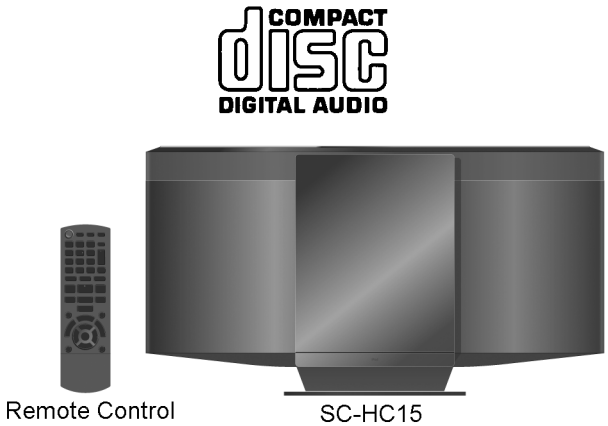
PSG1103025CE

Service Manual

Compact Stereo System

Model No. SC-HC15EB
SC-HC15EG
SC-HC15EP

Product Color: (K)...Black Type



Remote Control Transmitter

SC-HC15

⚠ 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

Panasonic

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 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. measure the resistance value, with an ohmmeter 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 1MΩ and 5.2MΩ. 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 1.5kΩ, 10 watts resistor, in parallel with a 0.15μF 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. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

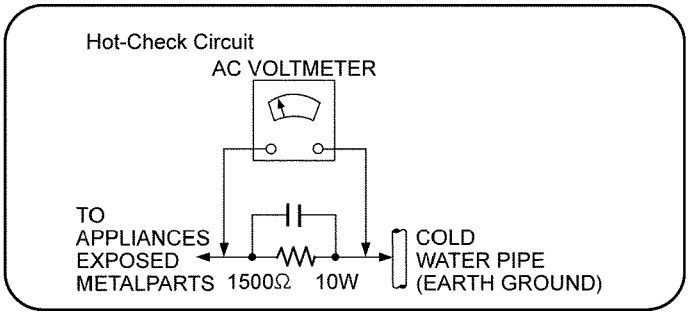


Figure. 1

1.2. Caution for AC Cord (For EB 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

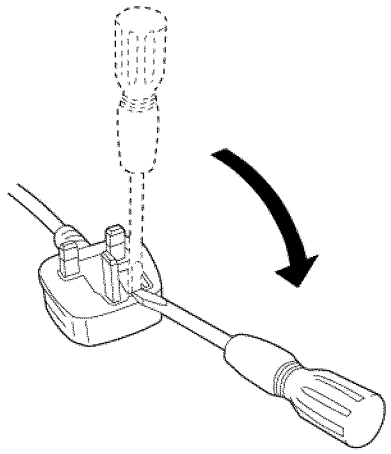
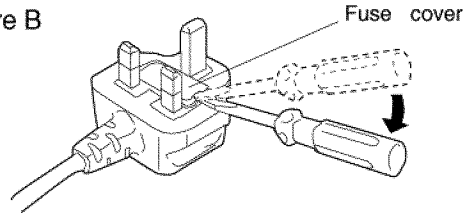


Figure B



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

Figure A

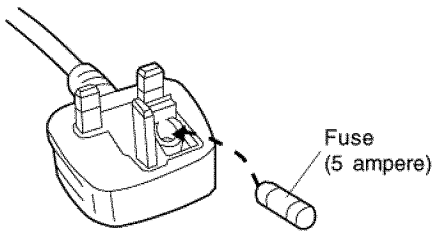
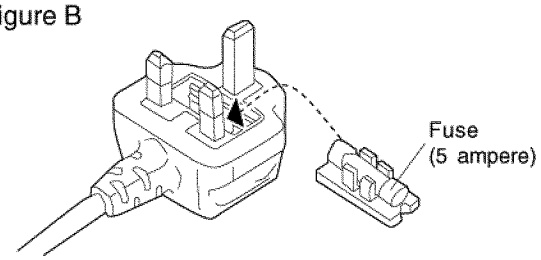


Figure B



1.3. Before Repair and Adjustment

Disconnect AC power, discharge unit AC Capacitors as such C702, C710, C725, C727 and C728 through a 10W, 1W resistor to ground.
Caution : 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 - 240V, at 50Hz in NO SIGNAL mode (at volume min in FM Tuner mode) should be ~200 mA.

1.4. Caution For Fuse Replacement

CAUTION:

Replace with the same type fuse:
(Manufacturer: Skygate Co., Ltd, Type: F751, T3.15A, 250V)

1.5. 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.

1.6. 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
⚠	26	RGNX1225J-K	NAME PLATE	EB,EG
⚠	26	RGNX1225K-K	NAME PLATE	EP
⚠	30	RGPX1060E-K	REAR CABINET	
⚠	300	RAEX1034Z-V	TRAVERSE ASS'Y	
⚠	A2	K2CQ2CA00007	AC CORD	EG/EP
⚠	A2	K2CZ3YY00005	AC CORD	EB
⚠	A3	RQTX1245-D	O/I BOOK (Ge/It/Fr/Sp/Du/Da/Sw)	EG
⚠	A3	RQTX1246-E	O/I BOOK (En/Po/Cz/Ru/Ur)	EP
⚠	A3	RQTX1247-B	O/I BOOK (En)	EB
⚠	C702	F0CAF104A105	0.1uF	
⚠	C710	F1BAF2220023	2200pF	
⚠	C725	F0CAF104A105	0.1uF	
⚠	C727	F1BAF1020020	1000pF	
⚠	C728	F1BAF1020020	1000pF	
⚠	F751	K5G312Y00007	FUSE PROTECTOR	
⚠	L702	G0B183E00002	LINE FILTER	
⚠	L703	G0B111H00003	LINE FILTER	
⚠	P751	K2AA2B000011	AC INLET	
⚠	PC701	B3PBA0000503	PHOTO COUPLER	
⚠	PC702	B3PBA0000503	PHOTO COUPLER	
⚠	PCB10	REPX0917A	SMPS P.C.B.	(RTL)
⚠	SW7900	D4FBR5000009	RESETTABLE FUSE	
⚠	T701	ETS28BT11GAC	MAIN TRANSFORMER	
⚠	TH701	D4CAA5R10001	THERMISTOR	
⚠	TH702	D4CC11040013	THERMISTOR	
⚠	Z752	ERZVA5Z471	ZNR	

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-equiped 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 equiped 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:

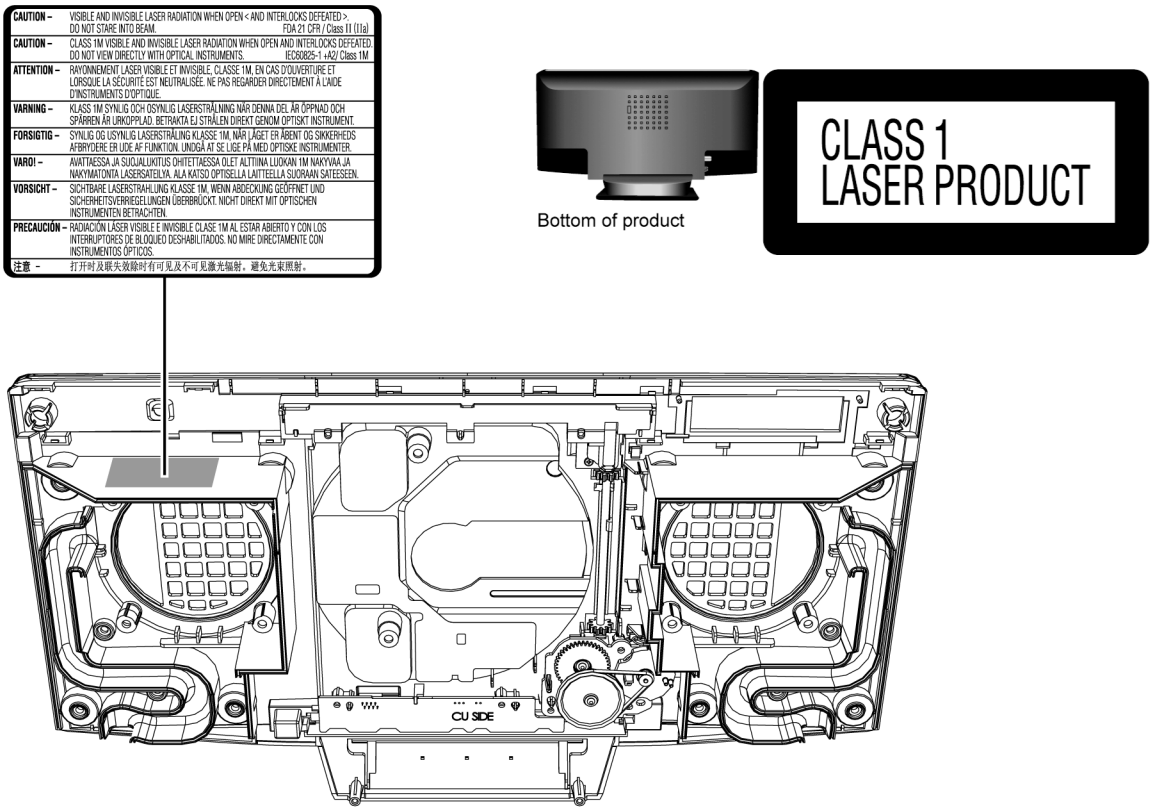
This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.
Wavelength: 790 nm (CD)
Maximum output radiation power from pickup: 100 μW/VDE
Laser radiation from the pickup unit is safety level, but be sure the followings:

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

ACHTUNG :

Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheitadg-estrahit.
Wellenlänge : 790nm (CD)
Maximale Strahlungsleistung der Lasereinheit :100 μW/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 Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.



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 Deck

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 Deck.

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.
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.

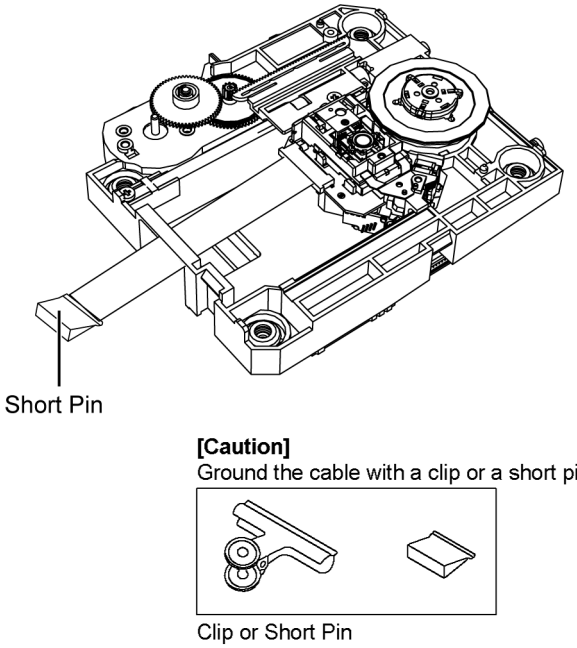


Figure 1

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.

2.4.2.2. Human body grounding

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

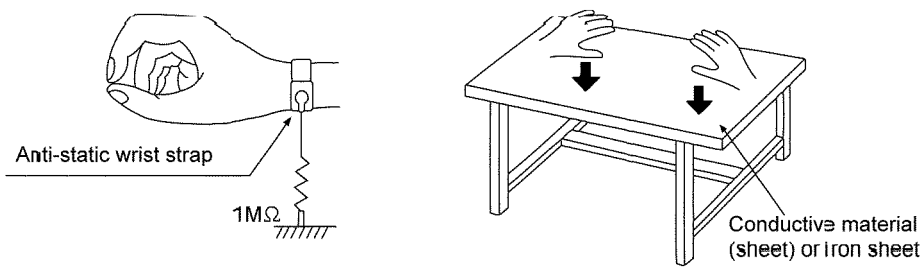


Figure 2

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 filed with original service manual.

- **Micro-processor:**

1) The following components are supplied as an assembled part.
   - Micro-processor IC, (IC801) (RFKWMHC25M0)

4 Specifications

■ **Amplifier Section**

RMS Output Power Stereo Mode

Front Ch (both channels driven)	5 W per channel (6 Ω), 1 kHz, 10 % THD
Total RMS stereo mode power	10 W

■ **FM/AM tuner, terminals section**

Preset station	FM 30 stations AM 15 stations

Frequency modulation (FM)

Frequency range	87.50 MHz to 108.00 MHz (50 kHz step)
Antenna terminals	75 Ω (unbalanced)

Amplitude modulation (AM)

Frequency range	522 kHz to 1629 kHz (9 kHz step) 520 kHz to 1630 kHz (10 kHz step)

Headphone jack

Terminal	Stereo, 3.5 mm jack

Aux (rear)

Terminal	Stereo, 3.5 mm jack

■ **Disc Section**

Disc played [8 cm or 12 cm]

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

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

Pick up

Wavelength	790 nm (CD)
Laser power	CLASS I (CD)

Audio output (Disc)

Number of channels	2 ch (FL, FR)

FL = Front left channel

FR = Front right channel

■ **USB Section**

USB port

USB Standard	USB 2.0 full speed
Media file format support	MP3 (*.mp3)
USB device file system	FAT 12, FAT 16, FAT 32
USB port power	500 mA (max)

■ **Speaker Section**

Type	1 way, 1 speaker system (Bass reflex)

Speaker unit(s)

Full range	8 cm Cone type
Impedance	6 Ω
Frequency range	60 Hz to 25 kHz (-16 dB) 90 Hz to 22 kHz (-10 dB)

■ **General**

Power supply	AC 220 to 240 V, 50 Hz
Power consumption	12 W
Dimensions (W x H x D)	400 mm x 221 mm x 110 mm [D = 69 mm (min)]
Mass (weight)	2.0 kg
Operating temperature range	0°C to +40°C
Operating humidity range	35% to 80 % RH (no condensation)

Power consumption in standby mode: 0.2 W (approximate)

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

5 Location of Controls and Components

5.1. Main Unit & Remote Control Key Button Operations

Remote control

❶ **Standby/on switch [⏻], [⏻/I]**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

❷ **Numeric buttons [1 to 9, 0, ≧10]**
To select a 2-digit number
Example: 16: [≧10] → [1] → [6]

❸ Delete a programmed track

❹ **Select source**
[USB]: Select USB
[CD]: Select disc
[RADIO, EXT-IN]: Select radio, USB or AUX

❺ **Basic operation**
[►/II]: Playback or pause operation
[■]: Stop playback
[I◄◄], [►►I]: Skip track
Select preset radio station
[◄◄], [►►]: Search track
Tune in to the radio station
[I◄◄/◄◄], [►►/►►I]: Skip and search track
Select preset radio station

❻ Select the sound effects

❼ Auto preset the radio station

❽ View the information shown on the display panel.
Decrease the brightness of the display panel
Press and hold the button to use this function.
To cancel, press and hold the button again.

❾ Set the sleep timer
Set the clock and timer

❿ Set the program function

⓫ Adjust the volume of the system

⓬ **Mute the sound of the system**
Press the button again to cancel.
"MUTE" is also cancelled when you adjust the volume or when you switch off the system.

⓭ Set the play menu item

⓮ Set the radio menu item

⓯ **[▲, ▼]:** Skip album
Adjust clock setting
[◄, ►]: Select the item in the menu
[OK]: Confirm the setting

⓰ **Automatically switch off the system**
This function switches off the system (except in radio source) if you do not use the system for approximately 30 minutes.
To cancel, press the button two times.

⓱ **Headphones jack (🎧)**
Plug type: Ø 3.5 mm stereo (not included)
- Avoid listening for prolonged periods of time to prevent hearing damage.
- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Listening at full volume for long periods may damage the user's ears. Be sure to use the supplied or recommended headphones or earphones.

⓲ AUX jack

⓳ USB port (•⇢)

⓴ Open or close the sliding door

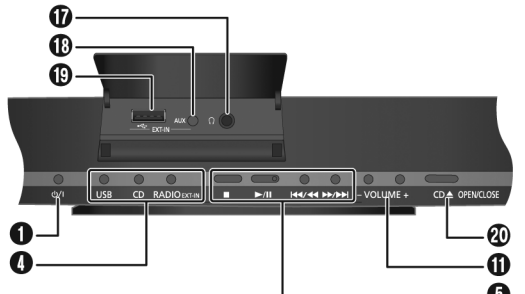
㉑ Display panel

㉒ Sliding door

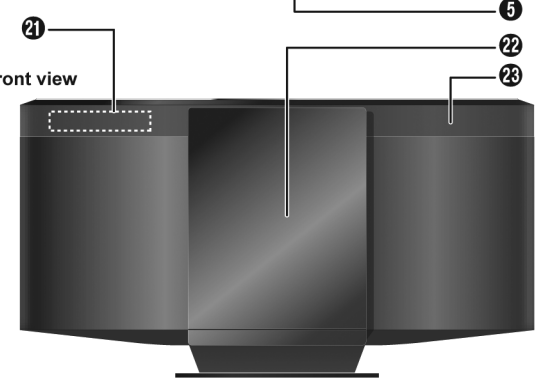
㉓ Remote control sensor

Main unit

Top view



Front view



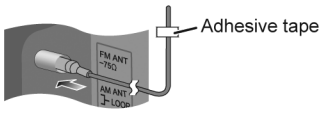
5.2. Connections

Making the connections

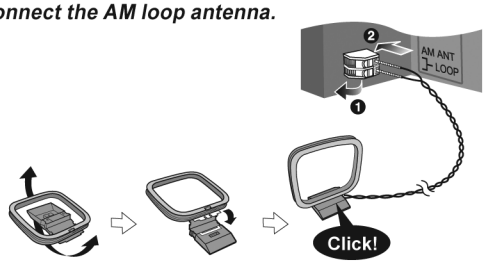
Conserving power

The system consumes approximately 0.2 W when it is in standby mode. Disconnect the power supply if you do not use the system.
Some settings will be lost after you disconnect the system. You have to set them again.

1 ***Connect the FM indoor antenna.***
Place the antenna where reception is best.



2 ***Connect the AM loop antenna.***



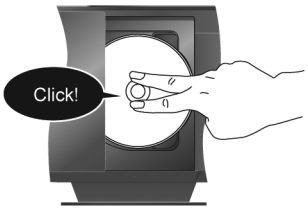
3 ***Connect the AC mains lead.***
Use the included AC mains lead with this system only.
Do not use an AC mains lead from other equipment.

Note:

- These speakers do not have magnetic shielding. Do not put them near TVs, PCs or other equipment easily influenced by magnetism.
- You cannot remove the net of the speakers.

5.3. Disc operations

1 **Press [CD ⏏, OPEN/CLOSE] on the main unit to open the sliding door.**
Put in a disc with the label facing towards you.
Press [CD ⏏, OPEN/CLOSE] again to close the sliding door.



2 **Press [CD] and then press [►/II] to start playback.**
Keep fingers away from the sliding door when it is closing.

Stop playback	Press [■] during playback.
Pause playback	Press [►/II] during playback. Press again to continue playback.
Skip album	MP3 Press [▲, ▼].
Skip track	Press [I◄◄] or [►►I] (main unit: [I◄◄/◄◄] or [►►/►►I]).
Search through track	CD Press and hold [◄◄] or [►►] (main unit: [I◄◄/◄◄] or [►►/►►I]).

5.4. USB Operation

MP3

You can connect and play MP3 tracks from your USB mass storage device.

Do not use a USB extension cable. The system cannot recognise USB mass storage device connected through a cable.

1 Decrease the volume and connect the USB mass storage device to the USB port.

2 Press [USB] and then press [►/II] to start playback.

Stop playback	Press [■] during playback. “RESUME” is shown. Press [►/II] to continue playback. OR Press [■] two times to stop the playback fully.

6 Self Diagnostic and Doctor Mode Setting

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

6.1. Self Diagnostic Mode

Here is the procedures to enter into Self Diagnostic Mode.
Step 1 : Turn on the unit.
Step 2 : Select CD mode.
Step 3 : Press and hold [■] button for 2 seconds follow by [▶▶/▶▶|] on the unit.
Step 4 : The display show as follow.

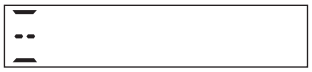
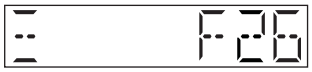
: Error code

To exit the Self Diagnostic Mode

Use either one of the following methods to cancel the Self Diagnostic Mode.

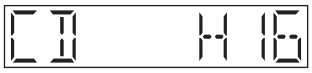
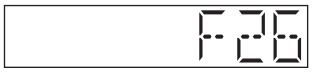
- Press the power button on the main unit or using the remote control.
- Unplug the AC cord.

6.1.1. Self Diagnostic Table

Item		FL display	Key operation
Mode name	**Description**		
Self Diagnostic Mode	To enter into self diagnostic checking		Step 1 : Select CD mode (Ensure no disc is inserted). Step 2 : Press and hold [■] follow by [▶▶/▶▶|] on main unit for 2 second .
Error code information	System will perform a check on any unusual/error code from the memory	Example: 	Step 1 : In self diagnostic mode, Press [STOP] on main unit. To exit, press [⏻/I] on main unit or remote control.
Delete Error code	To clear the stored in memory (EEPROM IC)		Step 1 : In self diagnostic mode, Press [0] on remote control. To exit, press [⏻/I] on main unit or remote control.

6.2. Self Diagnostic Function Error Code

6.2.1. CD Mechanism Error Code Table

Error Code	Diagnostic Contents	Descriptionof error	Automatic FL Display	Remarks
CD H15	CD Open Abnormal	During operation POS_SW_R On fail to be detected with 4 sec. Error No. shall be clear by force or during cold start.		Press [■] on main unit for next error.
CD H16	CD Closing Abnormal	During operation POS_SW_CEN On fail to be detected with 4 sec. Error No. shall be clear by force or during cold start.		Press [■] on main unit for next error.
F26	Communication between CD servo LSI and micro-p abnormal.	During switch to CD function, if SENSE = “L” within failsafe time of 20ms.		Press [■] on main unit for next error.

6.2.2. Power Amp Error Code Table

Error Code	Diagnostic Contents	Descriptionof error	Automatic FL Display	Remarks
F61/F76	Power Amp IC output abnormal	During power-on, PDET1, PDET2 & MAINV_DET / TEMP_DET is “L” after 1 sec.	 	Press [■] on main unit for next error.

6.3. Doctor Mode Table

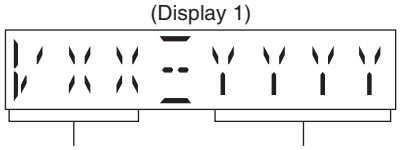
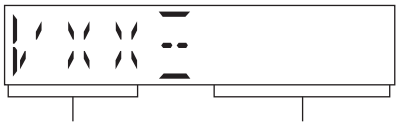
Here is the procedures to enter into Doctor Mode.
Step 1 : Turn on the unit.
Step 2 : Select CD mode.
Step 3 : Pressing and hold [■] on main unit then press [4] follow by [7] using the remote control.
Step 4 : The display show as follow.

To exit the Doctor mode

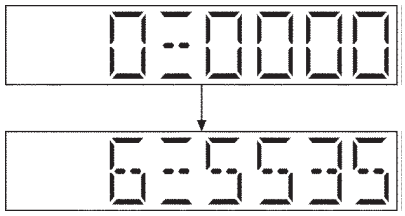
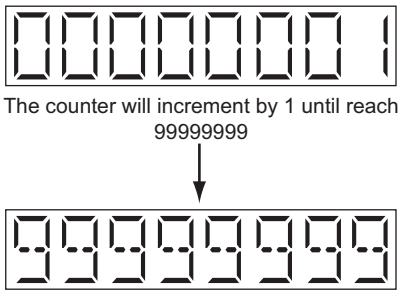
Use either one of the following methods to cancel the Doctor mode.

- Press the power button of the unit or using the remote control.
- Unplug the AC cord.

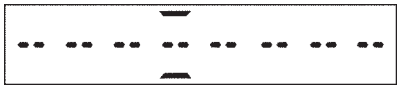
6.3.1. Doctor Mode Table 1

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Doctor Mode	To enter into Doctor Mode for checking of various items and displaying EEPROM and firmware version. Note: The micro-processor version as shown is an example. It will be revise when there is an updates. FL Display sequence Display 1 → 2	(Display 1)  Version Display (DEC) Check sum (HEX) Checksum : (Condition 1)  Version Display (DEC) No Rom correction When EEPROM is not detected, it shall display only firmware version Checksum : (Condition 2)  When EEPROM is detected the version of the EEPROM does not match or not working properly [NG] is display. Checksum : (Condition 3)  When EEPROM is detected, it shall display the [YYYY]. (Display 2)  The Checksum of EEPROM and firmware version will be display for 2 sec.	In any mode: Press [■] button on main unit follow by [4] & then [7] on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.

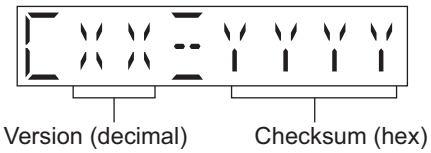
6.3.2. Doctor Mode Table 2

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: Press [1] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
Volume Setting	To check for preset volume setting Note : In tuner mode this function is not possible		In Doctor Mode: Press [7] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
			In Doctor Mode: Press [8] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
			In Doctor Mode: Press [9] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
Mecha Sliding Panel Reliability	To check the operation of sliding Panel. Sequence as follow : 1. CD Door set to CLOSE position. 2. CD Door move to the left (CD Open direction) and stop at LEFT position for 1 sec. 3. CD Door move to the right (CD Close direction) and stop at CLOSE position for 1 sec. 4. All the process above is considered as 1 cycle. Step (2) ~ (3) will repeat; Cycle Counter display increase every 1 cycle completed. Refer to 6.3.5 for more information		In Doctor Mode: Press [≥10] follow by [2] & then [1] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
CD Traverse Test Mode	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 10s or the traverse is out of focus. for more than 2s Refer to 6.3.6 for more information	 The counter will increment by 1 until reach 99999999	In Doctor Mode: Press [≥10] follow by [1] & then [2] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.

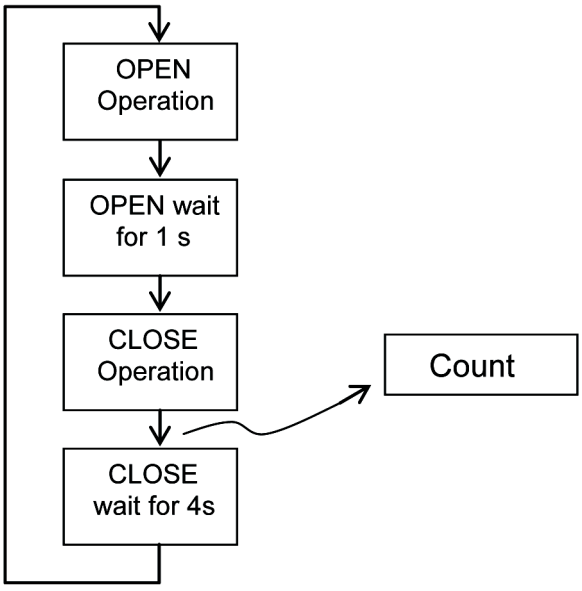
6.3.3. Doctor Mode Table 3

Item		FL Display	Key Operation
Mode Name	**Description**		**Front Key**
CD Self-Adjusment Display	To display result of self adjustment for CD.	 The [NO DISC] display will appear after 3s, 	In Doctor Mode: Press [≥10] follow by [1] & then [4] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
CD Combination Test	To check the open/close operation & inner outer disc access operation. 1. It fails when CD open/close is not completed by 4s. 2. The disc access fails in 10s. 3. The traverse is out of focus for more than 2s. Refer to 6.3.7 for more information		In Doctor Mode: Press [≥10] follow by [1] & then [5] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
Cold Start	To activate cold start upon next power up. (Backup data are initialized)	 The [NO DISC] display will appear after 3s, 	In Doctor Mode: Press [SLEEP] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
EEPROM Checksum	To check sum of EEPROM for a simplifield ROM correction. 1. When EEPROM is not detected, the only micro-p's version shall be displayed without an EEPROM's check sum	 Version Display (DEC) Check sum (HEX) EEPROM not detected only firmware is display 	In any mode: Press [■] button on main unit follow by [4] & then [7] on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
Auto Power down Detect (APD) Test	To check for the auto power down operation	 Condition 1 (when APD is OK)  Condition 2 (when APD is abnormal operation) 	In Doctor Mode: Press [≥10] follow by [2] & then [2] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.

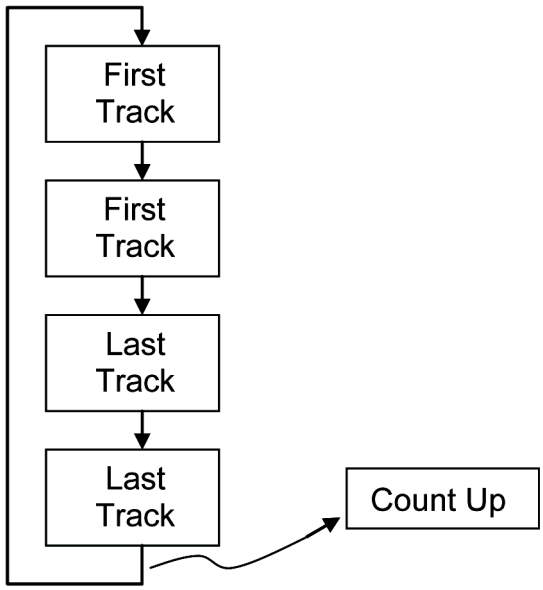
6.3.4. Doctor Mode Table 4

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Region Setting Check	To check Region setting of unit. Refer to 6.3.8 for the Region Setting destination		In Doctor Mode: Press [≧10] follow by [1] & then [6] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
CD LSI Version No Check	To check CD LSI Version No. & checksum correction		In Doctor Mode: Press [4] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
MN947 Model setting	To check Model Setting. Refer to 6.3.9 for the Model Setting		In Doctor Mode: Press [≧10] follow by [1] & then [8] button on remote control. To cancel, press [0] button on remote control. It returns Doctor Mode. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.

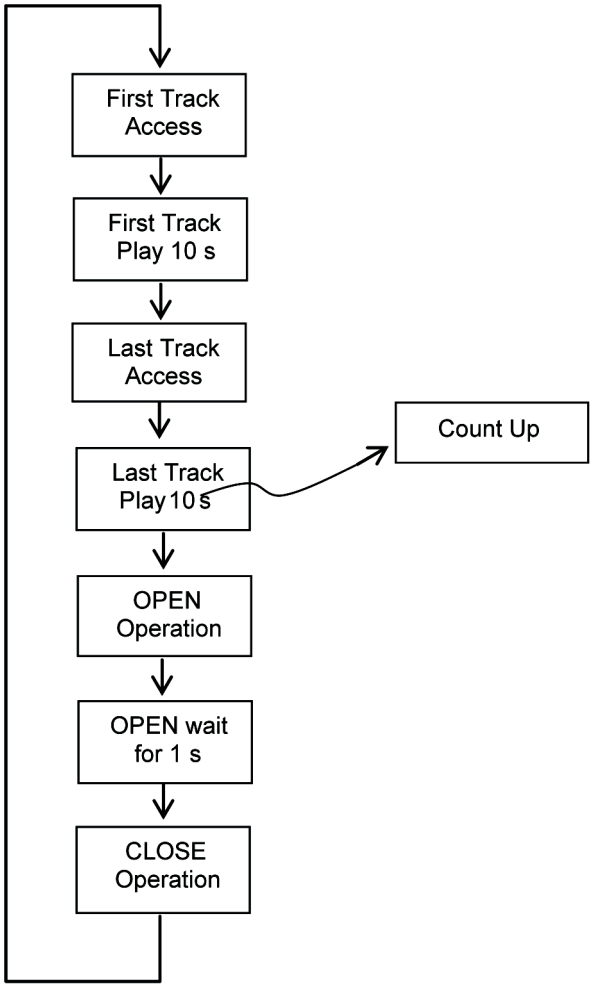
6.3.5. Mecha Sliding Panel Reliability



6.3.6. CD Traverse Test (For CD)



6.3.7. CD Reliability Test (For CD)



6.3.8. Region Check Table (For Tuner)

Region	Model	Series	Country
1	HC15	EP	E. Europe
2	HC15	EB/EG	UK, Germany
3	HC15	PU	Latin America

6.3.9. Model setting

Region No.	Function		Model
	With iPod	With Shock Proof	
S0	X	O	HC15

6.4. Sales Demonstration Lock Function Mode

6.4.1. Entering into sales Demo Mode

Here is the procedures to enter into Sales Demonstration Lock.

Step 1 : Turn on the unit.

Step 2 : Select to any mode function, press and hold [CD⏏(OPEN/CLOSE)] key and follow by [CD►/II] key. It must be pressed within 0.5 sec.

Step 3 : The display will show upon entering into this mode.

Note : CD⏏(OPEN/CLOSE) button is invalid and the main unit displays “LOCKED” while the lock function mode is entered.

6.4.2. Cancellation

Step 1 : To cancel only can be triggered in CD Mode and Volume 19.

Step 2 : Press and hold [CD⏏(OPEN/CLOSE)] key and follow by [CD►/II] key. It must be pressed within 0.5 sec.

Step 3 : The display will show after exit from this mode.

7 Service Fixture & Tools

Prepare service tools before process service position.

Ref. No.	Service Tools		Remarks
SFT1	Main P.C.B. (CN7002) - CD Servo P.C.B. (CN7002)	RFKZHC55K1 (27P FFC)	
SFT3	Main P.C.B. (CN7902) - CD Servo P.C.B. (CN7901)	RFKZHC35 (Extension P.C.B.)	

8 Disassembly and Assembly Instructions

Caution Note:

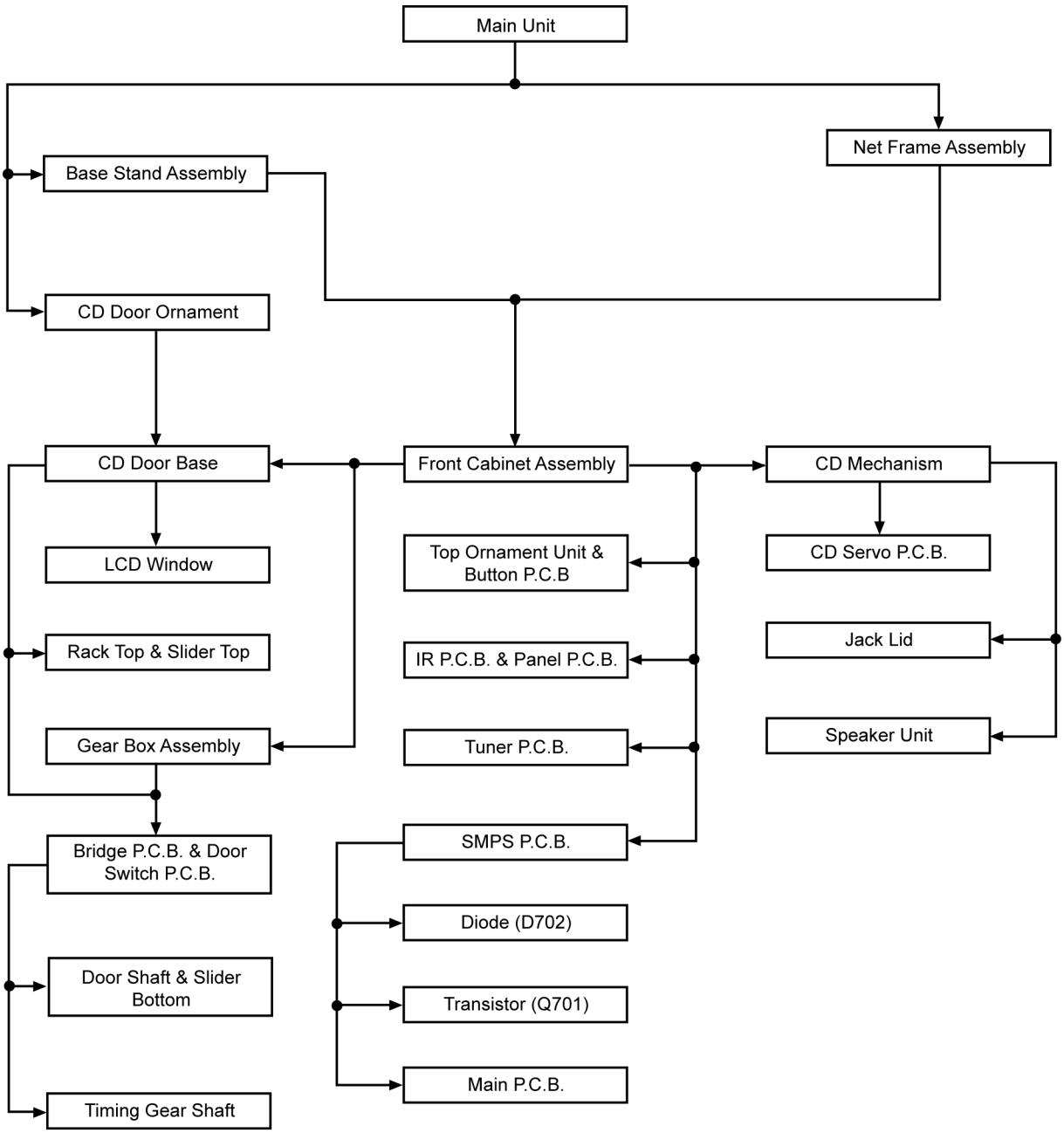
- **This section describes the disassembly and/or assembly procedures for all major printed circuit boards & main components for the unit. (You may refer to the section of "Main components and P.C.B Locations" as described in the service manual)**
- **Before carrying out the disassembly process, please 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)**

- **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 Net Frame Assembly**
- **Disassembly of Base Stand Assembly**
- **Replacement of CD Door Ornament**
- **Replacement of CD Door Base**
- **Disassembly of Front Cabinet Assembly**
- **Disassembly of LCD Window**
- **Disassembly of Gear Box Assembly**
- **Replacement of Rack Top & Slider Top**
- **Disassembly of Bridge P.C.B. & Door Switch P.C.B.**
- **Replacement of Door Shaft & Slider Bottom**
- **Replacement of Timing Gear Shaft**
- **Disassembly of Top Ornament Unit & Button P.C.B.**
- **Disassembly of IR P.C.B. & Panel P.C.B.**
- **Disassembly of CD Mechanism**
- **Disassembly of CD Servo P.C.B.**
- **Disassembly of Jack Lid**
- **Disassembly of Tuner P.C.B.**
- **Disassembly of SMPS P.C.B.**
- **Replacement of Diode (D702)**
- **Replacement of Transistor (Q701)**
- **Disassembly of Speaker Unit**
- **Disassembly of Main P.C.B.**

8.1. 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.



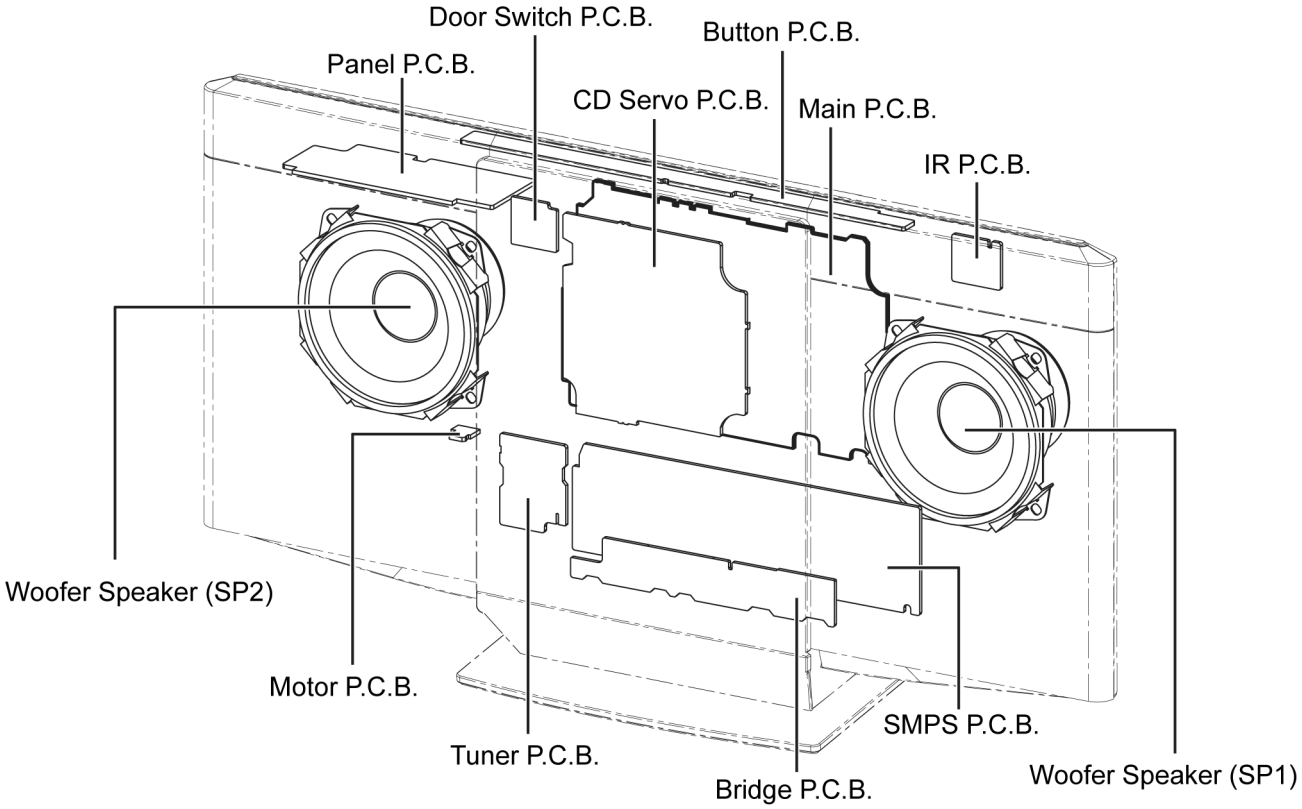
8.2. Types of Screws

CAUTION NOTE:
Please use original screw and at correct locations.

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

- ⓐ : RHD26046-L
- ⓑ : VHD1224-1
- ⓒ : XTW3+12TFJK
- ⓓ : XQN17+C28FJ
- ⓔ : XTN2+6GFJ
- ⓕ : XTB3+10JFJK
- ⓖ : XTB3+8JFJ
- ⓗ : XTW2+6SFJ
- ⓘ : RHD26043-1

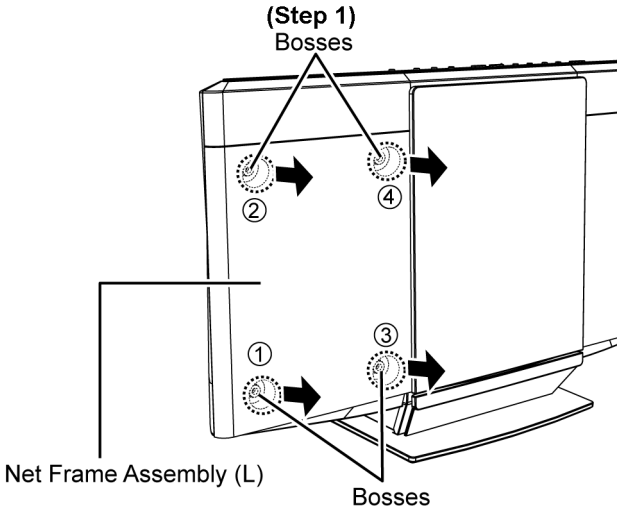
8.3. Main Parts Location Diagram



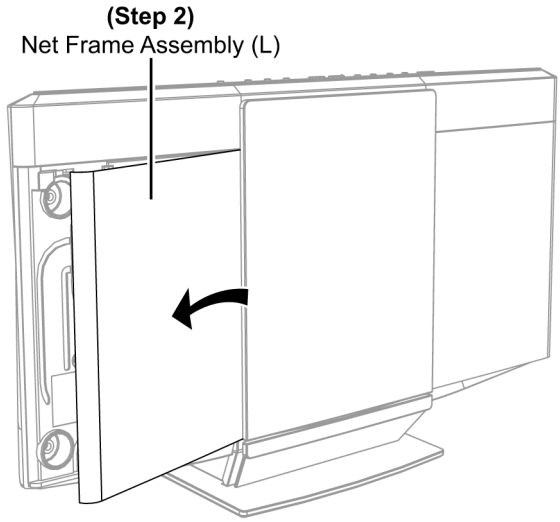
8.4. Disassembly of Net Frame Assembly

8.4.1. Disassembly of Net Frame Assembly (L)

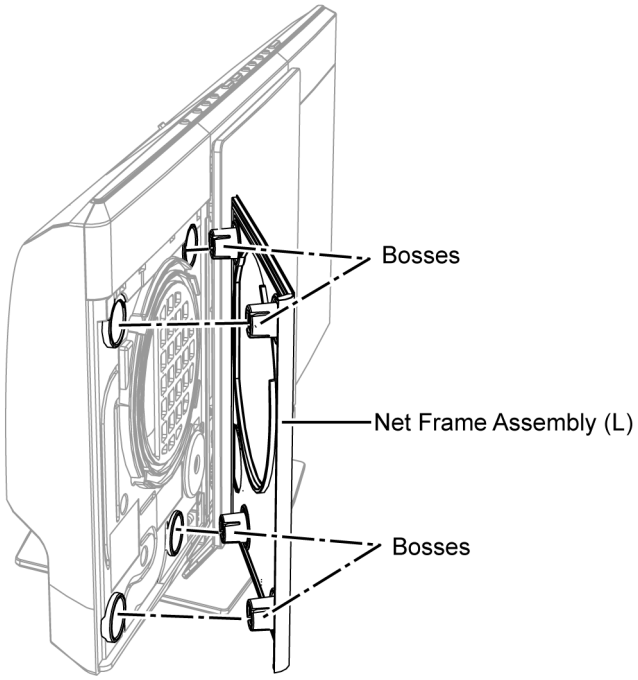
Step 1 : Gently lift up Net Frame Assembly (L) in order of sequences (1) to (4) to release 4 bosses as shown.



Step 2 : Remove Net Frame Assembly (L) as arrow shown.

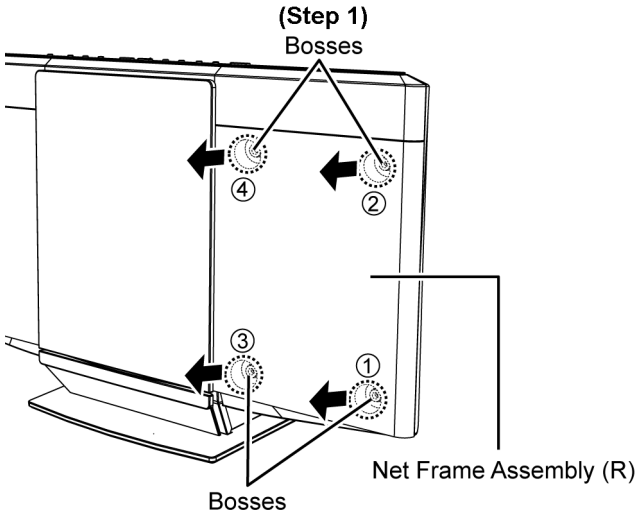


Caution : During assembly of Net Frame Assembly (L), ensure it is fixed properly.

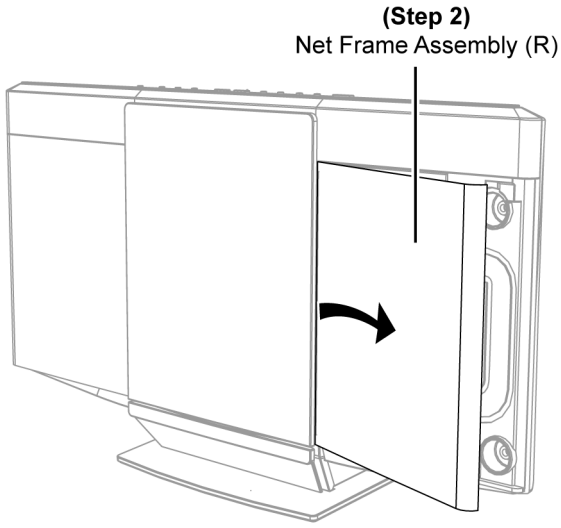


8.4.2. Disassembly of Net Frame Assembly (R)

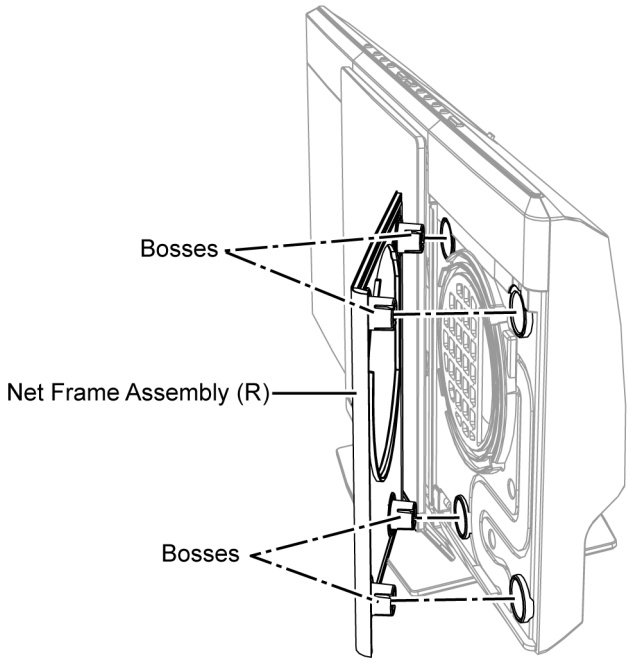
Step 1 : Gently lift up Net Frame Assembly (R) in order of sequences (1) to (4) to release 4 bosses as shown.



Step 2 : Remove Net Frame Assembly (R) as arrow shown.

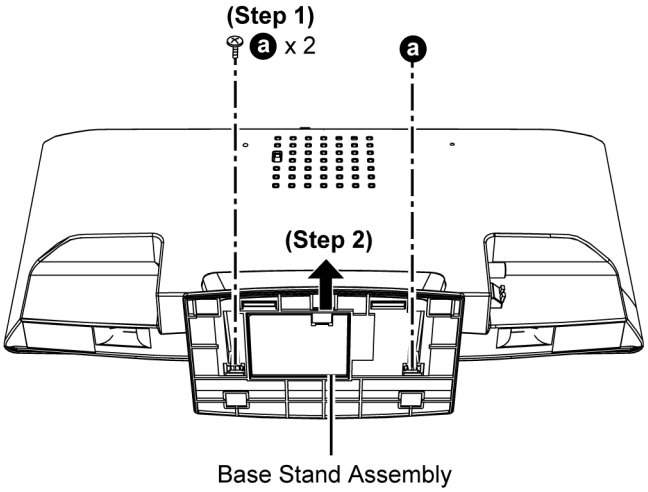


Caution : During assembly of Net Frame Assembly (R), ensure it is fixed properly.



