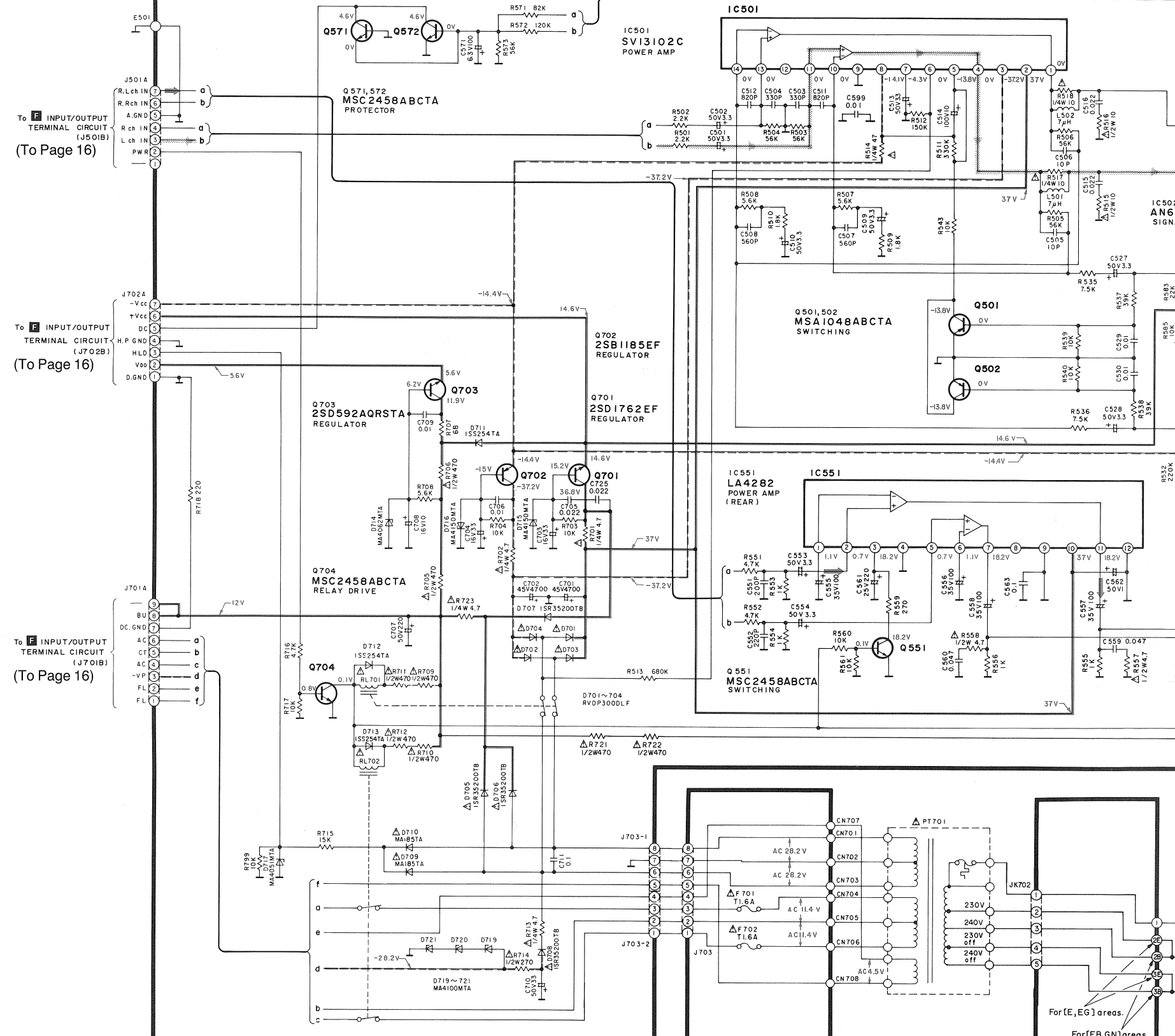
To [E] INPUT/OUTPUT TERMINAL CIRCUIT (J601A) (To Page 14)

To [E] INPUT/OUTPUT TERMINAL CIRCUIT (J603A) (To Page 15)

C HEADPHONES JACK CIRCUIT

D MIC JACK CIRCUIT

G MAIN CIRCUIT



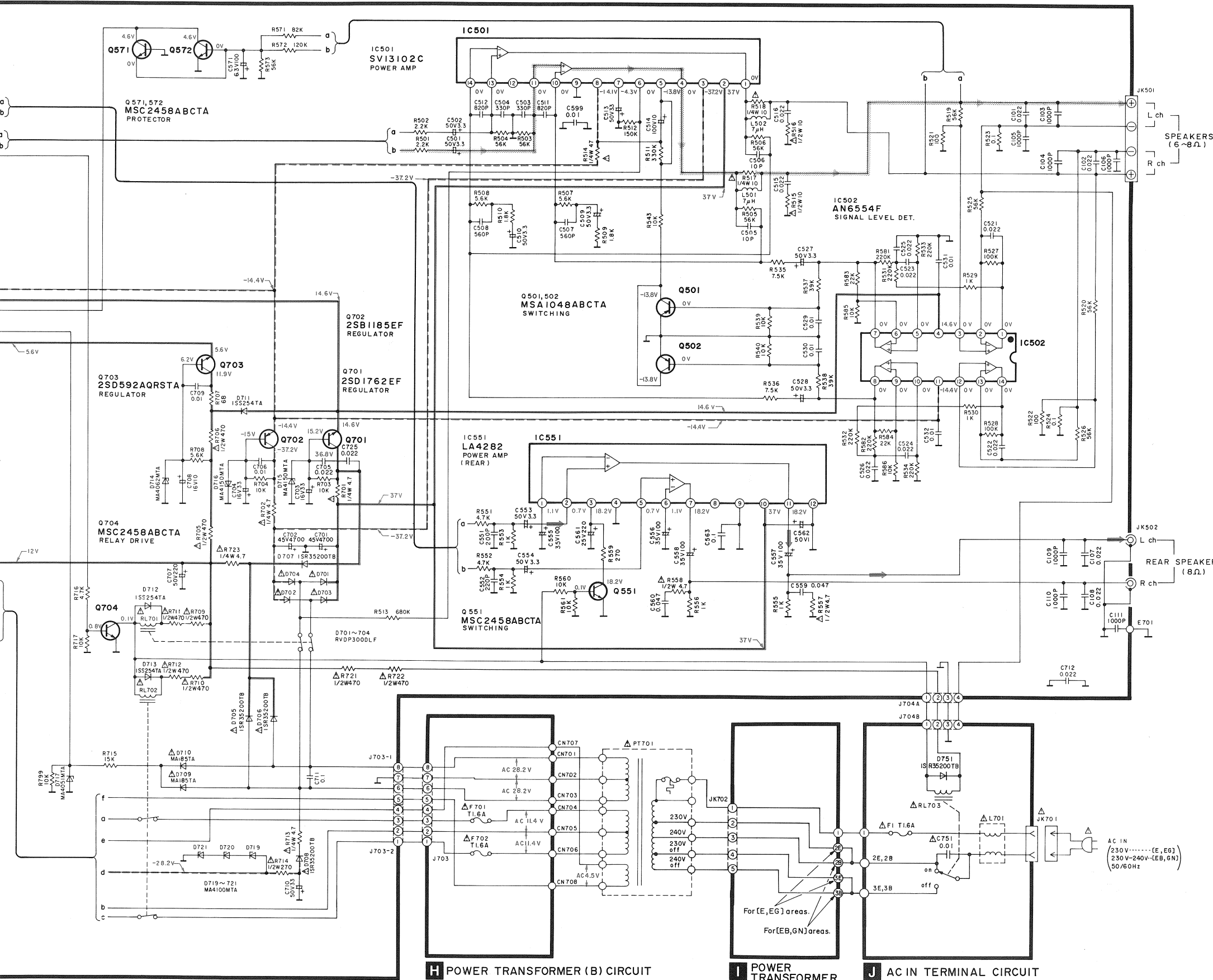
To [E] INPUT/OUTPUT TERMINAL CIRCUIT (J501B) (To Page 16)

