

Service Manual

Home Theater Audio System

Model No. **SC-HTB70P**

SC-HTB70PC

Product Color: (K)...Black Type



Remote Control



SC-HTB70

⚠ 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.

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1 Safety Precautions

1.1. General Guidelines

1. IMPORTANT SAFETY NOTICE

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

2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. 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.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make 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. Using an ohmmeter measure the resistance value, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1M\Omega$ and 5.2Ω . When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

1.1.2. Leakage Current Hot Check

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

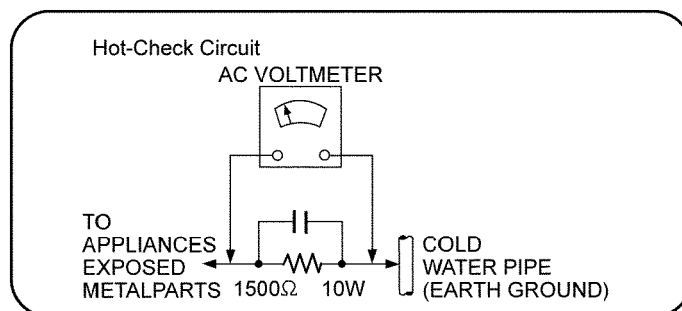


Figure 1-1

1.2. Before Repair and Adjustment

Disconnect AC power, discharge unit AC Capacitors (C5701, C5702, C5703, C5704, C5705 and C5706) 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 120 V, 60 Hz during power on with volume minimum, (Selector : BD/DVD mode) should be ~800 mA.

1.3. 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.

1.4. Caution For Fuse Replacement

CAUTION:

Replace with the same type fuse:

(Manufacturer: SKYGATE, Type: SG SCT, F2, T3.15A 250V)

ATTENTION:

Utiliser un fusible de rechange de même type:

(Fabricant: SKYGATE, Type: SG SCT, F2, T3.15A 250V)

1.5. Safety Part Information

Safety Parts List:

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

These parts are marked by ⚠ in the Schematic Diagrams & 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.

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
⚠	14	RGN3334-K	NAME PLATE	P
⚠	14	RGN3334A-K1	NAME PLATE	PC
⚠	A1	N2QAYC000083	REMOTE CONTROL	
⚠	A2	K2CB2CB00022	AC CORD	
⚠	A3	RQT9775-Y	O/I BOOK (Ci)	PC
⚠	A3	RQT9763-P	O/I BOOK (En)	
⚠	C5701	F0CAF104A105	0.1uF	
⚠	C5702	F0CAF104A105	0.1uF	
⚠	C5703	F0CAF104A105	0.1uF	
⚠	C5704	F1BAF471A013	470pF	
⚠	C5705	F1BAF471A013	470pF	
⚠	C5706	F1BAF1020020	1000pF	
⚠	DZ5701	ERZV10V511CS	ZNR	(E.S.D)
⚠	F2	K5G312Y00007	FUSE	
⚠	L5702	G0B922G00004	LINE FILTER	
⚠	L5703	G0B922G00004	LINE FILTER	
⚠	P5702	K2AB2B000007	AC INLET	
⚠	PC5720	B3PBA0000579	PHOTO COUPLER	
⚠	PC5760	B3PBA0000579	PHOTO COUPLER	
⚠	PCB5	REP4860B	SMP5 P.C.B.	(RTL)
⚠	PCB6	REP4860B	AC INLET P.C.B.	(RTL)
⚠	R5700	ERJ8GEYJ155V	1.5M 1/4W	
⚠	R5701	ERJ8GEYJ155V	1.5M 1/4W	
⚠	R5710	ERJ8GEYJ155V	1.5M 1/4W	
⚠	T5701	G4DYA0000442	TRANSFORMER	
⚠	TH5702	D4CAA2R20001	THERMISTOR	
⚠	TH5821	D4CC11040005	THERMISTOR	
⚠	TH5822	D4CC11040005	THERMISTOR	
⚠	TH5860	D4CC11040013	THERMISTOR	

1.6. Safety Installation Instructions

Professional installation is required.

The installation should never be done by any other than a qualified installation specialist. PANASONIC DISCLAIMS ANY PROPERTY DAMAGE AND/OR SERIOUS INJURY, INCLUDING DEATH RESULTING FROM IMPROPER INSTALLATION OR INCORRECT HANDLING.

- Be sure to install the main unit as indicated within this Owner's Manual.
- Attach using techniques suited to the structure and materials of the installation location.



Caution

- This system is to be used only as indicated in these instructions. Failure to do so may lead to damage to the amplifier and/or the speaker, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.
- Do not attempt to attach the main unit to a wall using methods other than those described in this manual.



- Keep the safety holders, screws and wall mount brackets out of reach of children to prevent swallowing.
- The safety holder is to minimize the possibility of damage and harm, but it does not completely guarantee this effect.
- Do not hold the main unit in one hand to avoid injury, you may drop the main unit when carrying it.
- To prevent damage or scratches, lay down a soft cloth and perform the assembly on it.

Figure 1-2

2 Warning

2.1. Prevention of Electrostatic 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 IC (integrated circuits) and some field-effect transistors and semiconductor "chip" components.

The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup 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 removal 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, aluminum 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).

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2.2. Service caution based on Legal restrictions (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%

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.

- **Flash IC :**

The following components are supplied as an assembled part.

- Flash IC, IC2001 (RFKWEHTB70M).

4 Specifications

■ Amplifier Section

RMS Output Power	
Front ch	30 W per channel (6 Ω), 1 kHz, 10% THD
Subwoofer ch	60 W per channel (3 Ω), 100 Hz, 10% THD
Total RMS Dolby Digital mode power	120 W
FTC output power	
Front ch	16 W per channel (6 Ω), 100 Hz to 16 kHz, 1% THD
Subwoofer ch	28 W per channel (3 Ω), 65 Hz to 125 Hz, 1% THD
Total FTC Dolby Digital mode power	60 W

■ Terminal Section

Digital audio input (TV)	
Optical digital input	Optical terminal
Sampling frequency	32 kHz, 44.1 kHz, 48 kHz 88.2 kHz, 96 kHz (only LPCM)
Audio format	LPCM, Dolby Digital, DTS Sound Surround
Analog audio input	
Audio input	RCA Pin jack
USB Port	For service use only.

■ Speaker Section

Front speakers (Build-in)	
Type	2 way, 2 speaker system (Bass Reflex)
Woofer	5.7 cm (2 1/4") Cone type
Tweeter	2.5 cm (1") Semi-dome type
Subwoofer (Build-in)	
Type	1 way, 2 speaker system (Bass Reflex)
Woofer	8 cm (3 1/8") Cone type x 2

■ General

Power consumption	20 W
Power consumption In standby mode	Approx. 0.25 W
Power supply	AC 120 V, 60 Hz
Dimensions (W x H x D)	950 mm x 66 mm x 105 mm (37 6/16" x 2 10/16" x 4 2/16")
Mass (Weight)	Approx. 3.4 kg (7.5 lbs)
For wall mounting	
Dimensions (W x H x D)	950 mm x 105 mm x 66 mm (37 6/16" x 4 2/16" x 2 10/16")
Mass (Weight)	Approx. 3.4 kg (7.5 lbs)
With basic stands	
Dimensions (W x H x D)	950 mm x 79 mm x 105 mm (37 6/16" x 3 2/16" x 4 2/16")
Mass (Weight)	Approx. 3.45 kg (7.61 lbs)
With 30° stands	
Dimensions (W x H x D)	950 mm x 99 mm x 113 mm (37 6/16" x 3 14/16" x 4 7/16")
Mass (Weight)	Approx. 3.45 kg (7.61 lbs)
With 80° stands	
Dimensions (W x H x D)	950 mm x 118 mm x 80 mm (37 6/16" x 4 10/16" x 3 2/16")
Mass (Weight)	Approx. 3.47 kg (7.65 lbs)
Operating temperature range	0°C to +40°C (+32°F to +104°F)

Operating humidity range

20% to 80 % RH
(no condensation)

■ Bluetooth® Section

Bluetooth® system specification	Version 3.0
Wireless equipment classification	Class 2
Supported profiles	A2DP
Frequency band	2400 MHz to 2483.5 MHz (Adaptive Frequency Hopping)
Operating distance	10 m (33 ft) Line of Sight
- Specifications are subject to change without notice. Weight and dimensions are approximate. - Total harmonic distortion is measured by the digital spectrum analyzer.	

5 General/Introduction

5.1. About Bluetooth and Operation

About Bluetooth®

Panasonic bears no responsibility for data and/or information that is compromised during a wireless transmission.

■ Frequency band used

This system uses the 2.4 GHz frequency band.

■ Certification of this device

- This system conforms to frequency restrictions and has received certification based on frequency laws. Thus, a wireless permit is not necessary.
- The action below are punishable by law in some countries:
 - Taking apart or modifying the unit.
 - Removing specification indications.

■ Restrictions of use

- Wireless transmission and/or usage with all Bluetooth® equipped devices is not guaranteed.
- All devices must conform to standards set by Bluetooth SIG, Inc.
- Depending on the specifications and settings of a device, it can fail to connect or some operations can be different.
- This system supports Bluetooth® security features. But depending on the operating environment and/or settings, this security is possibly not sufficient. Transmit data wirelessly to this system with caution.
- This system cannot transmit data to a Bluetooth® device.

■ Range of use

Use this device at a maximum range of 10 m (33 ft). The range can decrease depending on the environment, obstacles or interference.

■ Interference from other devices

- This system may not function properly and troubles such as noise and sound jumps may arise due to radio wave interference if the main unit is located too close to other Bluetooth® devices or the devices that use the 2.4 GHz band.
- This system may not function properly if radio waves from a nearby broadcasting station, etc. are too strong.

■ Intended usage

- This system is for normal, general use only.
- Do not use this system near equipment or in an environment that is sensitive to radio frequency interference (example: airports, hospitals, laboratories, etc).

Bluetooth® connection

By using the Bluetooth® connection, you can listen to the sound from the Bluetooth® audio device from this system wirelessly.

Preparation

- Turn on the Bluetooth® feature of the device and place the device near the main unit.

Bluetooth® pairing

1 Press [F] to select “F”.

- If the “F” indicator flashes quickly, go to step 3.

2 Press and hold [F] until the “F” indicator flashes quickly.

- If the “F” indicator flashes slowly, repeat step 2.

3 Select “SC-HTB70” or “SC-HTB65” from the Bluetooth® device’s Bluetooth® menu.

- If prompted for the passkey on the Bluetooth® device, enter “0000”.
- Once the Bluetooth® device is connected, the “F” indicator stops flashing and lights up.



You can register up to 8 devices with this system. If a 9th device is paired, the device that has not been used for the longest time will be replaced.

Connecting a Bluetooth® device

1 Press [F] to select “F”.

- If the “F” indicator lights, a Bluetooth® device is already connected with this system. Disconnect it. (→ below)

2 Select “SC-HTB70” or “SC-HTB65” from the Bluetooth® device’s Bluetooth® menu.

■ Disconnecting a Bluetooth® device

Press and hold [F] until the “F” indicator flashes slowly.



- When “F” is selected as the source, this system will automatically try and connect to the last connected Bluetooth® device.
- The Bluetooth® device will be disconnected if a different audio source (e.g. “TV”) is selected.
- Refer to the operating instructions of the Bluetooth® device for further instruction on how to connect a Bluetooth® device.
- This system can only be connected to one device at a time.
- To change the sound quality, refer to “Bluetooth® communication mode”.

5.2. Others (Licenses)

Manufactured under license from Dolby Laboratories. Dolby, Pro Logic, and the double-D symbol are trademarks of Dolby Laboratories.

Manufactured under license under U.S. Patent Nos: 5,956,674; 5,974,380; 6,487,535 & other U.S. and worldwide patents issued & pending. DTS, the Symbol, & DTS and the Symbol together are registered trademarks & DTS Digital Surround and the DTS logos are trademarks of DTS, Inc. Product includes software.
© DTS, Inc. All Rights Reserved.

The Bluetooth® word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Panasonic Corporation is under license. Other trademarks and trade names are those of their respective owners.



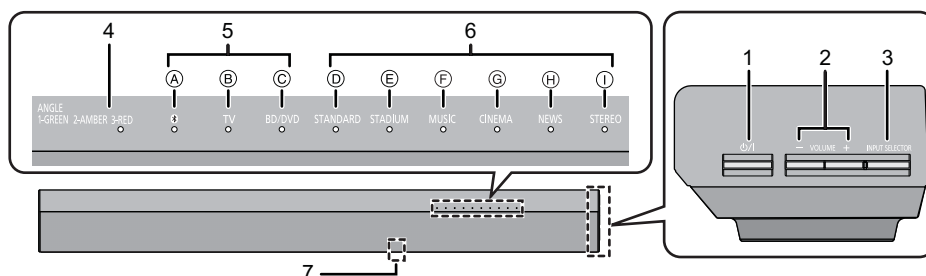
As an ENERGY STAR® Partner,* Panasonic has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

* For Canada only: The word "Participant" is used in place of the word "Partner".

6 Location of Controls and Components

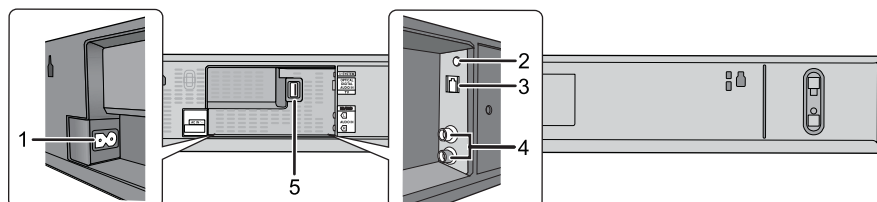
6.1. Main Unit Key Button Operations

This system (Front)



- 1 **Standby/on switch (⏻/⏻)**
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.
- 2 **Adjust the volume of this system**
- 3 **Select the input source**
"TV" → "BD/DVD"
↑ "Bluetooth" ↓
- 4 **Speaker angle indicator**
Angle 1: 0° tilt
Speaker angle indicator lights green
Angle 2: Tilted at 30°
Speaker angle indicator lights amber
Angle 3: Tilted at 80°/90°
Speaker angle indicator lights red
- 5 **Input selector indicators *1**
 - (A) **Bluetooth® indicator**
Lights blue when the Bluetooth® device is the audio source
 - (B) **TV indicator**
Lights green when the TV is the audio source
 - (C) **BD/DVD indicator**
Lights amber when the device connected to the BD/DVD terminal is the audio source
- 6 **Sound mode indicators *1**
 - (D) **STANDARD**
Lights when STANDARD is the current sound mode
 - (E) **STADIUM indicator *2**
Lights when STADIUM is the current sound mode
 - (F) **MUSIC indicator *2**
Lights when MUSIC is the current sound mode
 - (G) **CINEMA indicator**
Lights when CINEMA is the current sound mode
 - (H) **NEWS indicator**
Lights when NEWS is the current sound mode
 - (I) **STEREO indicator**
Lights when STEREO is the current sound mode
- 7 **Remote control signal sensor**

This system (Rear)



- 1 AC IN terminal
- 2 Ir SYSTEM terminal
- 3 OPTICAL DIGITAL AUDIO IN (TV) terminal
- 4 BD/DVD terminal
- 5 USB port (for service use only)

※ 1 The indicators will also blink in various conditions.

※ 2 The indicator blinks for 5 sec when the main unit detects an audio format.

To manually verify the current audio format and the corresponding indicators, refer to O/I Book on (Audio format indicator).

6.2. Indicator illumination

The indicators display the condition of this system by flashing. The indicator patterns illustrated below are displayed during normal operational conditions. They do not refer to the indications of a problem.

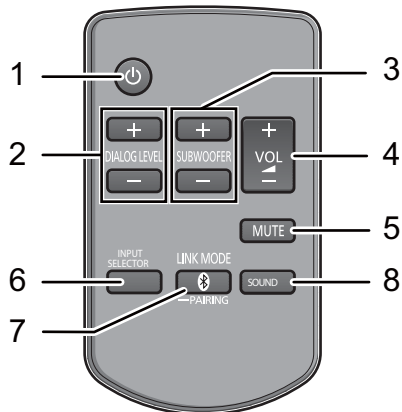
Indicator	Description
	The indicator blinks for 10 sec. - When the Bluetooth® communication is mode 1 The indicator blinks for 20 sec. - When 3D surround effect and clear-mode dialog effect are on - When the dual audio setting is Main - When the auto gain control is on
	The indicator blinks for 5 sec. When the audio format is Dolby Digital
	The indicator blinks for 5 sec. When the audio format is DTS
	The indicator blinks for 5 sec. When the audio format is PCM※2
	The indicator blinks for 10 sec. - When the Bluetooth® communication is mode 2 The indicator blinks for 20 sec. - When 3D surround effect and clear-mode dialog effect are off - When the dual audio setting is Secondary (SAP: Secondary Audio Program) - When the auto gain control is off
	The indicators blink for 20 sec. When the dual audio setting is Main and Secondary
	The indicators blink for 10 sec. - When the remote control code is changed The indicators blink once. - When changing the setting ("To reduce the clear-mode dialog effect" and "To turn off the volume limitation") The indicators blink twice. - When the main unit is reset
	Bluetooth® indicator blinks quickly. - When the main unit is ready for pairing Bluetooth® indicator blinks slowly. - When the main unit is waiting to connect Bluetooth® indicator turns on. - When the main unit is connected with a Bluetooth® device

※1 The indicator for the current status remains lit.

※2 The indicator blinks only when [SOUND] is pressed for more than 4 sec and the audio format is PCM.

6.3. Remote Control Key Button Operations

Remote control

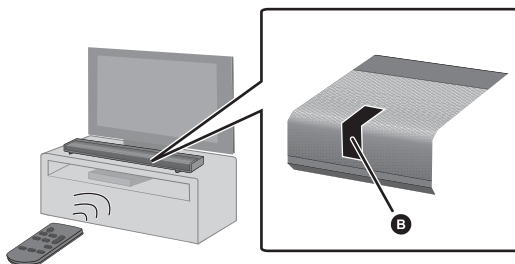


- 1 Turn the main unit on or off
- 2 Adjust the dialog effect level
- 3 Adjust the output level of the subwoofer (bass sound)
- 4 Adjust the volume of this system
- 5 Mute the sound
- 6 Select the input source
 "TV" → "BD/DVD"
 ↑ "S" ←
- 7 Select the Bluetooth® device as the source
- 8 Select the sound mode
 "STANDARD" → "STADIUM" → "MUSIC"
 ↑ "STEREO" ← "NEWS" ← "CINEMA" ←

■ Remote control operation range

The remote control signal sensor is located on the main unit.

- Use the remote control within the correct operation range.



B Remote control signal sensor

• Operation range

Distance: Within approx. 7 m
(23 ft) directly in front
Angle: Approx. 30° left and right

■ **Before using for the first time**
Remove the insulation sheet **A**.

■ **To replace a button-type battery**
Battery type: CR2025 (Lithium battery)

①

②

- Set the button-type battery with its (+) mark facing upward.
- Keep the button-type battery out of reach of children to prevent swallowing.

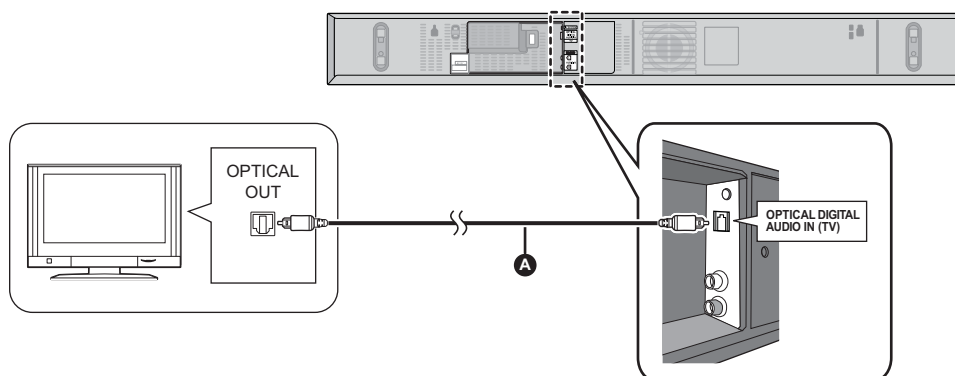
7 Installation Instructions

7.1. Connections

- Turn off all equipment before connection and read the appropriate operating instructions.
Do not connect the AC power supply cord until all other connections are completed.

7.1.1. Connection with the TV

Connection with the TV

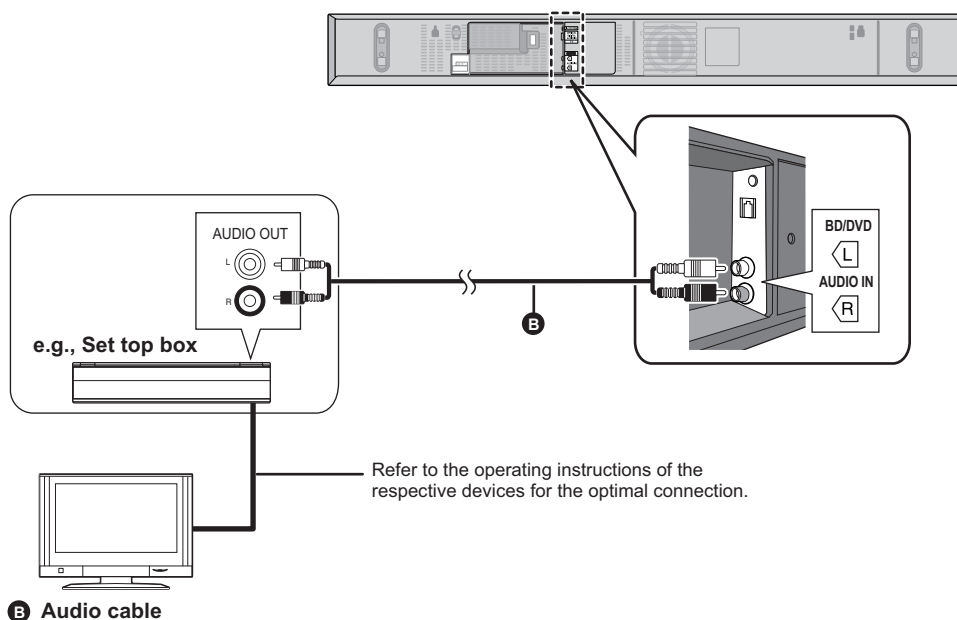


A Optical digital audio cable

- When you use the optical digital audio cable, insert the tip correctly into the terminal.

7.1.2. Connection with other devices

Connection with other device



B Audio cable

7.1.3. Using the IR Blaster

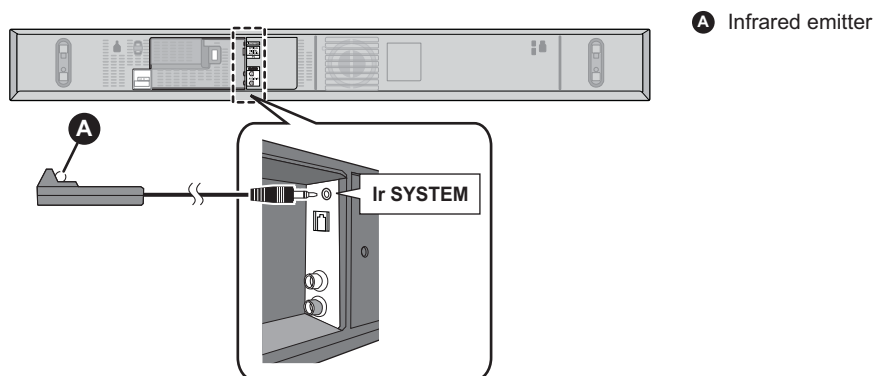
Using the IR Blaster

With the IR Blaster connection, it is possible to send the IR signal received by this system's remote control signal sensor to the TV's sensor.

Use the TV's remote control within the operation range of this system's remote control signal sensor.

- For the operation range, refer to O/I book.

1 Connect the jack plug to the main unit's Ir SYSTEM terminal.



2 Place the infrared emitter in sight of the TV's remote control signal sensor.

- For the location of the TV's remote control signal sensor, refer to the operating instructions for the TV.

3 Aim the TV's remote control at this system's remote control sensor and operate the TV.

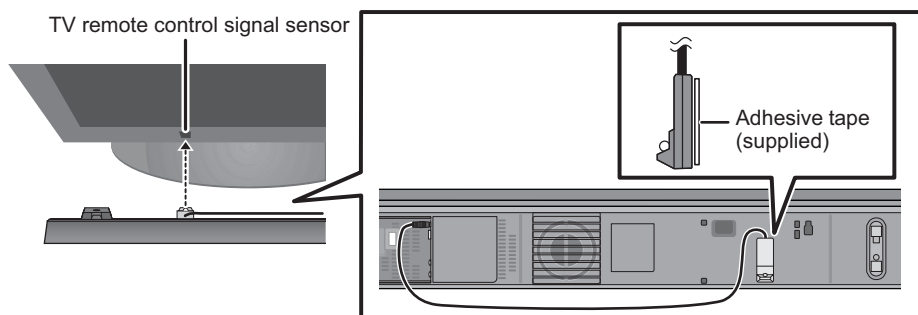
- For the location of this system's remote control signal sensor, refer to O/I book.
- Make sure to clean the surface, where the adhesive tape is to be attached.
- If you peel off the adhesive tape, the surface may become damaged and exposed adhesive may remain. Once you have confirmed the TV is operating correctly, secure it by attaching the adhesive tape.



- The supplied IR Blaster is only compatible with Panasonic TVs.
- Keep the adhesive tape out of reach of children to prevent swallowing.

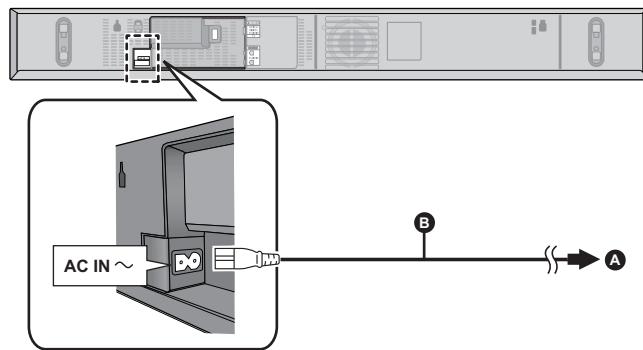
■ Placement example

On the rear of the main unit:



7.1.4. Power supply connection

- Connect only after all other connections are completed.



- A To a household AC outlet
- B AC power supply cord (supplied)

- This system consumes a small amount of AC power even when it is turned off. In the interest of power conservation, if you will not be using this system for a long time, unplug it from the household AC outlet.

Saving energy

The main unit is designed to conserve its power consumption and save energy.

- **The main unit will automatically switch to standby mode** when no signal is input and no operation is performed for approx. 30 minutes.

8 Service Mode

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

Special Note : Checking of the reliability (ageing) & operation must be carry out to ensure good working condition in unit.

8.1. Method to enter into Service Mode

Here are the procedures to enter into service mode:

Step 1 : Power up the unit.

Step 2 : Press & hold [VOL-] on the unit, follow by [SUB-] & [SUB+] on the remote control.

Note : All LEDs will blink 4 times followed by all LEDs off.

Step 3 : It enters into service mode.

8.2. Model Display Details by LED Blinking Indicators

After entering into service mode, the following keys on the remote control can be pressed to determine:-

1. Microprocessor firmware version number
2. Model No.
3. Region setting

Note : The LED blinking process will stop when the unit is power off completely.

Key Buttons	LED 1 (Standby)	LED 2 (BT)	LED 3 (TV)	LED 4 (BD/ DVD)	LED 5 (STAN- DARD)	LED 6 (DOLBY D STA- DIUM)	LED 7 (DTS MUSIC)	LED 8 (AAC or PCM CIN- EMA)	LED 9 (NEWS)	LED 10 (STE- REO)	Mode Description
INPUT SELECTOR (Model with BT) or TV (Model w/o BT)	-	-	O	-	-	-	-	-	-	-	Error history display By pressing button, it goes back its history list. Eg: [1 F76] -> [2 F70HDM] -> [3 F61]
BT (Model with BT) or BD/DVD (Model w/o BT)	-	-	O	-	-	-	-	-	-	-	Accumulation Opera- tion Time Display Eg: [15H](15 Hours), [45M](45 Minutes)
VOLUME + (Press once)	X	X	O	X	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Firmware version (Refer to Table 8-2)
VOLUME + (Press twice)	X	X	X	O	X	Model 1	Model 2	Model 3	X	X	Model name (Refer to Table 8-3)
VOLUME + (Press thrice)	X	X	O	O	X	REG 2	REG 1	REG 0	X	X	Region display (Refer to Table 8-4)
POWER	X	X	X	X	X	X	X	X	X	X	Exit Service Mode and Power Off
Link Status "O" means LED on "X" means LED off "*" means LED blink "->" means LED blinking in progress											

Table 8-1

8.2.1. Firmware version

It is to indicate the firmware version no. (Refer to table 8-2 for more information).

The firmware version is represented by 5 bits.

Version number display are repeated every 64 releases.

Version No	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
01, 65 ...	X	X	X	X	X	O
02, 66 ...	X	X	X	X	O	X
03, 67 ...	X	X	X	X	O	O
04, 68 ...	X	X	X	O	X	X
05, 69 ...	X	X	X	O	X	O
06, 70 ...	X	X	X	O	O	X
07, 71 ...	X	X	X	O	O	O
08, 72 ...	X	X	O	X	X	X
09, 73 ...	X	X	O	X	X	O
10, 74 ...	X	X	O	X	O	X
11, 75 ...	X	X	O	X	O	O
12, 76 ...	X	X	O	O	X	X
13, 77 ...	X	X	O	O	X	O
14, 78 ...	X	X	O	O	O	X
15, 79 ...	X	X	O	O	O	O
16, 80 ...	X	O	X	X	X	X
17, 81 ...	X	O	X	X	X	O
18, 82 ...	X	O	X	X	O	X
19, 83 ...	X	O	X	X	O	O
20, 84 ...	X	O	X	O	X	X
21, 85 ...	X	O	X	O	X	O
22, 86 ...	X	O	X	O	O	X
23, 87 ...	X	O	X	O	O	O
24, 88 ...	X	O	O	X	X	X
25, 89 ...	X	O	O	X	X	O
26, 90 ...	X	O	O	X	O	X
27, 91 ...	X	O	O	X	O	O
28, 92 ...	X	O	O	O	X	X
29, 93 ...	X	O	O	O	X	O
30, 94 ...	X	O	O	O	O	X
31, 95 ...	X	O	O	O	O	O
32, 96 ...	O	X	X	X	X	X
33, 97 ...	O	X	X	X	X	O
34, 98 ...	O	X	X	X	O	X
35, 99 ...	O	X	X	X	O	O
36, 100 ...	O	X	X	O	X	X
37, 101 ...	O	X	X	O	X	O
38, 102 ...	O	X	X	O	O	X
39, 103 ...	O	X	X	O	O	O
40, 104 ...	O	X	O	X	X	X
41, 105 ...	O	X	O	X	X	O
42, 106 ...	O	X	O	X	O	X
43, 107 ...	O	X	O	X	O	O
44, 108 ...	O	X	O	O	X	X
45, 109 ...	O	X	O	O	X	O
46, 110 ...	O	X	O	O	O	X
47, 111 ...	O	X	O	O	O	O
48, 112 ...	O	O	X	X	X	X
49, 113 ...	O	O	X	X	X	O
50, 114 ...	O	O	X	X	O	X
51, 115 ...	O	O	X	X	O	O
52, 116 ...	O	O	X	O	X	X
53, 117 ...	O	O	X	O	X	O
54, 118 ...	O	O	X	O	O	X
55, 119 ...	O	O	X	O	O	O
56, 120 ...	O	O	O	X	X	X
57, 121 ...	O	O	O	X	X	O
58, 122 ...	O	O	O	X	O	X
59, 123 ...	O	O	O	X	O	O
60, 124 ...	O	O	O	O	X	X
61, 125 ...	O	O	O	O	X	O

Version No	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
62, 126 ...	O	O	O	O	O	X
63, 127 ...	O	O	O	O	O	O
Link Status "O" means LED on "X" means LED off						

Table 8-2

8.2.2. Model Number Display

It is to indicate the model number. (Refer to table 8-3 for more information).

Model 1	Model 2	Model 3	Model No.
X	X	X	HTB65
X	X	O	HTB70
X	O	X	HTB170
O	O	X	Reserve 1
O	O	O	Reserve 2
Link Status "O" means LED on "X" means LED off			

Table 8-3

8.2.3. Region Bit No.

It is to indicate the region for the model number. (Refer to table 8-4 for more information).

REG2	REG1	REG0	Region
X	X	X	Europe / Ocenia / Asia / South / Centr. America / China / Russia
X	O	X	US / Canada
X	O	O	China
O	X	X	Japan
O	X	O	Reserve 1
O	O	X	Reserve 2
O	O	O	Reserve 3
Link Status "O" means LED on "X" means LED off			

Table 8-4

8.3. Error Codes Display

This unit does not have a FL/LCD display unit hence error code (when a fault condition occurs) is represented by the LED status indicators. Refer to Figure 8-1

Here is the description of the LED status indicators:

LED No.	Description
LED 1	Standby mode
LED 2	BLUETOOTH input selector indicator
LED 3	TV input selector indicator
LED 4	BD/DVD input selector indicator (AUX IN)
LED 5	STANDARD decoder/audio format indicator
LED 6	DOLBY D/STADIUM decoder/audio format indicator
LED 7	DTS/MUSIC decoder/audio format indicator
LED 8	AAC decoder/audio format indicator (Japan region)
LED 8	PCM/CINEMA decoder/audio format indicator (Non Japan region)
LED 9	NEWS decoder/audio format indicator
LED 10	STEREO decoder/audio format indicator

Table 8-5

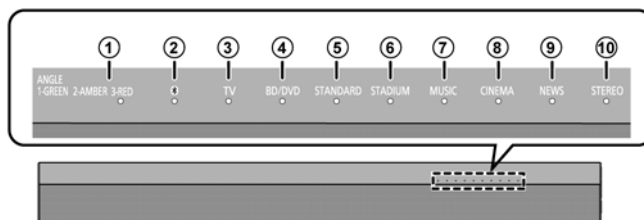


Figure 8-1

8.3.1. Error Code Display Details by LED Blinking Indicators

This section describes the LED status indicators by its blinking to represent the error codes.

Caution: The LED blinking process will stop only when the unit is power off completely.

Error Code	LED 1 (Standby)	LED 2 (BT)	LED 3 (TV)	LED 4 (BD/DVD)	LED 5 (STANDARD)	LED 6 (STADIUM/DOLBY D)	LED 7 (MUSIC/DTS)	LED 8 (CINEMA/AAC or PCM)	LED 9 (NEWS)	LED 10 (STEREO)	Cause and Problem
OVERLOAD (F61) If this error occurs, main set will automatically power off.	X	X	*	*	X	X	X	X	X	X	Speaker protection, DAMP IC abnormality. Check for faulty parts and replace with new parts if necessary.
F76 If this error occurs, main set will automatically power off.	X	X	*	X	X	X	X	X	X	X	DC Power/Voltage Supply abnormality. Check for faulty parts and replace with new parts if necessary.
F70 BT	X	*	*	*	X	X	X	X	X	X	Bluetooth communication error. Check for faulty parts and replace with new parts if necessary.
U701 / U703 / U704	X	X	X	*	X	X	X	X	X	X	- Connected devices error (HDCP non-compliance). Check for faulty parts and replace with new parts if necessary. - HDMI connection abnormality (cable damage, HDCP non-compliance etc). Check for faulty parts and replace with new parts if necessary. - HDMI image format incompatibility. Check for faulty parts and replace with new parts if necessary.
USB Update Fail	X	X	X	X	X	X	X	X	X	*	USB communication error. Check for faulty parts and replace with new parts if necessary.
USB Overcurrent	*	*	*	*	*	*	*	*	*	*	USB communication error. Check for faulty parts and replace with new parts if necessary.
"X" means LED off. "*" means LED blink											

Table 8-6

8.4. Cold start

Step 1 : Power up the unit.

Step 2 : Press & hold [POWER] button on the unit for 4s or more.

All LED will light-up and blink for 2 times (at frequency of 4Hz)

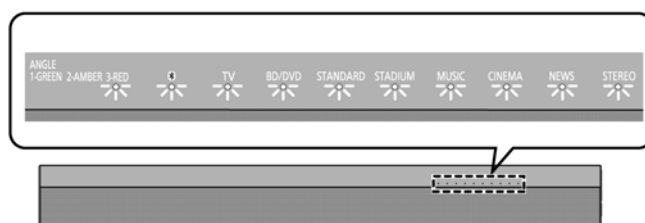


Figure 8-2

9 Troubleshooting Guide

This section is not available at the time of issue

10 Service Fixture & Tools

Prepare service tools before process service position.

Ref. No.	Part No.	Description	Remarks
SFT1	REX1574	10P Cable Wire (SMPS-MAIN)	

11 Disassembly and Assembly Instructions

Caution Note:

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

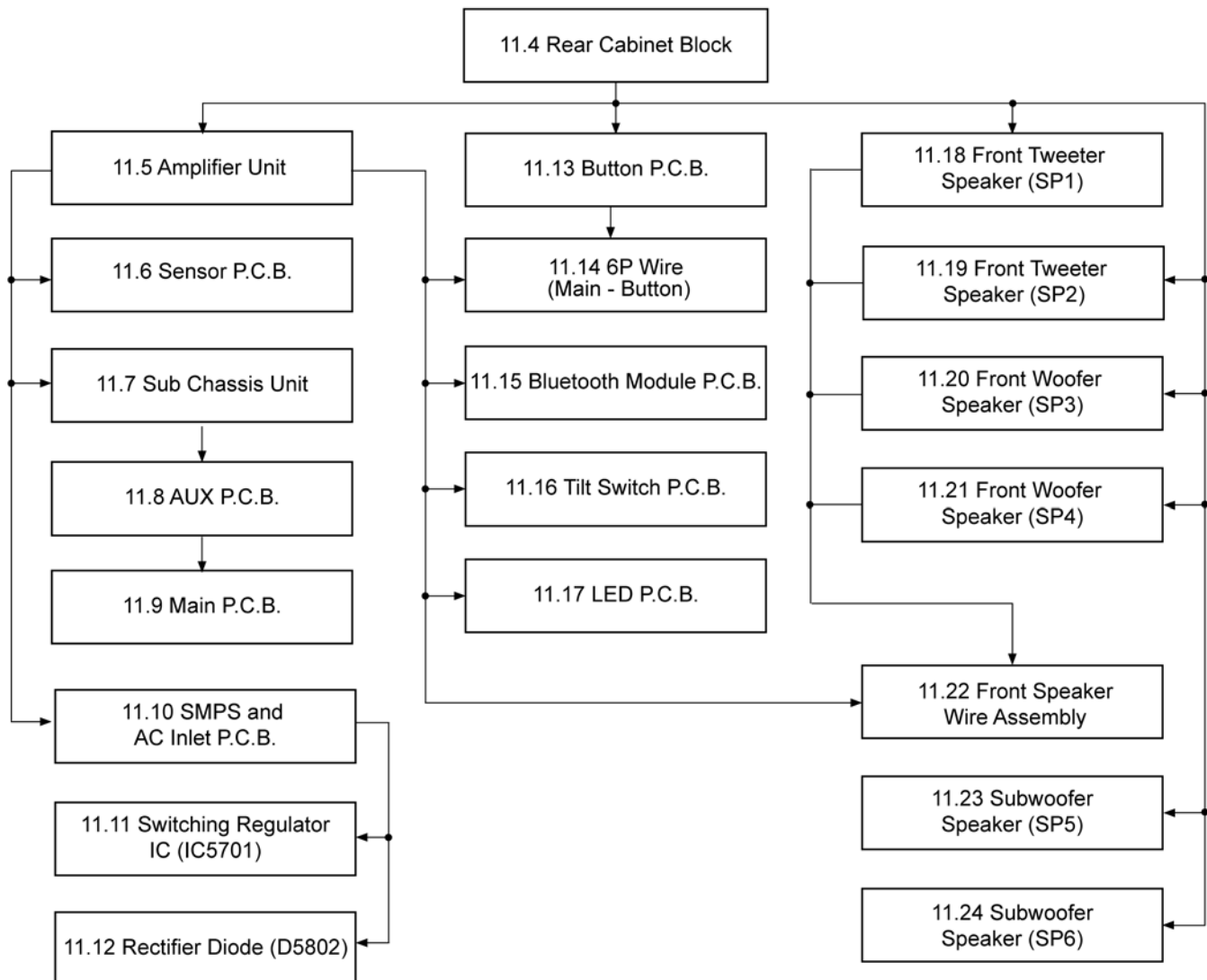
**CAUTION: HOT!!
PLEASE DO NOT
TOUCH THE HEAT SINK**

- During disassembly and assembly, please ensure proper service tools, equipments or jigs is being used.
 - During replacement of component parts, please refer to the section of “Replacement Parts List” as described in the service manual.
 - Select items from the following indexes when disassembly or replacement are required.
-
- Disassembly of Rear Cabinet Block
 - Disassembly of Amplifier Unit
 - Disassembly of Sensor P.C.B.
 - Disassembly of Sub Chassis Unit
 - Disassembly of AUX P.C.B.
 - Disassembly of Main P.C.B.
 - Disassembly of SMPS and AC Inlet P.C.B.
 - Replacement of Switching Regulator IC (IC5701)
 - Replacement of Rectifier Diode (D5802)
 - Disassembly of Button P.C.B.
 - Replacement of 6P Wire (Main - Button)
 - Disassembly of Bluetooth Module P.C.B.
 - Disassembly of Tilt Switch P.C.B.
 - Disassembly of LED P.C.B.
 - Disassembly of Front Tweeter Speaker (SP1)
 - Disassembly of Front Tweeter Speaker (SP2)
 - Disassembly of Front Woofer Speaker (SP3)
 - Disassembly of Front Woofer Speaker (SP4)
 - Replacement of Front Speaker Wire Assembly
 - Disassembly of Subwoofer Speaker (SP5)
 - Disassembly of Subwoofer Speaker (SP6)

11.1. 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.



11.2. Types of Screws

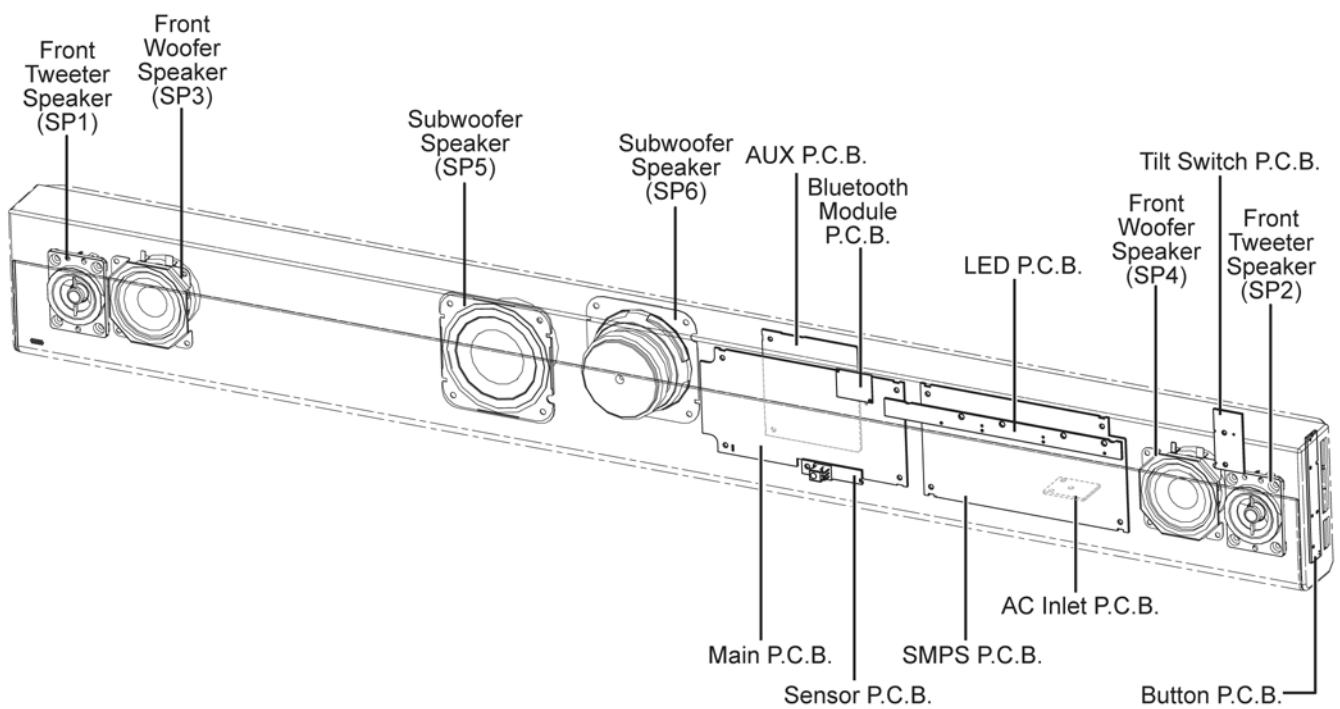
CAUTION NOTE:

Please use original screw and at correct locations.

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

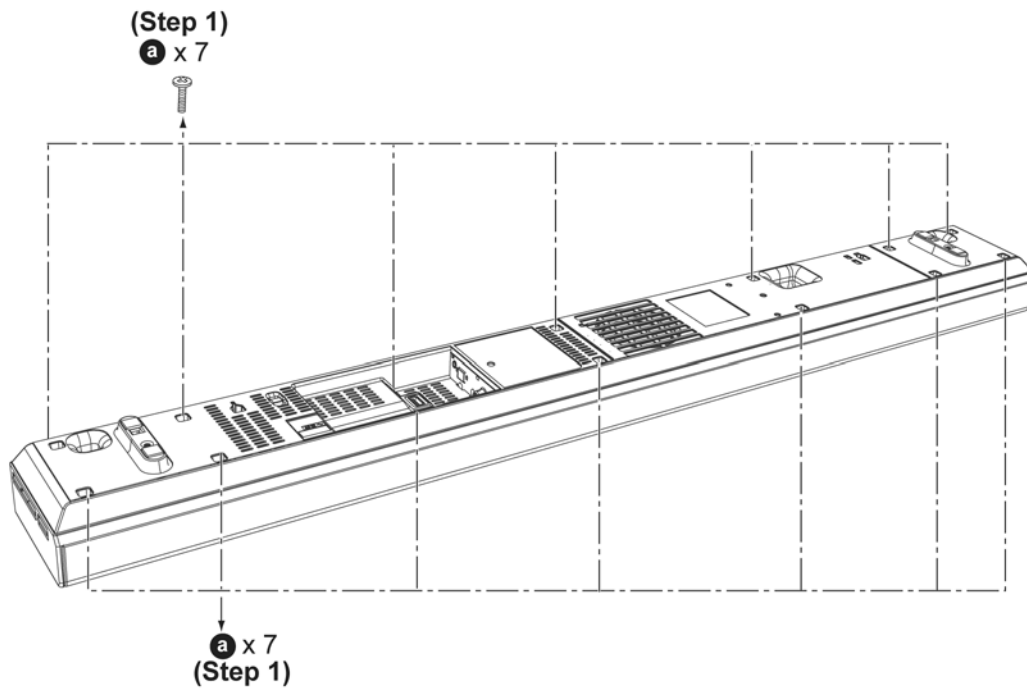
- a** : XTB3+12JFJK
- b** : RHD301005
- c** : RHD30119-S
- d** : RHD30102-1
- e** : XTB3+10JFJ
- f** : RHD14136

11.3. Main Parts Location Diagram



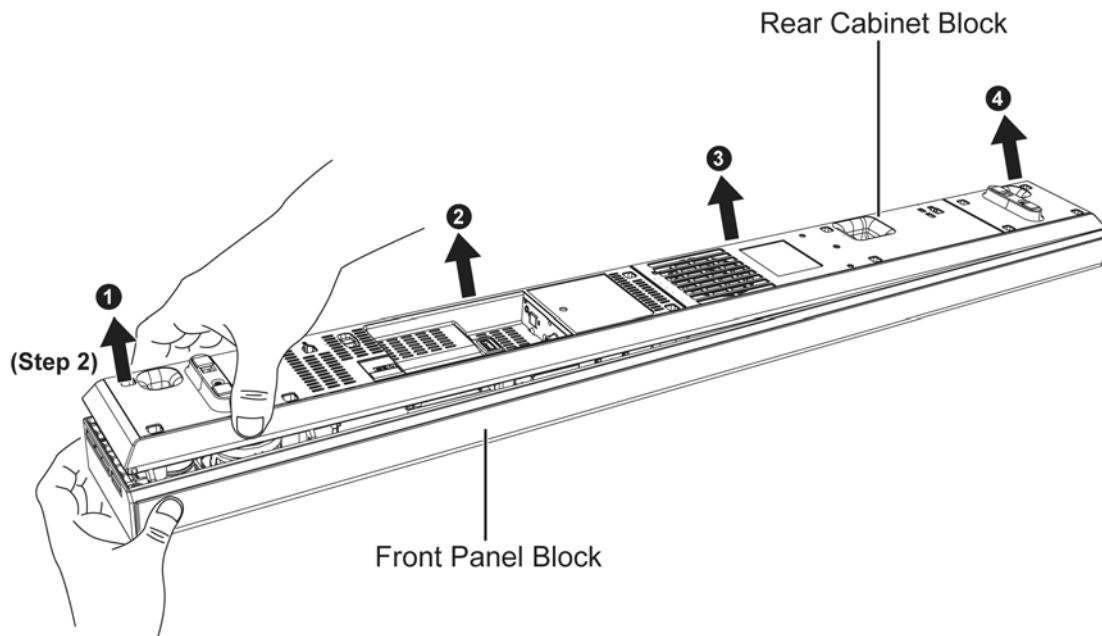
11.4. Disassembly of Rear Cabinet Block

Step 1 : Remove 14 screws.



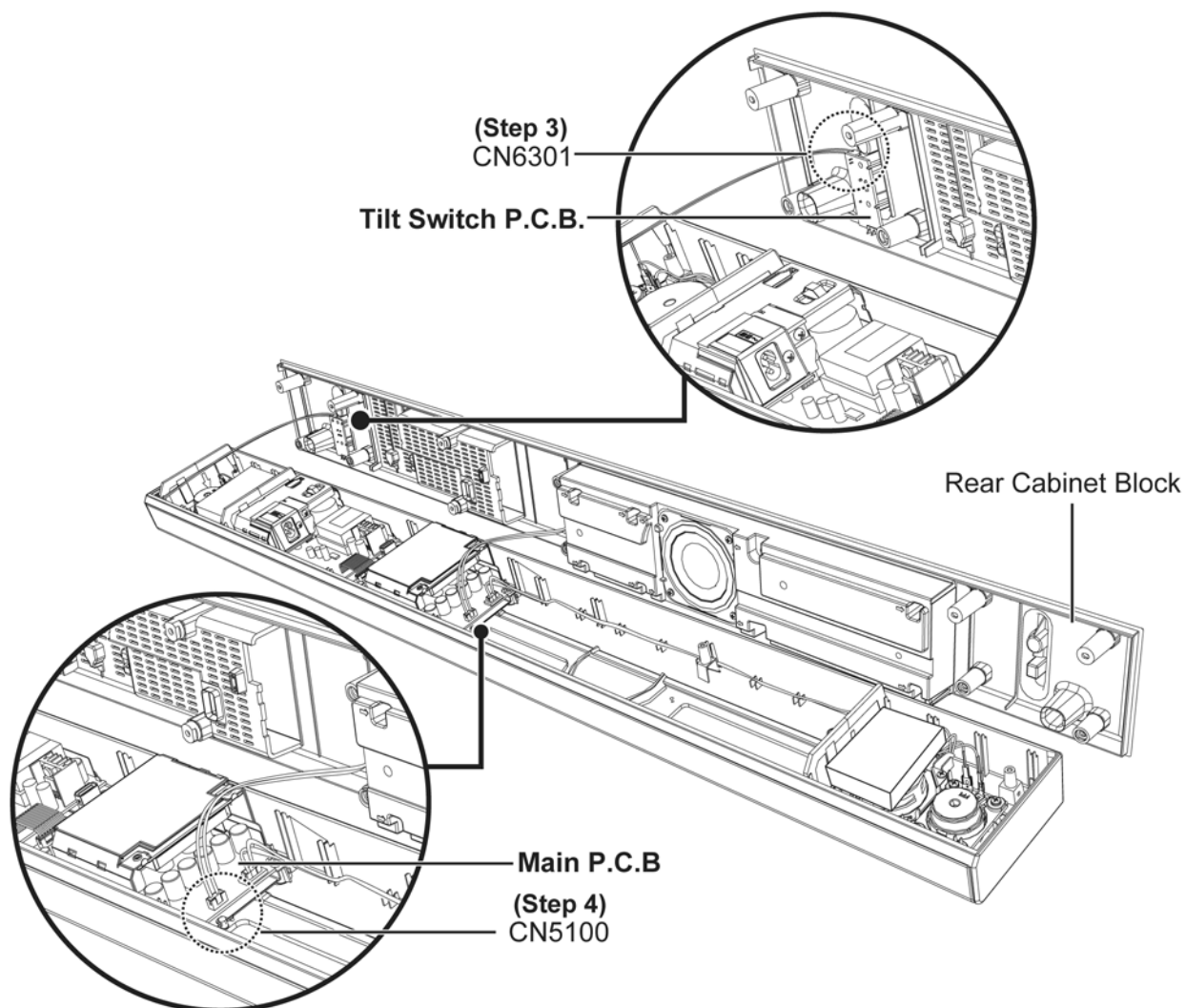
Step 2 : Detach the Rear Cabinet Block from the Front Panel Block in sequence (1 - 4).

