

Service Manual

CD Stereo System



Model No. **SA-PM24EB**
SA-PM24EG
SA-PM24EP

Product Color: (K)...Black Type



Notes: Please refer to the Original Service Manual for :

- CD Mechanism Unit (DLS6C), Order No. MD0803034CE
- Speaker system SB-PM24EG-K/M, Order No. PSG1002025CE

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.

IMPORTANT SAFETY NOTICE


There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

TABLE OF CONTENTS

	PAGE		PAGE
1 Safety Precautions -----	3	2.2. Precaution of Laser Diode -----	7
1.1. General Guidelines-----	3	2.3. Service caution based on Legal restrictions -----	8
1.2. Caution for AC Cord -----	4	2.4. Handling Precaution for Traverse Unit-----	9
1.3. Before Repair and Adjustment -----	5	3 Service Navigation -----	11
1.4. Protection Circuitry-----	5	3.1. Service Information -----	11
1.5. Safety Part Information-----	5	4 Specifications -----	12
2 Warning -----	6	5 Location of Controls and Components -----	13
2.1. Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices-----	6	5.1. Main Unit Key Button Operations -----	13
		5.2. Remote Control Key Button Operations-----	14

Panasonic®

© Panasonic Corporation 2010. All rights reserved.
 Unauthorized copying and distribution is a violation of law.

5.3. Media Information-----	15	18.5. MAIN CIRCUIT (4/4)-----	77
6 Self-diagnostic and special mode setting -----	16	18.6. PANEL CIRCUIT-----	78
6.1. Entering into Self-diagnostic Mode -----	16	18.7. USB CIRCUIT -----	79
6.2. Self-diagnostic Function Error Code -----	16	18.8. TRANSFORMER CIRCUIT -----	80
6.3. Entering into Doctor Mode -----	17	18.9. POWER CIRCUIT / HEADPHONE CIRCUIT ----	81
7 Troubleshooting Guide-----	21	19 Printed Circuit Board-----	83
8 Service Fixture & Tools -----	23	19.1. CD SERVO P.C.B. / PANEL P.C.B. -----	83
9 Disassembly and Assembly Instructions-----	24	19.2. MAIN P.C.B. / USB P.C.B. -----	84
9.1. Disassembly flow chart -----	25	19.3. HEADPHONE P.C.B. / POWER P.C.B. /	
9.2. Main Parts Location Diagram -----	26	TRANSFORMER P.C.B. -----	85
9.3. Disassembly of Top Cabinet Assembly-----	27	20 Terminal Function of IC's -----	87
9.4. Disassembly of Headphone P.C.B. -----	28	20.1. IC800 (RFKWMPM5EB) MICRO	
9.5. Disassembly of Front Panel Assembly -----	29	PROCESSOR -----	87
9.6. Disassembly of USB P.C.B. -----	30	21 Exploded View and Replacement Parts List-----	89
9.7. Disassembly of Panel P.C.B. -----	31	21.1. Exploded View and Mechanical Replacement	
9.8. Disassembly of FL Window-----	33	Parts List -----	89
9.9. Disassembly of Centre Ornament -----	34	21.2. Electrical Replacement Parts List -----	93
9.10. Disassembly of CD Lid-----	34		
9.11. Disassembly of Main P.C.B. -----	36		
9.12. Disassembly of Power P.C.B. -----	38		
9.13. Replacement of Power Amp IC (IC5101) -----	39		
9.14. Disassembly of Transformer P.C.B. -----	41		
9.15. Replacement of Transistor (Q5901) -----	43		
9.16. Disassembly of CD Mechanism Unit (DLS6C) ---	45		
9.17. Disassembly of CD Servo P.C.B.-----	46		
10 Disassembly and Assembly of Traverse Unit -----	48		
10.1. Disassembling Procedures -----	48		
10.2. Assembling Procedures -----	49		
11 Service Position -----	51		
11.1. Checking and Repairing of USB P.C.B. -----	51		
11.2. Checking and Repairing of Panel P.C.B. -----	52		
11.3. Checking and Repairing of Transformer			
P.C.B.-----	53		
11.4. Checking and Repairing of Main P.C.B. -----	54		
11.5. Checking and Repairing of Power P.C.B. -----	55		
11.6. Checking and Repairing of CD Servo P.C.B.-----	55		
12 Voltage Measurement & Waveform Chart-----	57		
12.1. CD SERVO P.C.B. -----	57		
12.2. MAIN P.C.B. (1/2) -----	58		
12.3. MAIN P.C.B. (2/2) -----	59		
12.4. PANEL P.C.B. -----	59		
12.5. POWER P.C.B. -----	59		
12.6. TRANSFORMER P.C.B.-----	60		
12.7. USB P.C.B.-----	60		
12.8. Waveform Chart -----	61		
13 Illustration of IC's, Transistors and Diodes -----	62		
14 Overall Simplified Block-----	63		
14.1. Control Signal Diagram-----	63		
14.2. Block Connection Diagram -----	64		
15 Block Diagram -----	65		
15.1. SERVO/SYSTEM CONTROL BLOCK			
DIAGRAM-----	65		
15.2. AUDIO BLOCK DIAGRAM -----	66		
15.3. POWER SUPPLY BLOCK DIAGRAM -----	67		
16 Wiring Connection Diagram-----	69		
17 Schematic Diagram Notes -----	71		
18 Schematic Diagram-----	73		
18.1. CD SERVO CIRCUIT -----	73		
18.2. MAIN CIRCUIT (1/4) -----	74		
18.3. MAIN CIRCUIT (2/4) -----	75		
18.4. MAIN CIRCUIT (3/4) -----	76		

1 Safety Precautions

1.1. General Guidelines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, carry out the following for leakage current checks to prevent the customer from being exposed to shock hazards.

1.1.1. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Using an ohmmeter measure the resistance value, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1M\Omega$ and $5.2M\Omega$. When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

1.1.2. Leakage Current Hot Check

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5k\Omega$, 10 watts resistor, in parallel with a $0.15\mu F$ capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. should the measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and re-checked before it is returned to the customer.

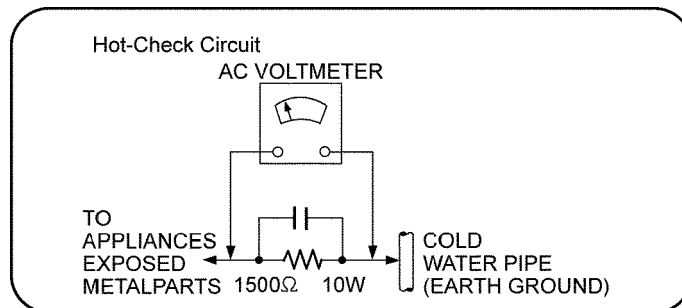


Fig. 1

1.2. Caution for AC Cord



(For “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 OFF 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

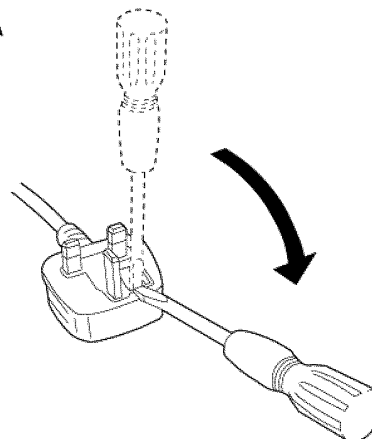
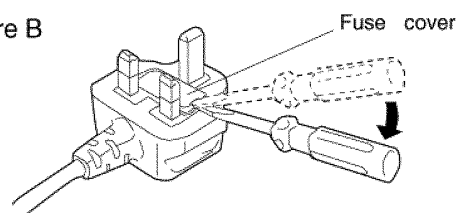


Figure B



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

Figure A

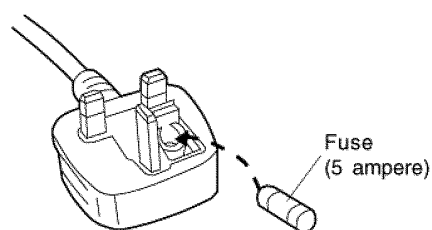
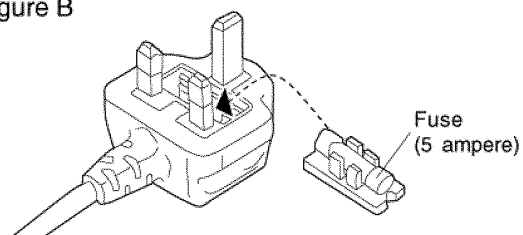


Figure B



1.3. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C5901, C900, C909, C5909, C5917 & C5121 through a 10Ω, 1W resistor to ground.

DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

- Current consumption at AC 220-240 V, 50 Hz in NO SIGNAL mode should be ~250 mA.

1.4. Protection Circuitry

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

- No sound is heard when the power is turned 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 the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

1.5. Safety Part Information

Safety Parts List:

There are special components used in this equipment which are important for safety.

These parts are marked by △ in the Schematic Diagrams, Exploded View & Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

Table 1

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
△	401	RAEX0190Z-V	TRAVERSE UNIT	
△	22	RFKHAPM24EBK	REAR CABINET ASS'Y	EB
△	22	RFKHAPM24EGK	REAR CABINET ASS'Y	EG
△	22	RFKHAPM24EPK	REAR CABINET ASS'Y	EP
△	PCB1	REPX0709AA	TRANSFORMER P.C.B.	(RTL)
△	T5901	G4CYAYY00213	MAIN TRANSFORMER	
△	T5902	G4C2AAJ00005	BACK-UP TRANSFORMER	
△	Z5901	ERZVA5Z471	ZNR	
△	RL5901	K6B1AEA00003	RELAY	
△	F5901	K5D102BLA013	FUSE	
△	FP5901	K5G502AA0002	FUSE PROTECTOR	
△	JK5901	K2AA2B000011	AC INLET	
△	L5901	ELF15N035AN	LINE FILTER	
△	A2	K2CZ3YY00005	AC CORD	EB
△	A2	K2CQ2CA00007	AC CORD	EG/EP
△	A3	RQTX0179-2D	O/I BOOK (Ge/Fr/It/Sp)	EG
△	A3	RQTX0180-2H	O/I BOOK (Da/Du/Sw)	EG
△	A3	RQTX0181-2E	O/I BOOK (Sp)	EP
△	A3	RQTX0182-2B	O/I BOOK (En)	EP
△	A3	RQTX0183-2R	O/I BOOK (Ru/Ur)	EP
△	A3	RQTX0262-2B	O/I BOOK (En)	EB

2 Warning

2.1. Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminium foil, to prevent electrostatic charge build up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder remover device. Some solder removal devices not classified as “anti-static (ESD protected)” can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminium foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution:

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

2.2. Precaution of Laser Diode

CAUTION!

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Caution :

This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.

Wavelength : 785nm

Maximum output radiation power from pick up : 100 μ W/VDE

Laser radiation from pick up unit is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG :

Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge : 785nm

Maximale Strahlungsleistung der Lasereinheit :100 μ W/VDE

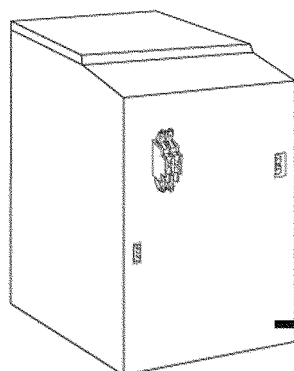
Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

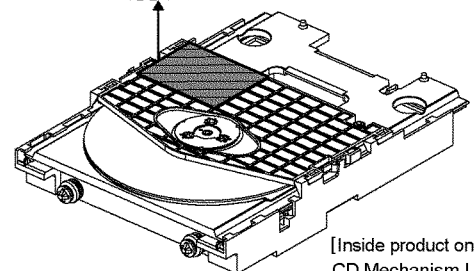
ADVASEL :

I dette a apparat anvendes laser.

■ Use of Caution Labels



Back of product



[Inside product on
CD Mechanism Unit
(DLS6C)]

2.3. Service caution based on Legal restrictions

2.3.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

Definition of PCB Lead Free Solder being used

The letter of "PbF" is printed either foil side or components side on the PCB using the lead free solder. (See right figure)	PbF
---	-----

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.
(Definition: The letter of "PbF" is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.
RFKZ03D01K----- (0.3mm 100g Reel)
RFKZ06D01K----- (0.6mm 100g Reel)
RFKZ10D01K----- (1.0mm 100g Reel)

Note

* Ingredient: Tin (Sn), 96.5%, Silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

2.4. Handling Precaution for Traverse Unit

The laser diode in the optical pickup unit may break down due to static electricity of clothes or human body. Special care must be taken avoid caution to electrostatic breakdown when servicing and handling the laser diode in the traverse unit.

2.4.1. Cautions to Be Taken in Handling the Optical Pickup Unit

The laser diode in the optical pickup unit may be damaged due to electrostatic discharge generating from clothes or human body. Special care must be taken avoid caution to electrostatic discharge damage when servicing the laser diode.

1. Do not give a considerable shock to the optical pickup unit as it has an extremely high-precise structure.
2. To prevent the laser diode from the electrostatic discharge damage, the flexible cable of the optical pickup unit removed should be short-circuited with a short pin or a clip. (Figure 1)
3. The flexible cable may be cut off if an excessive force is applied to it. Use caution when handling the flexible cable.
4. The antistatic FPC is connected to the new optical pickup unit. After replacing the optical pickup unit and connecting the flexible cable, cut off the antistatic FPC.

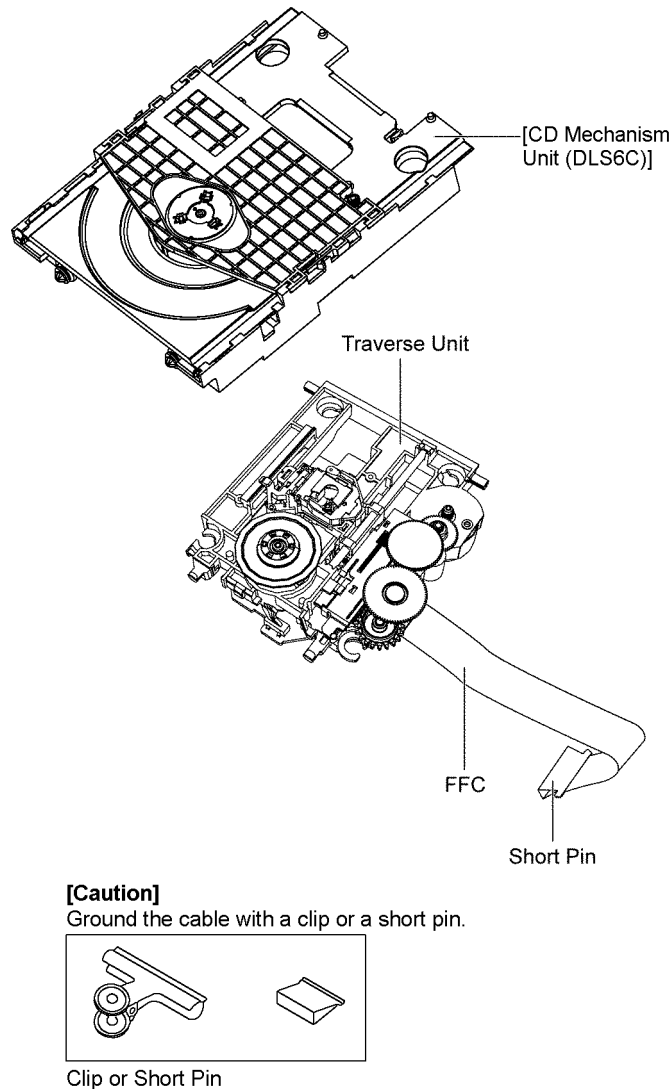


Figure 1

2.4.2. Grounding for electrostatic breakdown prevention

Some devices such as the CD player use the optical pickup (laser diode) and the optical pickup will be damaged by static electricity in the working environment. Proceed servicing works under the working environment where grounding works is completed.

2.4.2.1. Worktable grounding

1. Put a conductive material (sheet) or iron sheet on the area where the optical pickup is placed, and ground the sheet. (Figure 2)

2.4.2.2. Human body grounding

1. Use the anti-static wrist strap to discharge the static electricity form your body. (Figure 2)

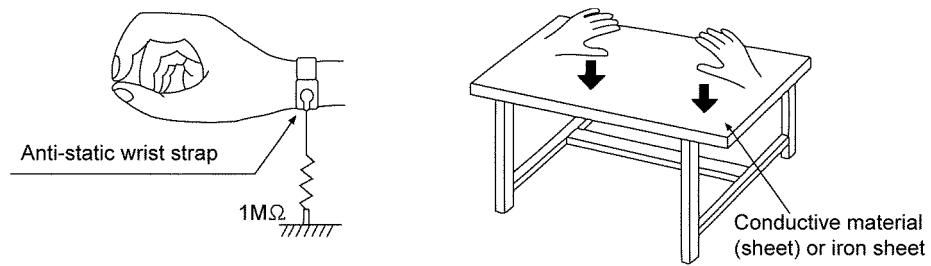


Figure 2

3 Service Navigation

3.1. Service Information

This service manual contains technical information which will allow service personnel's to understand and service this model. Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplement service manual to be filled with original service manual.

- **CD Mechanism Unit :**

1. This model uses CD Mechanism Unit (DLS6C).

- **Micro-processor :**

1. The following components are supplied as an assembled part.
 - Micro-processor IC, IC800 is supplied as assembled part, RFKWMPM5EB.

4 Specifications

■ Amplifier Section

RMS Output Power Stereo Mode

Front Ch (both ch driven)

10 W per channel (4 Ω), 1 kHz, 10% THD

Total RMS Stereo mode power

20 W

■ FM/AM Tuner, Terminals Section

Preset memory

FM 30 stations

AM 15 stations

Frequency Modulation (FM)

Frequency range

87.50 to 108.00 MHz (50 kHz step)

Antenna terminals

75 Ω (unbalanced)

Amplitude Modulation (AM)

Frequency range

522 to 1629 kHz (9 kHz step)

Music Port (front) jack

Sensitivity

100 mV, 4.7 k Ω

Terminal

Stereo, 3.5 mm jack

Headphone jack

Terminal

Stereo, 3.5 mm jack

■ Disc Section

Disc played [8 cm or 12 cm]

(1) CD-Audio (CD-DA)

(2) CD-R/RW (CD-DA, MP3* formatted disc)

(3) MP3*

* MPEG-1 Layer 3, MPEG-2 Layer 3

Pick up

Wavelength

785 nm (CD)

Laser power

CLASS 1 (CD)

Audio output (Disc)

Number of channels

2 (FL, FR)

FL = Front left channel

FR = Front right channel

■ USB Section

USB port

Media file format support

MP3 (*.mp3)

USB device file system

FAT 12 / FAT 16 / FAT 32

USB port power

500 mA (max)

■ General

Power supply

AC 220 to 240 V, 50 Hz

Power consumption

42 W

Dimensions (W x H x D)

153 mm x 226 mm x 300 mm

Mass

2.1 kg

Operating temperature range

0°C to +40°C

Operating humidity range

35% to 80% RH (no condensation)

Power consumption in standby mode

0.8 W (approximate)

Note:

1. Specifications are subject to change without notice. Mass and dimensions are approximate.

2. Total harmonic distortion is measured by the digital spectrum analyzer.

■ System : SC-PM24EB-K

Music center: SA-PM24EB-K

Speaker: SB-PM24EG-K

■ System : SC-PM24EG-K

Music center: SA-PM24EG-K

Speaker: SB-PM24EG-K

■ System : SC-PM24EP-M

Music center: SA-PM24EP-K

Speaker: SB-PM24EG-M

■ System : SC-PM24EP-K

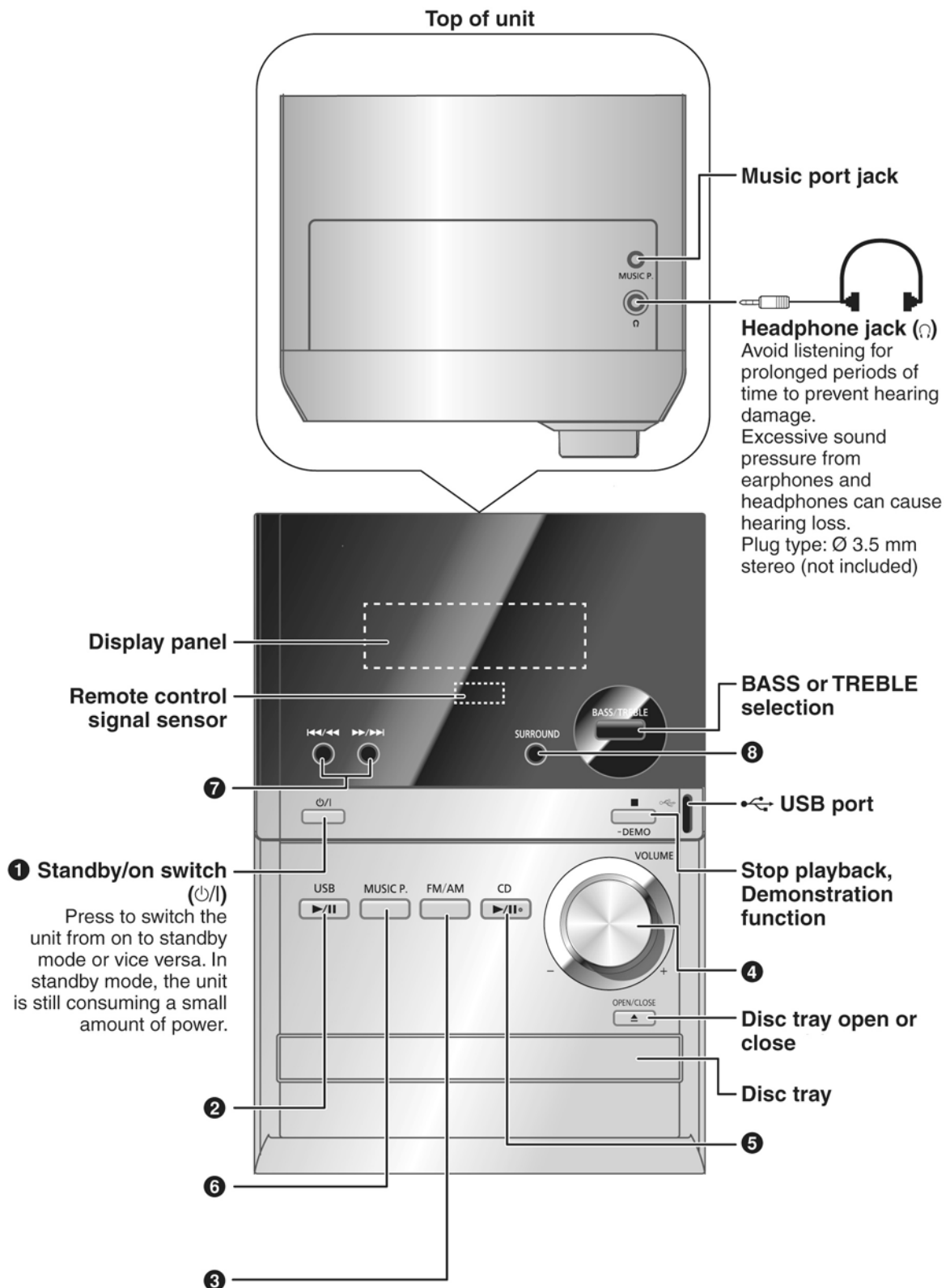
Music center: SA-PM24EP-K

Speaker: SB-PM24EG-M

5 Location of Controls and Components

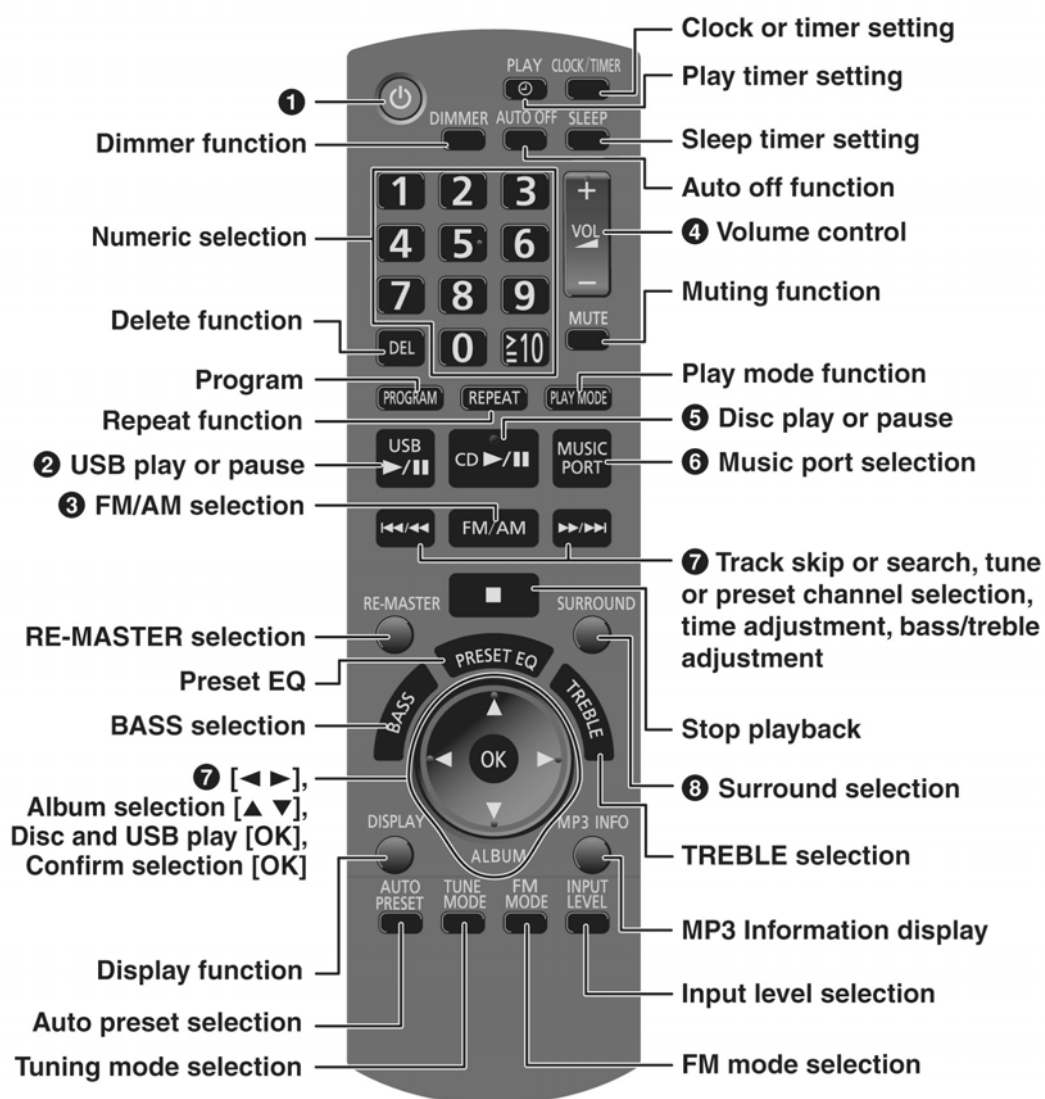
5.1. Main Unit Key Button Operations

Refer to the numbers in parentheses for page reference. Buttons labelled such as ❶ function in exactly the same way as the controls on the remote control.



5.2. Remote Control Key Button Operations

Buttons labelled such as ❶ function in exactly the same way as the controls on the main unit.



5.3. Media Information

Note

- This unit can play MP3 files and CD-DA format audio CD-R/RWs that have been finalized.
- It may not be able to play some CD-R/RWs depending on the condition of the recording.
- Do not use irregularly shaped discs.
- Do not use discs with labels and stickers that are coming off or with adhesive exuding from under labels and stickers.
- Do not attach extra labels or stickers on the disc.
- Do not write anything on the disc.

CD

- This unit can access up to 99 tracks.
- Choose a CD with this mark:



Using DualDiscs

The "CD" sides of DualDiscs do not meet the CD-DA standard so it may not be possible to play them on this unit.

MP3

- Files are treated as tracks and folders are treated as albums.
- This unit can access up to 999 tracks, 255 albums and 20 sessions.
- Disc must conform to ISO9660 level 1 or 2 (except for extended formats).
- To play in a certain order, prefix the folder and file names with the 3-digit numbers in the order you want to play them.

NOTE on USB

Compatible devices

Devices which are defined as USB mass storage class:

- USB devices that support bulk only transfer.
- USB devices that support USB 2.0 full speed.

Supported format

- Folders are defined as album.
- Files are defined as track.
- Track must have the extension ".mp3" or ".MP3".
- CBI (Control/Bulk/Interrupt) is not supported.
- A device using NTFS file system is not supported. [Only FAT 12/16/32 (File Allocation Table 12/16/32) file system is supported]
- Depending on the sector size, some files may not work.
- Maximum album: 255 albums
- Maximum track: 2500 tracks
- Maximum track in one album: 999 tracks

6 Self-diagnostic and special mode setting

This unit is equipped with features of self-diagnostic & special mode setting for checking the functions & reliability.

6.1. Entering into Self-diagnostic Mode

Here is the procedure to enter into self-diagnostic mode:

Step 1 : Select [CD ▶/■] for CD mode (Ensure no CD is inserted)

Step 2 : Press the [■/-DEMO] key of the main set for more than 2 seconds. While pressing this key, press the [▶▶/▶▶] key on the main set for another 2 seconds to enter into the Self-diagnostic mode. The FL shall display :-

TEST

To exit the Self-diagnostic mode

Press [⏻/I] button on main unit or remote control.

6.2. Self-diagnostic Function Error Code

Self-diagnostic Function provides information on any problems occurring for the unit and its respective components by displaying error codes. These error codes such as U**, H** and F** are stored in memory and held unless it is cleared.

The error code is automatically displayed after entering into self-diagnostic mode.

6.2.1. CD Mechanism Error Code Table

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
H15	CD Open SW Abnormal	During normal operation CD OPEN SW On fail to be detected with 4 sec. Error No. shall be clear by force or during cold start.	H 15	Press [■/-DEMO] on main unit for next error.
F15	CD REST SW Abnormal	CD traverse position initial setting operation failsafe counter (1000 ms) waiting for REST SW to turn on. Error No. shall be clear by force or during cold start.	F 15	Press [■/-DEMO] on main unit for next error.
F26	Communication between CD servo LSI and micro-p abnormal.	CD function DTMS command, after system setting, If SENSE = 'L' cannot be detected. Memory shall contain F26 code. After Power on, CD function shall continue, error display shall be "NODISC". Error No. shall be clear by force or cold start.	F 26	Press [■/-DEMO] on main unit for next error.

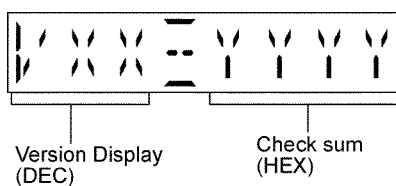
6.2.2. Power Supply Error Code Table

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F76	Power Amp IC output abnormal	DCDET1 = L (NG)	F 76	Press [■/-DEMO] on main unit for next error.

6.3. Entering into Doctor Mode

Here is the procedure to enter into doctor mode :

Press [■/DEMO] button on main unit follow by [4] and [7] on remote control. The FL shall display :-













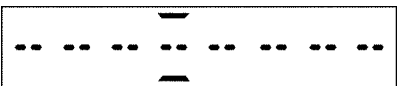
To exit the Doctor mode

Press [⏻/I] button on main unit or remote control.

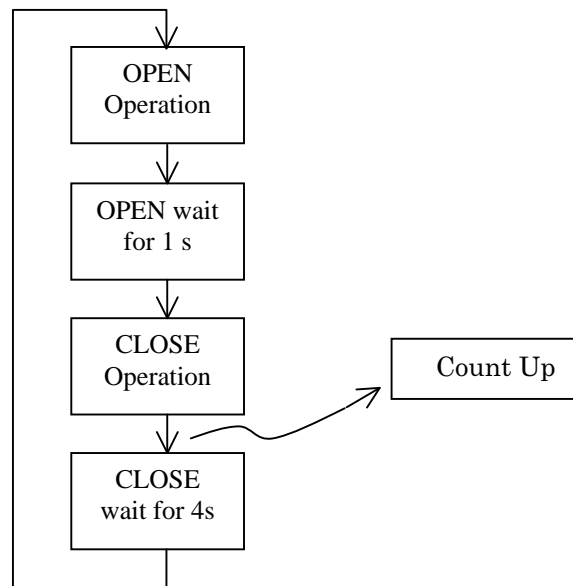
6.3.1. Doctor Mode Table 1

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Doctor Mode	<p>To enter into Doctor Mode for checking of various items and displaying EEPROM and firmware version.</p> <p>Note: The micro-processor version as shown is an example. It will be revise when there is an updates.</p> <p>FL Display sequence Display 1 → 2</p>	<p>(Display 1)</p> <p>Version Display (DEC) Check sum (HEX)</p> <p>Checksum : (Condition 1)</p> <p>Version Display (DEC) No Rom correction</p> <p>(a) If there is NO EEPROM header string OR (b) If there is no EEPROM (no data is received by micro-processor) [NO] is displayed.</p> <p>Checksum : (Condition 2)</p> <p>Version Display (DEC) No Rom correction</p> <p>If the version of the EEPROM does not match or not working properly [NG] is display.</p> <p>Checksum : (Condition 3)</p> <p>Version Display (DEC) Check sum (HEX)</p> <p>If the EEPROM version matches, checksum [YYYY] is displayed.</p> <p>(Display 2)</p> <p>No Rom correction Check sum (HEX)</p> <p>The Checksum of EEPROM and firmware version will be display for 2 sec.</p>	<p>In CD mode:</p> <ol style="list-style-type: none"> 1. Press [■/DEMO] button on main unit follow by [4] and [7] on remote control. <p>To exit Doctor Mode, press [⏻/I] button on main unit or remote control.</p>

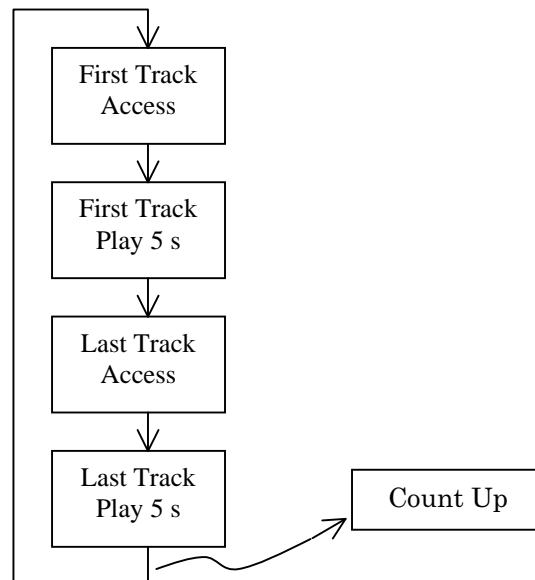
6.3.2. Doctor Mode Table 2

Item		FL Display	Key Operation
Mode Name	Description		Front Key
FL Display Test	To check the FL segments display (All segments will light up)		In Doctor Mode: 1. Press [DIMMER] button on remote control. To cancel, press [0] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
Volume Setting	To check for volume setting during this mode, Bass & treble is set to 0dB & EQ is switch off.		In Doctor Mode: 1. Press [7] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
			In Doctor Mode: 2. Press [8] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
			In Doctor Mode: 3. Press [9] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
CD Loading Test (DLS6C)	To determine the reliability of CD Loading unit. To check for the Open/Close operation for the CD loading unit. It fails when there is abnormality in opening or closing.	 The counter will increment by 1 untill reach 99999999 ↓ 	In Doctor Mode: 1. Press [≥10], [1], [1] button on remote control. To cancel, press [0] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control. (Refer to section 6.3.3 for more information)
CD Traverse Test (DLS6C)	To check for the traverse unit operation. In this mode, the first & last track is access & read. (TOC). It fails when TOC is not completed by IOS or the traverse is out of focus.	 The counter will increment by 1 untill reach 99999999 ↓ 	In Doctor Mode: 1. Press [≥10], [1], [2] button on remote control. To cancel, press [0] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control. (Refer to section 6.3.4 for more information)
CD Combination Test (DLS6C)	A combination of CD loading & traverse unit test.	 The counter will increment by 1 untill reach 99999999 ↓ 	In Doctor Mode: 1. Press [≥10], [1], [3] button on remote control. To cancel, press [0] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control. (Refer to section 6.3.5 for more information)
Cold Start	To activate cold start upon next AC power up. It will set to factory shipment condition.		In Doctor Mode: 1. Press [SLEEP] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.

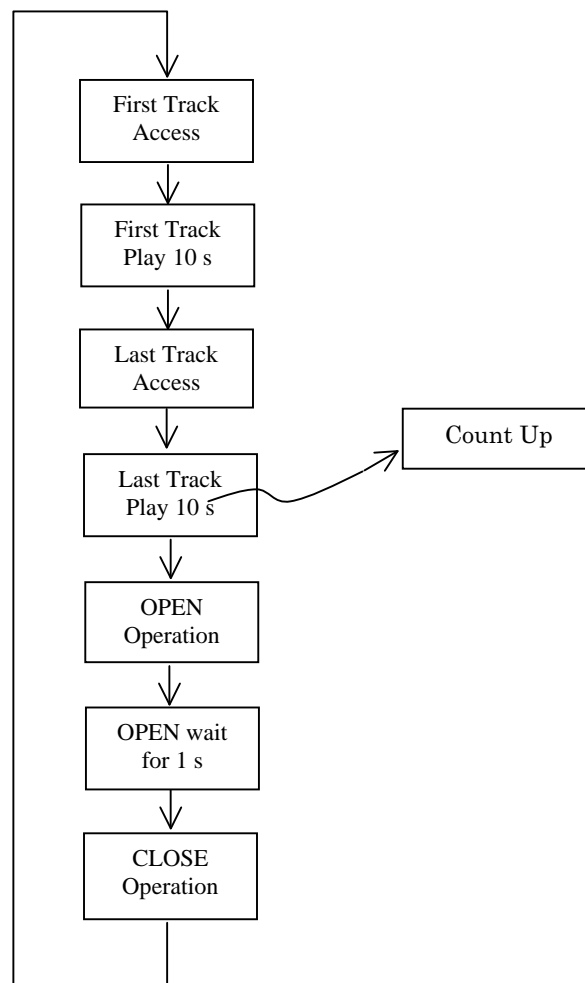
6.3.3. DLS6 Loading Test



6.3.4. DLS6 Traverse Test



6.3.5. DLS6 Combination Test



7 Troubleshooting Guide

Symptom	Checking items	Repair Items	Remark
No display after power-up	<ul style="list-style-type: none"> • Check AC supply to unit. • Check fuse, F5901. • Check +3.3V supply to micro-processor, IC800 (Pin 17,89) • Check +Vref to micro-processor, IC800 (Pin 100) • Check –VP supply to FL display and VDD/-VP supply to FL Driver IC (Pin 43/30) • Check oscillator circuit at X801/X802 	Change defective parts if found any abnormality: <ul style="list-style-type: none"> • F5901 • L801 • IC800 • L800 • IC800 • FL900 • IC900 • L900 • X801/X802 	Main / Transformer P.C.B
No CD operation	<ul style="list-style-type: none"> • Check +3.3V supply to Servo-Processor IC • Check Pin 56, 59 of Servo-Processor IC for output • Check +7.5V supply to IC7002 • Check Traverse & spindle motor operation. • Check output for traverse/spindle at Pin 21, 23 of IC7001 • Check Pin 80, 81 of IC7001 for the oscillator clock circuit (X7201) 	Change defective parts if found any abnormality: <ul style="list-style-type: none"> • IC7001 • IC7002 • Traverse assembly • X7201 	CD Servo P.C.B

Symptom	Checking items	Repair Items	Remark
No audio sound output.	<ul style="list-style-type: none"> • Check speaker connection to main unit. • Check solderability at speaker jack, JK501. • Check output of Power IC, IC5101 (Pin 2, 4, 10, 12) • Check supply VCC to IC5101 • Check FP5901 for open circuit. • Check output of ASP IC, IC301 (Pin 21, 22) • Check supply voltage +9V to ASPC IC, IC301 • Check pin 64 of IC800 (ASP_CLK) • Check pin 9 of Power IC (Muting always 'ON') • Check pin 90 of IC800 (Muting always 'ON') 	Change defective parts if found any abnormality: <ul style="list-style-type: none"> • IC5101 • FP5901 • L5109, L5110, L5111, L5112 • IC301 • IC800 	Main / Power P.C.B
No headphone output	<ul style="list-style-type: none"> • Check solderability of JK951 • Check connection between Main P.C.B & Headphone P.C.B • Check Q222 & Q750 (Muting always 'ON') • Check Pin 5 of IC800 (Muting always 'ON') • Check Pin 1, 7 of IC700 • Check output of ASP IC, IC301 (Pin 21, 22) • Check supply voltage +9V to ASPC IC, IC301 	Change defective parts if found any abnormality: <ul style="list-style-type: none"> • JK951 • L951, L953 • Q222 • IC700 • IC301 	Main / Headphone P.C.B

8 Service Fixture & Tools

Prepare service tools before process service position.