To [E] INPUT/OUTPUT TERMINAL CIRCUIT (J702B) (To Page 16)

To [E] INPUT/OUTPUT TERMINAL CIRCUIT (J701B) (To Page 16)

H POWER TRANSFORMER (B) CIRCUIT

I POWER TRANSFORMER (A) CIRCUIT



**Notes:**

- S601 : CLOCK SET switch
- S602 : SELECT (▼) switch
- S603 : SELECT (▲) switch
- S604 : TIMER SET switch
- S605 : CANCEL switch
- S606 : STANDBY switch
- S607 : RECALL switch
- S608 : BALANCE (L) switch
- S609 : BALANCE (R) switch
- S610 : Input select (VDP) switch
- S611 : Input select (PHONO) switch
- S612 : Input select (CD) switch
- S613 : Input select (DAT) switch
- S614 : Input select (TUNER) switch
- S615 : Input select (TAPE) switch
- S616 : Input select (VCR) switch
- S618 : S. LOUDNESS switch
- S619 : POWER switch
- S701 : VOLTAGE SELECTOR switch in "220 V" position (110 V/127 V/220 V/240 V) for (GC) area only

●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.

- ▬ : Positive voltage line
- ▬ : Negative voltage line
- ▬ : Mic signal line
- ▬ : Source signal line
- ▬ : Rear speaker drive signal line
- ▬ : Center speaker drive signal line

●Important safety notice:  
Components identified by  $\Delta$  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.