Caution: Do not exert too much force as it may damage the wiring within.



Step 3 : Detach 2P Wire at the connector (CN6301) on the Tilt Switch P.C.B.

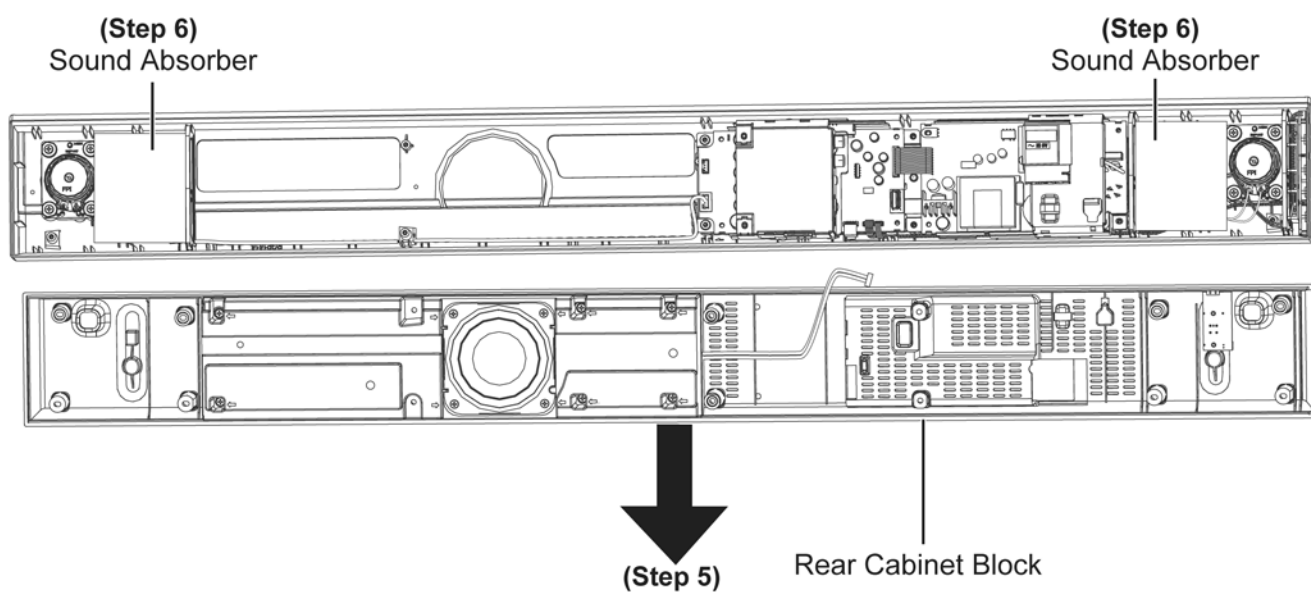
Step 4 : Detach 4P Wire at the connector (CN5100) on the Main P.C.B..



Step 5 : Remove the Rear Cabinet Block.

Step 6 : Remove the Sound Absorber.

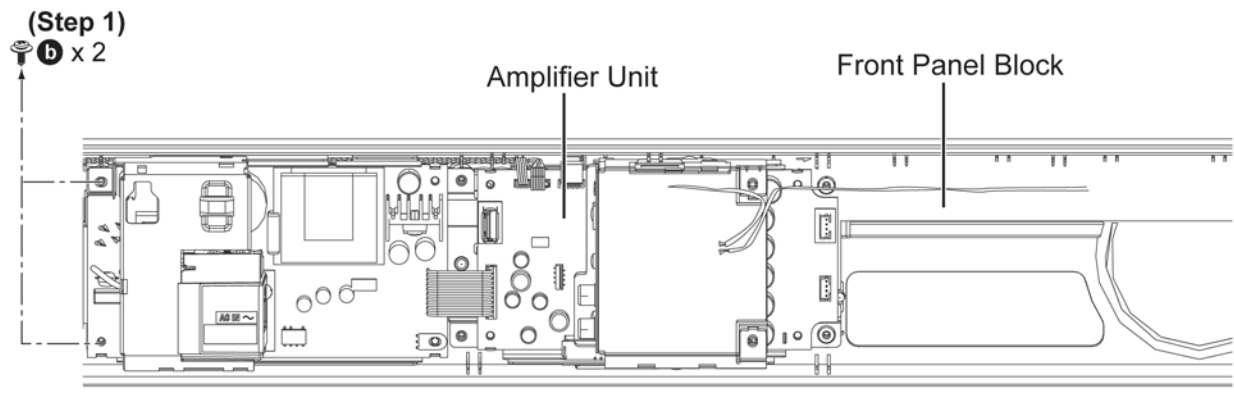
Caution: Safe keep the Sound Absorber and place them back during assembling.



11.5. Disassembly of Amplifier Unit

- Refer to “Disassembly of Rear Cabinet Block”.

Step 1 : Remove 2 screws.

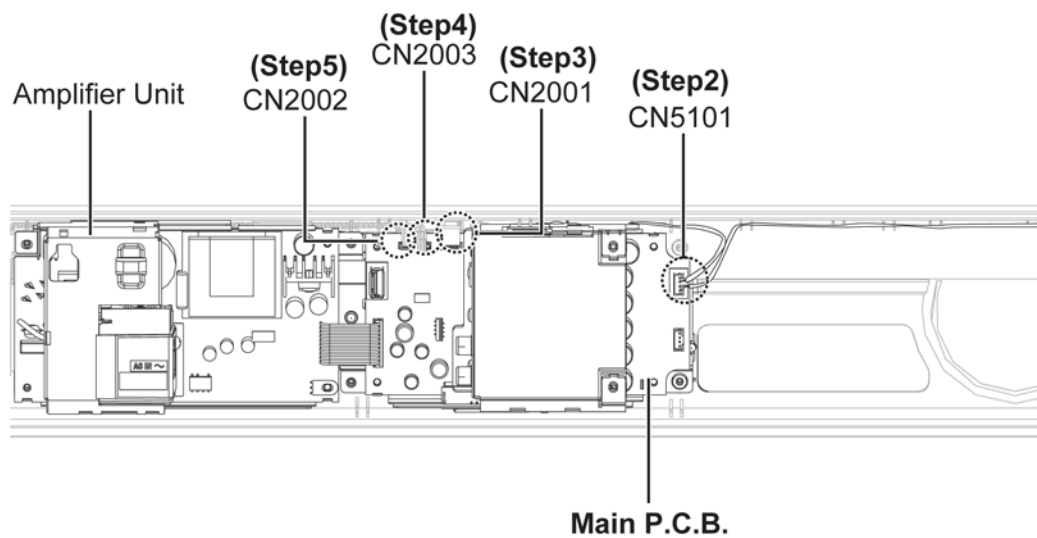


Step 2 : Detach 4P Wire at the connector (CN5101) on the Main P.C.B..

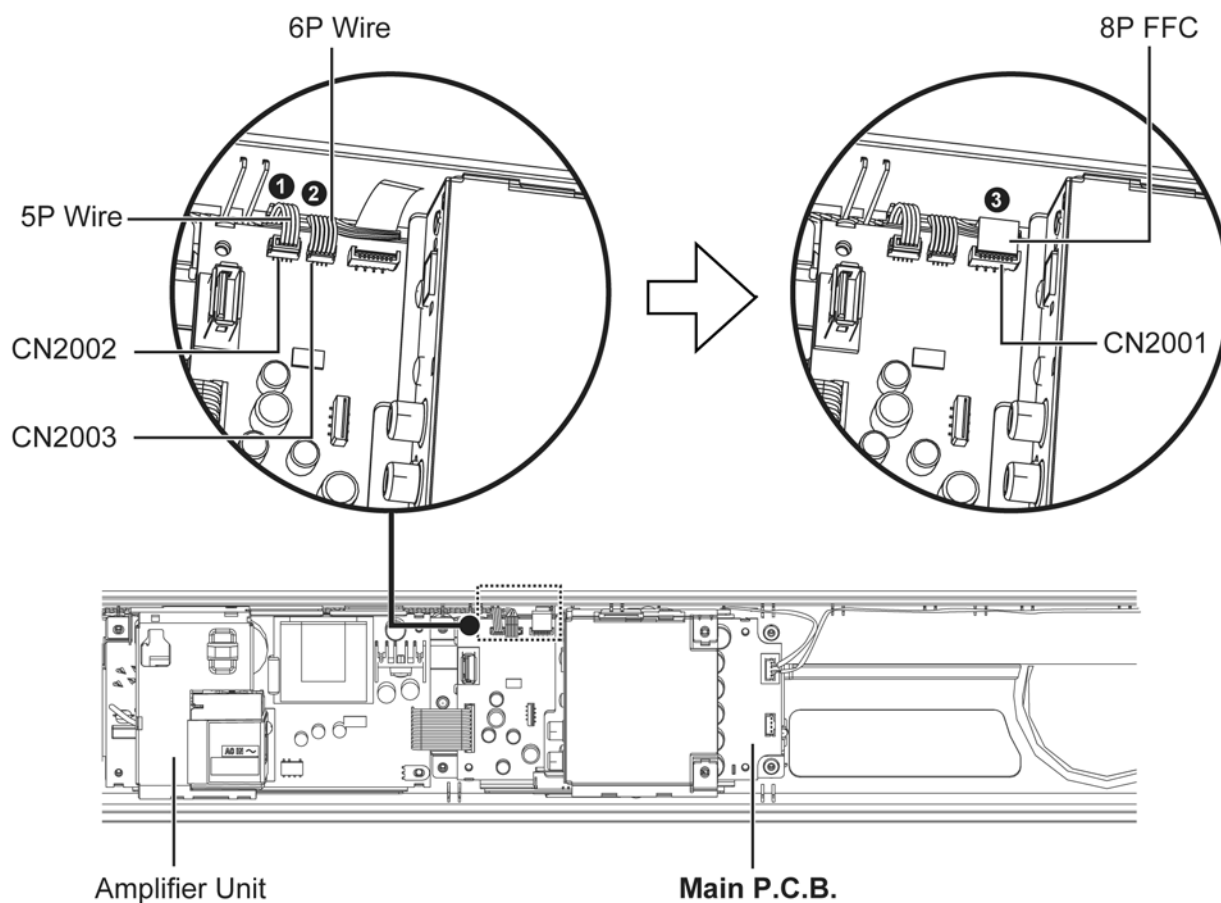
Step 3 : Detach 8P FFC at the connector (CN2001) on the Main P.C.B..

Step 4 : Detach 6P Wire at the connector (CN2003) on the Main P.C.B..

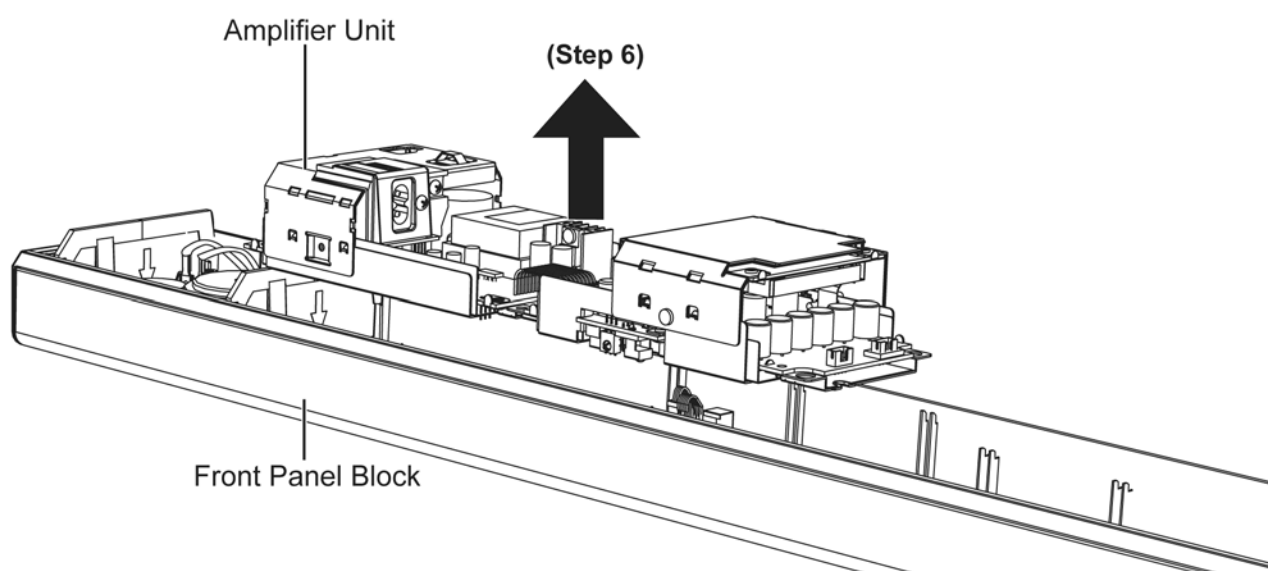
Step 5 : Detach 5P Wire at the connector (CN2002) on the Main P.C.B..



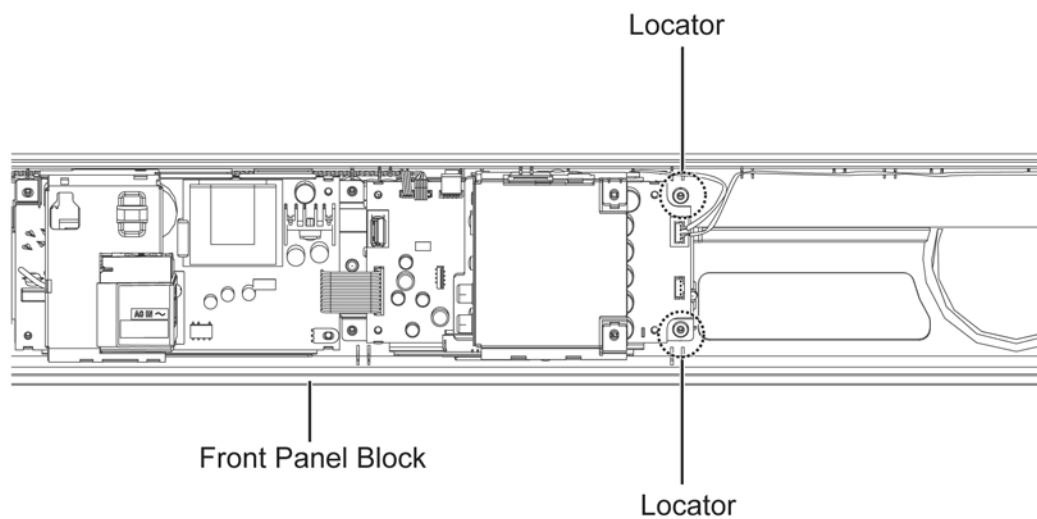
Caution: During assembling, ensure that the 5P Wire, 6P Wire and the 8P FFC are attached to the connectors onto the Main P.C.B. in sequence (1 - 3).



Step 6 : Lift up to remove the Amplifier Unit from the Front Panel Block.



Caution: During assembling, ensure that the Amplifier Unit is located and seated properly onto the Front Panel Block.

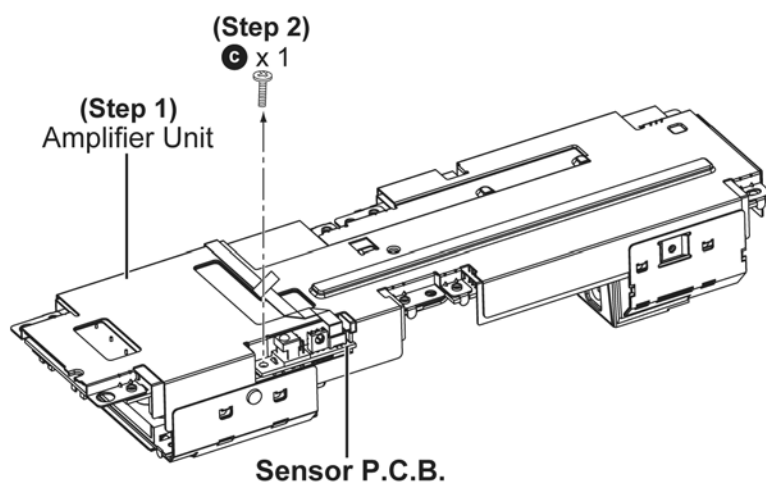


11.6. Disassembly of Sensor P.C.B.

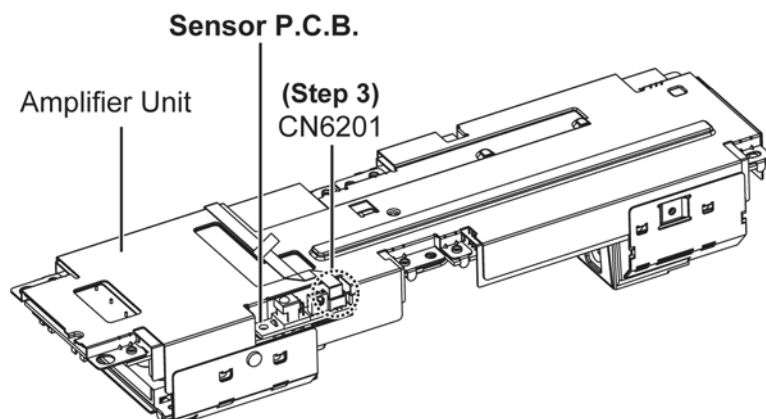
- Refer to "Disassembly of Rear Cabinet Block".
- Refer to "Disassembly of Amplifier Unit".

Step 1 : Upset the Amplifier Unit as shown.

Step 2 : Remove 1 screw.

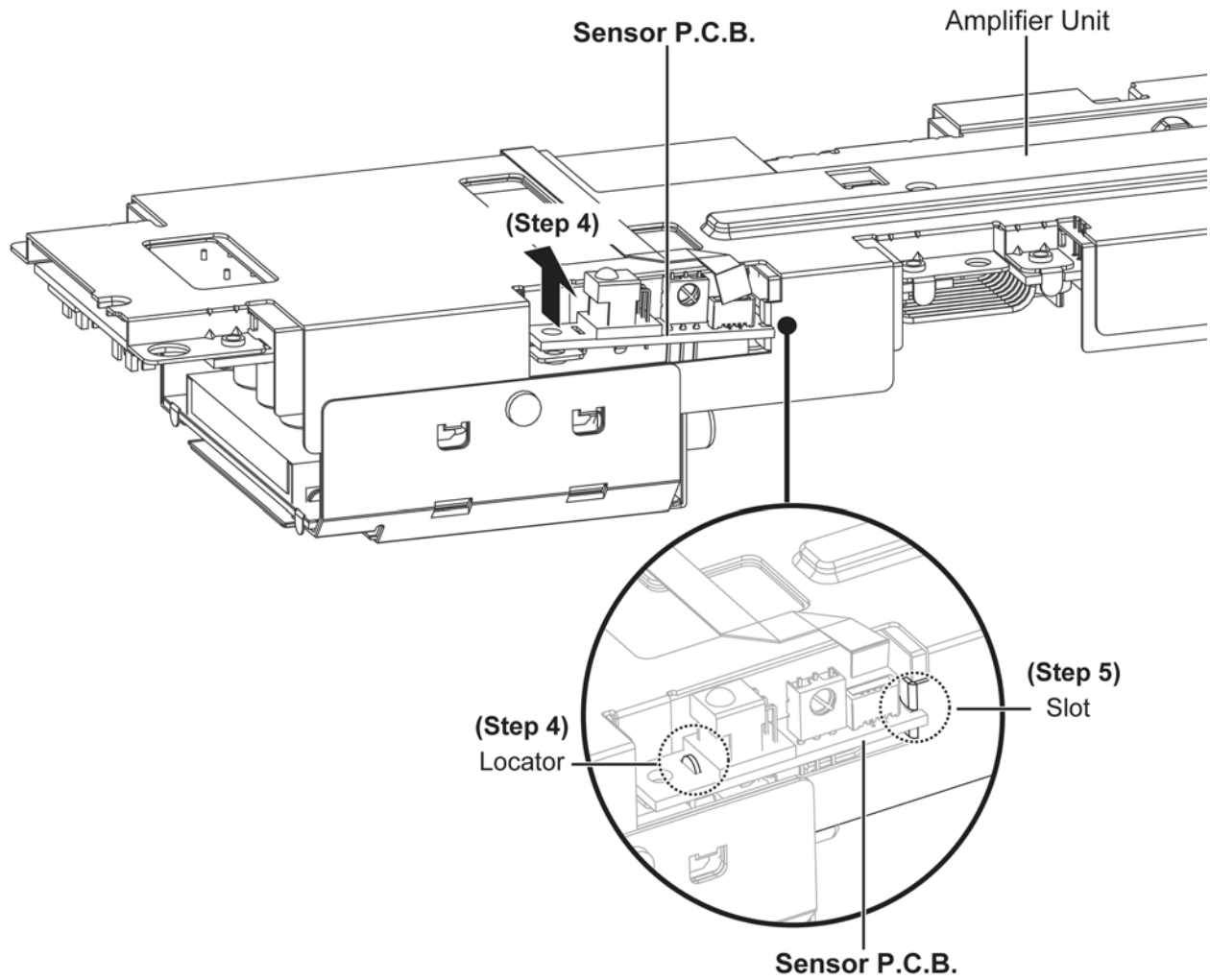


Step 3 : Detach 5P FFC at the connector (CN6201) on the Sensor P.C.B..

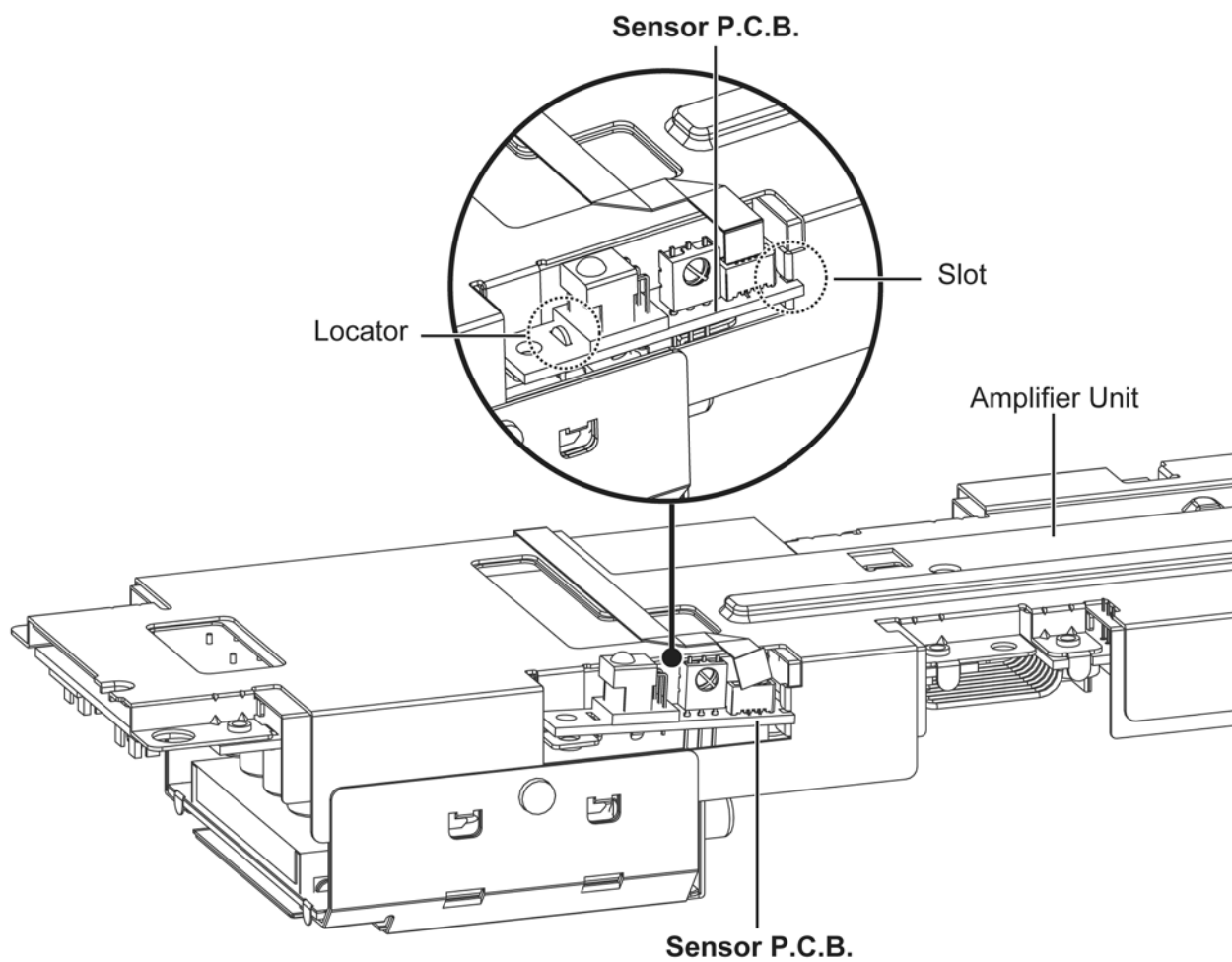


Step 4 : Slightly lift up the Sensor P.C.B. to release from the locator.

Step 5 : Remove the Sensor P.C.B. from the slot.



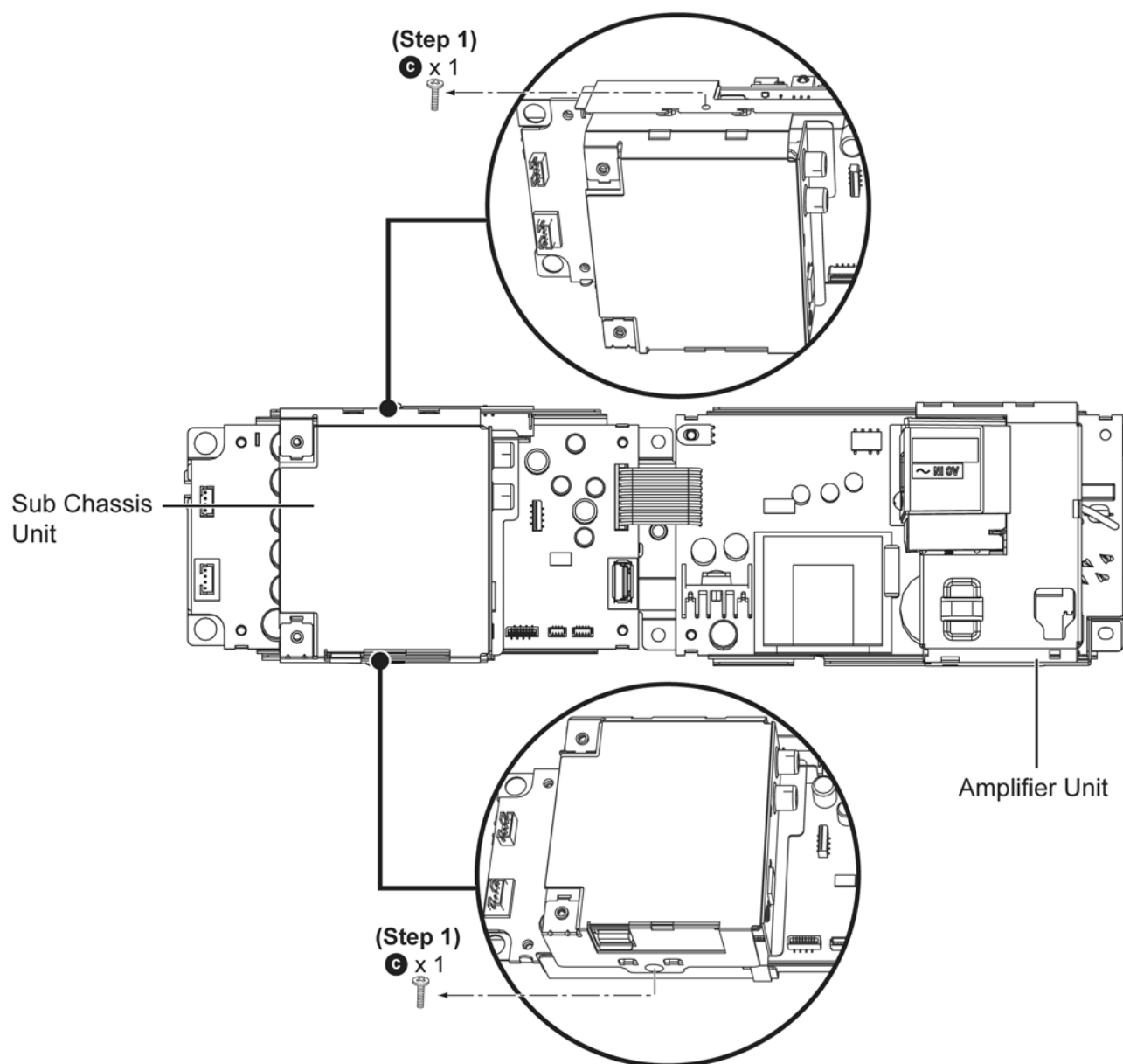
Caution: During assembling, ensure that the Sensor P.C.B. is located and seated properly onto the slot and locator.



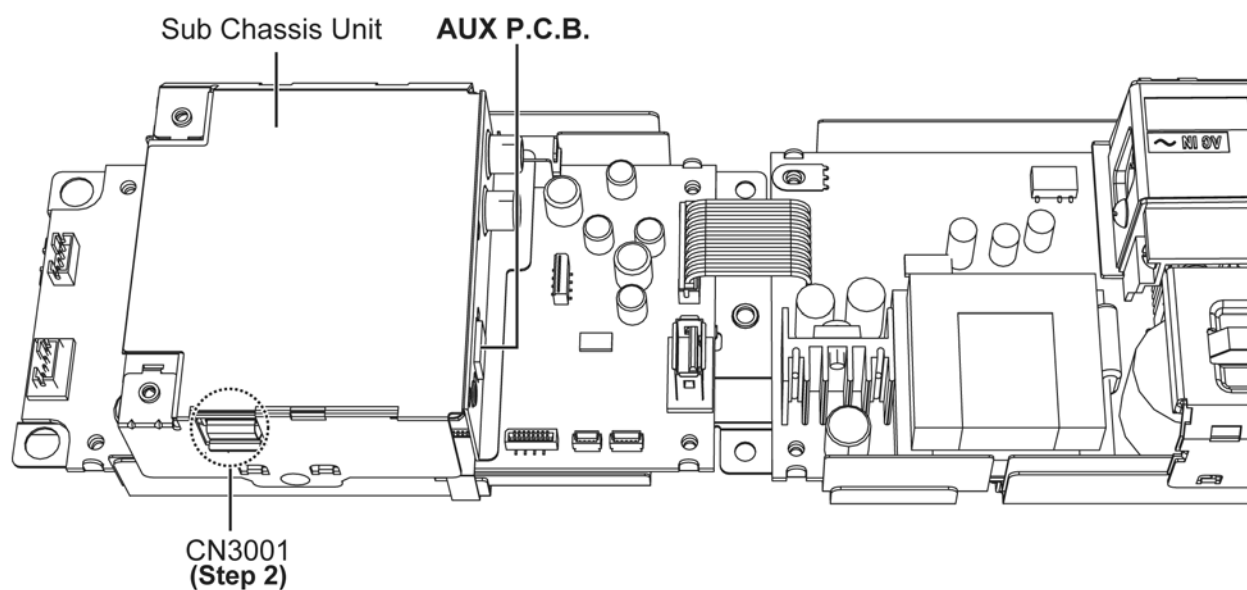
11.7. Disassembly of Sub Chassis Unit

- Refer to “Disassembly of Rear Cabinet Block”.
- Refer to “Disassembly of Amplifier Unit”.

Step 1 : Remove 2 screws.

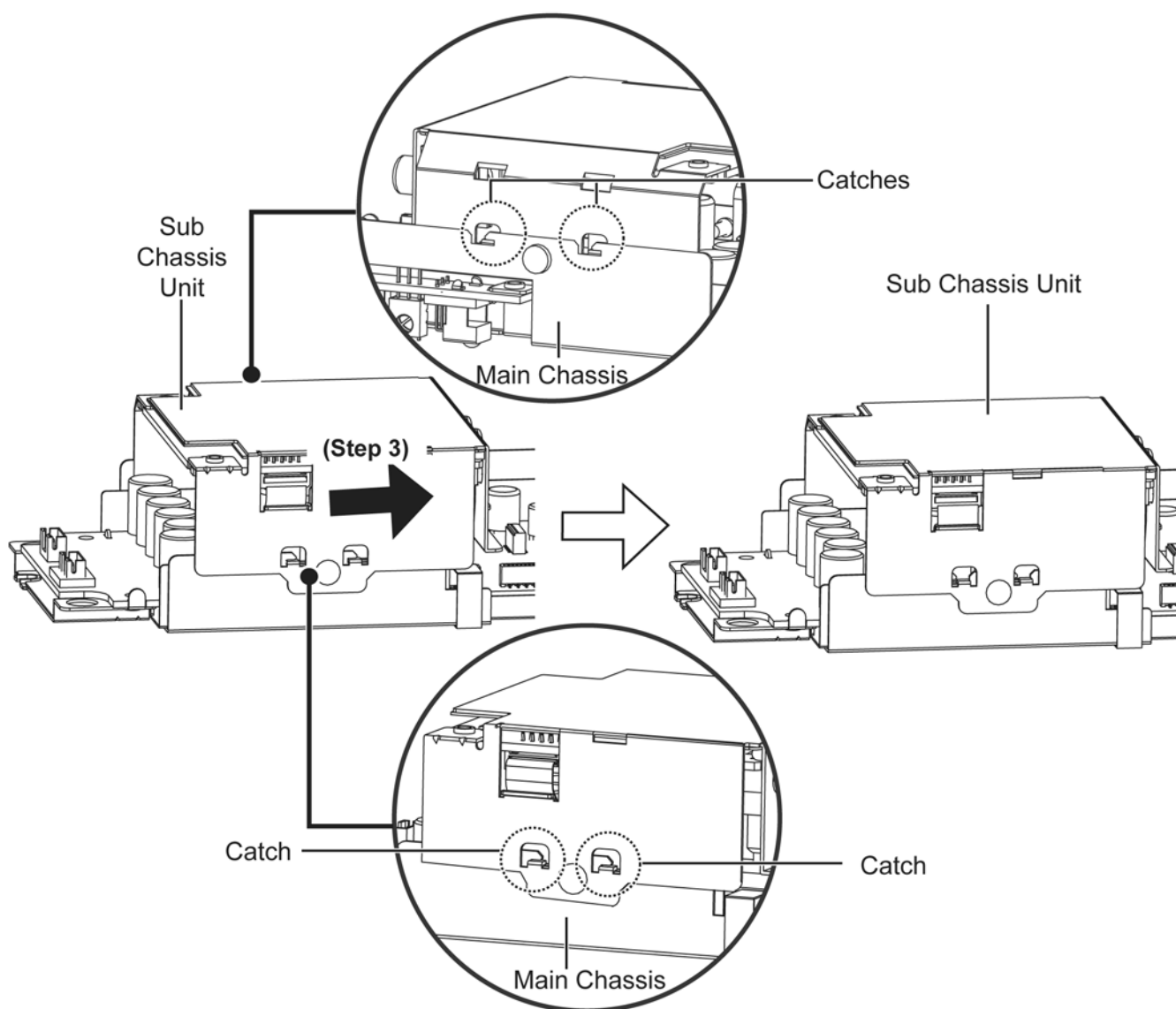


Step 2 : Detach 9P FFC at the connector (CN3001) on the AUX P.C.B..

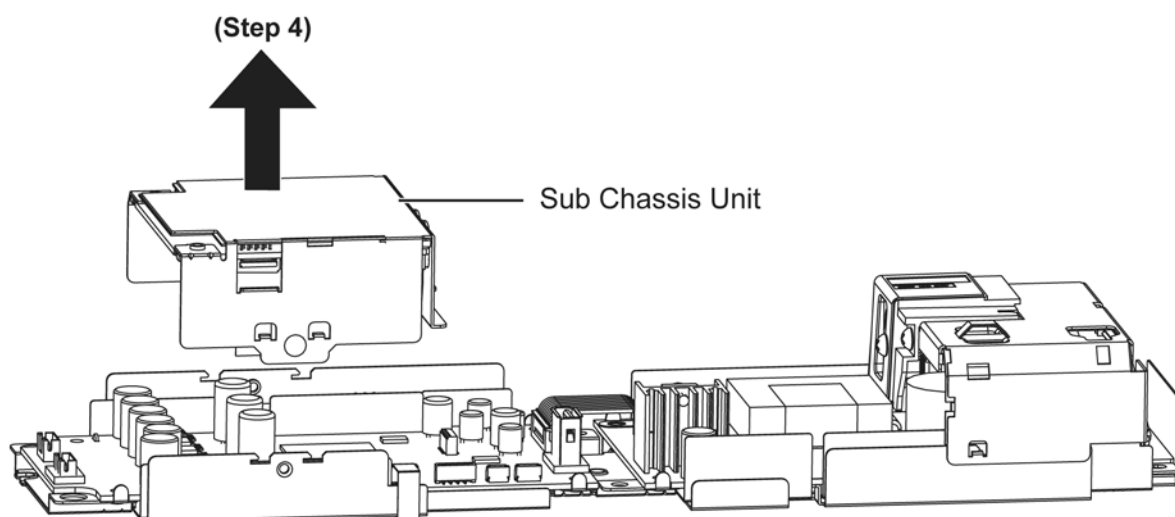


Step 3 : Push sideways to release the Sub Chassis Unit from the Main Chassis.

Caution: During assembling, ensure that the Sub Chassis Unit is located and seated properly onto the Main Chassis.



Step 4 : Lift up to remove the Sub Chassis Unit.

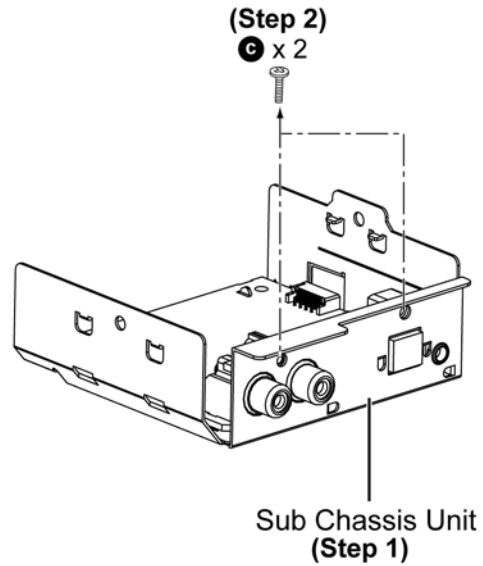


11.8. Disassembly of AUX P.C.B.

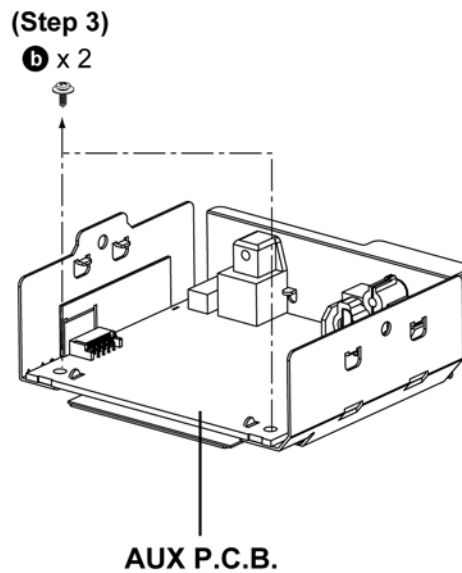
- Refer to "Disassembly of Rear Cabinet Block".
- Refer to "Disassembly of Amplifier Unit".
- Refer to "Disassembly of Sub Chassis Unit".

Step 1 : Upset the Sub Chassis Unit.

Step 2 : Remove 2 screws.

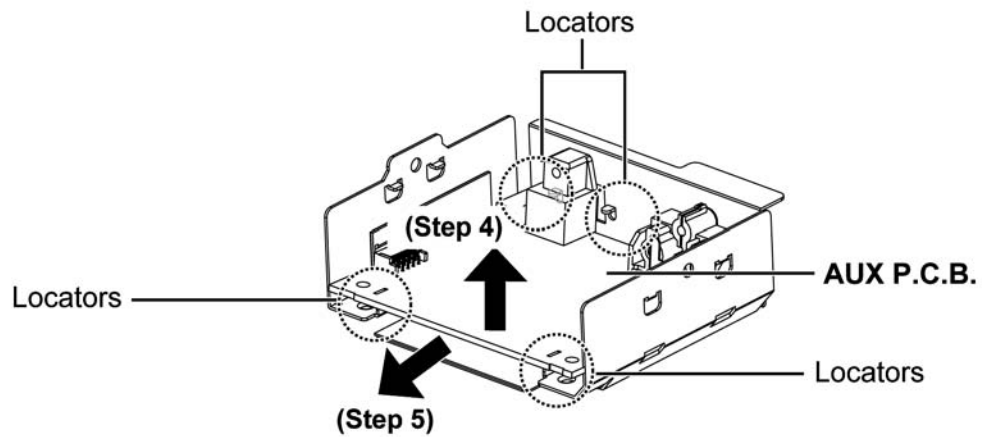


Step 3 : Remove 2 screws.

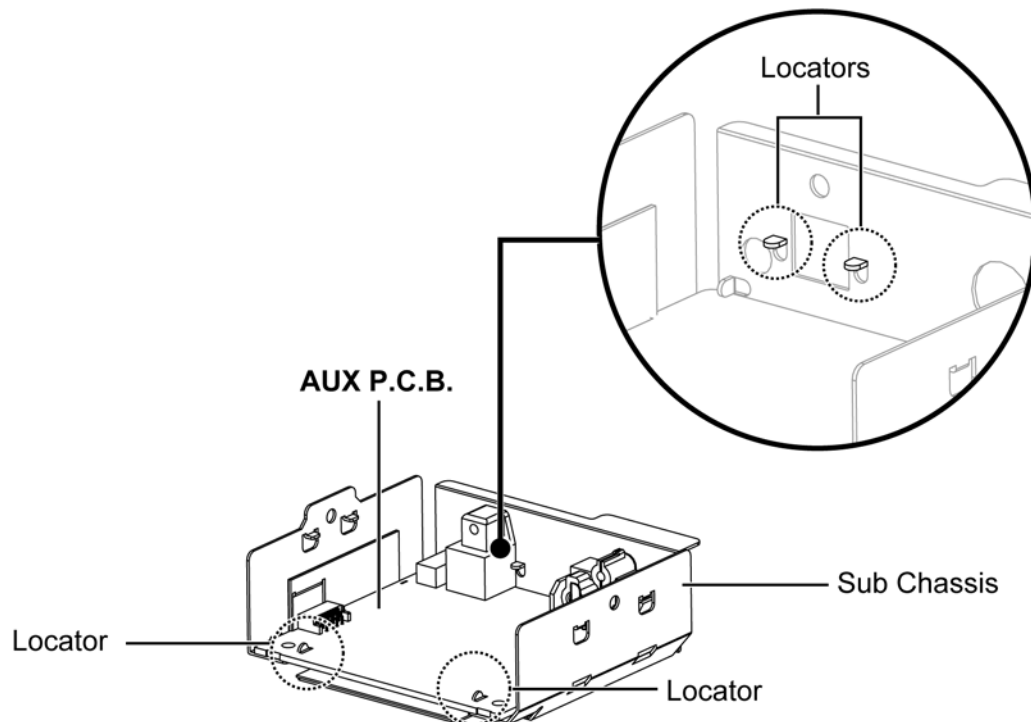


Step 4 : Slightly lift up the AUX P.C.B. to release from the locators.

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



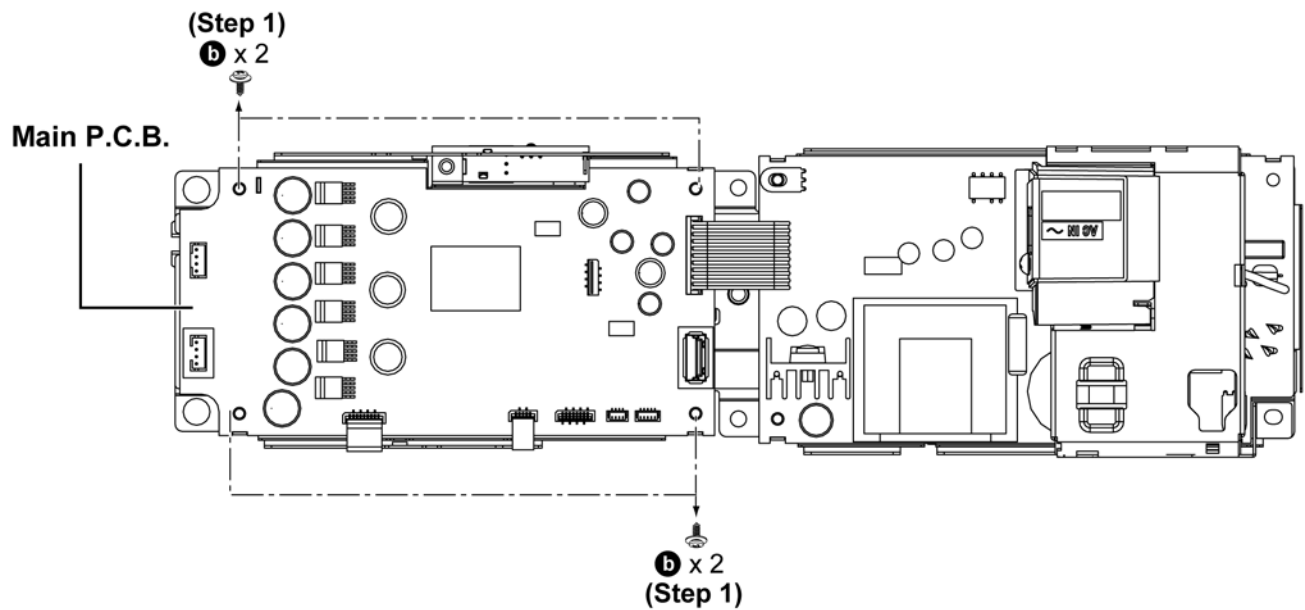
Caution: During assembling, ensure that the AUX P.C.B. is located and seated properly onto the Sub Chassis.



11.9. Disassembly of Main P.C.B.

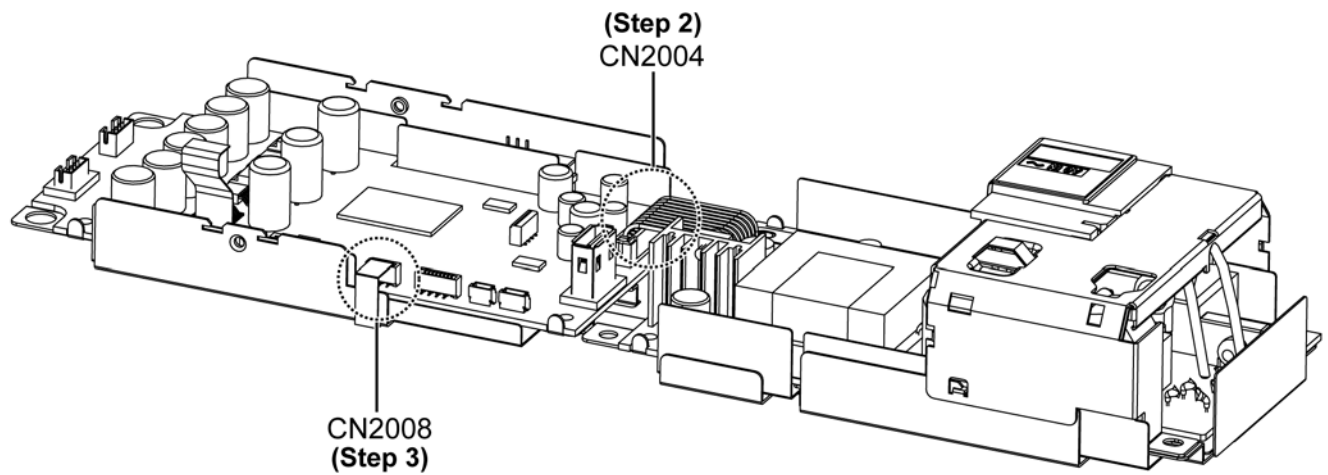
- Refer to "Disassembly of Rear Cabinet Block".
- Refer to "Disassembly of Amplifier Unit".
- Refer to "Disassembly of Sub Chassis Unit".

Step 1 : Remove 4 screws.

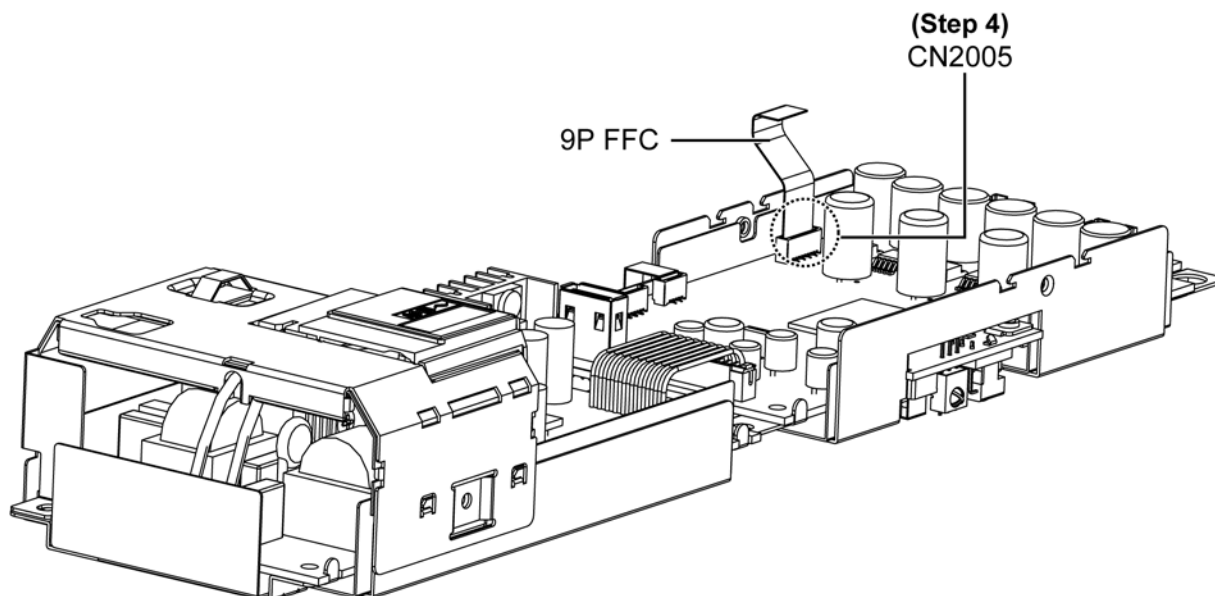


Step 2 : Detach 10P Cable wire at the connector (CN2004) on the Main P.C.B..

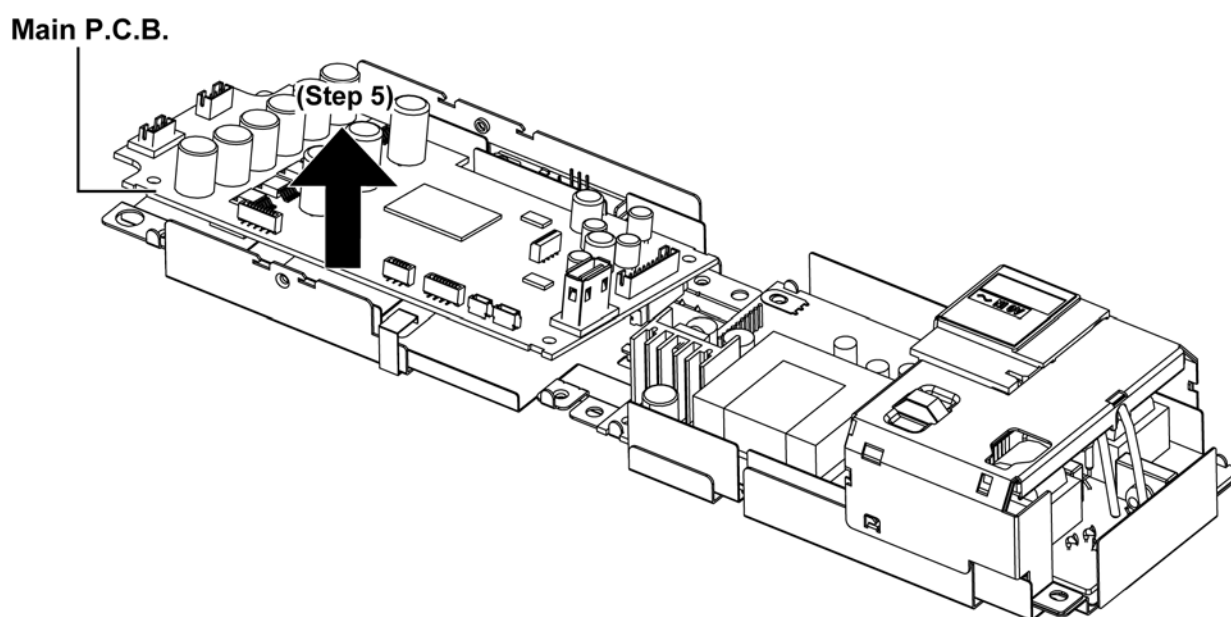
Step 3 : Detach 5P FFC of at the connector (CN2008) on the Main P.C.B..