8.5. Disassembly of Base Stand Assembly

Step 1 : Remove 2 screws.
Step 2 : Lift up the Base Stand Assembly.

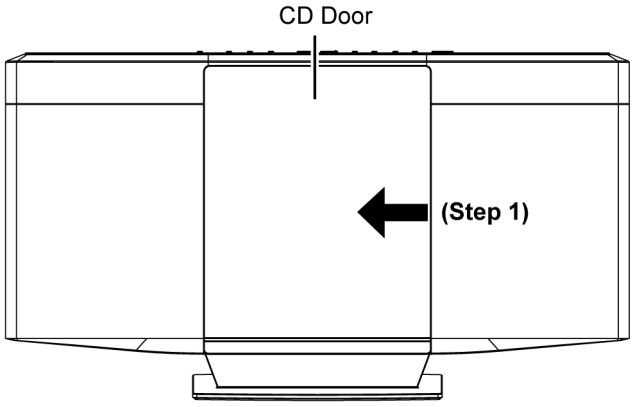


(Bottom view)

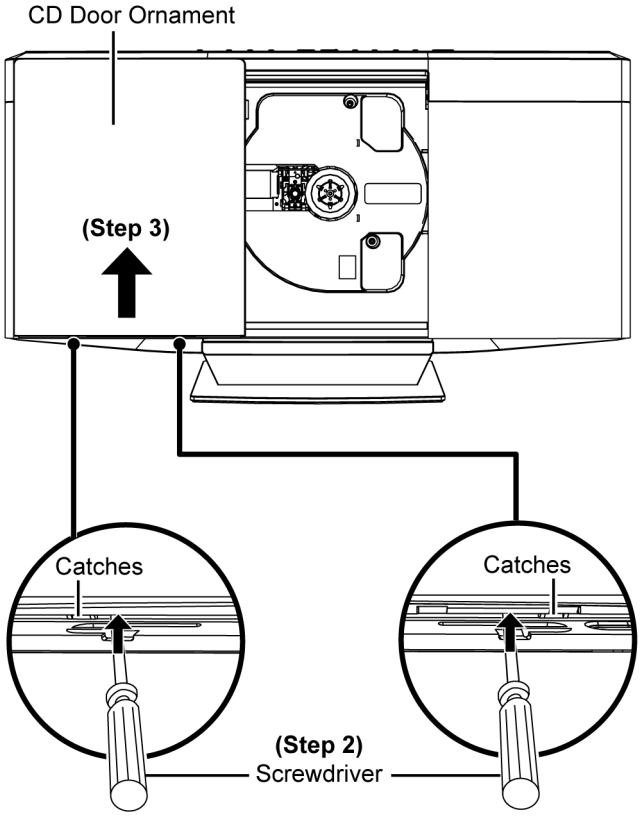
8.6. Replacement of CD Door Ornament

8.6.1. Disassembly of CD Door Ornament

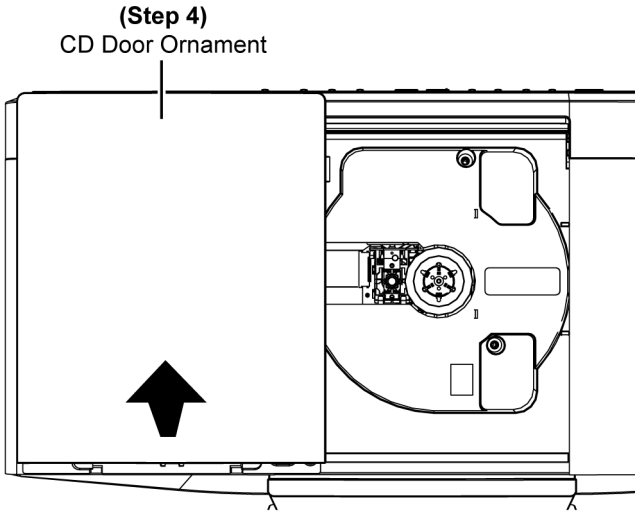
Step 1 : Slide the CD Door to open it.



Step 2 : Slightly push up the CD Door Ornament as arrow shown using a screwdriver to releasing both catches.
Step 3 : Push the CD Door Ornament upwards.

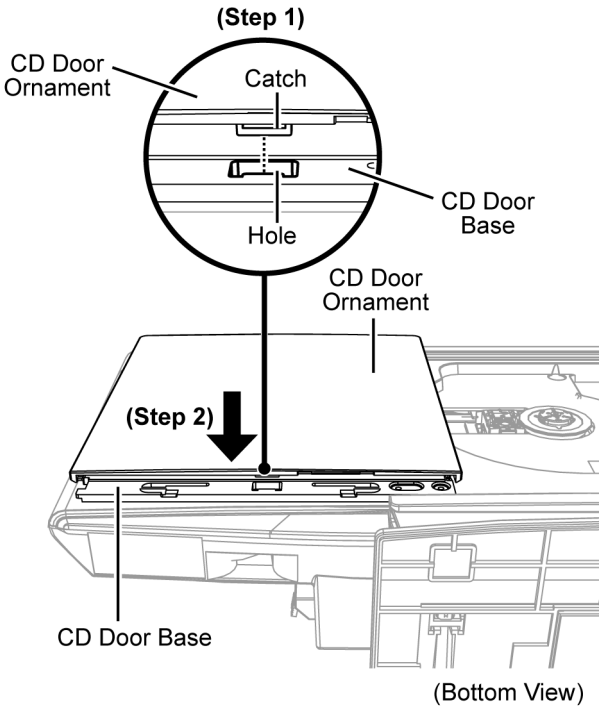


Step 4 : Lift up to remove CD Door.

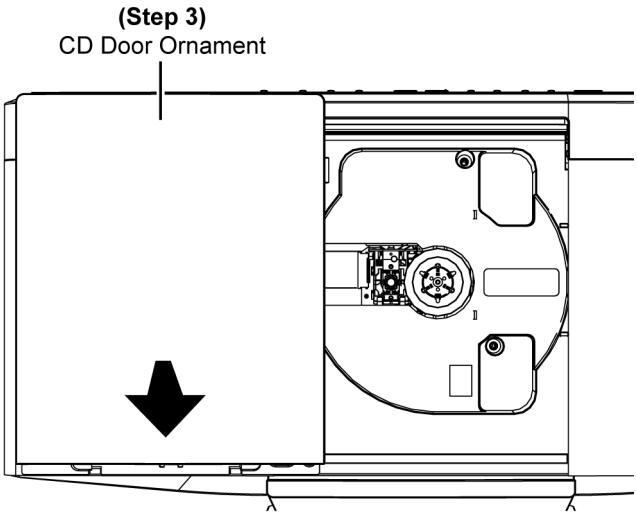


8.6.2. Assembly of CD Door Ornament

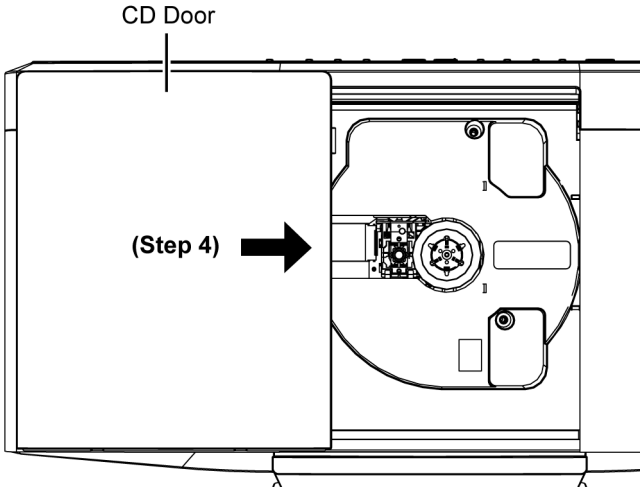
Step 1 : Align the catch of CD Door Ornament onto the hole of CD Door Base.
Step 2 : Push down the CD Door Ornament to Fix it.



Step 3 : Push down the CD Door Ornament, a “click” sound is heard when the CD Door Ornament is fully catched.



Step 4 : Slide the CD Door to close it.

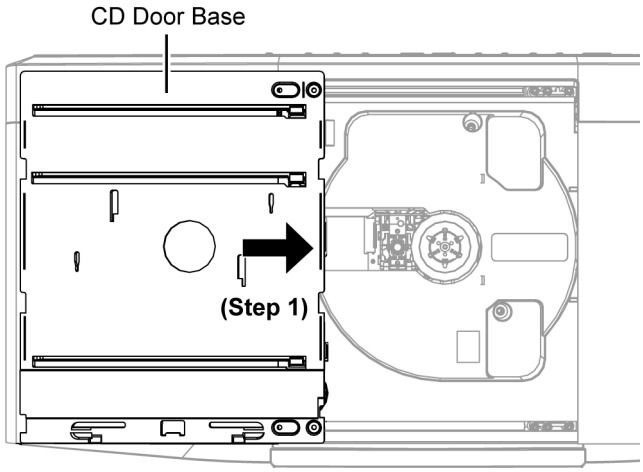


8.7. Replacement of CD Door Base

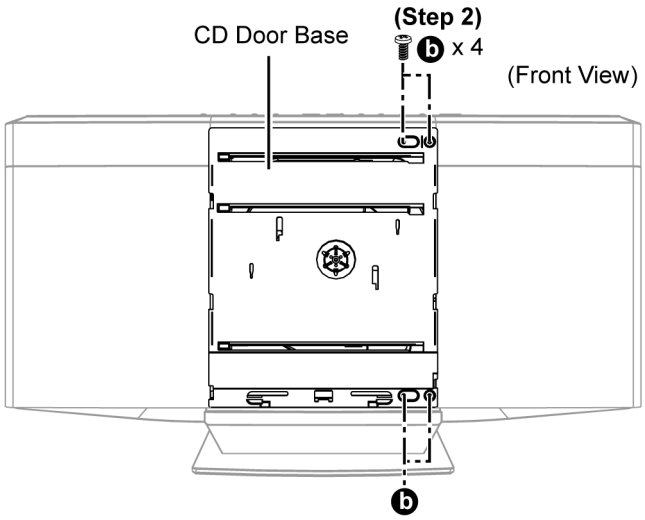
- Refer to “Disassembly of CD Door Ornament”

8.7.1. Disassembly of CD Door Base

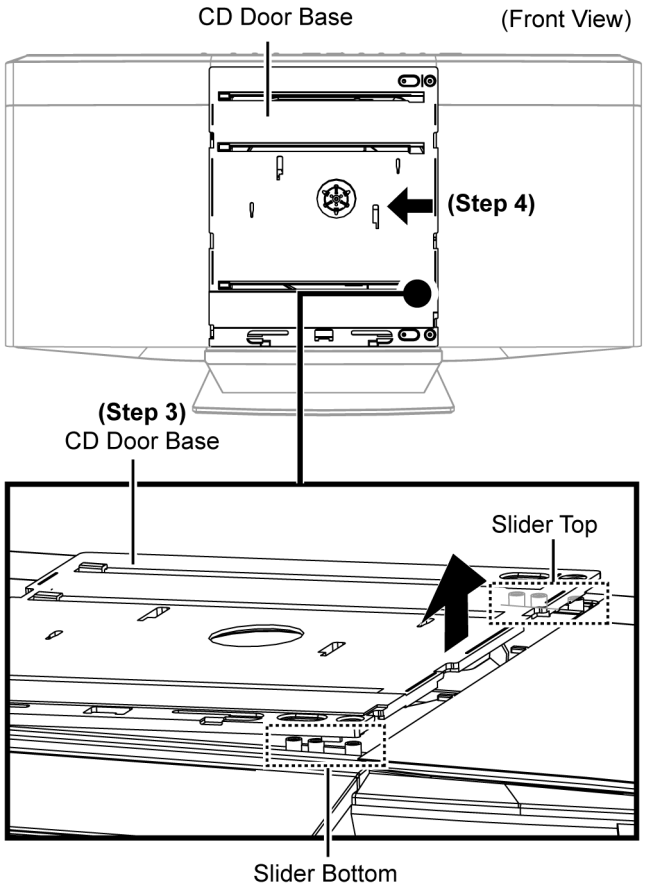
Step 1 : Slide the CD Door Base to close it.



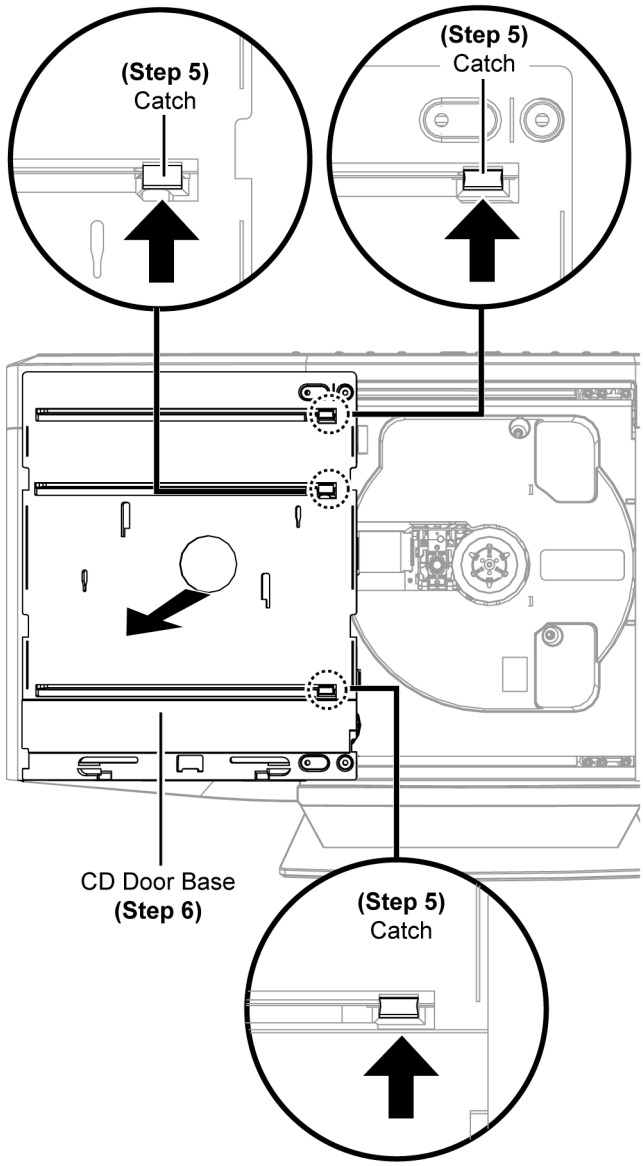
Step 2 : Remove 4 screws.



Step 3 : Slightly lift up the CD Door Base.
Step 4 : Slide the CD Door Base towards to the left.



Step 5 : Push the CD Door Base upwards.
Step 6 : Lift up and remove the CD Door Base.

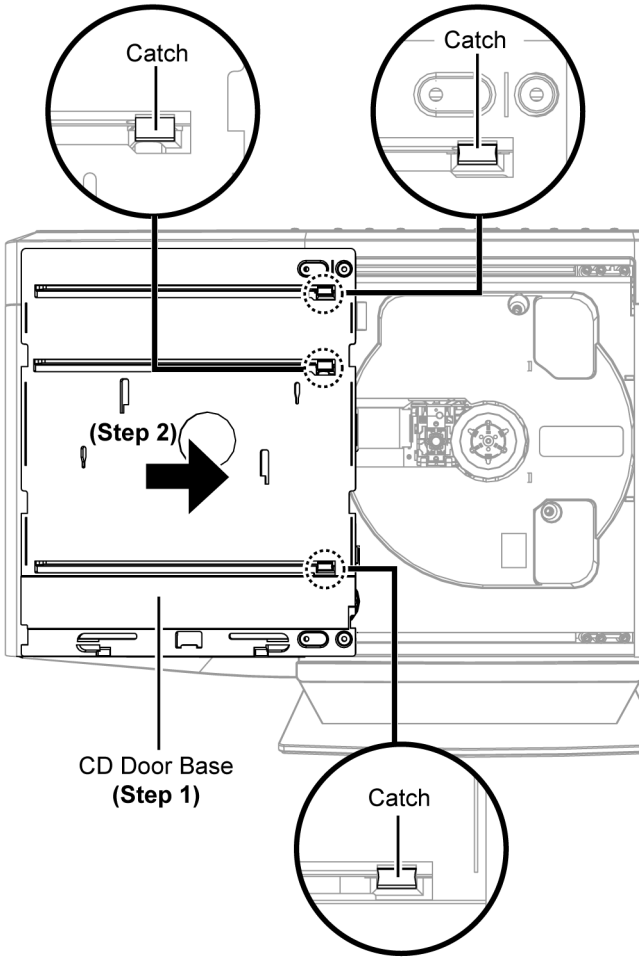


8.7.2. Assembly of CD Door Base

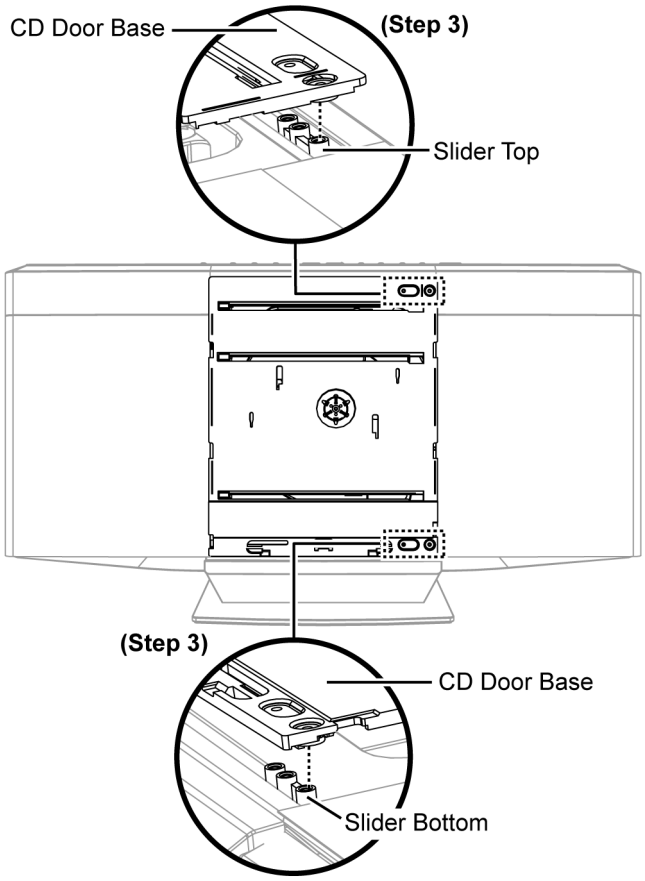
Step 1 : Place the CD Door Base onto Front Cabinet.

Caution : Ensure that the 3 catch are inserted into the respective slots of CD Door Base.

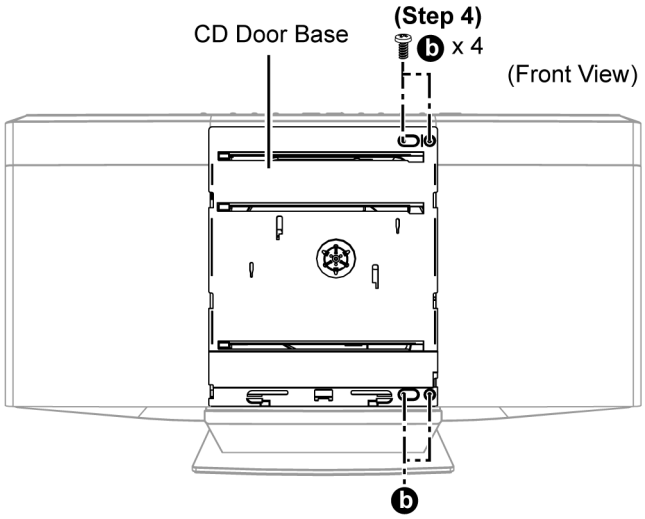
Step 2 : Slide CD Door Base as arrow shown.



Step 3 : Align the CD Door Base onto the Slider Top and Slider Bottom as diagram shown.



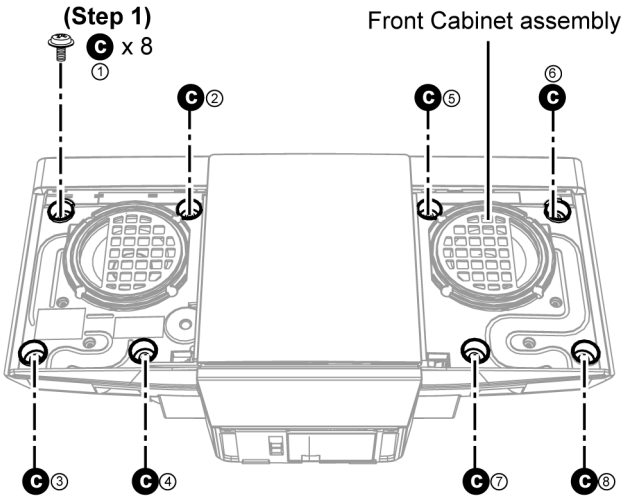
Step 4 : Fix 4 screws.



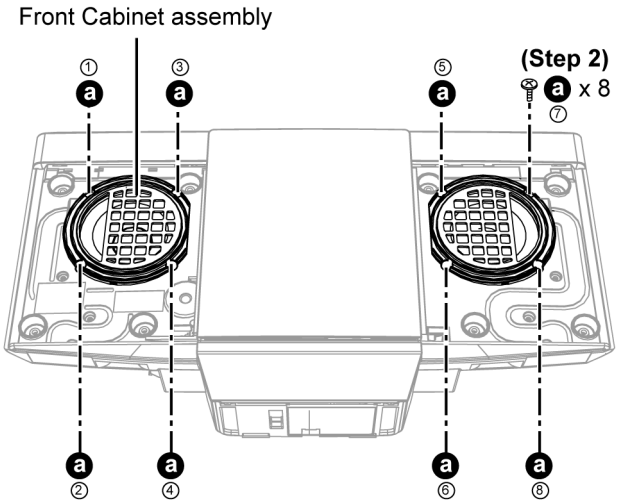
8.8. Disassembly of Front Cabinet Assembly

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”

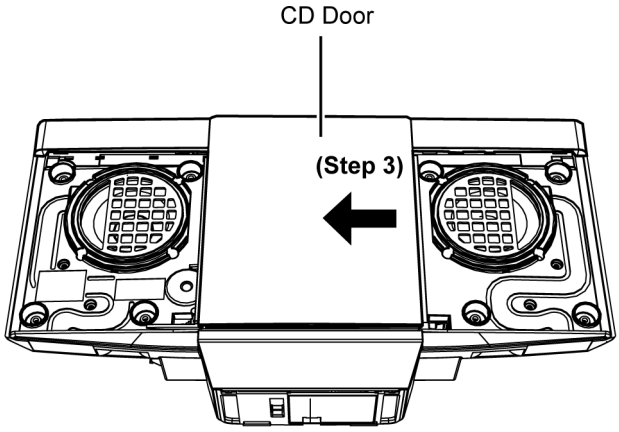
Step 1 : Remove 8 screws in order of sequences (1) to (8) as shown.



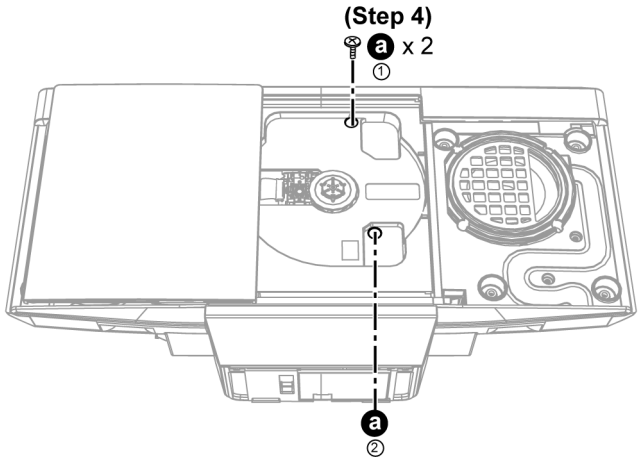
Step 2 : Remove 8 screws in order of sequences (1) to (8) as shown.



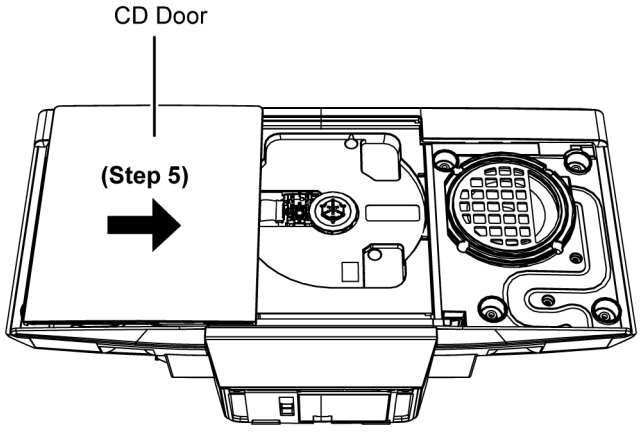
Step 3 : Slide the CD Door to open it.



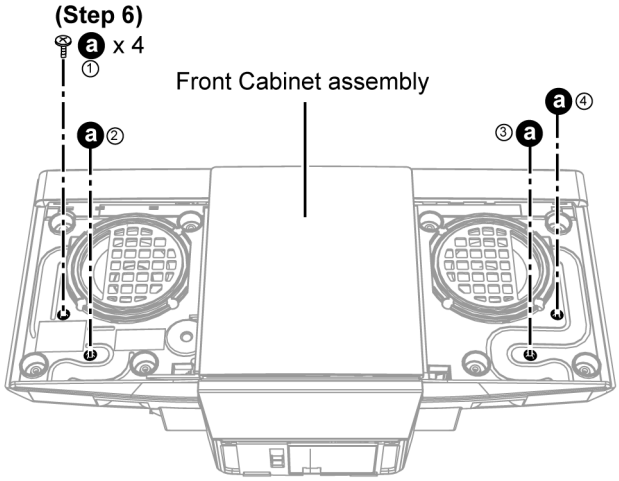
Step 4 : Remove 2 screws in order of sequences (1) to (2) as shown.



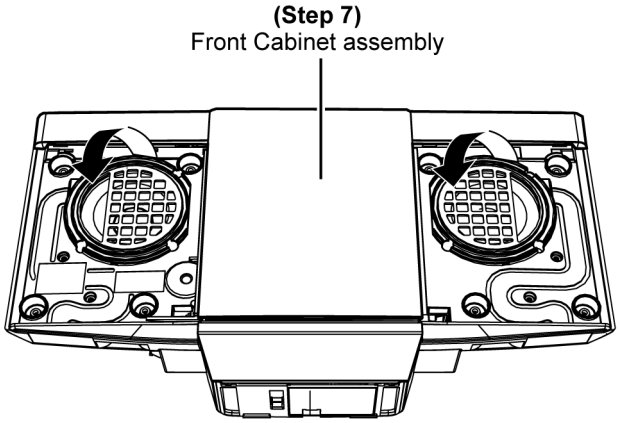
Step 5 : Slide the CD Door to close it.



Step 6 : Remove 4 screws in order of sequences (1) to (4) as shown.

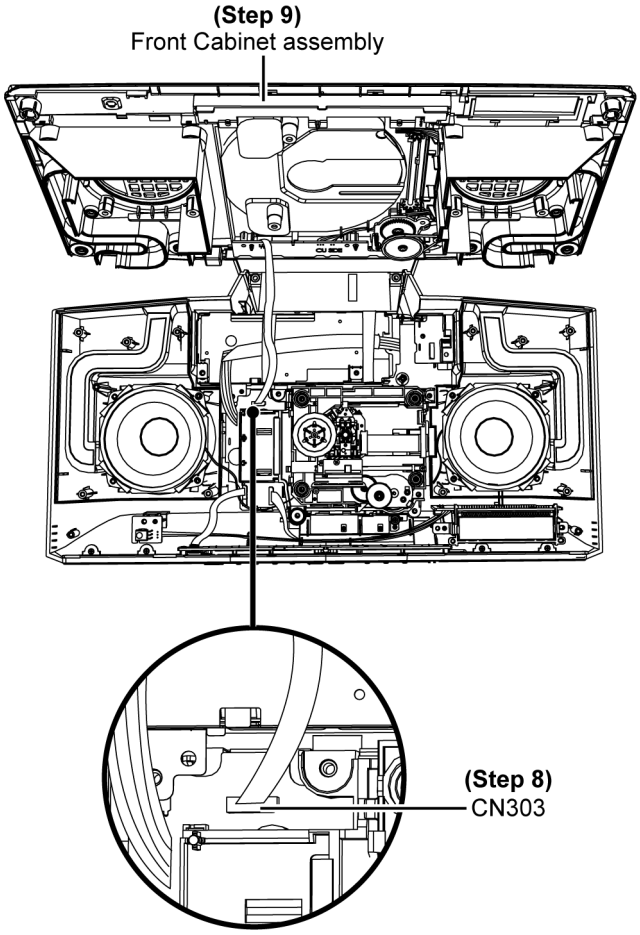


Step 7 : Lift up the Front Cabinet Assembly as arrow shown.

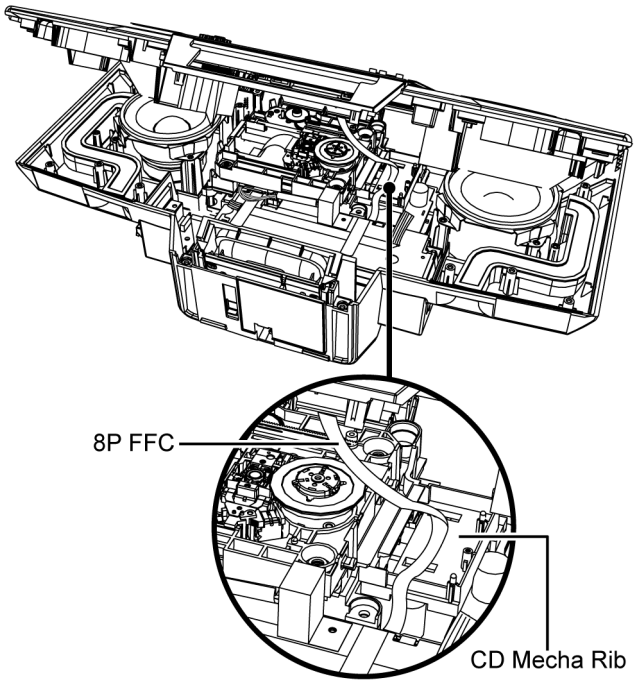


Step 8 : Detach 8P FFC at the connector (CN303) on Main P.C.B..

Step 9 : Remove Front Cabinet Assembly.



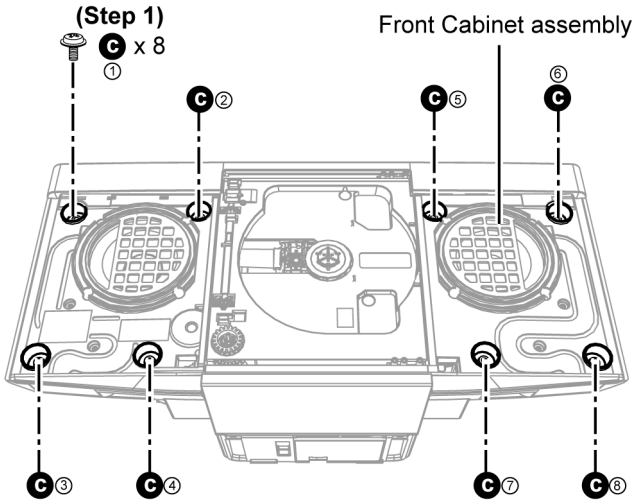
Caution : During assembling, ensure 8P FFC dress on top of CD Mecha Rib.



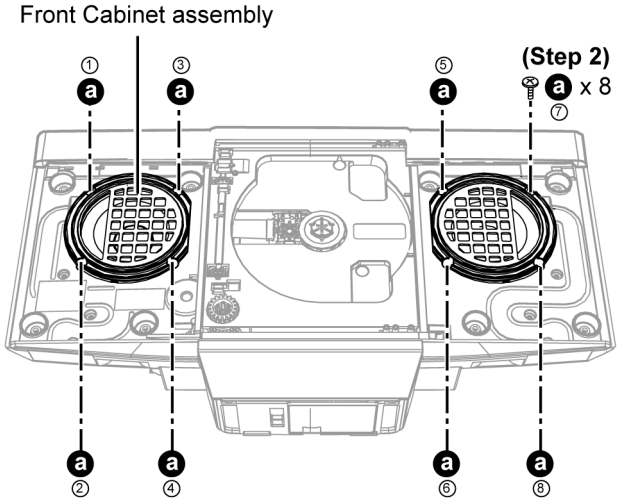
8.9. Disassembly of LCD Window

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of CD Door Ornament”
- Refer to “Disassembly of CD Door Base”

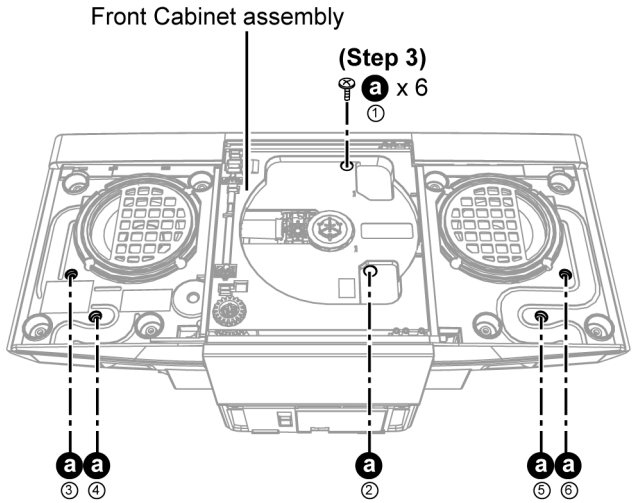
Step 1 : Remove 8 screws in order of sequences (1) to (8) as shown.



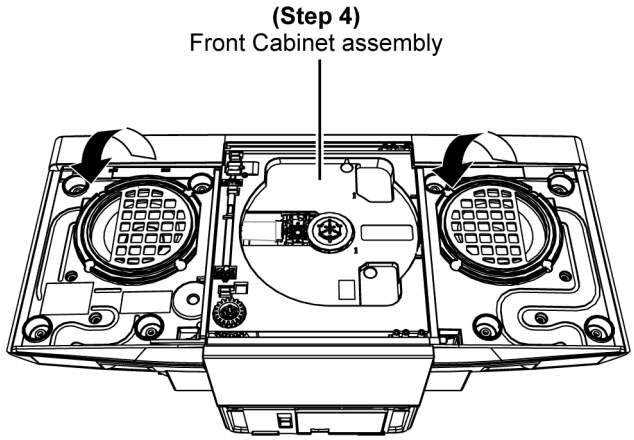
Step 2 : Remove 8 screws in order of sequences (1) to (8) as shown.



Step 3 : Remove 6 screws in order of sequences (1) to (8) as shown.

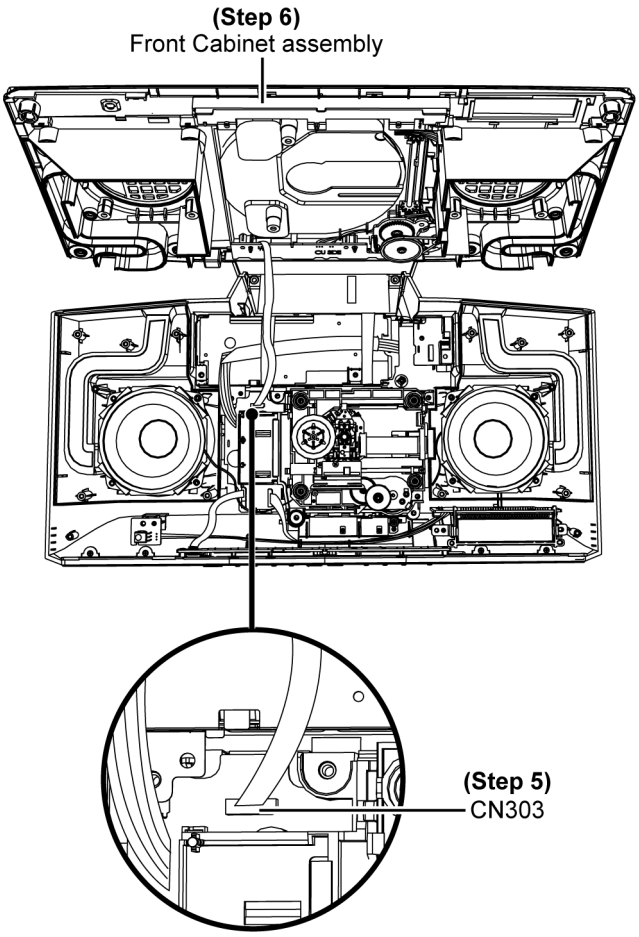


Step 4 : Lift up the Front Cabinet Assembly as arrow shown.

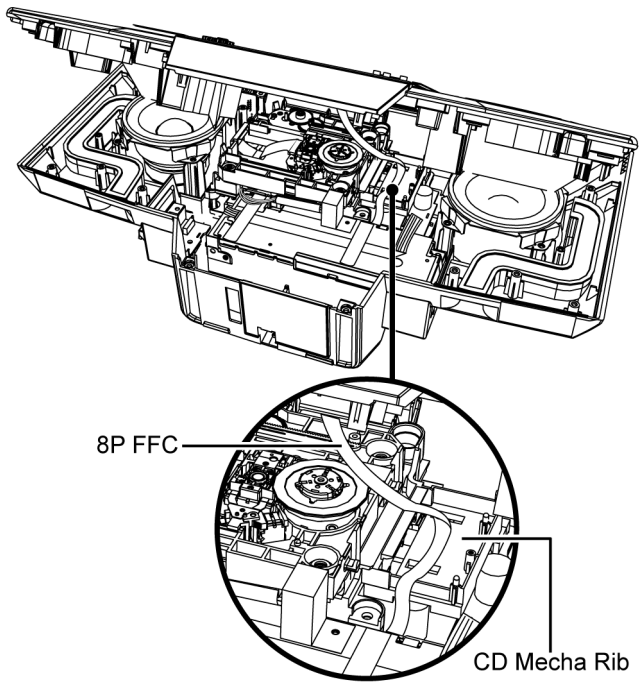


Step 5 : Detach 8P FFC at the connector (CN303) on Main P.C.B..

Step 6 : Remove Front Cabinet Assembly.

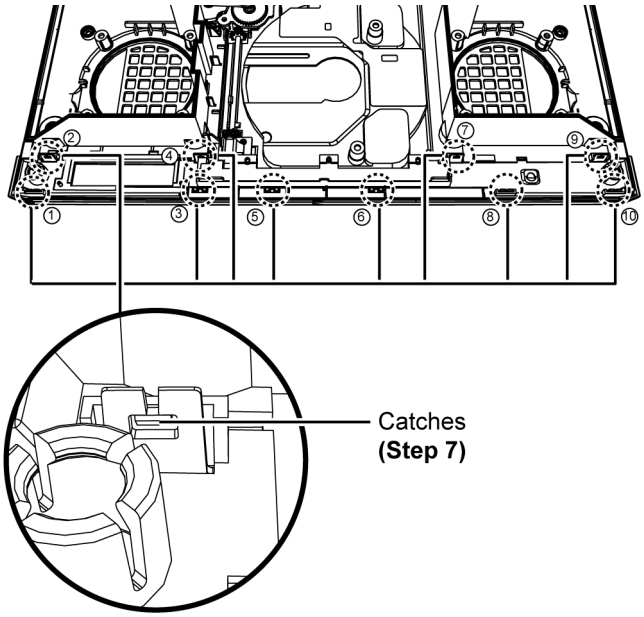


Caution : During assembling, ensure 8P FFC dress on top of CD Mecha Rib.

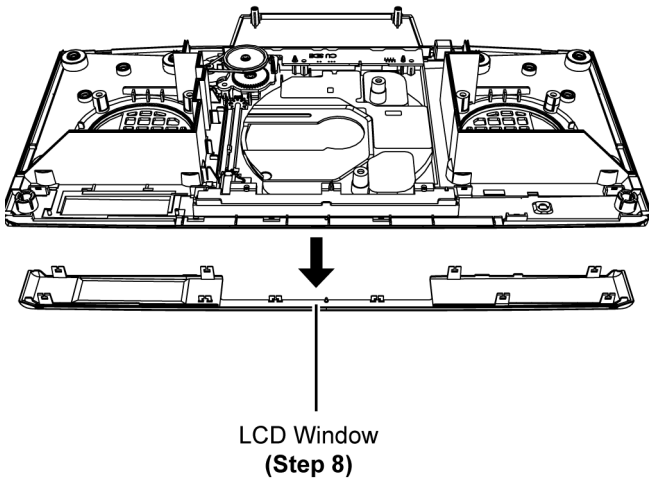


Step 7 : Release 10 catches in order of sequences (1) to (10).

Caution : Do not use strong force as it may damage the LCD Window.



Step 8 : Remove LCD Window.



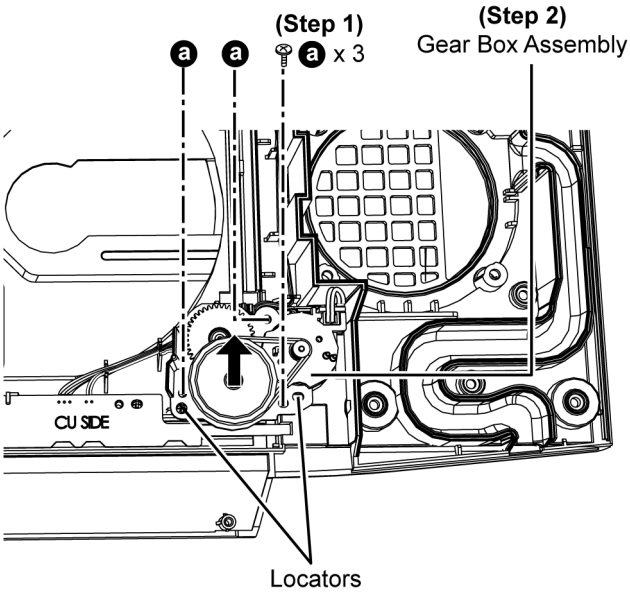
8.10. Disassembly of Gear Box Assembly

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of Front Cabinet Assembly”

Step 1 : Remove 3 screws.

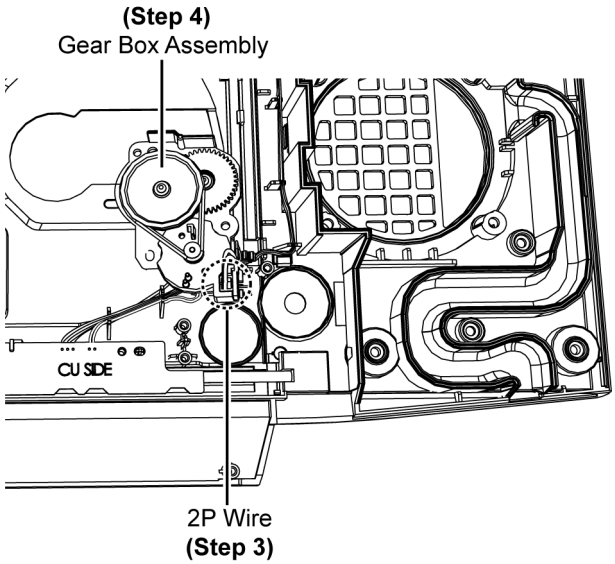
Step 2 : Lift up Gear Box Assembly as shown.

Caution: During assembling of Gear Box Assembly, ensure that the Gear Box Assembly is properly seated on the locators.



Step 3 : Detach 2P wire at the connector on Motor P.C.B..

Step 4 : Remove Gear Box Assembly.

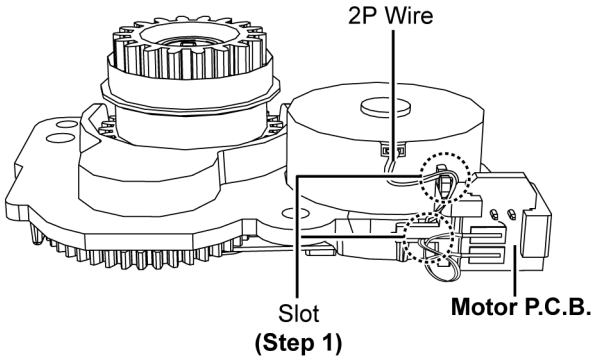


8.10.1. Disassembly of Motor P.C.B.

- Refer to “Disassembly of Gear Box Assembly”

Step 1 : Release 2P wire from slot.

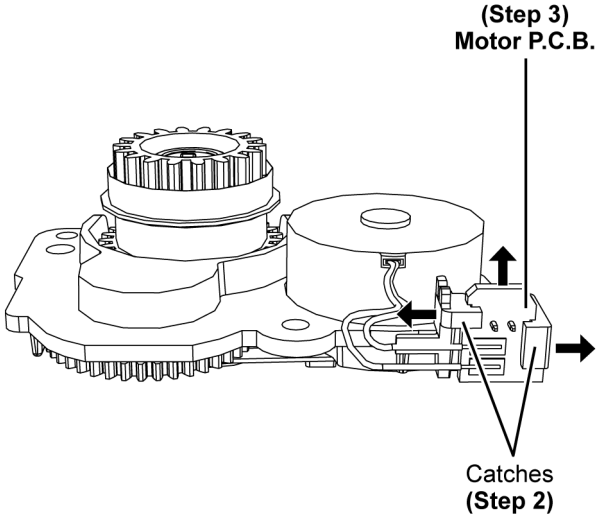
Caution : During assembling, ensure the 2P wire is dress into the slot.



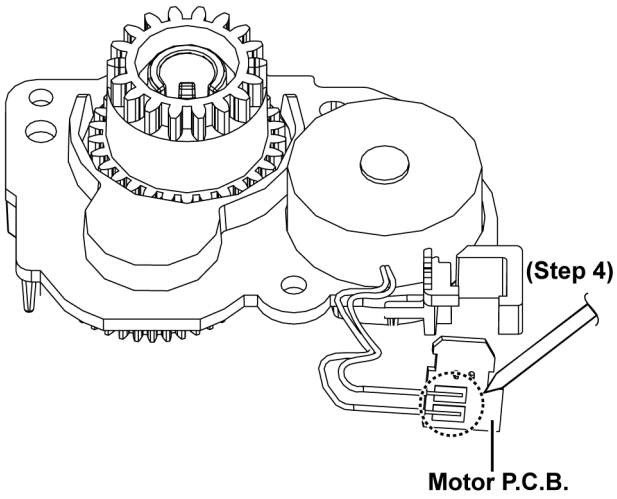
Step 2 : Release 2 catches as show.

Step 3 : Remove Motor P.C.B..

Caution: During assembling, ensure the Motor P.C.B. is seated properly by the 2 catches.



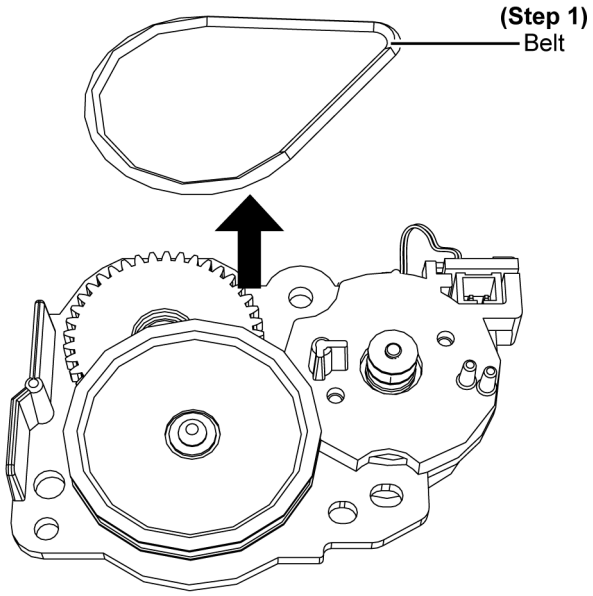
Step 4 : Desolder pin on the solder side of Motor P.C.B.. and remove the Motor P.C.B..



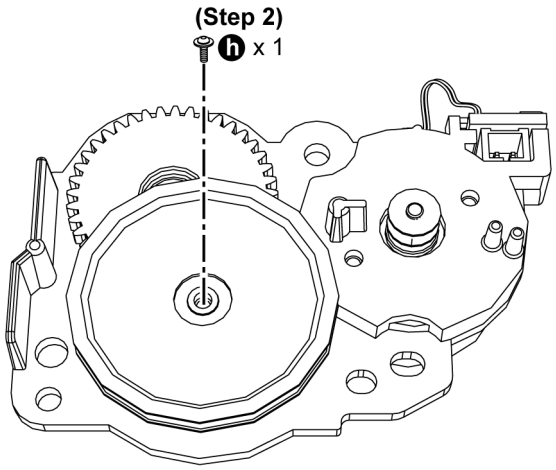
8.10.2. Disassembly of Belt, Pully Gear, Middle Gear and Drive Gear.

• Refer to “Disassembly of Gear Box Assembly”

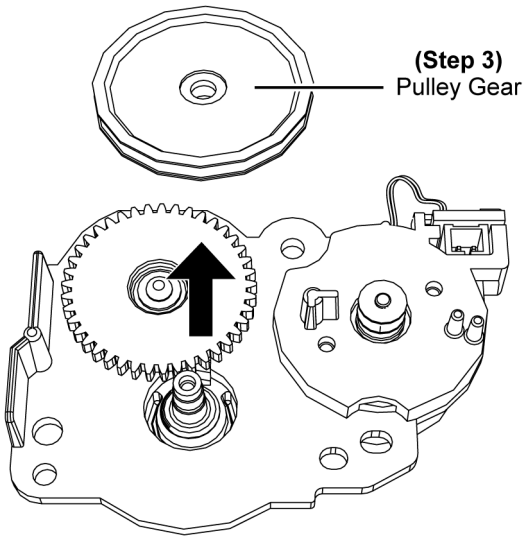
Step 1 : Remove Belt.



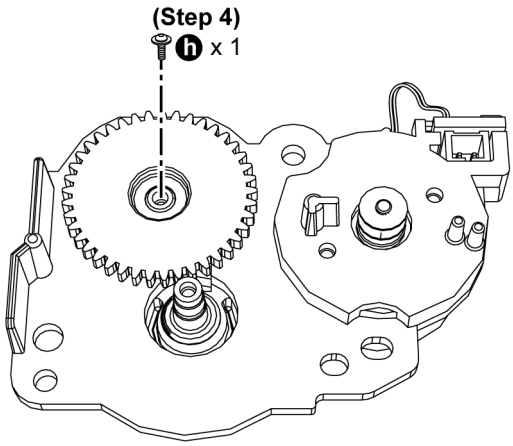
Step 2 : Remove 1 screw.