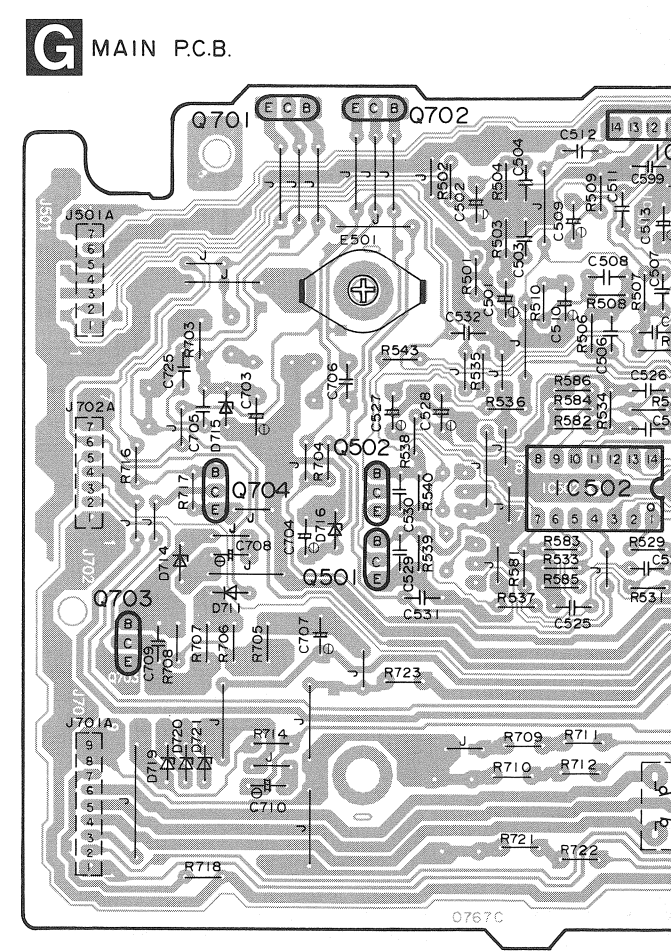
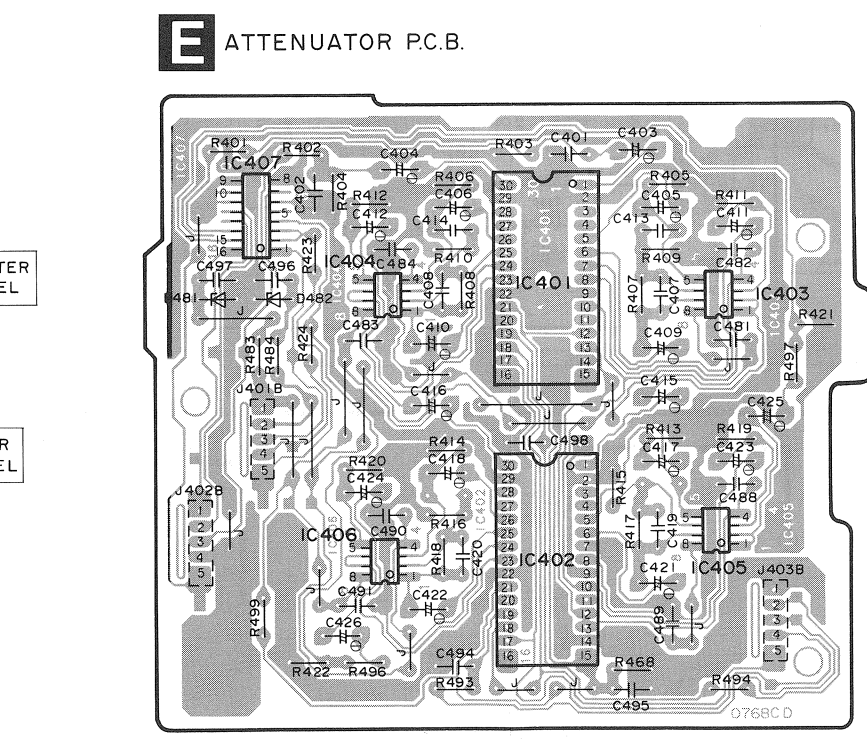
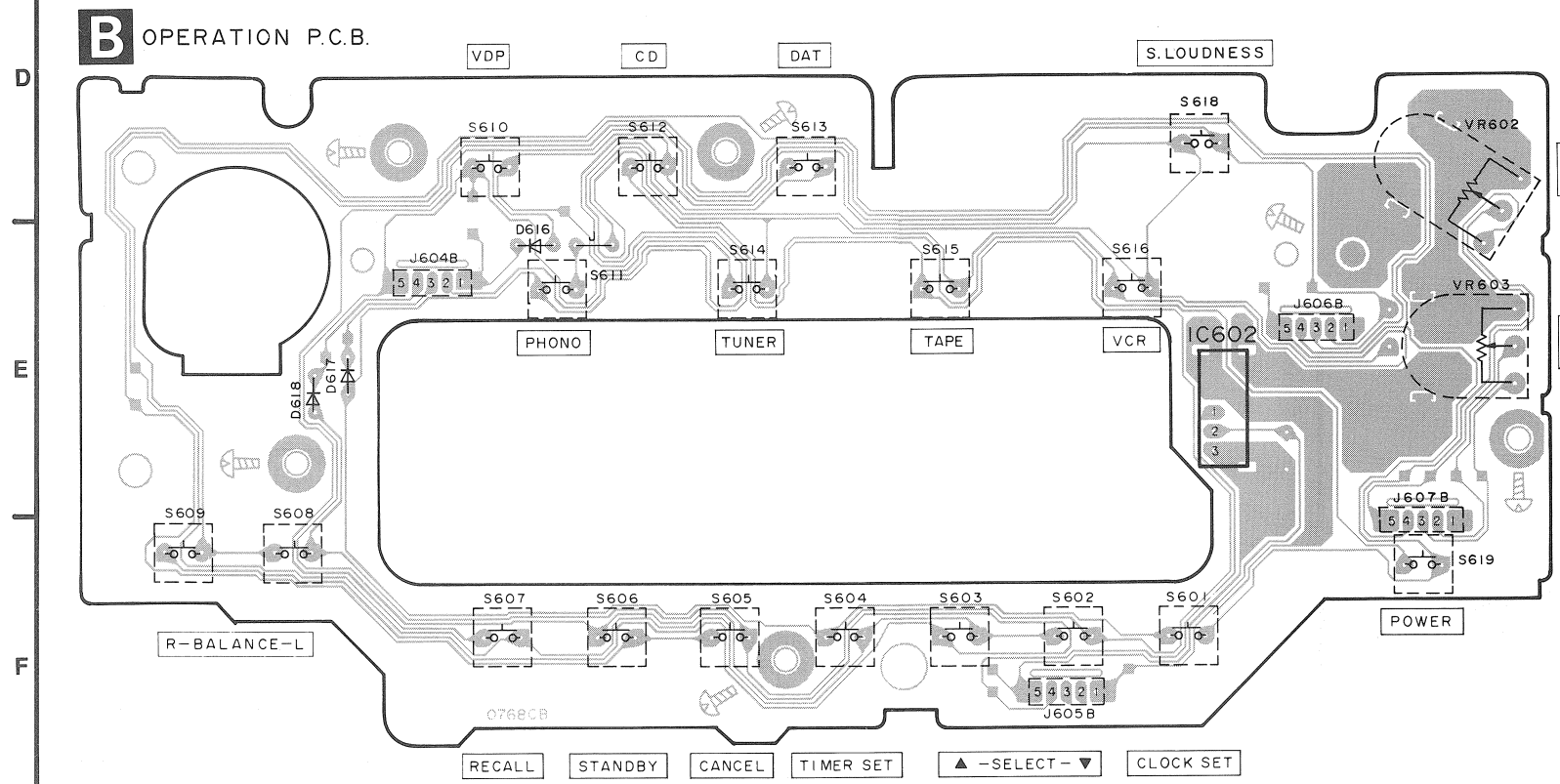
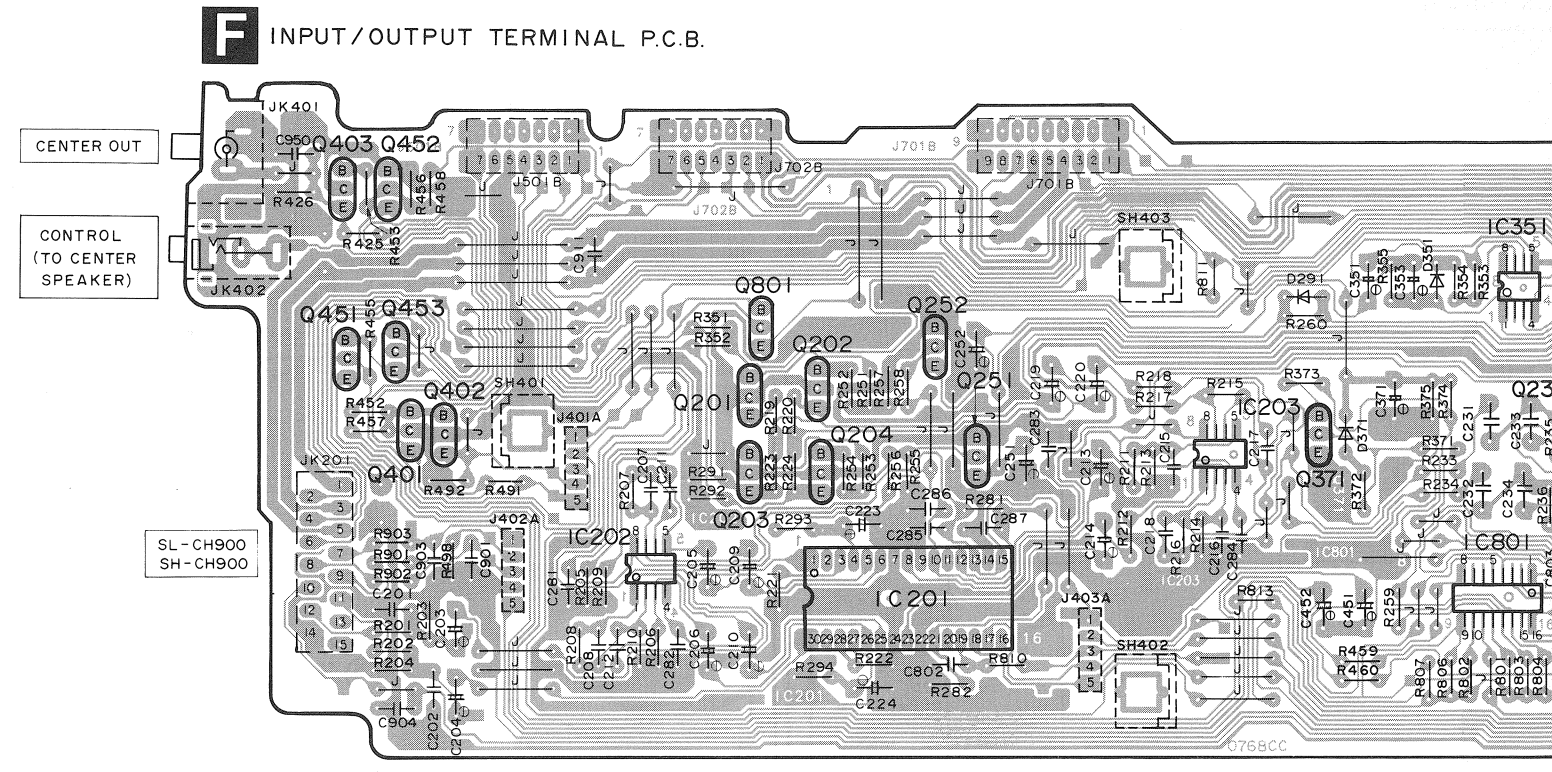
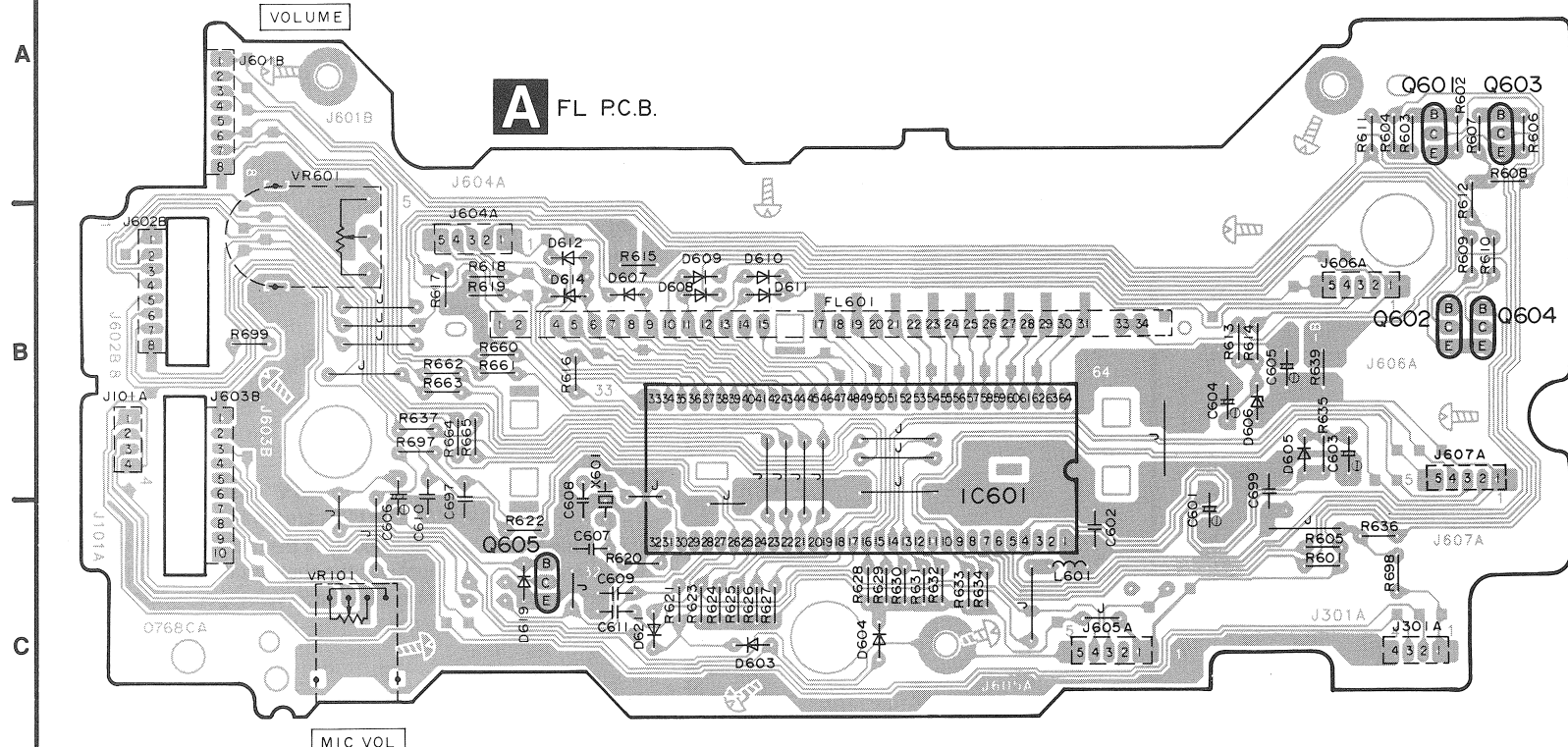
- Caution!**
- IC and LSI are sensitive to static electricity.
  - Secondary trouble can be prevented by taking care during repair.
  - Cover the parts boxes made of plastics with aluminum foil.
  - Ground the soldering iron.
  - Put a conductive mat on the work table.
  - Do not touch the legs of IC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