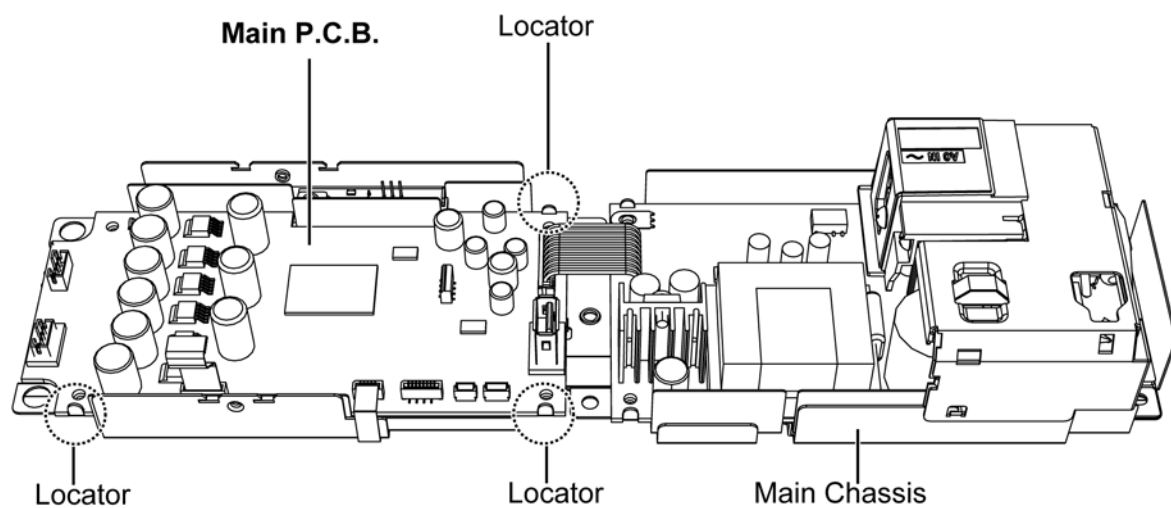
Step 4 : Detach 9P FFC of at the connector (CN2005) on the Main P.C.B..
Caution: Safe keep the 9P FFC and place it back during assembling.



Step 5 : Lift up to remove the Main P.C.B..



Caution: During assembling, ensure that the Main P.C.B. is located and seated properly onto the locators of the Main Chassis.



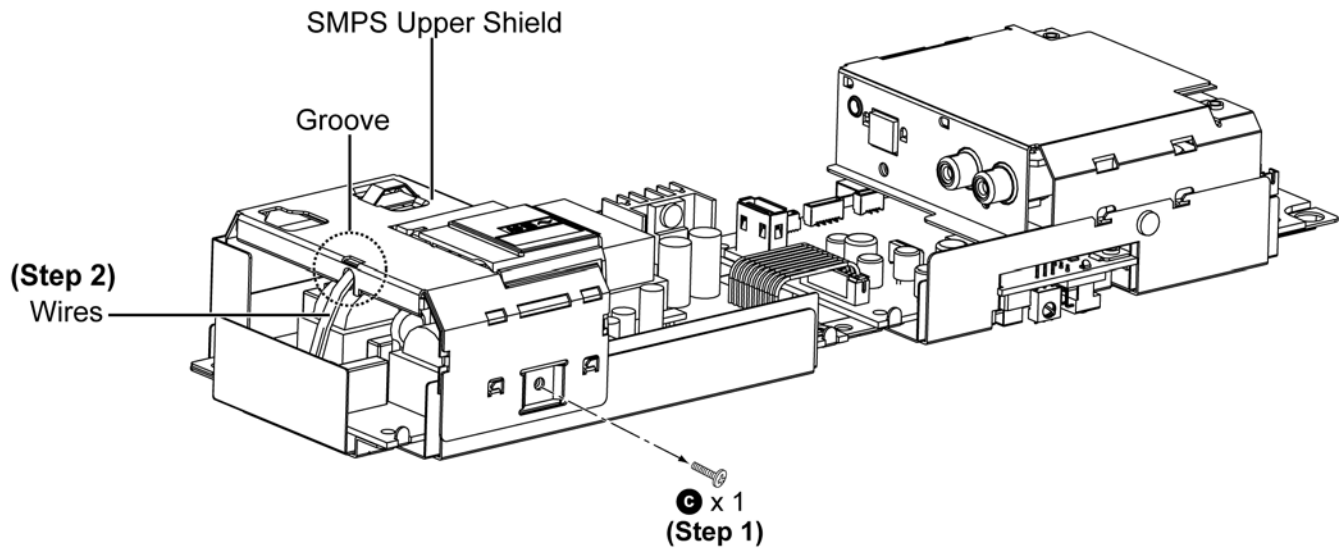
11.10. Disassembly of SMPS and AC Inlet P.C.B.

- Refer to “Disassembly of Rear Cabinet Block”.
- Refer to “Disassembly of Amplifier Unit”.

Step 1 : Remove 1 screw.

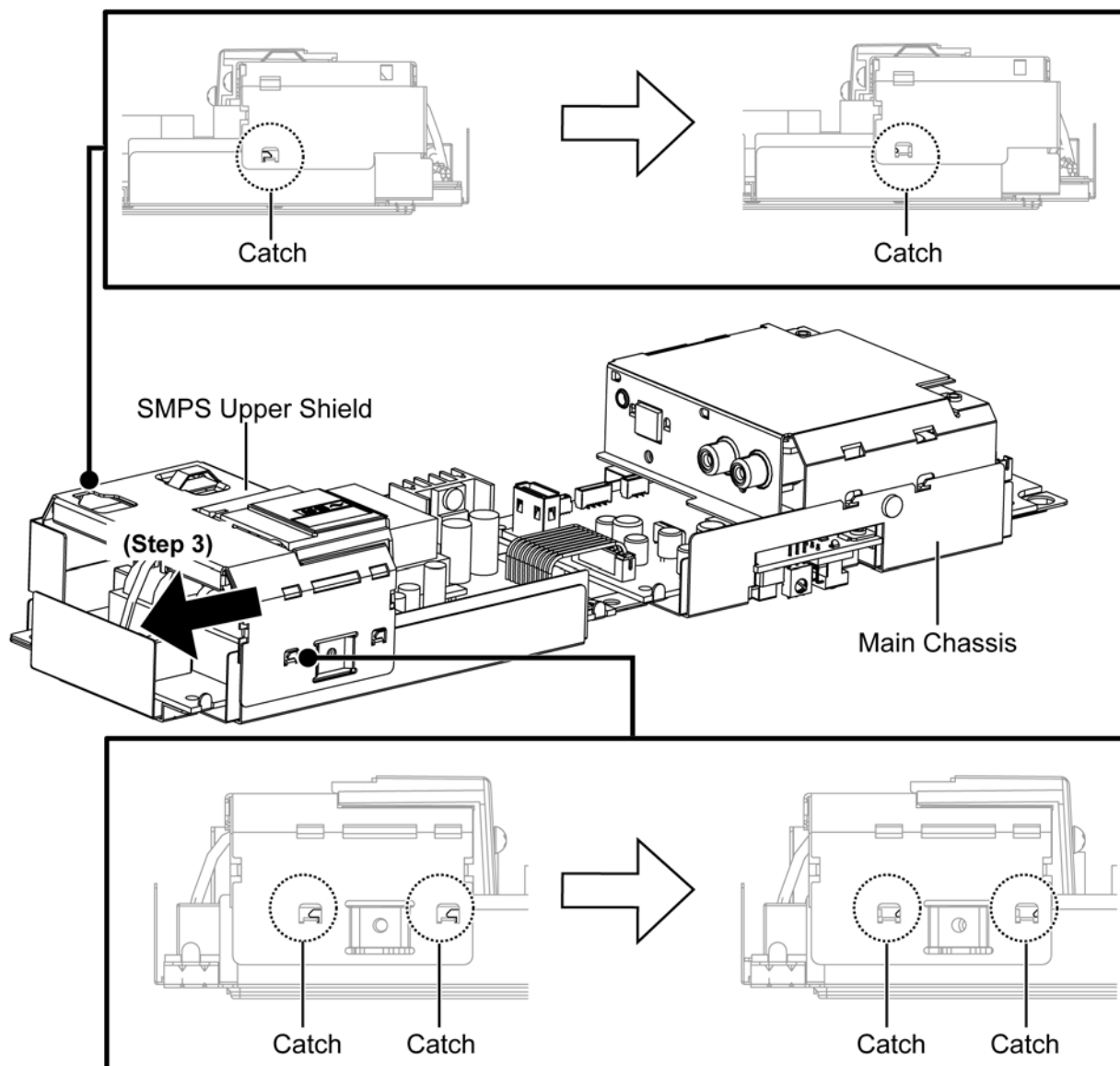
Step 2 : Release the wires from the groove of the SMPS Upper Shield.

Caution: During assembling, ensure that the wires are inserted into the groove of the SMPS Upper Shield.



Step 3 : Push sideway to release the SMPS Upper Shield from the Main Chassis.

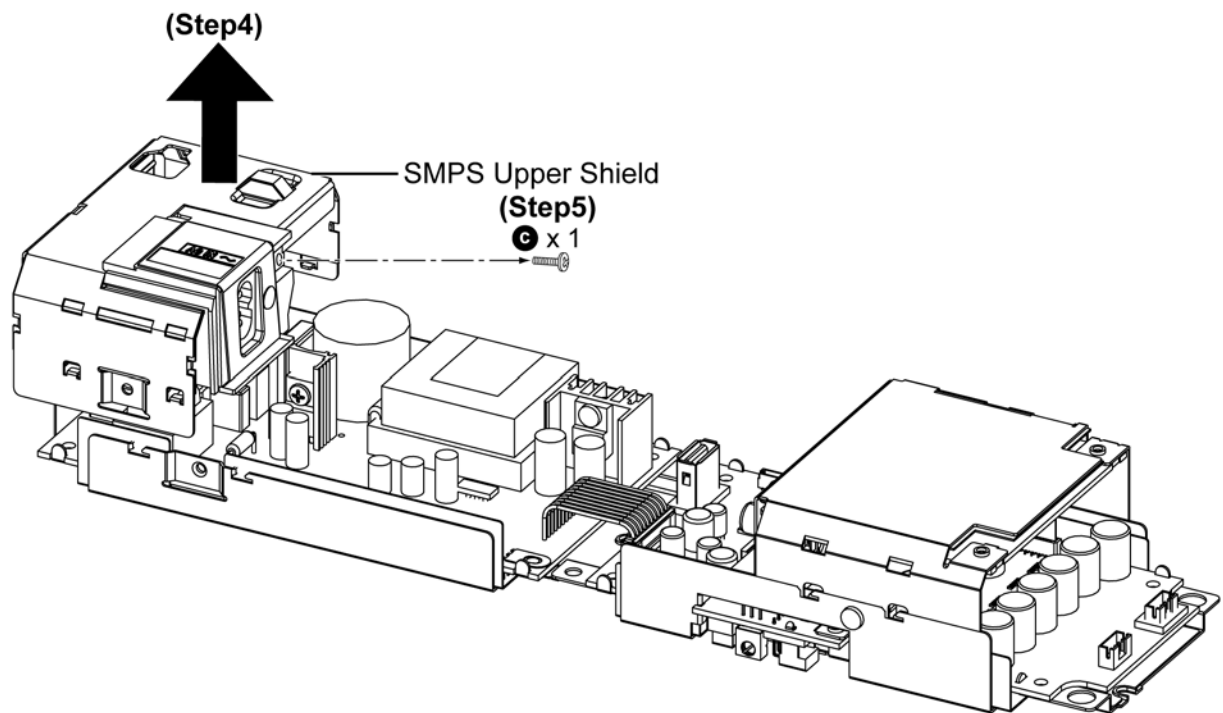
Caution: During assembling, ensure that the SMPS Upper Shield is caught properly onto the Main Chassis.



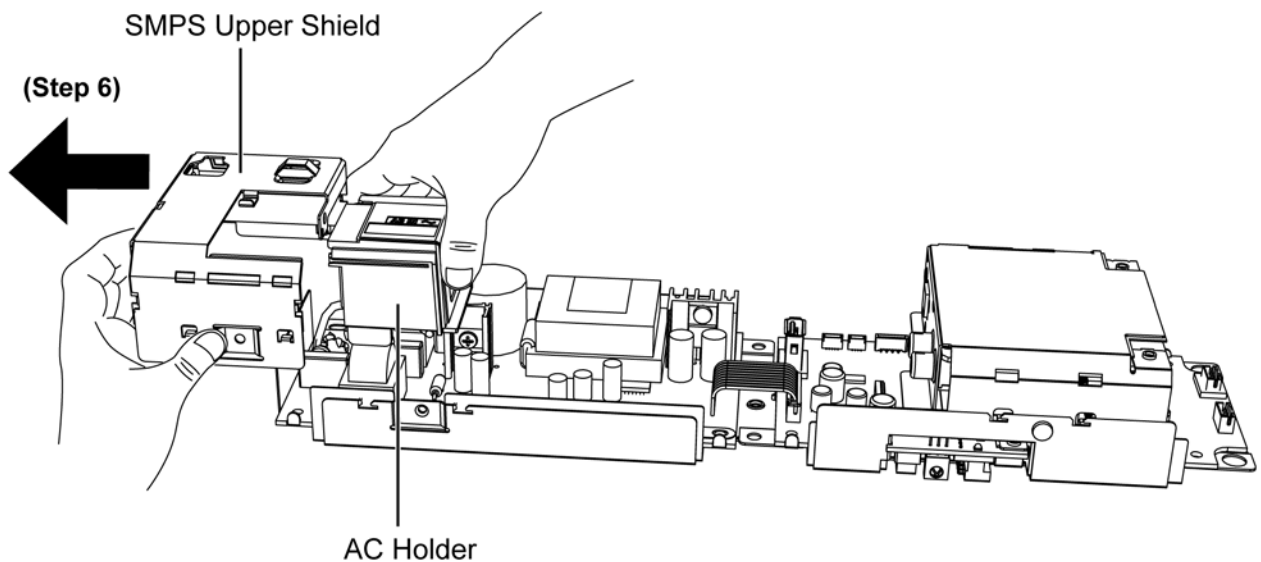
Step 4 : Slightly lift up the SMPS Upper Shield.

Caution: Do not exert too much force as it may damage the wires.

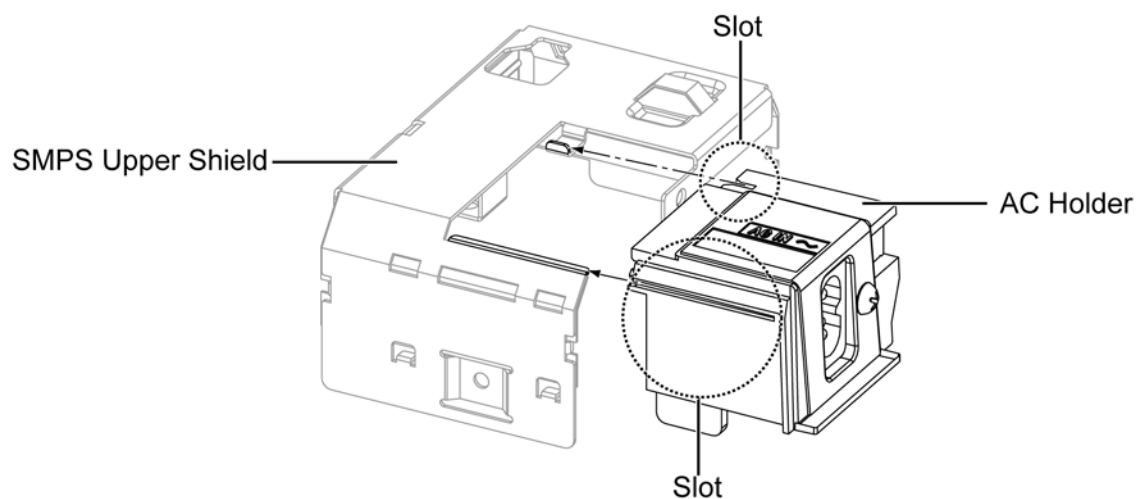
Step 5 : Remove 1 screw.



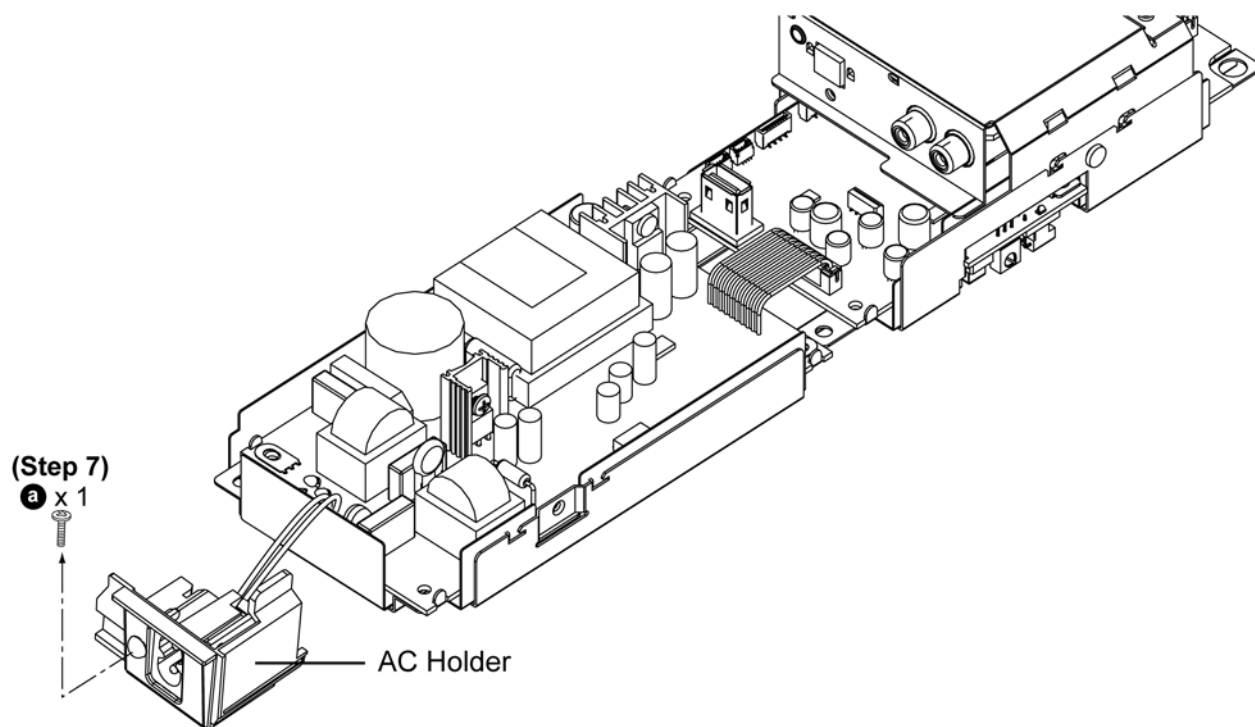
Step 6 : Remove the SMPS Upper Shield from the AC Holder.



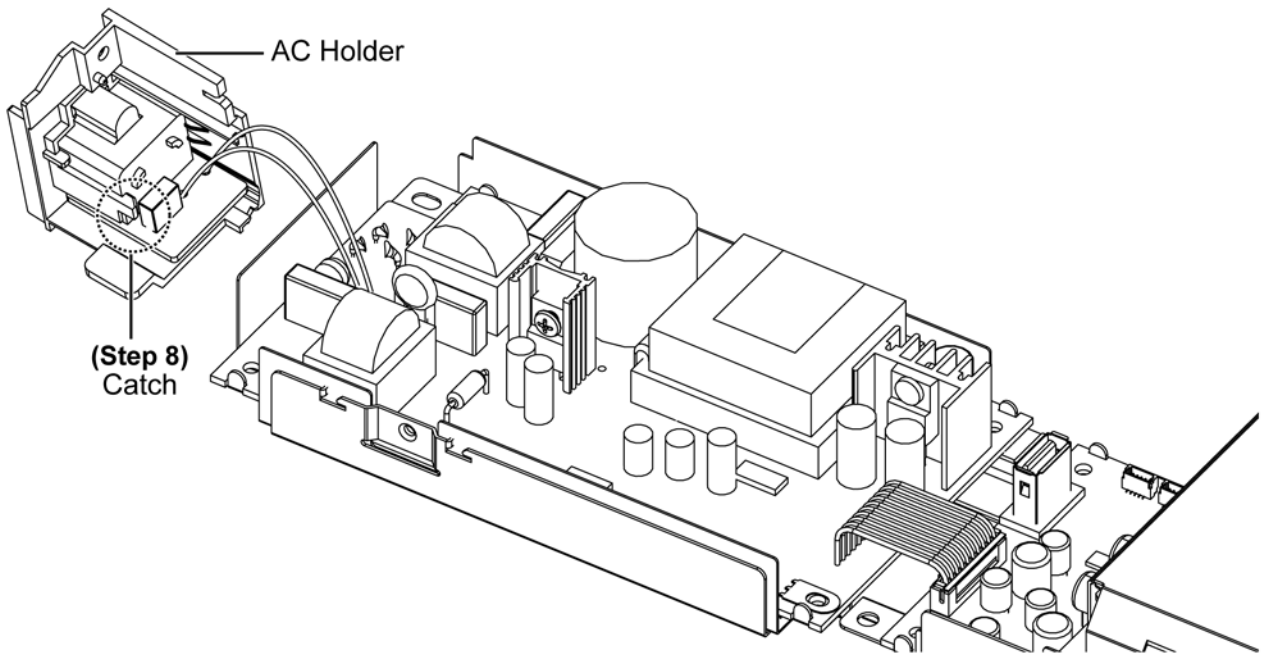
Caution: During assembling, ensure that the SMPS Upper Shield is inserted properly into the AC Holder.



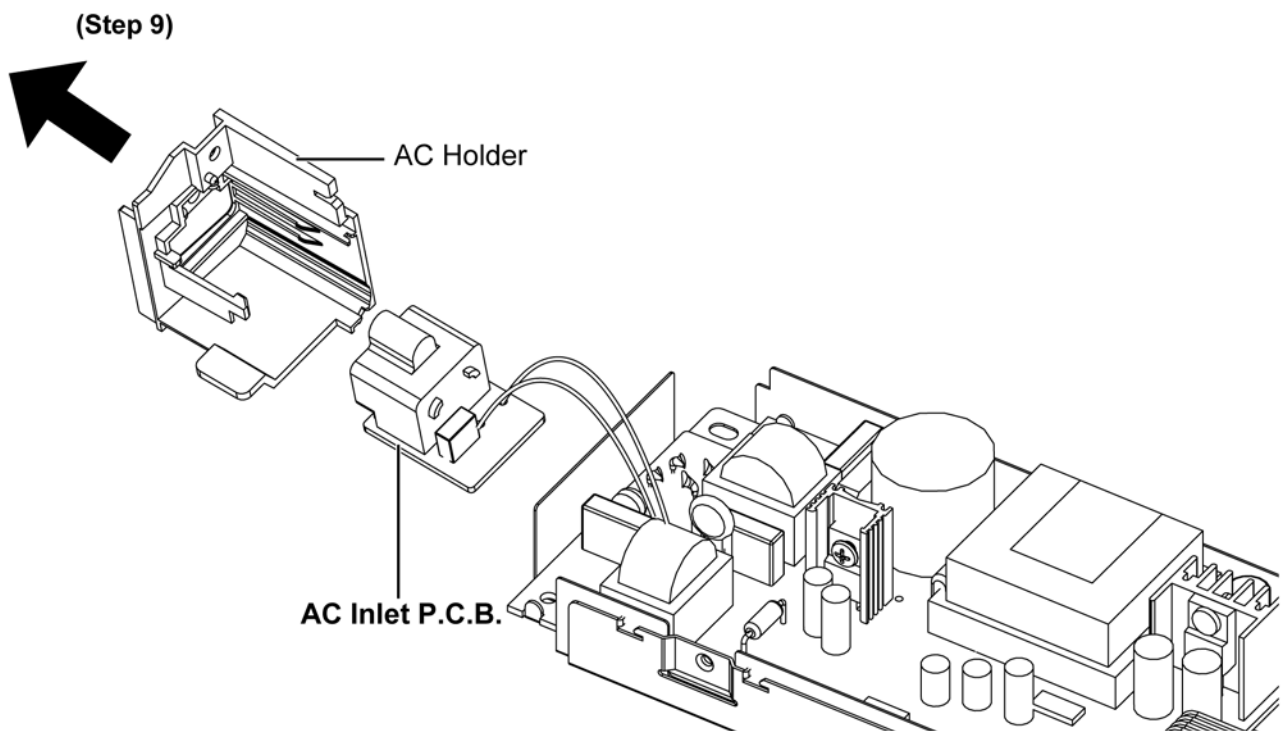
Step 7 : Remove 1 screw.



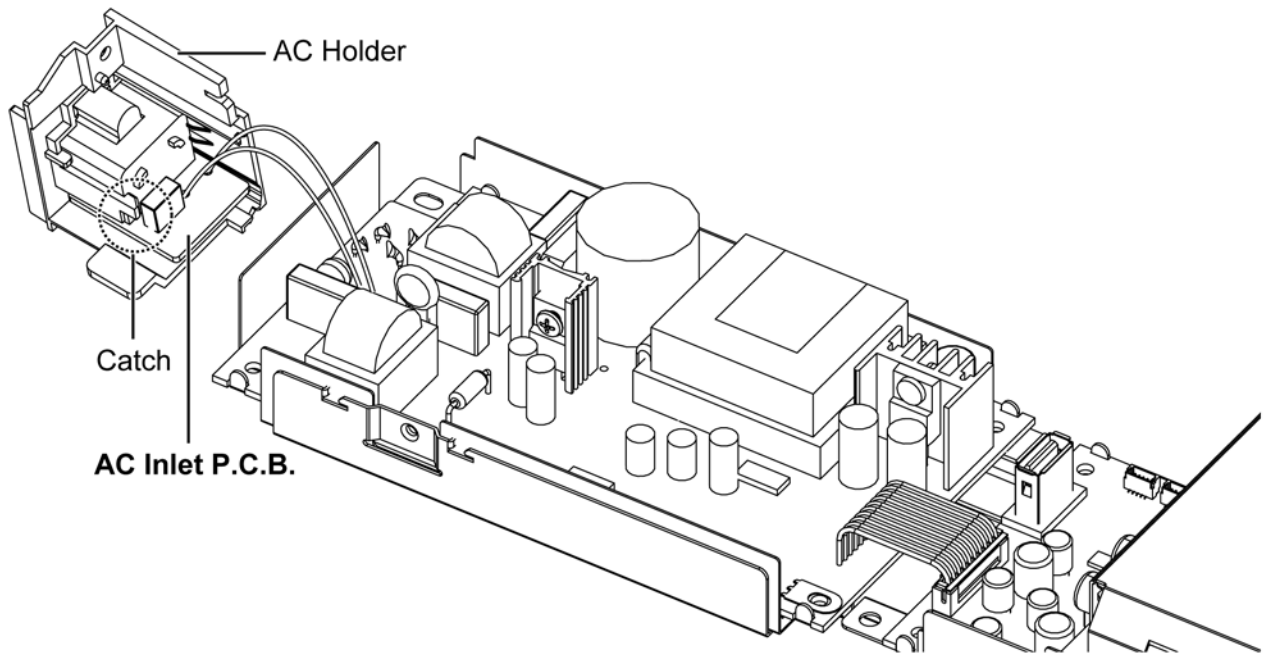
Step 8 : Release 1 catch.



Step 9 : Remove the AC Holder.

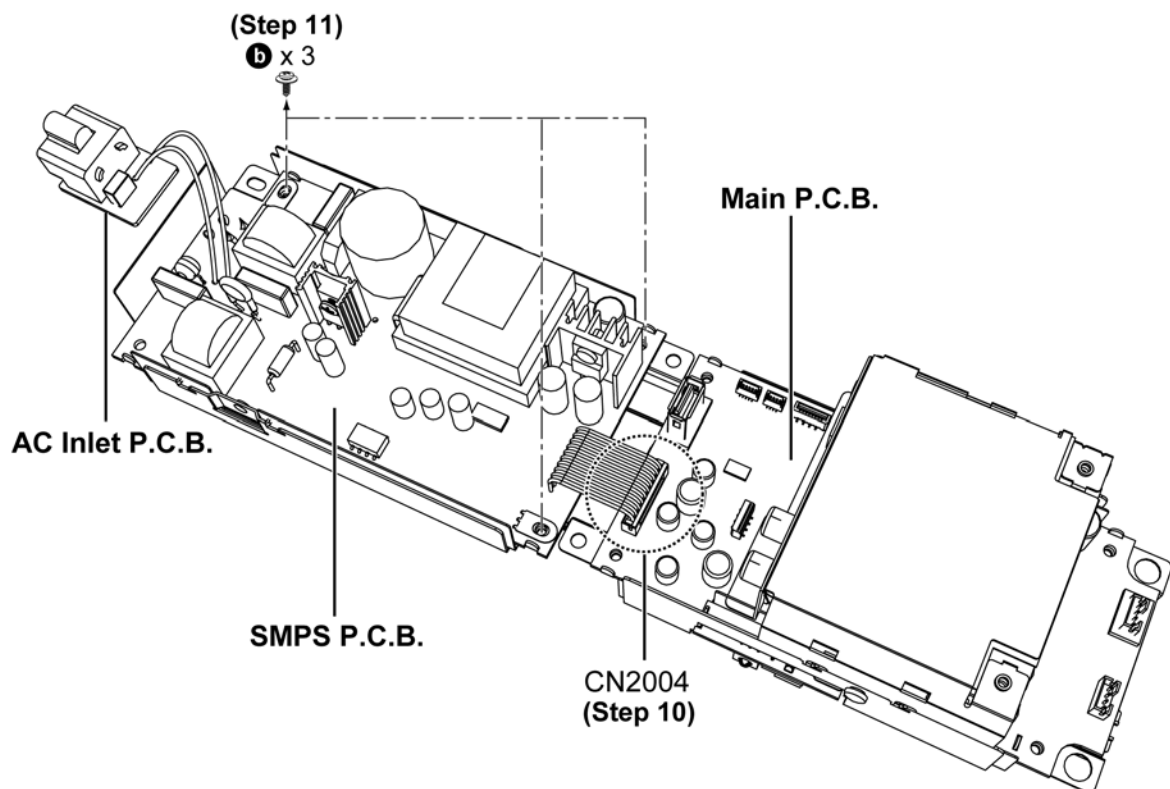


Caution: During assembling, ensure that the AC Inlet P.C.B. is caught properly onto the AC Holder.

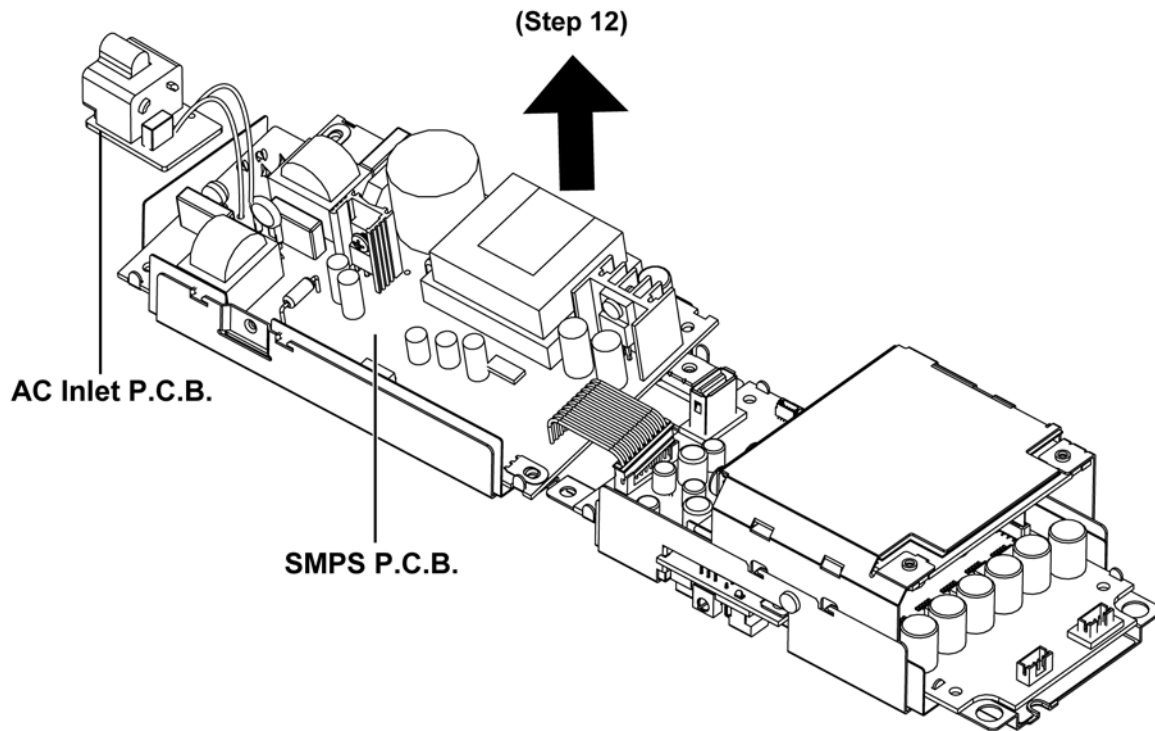


Step 10 : Detach 10P Cable wire at the connector (CN2004) on the Main P.C.B..

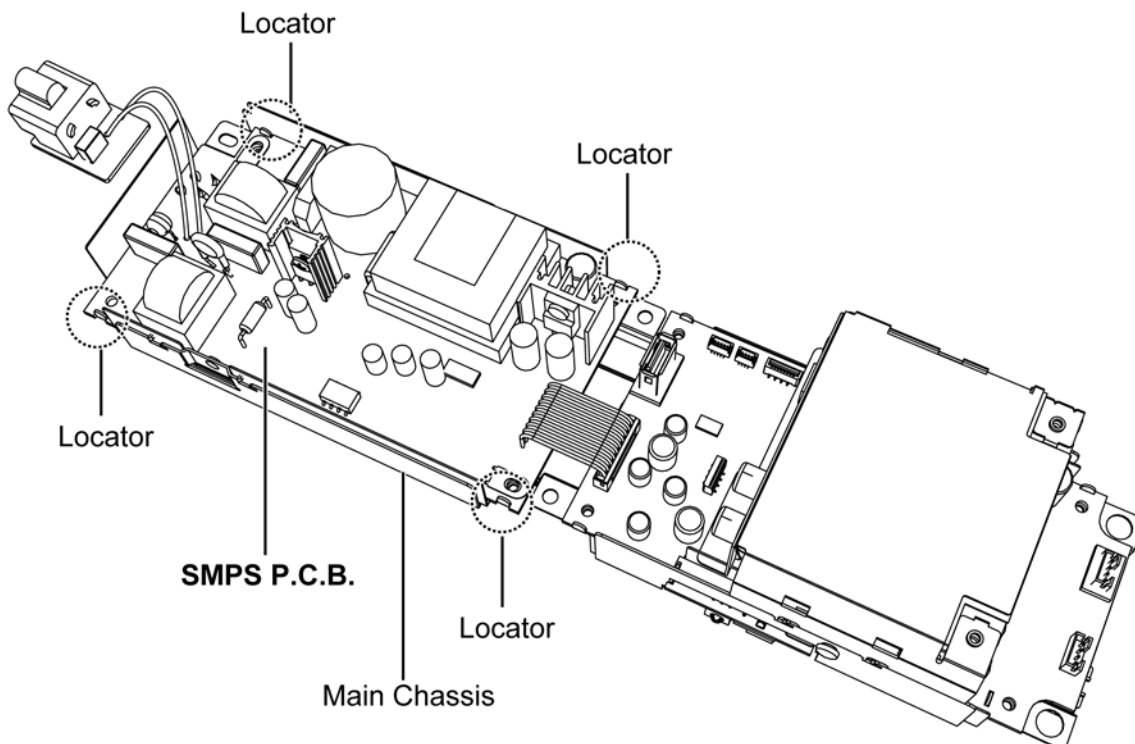
Step 11 : Remove 3 screws.



Step 12 : Slightly lift up to remove the SMPS P.C.B. and AC Inlet P.C.B..



Caution: During assembling, ensure that the SMPS P.C.B. is located and seated properly onto the locators of the Main Chassis.



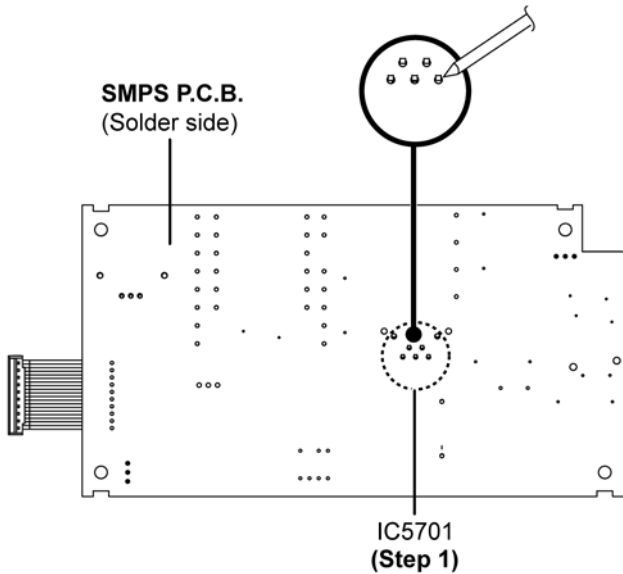
11.11. Replacement of Switching Regulator IC (IC5701)

- Refer to "Disassembly of SMPS and AC Inlet P.C.B."

11.11.1. Disassembly of Switching Regulator IC (IC5701)

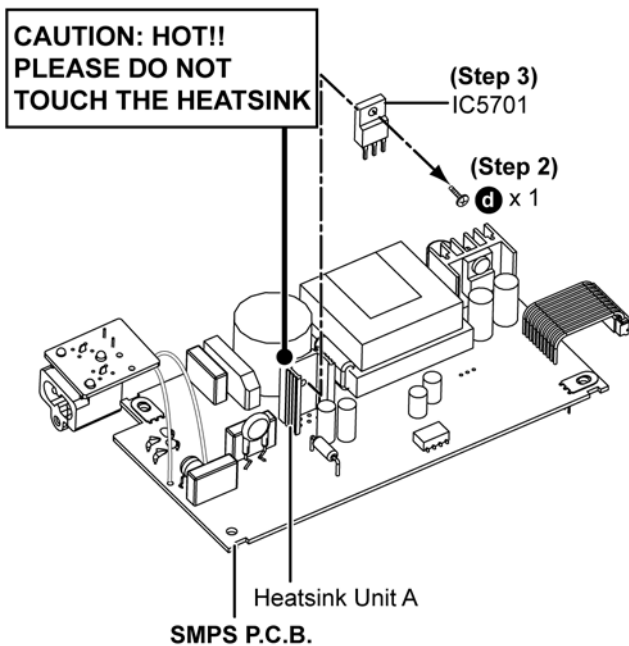
Caution: Handle the SMPS P.C.B. with caution. Avoid touching the Heatsink Unit A due to its high temperature after prolonged use. Touching it may lead to injuries.

Step 1 : Desolder the pins of Switching Regulator IC (IC5701) on the solder side of SMPS P.C.B..



Step 2 : Remove 1 screw.

Step 3 : Remove the Switching Regulator IC (IC5701) from the Heatsink Unit A.



11.11.2. Assembly of Switching Regulator IC (IC5701)

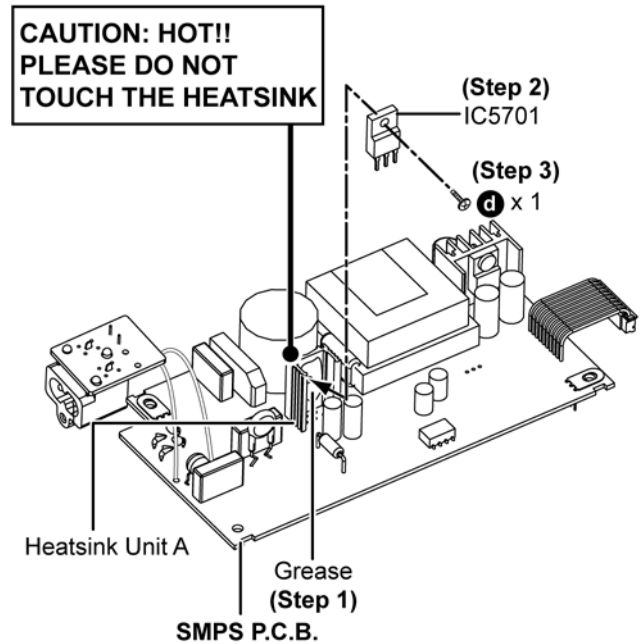
Step 1 : Apply grease on the Heatsink Unit A.

Step 2 : Fix the Switching Regulator IC (IC5701) to the SMPS P.C.B..

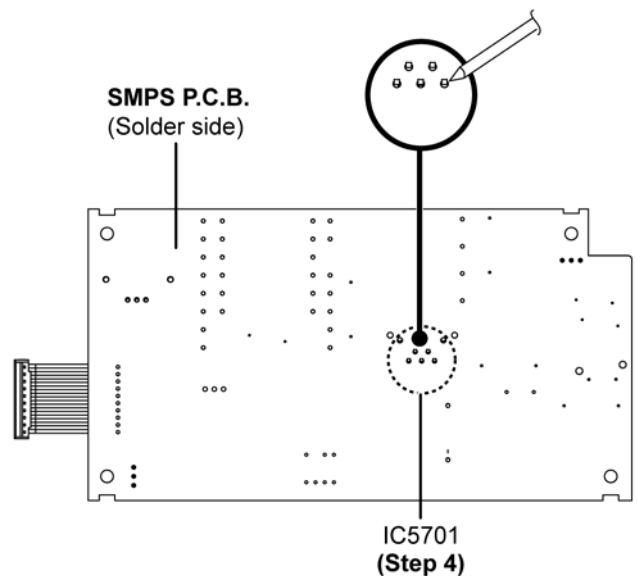
Caution: Ensure the pins of Switching Regulator IC (IC5701) are inserted and seated properly on the SMPS P.C.B..

Step 3 : Fix the Switching Regulator IC (IC5701) onto the Heatsink Unit A with a screw.

Caution: Ensure the Switching Regulator IC (IC5701) is tightly screwed to the Heatsink Unit A.



Step 4 : Solder the pins of Switching Regulator IC(IC5701) on the solder side of SMPS P.C.B..



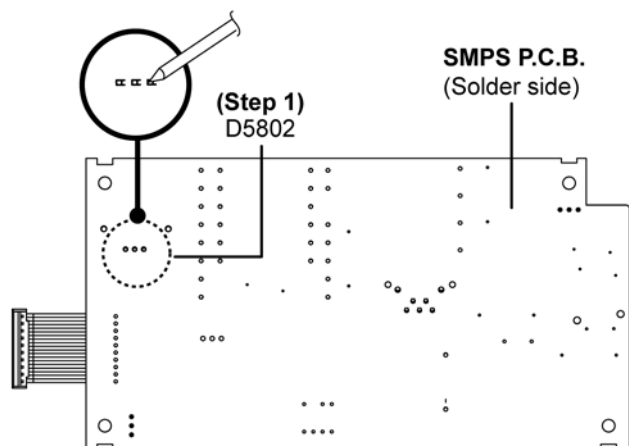
11.12. Replacement of Rectifier Diode (D5802)

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

11.12.1. Disassembly of Rectifier Diode (D5802)

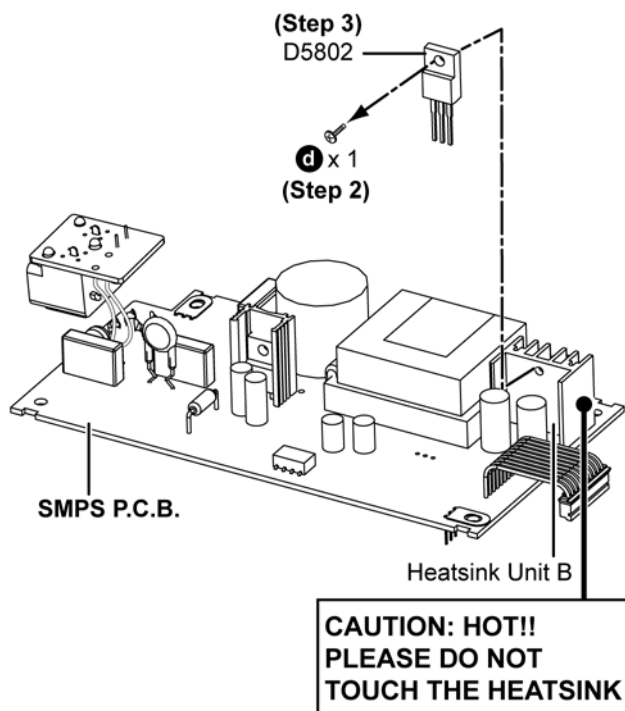
Caution: Handle the SMPS P.C.B. with caution. Avoid touching the Heatsink Unit B due to it's high temperature after prolonged use. Touching it may lead to injuries.

Step 1 : Desolder the pins of the Rectifier Diode (D5802) on the solder side of SMPS P.C.B..



Step 2 : Remove 1 screw.

Step 3 : Remove the Rectifier Diode (D5802) from the Heatsink Unit B.



11.12.2. Assembly of Rectifier Diode (D5802)

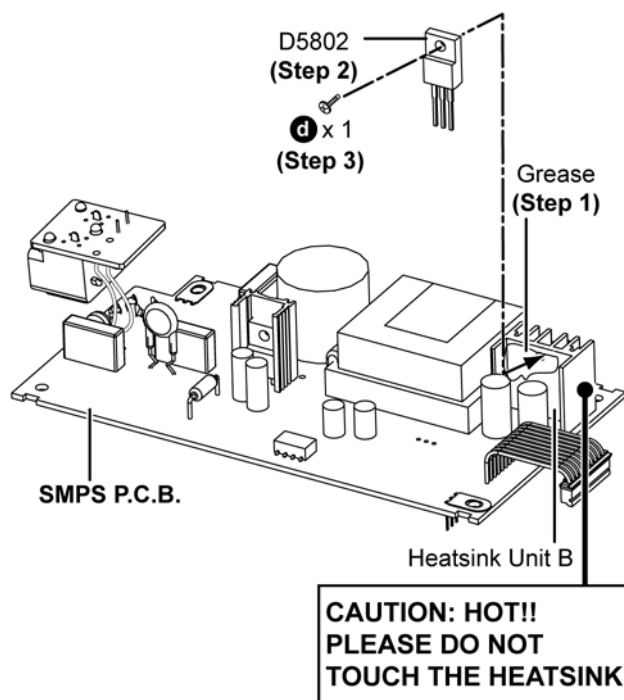
Step 1 : Apply grease on the Heatsink Unit B.

Step 2 : Fix the Rectifier Diode (D5802) onto the SMPS P.C.B..

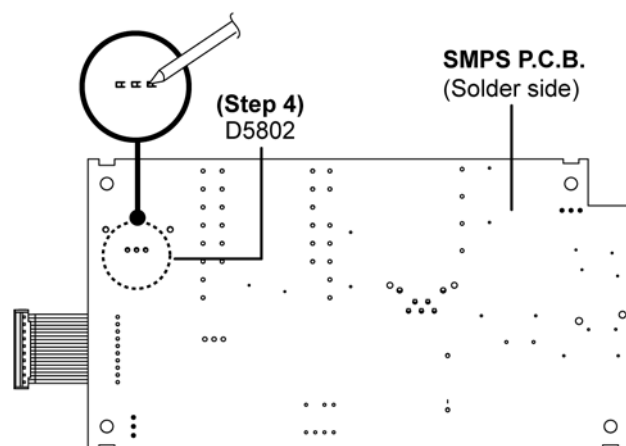
Caution: Ensure the pins of Rectifier Diode (D5802) are inserted and seated properly on the SMPS P.C.B..

Step 3 : Fix the Rectifier Diode (D5802) onto the Heatsink Unit B with a screw.

Caution: Ensure the Rectifier Diode (D5802) is tightly screwed to Heatsink Unit B.



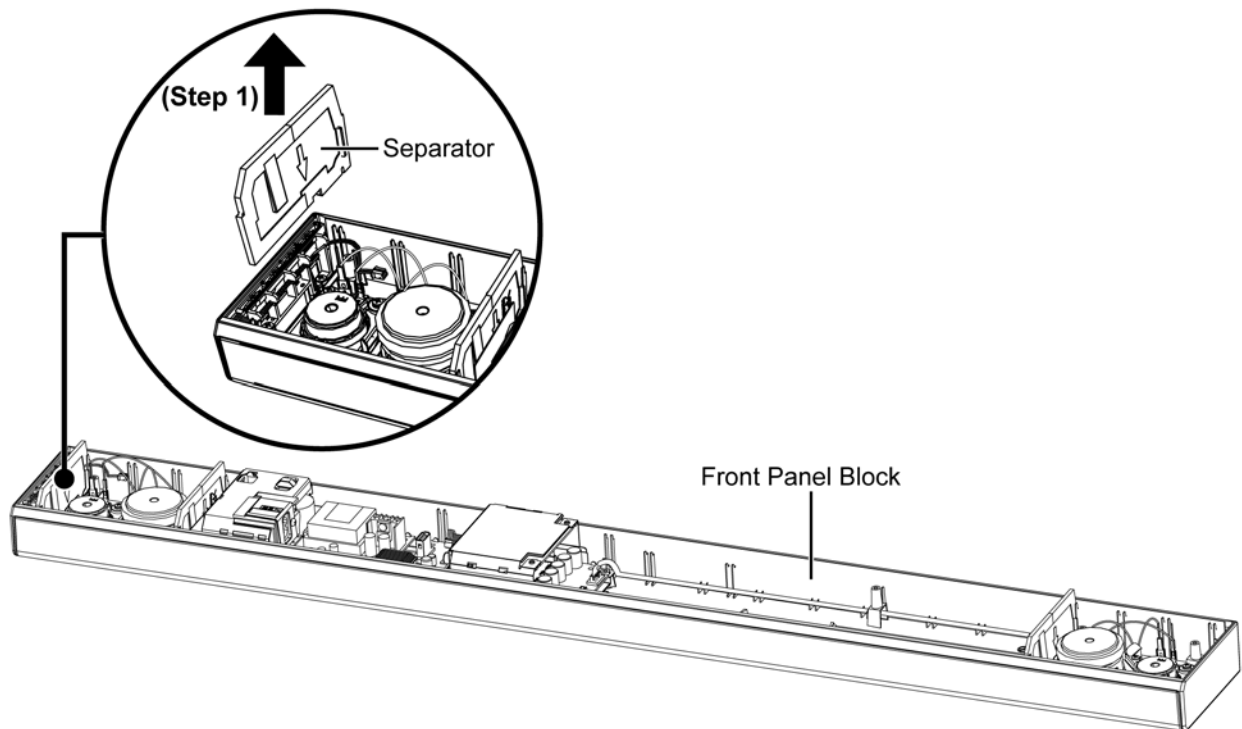
Step 4 : Solder the pins of the Rectifier Diode (D5802) on the solder side of SMPS P.C.B..



11.13. Disassembly of Button P.C.B.

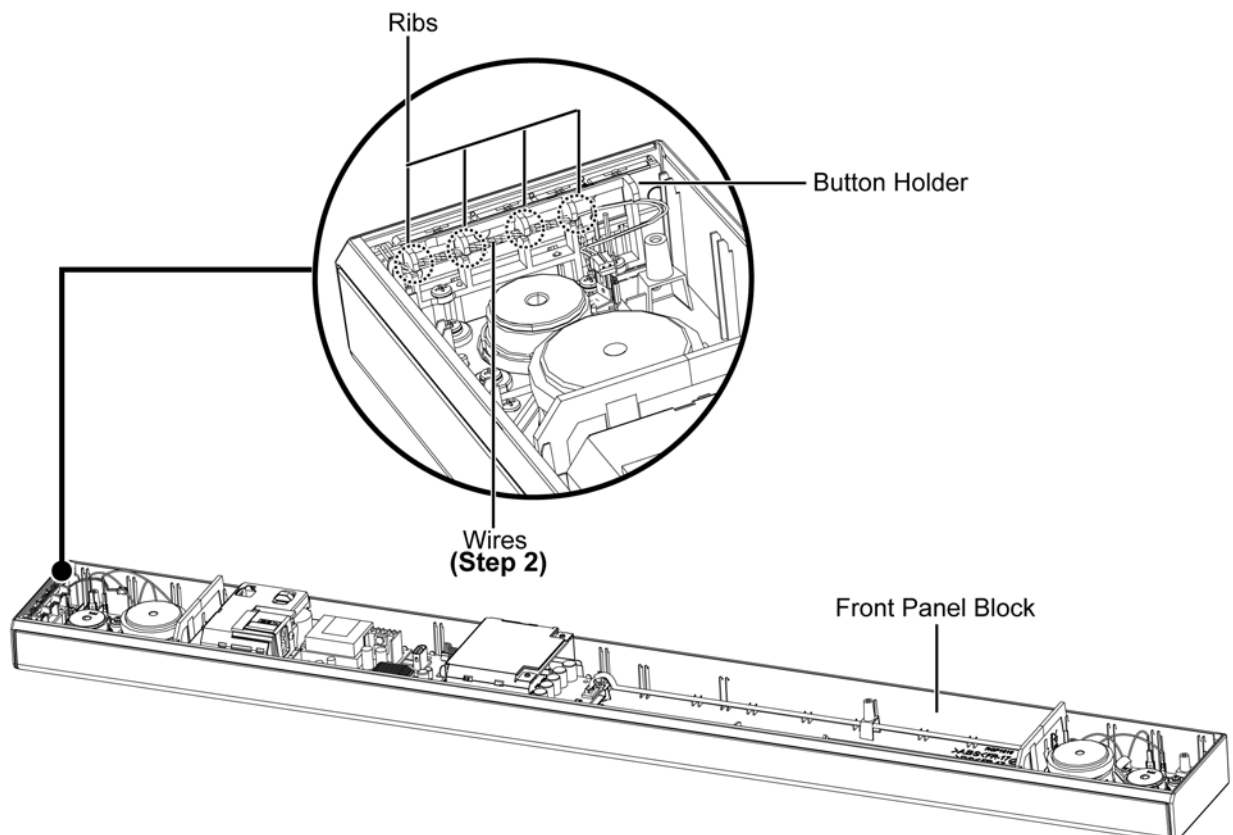
- Refer to "Disassembly of Rear Cabinet Block".