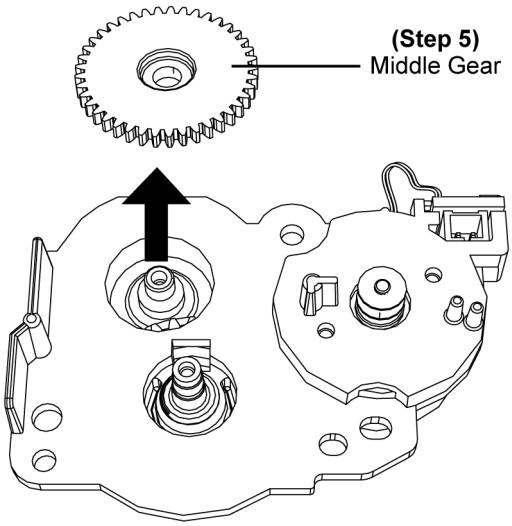
Step 3 : Remove Pulley Gear.



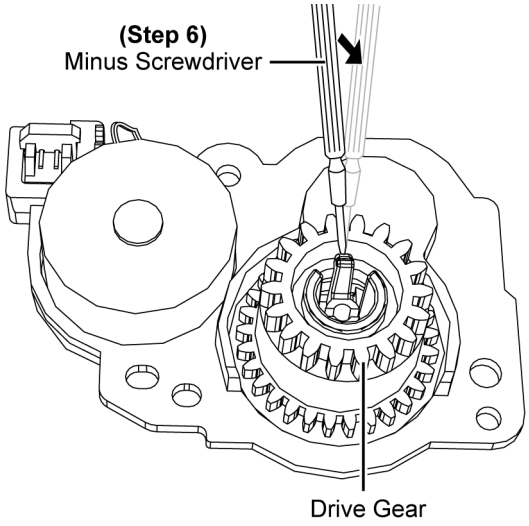
Step 4 : Remove 1 screw.



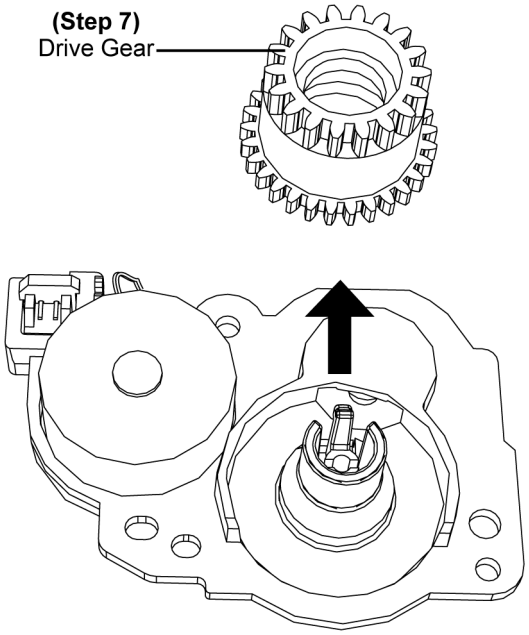
Step 5 : Remove Middle Gear.



Step 6 : Use the minus screwdriver to release a catch as shown.



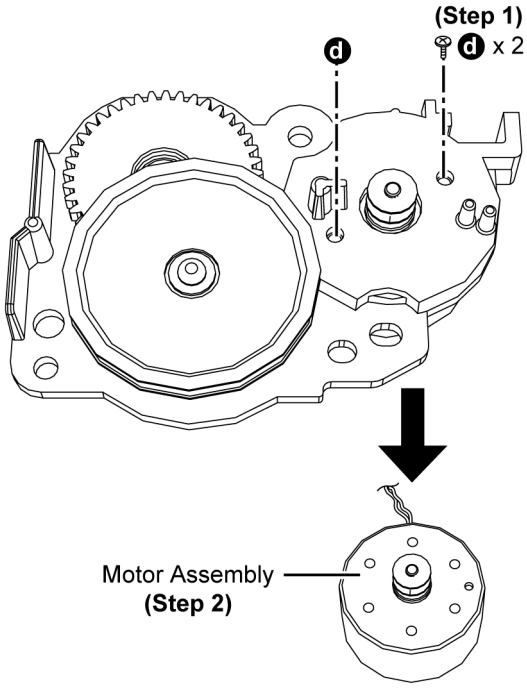
Step 7 : Remove Drive Gear.



8.10.3. Disassembly of Motor Assembly

- Refer to “Disassembly of Gear Box Assembly”
- Refer to (Step 1) to (Step 4) of item 8.10.1

Step 1 : Remove 2 screws.
Step 2 : Remove Motor Assembly.

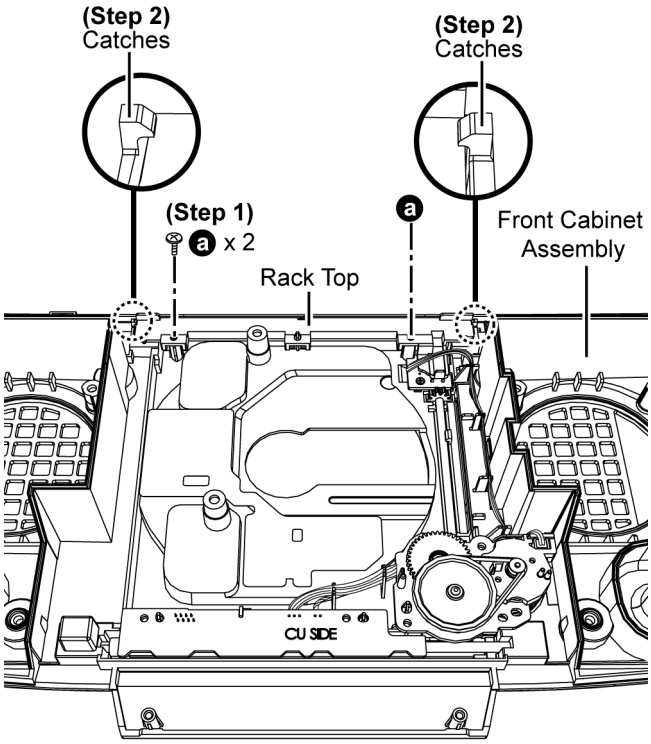


8.11. Replacement of Rack Top & Slider Top

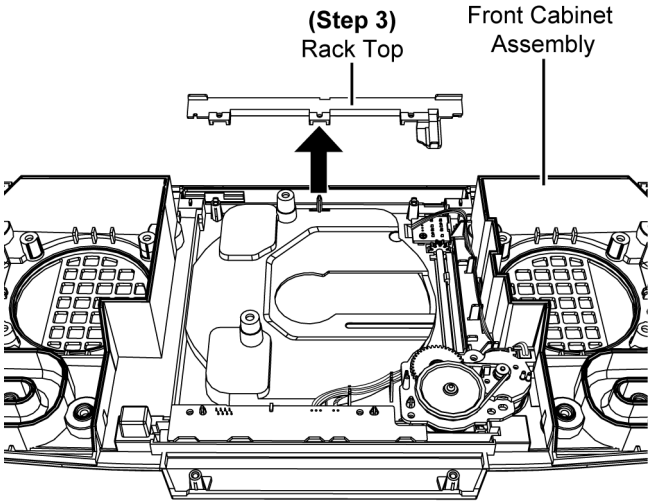
- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of CD Door Ornament”
- Refer to “Disassembly of CD Door Base”
- Refer to (Step 1) - (Step 6) of item 8.9.

8.11.1. Disassembly of Rack Top & Slider Top

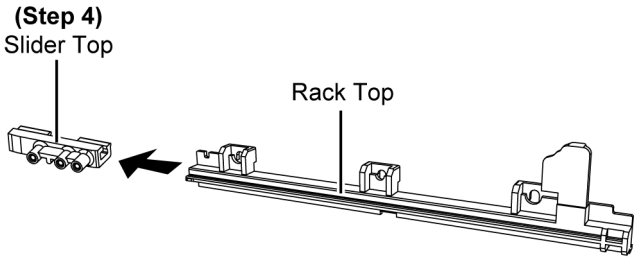
Step 1 : Remove 2 screw.
Step 2 : Release 2 catches.



Step 3 : Remove Rack Top.

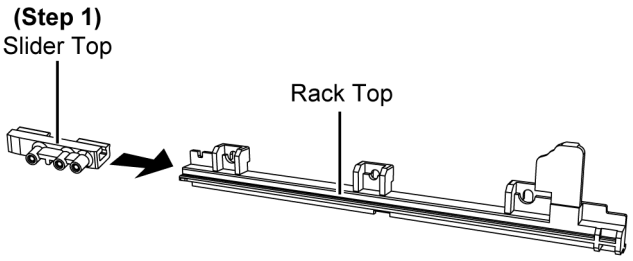


Step 4 : Remove Slider Top.



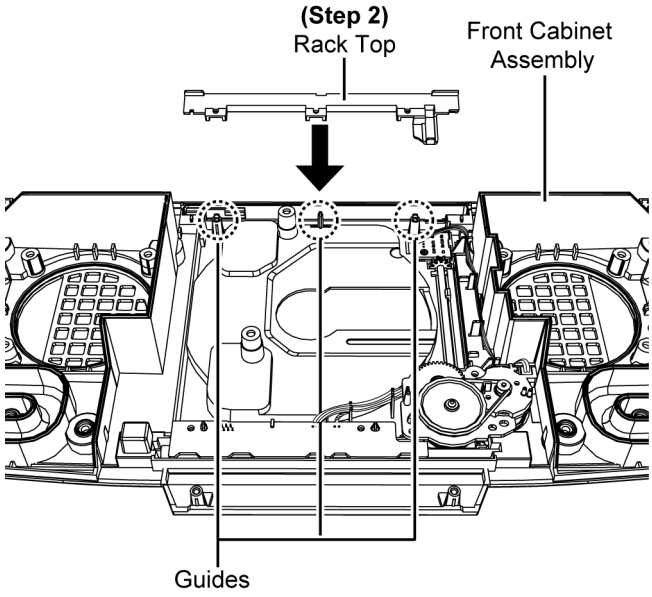
8.11.2. Assembly of Rack Top & Slider Top

Step 1 : Slide in the Slider Top.

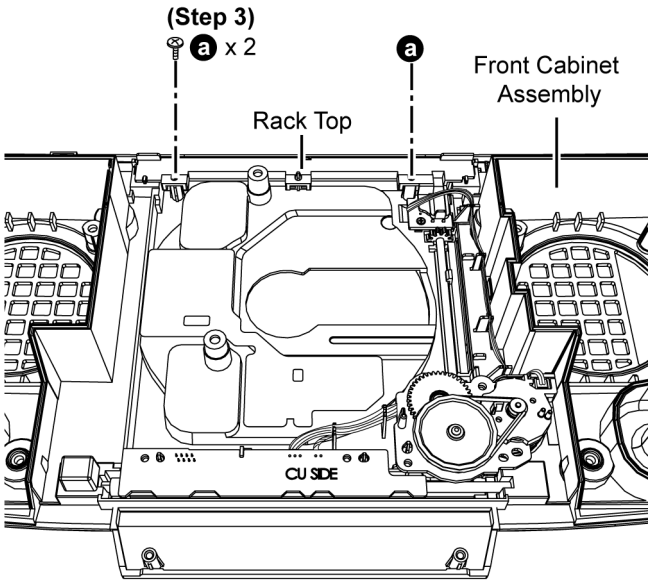


Step 2 : Fix Rack Top.

Caution : During assembling, ensure the Rack Top is properly seated onto guides, a “click” sound is heard when the Rack Top is fully catched.



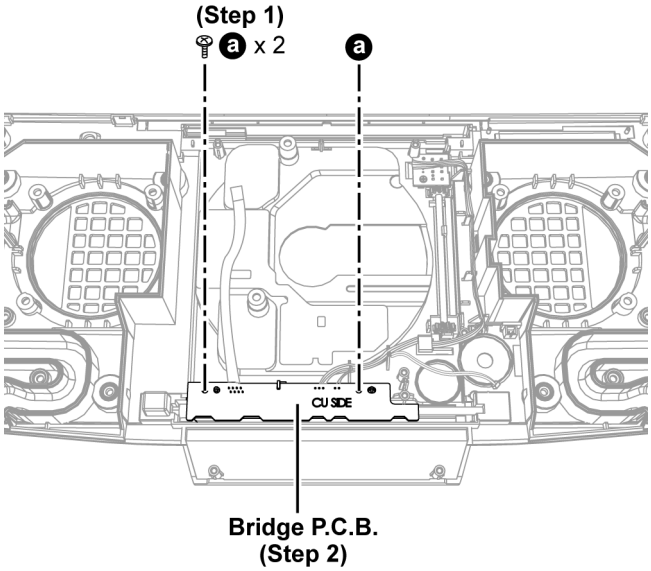
Step 3 : Fix 2 screws.



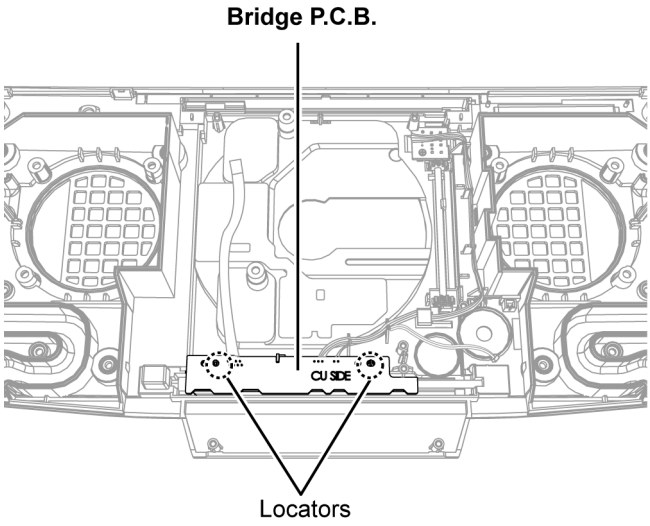
8.12. Disassembly of Bridge P.C.B. & Door Switch P.C.B.

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of CD Door Ornament”
- Refer to “Disassembly of CD Door Base”
- Refer to (Step 1) - (Step 6) of item 8.9.
- Refer to (Step 1) - (Step 4) of item 8.10.
- Refer to (Step 1) - (Step 3) of item 8.11.1.

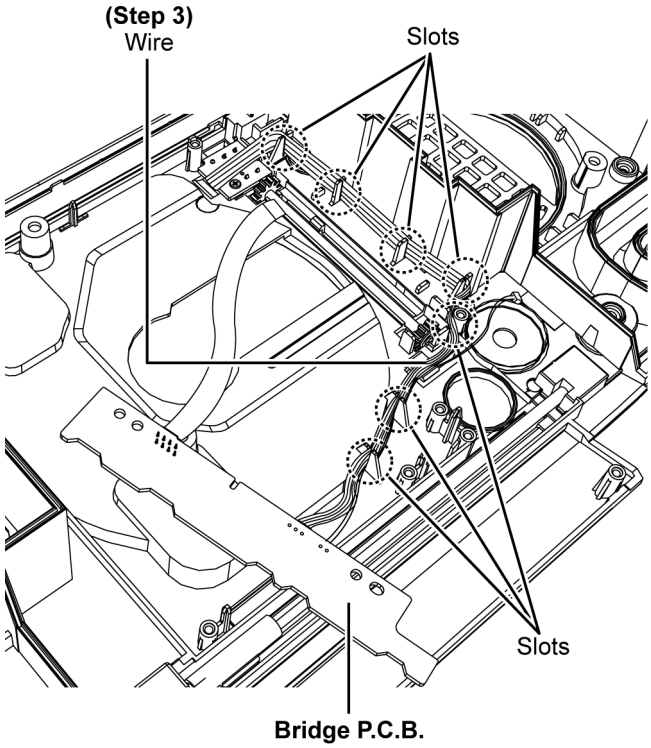
Step 1 : Remove 2 screws.
Step 2 : Lift up Bridge P.C.B..



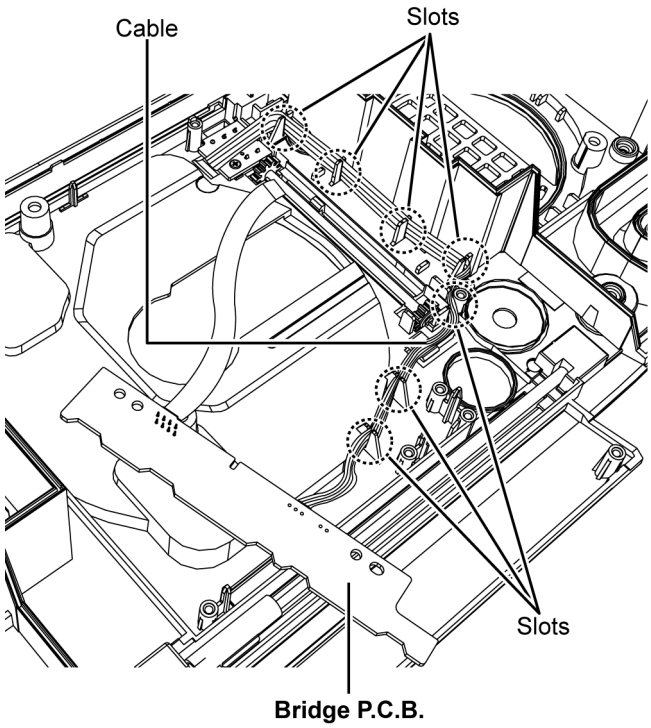
Caution : During assembling, ensure the Bottom Shield is properly seated onto the locators.



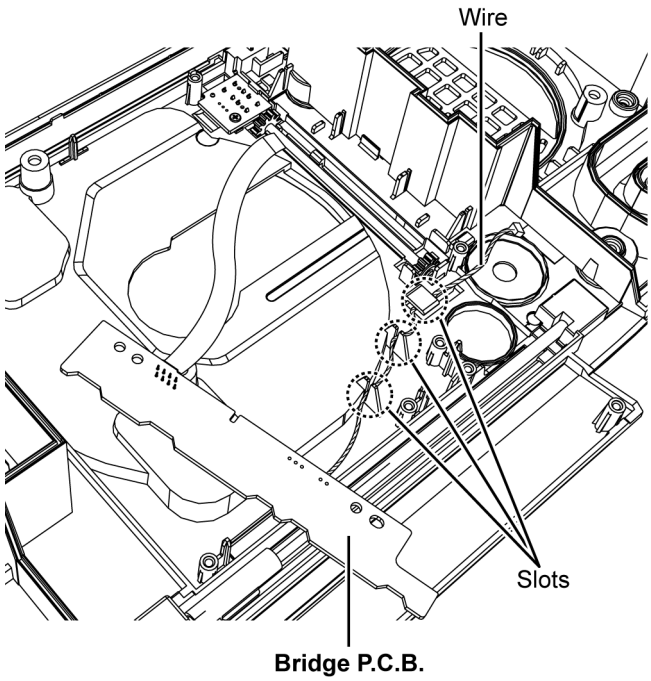
Step 3 : Release the Wire from the slot.



Caution : During assembling, ensure that the 3P cable is dressed into the slots as shown.



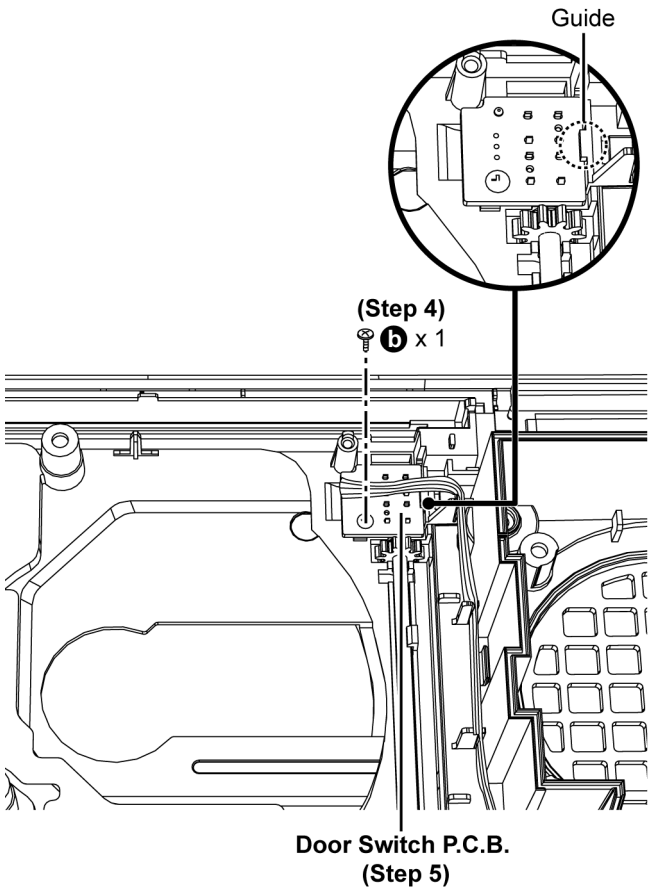
Caution : During assembling, ensure that the 2P wire is dressed into the slots as shown.



Step 4 : Remove 1 screw.

Step 5 : Remove Door Switch P.C.B..

Caution : During assembling, ensure the Door Switch P.C.B. is slot into the guide.

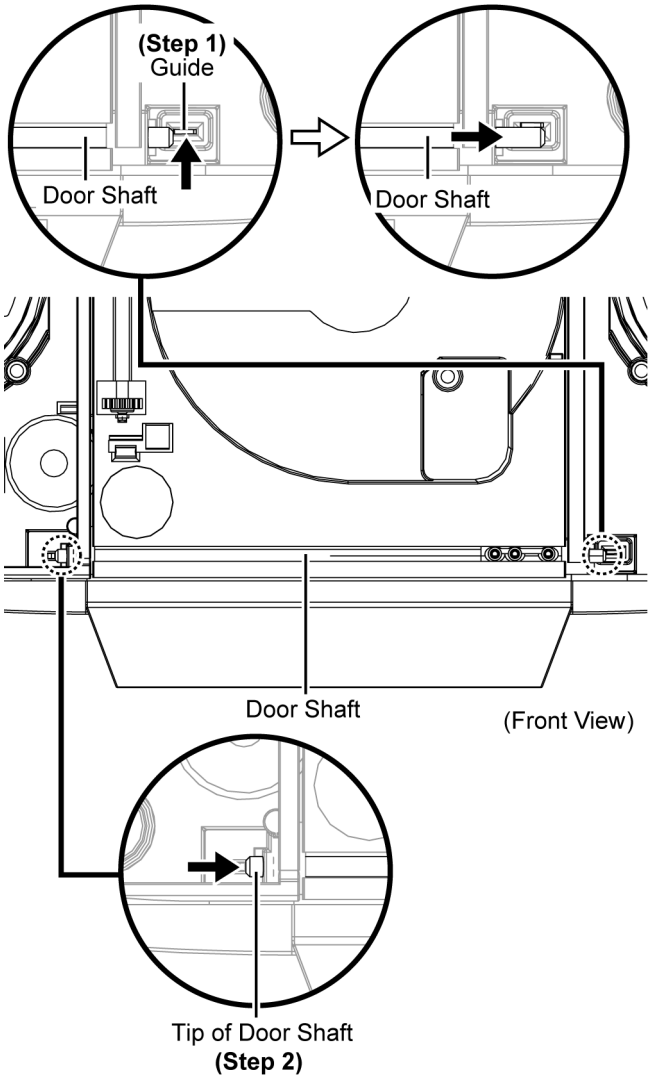


8.13. Replacement of Door Shaft & Slider Bottom

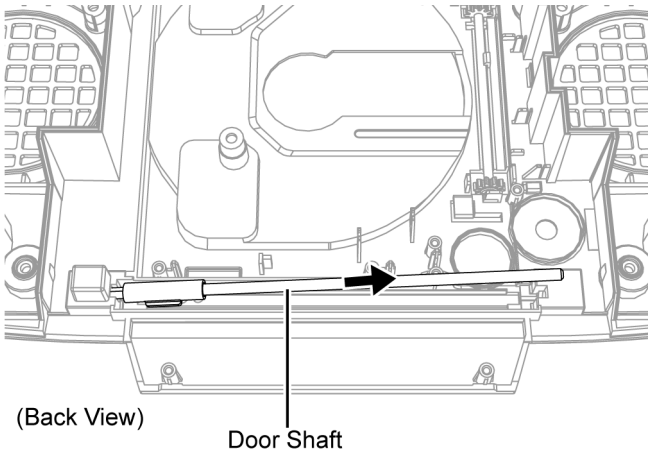
- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of CD Door Ornament”
- Refer to “Disassembly of CD Door Base”
- Refer to (Step 1) - (Step 6) of item 8.9.
- Refer to (Step 1) - (Step 4) of item 8.10.
- Refer to “Disassembly of Bridge P.C.B. & Door Switch P.C.B.”

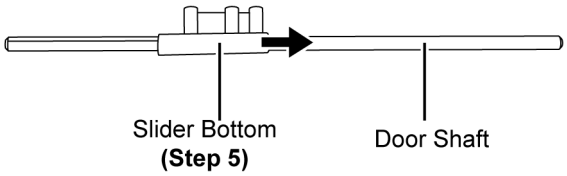
8.13.1. Disassembly of Door Shaft & Slider Bottom

Step 1 : Lift up Guide.
Step 2 : Push the Tip of the Door Shaft as arrow shown.



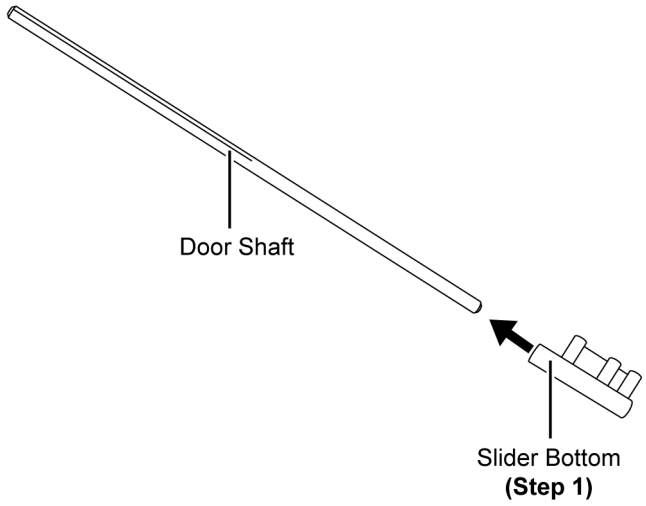
Step 3 : Upset the Front Cabinet Assembly.
Step 4 : Remove Door Shaft.
Step 5 : Remove the Slider Bottom.



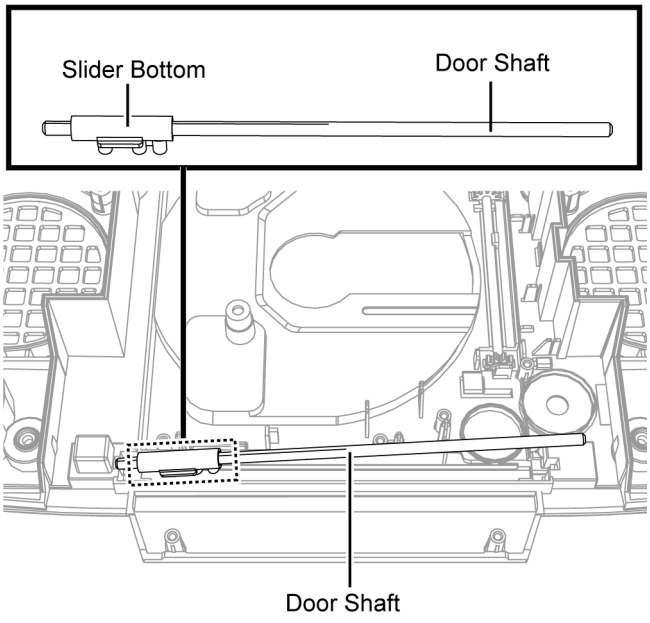


8.13.2. Assembly of Door Shaft & Slider Bottom

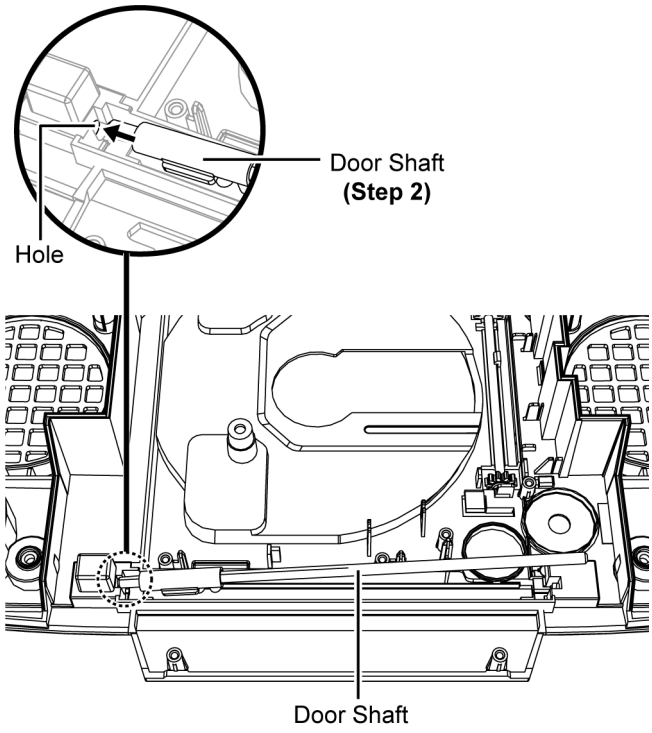
Step 1 : Slot the Slider Bottom into the Door Shaft.



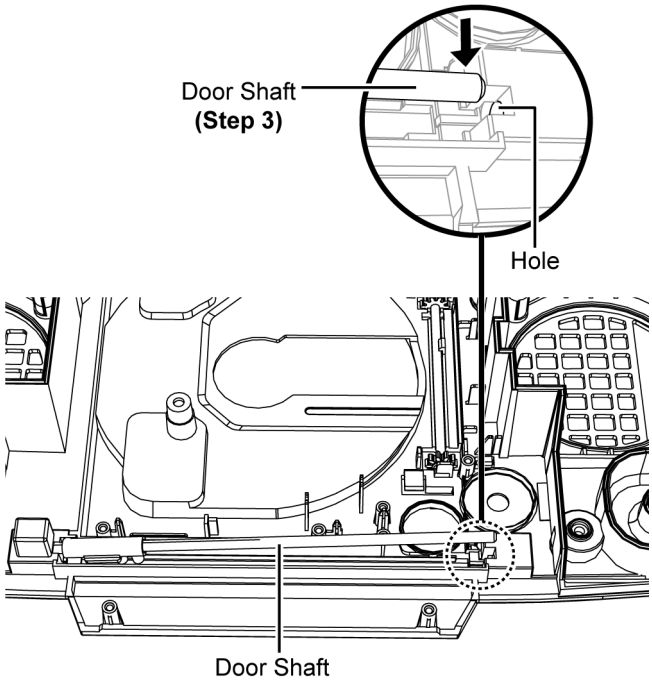
Caution : During assembling, ensure Slider Bottom is turned downwards as diagram show.



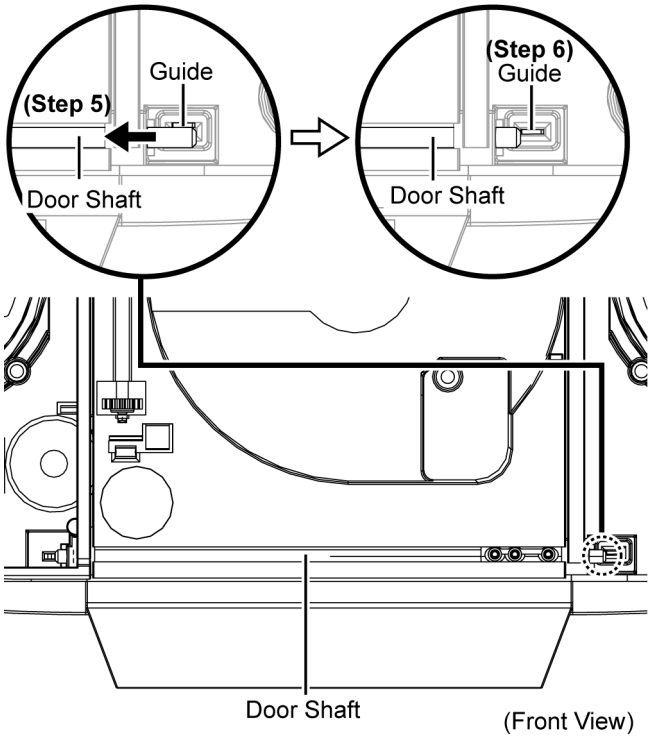
Step 2 : Slot in the one end of the Door Shaft into the hole as shown in the diagram above.



Step 3 : Push the Door Shaft downwards and slot it into the hole.



Step 4 : Upset the Front Cabinet Assembly.
Step 5 : Push the Door Shaft as arrow shown.
Step 6 : Make sure that the Door Shaft is fixed by the Guide.

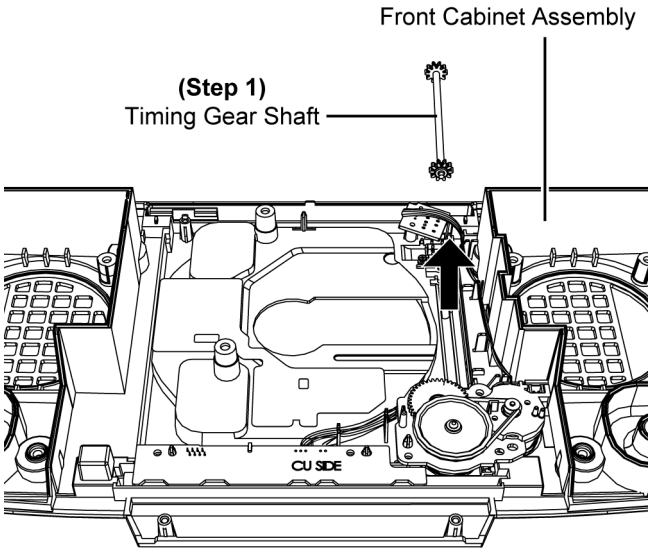


8.14. Replacement of Timing Gear Shaft

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of CD Door Ornament”
- Refer to “Disassembly of CD Door Base”
- Refer to (Step 1) - (Step 6) of item 8.9.
- Refer to (Step 1) - (Step 3) of item 8.11.1.
- Refer to (Step 4) - (Step 5) of item 8.12.

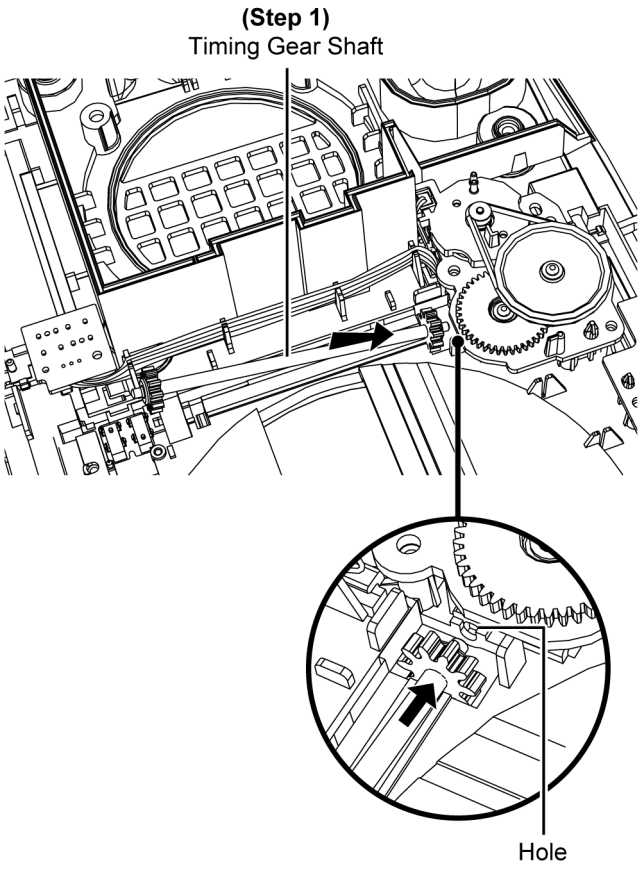
8.14.1. Disassembly of Timing Gear Shaft

Step 1 : Remove Timing Gear Shaft.

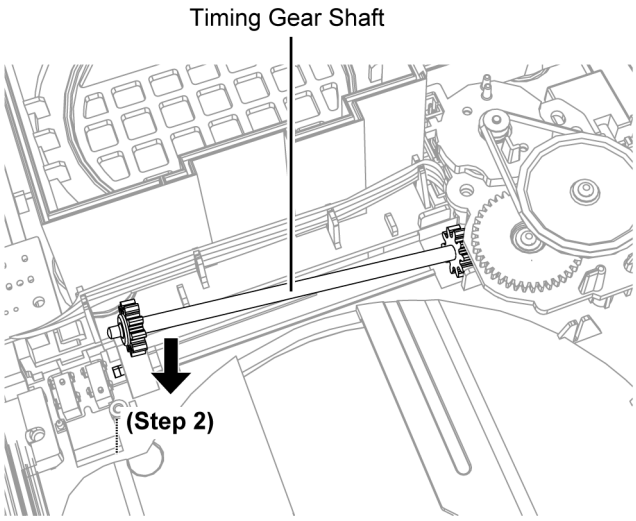


8.14.2. Assembly of Timing Gear Shaft

Step 1 : Slot in the Timing Gear Shaft into the hole as shown.



Step 2 : Fix Timing Gear Shaft as shown.

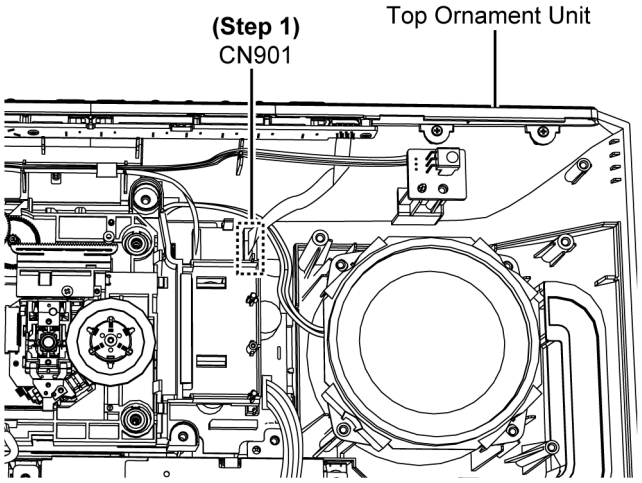


8.15. Disassembly of Top Ornament Unit & Button P.C.B.

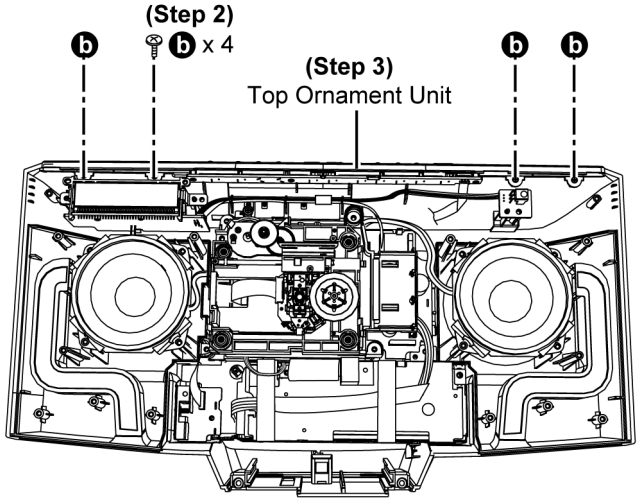
- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of Front Cabinet Assembly”

8.15.1. Disassembly of Top Ornament Unit

Step 1 : Detach 7P FFC at the connector (CN901) on Main P.C.B..



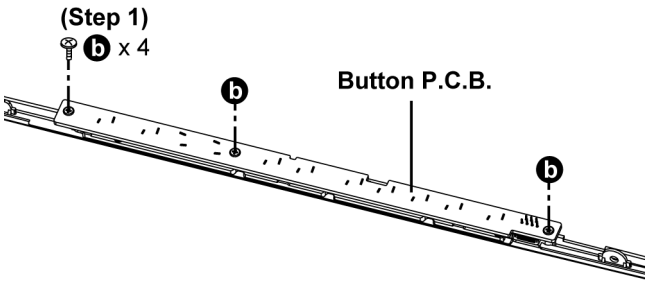
Step 2 : Remove 4 screws.
Step 3 : Remove Top Ornament Unit.



8.15.2. Disassembly of Button P.C.B.

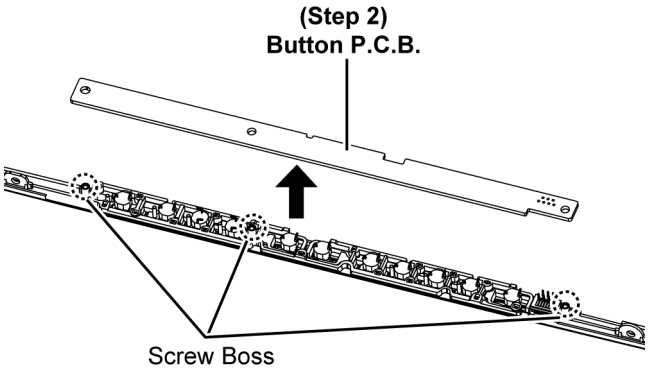
• Refer to “Disassembly of Top Ornament Unit”

Step 1 : Remove 3 screws.



Step 2 : Remove Button P.C.B..

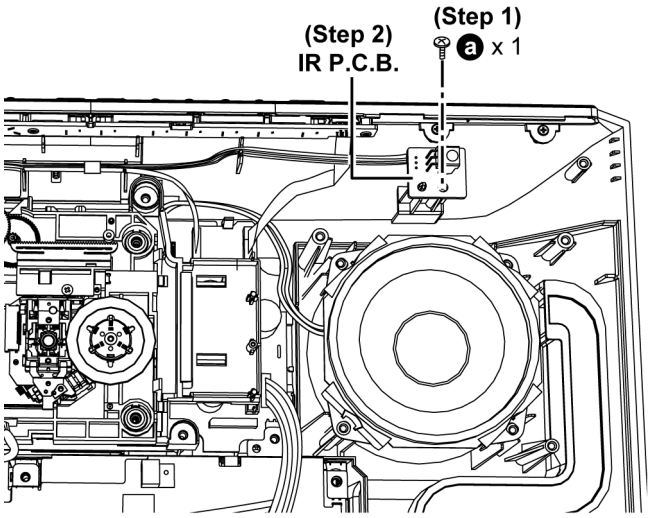
Caution: During assembling of Button P.C.B., ensure that the Button P.C.B. is properly seated on the Screw Boss.



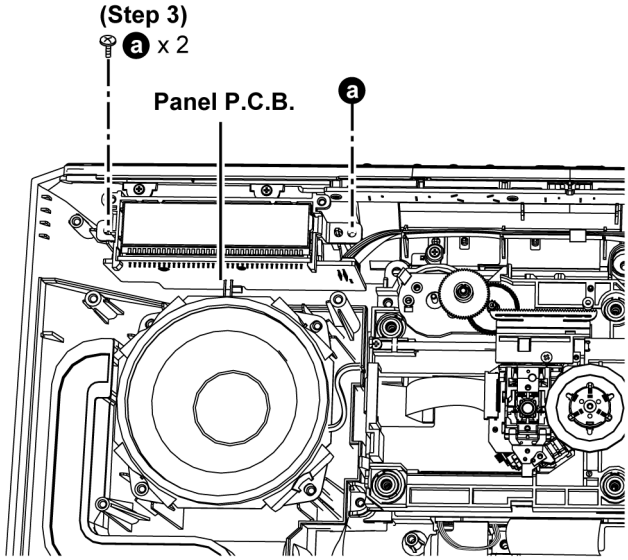
8.16. Disassembly of IR P.C.B. & Panel P.C.B.

• Refer to “Disassembly of Net Frame Assembly”
• Refer to “Disassembly of Base Stand Assembly”
• Refer to “Disassembly of Front Cabinet Assembly”

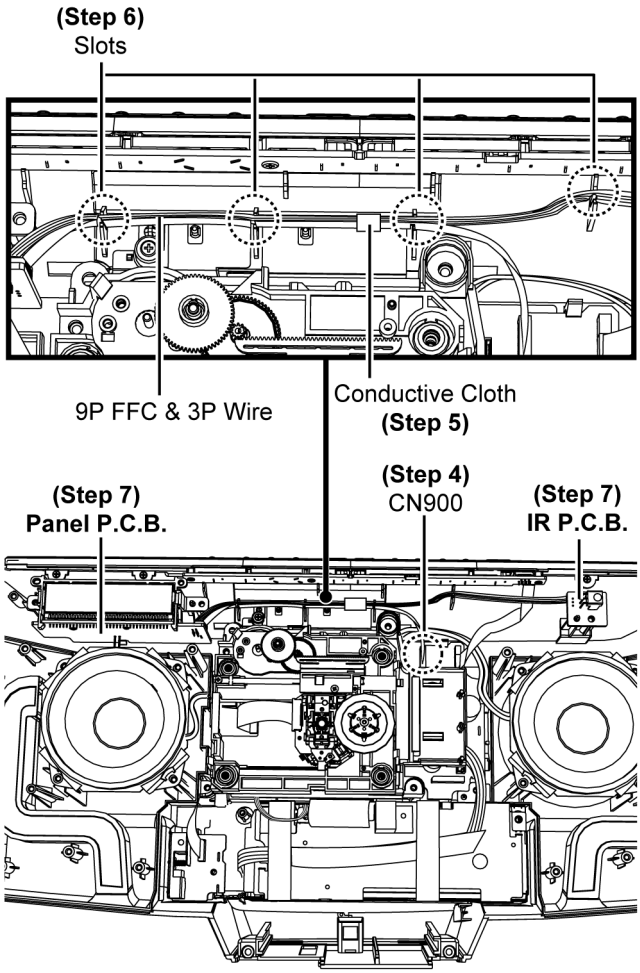
Step 1 : Remove 1 screw.
Step 2 : Lift up IR P.C.B..



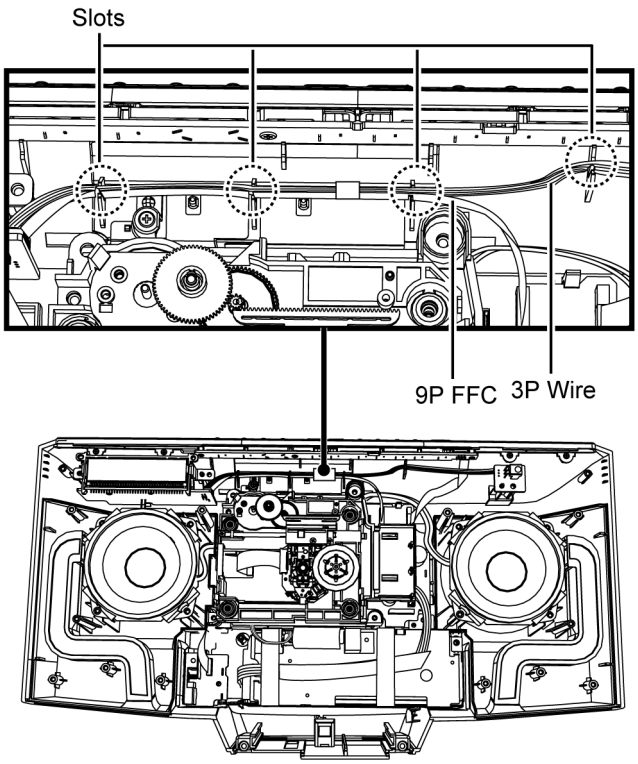
Step 3 : Remove 2 screws.



Step 4 : Detach 9P FFC at the connector (CN900) on Main P.C.B..
Step 5 : Lift up Conductive Cloth.
Step 6 : Release the 9P FFC & 3P Wire from the slots.
Step 7 : Remove IR P.C.B. & Panel P.C.B..



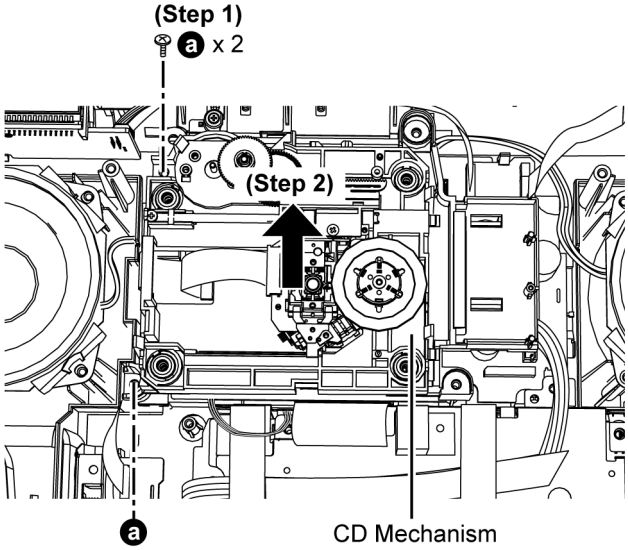
Caution : During assembling ensure that the 9P FFC & 3P Wire is fix into slots as shown and paste Conductive Cloth.



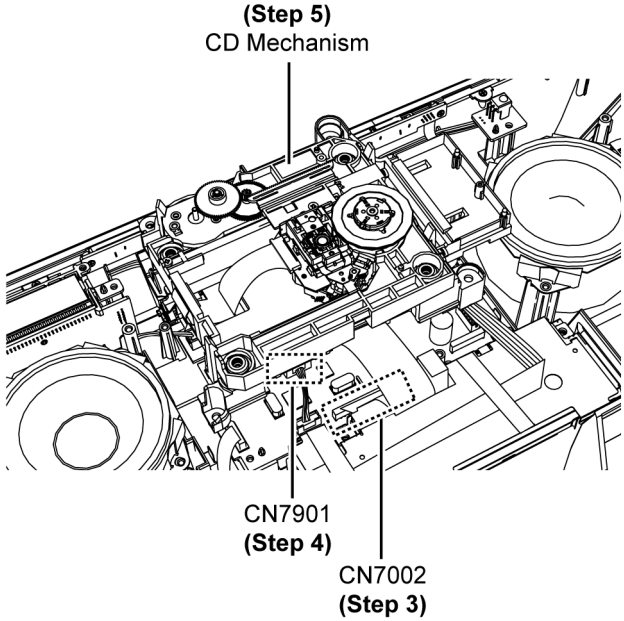
8.17. Disassembly of CD Mechanism

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of Front Cabinet Assembly”

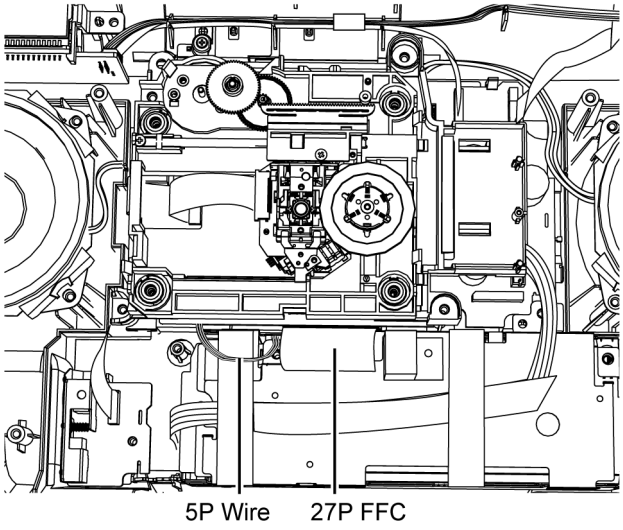
Step 1 : Remove 2 screws.
Step 2 : Lift up the CD Mechanism.