Service Tools		Remarks
Panel P.C.B. (CN900) - Main P.C.B. (CN451)	REEX1021 (10P FFC)	

9 Disassembly and Assembly Instructions

Caution Note:

- This section describes the disassembly and/or assembly procedures for all major printed circuit boards & main components for the unit. (You may refer to the section of “Main components and P.C.B Locations” as described in the service manual)
- Before carrying out the disassembly process, please ensure all the safety precautions & procedures are followed.
- During the disassembly and/or assembly process, please handle with care as there may be chassis components with sharp edges.
- Avoid touching heatsinks due to its high temperature after prolong use. (See caution as described below)

**CAUTION: HOT!!
PLEASE DO NOT
TOUCH THE HEAT SINK**

- During disassembly and assembly, please ensure proper service tools, equipments or jigs is being used.
- During replacement of component parts, please refer to the section of “Replacement Parts List” as described in the service manual.
- Select items from the following indexes when disassembly or replacement are required.

- Disassembly of Top Cabinet Assembly
- Disassembly of Headphone P.C.B.
- Disassembly of Front Panel Assembly
- Disassembly of USB P.C.B.
- Disassembly of Panel P.C.B.
- Disassembly of FL Window
- Disassembly of Centre Ornament
- Disassembly of CD Lid
- Disassembly of Main P.C.B.
- Disassembly of Power P.C.B.
- Replacement of Power Amp IC (IC5101)
- Disassembly of Transformer P.C.B.
- Replacement of Transistor (Q5901)
- Disassembly of CD Mechanism Unit (DLS6C)
- Disassembly of CD Servo P.C.B.

CAUTION NOTE:

Please use original screw and at correct locations.

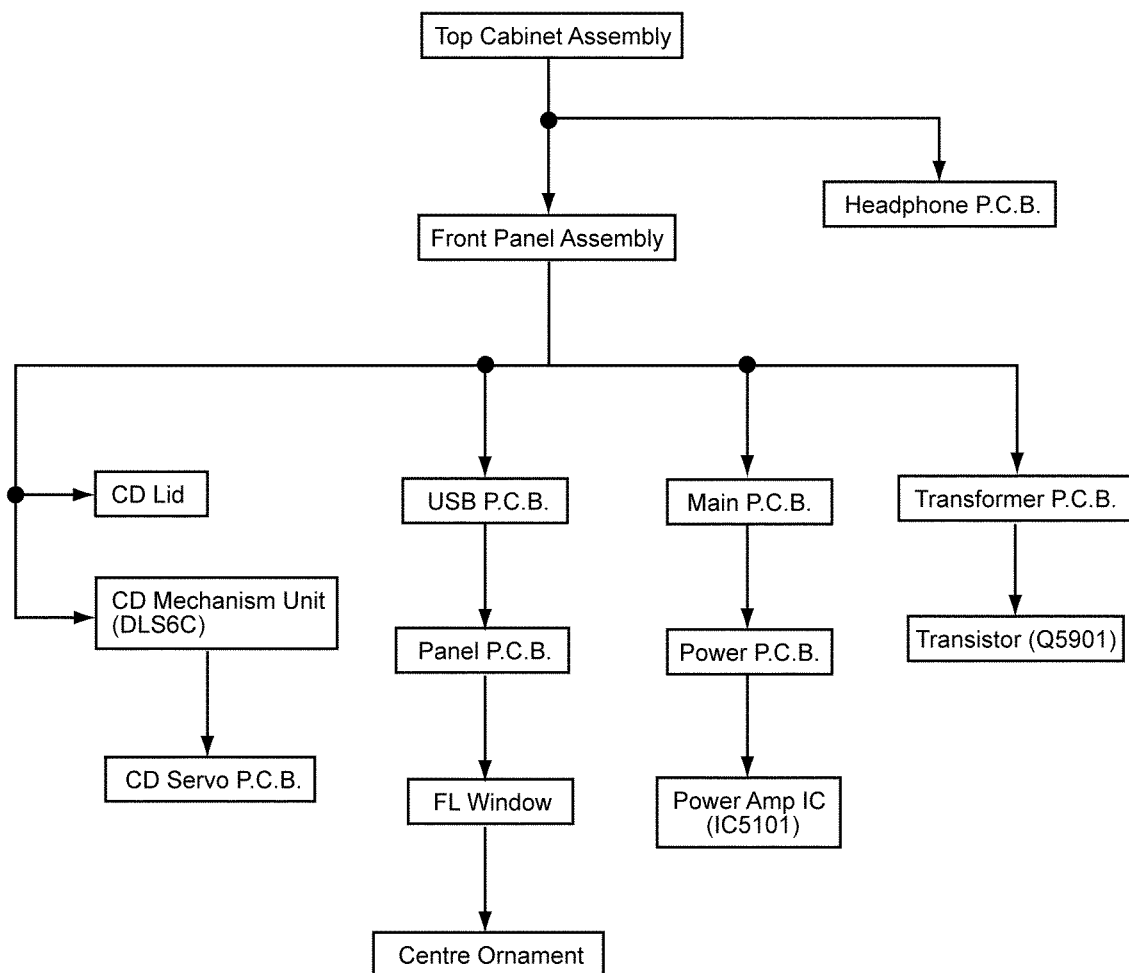
Below shown is part no. of different screw types used:

- a** : XTW3+10SFJ
- b** : XTB3+10JFJ
- c** : RHD26046-L
- e** : RHDC0023
- f** : RHDX03001
- g** : XTN2+6GFJ

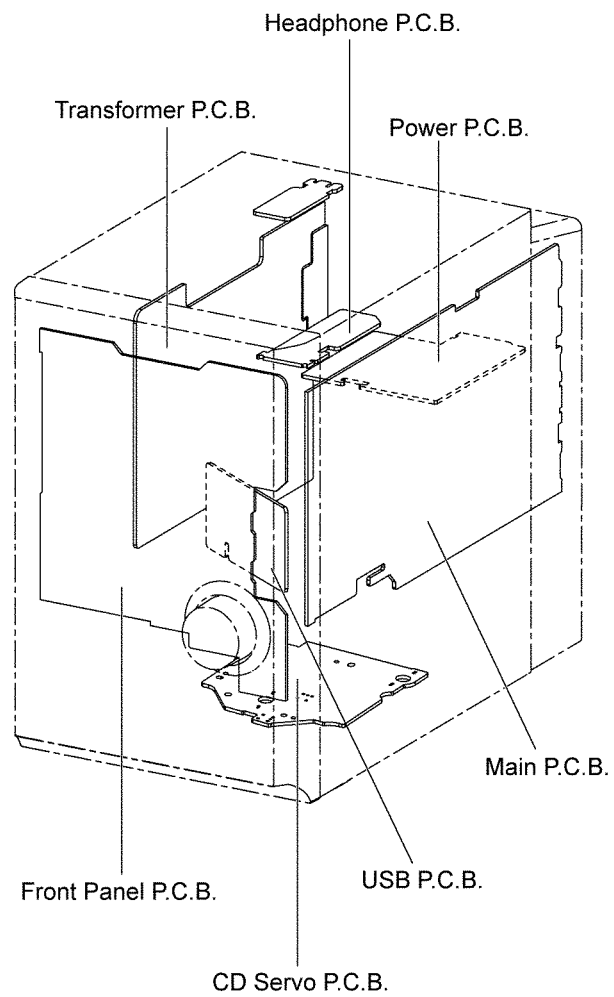
9.1. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart below.

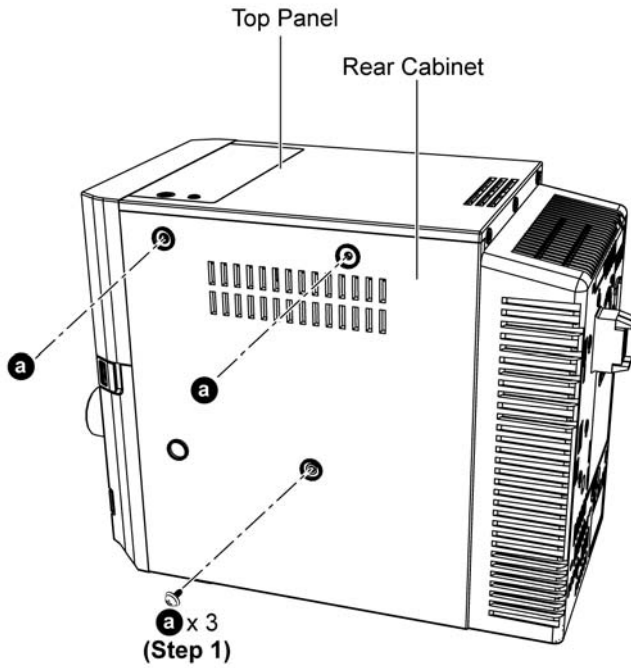


9.2. Main Parts Location Diagram

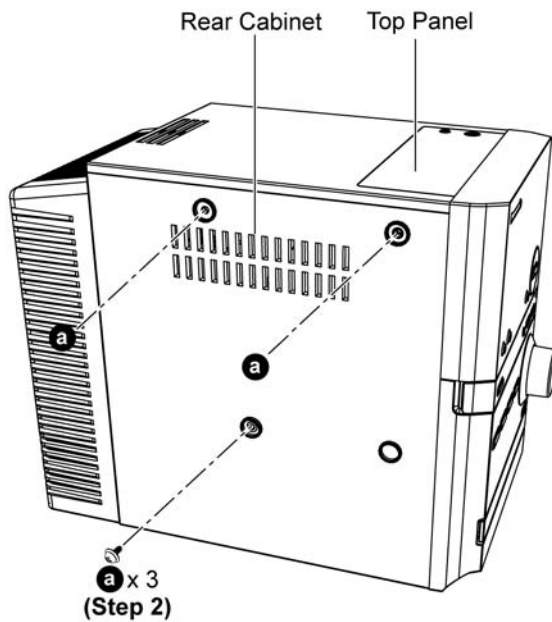


9.3. Disassembly of Top Cabinet Assembly

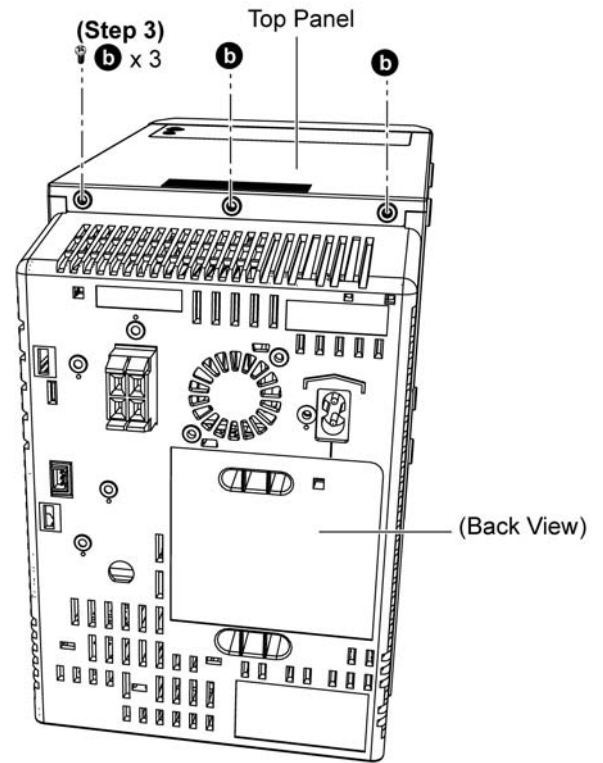
Step 1 : Remove 3 screws.



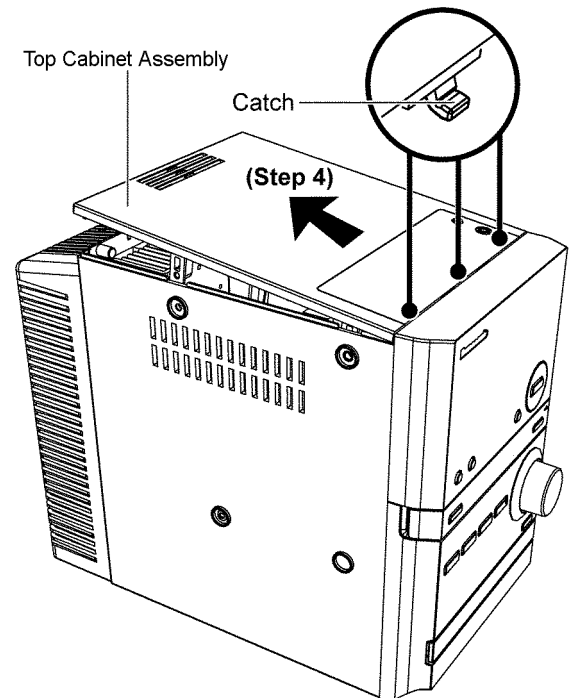
Step 2 : Remove 3 screws.



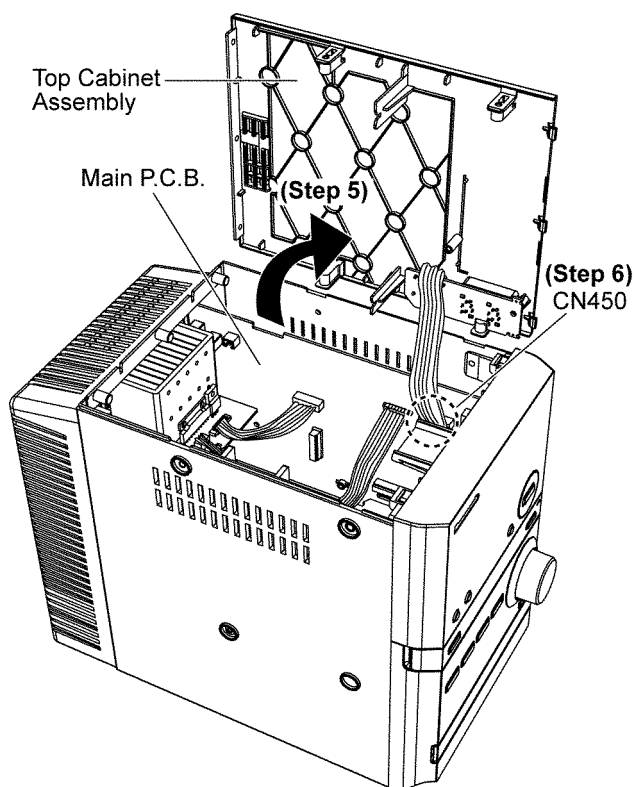
Step 3 : Remove 3 screws.



Step 4 : Lift up the Top Cabinet Assembly and remove it.
Caution : During assembling, ensure the Top Cabinet Assembly is seated properly.



Step 5 : Upset the Top Cabinet Assembly as arrow shown.
Step 6 : Detach 7P Cable at the connector (CN450) on Main P.C.B.

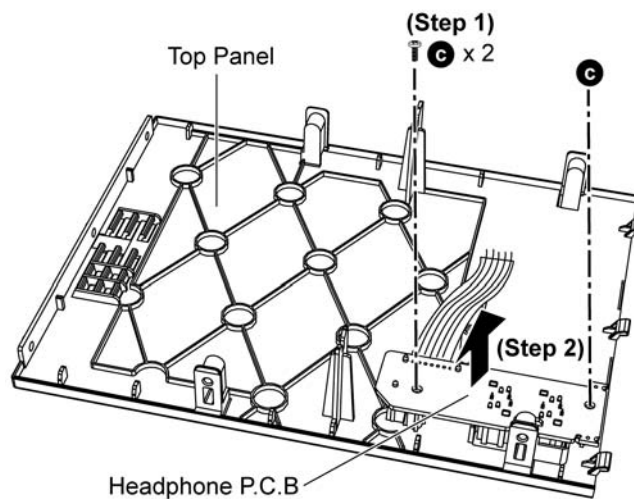


9.4. Disassembly of Headphone P.C.B.

• Refer to "Disassembly of Top Cabinet Assembly".

Step 1 : Remove 2 screws.

Step 2 : Remove the Headphone P.C.B.

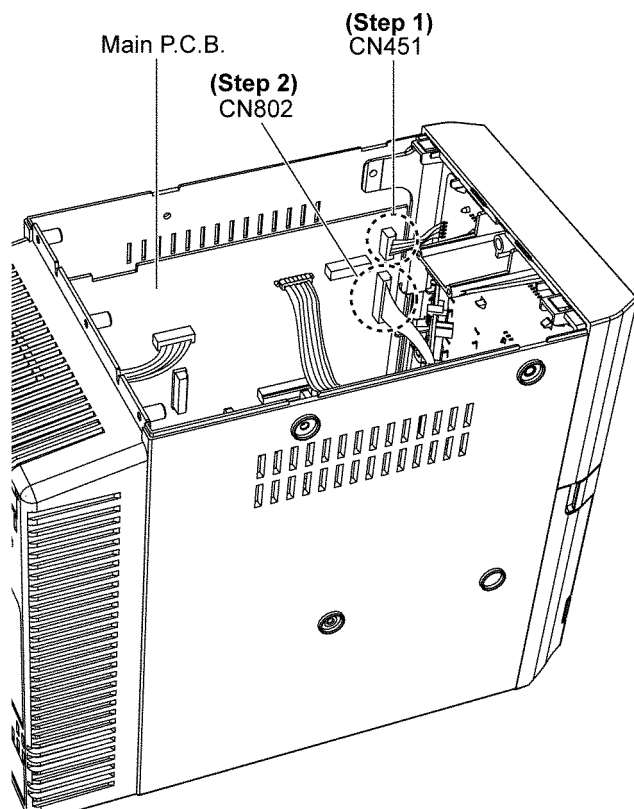


9.5. Disassembly of Front Panel Assembly

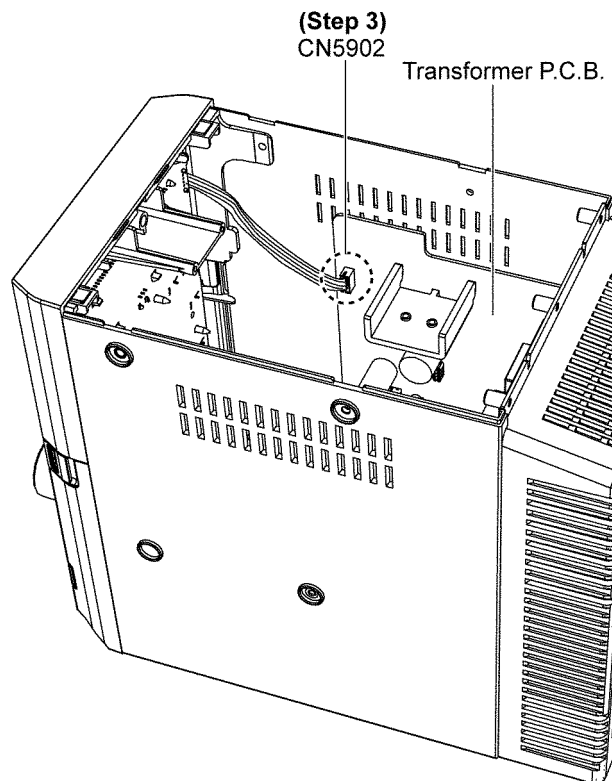
- Refer to "Disassembly of Top Cabinet Assembly".

Step 1 : Detach 10P FFC at the connector (CN451) on Main P.C.B.

Step 2 : Detach 22P FFC at the connector (CN802) on Main P.C.B.



Step 3 : Detach 4P Cable at the connector (CN5902) on Transformer P.C.B.

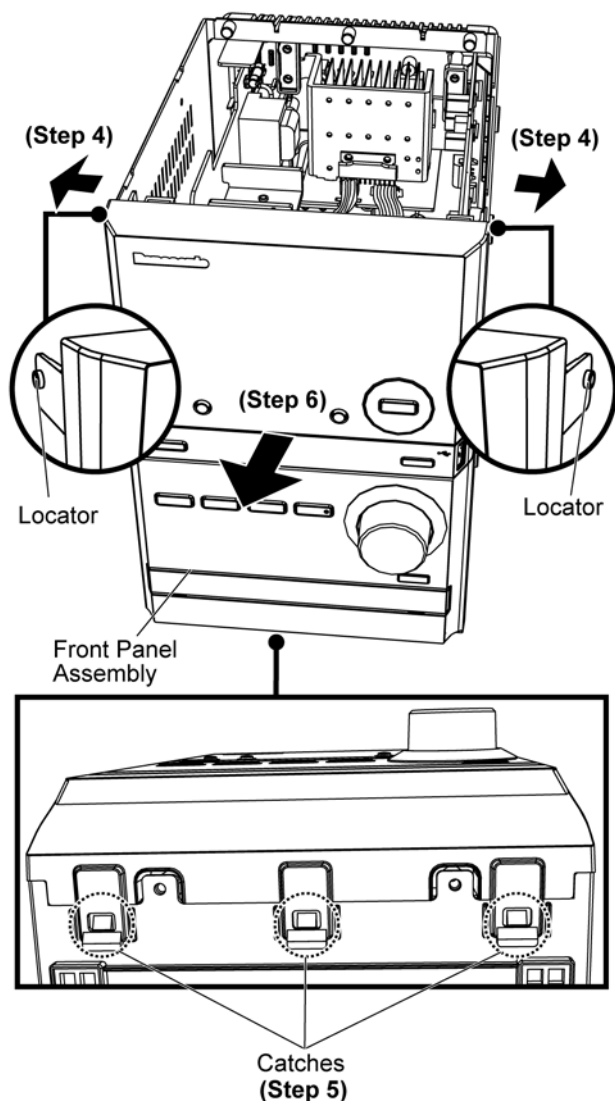


Step 4 : Release both locators.

Step 5 : Release 3 catches from the bottom.

Step 6 : Detach the Front Panel Assembly.

Caution : Do not attempt to exert strong force when detaching the Front Panel Assembly.

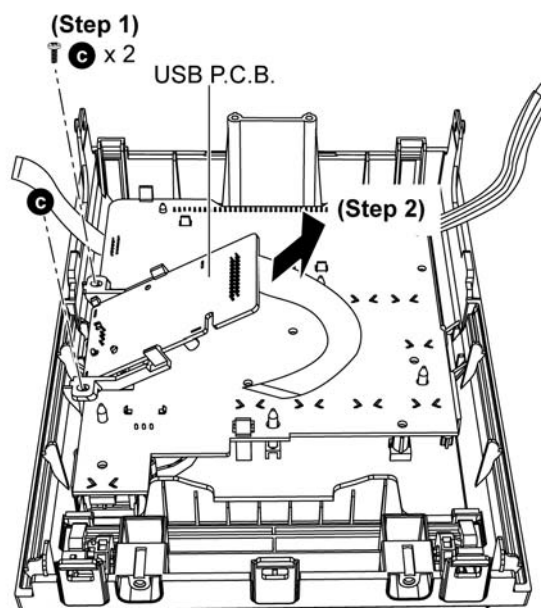


9.6. Disassembly of USB P.C.B.

- Refer to "Disassembly of Top Cabinet Assembly".
- Refer to "Disassembly of Front Panel Assembly".

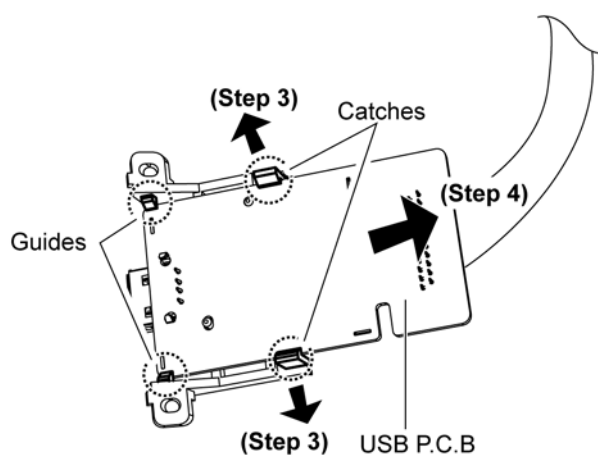
Step 1 : Remove 2 screws.

Step 2 : Remove USB assembly.

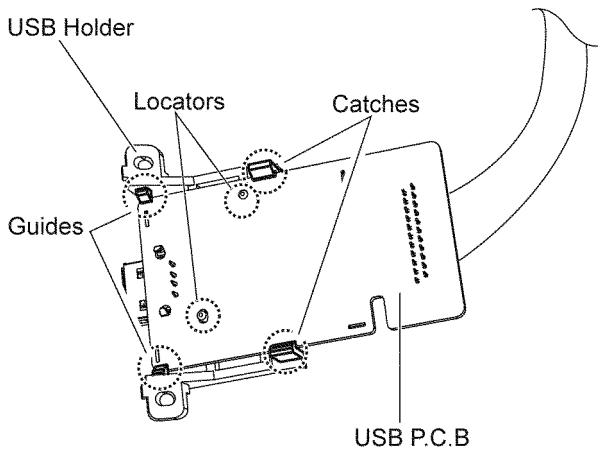


Step 3 : Release both catches as arrows shown.

Step 4 : Detach the USB P.C.B. as arrow shown to release from both guides.



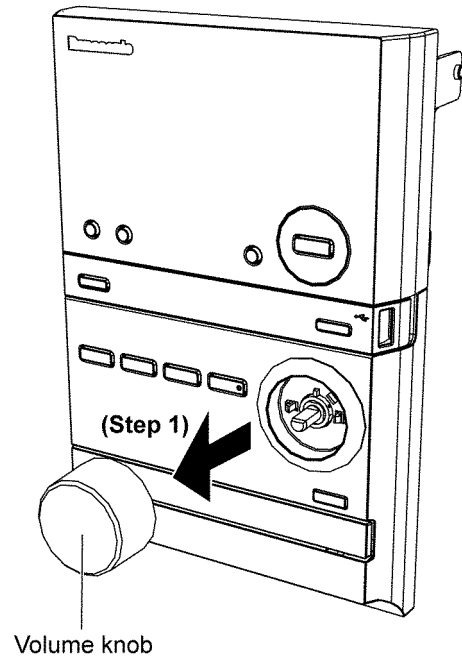
Caution : During assembling, ensure that USB P.C.B. is properly caught and seated on the guides/locators of the USB Holder.



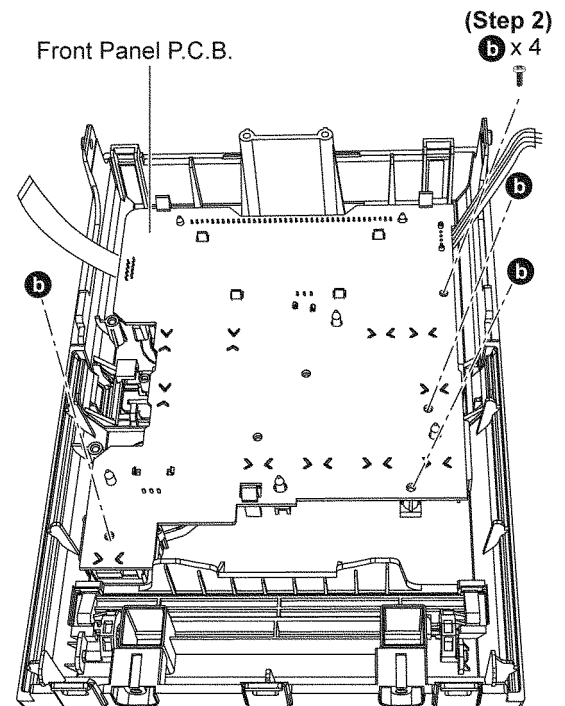
9.7. Disassembly of Panel P.C.B.

- Refer to "Disassembly of Top Cabinet Assembly".
- Refer to "Disassembly of Front Panel Assembly".
- Refer to (Step 1) of Item 9.6.

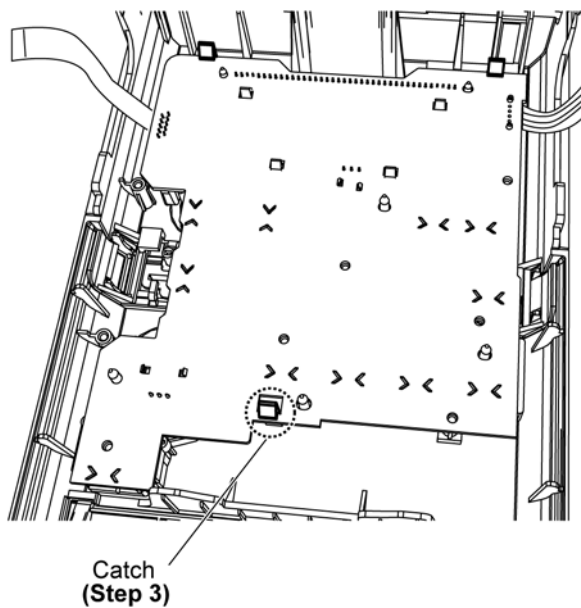
Step 1 : Remove Volume knob.



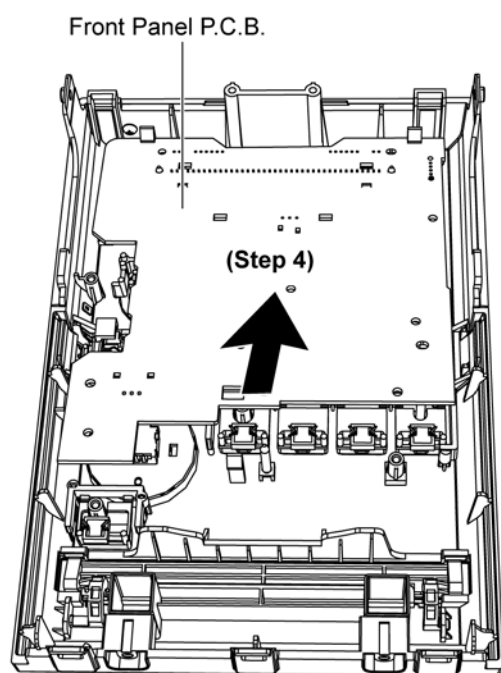
Step 2 : Remove 4 screws.



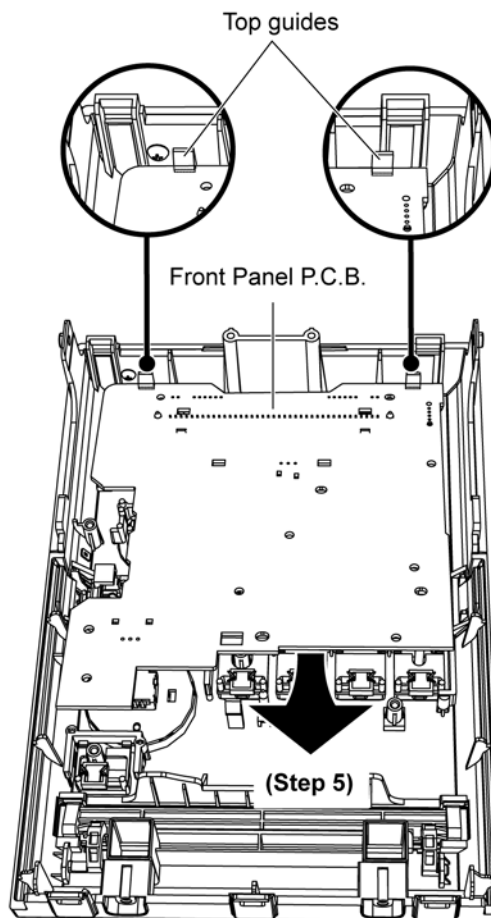
Step 3 : Release catch.



Step 4 : Slightly lift up the Panel P.C.B..

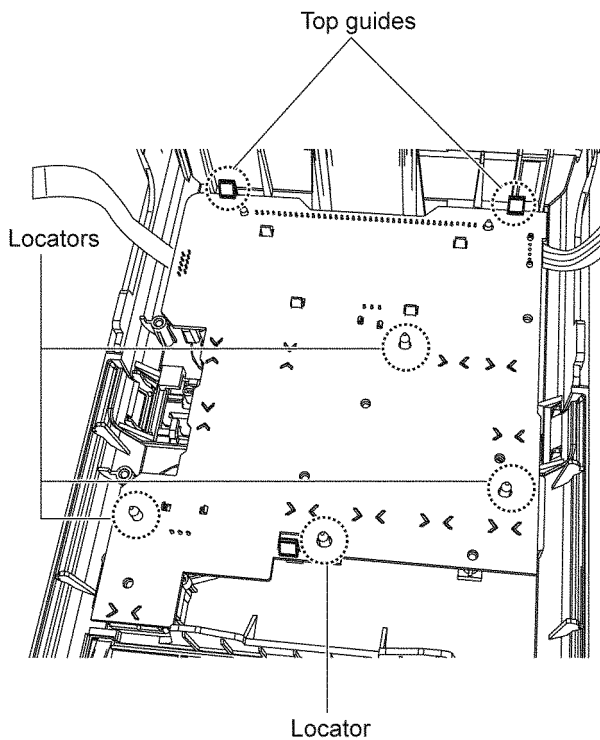


Step 5 : Slot out from top guides and remove the Panel P.C.B. as arrow shown.



Caution 1 : During assembling, ensure that Panel P.C.B. is slot under the top guides. A “click” sound will be heard when fully caught.

Caution 2 : During assembling, ensure that Panel P.C.B. seated properly on the 4 locators.

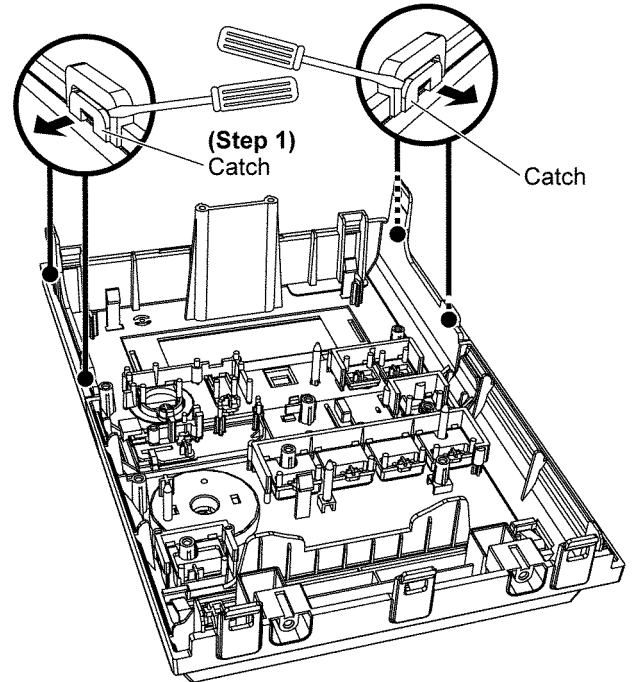


9.8. Disassembly of FL Window

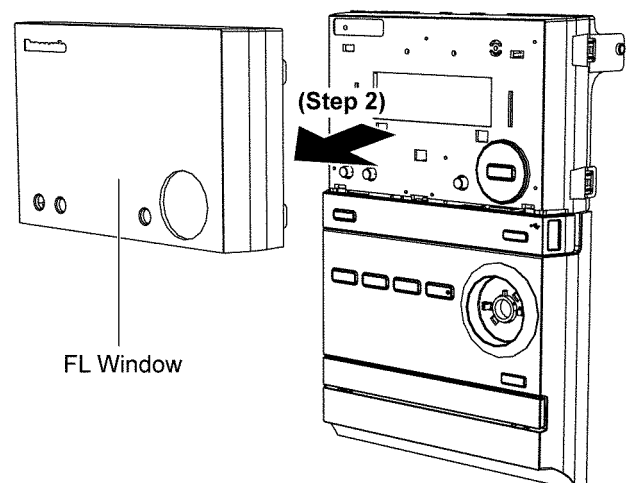
- Refer to “Disassembly of Top Cabinet Assembly”.
- Refer to “Disassembly of Front Panel Assembly”.
- Refer to (Step 1) of Item 9.6.
- Refer to “Disassembly of Panel P.C.B.”.

Step 1 : Release all catches by pushing the edge of the catches as arrows shown.

Caution : Do not apply strong force during the release of catches to avoid damage to the Front Panel Assembly & FL Window.



Step 2 : Remove the FL Window as shown.

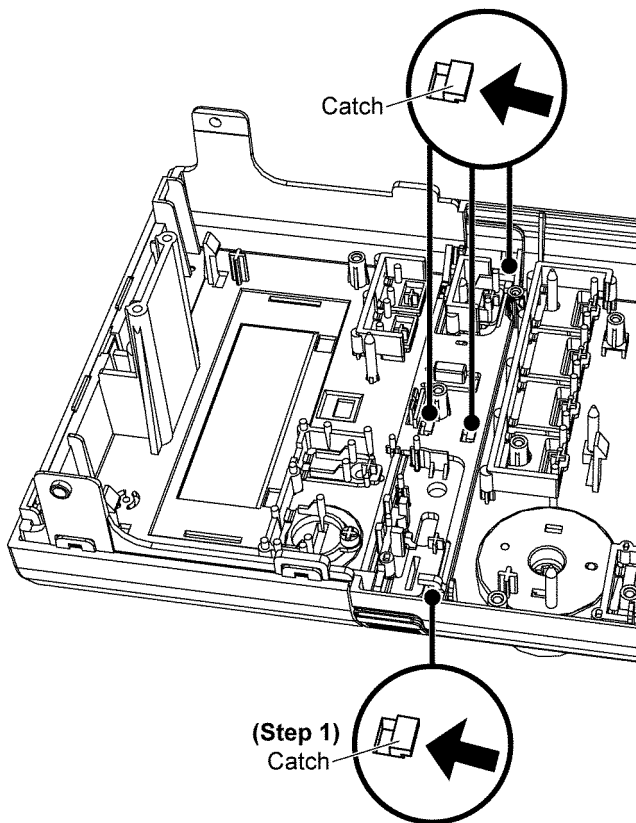


9.9. Disassembly of Centre Ornament

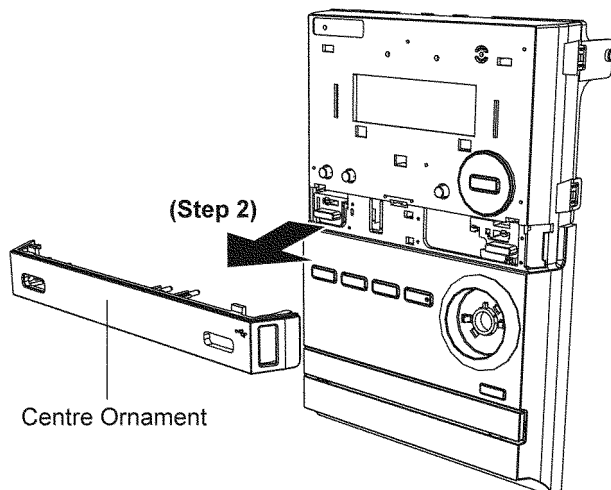
- Refer to "Disassembly of Top Cabinet Assembly".
- Refer to "Disassembly of Front Panel Assembly".
- Refer to (Step 1) of Item 9.6.
- Refer to "Disassembly of Panel P.C.B.".
- Refer to "Disassembly of FL Window".

Step 1 : Release all catches as arrows shown.

Caution : During assembling, ensure that Centre Ornament is properly caught to the Front Panel Assembly.



Step 2 : Remove the Centre Ornament as shown.