Step 1 : Remove the Separator.

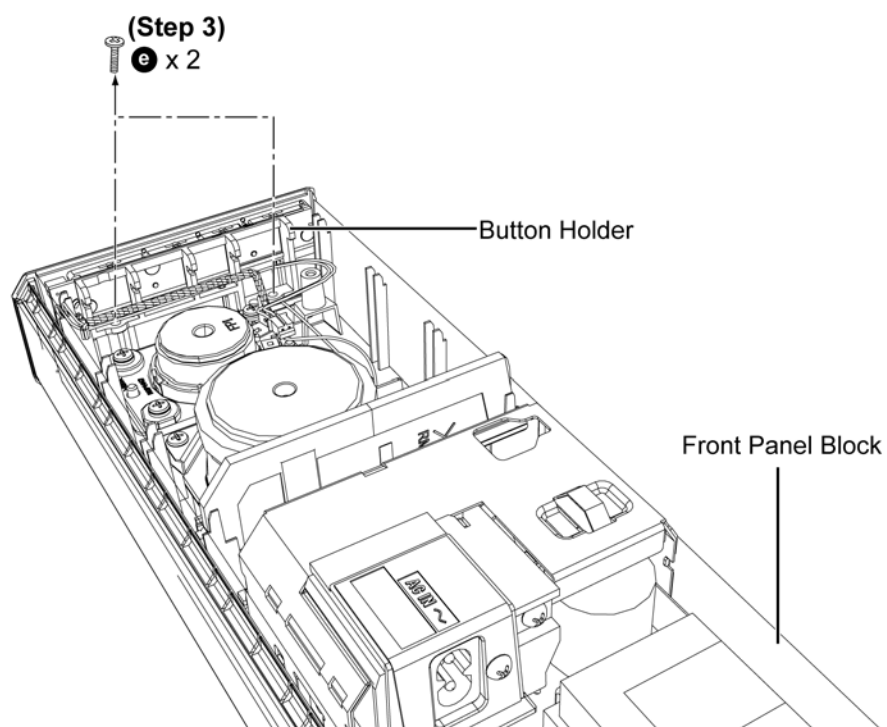


Step 2 : Release the wires from the ribs of the Button Holder.

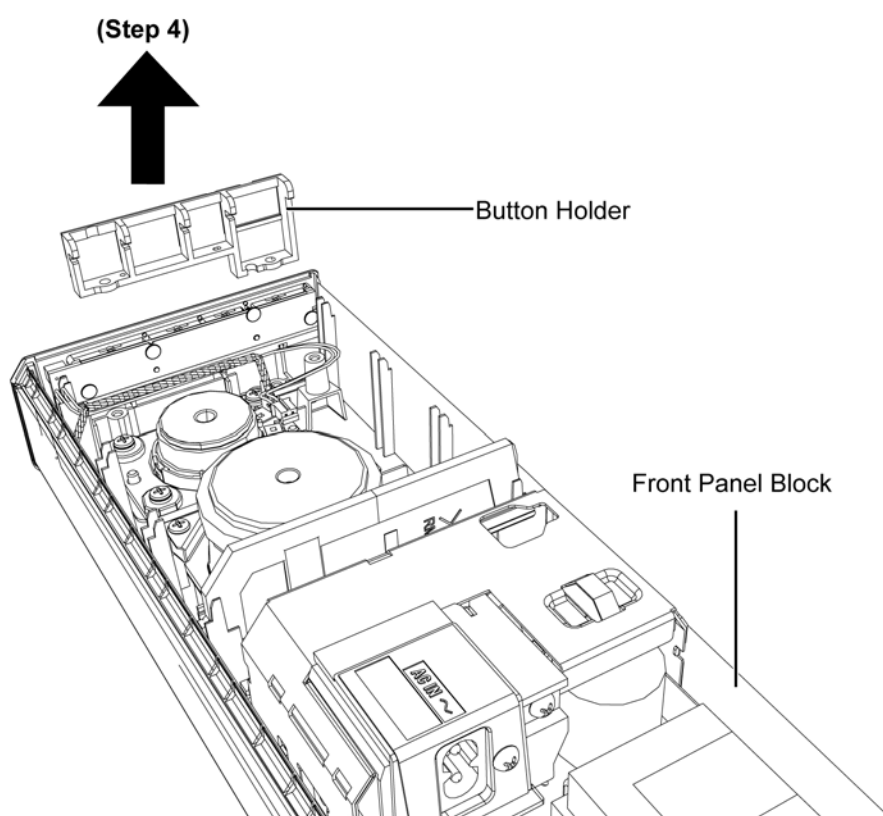
Caution: During assembling, ensure that the wires is properly dressed into the ribs of the Button Holder.



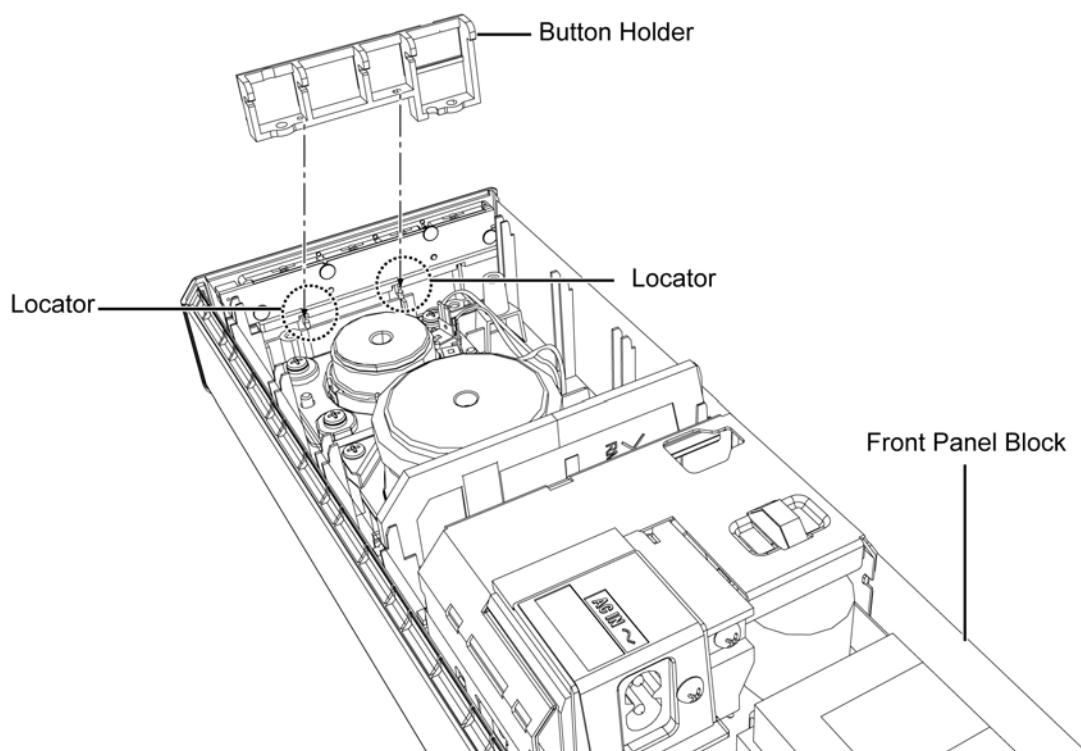
Step 3 : Remove 2 screws.



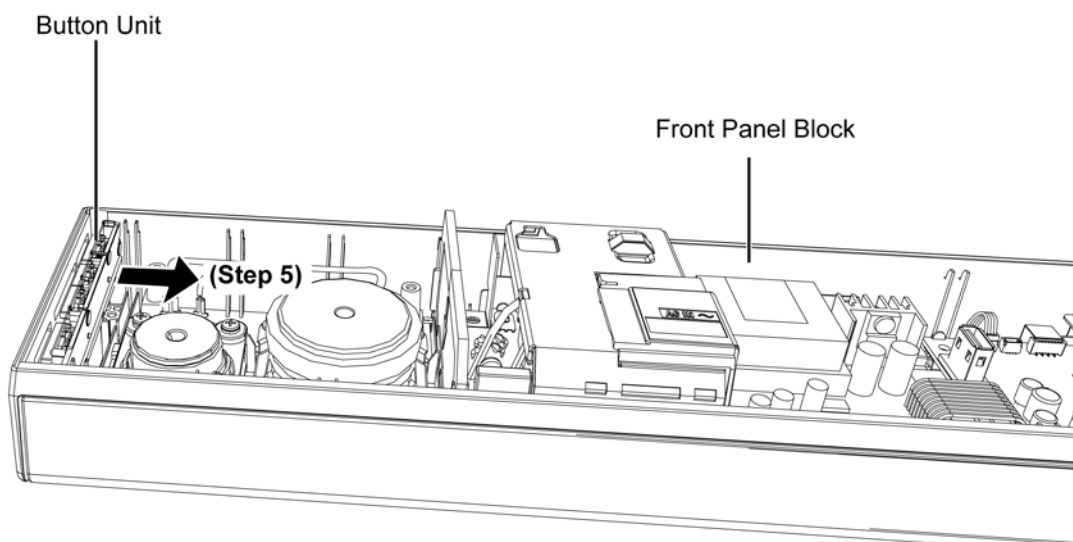
Step 4 : Remove the Button Holder.



Caution: During assembling, ensure that the Button Holder is located and seated properly onto the Front Panel Block.

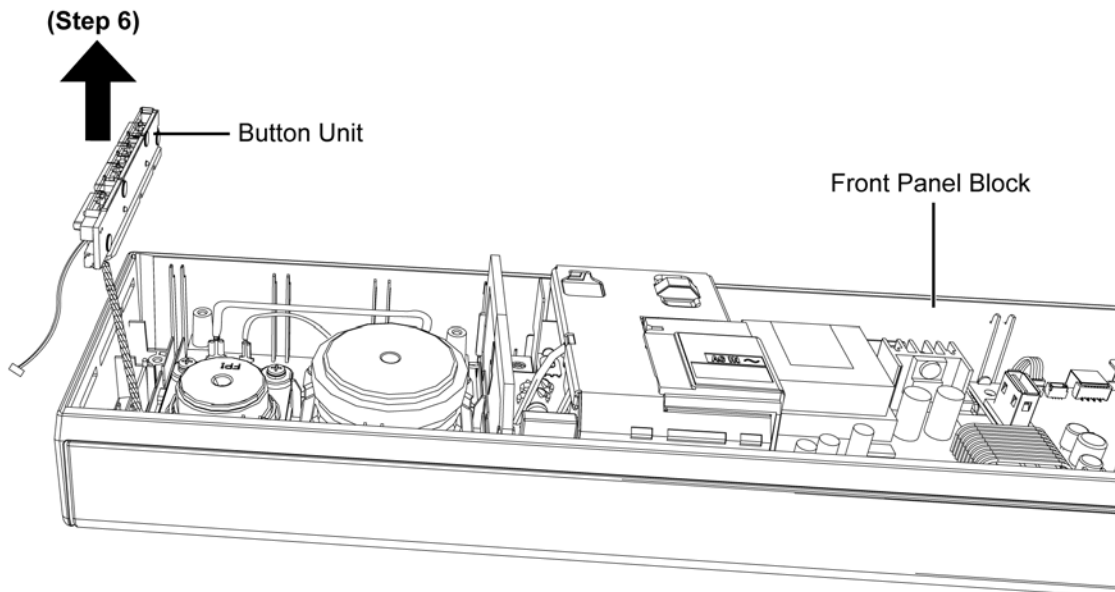


Step 5 : Release the Button Unit from the Front Panel Block.

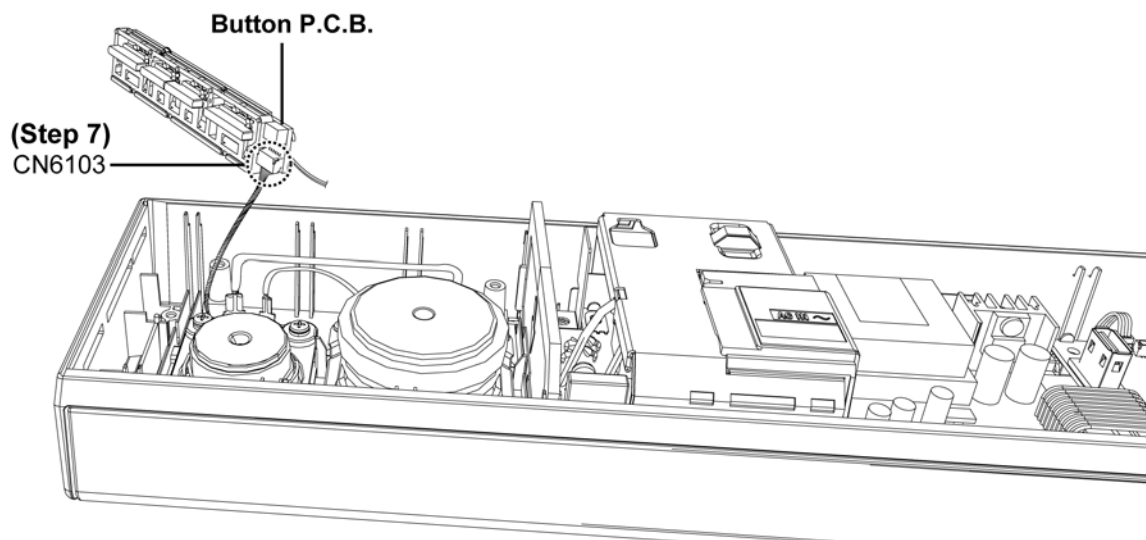


Step 6 : Lift up to remove the Button Unit.

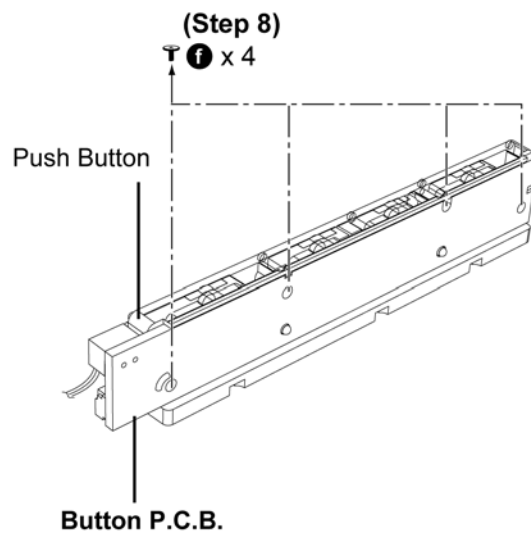
Caution: During assembling, ensure that the Button Holder and Button Unit are fitted properly to Front Panel Block.



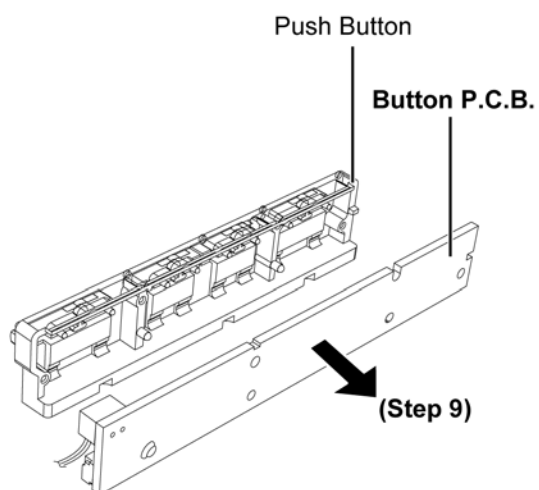
Step 7 : Detach the 6P Wire at the connector (CN6103) on the Button P.C.B..



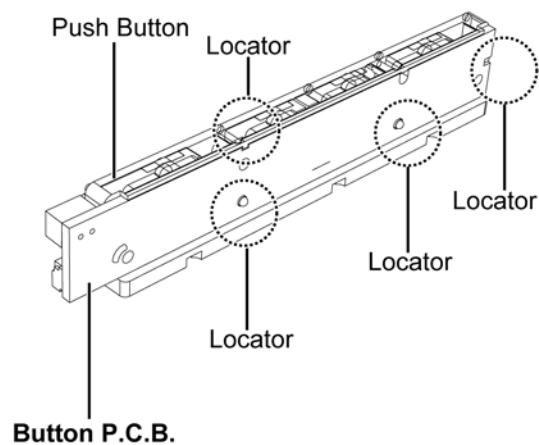
Step 8 : Remove 4 screws.



Step 9 : Remove the Button P.C.B..



Caution: During assembling, ensure that the Button P.C.B. is located and seated properly onto the locators of the Push Button.

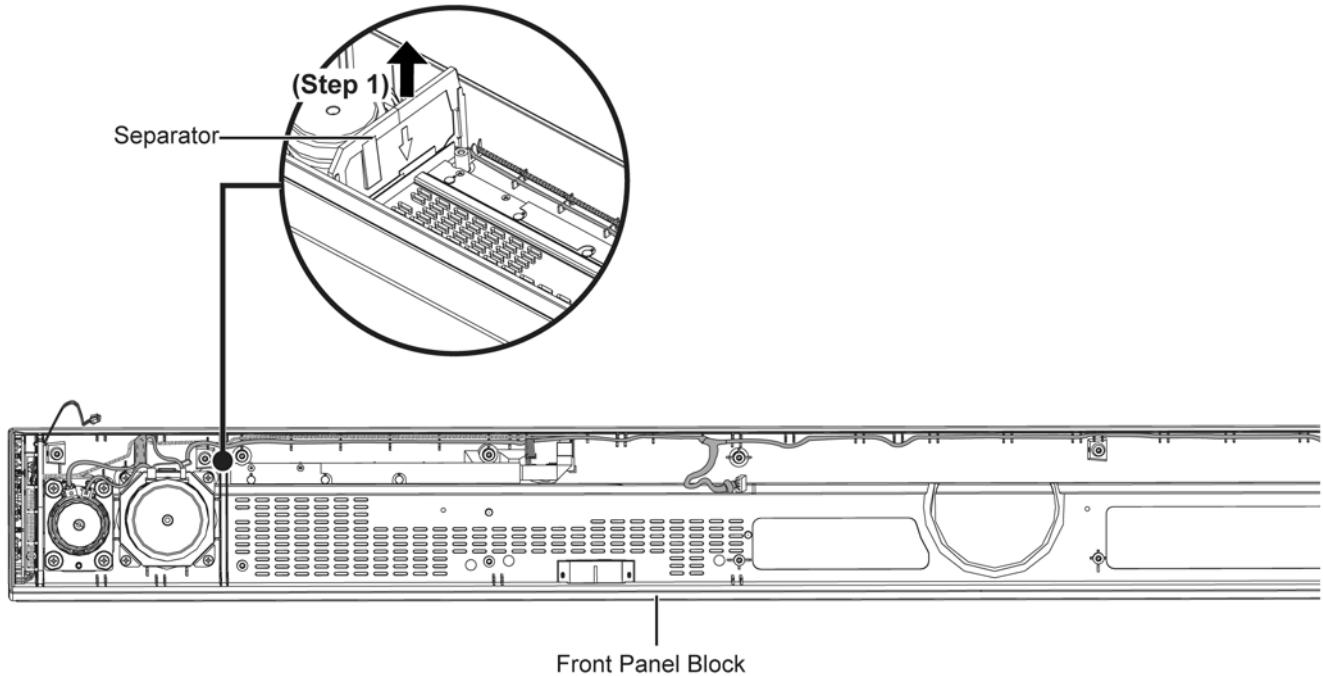


11.14. Replacement of 6P Wire (Main - Button)

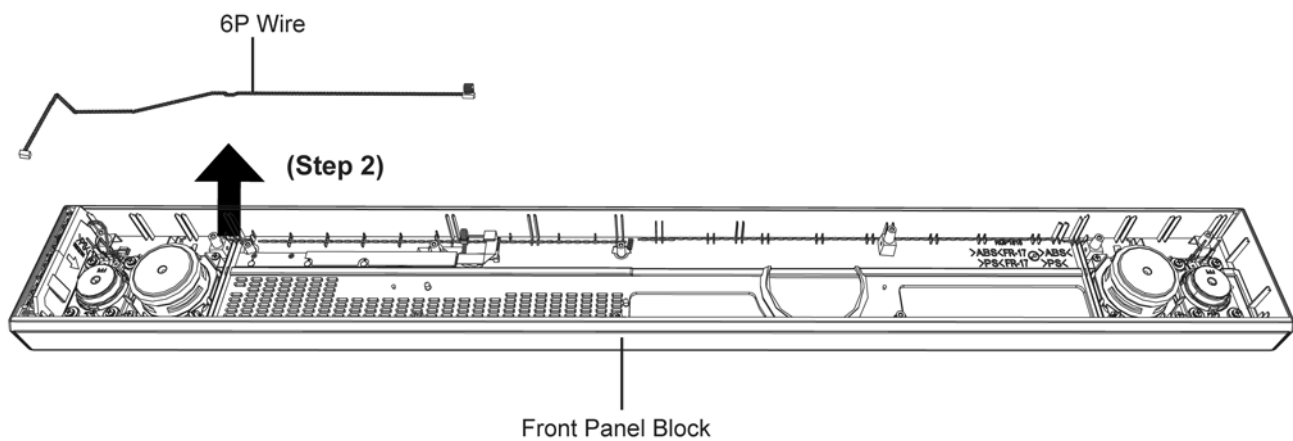
- Refer to “Disassembly of Rear Cabinet Block”.
- Refer to “Disassembly of Amplifier Unit”.
- Refer to “Disassembly of Button P.C.B.” (Step 1) to (Step 7).

11.14.1. Disassembly of 6P Wire (Main - Button)

Step 1 : Remove the Separator.

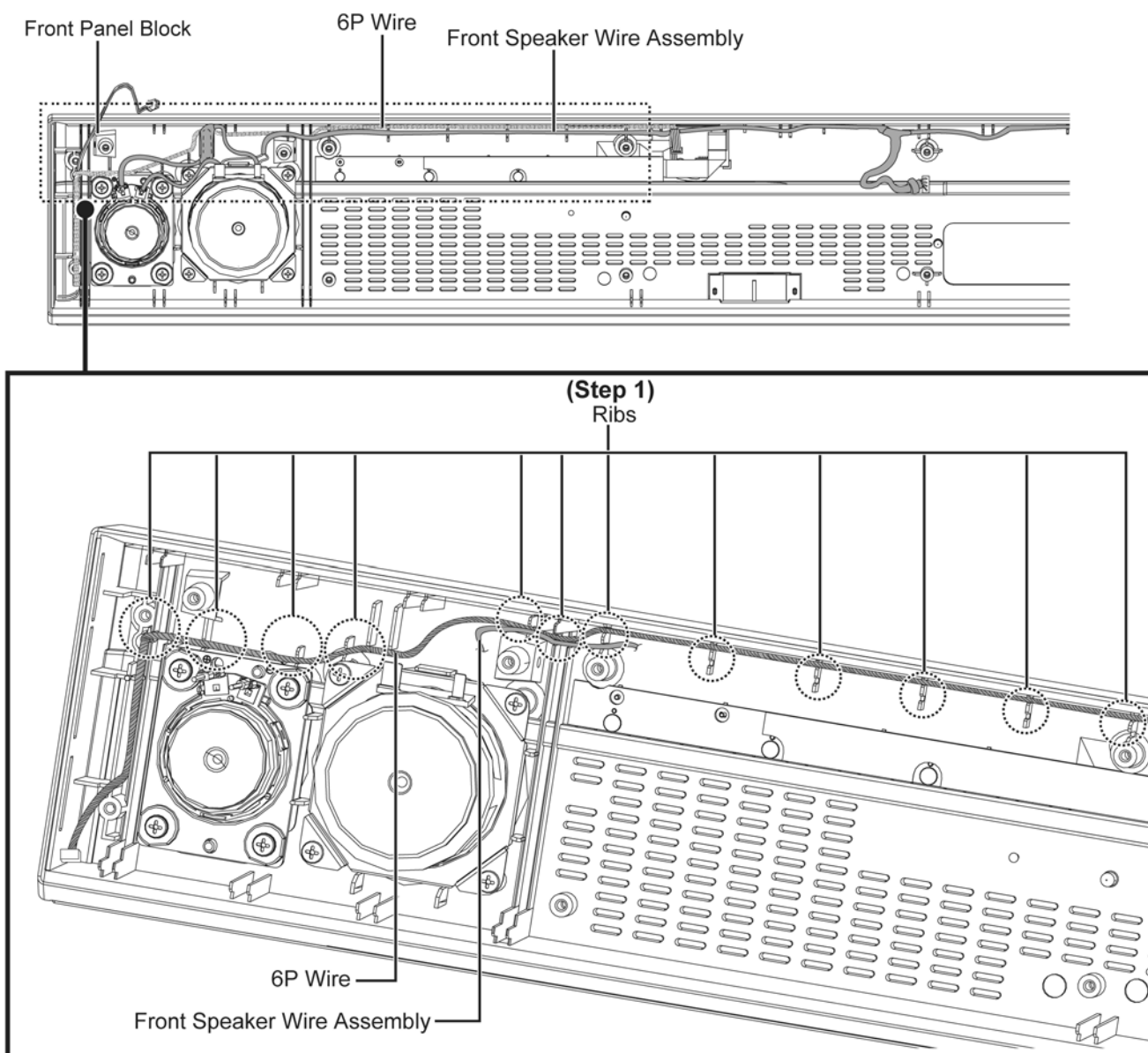


Step 2 : Remove the 6P Wire.

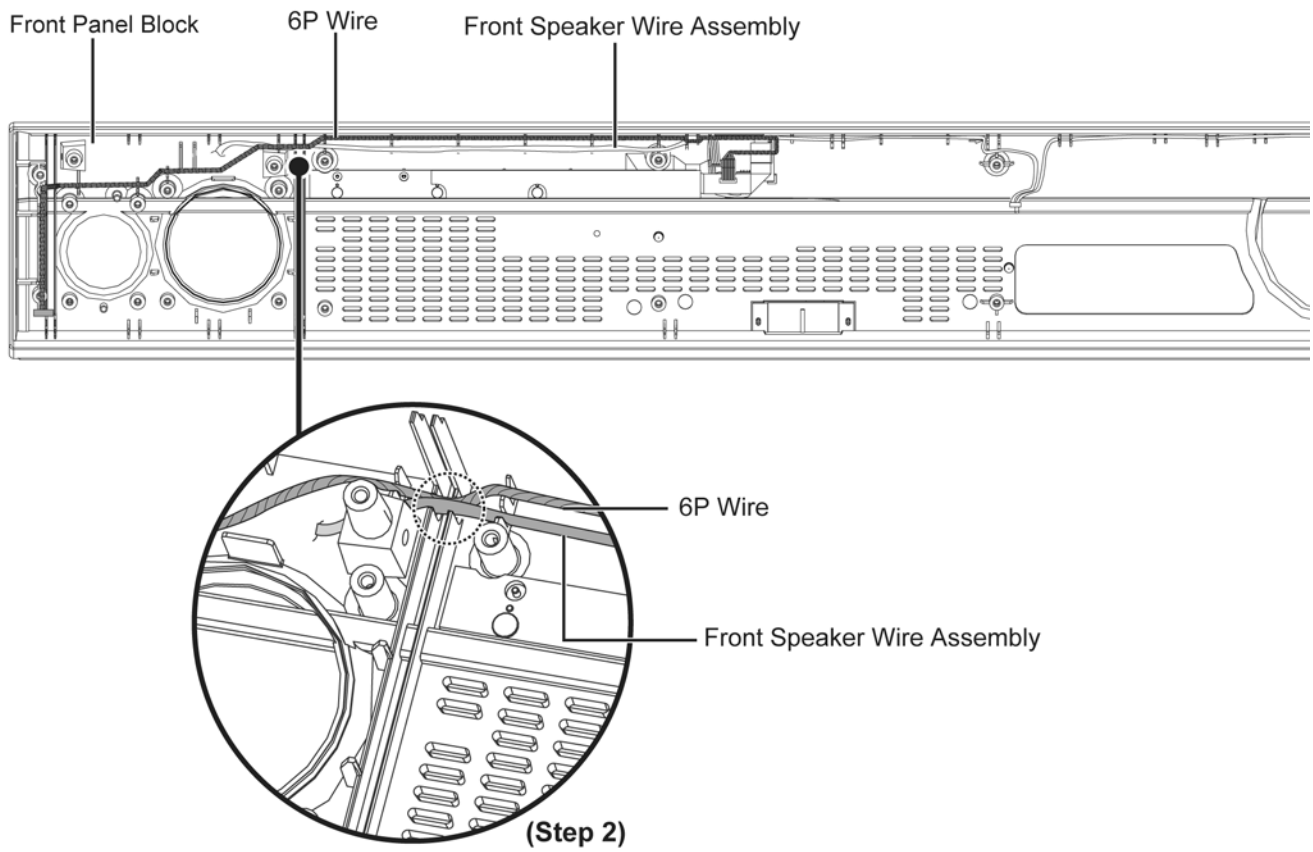


11.14.2. Assembly of 6P Wire (Main - Button)

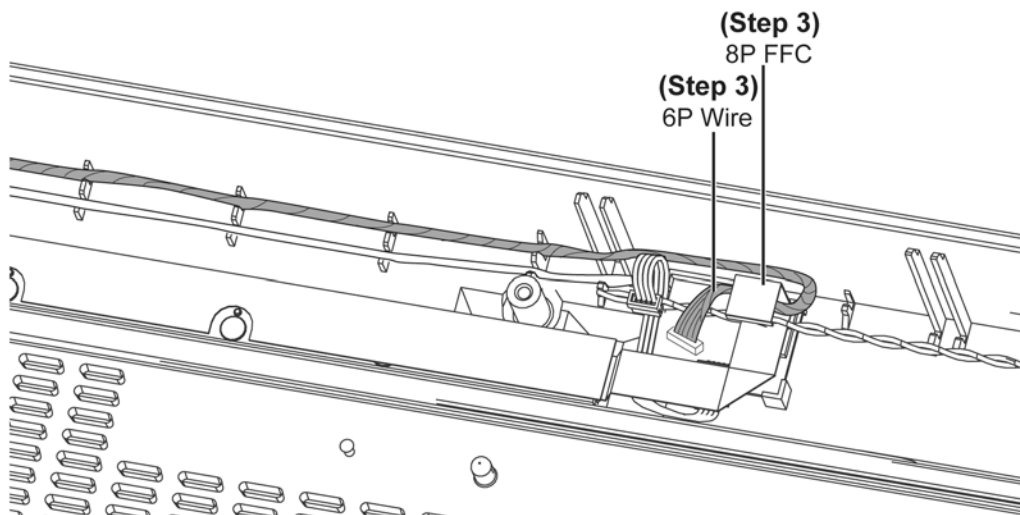
Step 1 : Dressed the 6P Wire into the ribs of the Front Panel Block.



Step 2 : Dressed the 6P Wire under the Front Speaker Wire Assembly as shown.



Step 3 : Dressed the 6P Wire under the 8P FFC as shown.



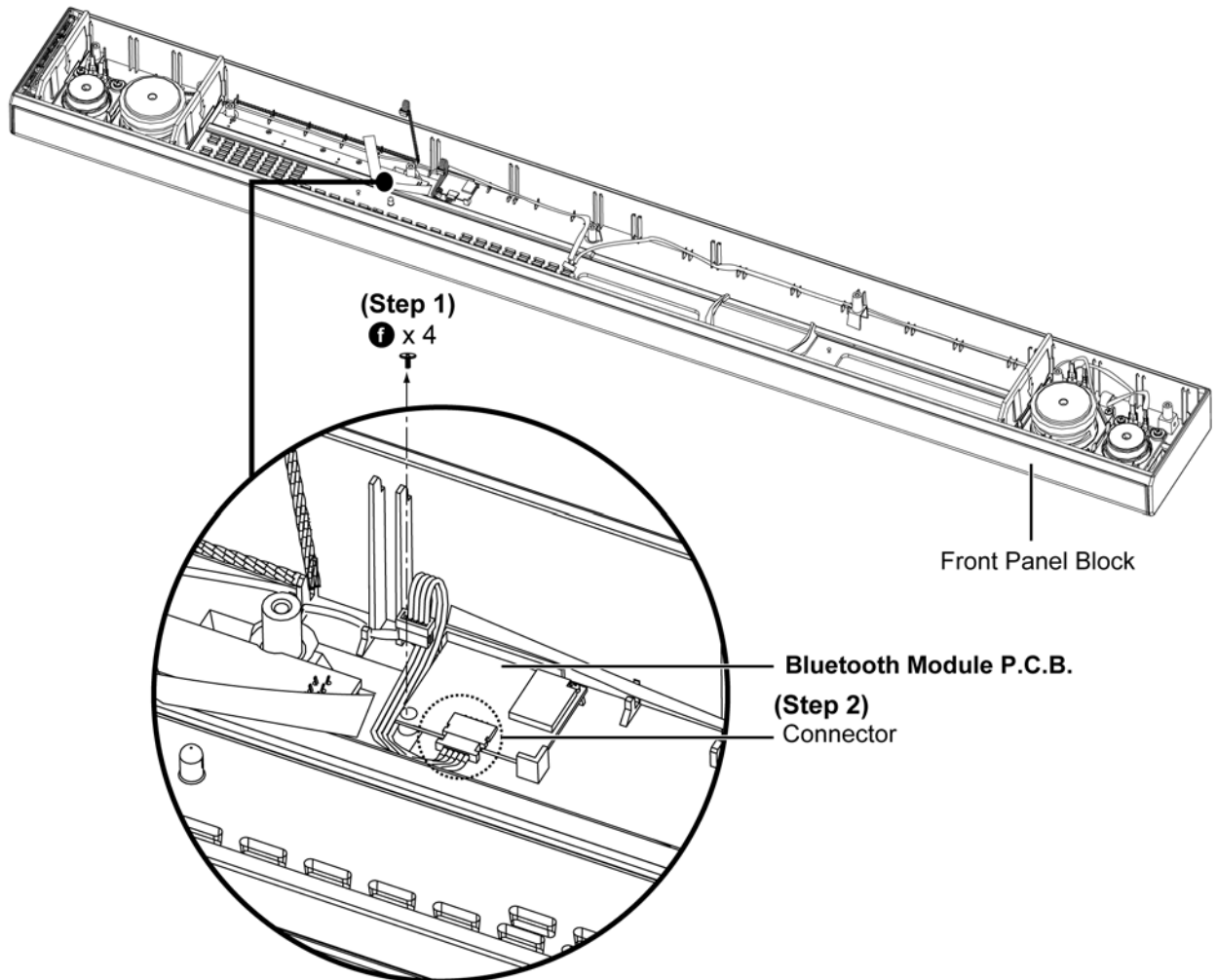
11.15. Disassembly of Bluetooth Module P.C.B.

- Refer to "Disassembly of Rear Cabinet Block".
- Refer to "Disassembly of Amplifier Unit".

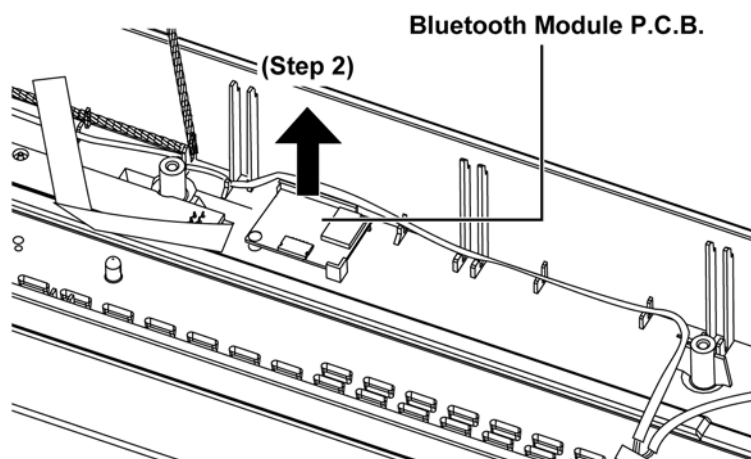
Step 1 : Remove 1 screw.

Step 2 : Detach the 5P Wire at the connector on the Bluetooth Module P.C.B..

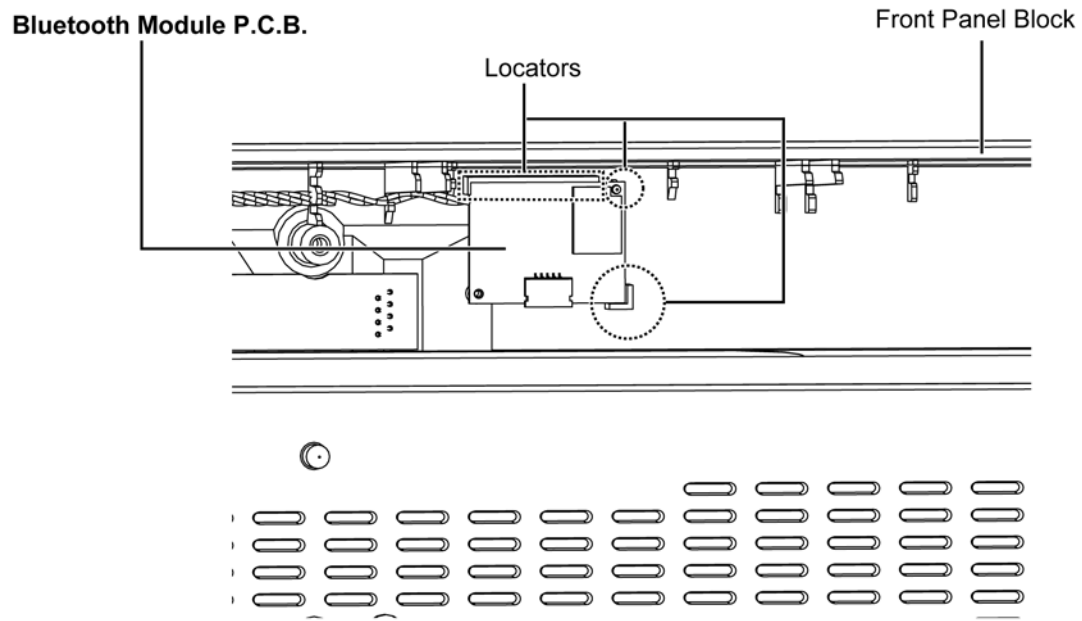
Caution: Safe keep the 5P Wire and place it back during assembling.



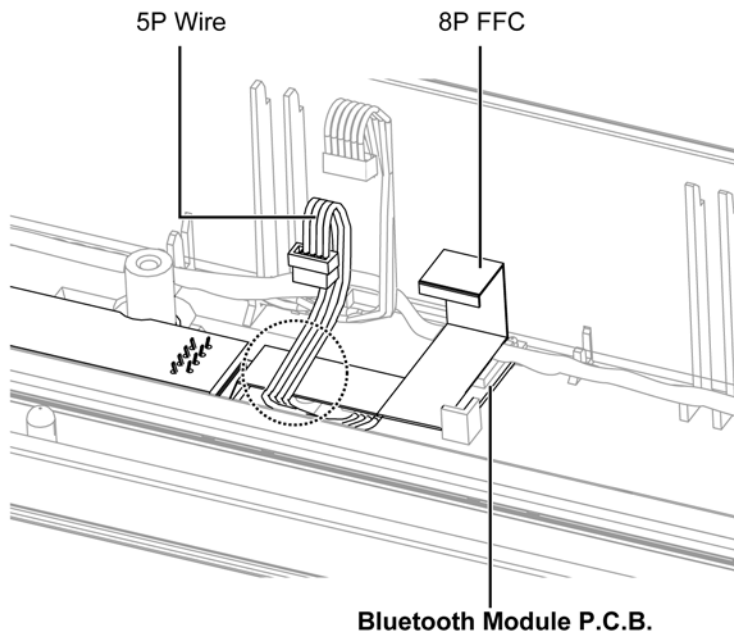
Step 3 : Remove the Bluetooth Module P.C.B..



Caution1 : During assembling, ensure that the Bluetooth Module P.C.B. is located and seated properly onto the Front Panel Block.



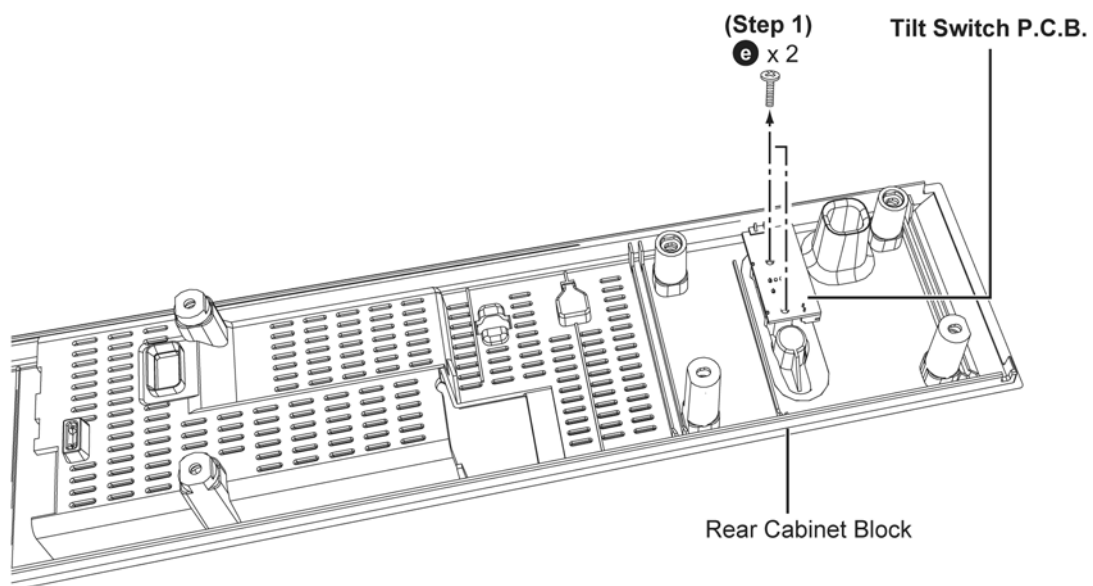
Caution 2: During assembling, ensure that the 5P Wire is properly dressed across over the 8P FFC as shown.



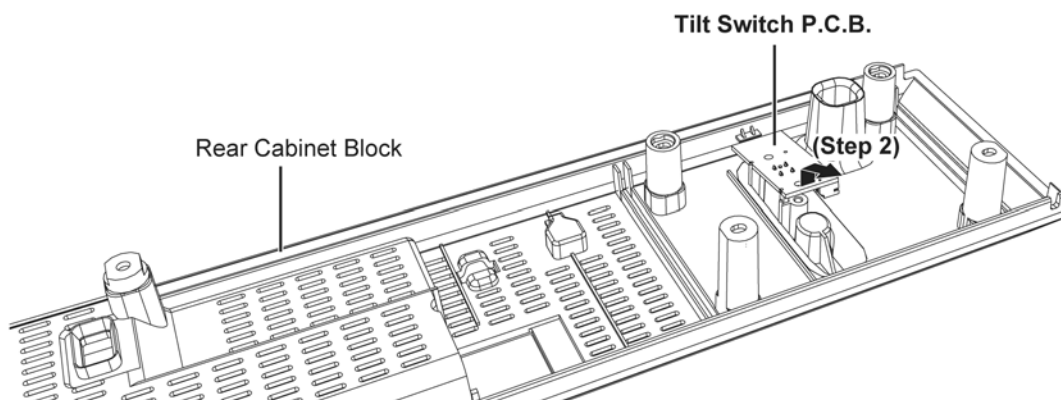
11.16. Disassembly of Tilt Switch P.C.B.

- Refer to "Disassembly of Rear Cabinet Block".

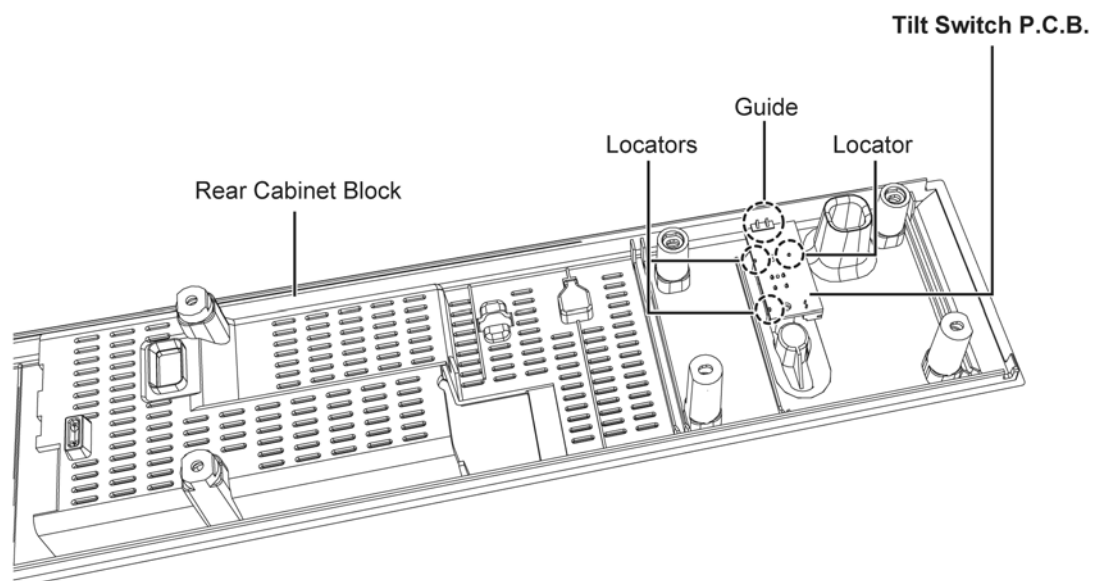
Step 1 : Remove 2 screws.



Step 2 : Remove the Tilt Switch P.C.B..



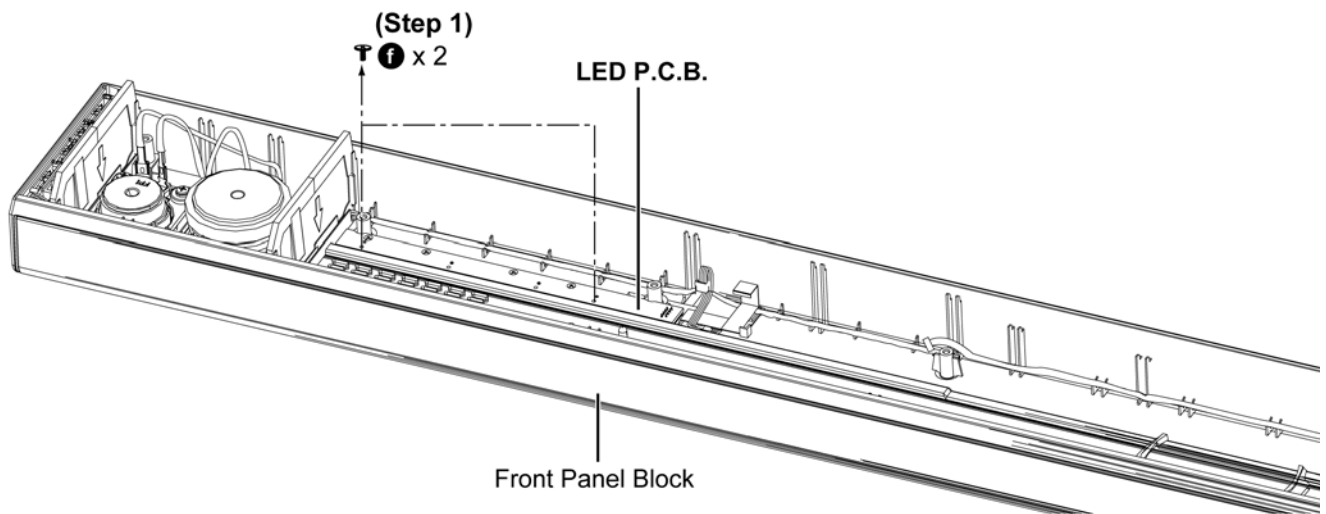
Caution : During assembling, ensure that the Tilt Switch P.C.B. is located and seated properly onto the guide and the locators of the Rear Cabinet Block.



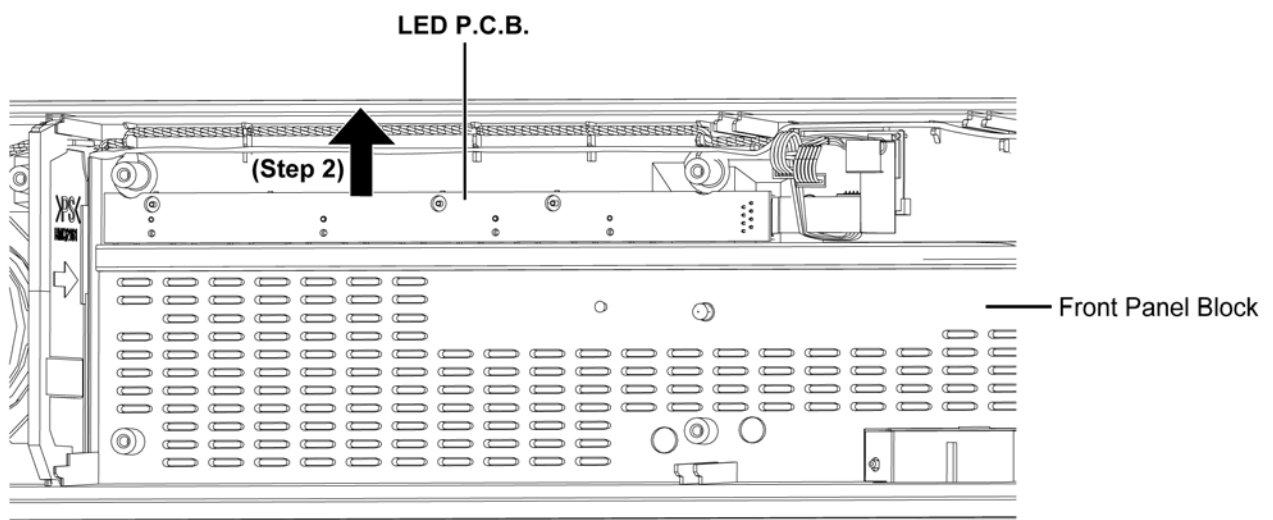
11.17. Disassembly of LED P.C.B.

- Refer to "Disassembly of Rear Cabinet Block".
- Refer to "Disassembly of Amplifier Unit".

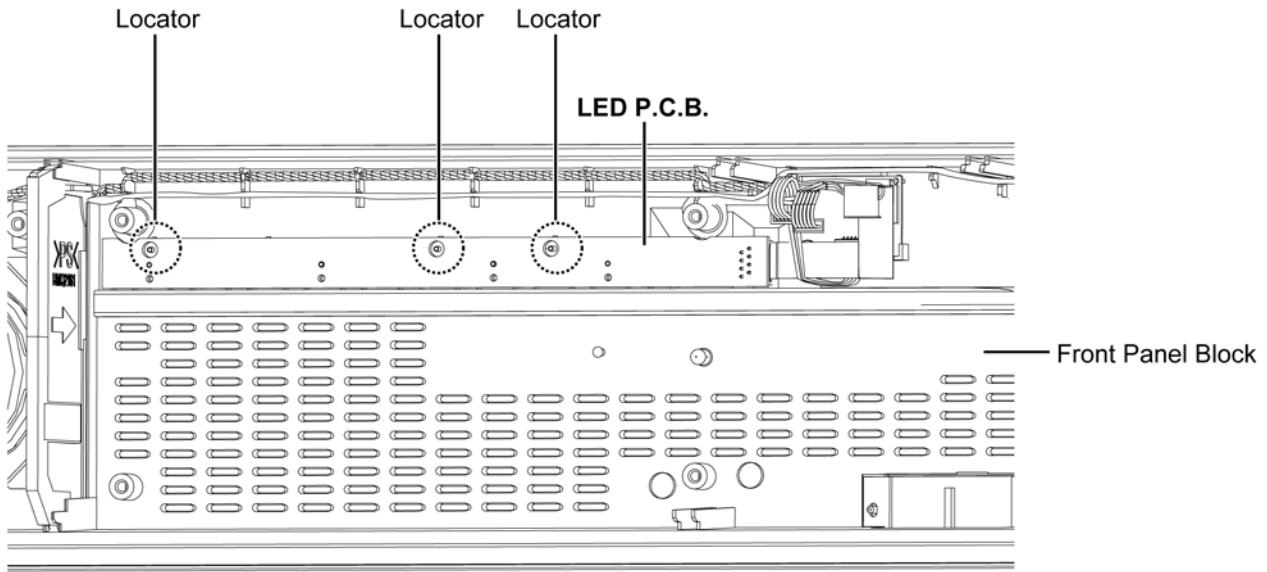
Step 1 : Remove 2 screws.



