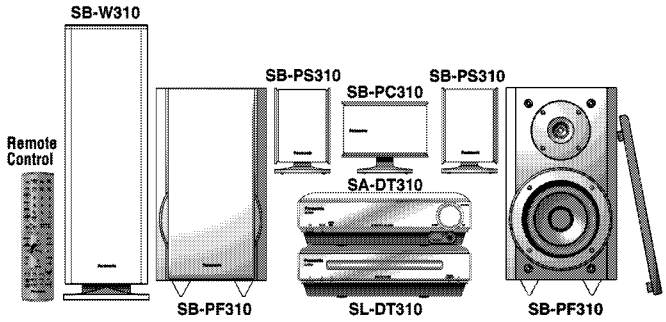
AD0303070C2

Service Manual

AV Control Receiver



SA-DT310E
SA-DT310EB
SA-DT310EE
SA-DT310EG

Colour

(S).....Silver Type

System	SC-DT310
DVD/CD player	SL-DT310
AV control receiver	**SA-DT310**
Front speakers*	SB-PF310
Center speaker*	SB-PC310
Surround speakers*	SB-PS310
Sub woofer*	SB-W310

* : Made in Singapore.

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

Specifications

Amplifier section

Power output (For SA-DT310EB: 240 V):

RMS power output (THD 10 %);

FRONT (1 kHz both channels driven)	2 x 60 W
SURROUND (1 kHz both channels driven)	2 x 60 W
CENTER (1 kHz)	60 W
SUB WOOFER (100 Hz)	100 W

DIN power output (THD 1.0 %);

FRONT (1 kHz both channels driven)	2 x 48 W
SURROUND (1 kHz)	2 x 48 W
CENTER (1 kHz)	48 W
SUB WOOFER (100 Hz)	80 W

Load impedance:

FRONT, SURROUND, CENTER;	6 Ω
SUB WOOFER;	3 Ω

Pre amplifier section

Input terminal: DVD (OPT1), TV (OPT2)

FM tuner section

Frequency range: 87.50 – 108.00 MHz (50 kHz steps)

Antenna terminals: 75 Ω (unbalanced)

AM tuner section

Frequency range: 522 – 1629 kHz (9 kHz steps)

Headphone

Jack type: 3.5 mm STEREO

Load impedance: 16 - 32 Ω

General

Power supply:

SA-DT310EB;	AC 230 – 240 V, 50 Hz
Except for SA-DT310EB;	AC 230 V, 50 Hz

Power consumption: 60 W

Standby condition; 0.7 W

Dimensions (WxHxD): 197x70.9x368 mm

Mass: 2.5 kg

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

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

CONTENTS

1 Before Repairs

1. Turn off the power supply. Using a 10 Ω, 10 W resistor, connect both ends of power supply capacitors (C717) 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 in NO SIGNAL mode (VOL: except for infinity, SELECT:DVD) should be shown below with respect to supply voltage 230/240 V.

Power supply voltage	AC 230 V	AC 240 V
Consumed current 50 Hz	130 - 190 mA	

2 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 functions 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 procedures outlined below.

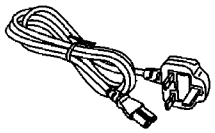
1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

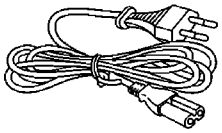
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

3 Accessories

- AC mains lead for SA-DT310EB
  (RJA0053-3X).....1 pc.

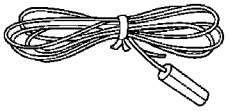


- AC mains lead except for SA-DT310EB
  (RJA0019-2X).....1 pc.



- AM loop antenna
  (N1DAAAA00003).....1 pc.

- FM indoor antenna
  (RSA0007).....1 pc.

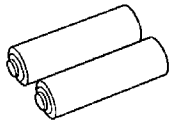


- Video cable
  For SA-DT310EE (RJL1P019B15).....1 pc.
  Except for SA-DT310EE (VJA0815-A).....1 pc.

- Optical cable
  (RJL1X008B05).....1 pc.

- Remote control
  (EUR7623010).....1 pc.

- Batteries for remote control
  (R6/LR6, “AA”, UM-3).....2 pcs.



Note: These are available on sales route.

- Antenna plug adaptor for SA-DT310EB only
  (SJP9009).....1 pc.

- RCAJ adaptor
  (K1JZ24D00002).....1 pc.

4 Caution for AC Mains Lead

(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral, Brown: Live.
As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

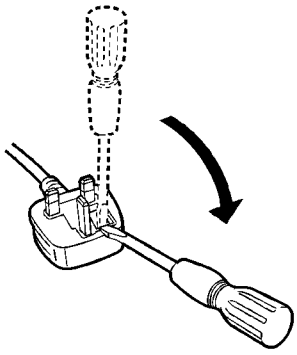
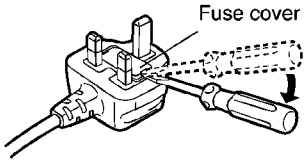


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

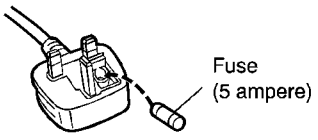
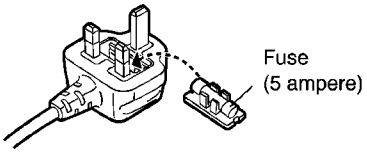
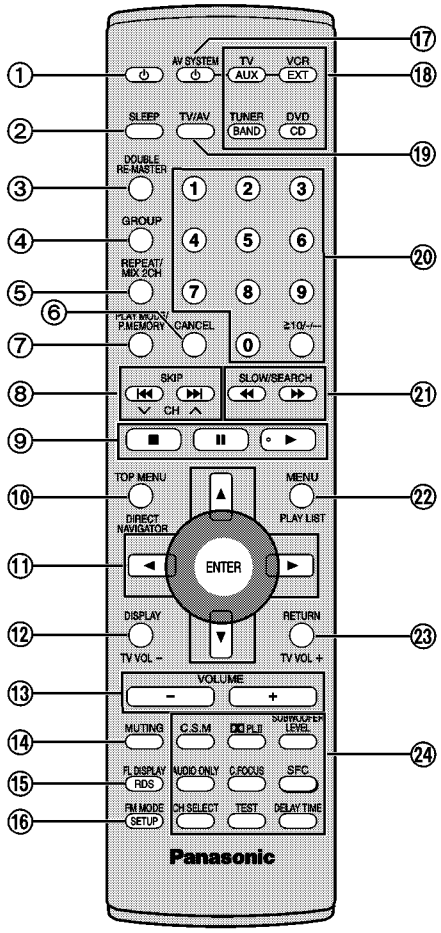


Figure B



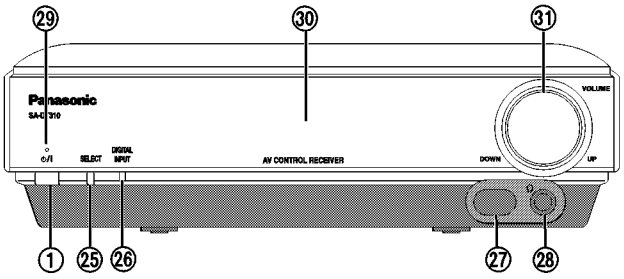
5 Location of Controls



Remote control

① **Standby/on button [⏻]**
② **Sleep button [SLEEP]**
③ **Double re-master button [DOUBLE RE-MASTER]**
④ **Group button [GROUP]**
⑤ **Repeat/Mix 2ch button [REPEAT/MIX 2CH]**
⑥ **Cancel button [CANCEL]**
⑦ **Play mode/Position memory button [PLAY MODE/ P.MEMORY]**
⑧ **Skip, preset channel, TV channel button [⏮,⏭ , SKIP, ∨ CH ∧]**
⑨ **Basic operation buttons**
Stop button [■], Pause button [❚❚], Play button [▶]
⑩ **Top menu, Direct navigator button [TOP MENU, DIRECT NAVIGATOR]**
⑪ **Cursor buttons [▲, ▼, ◀, ▶], Enter button [ENTER]**
⑫ **Display, TV volume down button [DISPLAY, TV VOL−]**
⑬ **Volume buttons [+, −, VOLUME]**
⑭ **Muting button [MUTING]**
⑮ **RDS, FL display button [RDS, FL DISPLAY]**
⑯ **FM mode, Setup button [FM MODE, SETUP]**
⑰ **AV system standby/on button [⏻, AV SYSTEM]**
⑱ **Source select buttons**
- Face towards this unit to change the source.
- Press [TV] or [VCR] first to operate a Panasonic television or video cassette recorder.

⑲ **TV/AV button [TV/AV]**
⑳ **Numbered buttons [1–9, 0, ≧10/-/--]**
㉑ **Slow/Search buttons [◀◀, ▶▶ SLOW/SEARCH]**
㉒ **Menu, Play list button [MENU, PLAY LIST]**
㉓ **Return, TV volume up button [RETURN, TV VOL +]**
㉔ **Sound field, sound quality button**



AV control receiver

① **Standby/on switch [⏻/I]**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
㉕ **Source select button [SELECT]**
Each time you press the button:
DVD→DVD OPT1 →TV<AUX>→TV OPT2→VCR<EXT>
↑——————— AM ← FM———————┘
㉖ **DIGITAL INPUT indicator**
㉗ **Remote control signal sensor**
㉘ **Headphone jack [🎧]**
㉙ **Standby/on indicator [⏻/I]**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
㉚ **Display**
㉛ **Volume control [VOLUME, DOWN, UP]**

6 Self-Diagnostic Function

This unit is equipped with a self-diagnostic function which, in the event of a malfunction, automatically displays a code indicating the nature of the malfunction.

Use this self-diagnostic function when servicing the unit.

6.1. To display the malfunction code

U70 DVD: Automatically displays on the AV control receiver when a malfunction occurs. Refer to Fig. 6-1.

F61:
F76: Automatically displays on the AV control receiver when a malfunction occurs. Refer to Fig. 6-1.

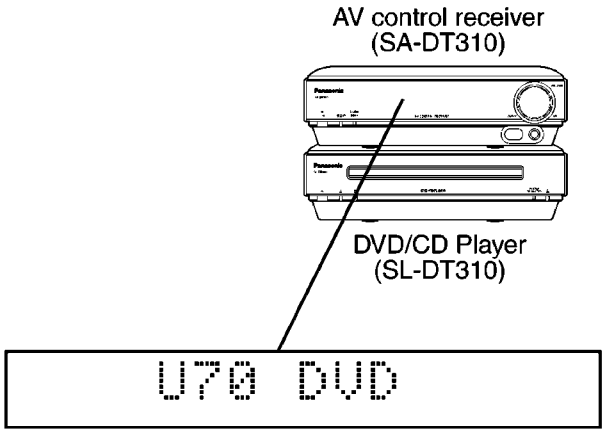


Fig. 6-1.

6.2. To redisplay the malfunction code

1. **For U70 DVD**
   - Press some operation buttons on the AV control receiver.
   - To redisplay the code, switch the power off (Standby/on button), and then switch power back on again.
2. **For F61/F76**
   - If F61/F76 is displayed, the power will automatically be switched off and the standby indicator will light up.
   - F61/F76 will be displayed for a second, and then the clock will be displayed.
   - To redisplay the code, switch the power on. F61/F76 will be redisplayed, and then the clock will be displayed and the power will automatically switch off.

6.3. Display contents

6.3.1. U70 DVD

- **Problem or condition**

  A bus-line communications error has occurred as a result of flat cable being inserted incorrectly, thus preventing the system from operating.

  – If U70 is displayed on the AV control receiver, DVD/CD player cannot be operated by remote control.

- **Correction Procedure**

  1. To check for correct insertion of flat cable.
     – Insert connector until you hear a click.
     – Make sure the white side of the cable is on your right side. Refer to Fig. 6-2.

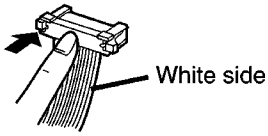


Fig. 6-2.

  2. Breakage of flat cable. (Check and replace.)
  3. If the problem is not corrected by items 1 and 2 above, this indicates a faulty IC.

     SA-DT310:

     IC502 (C2CBKJ000061)

     SL-DT310:

     IC402 (C2BBFD000394)

     Check these ICs and replace.

6.3.2. F61

- **Problem or condition**

  When the Standby/on switch is switched on, it automatically switches back off, making it impossible to switch power on.

- **Correction procedure**

  Faulty AV control receiver (SA-DT310) output IC (IC1001 - 05) (When a DC voltage is applied to speaker terminals) or fan motor breaks down. (Check and replace.)

6.3.3. F76

- **Problem or condition**

  When the Standby/on switch is switched on, it automatically switches back off, making it impossible to switch power on.

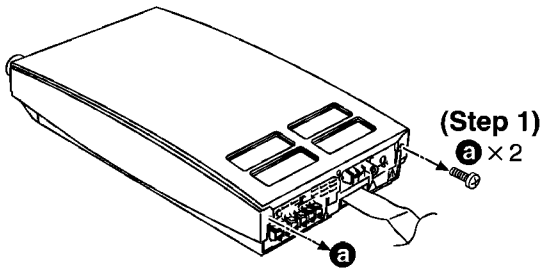
- **Correction procedure**

  Faulty AV control receiver (SA-DT310) power supply signal line. (Check and replace.)

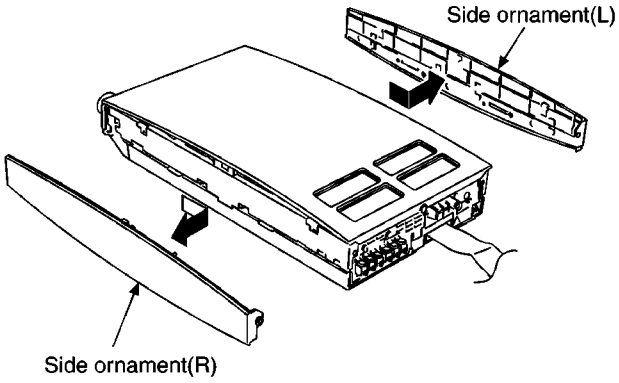
7 Operation Checks and Component Replacement Procedures

- **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
- **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**

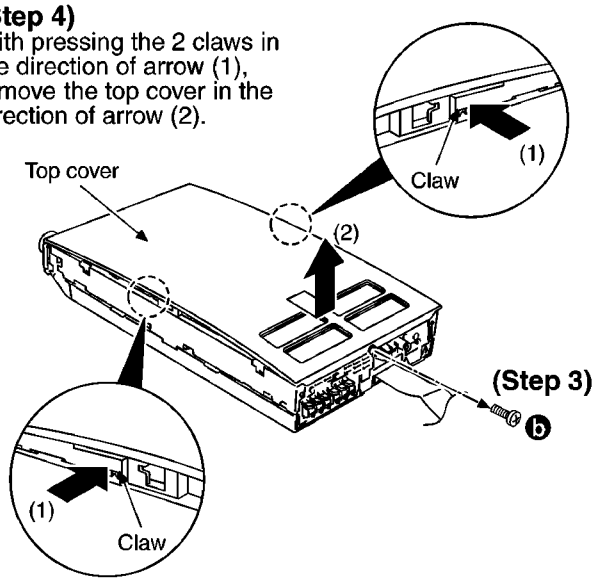
7.1. Checking for the main P.C.B.



(Step 2)
Remove the side ornament(L), (R) in the direction of arrow.

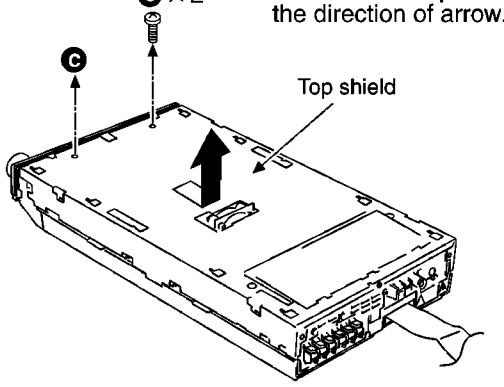


(Step 4)
With pressing the 2 claws in the direction of arrow (1), remove the top cover in the direction of arrow (2).



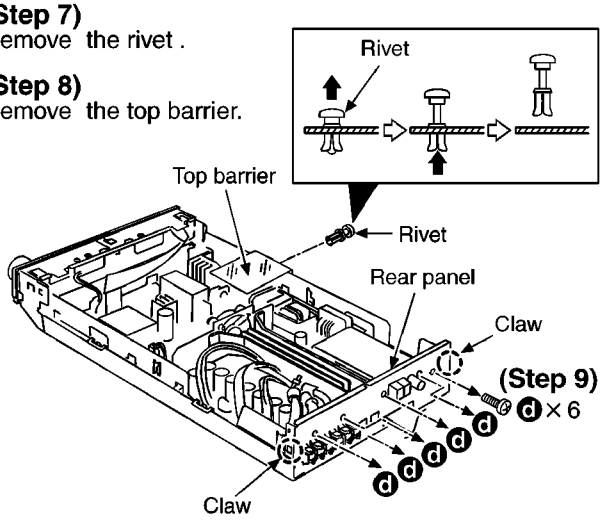
(Step 5)
ⓒ × 2

(Step 6)
Remove the top shield in the direction of arrow.



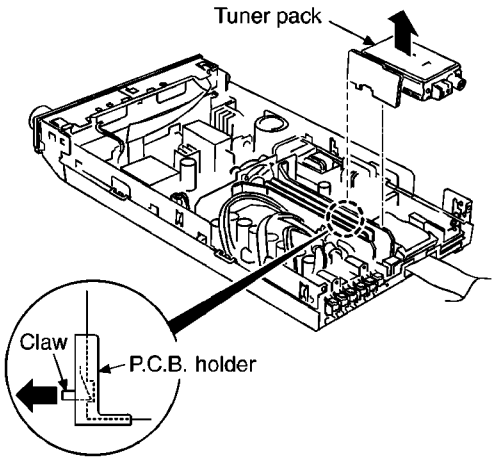
(Step 7)
Remove the rivet .