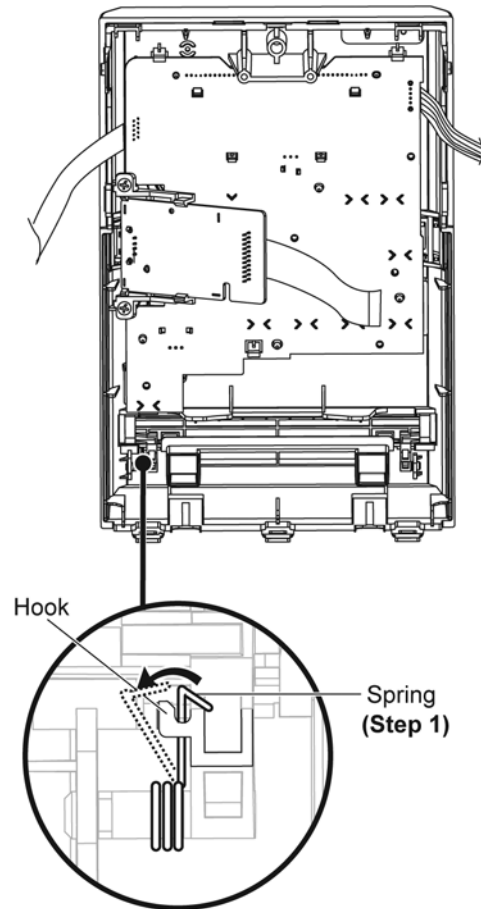


9.10. Disassembly of CD Lid

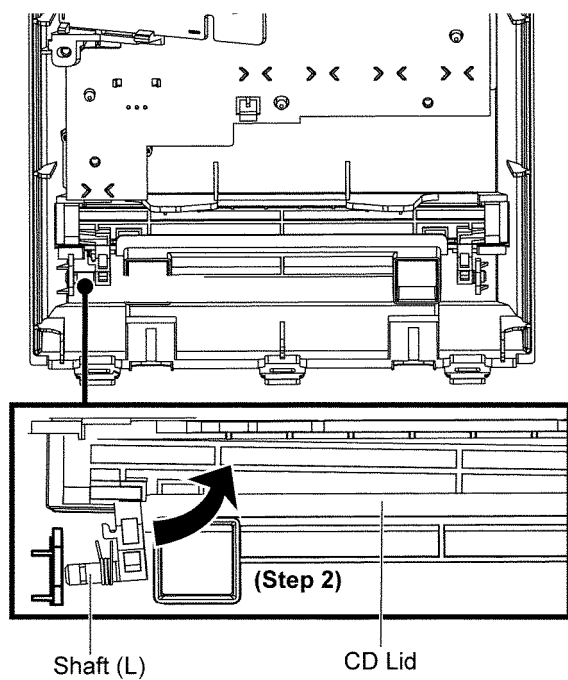
- Refer to "Disassembly of Front Panel Assembly".

Step 1 : Lift the spring out of the hook as arrow shown.

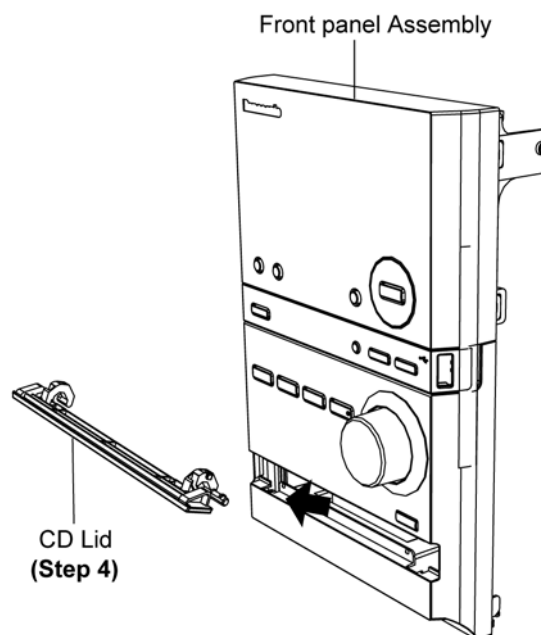
Caution : Keep the spring in a safe place for assembling it back.



Step 2 : Move the shaft (L) of the CD Lid in the direction of arrow shown.

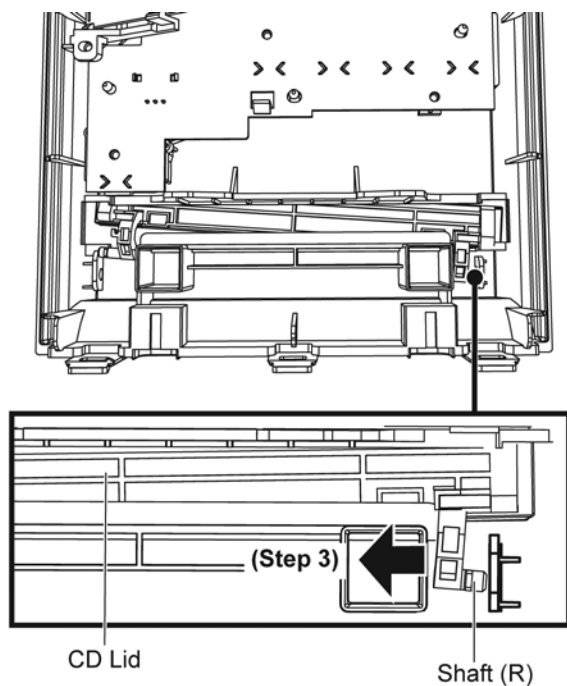


Step 4 : Remove the CD Lid in the direction of arrow shown.



Step 3 : Move the shaft (R) of the CD Lid in the direction of arrow shown.

Caution : Do not exert strong force to the shafts during removal and assembly of the CD Lid.



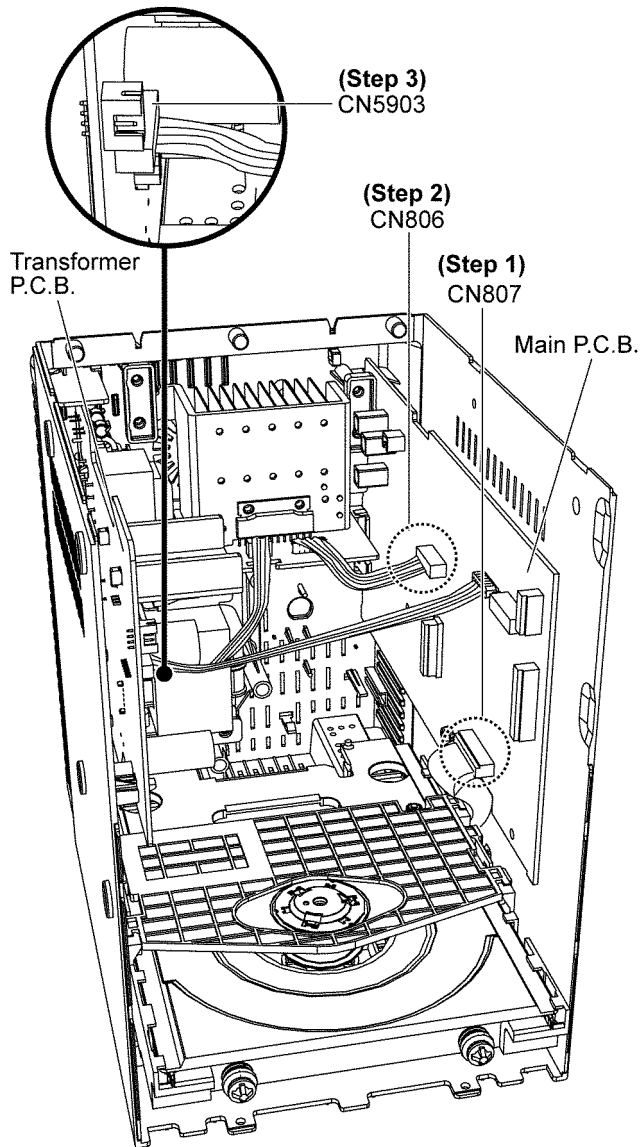
9.11. Disassembly of Main P.C.B.

- Refer to “Disassembly of Top Cabinet Assembly”.
- Refer to “Disassembly of Front Panel Assembly”.

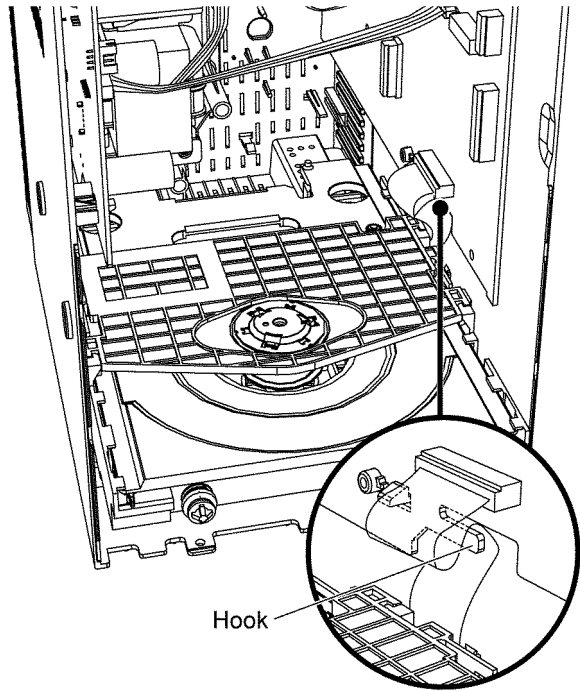
Step 1 : Detach 22P FFC at the connector (CN807) on Main P.C.B.

Step 2 : Detach 6P Cable at the connector (CN806) on Main P.C.B.

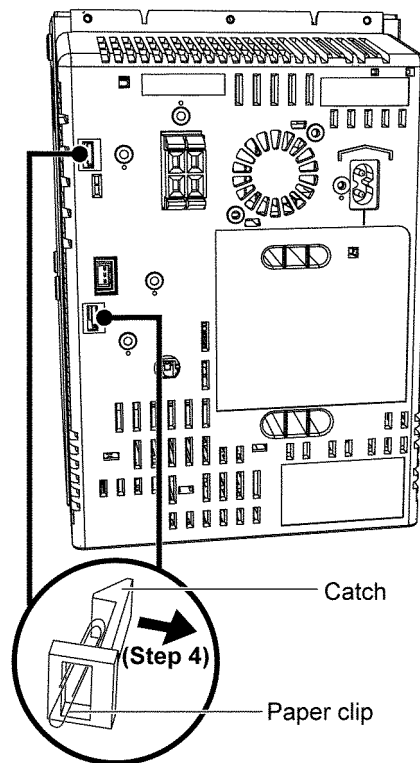
Step 3 : Detach 7P Cable at the connector (CN5903) on Transformer P.C.B.



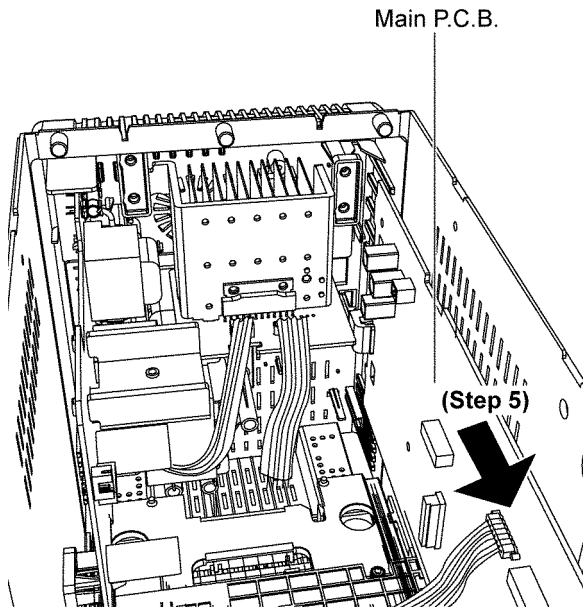
Caution : During assembling, ensure the 22P FFC properly dressed into the hook of Main P.C.B..



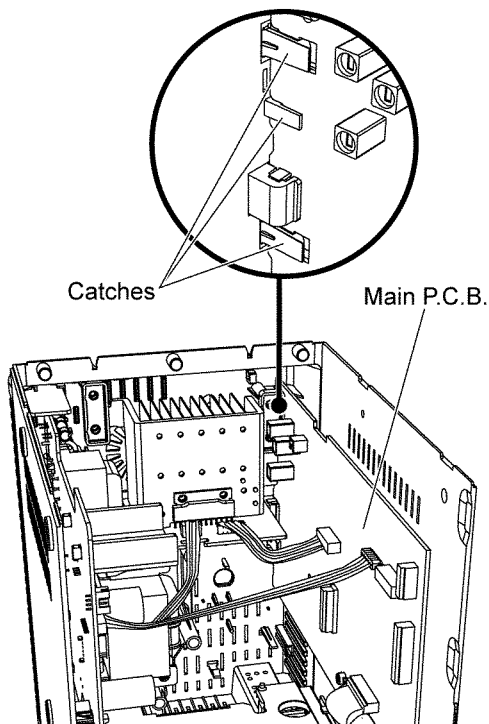
Step 4 : Use a paper clip to release both catches.



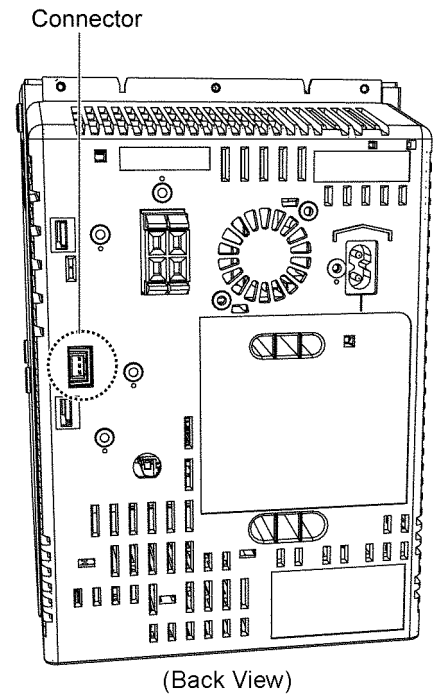
Step 5 : Remove the Main P.C.B. as shown.



Caution 1 : During assembling, ensure that Main P.C.B. is properly caught.



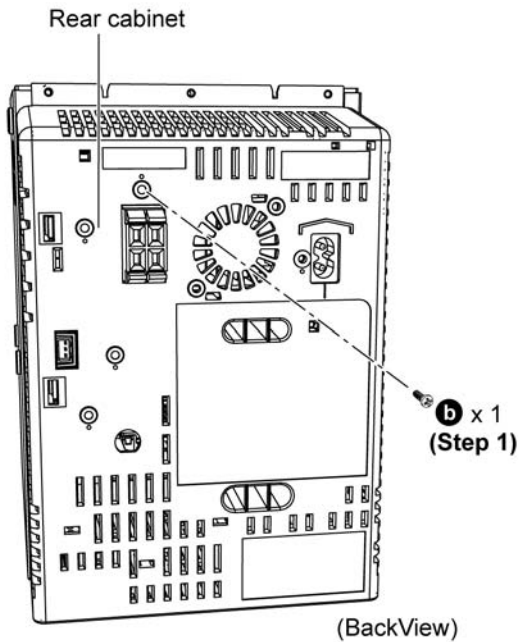
Caution 2 : During assembling, ensure the connector is fixed properly.



9.12. Disassembly of Power P.C.B.

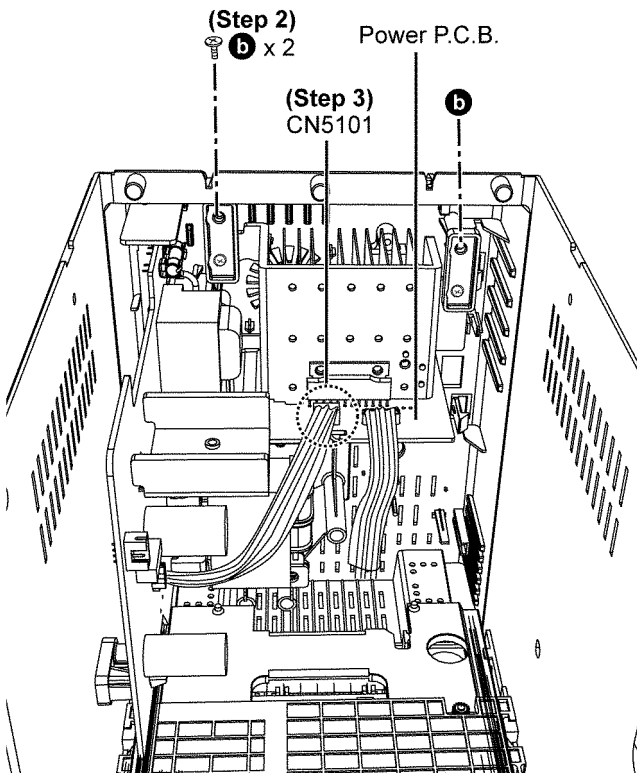
- Refer to “Disassembly of Top Cabinet Assembly”.
- Refer to “Disassembly of Front Panel Assembly”.
- Refer to “Disassembly of Main P.C.B.”.

Step 1 : Remove 1 screw.



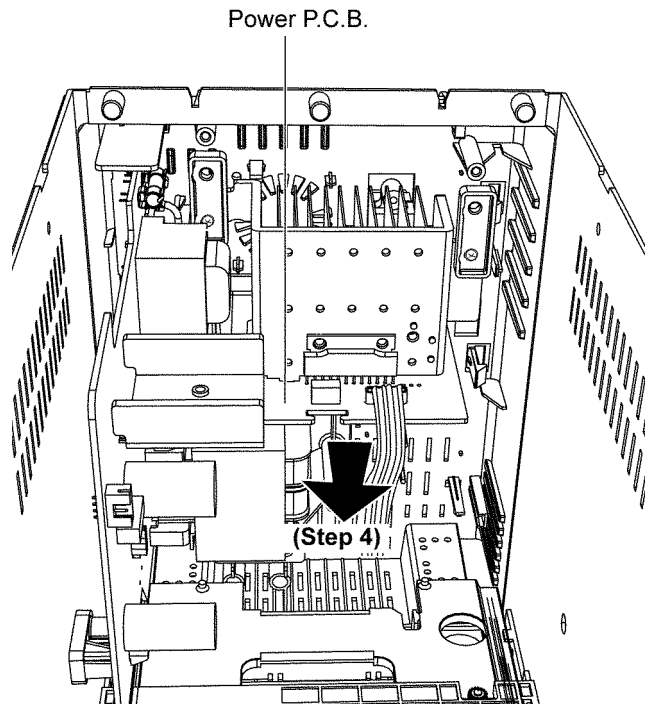
Step 2 : Remove 2 screws.

Step 3 : Detach 4P Cable at the connector (CN5101) on Power P.C.B.

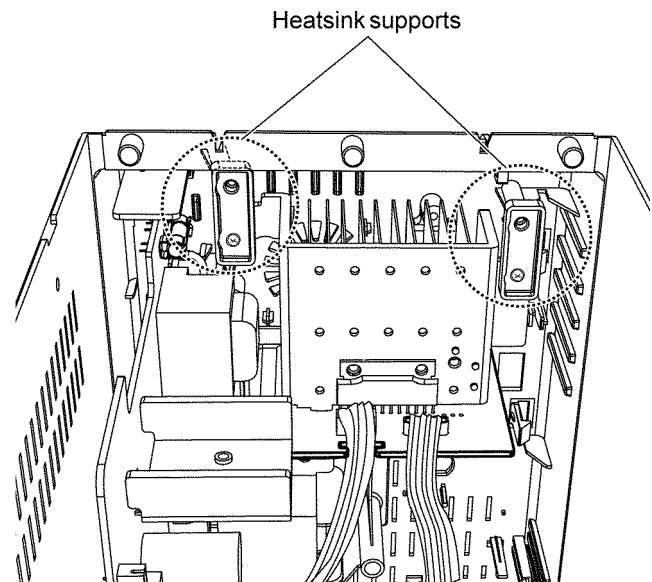


Step 4 : Remove the Power P.C.B.

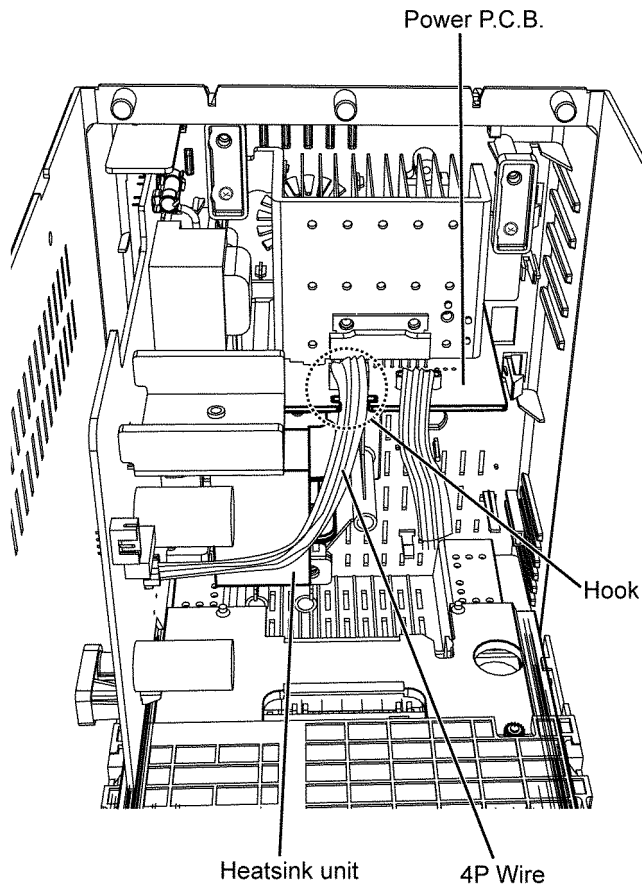
Caution : Handle the heatsink unit and P.C.B. with caution due to its high temperature after prolonged use. Touching it may lead to injuries.



Caution 1 : Ensure the heatsink supports are seated properly.



Caution 2 : Ensure the 4P wire from Transformer P.C.B. is properly dressed into the hook of Power P.C.B. and prevent touching the heatsink unit.

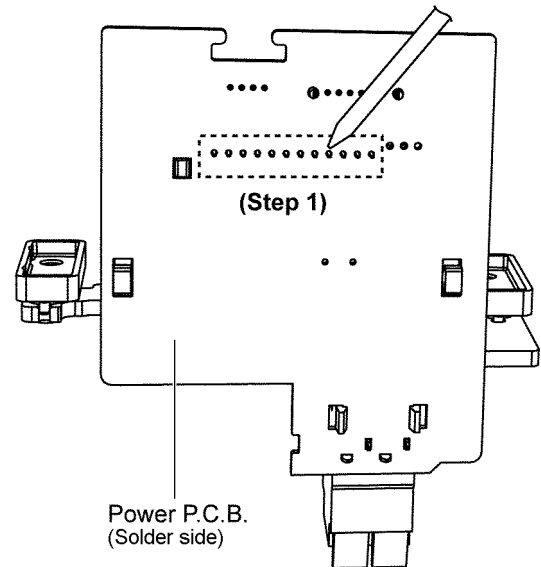


9.13. Replacement of Power Amp IC (IC5101)

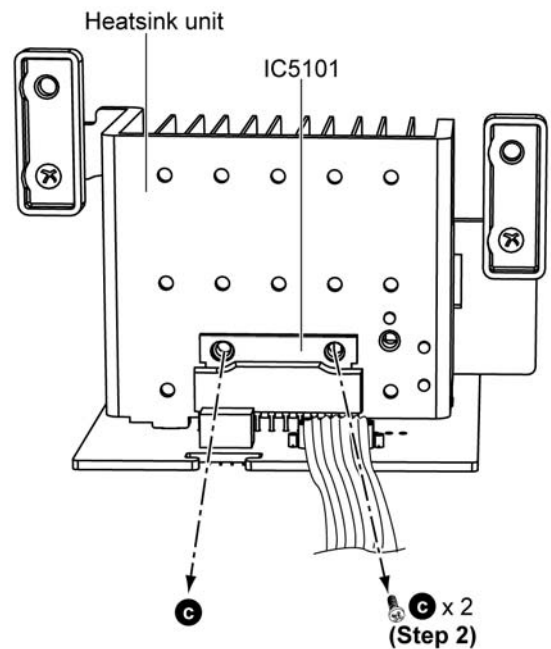
- Refer to "Disassembly of Power P.C.B.".

Caution : Handle the heatsink unit and P.C.B. with caution due to its high temperature after prolonged use. Touching it may lead to injuries.

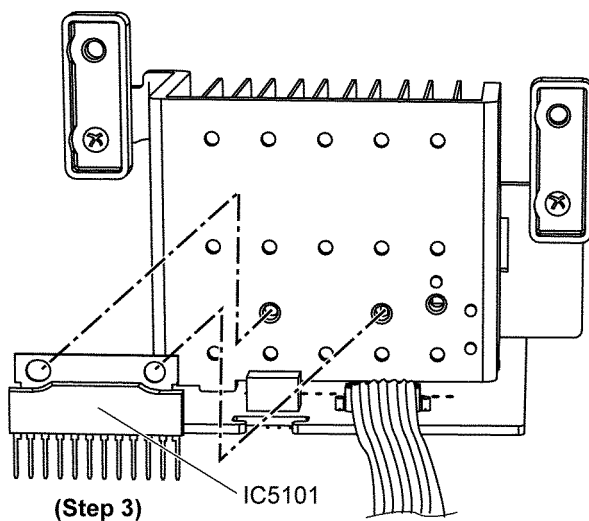
Step 1 : Desolder pins of Power Amp IC (IC5101) .



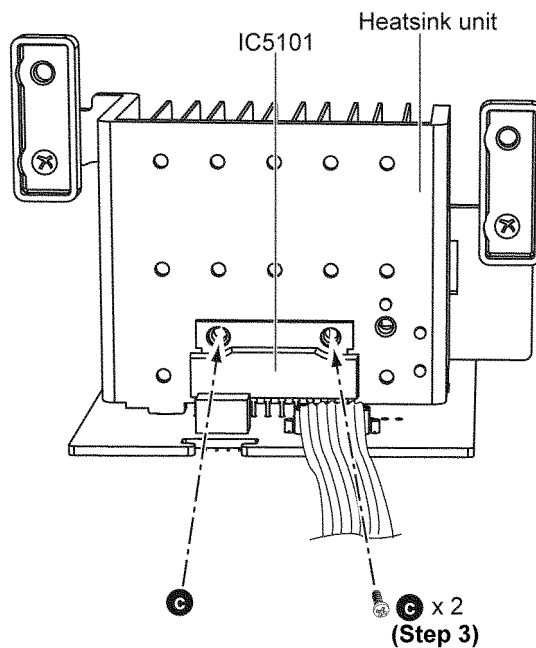
Step 2 : Remove 2 screws.



Step 3 : Remove Power Amp IC (IC5101).



Step 3 : Fix the Power Amp IC (IC5101) onto the heatsink unit with 2 screws.

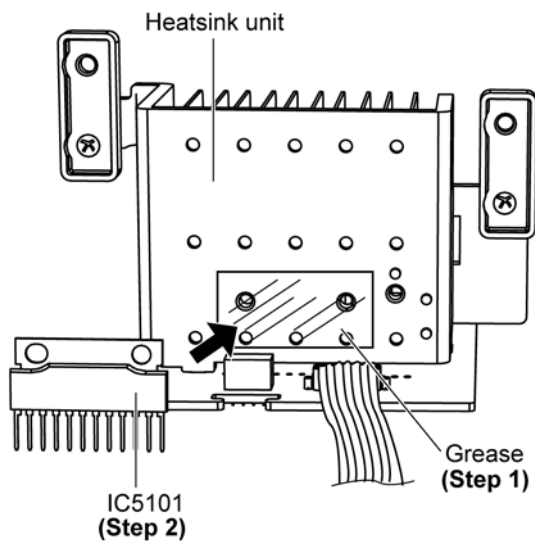


• **Assembly of Power Amp IC (IC5101)**

Step 1 : Apply grease to the heatsink unit.

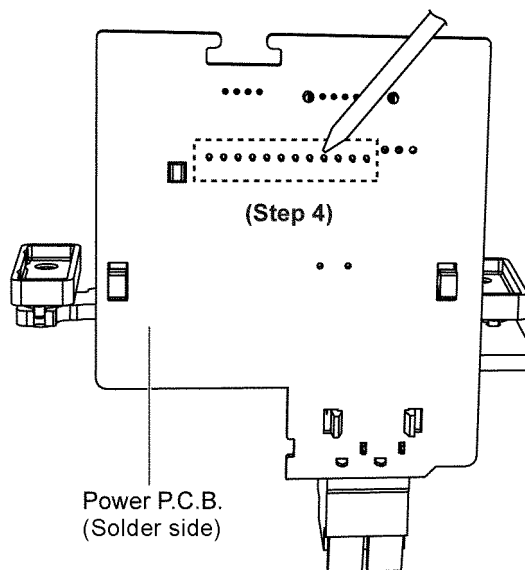
Step 2 : Install Power Amp IC (IC5101) onto Power P.C.B.

Caution : Ensure the Power Amp IC (IC5101) is seated properly on the Power P.C.B.



Step 4 : Solder pins of the Power Amp IC (IC5101).

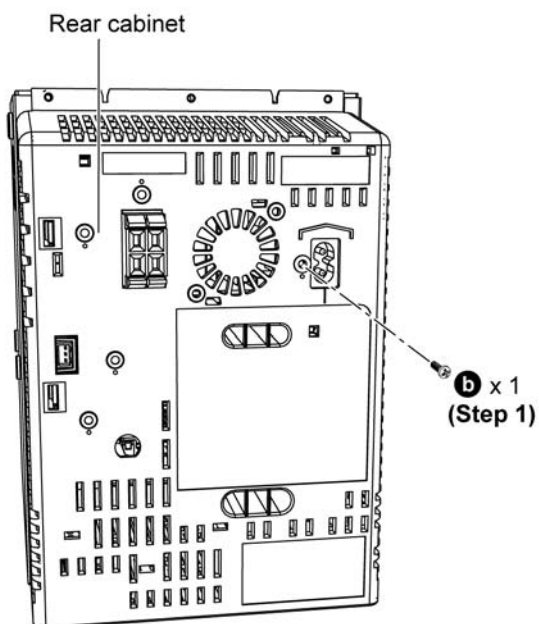
Caution : Check for solderability of the Power Amp IC (IC5101).



9.14. Disassembly of Transformer P.C.B.

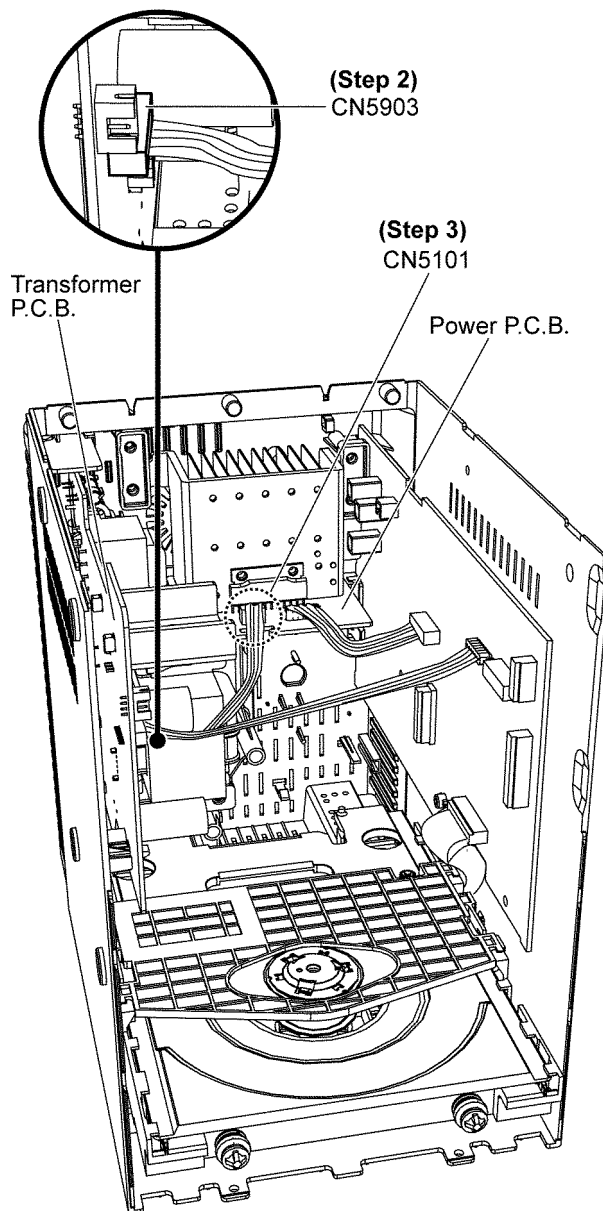
- Refer to "Disassembly of Top Cabinet Assembly".
- Refer to "Disassembly of Front Panel Assembly".

Step 1 : Remove 1 screw.



Step 2 : Detach 7P Cable at the connector (CN5903) on Transformer P.C.B.

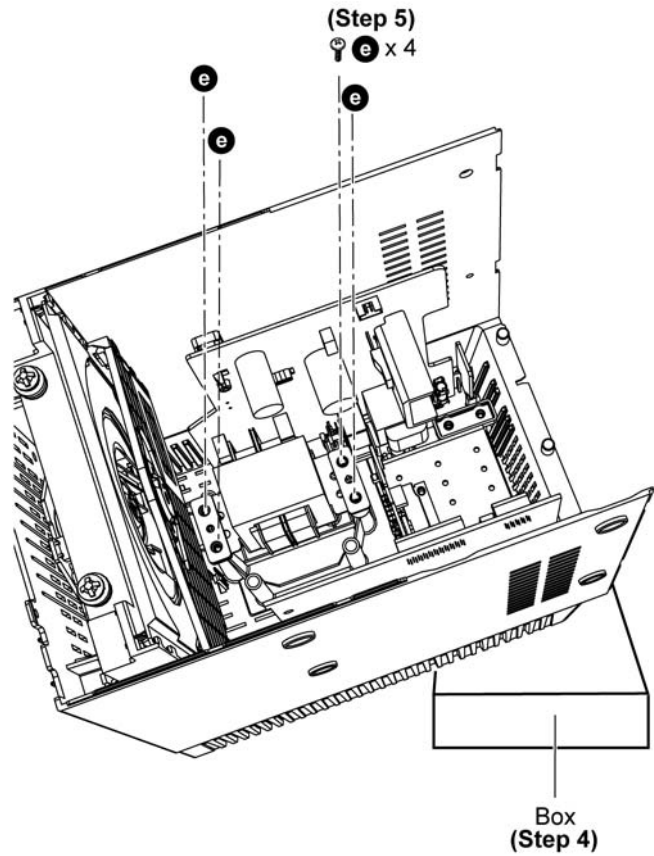
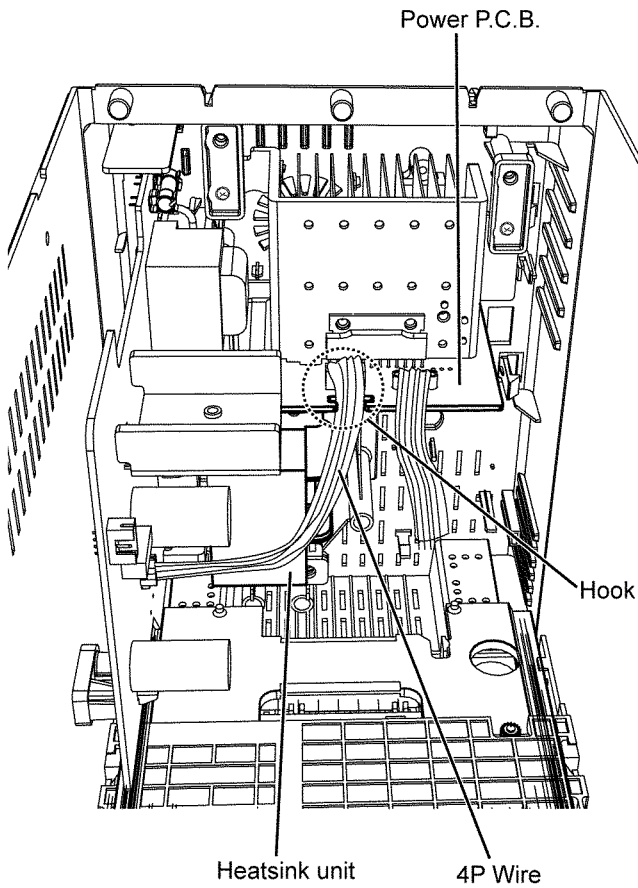
Step 3 : Detach 4P Cable at the connector (CN5101) on Power P.C.B.



Caution 1 : Ensure the 4P wire from Transformer P.C.B. is properly dressed into the hook of Power P.C.B. and prevent touching the heatsink unit.

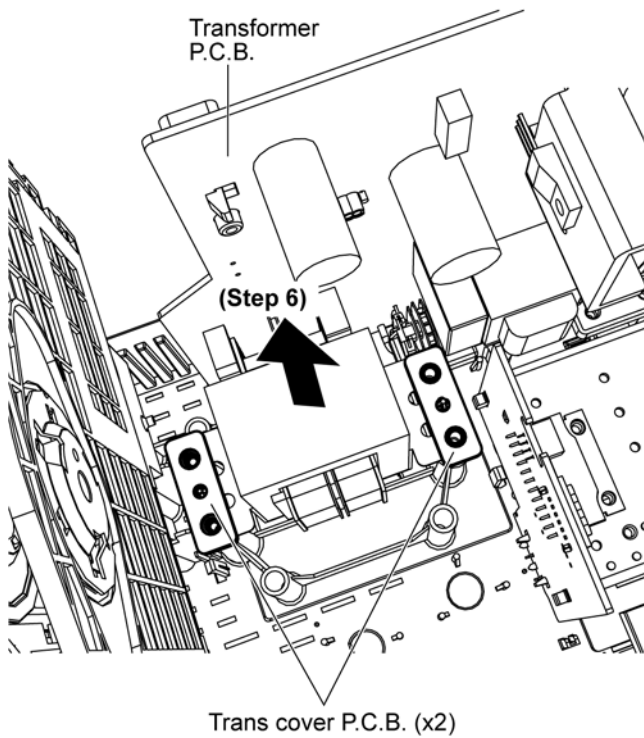
Step 4 : Place a support block to tilt the unit as shown.

Step 5 : Remove 2 screws.



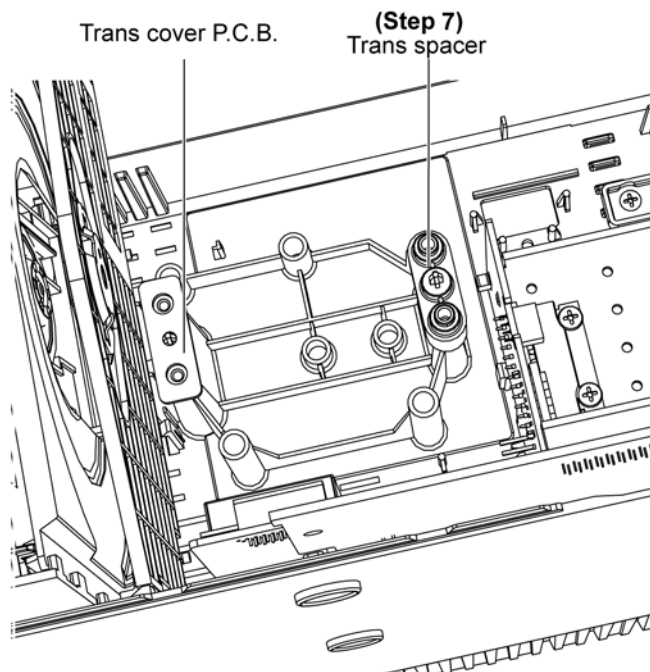
Step 6 : Remove the Transformer P.C.B. as shown.

Caution : Keep the Trans cover P.C.B. in safe place for assembling use.



Step 7 : Remove Trans cover P.C.B. and Transformer spacer.

Caution : Keep the Trans cover P.C.B. and Transformer spacer in safe place for assembling use.



9.15. Replacement of Transistor (Q5901)

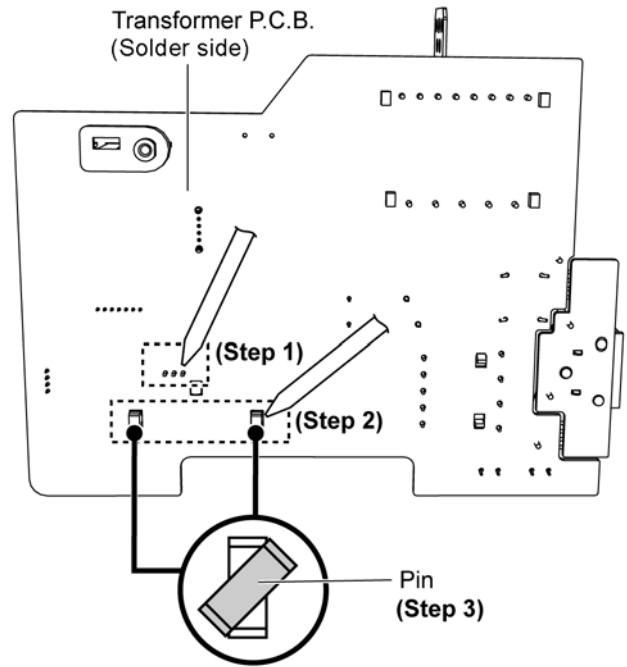
• Refer to "Disassembly of Transformer P.C.B.".