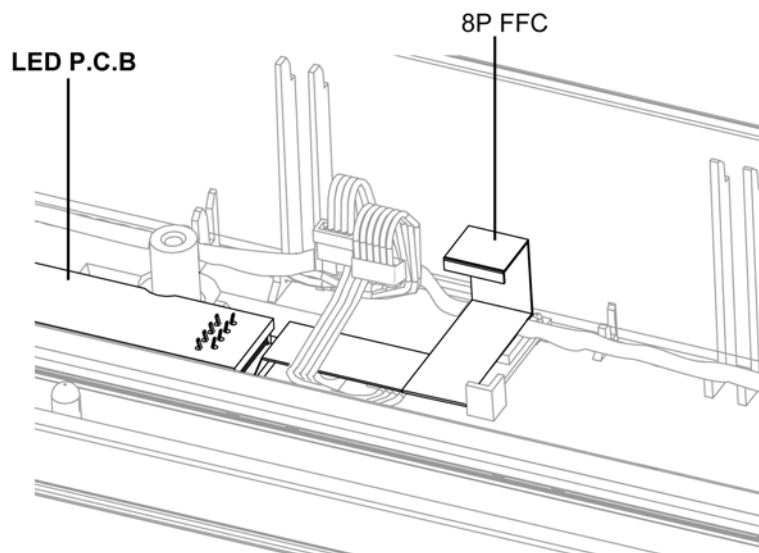
Step 2 : Remove the LED P.C.B..



Caution 1: During assembling, ensure that the LED P.C.B. is located and seated properly onto the locators of the Front Panel Block.



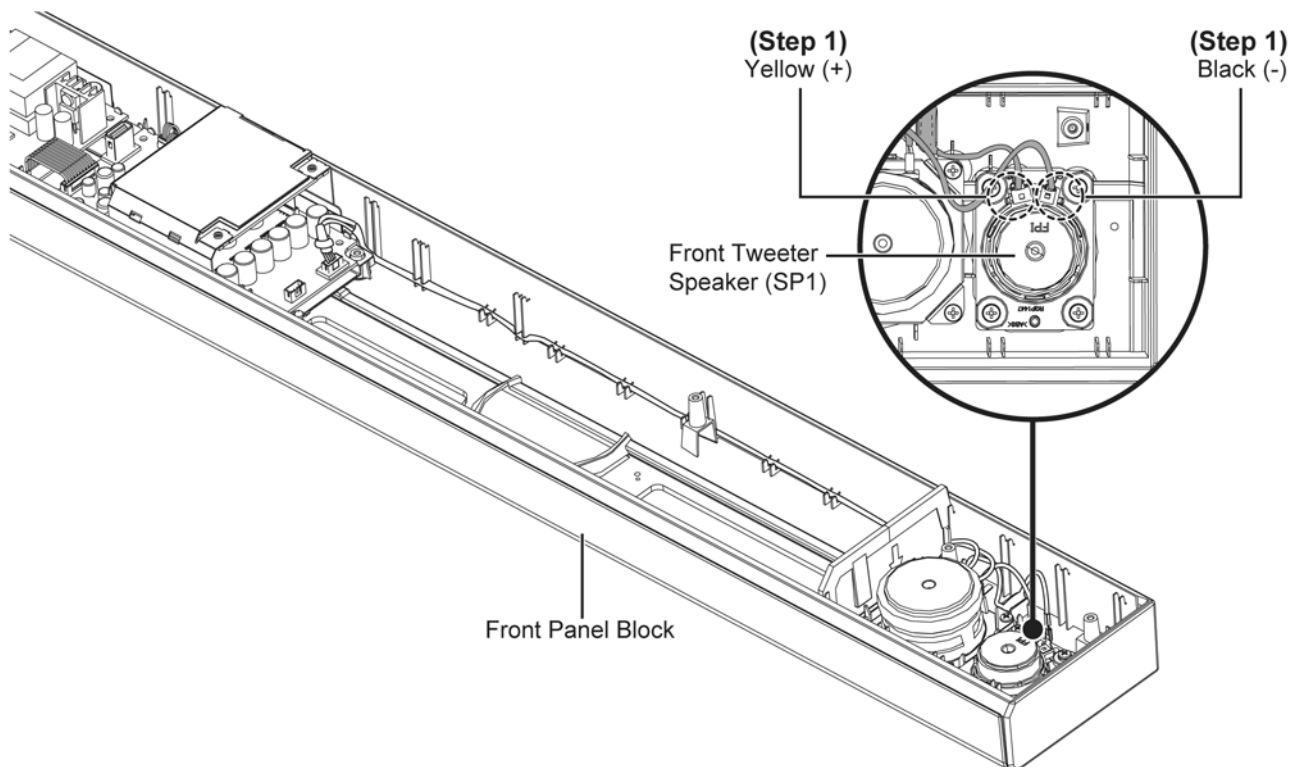
Caution 2: During assembling, ensure that the 8P FFC is folded properly as shown.



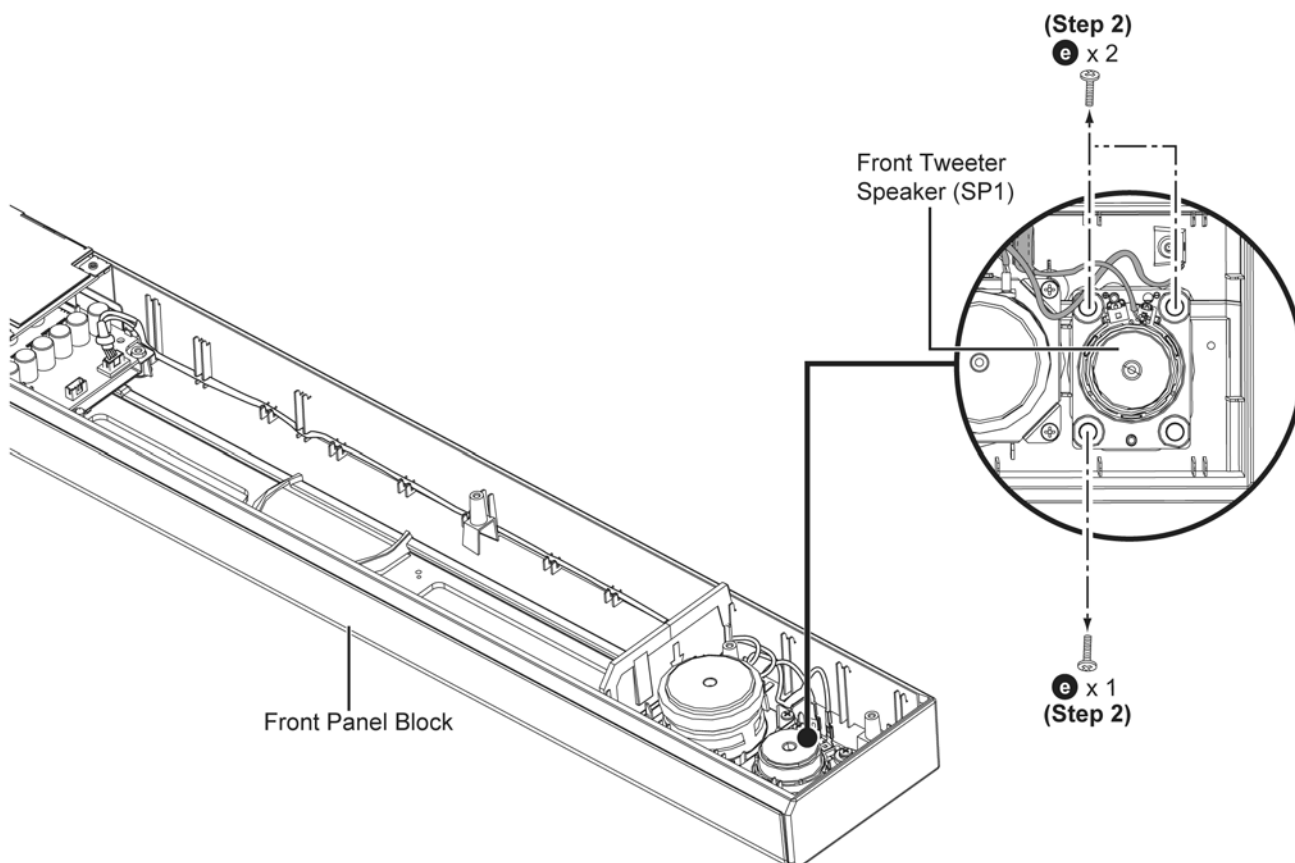
11.18. Disassembly of Front Tweeter Speaker (SP1)

- Refer to "Disassembly of Rear Cabinet Block".

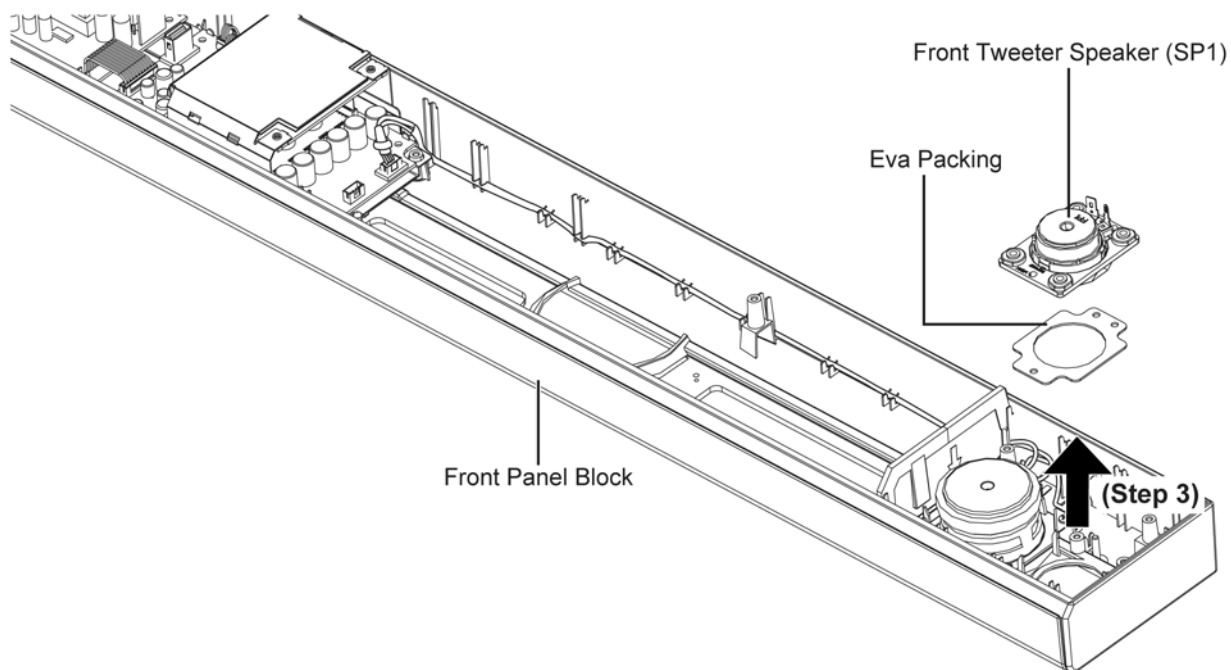
Step 1 : Detach the Yellow (+) and Black (-) wire from the Terminal.



Step 2 : Remove 3 screws.

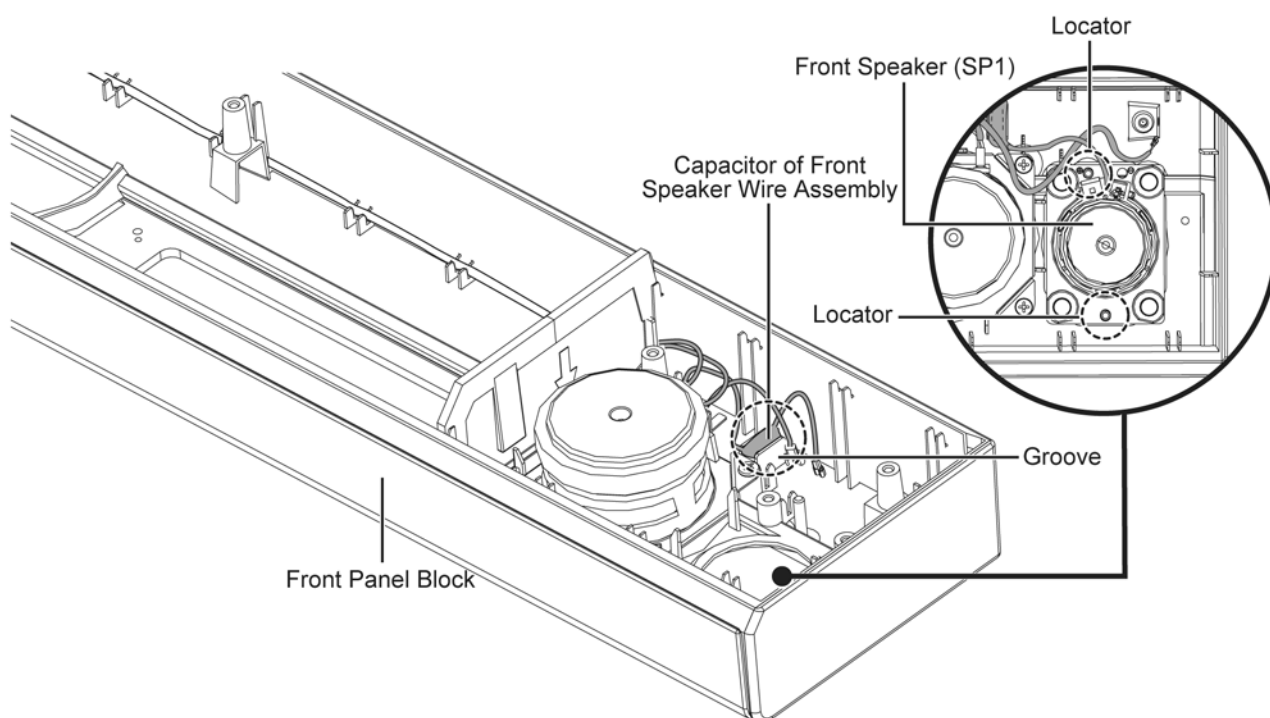


Step 3 : Remove the Front Tweeter Speaker (SP1) and the Eva Packing.



Caution 1: During assembling, ensure that the Front Tweeter Speaker (SP1) and the Eva Packing are seated properly onto the 2 locators of the Front Panel Block.

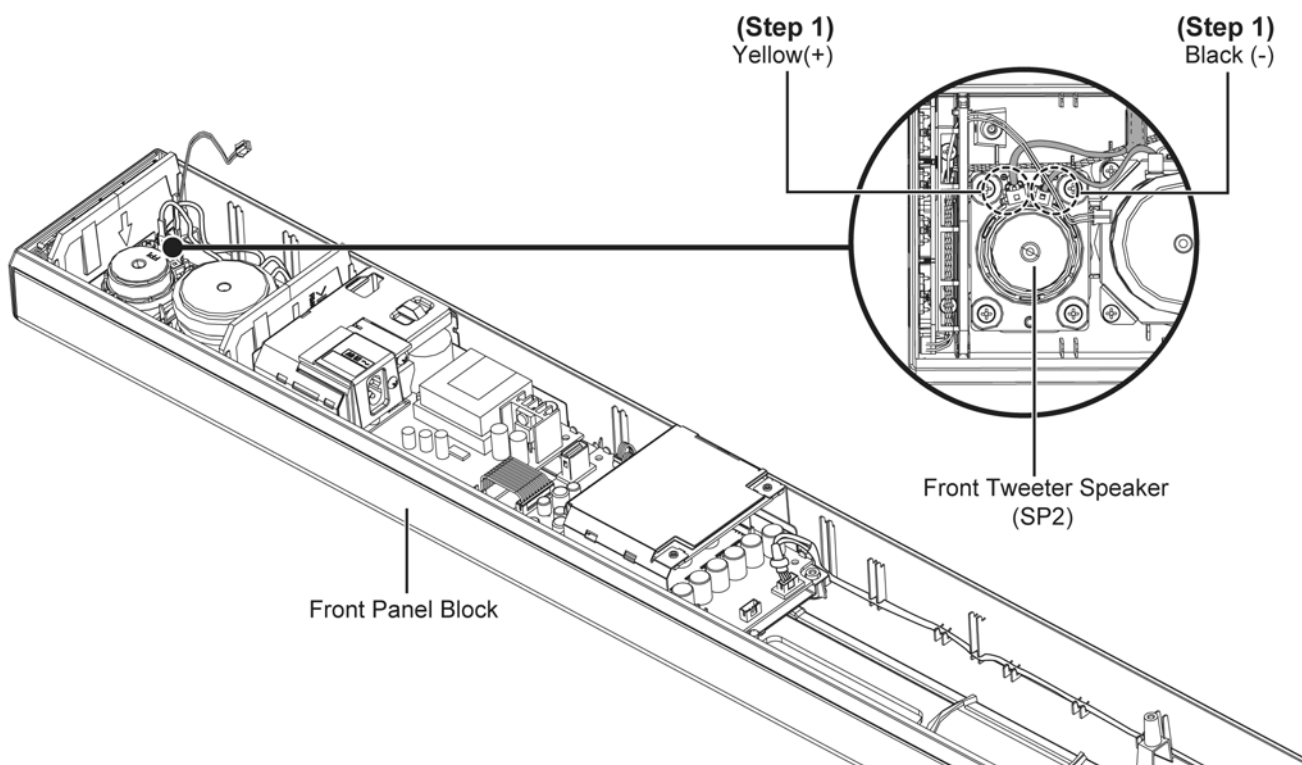
Caution 2: During assembling, ensure that the Capacitor of Front Speaker Wire Assembly is seated properly within the groove of the Front Panel Block.



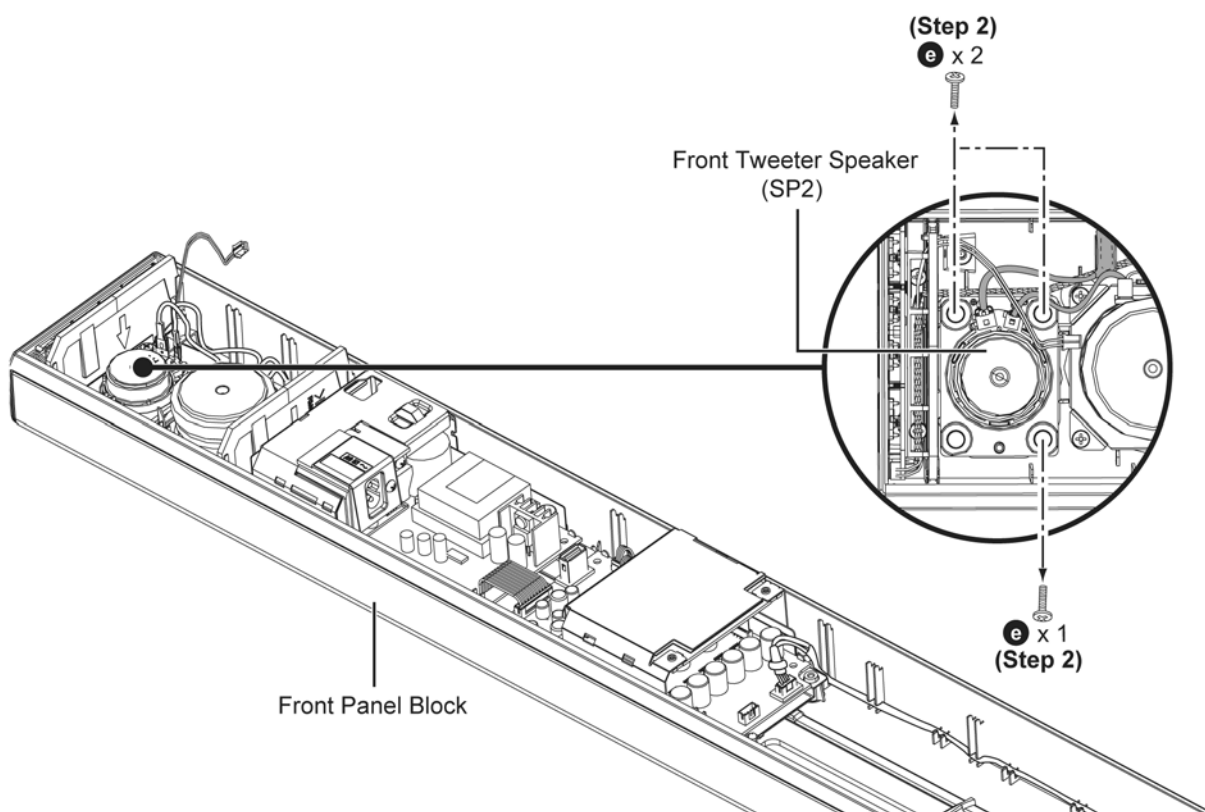
11.19. Disassembly of Front Tweeter Speaker (SP2)

- Refer to "Disassembly of Rear Cabinet Block".

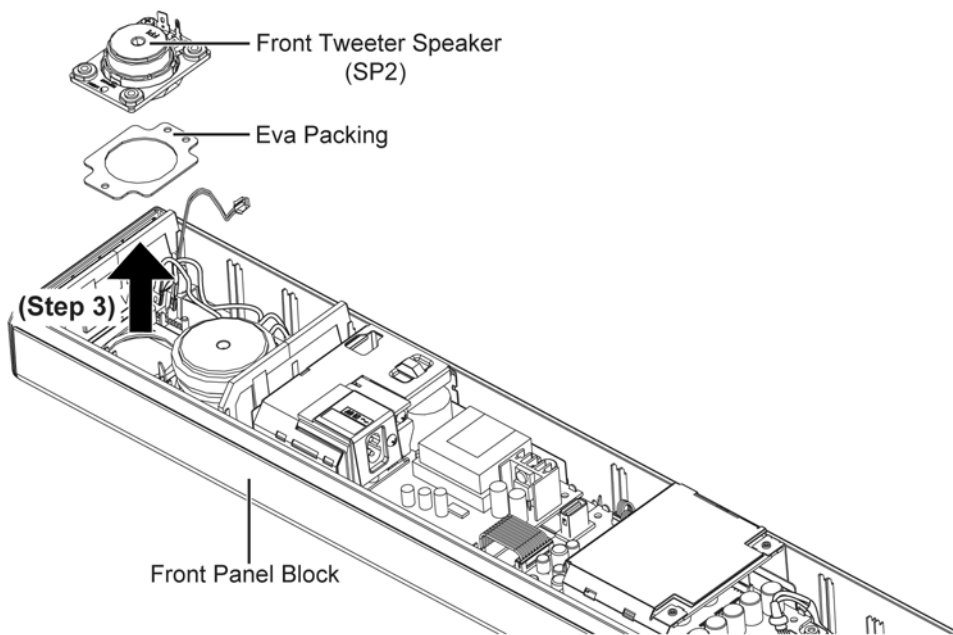
Step 1 : Detach the Yellow (+) and Black (-) wire from the Terminal.



Step 2 : Remove 3 screws.

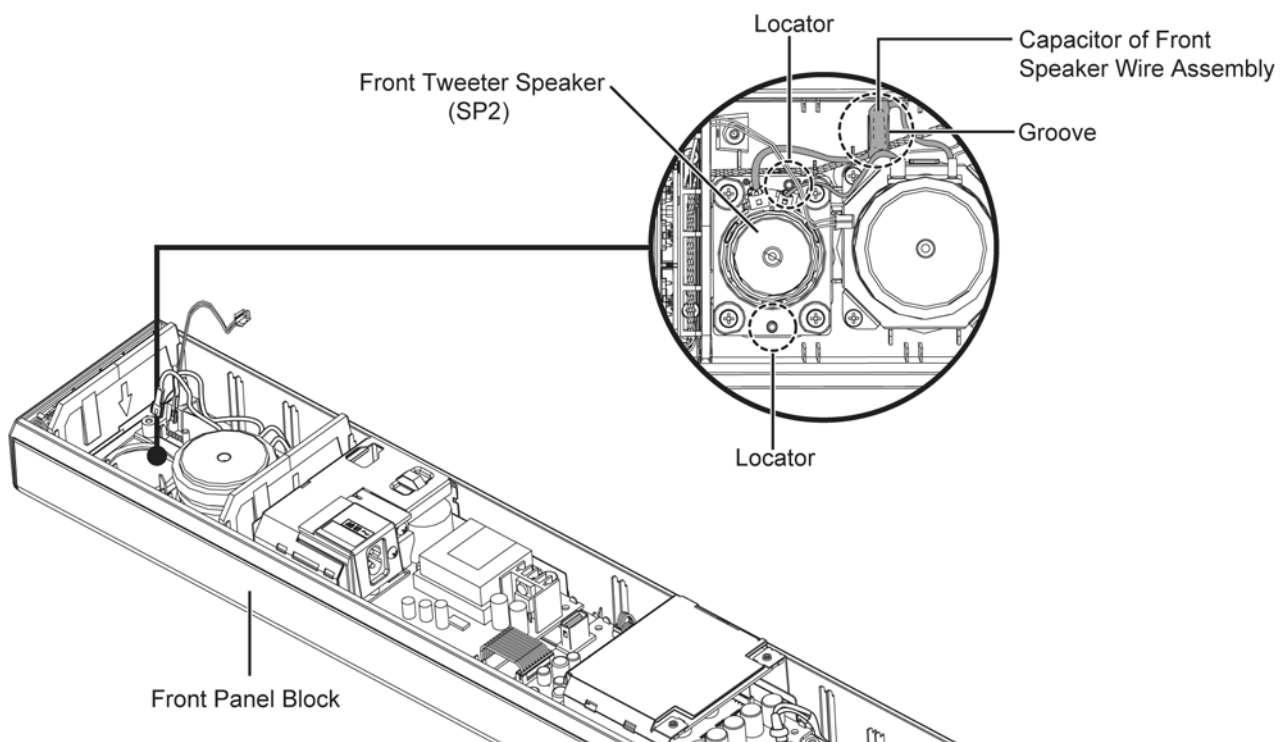


Step 3 : Remove the Front Tweeter Speaker (SP2) and the Eva Packing.



Caution 1: During assembling, ensure that the Front Tweeter Speaker (SP2) and the Eva Packing are seated properly onto the 2 locators of the Front Panel Block.

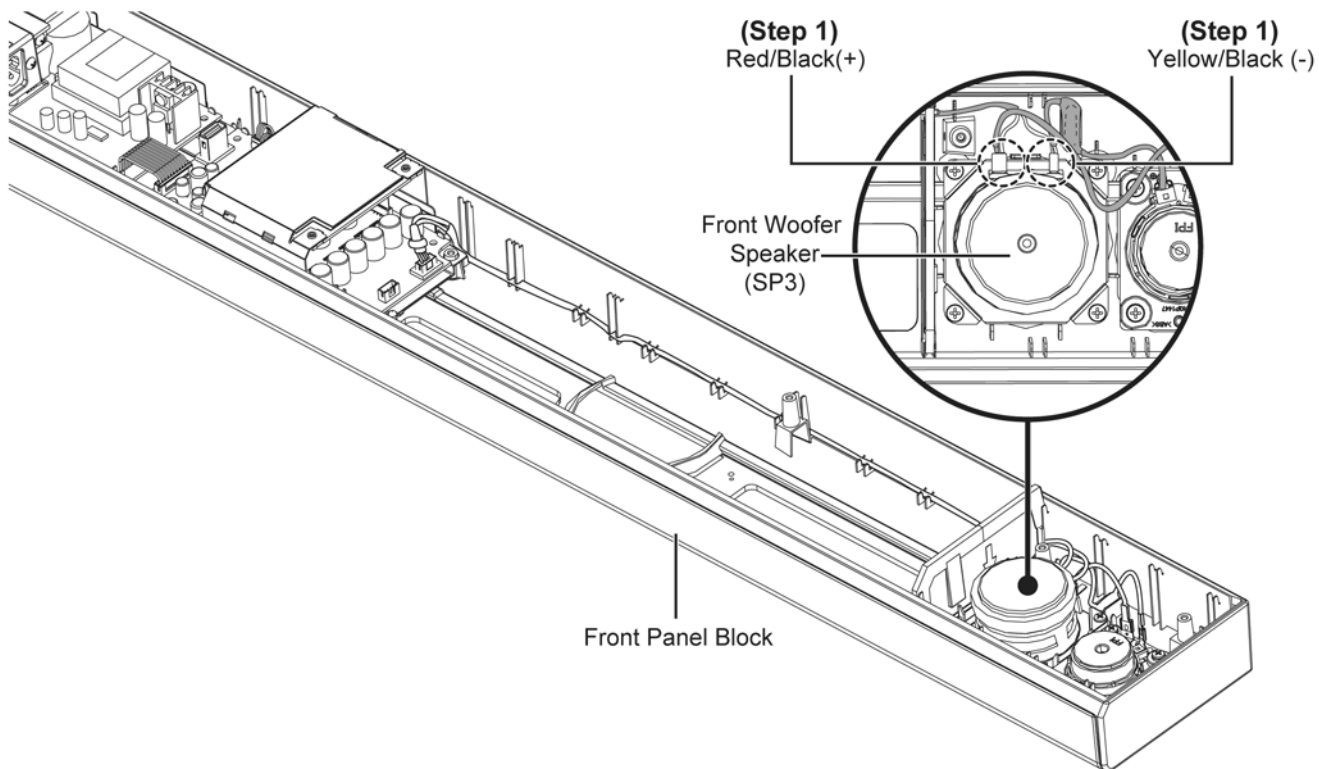
Caution 2: During assembling, ensure that the Capacitor of Front Speaker Wire Assembly is seated properly within the groove of the Front Panel Block.



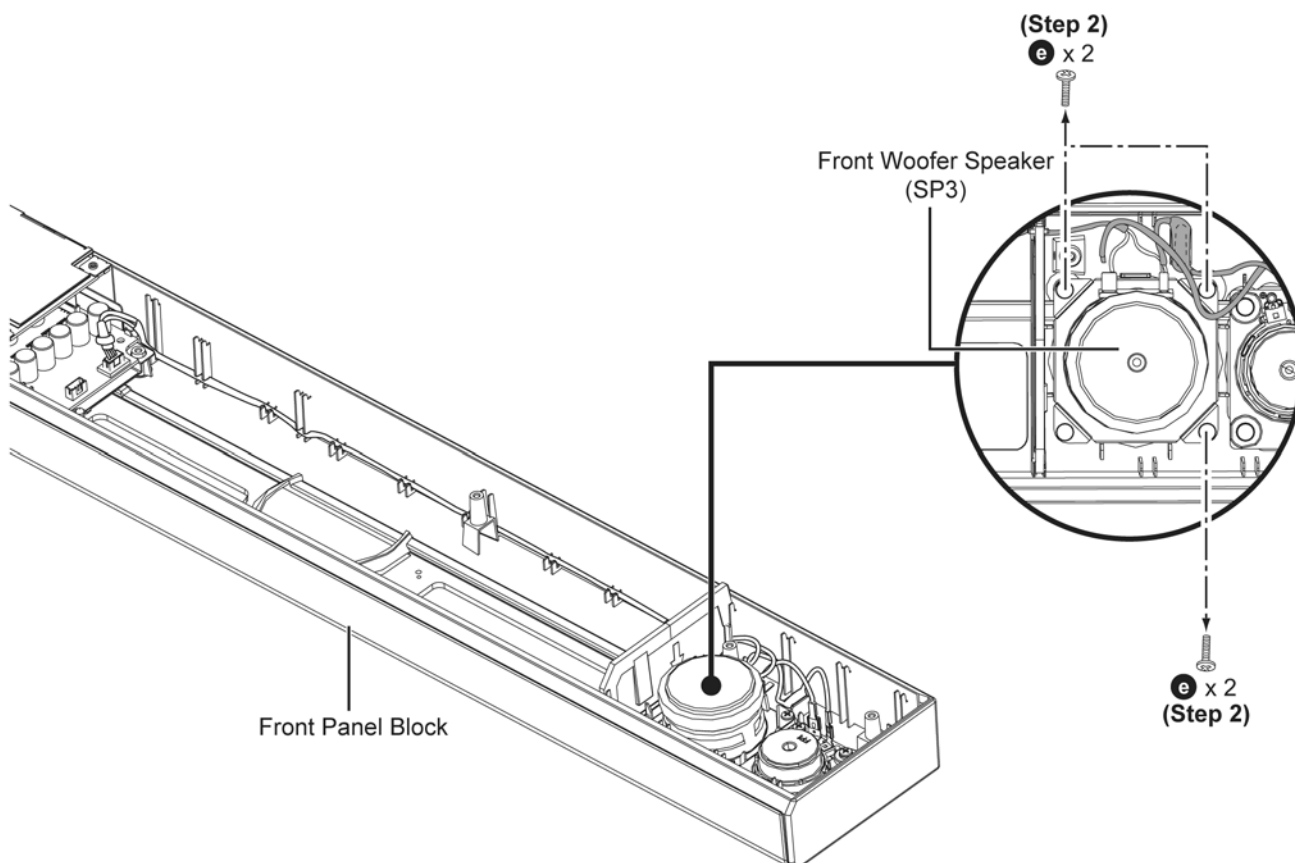
11.20. Disassembly of Front Woofer Speaker (SP3)

- Refer to "Disassembly of Rear Cabinet Block".

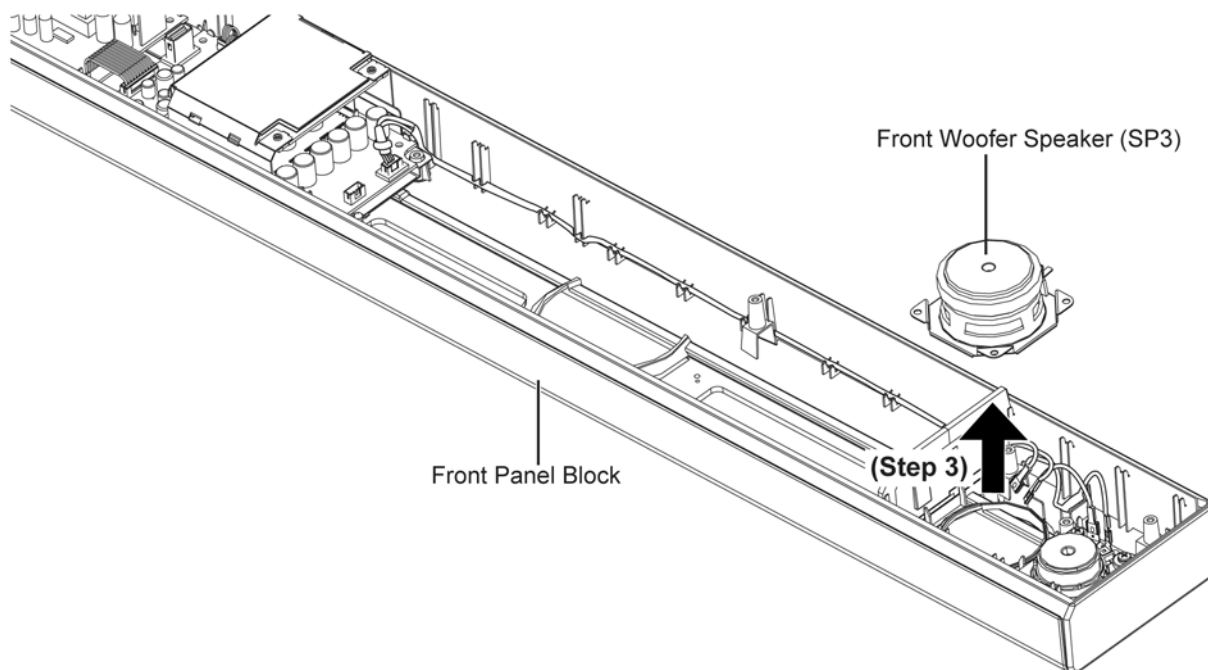
Step 1 : Detach the Red/Black (+) and Yellow /Black (-) wire from the Terminal.



Step 2 : Remove 3 screws.

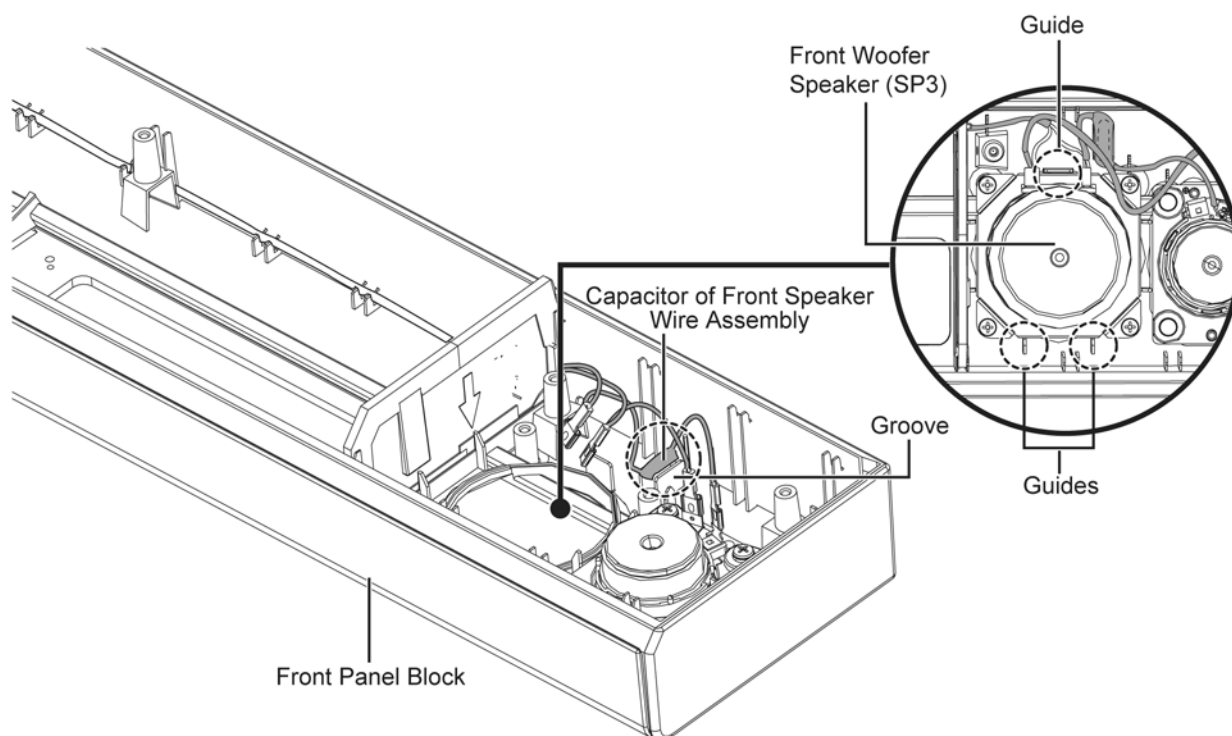


Step 3 : Remove the Front Woofer Speaker (SP3).



Caution 1: During assembling, ensure that the Front Woofer Speaker (SP3) is seated properly onto the 3 guides of the Front Panel Block.

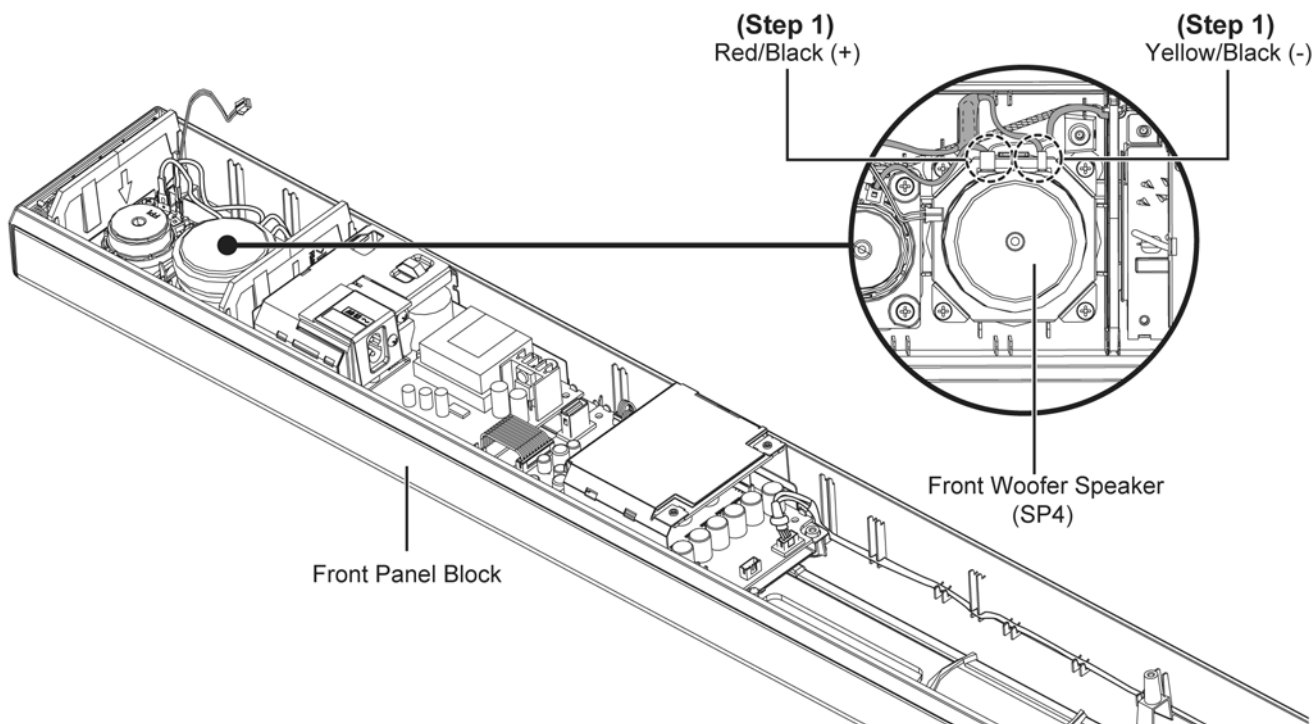
Caution 2: During assembling, ensure that the Capacitor of Front Speaker Wire Assembly is seated properly within the groove of the Front Panel Block.



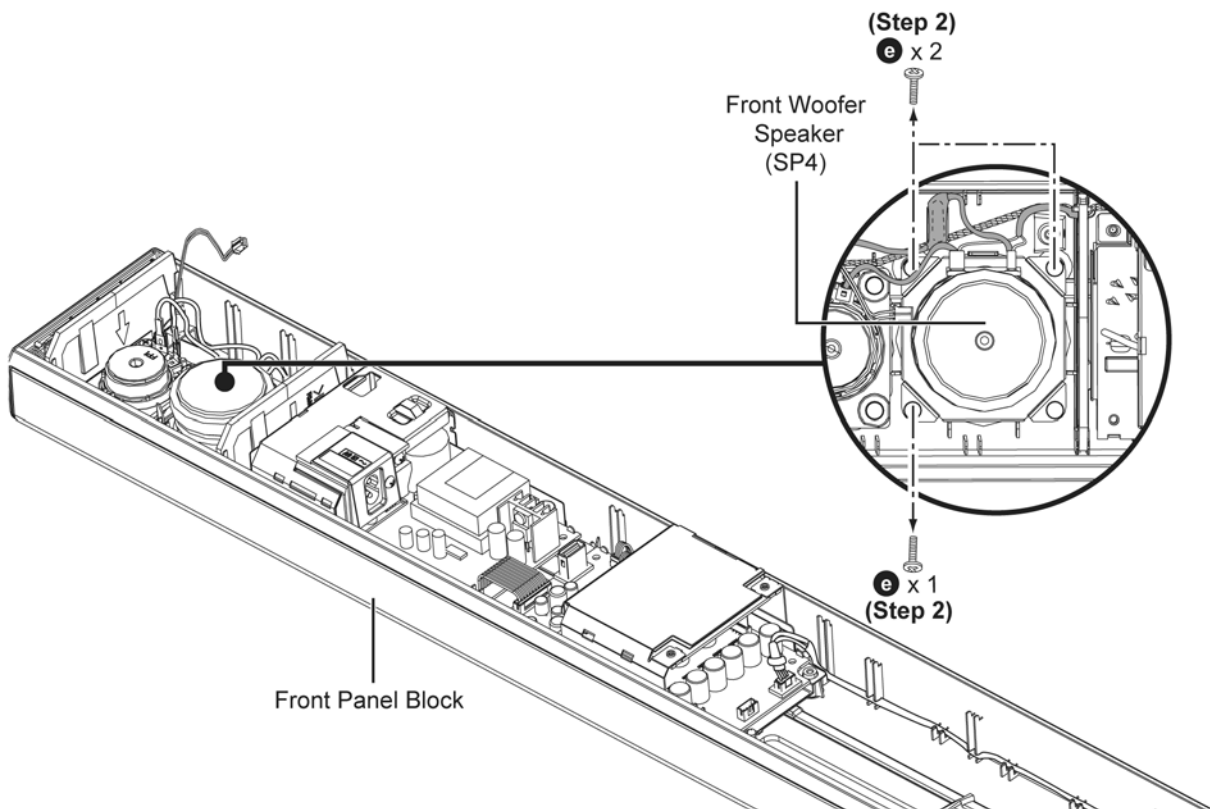
11.21. Disassembly of Front Woofer Speaker (SP4)

- Refer to "Disassembly of Rear Cabinet Block".

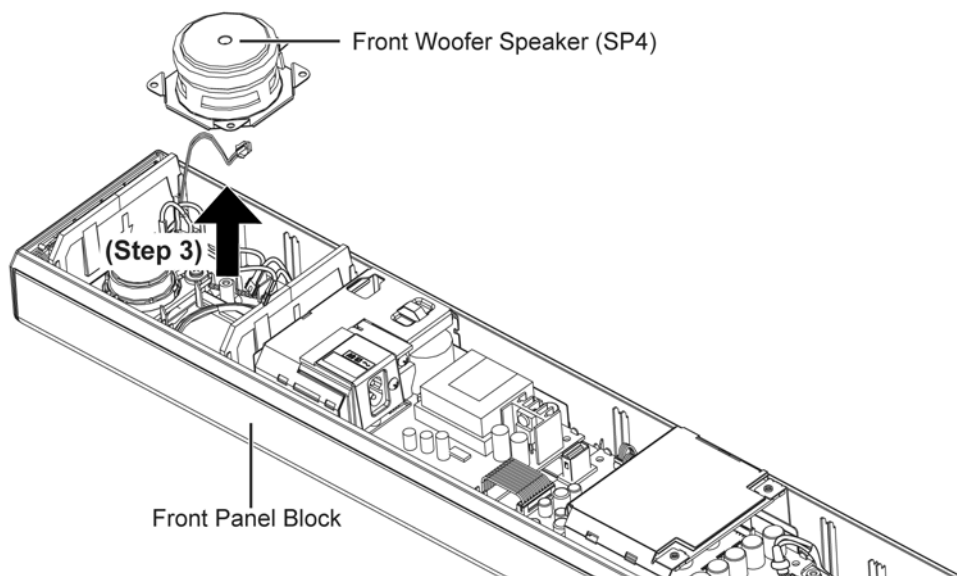
Step 1 : Detach the Red/Black(+) and Yellow/Black (-) wire from the Terminal.



Step 2 : Remove 3 screws.

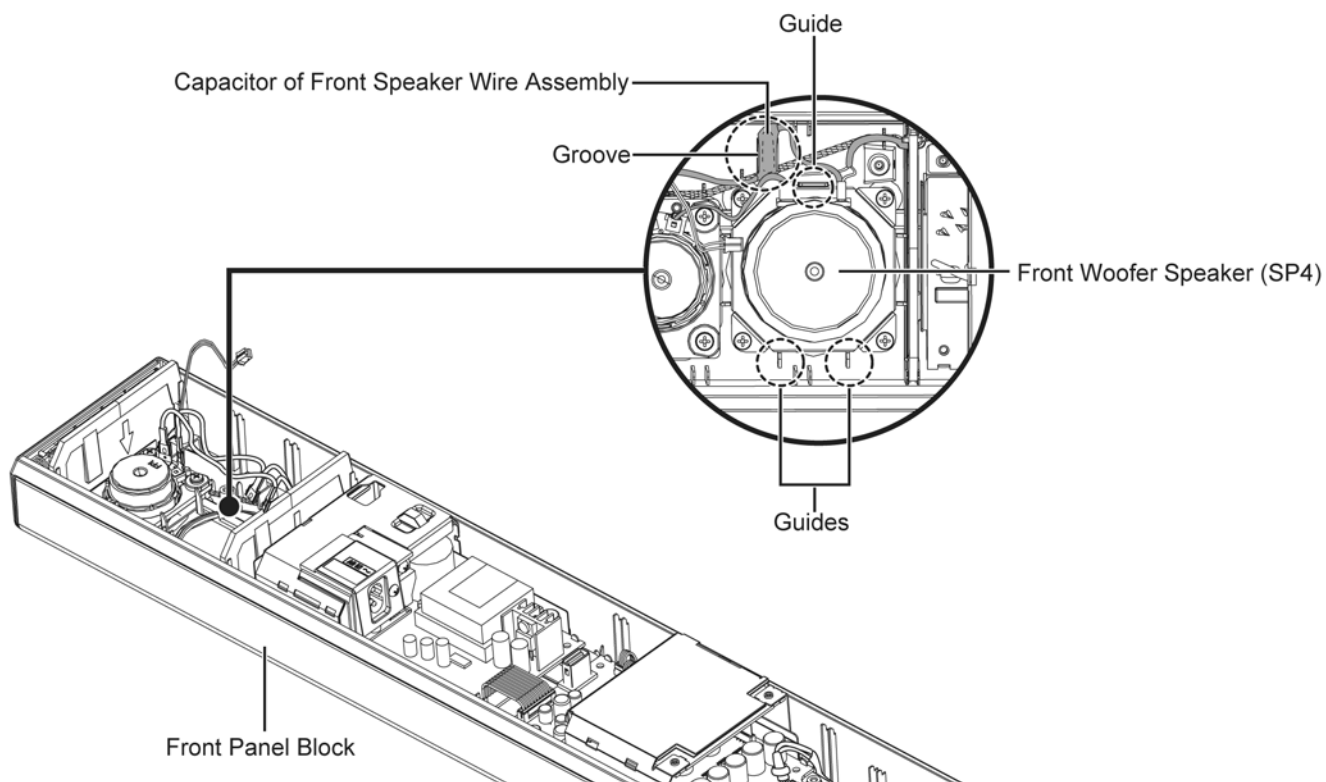


Step 3 : Remove the Front Woofer Speaker (SP4).



Caution 1: During assembling, ensure that the Front Woofer Speaker (SP4) is seated properly onto the 3 guides of the Front Panel Block.

Caution 2: During assembling, ensure that the Capacitor of Front Speaker Wire Assembly is seated properly within the groove of the Front Panel Block.

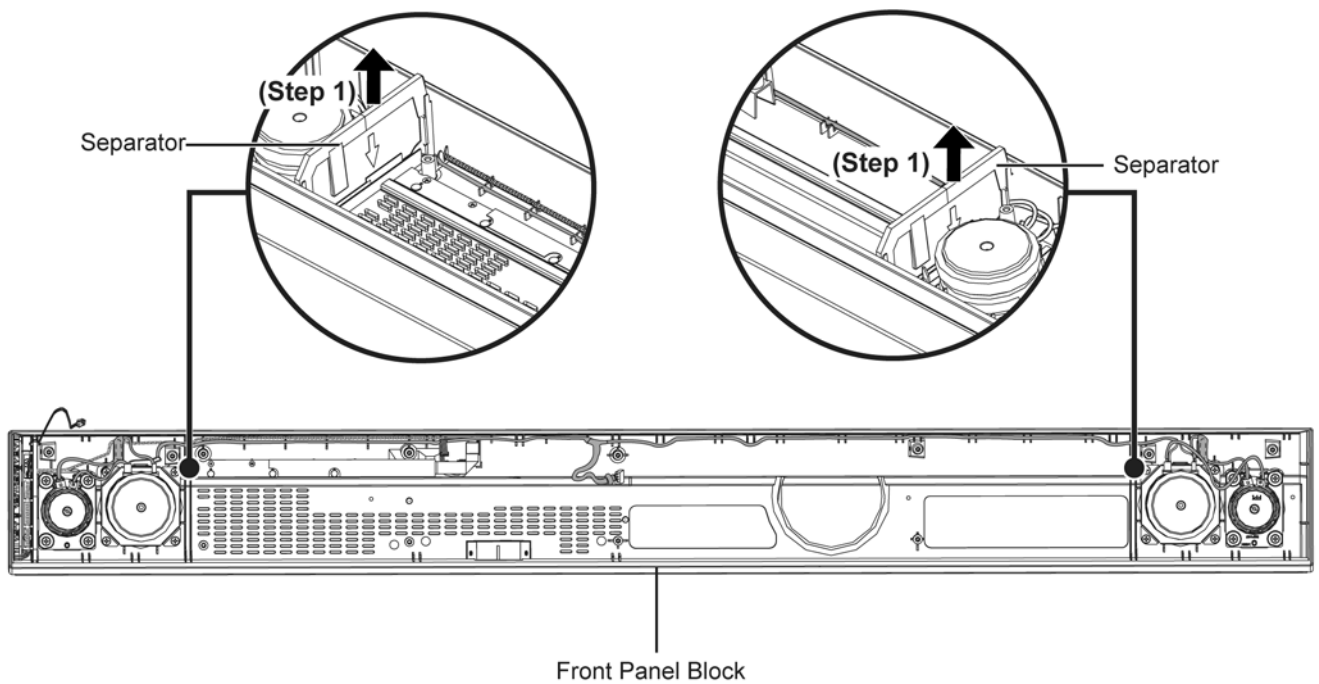


11.22. Replacement of Front Speaker Wire Assembly

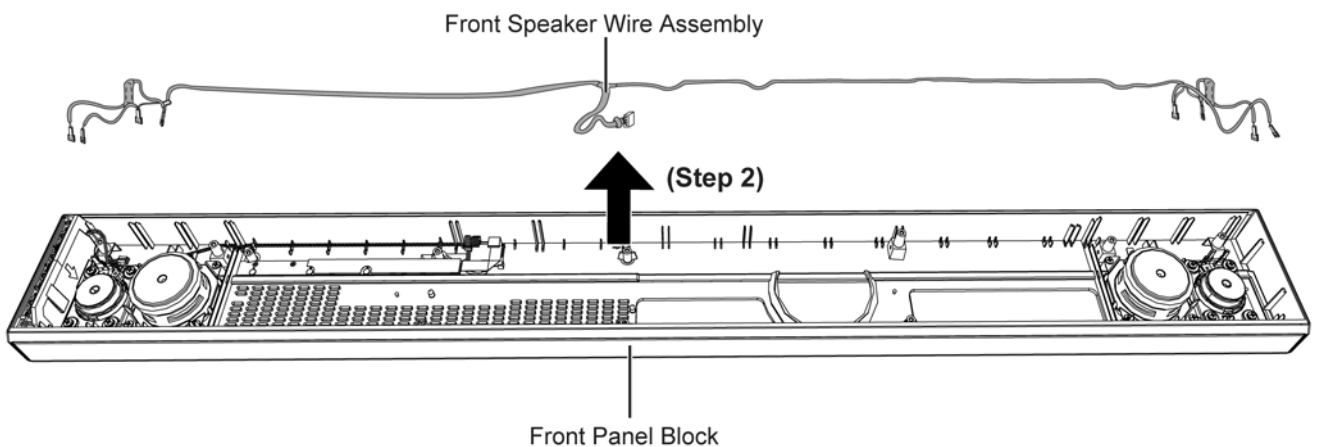
- Refer to "Disassembly of Rear Cabinet Block".
- Refer to "Disassembly of Amplifier Unit".
- Refer to "Disassembly of Front Speaker (SP1)" (Step1).
- Refer to "Disassembly of Front Speaker (SP3)" (Step1).
- Refer to "Disassembly of Front Speaker (SP2)" (Step1).
- Refer to "Disassembly of Front Speaker (SP4)" (Step1).