Step 3 : Detach 27P FFC at the connector (CN7002) on Main P.C.B..
Step 4 : Detach 5P wire at the connector (CN7901) on CD Servo P.C.B..
Step 5 : Remove CD Mechanism.



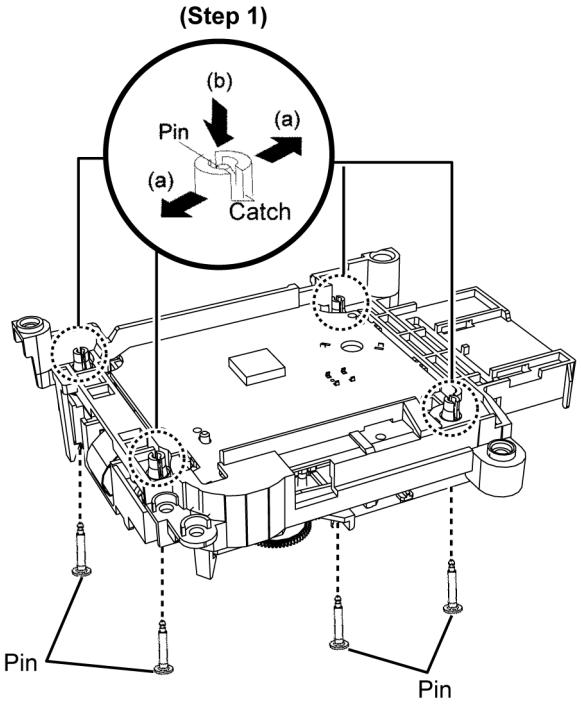
Caution : During assembling of the CD Mechanism, ensure that the 27P FFC & 5P wire fold as picture shown to prevent track jump.



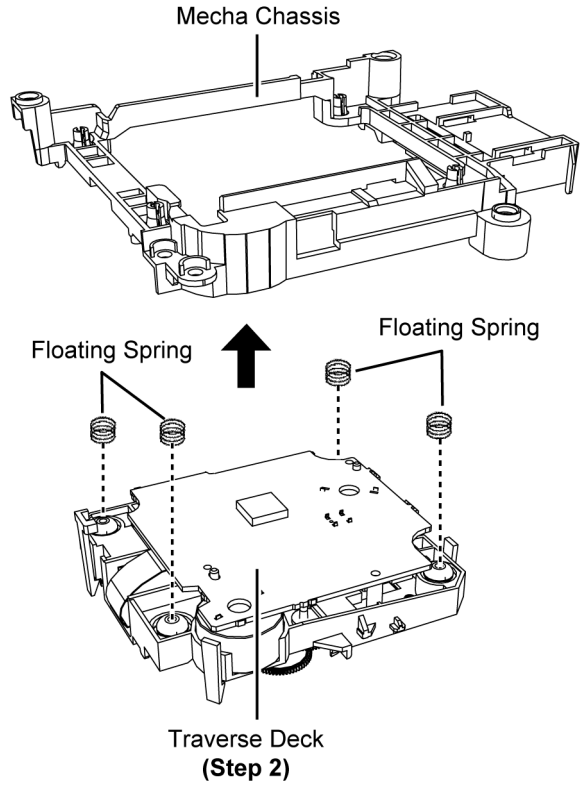
8.18. Disassembly of CD Servo P.C.B.

• Refer to “Disassembly of CD Mechanism”

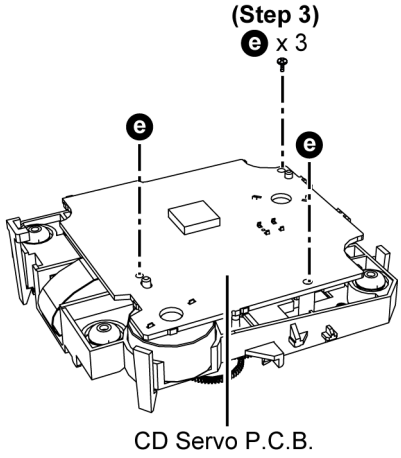
Step 1 : Release both catches and push down the fixed pin as arrow shown.



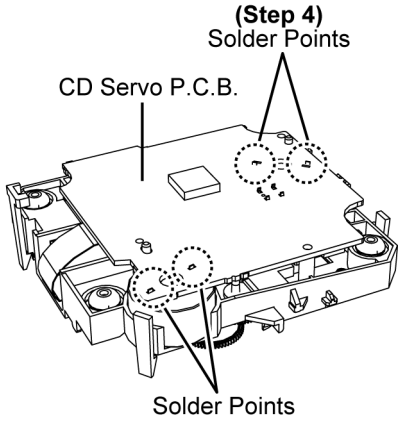
Step 2 : Lift up the Mecha Chassis to remove Traverse Deck.



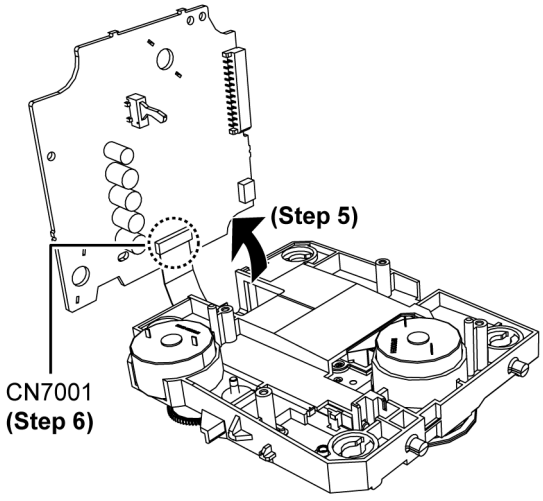
Step 3 : Remove 3 screws.



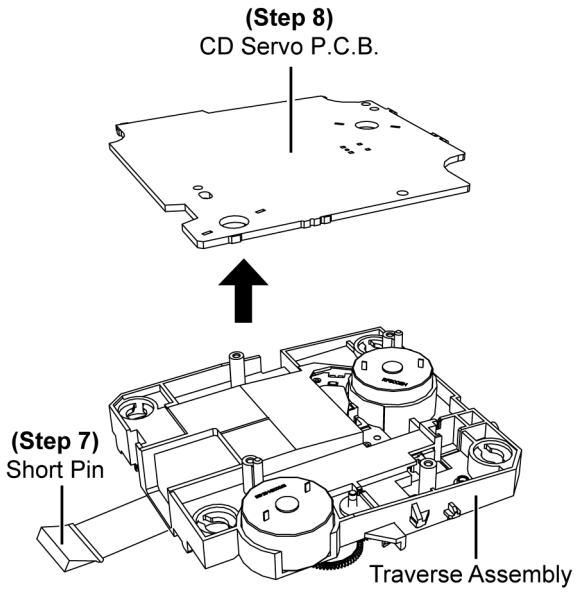
Step 4 : Desolder pins on the solder side of CD Servo P.C.B..



Step 5 : Flip over the CD Servo P.C.B..
Step 6 : Detach 24P FFC at the connector (CN7001) from the CD Servo P.C.B..



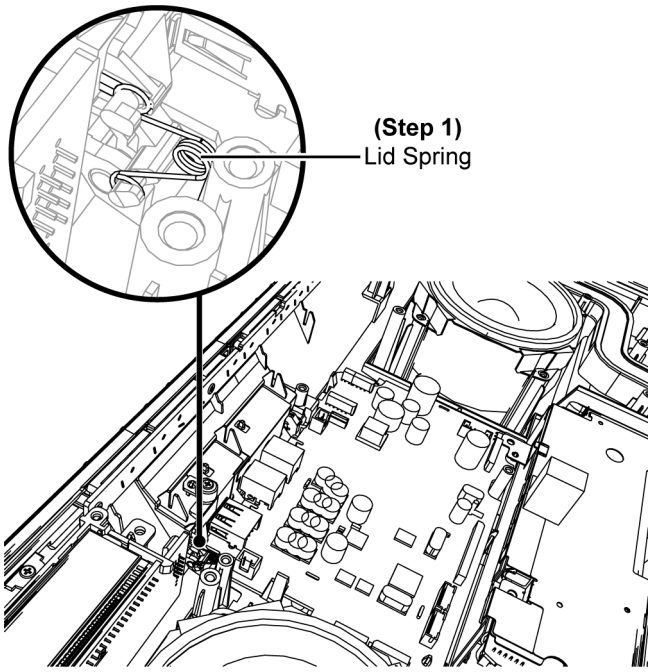
Step 7 : Attach short pin to Traverse Assembly.
Step 8 : Remove the CD Servo P.C.B..



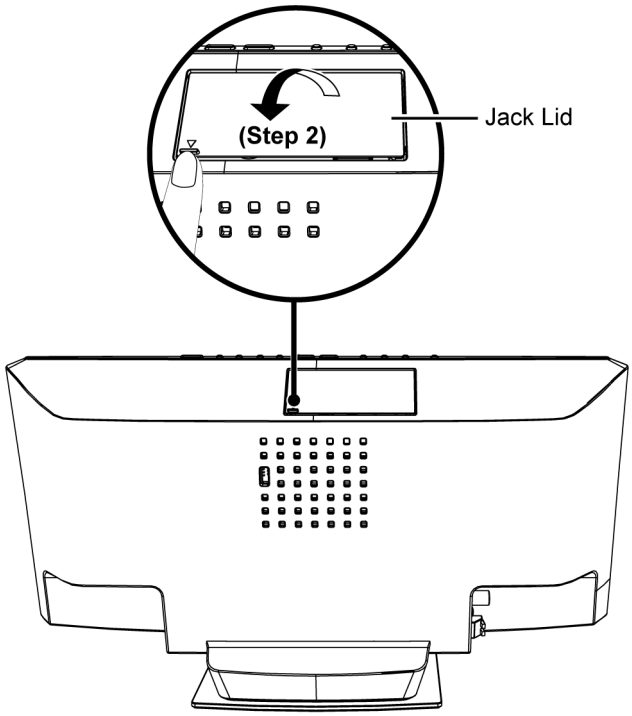
8.19. Disassembly of Jack Lid

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of Front Cabinet Assembly”
- Refer to “Disassembly of CD Mechanism”

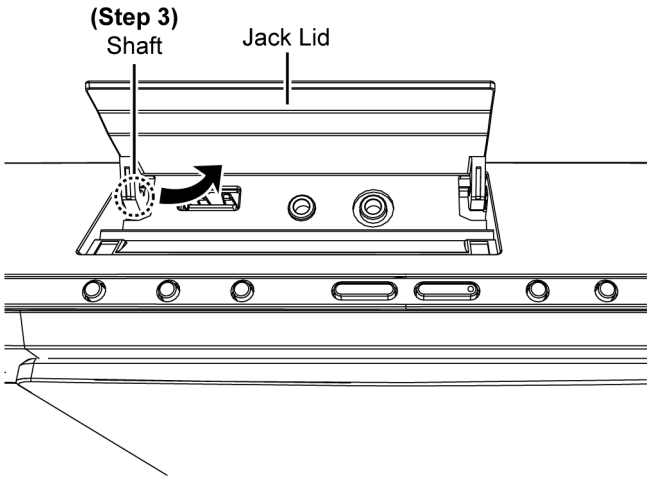
Step 1 : Release the Lid Spring.



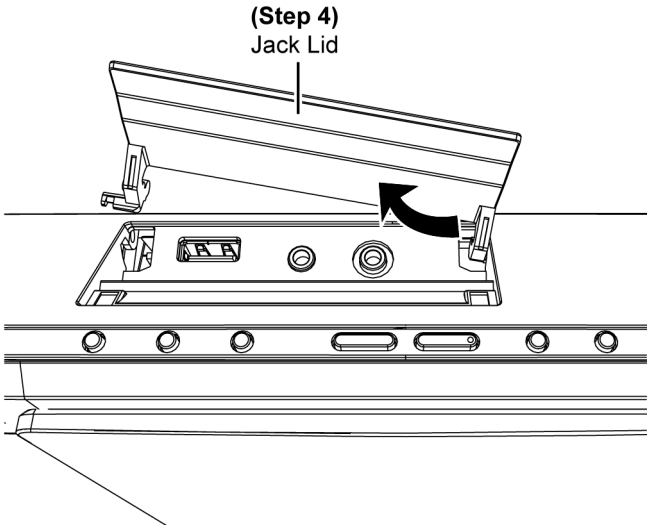
Step 2 : Press to open the Jack lid.



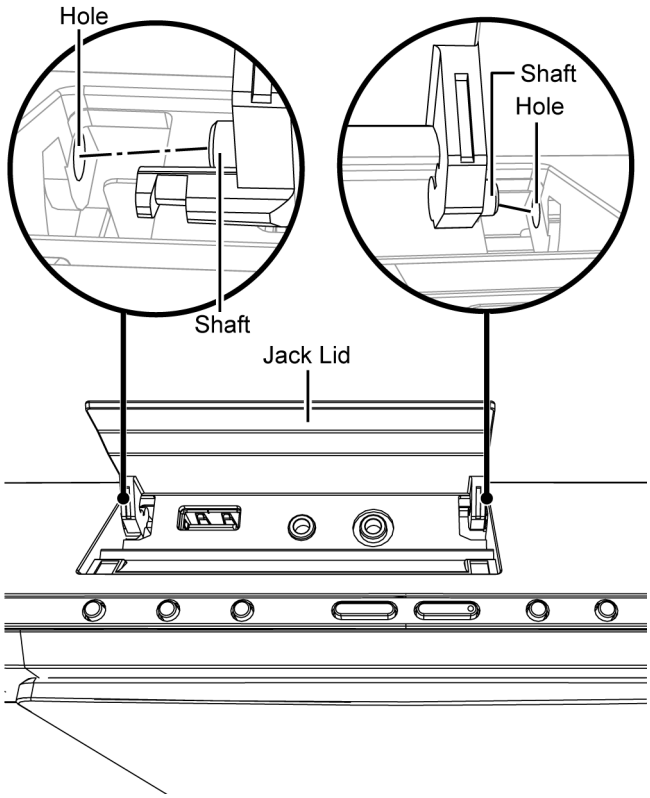
Step 3 : Push inward the shaft of the Jack Lid in the direction as shown.



Step 4 : Remove Jack Lid in the direction as shown.



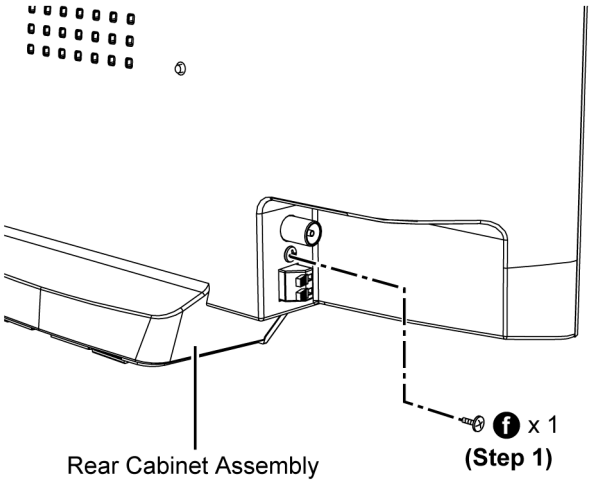
Caution : During assembling, ensure the Jack Lid is properly slot into the hole of the Rear Cabinet Assembly.



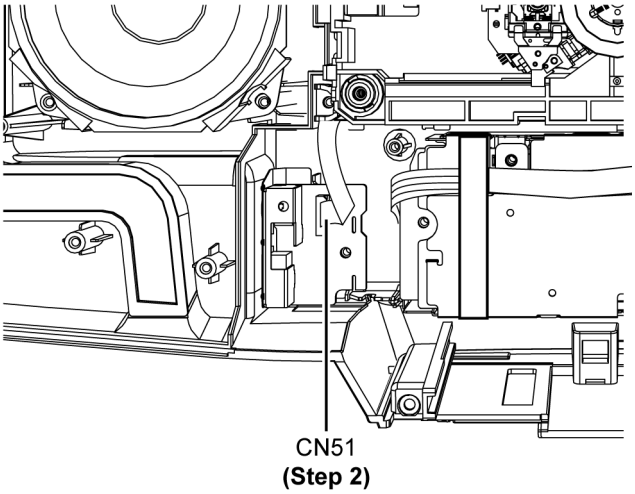
8.20. Disassembly of Tuner P.C.B.

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of Front Cabinet Assembly”

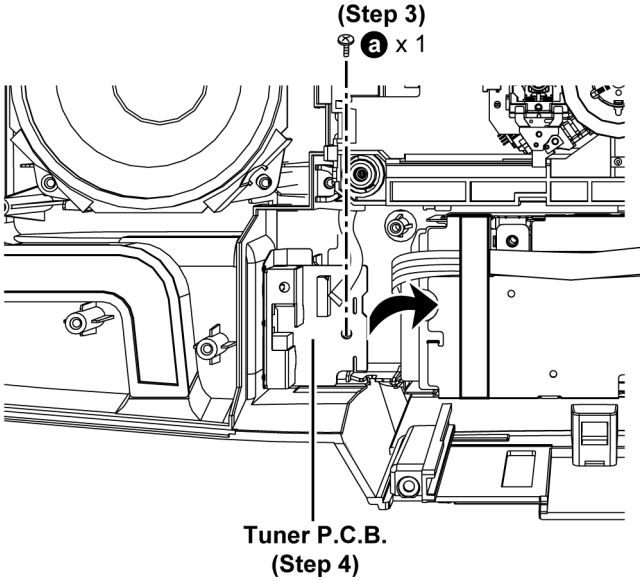
Step 1 : Remove 1 screw.



Step 2 : Detach 8P FFC at the connector (CN51) on Tuner P.C.B..



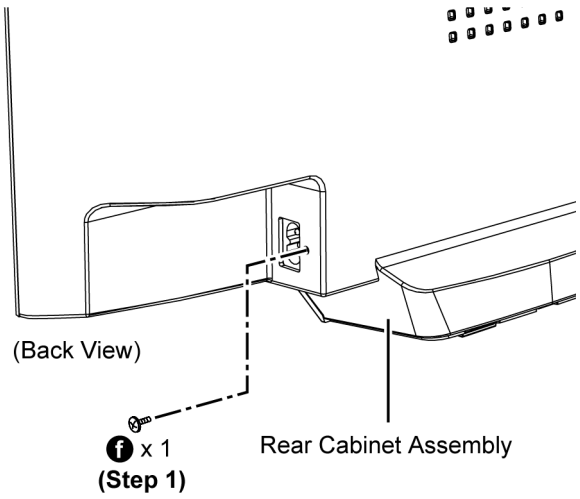
Step 3 : Remove 1 screw.
Step 4 : Remove Tuner P.C.B. as arrow shown.



8.21. Disassembly of SMPS P.C.B.

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of Front Cabinet Assembly”

Step 1 : Remove 1 screw.

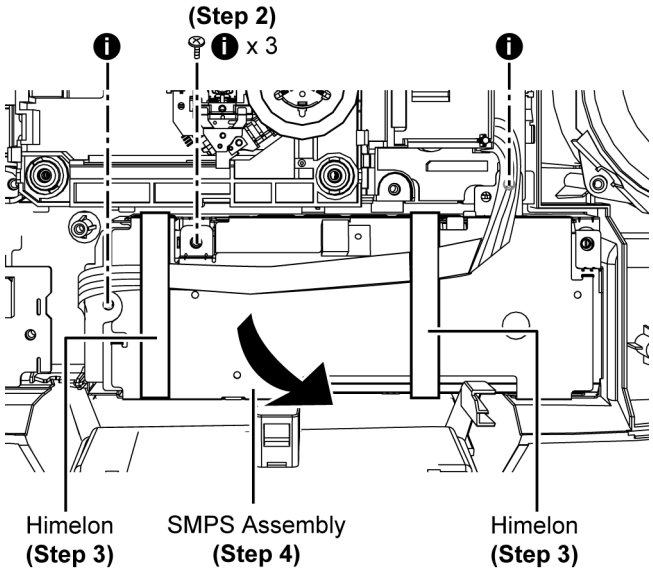


Step 2 : Remove 3 screws.

Step 3 : Lift up Himelons.

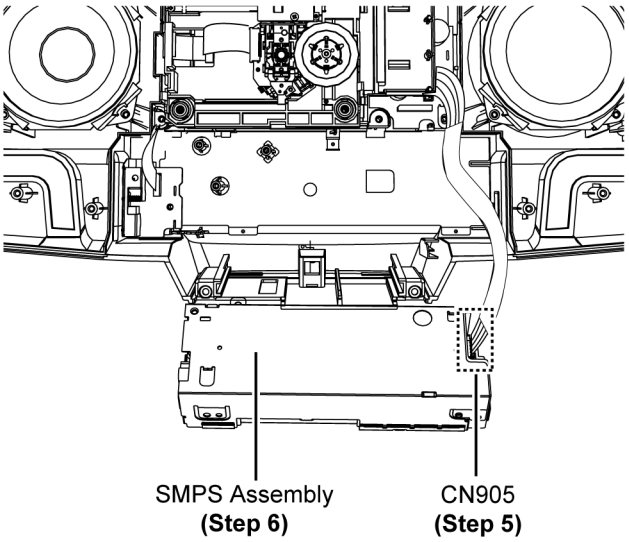
Caution : Replace the Himelons if they are torn during disassembling.

Step 4 : Lift up SMPS Assembly as shown.



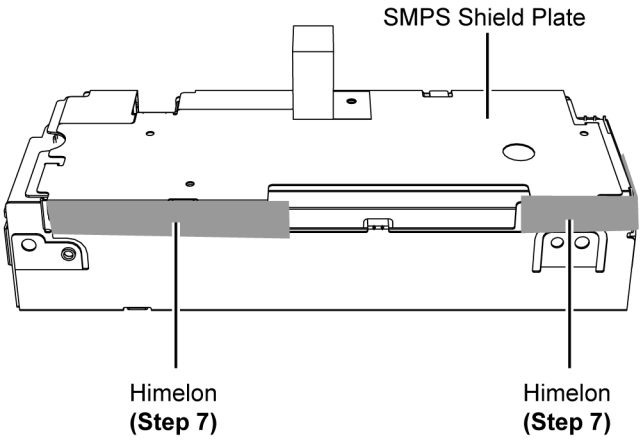
Step 5 : Detach 6P wire at the connector (CN905) on SMPS P.C.B..

Step 6 : Remove SMPS Assembly.



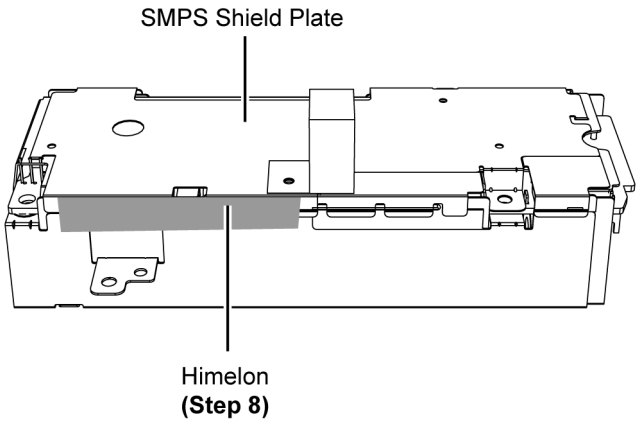
Step 7 : Lift up Himelons.

Caution : Replace the Himelons if they are torn during disassembling.

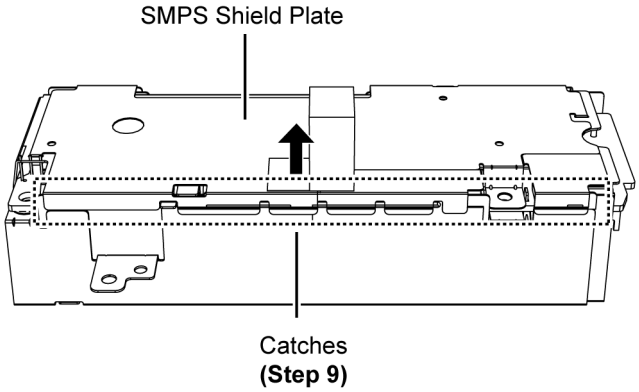


Step 8 : Lift up Himelon.

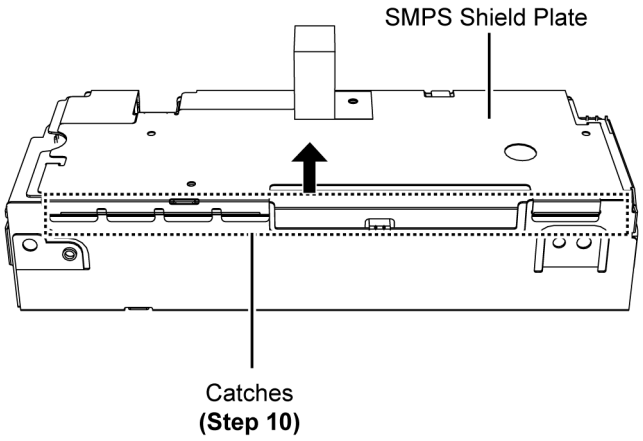
Caution : Replace the Himelon if they are torn during disassembling.



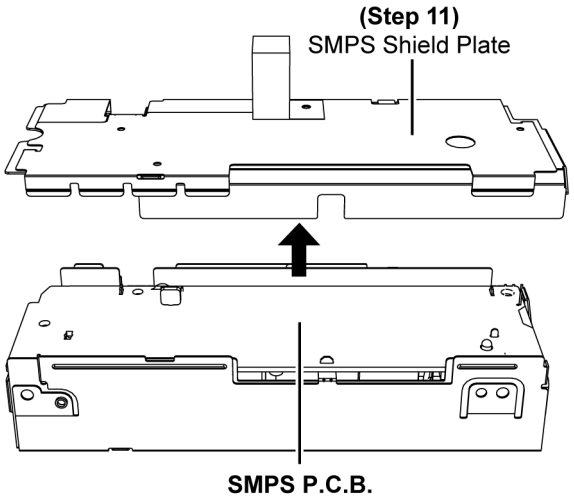
Step 9 : Gently push up the SMPS Shield Plate to release the catches.



Step 10 : Gently push up the SMPS Shield Plate to release the catches.

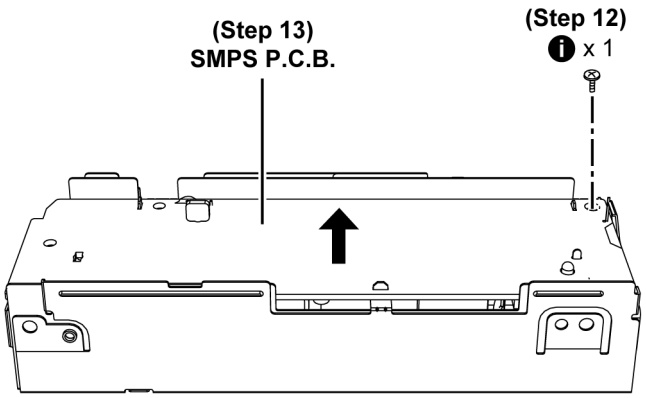


Step 11 : Remove SMPS Shield Plate.

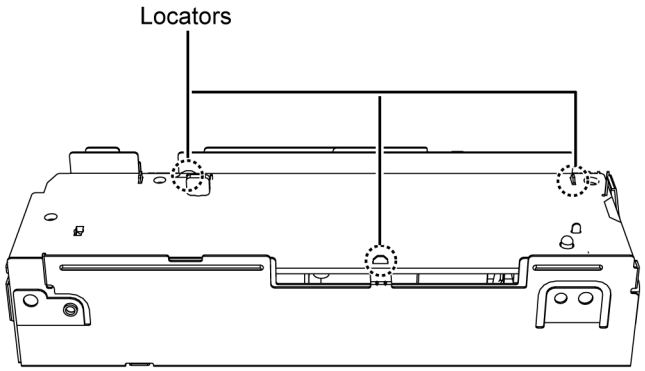


Step 12 : Remove 1 screw.

Step 13 : Remove SMPS P.C.B..



Caution: During assembling of SMPS P.C.B., ensure that the SMPS P.C.B. is properly seated on the locators.

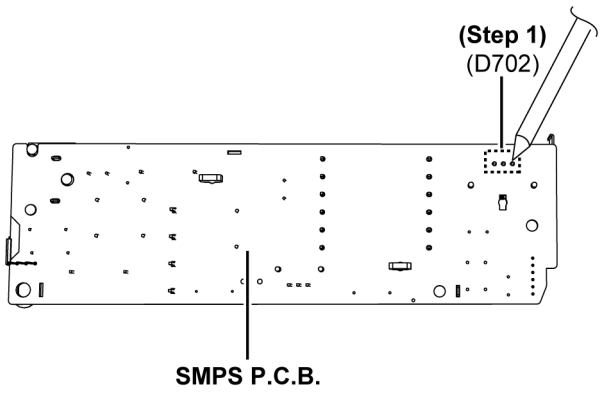


8.22. Replacement of Diode (D702)

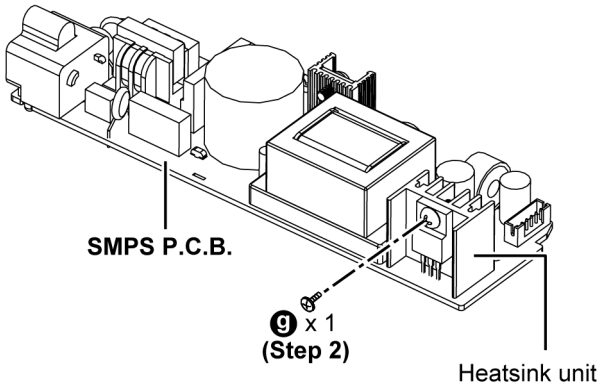
- Refer to “Disassembly of SMPS P.C.B.”

8.22.1. Disassembly of Diode (D702)

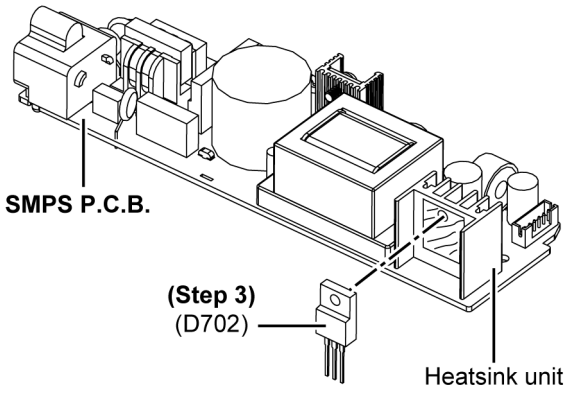
Caution : Handle the SMPS P.C.B. with care. Avoid touching the heatsink due to high temperature after use.
Step 1 : Desolder pins of the Diode (D702) on the solder side of SMPS P.C.B..



Step 2 : Remove 1 screw.

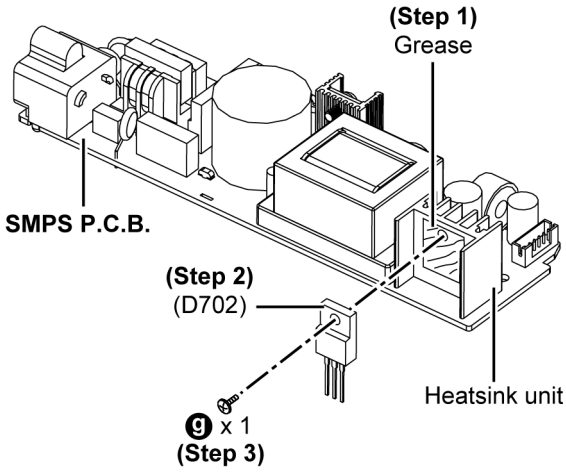


Step 3 : Remove the Diode (D702).

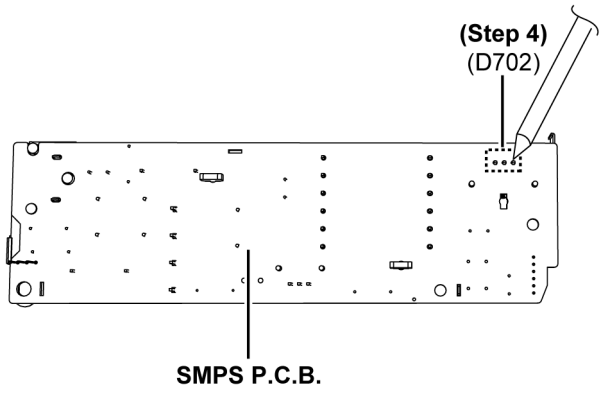


8.22.2. Assembly of Diode (D702)

Step 1 : Apply grease to the heatsink unit.
Step 2 : Fix the Diode (D702) onto SMPS P.C.B..
Step 3 : Fix the Diode (D702) onto the heatsink unit with 1 screws.
Caution : Ensure the Diode (D702) is fixed properly to the heatsink.



Step 4 : Solder pins of the Diode (D702).
Caution : Ensure the Diode (D702) is seated properly onto the SMPS P.C.B. before soldering



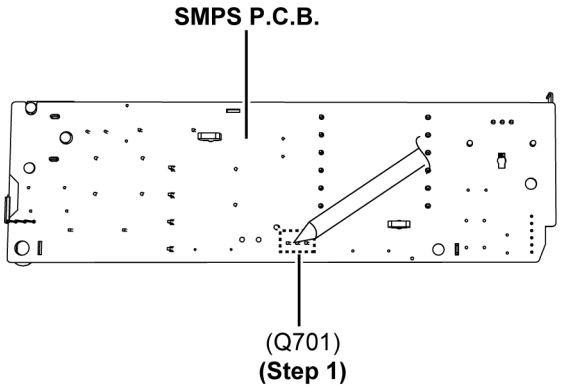
8.23. Replacement of Transistor (Q701)

• Refer to “Disassembly of SMPS P.C.B.”

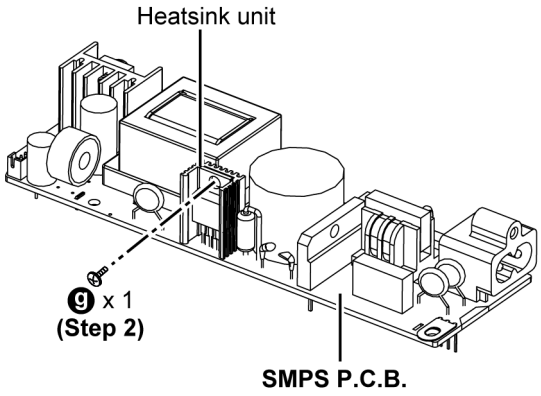
8.23.1. Disassembly of Transistor (Q701)

Caution : Handle the SMPS P.C.B. with care. Avoid touching the heatsink due to high temperature after use.

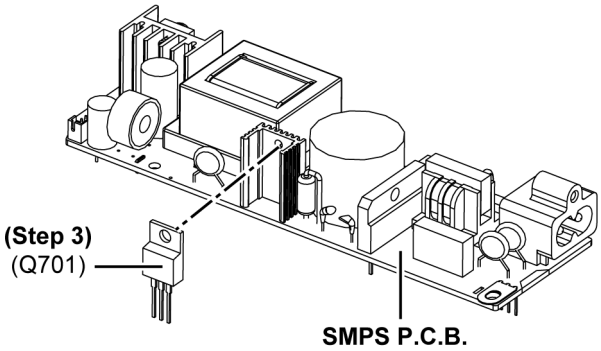
Step 1 : Desolder pins of the Transistor (Q701) on the solder side of SMPS P.C.B..



Step 2 : Remove 1 screw.

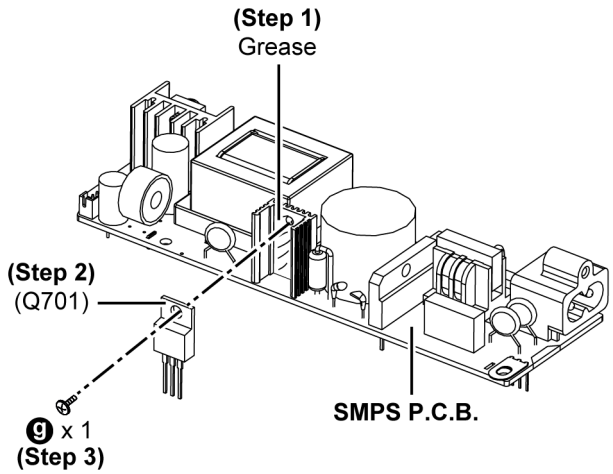


Step 3 : Remove 1 screw.

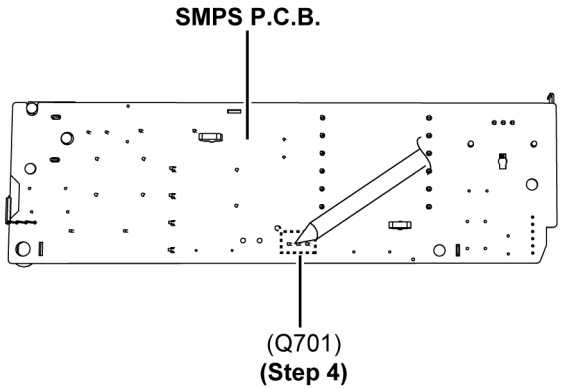


8.23.2. Assembly of Transistor (Q701)

Step 1 : Apply grease to the heatsink unit.
Step 2 : Fix the Transistor (Q701) onto SMPS P.C.B..
Step 3 : Fix the Transistor (Q701) onto the heatsink unit with 1 screws.
Caution : Ensure the Transistor (Q701) is fixed properly to the heatsink.



Step 4 : Solder pins of the Transistor (Q701).
Caution : Ensure the Transistor (Q701) is seated properly onto the SMPS P.C.B. before soldering.

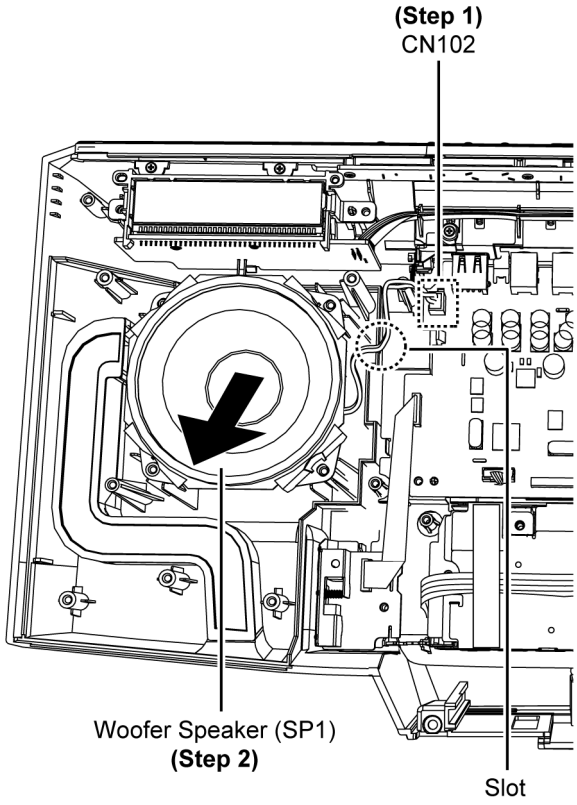


8.24. Disassembly of Speaker Unit

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of Front Cabinet Assembly”
- Refer to “Disassembly of CD Mechanism”

8.24.1. Disassembly of Woofer Speaker (SP1)

Step 1 : Detach 2P wire at the connector (CN102) on Main P.C.B..
Step 2 : Remove Woofer Speaker (SP1).
Caution : During assembling, ensure wire is fixed into the slot.

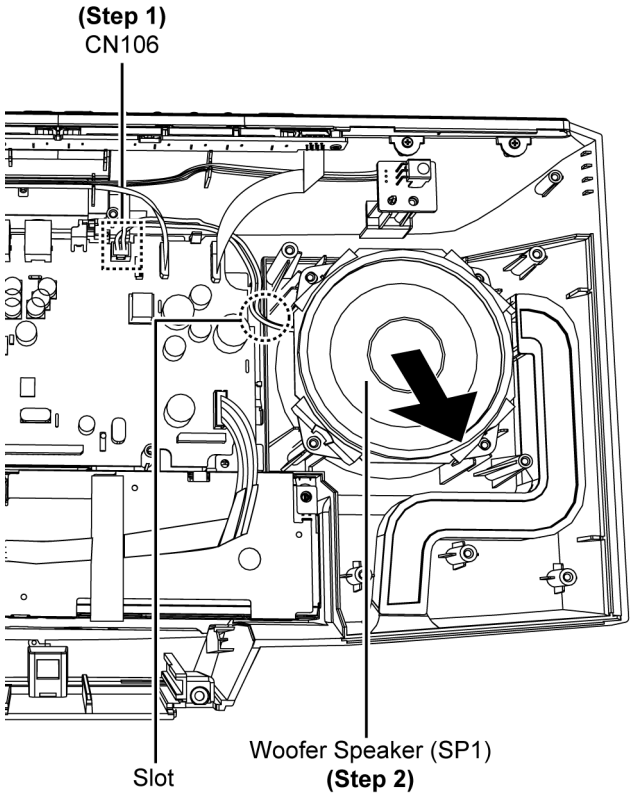


8.24.2. Disassembly of Woofer Speaker (SP2)

Step 1 : Detach 2P wire at the connector (CN106) on Main P.C.B..

Step 2 : Remove Woofer Speaker (SP2).

Caution : During assembling, ensure wire is fixed into the slot.



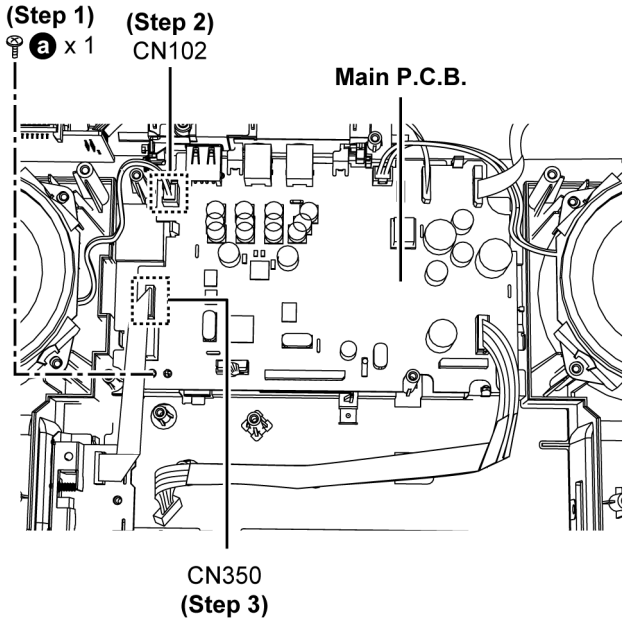
8.25. Disassembly of Main P.C.B.

- Refer to “Disassembly of Net Frame Assembly”
- Refer to “Disassembly of Base Stand Assembly”
- Refer to “Disassembly of Front Cabinet Assembly”
- Refer to “Disassembly of CD Mechanism”
- Refer to (Step 1) - (Step 6) of item 8.21.

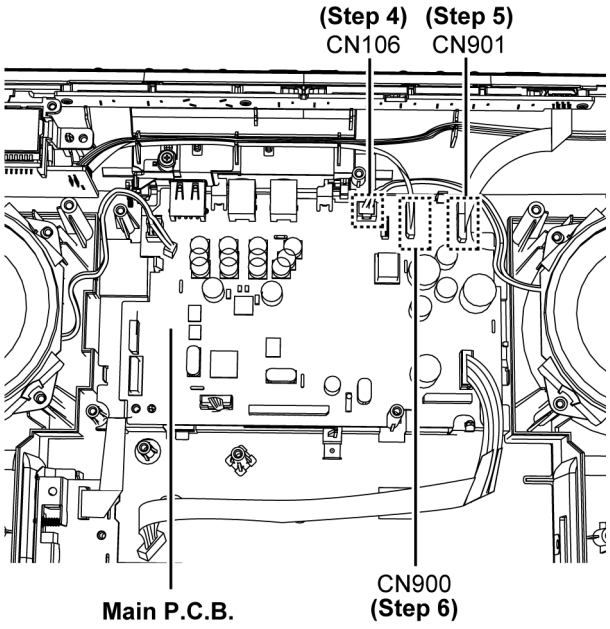
Step 1 : Remove 1 screw.

Step 2 : Detach 2P wire at the connector (CN102) on Main P.C.B..

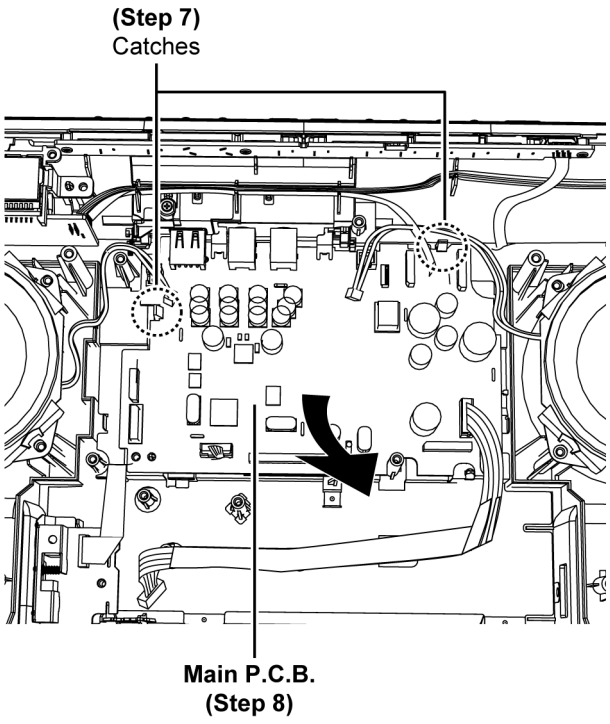
Step 3 : Detach 9P FFC at the connector (CN350) on Main P.C.B..



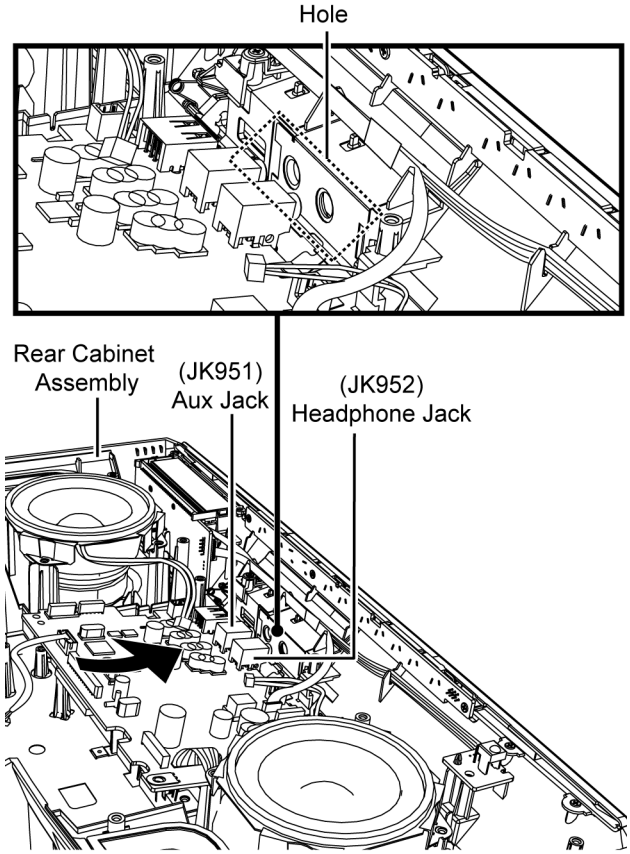
Step 4 : Detach 2P wire at the connector (CN106) on Main P.C.B..
Step 5 : Detach 7P wire at the connector (CN901) on Main P.C.B..
Step 6 : Detach 9P wire at the connector (CN900) on Main P.C.B..



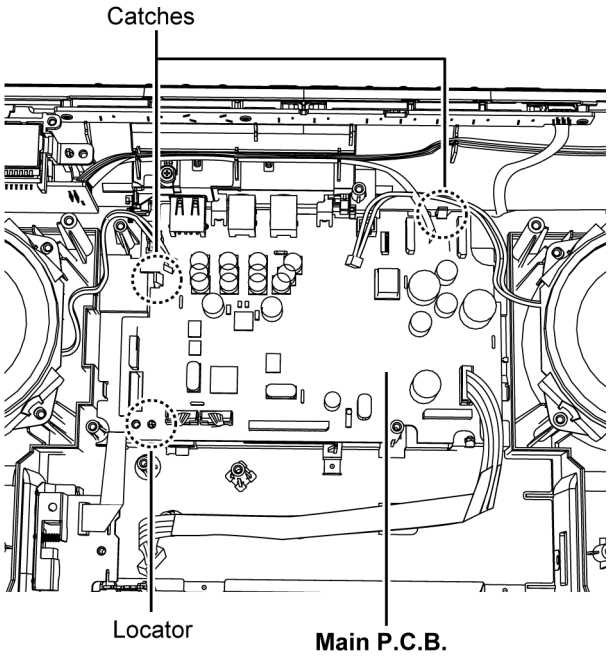
Step 7 : Release 2 catches.
Step 8 : Remove Main P.C.B. as shown.



Caution : Ensure the Main P.C.B. unit is insert into the hole of Rear Cabinet Assembly as shown. Check Aux Jack (JK951) & Headphone Jack (JK952).



Caution : During assembling, ensure the Main P.C.B. is fully catched & properly seated onto the locator.