(Step 8)
Remove the top barrier.

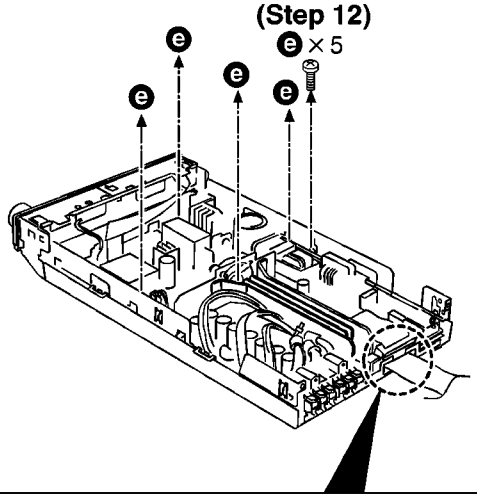


(Step 10)
Release the 2 claws ,and then remove the rear panel.

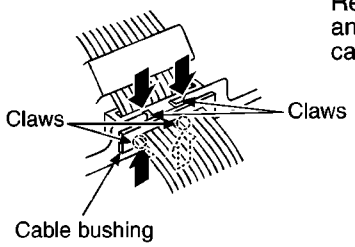
(Step 11)
Release the claw of P.C.B. holder, and then remove the tuner pack.



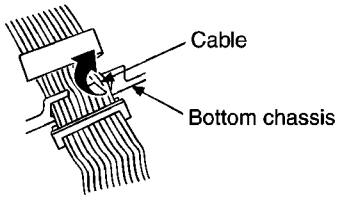
(Step 12)
ⓔ × 5



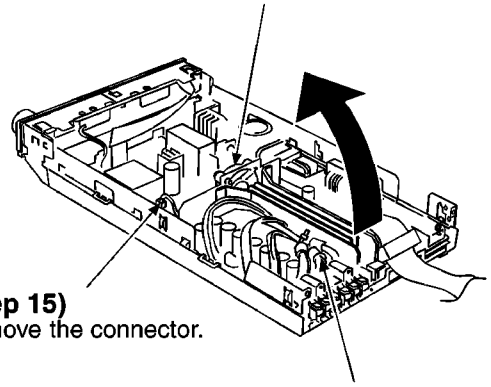
(Step 13)
Release the 4 claws, and then remove the cable bushing.



(Step 14)
Remove the cable from bottom chassis.



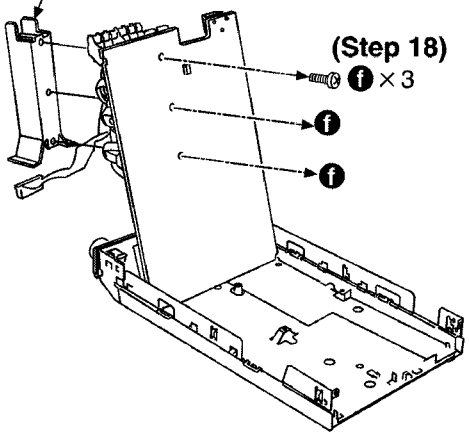
(Step 16)
Remove the fan motor ass'y.



(Step 15)
Remove the connector.

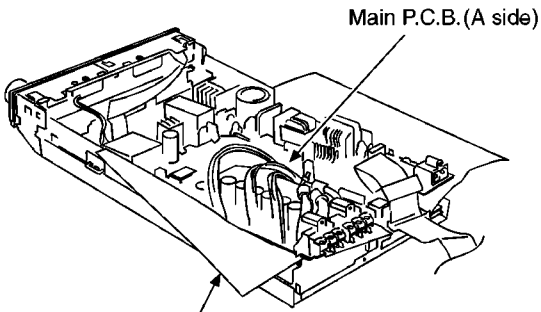
(Step 17)
Lift up the main P.C.B..

(Step 19)
Remove the heat sink.



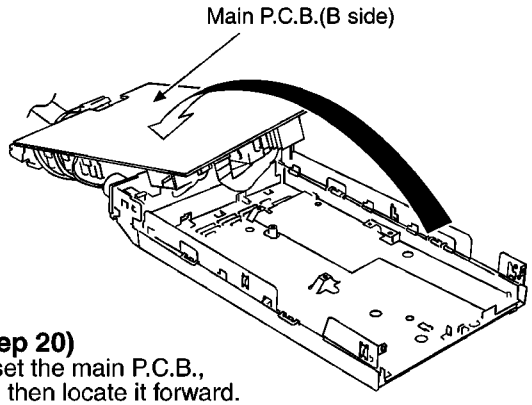
(Step 18)
ⓕ × 3

- **Check the main P.C.B. (A side) as shown below.**



NOTE:
Insulate main P.C.B. with insulation material to avoid short-circuit.

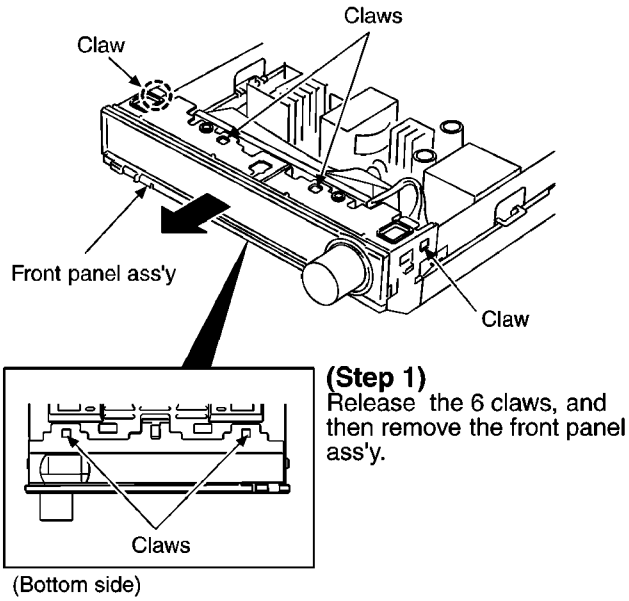
• **Check the main P.C.B. (B side) as shown below.**



(Step 20)
Upset the main P.C.B.,
and then locate it forward.

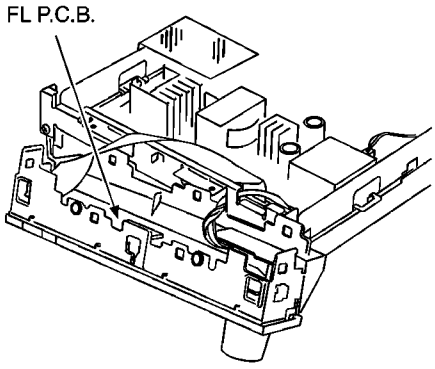
7.2. Checking for the FL P.C.B.

• Follow the **(Step 1)** - **(Step 6)** of item 7.1.



(Step 1)
Release the 6 claws, and then remove the front panel ass'y.

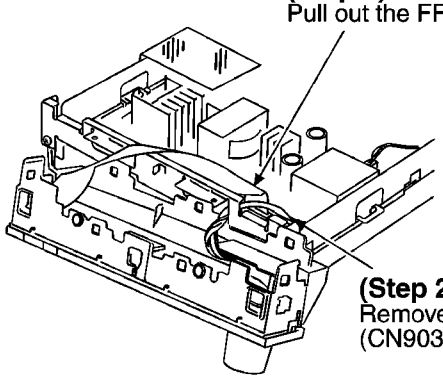
• **Check the FL P.C.B. as shown below.**



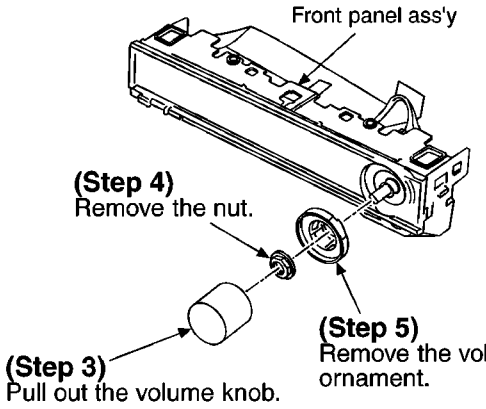
7.3. Replacement for the Headphone P.C.B. and FL P.C.B.

• Follow the **(Step 1)** - **(Step 6)** of item 7.1.
• Follow the **(Step 1)** of item 7.2.

(Step 1)
Pull out the FFC.



(Step 2)
Remove the connector (CN903).

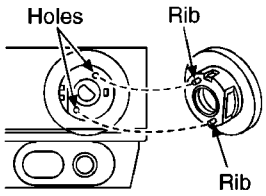


(Step 4)
Remove the nut.

(Step 5)
Remove the volume ornament.

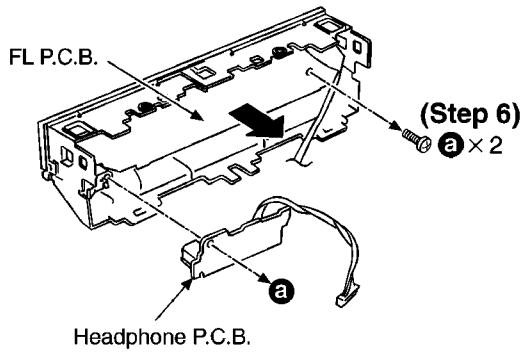
(Step 3)
Pull out the volume knob.

■ **Notice for installation of volume ornament**



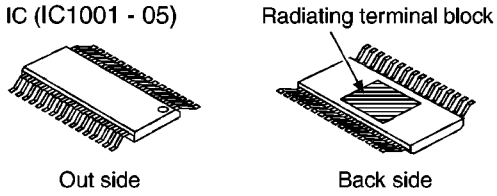
• Make sure the ribs of volume ornament are fit in the holes of front panel ass'y.

(Step 7)
Remove the headphone P.C.B.
and FL P.C.B..

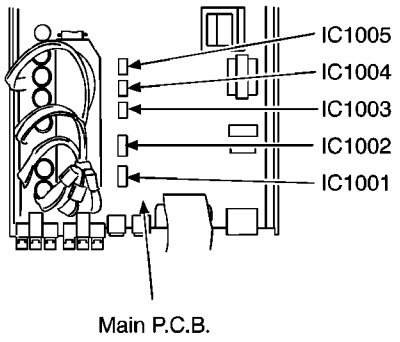


8 How to replace IC (IC1001-05) with reading terminal block

- IC (IC1001 - 05) used in the main P.C.B. has a radiating plate on its backside (the side in contact with the P.C.B.), the radiating terminal block having been soldered to the pattern part of the P.C.B..
  For the replacement of the IC, the following instructions should be observed.

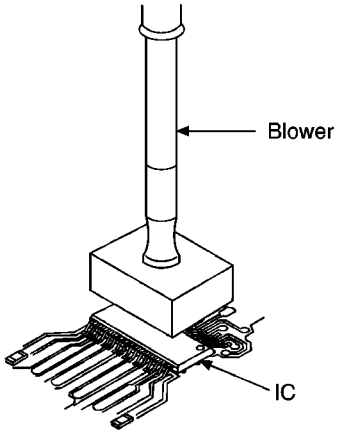


- IC1001 - IC1005 shown in the drawing below are ICs each equipped with a radiating terminal block.

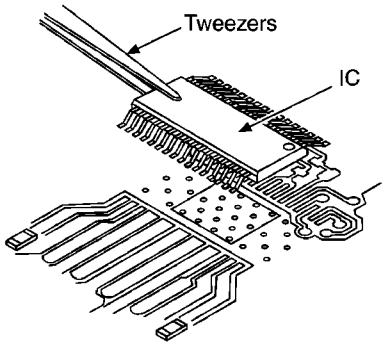


[Disassembly]

1.Use a blower and heat the IC (about 20 seconds).

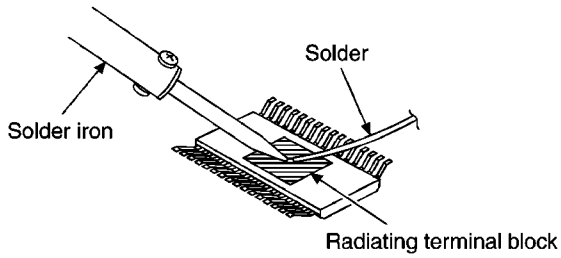


2.In about the 20 seconds, the legs of the IC begin fusing. Then remove the IC by use of a pair of tweezers.

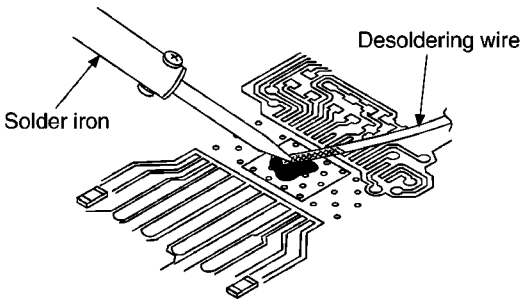


[Reassembly]

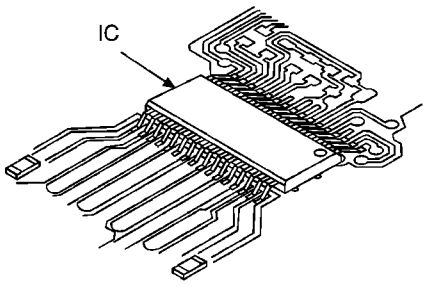
1.Put solder-paste thinly and evenly over the radiating plate on the bottom of a new IC for replacement.



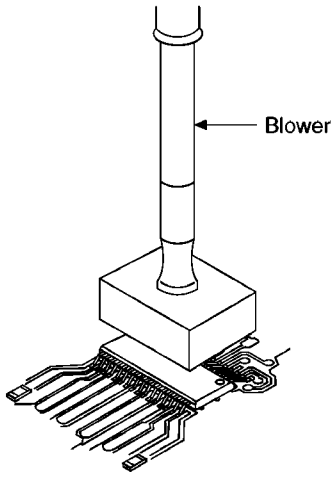
2.Clean out the former solder that has been sticking to the pattern part on the base plate.



3.Place the IC on the pattern part of the base plate.
(Make the IC legs and pattern part meet completely.)
4.Solder the IC legs first.



5.Use the blower and heat the IC (about 20 seconds).



9 To Supply Power Source

This unit is designed to operate on power supplied from system connected.
When a component requires service, use the system connections to supply power source.
For system connections, refer to Fig. 9-1.

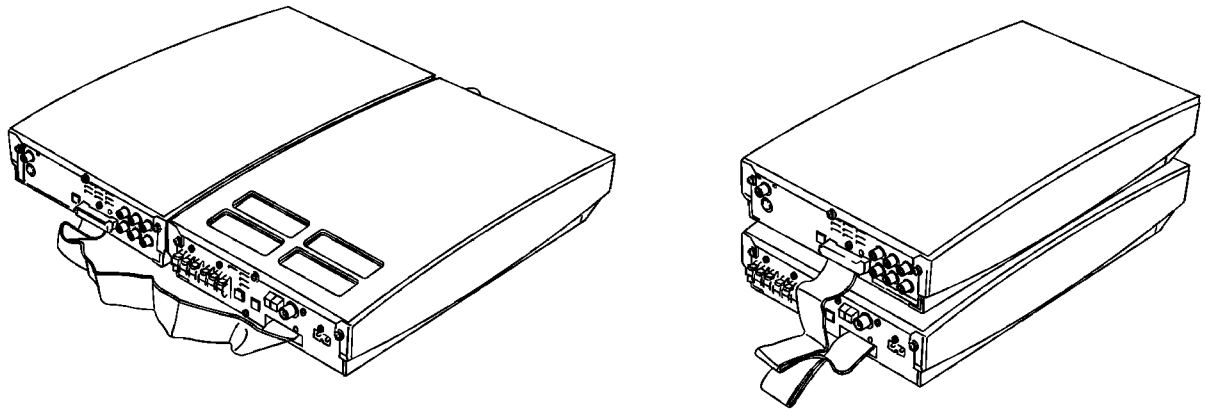


Fig. 9-1.

10 Schematic Diagram Notes

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

Notes:

S901:	Standby/on switch (⏻/I)
S902:	Source select switch (SELECT)
VR901:	Volume control VR (VOLUME)

- 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 theinternal impedance of the DC circuit tester.

  No mark : Power ON (FM or AM)

- Important safety notice:

  Components identified by ⚠ mark have special characteristics important for safety.

  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

  When replacing any of components, be sure to use only manufacturer´s specified parts shown in the parts list.

- The supply part number is described alone in the replacement parts list.
- Voltage and signal line

  : Positive voltage line
  : Negative voltage line
  : Audio signal line
  : Tuner signal line
  : Center sp. signal line
  : Surround sp. signal line
  : Sub woofer signal line

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.

11 Schematic Diagram

SCHEMATIC DIAGRAM-1

NOTE:
The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.