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

Ref. No.	Production Parts No.	Supply Parts No.
IC151 IC202 IC203 IC351 IC403 IC406	BA4558FT1	SVIBA4558F
IC301	M5218AL	M5218L

PRINTED CIRCUIT BOARDS (Parts list on pages 27~30)

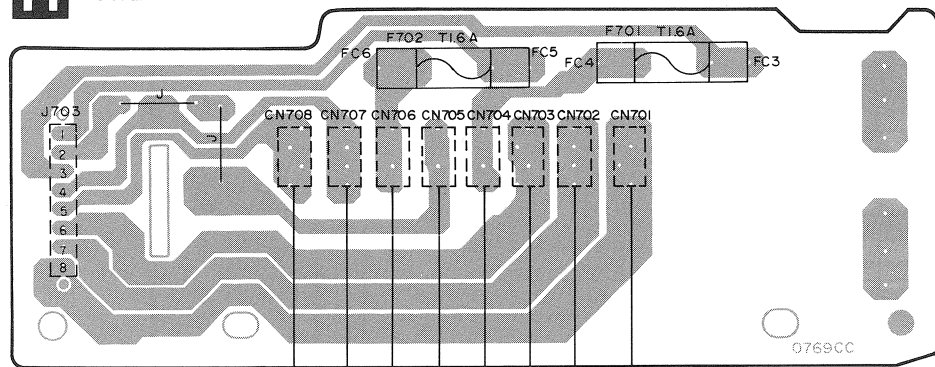
•This circuit board diagram may be modified at any time with the development of new technology.



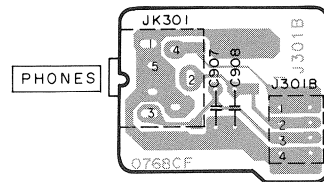




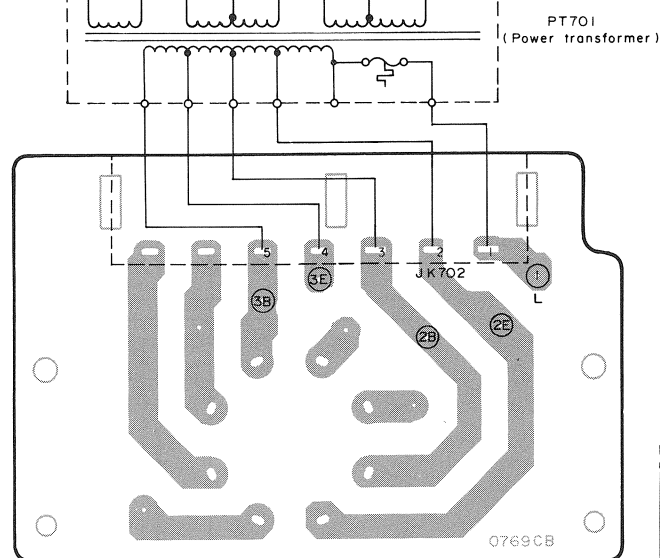
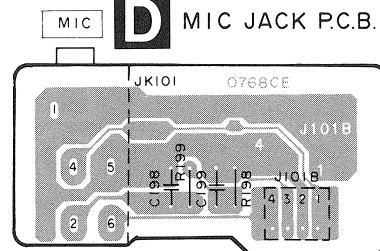
**H** POWER TRANSFORMER (B) P.C.B.