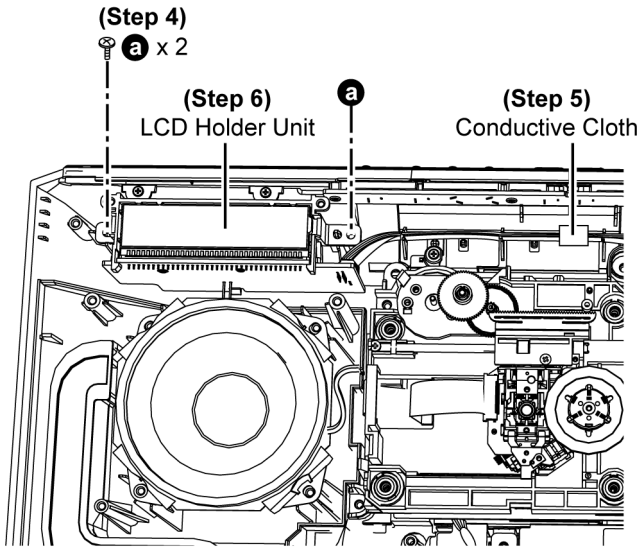


9 Service Position

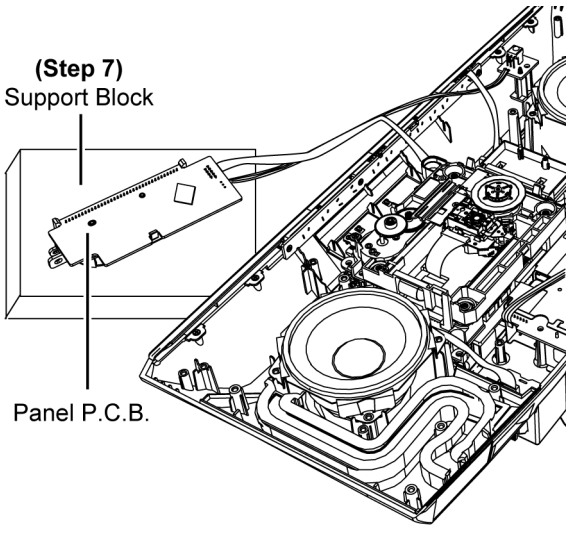
Note: For description of the disassembly procedures, see the Section 8

9.1. Checking & Repairing of Panel P.C.B.

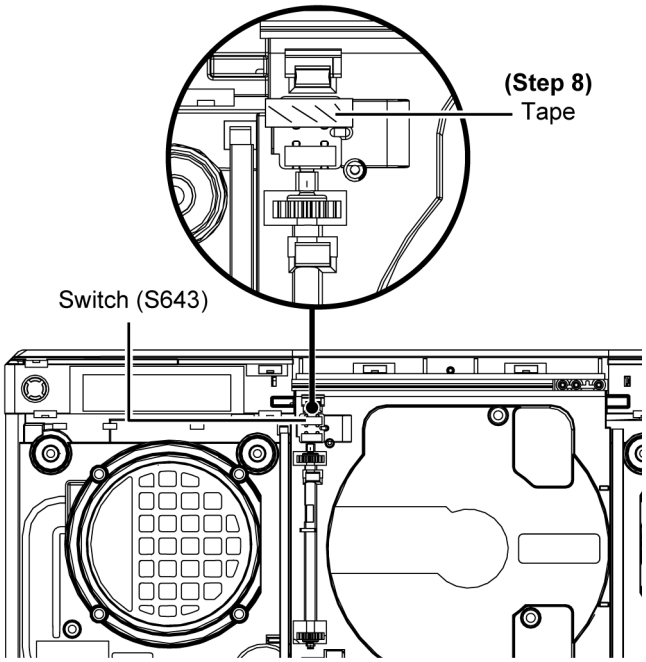
Step 1 : Remove of Net Frame Assembly.
Step 2 : Remove of Base Stand Assembly.
Step 3 : Remove Front Cabinet Assembly.
Step 4 : Remove 2 screws.
Step 5 : Lift up Conductive Cloth.
Step 6 : Lift up LCD Holder Unit.



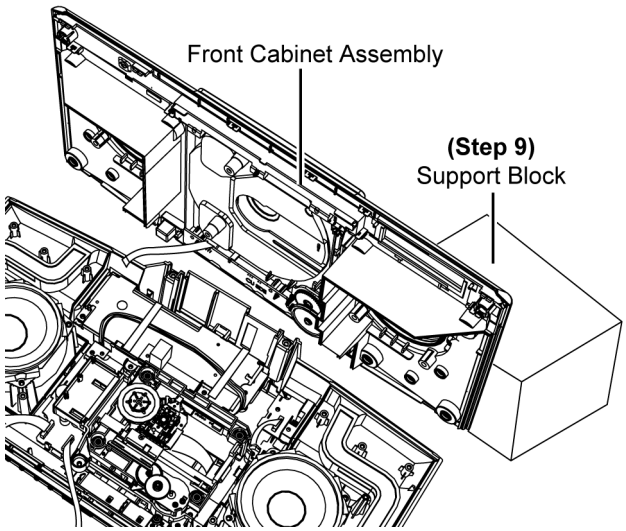
Step 7 : Place the LCD Holder Unit on the Support Block.



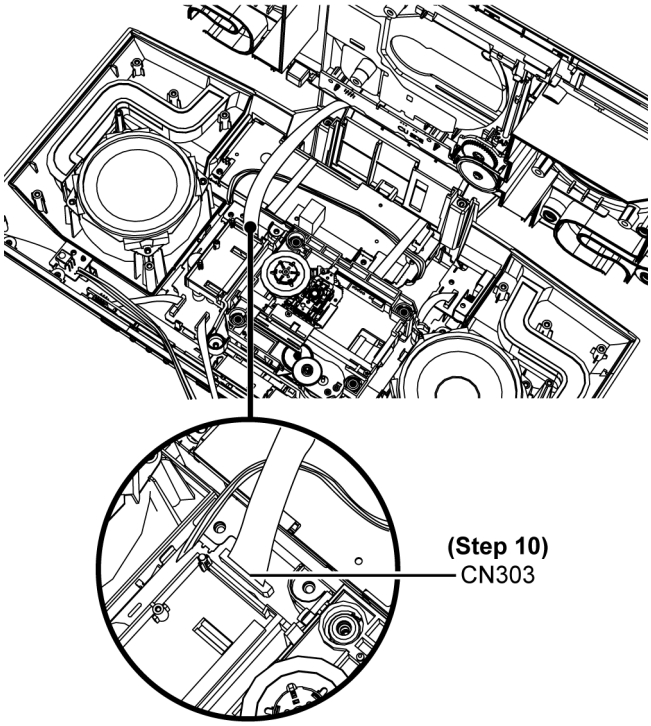
Step 8 : Use a tape to keep the close switch (S643) depressed.



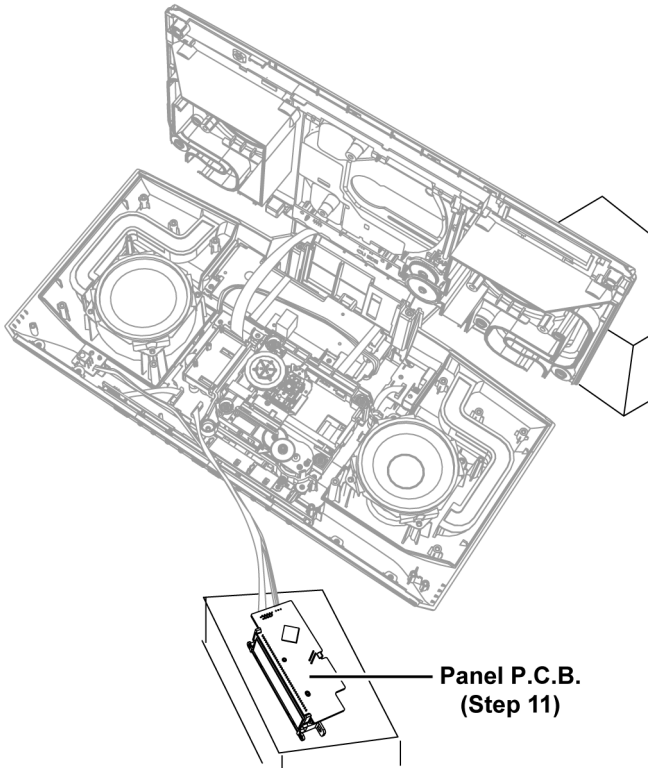
Step 9 : Place the Support Block to support the Front Cabinet Assembly as shown.



Step 10 : Connect 8P FFC at the connector (CN303) on Main P.C.B..



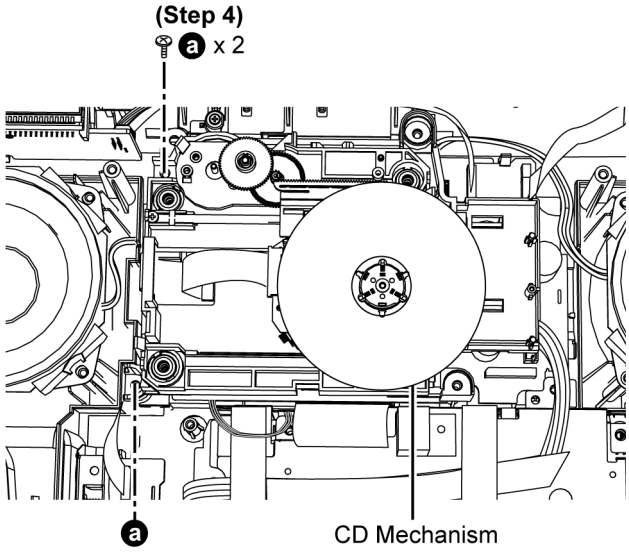
Step 11 : Check and repair Panel P.C.B. according to the diagram shown.



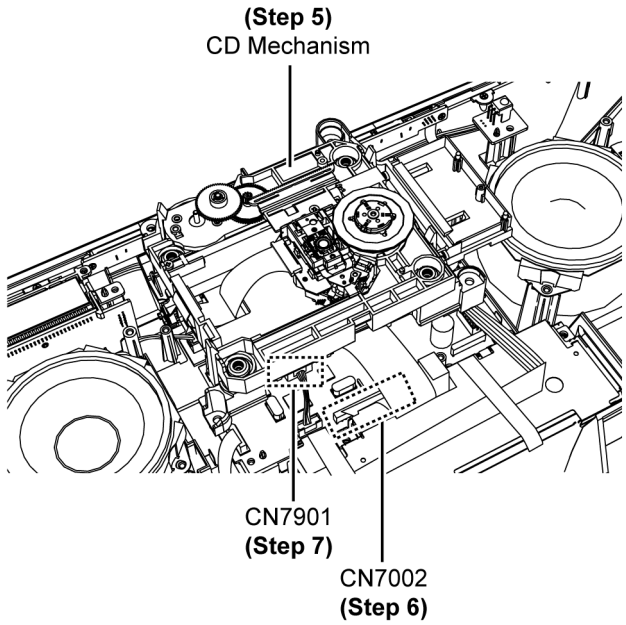
9.2. Checking & Repairing of CD Servo P.C.B.

Note : Insert CD before Checking CD Servo P.C.B.

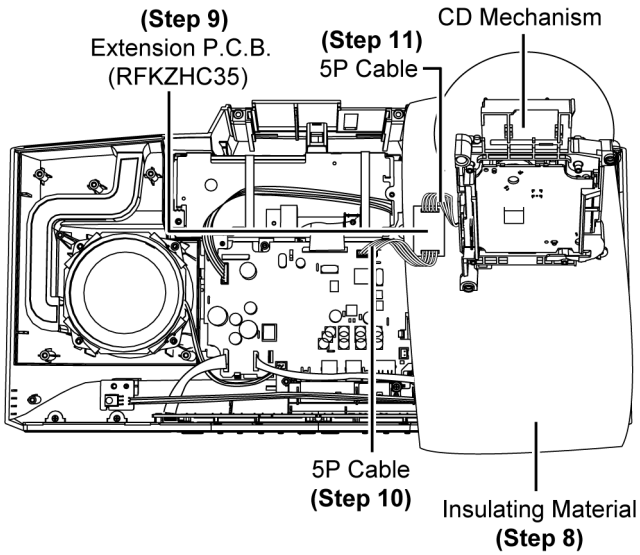
Step 1 : Remove of Net Frame Assembly.
Step 2 : Remove of Base Stand Assembly.
Step 3 : Remove Front Cabinet Assembly.
Step 4 : Remove 2 screws.



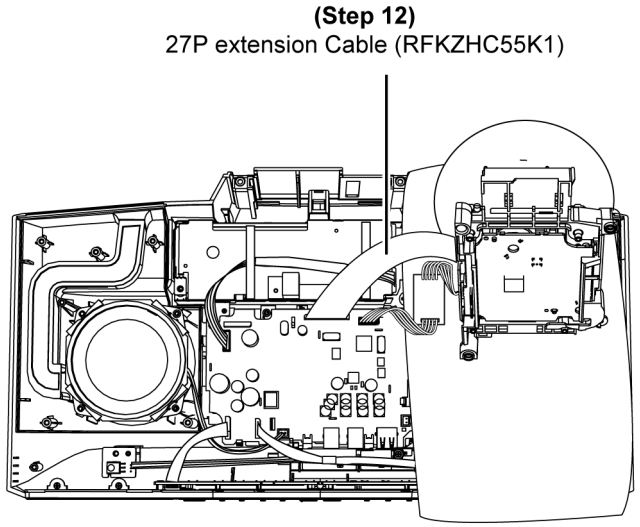
Step 5 : Lift up CD Mechanism.
Step 6 : Detach 27P FFC at the connector (CN7002) on Main P.C.B..
Step 7 : Detach 5P Wire at the connector (CN7901) on CD Servo P.C.B..



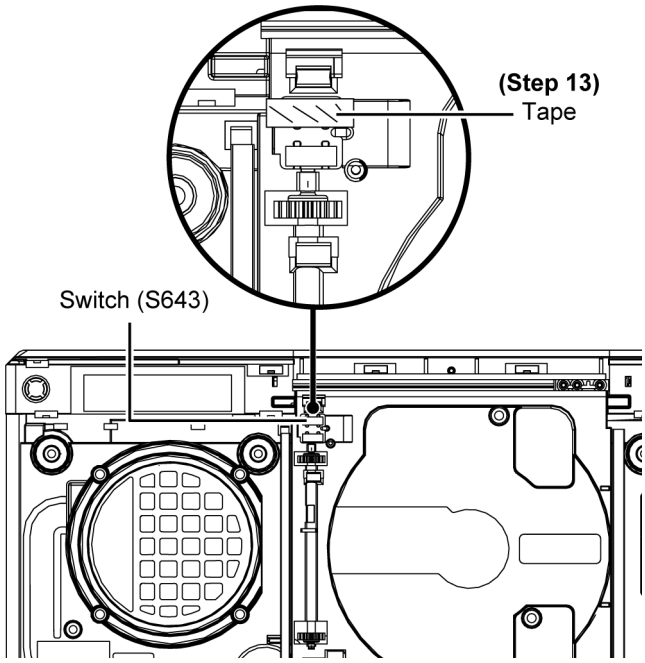
Step 8 : Place the CD Mechanism on the Insulating Material.
Step 9 : Place the Extension P.C.B. (RFKZHC35) on the Insulating Material.
Step 10 : Connect 5P cable from Main P.C.B. to Extension P.C.B..
Step 11 : Connect 5P cable from Extension P.C.B.. to CD Servo P.C.B..



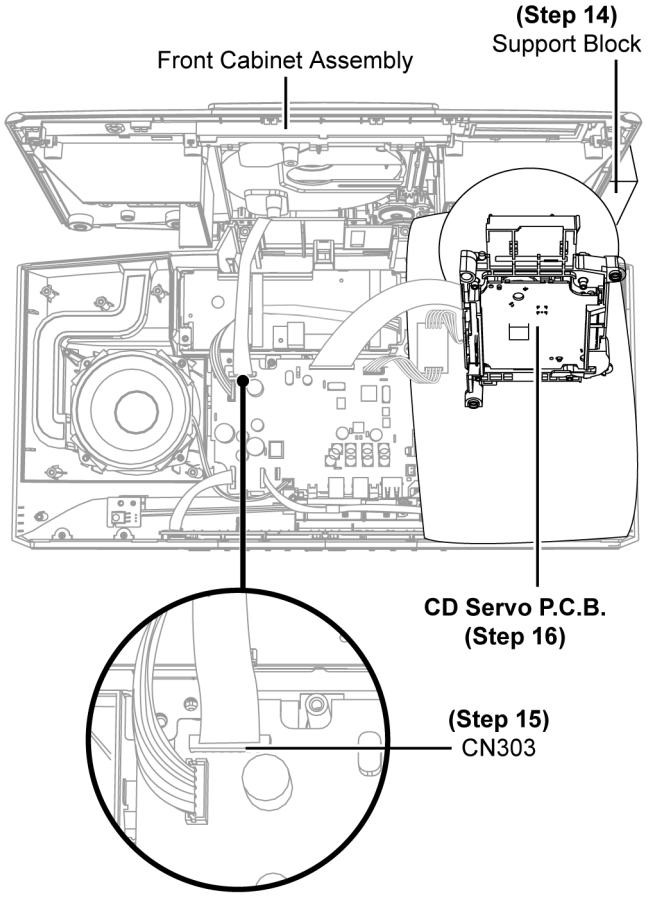
Step 12 : Connect 27P extension cable (RFKZHC55K1) from CN7002 on the Main P.C.B. to CN7002 on the CD Servo P.C.B..



Step 13 : Use a tape to keep the close switch (S643) depressed.



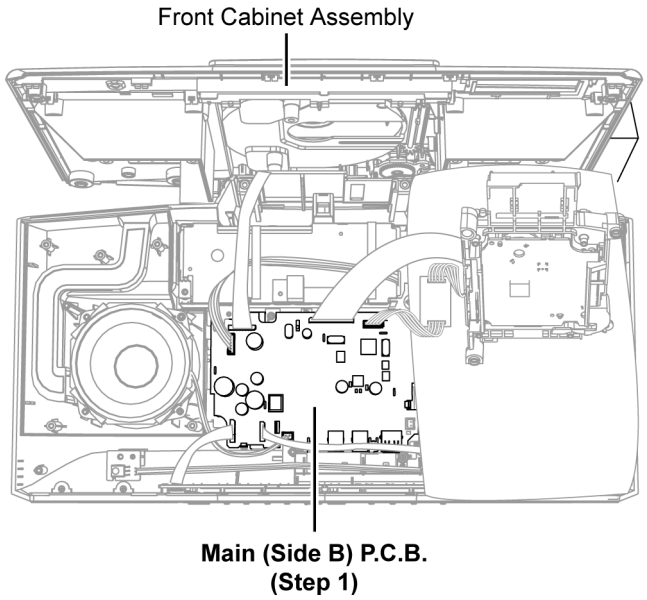
Step 14 : Place the Support Block to support the Front Cabinet Assembly as shown.
Step 15 : Connect 8P FFC at the connector (CN303) on Main P.C.B..
Step 16 : Check and repair CD Servo P.C.B. according to the diagram shown.



9.3. Checking & Repairing of Main (Side B) P.C.B.

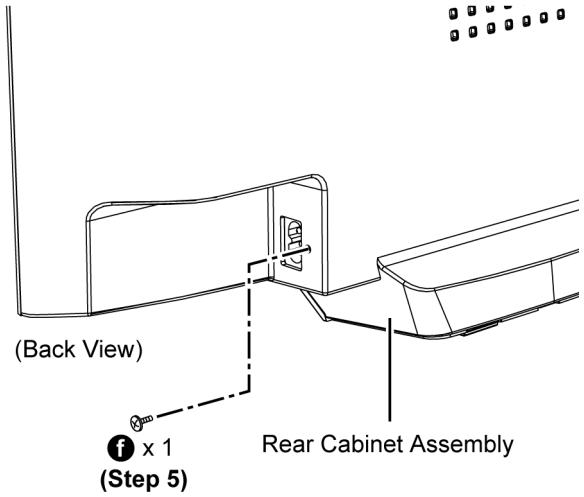
• Refer to (Step 1) - (Step 15) of item 9.2

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

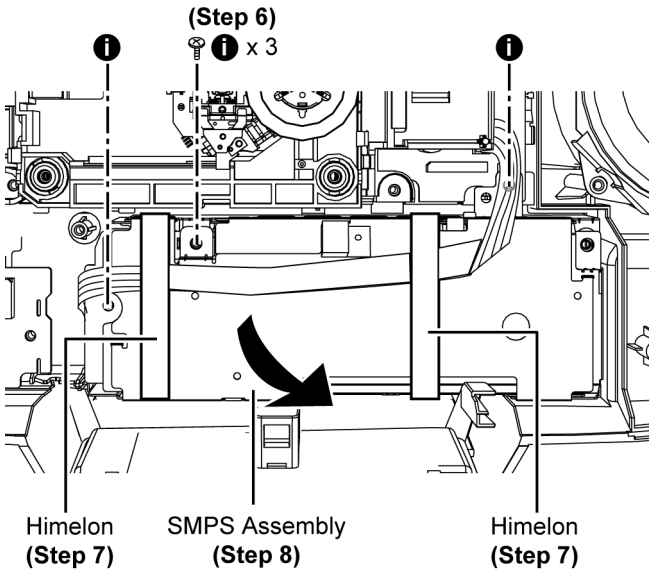


9.4. Checking & Repairing of Main (Side A) P.C.B.

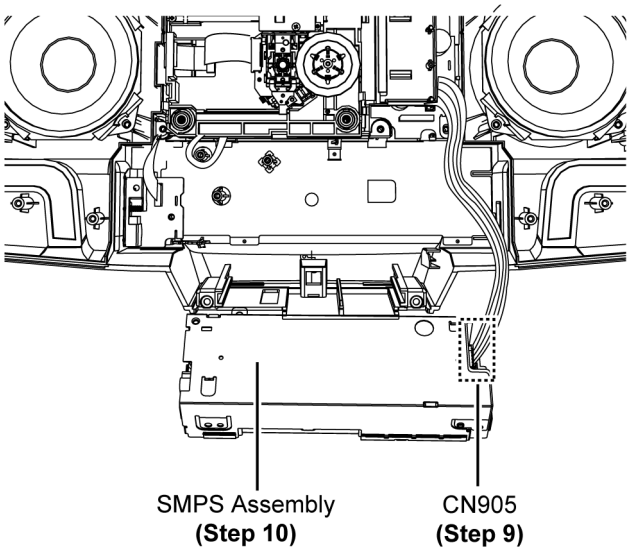
Step 1 : Remove of Net Frame Assembly.
Step 2 : Remove of Base Stand Assembly.
Step 3 : Remove Front Cabinet Assembly.
Step 4 : Remove CD Mechanism.
Step 5 : Remove 1 screw.



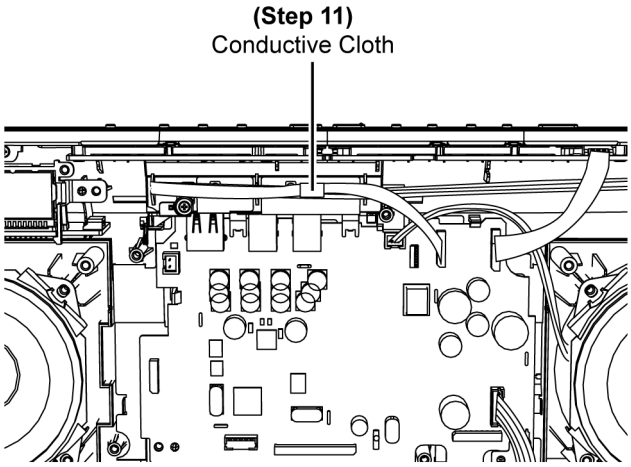
Step 6 : Remove 3 screws.
Step 7 : Lift up Himelons.
Caution : Replace the Himelons if they are torn during disassembling.
Step 8 : Lift up SMPS Assembly as shown.



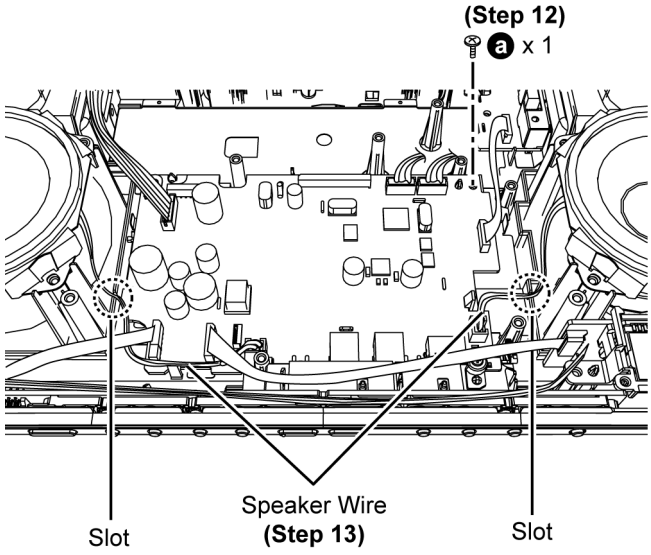
Step 9 : Detach 6P wire at the connector (CN905) on SMPS P.C.B..
Step 10 : Remove SMPS Assembly.



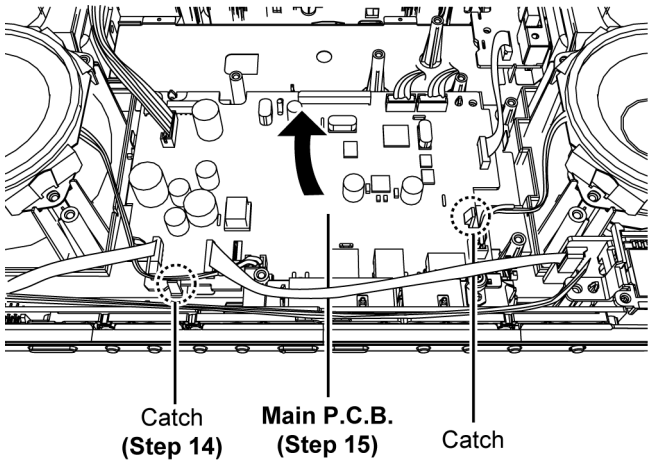
Step 11 : Lift up Conductive Cloth.



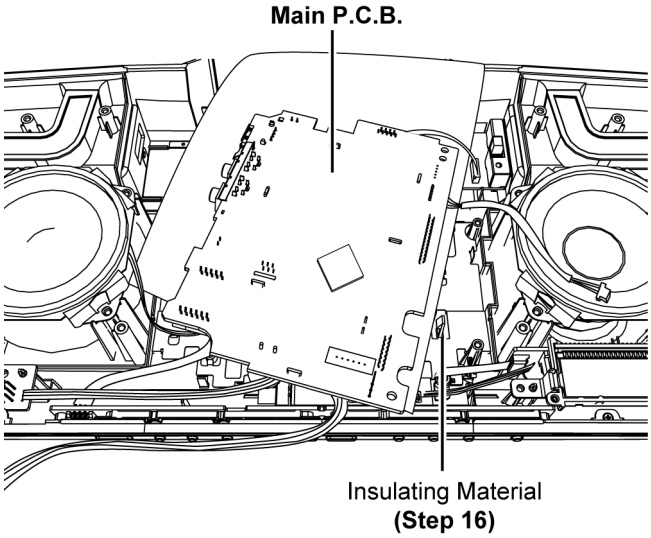
Step 12 : Remove 1 screw.
Step 13 : Release Speaker Wire from the slot.



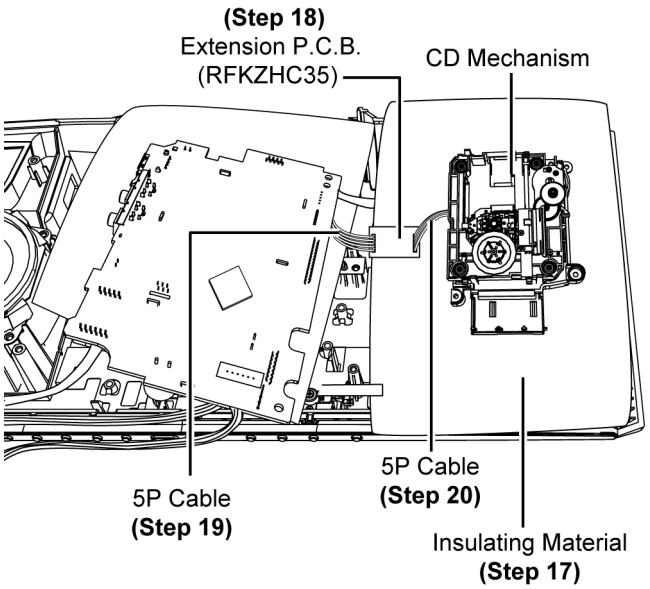
Step 14 : Release 2 catches.
Step 15 : Lift up and flip over Main P.C.B. as shown.



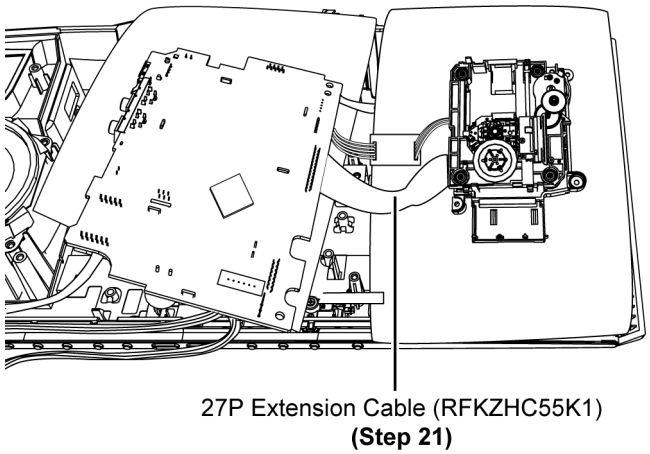
Step 16 : Place the Main P.C.B. on the Insulating Material as shown.



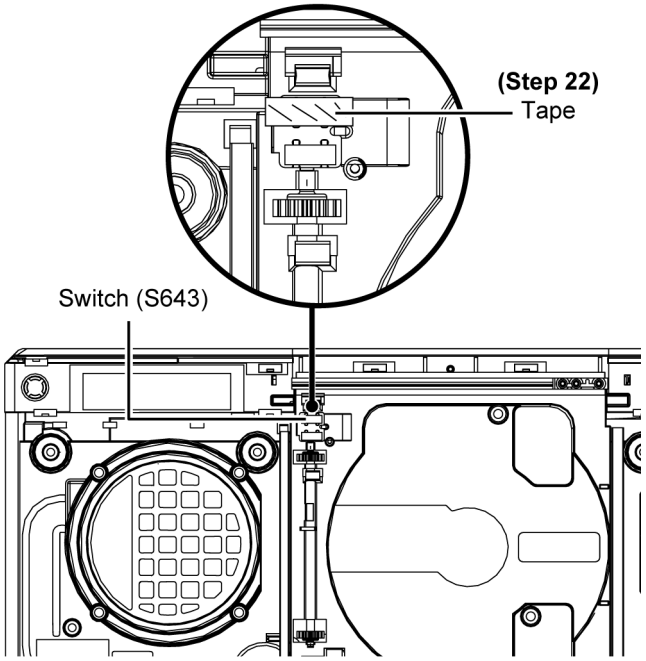
Step 17 : Place the CD Mechanism on the Insulating Material.
Step 18 : Place the Extension P.C.B. (RFKZHC35) on the Insulating Material.
Step 19 : Connect 5P cable from Main P.C.B. to Extension P.C.B..
Step 20 : Connect 5P cable from Extension P.C.B.. to CD Servo P.C.B..



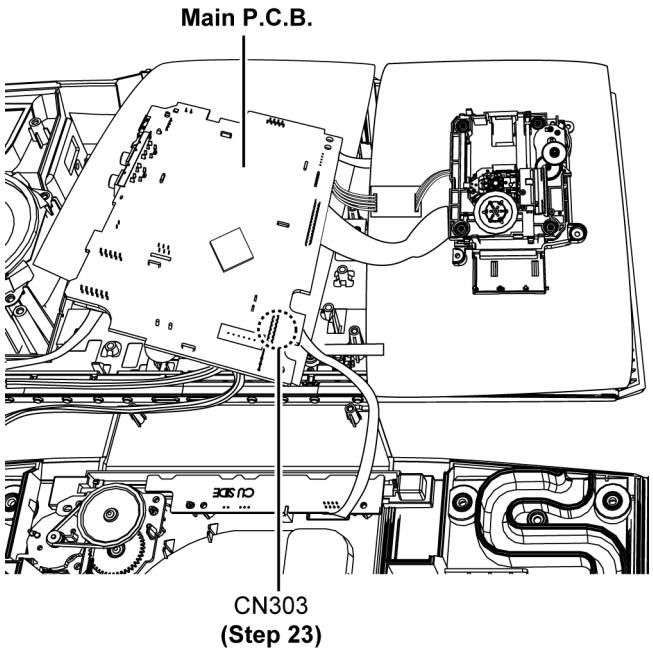
Step 21 : Connect 27P extension cable (RFKZHC55K1) from CN7002 on the Main P.C.B. to CN7002 on the CD Servo P.C.B..



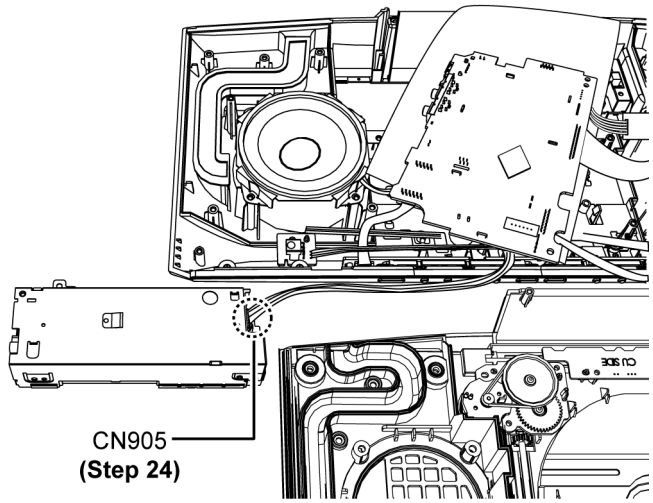
Step 22 : Use a tape to keep the close switch (S643) depressed.



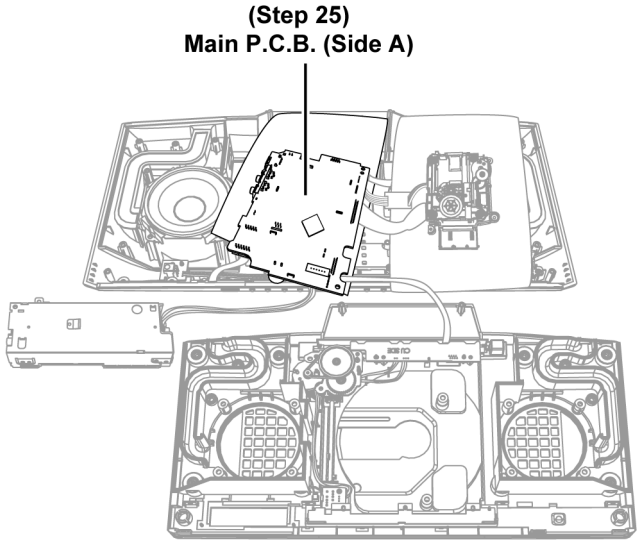
Step 23 : Connect 8P FFC at the connector (CN303) on Main P.C.B..



Step 24 : Connect 6P wire at the connector (CN905) on SMPS P.C.B..



Step 25 : Check & repair Main P.C.B. (Side A) according to the diagram shown.

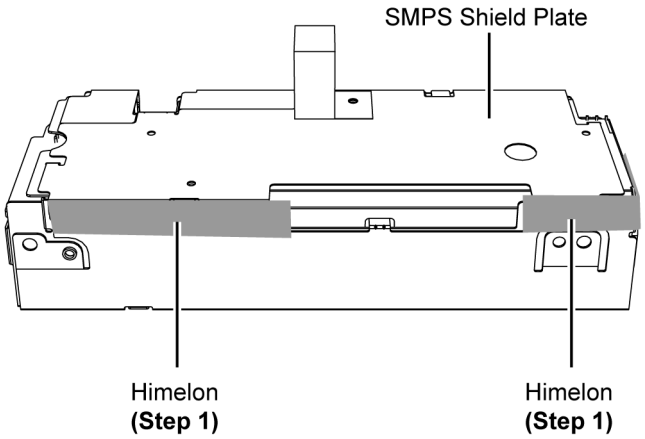


9.5. Checking & Repairing of SMPS P.C.B.

• Refer to (Step 1) - (Step 10) of item 9.4

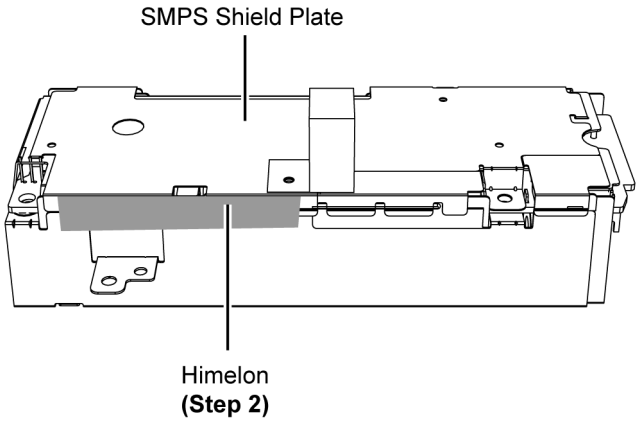
Step 1 : Lift up Himelons.

Caution : Replace the Himelons if they are torn during disassembling.

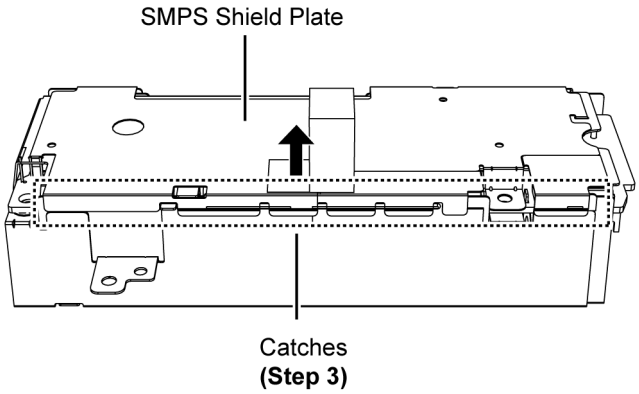


Step 2 : Lift up Himelon.

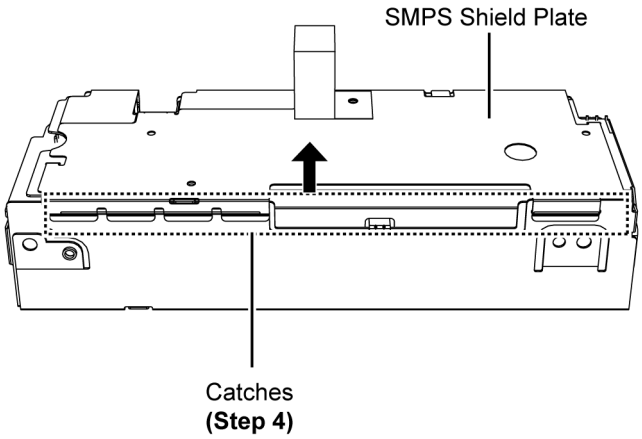
Caution : Replace the Himelon if they are torn during disassembling.



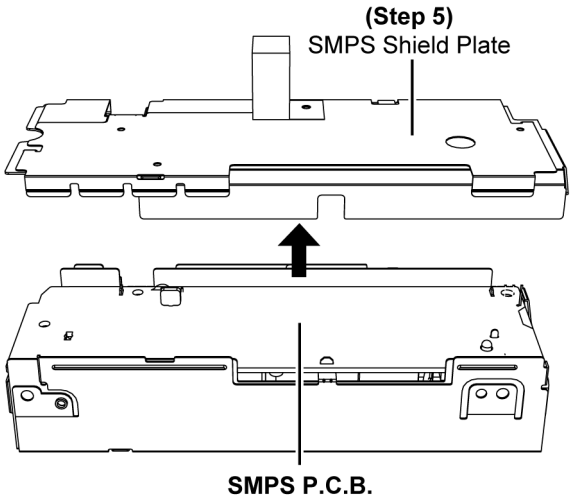
Step 3 : Gently push up the SMPS Shield Plate to release the catches.



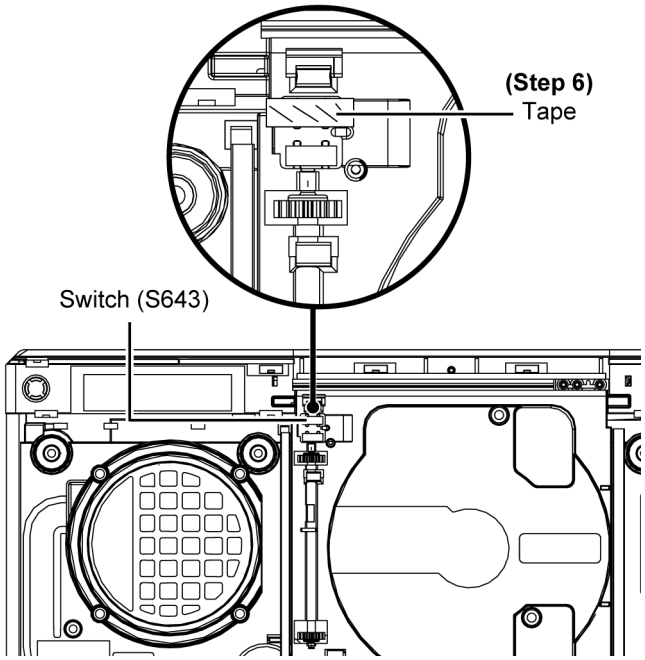
Step 4 : Gently push up the SMPS Shield Plate to release the catches.



Step 5 : Remove SMPS Shield Plate.

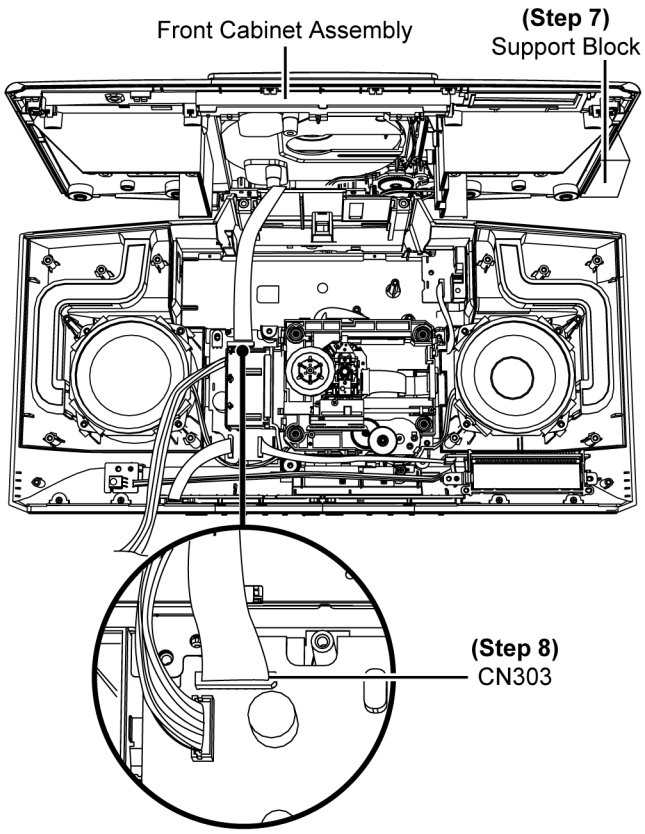


Step 6 : Use a tape to keep the close switch (S643) depressed.



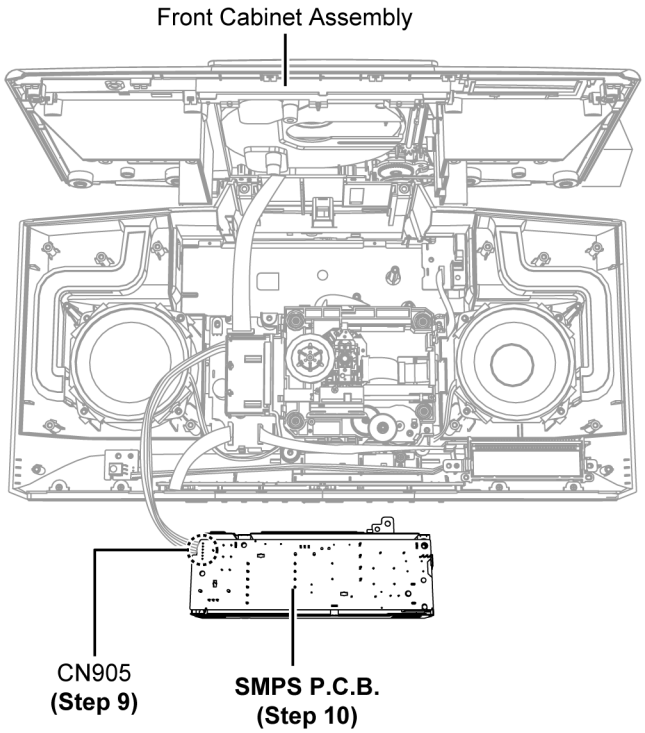
Step 7 : Place the Support Block to support the Front Cabinet Assembly as shown.

Step 8 : Connect 8P FFC at the connector (CN303) on Main P.C.B..



Step 9 : Connect 6P wire at the connector (CN905) on SMPS P.C.B..

Step 10 : Check & repair SMPS P.C.B. according to the diagram shown.



10 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.

10.1. CD SERVO P.C.B.

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	3.2	1.6	0	3.3	3.2	7.5	0	0	3.9	3.9	2.7	2.5	2.8	2.5	1.1	3.8	5.1	0

REF NO.	IC7002																			
MODE	21	22	23	24	25	26	27	28	29	30										
CD PLAY	1.5	0	1.1	0	0	1.6	1.6	3.2	0	0										

REF NO.	IC7704																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	3.3	1.5	1.5	0	1.5	1.5	3.3	1.5	1.5	0	1.6	1.5	3.3	3.2	3.2	3.2	3.2	0	3.2	0

REF NO.	IC7704																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	1.7	1.8	1.6	3.3	0	1.6	1.6	1.7	1.7	3.2	3.2	0	3.3	0	3.2	0	3.2	1.3	1.4

REF NO.	IC7704																			
MODE	41	42	43	44	45	46	47	48	49	50										
CD PLAY	0	1.3	1.3	3.3	1.3	1.3	0	1.3	1.3	0										

REF NO.	IC7851																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	0	3.2	3.2	0	3.2												

REF NO.	Q7601																			
MODE	E	C	B																	
CD PLAY	3.0	2.0	2.3																	

SC-HC15EB/EG/EP CD SERVO P.C.B.

10.2. MAIN P.C.B. (1/3)

REF NO.	IC701																			
MODE	1	2	3	4	5															
POWER ON	7.2	0	5.0	0	6.0															
STANDBY	7.2	0	5.0	0	6.0															

REF NO.	IC702																			
MODE	1	2	3	4																
POWER ON	5.2	0	3.3	5.2																
STANDBY	5.2	0	3.3	5.2																

REF NO.	IC800																			
MODE	1	2	3	4	5	6	7	8												
POWER ON	3.3	3.3	3.3	3.3	0	0	0	3.3												
STANDBY	3.3	3.3	3.3	3.3	0	0	0	3.3												

REF NO.	IC801																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
POWER ON	0	0	0.5	0.1	3.3	0	3.3	0	3.3	3.2	0	1.5	1.5	0	1.1	1.7	3.3	1.8	3.3	0
STANDBY	0	0	0.5	0.1	3.3	0	3.3	0	3.3	3.2	0	1.5	1.5	0	1.1	1.7	3.3	1.8	3.3	0

REF NO.	IC801																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
POWER ON	0	1.1	0	0	3.3	3.3	3.3	3.3	3.2	0	0	0	3.3	3.3	3.3	3.3	1.8	0	0	0
STANDBY	0	1.1	0	0	3.3	3.3	3.3	3.3	3.2	0	0	0	3.3	3.3	3.3	3.3	1.8	0	0	0

REF NO.	IC801																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
POWER ON	2.9	3.2	3.3	3.3	3.2	0	0	3.3	0	0	3.3	3.0	0	3.3	0	0	0	0	3.3	3.3
STANDBY	2.9	3.2	3.3	3.3	3.2	0	0	3.3	0	0	3.3	3.0	0	3.3	0	0	0	0	3.3	3.3

REF NO.	IC801																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
POWER ON	3.3	0	0	0	0	3.3	0	0	3.2	0	0	0	0	3.3	0	3.3	0	3.3	0	0
STANDBY	3.3	0	0	0	0	3.3	0	0	3.2	0	0	0	0	3.3	0	3.3	0	3.3	0	0

REF NO.	IC801																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
POWER ON	0	3.2	0	3.2	3.1	0	3.0	0	3.3	0	0	3.3	0	3.3	3.3	3.3	0	3.3	3.0	3.3
STANDBY	0	3.2	0	3.2	3.1	0	3.0	0	3.3	0	0	3.3	0	3.3	3.3	3.3	0	3.3	3.0	3.3

REF NO.	IC803																			
MODE	1	2	3	4																
POWER ON	3.2	3.3	0	0																
STANDBY	3.2	3.3	0	0																

REF NO.	IC1000																			
MODE	1	2	3	4	5	6	7	8												
POWER ON	11.7	17.1	9.0	0	10.0	1.3	3.3	2.0												
STANDBY	11.7	17.1	9.0	0	10.0	1.3	3.3	2.0												

SC-HC15EB/EG/EP MAIN P.C.B.

10.3. MAIN P.C.B. (2/3)

REF NO.	IC1005																			
MODE	1	2	3	4																
POWER ON	5.0	0	3.3	5.0																
STANDBY	5.0	0	3.3	5.0																

REF NO.	IC1006																			
MODE	1	2	3	4	5	6	7	8												
POWER ON	3.3	0.8	0	0	4.9	0	0	4.9												
STANDBY	3.3	0.8	0	0	4.9	0	0	4.9												

REF NO.	IC1009																			
MODE	1	2	3	4	5	6	7	8												
POWER ON	9.8	17.2	5.2	0	0.9	1.5	17.2	2.6												
STANDBY	9.8	17.2	5.2	0	0.9	1.5	17.2	2.6												

REF NO.	IC2000																			
MODE	1	2	3	4	5	6														
POWER ON	1.6	0	1.6	1.5	3.3	1.6														
STANDBY	1.6	0	1.6	1.5	3.3	1.6														

REF NO.	Q1000				Q2001				Q7001				QR100				QR801			
MODE	S	D	G		E	C	B		E	C	B		E	C	B		E	C	B	
POWER ON	5.2	5.2	0		3.3	3.3	0		3.3	3.2	2.5		0	0	3.2		0	1.0	0	
STANDBY	5.2	5.2	0		3.3	3.3	0		3.3	3.2	2.5		0	0	3.2		0	0	3.3	

REF NO.	QR1000				QR2000				QR2001											
MODE	E	C	B		E	C	B		E	C	B									
POWER ON	0	0	3.3		0	0	3.3		0	0	3.3									
STANDBY	0	0	3.3		0	0	3.3		0	0	0									

REF NO.	IC102																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	3.5	3.5	3.1	3.5	0	5.9	3.1	0	0.5	0.5	1.6	0.5	0	3.1	2.4	0				
STANDBY	3.5	3.5	3.1	3.5	0	5.9	3.1	0	0.5	0.5	1.6	0.5	0	3.1	2.4	0				

REF NO.	IC700																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	0	3.6	3.5	3.6	3.6	3.3	0	0	0	0	3.6	0	3.5	3.7	3.7	6.2				
STANDBY	0	3.6	3.5	3.6	3.6	3.3	0	0	0	0	3.6	0	3.5	3.7	3.7	6.2				

REF NO.	IC2002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
CD PLAY	3.3	1.4	1.6	0	1.6	1.6	0	0	0	0	0	0	0	3.3						
STANDBY	3.3	1.4	1.6	0	1.6	1.6	0	0	0	0	0	0	0	3.3						

REF NO.	IC2003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
CD PLAY	1.8	0.6	1.8	1.8	0.6	1.8	0	0	0	0	3.1	3.1	0.6	3.3						
STANDBY	1.8	0.6	1.8	1.8	0.6	1.8	0	0	0	0	3.1	3.1	0.6	3.3						

SC-HC15EB/EG/EP MAIN P.C.B.