:NEGATIVE VOLTAGE LINE
:POSITIVE VOLTAGE LINE
:AUDIO SIGNAL LINE
:TUNER SIGNAL LINE

A FL CIRCUIT

B HEADPHONE CIRCUIT

C CONNECTOR CIRCUIT

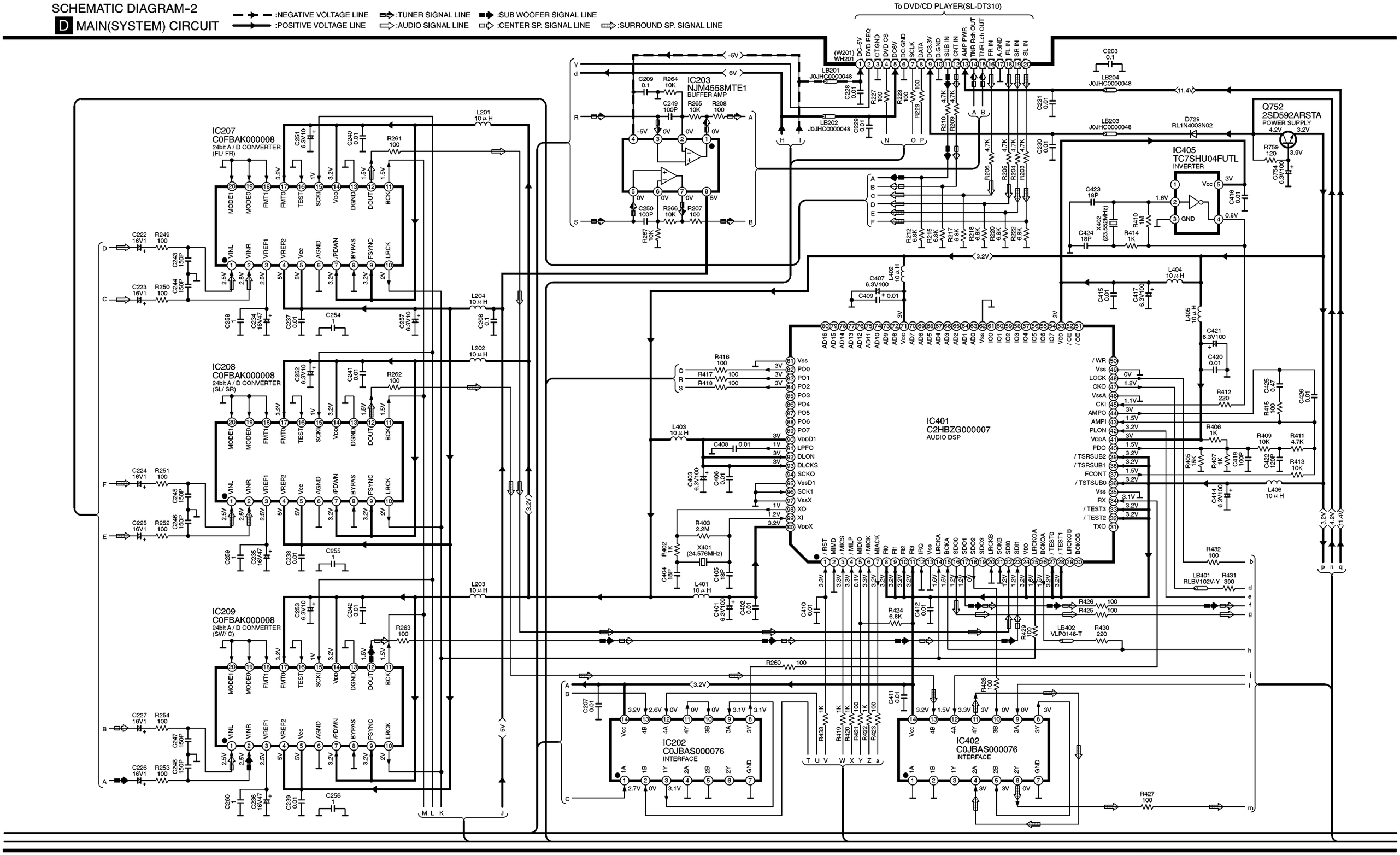
D MAIN(SYSTEM) CIRCUIT

SA-DT310(E,EB,EG,EE) FL,HEADPHONE,MAIN(SYSTEM),CONNECTOR CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-2

D MAIN(SYSTEM) CIRCUIT

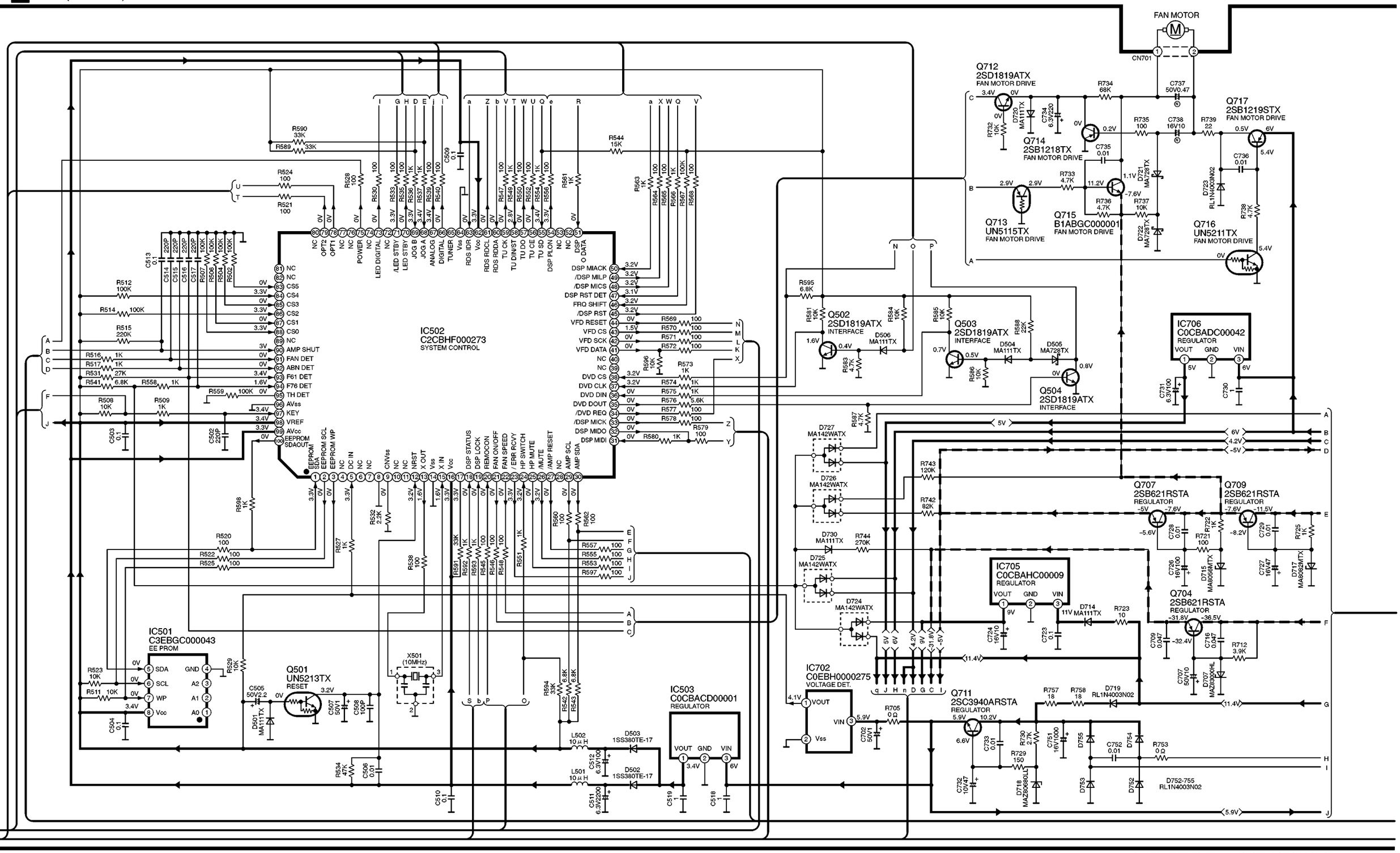
:NEGATIVE VOLTAGE LINE :TUNER SIGNAL LINE :SUB WOOFER SIGNAL LINE
:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE :CENTER SP. SIGNAL LINE :SURROUND SP. SIGNAL LINE



SA-DT310(E,EB,EG,EE) MAIN(SYSTEM) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-3

D MAIN(SYSTEM) CIRCUIT :POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE

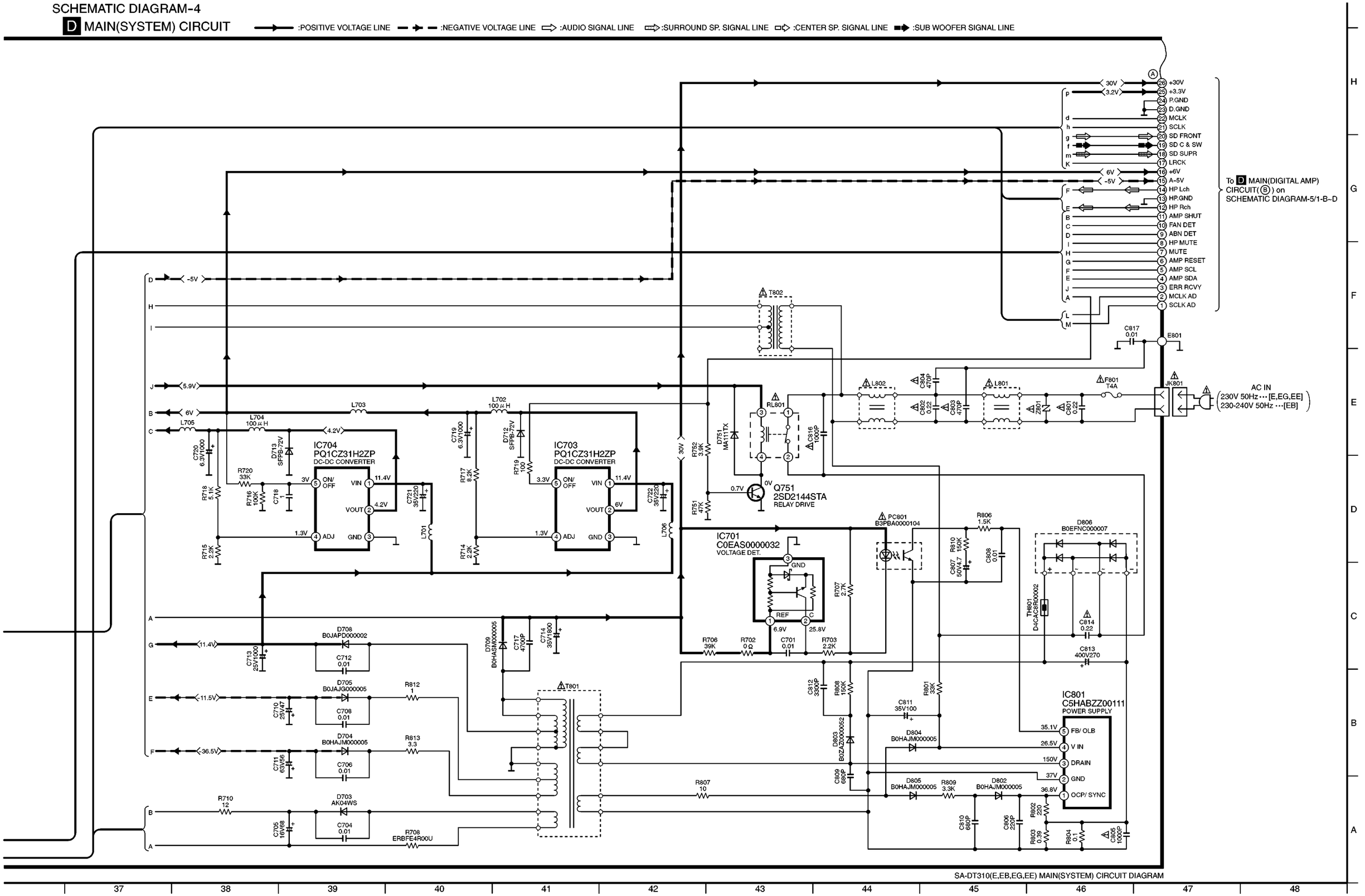


SA-DT310(E,EB,EG,EE) MAIN(SYSTEM) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-4

D MAIN(SYSTEM) CIRCUIT

:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :AUDIO SIGNAL LINE :SURROUND SP. SIGNAL LINE :CENTER SP. SIGNAL LINE :SUB WOOFER SIGNAL LINE



SA-DT310(E,EB,EG,EE) MAIN(SYSTEM) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-5

D MAIN(DIGITAL AMP) CIRCUIT

:NEGATIVE VOLTAGE LINE
:POSITIVE VOLTAGE LINE
:SURROUND SP. SIGNAL LINE
:AUDIO SIGNAL LINE
:SUB WOOFER SIGNAL LINE
:CENTER SP. SIGNAL LINE

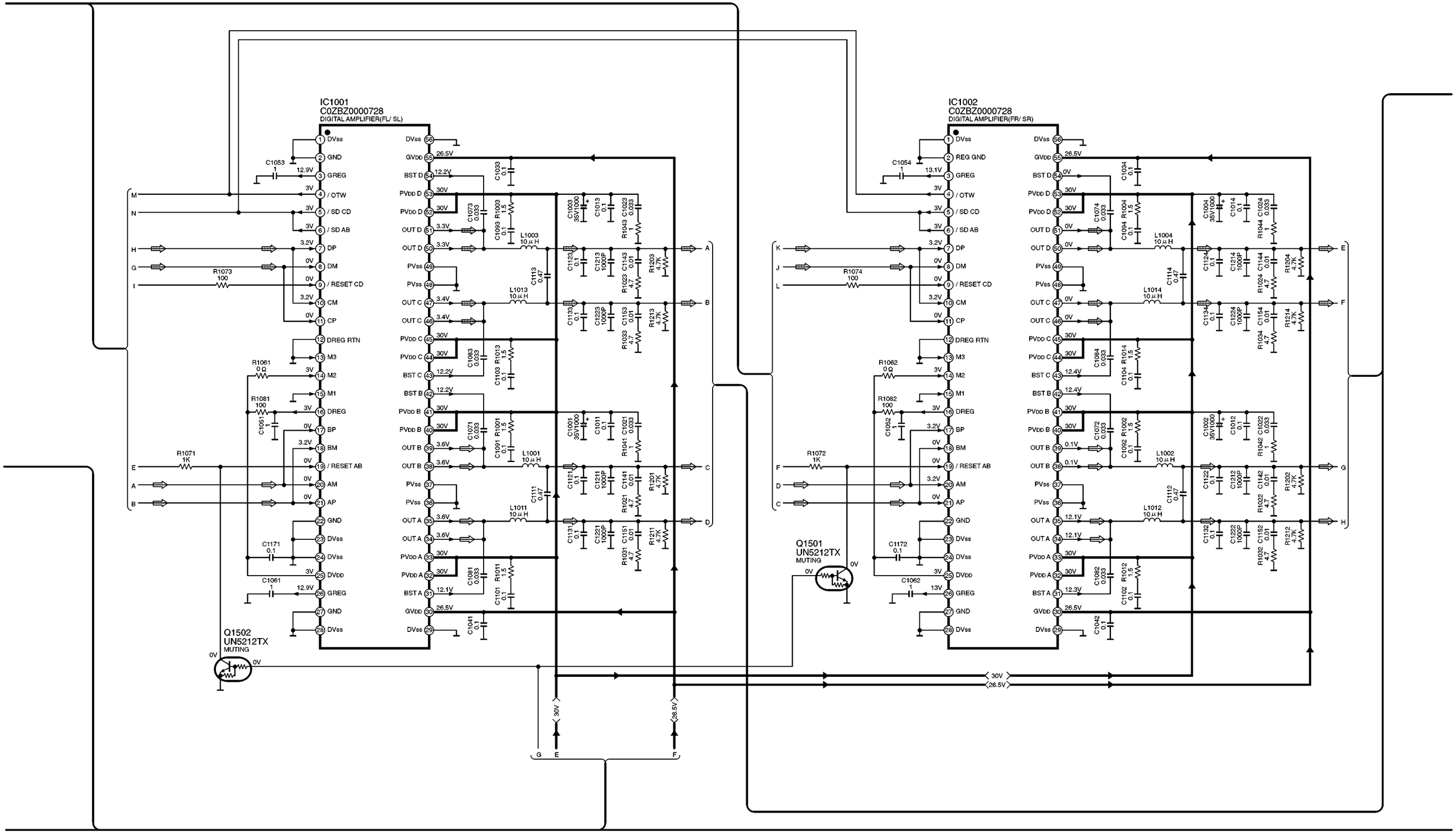
Q1703 UN5211TX MUTING CONT.
Q1704 2SC331ARSTA POWER SUPPLY
Q1702 B1GFGCAA0001 MUTING
Q1701 UN5115TX MUTING CONT.
IC1701 NJM4580MTE1 HEADPHONE AMP
IC1702 C0JBAA000149 INTERFACE
IC1501 C0ZBZ0000763 PWM PROCESSOR
IC1502 TC7SHU04FUTL INVERTER
IC1503 C0JBAA000257 AND GATE
IC1504 C0JBAA000257 AND GATE
IC1003 C0ZBZ0000727 DIGITAL AMPLIFIER(C)
IC1004 C0ZBZ0000727 DIGITAL AMPLIFIER(SW)
IC1005 C0ZBZ0000727 DIGITAL AMPLIFIER(SW)