Caution : Handle the heatsink unit and P.C.B. with caution due to its high temperature after prolonged use. Touching it may lead to injuries.

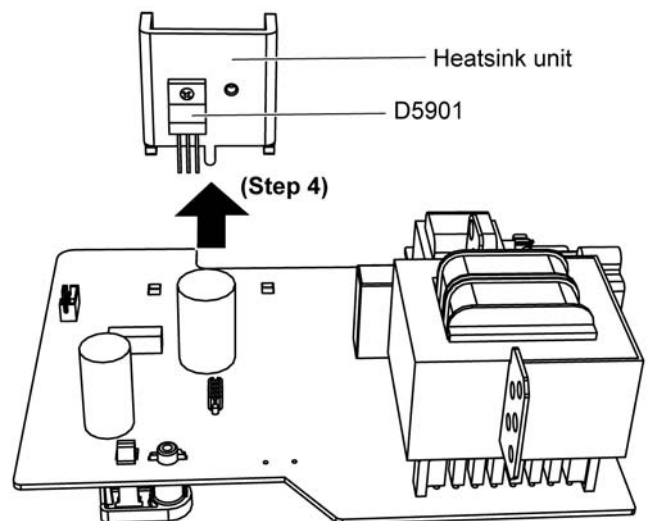
Step 1 : Desolder pins of Transistor (Q5901).

Step 2 : Desolder pins of heatsink unit .

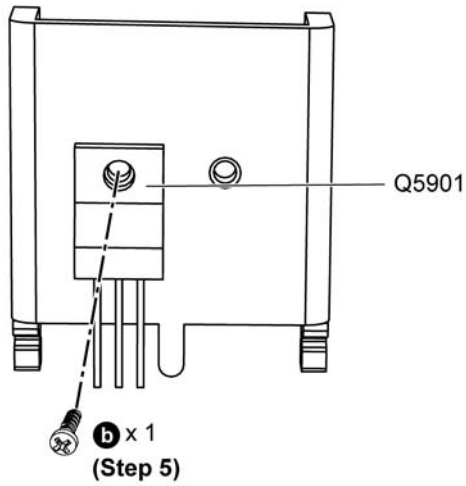
Step 3 : Twist the pins of heatsink unit by 45° in an anti-clockwise or clockwise direction.



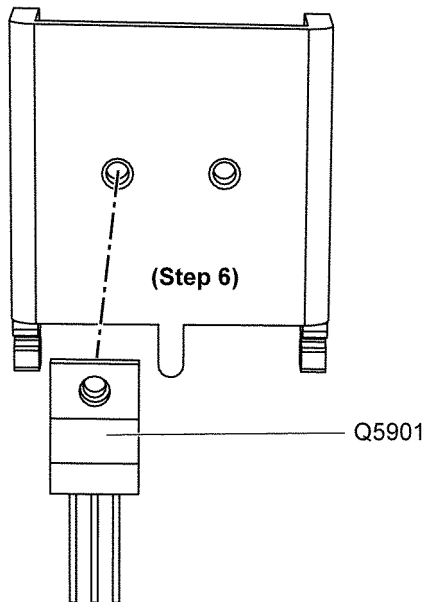
Step 4 : Remove heatsink unit and Transistor (Q5901) as shown.



Step 5 : Remove 1 screw.

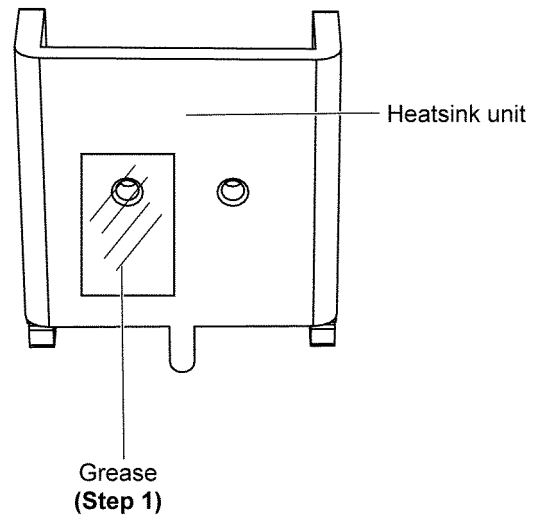


Step 6 : Remove the Transistor (Q5901).



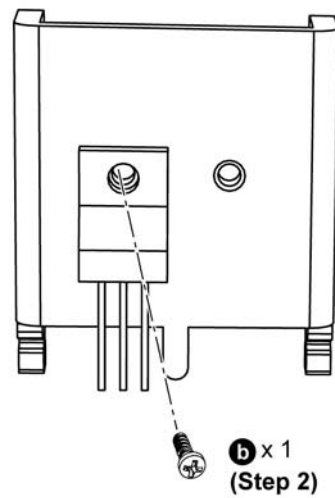
• **Assembly of Transistor (Q5901)**

Step 1 : Apply grease to the heatsink unit.

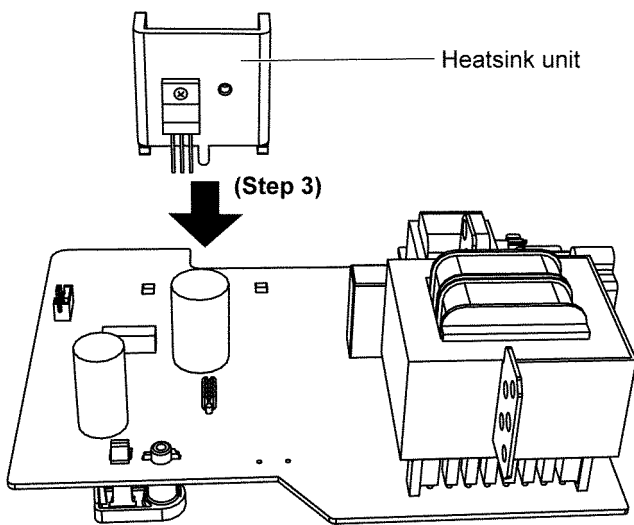


Step 2 : Fix and screw the Transistor (Q5901) to the heatsink unit.

Caution : Ensure the Transistor (Q5901) is tightly screwed to the heatsink unit.



Step 3 : Mount the heatsink unit with Transistor (Q5901) on the Transformer P.C.B.

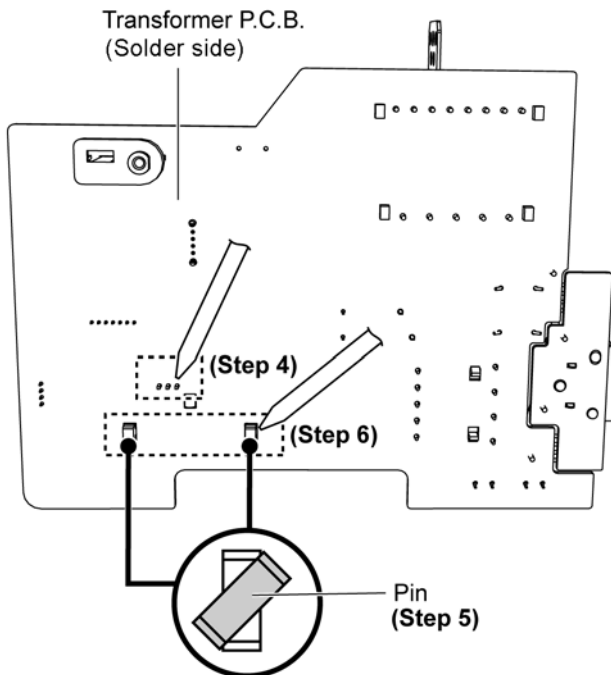


Step 4 : Solder pins of the Transistor (Q5901).

Step 5 : Twist the pins of heatsink unit by 45° in an anti-clockwise or clockwise direction.

Step 6 : Solder pins of the heatsink unit.

Caution : Ensure pins of the Transistor (Q5901) and heat-sink unit are properly seated and soldered on the Transformer P.C.B.

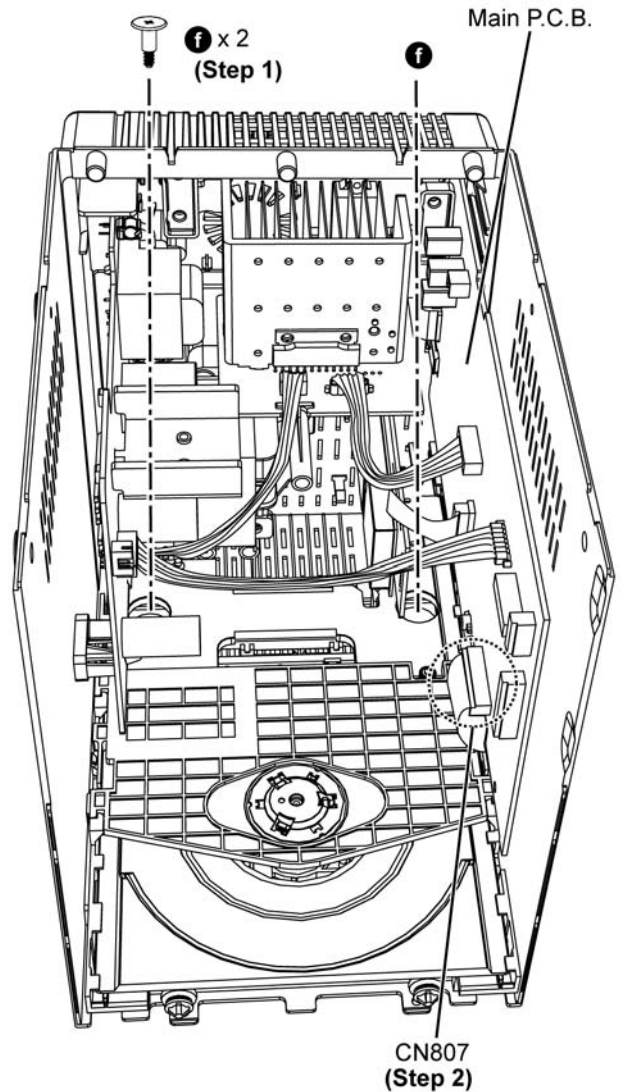


9.16. Disassembly of CD Mechanism Unit (DLS6C)

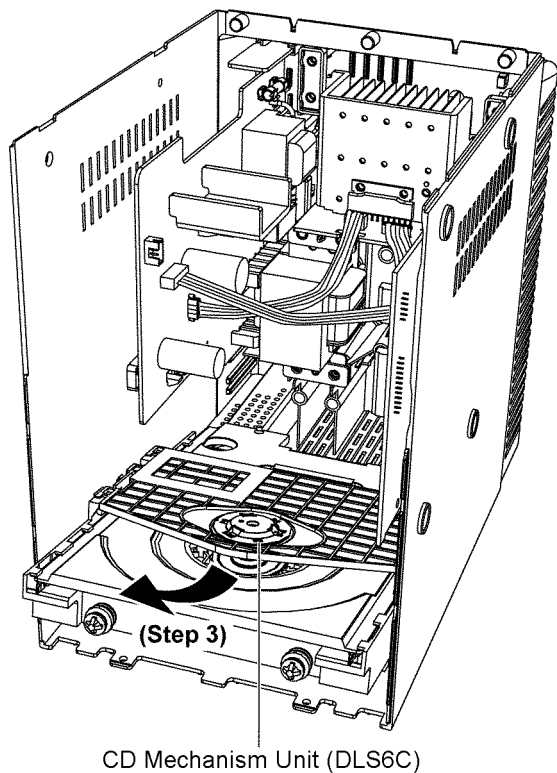
- Refer to "Disassembly of Top Cabinet Assembly".
- Refer to "Disassembly of Front Panel Assembly".

Step 1 : Remove 2 screws.

Step 2 : Detach 22P FFC at the connector (CN807) on Main P.C.B.



Step 3 : Slightly tilt the CD Mechanism Unit (DLS6C) and pull out as shown.

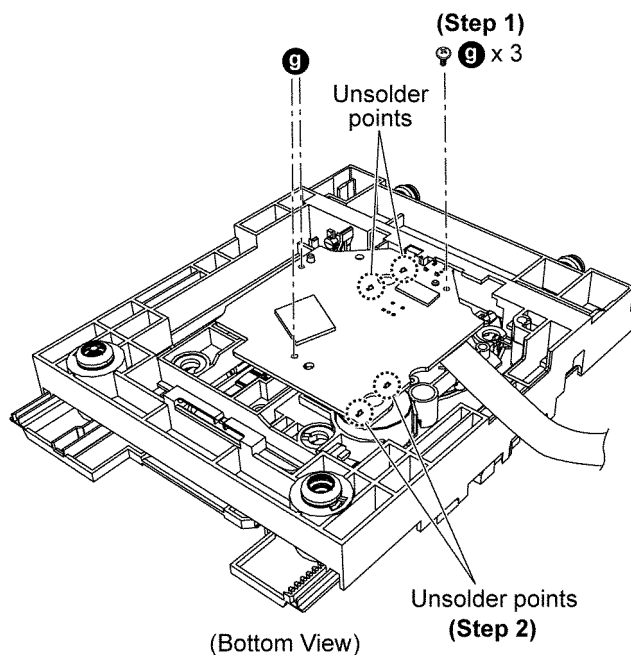


9.17. Disassembly of CD Servo P.C.B.

• Refer to "Disassembly of CD Mechanism Unit (DLS6C)".

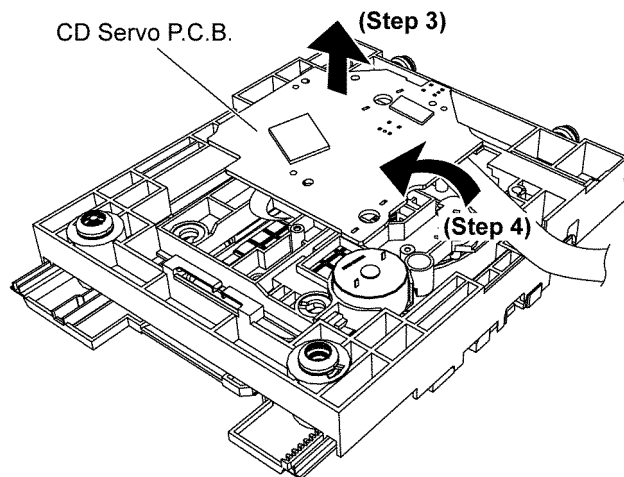
Step 1 : Remove 3 screws.

Step 2 : Unsolder 4 points.

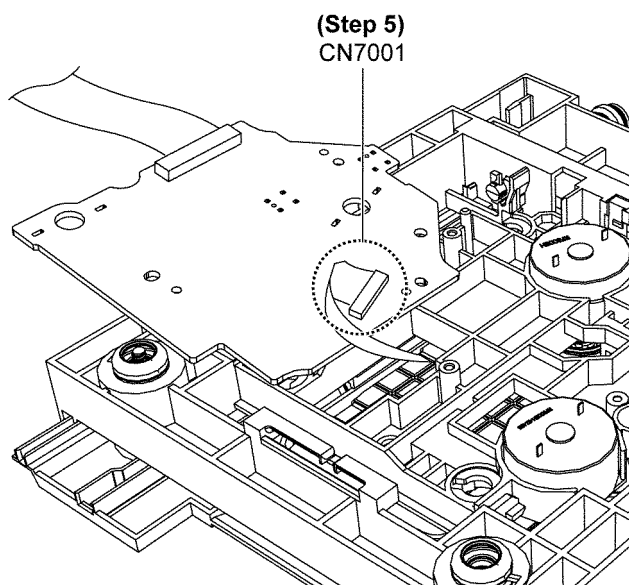


Step 3 : Move up the CD Servo P.C.B.

Step 4 : Flip the CD Servo P.C.B.



Step 5 : Detach 16P FPC at the connector (CN7001) on CD Servo P.C.B.

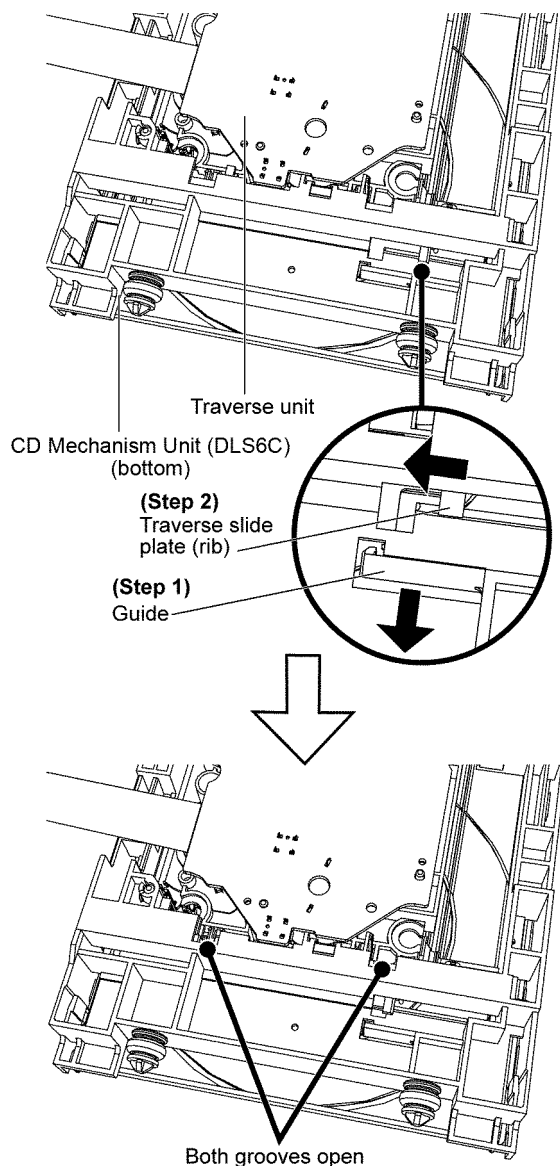


10 Disassembly and Assembly of Traverse Unit

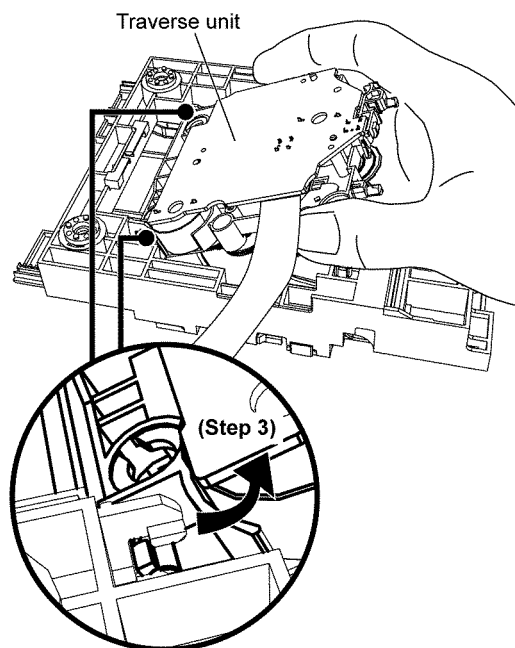
10.1. Disassembling Procedures

Step 1 : Release the guide.

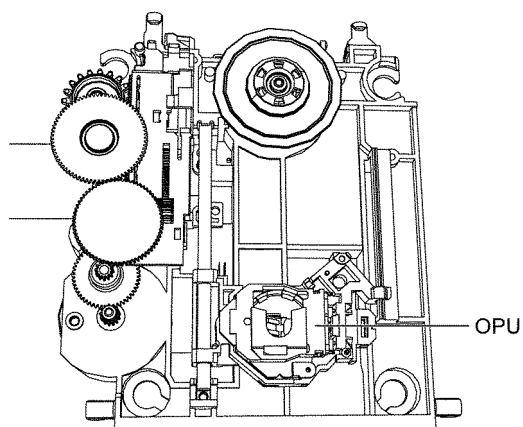
Step 2 : Push the traverse slide plate (rib), ensure both grooves are opened.



Step 3 : Slide out the traverse unit as arrow shown.

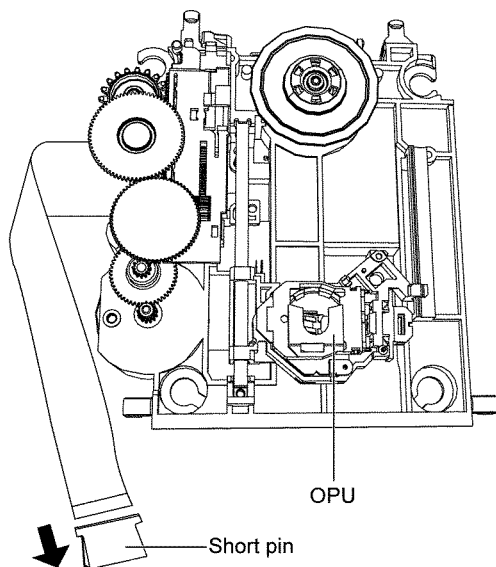


Caution : Ensure the OPU is face upwards, avoid touching the surface of the traverse unit.



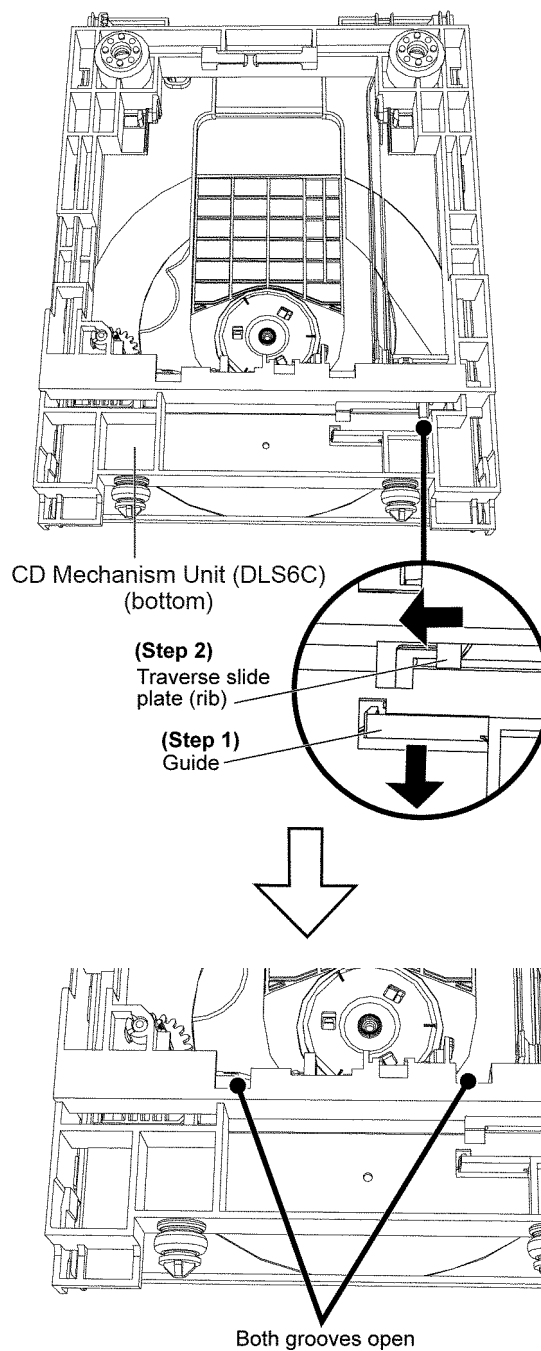
10.2. Assembling Procedures

Caution : Removal of the short pin is necessary for replacement of new traverse unit.



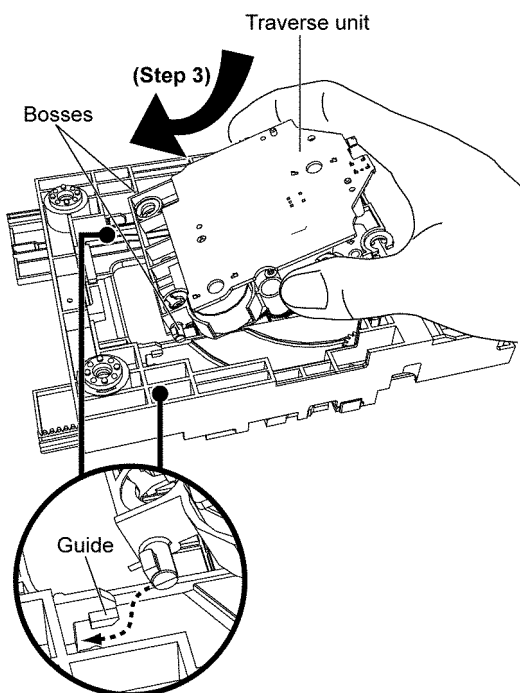
Step 1 : Release the guide.

Step 2 : Push the traverse slide plate (rib), ensure both grooves are opened.



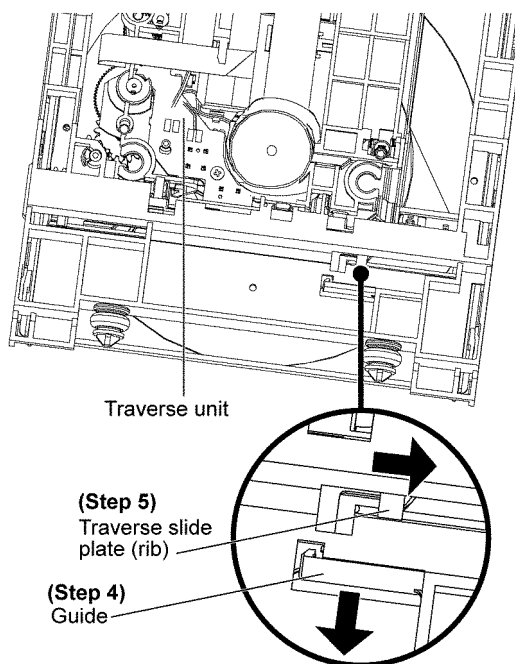
Step 3 : Slot the traverse unit at approximately 45° into the mecha chassis as arrow shown.

Caution : Ensure the bosses fix exactly onto the guides.



Step 4 : Release the guide.

Step 5 : Push the traverse slide plate (rib) to lock the traverse unit in.



11 Service Position

Note: For description of the disassembly procedures, see the Section 9.

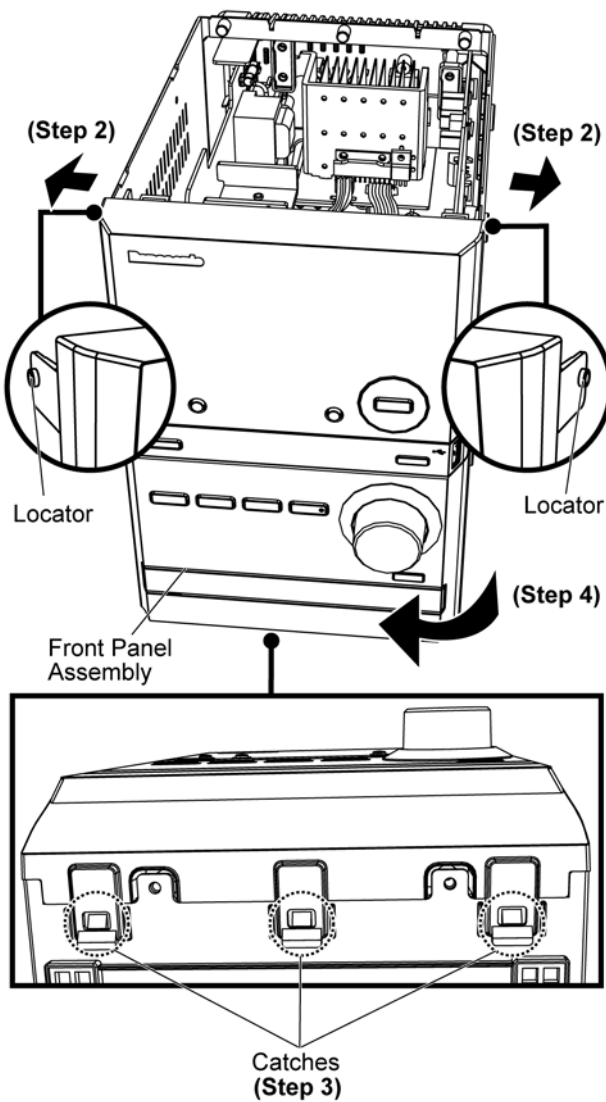
11.1. Checking and Repairing of USB P.C.B.

Step 1 : Remove the Top Cabinet Assembly.

Step 2 : Release both locators.

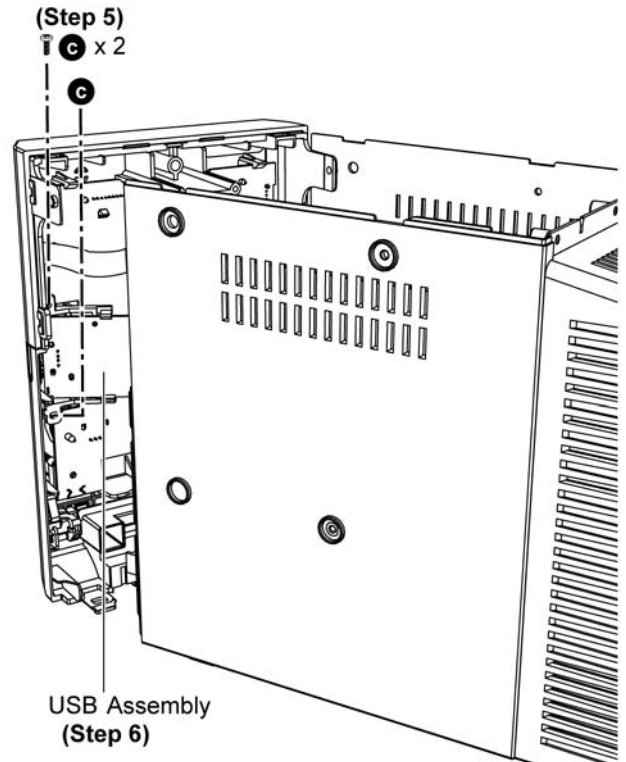
Step 3 : Release 3 catches from the bottom.

Step 4 : Slightly detach and move the Front Panel Assembly as arrow shown.



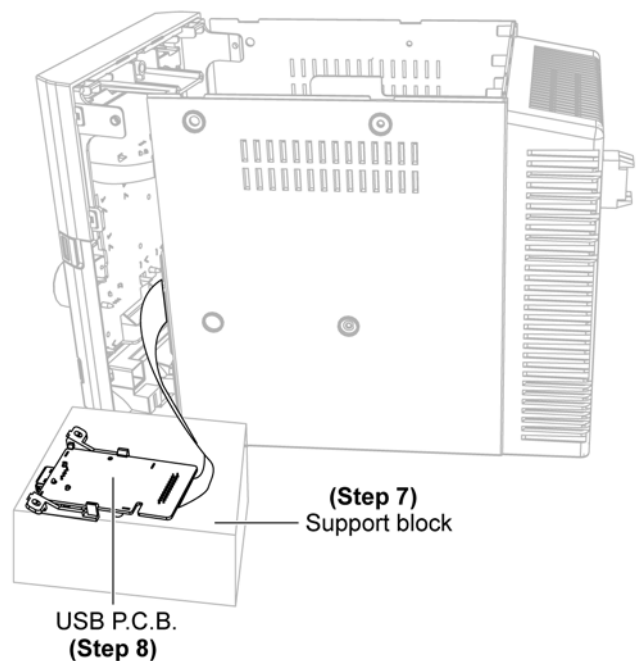
Step 5 : Remove 2 screws.

Step 6 : Remove USB Assembly.



Step 7 : Place a support block underneath the USB P.C.B.

Step 8 : Check and repair USB P.C.B. according to the diagram shown.



11.2. Checking and Repairing of Panel P.C.B.

Step 1 : Remove the Top Cabinet Assembly.

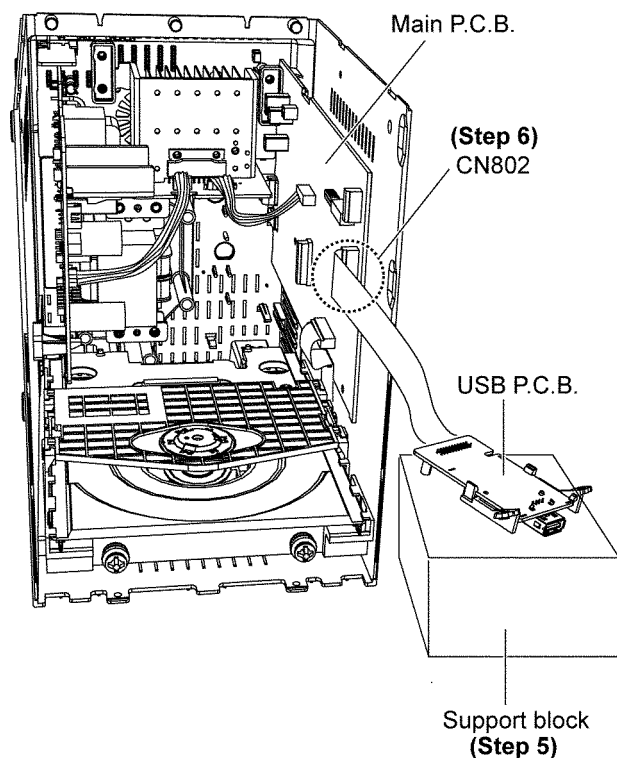
Step 2 : Remove the Front Panel Assembly.

Step 3 : Remove the USB Assembly.

Step 4 : Remove the Panel P.C.B.

Step 5 : Place a support block underneath the USB P.C.B.

Step 6 : Connect 22P FFC at the connector (CN802) on Main P.C.B.

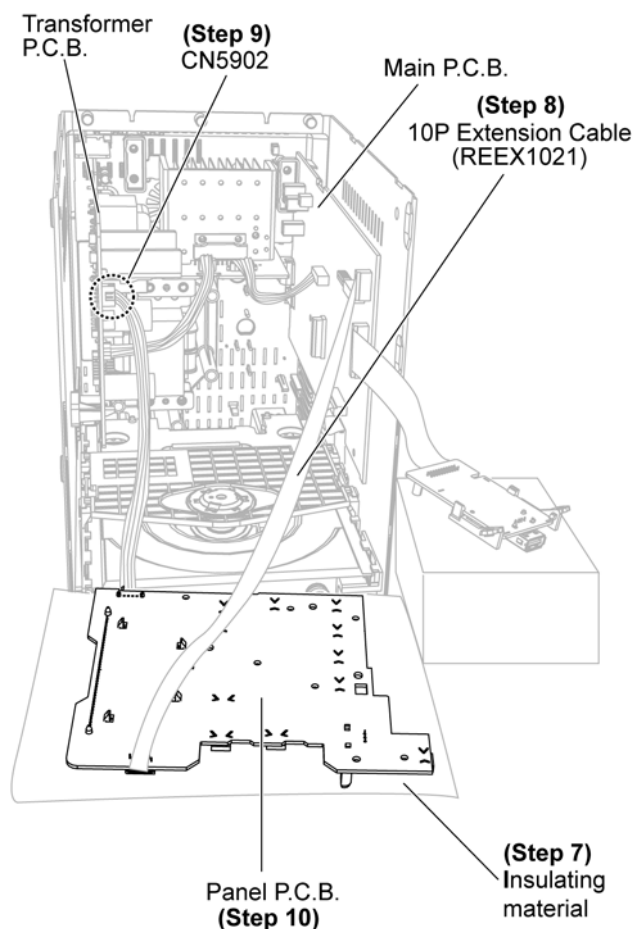


Step 7 : Lay an insulating material on Panel P.C.B.

Step 8 : Attach extension cable REEX1021 (10P FFC from CN451 on Main P.C.B. to CN900 on Panel P.C.B.).

Step 9 : Connect 4P Cable at the connector (CN5902) on Transformer P.C.B.

Step 10 : Check and repair Panel P.C.B. according to the diagram shown.



11.3. Checking and Repairing of Transformer P.C.B.

Step 1 : Remove the Top Cabinet Assembly.

Step 2 : Remove the Front Panel Assembly.

Step 3 : Remove the USB Assembly.

Step 4 : Remove the Panel P.C.B.

Step 5 : Remove the Main P.C.B.

Step 6 : Remove the Power P.C.B.

Step 7 : Remove the Transformer P.C.B.

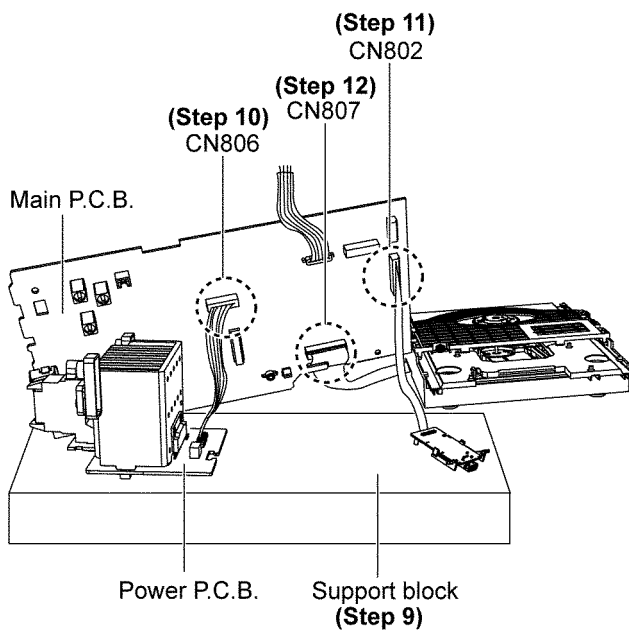
Step 8 : Remove the CD Mechanism Unit (DLS6C).

Step 9 : Place a support block.

Step 10 : Connect 6P Cable at the connector (CN806) on Main P.C.B.

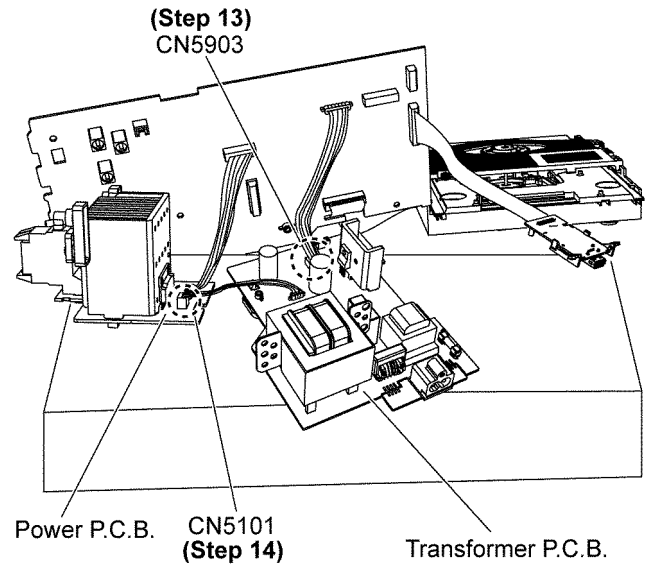
Step 11 : Connect 22P FFC at the connector (CN802) on Main P.C.B.

Step 12 : Connect 22P FFC at the connector (CN807) on Main P.C.B.

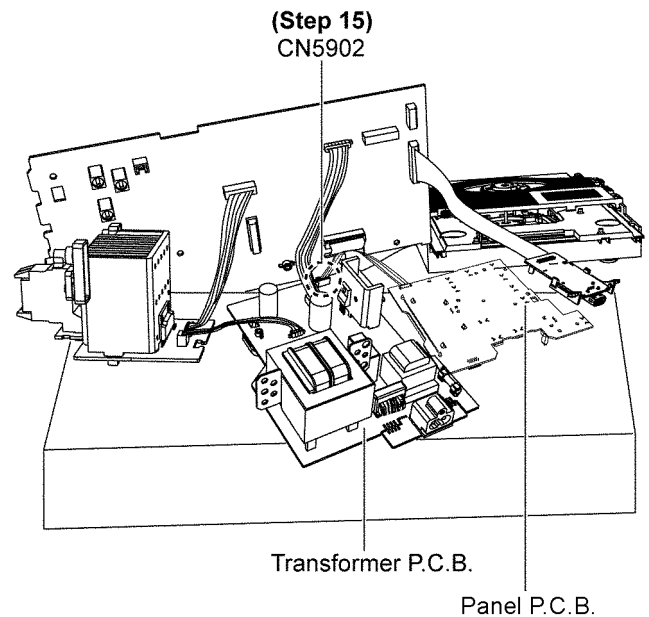


Step 13 : Connect 7P Cable at the connector (CN5903) on Transformer P.C.B.