10.4. MAIN P.C.B. (3/3)

REF NO.	Q950				Q951							Q952								
MODE	E	C	B		1	2	3	4	5	6		1	2	3	4	5	6			
CD PLAY	1.4	1.1	0.7		0	0.7	0	0	0.7	0		0	0.7	0	0	0.7	0			
STANDBY	1.4	1.1	0.7		0	0.7	0	0	0.7	0		0	0.7	0	0	0.7	0			

SC-HC15EB/EG/EP MAIN P.C.B.

10.5. 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
POWER ON	3.3	3.2	3.3	3.3	0	2.9	3.3	0	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
STANDBY	3.3	3.2	3.3	3.3	0	2.9	3.3	0	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4

REF NO.	IC900																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
POWER ON	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
STANDBY	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4

REF NO.	IC900																			
MODE	41	42	43	44																
POWER ON	1.4	1.4	1.4	1.4																
STANDBY	1.4	1.4	1.4	1.4																

REF NO.	Q900																			
MODE	E	C	B																	
POWER ON	0	0	3.3																	
STANDBY	0	0	3.3																	

SC-HC15EB/EG/EP PANEL P.C.B.

10.6. SMPS P.C.B.

REF NO.	IC700																			
MODE	1	2	3	4	5	6	7	8												
POWER ON	20.2	0	0.6	0	1.6	0.7	1.5	0												
STANDBY	20.2	0	0.6	0	1.6	0.7	1.5	0												

REF NO.	IC701																			
MODE	1	2	3	4																
POWER ON	0	0	14.5	2.5																
STANDBY	0	0	14.5	2.5																

REF NO.	Q701																			
MODE	S	D	G																	
POWER ON	0	0.6	168.1																	
STANDBY	0	0.6	168.1																	

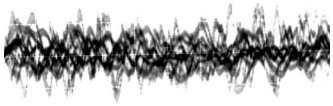
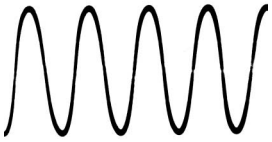
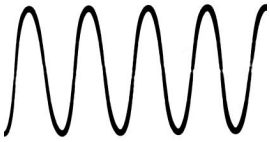
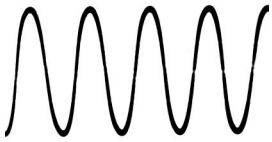
SC-HC15EB/EG/EP SMPS P.C.B.

10.7. TUNER P.C.B.

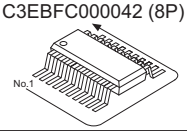
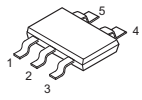
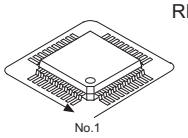
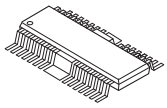
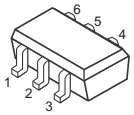
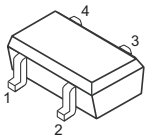
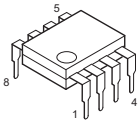
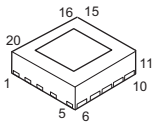
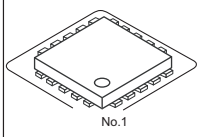
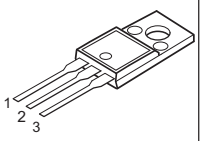
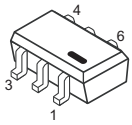
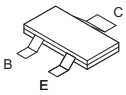
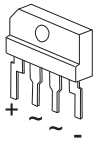
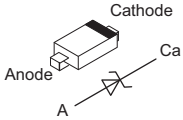
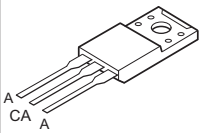
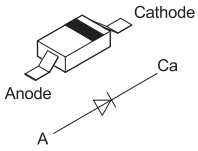
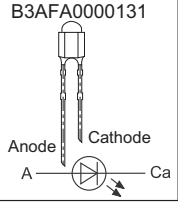
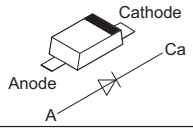
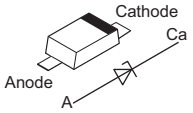
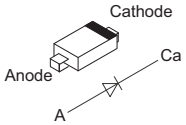
REF NO.	IC52																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
TUNER	0	1.5	0	3.0	0	3.1	3.3	3.3	3.3	3.3	3.3	0	3.3	3.3	0	0	3.3	0	0	0

SC-HC15EB/EG/EP TUNER P.C.B.

10.8. Waveform Chart

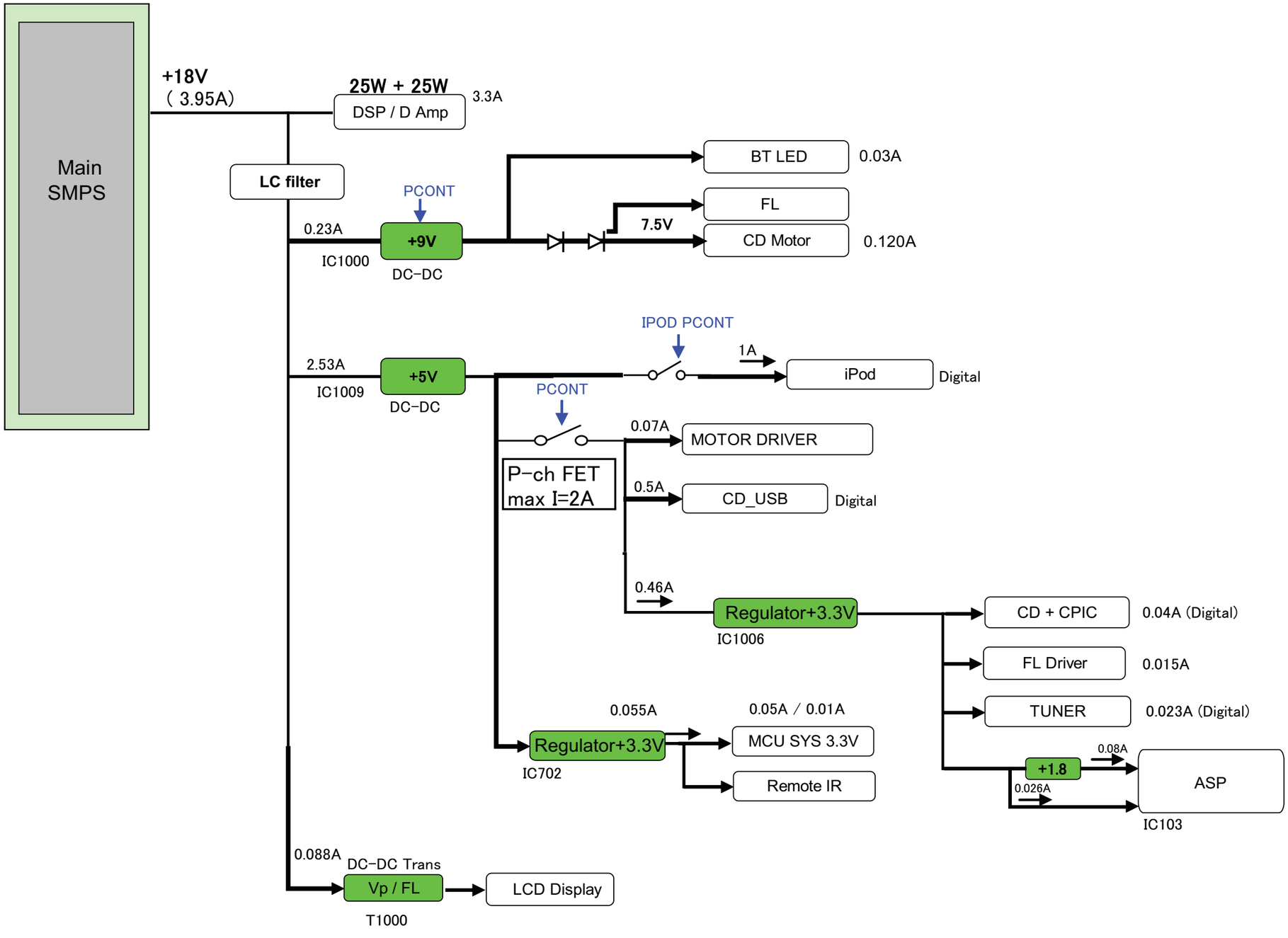
WF No. IC52-2,13,14 (TUNER)  0.1Vp-p(200usec/div)	WF No. IC801-12 (PLAY)  3.8Vp-p(50nsec/div)	WF No. IC801-13 (PLAY)  3Vp-p(50nsec/div)	WF No. IC801-15 (PLAY)  1.1Vp-p(10usec/div)
WF No. IC801-16 (PLAY)  2.1Vp-p(10usec/div)	WF No. IC2000-1 (PLAY)  1.4Vp-p(5usec/div)	WF No. IC2000-6 (PLAY)  2.8Vp-p(5usec/div)	WF No. IC2003-11 (PLAY)  1.2Vp-p(200usec/div)
WF No. IC2003-12 (PLAY)  1.5Vp-p(200usec/div)			

11 Illustration of IC’s, Transistors and Diodes

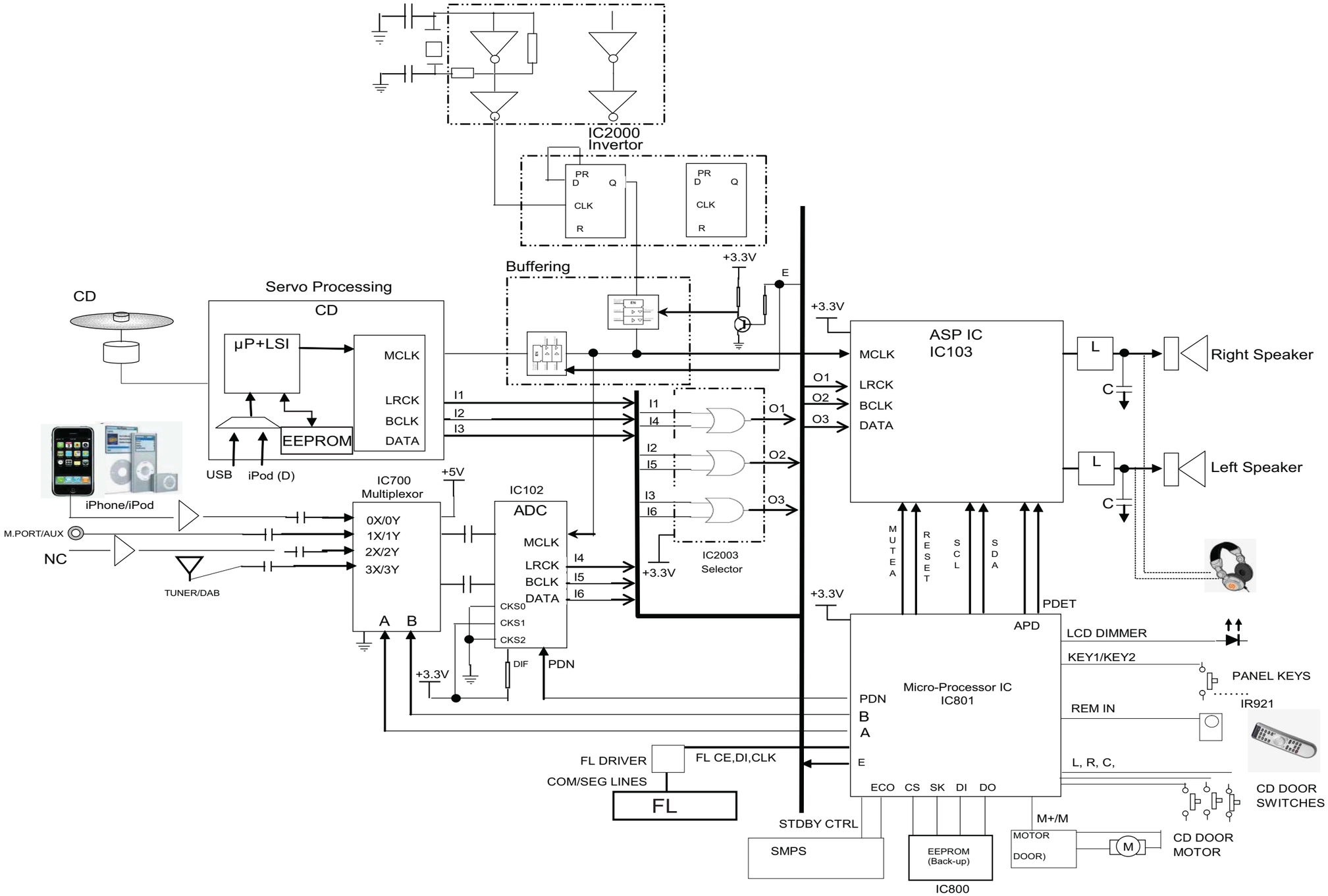
<table>
<tr>
<td colspan="2">C0JBAR000587 (16P)
C0JBAU000036 (14P)
C3ABMY000027 (50P)
C3EBFC000042 (8P)
C0DBEYY00123 (8P)
C0DBAYY01077 (8P)
C0DBAYY00462 (8P)
C0DBGYY00887 (4P)
C0DBZMC00006 (4P)
C0DBZYY00448 (8P)
C0FBAK000026 (16P)
C0JBAE000438 (14P)
  </td>
<td>C0CBCDC00052
  </td>
<td colspan="2">C0HBA0000295 (44P)
MN6627947RB (144P)
RFKWMHC25M0 (100P)
  </td>
<td>C0GBY0000117 (30P)
  </td>
</tr>
<tr>
<td>C0JBAB000837
  </td>
<td>C0EBE0000434
  </td>
<td>C3EBFY000006
  </td>
<td>VUEALLPT039
  </td>
<td>C1AB00003600 (48P)
  </td>
<td>B1KAB0000021
  </td>
</tr>
<tr>
<td>B1GFGCAA0001
  </td>
<td>  </td>
<td>B1ADCF000001
B1GBCFJN0038
B1GBCFJN0033
B1ADCE000012
B1GBCFJJ0051
B1DHCC000034</td>
<td>B0EBNR000045
  </td>
<td>B0JCME000035
  </td>
<td>B0ABSM000008
  </td>
</tr>
<tr>
<td>B0ACMQ000002
  </td>
<td>B3AFA0000131
  </td>
<td>B0BC5R6A0266
B0ACCK000012
B0JCMD000066
  </td>
<td>B0BC02900004
B0BC6R100010
  </td>
<td>B0HCMM000019
B0ECKM000016
  </td>
<td></td>
</tr>
</table>

12 Overall Simplified Block

12.1. Voltage / Current / Ground Diagram



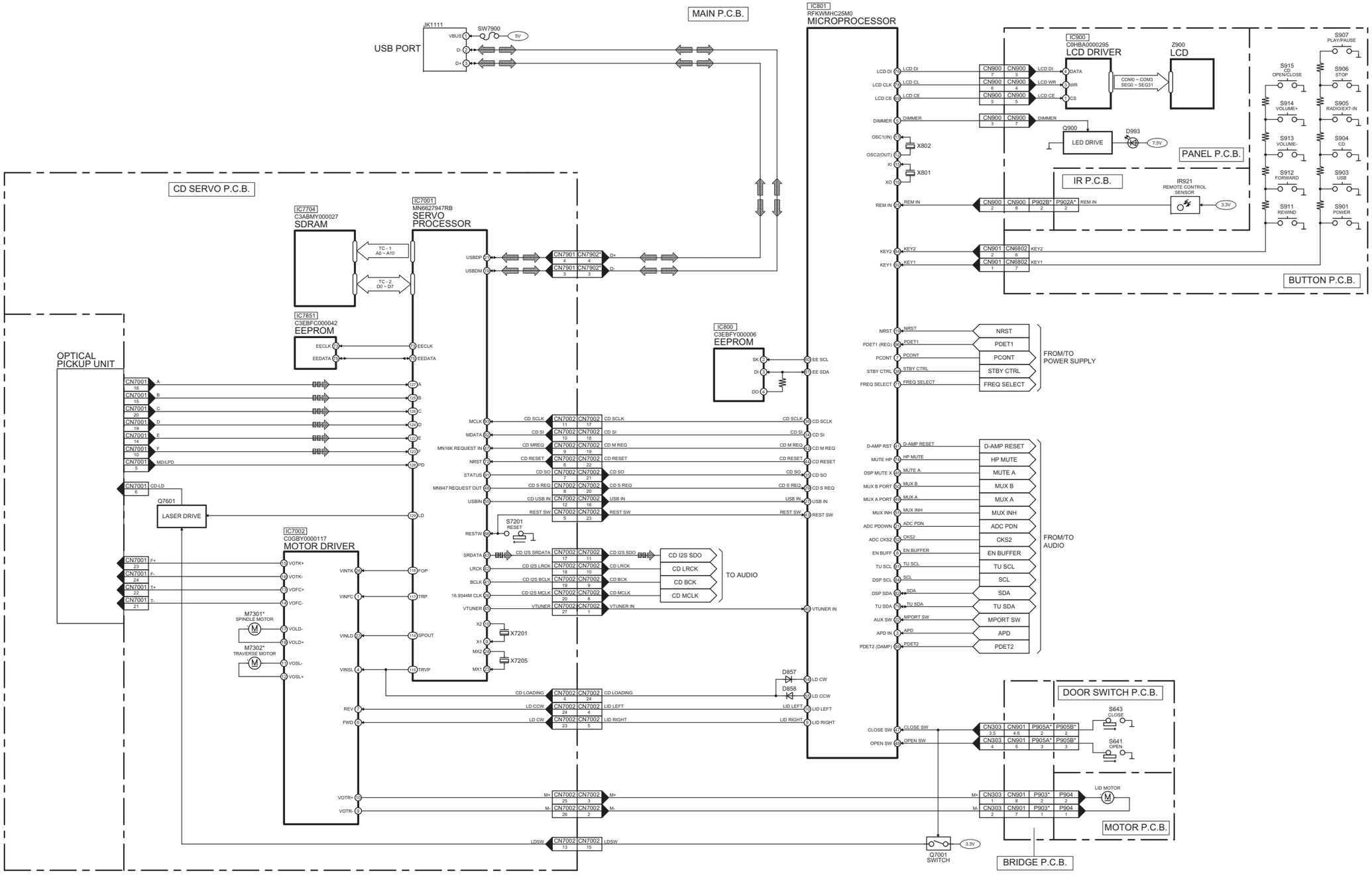
12.2. Control & Signal Diagram



13 Block Diagram

13.1. SERVO/SYSTEM CONTROL BLOCK DIAGRAM

: CD AUDIO INPUT SIGNAL LINE : USB SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

SC-HC15EB/EG/EP SERVO & SYSTEM CONTROL BLOCK DIAGRAM

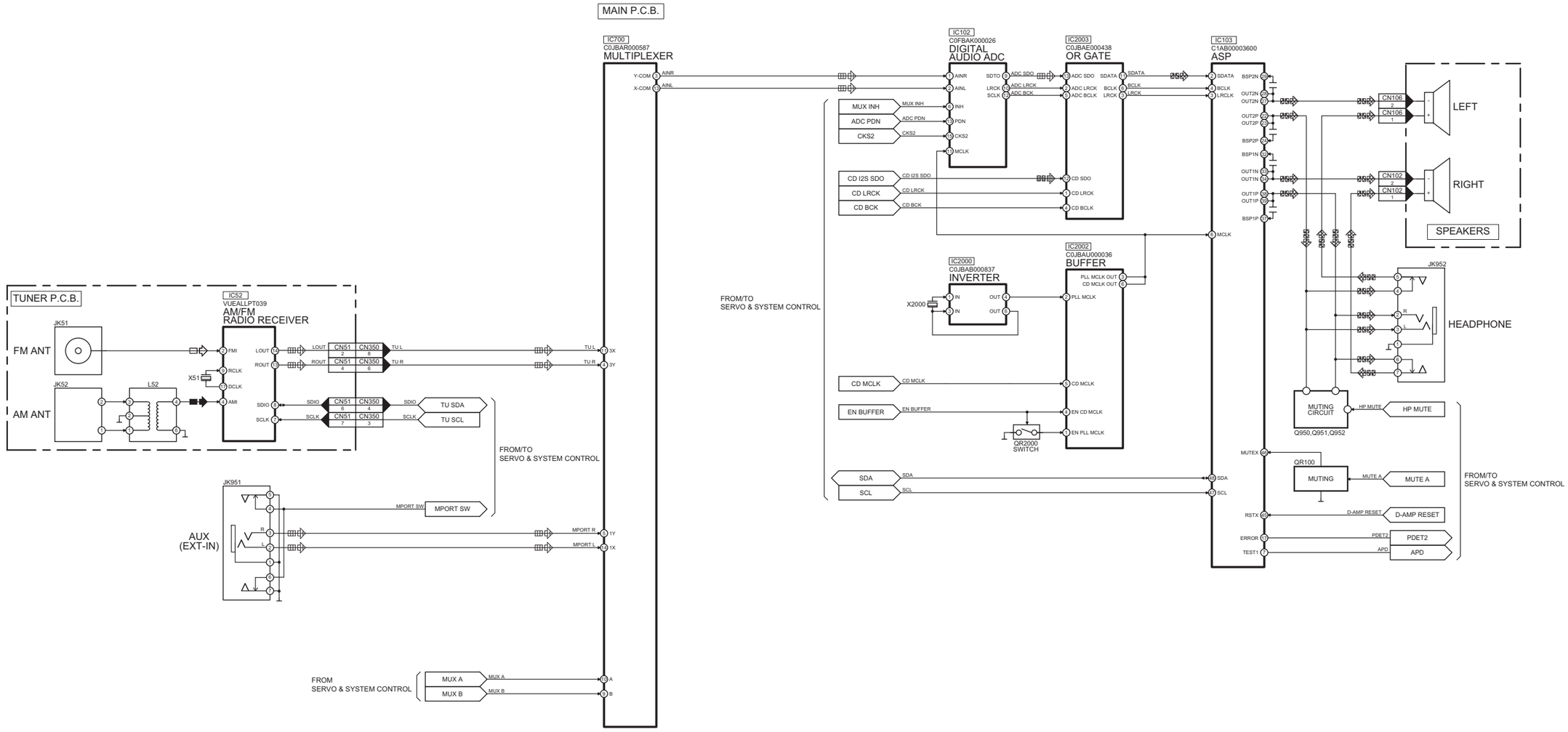
13.2. IC TERMINAL CHART

TC	IC7704 SDRAM		SIGNAL NAME	IC7001 SERVO PROCESSOR	
	PORT NAME	PIN NO		PIN NO	PORT NAME
1	A0	21	A0	35	A0
	A1	22	A1	34	A1
	A2	23	A2	33	A2
	A3	24	A3	112	A3
	A4	27	A4	111	A4
	A5	28	A5	110	A5
	A6	29	A6	109	A6
	A7	30	A7	108	A7
	A8	31	A8	107	A8
	A9	32	A9	106	A9
	A10	20	A10	36	A10

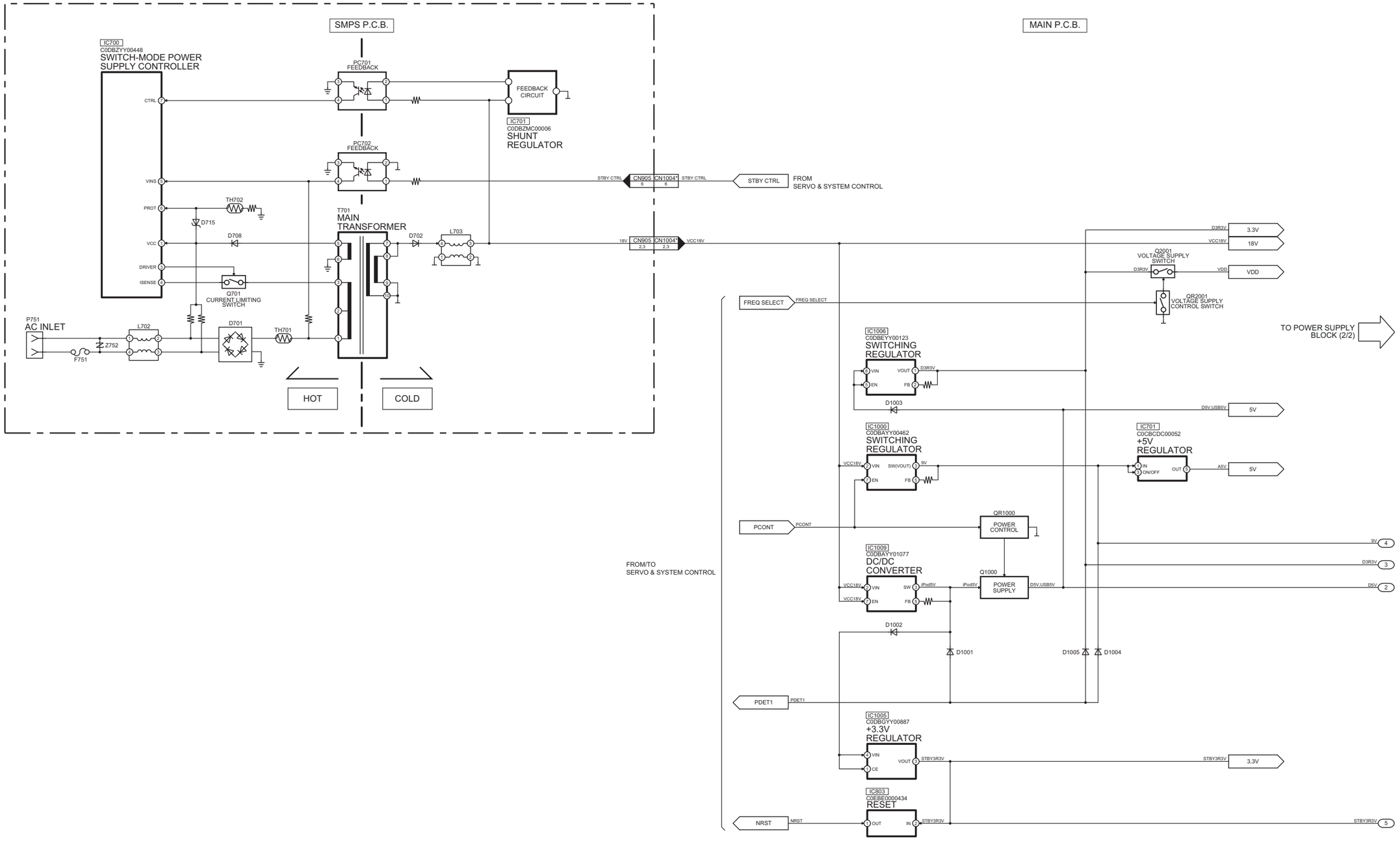
TC	IC7704 SDRAM		SIGNAL NAME	IC7001 SERVO PROCESSOR	
	PORT NAME	PIN NO		PIN NO	PORT NAME
2	DQ0 / DQ15	2 / 49	D0	102	D0
	DQ1 / DQ14	3 / 48	D1	101	D1
	DQ2 / DQ13	5 / 46	D2	100	D2
	DQ3 / DQ12	6 / 45	D3	99	D3
	DQ4 / DQ11	8 / 43	D4	98	D4
	DQ5 / DQ10	9 / 42	D5	97	D5
	DQ6 / DQ9	11 / 40	D6	96	D6
	DQ7 / DQ8	12 / 39	D7	95	D7

13.3. AUDIO BLOCK DIAGRAM

: CD AUDIO INPUT SIGNAL LINE : AUX/TUNER AUDIO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : AM SIGNAL LINE : FM SIGNAL LINE



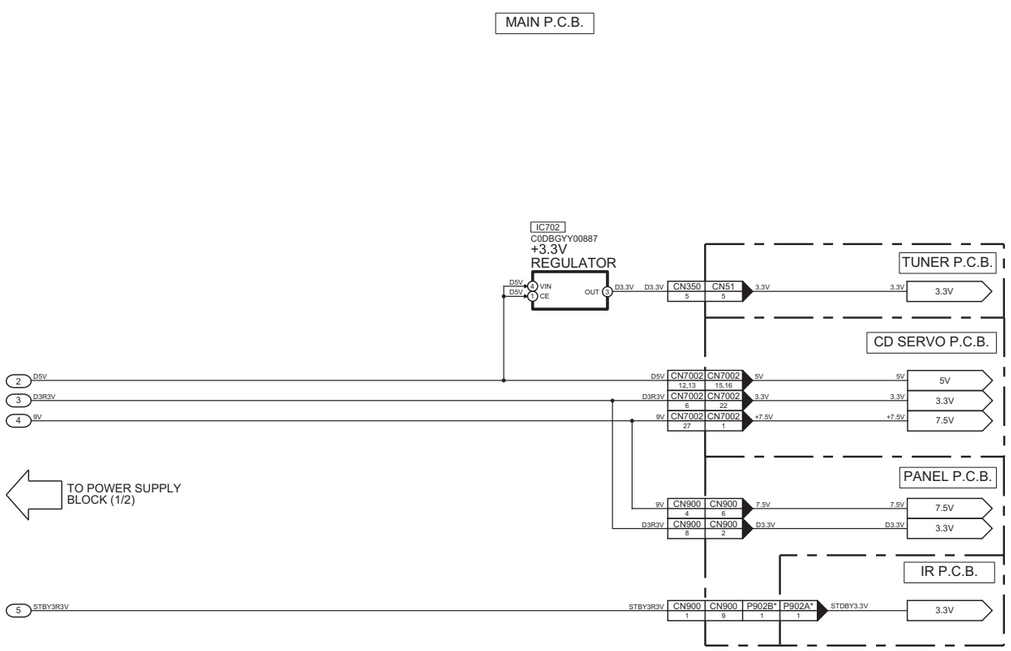
13.4. POWER SUPPLY (1/2) BLOCK DIAGRAM



NOTE: " * " REF IS FOR INDICATION ONLY

SC-HC15EB/EG/EP POWER SUPPLY (1/2) BLOCK DIAGRAM

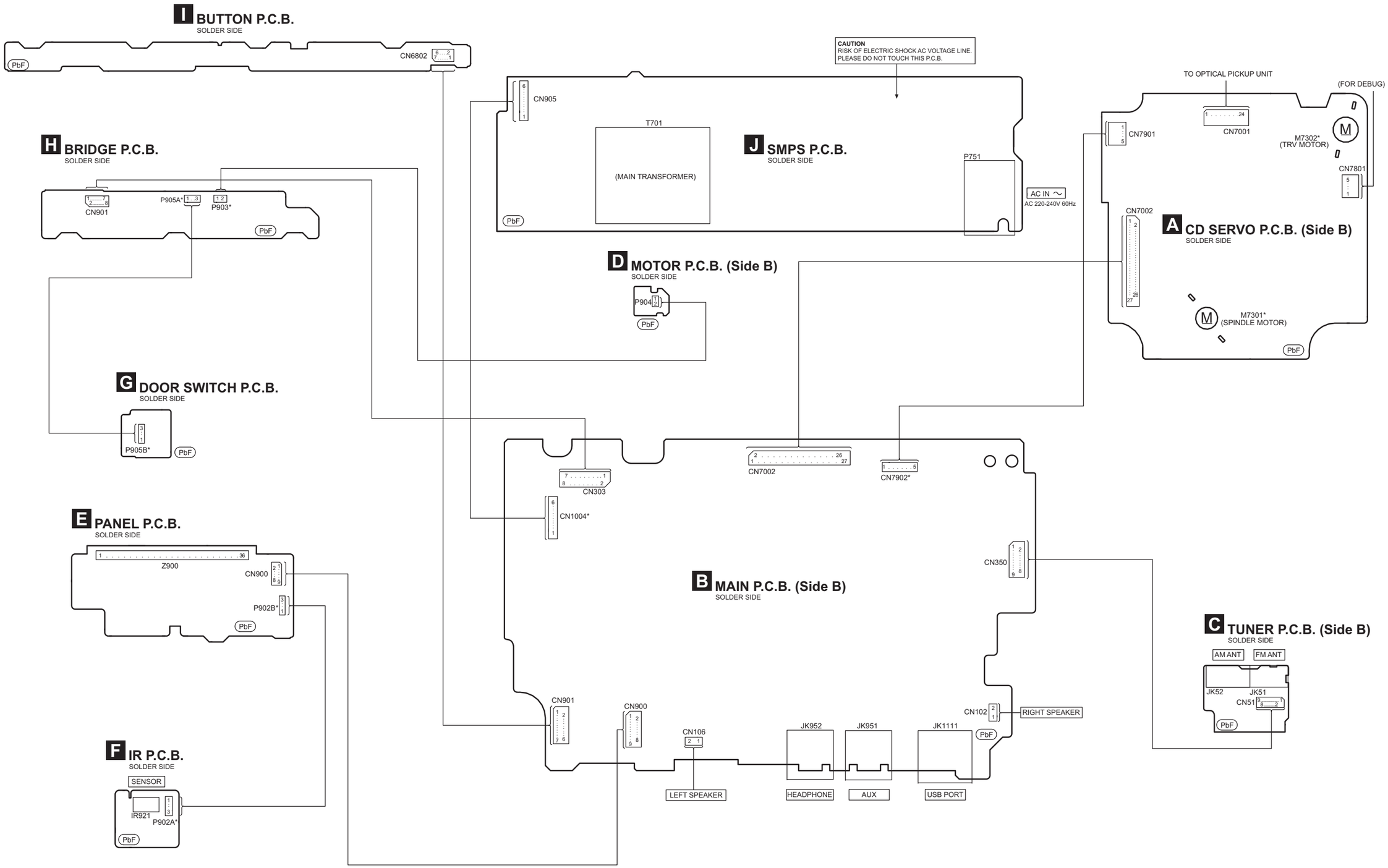
13.5. POWER SUPPLY (2/2) BLOCK DIAGRAM



NOTE: " * " REF IS FOR INDICATION ONLY

SC-HC15EB/EG/EP POWER SUPPLY (2/2) BLOCK DIAGRAM

14 Wiring Connection Diagram



Note : “ * ” REF IS FOR INDICATION ONLY.

15 Schematic Diagram

15.1. Schematic Diagram Notes

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

Notes:

S641:	OPEN switch.
S643:	CLOSE switch.
S901:	POWER switch (POWER ⏻/I).
S903:	USB switch.
S904:	CD switch.
S905:	RADIO/EXT-IN switch.
S906:	STOP switch (■).
S907:	PLAY/PAUSE switch (▶/❚❚).
S911:	REV SKIP switch (I◀◀/◀◀).
S912:	FWD SKIP switch (▶▶/▶▶I).
S913:	VOL- switch.
S914:	VOL+ switch.
S915:	CD OPEN/CLOSE switch (CD ⏏).
S7201:	RESET switch.

- Important safety notice:

  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high quality sound (capacitors), low-noise (resistors), etc are used.
  When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- In case of AC rated voltage Capacitors, the part no. and values will be indicated in the Schematic Diagram.
  AC rated voltage capacitors:
  C702, C710, C725, C727, C728

- **Resistor**
  Unit of resistance is OHM [Ω] (K=1,000, M=1,000,000).

- **Capacitor**
  Unit of capacitance is μF, unless otherwise noted. F=Farads, pF=pico-Farad.

- **Coil**
  Unit of inductance is H, unless otherwise noted.

- *****

  REF IS FOR INDICATION ONLY.

- Voltage and signal line

  : +B Signal Line

  
  : CD Audio Input Signal Line

  
  : Audio Output Signal Line

  
  : AM Signal Line

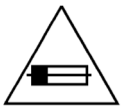
  
  : FM Signal Line

  
  : Tuner/Aux Audio Input Signal Line

  
  : Tuner Audio Input Signal Line

  
  : USB Signal Line

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F751 T3.15A, 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 harzard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

15.2. CD SERVO CIRCUIT (1/2)

SCHEMATIC DIAGRAM - 1

A CD SERVO CIRCUIT

—— : +B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE : USB SIGNAL LINE

M7302* TRAVERSE MOTOR

M7301* SPINDLE MOTOR

IC7002 C0GBY0000117 MOTOR DRIVER

IC7001 MN6627947RB SERVO PROCESSOR

Q7601 B1ADCF000001 LASER DRIVE

CN7001

TO OPTICAL PICK UP UNIT

TO CD SERVO CIRCUIT (2/2)

NOTE: " * " REF IS FOR INDICATION ONLY

SC-HC15EB/EG/EP
CD SERVO CIRCUIT

1/2 | 2/2

15.3. CD SERVO CIRCUIT (2/2)

SCHEMATIC DIAGRAM - 2

A CD SERVO CIRCUIT

: +B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE : USB SIGNAL LINE

TO CD SERVO CIRCUIT (1/2)

CN7801
FOR DEBUG
OCD_SCL 5
OCD_SDA 4
STBY3.3V 3
NRST 2
VSS 1

IC7851
C3EBFC000042
EEPROM
GND NC NC NC
EE_DAT EE_CLK WP VCC
C7853 330P
R7853 3.3K
C7852 330P
C7851 0.01
EECLK EECS EEDATA

IC7704
C3ABMY000027
SDRAM

S7201
RESET SW
R7255 10K
C7243 0
R7254 1K
R7253 100
R7262 100
R7264 100
R7265 100
R7266 100
C7166 0.01
C7206 10
C7233 0.01
C7253 0
C7704 15P
K7201 K7202 K7203 K7204 100
J0JBC0000012
K7705 33

CN7002
1 9V
2 PGND
3 OPEN_SW
4 LOADING
5 REST SW
6 CD_RESET/ RST
7 CD_SO/ STAT
8 CD_SREQ/ BLKCK
9 CD_MREQ/ MLD
10 CD_SI/ MDATA
11 CD_SCLK/ MCLK
12 USB_IN
13 LDSW
14 DGND
15 5V
16 5V
17 CD_IIS_SRDATA
18 CD_IIS_LRCK
19 CD_IIS_BCLK
20 CD_IIS_MCLK
21 DGND
22 3.3V
23 LID_RIGHT
24 LID_LEFT
25 M+
26 M-
27 VTUNER_IN

TO B MAIN CIRCUIT (CN7002) IN SCHEMATIC DIAGRAM - 6

TO B MAIN (USB) CIRCUIT (CN7902*) IN SCHEMATIC DIAGRAM - 7

CN7901
IPOD_DET 1
VBUS 2
D- 3
D+ 4
DGND 5

R7896 1K
R7911 0
C7902 10
C7903 0.01
R7901 33
R7903 15K
R7904 15K
R7902 33
C7207 10

REST_SW NRST STATUS BLKCK MLD MDATA MCLK USBIN CD_IIS_SRDATA CD_IIS_LRCK CD_IIS_BCLK CD_IIS_MCLK LDSW LID_RIGHT LID_LEFT DVSS VTUNER 3.3V DGND DGND1 M- M+ USB_SEL USBDM USBDP

P1

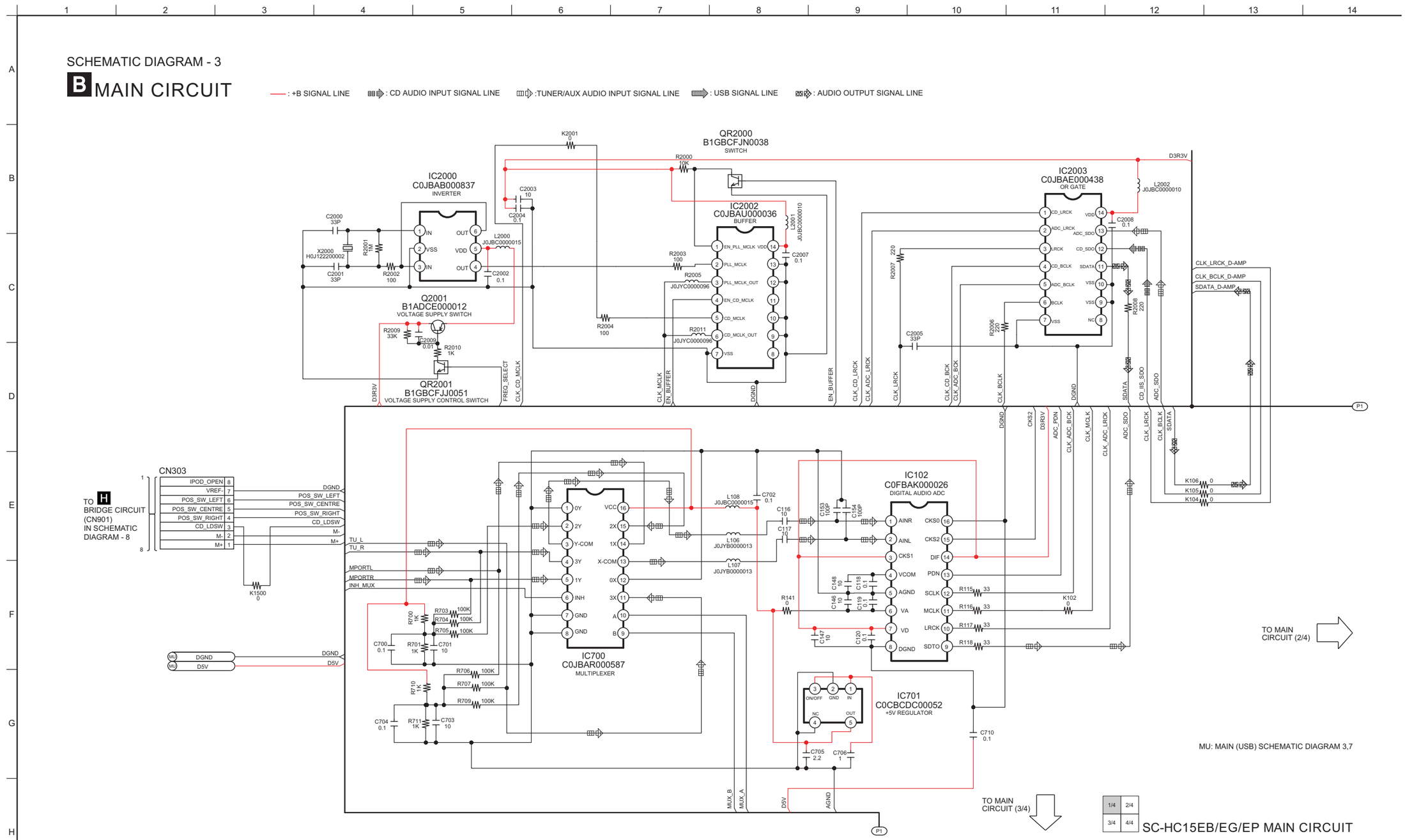
1/2 2/2 SC-HC15EB/EG/EP CD SERVO CIRCUIT

15.4. MAIN CIRCUIT (1/4)

SCHEMATIC DIAGRAM - 3

B MAIN CIRCUIT

—— : +B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE :TUNER/AUX AUDIO INPUT SIGNAL LINE : USB SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE



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

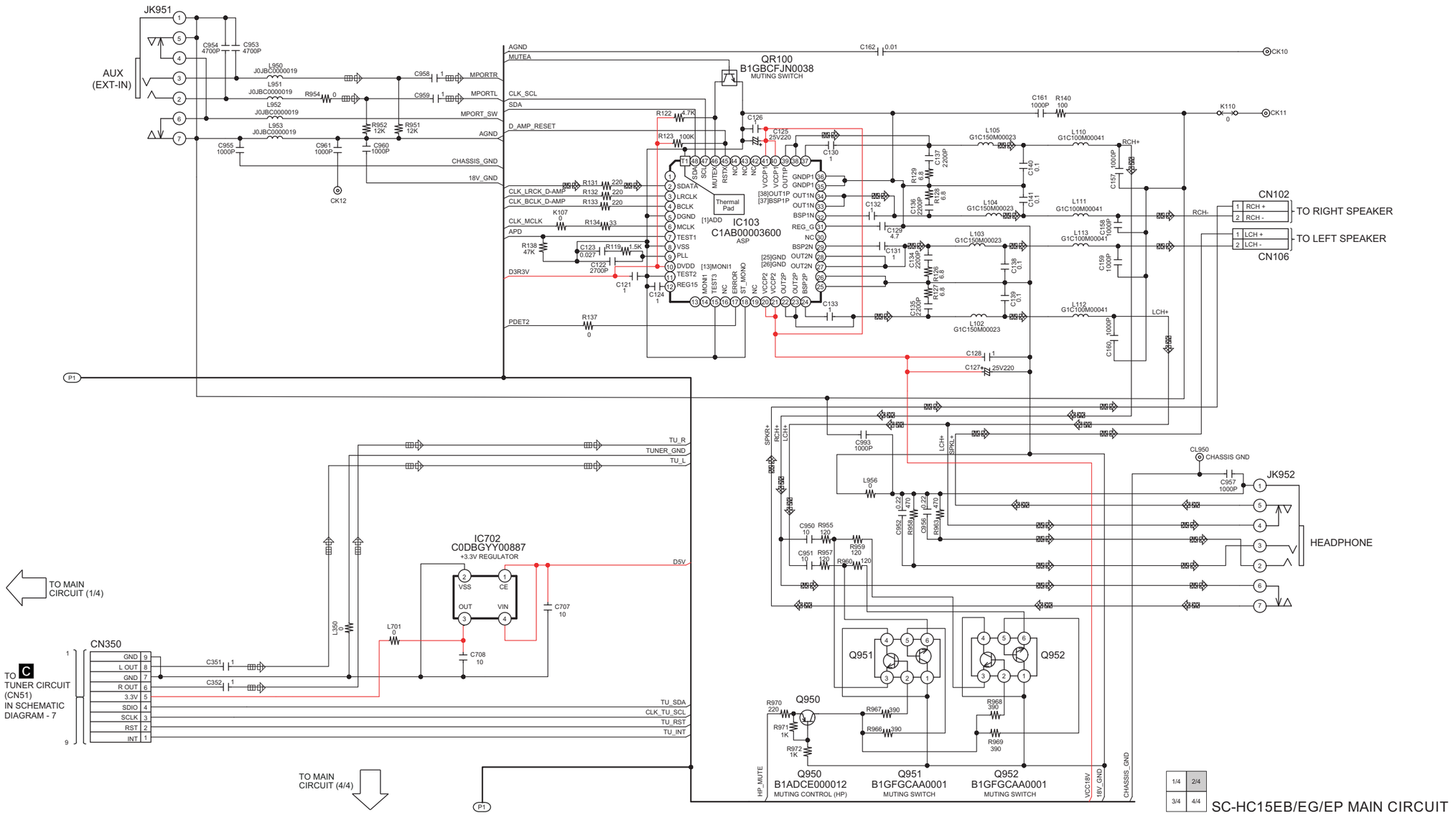
SC-HC15EB/EG/EP MAIN CIRCUIT

15.5. MAIN CIRCUIT (2/4)

SCHEMATIC DIAGRAM - 4

B MAIN CIRCUIT

—— : +B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE :TUNER/AUX AUDIO INPUT SIGNAL LINE : USB SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE



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

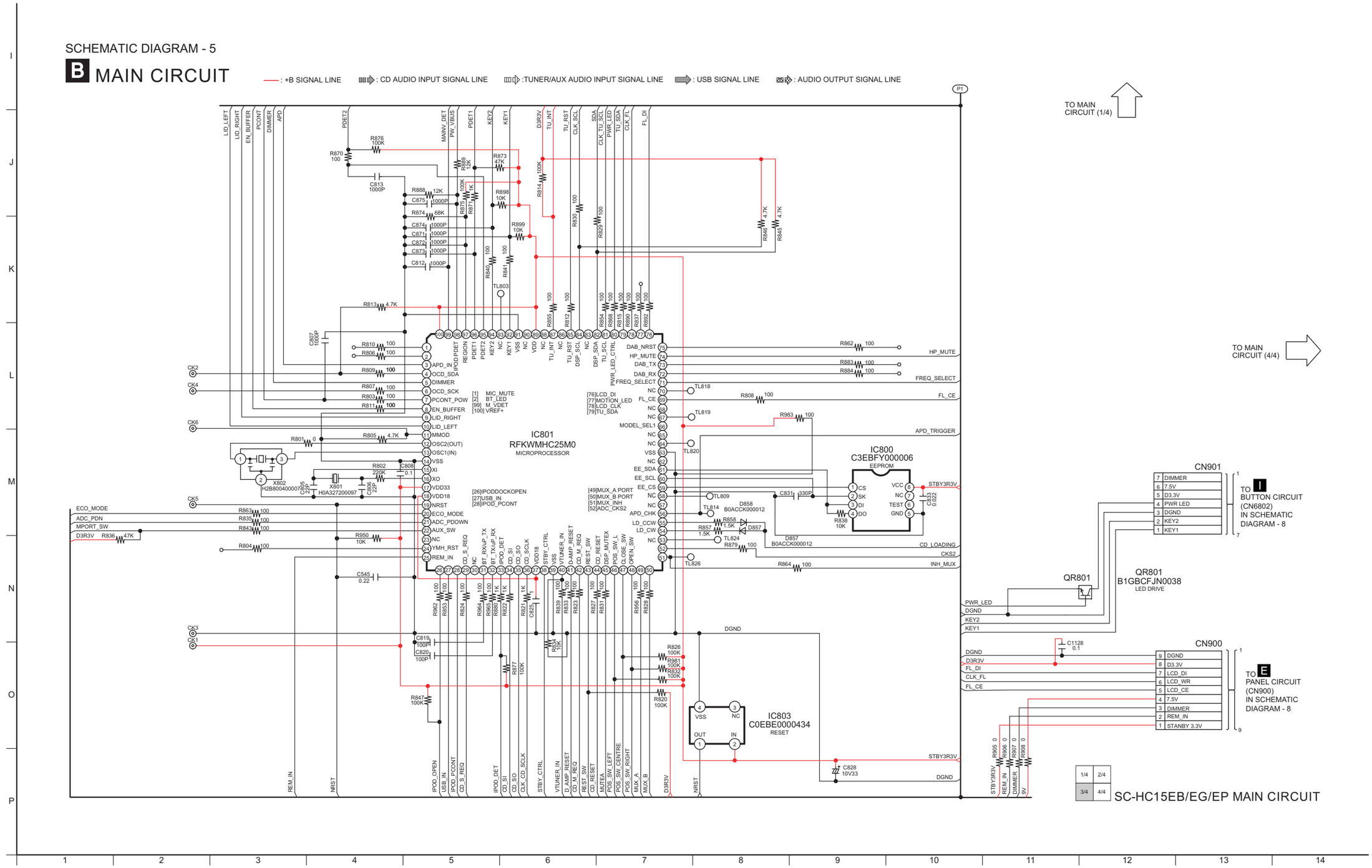
SC-HC15EB/EG/EP MAIN CIRCUIT

15.6. MAIN CIRCUIT (3/4)

SCHEMATIC DIAGRAM - 5

B MAIN CIRCUIT

—— : +B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE :TUNER/AUX AUDIO INPUT SIGNAL LINE : USB SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE

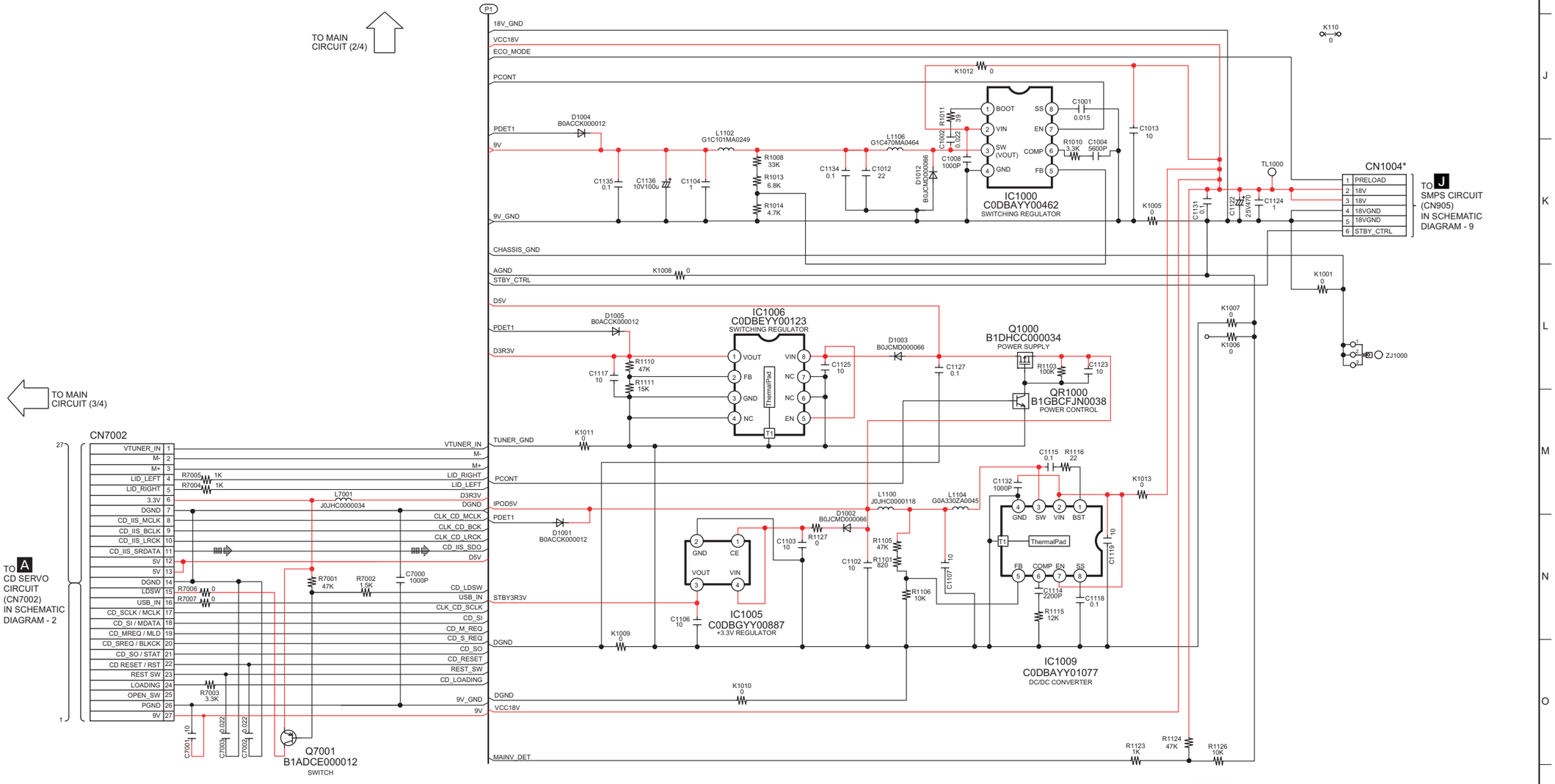


15.7. MAIN CIRCUIT (4/4)

SCHEMATIC DIAGRAM - 6

B MAIN CIRCUIT

—— : +B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE :TUNER/AUX AUDIO INPUT SIGNAL LINE : USB SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

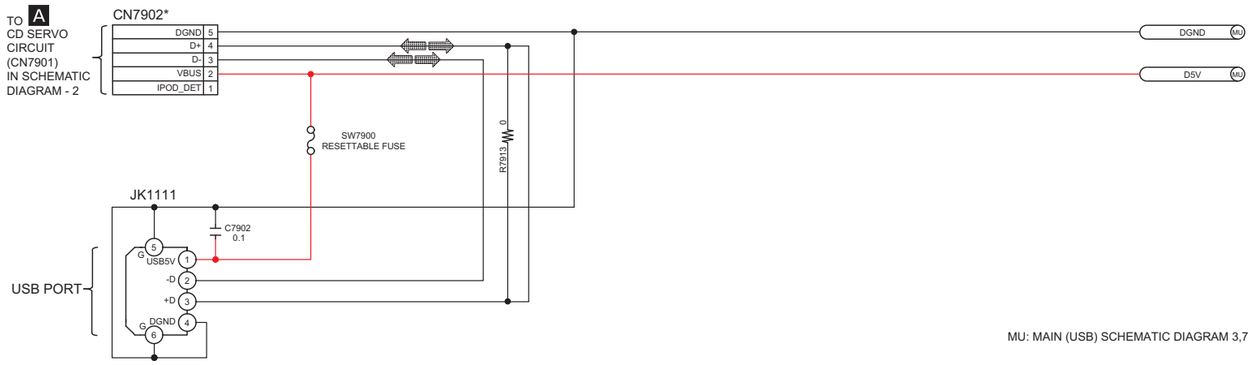
SC-HC15EB/EG/EP MAIN CIRCUIT

15.8. MAIN (USB), TUNER & MOTOR CIRCUIT

SCHEMATIC DIAGRAM - 7

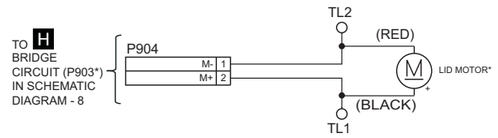
B MAIN (USB) CIRCUIT

: USB SIGNAL LINE : +B SIGNAL LINE



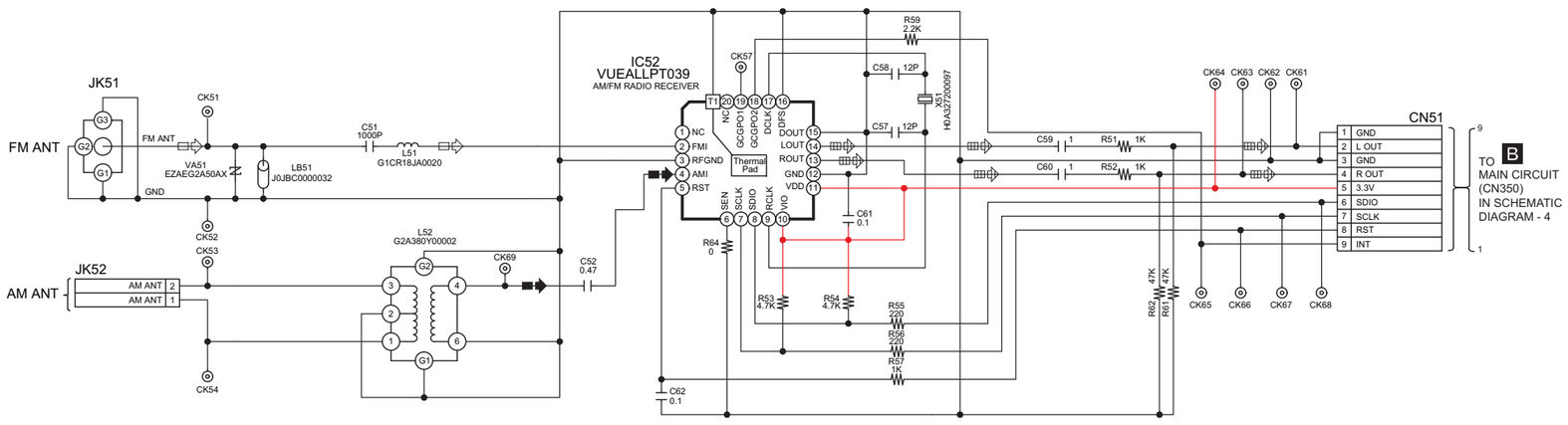
MU: MAIN (USB) SCHEMATIC DIAGRAM 3,7

D MOTOR CIRCUIT



C TUNER CIRCUIT

:TUNER AUDIO INPUT SIGNAL LINE : FM SIGNAL LINE : AM SIGNAL LINE : +B SIGNAL LINE



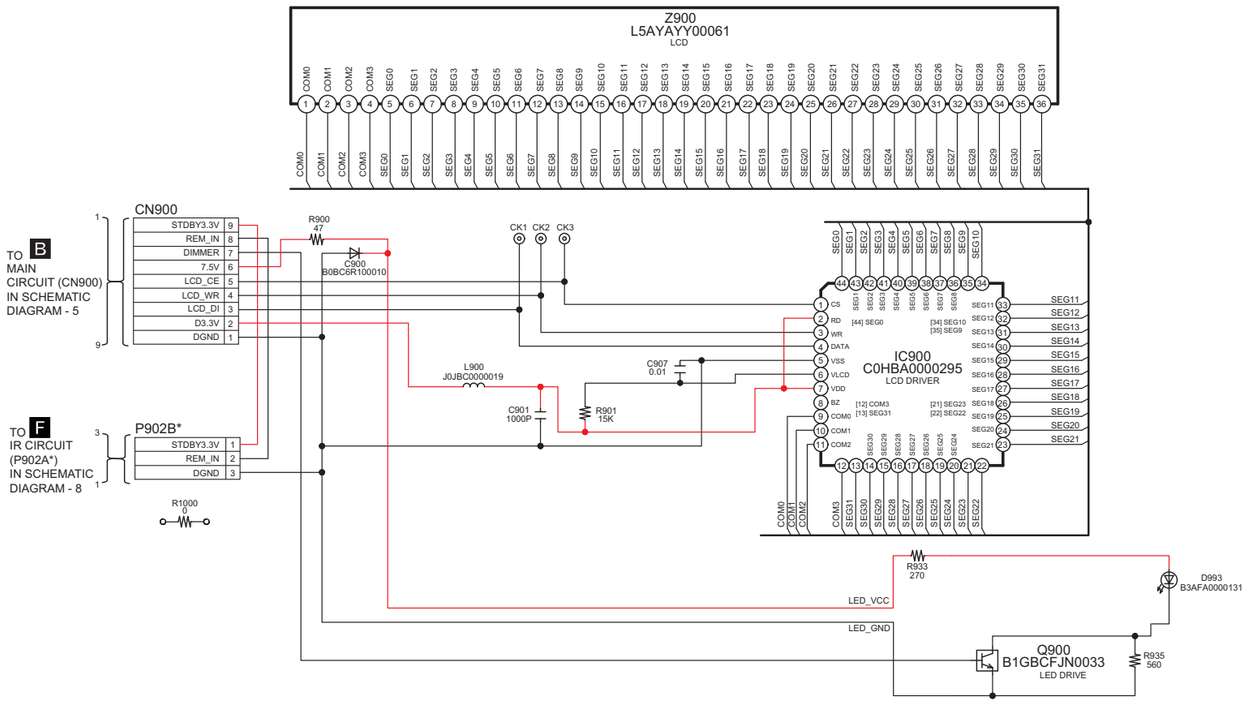
SC-HC15EB/EG/EP MAIN (USB) / TUNER / MOTOR CIRCUIT

15.9. PANEL, IR, DOOR SWITCH, BRIDGE & BUTTON CIRCUIT

SCHEMATIC DIAGRAM - 8

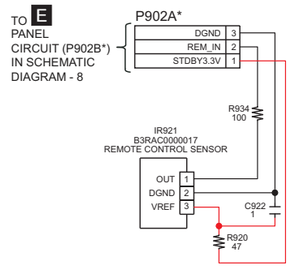
E PANEL CIRCUIT

—— : +B SIGNAL LINE

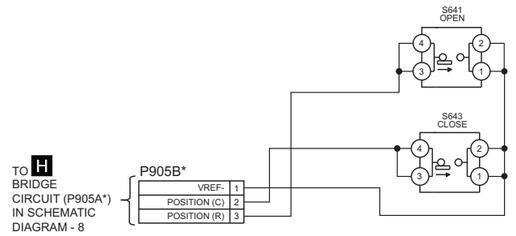


F IR CIRCUIT

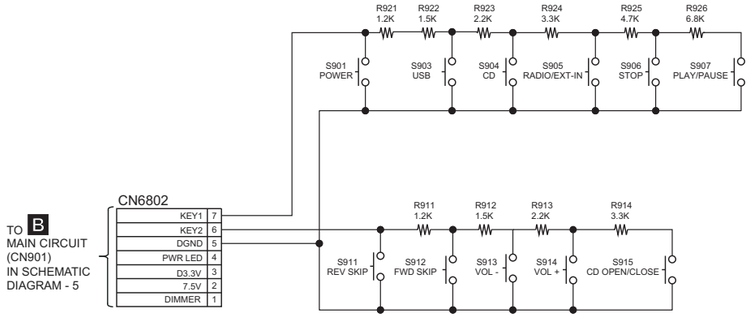
—— : +B SIGNAL LINE



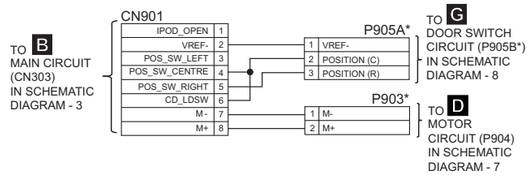
G DOOR SWITCH CIRCUIT



I BUTTON CIRCUIT



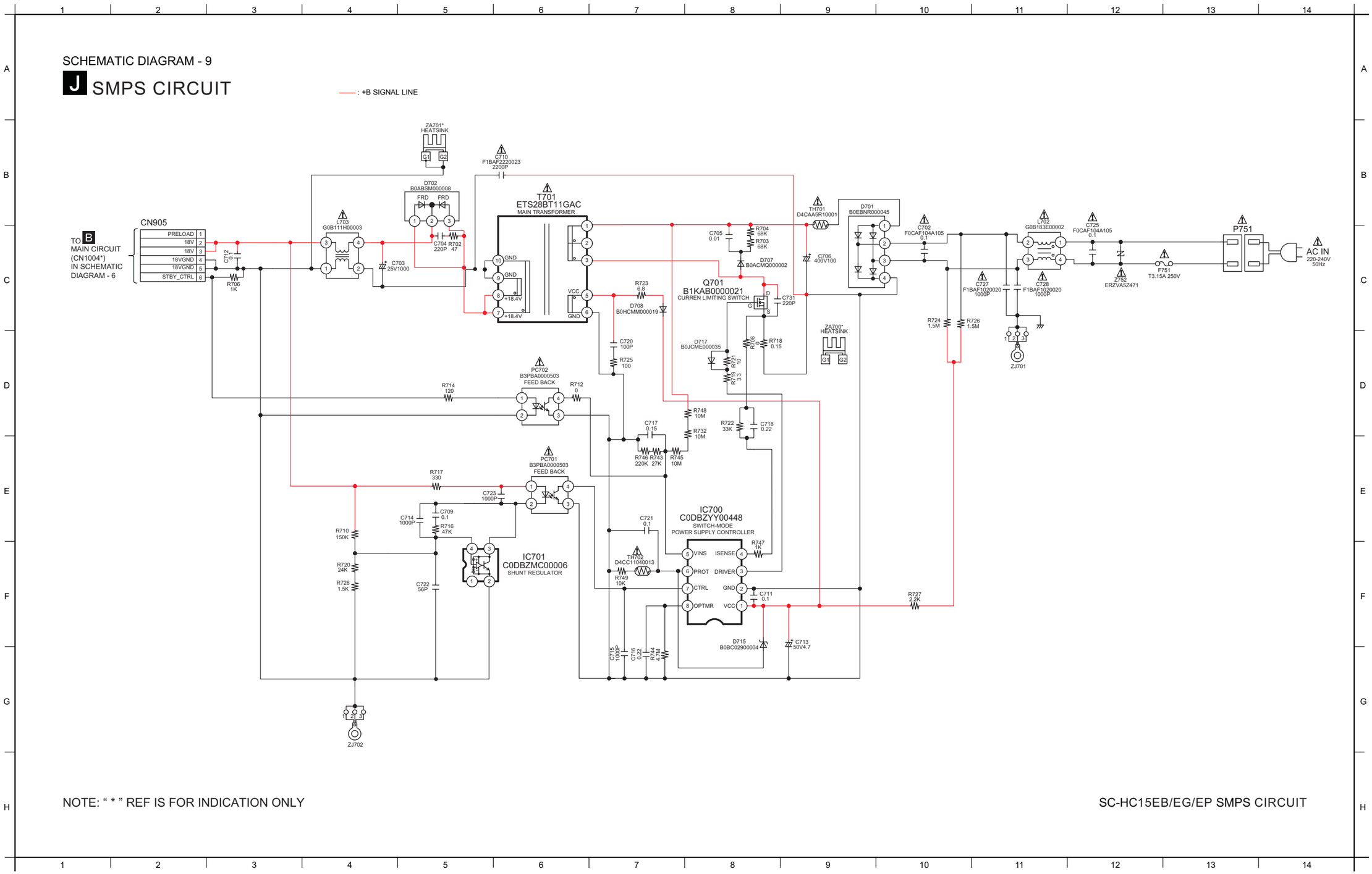
H BRIDGE CIRCUIT



NOTE: " * " REF IS FOR INDICATION ONLY

SC-HC15EB/EG/EP PANEL / IR / DOOR SWITCH / BRIDGE / BUTTON CIRCUIT

15.10. SMPS CIRCUIT



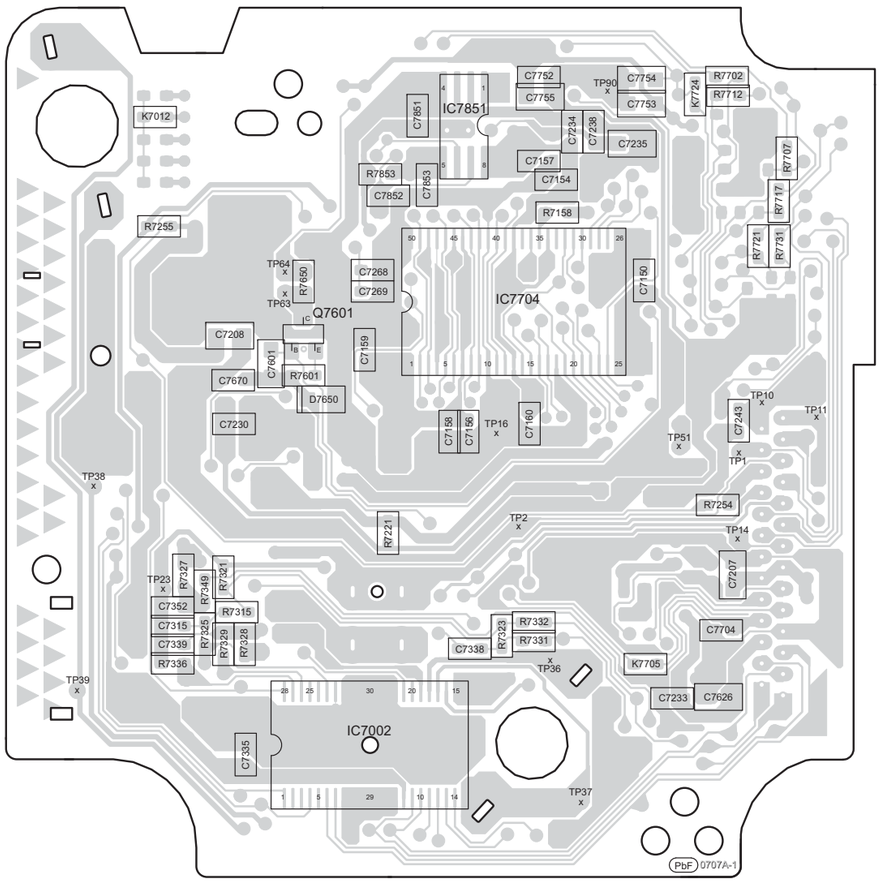
NOTE: " * " REF IS FOR INDICATION ONLY

SC-HC15EB/EG/EP SMPS CIRCUIT

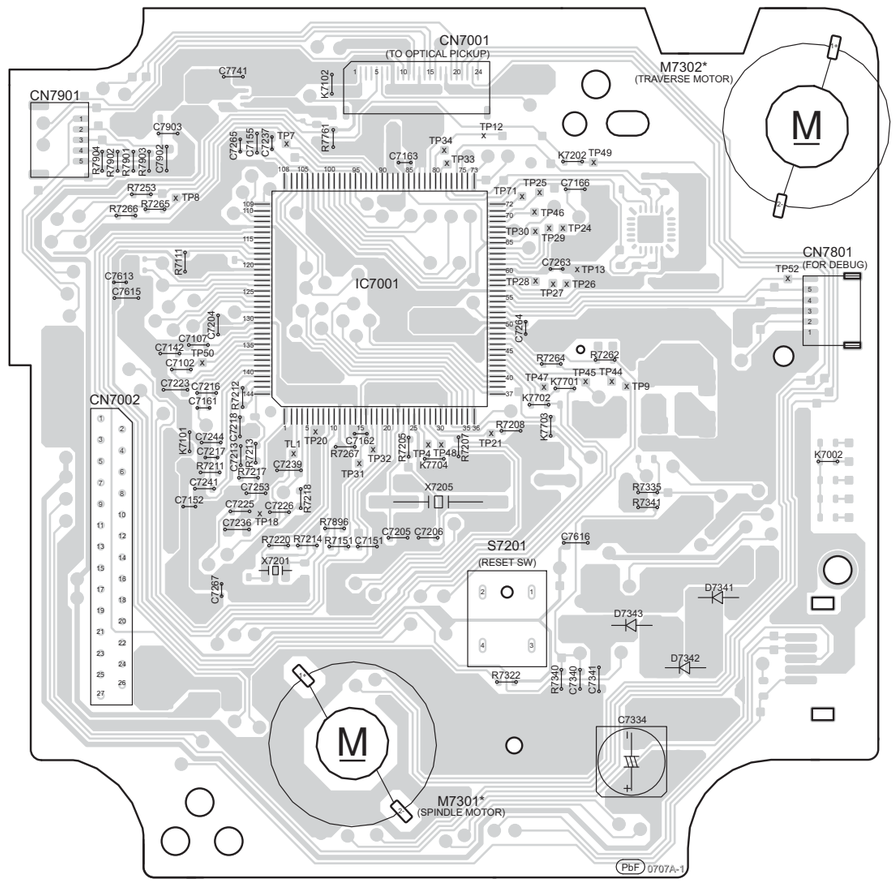
16 Printed Circuit Board

16.1. CD SERVO P.C.B.

A CD SERVO P.C.B. (REPX0918B)



(SIDE A)



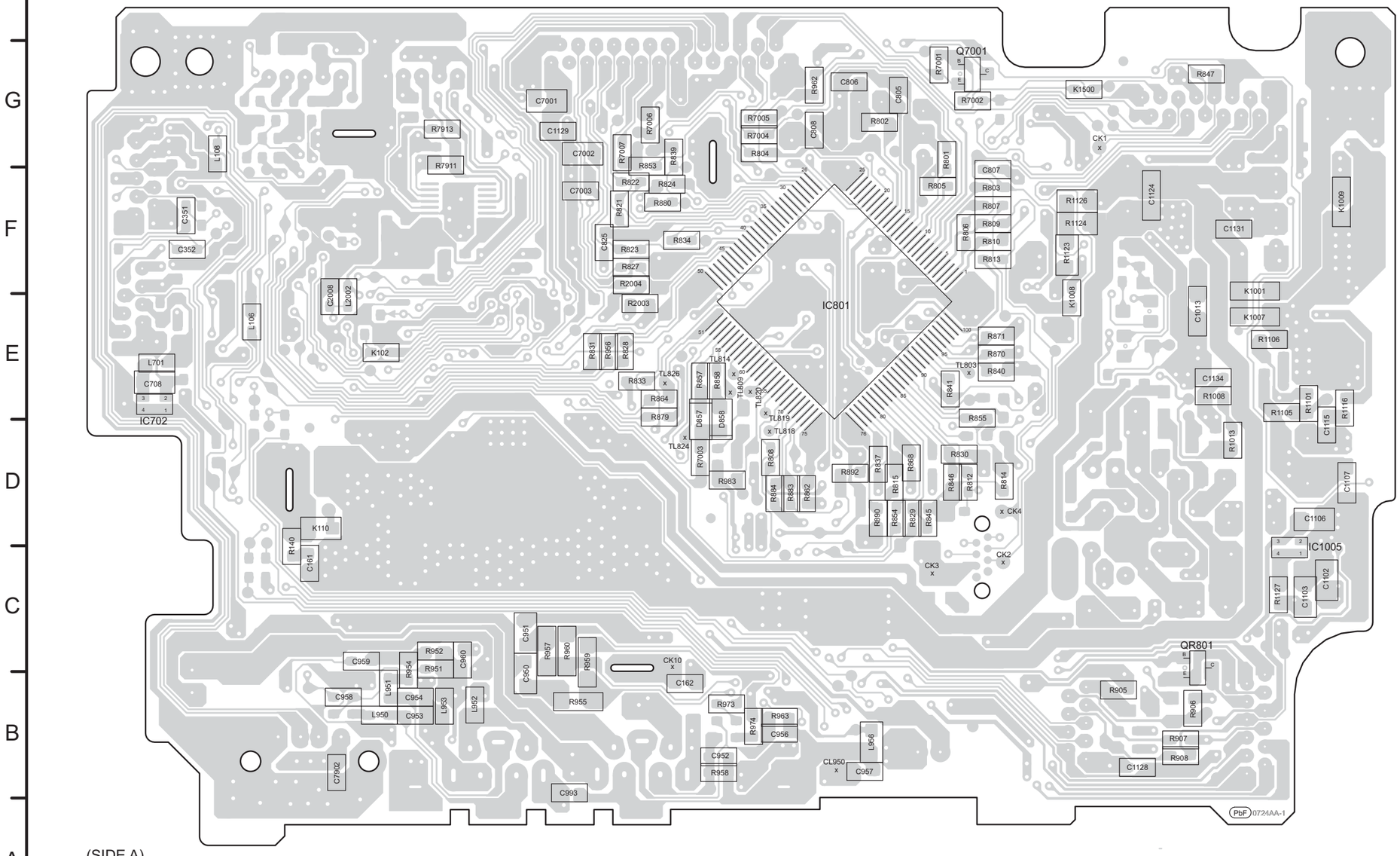
(SIDE B)

NOTE: " * " REF IS FOR INDICATION ONLY

SC-HC15EB/EG/EP
CD SERVO P.C.B.

16.2. MAIN P.C.B. (Side A)

B MAIN P.C.B. (REPX0915HA)

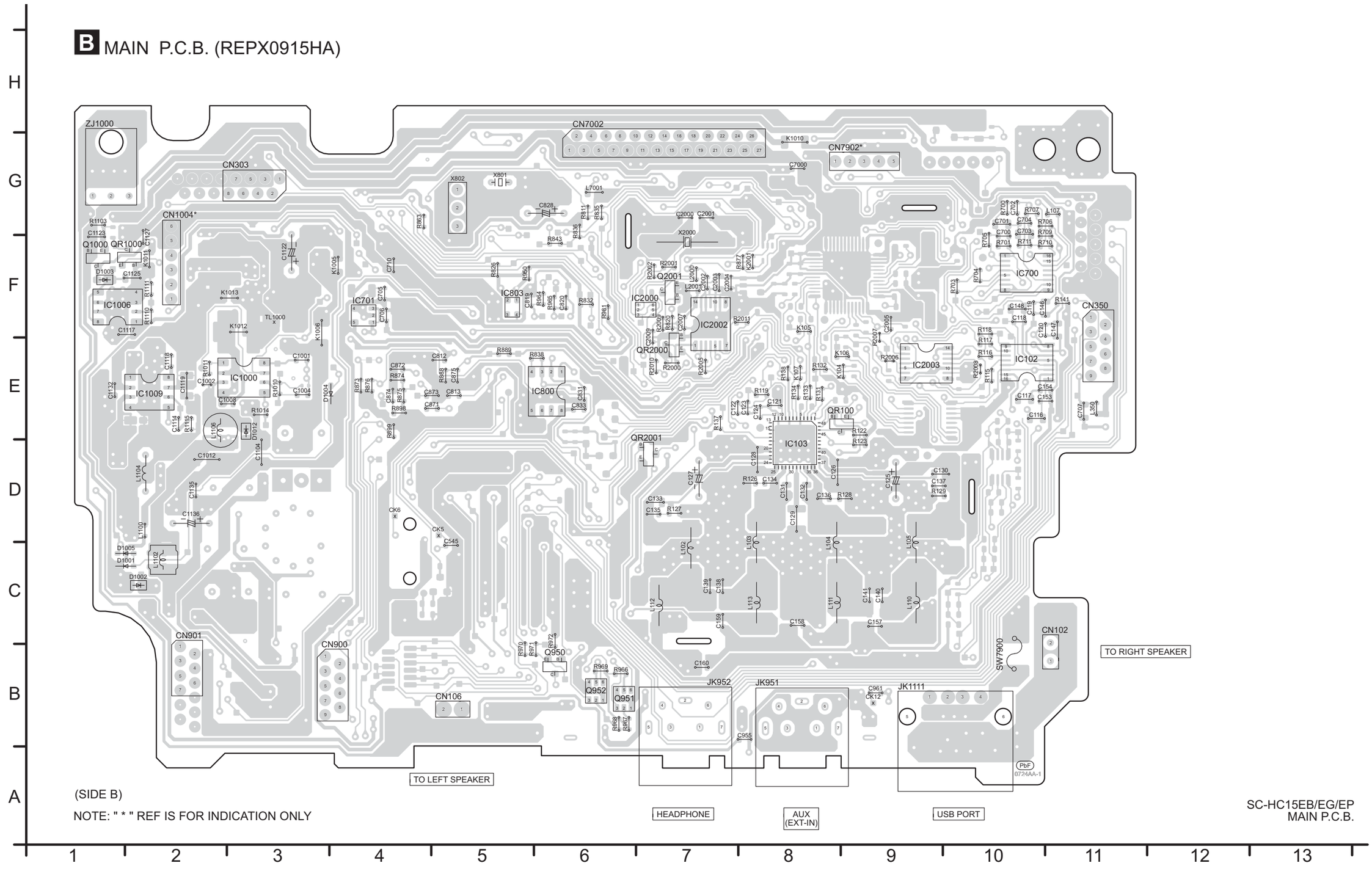


(SIDE A)

SC-HC15EB/EG/EP
MAIN P.C.B.

16.3. MAIN P.C.B. (Side B)

B MAIN P.C.B. (REPX0915HA)



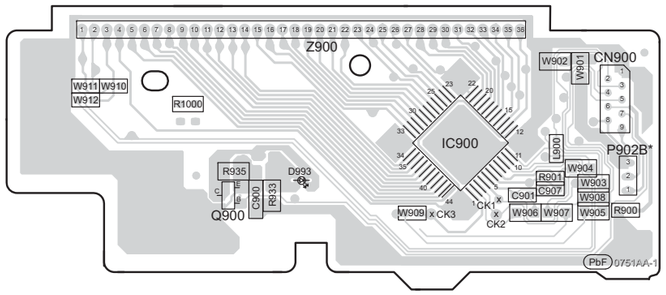
(SIDE B)

NOTE: " * " REF IS FOR INDICATION ONLY

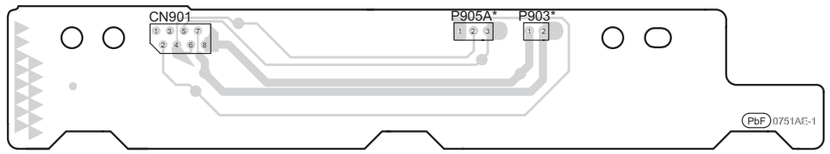
SC-HC15EB/EG/EP
MAIN P.C.B.

16.4. PANEL, IR, DOOR SWITCH, BRIDGE & BUTTON P.C.B.

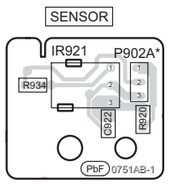
E PANEL P.C.B. (REPX0913AA)



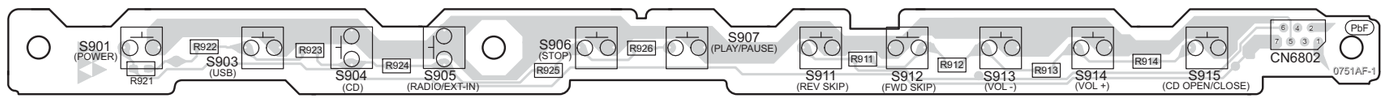
H BRIDGE P.C.B. (REPX0913AC)



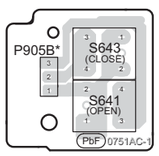
F IR P.C.B. (REPX0913AA)



I BUTTON P.C.B. (REPX0913AF)



G DOOR SWITCH P.C.B. (REPX0913AC)

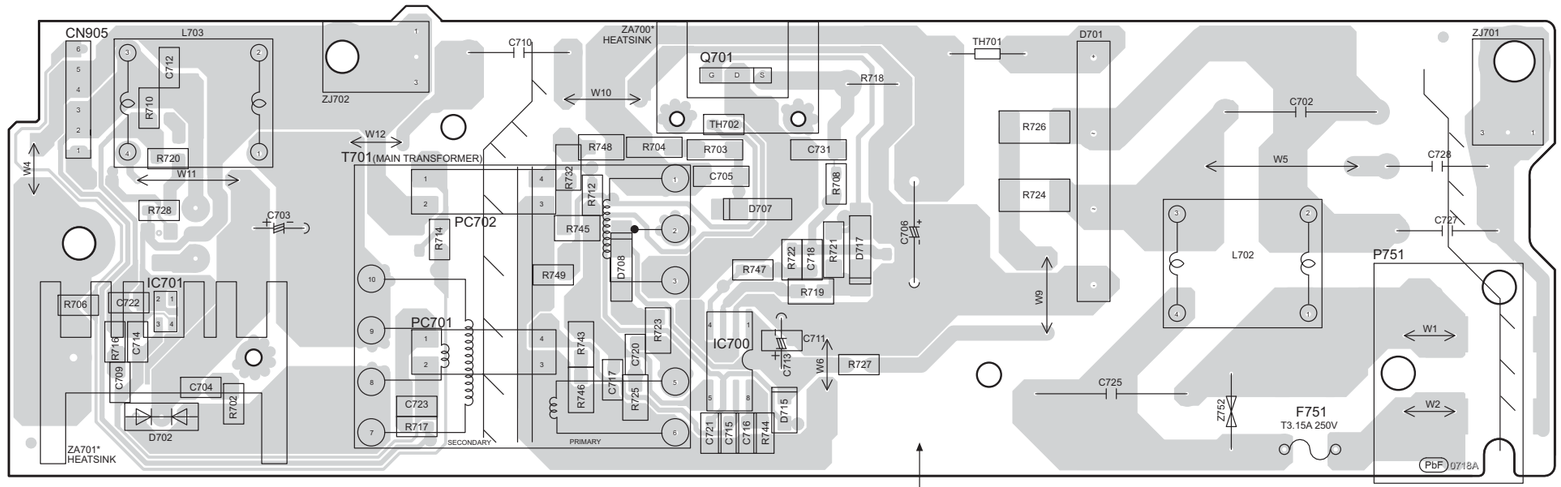


NOTE: " * " REF IS FOR INDICATION ONLY

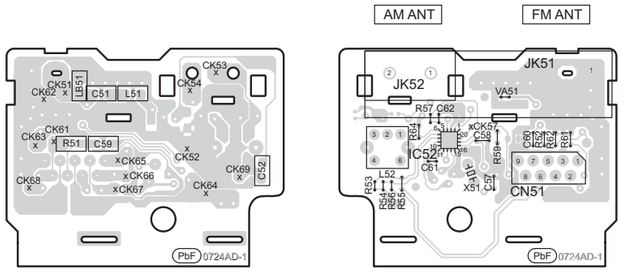
SC-HC15EB/EG/EP
PANEL/ IR/ DOOR SWITCH/ BRIDGE/ BUTTON P.C.B.

16.5. TUNER, MOTOR & SMPS P.C.B.

J SMPS P.C.B. (REPX0917A)



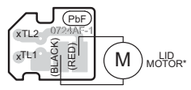
C TUNER P.C.B. (REPX0915HD)



(SIDE A)

(SIDE B)

D MOTOR P.C.B. (REPX0915HF)



(SIDE A)

(SIDE B)

NOTE: " * " REF IS FOR INDICATION ONLY

17 Terminal Function of IC's

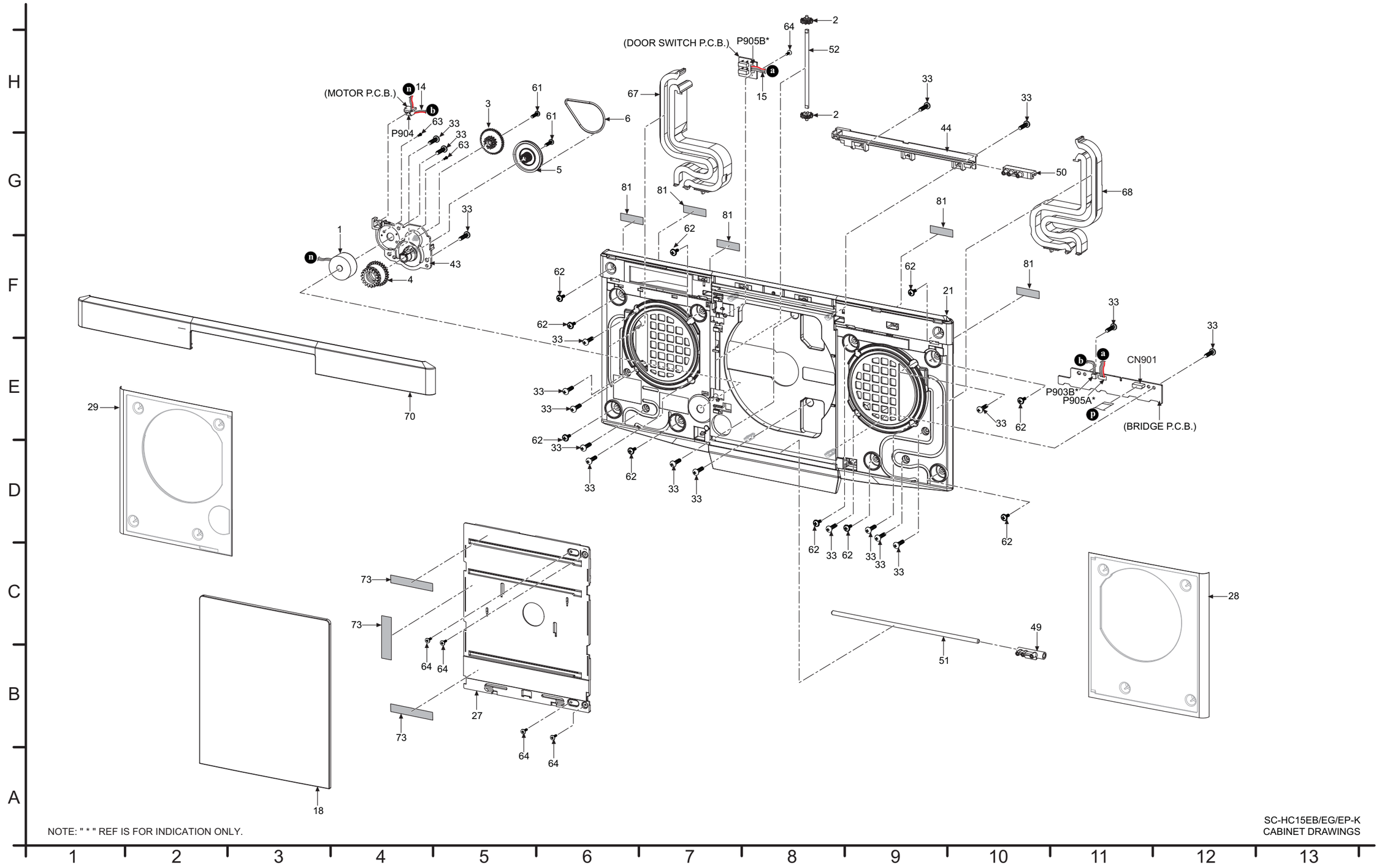
17.1. IC801 (RFKWMHC25M0) MICRO PROCESSOR IC

Pin No.	Mark	I/O	Function
1	NC	-	No connection
2	NC	-	No connection
3	APD_IN	I	Auto Power Down Detect (Active=High)
4	OCD_SDA	O	OCD Serial Data
5	DIMMER	O	FL Display Brightness Control (Active=Low)
6	OCD_SCK	O	OCD Serial Clock
7	PCONT_POW	O	Regulator On/Off Control
8	EN_BUFFER	O	EN Buffer (Oscillating Signal Switching)
9	LID_RIGHT	O	Sliding Door Open/Close Control Right
10	LID_LEFT	O	Sliding Door Open/Close Control Left
11	MMOD	-	Ground
12	OSC2 (OUT)	O	32KHz Oscillator Output
13	OSC1 (IN)	I	32KHz Oscillator Input
14	VSS	-	Ground
15	XI	I	Oscillator Input
16	XO	O	Oscillator Output
17	VDD33	-	+3.3V Voltage Supply
18	VDD18	-	+1.8V Voltage Supply
19	NRST	I	Reset Input (Active=Low)
20	ECO_MODE	O	"Eco Mode (Active=Low
21	ADC_PDOWN	O	ADC Power Down Detect (Active=High)
22	AUX_SW	I	Aux Detect Switch
23	NC	-	No connection
24	NC	-	No connection
25	REM_IN	I	Remote control Input
26	NC	-	No connection
27	USB_IN	I	USB Detection
28	NC	O	iPod Power Control (Active=High)
29	CD_S_REQ	I	CD Status Request
30	NC	-	No connection
31	NC	-	No connection
32	NC	-	No connection
33	NC	O	No connection
34	CD_SI	O	CD Serial Input
35	CD_SO	O	CD Serial Output
36	CD_SCLK	O	CD Serial Clock
37	VDD18	-	+1.8V Voltage Supply
38	STBY_CTRL	O	Standby Control
39	VSS	-	Ground
40	NC	O	No connection
41	D-AMP_RESET	O	D-AMP Reset Control
42	CD_M_REQ	O	CD LSI Interrupt Request
43	REST_SW	I	CD Rest Switch Detect
44	CD_RESET	O	CD Reset
45	DSP_MUTE_X	O	DSP Output Muting (Active=High)
46	NC		No connection
47	CLOSE_SW	I	Close Switch Detect
48	OPEN_SW	I	Open Switch Detect
49	MUX_A PORT	O	Muting A Port
50	MUX_B PORT	O	Muting B Port
51	MUX_INH	O	Muting Control (Active=High)
52	ADC_CKS2	O	ADC Clock
53	NC	-	No connection
54	LD_CW	O	Loading Motor clockwise
55	LD_CCW	O	Loading Motor counter clockwise
56	APD_CHK	O	Auto Power Down Check
57	NC	-	No connection
58	NC	-	No connection
59	EE_CS	O	EEPROM Chip Select
60	EE_SCL	O	EEPROM Serial Clock
61	EE_SDA	I/O	EEPROM Serial Data
62	NC	-	No connection
63	VSS	-	Ground
64	NC	O	No connection
65	NC	-	No connection
66	MODEL_SEL1	I	Model setting selection 1
67	NC	O	No connection
68	NC	-	No connection
69	LCD_CE	O	FL Chip Enable
70	NC	O	No connection
71	NC	O	No connection
72	NC	O	DAB Receive (FOR DAB)
73	NC	O	DAB Transmit (FOR DAB)
74	HP_MUTE	O	Headphone Mute (Active=High)
75	NC	O	DAB Reset (Active=Low) (FOR DAB)
76	LCD_DI	O	FL Serial Data Input
77	NC	O	No connection
78	LCD_CLK	O	FL Serial Clock
79	TU_SDA	I/O	Tuner Serial Data
80	PWR_LED_CTRL	O	Power LED Drive Control
81	TU_SCL	O	Tuner Serial Clock
82	DSP_SDA	I/O	DSP Serial Data
83	NC	-	No connection
84	DSP_SCL	O	DSP Serial Clock
85	TU_RST	O	Tuner Reset
86	NC	-	No connection
87	TUN_INT	I	Tuner Initialize/Interrupt Request
88	NC	O	No connection
89	VDD	-	Voltage Supply
90	NC	-	No connection
91	VSS	-	Ground
92	KEY1	I	Key Input 1
93	NC	O	No connection
94	KEY2	I	Key Input 2
95	PDET2	I	D-AMP IC Error Detect (Error Code:F61)
96	PDET1	I	Regulator Power Rise Detect (Error Code:F76)
97	REGION	-	Tuner Region Setting
98	IPOD_IPDET	I	iPod IP Detect (Authentication)
99	M_VDET	I	SMPS Power Detect / Power Drop Detection (Error Code:F76)
100	VREF+	-	Voltage Supply

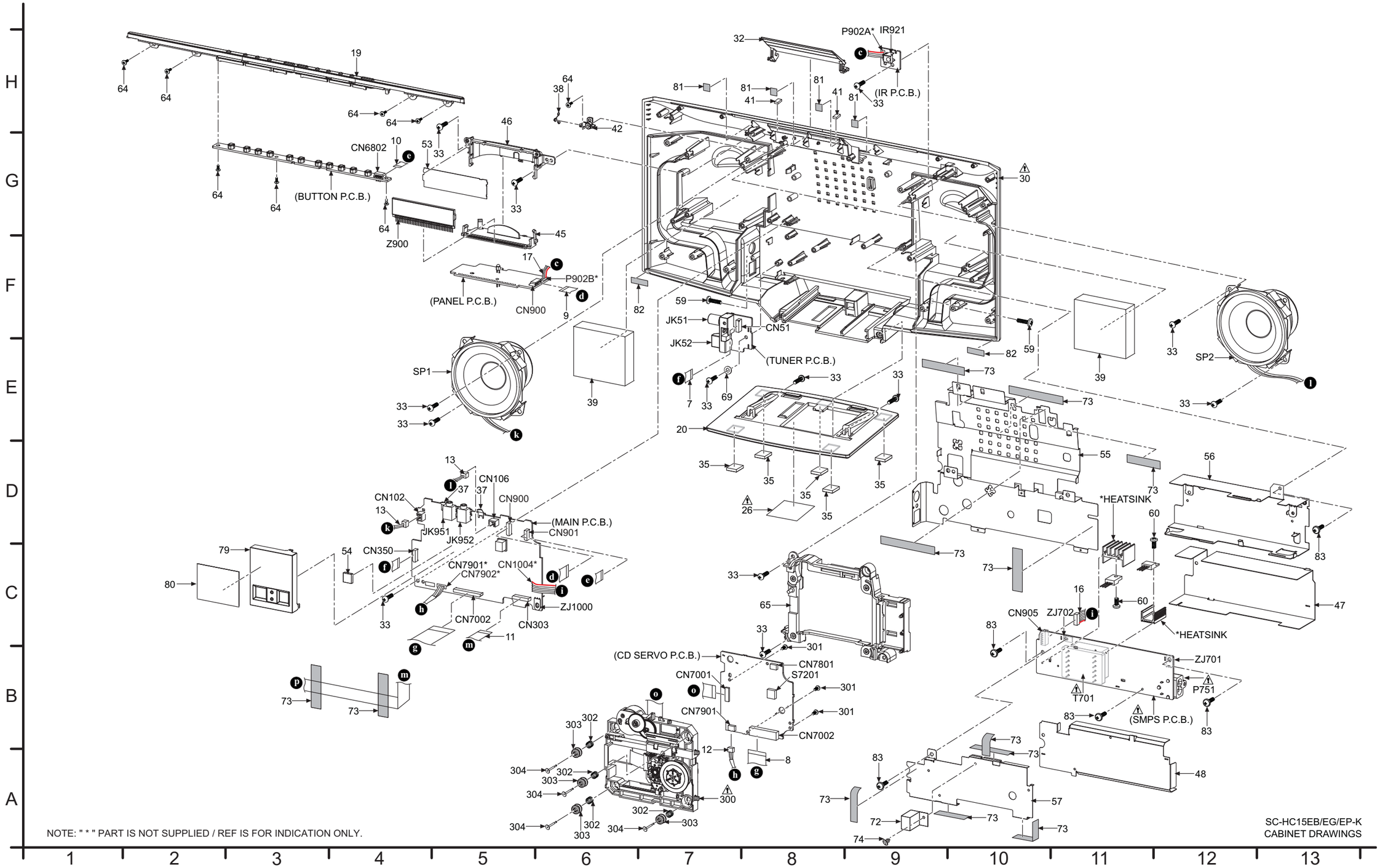
18 Exploded View and Replacement Parts List

18.1. Exploded View and Mechanical replacement Parts List

18.1.1. Cabinet Parts Location



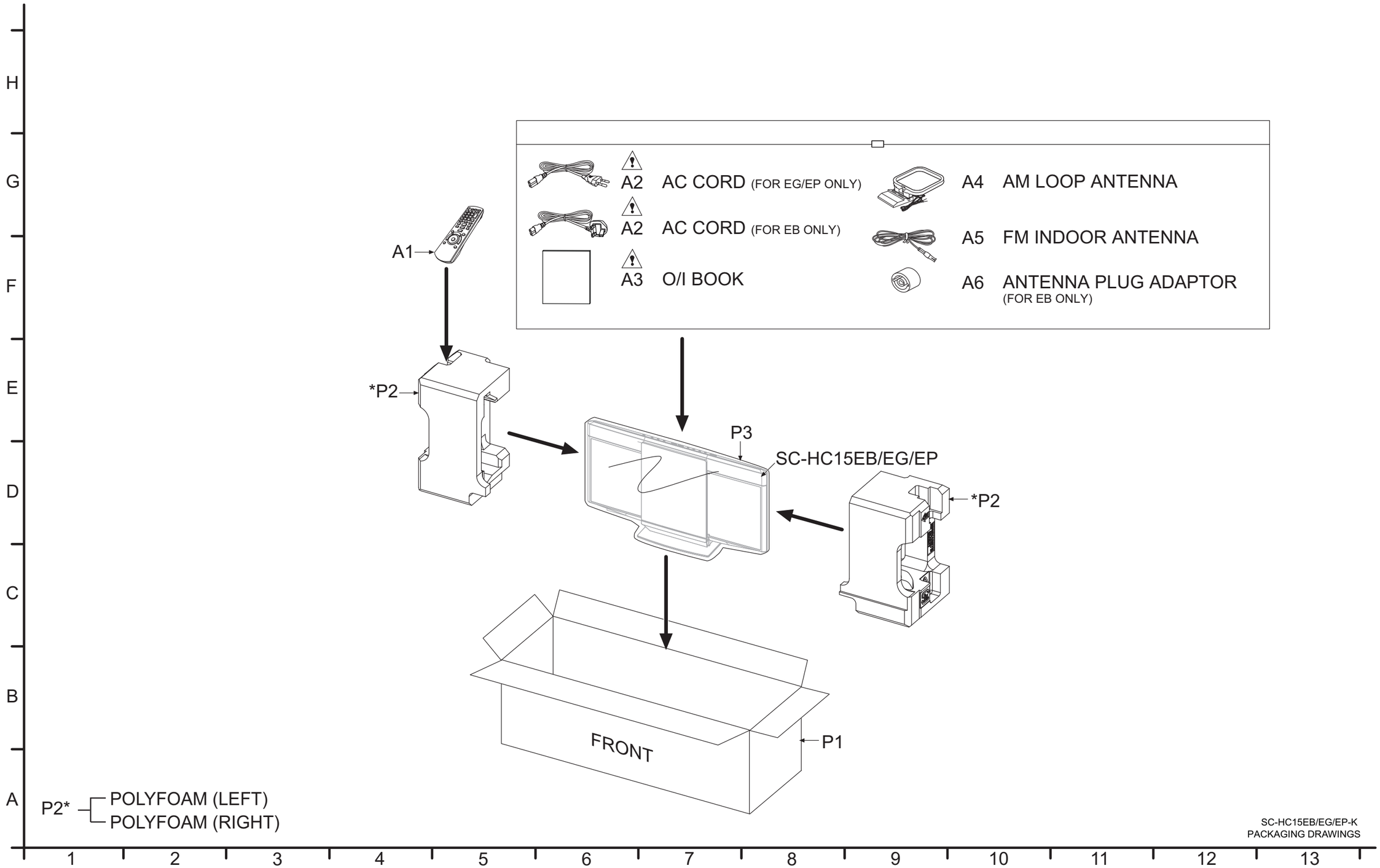
SC-HC15EB/EG/EP-K
CABINET DRAWINGS



NOTE: " * " PART IS NOT SUPPLIED / REF IS FOR INDICATION ONLY.