To D MAIN(SYSTEM) CIRCUIT(Ⓐ) on SCHEMATIC DIAGRAM-4/47-F~H

SCHEMATIC DIAGRAM-6

D MAIN(DIGITAL AMP) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE :SURROUND SP. SIGNAL LINE



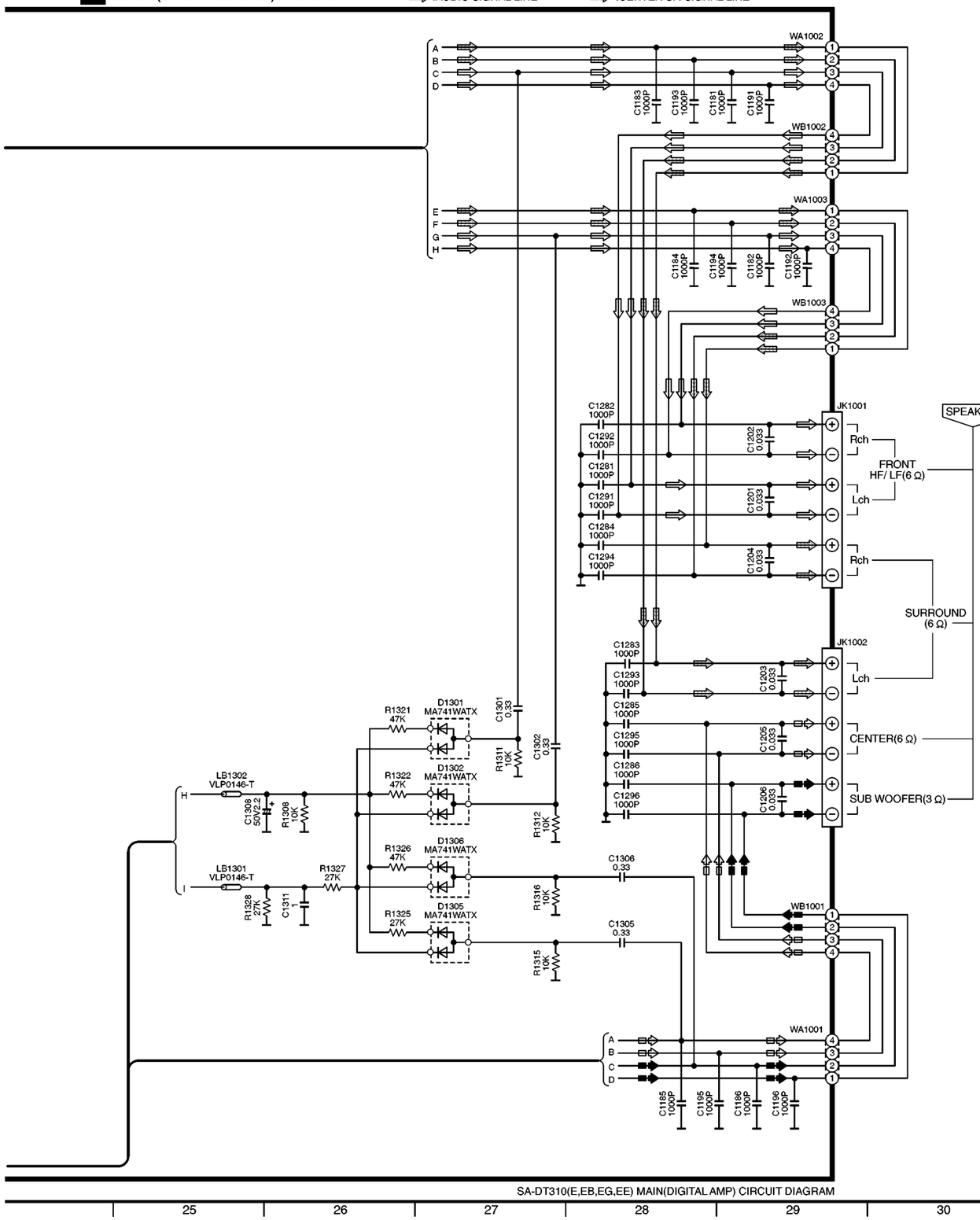
SA-DT310(E,EB,EG,EE) MAIN(DIGITAL AMP) CIRCUIT DIAGRAM

13 14 15 16 17 18 19 20 21 22 23 24

SCHEMATIC DIAGRAM-7

D MAIN(DIGITAL AMP) CIRCUIT

:SURROUND SP. SIGNAL LINE
:AUDIO SIGNAL LINE
:SUB WOOFER SIGNAL LINE
:CENTER SP. SIGNAL LINE

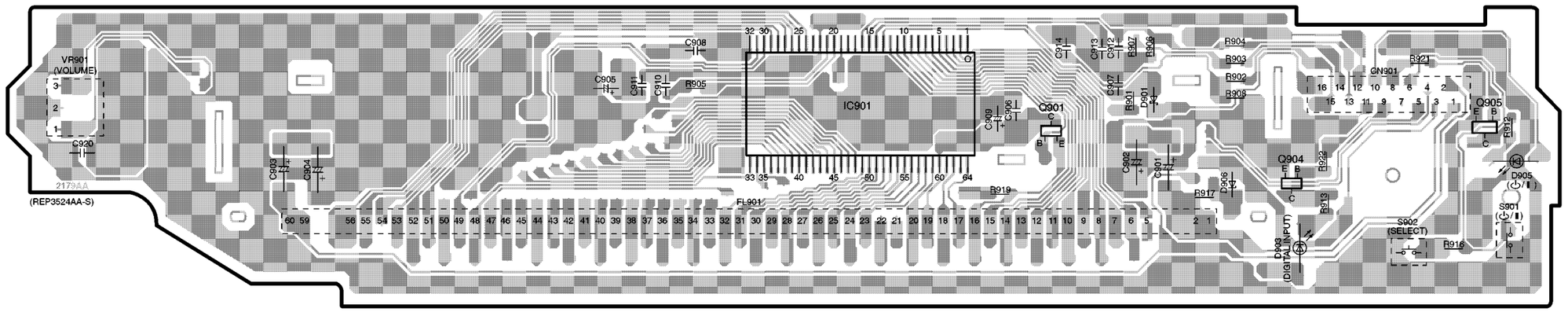


SA-DT310(E,EB,EG,EE) MAIN(DIGITAL AMP) CIRCUIT DIAGRAM

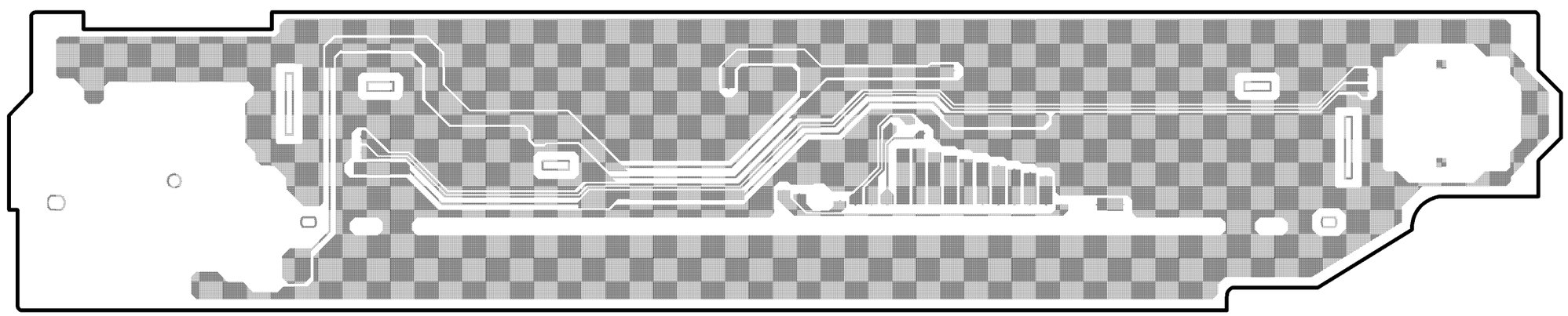
12 Printed Circuit Board Diagram

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

A FL P.C.B. (SIDE : A)

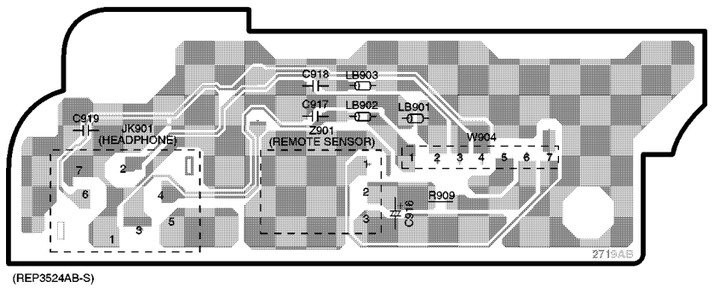


A FL P.C.B. (SIDE : B)



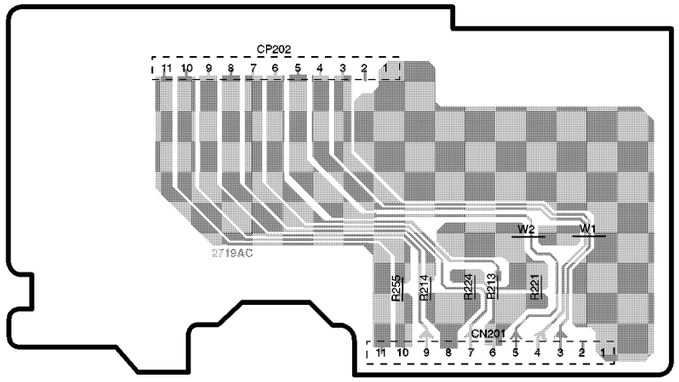
SA-DT310(E,EB,EG,EE) FL P.C.B.

B HEADPHONE P.C.B. (SIDE : A)



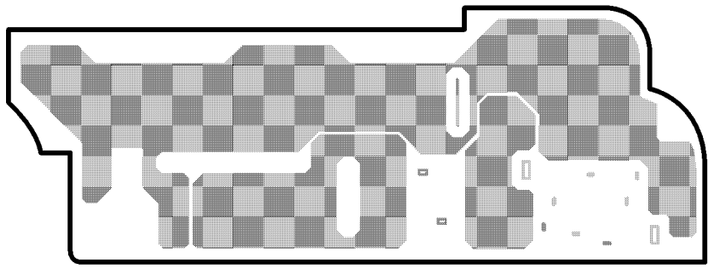
(REP3524AB-S)

C CONNECTOR P.C.B.



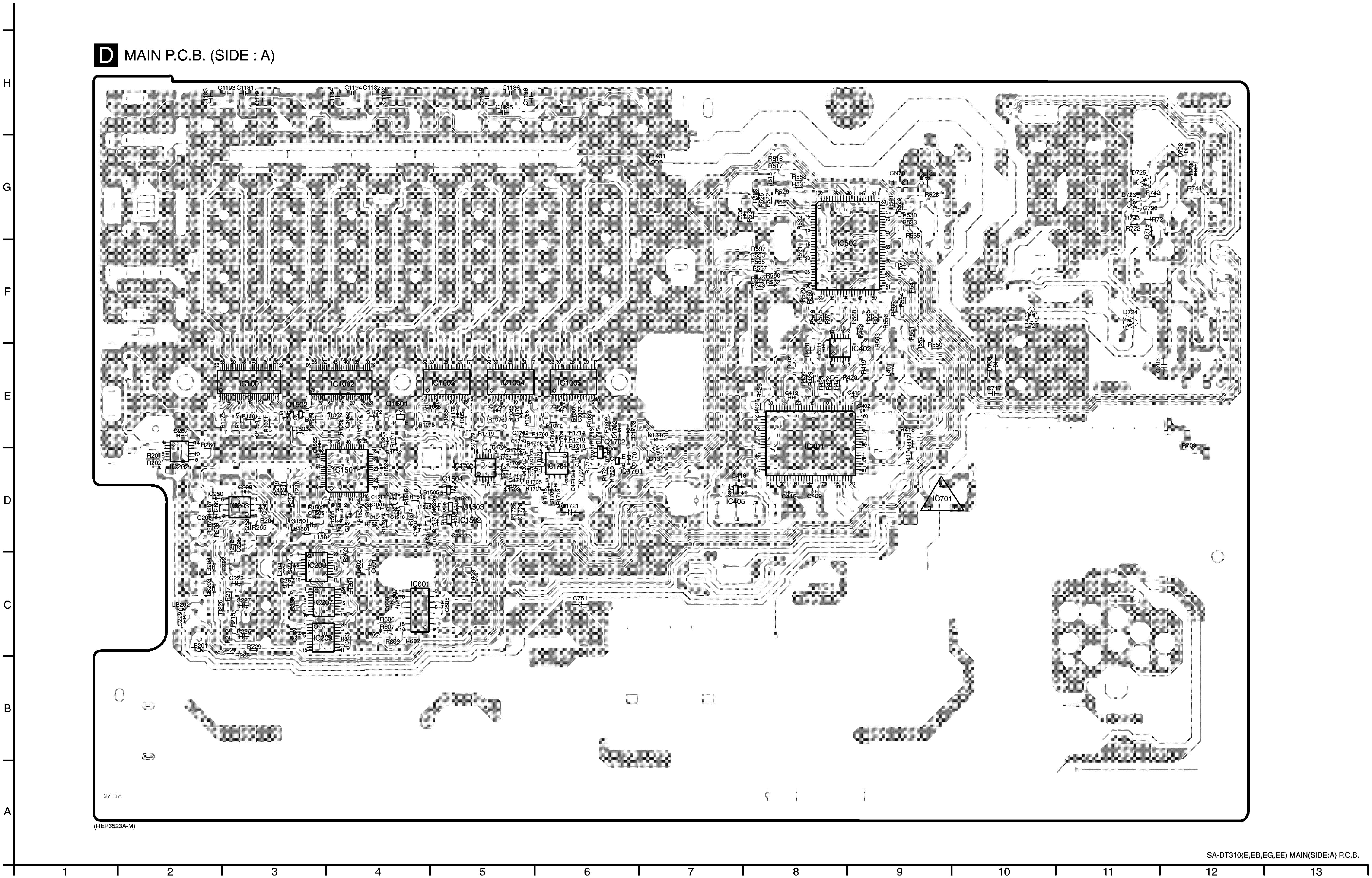
(REP3524AC-S)

B HEADPHONE P.C.B. (SIDE : B)



SA-DT310(E,EB,EG,EE) HEADPHONE/ CONNECTOR P.C.B.

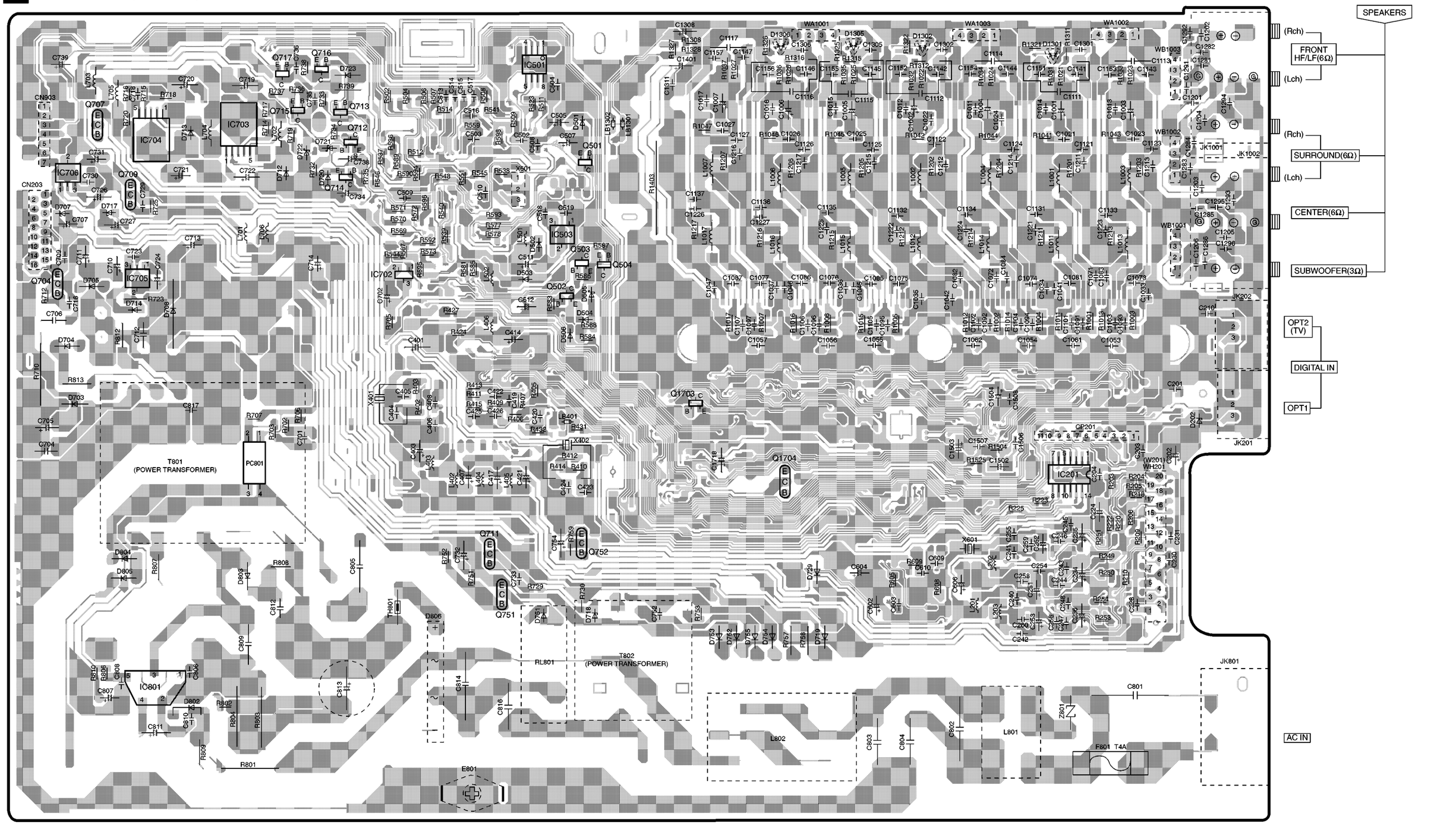
D MAIN P.C.B. (SIDE : A)



(REP3523A-M)

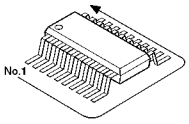
SA-DT310(E,EB,EG,EE) MAIN(SIDE:A) P.C.B.

D MAIN P.C.B. (SIDE : B)



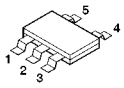
SA-DT310(E,EB,EG,EE) MAIN(SIDE:B) P.C.B.