Step 14 : Connect 4P Cable at the connector (CN5101) on Power P.C.B.



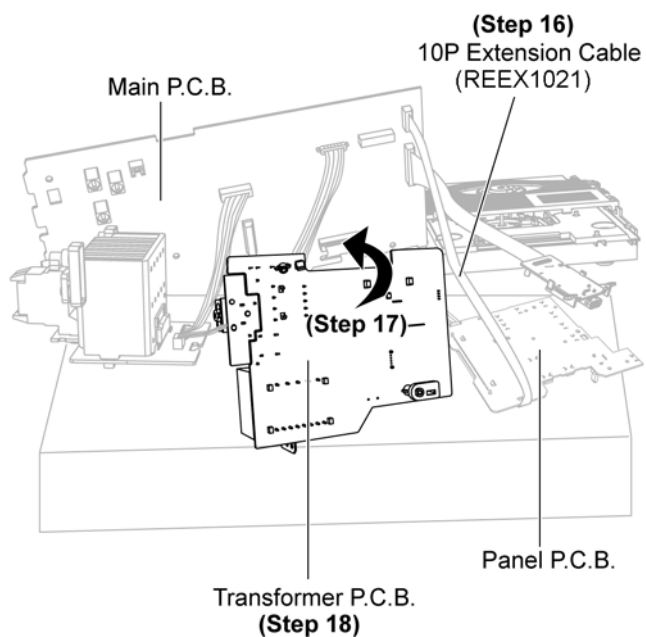
Step 15 : Connect 4P Cable at the connector (CN5902) on Transformer P.C.B.



Step 16 : Attach extension cable REEX1021 (10P FFC from CN451 on Main P.C.B. to CN900 on Panel P.C.B.).

Step 17 : Flip the Transformer P.C.B. as shown.

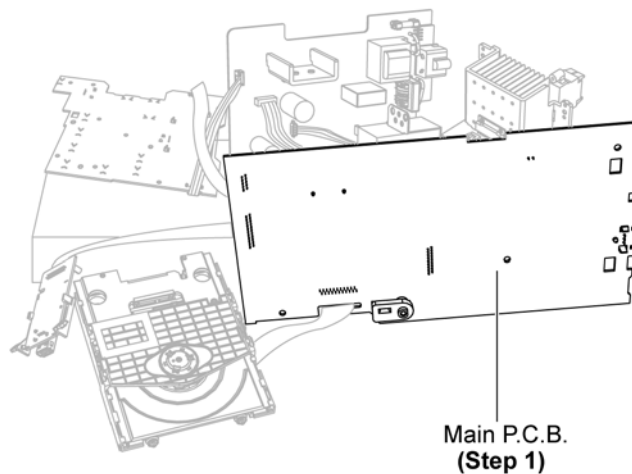
Step 18 : Check and repair Transformer P.C.B. according to the diagram shown.



11.4. Checking and Repairing of Main P.C.B.

- Refer to (Step 1) - (Step 17) of item 11.3.

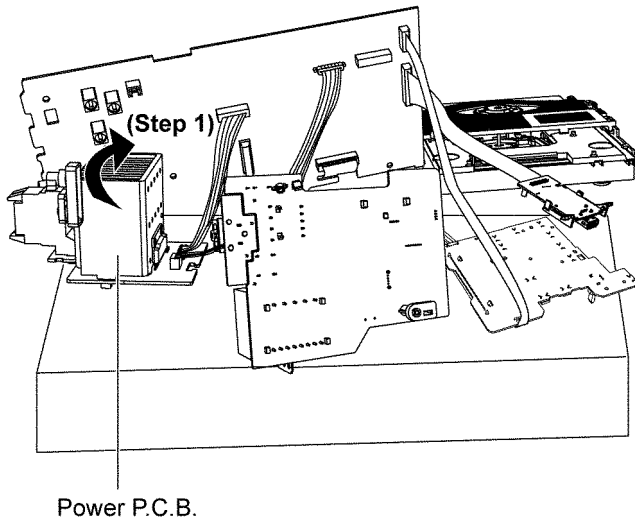
Step 1 : Check and repair Main P.C.B. according to the diagram shown.



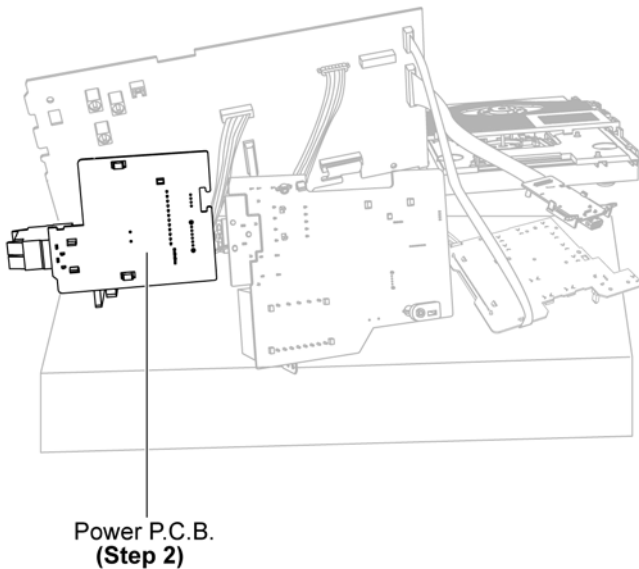
11.5. Checking and Repairing of Power P.C.B.

- Refer to (Step 1) - (Step 17) of item 11.3

Step 1 : Flip the Power P.C.B. as shown.



Step 2 : Check and repair Power P.C.B. according to the diagram shown.



11.6. Checking and Repairing of CD Servo P.C.B.

Step 1 : Remove the Top Cabinet Assembly.

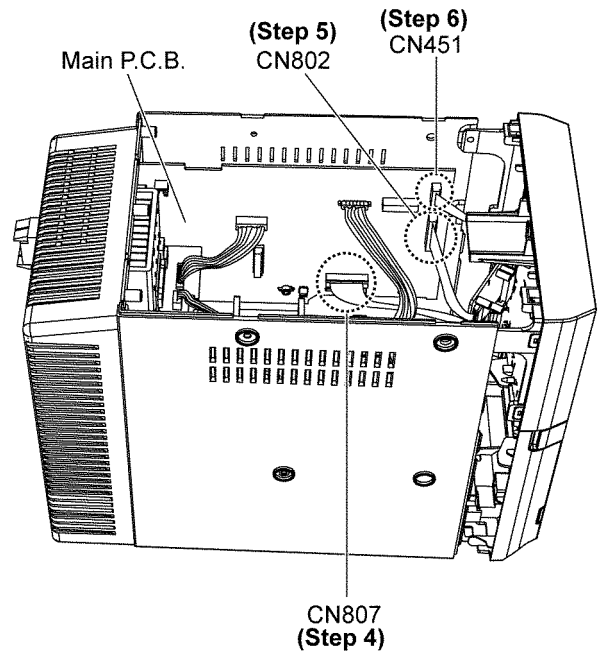
Step 2 : Remove the Front Panel Assembly.

Step 3 : Remove the CD Mechanism Unit (DLS6C).

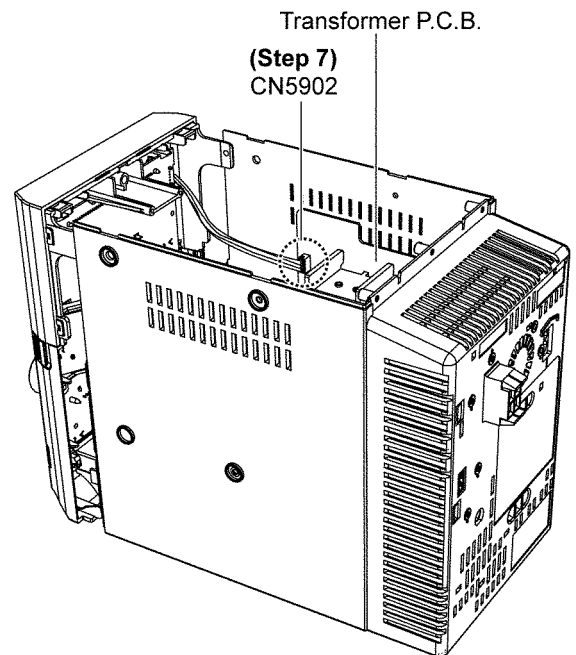
Step 4 : Connect 22P FFC at the connector (CN807) on Main P.C.B.

Step 5 : Connect 22P FFC at the connector (CN802) on Main P.C.B.

Step 6 : Connect 10P FFC at the connector (CN451) on Main P.C.B.

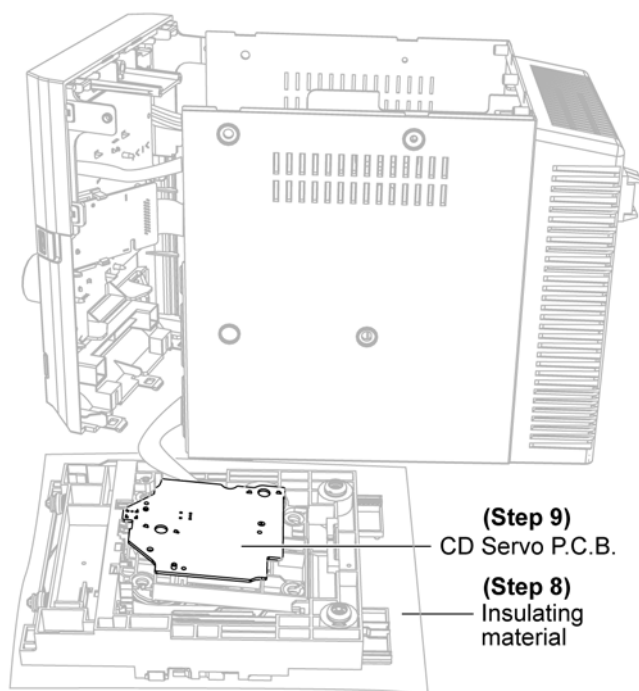


Step 7 : Connect 4P Cable at the connector (CN5902) on Transformer P.C.B.



Step 8 : Lay an insulating material under the CD Mechanism Unit (DLS6C).

Step 9 : Check and repair CD Servo P.C.B. according to the diagram shown.



12 Voltage Measurement & Waveform Chart

Note:

- 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.
- Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point because it may differ from actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

12.1. CD SERVO P.C.B.

REF NO.	IC7001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	1.6	3.2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.6	3.4

REF NO.	IC7001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	1.6	0	1.6	1.7	1.7	0	3.1	1.5	3.1	3.1	0	1.6	1.5	1.6	1.9	1.9	1.7	1.8	1.8	1.7
STANDBY	1.7	3.4	1.7	1.7	1.7	0	3.4	1.5	3.4	3.4	0	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7

REF NO.	IC7001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0.2	2.4	1.9	1.7	1.2	1.8	3.2	1.2	1.3	1.3	1.7	1.7	0.9	1.5	1.5	1.5	0	3.0	1.5	0
STANDBY	0	3.4	1.6	1.7	1.7	1.8	3.4	1.2	1.2	1.2	1.7	1.7	0.9	1.1	1.1	1.6	0	3.1	1.6	0

REF NO.	IC7001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	3.2	0	0	0	0	0	3.0	1.5	3.3	1.0	0.1	3.3	0	1.6	0	1.5	3.2	0	3.3	3.0
STANDBY	3.4	0	0	0	3.3	0	3.3	0	3.3	0	0.1	3.3	0	1.6	3.4	1.5	3.4	0	3.4	3.0

REF NO.	IC7001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	3.1	3.3	0	0	0	0	0	0	0	0	0	0	3.2	0	0	0	0	0	0	0
STANDBY	3.1	3.4	0	0	0	0	0	0	0	0	0	0	3.4	0	0	0	0	0	0	0

REF NO.	IC7002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.6	0	1.6	0	0	0	0	0	0	7.7	4.4	3.5	3.6	3.6	3.5	3.8	3.7	3.6	7.7	0
STANDBY	1.7	0	1.7	3.3	0	0	0	0	0	7.7	4.0	4.0	3.6	3.6	3.6	3.6	3.6	3.6	7.7	0

REF NO.	IC7002																			
MODE	21	22	23	24	25	26	27	28	29	30										
CD PLAY	7.7	0	0	0	7.7	1.6	1.6	1.6	0	0										
STANDBY	7.7	0	0	0	7.7	1.7	1.7	1.7	0	0										

REF NO.	Q7601																			
MODE	E	C	B																	
CD PLAY	3.1	2.0	2.4																	
STANDBY	3.4	0	3.4																	

SA-PM24EB/EG/EP CD SERVO P.C.B.

12.2. MAIN P.C.B. (1/2)

REF NO.	IC1																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	2.0	2.0	2.5	0	5.0	5.0	2.0	2.0	4.0	4.0	3.5	3.5	2.2	0	0	0	0	0	1.2	1.6
STANDBY	0	0	0	0	0.7	0.7	0	0	0.7	0.7	0	0	0	0	0	0	0	0	0	0.7
REF NO.	IC1																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36				
CD PLAY	3.3	2.0	1.0	2.0	1.0	0	0	9.5	2.0	0	5.0	5.0	5.0	5.0	0	0				
STANDBY	1.2	0	0	0	0	0	0	0	0	0	0	0.7	0.7	0.7	0	0				
REF NO.	IC301																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	0.8	9.0	0.7
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.0	0
REF NO.	IC301																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
CD PLAY	0	0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	0	0								
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0								
REF NO.	IC302																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	1.4	1.7	0	0	3.3	0	0	1.6	0	0	0	3.3	1.6	1.6	0	1.6				
STANDBY	0	0.7	0	0	3.3	0	0	0.7	0	0	0	3.3	0	0	0	0				
REF NO.	IC650																			
MODE	1	2	3	4	5															
CD PLAY	7.5	7.5	0	5.0	1.25															
STANDBY	7.5	7.5	0	5.0	1.25															
REF NO.	IC651																			
MODE	1	2	3	4	5															
CD PLAY	5.7	0	5.7	0	3.3															
STANDBY	5.7	0	1.1	0	3.3															
REF NO.	IC700																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	0	0	0	0	9.0												
STANDBY	0	0	0	0	0	0	0	9.0												
REF NO.	IC800																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	1.2	0	3.3	0	3.3	0	0	0	0	1.5	1.5	0	1.0	1.6	3.3	1.8	3.3	3.3
STANDBY	3.3	3.3	0	0	3.3	0	3.3	0	0	0	0	1.5	1.5	0	1.5	1.5	3.3	1.8	0	3.3
REF NO.	IC800																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	3.2	0	0	3.3	1.0	0	0	1.2	0	3.3	2.8	3.3	0	3.3	0	1.8	0	0	3.3
STANDBY	0	1.2	2.0	0	3.3	2.0	0	0	1.2	0	0	0	0	0	0	0	1.8	0	0	3.3

SA-PM24EB/EG/EP MAIN P.C.B.

12.3. MAIN P.C.B. (2/2)

REF NO.	IC800																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	3.3	3.3	0	3.3	0	3.3	3.3	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	3.3	3.3	0	0	0	0	3.3	0	0	0	0	0	0	0	0	0	0	0	0

REF NO.	IC800																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	3.3	0	0	0	0	0	0	0	0	0	0	1.6	0	0	0	0	0	0	0
STANDBY	0	3.3	0	0	0	0	0	0	0	0	0	0	1.2	0	0	0	0	0	0	0

REF NO.	IC800																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	0	0	0	0	0	0	0	3.3	0	0	3.3	3.3	0	0	2.2	2.0	0	0	3.3
STANDBY	0	0	0	0	0	0	0	0	3.3	3.3	0	3.3	3.3	0	0	1.2	2.0	3.3	0	3.3

REF NO.	Q222						Q1			Q2			Q650		
MODE	1	2	3	4	5	6	E	C	B	E	C	B	E	C	B
CD PLAY	0	3.3	0	0	3.3	0	0	0	0.7	1.5	0	1.0	9.0	13.7	10.3
STANDBY	0	3.3	0	0	3.3	0	0	0	0.7	0	0.7	0	9.0	13.7	10.3

REF NO.	Q750			Q801												
MODE	E	C	B	E	C	B										
CD PLAY	3.3	0	3.3	0	0	0										
STANDBY	3.3	3.3	3.3	0	0	3.3										

SA-PM24EB/EG/EP MAIN P.C.B.

12.4. PANEL P.C.B.

REF NO.	IC900																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	1.8	3.3	1.2	0.8	1.2	0	0	0	3.3	-29.0	-29.0	-27.0	-27.0	-27.0	-24.5	-24.5
STANDBY	0	0	0	0	0.9	3.3	0	0	0	0	0	0	3.3	0	0	0	0	0	0	0

REF NO.	IC900																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-29.0	-24.5	-27.0	-29.5	-29.5	-29.5	-29.5	-24.5	-20.0	-24.5	-24.5	-27.5	-24.5	-27.0	-27.0	-27.0	-27.0	-27.0	-27.0	-27.0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REF NO.	IC900																			
MODE	41	42	43	44																
CD PLAY	-27.0	-27.0	3.3	0																
STANDBY	0	0	3.3	0																

SA-PM24EB/EG/EP PANEL P.C.B.

12.5. POWER P.C.B.

REF NO.	IC5101															
MODE	1	2	3	4	5	6	7	8	9	10	11	12				
CD PLAY	15.2	0	0	0	3.3	0	0	0	0	0	0	0				
STANDBY	0	0	0	0	0	0	0	0	3.3	0	0	0				

SA-PM24EB/EG/EP POWER P.C.B.

12.6. TRANSFORMER P.C.B.

REF NO.	IC5901																			
MODE	1	2	3	4	5															
CD PLAY	6.0	0	1.5	3.3	6.0															
STANDBY	6.0	0	1.2	3.3	6.5															

REF NO.	Q5901				Q5902				Q5903				Q5904				Q5905			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	14.0	9.0	7.5		6.8	9.0	7.2		-19.5	-24.5	0		0	1.8	1.8		0	0	0	
STANDBY	14.0	9.0	0		0	9.0	0		0.6	0.7	0		0	1.8	2.0		0	0	3.3	

REF NO.	Q5907																			
MODE	E	C	B																	
CD PLAY	0	9.2	6.0																	
STANDBY	0	11.2	6.6																	

SA-PM24EB/EG/EP TRANSFORMER P.C.B.

12.7. USB P.C.B.

REF NO.	IC900																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	3.3	3.3	3.3	1.8	1.6	1.6	0	0	0	0	3.3	3.3	3.3	0
STANDBY	0	0	0	0	0	0	3.4	3.3	3.4	1.8	1.6	1.6	0	0	0	0	3.4	3.4	3.4	0













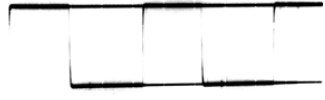







REF NO.	IC900																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.3	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.4	0	0

REF NO.	IC900																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	1.8	0	0	0	3.3	0.3	3.3	3.3	0	0	0	0	0	0	3.0	1.0	1.0	0	0
STANDBY	0	1.8	0	0	0	3.3	0.3	3.3	3.4	0	0	0	0	0	0	3.3	0	0	0	0

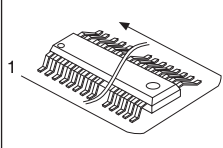
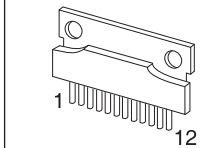
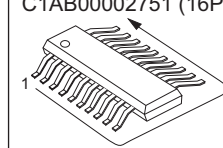
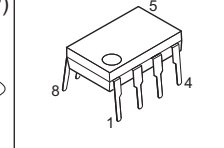
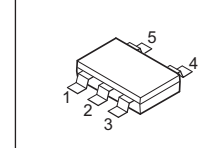
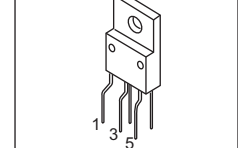
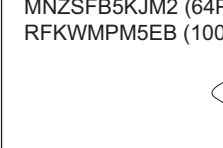
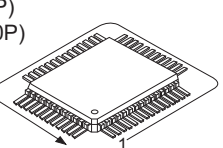
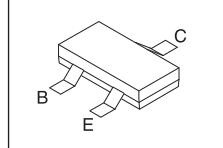
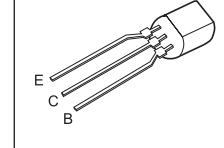
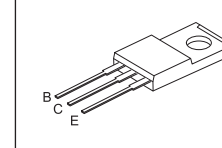
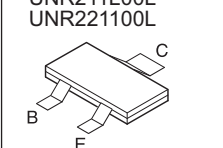
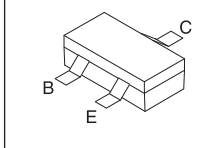
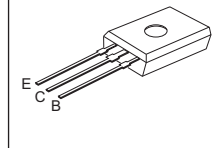
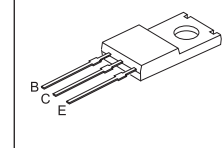
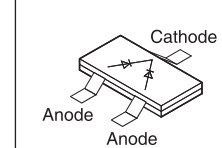
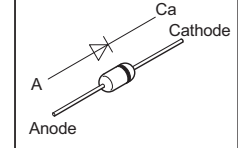
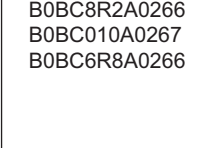
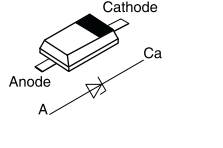
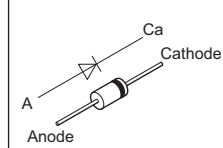
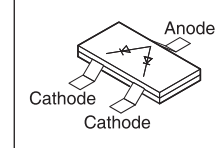
REF NO.	IC900																			
MODE	61	62	63	64																
CD PLAY	0	1.8	0	3.3																
STANDBY	0	1.8	0	3.3																

SA-PM24EB/EG/EP USB P.C.B.

12.8. Waveform Chart

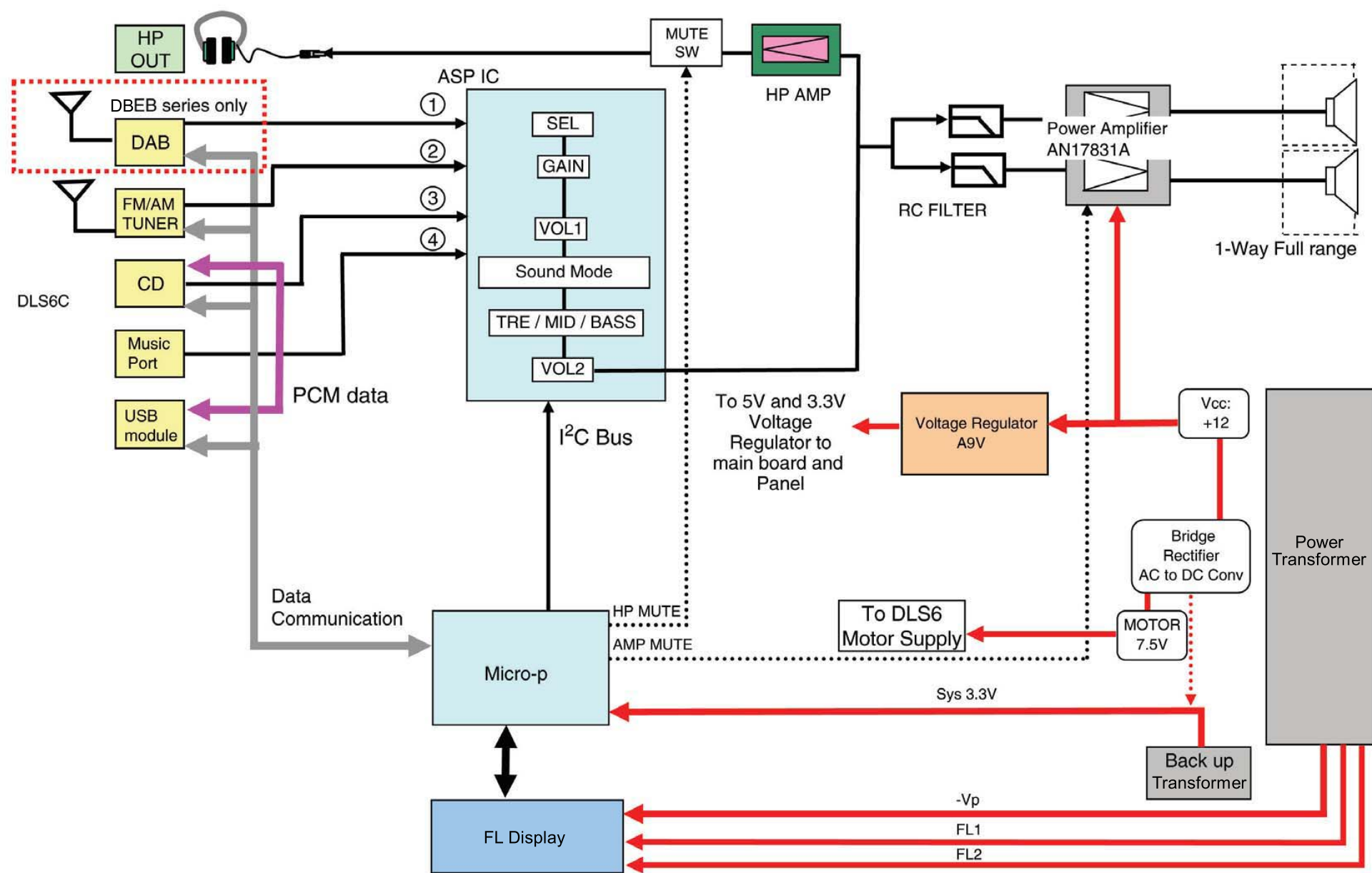
<p>WF No. IC1-9,11 (PLAY)</p>  <p>0.11Vp-p(50nsec/div)</p>	<p>WF No. IC1-12,13 (PLAY)</p>  <p>0.6Vp-p(50usec/div)</p>	<p>WF No. IC1-19 (PLAY)</p>  <p>0.56Vp-p(5usec/div)</p>	<p>WF No. IC1-20 (PLAY)</p>  <p>0.68Vp-p(5usec/div)</p>
<p>WF No. IC301-9,10 (PLAY)</p>  <p>0.04Vp-p(100usec/div)</p>	<p>WF No. IC301-11,12 (PLAY)</p>  <p>0.36Vp-p(200usec/div)</p>	<p>WF No. IC301-21,22 (PLAY)</p>  <p>0.1Vp-p(200usec/div)</p>	<p>WF No. IC302-13,14 (PLAY)</p>  <p>2.4Vp-p(100nsec/div)</p>
<p>WF No. IC800-12 (PLAY)</p>  <p>4Vp-p(50nsec/div)</p>	<p>WF No. IC800-13 (PLAY)</p>  <p>2.5Vp-p(50nsec/div)</p>	<p>WF No. IC800-15,16 (PLAY)</p>  <p>2.1Vp-p(10usec/div)</p>	<p>WF No. IC900-5 (PLAY)</p>  <p>1.5Vp-p(1usec/div)</p>
<p>WF No. IC900-8 (PLAY)</p>  <p>3Vp-p(2usec/div)</p>	<p>WF No. IC1501-2,4 (PLAY)</p>  <p>0.28Vp-p(200usec/div)</p>	<p>WF No. IC1501-6,8 (PLAY)</p>  <p>0.76Vp-p(200usec/div)</p>	<p>WF No. IC1501-10,12 (PLAY)</p>  <p>0.24Vp-p(200usec/div)</p>
<p>WF No. IC7001-23,24 (PLAY)</p>  <p>0.52Vp-p(1usec/div)</p>	<p>WF No. IC7001-56,59 (PLAY)</p>  <p>2.4Vp-p(100nsec/div)</p>	<p>WF No. IC7001-80 (PLAY)</p>  <p>4.8Vp-p(20nsec/div)</p>	<p>WF No. IC7001-81 (PLAY)</p>  <p>1.9Vp-p(20nsec/div)</p>

13 Illustration of IC's, Transistors and Diodes

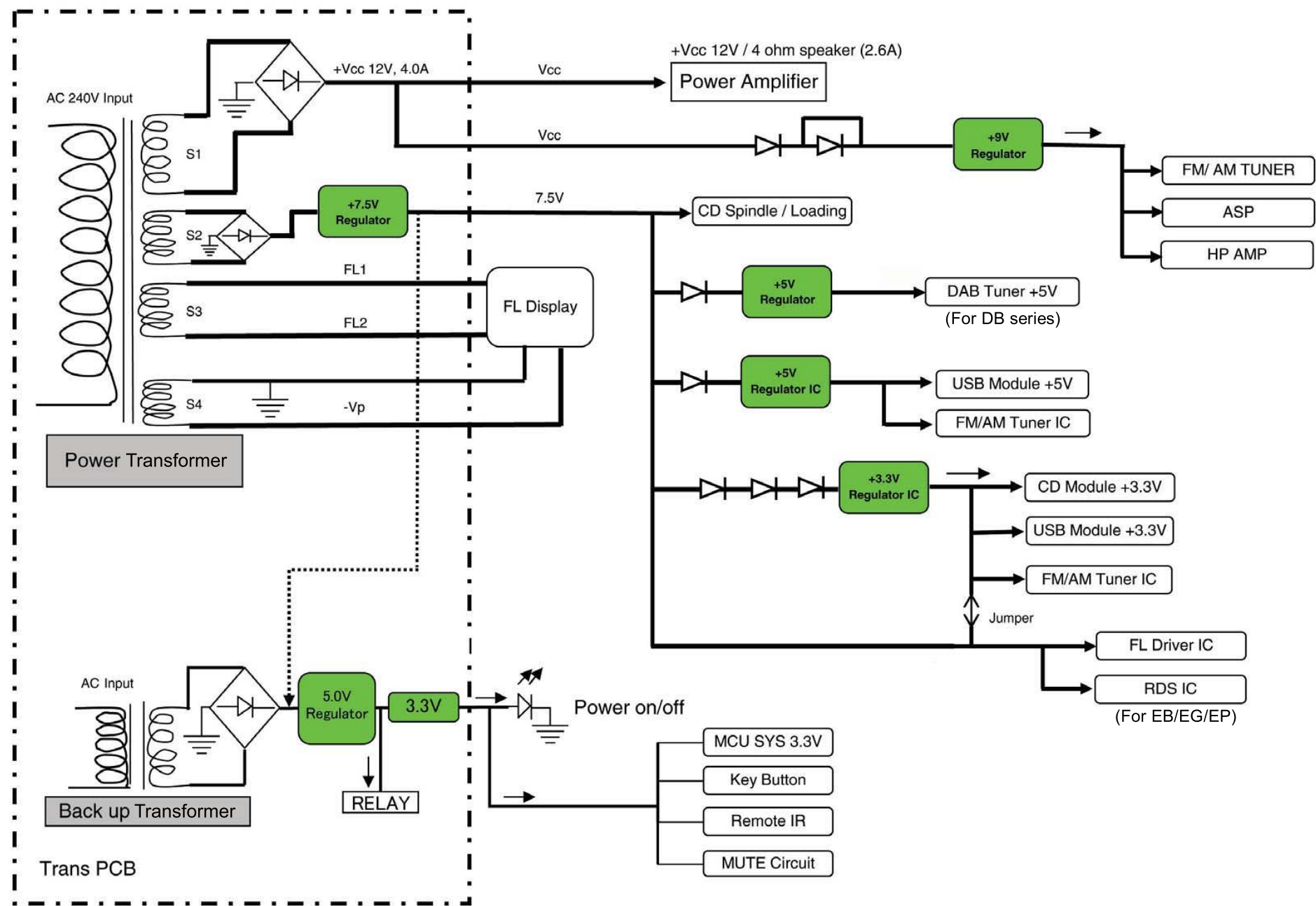
<p>BA5948FPE2 (28P)</p> 	<p>AN17831A</p> 	<p>C1BB00000732 (32P) C1BB00001120 (36P) C1AB00002751 (16P)</p> 	<p>C0AABB000125</p> 	<p>C0DBZGC00067 C0DBGYY00089</p> 	<p>C0DAEJG00001</p> 
<p>MN6627954AMA (100P) C0HBB0000057 (44P) MNZSFB5KJM2 (64P) RFKWMPM5EB (100P)</p> 	<p>B1ABCF000176</p> 	<p>2SB0621AHA</p> 	<p>B1BCCG000023</p> 	<p>B1GFGCAA0001</p> 	
<p>B1ADCF000001 B1ABDF000026 UNR211L00L UNR221100L</p> 	<p>B1GBCFJN0028 B1ADCF000063</p> 	<p>B1BABG000007</p> 	<p>B1BACG000023</p> 	<p>B0CDAB000019 B0CDAD000010</p> 	<p>B0AACK000004</p> 
<p>B0BC030A0264 B0BC7R5A0266 B0BC8R2A0266 B0BC010A0267 B0BC6R8A0266</p> 	<p>B0EAKM000117 B0EAMM000038</p> 	<p>B0ADFJ000004</p> 	<p>MA2J1110GL MAZ8056GML</p> 		

14 Overall Simplified Block

14.1. Control Signal Diagram



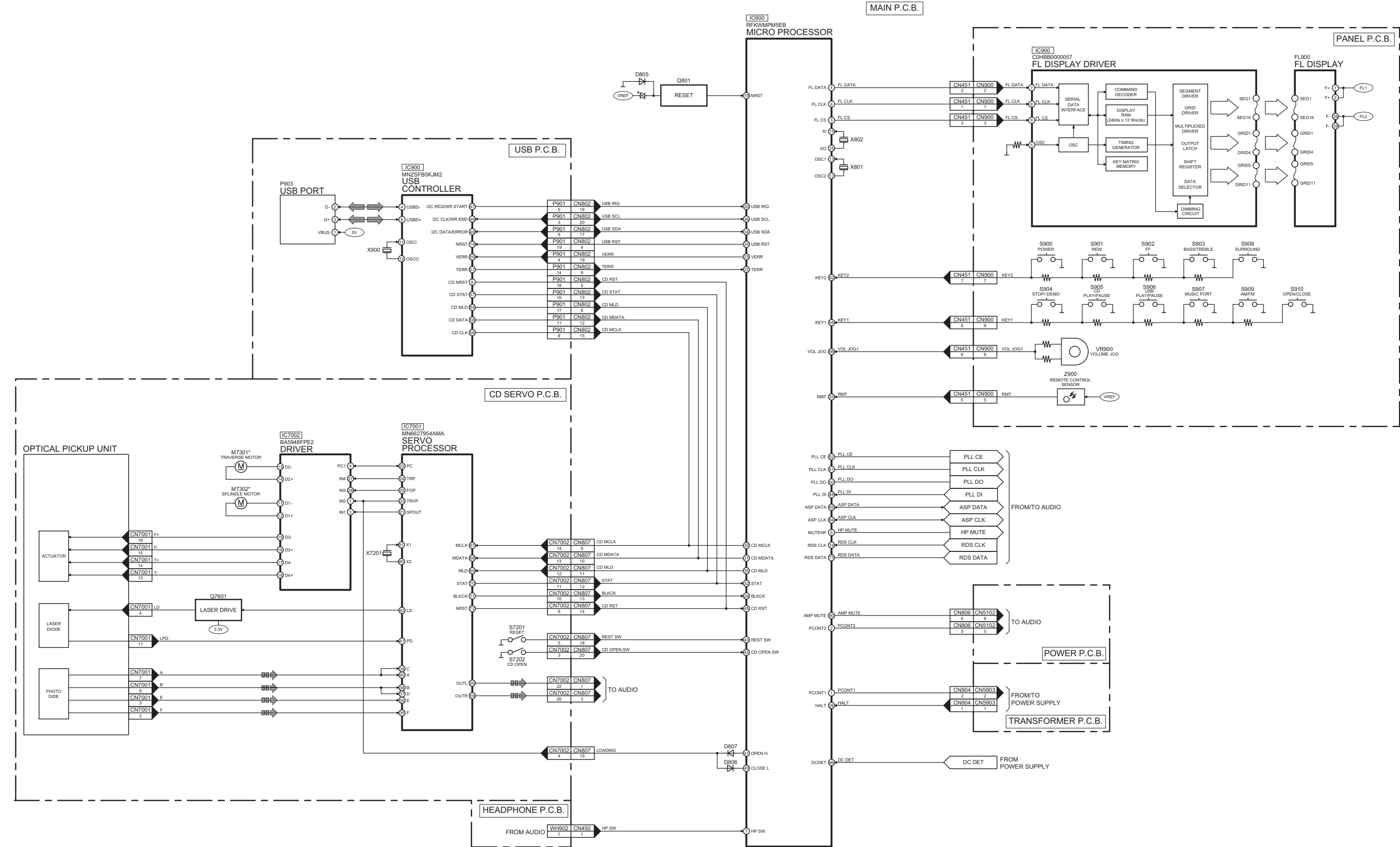
14.2. Block Connection Diagram



15 Block Diagram

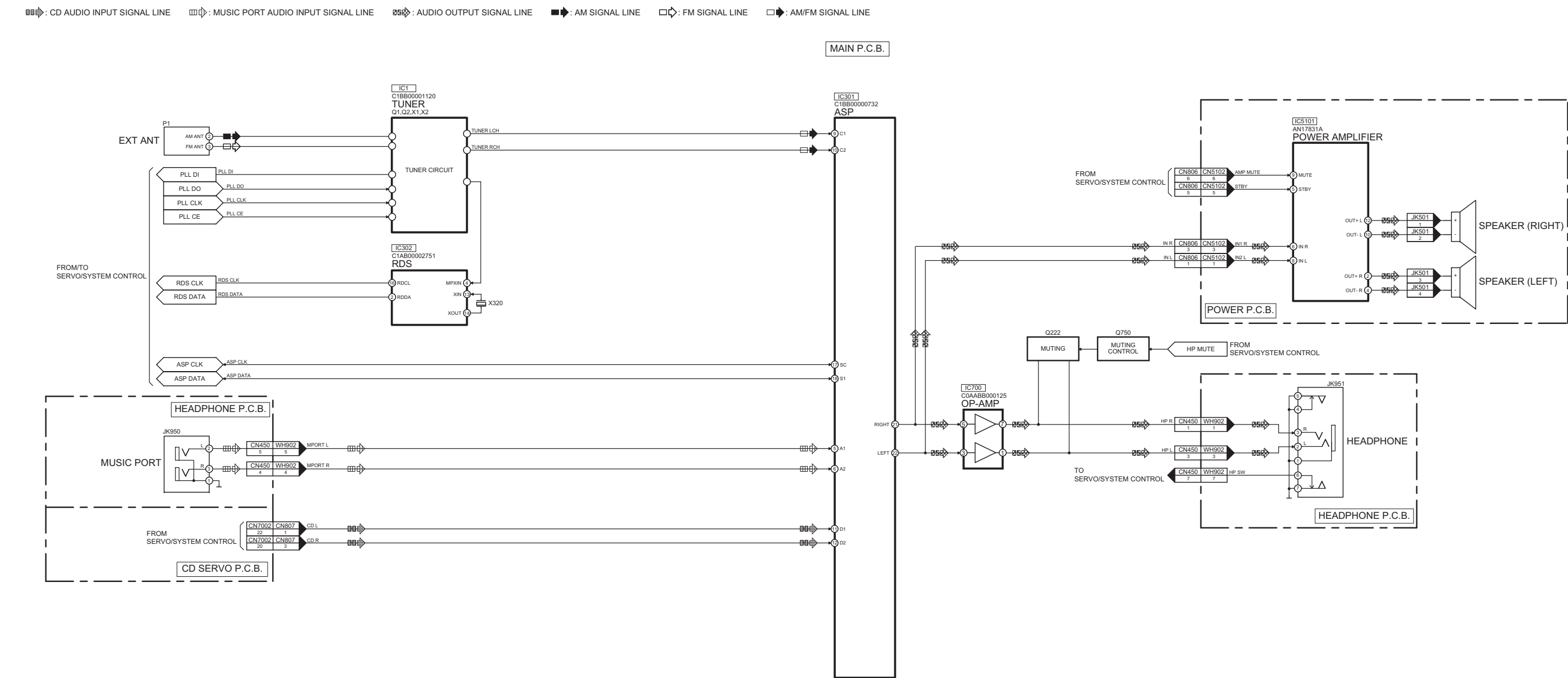
15.1. SERVO/SYSTEM CONTROL BLOCK DIAGRAM