**C** HEADPHONES JACK P.C.B.

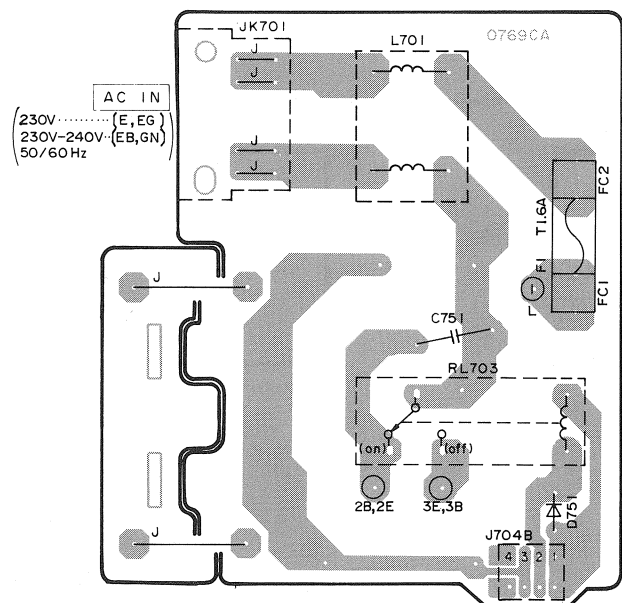


**D** MIC JACK P.C.B.



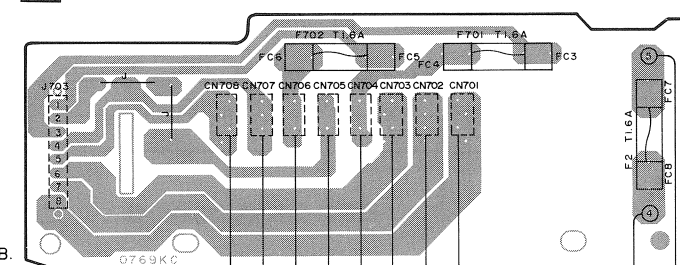
**I** POWER TRANSFORMER (A) P.C.B.

**J** AC IN TERMINAL P.C.B.

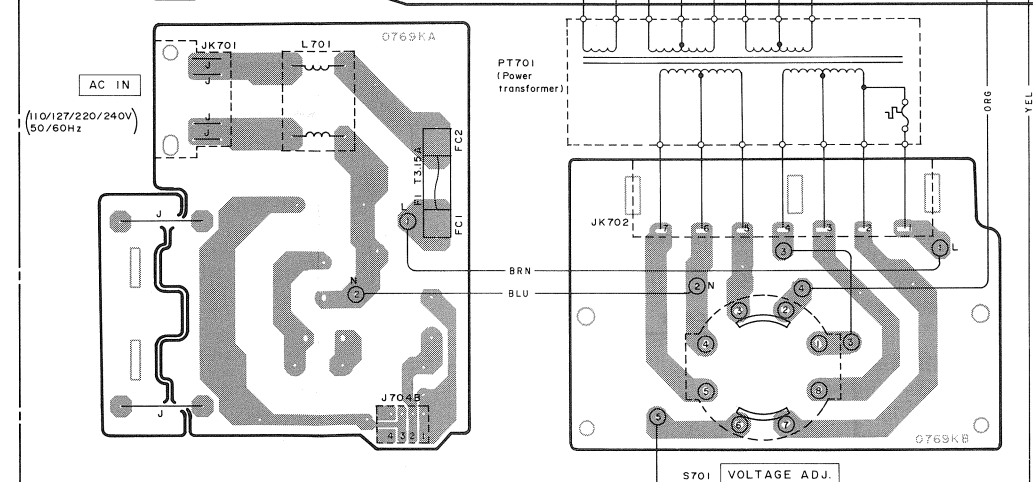


Power Source For [C] area.

**H** POWER TRANSFORMER (B) P.C.B.



**J** AC IN TERMINAL P.C.B.

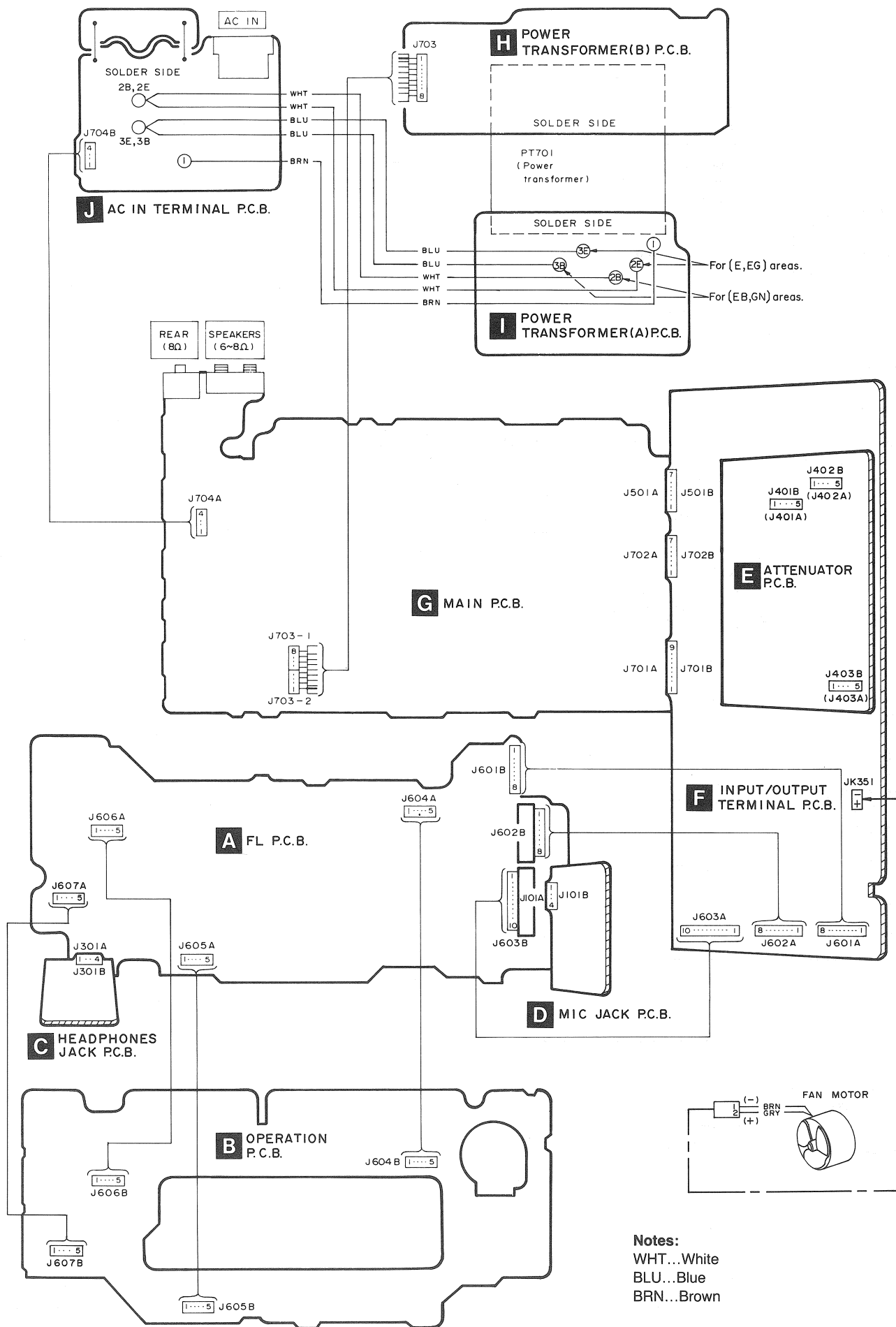


**I** POWER TRANSFORMER (A) P.C.B.

•Terminal guide of IC's, transistors and diodes.