13 Type Illustration of ICs, Transistors and Diodes

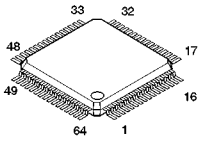


C0ZBZ0000728	56PIN	C0JBAS000076	14PIN
C0ZBZ0000727	32PIN	C3EBGC000043	8PIN
C0JBAA000149	14PIN	C1BB00000527	16PIN
NJM4580MTE1	8PIN	NJM4558MTE1	8PIN
C0HBB0000030	64PIN	C0FBAK000008	20PIN

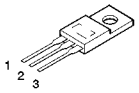
C0JBAA000257
TC7SHU04FUTL



C0ZBZ0000763

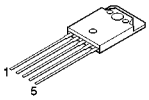


C0EAS0000032

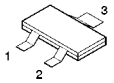


PQ1CZ31H2ZP

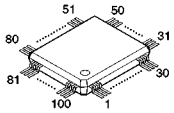
C5HABZZ00111



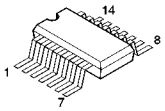
C0EBH0000275



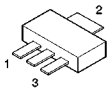
C2CBHF000273
C2HBZG000007



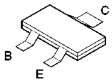
TC74HCT7007A



C0CBADC00042
C0CBACD00001
C0CBAHC00009

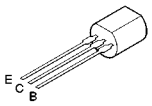


2SD1819ATX
2SB1218TX
2SB1219STX

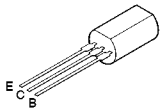


B1ABGC000001
UN521MTX
UN5211TX
UN5115TX
UN5213TX
UN5212TX

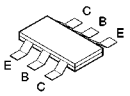
2SB621RSTA
2SD592ARSTA



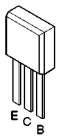
2SC3940ARSTA



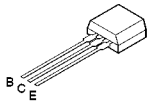
B1GFGCAA0001



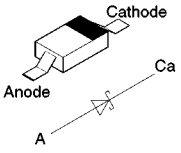
2SC3311ARSTA



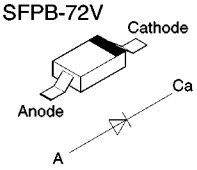
2SD2144STA

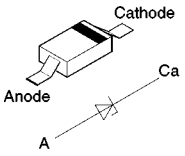


MA728TX



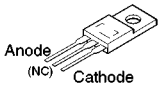
MA111TX
1SS380TE-17
SFPB-72V



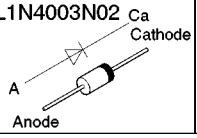


MA8033LTX
MA8051MTX
MA8056MTX
MA8082MTX
MAZ83000HL
MAZ80680LL
MAZ80510LL

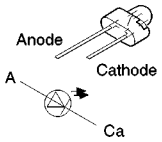
B0ZAZ0000052



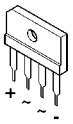
AK04WS
B0HAJM000005
B0JAPD000002
B0JAJG000005
RL1N4003N02