11.22.1. Disassembly of Front Speaker Wire Assembly

Step 1 : Remove the Separators on both sides of the Front Panel Block.

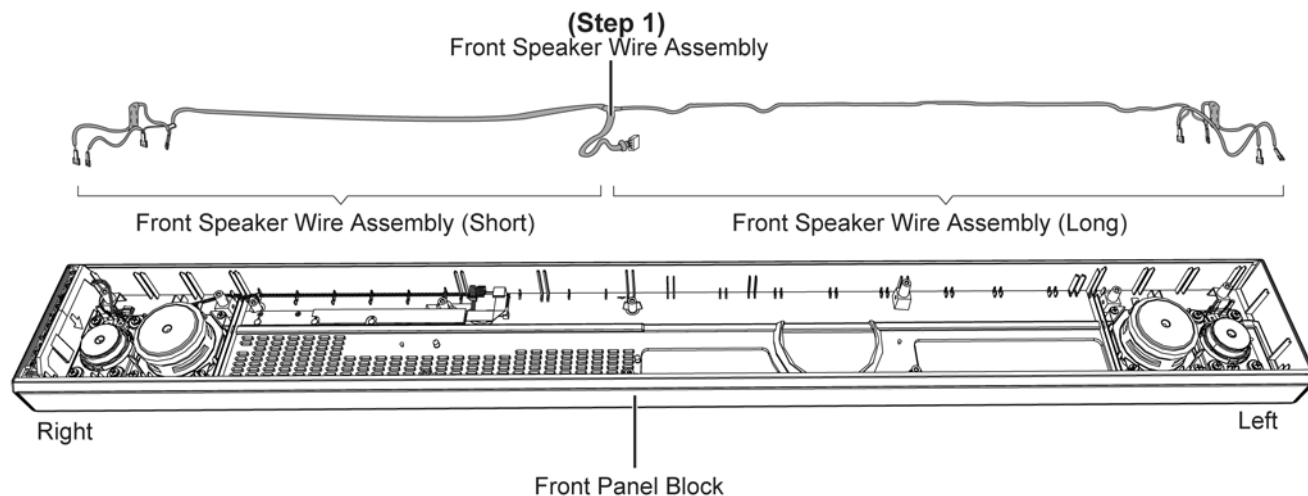


Step 2 : Remove the Front Speaker Wire Assembly.

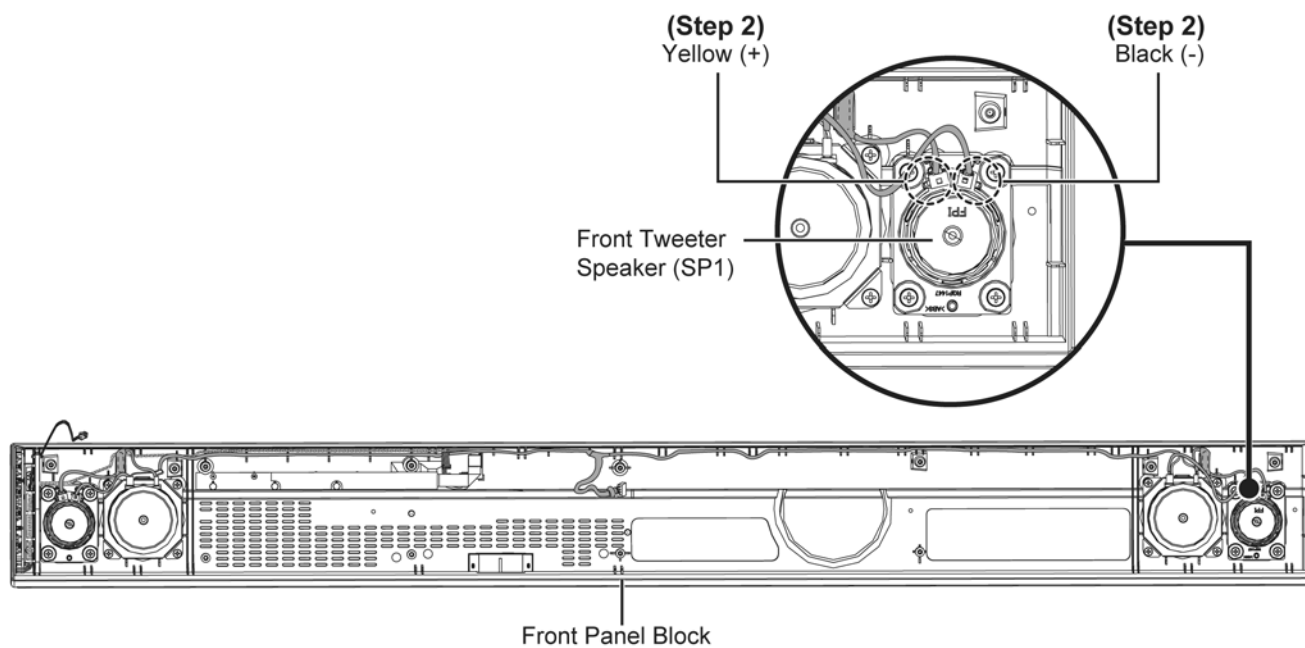


11.22.2. Assembly of Front Speaker Wire Assembly

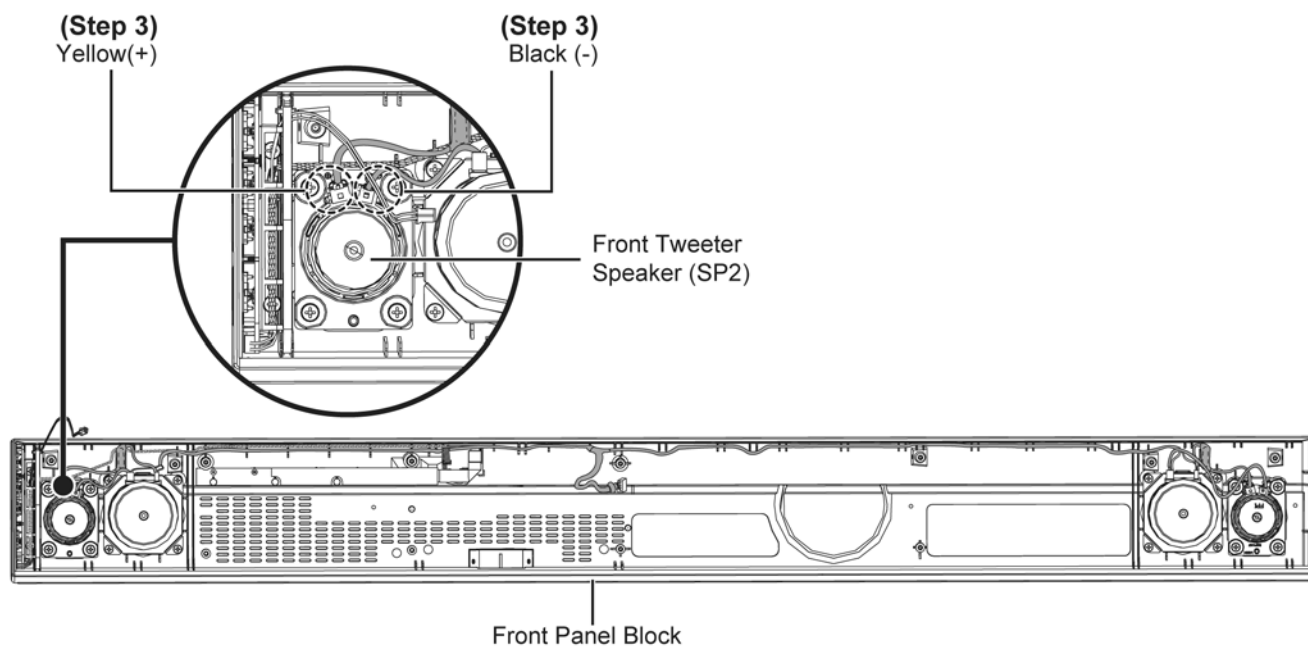
Step 1 : Ensure the Front Speaker Wire Assembly (Long) is on the left side of Front Panel Block and the Front Speaker Wire Assembly (Short) is on the right side of Front Panel Block.



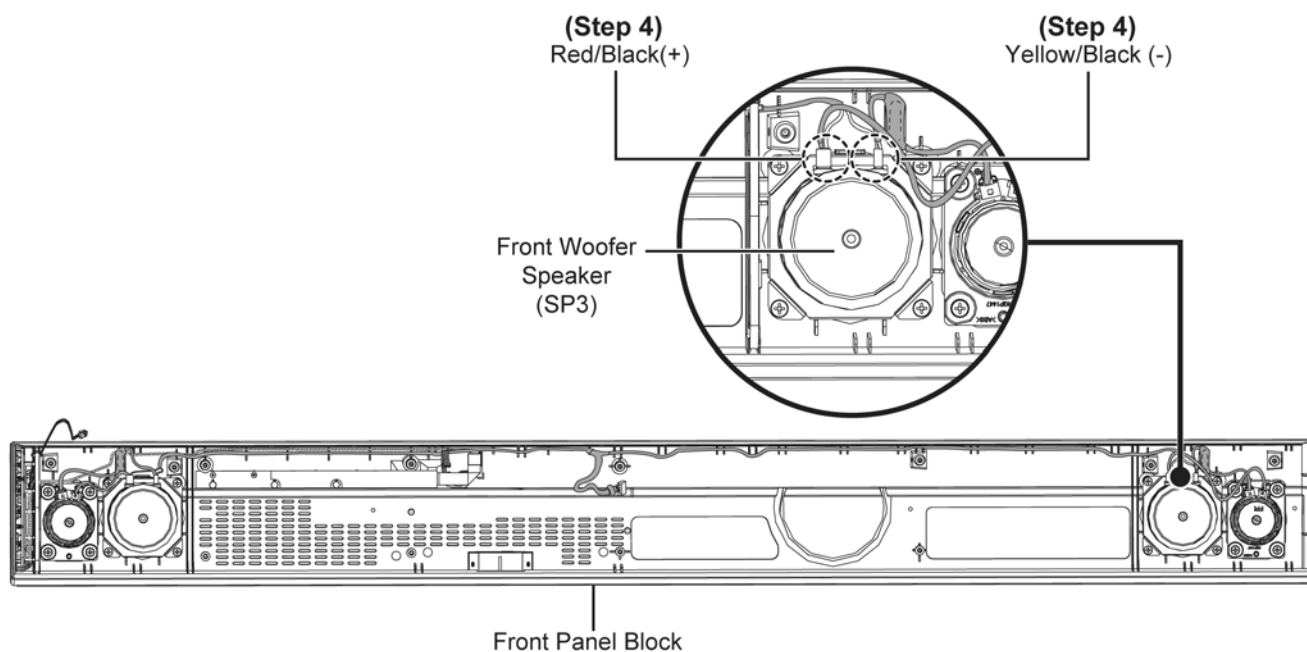
Step 2 : Attach the Yellow (+) and Black (-) wire to the Terminal of the Front Tweeter Speaker (SP1).



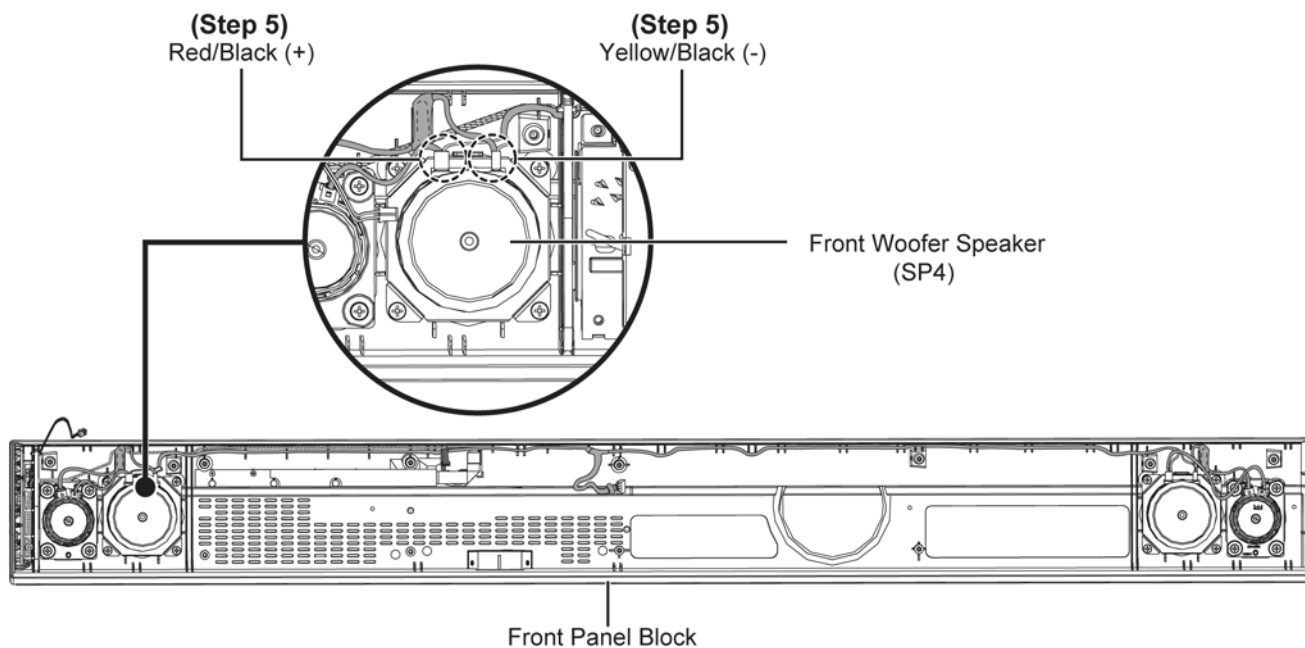
Step 3 : Attach the Yellow (+) and Black (-) wire to the Terminal of the Front Tweeter Speaker (SP2).



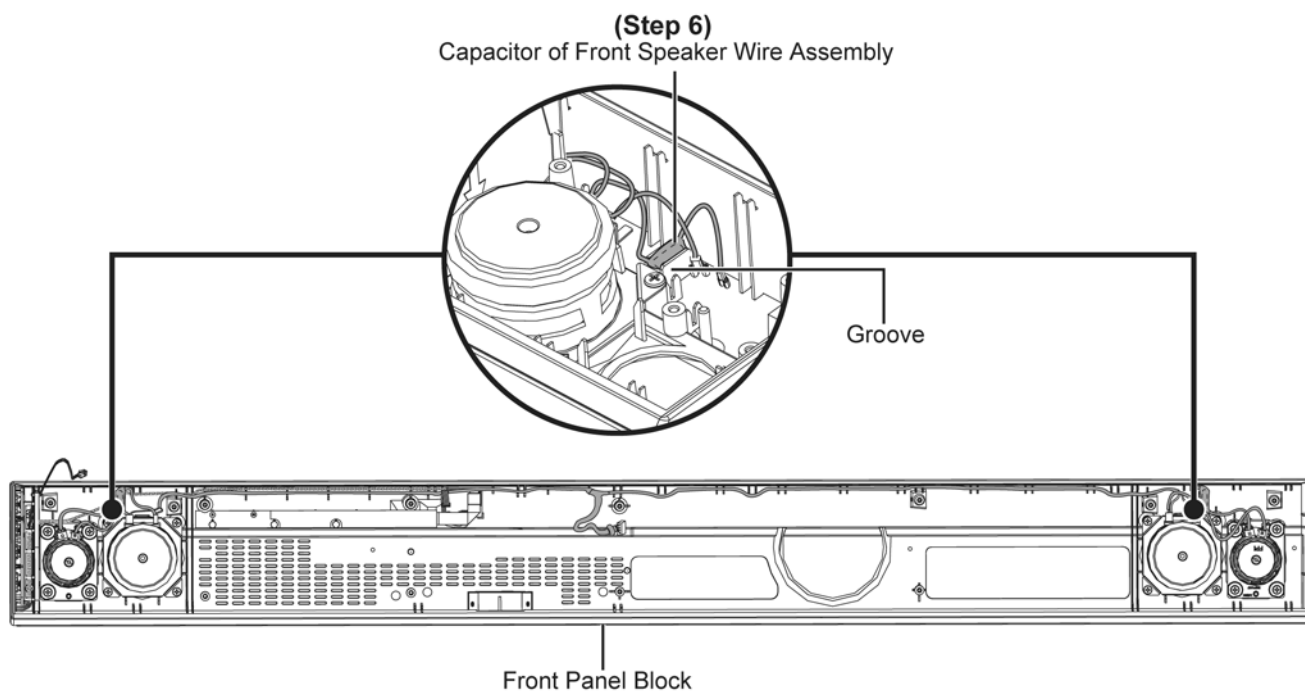
Step 4 : Attach the Red/Black (+) and Yellow/Black (-) wire to the Terminal of the Front Woofer Speaker (SP3).



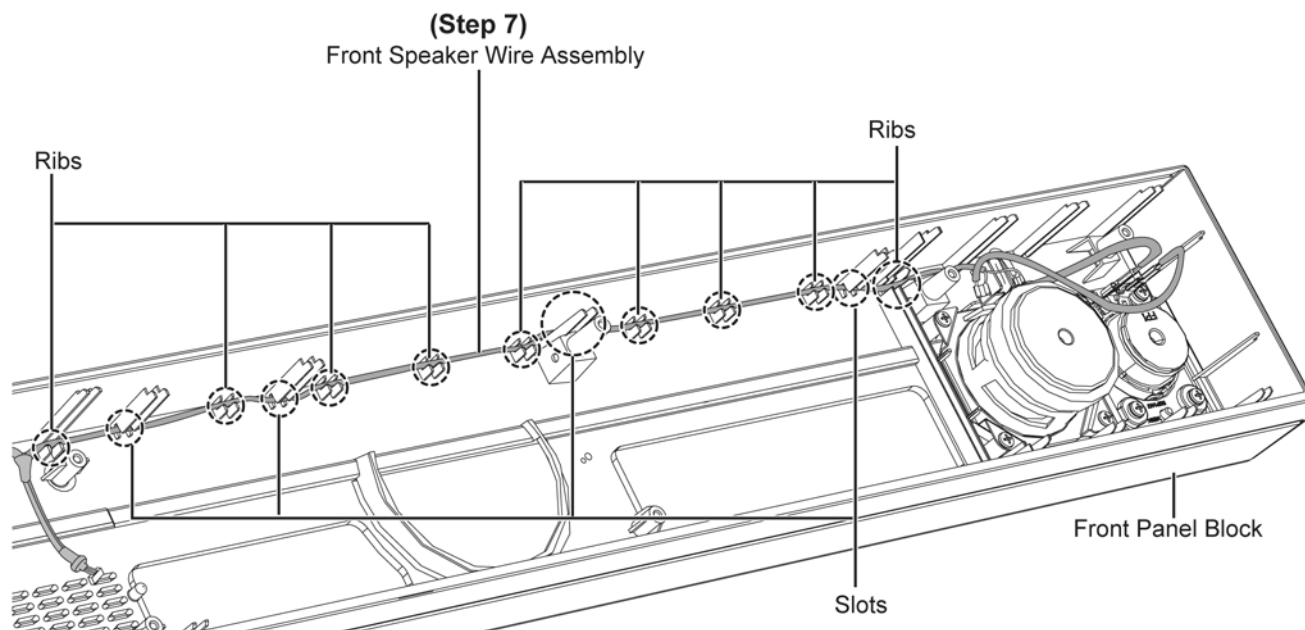
Step 5 : Attach the Red/Black (+) and Yellow/Black (-) wire to the Terminal of the Front Woofer Speaker (SP4).



Step 6 : Place the Capacitor of Front Speaker Wire Assembly into the groove of the Front Panel Block.

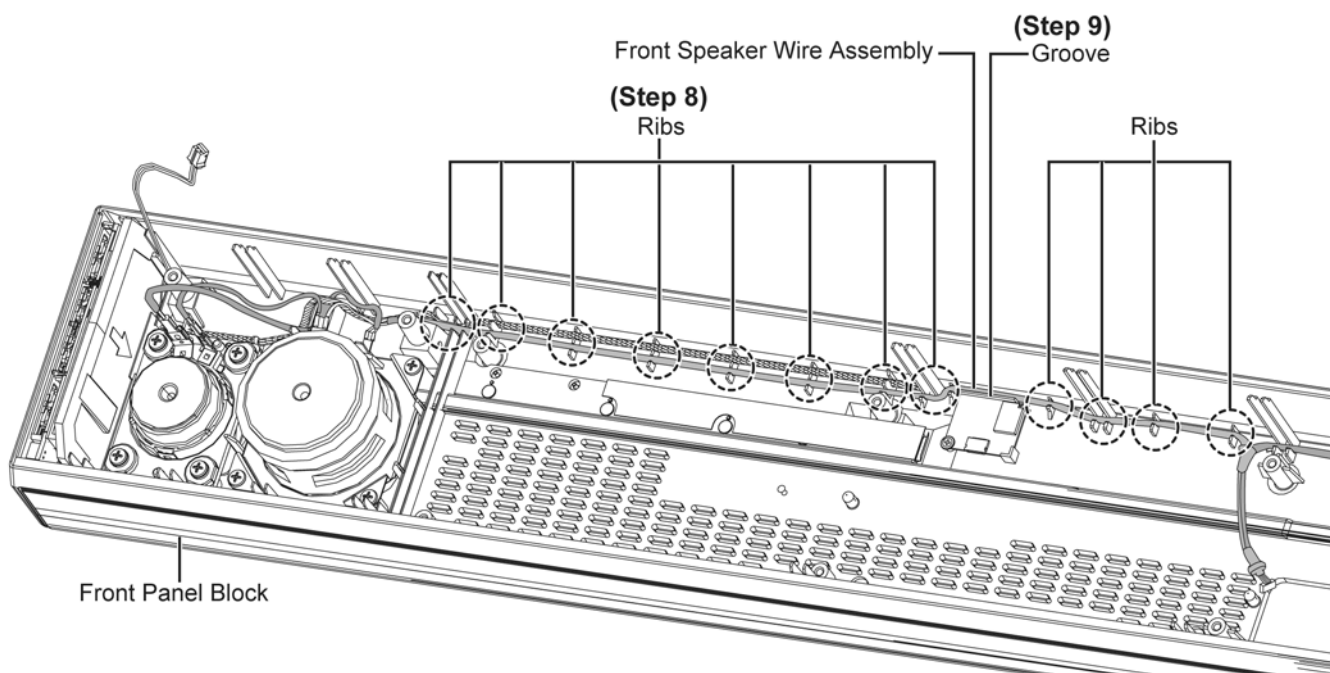


Step 7 : Dressed the Front Speaker Wire Assembly into the slots and ribs at the left side of the Front Panel Block.



Step 8 : Dressed the Front Speaker Wire Assembly into the ribs at the right side of the Front Panel Block.

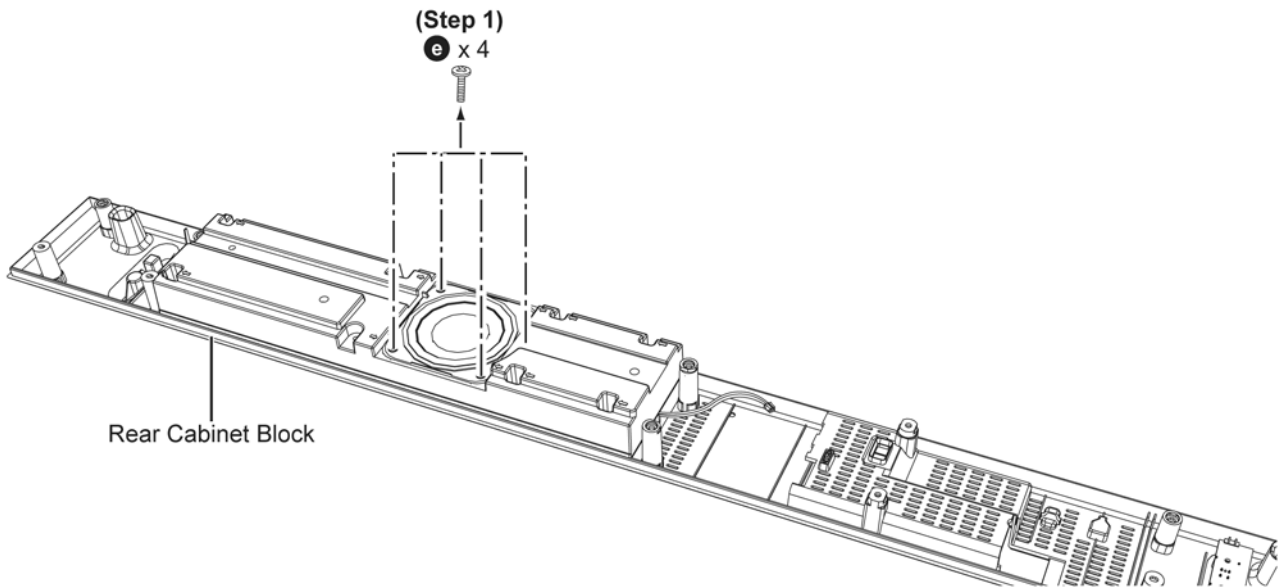
Step 9 : Dressed the Front Speaker Wire Assembly behind the groove of the Front Panel Block.



11.23. Disassembly of Subwoofer Speaker (SP5)

- Refer to “Disassembly of Rear Cabinet Block”.

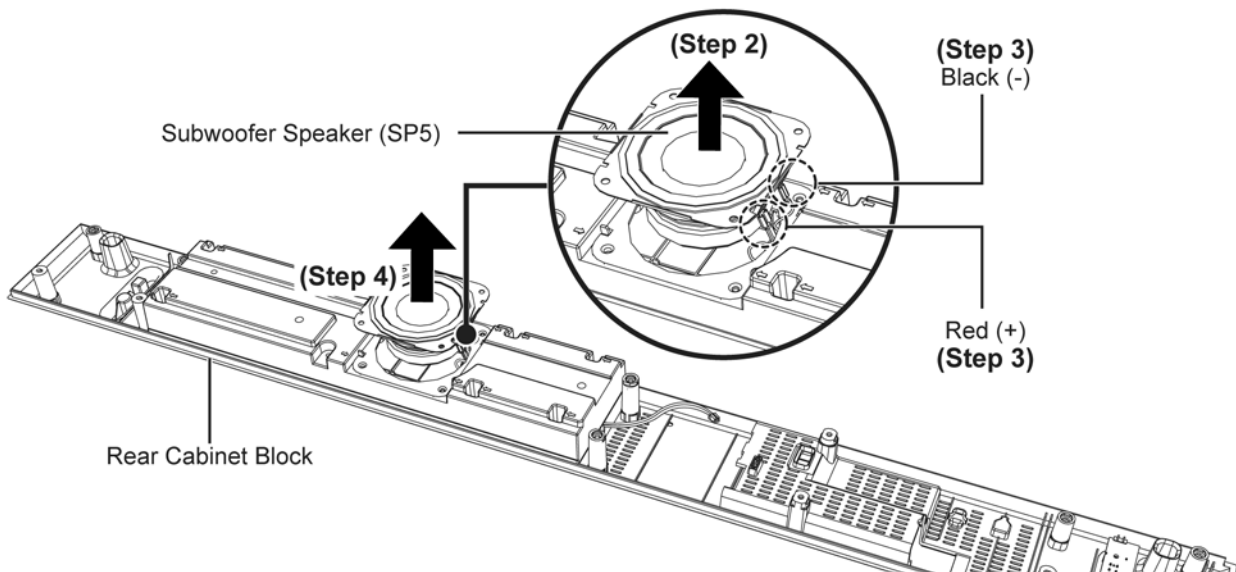
Step 1 : Remove 4 screws.



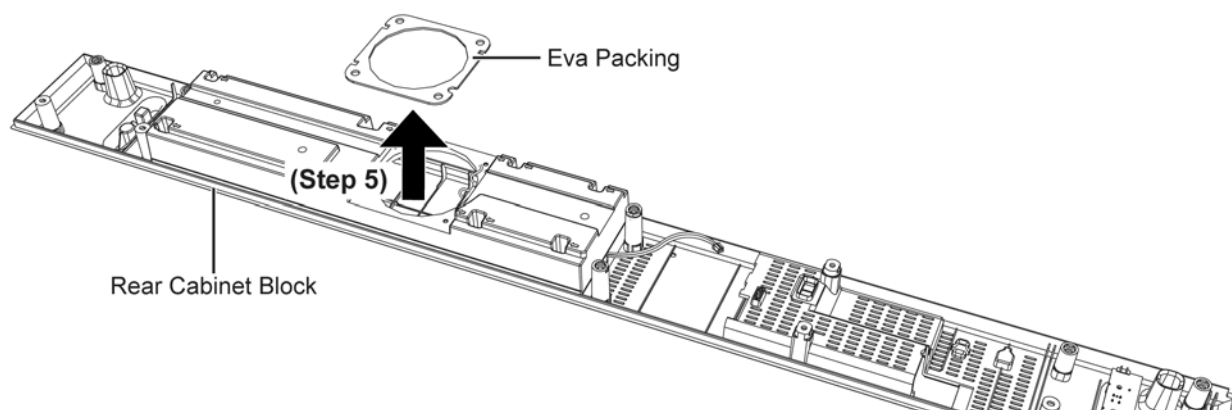
Step 2 : Lift up the Subwoofer Speaker (SP5).

Step 3 : Detach the Red (+) and Black (-) wire from the Terminal.

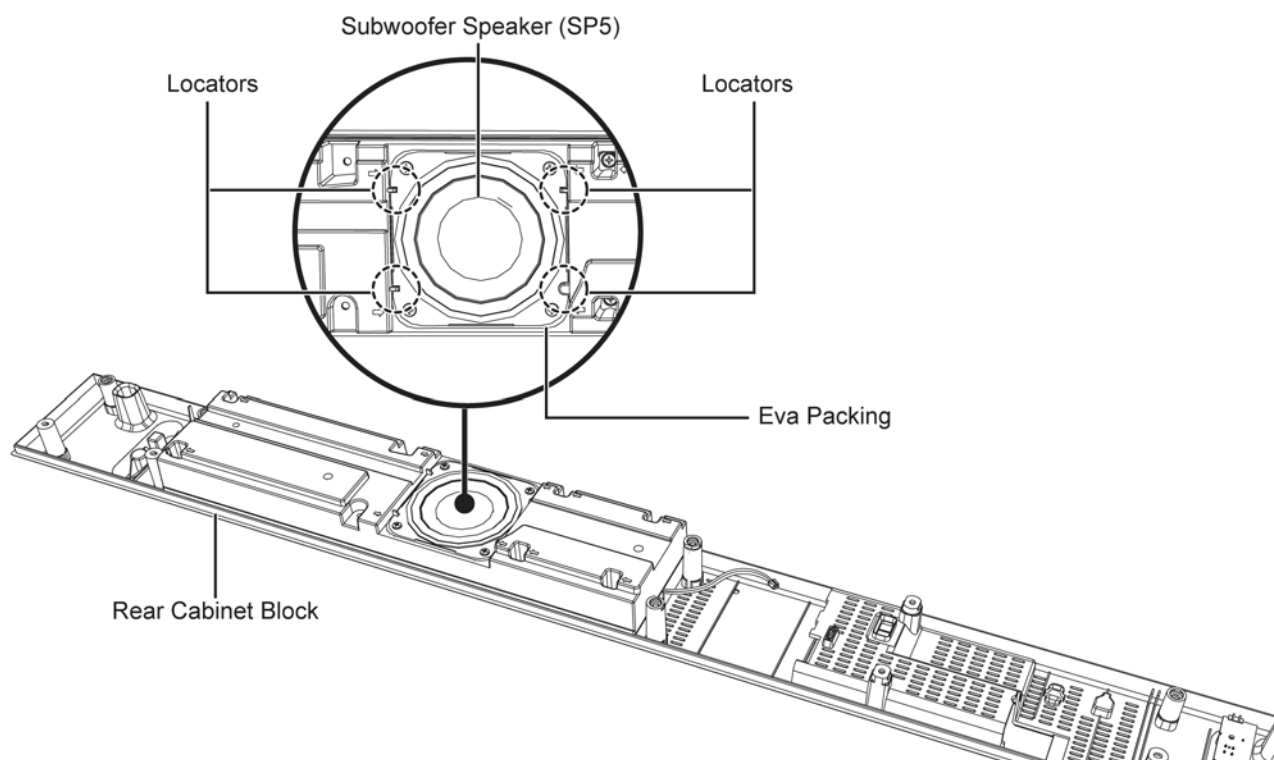
Step 4 : Remove the Subwoofer Speaker (SP5).



Step 5 : Remove the Eva Packing.



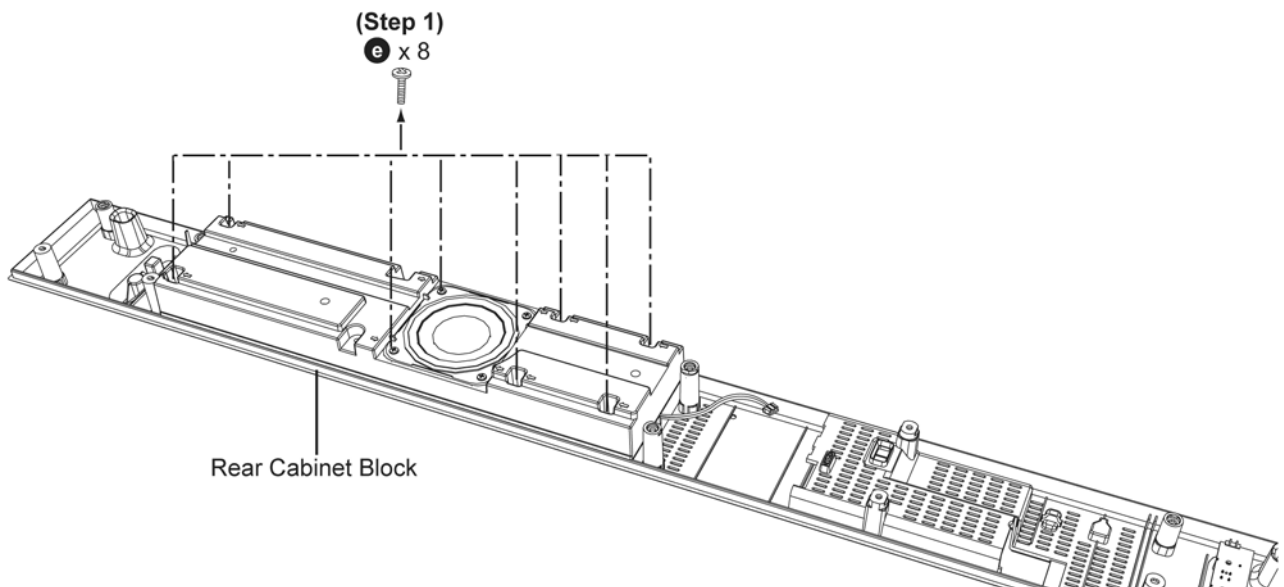
Caution : During assembling, ensure that the Subwoofer Speaker (SP5) and the Eva Packing are seated properly onto the 2 locators of the Rear Cabinet Block.



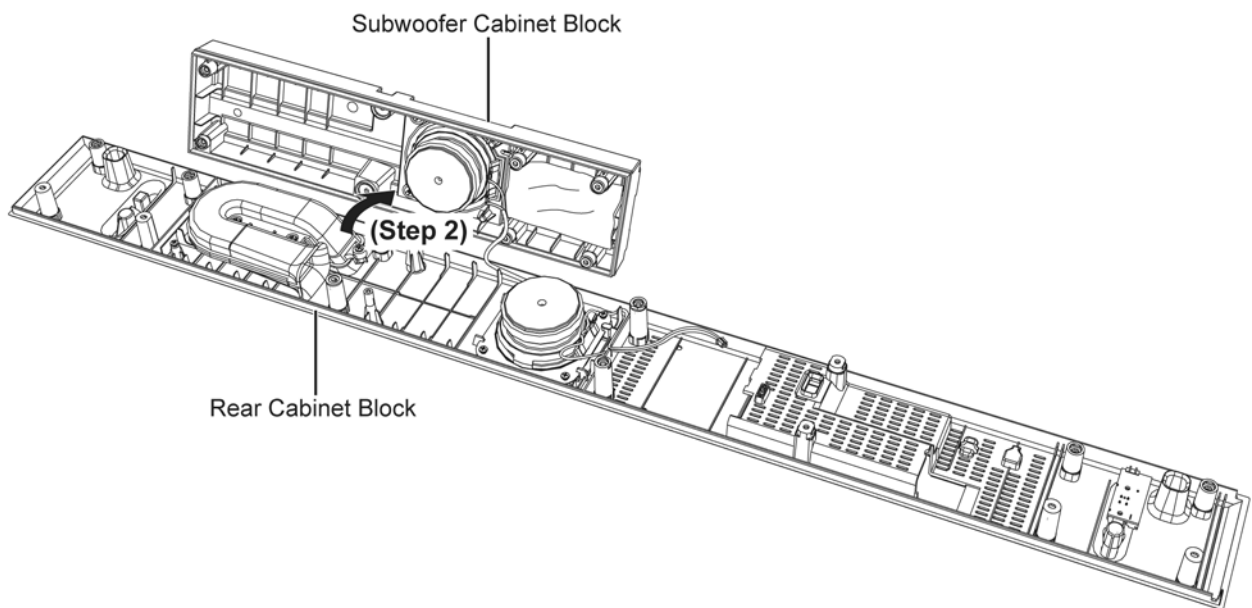
11.24. Disassembly of Subwoofer Speaker (SP6)

- Refer to “Disassembly of Rear Cabinet Block”.

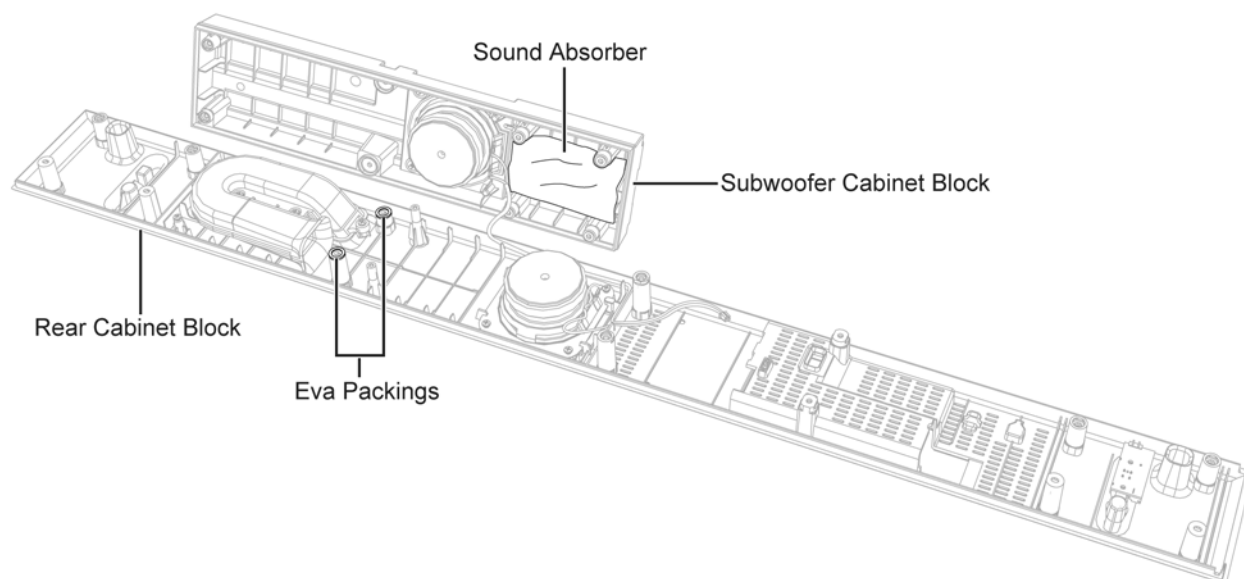
Step 1 : Remove 8 screws.



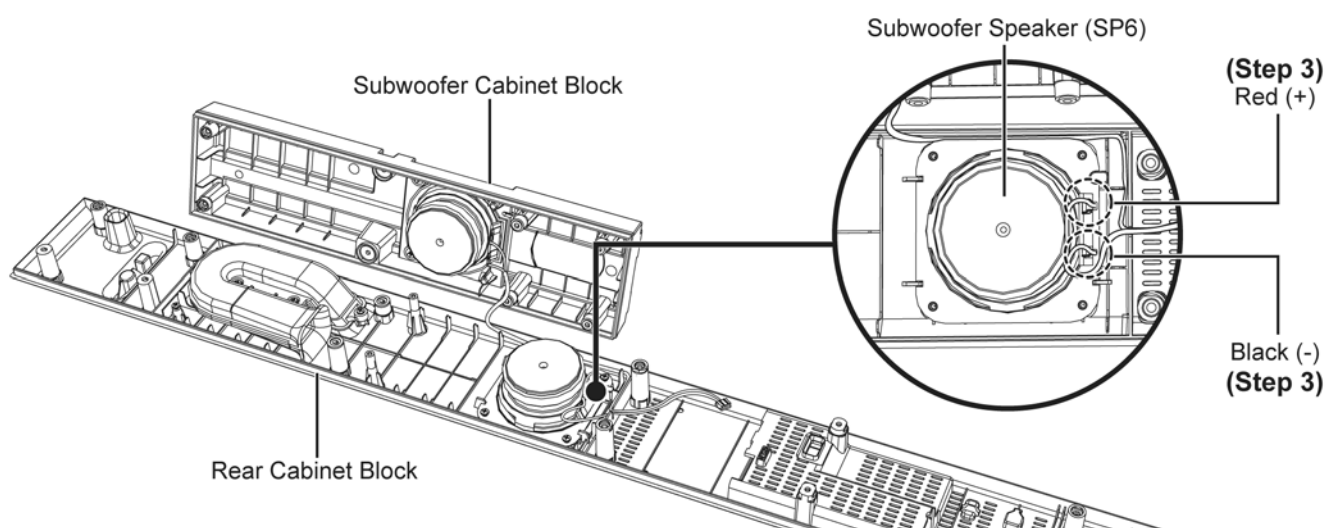
Step 2 : Upset the Subwoofer Cabinet Block by the side of the Rear Cabinet Block.



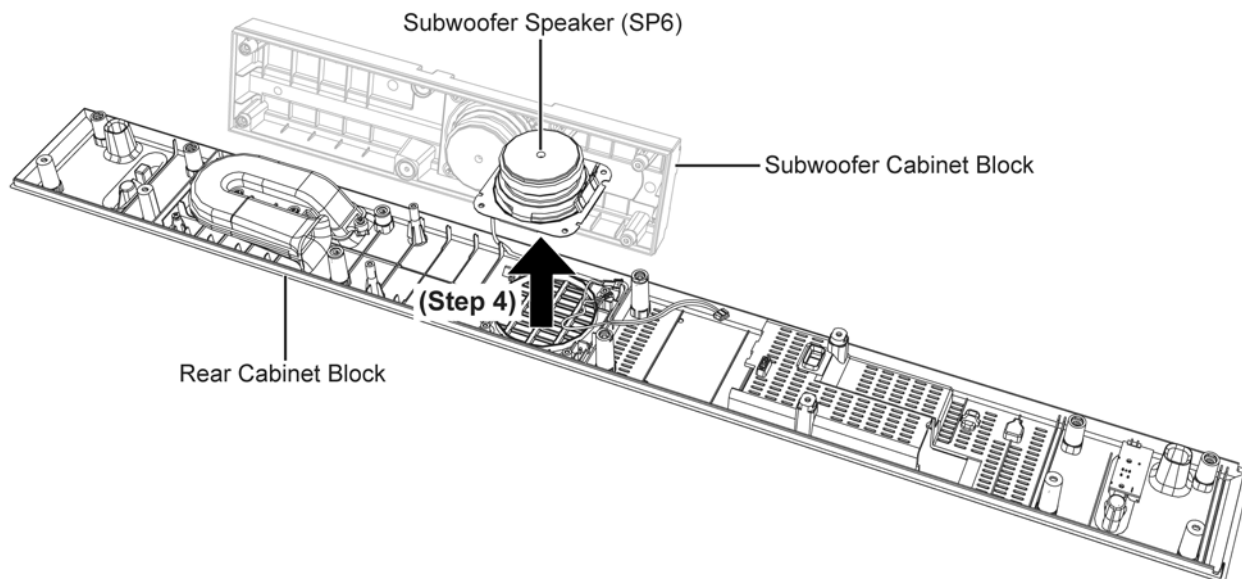
Caution : Safe keep the Sound Absorber and the Eva Packings, place them back during assembling.



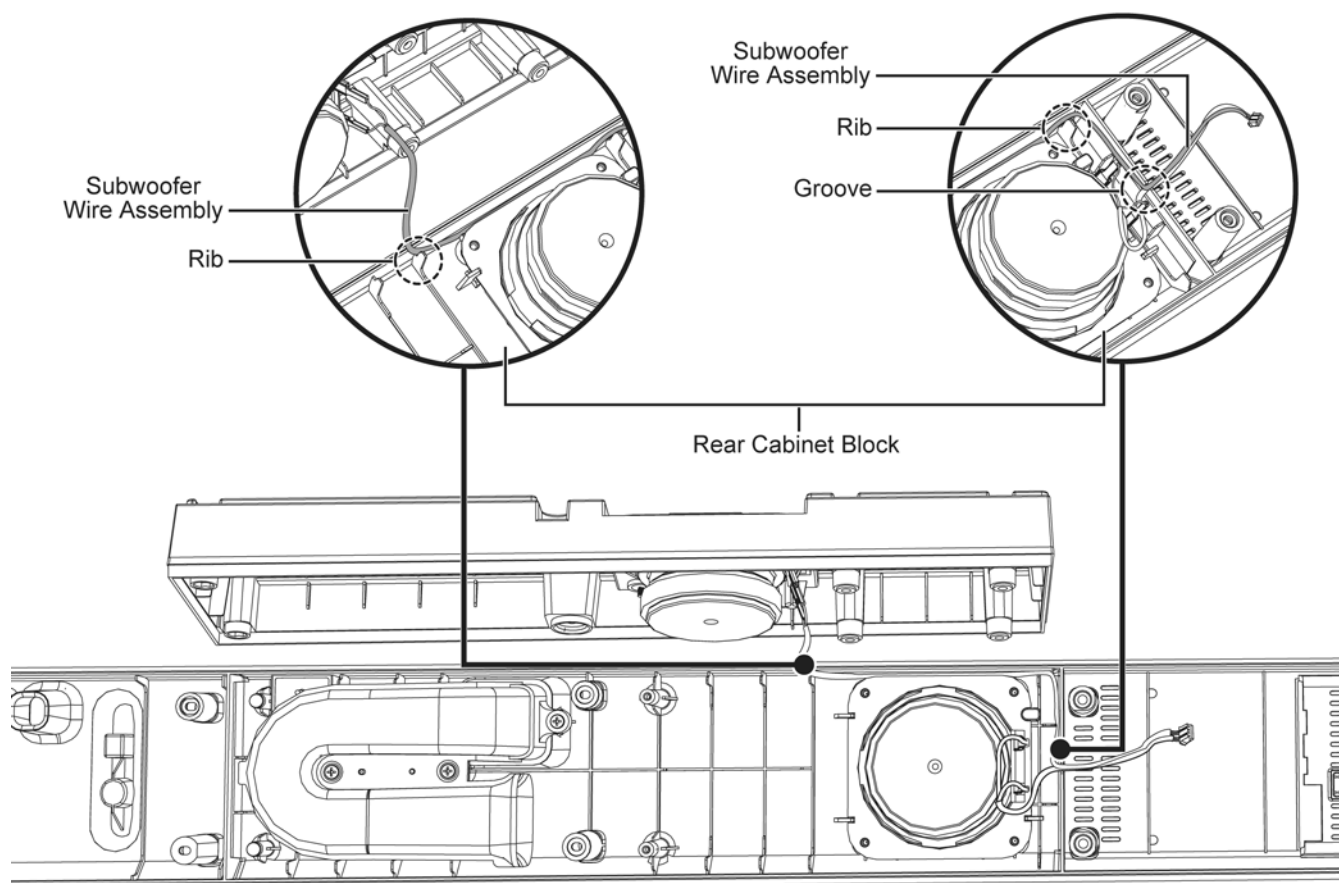
Step 3 : Detach the Red (+) and Black (-) wire from the Terminal.



Step 4 : Remove the Subwoofer Speaker (SP6).



Caution 1: During assembling, ensure that the Subwoofer Speaker Wire Assembly is dressed properly into the groove and the ribs of the Rear Cabinet Block.



12 Service Position

Note: For description of the disassembly procedures, see the Section 11

12.1. Checking and Repairing of SMPS and AC Inlet P.C.B.

Step 1 : Remove the Rear Cabinet Block.

Step 2 : Remove the Amplifier Unit.

Step 3 : Remove the SMPS P.C.B. and AC Inlet P.C.B..

Step 4 : Place the Amplifier Unit back to the original position on the Front Panel Block.

Step 5 : Attach 2P Wire of the connector (CN6301) on the Tilt Switch P.C.B..

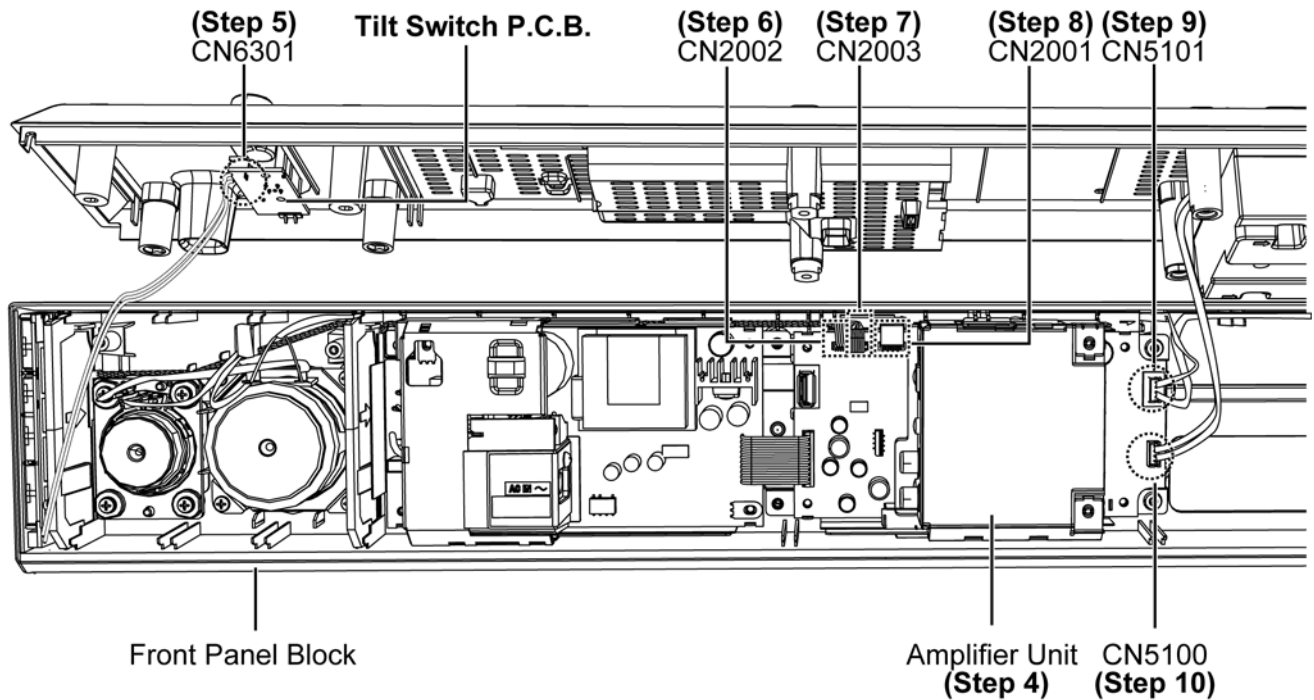
Step 6 : Attach 5P Wire at the connector (CN2002) on the Main P.C.B..