 : CD AUDIO INPUT SIGNAL LINE
  : USB SIGNAL LINE



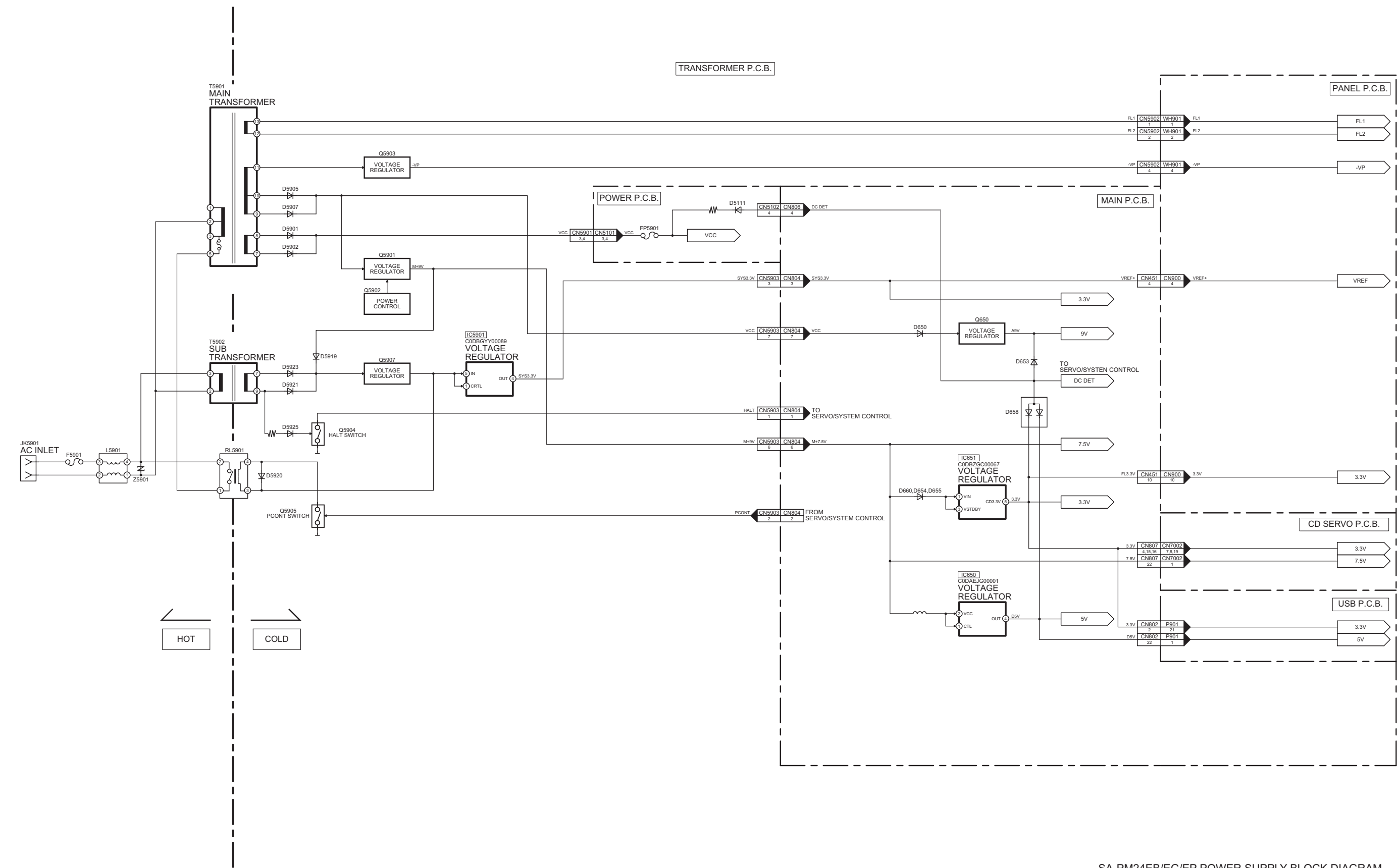
SA-PM24EB/EG/EP SERVO/SYSTEM CONTROL BLOCK DIAGRAM

15.2. AUDIO BLOCK DIAGRAM



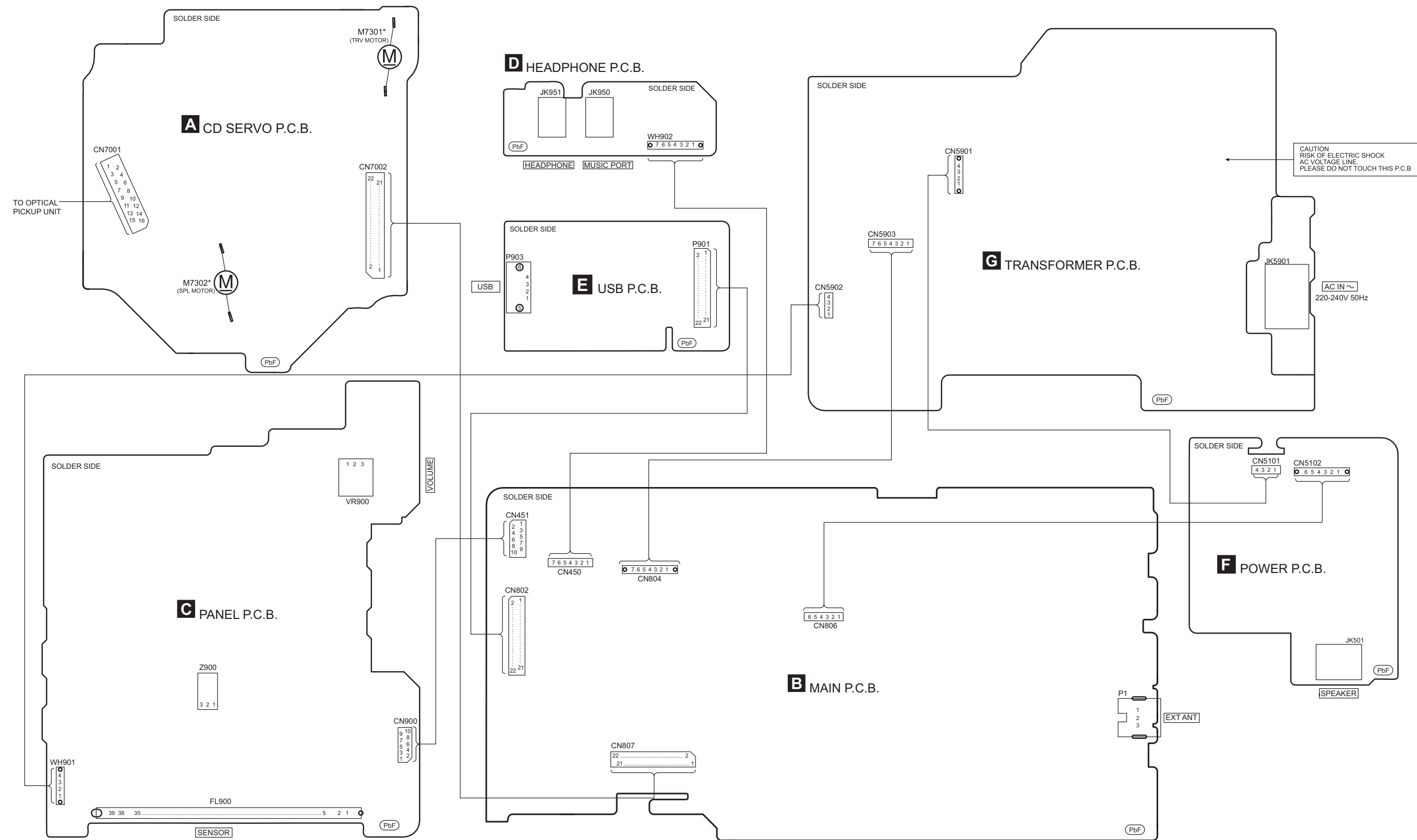
SA-PM24EB/EG/EP AUDIO BLOCK DIAGRAM

15.3. POWER SUPPLY BLOCK DIAGRAM



SA-PM24EB/EG/EP POWER SUPPLY BLOCK DIAGRAM

16 Wiring Connection Diagram










NOTE: " * " REF IS FOR INDICATION ONLY.

17 Schematic Diagram Notes

(All schematic diagrams may be modified at any time with the development of new technology)

Notes:

S900:	POWER switch. ().
S901:	REW switch. ().
S902:	FF switch. ().
S903:	BASS/TREBLE switch.
S904:	STOP/-DEMO switch. ( /-DEMO).
S905:	CD PLAY/PAUSE switch. ().
S906:	USB PLAY/PAUSE switch. ().
S907:	MUSIC.P switch.
S908:	SURROUND switch.
S909:	FM/AM switch.
S910:	OPEN/CLOSE switch. ().
S7201:	REST switch.
S7202:	CD OPEN switch.
VR900:	VOLUME jog.

- “ * ” REF IS FOR INDICATION ONLY.

• Importance 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.

- Capacitor values are in microfarad(μF) unless specified otherwise, F=Farad, pF=Pico-Farad
Resistance values are in ohm(Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000KΩ

• Voltage and Signal lines:

	: +B signal line
	: -B signal line
	: CD Audio Input signal line
	: Music Port Audio Input signal line
	: Audio Output signal line
	: USB signal line
	: AM signal line
	: FM signal line
	: FM/AM signal line

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F5901, T1AL, 250V FUSE



RISK OF FIRE-REPLACE FUSE AS MARKED.

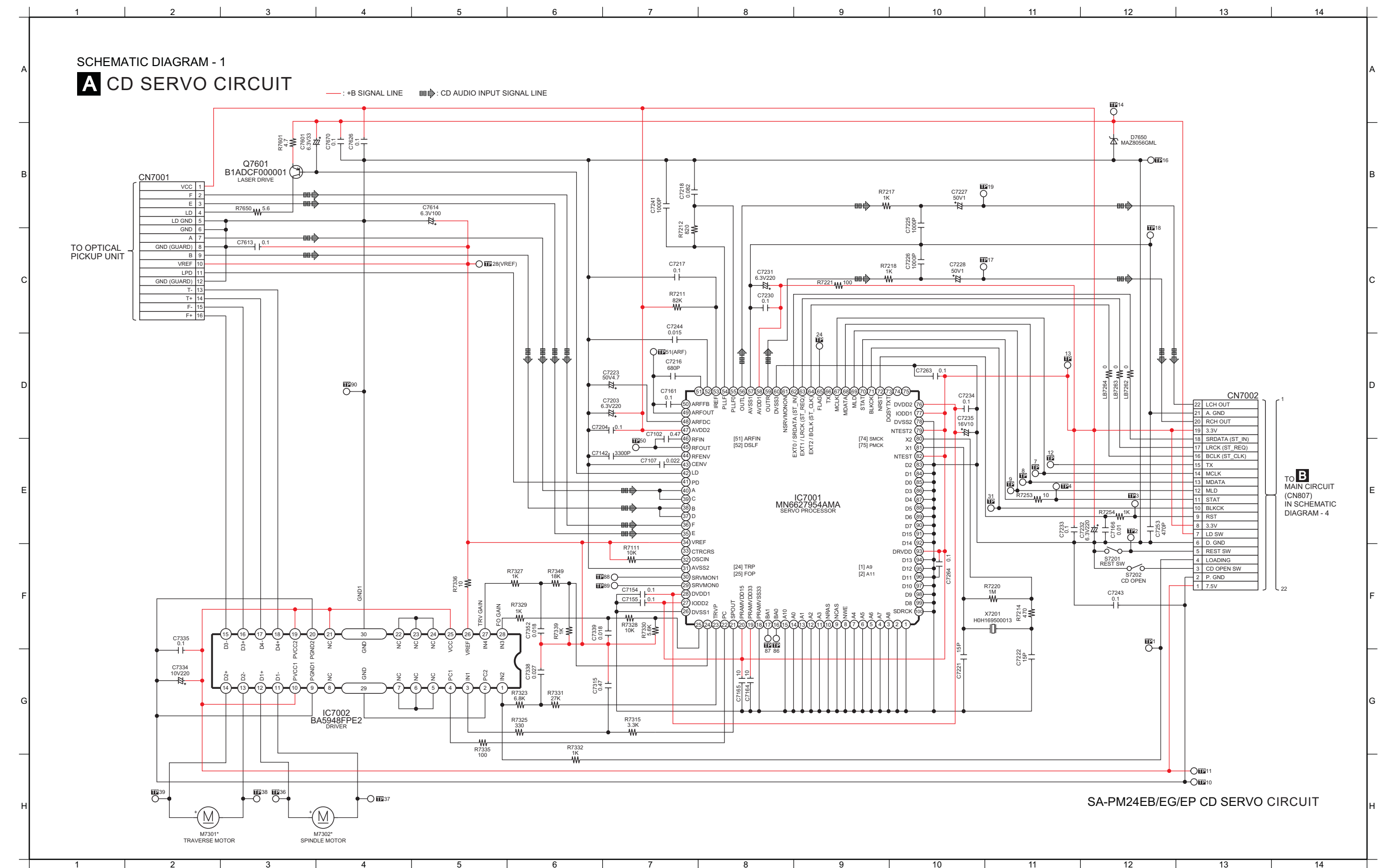
FUSE CAUTION



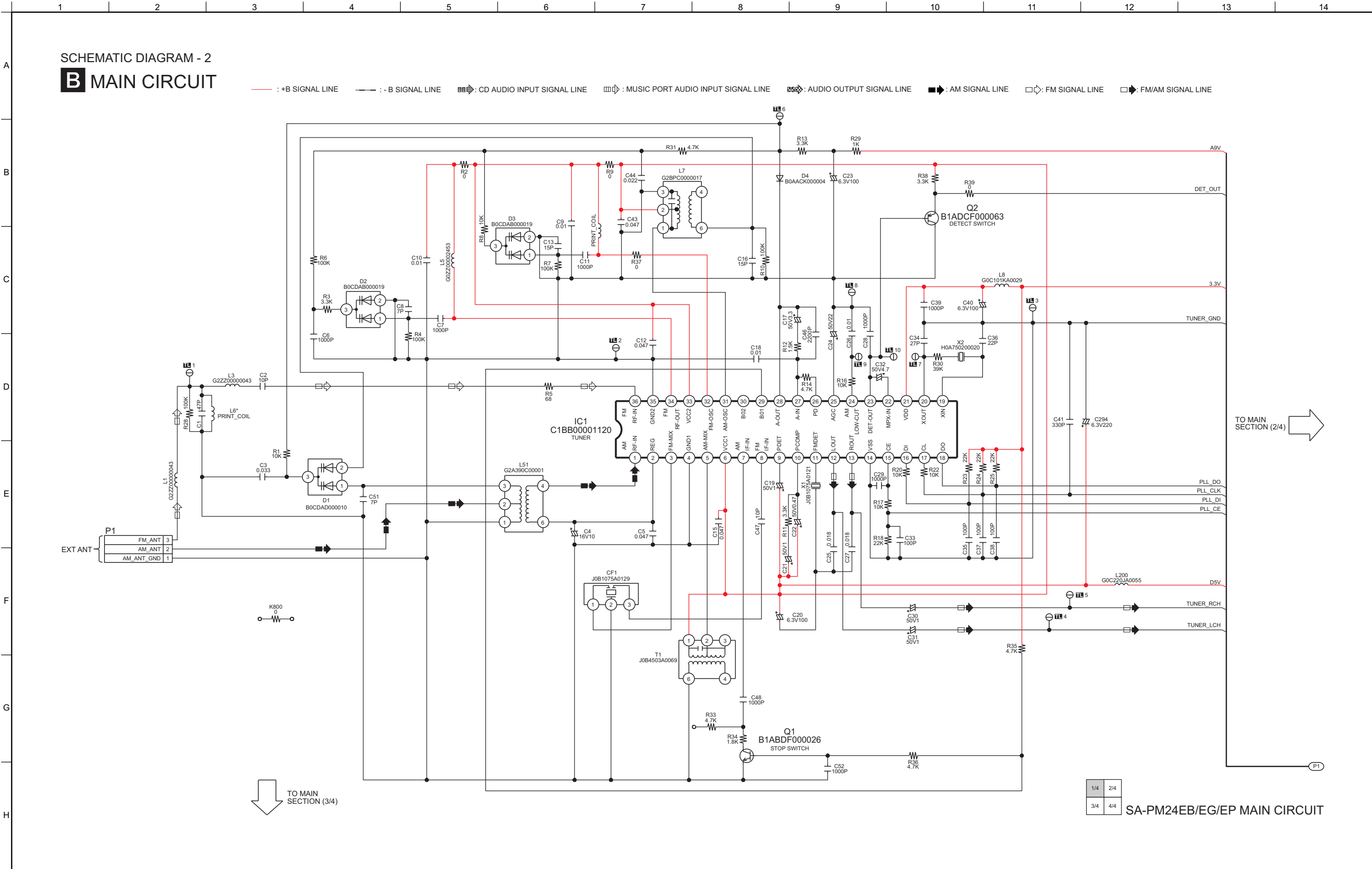
These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire hazard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

18 Schematic Diagram

18.1. CD SERVO CIRCUIT



18.2. MAIN CIRCUIT (1/4)



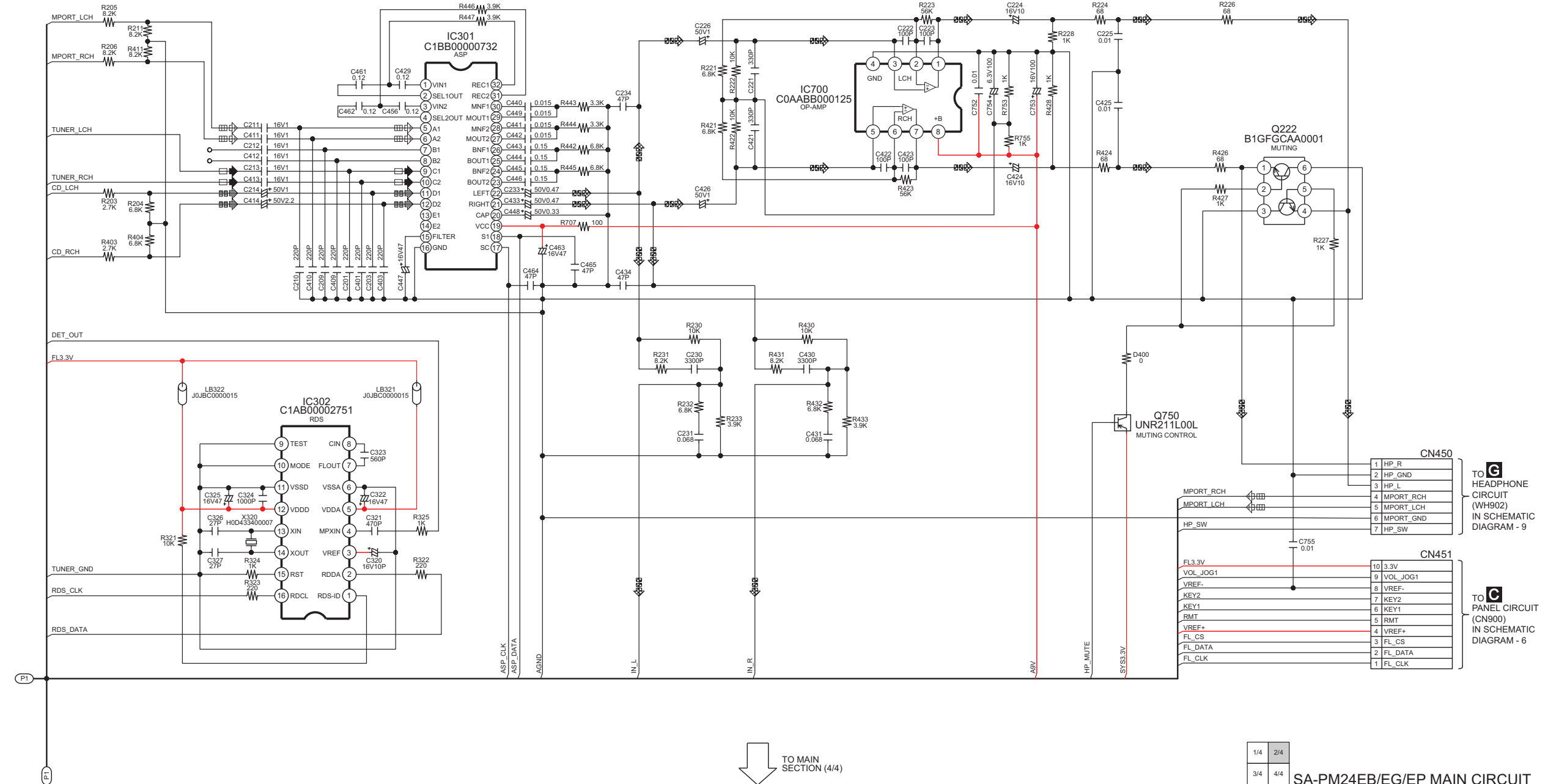
18.3. MAIN CIRCUIT (2/4)

SCHEMATIC DIAGRAM - 3

B MAIN CIRCUIT

— : +B SIGNAL LINE — : - B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE : MUSIC PORT AUDIO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : AM SIGNAL LINE : FM SIGNAL LINE : FM/AM SIGNAL LINE

← TO MAIN
SECTION (1/4)



18.4. MAIN CIRCUIT (3/4)

SCHEMATIC DIAGRAM - 4
B MAIN CIRCUIT

— : +B SIGNAL LINE — : -B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE : MUSIC PORT AUDIO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : AM SIGNAL LINE : FM SIGNAL LINE : FM/AM SIGNAL LINE

↑
TO MAIN
SECTION (1/4)

→
TO MAIN
SECTION (4/4)

TO **A**
CD SERVO
CIRCUIT
(CN7002)
IN SCHEMATIC
DIAGRAM - 1

TO **D**
USB CIRCUIT
(P901)
IN SCHEMATIC
DIAGRAM - 7

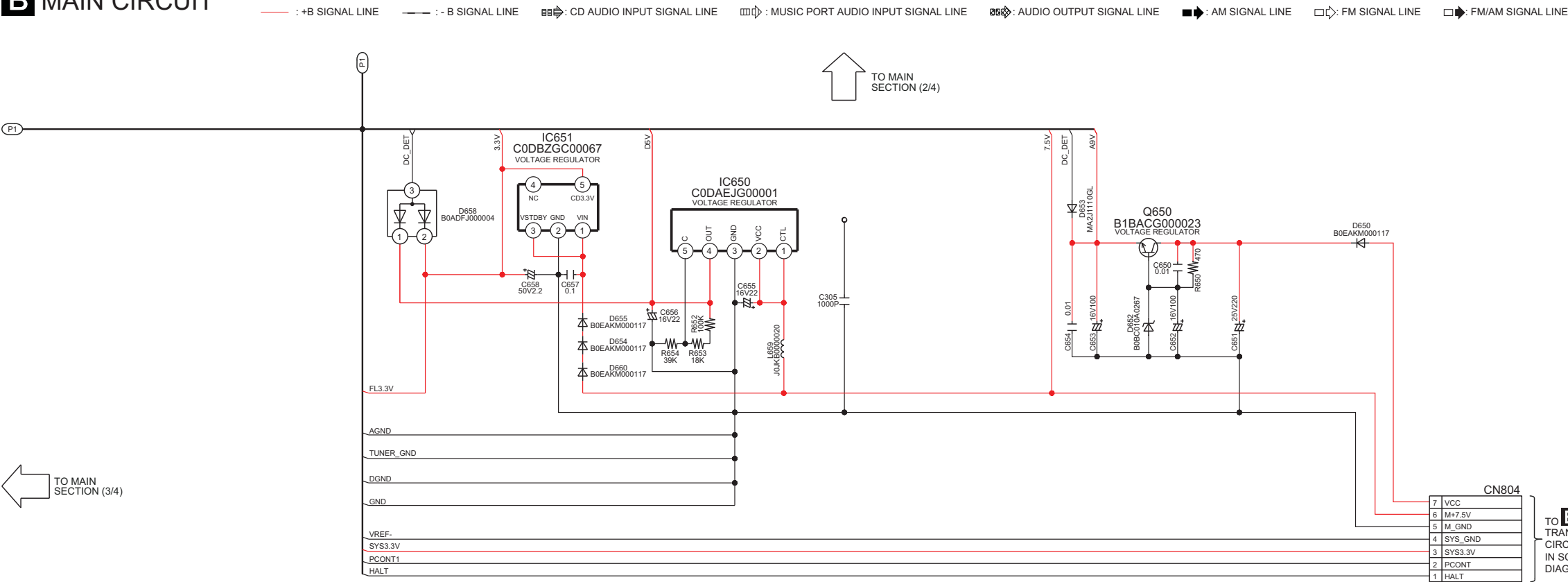
TO **F**
POWER CIRCUIT
(CN5102)
IN SCHEMATIC
DIAGRAM - 9

1/4 2/4
3/4 4/4
SA-PM24EB/EG/EP MAIN CIRCUIT

18.5. MAIN CIRCUIT (4/4)

SCHEMATIC DIAGRAM - 5

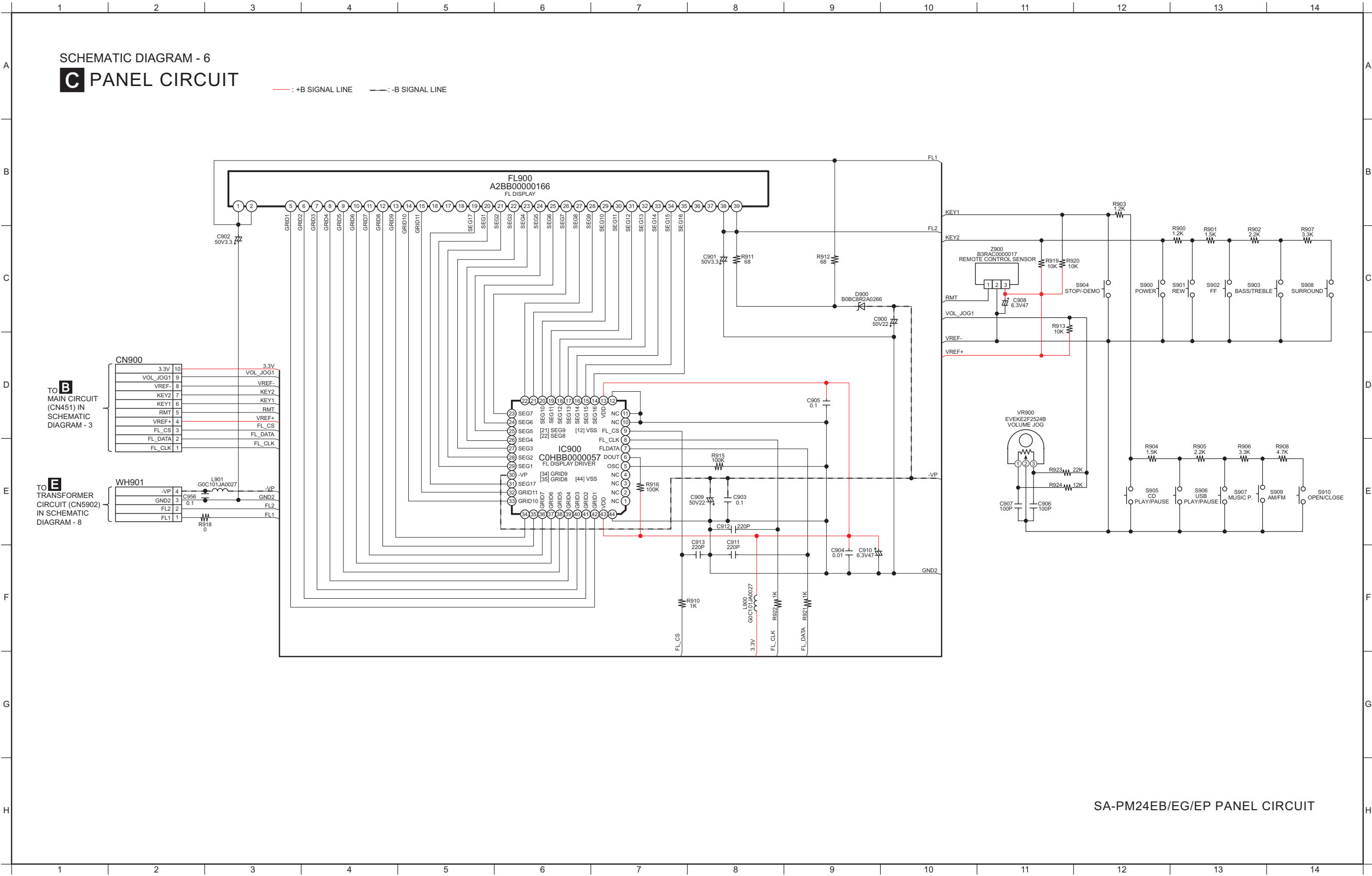
B MAIN CIRCUIT



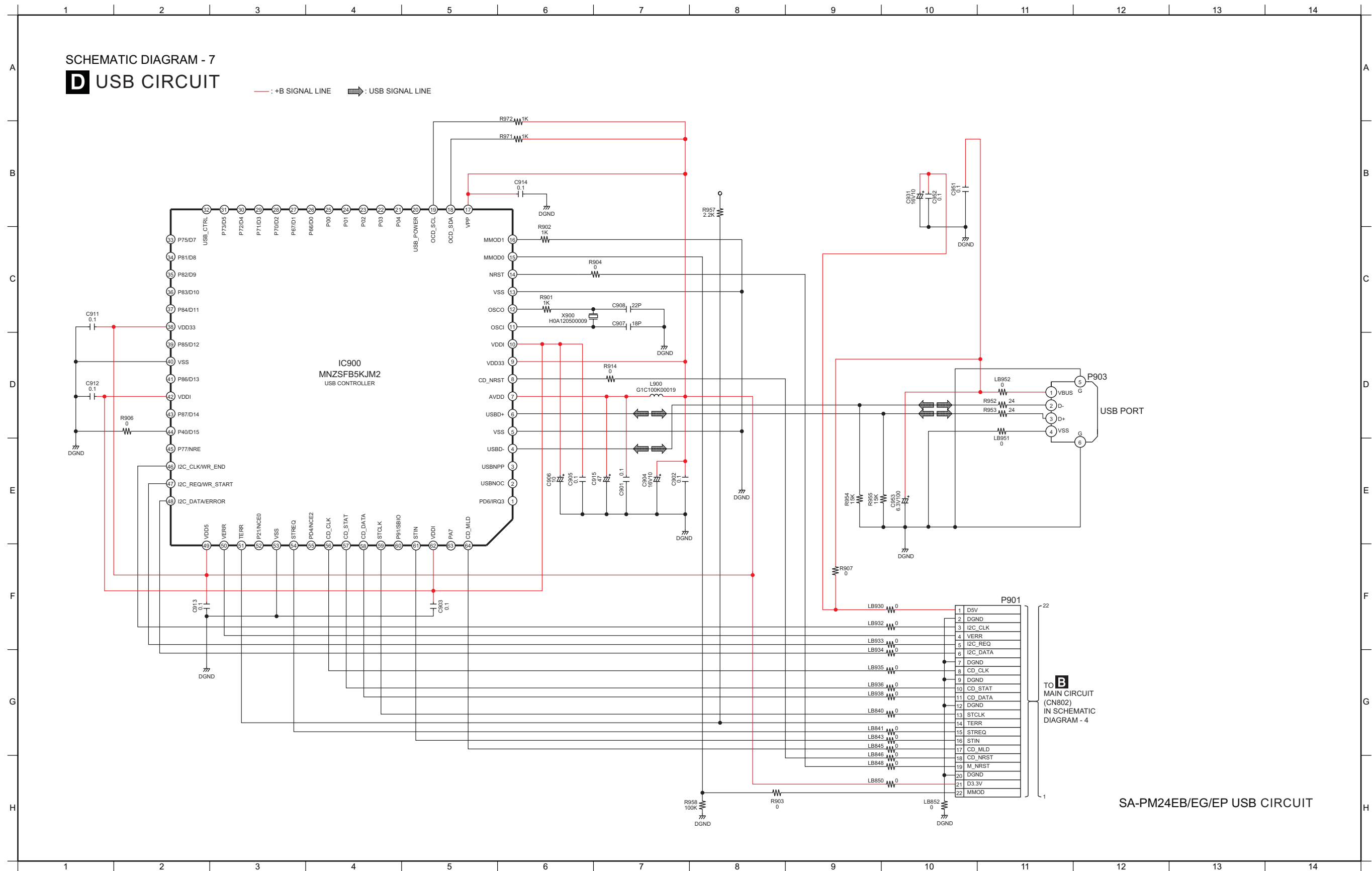
1/4 2/4
3/4 4/4

SA-PM24EB/EG/EP MAIN CIRCUIT

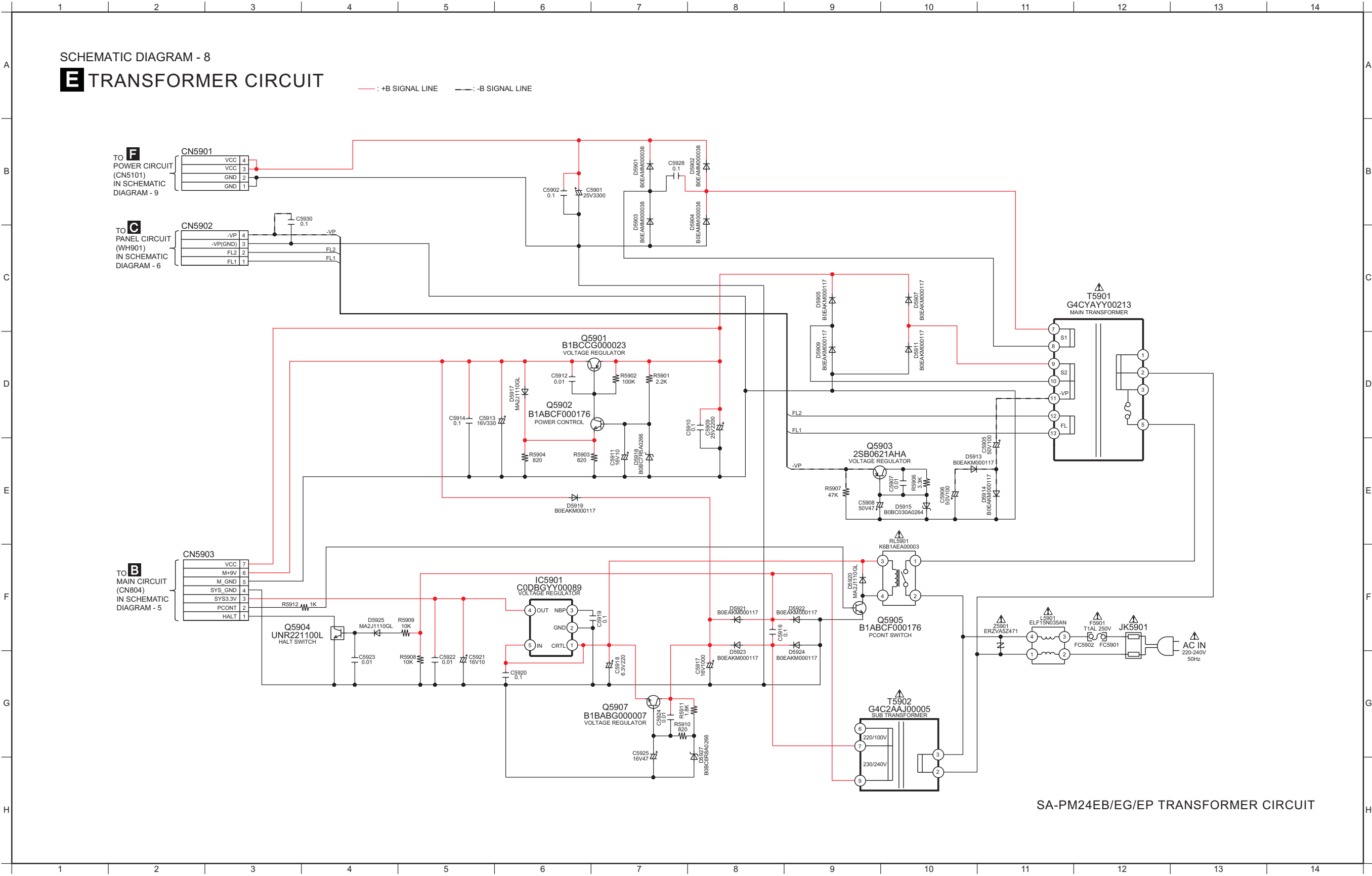
18.6. PANEL CIRCUIT



18.7. USB CIRCUIT



18.8. TRANSFORMER CIRCUIT

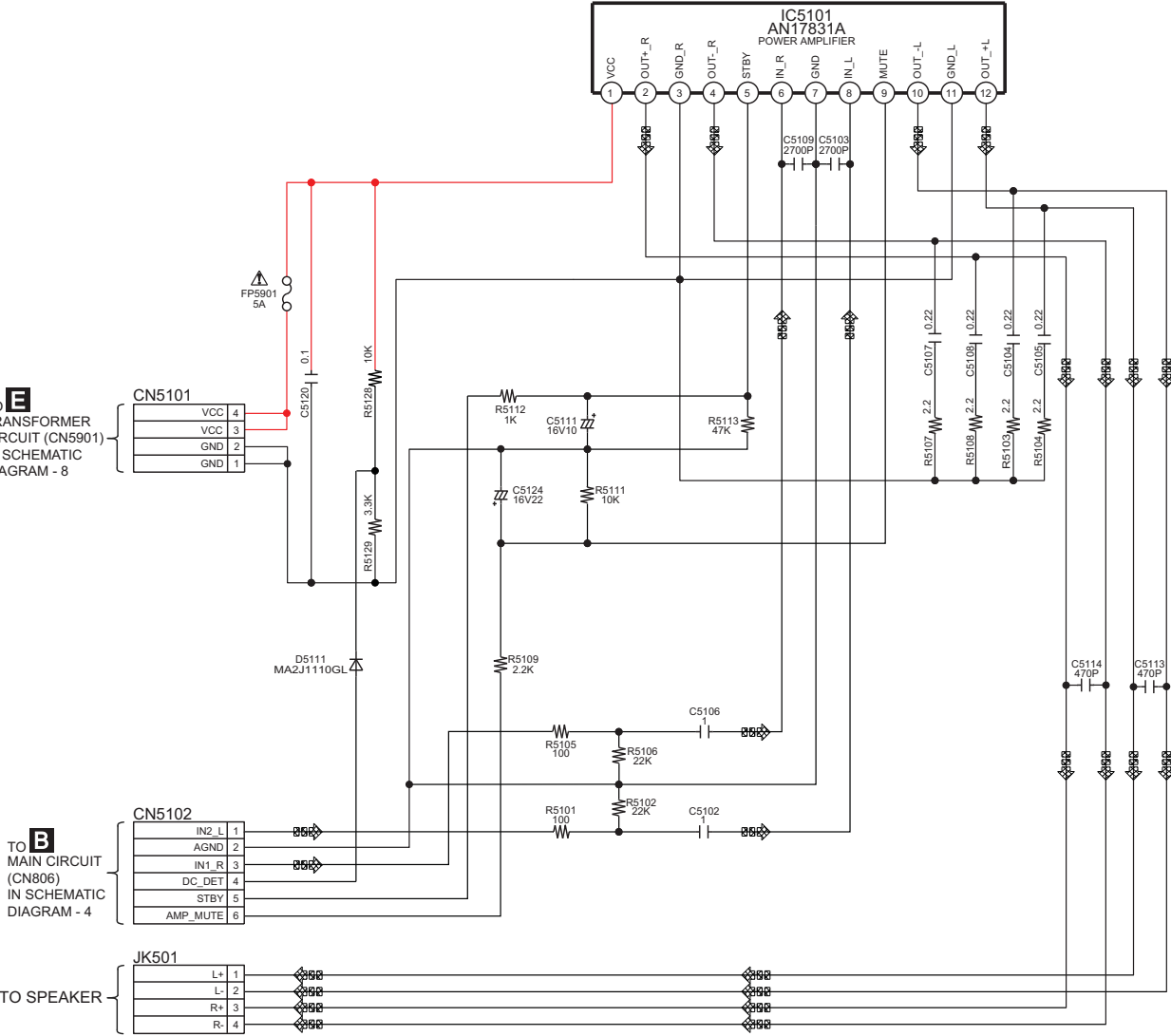


18.9. POWER CIRCUIT / HEADPHONE CIRCUIT

SCHEMATIC DIAGRAM - 9

F POWER CIRCUIT

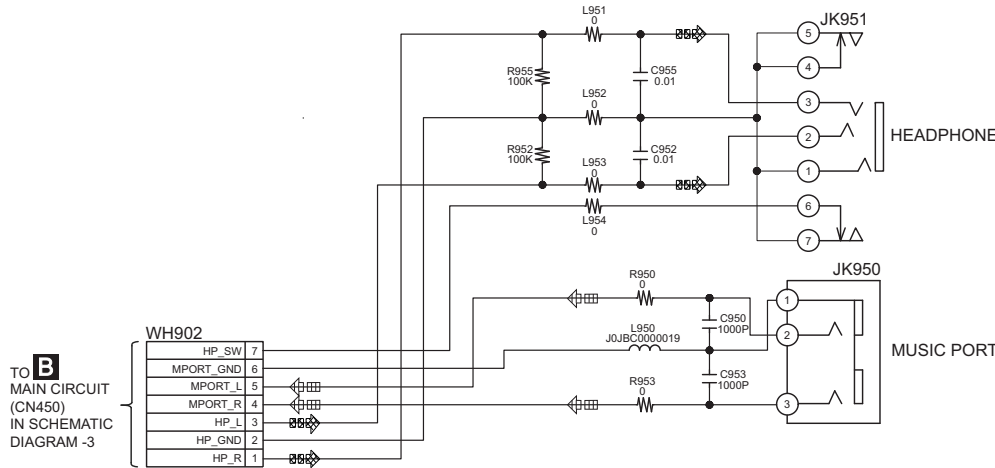
—: +B SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE



G HEADPHONE CIRCUIT

: MUSIC PORT AUDIO INPUT SIGNAL LINE

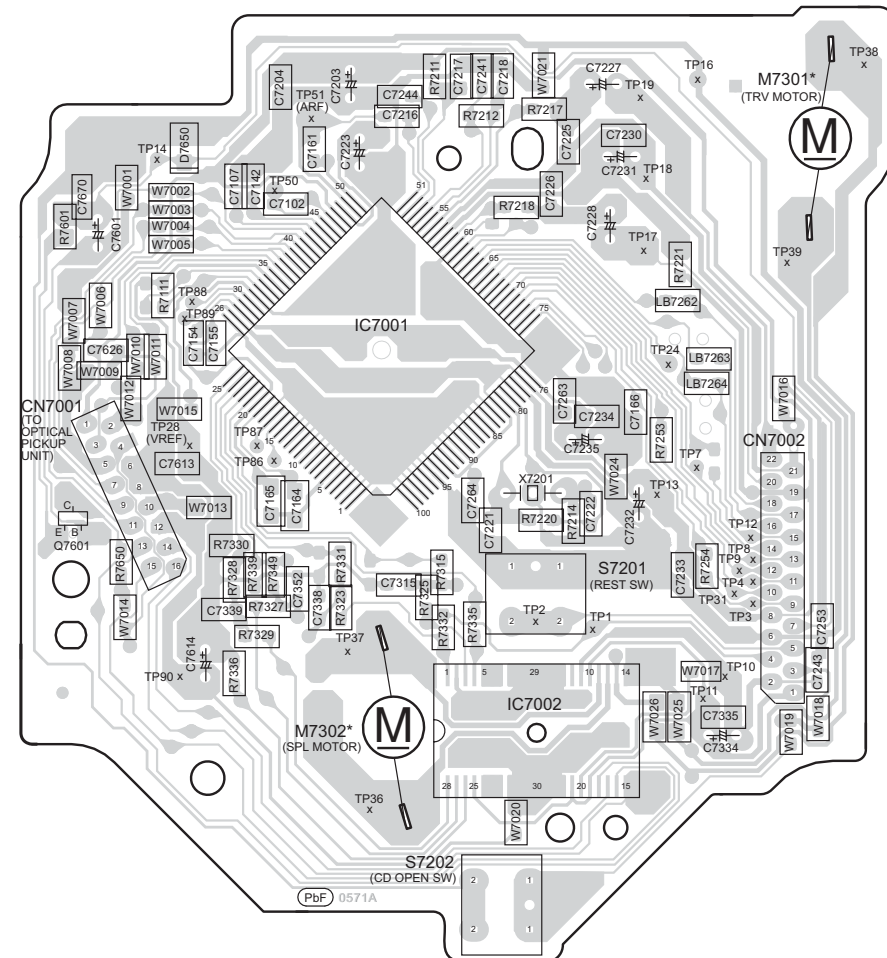
: AUDIO OUTPUT SIGNAL LINE



SA-PM24EB/EG/EP POWER / HEADPHONE CIRCUIT

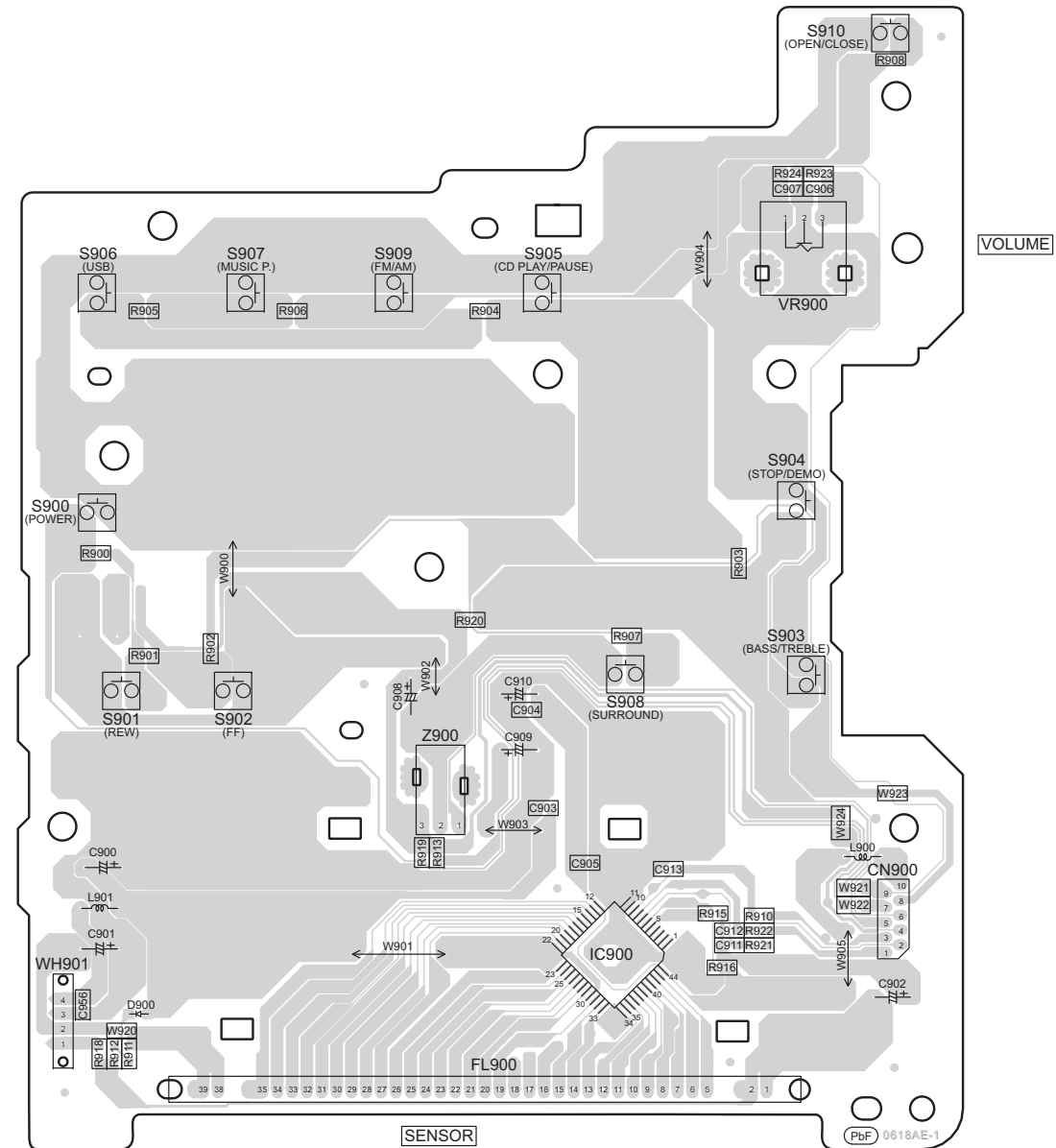
19.1. CD SERVO P.C.B. / PANEL P.C.B.

A CD SERVO P.C.B. (REPX0636A)



NOTE "*" REF IS FOR INDICATION ONLY

C PANEL P.C.B. (REPX0709AE)



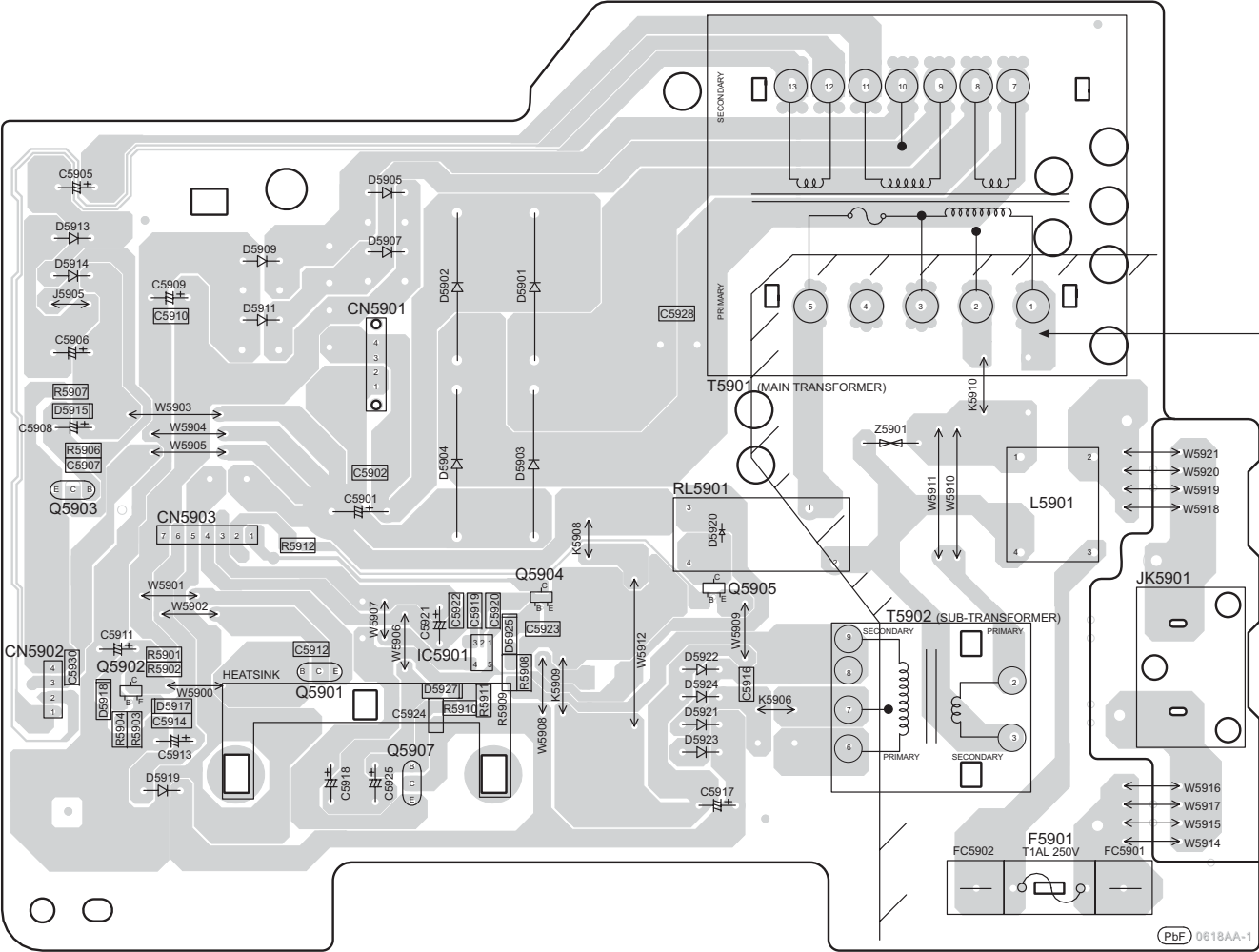
SA-PM24EB/EG/EP
CD SERVO/ PANEL P.C.B.

The image shows the PCB layout of the P901 module. The central component is IC900, a square integrated circuit. Surrounding it are various components: capacitors (C915, C951, C907, C905, C906, C903, C904, C902, C901, C900, C903, C904, C905, C906, C907, C908, C909, C910, C911, C912, C913, C914, C915, C916, C917, C918, C919, C920, C921, C922, C923, C924, C925, C926, C927, C928, C929, C930, C931, C932, C933, C934, C935, C936, C937, C938, C939, C940, C941, C942, C943, C944, C945, C946, C947, C948, C949, C950, C951, C952, C953, C954, C955, C956, C957, C958, C959, C960, C961, C962, C963, C964, C965, C966, C967, C968, C969, C970, C971, C972, C973, C974, C975, C976, C977, C978, C979, C980, C981, C982, C983, C984, C985, C986, C987, C988, C989, C990, C991, C992, C993, C994, C995, C996, C997, C998, C999, C1000), resistors (R900, R901, R902, R903, R904, R905, R906, R907, R908, R909, R910, R911, R912, R913, R914, R915, R916, R917, R918, R919, R920, R921, R922, R923, R924, R925, R926, R927, R928, R929, R930, R931, R932, R933, R934, R935, R936, R937, R938, R939, R940, R941, R942, R943, R944, R945, R946, R947, R948, R949, R950, R951, R952, R953, R954, R955, R956, R957, R958, R959, R960, R961, R962, R963, R964, R965, R966, R967, R968, R969, R970, R971, R972, R973, R974, R975, R976, R977, R978, R979, R980, R981, R982, R983, R984, R985, R986, R987, R988, R989, R990, R991, R992, R993, R994, R995, R996, R997, R998, R999, R1000), and other components like P903, P901, W22, W23, W24, W25, W26, W27, W28, W29, W30, W31, W32, W33, W34, W35, W36, W37, W38, W39, W40, W41, W42, W43, W44, W45, W46, W47, W48, W49, W50, W51, W52, W53, W54, W55, W56, W57, W58, W59, W60, W61, W62, W63, W64, W65, W66, W67, W68, W69, W70, W71, W72, W73, W74, W75, W76, W77, W78, W79, W80, W81, W82, W83, W84, W85, W86, W87, W88, W89, W90, W91, W92, W93, W94, W95, W96, W97, W98, W99, W100). A USB PORT is indicated on the left side. The bottom right corner shows the text 'PbF 0622A'.

SA-PM24EB/EG/EP
MAIN/ USB P.C.B.

19.3. HEADPHONE P.C.B. / POWER P.C.B. / TRANSFORMER P.C.B.

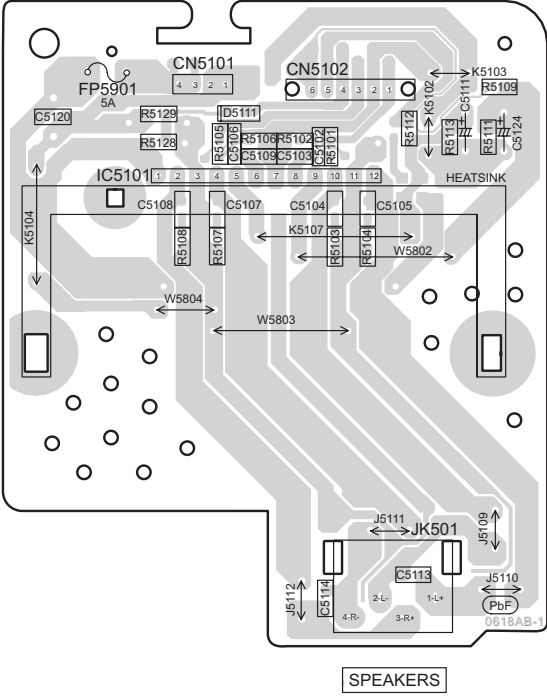
E TRANSFORMER P.C.B. (REPX0709AA)



CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE.
PLEASE DO NOT TOUCH THIS P.C.B.

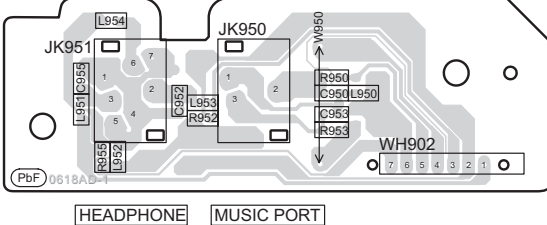
AC IN ~
220V~240V 50Hz

F POWER P.C.B. (REPX0709AB)



SPEAKERS

G HEADPHONE P.C.B. (REPX0709AD)



HEADPHONE MUSIC PORT

SA-PM24EB/EG/EP
TRANSFORMER/ POWER/ HEADPHONE P.C.B.

20 Terminal Function of IC's

20.1. IC800 (RFKWMPM5EB) MICRO PROCESSOR

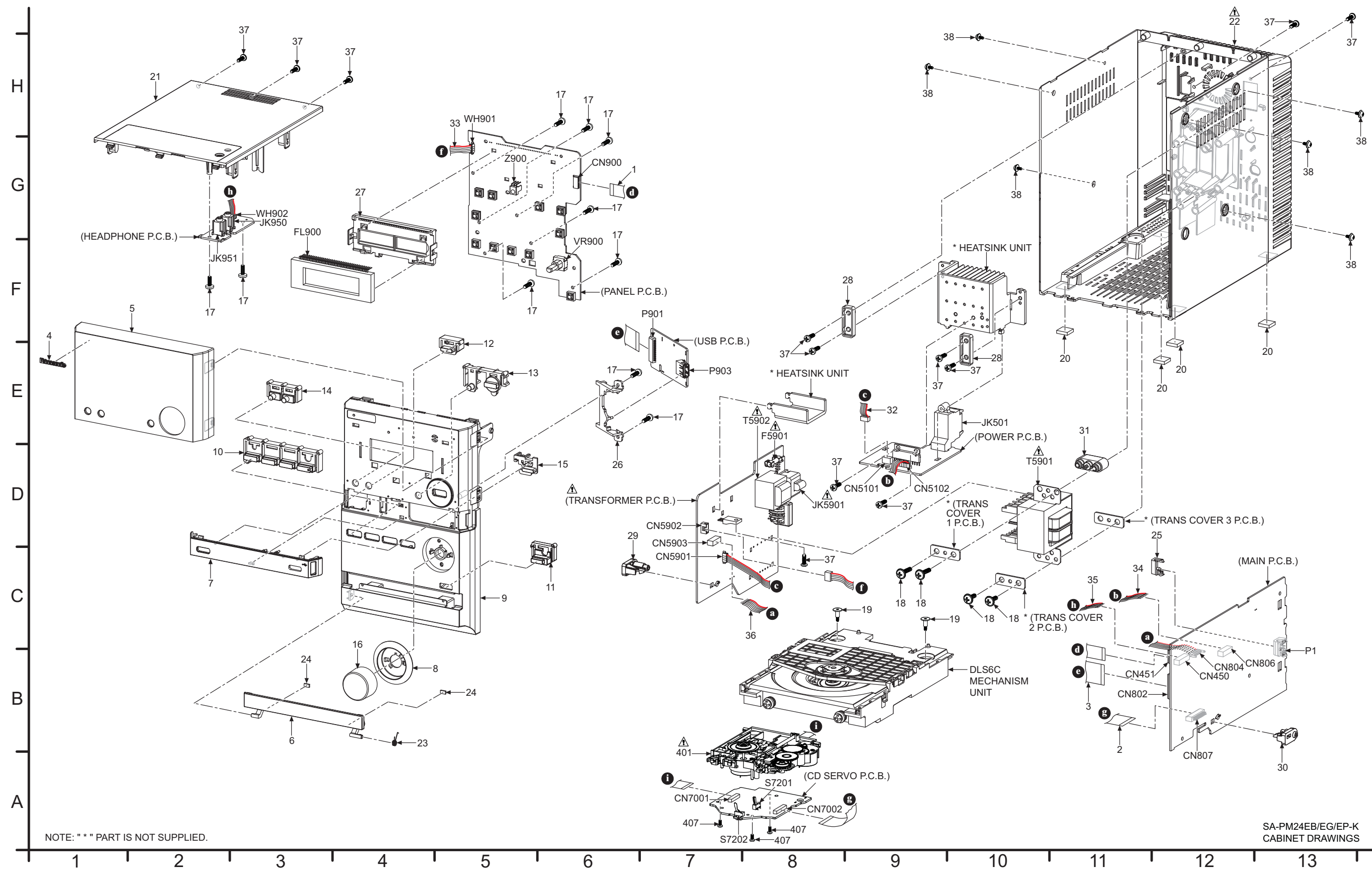
Pin No.	Mark	I/O	Function
1	PCONT1	O	Power Control Output 1(Pwr Sply,Active HIGH)
2	PCONT2	O	Power Control Output 2
3	FL_CS	O	Chip select for FL Panel
4	FL DATA OCD_SDA	O	FL Data Output
5	MUTE_HP	O	Analog MUTE Output (L:MUTE ON)
6	FL_CLK OCD_SCL	O	FL CLK Output On Chip Debugger Clock
7	HP_SW	I	Headphone detect switch input
8	MBP1	-	No Connection
9	MBP2	-	No Connection
10	NC	-	No Connection
11	MMOD	I	Memory mode selection
12	OSC2 (8MHz)	O	Main Oscillator output (8MHz)
13	OSC1 (8MHz)	I	Main Oscillator input (8MHz)
14	VSS	-	Micom GND
15	XI (32KHz)	I	Slow Oscillator input (32KHz)
16	XO (32KHz)	O	Slow Oscillator output (32KHz)
17	3.3V	-	3.3V
18	Internal (1.8V)	-	Connect to pin 37
19	NRST	I	MICOM RESET PIN (L: reset)
20	USB_IRQ	I	USB Interrupt Request
21	MMOD0	O	Switching Mode
22	TERR/FLAG	I	Timeout Error/Current Limiter IC output
23	VERR/CTRL	O	Verify Error/Current Limiter IC input CTRL H: Cut 5V supply L: Normal
24	USB_RST	O	USB Reset Pin
25	RMT	I	Remote Control Input
26	HALT	I	AC detection
27	DAB_DDOWFIC	-	No Connection
28	NC	-	No Connection
29	BLKCK	I	CD Subcode Block Clock Input
30	VSS	O	Micom GND
31	CD_MDATA	O	CD LSI Command Data
32	STAT	I	CD LSI Status Input
33	CD_MCLK	O	CD LSI Command Clock
34	USB_SDA	I/O	USB I2C Data Line
35	CD_MLD	O	CD LSI Command Load
36	USB_SCL	I	USB I2C Clock Line
37	1.8V	-	Power Supply (1.8V)
38	NC	-	No Connection
39	VSS	-	Micom GND
40	CLOSE_L	O	CD Tray Close Control (Active L)
41	OPEN_H	O	CD Tray Open Control (Active H)
42	CD_OPEN_SW	I	CD Open SW (H:Open; L:Close)
43	REST_SW	I	REST SW (L:Inner)
44	NC	-	No Connection
45	CD_RST	O	CD LSI Reset Ouput (L: reset)
46	NC	-	No Connection
47	Demo_Setting	I	Demo Mode Setting Input
48	MODEL_SELEC T	I	Tape Select (H: PM5)
49	PLL_DI	I	PLL Data Input
50	PLL_DO	O	PLL Data Output
51	PLL_CLK	O	PLL Clock
52	PLL_CE	O	PLL chip select
53	NC	-	No Connection
54	NC	-	No Connection
55	NC	-	No Connection
56	NC	-	No Connection

Pin No.	Mark	I/O	Function
57	NC	-	No Connection
58	NC	-	No Connection
59	NC	-	No Connection
60	NC	-	No Connection
61	NC	-	No Connection
62	CRTIMER	I/O	CR TIMER
63	VSS	-	Micom GND
64	ASP_CLK	I/O	ASP Sound Processor Serial Clock Output
65	ASP_DATA	I/O	ASP Sound Processor Serial Data Output
66	NC	O	No Connection
67	DAB_RST	-	No Connection
68	DAB_TU_RST	-	No Connection
69	DAB_TU_SCL	-	No Connection
70	DAB_TU_SDA	-	No Connection
71	DAB_PCONT	-	No Connection
72	DAB_RX	-	No Connection
73	RDS_DATA	I	RDS_DATA Input
74	RDS_CLK	I	RDS_CLK Input
75	DAB_MODE	-	No Connection
76	NC	-	No Connection
77	NC	-	No Connection
78	NC	-	No Connection
79	NC	-	No Connection
80	NC	-	No Connection
81	NC	-	No Connection
82	NC	-	No Connection
83	NC	-	No Connection
84	NC	-	No Connection
85	NC	-	No Connection
86	NC	-	No Connection
87	NC	-	No Connection
88	FAN_SW	O	Fan Switch
89	VDD	-	Micom VDD +5V
90	ADM_MUTE	O	Amplifier MUTE Output (H:MUTE ON)
91	VSS	-	GROUND
92	KEY1	I	Key 1 input
93	KEY2	I	Key 2 input
94	NC	-	No Connection
95	NC	-	No Connection
96	DCDET	I	DC Level Detection Input
97	REGION	I	Region Setting Input
98	VOL_JOG	I	Jog Input
99	NC	O	No Connection
100	VREF+	-	A/D Converter reference voltage +3.3V

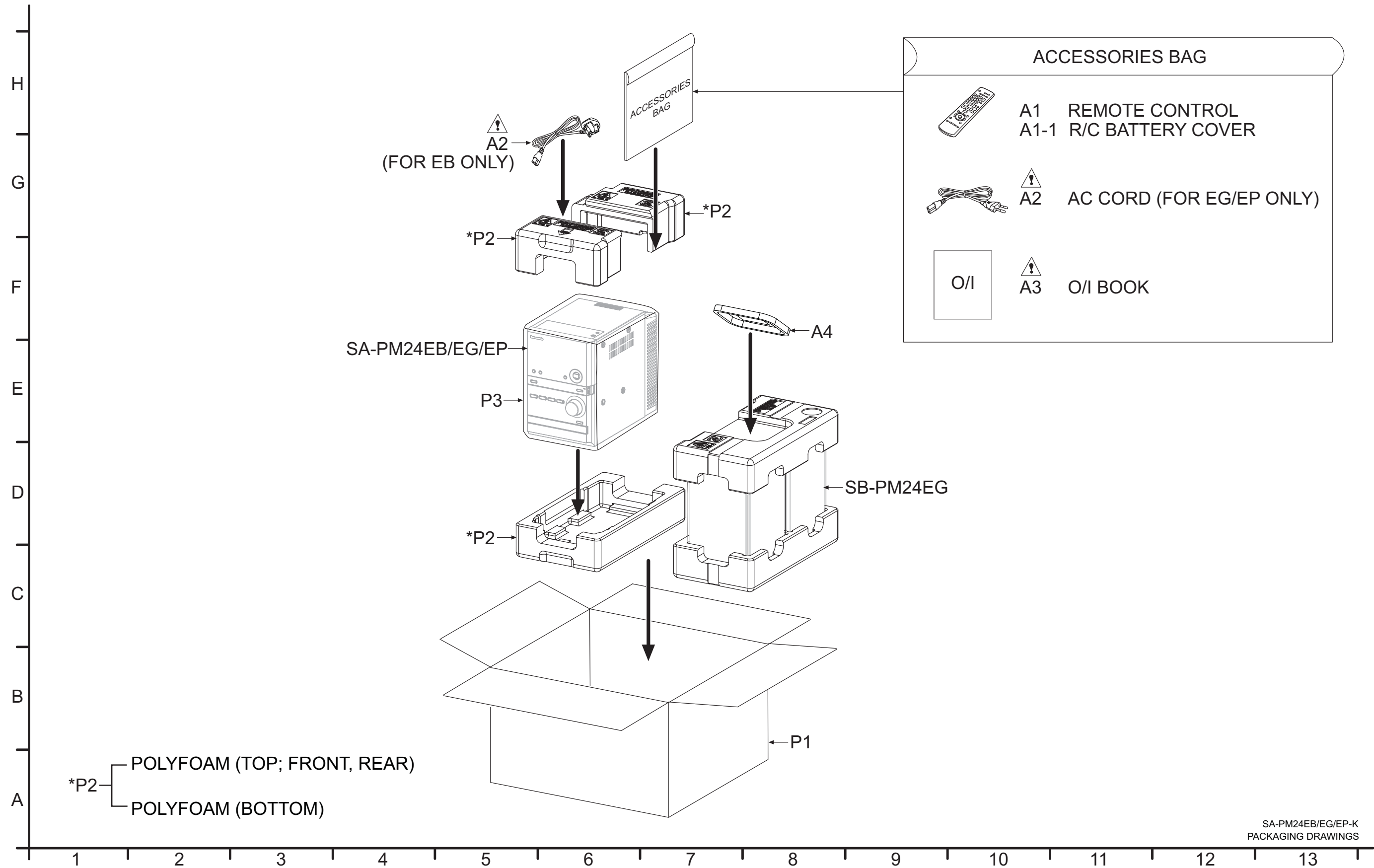
21 Exploded View and Replacement Parts List

21.1. Exploded View and Mechanical Replacement Parts List

21.1.1. Cabinet Parts Location




21.1.2. Packaging



21.1.3. Mechanical Repacement Parts List

Important Safety Notice

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

RTL (Retention Time Limited)



Note: The marking (RTL) indicates that the Retention Time is Limited for this item.


After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Note:

- When replacing any of these components, be sure to use only manufacturer's specified parts shown in the replacement part list.
- The parenthesized indications on the Remarks column specify the destination & product color (Refer to the cover page for the information).
- Parts without these indications shall be used for all areas.
- This product uses a laser diode. Refer to "Precaution of Laser Diode".
- All parts mentioned are supplied by PAVCSG unless indicated likewise.
- Parts mentioned [SPG] in the Remarks column are supplied by PAVC-CSG.
- Reference for O/I book languages are as follows:

Ar:	Arabic	Du:	Dutch	It:	Italian	Sp:	Spanish
Cf:	Canadian French	En:	English	Ko:	Korean	Sw:	Swedish
Cz:	Czech	Fr:	French	Po:	Polish	Co:	Traditional Chinese
Da:	Danish	Ge:	German	Ru:	Russian	Cn:	Simplified Chinese
Pe:	Persian	Ur:	Ukraine	Pr:	Portuguese		


Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
			CABINET AND CHASSIS		
	1	REEX0740	10P FFC (PANEL-MAIN)	1	
	2	REEX0945	22P WIRE (MAIN-DLS6C)	1	
	3	REEX0947	22P WIRE (USB-MAIN)	1	
	4	RGBV0016-S	PANASONIC BADGE	1	
	5	RGKX0513G-H	FL WINDOW	1	
	6	RGKX0514C-1S	CD LID	1	
	7	RGKX0515F-1S	CENTER ORNAMENT	1	
	8	RGKX0523-2S	VOLUME RING	1	
	9	RGPX0370N-1S	FRONT PANEL	1	
	10	RGUX0800-1S	FUNCTION BUTTON	1	
	11	RGUX0801A-1S	CD EJECT BUTTON	1	
	12	RGUX0802-1S	POWER BUTTON	1	
	13	RGUX0803-K	BASS/TREBLE BUT-TON	1	
	14	RGUX0804-K	FF/REW BUTTON	1	
	15	RGUX0805-1S	STOP BUTTON	1	
	16	RGWV0047-3S	VOLUME KNOB	1	
	17	RHD26046-L	SCREW	10	
	18	RHDC0023	SCREW	4	
	19	RHDX03001	SCREW	2	
	20	RKAX0042-K	LEG CUSHION	4	
	21	RKMX0149D-K	TOP CABINET	1	
	22	RFKHAPM24EBK	REAR CABINET ASS'Y	1	EB
	22	RFKHAPM24EGK	REAR CABINET ASS'Y	1	EG
	22	RFKHAPM24EPK	REAR CABINET ASS'Y	1	EP
	23	RMBX0088	CD LID SPRING	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	24	RMG0547-K	CUSHION	2	
	25	RMNV0084	ANTENNA HOLDER	1	
	26	RMNX0304	USB HOLDER	1	
	27	RMNV0062A	FL HOLDER	1	
	28	RMQX0353	HEAT SINK SUPPORT	2	
	29	RMQX0354	TRANSFORMER PCB SUPPORT	1	
	30	RMQX0355	MAIN PCB SUPPORT	1	
	31	RMQX0359	TRANSFORMER SPACER	1	
	32	RWJ0204130XX	4P WIRE (TRANSFORMER-POWER)	1	
	33	RWJ1104135XX	4P WIRE (PANEL-TRANSFORMER)	1	
	34	RWJ1106090XX	6P WIRE (POWER-MAIN)	1	
	35	RWJ1107125XX	7P WIRE (MAIN-TRANSFORMER)	1	
	36	RWJ1107138XX	5P WIRE (HEADPHONE-MAIN)	1	
	37	XTB3+10JFJ	SCREW	12	
	38	XTW3+10SFJ	SCREW	6	
			TRAVERSE DECK		
	401	RAEX0190Z-V	TRAVERSE UNIT	1	
	407	XTN2+6GFJ	TRAVERSE UNIT	3	
			PACKING MATERIALS		
	P1	RPGX3256	PACKING CASE	1	EG
	P1	RPGX3257	PACKING CASE	1	EB
	P1	RPGX3258	PACKING CASE	1	EP
	P2	RPNX0605	POLYFOAM	1	
	P3	RPHV0001-1	MIRAMAT SHEET	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
			ACCESSORIES		
	A1	N2QAYB000384	REMOTE CONTROL	1	
	A1-1	RKK-PT470EBK	R/C BATTERY COVER	1	
⚠	A2	K2CQ2CA00007	AC CORD	1	EG/EP
⚠	A2	K2CZ3YY00005	AC CORD	1	EB
⚠	A3	RQTX0179-2D	O/I BOOK (Ge/It/ Fr/Sp)	1	EG
⚠	A3	RQTX0180-2H	O/I BOOK (Du/Da/ Sw)	1	EG
⚠	A3	RQTX0181-2E	O/I BOOK (Sp)	1	EP
⚠	A3	RQTX0182-2B	O/I BOOK (En)	1	EP
⚠	A3	RQTX0183-2R	O/I BOOK (Ru/Ur)	1	EP
⚠	A3	RQTX0262-2B	O/I BOOK (En)	1	EB
	A4	N1DADYY00003	AM ANTENNA	1	

21.2. Electrical Replacement Parts List

Important Safety Notice

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


RTL (Retention Time Limited)

Note: The marking (RTL) indicates that the Retention Time is Limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Note:

- When replacing any of these components, be sure to use only manufacturer's specified parts shown in the replacement part list.
- The parenthesized indications on the Remarks column specify the destination & product color (Refer to the cover page for the information).
- Parts without these indications shall be used for all areas.
- This product uses a laser diode. Refer to "Precaution of Laser Diode".
- Capacitor value are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF), F=Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1000 (OHM).
- All parts mentioned are supplied by PAVCSG unless indicated likewise.
- Parts mentioned [SPG] in the Remarks column are supplied by PAVC-CSG.