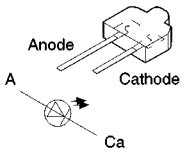
LNJ401NPYJA



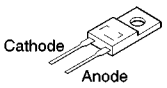
B0EFNC000007



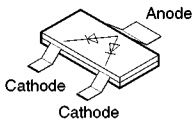
SELS5223C



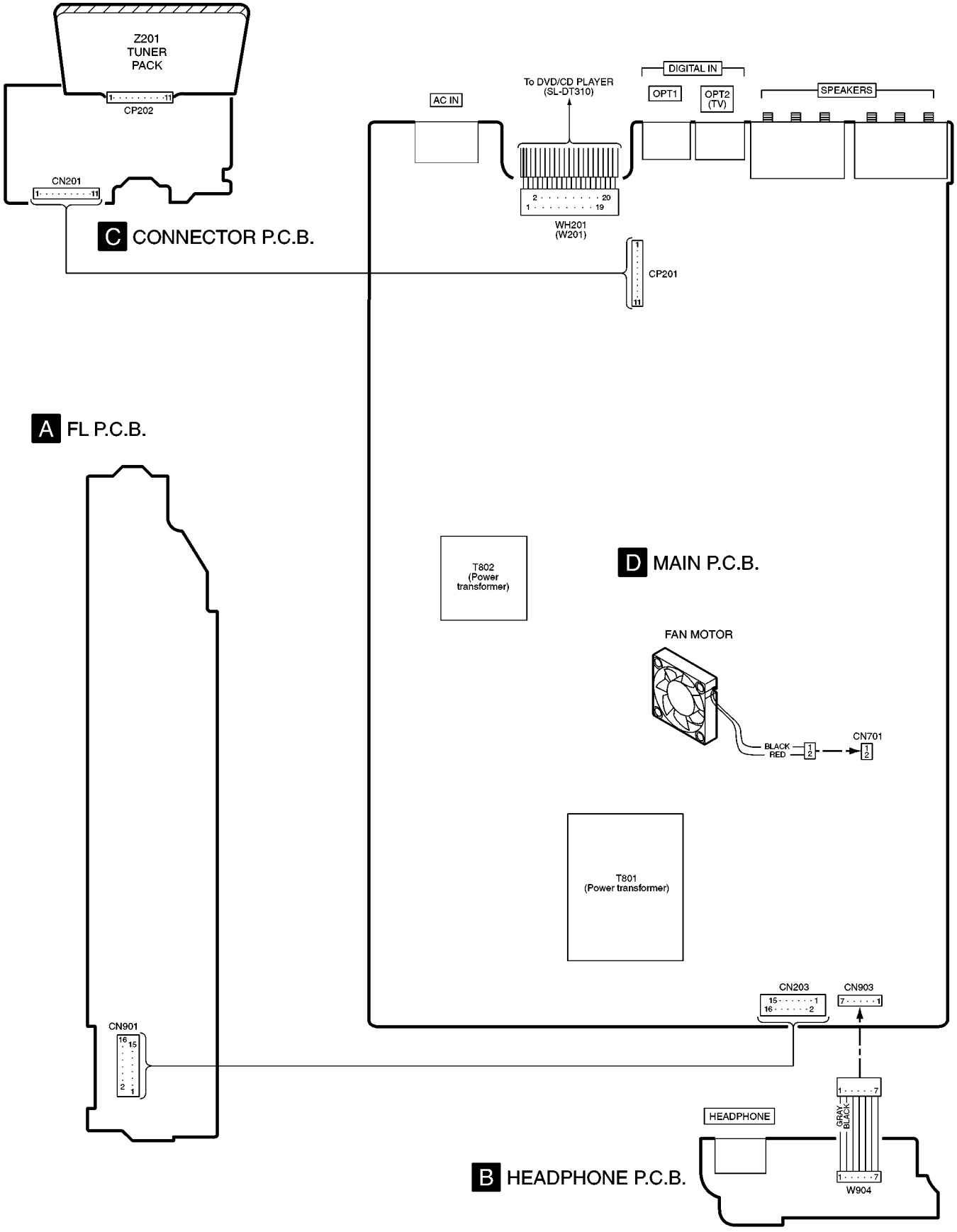
B0HASM000005



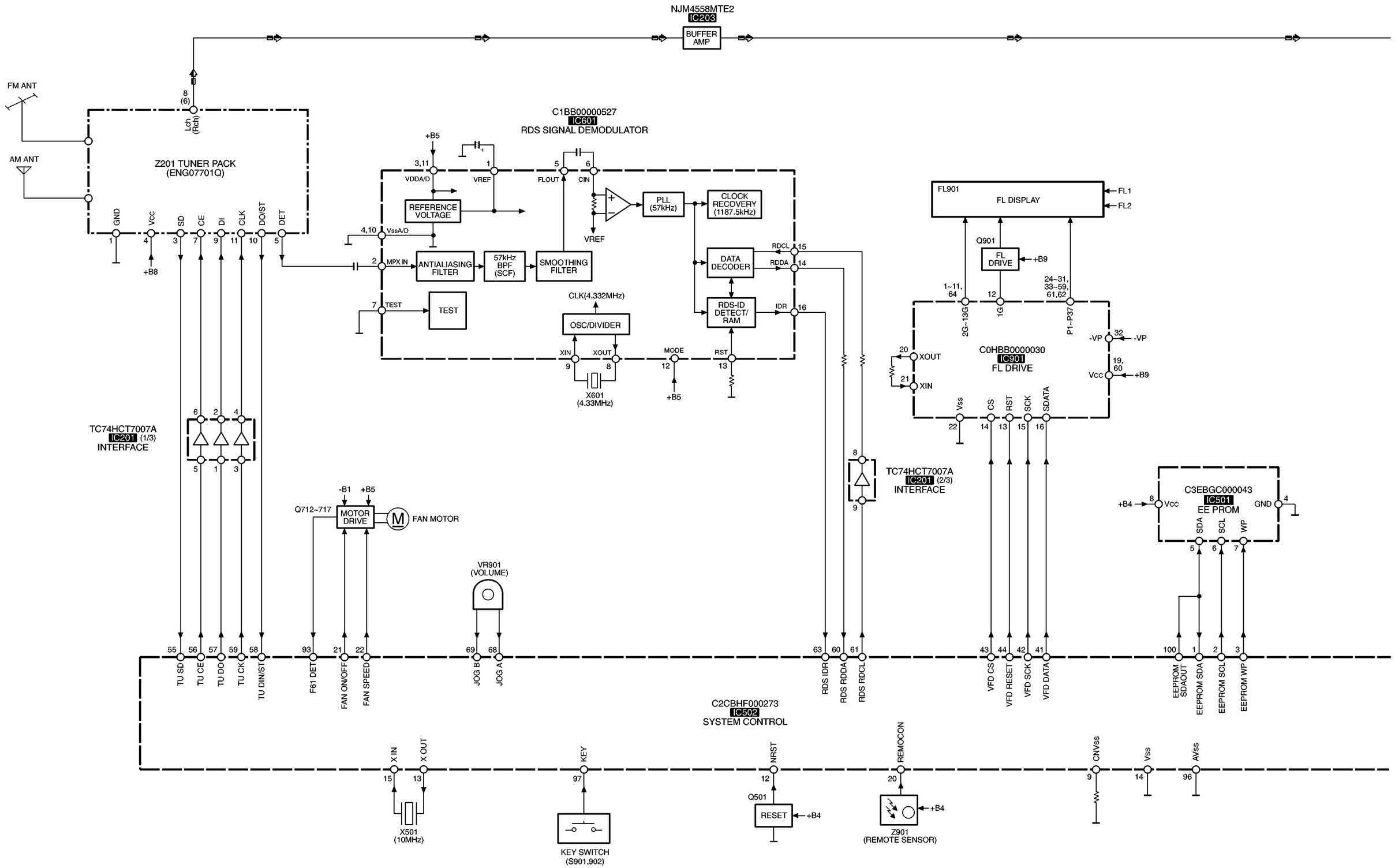
MA741WATX
MA142WATX



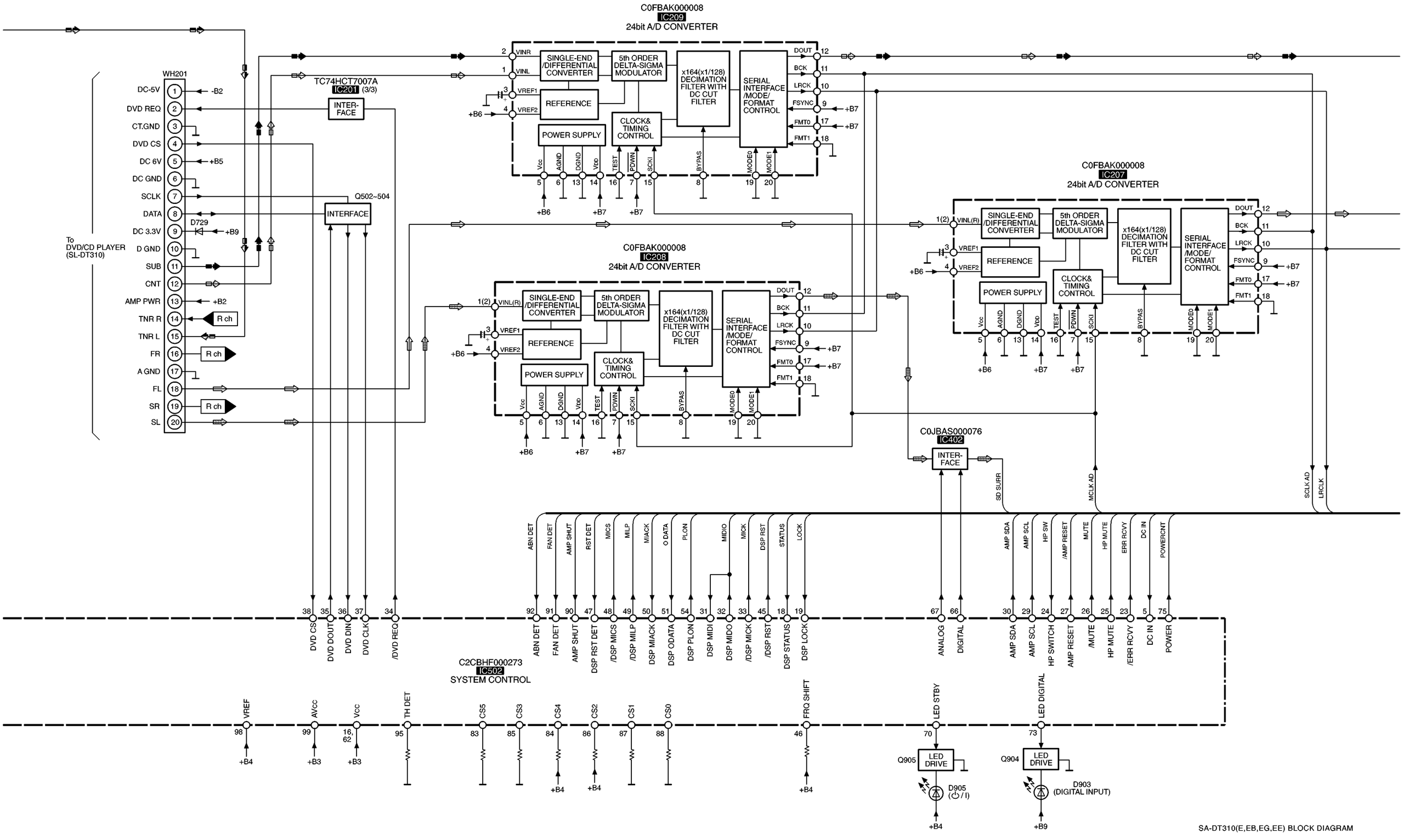
14 Wiring Connection Diagram



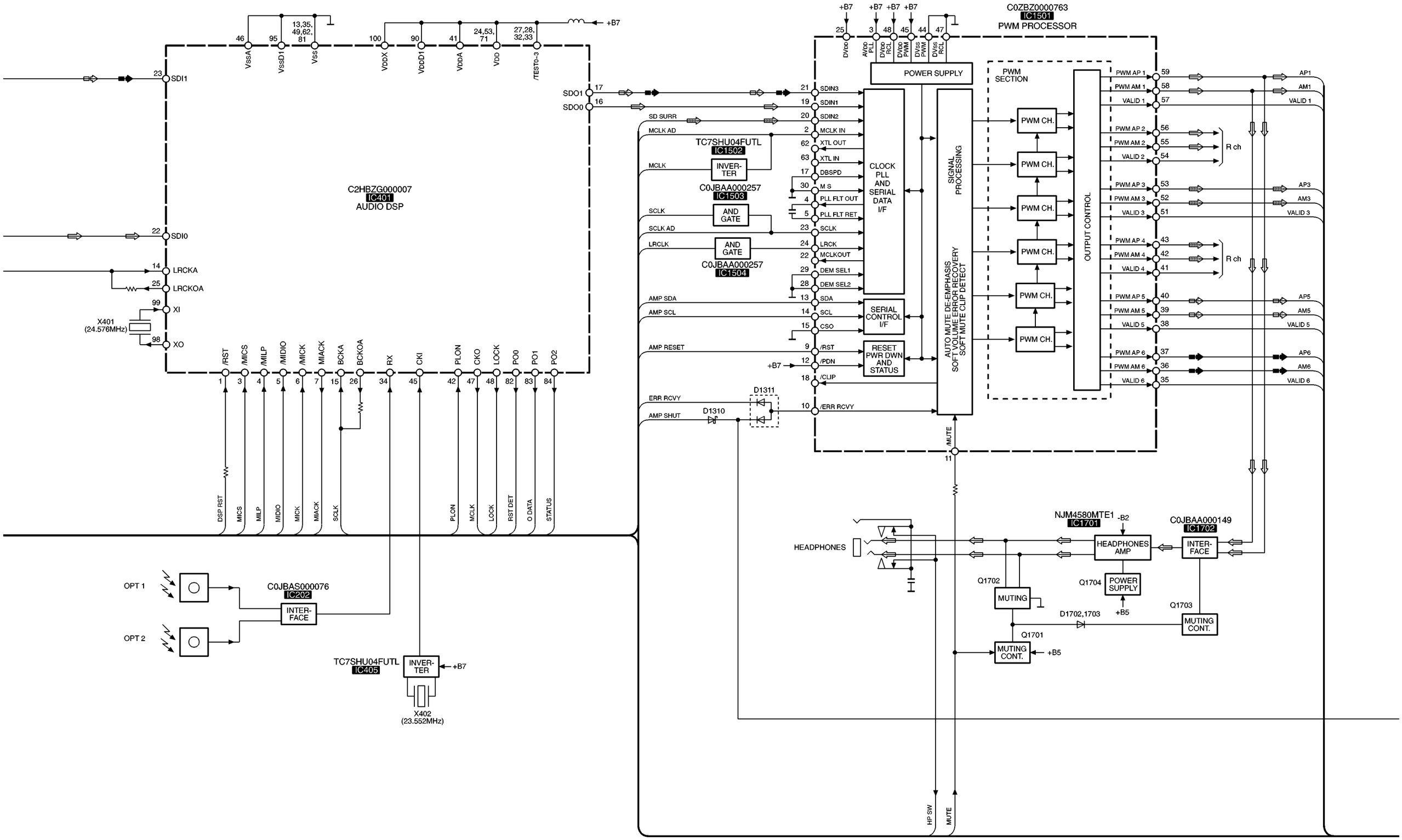
15 Block Diagram



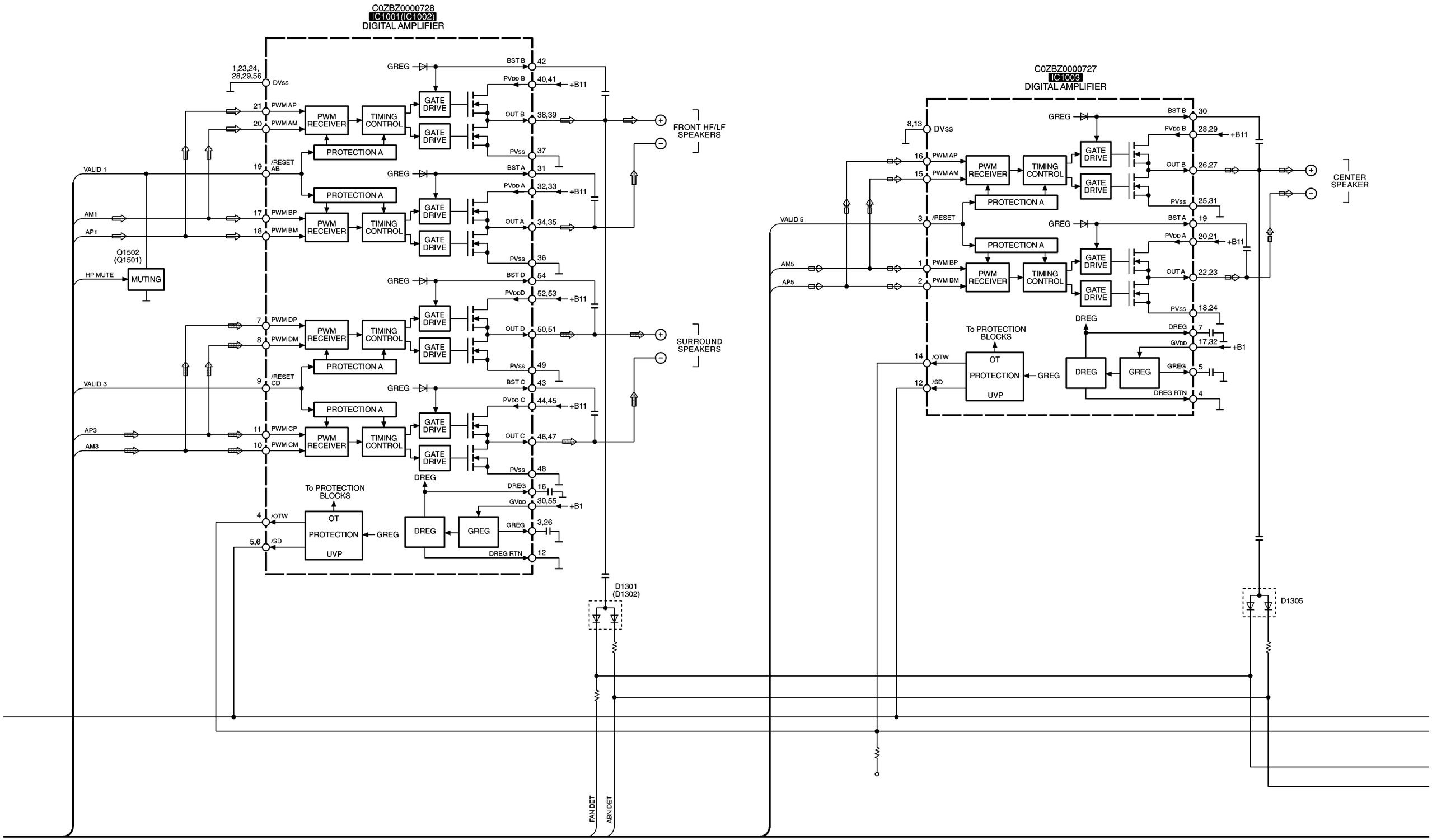
SA-DT310(E,EB,EG,EE) BLOCK DIAGRAM



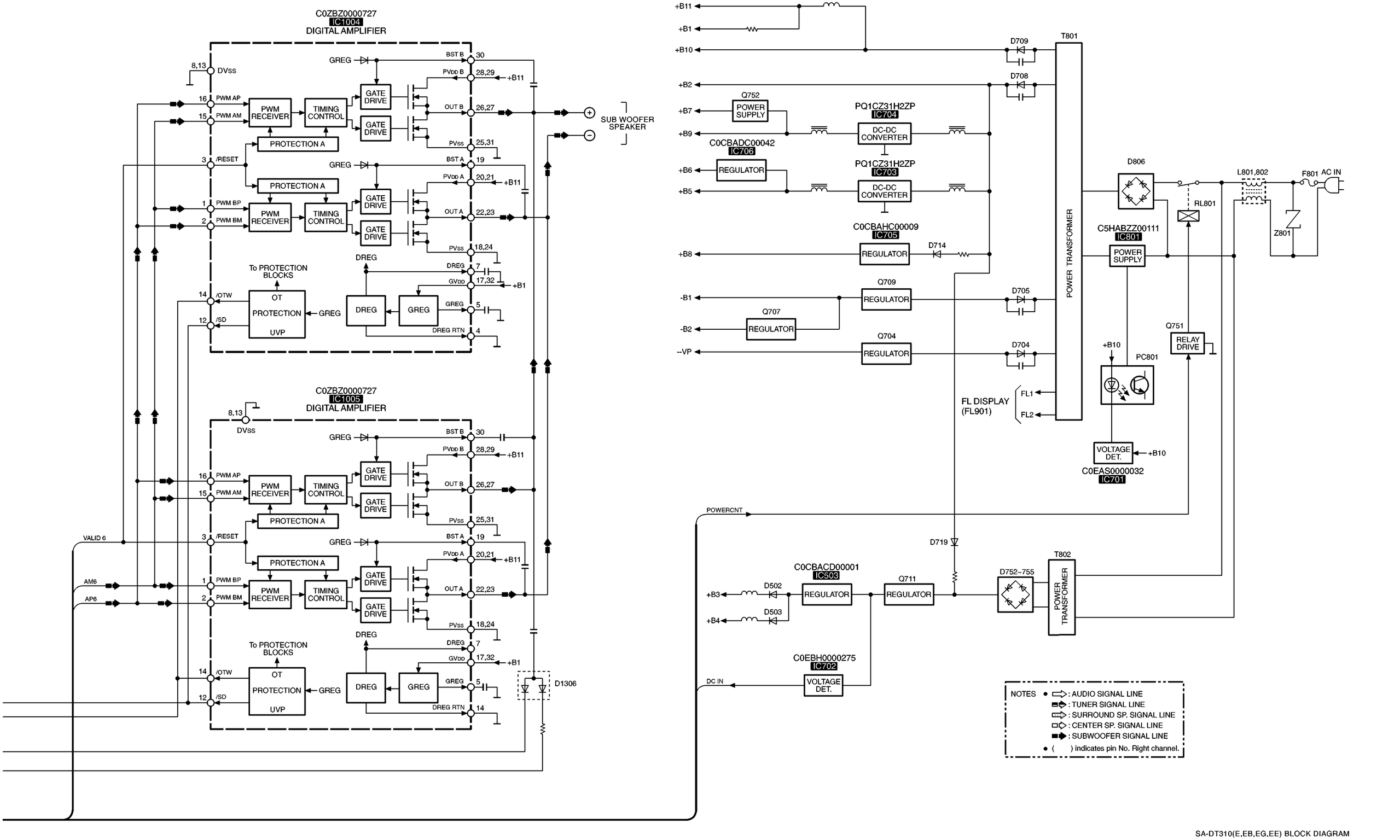
SA-DT310(E,EB,EG,EE) BLOCK DIAGRAM



SA-DT310(E,EB,EG,EE) BLOCK DIAGRAM



SA-DT310(E,EB,EG,EE) BLOCK DIAGRAM



SA-DT310(E,EB,EG,EE) BLOCK DIAGRAM

16 Terminal Function of ICs

16.1. IC502(C2CBKJ000061): System Control

Pin No.	Terminal Name	I/O	Function
1	EEPROM SDA	I	Date signal output for IC501
2	EEPROM SCL	O	Clock signal output for IC501
3	EEPROM WP	O	WP signal output for IC501
4	NC	-	Not used, open
5	DC IN	I	Power failure detect signal input
6	NC	-	Not used, open
7	NC	-	Not used, open
8	NC	-	Connected to V_{SS}
9	CNV_{SS}	-	Connected to V_{SS} via resistor
10	NC	-	Not used, open
11	NC	-	Not used, open
12	NRST	I	Reset signal input
13	XOUT	O	Oscillator connected terminal (F=10 MHz)
14	V_{SS}	-	GND
15	XIN	I	Oscillator connected terminal (F=10 MHz)
16	V_{CC}	I	Power supply terminal
17	NC	-	Not used, connected to V_{CC} via resistor
18	DSP STATUS	I	Status signal input from IC401
19	DSP LOCK	I	Lock detect signal input for IC401
20	REMO CON	I	Remote control signal input
21	FAN ON/OFF	O	Fan motor drive signal input
22	FAN SPEED	O	Fan motor rotation speed control
23	/ERR RCVY	O	Error recovery signal output
24	HP SWITCH	I	Headphone connecting detect signal input
25	HP MUTE	O	Front signal ON/OFF control output
26	/MUTE	O	Mute signal output for IC1501
27	AMP RESET	O	Reset signal output for IC1501
28	NC	-	Not used, open
29	AMP SCL	O	Clock signal output for IC1501
30	AMP SDA	O	Data signal output for IC1501
31	DSP MIDI	I	Data signal input for IC401
32	DSP MIDO	O	Data signal output for IC401
33	/DSP MICK	O	Clock signal output for IC401
34	/DVD REQ	O	Request signal output for DVD
35	DVD DOUT	O	Data signal output for DVD
36	DVD DIN	I	Data signal input for DVD
37	DVD CLK	I	Clock signal input for DVD
38	DVD CS	I	Chip select signal input for DVD
39	NC	-	Not used, open
40	NC	-	Not used, open
41	VFD DATA	O	Data signal output for IC901
42	VFD SCK	O	Clock signal output for IC901
43	VFD CS	O	Chip select signal output for IC901
44	VFD RESET	O	Reset signal output for IC901
45	/DSP RST	O	Reset signal output for IC401
46	FRQ SHIFT	I	Oscillated frequency change signal input
47	DSP RST DET	I	Reset signal input from IC401
48	/DSP MICS	O	Cihp select signal output for IC401
49	/DSP MILP	O	Latch signal output for IC401
50	DSP MIACK	I	Acknowledge signal input from IC401
51	DSP ODATA	I	Zero detect signal input for IC401
52	NC	-	Not used, open
53	NC	-	Not used, open
54	DSP PLON	O	Clock select signal output for IC401
55	TU SD	I	FM/AM station detect signal input
56	TU CE	O	Chip enable signal output for tuner
57	TU DO	O	Data signal output for tuner
58	TU DIN/ST	I	Data signal input from tuner/FM stereo signal input
59	TU CK	O	Clock signal output for tuner
60	RDS RDDA	I	Data signal input for IC601
61	RDS RDCL	O	Clock signal output for IC601
62	V_{CC}	I	Power supply terminal
63	RDS IDR	I	Ready signal input from IC601
64	V_{SS}	-	GND
65	TUNER	-	Not used, open
66	DIGITAL	O	When digital input: “H” output
67	ANALOG	O	When analog input: “H” output
68	JOG A	I	Volume control signal input
69	JOG B	I	Volume control signal input
70	LED STBY	O	LED (STANDBY) drive signal output
71	/LED STBY	O	LED (STANDBY) drive signal output (reverse)
72	NC	-	Not used, open
73	LED DIGITAL	O	LED (DIGITAL INPUT) drive signal output
74	NC	-	Not used, open
75	POWER	O	Power control signal output
76	NC	-	Not used, open
77	NC	-	Not used, open
78	OPT1	O	OPT1 select signal output
79	OPT2	O	OPT2 select signal output
80	NC	-	Not used, open
81	NC	-	Not used, open
82	NC	-	Not used, open
83 | 88	CS5 | CS0	I	Initial setting input
89	NC	-	Not used, open
90	AMP SHUT	I	Shut down signal input
91	FAN DET	I	Play signal detect input
92	ABN DET	I	Full power detect signal innput
93	F61 DET	I	F61 error detect signal input
94	F76 DET	I	F76 error detect signal input
95	TH DET	-	Not used, connected to GNND
96	AV_{SS}	-	GND
97	KEY	I	Operation key signal input
98	VREF	I	Reference voltage input
99	AV_{CC}	I	Power supply terminal
100	EEPROM SDA OUT	O	Data signal output for IC501

17 Replacement Parts List

Notes:

- Important safety notice:

  Components identified by ⚠ ; mark have special characteristics important for safety.

  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

  When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
- The parenthesized indications in the Remarks columns specify the areas.