Step 7 : Attach 6P Wire at the connector (CN2003) on the Main P.C.B..

Step 8 : Attach 8P FFC at the connector (CN2001) on the Main P.C.B..

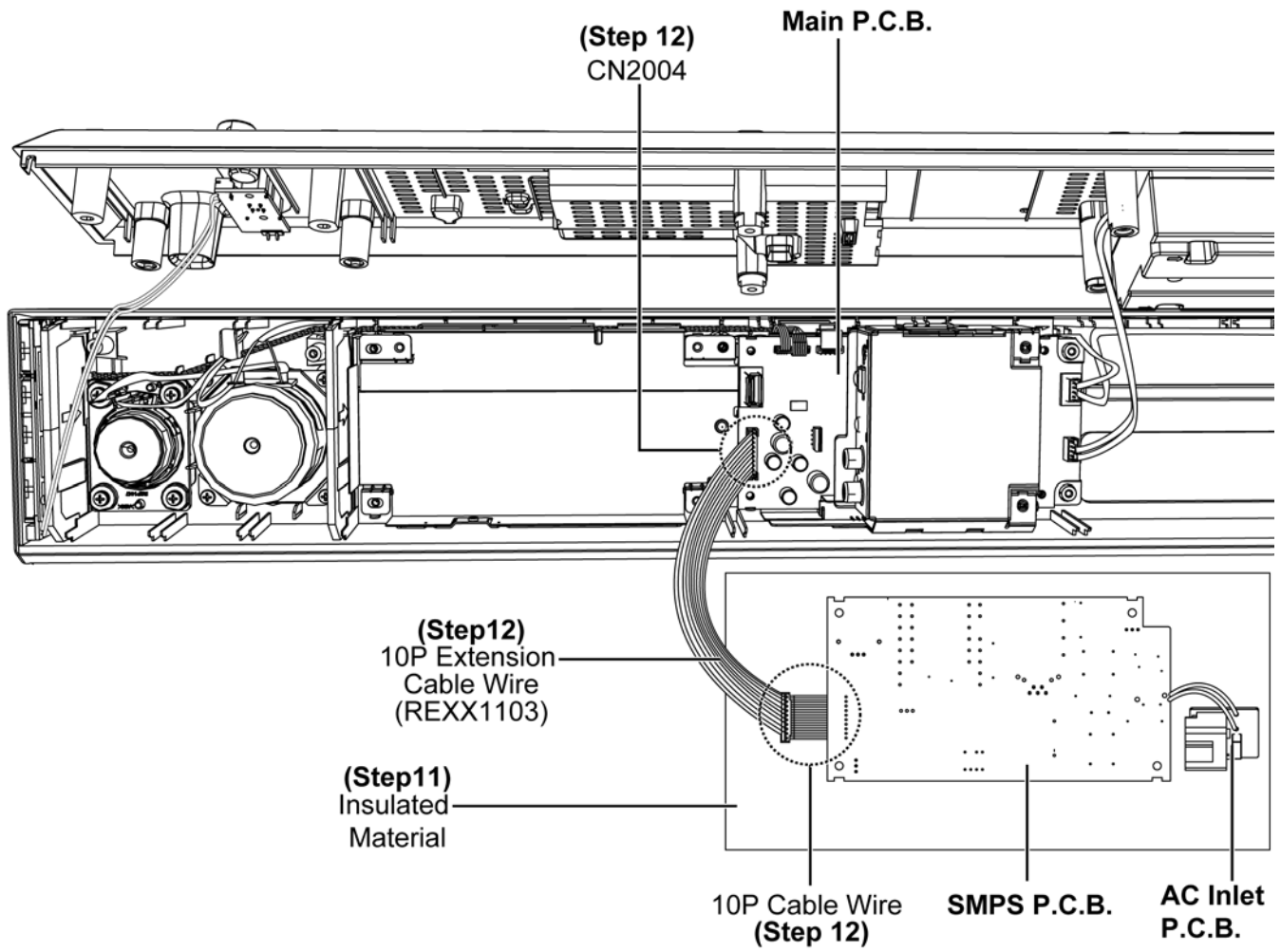
Step 9 : Attach 4P Wire at the connector (CN5101) on the Main P.C.B..

Step 10 : Attach 4P Wire at the connector (CN5100) on the Main P.C.B..

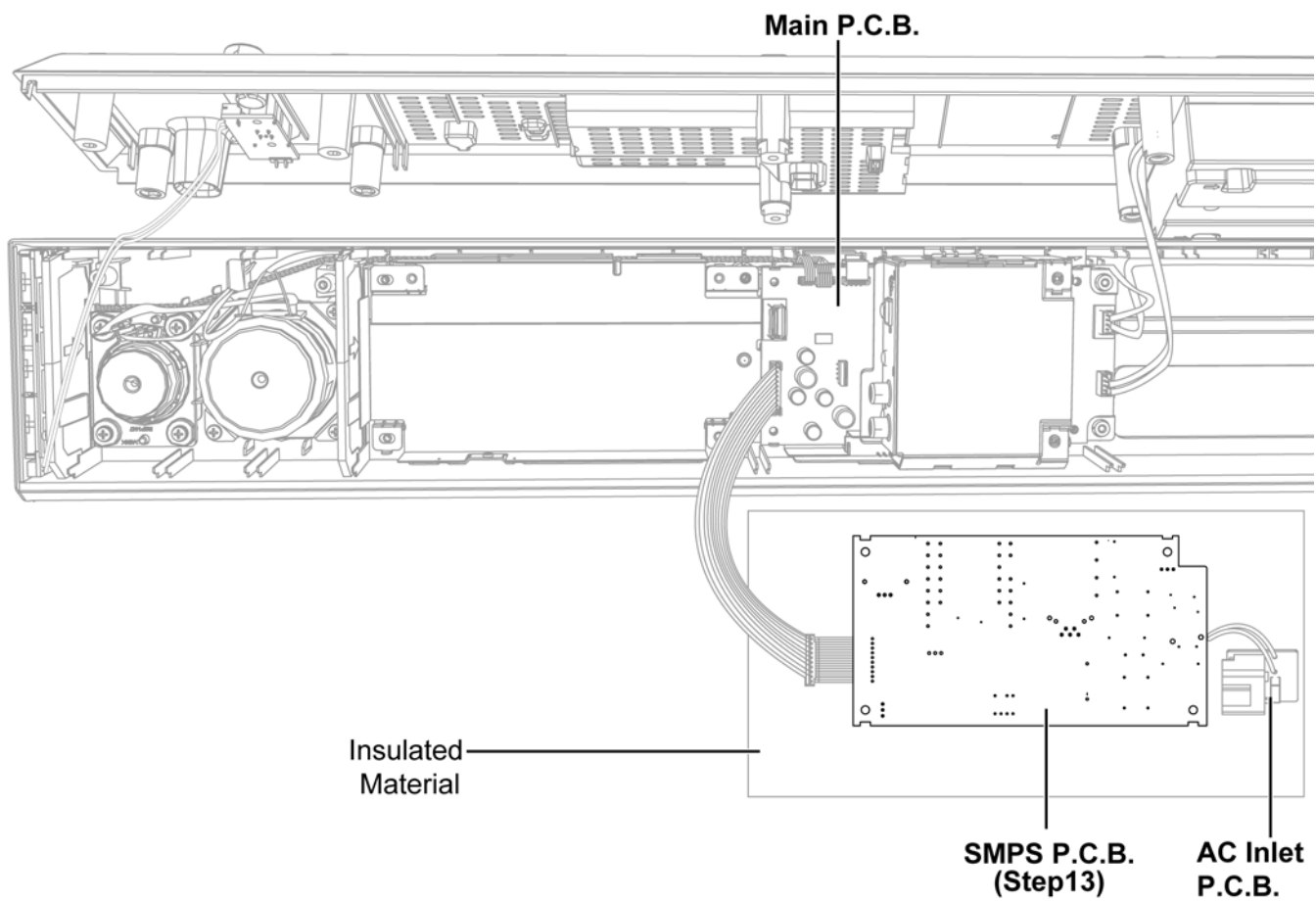


Step 11 : Place the SMPS and AC Inlet P.C.B. on an insulated material.

Step 12 : Attach 10P Extension Cable Wire (REX1574) to the 10P cable wire on the SMPS P.C.B. and to the connector (CN2004) on Main P.C.B..



Step 13 : SMPS P.C.B. and AC Inlet P.C.B. can be checked as diagram shown.



12.2. Checking and Repairing of Main P.C.B. (Side A)

Step 1 : Remove the Rear Cabinet Block.

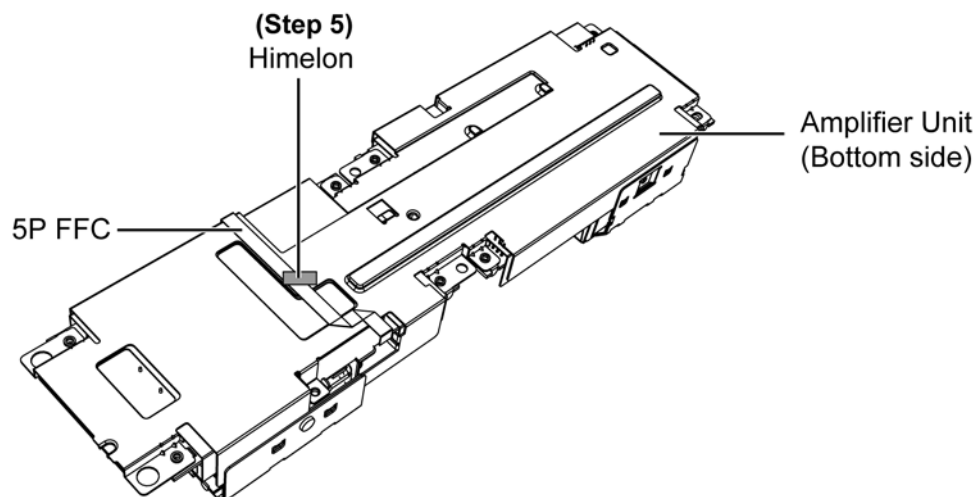
Step 2 : Remove the Amplifier Unit.

Step 3 : Remove the AUX Chassis Unit.

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

Step 5 : Lift up himelon to release the 5P FFC.

Caution : Replace the himelon if torn.



Step 6 : Remove Main P.C.B..

Step 7 : Place the Main P.C.B., Sensor P.C.B. Amplifier Unit and Sub Chassis Unit on an insulated material as shown.

Step 8 : Attach 5P Wire at the connector (CN2002) on the Main P.C.B..

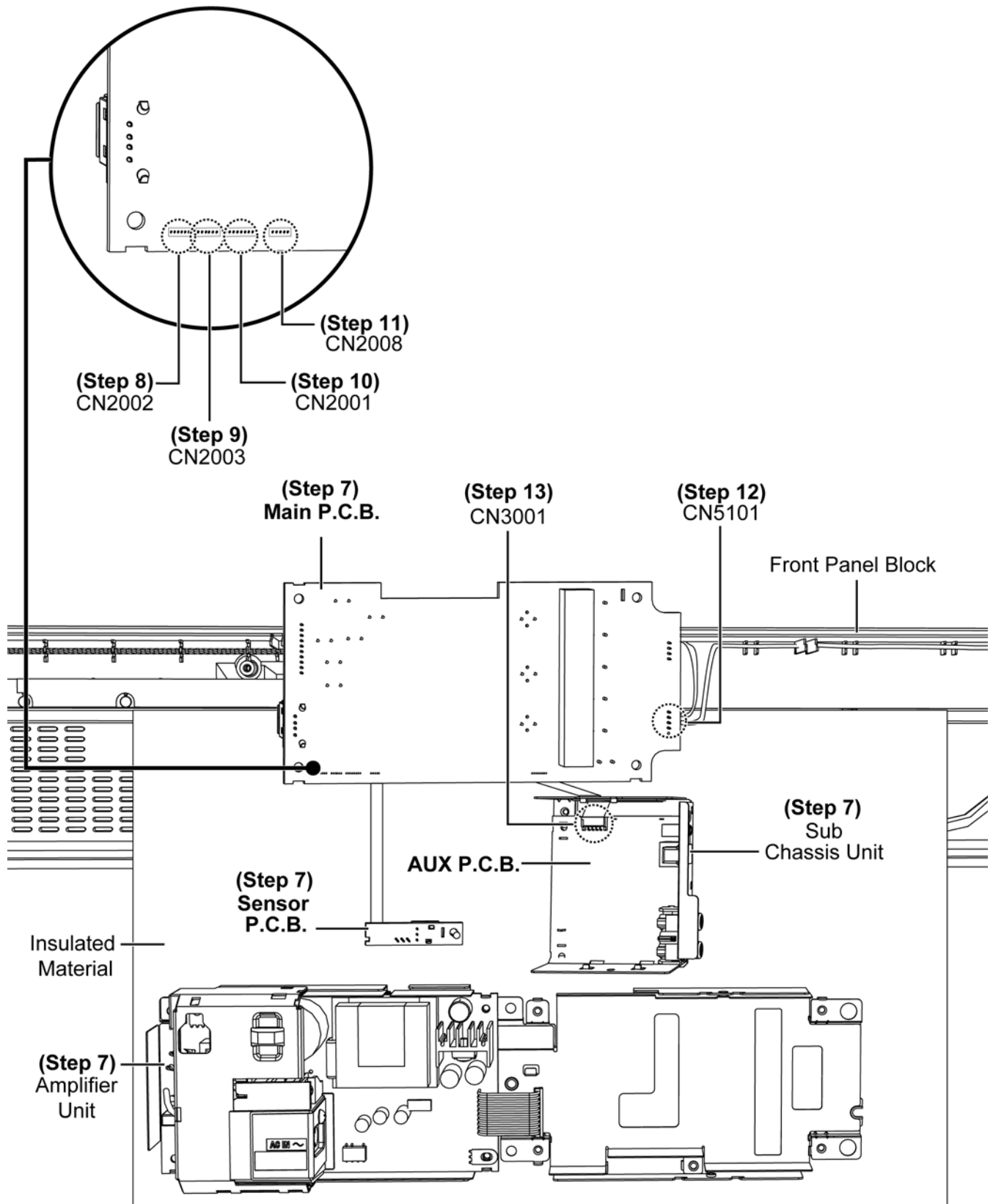
Step 9 : Attach 6P Wire at the connector (CN2003) on the Main P.C.B..

Step 10 : Attach 8P FFC at the connector (CN2001) on the Main P.C.B..

Step 11 : Attach 5P FFC at the connector (CN2008) on the Main P.C.B..

Step 12 : Attach 4P Wire at the connector (CN5101) on the Main P.C.B..

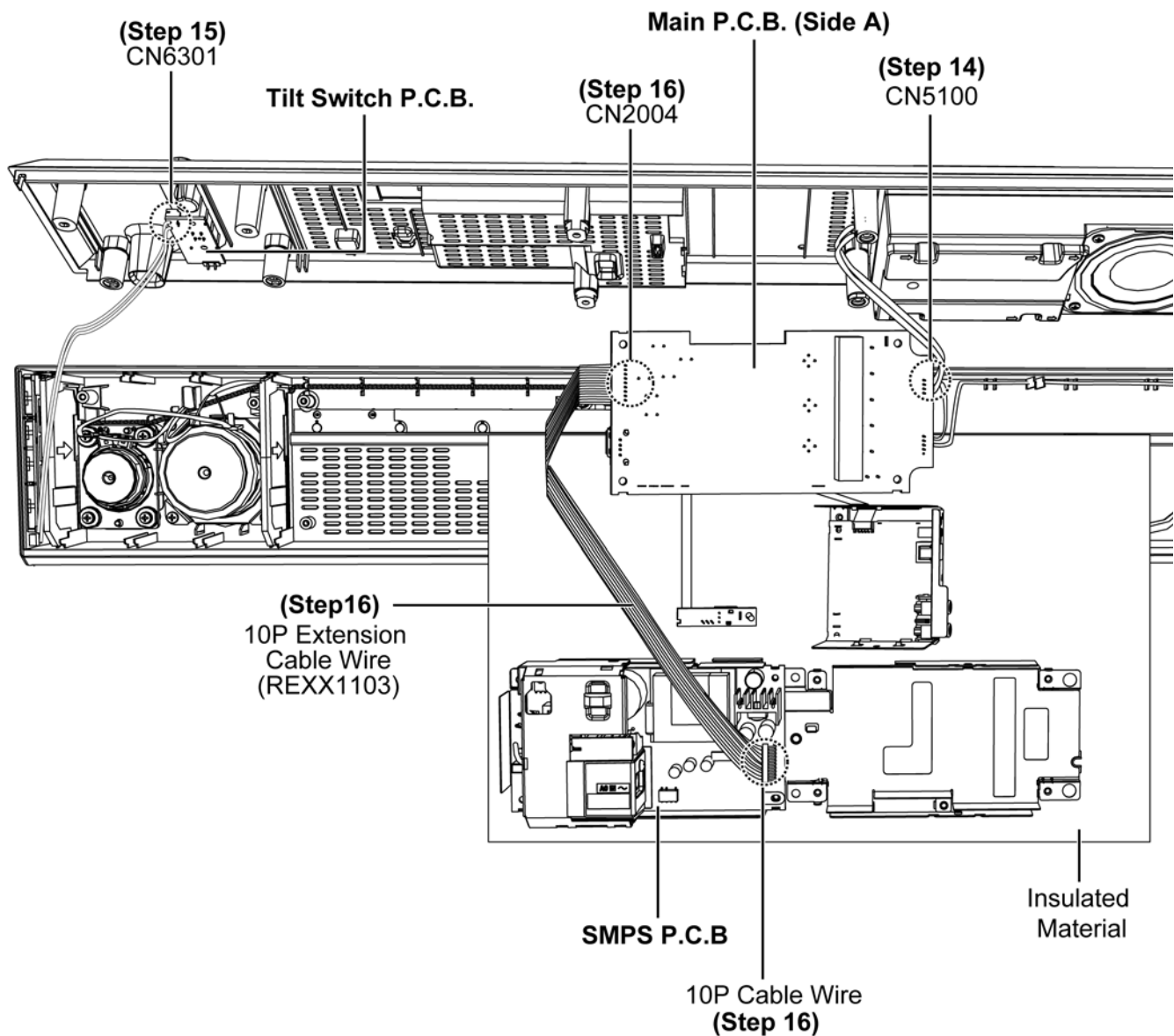
Step 13 : Attach 9P FFC at the connector (CN3001) on the AUX P.C.B..



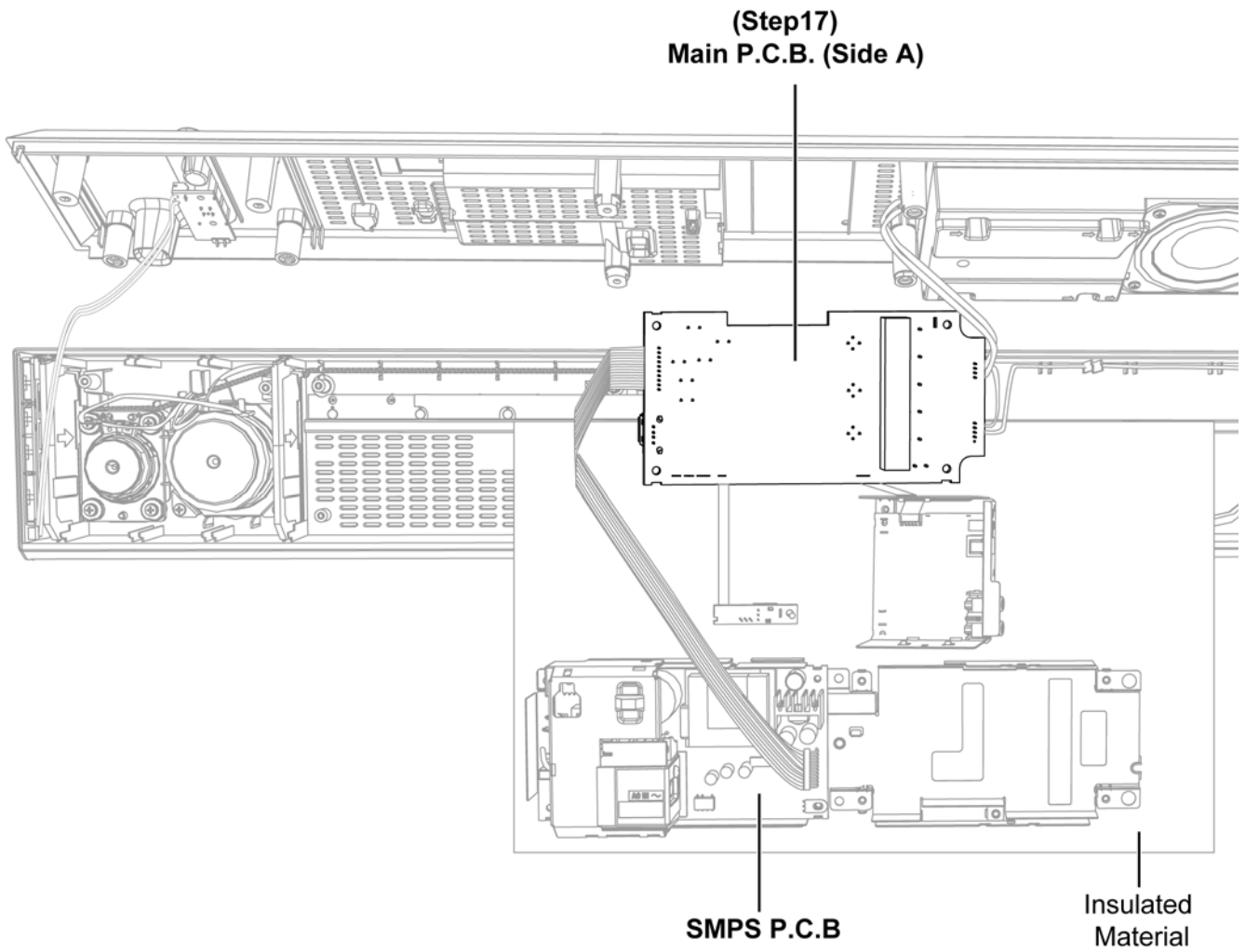
Step 14 : Attach 4P Wire at the connector (CN5100) on the Main P.C.B..

Step 15 : Attach 2P Wire at the connector (CN6301) on the Tilt Switch P.C.B..

Step 16 : Attach 10P Extension Cable Wire (REX1574) to the 10P cable wire on the SMPS P.C.B. and to the connector (CN2004) on Main P.C.B..



Step 17 : Main P.C.B.(Side A) can be checked as diagram shown.



12.3. Checking and Repairing of Main P.C.B. (Side B)

Step 1 : Remove the Rear Cabinet Block.

Step 2 : Remove the Amplifier Unit.

Step 3 : Remove the AUX Chassis Unit.

Step 4 : Place Amplifier Unit back to the original position on the Front Panel Block.

Step 5 : Attach 2P Wire at the connector (CN6301) on the Tilt Switch P.C.B..

Step 6 : Attach 5P Wire at the connector (CN2002) on the Main P.C.B..

Step 7 : Attach 6P Wire at the connector (CN2003) on the Main P.C.B..

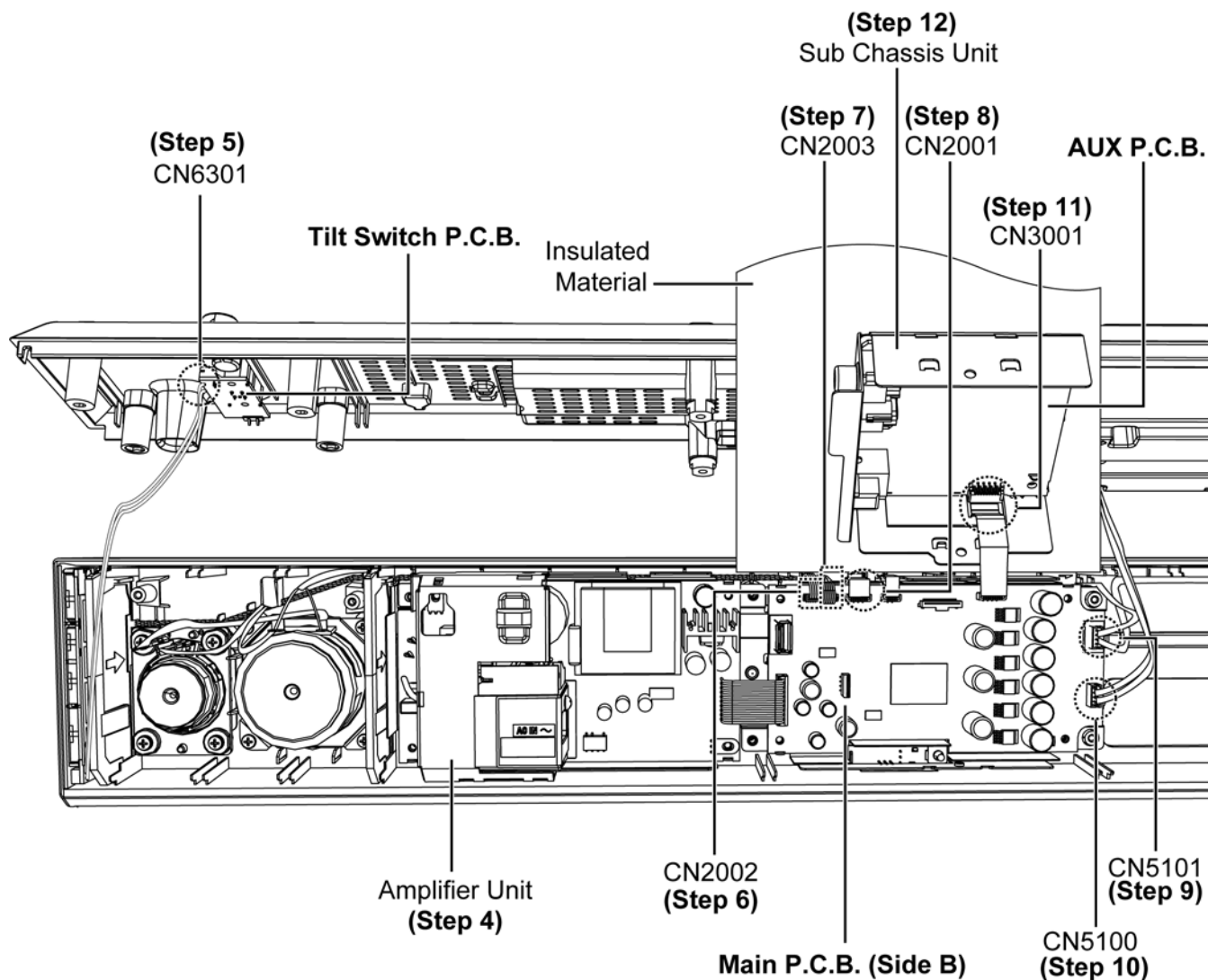
Step 8 : Attach 8P FFC at the connector (CN2001) on the Main P.C.B..

Step 9 : Attach 4P Wire at the connector (CN5101) on the Main P.C.B..

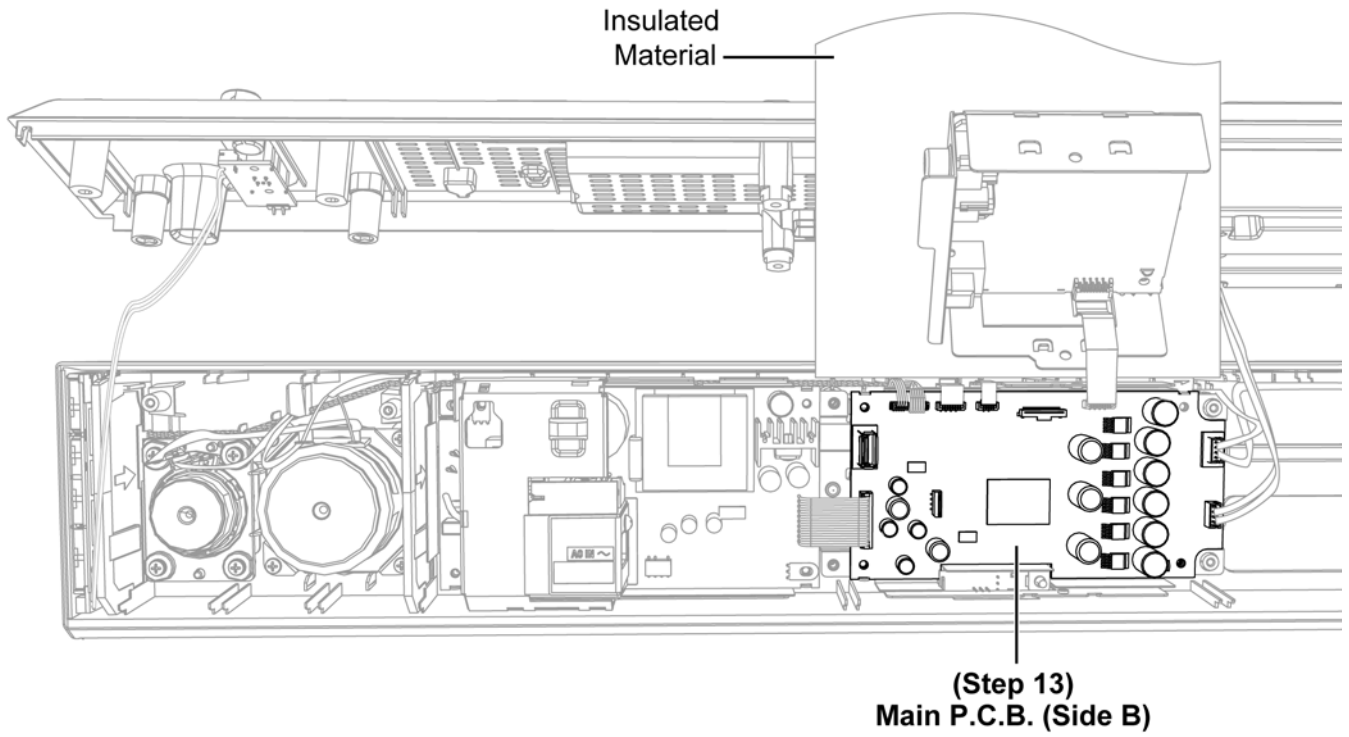
Step 10 : Attach 4P Wire at the connector (CN5100) on the Main P.C.B..

Step 11 : Attach 9P FFC at the connector (CN3001) on the AUX P.C.B..

Step 12 : Place the Sub Chassis Unit on an insulated material.



Step 13 : Main P.C.B.(Side B) can be checked as diagram shown.



12.4. Checking and Repairing of AUX P.C.B. and Sensor P.C.B.

Step 1 : Remove the Rear Cabinet Block.

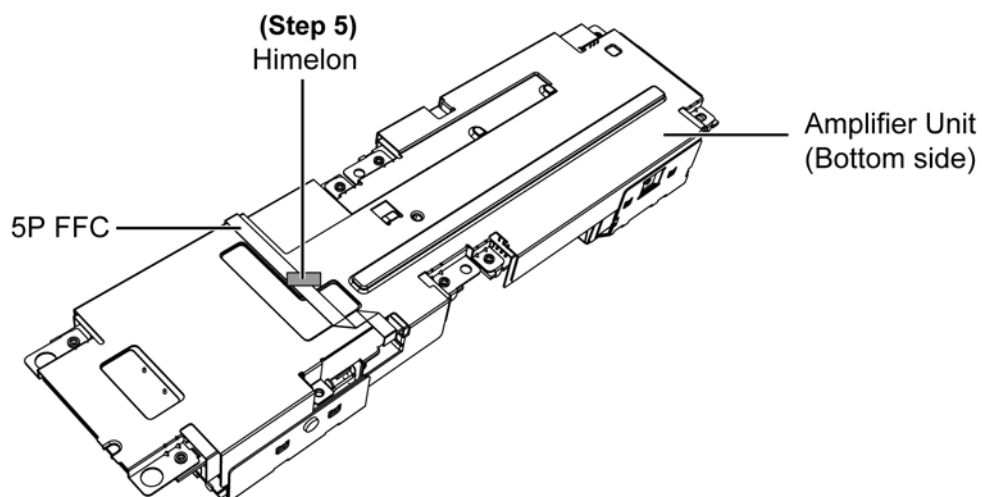
Step 2 : Remove the Amplifier Unit.

Step 3 : Remove the AUX P.C.B..

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

Step 5 : Lift up himelon to release the 5P FFC.

Caution : Replace the himelon if torn.



Step 6 : Remove Main P.C.B..

Step 7 : Place the Main P.C.B., Sensor P.C.B. Amplifier Unit and AUX P.C.B. on an insulated material as shown.

Step 8 : Attach 5P Wire at the connector (CN2002) on the Main P.C.B..

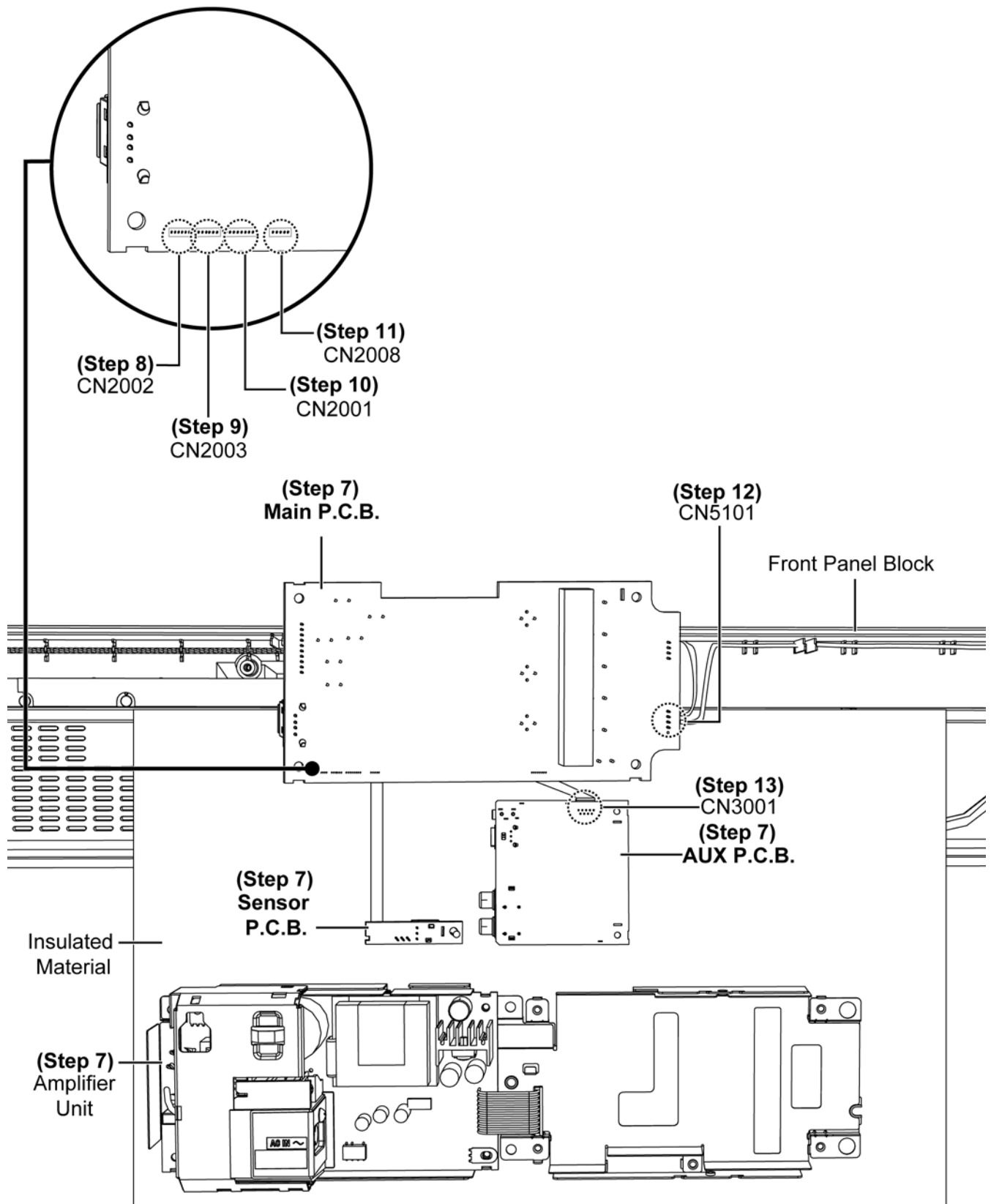
Step 9 : Attach 6P Wire at the connector (CN2003) on the Main P.C.B..

Step 10 : Attach 8P FFC at the connector (CN2001) on the Main P.C.B..

Step 11 : Attach 5P FFC at the connector (CN2008) on the Main P.C.B..

Step 12 : Attach 4P Wire at the connector (CN5101) on the Main P.C.B..

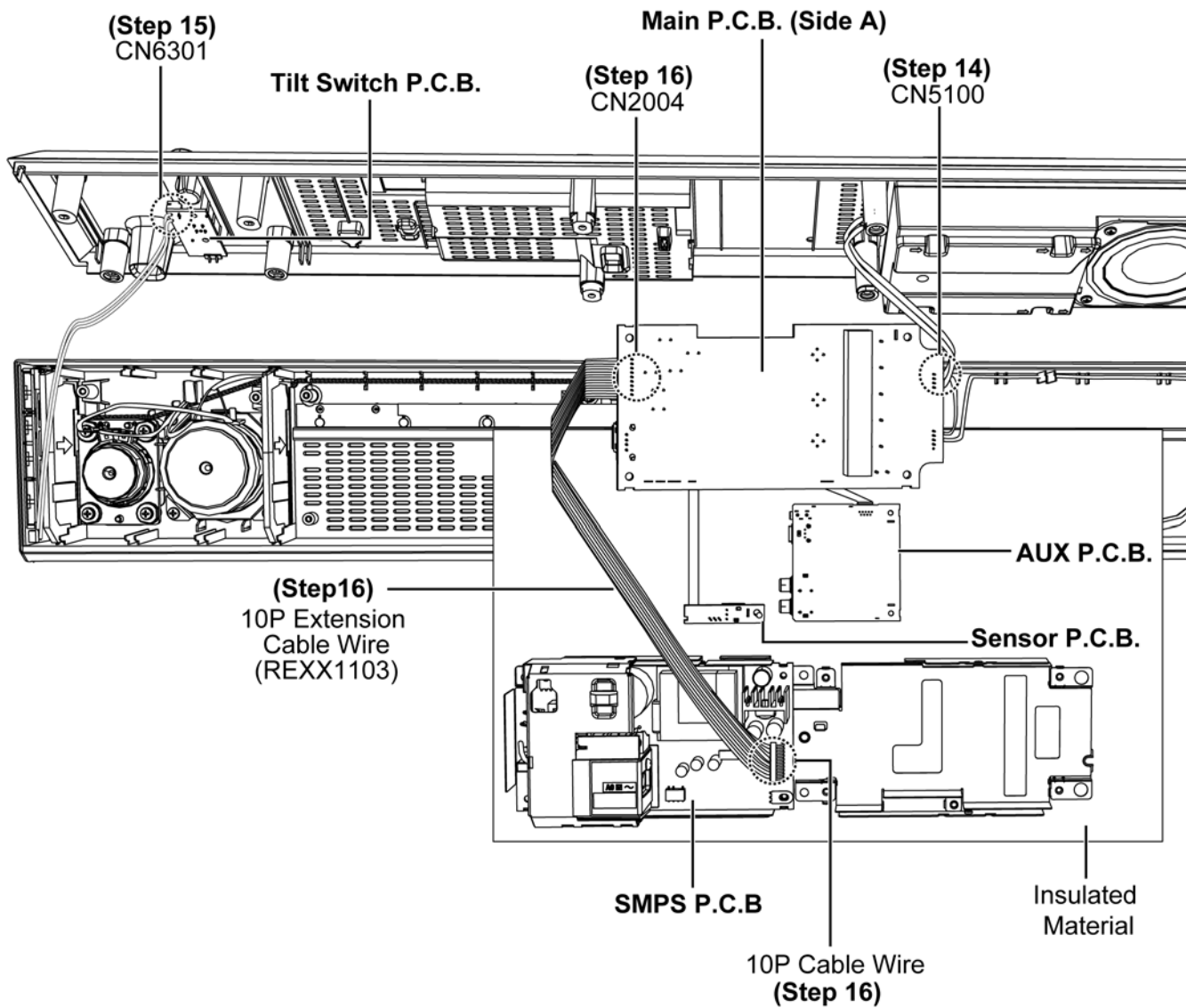
Step 13 : Attach 9P FFC at the connector (CN3001) on the AUX P.C.B..



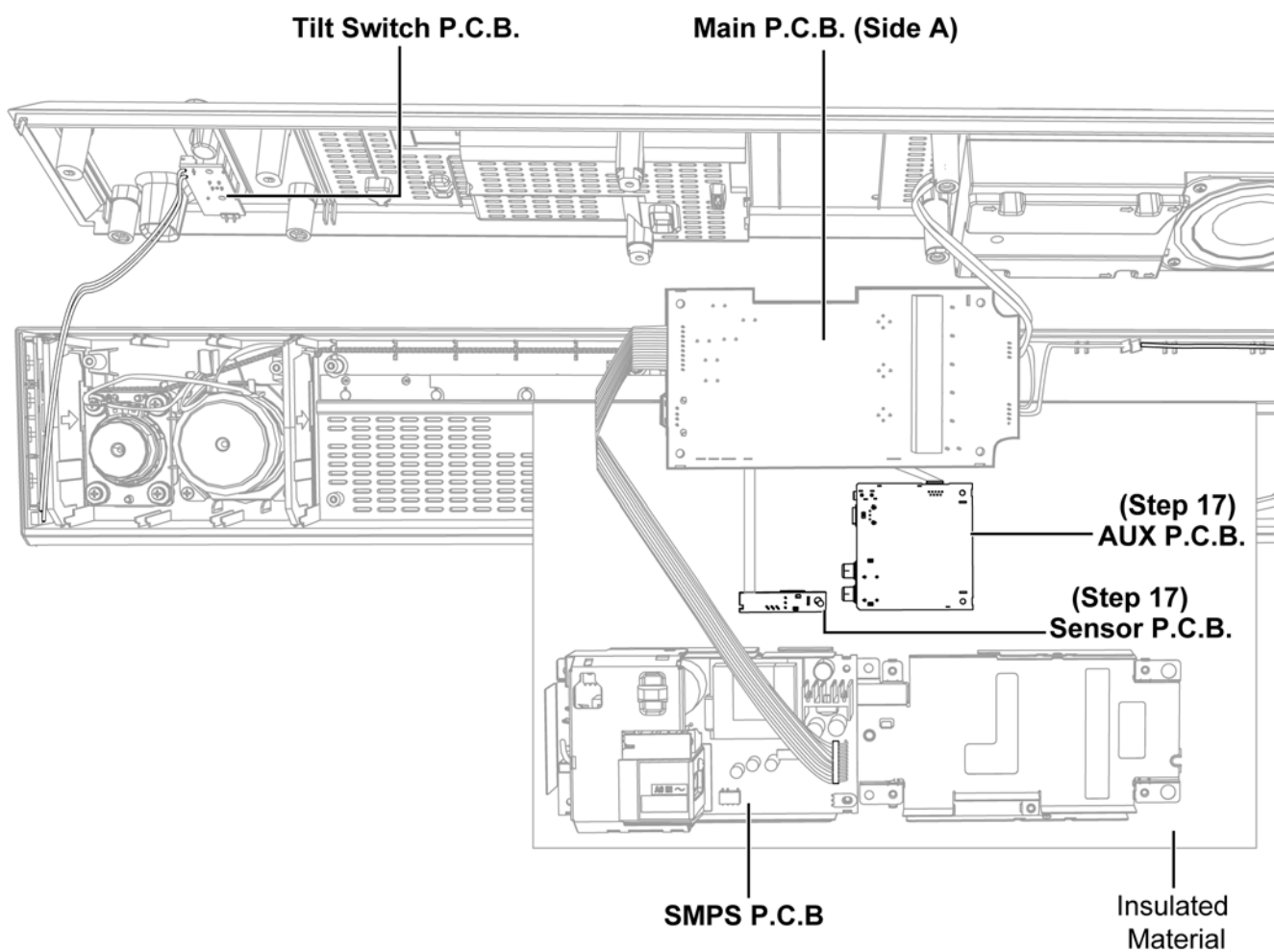
Step 14 : Attach 4P Wire at the connector (CN5100) on the Main P.C.B..

Step 15 : Attach 2P Wire at the connector (CN6301) on the Tilt Switch P.C.B..

Step 16 : Attach 10P Extension Cable Wire (REX1574) to the 10P Cable wire on the SMPS P.C.B. and to the connector (CN2004) on Main P.C.B..



Step 17 : AUX P.C.B. and Sensor P.C.B. can be checked as diagram shown.



12.5. Checking and Repairing of Button P.C.B.

Step 1 : Remove the Rear Cabinet Block.

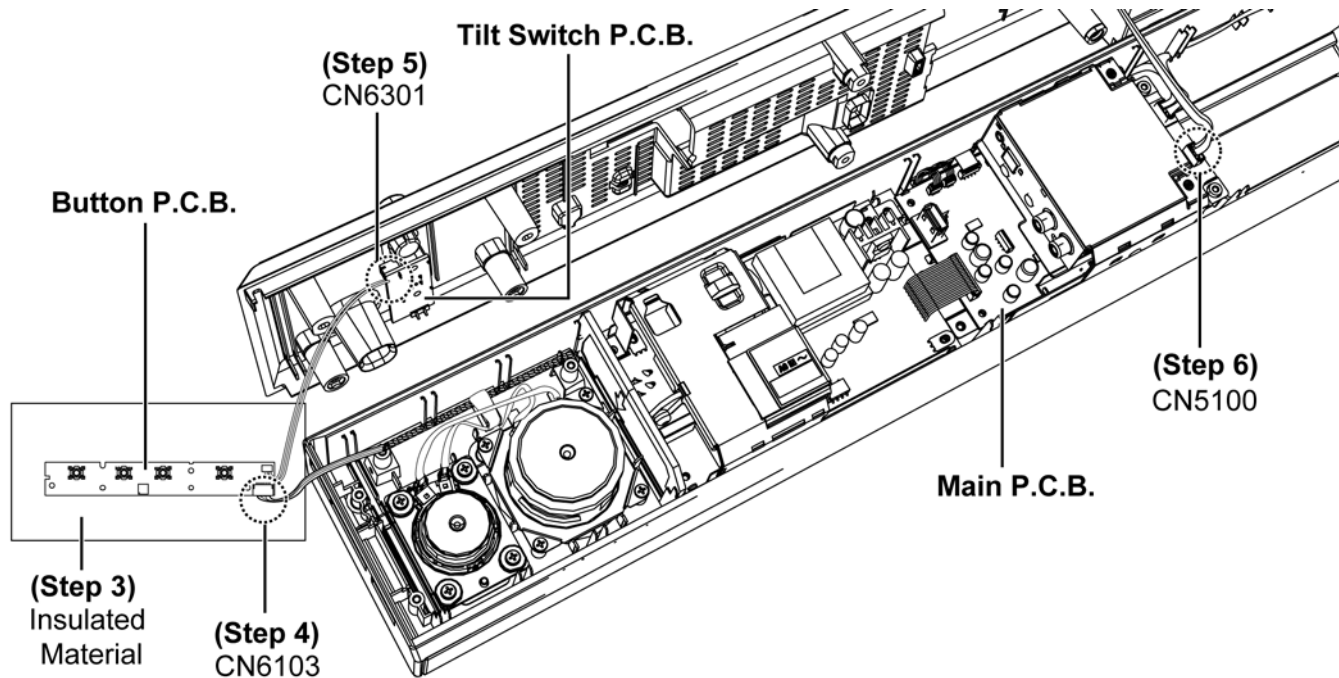
Step 2 : Remove the Button P.C.B..

Step 3 : Place the Button P.C.B. on an insulated material as shown.

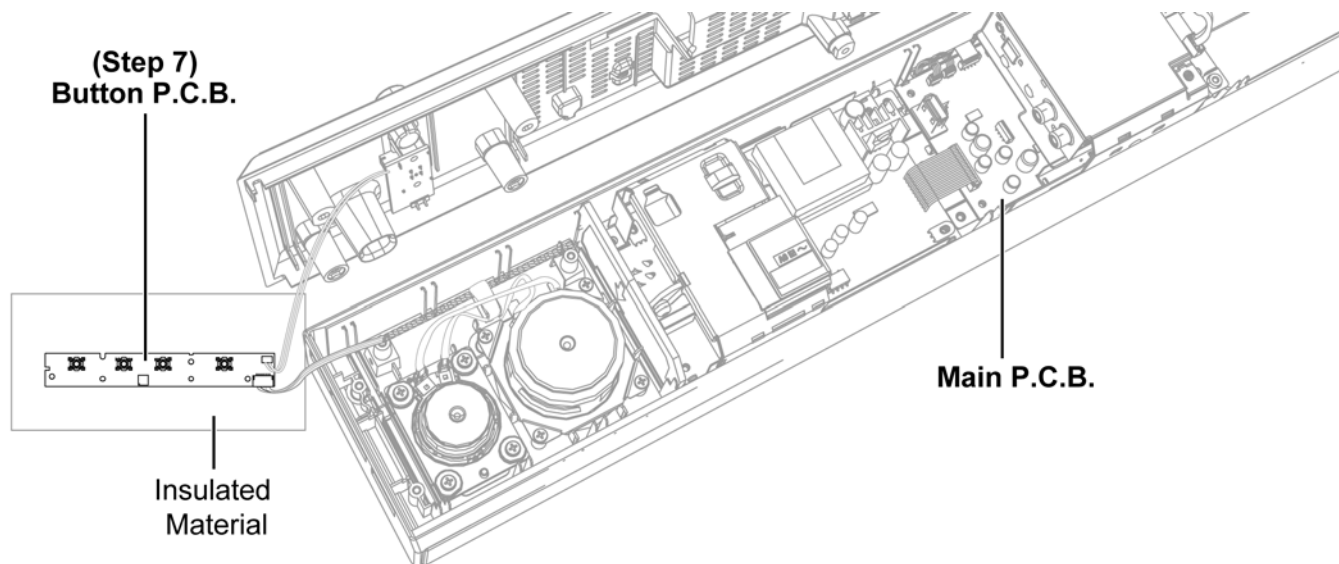
Step 4 : Attach 6P Wire at the connector (CN6103) on the Button P.C.B..

Step 5 : Attach 2P Wire at the connector (CN6301) on the Tilt Switch P.C.B..

Step 6 : Attach 4P Wire at the connector (CN5100) on the Main P.C.B..



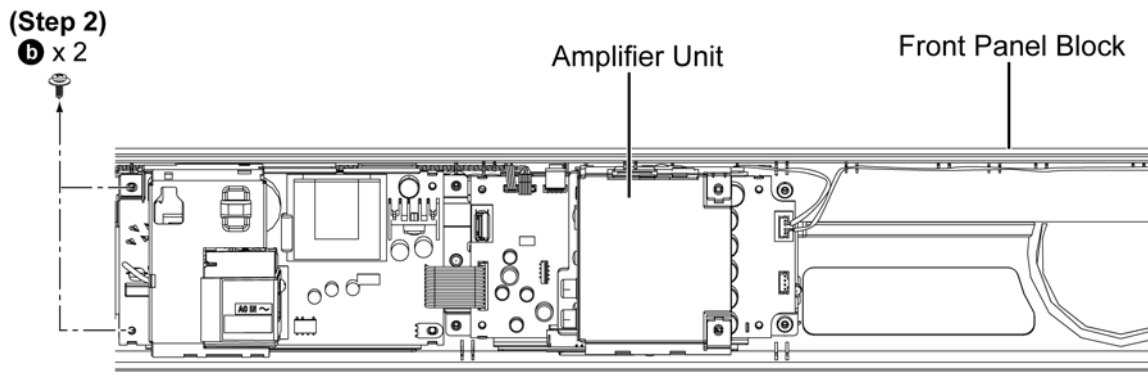
Step 7 : Button P.C.B. can be checked as diagram shown.



12.6. Checking and Repairing of LED P.C.B.

Step 1 : Remove the Rear Cabinet Block.