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
			PRINTED CIRCUIT BOARDS		
	PCB1	REPX0709AA	TRANSFORMER P.C.B.	1	(RTL)
	PCB2	REPX0709AB	POWER P.C.B.	1	(RTL)
	PCB3	REPX0709AC	MAIN P.C.B.	1	(RTL)
	PCB4	REPX0709AD	HEADPHONE P.C.B.	1	(RTL)
	PCB5	REPX0709AE	PANEL P.C.B.	1	(RTL)
	PCB6	REPX0720B	USB P.C.B.	1	(RTL)
	PCB7	REPX0636A	CD SERVO P.C.B.	1	(RTL)
			INTEGRATED CIRCUITS		
	IC1	C1BB00001120	IC	1	
	IC301	C1BB00000732	IC	1	
	IC302	C1AB00002751	IC	1	
	IC650	C0DAEJG00001	IC	1	
	IC651	C0DBZGC00067	IC	1	
	IC700	C0AABB000125	IC	1	
	IC800	RFKWMPM5EB	IC	1	
	IC900	C0HBB0000057	IC	1	
	IC900	MNZSFB5KJM2	IC	1	
	IC5101	AN17831A	IC	1	
	IC5901	C0DBGYY00089	IC	1	
	IC7001	MN6627954AMA	IC	1	
	IC7002	BA5948FPE2	IC	1	
			TRANSISTORS		
	Q1	B1ABDF000026	TRANSISTOR	1	
	Q2	B1ADCF000063	TRANSISTOR	1	
	Q222	B1GFGCA0001	TRANSISTOR	1	
	Q650	B1BACG000023	TRANSISTOR	1	
	Q750	UNR211L00L	TRANSISTOR	1	
	Q801	B1GBCFJN0028	TRANSISTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	Q5901	B1BCCG000023	TRANSISTOR	1	
	Q5902	B1ABCF000176	TRANSISTOR	1	
	Q5903	2SB0621AHA	TRANSISTOR	1	
	Q5904	UNR221100L	TRANSISTOR	1	
	Q5905	B1ABCF000176	TRANSISTOR	1	
	Q5907	B1BAG000007	TRANSISTOR	1	
	Q7601	B1ADCF000001	TRANSISTOR	1	
			DIODES		
	D1	B0CDAD000010	DIODE	1	
	D2	B0CDAB000019	DIODE	1	
	D3	B0CDAB000019	DIODE	1	
	D4	B0AACK000004	DIODE	1	
	D650	B0EAKM000117	DIODE	1	
	D652	B0BC010A0267	DIODE	1	
	D653	MA2J1110GL	DIODE	1	
	D654	B0EAKM000117	DIODE	1	
	D655	B0EAKM000117	DIODE	1	
	D658	B0ADFJ000004	DIODE	1	
	D660	B0EAKM000117	DIODE	1	
	D802	MA2J1110GL	DIODE	1	
	D805	MA2J1110GL	DIODE	1	
	D806	MA2J1110GL	DIODE	1	
	D807	MA2J1110GL	DIODE	1	
	D900	B0BC8R2A0266	DIODE	1	
	D5111	MA2J1110GL	DIODE	1	
	D5901	B0EAMM000038	DIODE	1	
	D5902	B0EAMM000038	DIODE	1	
	D5903	B0EAMM000038	DIODE	1	
	D5904	B0EAMM000038	DIODE	1	
	D5905	B0EAKM000117	DIODE	1	
	D5907	B0EAKM000117	DIODE	1	
	D5909	B0EAKM000117	DIODE	1	
	D5911	B0EAKM000117	DIODE	1	
	D5913	B0EAKM000117	DIODE	1	
	D5914	B0EAKM000117	DIODE	1	
	D5915	B0BC030A0264	DIODE	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	D5917	MA2J1110GL	DIODE	1	
	D5918	B0BC7R5A0266	DIODE	1	
	D5919	B0EAKM000117	DIODE	1	
	D5920	MA2J1110GL	DIODE	1	
	D5921	B0EAKM000117	DIODE	1	
	D5922	B0EAKM000117	DIODE	1	
	D5923	B0EAKM000117	DIODE	1	
	D5924	B0EAKM000117	DIODE	1	
	D5925	MA2J1110GL	DIODE	1	
	D5927	B0BC6R8A0266	DIODE	1	
	D7650	MAZ8056GML	DIODE	1	
			VARIABLE RESISTORS		
	VR900	EVEKE2F2524B	VOLUME ENCODER	1	
			SWITCHES		
	S900	EVQ21405RJ	SW POWER	1	
	S901	EVQ21405RJ	SW REW	1	
	S902	EVQ21405RJ	SW FF	1	
	S903	EVQ21405RJ	SW BASS/TREBLE	1	
	S904	EVQ21405RJ	SW STOP/-DEMO	1	
	S905	EVQ21405RJ	SW CD PLAY/PAUSE	1	
	S906	EVQ21405RJ	SW USB	1	
	S907	EVQ21405RJ	SW MUSIC P.	1	
	S908	EVQ21405RJ	SW SURROUND	1	
	S909	EVQ21405RJ	SW FM/AM	1	
	S910	EVQ21405RJ	SW CD OPEN/CLOSE	1	
	S7201	RSH1A045-1A	SW REST	1	
	S7202	RSH1A045-1A	SW CD OPEN	1	
			CONNECTORS		
	CN450	K1MP07A00011	7P CONNECTOR	1	
	CN451	K1MN10AA0003	10P CONNECTOR	1	
	CN800	K1MY06AA0124	6P CONNECTOR	1	
	CN802	K1MN22AA0004	22P CONNECTOR	1	
	CN804	K1YZ07000001	7P CABLE HOLDER	1	
	CN806	K1MP06A00003	5P CONNECTOR	1	
	CN807	K1MN22AA0004	22P CONNECTOR	1	
	CN900	K1MN10BA0004	10P CONNECTOR	1	
	CN5101	K1MP04A00003	4P CONNECTOR	1	
	CN5102	K1YZ06000002	6P WIRE HOLDER	1	
	CN5901	K1YZ04000002	4P CABLE HOLDER	1	
	CN5902	K1MP04A00003	4P CONNECTOR	1	
	CN5903	K1MP07A00011	7P CONNECTOR	1	
	CN7001	K1MN16B00154	16P CONNECTOR	1	
	CN7002	K1MN22BA0005	22P CONNECTOR	1	
	P1	K1KA03BA0125	3P CONNECTOR	1	
	P901	K1MN22BA0005	22P CONNECTOR	1	
	P903	K1FY104B0011	USB CONNECTOR	1	
			COILS AND INDUC-TORS		
	L1	G2ZZ00000043	BIAS OSC COIL	1	
	L3	G2ZZ00000043	BIAS OSC COIL	1	
	L5	G0ZZ00002453	COIL	1	
	L7	G2BPC0000017	AM IFT COIL	1	
	L8	G0C101KA0029	FIXED INDUCTOR	1	
	L51	G2A390C00001	ANTENNA COIL	1	
	L200	G0C220JA0055	INDUCTOR	1	
	L659	J0JKB0000020	INDUCTOR	1	
	L804	J0JKB0000020	INDUCTOR	1	
	L900	G0C101JA0027	INDUCTOR	1	
	L900	G1C100K00019	INDUCTOR	1	
	L901	G0C101JA0027	INDUCTOR	1	
	L950	J0JBC0000019	INDUCTOR	1	
▲	L5901	ELF15N035AN	LINE FILTER	1	
	LB321	J0JBC0000015	INDUCTOR	1	
	LB322	J0JBC0000015	INDUCTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
			TRANSFORMERS		
▲	T5901	G4CYAYY00213	TRANSFORMER	1	
▲	T5902	G4C2AAJ00005	BACK UP TRANS-FORMER	1	
			COMPONENT COMBINA-TION		
	Z900	B3RAC0000017	REMOTE SENSOR	1	
▲	Z5901	ERZVA5Z471	ZNR	1	
			CABLE HOLDERS		
	WH901	K1YZ04000002	4P CABLE HOLDER	1	
	WH902	K1YZ07000001	7P CABLE HOLDER	1	
			CERAMIC FILTER		
	CF1	J0B1075A0129	CERAMIC FILTER	1	
	T1	J0B4503A0069	CERAMIC FILTER	1	
			OSCILLATOR		
	X1	J0B1075A0121	CRYSTAL OSCILLATOR	1	
	X2	H0A750200020	CRYSTAL OSCILLATOR	1	
	X320	H0D433400007	CRYSTAL OSCILLATOR	1	
	X801	H4Z8004AA001	CRYSTAL OSCILLATOR	1	
	X802	H0A327200097	CRYSTAL OSCILLATOR	1	
	X900	H0A120500009	CRYSTAL OSCILLATOR	1	
	X7201	H0H169500013	CRYSTAL OSCILLATOR	1	
			RELAY		
▲	RL5901	K6B1AEA00003	RELAY	1	
			FL DISPLAY		
	FL900	A2BB00000166	LCD DISPLAY	1	
			FUSE		
▲	F5901	K5D102BLA013	FUSE	1	
			FUSE HOLDERS		
	FC5901	K3GE1ZZ00001	FUSE HOLDER	1	
	FC5902	K3GE1ZZ00001	FUSE HOLDER	1	
			FUSE PROTECTOR		
▲	FP5901	K5G502AA0002	FUSE PROTECTOR	1	
			JACKS		
	JK501	K4BC04B00123	JK SPEAKER	1	
	JK950	K2HC1YYA0015	JK MUSIC PORT	1	
	JK951	K2HC103A0024	JK HEADPHONE	1	
▲	JK5901	K2AA2B000011	AC INLET	1	
			CHIP JUMPERS		
	D400	D0GBR00JA008	0 1/16W	1	
	L951	D0GBR00JA008	0 1/16W	1	
	L952	D0GBR00JA008	0 1/16W	1	
	L953	D0GBR00JA008	0 1/16W	1	
	L954	D0GBR00JA008	0 1/16W	1	
	LB840	D0GBR00JA008	0 1/16W	1	
	LB841	D0GBR00JA008	0 1/16W	1	
	LB843	D0GBR00JA008	0 1/16W	1	
	LB845	D0GBR00JA008	0 1/16W	1	
	LB846	D0GBR00JA008	0 1/16W	1	
	LB848	D0GBR00JA008	0 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	LB850	D0GBR00JA008	0 1/16W	1	
	LB852	D0GBR00JA008	0 1/16W	1	
	LB930	D0GBR00JA008	0 1/16W	1	
	LB932	D0GBR00JA008	0 1/16W	1	
	LB933	D0GBR00JA008	0 1/16W	1	
	LB934	D0GBR00JA008	0 1/16W	1	
	LB935	D0GBR00JA008	0 1/16W	1	
	LB936	D0GBR00JA008	0 1/16W	1	
	LB938	D0GBR00JA008	0 1/16W	1	
	LB951	D0GBR00JA008	0 1/16W	1	
	LB952	D0GBR00JA008	0 1/16W	1	
	LB7262	D0GBR00JA008	0 1/16W	1	
	LB7263	D0GBR00JA008	0 1/16W	1	
	LB7264	D0GBR00JA008	0 1/16W	1	
	W15	D0GDR00JA017	0 1/10W	1	
	W17	D0GDR00JA017	0 1/10W	1	
	W18	D0GDR00JA017	0 1/10W	1	
	W19	D0GDR00JA017	0 1/10W	1	
	W21	D0GDR00JA017	0 1/10W	1	
	W22	D0GDR00JA017	0 1/10W	1	
	W23	D0GBR00JA008	0 1/16W	1	
	W920	D0GBR00JA008	0 1/16W	1	
	W921	D0GDR00JA017	0 1/10W	1	
	W922	D0GDR00JA017	0 1/10W	1	
	W923	D0GBR00JA008	0 1/16W	1	
	W924	D0GDR00JA017	0 1/10W	1	
	W6000	D0GBR00JA008	0 1/16W	1	
	W6001	D0GDR00JA017	0 1/10W	1	
	W6002	D0GDR00JA017	0 1/10W	1	
	W6003	D0GBR00JA008	0 1/16W	1	
	W6004	D0GDR00JA017	0 1/10W	1	
	W6006	D0GDR00JA017	0 1/10W	1	
	W6007	D0GBR00JA008	0 1/16W	1	
	W6008	D0GDR00JA017	0 1/10W	1	
	W6009	D0GDR00JA017	0 1/10W	1	
	W6011	D0GDR00JA017	0 1/10W	1	
	W6013	D0GBR00JA008	0 1/16W	1	
	W6016	D0GDR00JA017	0 1/10W	1	
	W6017	D0GDR00JA017	0 1/10W	1	
	W6019	D0GDR00JA017	0 1/10W	1	
	W6020	D0GDR00JA017	0 1/10W	1	
	W6021	D0GDR00JA017	0 1/10W	1	
	W6022	D0GBR00JA008	0 1/16W	1	
	W6023	D0GBR00JA008	0 1/16W	1	
	W6025	D0GDR00JA017	0 1/10W	1	
	W6026	D0GDR00JA017	0 1/10W	1	
	W6027	D0GBR00JA008	0 1/16W	1	
	W6029	D0GDR00JA017	0 1/10W	1	
	W6030	D0GDR00JA017	0 1/10W	1	
	W6033	D0GDR00JA017	0 1/10W	1	
	W6034	D0GBR00JA008	0 1/16W	1	
	W6035	D0GBR00JA008	0 1/16W	1	
	W6036	D0GBR00JA008	0 1/16W	1	
	W6037	D0GBR00JA008	0 1/16W	1	
	W6041	D0GBR00JA008	0 1/16W	1	
	W6044	D0GDR00JA017	0 1/10W	1	
	W6046	D0GDR00JA017	0 1/10W	1	
	W6047	D0GBR00JA008	0 1/16W	1	
	W7001	D0GBR00JA008	0 1/16W	1	
	W7002	D0GBR00JA008	0 1/16W	1	
	W7003	D0GBR00JA008	0 1/16W	1	
	W7004	D0GBR00JA008	0 1/16W	1	
	W7005	D0GBR00JA008	0 1/16W	1	
	W7006	D0GBR00JA008	0 1/16W	1	
	W7007	D0GBR00JA008	0 1/16W	1	
	W7008	D0GBR00JA008	0 1/16W	1	
	W7009	D0GBR00JA008	0 1/16W	1	
	W7010	D0GBR00JA008	0 1/16W	1	
	W7011	D0GBR00JA008	0 1/16W	1	
	W7012	D0GBR00JA008	0 1/16W	1	
	W7013	D0GBR00JA008	0 1/16W	1	
	W7014	D0GBR00JA008	0 1/16W	1	
	W7015	D0GBR00JA008	0 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	W7016	D0GBR00JA008	0 1/16W	1	
	W7017	D0GBR00JA008	0 1/16W	1	
	W7018	D0GBR00JA008	0 1/16W	1	
	W7019	D0GBR00JA008	0 1/16W	1	
	W7020	D0GBR00JA008	0 1/16W	1	
	W7021	D0GBR00JA008	0 1/16W	1	
	W7024	D0GBR00JA008	0 1/16W	1	
	W7025	D0GDR00JA017	0 1/10W	1	
	W7026	D0GDR00JA017	0 1/10W	1	
			RESISTORS		
	R1	D0GB103JA008	10K 1/16W	1	
	R2	D0GBR00JA008	0 1/16W	1	
	R3	D0GB332JA008	3.3K 1/16W	1	
	R4	D0GB104JA008	100K 1/16W	1	
	R5	D0GB680JA008	68 1/16W	1	
	R6	D0GB104JA008	100K 1/16W	1	
	R7	D0GB104JA008	100K 1/16W	1	
	R8	D0GB103JA008	10K 1/16W	1	
	R9	D0GBR00JA008	0 1/16W	1	
	R10	D0GB104JA008	100K 1/16W	1	
	R11	D0GB332JA008	3.3K 1/16W	1	
	R12	D0GB152JA008	1.5K 1/16W	1	
	R13	D0GB332JA008	3.3K 1/16W	1	
	R14	D0GB472JA008	4.7K 1/16W	1	
	R16	D0GB103JA008	10K 1/16W	1	
	R17	D0GB103JA008	10K 1/16W	1	
	R18	D0GB223JA008	22K 1/16W	1	
	R20	D0GB103JA008	10K 1/16W	1	
	R22	D0GB103JA008	10K 1/16W	1	
	R23	D0GB223JA008	22K 1/16W	1	
	R24	D0GB223JA008	22K 1/16W	1	
	R25	D0GB223JA008	22K 1/16W	1	
	R28	D0GB104JA008	100K 1/16W	1	
	R29	D0GB102JA008	1K 1/16W	1	
	R30	D0GB393JA008	39K 1/16W	1	
	R31	D0GB472JA008	4.7K 1/16W	1	
	R33	D0GB472JA008	4.7K 1/16W	1	
	R34	D0GB182JA008	1.8K 1/16W	1	
	R35	D0GB472JA008	4.7K 1/16W	1	
	R36	D0GB472JA008	4.7K 1/16W	1	
	R37	D0GBR00JA008	0 1/16W	1	
	R38	D0GB332JA008	3.3K 1/16W	1	
	R39	D0GBR00JA008	0 1/16W	1	
	R203	D0GB272JA008	2.7K 1/16W	1	
	R204	D0GB682JA008	6.8K 1/16W	1	
	R205	D0GB822JA008	8.2K 1/16W	1	
	R206	D0GB822JA008	8.2K 1/16W	1	
	R211	D0GB822JA008	8.2K 1/16W	1	
	R221	D0GB682JA008	6.8K 1/16W	1	
	R222	D0GB103JA008	10K 1/16W	1	
	R223	D0GB563JA008	56K 1/16W	1	
	R224	D0GB680JA008	68 1/16W	1	
	R226	D0GB680JA008	68 1/16W	1	
	R227	D0GB102JA008	1K 1/16W	1	
	R228	D0GB102JA008	1K 1/16W	1	
	R230	D0GB103JA008	10K 1/16W	1	
	R231	D0GB822JA008	8.2K 1/16W	1	
	R232	D0GB682JA008	6.8K 1/16W	1	
	R233	D0GB392JA008	3.9K 1/16W	1	
	R321	D0GB103JA008	10K 1/16W	1	
	R322	D0GB221JA008	220 1/16W	1	
	R323	D0GB221JA008	220 1/16W	1	
	R324	D0GB102JA008	1K 1/16W	1	
	R325	D0GB102JA008	1K 1/16W	1	
	R403	D0GB272JA008	2.7K 1/16W	1	
	R404	D0GB682JA008	6.8K 1/16W	1	
	R411	D0GB822JA008	8.2K 1/16W	1	
	R421	D0GB682JA008	6.8K 1/16W	1	
	R422	D0GB103JA008	10K 1/16W	1	
	R423	D0GB563JA008	56K 1/16W	1	
	R424	D0GB680JA008	68 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	R426	D0GB680JA008	68 1/16W	1	
	R427	D0GB102JA008	1K 1/16W	1	
	R428	D0GB102JA008	1K 1/16W	1	
	R430	D0GB103JA008	10K 1/16W	1	
	R431	D0GB822JA008	8.2K 1/16W	1	
	R432	D0GB682JA008	6.8K 1/16W	1	
	R433	D0GB392JA008	3.9K 1/16W	1	
	R442	D0GB682JA008	6.8K 1/16W	1	
	R443	D0GB332JA008	3.3K 1/16W	1	
	R444	D0GB332JA008	3.3K 1/16W	1	
	R445	D0GB682JA008	6.8K 1/16W	1	
	R446	D0GB392JA008	3.9K 1/16W	1	
	R447	D0GB392JA008	3.9K 1/16W	1	
	R650	D0GB471JA008	470 1/16W	1	
	R652	D0GB104JA008	100K 1/16W	1	
	R653	D0GB183JA008	18K 1/16W	1	
	R654	D0GB393JA008	39K 1/16W	1	
	R707	D0GB101JA008	100 1/16W	1	
	R753	D0GB102JA008	1K 1/16W	1	
	R755	D0GB102JA008	1K 1/16W	1	
	R800	D0GB102JA008	1K 1/16W	1	
	R801	D0GB222JA008	2.2K 1/16W	1	
	R805	D0GB102JA008	1K 1/16W	1	
	R806	D0GBR00JA008	0 1/16W	1	
	R807	D0GB101JA008	100 1/16W	1	
	R808	D0GB101JA008	100 1/16W	1	
	R809	D0GB101JA008	100 1/16W	1	
	R810	D0GB101JA008	100 1/16W	1	
	R811	D0GB101JA008	100 1/16W	1	
	R812	D0GB101JA008	100 1/16W	1	
	R813	D0GB562JA008	5.6K 1/16W	1	
	R815	D0GB474JA008	470K 1/16W	1	
	R816	D0GB101JA008	100 1/16W	1	
	R819	D0GB153JA008	15K 1/16W	1	
	R820	D0GB103JA008	10K 1/16W	1	
	R823	D0GB472JA008	4.7K 1/16W	1	
	R824	D0GB472JA008	4.7K 1/16W	1	
	R827	D0GB272JA008	2.7K 1/16W	1	
	R828	D0GB105JA008	1M 1/16W	1	
	R829	D0GB224JA008	220K 1/16W	1	
	R832	D0GB101JA008	100 1/16W	1	
	R833	D0GB101JA008	100 1/16W	1	
	R834	D0GB101JA008	100 1/16W	1	
	R836	D0GB102JA008	1K 1/16W	1	
	R837	D0GB473JA008	47K 1/16W	1	
	R838	D0GB101JA008	100 1/16W	1	
	R839	D0GB102JA008	1K 1/16W	1	
	R840	D0GB101JA008	100 1/16W	1	
	R841	D0GB102JA008	1K 1/16W	1	
	R842	D0GB472JA008	4.7K 1/16W	1	
	R843	D0GB472JA008	4.7K 1/16W	1	
	R844	D0GB102JA008	1K 1/16W	1	
	R845	D0GB473JA008	47K 1/16W	1	
	R846	D0GB101JA008	100 1/16W	1	
	R847	D0GB101JA008	100 1/16W	1	
	R848	D0GB102JA008	1K 1/16W	1	
	R849	D0GB102JA008	1K 1/16W	1	
	R850	D0GB102JA008	1K 1/16W	1	
	R851	D0GB102JA008	1K 1/16W	1	
	R853	D0GB102JA008	1K 1/16W	1	
	R856	D0GB473JA008	47K 1/16W	1	
	R861	D0GB221JA008	220 1/16W	1	
	R862	D0GB101JA008	100 1/16W	1	
	R863	D0GB221JA008	220 1/16W	1	
	R865	D0GB103JA008	10K 1/16W	1	
	R868	D0GB472JA008	4.7K 1/16W	1	
	R869	D0GB473JA008	47K 1/16W	1	
	R870	D0GB103JA008	10K 1/16W	1	
	R871	D0GB101JA008	100 1/16W	1	
	R872	D0GB472JA008	4.7K 1/16W	1	
	R873	D0GB472JA008	4.7K 1/16W	1	
	R874	D0GB101JA008	100 1/16W	1	
	R875	D0GB101JA008	100 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	R876	D0GB332JA008	3.3K 1/16W	1	
	R900	D0GB122JA008	1.2K 1/16W	1	
	R901	D0GB102JA008	1K 1/16W	1	
	R901	D0GB152JA008	1.5K 1/16W	1	
	R902	D0GB102JA008	1K 1/16W	1	
	R902	D0GB222JA008	2.2K 1/16W	1	
	R903	D0GB122JA008	1.2K 1/16W	1	
	R903	D0GBR00JA008	0 1/16W	1	
	R904	D0GB152JA008	1.5K 1/16W	1	
	R904	D0GBR00JA008	0 1/16W	1	
	R905	D0GB222JA008	2.2K 1/16W	1	
	R906	D0GB332JA008	3.3K 1/16W	1	
	R906	D0GBR00JA008	0 1/16W	1	
	R907	D0GB332JA008	3.3K 1/16W	1	
	R907	D0GDR00JA017	0 1/10W	1	
	R908	D0GB472JA008	4.7K 1/16W	1	
	R910	D0GB102JA008	1K 1/16W	1	
	R911	D0GB680JA008	68 1/16W	1	
	R912	D0GB680JA008	68 1/16W	1	
	R913	D0GB103JA008	10K 1/16W	1	
	R914	D0GBR00JA008	0 1/16W	1	
	R915	D0GB104JA008	100K 1/16W	1	
	R916	D0GB104JA008	100K 1/16W	1	
	R918	D0GBR00JA008	0 1/16W	1	
	R919	D0GB103JA008	10K 1/16W	1	
	R920	D0GB103JA008	10K 1/16W	1	
	R921	D0GB102JA008	1K 1/16W	1	
	R922	D0GB102JA008	1K 1/16W	1	
	R923	D0GB223JA008	22K 1/16W	1	
	R924	D0GB123JA008	12K 1/16W	1	
	R928	D0GB104JA008	100K 1/16W	1	
	R950	D0GBR00JA008	0 1/16W	1	
	R952	D0GB104JA008	100K 1/16W	1	
	R952	D0GB240JA008	24 1/16W	1	
	R953	D0GB240JA008	24 1/16W	1	
	R953	D0GBR00JA008	0 1/16W	1	
	R954	D0GB153JA008	15K 1/16W	1	
	R955	D0GB104JA008	100K 1/16W	1	
	R955	D0GB153JA008	15K 1/16W	1	
	R956	D0GB101JA008	100 1/16W	1	
	R957	D0GB101JA008	100 1/16W	1	
	R957	D0GB222JA008	2.2K 1/16W	1	
	R958	D0GB104JA008	100K 1/16W	1	
	R958	D0GB472JA008	4.7K 1/16W	1	
	R959	D0GB472JA008	4.7K 1/16W	1	
	R960	D0GB472JA008	4.7K 1/16W	1	
	R961	D0GB101JA008	100 1/16W	1	
	R962	D0GB101JA008	100 1/16W	1	
	R971	D0GB102JA008	1K 1/16W	1	
	R972	D0GB102JA008	1K 1/16W	1	
	R5101	D0GB101JA008	100 1/16W	1	
	R5102	D0GB223JA008	22K 1/16W	1	
	R5103	D0GB2R2JA008	2.2 1/16W	1	
	R5104	D0GB2R2JA008	2.2 1/16W	1	
	R5105	D0GB101JA008	100 1/16W	1	
	R5106	D0GB223JA008	22K 1/16W	1	
	R5107	D0GB2R2JA008	2.2 1/16W	1	
	R5108	D0GB2R2JA008	2.2 1/16W	1	
	R5109	D0GB222JA008	2.2K 1/16W	1	
	R5111	D0GB103JA008	10K 1/16W	1	
	R5112	D0GB102JA008	1K 1/16W	1	
	R5113	D0GB473JA008	47K 1/16W	1	
	R5128	D0GB103JA008	10K 1/16W	1	
	R5129	D0GB332JA008	3.3K 1/16W	1	
	R5901	D0GB222JA008	2.2K 1/16W	1	
	R5902	D0GB104JA008	100K 1/16W	1	
	R5903	D0GB821JA008	820 1/16W	1	
	R5904	D0GB821JA008	820 1/16W	1	
	R5906	D0GB332JA008	3.3K 1/16W	1	
	R5907	D0GB473JA008	47K 1/16W	1	
	R5908	D0GB103JA008	10K 1/16W	1	
	R5909	D0GB103JA008	10K 1/16W	1	
	R5910	D0GB821JA008	820 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	R5911	D0GB182JA008	1.8K 1/16W	1	
	R5912	D0GB102JA008	1K 1/16W	1	
	R7111	D0GB103JA008	10K 1/16W	1	
	R7211	D0GB823JA008	82K 1/16W	1	
	R7212	D0GB821JA008	820 1/16W	1	
	R7214	D0GB471JA008	470 1/16W	1	
	R7217	D0GB102JA008	1K 1/16W	1	
	R7218	D0GB102JA008	1K 1/16W	1	
	R7220	D0GB105JA008	1M 1/16W	1	
	R7221	D0GB101JA008	100 1/16W	1	
	R7253	D0GB100JA008	10 1/16W	1	
	R7254	D0GB102JA008	1K 1/16W	1	
	R7315	D0GB332JA008	3.3K 1/16W	1	
	R7323	D0GB682JA008	6.8K 1/16W	1	
	R7325	D0GB331JA008	330 1/16W	1	
	R7327	D0GB102JA008	1K 1/16W	1	
	R7328	D0GB103JA008	10K 1/16W	1	
	R7329	D0GB102JA008	1K 1/16W	1	
	R7330	D0GB562JA008	5.6K 1/16W	1	
	R7331	D0GB273JA008	27K 1/16W	1	
	R7332	D0GB102JA008	1K 1/16W	1	
	R7335	D0GB101JA008	100 1/16W	1	
	R7336	D0GB100JA008	10 1/16W	1	
	R7339	D0GB102JA008	1K 1/16W	1	
	R7349	D0GB183JA008	18K 1/16W	1	
	R7601	D0GB4R7JA008	4.7 1/16W	1	
	R7650	D0GB5R6JA008	5.6 1/16W	1	
			CAPACITORS		
	C1	F1H1H470A230	47pF 50V	1	
	C2	F1H1H100A017	10pF 50V	1	
	C3	F1H1C333A071	0.033uF 16V	1	
	C4	F2A1C100A207	10uF 16V	1	
	C5	F1H1C473A088	0.047uF 16V	1	
	C6	F1H1H102A219	1000pF 50V	1	
	C7	F1H1H102A219	1000pF 50V	1	
	C8	ECJ2VC1H070D	7pF 50V	1	
	C9	F1H1E103A029	0.01uF 25V	1	
	C10	F1H1E103A029	0.01uF 25V	1	
	C11	F1H1H102A219	1000pF 50V	1	
	C12	F1H1C473A088	0.047uF 16V	1	
	C13	ECJ1VC1H150J	15pF 50V	1	
	C15	F1H1C473A088	0.047uF 16V	1	
	C16	ECJ1VC1H150J	15pF 50V	1	
	C17	F2A1H3R3A213	3.3uF 50V	1	
	C18	F1H1E103A029	0.01uF 25V	1	
	C19	F2A1H1R0A213	1.0uF 50V	1	
	C20	F2A0J101A167	100uF 6.3V	1	
	C21	F2A1H1R0A213	1.0uF 50V	1	
	C22	F2A1HR47A013	0.47uF 50V	1	
	C23	F2A0J101A181	100uF 6.3V	1	
	C24	F2A1H220A234	22uF 50V	1	
	C25	F1H1C183A001	0.018uF 16V	1	
	C26	F1H1E103A029	0.01uF 25V	1	
	C27	F1H1C183A001	0.018uF 16V	1	
	C28	F1H1H102A219	1000pF 50V	1	
	C29	F1H1H102A219	1000pF 50V	1	
	C30	F2A1H1R0A213	1.0uF 50V	1	
	C31	F2A1H1R0A213	1.0uF 50V	1	
	C32	F2A1H4R7A145	4.7uF 50V	1	
	C33	F1H1H101A230	100pF 50V	1	
	C34	F1H1H270A004	27pF 50V	1	
	C35	F1H1H101A230	100pF 50V	1	
	C36	F1H1H220A004	22pF 50V	1	
	C37	F1H1H101A230	100pF 50V	1	
	C38	F1H1H101A230	100pF 50V	1	
	C39	F1H1H102A219	1000pF 50V	1	
	C40	F2A0J101A167	100uF 6.3V	1	
	C41	F1H1H331A013	330pF 50V	1	
	C43	F1H1C473A088	0.047uF 16V	1	
	C44	F1H1H223A219	0.022uF 50V	1	
	C46	F1H1H222A219	2200pF 50V	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	C47	F1D1H100A062	10pF 50V	1	
	C48	F1H1H102A219	1000pF 50V	1	
	C51	ECJ2VC1H070D	7pF 50V	1	
	C52	F1H1H102A219	1000pF 50V	1	
	C201	F1H1H221A792	220pF 50V	1	
	C203	F1H1H221A792	220pF 50V	1	
	C209	F1H1H221A792	220pF 50V	1	
	C210	F1H1H221A792	220pF 50V	1	
	C211	F1H1C105A097	1uF 16V	1	
	C212	F1H1C105A097	1uF 16V	1	
	C213	F1H1C105A097	1uF 16V	1	
	C214	F2A1H1R0A213	1.0uF 50V	1	
	C216	F1H1H102A219	1000pF 50V	1	
	C221	F1H1H331A004	330pF 50V	1	
	C222	F1H1H101A230	100pF 50V	1	
	C223	F1H1H101A230	100pF 50V	1	
	C224	F2A1C100A207	10uF 16V	1	
	C225	F1H1H103A220	0.01uF 50V	1	
	C226	F2A1H1R0A213	1.0uF 50V	1	
	C230	F1H1H332A013	3300pF 50V	1	
	C231	F1H1C683A087	0.068uF 16V	1	
	C233	F2A1HR47A013	0.47uF 50V	1	
	C234	F1H1H470A230	47pF 50V	1	
	C294	F2A0J221A181	220uF 6.3V	1	
	C305	F1H1H102A219	1000pF 50V	1	
	C320	F2A1C100A207	10uF 16V	1	
	C321	F1H1H471A219	470pF 50V	1	
	C322	F2A1C470A016	47uF 16V	1	
	C323	F1H1H561A013	560pF 50V	1	
	C324	F1H1H102A935	1000pF 50V	1	
	C325	F2A1C470A016	47uF 16V	1	
	C326	F1H1H270A004	27pF 50V	1	
	C327	F1H1H270A004	27pF 50V	1	
	C401	F1H1H221A792	220pF 50V	1	
	C403	F1H1H221A792	220pF 50V	1	
	C409	F1H1H221A792	220pF 50V	1	
	C410	F1H1H221A792	220pF 50V	1	
	C411	F1H1C105A097	1uF 16V	1	
	C412	F1H1C105A097	1uF 16V	1	
	C413	F1H1C105A097	1uF 16V	1	
	C414	F2A1H2R2A145	2.2uF 50V	1	
	C416	F1H1H102A219	1000pF 50V	1	
	C421	F1H1H331A004	330pF 50V	1	
	C422	F1H1H101A230	100pF 50V	1	
	C423	F1H1H101A230	100pF 50V	1	
	C424	F2A1C100A207	10uF 16V	1	
	C425	F1H1H103A220	0.01uF 50V	1	
	C426	F2A1H1R0A213	1.0uF 50V	1	
	C429	F1H1A124A012	0.12uF 10V	1	
	C430	F1H1H332A013	3300pF 50V	1	
	C431	F1H1C683A087	0.068uF 16V	1	
	C433	F2A1HR47A013	0.47uF 50V	1	
	C434	F1H1H470A230	47pF 50V	1	
	C440	F1H1E1530002	0.015uF 25V	1	
	C441	F1H1E1530002	0.015uF 25V	1	
	C442	F1H1E1530002	0.015uF 25V	1	
	C443	ECQV1H154JL3	0.15uF 50V	1	
	C444	F1H1A154A025	0.15uF 10V	1	
	C445	ECQV1H154JL3	0.15uF 50V	1	
	C446	F1H1A154A025	0.15uF 10V	1	
	C447	F2A1C470A016	47uF 16V	1	
	C448	F2A1HR33A234	0.33uF 50V	1	
	C449	F1H1E1530002	0.015uF 25V	1	
	C456	F1H1A124A012	0.12uF 10V	1	
	C461	F1H1A124A012	0.12uF 10V	1	
	C462	F1H1A124A012	0.12uF 10V	1	
	C463	F2A1C470A016	47uF 16V	1	
	C464	F1H1H470A230	47pF 50V	1	
	C465	F1H1H470A230	47pF 50V	1	
	C650	F1H1H103A220	0.01uF 50V	1	
	C651	F2A1E2210045	220uF 25V	1	
	C652	F2A1C101A208	100uF 16V	1	
	C653	F2A1C101A208	100uF 16V	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	C654	F1H1H103A220	0.01uF 50V	1	
	C655	F2A1C220A234	22uF 16V	1	
	C656	F2A1C220A234	22uF 16V	1	
	C657	F1H1C104A008	0.1uF 16V	1	
	C658	F2A1H2R2A145	2.2uF 50V	1	
	C752	F1H1H103A220	0.01uF 50V	1	
	C753	F2A1C101A208	100uF 16V	1	
	C754	F2A0J101A181	100uF 6.3V	1	
	C755	F1H1H103A220	0.01uF 50V	1	
	C803	F1H1H101A230	100pF 50V	1	
	C810	F1H1H102A219	1000pF 50V	1	
	C816	F2A1C100A207	10uF 16V	1	
	C819	F1H1C104A008	0.1uF 16V	1	
	C820	F1H1H102A219	1000pF 50V	1	
	C821	F1H1H102A219	1000pF 50V	1	
	C822	F1H1H102A219	1000pF 50V	1	
	C824	F1H1H221A792	220pF 50V	1	
	C829	ECJ1VC1H390J	39pF 50V	1	
	C830	F1H1H560A230	56pF 50V	1	
	C831	F1H1C104A008	0.1uF 16V	1	
	C835	F1H1H220A004	22pF 50V	1	
	C836	F1H1H220A004	22pF 50V	1	
	C838	F1H1H470A230	47pF 50V	1	
	C839	F2A0J102A247	1000uF 6.3V	1	
	C843	F1H1H101A230	100pF 50V	1	
	C844	F2A1H1R0A213	1.0uF 50V	1	
	C845	F1H1H103A220	0.01uF 50V	1	
	C846	F2A1H1R0A213	1.0uF 50V	1	
	C847	F1H1H221A792	220pF 50V	1	
	C848	F1H1H221A792	220pF 50V	1	
	C850	F1H1H560A230	56pF 50V	1	
	C851	F1H1H472A219	4700pF 50V	1	
	C853	F1H1H101A230	100pF 50V	1	
	C854	F1H1H560A230	56pF 50V	1	
	C857	F1H1H221A792	220pF 50V	1	
	C860	F2A0J102A247	1000uF 6.3V	1	
	C861	F1H1H221A792	220pF 50V	1	
	C862	F1H1H101A230	100pF 50V	1	
	C900	F2A1H220A234	22uF 50V	1	
	C901	F1H1C104A042	0.1uF 16V	1	
	C901	F2A1H3R3A213	3.3uF 50V	1	
	C902	F1H1C104A042	0.1uF 16V	1	
	C902	F2A1H3R3A213	3.3uF 50V	1	
	C903	F1H1C104A042	0.1uF 16V	1	
	C903	F1H1H104A783	0.1uF 50V	1	
	C904	F1H1H103A219	0.01uF 50V	1	
	C904	F2A1C100A234	10uF 16V	1	
	C905	F1H1C104A042	0.1uF 16V	1	
	C905	F1H1H104A783	0.1uF 50V	1	
	C906	F1H1H101A230	100pF 50V	1	
	C906	F2A1C100A234	10uF 16V	1	
	C907	F1H1H101A230	100pF 50V	1	
	C907	F1H1H180A230	18pF 50V	1	
	C908	F1H1H220A004	22pF 50V	1	
	C908	F2A0J470A013	47uF 6.3V	1	
	C909	F2A1H220A234	22uF 50V	1	
	C910	F2A0J470A013	47uF 6.3V	1	
	C911	F1H1C104A042	0.1uF 16V	1	
	C911	F1H1H221A748	220pF 50V	1	
	C912	F1H1C104A042	0.1uF 16V	1	
	C912	F1H1H221A748	220pF 50V	1	
	C913	F1H1C104A042	0.1uF 16V	1	
	C913	F1H1H221A748	220pF 50V	1	
	C914	F1H1C104A042	0.1uF 16V	1	
	C915	F2A1C470A234	47uF 16V	1	
	C931	F2A1C100A234	10uF 16V	1	
	C950	F1H1H102A219	1000pF 50V	1	
	C951	F1H1C104A042	0.1uF 16V	1	
	C952	F1H1C104A042	0.1uF 16V	1	
	C952	F1H1H103A219	0.01uF 50V	1	
	C953	F1H1H102A219	1000pF 50V	1	
	C953	F2A0J101A245	100uF 6.3V	1	
	C955	F1H1H103A219	0.01uF 50V	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	C956	F1H1H104A783	0.1uF 50V	1	
	C5102	F1H1A105A025	1uF 10V	1	
	C5103	F1H1H272A013	2700pF 50V	1	
	C5104	F1H1A224A007	0.22uF 10V	1	
	C5105	F1H1A224A007	0.22uF 10V	1	
	C5106	F1H1A105A025	1uF 10V	1	
	C5107	F1H1A224A007	0.22uF 10V	1	
	C5108	F1H1A224A007	0.22uF 10V	1	
	C5109	F1H1H272A013	2700pF 50V	1	
	C5111	F2A1C100A234	10uF 16V	1	
	C5113	F1H1H471A219	470pF 50V	1	
	C5114	F1H1H471A219	470pF 50V	1	
	C5120	F1H1H104A013	0.1uF 50V	1	
	C5124	F2A1C220A234	22uF 16V	1	
	C5901	ECA1EM332B	3300uF 25V	1	
	C5902	F1H1H104A013	0.1uF 50V	1	
	C5905	F2A1H1010039	100uF 50V	1	
	C5906	F2A1H1010039	100uF 50V	1	
	C5907	F1H1H103A220	0.01uF 50V	1	
	C5908	F2A1H470A147	47uF 50V	1	
	C5909	F2B1E222A005	2200uF 25V	1	
	C5910	F1H1H104A013	0.1uF 50V	1	
	C5911	F2A1C100A207	10uF 16V	1	
	C5912	F1H1H103A220	0.01uF 50V	1	
	C5913	F2A1C3310039	330uF 16V	1	
	C5914	F1H1H104A013	0.1uF 50V	1	
	C5916	F1H1H104A013	0.1uF 50V	1	
	C5917	F2A1C102A236	1000uF 16V	1	
	C5918	F2A0J221A181	220uF 6.3V	1	
	C5919	F1H1H104A013	0.1uF 50V	1	
	C5920	F1H1H104A013	0.1uF 50V	1	
	C5921	F2A1C100A207	10uF 16V	1	
	C5922	F1H1H103A220	0.01uF 50V	1	
	C5923	F1H1H103A220	0.01uF 50V	1	
	C5924	F1H1H103A220	0.01uF 50V	1	
	C5925	F2A1C470A180	47uF 16V	1	
	C5928	F1H1H104A013	0.1uF 50V	1	
	C5930	F1H1H104A013	0.1uF 50V	1	
	C7102	F1H1A474A025	0.47uF 10V	1	
	C7107	F1H1H223A219	0.022uF 50V	1	
	C7142	F1H1H332A013	3300pF 50V	1	
	C7154	F1H1C104A042	0.1uF 16V	1	
	C7155	F1H1C104A042	0.1uF 16V	1	
	C7161	F1H1C104A042	0.1uF 16V	1	
	C7164	ECJ2FF1A106Z	10uF 10V	1	
	C7165	ECJ2FF1A106Z	10uF 10V	1	
	C7166	F1H1H103A219	0.01uF 50V	1	
	C7203	F2A0J221A200	220uF 6.3V	1	
	C7204	F1H1C104A042	0.1uF 16V	1	
	C7216	ECJ1VB1H681K	680pF 50V	1	
	C7217	F1H1C104A042	0.1uF 16V	1	
	C7218	ECJ1VB1C823K	0.082uF 16V	1	
	C7221	ECJ1VC1H150J	15pF 50V	1	
	C7222	ECJ1VC1H150J	15pF 50V	1	
	C7223	F2A1H47R0037	4.7uF 50V	1	
	C7225	F1H1H102A219	1000pF 50V	1	
	C7226	F1H1H102A219	1000pF 50V	1	
	C7227	ECA1HAK010XI	1uF 50V	1	
	C7228	ECA1HAK010XI	1uF 50V	1	
	C7230	F1H1C104A042	0.1uF 16V	1	
	C7231	F2A0J221A200	220uF 6.3V	1	
	C7232	F2A0J221A200	220uF 6.3V	1	
	C7233	F1H1C104A008	0.1uF 16V	1	
	C7234	F1H1C104A042	0.1uF 16V	1	
	C7235	F2A1C100A133	10uF 16V	1	
	C7241	F1H1H102A219	1000pF 50V	1	
	C7243	F1H1C104A008	0.1uF 16V	1	
	C7244	F1H1C153A001	0.015uF 16V	1	
	C7253	F1H1H471A219	470pF 50V	1	
	C7263	F1H1C104A042	0.1uF 16V	1	
	C7264	F1H1C104A042	0.1uF 16V	1	
	C7315	F1H1A474A025	0.47uF 10V	1	
	C7334	ECEA1AKA221I	220uF 10V	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	C7335	F1H1C104A008	0.1uF 16V	1	
	C7338	F1H1E2730002	0.027uF 25V	1	
	C7339	F1H1C183A001	0.018uF 16V	1	
	C7352	F1H1C183A001	0.018uF 16V	1	
	C7601	ECEA0JKA330I	33uF 6.3V	1	
	C7613	F1H1C104A042	0.1uF 16V	1	
	C7614	F2A0J101A198	100uF 6.3V	1	
	C7626	F1H1C104A042	0.1uF 16V	1	
	C7670	F1H1C104A042	0.1uF 16V	1	

IPSG1002