  (E): SA-DT310E

  (EB): SA-DT310EB

  (EE): SA-DT310EE

  (EG): SA-DT310EG
- The marking [RTL] indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.
- All parts are supplied by SPC.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	REM0104	FAN UNIT(RAL801)	1	
3	RHD30070	SCREW	1	
4	RKA0150-K	LEG	1	
5	RKA0155-K	LEG FELT	6	
6	RKS0379-H	BOTTOM COVER	1	
7	RMA1643	FAN ANGLE	1	
8	RMZ0676	BARRIER	1	
9	RMZ0690	TOP BARRIER	1	
10	XTB3+8J	SCREW	5	
11	XTBS3+8JFZ1	SCREW	9	
12	XTW3+15T	SCREW	2	
13	J0KA00000047	FILTER	3	
14	J0KD00000067	FILTER	1	
15	RHD30092	SCREW	3	
16	RMG0621-H	RUBBER SHEET	2	
17	RSC0680	DAMP SHIELD	1	
18	RSC0686	SHIELD PLATE 1	1	
19	RSC0704	SHIELD PLATE 2	1	
20	REZ1532-1	FFC	1	
21	RGK1629-S	VOLUME ORNAMENT	1	
22	RGL0622-Q	LENS	1	
23	RGU2192-S	BUTTON,POWER	1	
24	RGW0399-S	KNOB,VOLUME	1	
25	RHN90001	NUT	1	
26	RSC0675	EARTH PLATE	1	
27	XTBS26+8J	SCREW	2	
28	RGM0172-H	NET	1	
29	XTB3+6J	SCREW	2	
30	XTBS3+10JFZ1	SCREW	2	
32	RSC0679	TOP SHIELD COVER	1	
33	RYQ0460-S	SIDE ORNAMENT1 ASS´Y	1	
34	RYQ0461-S	SIDE ORNAMENT2 ASS´Y	1	
35	RYP1212-S	FRONT PANEL ASS´Y	1	
35-1	RKW0723-K	SENSOR WINDOW	1	
36	XTB3+12FFZ	SCREW	2	
38	RMZ0702	AMP BARRIER	1	
39	RMN0195-1	FL PIECE	2	
40	RMN0697	FL HOLDER	1	
41	RSC0708	SHIELD PLATE 3	1	
42	RSC0709	SHIELD PLATE 4	1	
43	RSC0710	SHIELD PLATE 5	1	
44	RKM0486-S	TOP COVER	1	
45	REX1166	WIRE ASS´Y (W201/20P)	1	
46	REX1156	WIRE ASS´Y(W904/7P)	1	
47	REZ1537	FLAT CABLE (WA1001/4P)	1	
48	SHR401-1	STOPPER	1	
49	RMN0203	HOLDER	1	
50	REZ1564	FLAT CABLE (WA1002/4P)	1	
51	REZ1565	FLAT CABLE (WA1003/4P)	1	
A1	EUR7623010	REMOTE CONTROL	1	
A1-1	UR76EC2303B	BATTERY COVER	1	
A2	K1JZ24D00002	RCAJ ADAPTOR	1	
A3	RJL1X008B05	OPTICAL CABLE	1	K7CXJCA00002
A4	N1DAAAA00003	AM LOOP ANTENNA	1	
A5	RSA0007	FM INDOOR ANTENNA	1	N1EAYY000002
A6	VJA0815-A	VIDEO CABLE	1	(EG)(EB)(E)
A6	RJL1P019B15	VIDEO CABLE	1	K2JA2A000018 (EE)
A7	VLF1321	FILTER	1	J0KG00000037
A8	RJA0019-2X	AC POWER SUPPLY CORD	1	⚠ (EG)(EE)(E)
A8	RJA0053-3X	AC POWER SUPPLY CORD	1	⚠ (EB)
A9	RQCA1099	NOTE SHEET	1	
A10	RQT6922-D	OPERATING INSTRUCTIONS	1	(EG), GERMANY, ITALIAN, FRENCH
A10	RQT6923-H	OPERATING INSTRUCTIONS	1	(EG), NETHERLANDS, DANISH, SWEDISH
A10	RQT6924-B	OPERATING INSTRUCTIONS	1	(EB)(EE)(E), ENGLISH
A10	RQT6926-R	OPERATING INSTRUCTIONS	1	(EE), RUSSIAN
A10	RQT6925-R	OPERATING INSTRUCTIONS	1	(E), SPANISH, CZECH, POLISH
A11	SJP9009	ANTENNA PLUG ADAPTOR	1	K1YZ02000013 (EB)
A12	RQCA1111	NOTE SHEET	1	(EG)(EB)(E)
C201	F1H1A105A028	10V 1U	1	
C202	ECA1CAK100XB	16V 10U	1	
C203,04	F1H1C104A056	16V 0.1U	2	
C207	F1H1H103A219	50V 0.01U	1	
C208,09	F1H1C104A056	16V 0.1U	2	
C210	F1H1A105A028	10V 1U	1	
C222-27	ECST1CY105	16V 1U	6	
C228-31	F1H1H103A219	50V 0.01U	4	
C234-36	ECA1CAK470XB	16V 47U	3	
C237-42	F1H1H103A219	50V 0.01U	6	
C243-48	ECUV1H151JCV	50V 150P	6	F1H1H151A230
C249,50	F1H1H101A231	50V 100P	2	
C251-53	ECST0JY106R	6.3V 10U	3	
C254-56	F1H1A105A028	10V 1U	3	
C257	ECST0JY106R	6.3V 10U	1	
C258-60	F1H1A105A028	10V 1U	3	
C401	ECA0JAK101XB	6.3V 100U	1	
C402	F1H1H103A219	50V 0.01U	1	
C403	ECA0JAK101XB	6.3V 100U	1	
C404,05	ECJ1XC1H180J	50V 18P	2	ECJ1VC1H180J
C406	F1H1H103A219	50V 0.01U	1	
C407	ECA0JAK101XB	6.3V 100U	1	
C408-12	F1H1H103A219	50V 0.01U	5	
C414	ECA0JAK101XB	6.3V 100U	1	
C415,16	F1H1H103A219	50V 0.01U	2	
C417	ECA0JAK101XB	6.3V 100U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C419	F1H1H101A231	50V 100P	1	
C420	F1H1H103A219	50V 0.01U	1	
C421	ECA0JAK101XB	6.3V 100U	1	
C422	ECJ1XC1H121J	50V 120P	1	
C423,24	ECJ1XC1H180J	50V 18P	2	ECJ1VC1H180J
C425	F1H1A474A028	10V 0.47U	1	
C426	F1H1H103A219	50V 0.01U	1	
C502	ECUV1H221JCV	50V 220P	1	ECJ1VC1H221J
C503,04	F1H1C104A056	16V 0.1U	2	
C505	ECA1HAK2R2XB	50V 2.2U	1	
C506	F1H1H103A219	50V 0.01U	1	
C507	ECA1HAK010XI	50V 1U	1	
C508	F1H1H101A231	50V 100P	1	
C509,10	F1H1C104A056	16V 0.1U	2	
C511	ECA0JM222	6.3V 2200U	1	
C512	ECA0JAK101XB	6.3V 100U	1	
C513	F1H1C104A056	16V 0.1U	1	
C514-17	ECUV1H221JCV	50V 220P	4	ECJ1VC1H221J
C518,19	F1H1A105A028	10V 1U	2	
C601	F1H1H102A219	50V 1000P	1	
C602	ECA1CAK100XB	16V 10U	1	
C603	ECJ1VC1H331J	50V 330P	1	
C604	ECA0JAK470XH	6.3V 47U	1	
C605	ECJ1VB1H561K	50V 560P	1	
C606	ECA0JAK470XH	6.3V 47U	1	
C607	F1H1H102A219	50V 1000P	1	
C608	F1H1H103A219	50V 0.01U	1	
C609,10	ECUV1H470JCV	50V 47P	2	F1H1H470A230
C701	F1H1H103A219	50V 0.01U	1	
C702	ECA1HAK010XI	50V 1U	1	
C704	ECKR2H103ZU	500V 0.01U	1	
C705	EEUFF1C680	16V 68U	1	
C706	ECKR2H103ZU	500V 0.01U	1	
C707	ECA1HAK100XB	50V 10U	1	
C708	ECKR2H103ZU	500V 0.01U	1	
C709	ECUVNC473KBV	16V 0.047U	1	F1H1C473A071
C710	EEUFF1E470	25V 47U	1	
C711	EEUDF1J560B	63V 56U	1	
C712	ECKR2H103ZU	500V 0.01U	1	
C713	EEUFF1E102	25V 1000U	1	
C714	EEUFF1V182	35V 1800U	1	
C716	ECUVNC473KBV	16V 0.047U	1	F1H1C473A071
C717	ECJ3FB2J472M	630V 4700P	1	
C718	F1H1A105A028	10V 1U	1	
C719,20	EEUFF0J102B	6.3V 1000U	2	
C721,22	ECA1VAM221X	35V 220U	2	
C723	F1H1C104A056	16V 0.1U	1	
C724	ECA1CAK100XB	16V 10U	1	
C726	ECA1CAK101XB	16V 100U	1	
C727	ECA1CAK470XB	16V 47U	1	
C728,29	F1H1H103A219	50V 0.01U	2	
C730	F1H1A105A028	10V 1U	1	
C731	ECA0JAK101XB	6.3V 100U	1	
C732	RCE1AKA470BG	10V 47U	1	F2A1A470A011
C733	F1H1H103A219	50V 0.01U	1	
C734	ECA0JAK221XH	6.3V 220U	1	
C735,36	F1H1H103A219	50V 0.01U	2	
C737	ECEA1HKNR47B	50V 0.47U	1	
C738	ECEA1CKN100	16V 10U	1	
C739	ECA0JAM102XB	6.3V 1000U	1	
C751	ECA1CAM102X	16V 1000U	1	
C752	F1H1H103A219	50V 0.01U	1	
C754	ECA0JAK101XB	6.3V 100U	1	
C801,02	ECQU2A224MLC	25V 0.22U	2	⚠
C803,04	VCK0286B471	250V 470P	2	⚠ F1BAF471A013
C805	F1BAF1020020	250V 1000P	1	⚠
C806	ECUV1H221JCV	50V 220P	1	ECJ1VC1H221J
C807	ECA1HAK4R7XB	50V 4.7U	1	
C808	F1H1H103A219	50V 0.01U	1	
C809	ECKE3D681KBP	2KV 680P	1	
C810	ECUX1H681JCV	50V 680P	1	ECJ1VC1H681J
C811	ECA1VAM101XB	35V 100U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C812	ECKR2H332KB	500V 3300P	1	
C813	EETHC2G271K	400V 270U	1	
C814	ECQU2A224MLC	25V 0.22U	1	⚠
C816	ECKWNA102M	1000P	1	⚠
C817	F1H1H103A219	50V 0.01U	1	
C901-04	ECST1VC685	35V 6.8U	4	
C905	ECST1AY475R	10V 4.7U	1	
C906	F1H1H103A219	50V 0.01U	1	
C907	F1H1C104A056	16V 0.1U	1	
C908	F1H1H103A219	50V 0.01U	1	
C909	ECST1AY106R	10V 10U	1	
C910	ECJ1VC1H390J	50V 39P	1	
C911	F1H1H103A219	50V 0.01U	1	
C912-14	F1H1H101A231	50V 100P	3	
C916	ECST0JY106R	6.3V 10U	1	
C917-19	ECUVNC473KBV	16V 0.047U	3	F1H1C473A071
C920	F1H1C104A056	16V 0.1U	1	
C1001-07	EEUPF1V102XE	35V 1000U	7	
C1011-17	F1J1H104A679	50V 0.1U	7	
C1021-27	F1H1H333A783	50V 0.033U	7	
C1033-37	F1H1H104A783	50V 0.1U	5	
C1041,42	F1H1H104A783	50V 0.1U	2	
C1045-47	F1H1H104A783	50V 0.1U	3	
C1051,52	F1H1A105A028	10V 1U	2	
C1053-57	ECUVNC105KBN	16V 1U	5	F1J1C105A091
C1061,62	ECUVNC105KBN	16V 1U	2	F1J1C105A091
C1065-67	F1H1A105A028	10V 1U	3	
C1071-77	ECJ2VB1H333K	50V 0.033U	7	
C1081-87	ECJ2VB1H333K	50V 0.033U	7	
C1091-97	F1J1H104A679	50V 0.1U	7	
C1101-07	F1J1H104A679	50V 0.1U	7	
C1111-17	ECQE1474KFZ	100V 0.47U	7	
C1121-27	F1J1H104A679	50V 0.1U	7	
C1131-37	F1J1H104A679	50V 0.1U	7	
C1141-47	F1H1H103A219	50V 0.01U	7	
C1151-57	F1H1H103A219	50V 0.01U	7	
C1171,72	F1H1C104A056	16V 0.1U	2	
C1175-77	F1H1C104A056	16V 0.1U	3	
C1181-86	F1H1H102A219	50V 1000P	6	
C1191-96	F1H1H102A219	50V 1000P	6	
C1201-06	F1H1H333A783	50V 0.033U	6	
C1211-17	F1H1H102A219	50V 1000P	7	
C1221-27	F1H1H102A219	50V 1000P	7	
C1281-86	F1H1H102A219	50V 1000P	6	
C1291-96	F1H1H102A219	50V 1000P	6	
C1301,02	F1J1H334A679	50V 0.33U	2	
C1305,06	F1J1H334A679	50V 0.33U	2	
C1308	ECA1HAK2R2XB	50V 2.2U	1	
C1309	F1H1H101A231	50V 100P	1	
C1311	F1H1A105A028	10V 1U	1	
C1401	ECA1HAK4R7XB	50V 4.7U	1	
C1501-04	ECST0JY106R	6.3V 10U	4	
C1505-08	F1H1C104A056	16V 0.1U	4	
C1512	ECJ1VB1H472K	50V 4700P	1	
C1513	ECUVNC473KBV	16V 0.047U	1	F1H1C473A071
C1514	F1H1C104A056	16V 0.1U	1	
C1515	F1H1H104A783	50V 0.1U	1	
C1516-20	ECUV1H470JCV	50V 47P	5	F1H1H470A230
C1521	F1H1A105A028	10V 1U	1	
C1522	F1H1H102A219	50V 1000P	1	
C1523	F1H1C104A056	16V 0.1U	1	
C1524,25	F1H1H103A219	50V 0.01U	2	
C1526	ECUV1H470JCV	50V 47P	1	F1H1H470A230
C1701-04	ECUX1H681JCV	50V 680P	4	ECJ1VC1H681J
C1705-08	ECJ1VC1H331J	50V 330P	4	
C1709-12	F1H1A105A028	10V 1U	4	
C1713,14	F1H1C104A056	16V 0.1U	2	
C1715,16	F1H1H101A231	50V 100P	2	
C1718	ECA1CAK220XB	16V 22U	1	
C1719	F1H1C104A056	16V 0.1U	1	
C1720	F1H1H103A219	50V 0.01U	1	
C1721	ECA1CAK101XB	16V 100U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
CN201	RJU100W11	CONNECTOR(11P)	1	K1KB11A00020
CN203	K1MN16A00042	CONNECTOR(16P)	1	
CN701	K1KA02A00008	CONNECTOR(2P)	1	
CN901	K1MN16B00068	CONNECTOR(16P)	1	
CN903	K1KA07A00056	CONNECTOR(7P)	1	
CP201,02	RJT100W11	CONNECTOR(11P)	2	K1KA11A00093
D202	MA8051M	DIODE	1	MAZ80510M
D501	MA2J11100L	DIODE	1	
D502,03	1SS380TE-17	DIODE	2	
D504	MA2J11100L	DIODE	1	
D505	MA2J72800L	DIODE	1	
D506	MA2J11100L	DIODE	1	
D703	AK04WS	DIODE	1	B0JAME000059
D704	B0HAJM000005	DIODE	1	
D705	B0JAJG000005	DIODE	1	
D707	MAZ83000HL	DIODE	1	
D708	B0JAPD000002	DIODE	1	
D709	B0HASM000005	DIODE	1	
D712,13	SFPB-72V	DIODE	2	B0JCPC000004
D714	MA2J11100L	DIODE	1	
D715	MAZ80560ML	DIODE	1	
D717	MA8082M	DIODE	1	MAZ80820M
D718	MAZ80680LL	DIODE	1	
D719	B0AAMM000009	DIODE	1	
D720	MA2J11100L	DIODE	1	
D721,22	MA2J72800L	DIODE	2	
D723	B0AAMM000009	DIODE	1	
D724-27	MA142WATX	DIODE	4	MA3J142D0L
D728	MA2J11100L	DIODE	1	
D729	B0AAMM000009	DIODE	1	
D730	MA2J11100L	DIODE	1	
D751	MA2J11100L	DIODE	1	
D752-55	B0AAMM000009	DIODE	4	
D802	B0HAJM000005	DIODE	1	
D803	B0ZAZ0000052	DIODE	1	
D804,05	B0HAJM000005	DIODE	2	
D806	B0EFNC000007	DIODE	1	
D901	MA2J72800L	DIODE	1	
D903	LNJ401NPYJA	LED	1	
D905	SELS5223C	LED	1	B3AAA0000486
D906	MAZ80510LL	DIODE	1	
D1301,02	MA741WATX	DIODE	2	MA3J741D0L
D1305,06	MA741WATX	DIODE	2	MA3J741D0L
D1310	MA2J72800L	DIODE	1	
D1311	MA741WATX	DIODE	1	MA3J741D0L
D1701	MA8033L	DIODE	1	MAZ80330L
D1702,03	MA2J11100L	DIODE	2	
F801	K5D402BK0007	FUSE,T4A	1	⚠
FL901	A2BC00000052	FL	1	
IC201	TC74HCT7007A	IC	1	C0JBAZ001229
IC202	C0JBAS000076	IC	1	
IC203	NJM4558MTE1	IC	1	C0ABBB000109
IC207-09	C0FBAK000008	IC	3	
IC401	C2HBZG000007	IC	1	
IC402	C0JBAS000076	IC	1	
IC405	C0JBAB000203	IC	1	
IC501	C3EBGC000043	IC	1	
IC502	C2CBKJ000061	IC	1	
IC503	C0CBACD00001	IC	1	
IC601	C1BB00000527	IC	1	
IC701	C0EAS0000032	IC	1	
IC702	C0EBH0000275	IC	1	
IC703,04	C0DBAJG00002	IC	2	
IC705	C0CBAHC00009	IC	1	
IC706	C0CBADC00042	IC	1	
IC801	C5HABZZ00111	IC	1	
IC901	C0HBB0000030	IC	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC1001, 02	C0ZBZ0000728	IC	2	
IC1003-05	C0ZBZ0000727	IC	3	
IC1501	C0ZBZ0000763	IC	1	
IC1502	C0JBAB000203	IC	1	
IC1503, 04	C0JBAA000257	IC	2	
IC1701	NJM4580MTE1	IC	1	C0ABBB000127
IC1702	C0JBAA000149	IC	1	
JK201,02	B3RAB0000026	JK,OPT 1/OPT 2	2	
JK801	K2AA2B000004	JK,AC IN	1	⚠
JK901	K2HC103A0023	JK,HEADPHONE	1	
JK1001, 02	K1MN06B00133	JK,SP TERMINAL	2	
L201-04	ELJPA100KF	COIL	4	
L401-06	ELJPA100KF	COIL	6	
L501,02	ELJPA100KF	COIL	2	
L602,03	RLBV102V-Y	COIL	2	J0JBC0000014
L701	G0A200D00002	COIL	1	
L702	G0A101ZA0028	COIL	1	
L703	G0A200D00002	COIL	1	
L704	G0A101ZA0028	COIL	1	
L705,06	G0A200D00002	COIL	2	
L801	J0MBA0000013	COIL	1	⚠
L802	ELF21N015A	COIL	1	⚠
L1001-07	G0A100K00005	COIL	7	
L1011-17	G0A100K00005	COIL	7	
L1401	G0A2R7L00001	COIL	1	
L1501	VLQ0911K100	COIL	1	G1C100K00019
L1503	VLQ0911K100	COIL	1	G1C100K00019
LB201-04	J0JHC0000048	FILTER	4	
LB401	RLBV102V-Y	COIL	1	J0JBC0000014
LB402	J0JBC0000015	COIL	1	
LB901-03	J0JBC0000049	COIL	3	
LB1301, 02	J0JBC0000015	COIL	2	
LB1501	J0JBC0000015	COIL	1	
LB1505	J0JBC0000015	COIL	1	
LC1501	J0HAAB000024	FILTER	1	
P1	RPF0139-1	PROTECTION BAG (ACCESS.)	1	
P2	RPG6413	PACKING CASE	1	(EG)(EB)(E)
P2	RPG6418	PACKING CASE	1	(EE)
P3	RPQ1505	PAD 1	1	
P4	RPN1598	PAD 2	2	
P5	SPP740-1	PROTECTION BAG	2	
PC801	B3PBA0000104	PHOTO COUPLERS	1	⚠
PCB1	REP3523A-M	MAIN PCB ASS´Y	1	[RTL]
PCB2	REP3524AB-S	HP PCB ASS´Y	1	[RTL]
PCB3	REP3524AC-S	RELAY PCB ASS´Y	1	[RTL]
PCB4	REP3524AA-S	PANEL PCB ASS´Y	1	[RTL]
Q501	UN5213TX	TRANSISTOR	1	UNR521300L
Q502-04	2SD1819A0L	TRANSISTOR	3	
Q704	2SB621A-R	TRANSISTOR	1	2SB0621AH
Q707	2SB621A-R	TRANSISTOR	1	2SB0621AH
Q709	2SB621A-R	TRANSISTOR	1	2SB0621AH
Q711	2SC3940ARSTA	TRANSISTOR	1	2SC3940AHA
Q712	2SD1819A0L	TRANSISTOR	1	
Q713	UN5115TX	TRANSISTOR	1	UNR511500L
Q714	2SB1218A	TRANSISTOR	1	
Q715	B1ABGC000001	TRANSISTOR	1	
Q716	UN5211TX	TRANSISTOR	1	UNR521100L
Q717	2SB1219STX	TRANSISTOR	1	2SB12190SL
Q751	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q752	2SD592AR	TRANSISTOR	1	2SD0592AR