<p>BA4558FT1</p>	<p>BU2040F-T2 TC4053BFTP1</p>	<p>M38102M5127S</p>
<p>AN6554F 14 Pin LC7536 30 Pin</p>	<p>M5218AL</p>	
<p>SVI3102C</p>	<p>RCDHC-278</p>	<p>LA4282</p>
<p>MSA1048ABCTA MSC2458ABCTA 2SD2144STA DTA114ESTP DTA114TSTP DTC114ESTP DTC144ESTP</p>	<p>2SC3311AQSTA 2SC3312RSTA</p>	
<p>2SB1185EF 2SD1762EF</p>	<p>KSD471ACYGTA 2SD592AQRSTA</p>	<p>MA4100MTA MA4150MTA</p>
<p>MA165TA MA185TA 1SS254TA 1SR35200TB</p>	<p>RVDP300DLF</p>	
<p>MA4047MTA MA4051MTA MA4062MTA MA4068MTA MA4075MTA</p>	<p>1SS291TA</p>	

# WIRING CONNECTION DIAGRAM



**Notes:**  
 WHT...White  
 BLU...Blue  
 BRN...Brown

## FUNCTION OF IC TERMINALS

### ●IC601 (M38102M5127S)

Pin No.	Terminal Name	I/O	Function
1	V <sub>DD</sub>	I	Power supply (+5)
2	-VP	I	Pull down voltage input
3	H.P SW	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		
7	B. DATA IN	I	Data base signal input
8	B. CLK IN		
9	REAR VR b	I	Level encoder volume control signal input (Connect to V <sub>DD</sub> , Not used)
10	REAR VR a		
11	LED OUT	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 <sub>DD</sub> , Not used)
16	CENTER VR a		
17	MAIN VR b	I	Level encoder volume control signal input
18	MAIN VR a		
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		
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×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 <sub>SS</sub>	I	GND
33~36	K3~K0	I	Key control signal input
37, 38	12G, 11G	O	FL digit signal output
39	KS0/10G		
40, 41	9G, 8G		
42~46	KS1/7G } KS5/3G	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  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

\* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)  
Parts without these indications can be used for all areas.

\* Remote Control Ass'y:

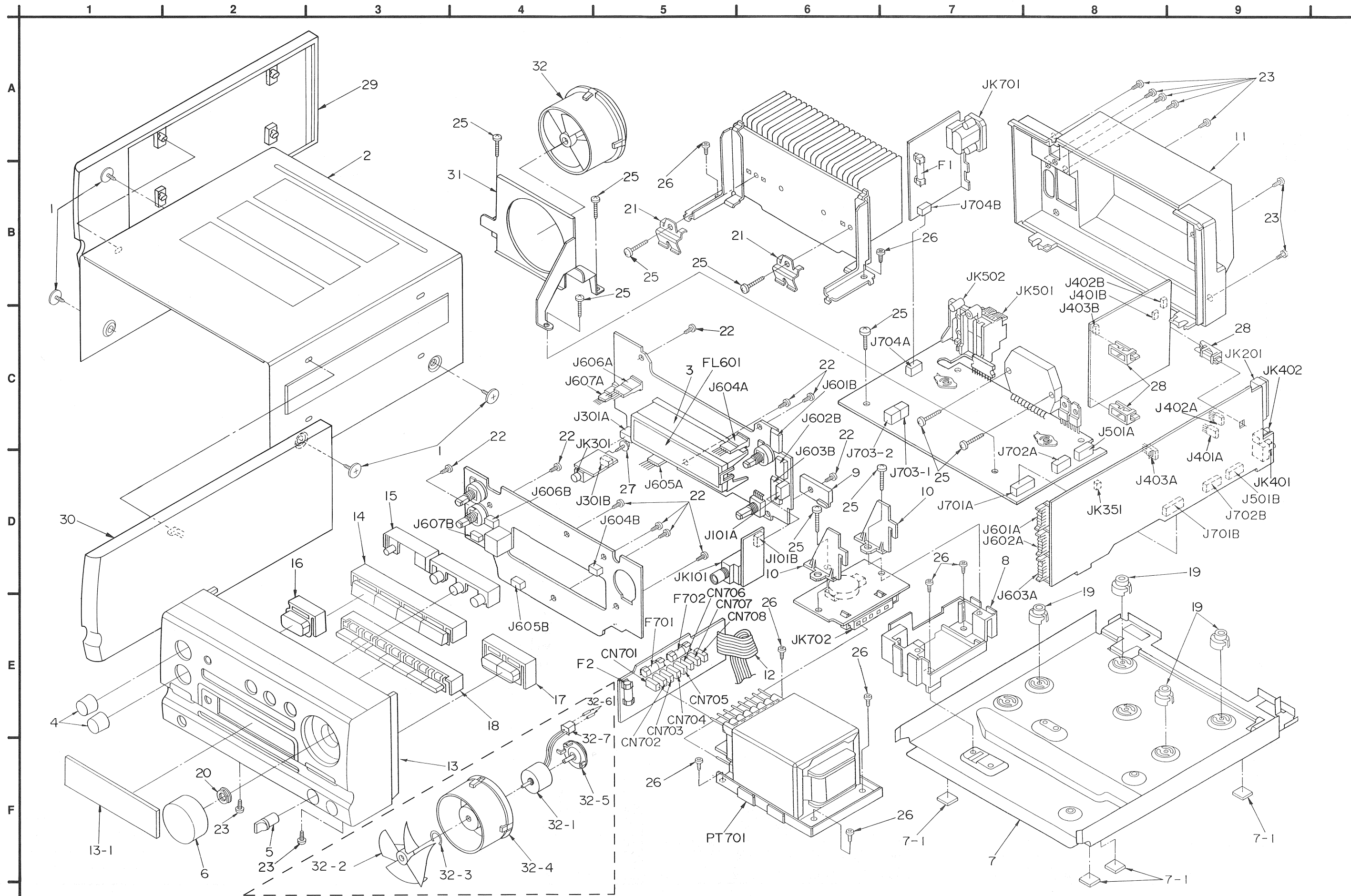
Supply period for three years from termination of production.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		Q703	2SD592ANCQ	TRANSISTOR	
				Q704	MSC2458ABCTA	TRANSISTOR	
				Q801	DTA114ESTP	TRANSISTOR	
IC151	SVIBA4558F	I. C, MIC AMP.				DIODE(S)	
IC201	LC7536	I. C, ELECTRIC VOLUME		D291	MA165	DIODE	
IC202	SVIBA4558F	I. C, BUFFER AMP.		D351	MA165	DIODE	
IC203	SVIBA4558F	I. C, BASS AMP.		D352	MA4068M	DIODE	
IC301	M5218L	I. C, HEADPHONE AMP.		D371	MA165	DIODE	
IC351	SVIBA4558F	I. C, SIGNAL LEVEL DET.		D481, 482	MA4075MTA	DIODE	
IC401	LC7536	I. C, ELECTRIC VOLUME		D603	1SS291TA	DIODE	
IC402	LC7536	I. C, ELECTRIC VOLUME		D604, 605	MA165	DIODE	
IC403	SVIBA4558F	I. C, BUFFER AMP.		D606	MA4047MTA	DIODE	
IC404	SVIBA4558F	I. C, BUFFER AMP.		D607-612	MA165	DIODE	
IC405	SVIBA4558F	I. C, BUFFER AMP.		D614	MA165	DIODE	
IC406	SVIBA4558F	I. C, BUFFER AMP.		D616-619	MA165	DIODE	
IC407	TC4053BFTP1	I. C, SIGNAL SELECTOR		D621	1SS291TA	DIODE	
IC501	SV13102C	I. C, POWER AMP.		D701-704	RVDP300DLF	DIODE	$\Delta$
IC502	AN6554F	I. C, SIGNAL LEVEL DET.		D705-708	1SR35200TB	DIODE	$\Delta$
IC551	LA4282	I. C, POWER AMP. (REAR)		D709, 710	MA185TA	DIODE	
IC601	M38102M5127S	I. C, SYSTEM CONT. /FL. DRIVE		D711-713	1SS254TA	DIODE	
IC602	RCDHC-278	I. C, REMOTE SENSOR		D714	MA4062MTA	DIODE	
IC801	BU2040F-T2	I. C, SYSTEM CONTROL		D715, 716	MA4150M	DIODE	
		TRANSISTOR(S)		D717	MA4051MTA	DIODE	
Q201-204	2SD2144S	TRANSISTOR		D719-721	MA4100MTA	DIODE	
Q231, 232	2SC3312RSTA	TRANSISTOR		D751	1SR35200TB	DIODE	(E, EB, EG, GN)
Q251, 252	DTA114TSTP	TRANSISTOR				VARIABLE RESISTOR(S)	
Q301, 302	2SD2144S	TRANSISTOR		VR101	EVJ02BF03B14	V. R, MIC VOLUME	
Q303	DTA114ESTP	TRANSISTOR		VR601	EVQWQAF2524B	V. R, MAIN VOLUME	
Q352	KSD471ACYGTA	TRANSISTOR		VR602	EVQWQ2F1524B	V. R, CENTER VOLUME	
Q354	2SC3311A-Q	TRANSISTOR		VR603	EVQWQ2F1524B	V. R, REAR VOLUME	
Q371	2SC3311A-Q	TRANSISTOR				COIL(S)	
Q401-403	2SD2144S	TRANSISTOR		L501, 502	SLQY07G-40	COIL	
Q451, 452	DTA114TSTP	TRANSISTOR		L601	ELEXT100KA9	COIL	
Q453	2SC3311A-Q	TRANSISTOR		L701	RLQZ600M-W	COIL	$\Delta$
Q501, 502	MSA1048ABCTA	TRANSISTOR				OSCILLATOR(S)	
Q551	MSC2458ABCTA	TRANSISTOR		X601	RSXA4M19S02T	CRYSTAL OSCILLATOR	
Q571, 572	MSC2458ABCTA	TRANSISTOR				DISPLAY	
Q601	2SC3311A-Q	TRANSISTOR					
Q602	DTC144ESTP	TRANSISTOR					
Q603	2SC3311A-Q	TRANSISTOR					
Q604	DTC144ESTP	TRANSISTOR					
Q605	DTC114ESTP	TRANSISTOR					
Q701	2SD1762EF	TRANSISTOR					
Q702	2SB1185EF	TRANSISTOR					

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
				J101B	RJU057W004	SOCKET (4P)	
FL601	RSL0112-F	FL DISPLAY		J301B	RJU057W004	SOCKET (4P)	
		FUSE (S)		J401B	SJS50581BB	SOCKET (5P)	
				J402B	SJS50581BB	SOCKET (5P)	
F1	XBA2C16TBO	FUSE	△ (E, EB, EG, GN)	J403B	SJS50581BB	SOCKET (5P)	
F1	XBA2C31TBO	FUSE	△ (GC)	J501B	RJU057W007	SOCKET (7P)	
F2	XBA2C16TBO	FUSE	△ (GC)	J601B	RJT003K008M1	CONNECTOR (8P)	
F701, 702	XBA2C16TBO	FUSE	△	J602B	RJT003K008M1	CONNECTOR (8P)	
		SWITCH (ES)		J603B	RJT003K010M1	CONNECTOR (10P)	
S601	EVQ21405R	SW, CLOCK SET		J604B	SJS50581BB	SOCKET (5P)	
S602	EVQ21405R	SW, SELECT (DOWN)		J605B	SJS50581BB	SOCKET (5P)	
S603	EVQ21405R	SW, SELECT (UP)		J606B	SJS50581BB	SOCKET (5P)	
S604	EVQ21405R	SW, TIMER SET		J607B	SJS50581BB	SOCKET (5P)	
S605	EVQ21405R	SW, CANCEL		J701B	RJU057W009	SOCKET (9P)	
S606	EVQ21405R	SW, STANDBY		J702B	RJU057W007	SOCKET (7P)	
S607	EVQ21405R	SW, RECALL		J704B	RJU057W004	SOCKET (4P)	
S608	EVQ21405R	SW, BALANCE (L)		CN701-708	RJS1A1101	SOCKET (1P)	(E, EB, EG, GN)
S609	EVQ21405R	SW, BALANCE (R)				EARTH TERMINAL (S)	
S610	EVQ21405R	SW, VDP		E501	SNE1004-1	GND PLATE	
S611	EVQ21405R	SW, PHONO		E701	SNE1004-1	GND PLATE	
S612	EVQ21405R	SW, CD				FUSE HOLDER (S)	
S613	EVQ21405R	SW, DAT		FC1-6	EYF52BC	FUSE HOLDER	
S614	EVQ21405R	SW, TUNER		FC7, 8	EYF52BC	FUSE HOLDER	(GC)
S615	EVQ21405R	SW, TAPE				RELAY (S)	
S616	EVQ21405R	SW, VCR		RL701	SSY134	RELAY	△ (GC)
S618	EVQ21405R	SW, LOUDNESS		RL702	SSY134	RELAY	△ (GC)
S619	EVQ21405R	SW, POWER		RL703	RSY0011-0	RELAY	△ (E, EB, EG, GN)
S701	ESE37263	SW, VOLTAGE SELECTOR	△ (GC)			TRANSFORMER (S)	
		CONNECTOR (S)		PT701	RTP1N5B008-V	POWER TRANSFORMER	△ (E, EB, EG, GN)
J703	RWJ1808110QQ	FLAT CABLE (8P)		PT701	RTP1N5G002-V	POWER TRANSFORMER	△ (GC)
J703-1, 2	RJS1A6604	SOCKET (4P)				JACK (S)	
J101A	RJT057W004-1	CONNECTOR (4P)		JK101	RJG65MA02	MIC JACK	
J301A	RJT057W004-1	CONNECTOR (4P)		JK201	RJT055K015-1	CONNECTOR (15P)	
J401A	SJT30549BB1	CONNECTOR (5P)		JK301	RJJD7S2YA-C	HEADPHONE JACK	
J402A	SJT30549BB1	CONNECTOR (5P)		JK351	SJT3213	CONNECTOR (2P)	
J403A	SJT30549BB1	CONNECTOR (5P)		JK401	SJFD7	PHONO JACK (CENTER)	
J501A	RJT057W007-1	CONNECTOR (7P)		JK402	RJJ33T01	CONTROL JACK (CENTER)	
J601A	RJU003K008M1	SOCKET (8P)		JK501	RJR0054M	F. SPEAKER TERMINAL	
J602A	RJU003K008M1	SOCKET (8P)		JK502	SJF3068N	R. SPEAKER TERMINAL	
J603A	RJU003K010M1	SOCKET (10P)		JK701	SJS9236	AC INLET	△ (E, EB, EG, GC)
J604A	SJT30549BB1	CONNECTOR (5P)		JK701	SJSD16	AC INLET	△ (GN)
J605A	SJT30549BB1	CONNECTOR (5P)		JK702	SJS702-1	CONNECTOR (5P)	
J606A	SJT30549BB1	CONNECTOR (5P)					
J607A	SJT30549BB1	CONNECTOR (5P)					
J701A	RJT057W009-1	CONNECTOR (9P)					
J702A	RJT057W007-1	CONNECTOR (7P)					
J704A	RJT057W004-1	CONNECTOR (4P)					