SC-HC15EB/EG/EP-K
CABINET DRAWINGS

18.1.2. Packaging



SC-HC15EB/EG/EP-K
PACKAGING DRAWINGS

18.1.3. Mechanical 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".
- 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	RFKPHC35-K	MOTOR ASS'Y	1	
	2	RDGX1008	MIDDLE GEAR	2	
	3	RDGX1014	DRIVE GEAR	1	
	4	RDGX1015	PULLEY GEAR	1	
	5	RDGX1016	MOTOR BELT	1	
	6	VMG1720	BELT	1	
	7	REEX1224	9P FFC (TUNER-MAIN)	1	
	8	REEX1213-1	27P CABLE WIRE (CD SERVO-MAIN)	1	
	9	RXQ1998	9P FFC (PANEL-MAIN)	1	
	10	REEX1223	7P FFC (BUTTON-MAIN)	1	
	11	REEX1238	8P FFC (BRIDGE-MAIN)	1	
	12	REXX1168	5P CABLE WIRE (CD SERVO-MAIN)	1	
	13	REX1445-1	2P WIRE (SPEAKER UNIT TO MAIN)	2	
	14	REXX1179	2P CABLE WIRE (MOTOR-BRIDGE)	1	
	15	REXX1180	3P CABLE WIRE (DOOR SW-BRIDGE)	1	
	16	RXQ1994	6P CABLE WIRE ASS'Y (SMPS-MAIN)	1	
	17	REXX1185	3P CABLE WIRE (IR-PANEL)	1	
	18	RGKX1062D-K1	DOOR ORNAMENT	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	19	RYPX1117-K1	TOP ORNAMENT UNIT	1	
	20	RGKX1064-K1	BASE STAND	1	
	21	RFKGHC15EG-K	FRONT PANEL UNIT	1	
⚠	26	RGNX1225J-K	NAME PLATE	1	EB,EG
⚠	26	RGNX1225K-K	NAME PLATE	1	EP
	27	RGPX1059-K1	CD DOOR BASE	1	
	28	RYBX1015-K	NET FRAME UNIT R	1	
	29	RYBX1014-K	NET FRAME UNIT L	1	
⚠	30	RGPX1060E-K	REAR CABINET	1	
	32	RGQX1009-K	JACK LID	1	
	33	RHD26046-L	SCREW	32	
	35	RKAX0028-K	LEG RUBBER	5	
	37	RMC0667	EARTH SPRING	2	
	38	RMC0808	LID SPRING	1	
	39	RMFX0091	ACOUSTIC ABSORBER	2	
	41	RMG0856-K	CUSHION RUBBER	2	
	42	RMK0790	SPRING HOLDER	1	
	43	RMKX1026	GEAR BASE	1	
	44	RMKX1039-K	RACK TOP	1	
	45	RMNX1011A-W1	LCD HOLDER BASE	1	
	46	RMNX1012A-W1	LCD HOLDER COVER	1	
	47	RMNX1052-1	SMPS INSULATOR A	1	
	48	RMNX1053-1	SMPS INSULATOR B	1	
	49	RMQX1026-K	CD DOOR SLIDER BOTTOM	1	
	50	RMQX1027-K	CD DOOR SLIDER TOP	1	
	51	RMUX1002	DOOR SHAFT	1	
	52	RMUX1004	TIMING GEAR SHAFT	1	
	53	RMXX1008-1	LCD DIFFUSER	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	54	RSC1019	D-AMP HEAT ABSORBER	1	
	55	RXQ1999-1	BACK SHIELD ASS'Y	1	
	56	RSCX1048A	SMPS BRACKET	1	
	57	RSCX1049	SMPS SHIELD PLATE	1	
	59	XTB3+10JFJK	SCREW	2	
	60	XTB3+8JFJ	SCREW	2	
	61	XTW2+6SFJ	SCREW	2	
	62	XTW3+12TFJK	SCREW	10	
	63	XQN17+C28FJ	SCREW	2	
	64	VHD1224-1	SCREW	13	
	65	RMKX1028-1	MECHA CHASSIS	1	
	67	RKT0135-K1	PORT COVER L	1	
	68	RKT0136-K1	PORT COVER R	1	
	69	RMZ1232-1	WASHER SPACER	1	
	70	RGKX1065C-H1	LCD WINDOW	1	
	72	RMQ1946	SMPS GASKET	1	
	73	RMFX1026	HIMELON	15	
	74	RMR2017-W	RIVET	1	
	79	RXA0250	D-AMP SHIELD ASS'Y	1	
	80	RMN0976	DAMP INSULATOR SHEET	1	
	81	RMFX1037	HIMELON	9	
	82	RMQX1050	EPT SEALER	2	
	83	RHD26043-1	SCREW	5	
			SPEAKERS		
	SP1	L0AA08A00026	SPEAKER	1	
	SP2	L0AA08A00026	SPEAKER	1	
			TRAVERSE DECK		
⚠	300	RAEX1034Z-V	TRAVERSE ASS'Y	1	
	301	XTN2+6GFJ	SCREW	3	
	302	RME0109-1	FLOATING SPRING	4	
	303	RMG0730-G	DAMPER	4	
	304	RMS0757-1	FIXED PIN	4	
			PACKING MATERI-ALS		
	P1	RPGX3452	PACKING CASE	1	EG
	P1	RPGX3453	PACKING CASE	1	EP
	P1	RPGX3455	PACKING CASE	1	EB
	P2	RPNX1087	POLYFOAM	1	
	P3	RPFX0262-1	MIRAMAT	1	
			ACCESSORIES		
	A1	N2QAYB000639	REMOTE CONTROL	1	
⚠	A2	K2CQ2CA00007	AC CORD	1	EG/EP
⚠	A2	K2CZ3YY00005	AC CORD	1	EB
⚠	A3	RQTX1245-D	O/I BOOK (Ge/It/Fr/Sp/Du/Da/Sw)	1	EG
⚠	A3	RQTX1246-E	O/I BOOK (En/Po/Cz/Ru/Ur)	1	EP
⚠	A3	RQTX1247-B	O/I BOOK (En)	1	EB
	A4	N1DYYYY00010	AM LOOP ANTENNA	1	
	A5	RSAX0002	FM INDOOR ANTENNA	1	
	A6	K1YZ02000013	ANTENNA PLUG ADAPTOR	1	EB

18.2. 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 BOARD		
	PCB1	REPX0913AA	PANEL P.C.B.	1	(RTL)
	PCB2	REPX0913AA	IR P.C.B.	1	(RTL)
	PCB3	REPX0913AC	DOOR SWITCH P.C.B.	1	(RTL)
	PCB4	REPX0913AC	BRIDGE P.C.B.	1	(RTL)
	PCB5	REPX0913AF	BUTTON P.C.B.	1	(RTL)
	PCB6	REPX0915HA	MAIN P.C.B.	1	(RTL)
	PCB8	REPX0915HD	TUNER P.C.B	1	(RTL)
	PCB9	REPX0915HF	MOTOR P.C.B	1	(RTL)
⚠	PCB10	REPX0917A	SMPS P.C.B.	1	(RTL)
	PCB11	REPX0918B	CD SERVO P.C.B.	1	(RTL)
			INTEGRATED CIRCUITS		
	IC52	VUEALLPT039	IC	1	[SPG]
	IC102	C0FBAK000026	IC	1	
	IC103	C1AB00003600	IC	1	
	IC700	C0DBZYY00448	IC	1	
	IC700	C0JBAR000587	IC	1	
	IC701	C0CBCDC00052	IC	1	
	IC701	C0DBZMC00006	IC	1	
	IC702	C0DBGYY00887	IC	1	
	IC800	C3EBFY000006	IC	1	
	IC801	RFKWMHC25M0	IC	1	
	IC803	C0EBE0000434	IC	1	
	IC900	C0HBA0000295	IC	1	
	IC1000	C0DBAYY00462	IC	1	
	IC1005	C0DBGYY00887	IC	1	
	IC1006	C0DBEYY00123	IC	1	
	IC1009	C0DBAYY01077	IC	1	
	IC2000	C0JBAB000837	IC	1	
	IC2002	C0JBAU000036	IC	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	IC2003	C0JBAE000438	IC	1	
	IC7001	MN6627947RB	IC	1	
	IC7002	C0GBY0000117	IC	1	
	IC7704	C3ABMY000027	IC	1	
	IC7851	C3EBFC000042	IC	1	
			TRANSISTORS		
	Q701	B1KAB0000021	TRANSISTOR	1	
	Q900	B1GBCFJN0033	TRANSISTOR	1	
	Q950	B1ADCE000012	TRANSISTOR	1	
	Q951	B1GFGCAA0001	TRANSISTOR	1	
	Q952	B1GFGCAA0001	TRANSISTOR	1	
	Q1000	B1DHCC000034	TRANSISTOR	1	
	Q2001	B1ADCE000012	TRANSISTOR	1	
	Q7001	B1ADCE000012	TRANSISTOR	1	
	Q7601	B1ADCF000001	TRANSISTOR	1	
	QR100	B1GBCFJN0038	TRANSISTOR	1	
	QR801	B1GBCFJN0038	TRANSISTOR	1	
	QR1000	B1GBCFJN0038	TRANSISTOR	1	
	QR2000	B1GBCFJN0038	TRANSISTOR	1	
	QR2001	B1GBCFJJ0051	TRANSISTOR	1	
			DIODES		
	C900	B0BC6R100010	DIODE	1	
	D701	B0EBNR000045	DIODE	1	
	D702	B0ABSM000008	DIODE	1	
	D707	B0ACMQ000002	DIODE	1	
	D708	B0HCMM000019	DIODE	1	
	D715	B0BC02900004	DIODE	1	
	D717	B0JCME000035	DIODE	1	
	D857	B0ACCK000012	DIODE	1	
	D858	B0ACCK000012	DIODE	1	
	D993	B3AFA0000131	DIODE	1	
	D1001	B0ACCK000012	DIODE	1	
	D1002	B0JCMD000066	DIODE	1	
	D1003	B0JCMD000066	DIODE	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	D1004	B0ACCK000012	DIODE	1	
	D1005	B0ACCK000012	DIODE	1	
	D1012	B0JCMD000066	DIODE	1	
	D7341	B0ECKM000016	DIODE	1	
	D7342	B0ECKM000016	DIODE	1	
	D7343	B0ECKM000016	DIODE	1	
	D7650	B0BC5R6A0266	DIODE	1	
			VARISTORS		
	VA51	EZAEG2A50AX	ESD SUPRESSOR	1	
			SWITCHES		
	S641	K0L1BA000078	SW OPEN	1	
	S643	K0L1BA000078	SW CLOSE	1	
	S901	EVQ11G04M	SW POWER	1	
	S903	EVQ11G04M	SW USB	1	
	S904	EVQ11G04M	SW CD	1	
	S905	EVQ11G04M	SW RADIO/AUX-IN	1	
	S906	EVQ11G04M	SW STOP	1	
	S907	EVQ11G04M	SW PLAY/PAUSE	1	
	S911	EVQ11G04M	SW REV SKIP	1	
	S912	EVQ11G04M	SW FWD SKIP	1	
	S913	EVQ11G04M	SW VOL-	1	
	S914	EVQ11G04M	SW VOL+	1	
	S915	EVQ11G04M	SW CD OPEN/CLOSE	1	
	S7201	K0L1BA000158	SW RESET	1	
			FUSE		
⚠	SW7900	D4FBR5000009	RESETTABLE FUSE	1	
			CONNECTORS		
	CN51	K1MY09AA0124	9P CONNECTOR	1	
	CN102	K1KA02AA0180	2P CONNECTOR	1	
	CN106	K1KA02AA0180	2P CONNECTOR	1	
	CN303	K1MY08AA0124	8P CONNECTOR	1	
	CN350	K1MY09AA0124	9P CONNECTOR	1	
	CN900	K1MN09B00038	9P CONNECTOR	1	
	CN900	K1MY09AA0124	9P CONNECTOR	1	
	CN901	K1MY07AA0124	7P CONNECTOR	1	
	CN901	K1MY08AA0124	8P CONNECTOR	1	
	CN905	K1KA06A00452	6P CONNECTOR	1	
	CN6802	K1MN07B00009	7P CONNECTOR	1	
	CN7001	K1MN24BA0197	24P CONNECTOR	1	
	CN7002	K1MN27B00016	27P CONNECTOR	1	
	CN7002	K1MY27AA0124	27P CONNECTOR	1	
	CN7801	K1KA05BA0014	5P CONNECTOR	1	
	CN7901	K1KA05BA0014	5P CONNECTOR	1	
	P904	K1KA02BA0061	2P CONNECTOR	1	
			COILS AND INDUCTORS		
	K7701	J0JBC0000012	INDUCTOR	1	
	K7702	J0JBC0000012	INDUCTOR	1	
	K7703	J0JBC0000012	INDUCTOR	1	
	K7704	J0JBC0000012	INDUCTOR	1	
	L51	G1CR18JA0020	INDUCTOR	1	
	L52	G2A380Y00002	ANTENNA COIL	1	
	L102	G1C150M00023	INDUCTOR	1	
	L103	G1C150M00023	INDUCTOR	1	
	L104	G1C150M00023	INDUCTOR	1	
	L105	G1C150M00023	INDUCTOR	1	
	L106	J0JYB0000013	INDUCTOR	1	
	L107	J0JYB0000013	INDUCTOR	1	
	L108	J0JBC0000015	INDUCTOR	1	
	L110	G1C100M00041	INDUCTOR	1	
	L111	G1C100M00041	INDUCTOR	1	
	L112	G1C100M00041	INDUCTOR	1	
	L113	G1C100M00041	INDUCTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
⚠	L702	G0B183E00002	LINE FILTER	1	
⚠	L703	G0B111H00003	LINE FILTER	1	
	L900	J0JBC0000019	INDUCTOR	1	
	L950	J0JBC0000019	INDUCTOR	1	
	L951	J0JBC0000019	INDUCTOR	1	
	L952	J0JBC0000019	INDUCTOR	1	
	L953	J0JBC0000019	INDUCTOR	1	
	L1100	J0JHC0000118	INDUCTOR	1	
	L1102	G1C101MA0249	INDUCTOR	1	
	L1104	G0A330ZA0045	CHOKE COIL	1	
	L1106	G1C470MA0464	INDUCTOR	1	
	L2000	J0JBC0000015	INDUCTOR	1	
	L2001	J0JBC0000010	INDUCTOR	1	
	L2002	J0JBC0000010	INDUCTOR	1	
	L7001	J0JHC0000034	INDUCTOR	1	
	LB51	J0JBC0000032	INDUCTOR	1	
	R2005	J0JYC0000096	INDUCTOR	1	
	R2011	J0JYC0000096	INDUCTOR	1	
			TRANSFORMER		
⚠	T701	ETS28BT11GAC	MAIN TRANSFORMER	1	
			COMPOMENT COMBINATION		
⚠	Z752	ERZVA5Z471	ZNR	1	
			LCD DISPLAY		
	Z900	L5AYAYY00061	LCD DISPLAY	1	
			PHOTO COUPLERS		
⚠	PC701	B3PBA0000503	PHOTO COUPLER	1	
⚠	PC702	B3PBA0000503	PHOTO COUPLER	1	
			TERMINALS		
	ZJ701	K4CZ01000027	TERMINAL	1	
	ZJ702	K4CZ01000027	TERMINAL	1	
	ZJ1000	K4CZ01000027	TERMINAL	1	
			REMOCON IR SENSOR		
	IR921	B3RAC0000017	REMOTE CONTROL SENSOR	1	
			OSCILLATORS		
	X51	H0A327200097	CRYSTAL OSCILLATOR	1	
	X801	H0A327200097	CRYSTAL OSCILLATOR	1	
	X802	H2B800400007	CRYSTAL OSCILLATOR	1	
	X2000	H0J122200002	CRYSTAL OSCILLATOR	1	
	X7201	H2D169500017	CRYSTAL OSCILLATOR	1	
	X7205	H0J120500076	CRYSTAL OSCILLATOR	1	
			FUSE		
⚠	F751	K5G312Y00007	FUSE PROTECTOR	1	
			THERMISTORS		
⚠	TH701	D4CAA5R10001	THERMISTOR	1	
⚠	TH702	D4CC11040013	THERMISTOR	1	
			JACKS		

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	JK51	K4ZZ02000103	JK FM ANT	1	
	JK52	K4AC02B00042	JK AM ANT	1	
	JK951	K2HC1YYB0033	JK AUX/EXT-IN	1	
	JK952	K2HC1YYB0033	JK HEADPHONE	1	
	JK1111	K1FY104B0011	USB CONNECTOR	1	
⚠	P751	K2AA2B000011	AC INLET	1	
			CHIP JUMPERS		
	K1	D0GBR00JA008	0 1/16W	1	
	K12	D0GBR00JA008	0 1/16W	1	
	K21	D0GBR00JA008	0 1/16W	1	
	K27	D0GBR00JA008	0 1/16W	1	
	K102	D0GBR00JA008	0 1/16W	1	
	K104	D0GBR00JA008	0 1/16W	1	
	K105	D0GBR00JA008	0 1/16W	1	
	K106	D0GBR00JA008	0 1/16W	1	
	K107	D0GBR00JA008	0 1/16W	1	
	K110	D0GDR00JA017	0 1/8W	1	
	K1001	D0GFR00JA017	0 1/4W	1	
	K1005	D0GDR00JA017	0 1/8W	1	
	K1006	D0GFR00JA017	0 1/4W	1	
	K1007	D0GFR00JA017	0 1/4W	1	
	K1008	D0GBR00JA008	0 1/16W	1	
	K1009	D0GFR00JA017	0 1/4W	1	
	K1010	D0GFR00JA017	0 1/4W	1	
	K1011	D0GDR00JA017	0 1/8W	1	
	K1012	D0GFR00JA017	0 1/4W	1	
	K1013	D0GFR00JA017	0 1/4W	1	
	K1500	D0GBR00JA008	0 1/16W	1	
	K2001	D0GBR00JA008	0 1/16W	1	
	K7002	D0GBR00JA008	0 1/16W	1	
	K7012	D0GBR00JA008	0 1/16W	1	
	K7101	D0GBR00JA008	0 1/16W	1	
	K7102	D0GBR00JA008	0 1/16W	1	
	K7724	D0GBR00JA008	0 1/16W	1	
	L350	D0GBR00JA008	0 1/16W	1	
	L701	D0GBR00JA008	0 1/16W	1	
	L956	D0GDR00JA017	0 1/8W	1	
	W901	D0GDR00JA017	0 1/8W	1	
	W902	D0GDR00JA017	0 1/8W	1	
	W903	D0GDR00JA017	0 1/8W	1	
	W904	D0GDR00JA017	0 1/8W	1	
	W905	D0GDR00JA017	0 1/8W	1	
	W906	D0GDR00JA017	0 1/8W	1	
	W907	D0GDR00JA017	0 1/8W	1	
	W908	D0GDR00JA017	0 1/8W	1	
	W909	D0GBR00JA008	0 1/16W	1	
	W910	D0GBR00JA008	0 1/16W	1	
	W911	D0GBR00JA008	0 1/16W	1	
	W912	D0GBR00JA008	0 1/16W	1	
			RESISTORS		
	K7202	D0GB101JA008	100 1/16W	1	
	K7705	D0GB330JA008	33 1/16W	1	
	R51	D0GB102JA008	1K 1/16W	1	
	R52	D0GB102JA008	1K 1/16W	1	
	R53	D0GA472JA023	4.7K 1/16W	1	
	R54	D0GA472JA023	4.7K 1/16W	1	
	R55	D0GA221JA023	220 1/16W	1	
	R56	D0GB221JA008	220 1/16W	1	
	R57	D0GA102JA023	1K 1/16W	1	
	R59	D0GB222JA008	2.2K 1/16W	1	
	R61	D0GB473JA008	47K 1/16W	1	
	R62	D0GB473JA008	47K 1/16W	1	
	R64	D0GBR00JA008	0 1/16W	1	
	R115	D0GB330JA008	33 1/16W	1	
	R116	D0GB330JA008	33 1/16W	1	
	R117	D0GB330JA008	33 1/16W	1	
	R118	D0GB330JA008	33 1/16W	1	
	R119	D0GB152JA008	1.5K 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R122	D0GB472JA008	4.7K 1/16W	1	
	R123	D0GB104JA008	100K 1/16W	1	
	R126	D0GB6R8JA008	6.8 1/16W	1	
	R127	D0GB6R8JA008	6.8 1/16W	1	
	R128	D0GB6R8JA008	6.8 1/16W	1	
	R129	D0GB6R8JA008	6.8 1/16W	1	
	R131	D0GB221JA008	220 1/16W	1	
	R132	D0GB221JA008	220 1/16W	1	
	R133	D0GB221JA008	220 1/16W	1	
	R134	D0GB330JA008	33 1/16W	1	
	R137	D0GBR00JA008	0 1/16W	1	
	R138	D0GB473JA008	47K 1/16W	1	
	R140	D0GB101JA008	100 1/16W	1	
	R141	D0GBR00JA008	0 1/16W	1	
	R700	D0GB102JA008	1K 1/16W	1	
	R701	D0GB102JA008	1K 1/16W	1	
	R702	D0GB470JA008	47 1/16W	1	
	R703	D0GB104JA008	100K 1/16W	1	
	R703	ERJ8GEYJ683V	68K 1/4W	1	
	R704	D0GB104JA008	100K 1/16W	1	
	R704	ERJ8GEYJ683V	68K 1/4W	1	
	R705	D0GB104JA008	100K 1/16W	1	
	R706	D0GB102JA008	1K 1/16W	1	
	R706	D0GB104JA008	100K 1/16W	1	
	R707	D0GB104JA008	100K 1/16W	1	
	R708	D0GBR00JA008	0 1/16W	1	
	R709	D0GB104JA008	100K 1/16W	1	
	R710	D0GB102JA008	1K 1/16W	1	
	R710	ERJ3RED154V	150K 1/16W	1	
	R711	D0GB102JA008	1K 1/16W	1	
	R712	D0GBR00JA008	0 1/16W	1	
	R714	D0GB121JA008	120 1/16W	1	
	R716	D0GB473JA008	47K 1/16W	1	
	R717	D0GB331JA008	330 1/16W	1	
	R718	ERX2SZJR15E	0.15 2W	1	
	R719	ERJ6GEYJ3R3V	3.3 1/8W	1	
	R720	ERJ3RBD243V	24K 1/16W	1	
	R721	D0GF100JA014	10 1/4W	1	
	R722	D0GB333JA008	33K 1/16W	1	
	R723	D0GD6R8JA017	6.8 1/8W	1	
	R724	ERJ12YJ155U	1.5M 1W	1	
	R725	D0GD101JA017	100 1/8W	1	
	R726	ERJ12YJ155U	1.5M 1W	1	
	R727	D0GB222JA008	2.2K 1/16W	1	
	R728	D0HB152ZA002	1.5K 1/16W	1	
	R732	D0GD106JA017	10M 1/8W	1	
	R743	D0GD273JA017	27K 1/8W	1	
	R744	D0GB475JA008	4.7M 1/16W	1	
	R745	D0GD106JA017	10M 1/8W	1	
	R746	D0GD224JA017	220K 1/8W	1	
	R747	D0GB102JA008	1K 1/16W	1	
	R748	D0GD106JA017	10M 1/8W	1	
	R749	D0GB103JA008	10K 1/16W	1	
	R801	D0GBR00JA008	0 1/16W	1	
	R802	D0GB224JA008	220K 1/16W	1	
	R803	D0GB101JA008	100 1/16W	1	
	R804	D0GB101JA008	100 1/16W	1	
	R805	D0GB472JA008	4.7K 1/16W	1	
	R806	D0GB101JA008	100 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	D0GB472JA008	4.7K 1/16W	1	
	R814	D0GB104JA008	100K 1/16W	1	
	R815	D0GB101JA008	100 1/16W	1	
	R820	D0GB104JA008	100K 1/16W	1	
	R821	D0GB102JA008	1K 1/16W	1	
	R822	D0GB102JA008	1K 1/16W	1	
	R823	D0GB101JA008	100 1/16W	1	
	R824	D0GB101JA008	100 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description		Qty	Remarks
	R826	D0GB104JA008	100K	1/16W	1	
	R827	D0GB101JA008	100	1/16W	1	
	R828	D0GB101JA008	100	1/16W	1	
	R829	D0GB101JA008	100	1/16W	1	
	R830	D0GB101JA008	100	1/16W	1	
	R831	D0GB101JA008	100	1/16W	1	
	R832	D0GB104JA008	100K	1/16W	1	
	R833	D0GB101JA008	100	1/16W	1	
	R834	D0GB103JA008	10K	1/16W	1	
	R835	D0GB101JA008	100	1/16W	1	
	R836	D0GB473JA008	47K	1/16W	1	
	R837	D0GB101JA008	100	1/16W	1	
	R838	D0GB103JA008	10K	1/16W	1	
	R839	D0GB101JA008	100	1/16W	1	
	R840	D0GB101JA008	100	1/16W	1	
	R841	D0GB101JA008	100	1/16W	1	
	R843	D0GB101JA008	100	1/16W	1	
	R845	D0GB472JA008	4.7K	1/16W	1	
	R846	D0GB472JA008	4.7K	1/16W	1	
	R847	D0GB104JA008	100K	1/16W	1	
	R853	D0GB101JA008	100	1/16W	1	
	R854	D0GB101JA008	100	1/16W	1	
	R855	D0GB101JA008	100	1/16W	1	
	R857	D0GB152JA008	1.5K	1/16W	1	
	R858	D0GB152JA008	1.5K	1/16W	1	
	R862	D0GB101JA008	100	1/16W	1	
	R863	D0GB101JA008	100	1/16W	1	
	R864	D0GB101JA008	100	1/16W	1	
	R868	D0GB101JA008	100	1/16W	1	
	R870	D0GB101JA008	100	1/16W	1	
	R871	D0GB102JA008	1K	1/16W	1	
	R873	D0GB473JA008	47K	1/16W	1	
	R874	D0GB683JA008	68K	1/16W	1	
	R875	D0GB104JA008	100K	1/16W	1	
	R876	D0GB104JA008	100K	1/16W	1	
	R877	D0GB104JA008	100K	1/16W	1	
	R879	D0GB101JA008	100	1/16W	1	
	R880	D0GB101JA008	100	1/16W	1	
	R883	D0GB101JA008	100	1/16W	1	
	R884	D0GB101JA008	100	1/16W	1	
	R888	D0GB123JA008	12K	1/16W	1	
	R889	D0GB123JA008	12K	1/16W	1	
	R890	D0GB101JA008	100	1/16W	1	
	R892	D0GB101JA008	100	1/16W	1	
	R898	D0GB103JA008	10K	1/16W	1	
	R899	D0GB103JA008	10K	1/16W	1	
	R900	D0GB470JA008	47	1/16W	1	
	R901	D0GB153JA008	15	1/16W	1	
	R905	D0GBR00JA008	0	1/16W	1	
	R906	D0GBR00JA008	0	1/16W	1	
	R907	D0GBR00JA008	0	1/16W	1	
	R908	D0GBR00JA008	0	1/16W	1	
	R911	D0GB122JA008	1.2K	1/16W	1	
	R912	D0GB152JA008	1.5K	1/16W	1	
	R913	D0GB222JA008	2.2K	1/16W	1	
	R914	D0GB332JA008	3.3K	1/16W	1	
	R920	D0GB470JA008	47	1/16W	1	
	R921	D0GB122JA008	1.2K	1/16W	1	
	R922	D0GB152JA008	1.5K	1/16W	1	
	R923	D0GB222JA008	2.2K	1/16W	1	
	R924	D0GB332JA008	3.3K	1/16W	1	
	R925	D0GB472JA008	4.7K	1/16W	1	
	R926	D0GB682JA008	6.8K	1/16W	1	
	R933	D0GD271JA017	270	1/8W	1	
	R934	D0GB101JA008	100	1/16W	1	
	R935	D0GD561JA017	560	1/8W	1	
	R950	D0GB103JA008	10K	1/16W	1	
	R951	D0GB123JA008	12K	1/16W	1	
	R952	D0GB123JA008	12K	1/16W	1	
	R954	D0GBR00JA008	0	1/16W	1	
	R955	D0GF121JA017	120	1/4W	1	
	R956	D0GB101JA008	100	1/16W	1	
	R957	D0GF121JA017	120	1/4W	1	

Safety	Ref. No.	Part No.	Part Name & Description		Qty	Remarks
	R958	D0GB471JA008	470	1/16W	1	
	R959	D0GF121JA017	120	1/4W	1	
	R960	D0GF121JA017	120	1/4W	1	
	R962	D0GB101JA008	100	1/16W	1	
	R963	D0GB471JA008	470	1/16W	1	
	R964	D0GB101JA008	100	1/16W	1	
	R965	D0GB101JA008	100	1/16W	1	
	R966	D0GB391JA008	390	1/16W	1	
	R967	D0GB391JA008	390	1/16W	1	
	R968	D0GB391JA008	390	1/16W	1	
	R969	D0GB391JA008	390	1/16W	1	
	R970	D0GB221JA008	220	1/16W	1	
	R971	D0GB102JA008	1K	1/16W	1	
	R972	D0GB102JA008	1K	1/16W	1	
	R973	D0GB391JA008	390	1/16W	1	
	R974	D0GB391JA008	390	1/16W	1	
	R981	D0GB104JA008	100K	1/16W	1	
	R983	D0GB104JA008	100K	1/16W	1	
	R1000	D0GBR00JA008	0	1/16W	1	
	R1008	ERJ3RBD333V	33K	1/16W	1	
	R1010	D0GB332JA008	3.3K	1/16W	1	
	R1011	D0GB390JA008	39	1/16W	1	
	R1013	ERJ3RBD682V	6.8K	1/16W	1	
	R1014	ERJ3RBD472V	4.7K	1/16W	1	
	R1101	ERJ3RBD821V	820	1/16W	1	
	R1103	D0GB104JA008	100K	1/16W	1	
	R1105	ERJ3RBD473V	47K	1/16W	1	
	R1106	ERJ3RBD103V	10K	1/16W	1	
	R1110	ERJ3RBD473V	47K	1/16W	1	
	R1111	ERJ3RBD153V	15K	1/16W	1	
	R1115	D0GB123JA008	12K	1/16W	1	
	R1116	D0GB220JA008	22	1/16W	1	
	R1123	D0GD102JA017	1K	1/8W	1	
	R1124	D0GD473JA017	47K	1/8W	1	
	R1126	D0GD103JA017	10K	1/8W	1	
	R1127	D0GBR00JA008	0	1/16W	1	
	R2000	D0GB103JA008	10K	1/16W	1	
	R2001	D0GB105JA008	1M	1/16W	1	
	R2002	D0GB101JA008	100	1/16W	1	
	R2003	D0GB101JA008	100	1/16W	1	
	R2004	D0GB101JA008	100	1/16W	1	
	R2006	D0GA221JA023	220	1/16W	1	
	R2007	D0GA221JA023	220	1/16W	1	
	R2008	D0GA221JA023	220	1/16W	1	
	R2009	D0GB333JA008	33K	1/16W	1	
	R2010	D0GB102JA008	1K	1/16W	1	
	R7001	D0GB473JA008	47K	1/16W	1	
	R7002	D0GB152JA008	1.5K	1/16W	1	
	R7003	D0GB332JA008	3.3K	1/16W	1	
	R7004	D0GB102JA008	1K	1/16W	1	
	R7005	D0GB102JA008	1K	1/16W	1	
	R7006	D0GBR00JA008	0	1/16W	1	
	R7007	D0GBR00JA008	0	1/16W	1	
	R7111	D0GB103JA008	10K	1/16W	1	
	R7151	D0GBR00JA008	0	1/16W	1	
	R7158	D0GB330JA008	33	1/16W	1	
	R7205	D0GB102JA008	1K	1/16W	1	
	R7207	D0GB103JA008	10K	1/16W	1	
	R7208	D0GB272JA008	2.7K	1/16W	1	
	R7211	D0GB823JA008	82K	1/16W	1	
	R7212	D0GB821JA008	820	1/16W	1	
	R7213	D0GB272JA008	2.7K	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	D0GB101JA008	100	1/16W	1	
	R7254	D0GB102JA008	1K	1/16W	1	
	R7255	D0GB103JA008	10K	1/16W	1	
	R7262	D0GB101JA008	100	1/16W	1	
	R7264	D0GB101JA008	100	1/16W	1	
	R7265	D0GB101JA008	100	1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R7266	D0GB101JA008	100 1/16W	1	
	R7267	D0GB102JA008	1K 1/16W	1	
	R7315	D0GB102JA008	1K 1/16W	1	
	R7321	D0GB152JA008	1.5K 1/16W	1	
	R7322	D0GB562JA008	5.6K 1/16W	1	
	R7323	D0GB332JA008	3.3K 1/16W	1	
	R7325	D0GB101JA008	100 1/16W	1	
	R7327	D0GB562JA008	5.6K 1/16W	1	
	R7328	D0GB273JA008	27K 1/16W	1	
	R7329	D0GB472JA008	4.7K 1/16W	1	
	R7331	D0GB473JA008	47K 1/16W	1	
	R7332	D0GB123JA008	12K 1/16W	1	
	R7335	D0GB101JA008	100 1/16W	1	
	R7336	D0GB100JA008	10 1/16W	1	
	R7340	D0GB102JA008	1K 1/16W	1	
	R7341	D0GB122JA008	1.2K 1/16W	1	
	R7349	D0GB104JA008	100K 1/16W	1	
	R7601	D0GB4R7JA008	4.7 1/16W	1	
	R7650	D0GB5R6JA008	5.6 1/16W	1	
	R7702	D0GBR00JA008	0 1/16W	1	
	R7707	D0GBR00JA008	0 1/16W	1	
	R7712	D0GBR00JA008	0 1/16W	1	
	R7717	D0GBR00JA008	0 1/16W	1	
	R7721	D0GBR00JA008	0 1/16W	1	
	R7731	D0GBR00JA008	0 1/16W	1	
	R7761	D0GB225JA008	2.2M 1/16W	1	
	R7853	D0GB332JA008	3.3K 1/16W	1	
	R7896	D0GB102JA008	1K 1/16W	1	
	R7901	D0GB330JA008	33 1/16W	1	
	R7902	D0GB330JA008	33 1/16W	1	
	R7903	D0GB153JA008	15K 1/16W	1	
	R7904	D0GB153JA008	15K 1/16W	1	
	R7911	D0GBR00JA008	0 1/16W	1	
	R7913	D0GBR00JA008	0 1/16W	1	
			CAPACITORS		
	C51	F1H1H102A885	1000pF 50V	1	
	C52	F1H1A474A025	0.47uF 10V	1	
	C57	F1H1H120A889	12pF 50V	1	
	C58	F1H1H120A889	12pF 50V	1	
	C59	F1H1A105A004	1uF 10V	1	
	C60	F1H1A105A004	1uF 10V	1	
	C61	F1G1C104A077	0.1uF 16V	1	
	C62	F1G1C104A077	0.1uF 16V	1	
	C116	F1J1A106A043	10uF 10V	1	
	C117	F1J1A106A043	10uF 10V	1	
	C118	F1H1C104A120	0.1uF 16V	1	
	C119	F1H1C104A120	0.1uF 16V	1	
	C120	F1H1C104A120	0.1uF 16V	1	
	C121	F1H1A105A036	1uF 10V	1	
	C122	F1H1H272A885	2700pF 50V	1	
	C123	F1H1E273A101	0.027uF 25V	1	
	C124	F1H1A105A036	1uF 10V	1	
	C125	F2A1E2210099	220uF 25V	1	
	C126	F1K1E105A090	1uF 25V	1	
	C127	F2A1E2210099	220uF 25V	1	
	C128	F1K1E105A090	1uF 25V	1	
	C129	F1L1E4750004	4.7uF 25V	1	
	C130	F1J1E105A171	1uF 25V	1	
	C131	F1J1E105A171	1uF 25V	1	
	C132	F1J1E105A171	1uF 25V	1	
	C133	F1J1E105A171	1uF 25V	1	
	C134	F1H1H222A885	2200pF 50V	1	
	C135	F1H1H222A885	2200pF 50V	1	
	C136	F1H1H222A885	2200pF 50V	1	
	C137	F1H1H222A885	2200pF 50V	1	
	C138	F1H1H104A013	0.1uF 50V	1	
	C139	F1H1H104A013	0.1uF 50V	1	
	C140	F1H1H104A013	0.1uF 50V	1	
	C141	F1H1H104A013	0.1uF 50V	1	
	C146	F1J1A106A043	10uF 10V	1	
	C147	F1J1A106A043	10uF 10V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C148	F1J1A106A043	10uF 10V	1	
	C153	F1H1H101A889	100pF 50V	1	
	C154	F1H1H101A889	100pF 50V	1	
	C157	F1H1H102A885	1000pF 50V	1	
	C158	F1H1H102A885	1000pF 50V	1	
	C159	F1H1H102A885	1000pF 50V	1	
	C160	F1H1H102A885	1000pF 50V	1	
	C161	F1H1H102A885	1000pF 50V	1	
	C162	F1H1H103A885	0.01uF 50V	1	
	C351	F1H1A105A036	1uF 10V	1	
	C352	F1H1A105A036	1uF 10V	1	
	C545	F1H1A224A061	0.22uF 10V	1	
	C700	F1H1C104A120	0.1uF 16V	1	
	C701	F1J1A106A043	10uF 10V	1	
⚠	C702	F0CAF104A105	0.1uF	1	
	C702	F1H1C104A120	0.1uF 16V	1	
	C703	F1J1A106A043	10uF 10V	1	
	C703	F2A1E1020114	1000uF 25V	1	
	C704	F1H1C104A120	0.1uF 16V	1	
	C704	F1H2A221A009	220pF 100V	1	
	C705	F1H1A225A051	2.2uF 10V	1	
	C705	F1K2J1030001	0.01uF 630V	1	
	C706	F1H1A105A062	1uF 10V	1	
	C706	F2A2G1010017	100uF 400V	1	
	C707	F1J1A106A043	10uF 10V	1	
	C708	F1J1A106A043	10uF 10V	1	
	C709	F1H1H104A013	0.1uF 50V	1	
⚠	C710	F1BAF2220023	2200pF	1	
	C710	F1H1C104A120	0.1uF 16V	1	
	C711	F1H1H104A013	0.1uF 50V	1	
	C712	F1H1H104A013	0.1uF 50V	1	
	C713	F2A1H4R7A234	4.7uF 50V	1	
	C714	F1H1H102A219	1000pF 50V	1	
	C715	F1H1H102A219	1000pF 50V	1	
	C716	F1H1C224A074	0.22uF 16V	1	
	C717	F1H1C154A002	0.15uF 16V	1	
	C718	F1H1E224A068	0.22uF 25V	1	
	C720	F1H1H1010005	100pF 50V	1	
	C721	F1H1C104A008	0.1uF 16V	1	
	C722	F1H1H560A230	56pF 50V	1	
	C723	F1H1H102A219	1000pF 50V	1	
⚠	C725	F0CAF104A105	0.1uF	1	
⚠	C727	F1BAF1020020	1000pF	1	
⚠	C728	F1BAF1020020	1000pF	1	
	C731	F1K3A2210002	220pF 1000V	1	
	C805	F1H1H220A889	22pF 50V	1	
	C806	F1H1H220A889	22pF 50V	1	
	C807	F1H1H102A885	1000pF 50V	1	
	C808	F1H1C104A120	0.1uF 16V	1	
	C812	F1H1H102A885	1000pF 50V	1	
	C813	F1H1H102A885	1000pF 50V	1	
	C819	F1H1H101A889	100pF 50V	1	
	C820	F1H1H101A889	100pF 50V	1	
	C825	F1H1A105A062	1uF 10V	1	
	C828	F2A1A330A010	33uF 10V	1	
	C831	F1H1H331A885	330pF 50V	1	
	C833	F1H1H223A219	0.022uF 50V	1	
	C871	F1H1H102A885	1000pF 50V	1	
	C872	F1H1H102A885	1000pF 50V	1	
	C873	F1H1H102A885	1000pF 50V	1	
	C874	F1H1H102A885	1000pF 50V	1	
	C875	F1H1H102A885	1000pF 50V	1	
	C901	F1H1H102A219	1000pF 50V	1	
	C907	F1H1H103A219	0.01uF 50V	1	
	C922	F1H1A105A004	1uF 10V	1	
	C950	F1J1A106A043	10uF 10V	1	
	C951	F1J1A106A043	10uF 10V	1	
	C952	F1H1C224A074	0.22uF 16V	1	
	C953	F1H1H472A885	4700pF 50V	1	
	C954	F1H1H472A885	4700pF 50V	1	
	C955	F1H1H102A885	1000pF 50V	1	
	C956	F1H1C224A074	0.22uF 16V	1	
	C957	F1H1H102A885	1000pF 50V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C958	F1H1A105A036	1uF 10V	1	
	C959	F1H1A105A036	1uF 10V	1	
	C960	F1H1H102A885	1000pF 50V	1	
	C961	F1H1H102A885	1000pF 50V	1	
	C993	F1H1H102A885	1000pF 50V	1	
	C1001	F1H1H153A885	0.015uF 50V	1	
	C1002	F1G1C223A091	0.022uF 16V	1	
	C1004	F1G1E562A097	5600pF 25V	1	
	C1008	F1H1H102A885	1000pF 50V	1	
	C1012	F1K1C226A121	22uF 16V	1	
	C1013	F1K1E1060001	10uF 25V	1	
	C1102	F1J1A106A043	10uF 10V	1	
	C1103	F1J1A106A043	10uF 10V	1	
	C1104	F1K1E105A090	1uF 25V	1	
	C1106	F1J1A106A043	10uF 10V	1	
	C1107	F1K1E1060001	10uF 25V	1	
	C1114	F1H1H222A885	2200pF 50V	1	
	C1115	F1H1C104A120	0.1uF 16V	1	
	C1117	F1J1A106A043	10uF 10V	1	
	C1118	F1H1C104A120	0.1uF 16V	1	
	C1119	F1K1E1060001	10uF 25V	1	
	C1122	F2A1E4710114	470uF 25V	1	
	C1123	F1J1A106A043	10uF 10V	1	
	C1124	F1K1E105A090	1uF 25V	1	
	C1125	F1J1A106A043	10uF 10V	1	
	C1127	F1H1C104A120	0.1uF 16V	1	
	C1128	F1H1C104A120	0.1uF 16V	1	
	C1129	F1H1C104A120	0.1uF 16V	1	
	C1131	F1H1H104A013	0.1uF 50V	1	
	C1132	F1H1H102A885	1000pF 50V	1	
	C1134	F1H1C104A120	0.1uF 16V	1	
	C1135	F1H1C104A120	0.1uF 16V	1	
	C1136	F2A1A1010024	100uF 10V	1	
	C2000	F1H1H330A230	33pF 50V	1	
	C2001	F1H1H330A230	33pF 50V	1	
	C2002	F1H1C104A120	0.1uF 16V	1	
	C2003	F1J1A106A043	10uF 10V	1	
	C2004	F1H1C104A120	0.1uF 16V	1	
	C2005	F1H1H330A889	33pF 50V	1	
	C2007	F1H1C104A120	0.1uF 16V	1	
	C2008	F1H1C104A120	0.1uF 16V	1	
	C2009	F1H1H103A885	0.01uF 50V	1	
	C7000	F1H1H102A885	1000pF 50V	1	
	C7001	F1J1A106A043	10uF 10V	1	
	C7002	F1H1H223A219	0.022uF 50V	1	
	C7003	F1H1H223A219	0.022uF 50V	1	
	C7102	F1H1A474A025	0.47uF 10V	1	
	C7107	F1H1H223A219	0.022uF 50V	1	
	C7142	F1H1H332A013	3300pF 50V	1	
	C7150	F1H1C104A120	0.1uF 16V	1	
	C7151	F1H1C104A120	0.1uF 16V	1	
	C7152	F1G1A1040006	0.1uF 10V	1	
	C7154	F1H1C104A120	0.1uF 16V	1	
	C7155	F1H1A105A004	1uF 10V	1	
	C7156	F1H1A105A004	1uF 10V	1	
	C7157	F1H1H103A885	0.01uF 50V	1	
	C7158	F1H1C104A120	0.1uF 16V	1	
	C7159	F1H1C104A120	0.1uF 16V	1	
	C7160	F1H1C104A120	0.1uF 16V	1	
	C7161	F1G1A1040006	0.1uF 10V	1	
	C7162	F1G1A1040006	0.1uF 10V	1	
	C7163	F1G1A1040006	0.1uF 10V	1	
	C7166	F1H1H103A885	0.01uF 50V	1	
	C7204	F1H1H103A885	0.01uF 50V	1	
	C7205	F1H1H270A004	27pF 50V	1	
	C7206	F1H1H270A004	27pF 50V	1	
	C7207	F1J1A106A041	10uF 10V	1	
	C7208	F1J1A106A041	10uF 10V	1	
	C7213	F1H1A334A028	0.33uF 10V	1	
	C7216	F1H1H681A013	680pF 50V	1	
	C7217	F1G1A1040006	0.1uF 10V	1	
	C7218	F1H1C823A001	0.082uF 16V	1	
	C7223	F1J1A106A041	10uF 10V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C7225	F1H1H102A219	1000pF 50V	1	
	C7226	F1H1H102A219	1000pF 50V	1	
	C7230	F1H1H103A885	0.01uF 50V	1	
	C7233	F1H1H103A885	0.01uF 50V	1	
	C7234	F1H1C104A120	0.1uF 16V	1	
	C7235	F1J1A106A041	10uF 10V	1	
	C7236	F1J1A106A041	10uF 10V	1	
	C7237	F1G1A1040006	0.1uF 10V	1	
	C7238	F1H1C104A120	0.1uF 16V	1	
	C7239	F1J1A106A041	10uF 10V	1	
	C7241	F1H1H102A219	1000pF 50V	1	
	C7243	D0GBR00JA008	0 1/16W	1	
	C7244	F1H1C153A001	0.015uF 16V	1	
	C7253	D0GBR00JA008	0 1/16W	1	
	C7263	F1G1A1040006	0.1uF 10V	1	
	C7264	F1G1A1040006	0.1uF 10V	1	
	C7265	F1G1A1040006	0.1uF 10V	1	
	C7267	F1G1A1040006	0.1uF 10V	1	
	C7268	F1H1H103A885	0.01uF 50V	1	
	C7269	F1H1A105A004	1uF 10V	1	
	C7315	F1H1A154A001	0.15uF 10V	1	
	C7334	F2G1A101A019	100uF 10V	1	
	C7335	F1H1H103A885	0.01uF 50V	1	
	C7338	F1H1H153A885	0.015uF 50V	1	
	C7339	F1H1H182A219	1800pF 50V	1	
	C7340	F1H1H102A219	1000pF 50V	1	
	C7341	F1J1A106A041	10uF 10V	1	
	C7352	F1H1H122A219	1200pF 50V	1	
	C7601	F1J1A106A041	10uF 10V	1	
	C7613	F1G1A1040006	0.1uF 10V	1	
	C7615	F1J1A106A041	10uF 10V	1	
	C7616	F1J1A106A041	10uF 10V	1	
	C7626	F1J1A106A041	10uF 10V	1	
	C7670	F1H1H103A885	0.01uF 50V	1	
	C7704	F1H1H150A971	15pF 50V	1	
	C7741	F1H1H103A885	0.01uF 50V	1	
	C7752	F1H1H103A885	0.01uF 50V	1	
	C7753	F1J1A106A041	10uF 10V	1	
	C7754	F1J1A106A041	10uF 10V	1	
	C7755	F1J1A106A041	10uF 10V	1	
	C7851	F1H1H103A885	0.01uF 50V	1	
	C7852	F1H1H331A013	330pF 50V	1	
	C7853	F1H1H331A013	330pF 50V	1	
	C7902	F1H1C104A120	0.1uF 16V	1	
	C7902	F1J1A106A041	10uF 10V	1	
	C7903	F1H1H103A885	0.01uF 50V	1	
			SERVICE FIXTURE AND TOOLS		
	SFT1	RFKZHC55K1	27P FFC (MAIN - CD SERVO)	1	
	SFT3	RFKZHC35	5P WIRE (MAIN - CD SERVO)	1	

IPSG1103