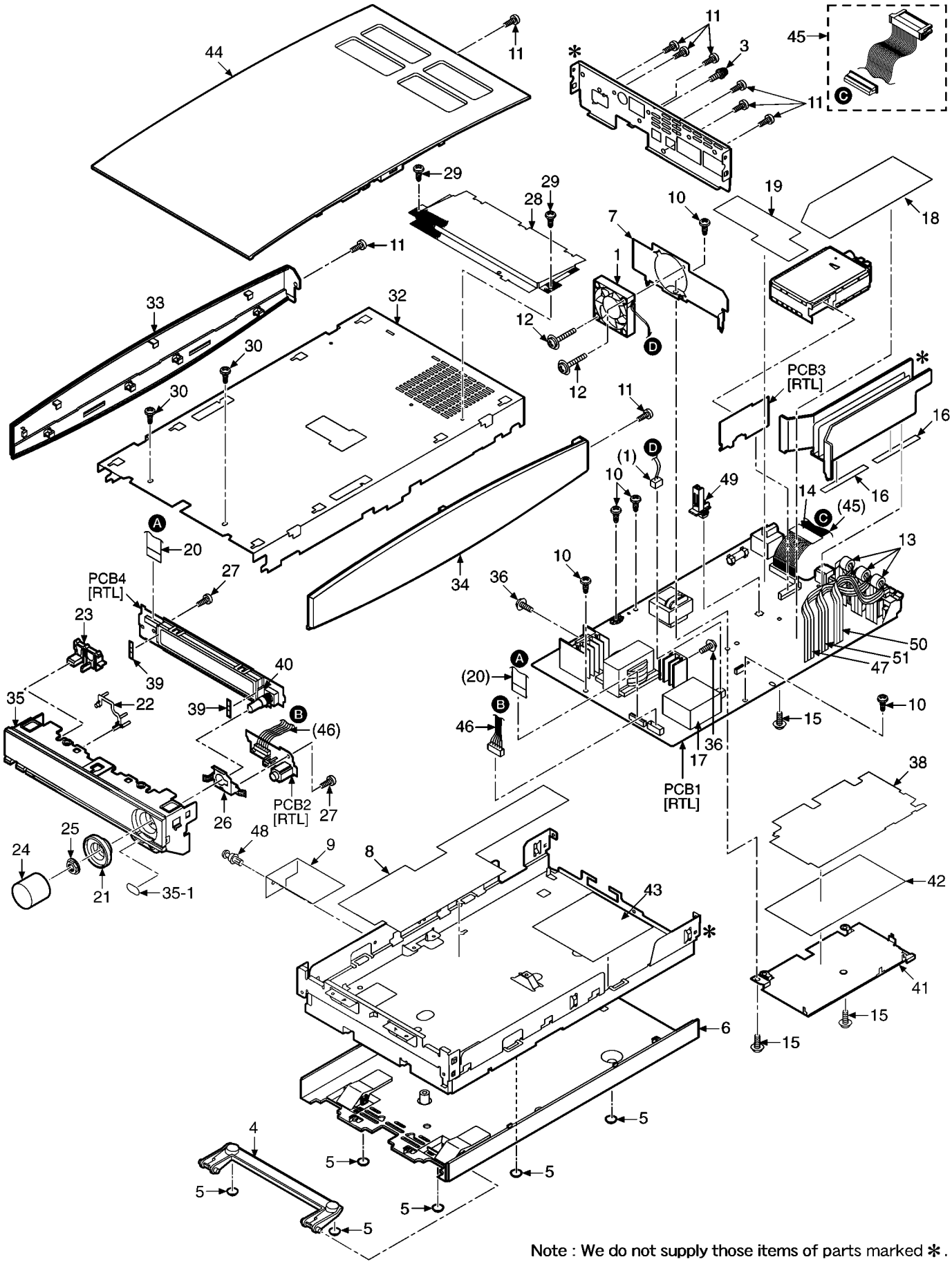
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q901	UN521MTX	TRANSISTOR	1	UNR521M00L
Q904,05	UN521MTX	TRANSISTOR	2	UNR521M00L
Q1501,02	UN5212TX	TRANSISTOR	2	UNR521200L
Q1701	UN5115TX	TRANSISTOR	1	UNR511500L
Q1702	B1GFGCAA0001	TRANSISTOR	1	
Q1703	UN5211TX	TRANSISTOR	1	UNR521100L
Q1704	2SC3311AR	TRANSISTOR	1	2SC3311AHA
R201,02	ERJ3GEYJ270V	1/16W 27	2	
R203-06	ERJ3GEYJ472V	1/16W 4.7K	4	
R207,08	ERJ3GEYJ101	1/16W 100	2	D0GB101JA002
R209,10	ERJ3GEYJ472V	1/16W 4.7K	2	
R211	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R212	ERJ3GEYJ682V	1/16W 6.8K	1	D0GB682JA002
R213,14	ERJ3GEYJ122V	1/16W 1.2K	2	
R215	ERJ3GEYJ682V	1/16W 6.8K	1	D0GB682JA002
R216	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R217,18	ERJ3GEYJ682V	1/16W 6.8K	2	D0GB682JA002
R219	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R220	ERJ3GEYJ682V	1/16W 6.8K	1	D0GB682JA002
R221	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R222	ERJ3GEYJ682V	1/16W 6.8K	1	D0GB682JA002
R223	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R224	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R225	ERJ3GEYJ102V	1/16W 1K	1	
R226-29	ERJ3GEYJ101	1/16W 100	4	D0GB101JA002
R249-54	ERJ3GEYJ101	1/16W 100	6	D0GB101JA002
R255	ERJ3GEYJ472V	1/16W 4.7K	1	
R257	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R258	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R260-63	ERJ3GEYJ101	1/16W 100	4	D0GB101JA002
R264-67	ERJ3GEYJ103V	1/16W 10K	4	D0GB103JA002
R402	ERJ3GEYJ102V	1/16W 1K	1	
R403	ERJ3GEYJ225V	1/16W 2.2M	1	
R405	ERJ3GEYD153V	1/16W 15K	1	D0HB153ZA002
R406,07	ERJ3RBD102V	1/16W 1K	2	
R409	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R410	ERJ3GEYJ105V	1/16W 1M	1	
R411	ERJ3GEYJ472V	1/16W 4.7K	1	
R412	ERJ3GEYJ221V	1/16W 220	1	
R413	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R414	ERJ3GEYJ102V	1/16W 1K	1	
R415-18	ERJ3GEYJ101	1/16W 100	4	D0GB101JA002
R419,20	ERJ3GEYJ102V	1/16W 1K	2	
R421	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R422	ERJ3GEYJ102V	1/16W 1K	1	
R423	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R424	ERJ3GEYJ682V	1/16W 6.8K	1	D0GB682JA002
R425-29	ERJ3GEYJ101	1/16W 100	5	D0GB101JA002
R430	ERJ3GEYJ221V	1/16W 220	1	
R431	ERJ3GEYJ391V	1/16W 390	1	
R432	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R433	ERJ3GEYJ102V	1/16W 1K	1	
R502	ERJ3GEYJ104	1/16W 100K	1	
R504	ERJ3GEYJ104	1/16W 100K	1	
R506,07	ERJ3GEYJ104	1/16W 100K	2	
R508	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R509	ERJ3GEYJ102V	1/16W 1K	1	
R511	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R512	ERJ3GEYJ104	1/16W 100K	1	
R514	ERJ3GEYJ104	1/16W 100K	1	
R515	ERJ3GEYJ224V	1/16W 220K	1	D0GB224JA002
R516,17	ERJ3GEYJ102V	1/16W 1K	2	
R520-22	ERJ3GEYJ101	1/16W 100	3	D0GB101JA002
R523	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R524,25	ERJ3GEYJ101	1/16W 100	2	D0GB101JA002
R527	ERJ3GEYJ102V	1/16W 1K	1	
R528	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R529	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R530	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R531	ERJ3GEYJ273V	1/16W 27K	1	D0GB273JA002
R532	ERJ3GEYJ222V	1/16W 2.2K	1	
R533	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R534	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R535	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R536,37	ERJ3GEYJ102V	1/16W 1K	2	
R538-40	ERJ3GEYJ101	1/16W 100	3	D0GB101JA002
R541-43	ERJ3GEYJ682V	1/16W 6.8K	3	D0GB682JA002
R544	ERJ3GEYD153V	1/16W 15K	1	D0HB153ZA002
R545-48	ERJ3GEYJ101	1/16W 100	4	D0GB101JA002
R549	ERJ3GEYJ102V	1/16W 1K	1	
R550	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R551	ERJ3GEYJ102V	1/16W 1K	1	
R552,53	ERJ3GEYJ101	1/16W 100	2	D0GB101JA002
R554	ERJ3GEYJ102V	1/16W 1K	1	
R555-57	ERJ3GEYJ101	1/16W 100	3	D0GB101JA002
R558	ERJ3GEYJ102V	1/16W 1K	1	
R559	ERJ3GEYJ104	1/16W 100K	1	
R560	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R561	ERJ3GEYJ102V	1/16W 1K	1	
R562	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R563	ERJ3GEYJ102V	1/16W 1K	1	
R564,65	ERJ3GEYJ101	1/16W 100	2	D0GB101JA002
R566	ERJ3GEYJ102V	1/16W 1K	1	
R567	ERJ3GEYJ104	1/16W 100K	1	
R568-72	ERJ3GEYJ101	1/16W 100	5	D0GB101JA002
R573-75	ERJ3GEYJ102V	1/16W 1K	3	
R576	ERJ3GEYJ562V	1/16W 5.6K	1	D0GB562JA002
R577-79	ERJ3GEYJ101	1/16W 100	3	D0GB101JA002
R580	ERJ3GEYJ102V	1/16W 1K	1	
R581	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R583	ERJ3GEYJ472V	1/16W 4.7K	1	
R584-86	ERJ3GEYJ103V	1/16W 10K	3	D0GB103JA002
R587	ERJ3GEYJ472V	1/16W 4.7K	1	
R588	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R589-91	ERJ3GEYJ333V	1/16W 33K	3	D0GB333JA002
R592,93	ERJ3GEYJ102V	1/16W 1K	2	
R594	ERJ3GEYJ333V	1/16W 33K	1	D0GB333JA002
R595	ERJ3GEYJ682V	1/16W 6.8K	1	D0GB682JA002
R596	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R597	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R598	ERJ3GEYJ102V	1/16W 1K	1	
R602,03	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R604	ERJ3GEYJ472V	1/16W 4.7K	1	
R605	ERJ3GEYJ102V	1/16W 1K	1	
R606	ERJ3GEYJ472V	1/16W 4.7K	1	
R607	ERJ3GEYJ104	1/16W 100K	1	
R608	ERJ3GEYJ102V	1/16W 1K	1	
R609	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R702	ERJ3GEY0R00V	1/16W 0	1	
R703	ERJ3RBD222V	1/16W 2.2K	1	
R705	ERJ3GEY0R00V	1/16W 0	1	
R706	ERJ3RBD393	1/16W 39K	1	
R707	ERJ3RBD272	1/16W 2.7K	1	
R708	ERBFE4R00U	RESISTOR	1	
R710	ERG1SJ120P	1W 12	1	
R712	ERJ3GEYJ392V	1/16W 3.9K	1	
R714,15	ERJ3GEYJ222V	1/16W 2.2K	2	
R716	ERJ3GEYJ104	1/16W 100K	1	
R717	ERJ3GEYJ822V	1/16W 8.2K	1	D0GB822JA002
R718	ERJ3GEYJ512V	1/16W 5.1K	1	
R719	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R720	ERJ3GEYJ333V	1/16W 33K	1	D0GB333JA002
R721	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R722	ERJ3GEYJ102V	1/16W 1K	1	
R723	ERDS2FJ100	1/4W 10	1	
R725	ERJ3GEYJ102V	1/16W 1K	1	
R729	ERJ3GEYJ151V	1/16W 150	1	
R730	ERJ3GEYJ272V	1/16W 2.7K	1	
R732	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R733	ERJ3GEYJ472V	1/16W 4.7K	1	
R734	ERJ3GEYJ683V	1/16W 68K	1	D0GB683JA002
R735	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R736	ERJ3GEYJ472V	1/16W 4.7K	1	
R737	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R738	ERJ3GEYJ472V	1/16W 4.7K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R739	ERG1SJ220	1W 22	1	
R742	ERJ3GEYJ823V	1/16W 82K	1	D0GB823JA002
R743	ERJ3GEYJ124V	1/16W 120K	1	D0GB124JA002
R744	ERJ3GEYJ274V	1/16W 270K	1	
R751	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R752	ERJ3GEYJ392V	1/16W 3.9K	1	
R753	ERJ3GEY0R00V	1/16W 0	1	
R757,58	ERDS1FJ180	1/2W 18	2	
R759	ERJ3GEYJ121V	1/16W 120	1	
R801	ERG2SJ333H	33K	1	
R802	ERJ3GEYJ221V	1/16W 220	1	
R803	ERX2SJR39	2W 0.39	1	
R804	ERX2SZJR10	2W 0.1	1	
R806	ERJ3GEYJ152V	1/16W 1.5K	1	
R807	ERDS2FJ100	1/4W 10	1	
R808	ERG2DJ154	2W 150	1	
R809	ERDS2FJ332	1/4W 3.3K	1	
R810	ERJ3GEYJ154V	1/16W 150K	1	
R812	ERDS1FJ1R0	1/2W 18	1	
R813	ERX2SJ3R3	2W 3.3	1	
R901	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R902-04	ERJ3GEYJ102V	1/16W 1K	3	
R905	ERJ3GEYJ273V	1/16W 27K	1	D0GB273JA002
R906-08	ERJ3GEYJ104	1/16W 100K	3	
R909	ERJ3GEYJ470V	1/16W 47	1	
R912	ERJ3GEYJ151V	1/16W 150	1	
R913	ERJ3GEYJ121V	1/16W 120	1	
R916	ERJ3GEYJ122V	1/16W 1.2K	1	
R917	MCR03PZHJ561	1/16W 560	1	
R919	ERJ3GEYJ104	1/16W 100K	1	
R921,22	ERJ3GEYJ101	1/16W 100	2	D0GB101JA002
R1001-07	ERJ8GEYJ1R5	1/8W 1.5	7	
R1011-17	ERJ8GEYJ1R5	1/8W 1.5	7	
R1021-27	ERJ3GEYJ4R7V	1/16W 4.7	7	
R1031-37	ERJ3GEYJ4R7V	1/16W 4.7	7	
R1041-47	ERJ3GEYJ1R0V	1/16W 1	7	
R1061,62	ERJ3GEY0R00V	1/16W 0	2	
R1065-67	ERJ3GEY0R00V	1/16W 0	3	
R1071,72	ERJ3GEYJ102V	1/16W 1K	2	
R1073-77	ERJ3GEYJ101	1/16W 100	5	D0GB101JA002
R1081,82	ERJ6GEYJ101V	1/10W 100	2	
R1085-87	ERJ6GEYJ101V	1/10W 100	3	
R1201-07	ERJ8GEYJ472V	1/8W 4.7K	7	
R1211-17	ERJ8GEYJ472V	1/8W 4.7K	7	
R1308	ERJ3GEYD153V	1/16W 15K	1	D0HB153ZA002
R1309	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R1311,12	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R1315,16	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R1321,22	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R1325	ERJ3GEYJ273V	1/16W 27K	1	D0GB273JA002
R1326	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R1327,28	ERJ3GEYJ273V	1/16W 27K	2	D0GB273JA002
R1403	ERQ2ABJP560	RESISTOR	1	
R1502	ERJ6GEYJ4R7V	1/10W 4.7	1	
R1504	ERJ3GEYJ1R0V	1/16W 1	1	
R1505	ERJ3GEYJ221V	1/16W 220	1	
R1511	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R1514-16	ERJ3GEYJ470V	1/16W 47	3	
R1521,22	ERJ3GEYJ333V	1/16W 33K	2	D0GB333JA002
R1523,24	ERJ3GEYJ102V	1/16W 1K	2	
R1525,26	ERJ3GEYJ682V	1/16W 6.8K	2	D0GB682JA002
R1527	ERJ3GEYJ105V	1/16W 1M	1	
R1528	ERJ3GEYJ221V	1/16W 220	1	
R1701-04	ERJ3GEYJ472V	1/16W 4.7K	4	
R1705-08	ERJ3GEYJ103V	1/16W 10K	4	D0GB103JA002
R1709,10	ERJ3GEYJ470V	1/16W 47	2	
R1711-14	ERJ3GEYJ103V	1/16W 10K	4	D0GB103JA002
R1715,16	ERJ3GEYJ102V	1/16W 1K	2	
R1717,18	ERJ3GEYJ470V	1/16W 47	2	
R1719	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R1720	ERJ3GEYJ471V	1/16W 470	1	
R1721	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R1722	ERJ3GEYJ102V	1/16W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
RL801	K6B1AEA00003	RELAY	1	⚠
S901,02	EVQ11G05R	SW,SELECT ETC.	2	
T801	ETS42AT126NH	POWER TRANSFORMER	1	⚠
T802	ETP28KBZ21JU	SUB POWER TRANSFORMER	1	⚠
TH801	D4CAC8R00002	THERMISTOR	1	
VR901	EVEKC2F3024B	V.R.,VOLUME	1	
W1,W2	ERJ6GEY0R00V	CHIP JUMPER	2	
W201	REX1166	WIRE ASS´Y	1	
W904	REX1156	WIRE ASS´Y	1	
WA1001	REZ1537	WIRE ASS´Y	1	
WA1002	REZ1564	WIRE ASS´Y	1	
WA1003	REZ1565	WIRE ASS´Y	1	
X401	H0D245500021	CRYSTAL OSCILLATOR	1	
X402	H0D235500001	CRYSTAL OSCILLATOR	1	
X501	RSXY10M0M01T	OSCILLATOR	1	H2B100500002
X601	RSXC4M33S02T	OSCILLATOR	1	H0H433400001
Z201	ENG07701Q	TUNER PACK	1	
Z801	ERZV10V511CS	ZNR	1	⚠
Z901	B3RAD0000050	REMOTE SENSOR	1	

18 Cabinet Parts Location



Note : We do not supply those items of parts marked ✻.

19 Packaging