CABINET PARTS LOCATION





Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS				PACKING MATERIALS	
1	RHD30007	SCREW		P1	RPG1118	PACKING CASE (SYSTEM)	(E)
2	RKMO105D-K	CABINET		P1	RPG1121	PACKING CASE (SYSTEM)	(EB)
3	RMNO153	FL. HOLDER (SH601)		P1	RPG1122	PACKING CASE (SYSTEM)	(EG)
4	RGWO139-H	REAR/CENTER VOLUME KNOB		P1	RPG1157	PACKING CASE (SYSTEM)	(GC)
5	RGWO105-K	MIC KNOB		P1	RPG1158	PACKING CASE (SYSTEM)	(GN)
6	RGWO136-H	MAIN VOLUME KNOB		P2	RPG1215	PACKING CASE (AMPLIFIER)	
7	RFKJUCH700NK	BOTTOM BOARD ASS'Y	(E, EB, EG, GN)	P2	RPG1217	PACKING CASE (DECK)	
7	RFKJUCH900GC	BOTTOM BOARD ASS'Y	(GC)	P2	RPG1216	PACKING CASE (CD/PROCESSOR)	
7-1	RKA0043	FOOT		P3	RPN0601	PAD (AMPLIFIER)	
8	RMNO154	P. C. B. HOLDER(A)		P3	RPN0603	PAD (DECK)	
9	RMNO155	HOLDER		P3	RPN0602	PAD (CD/PROCESSOR)	
10	RMNO158	P. C. B. HOLDER(B)		P4	XZB45X50A01Z	PROTECTION COVER	
11	RFKHUCH900EK	REAR GRILL ASS'Y	(E, EG)	P5	RPQ0220	SPACER	
11	RFKHUCH900EB	REAR GRILL ASS'Y	(EB, GN)	P6	RPQF0029	ACCESSORY BOX	
11	RFKHUCH900GC	REAR GRILL ASS'Y	(GC)			ACCESSORIES	
12	RWJ1808110QQ	FLAT CABLE (8P) (J703)		A1	RAK-SC515W	REMOTE CONTROLLER	
13	RFKGUCH900EK	FRONT PANEL ASS'Y		A1-1	RKK0020-K	BATTERY COVER	
13-1	RKWO191-K	FL. PANEL		A2	RFKSUCH900EK	INSTRUCTIONS MANUAL	(E)
14	RGU0680A-K	SELECTOR BUTTON		A2	RQT1342-B	INSTRUCTIONS MANUAL	(EB, GN)
15	RGU0694A-K	DIGITAL/LOUDNESS BUTTON		A2	RQT1345-D	INSTRUCTIONS MANUAL	(EG)
16	RGU0682-K	POWER BUTTON		A2	RQT1343-G	INSTRUCTIONS MANUAL	(GC)
17	RGU0683-K	BALANCE BUTTON		A3	RQA0013	WARRANTY CARD	(E, EB, EG)
18	RGU0685-K	CLOCK/TIMER BUTTON		A3	RQX7433ZA	WARRANTY CARD	(GN)
19	SHE185-2	P. C. B. SPACER		A4	RQCB0169	SERVICE CENTER LIST	
20	SNE4021-1	NUT		A5	RJA0019-1K	AC POWER SUPPLY CORD	△ (E, EG)
21	SUS894-1	SPRING		A5	SJA193	AC POWER SUPPLY CORD	△ (EB)
22	XTBS26+8J	SCREW		A5	RJA0004	AC POWER SUPPLY CORD	△ (GC)
23	XTBS3+8JFZ1	SCREW		A5	SJA173	AC POWER SUPPLY CORD	△ (GN)
25	XTB3+16JFZ	SCREW		A6	REX0402	FLAT CABLE (15P)	
26	XTB3+8JFZ	SCREW		A7	SJP2281	OPTICAL CABLE	
27	XTWS3+8T	SCREW		A8	SWXS257M	SPEAKER CORD	
28	RMR0509	SPACER (SH401-SH403)		A9	SPB1163T	AM LOOP ANTENNA	
29	RYQ0084-K	SIDE ORNAMENT (L)		A9-1	SMA233-1M	ANTENNA HOLDER	
30	RYQ0085-K	SIDE ORNAMENT (R)		A9-2	XTN3+10AFZ	SCREW	
31	RMNO169	FAN ANGLE		A10	RSA0007	FM ANTENNA	(E, EB, EG)
32	SYE1128-4	FAN		A10	RSA0006	FM ANTENNA	(GC, GN)
32-1	MDN-4RB4MRC	MOTOR		A11	SJP9009	ATTACHMENT PLUG	△ (EB)
32-2	SHE232	FAN		A12	SJP9215	AC PLUG ADAPTOR	△ (GC)
32-3	SUS271	SPRING					
32-4	SHE233	CASE					
32-5	SHE234	CASE COVER					
32-6	SJT783	TERMINAL					
32-7	SJS5215	SOCKET (2P)					

# PACKAGING