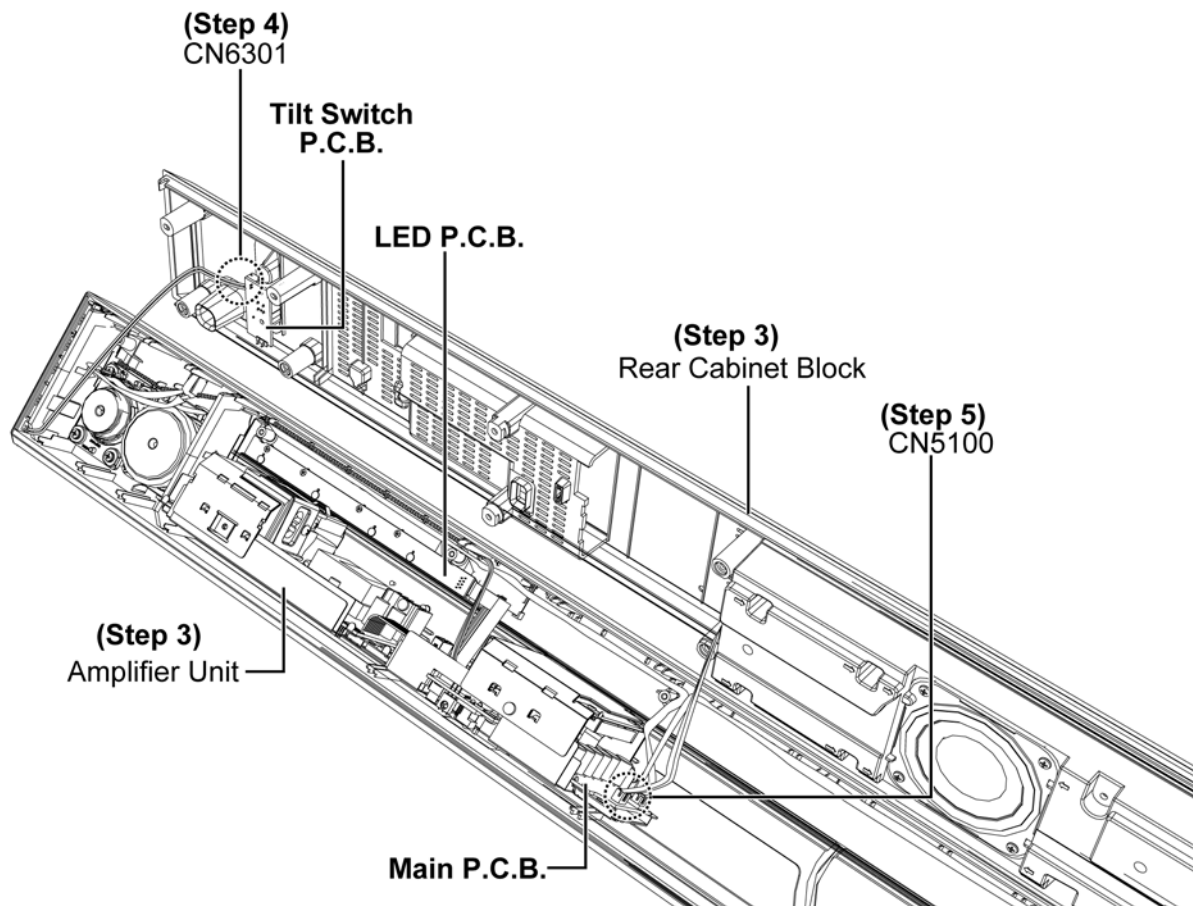
Step 2 : Remove 2 screws.



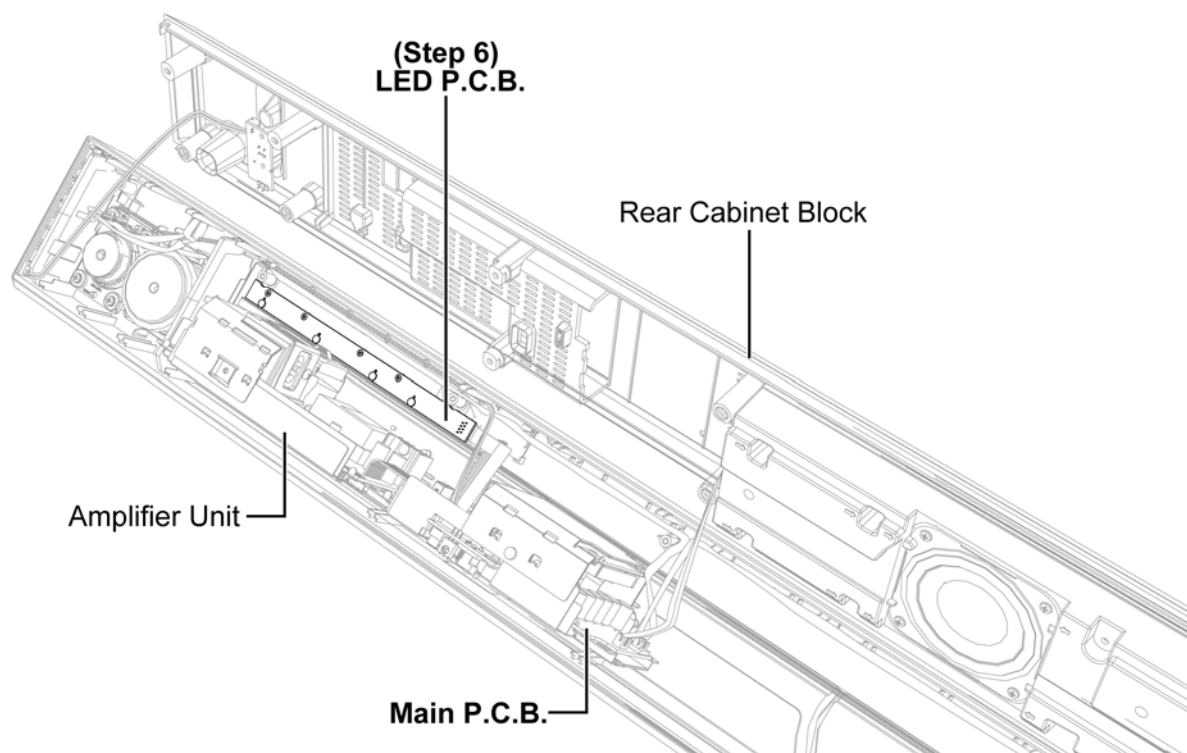
Step 3 : Place the Rear Cabinet Block and Amplifier Unit as shown.

Step 4 : Attach 2P Wire at the connector (CN6301) on the Tilt Switch P.C.B..

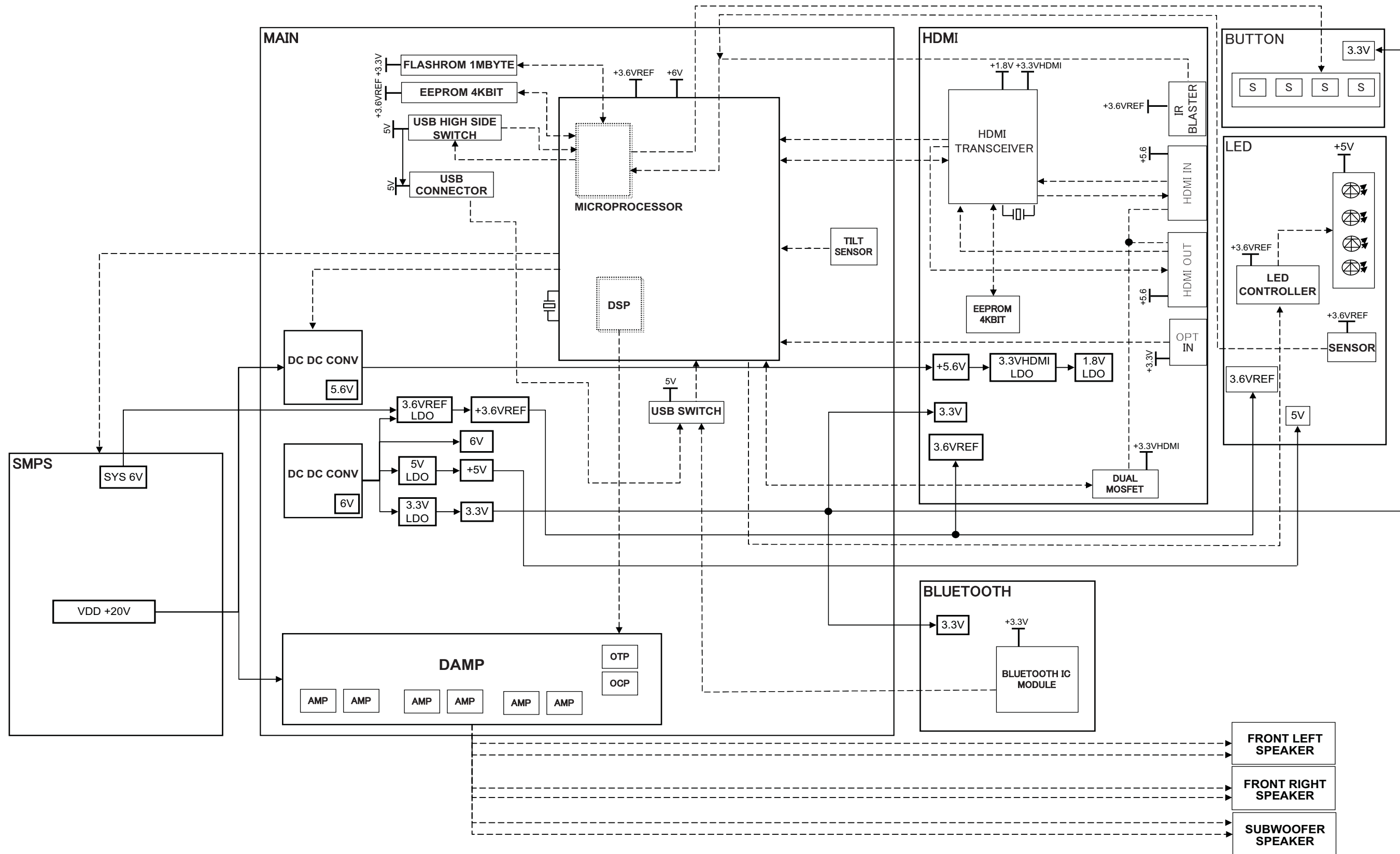
Step 5 : Attach 4P Wire at the connector (CN5100) on the Main P.C.B..



Step 6 : LED P.C.B. can be checked as diagram shown.



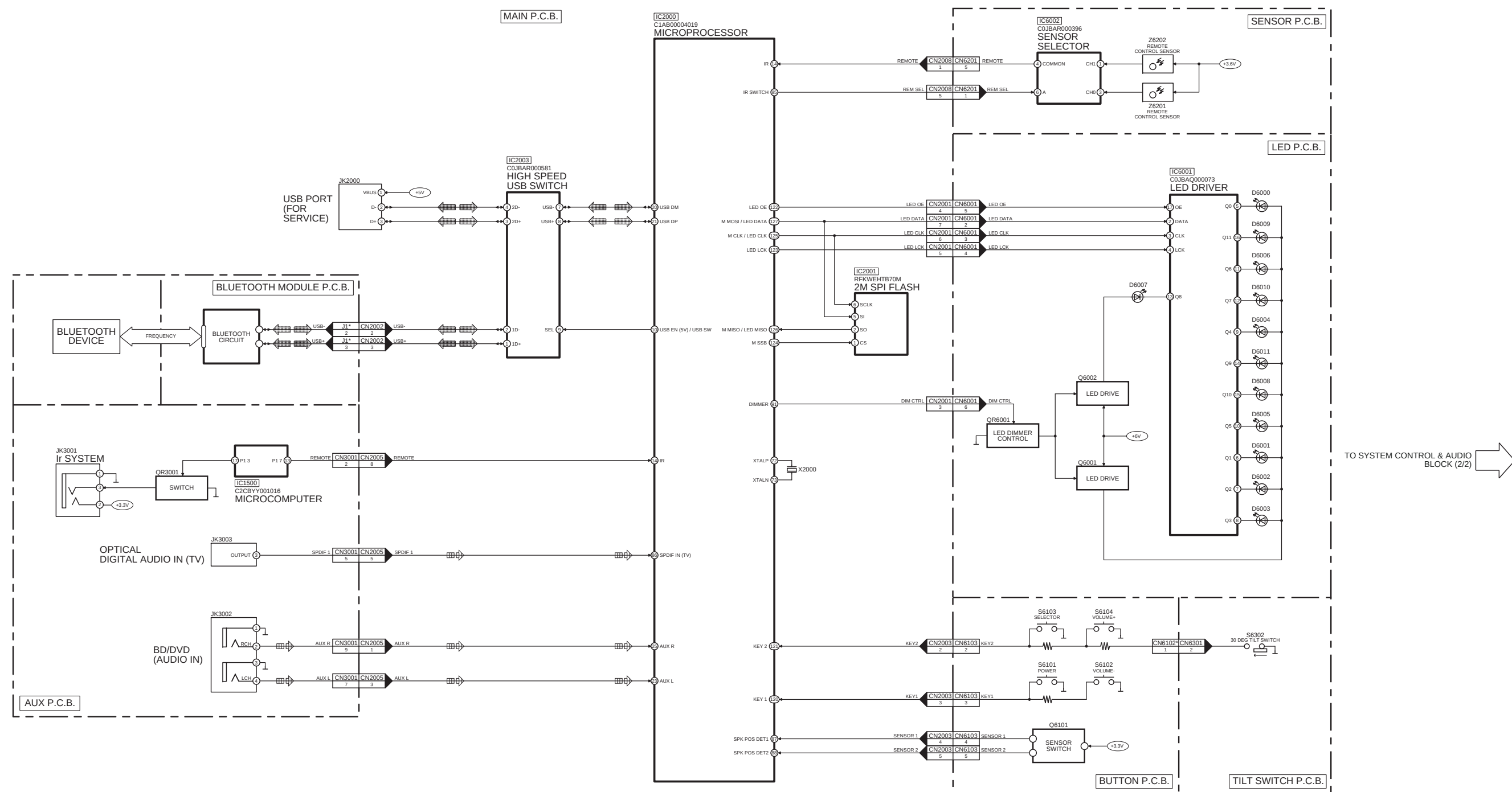
13.1. Overall Control Diagram



14 Block Diagram

14.1. SYSTEM CONTROL & AUDIO (1/2) BLOCK DIAGRAM

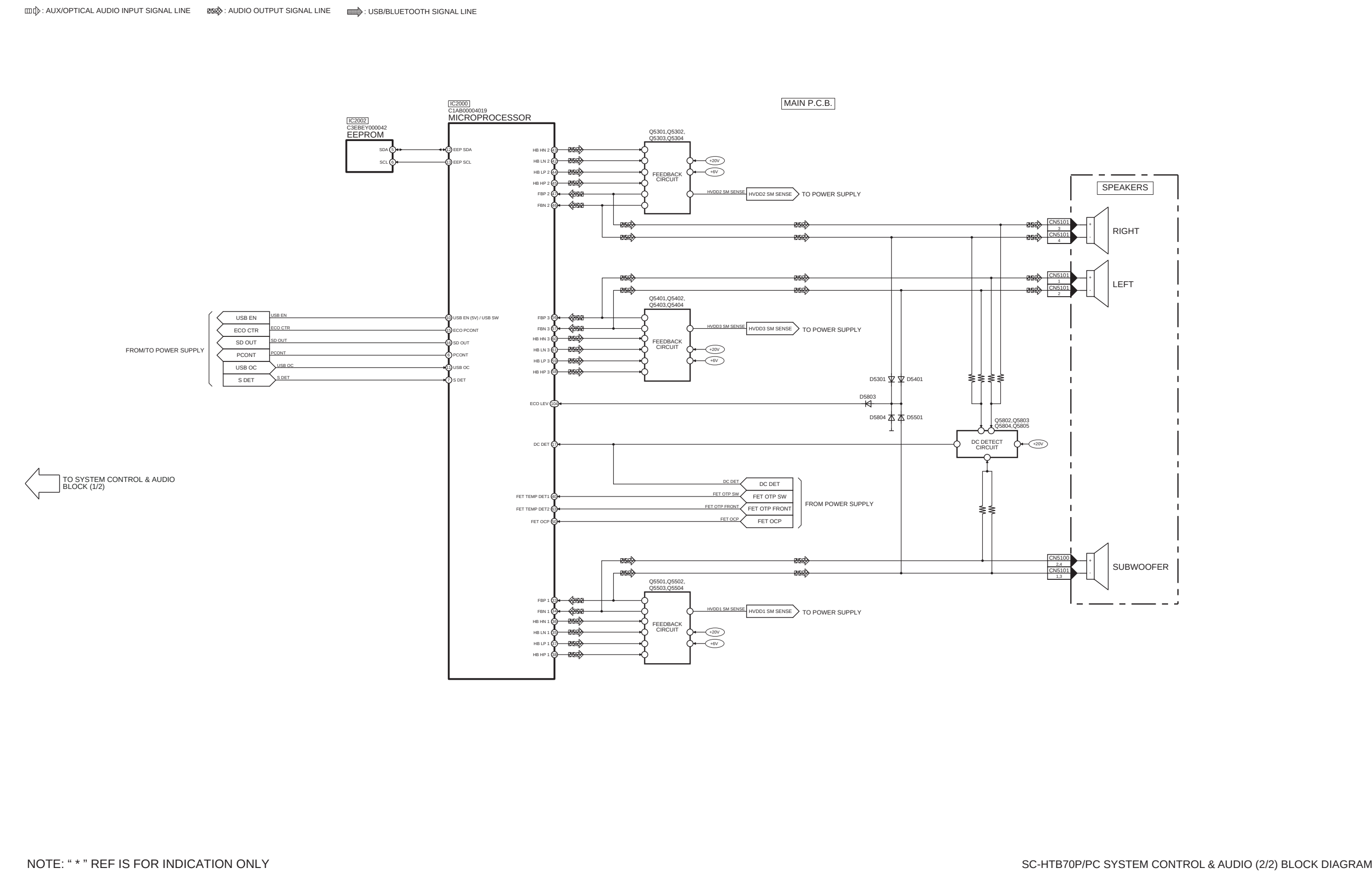
 : AUX/OPTICAL AUDIO INPUT SIGNAL LINE
  : AUDIO OUTPUT SIGNAL LINE
  : USB/BLEETOOTH SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

SC-HTB70P/PC SYSTEM CONTROL & AUDIO (1/2) BLOCK DIAGRAM

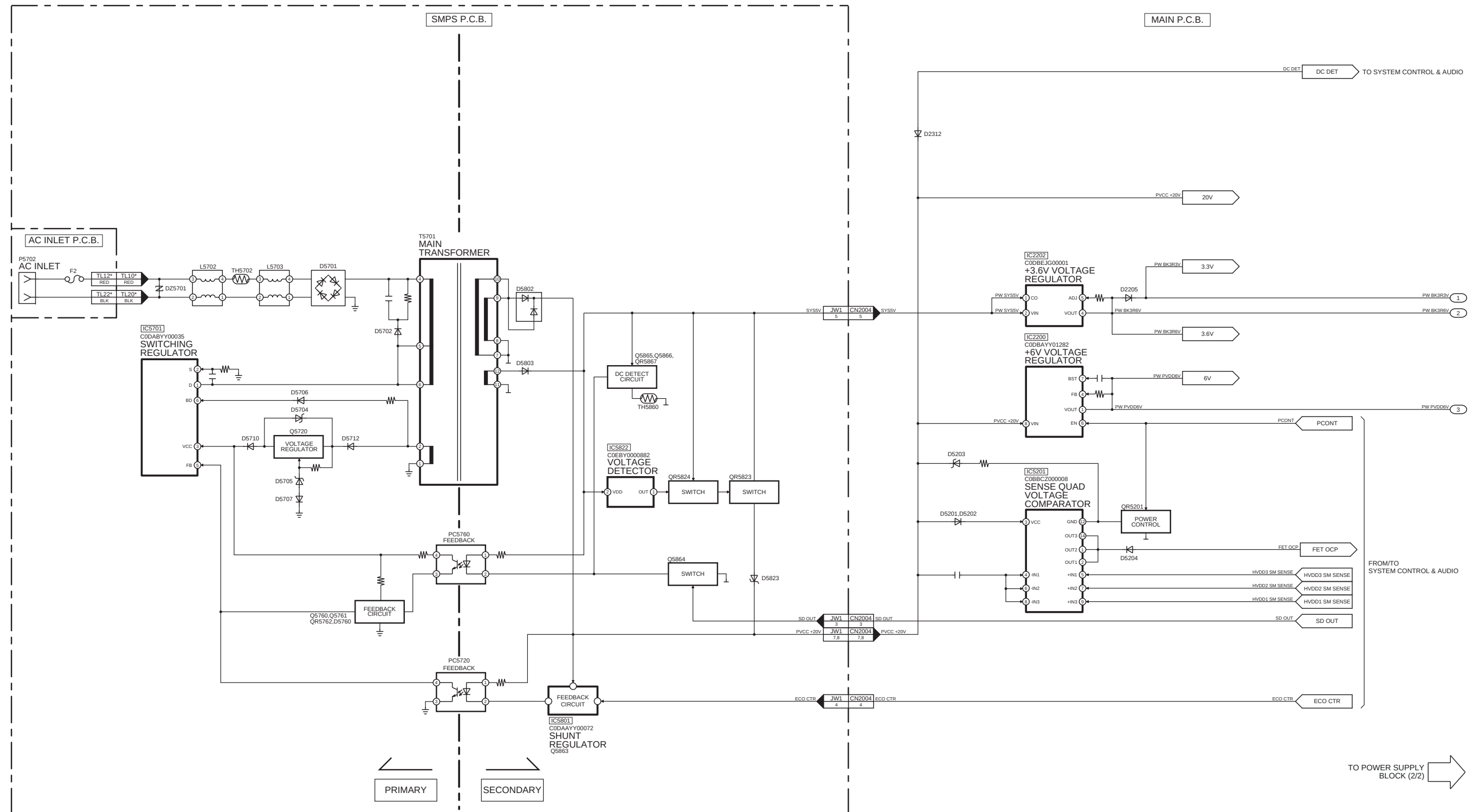
14.2. SYSTEM CONTROL & AUDIO (2/2) BLOCK DIAGRAM



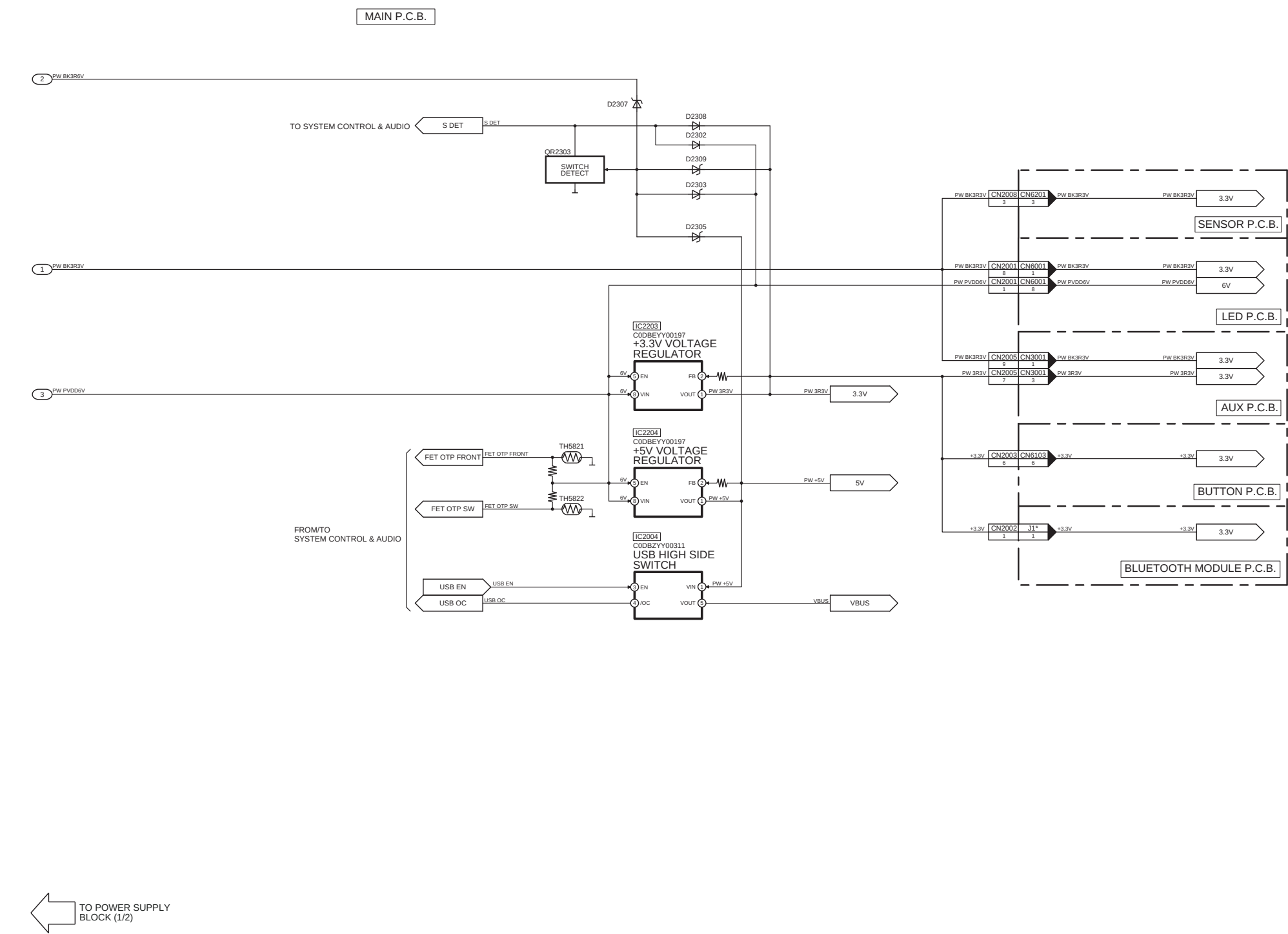
NOTE: “ * ” REF IS FOR INDICATION ONLY

SC-HTB70P/PC SYSTEM CONTROL & AUDIO (2/2) BLOCK DIAGRAM

14.3. POWER SUPPLY (1/2) BLOCK DIAGRAM



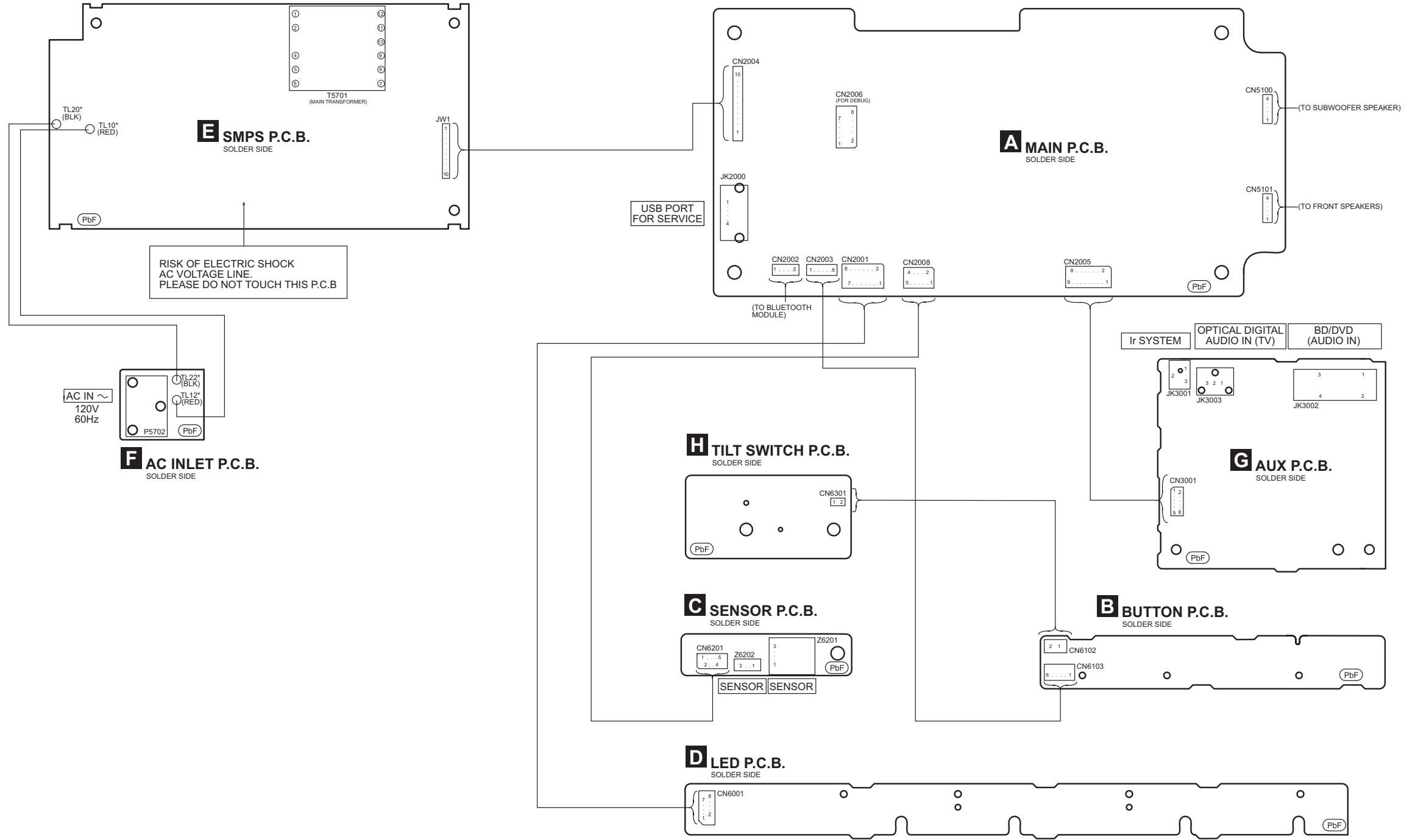
14.4. POWER SUPPLY (2/2) BLOCK DIAGRAM



NOTE: “ * ” REF IS FOR INDICATION ONLY

SC-HTB70P/PC POWER SUPPLY (2/2) BLOCK DIAGRAM

15 Wiring Connection Diagram



Note : “ * ” REF IS FOR INDICATION ONLY.

SC-HTB70P/PC
WIRING CONNECTION DIAGRAM

16 Schematic Diagram

16.1. Schematic Diagram Notes

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

Notes

S6101: POWER ON/OFF switch.
S6102: VOLUME DOWN switch.
S6103: SELECTOR switch.
S6104: VOLUME UP switch.
S6302: 30 DEG TILT 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:

C5701, C5702, C5703, C5704, C5705, C5706

• Resistor

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

• Capacitor

Unit of capacitance is μ F, 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



: -B Signal Line



: Optical/AUX Audio Input Signal Line



: Audio Output Signal Line



: Bluetooth/USB Signal Line

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F2 T3.15A, 250V FUSE



RISK OF FIRE-REPLACE FUSE AS MARKED.

FUSE CAUTION

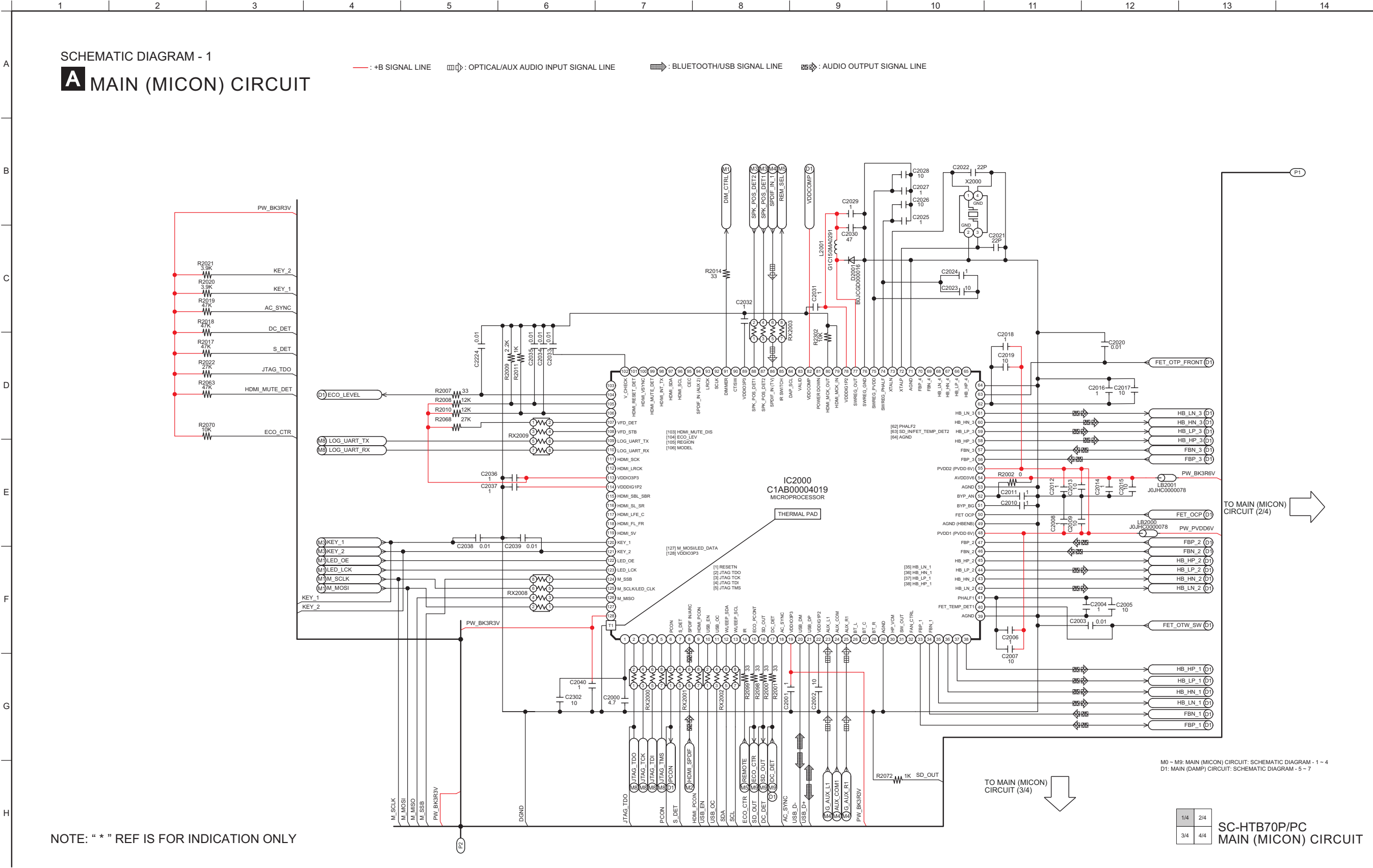


These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire hazard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.



Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là où le présent symbole est apposé.

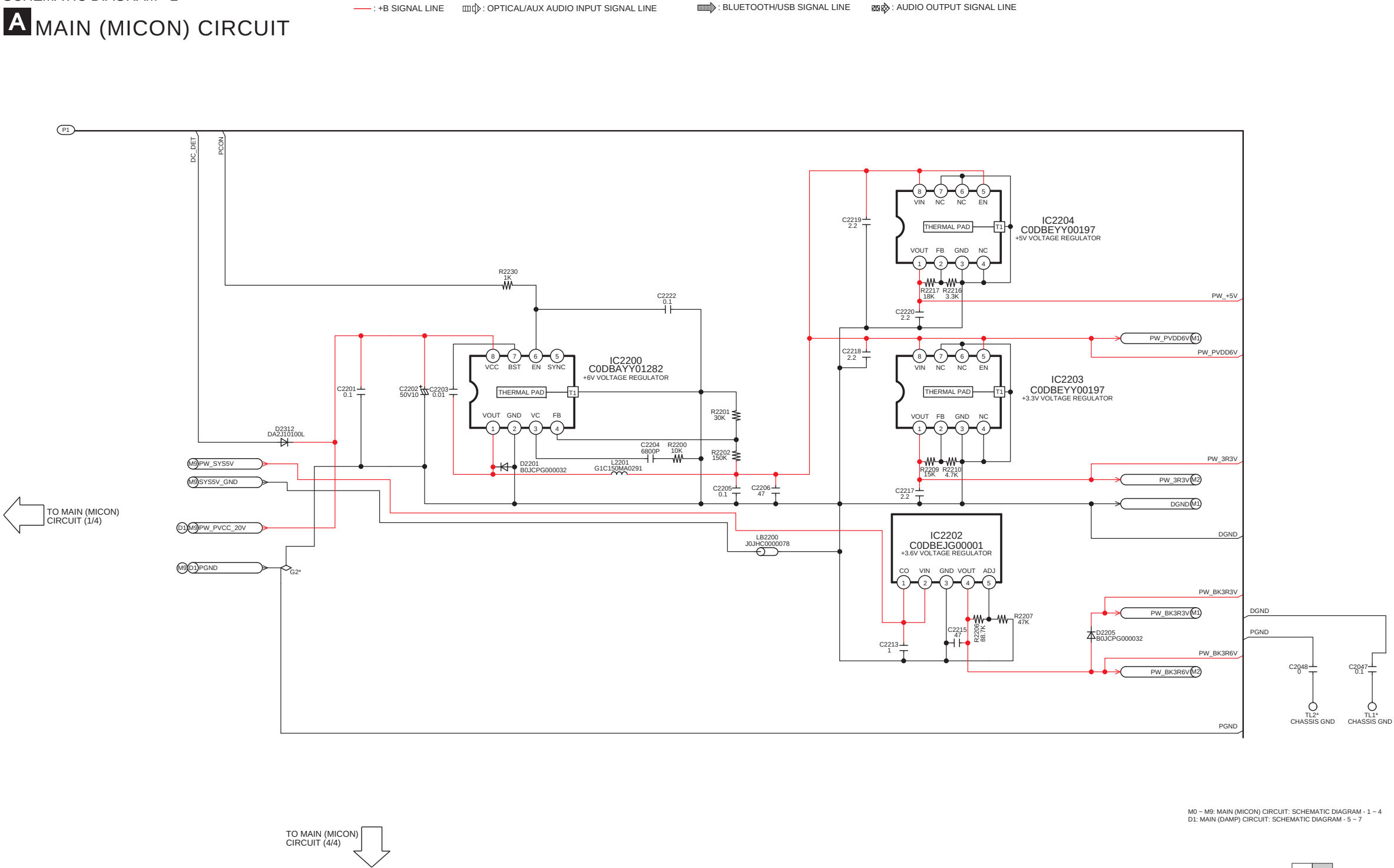
16.2. MAIN (MICON) CIRCUIT (1/4)



16.3. MAIN (MICON) CIRCUIT (2/4)

SCHEMATIC DIAGRAM - 2

A MAIN (MICON) CIRCUIT



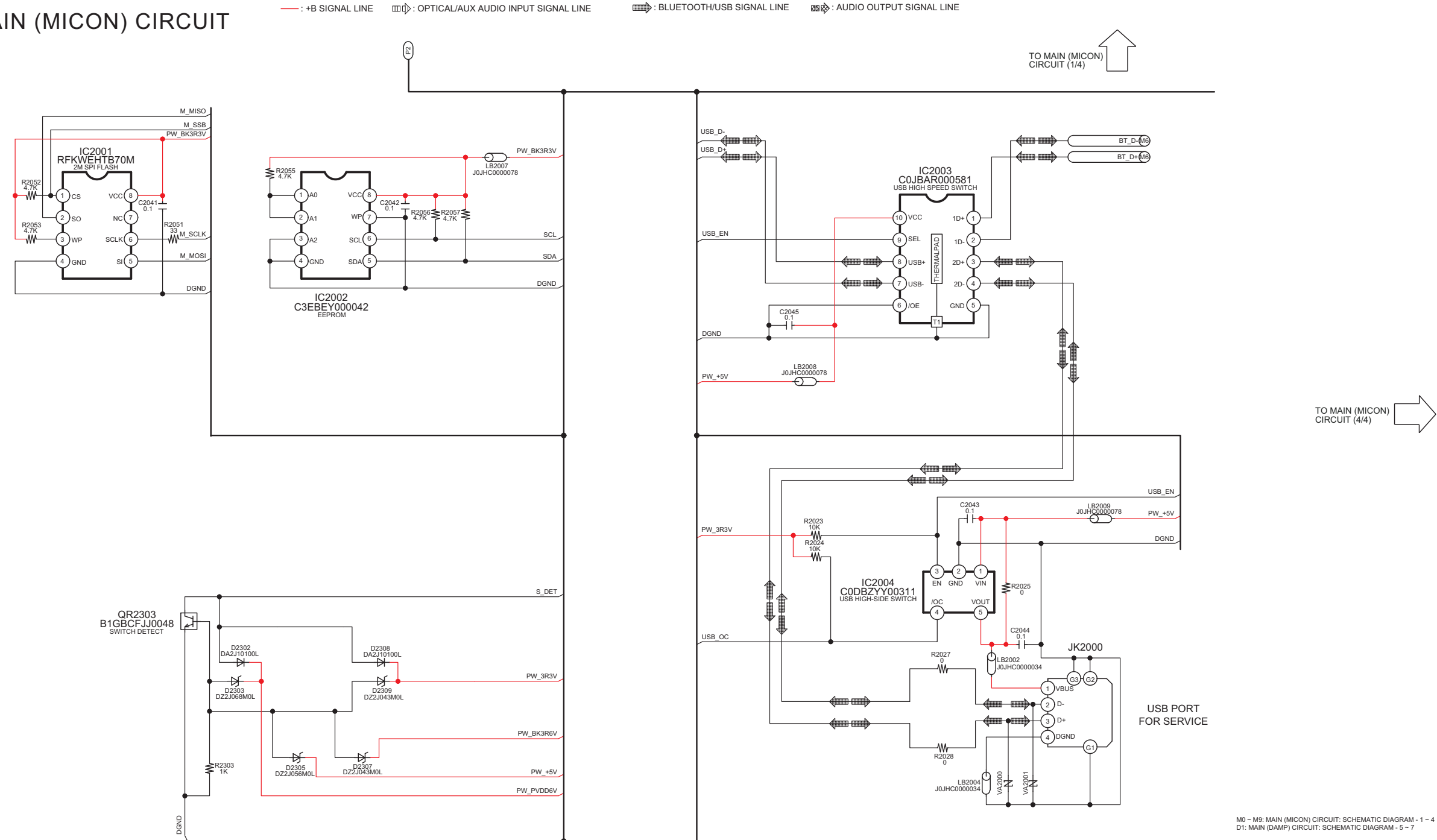
NOTE: " * " REF IS FOR INDICATION ONLY

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

SC-HTB70P/PC
MAIN (MICON) CIRCUIT

16.4. MAIN (MICON) CIRCUIT (3/4)

SCHEMATIC DIAGRAM - 3
A MAIN (MICON) CIRCUIT



NOTE: " * " REF IS FOR INDICATION ONLY

M0 ~ M9: MAIN (MICON) CIRCUIT: SCHEMATIC DIAGRAM - 1 ~ 4
D1: MAIN (DAMP) CIRCUIT: SCHEMATIC DIAGRAM - 5 ~ 7

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

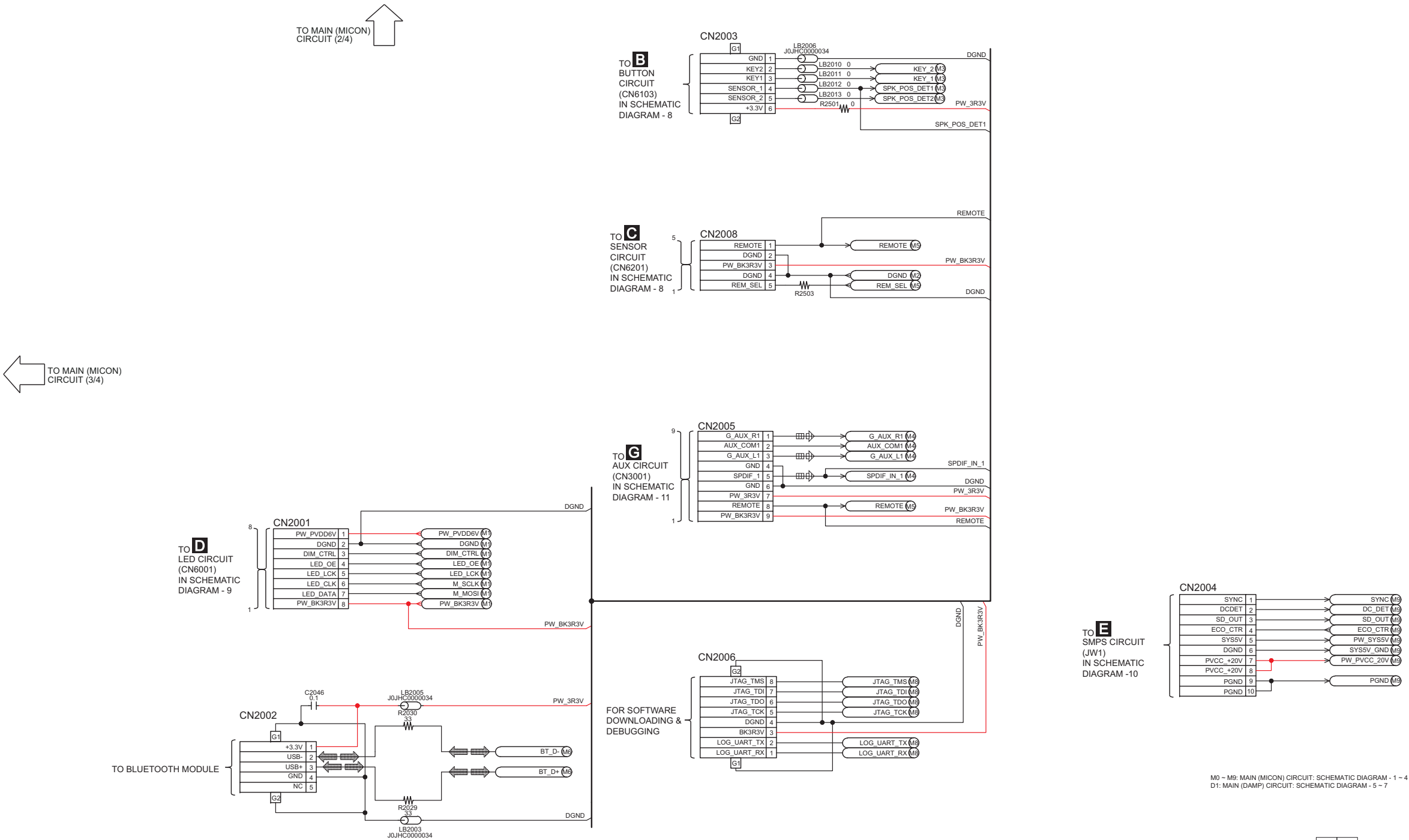
SC-HTB70P/PC
MAIN (MICON) CIRCUIT

16.5. MAIN (MICON) CIRCUIT (4/4)

SCHEMATIC DIAGRAM - 4

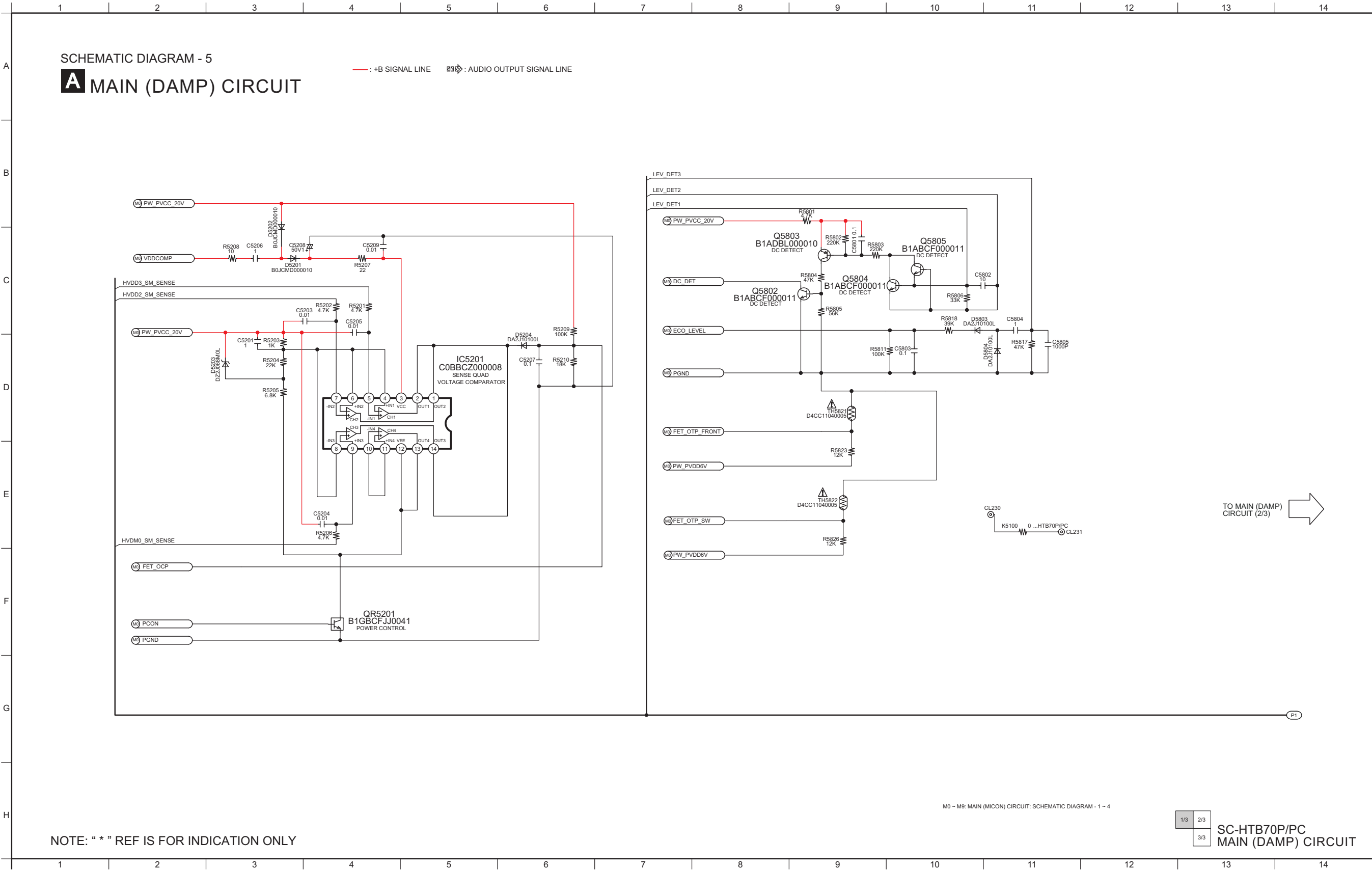
A MAIN (MICON) CIRCUIT

— : +B SIGNAL LINE  : OPTICAL/AUX AUDIO INPUT SIGNAL LINE  : BLUETOOTH/USB SIGNAL LINE  : AUDIO OUTPUT SIGNAL LINE



1/4 2/4
3/4 4/4
SC-HTB70P/PC
MAIN (MICON) CIRCUIT

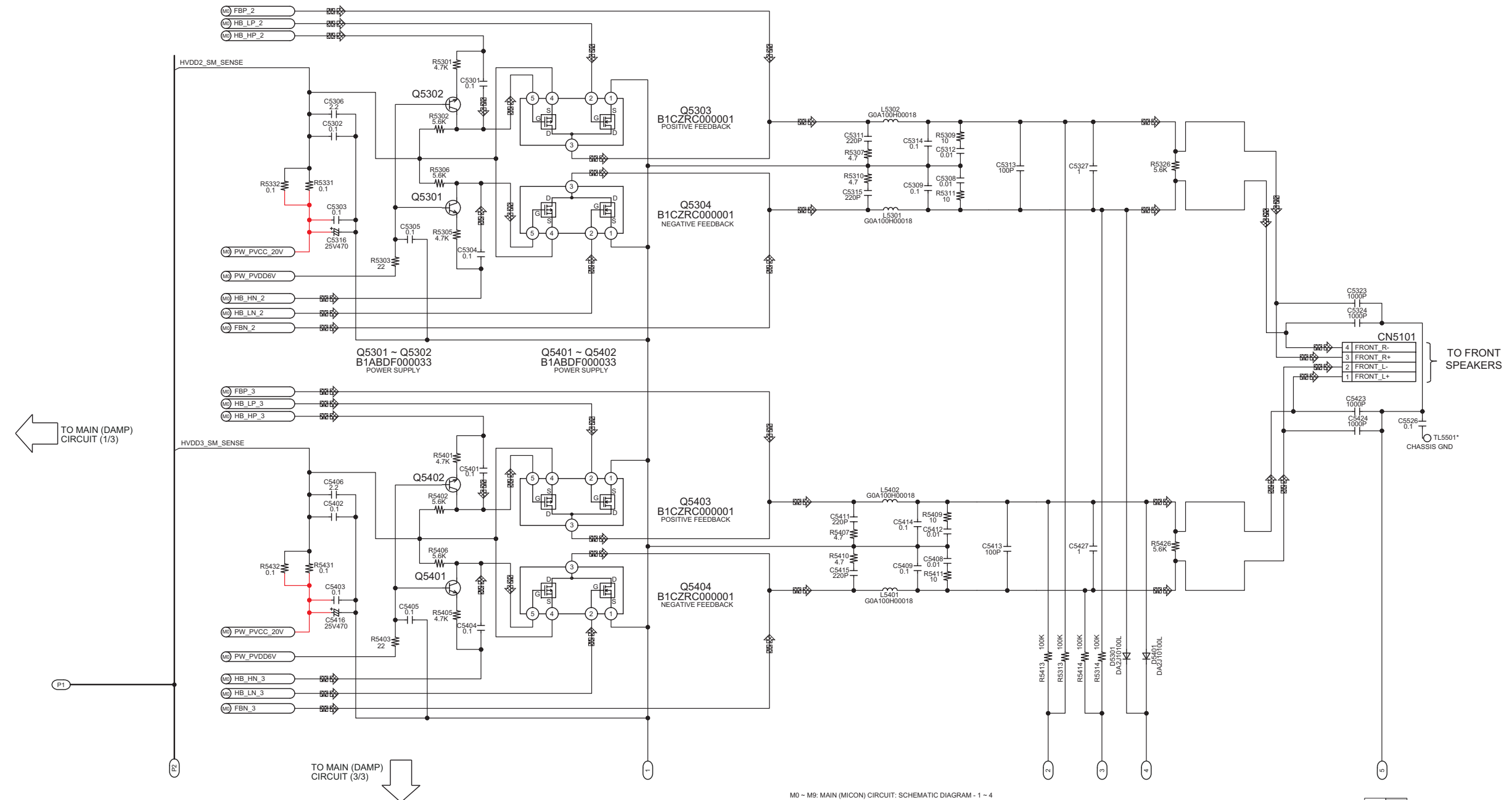
16.6. MAIN (DAMP) CIRCUIT (1/3)



16.7. MAIN (DAMP) CIRCUIT (2/3)

SCHEMATIC DIAGRAM - 6

A MAIN (DAMP) CIRCUIT

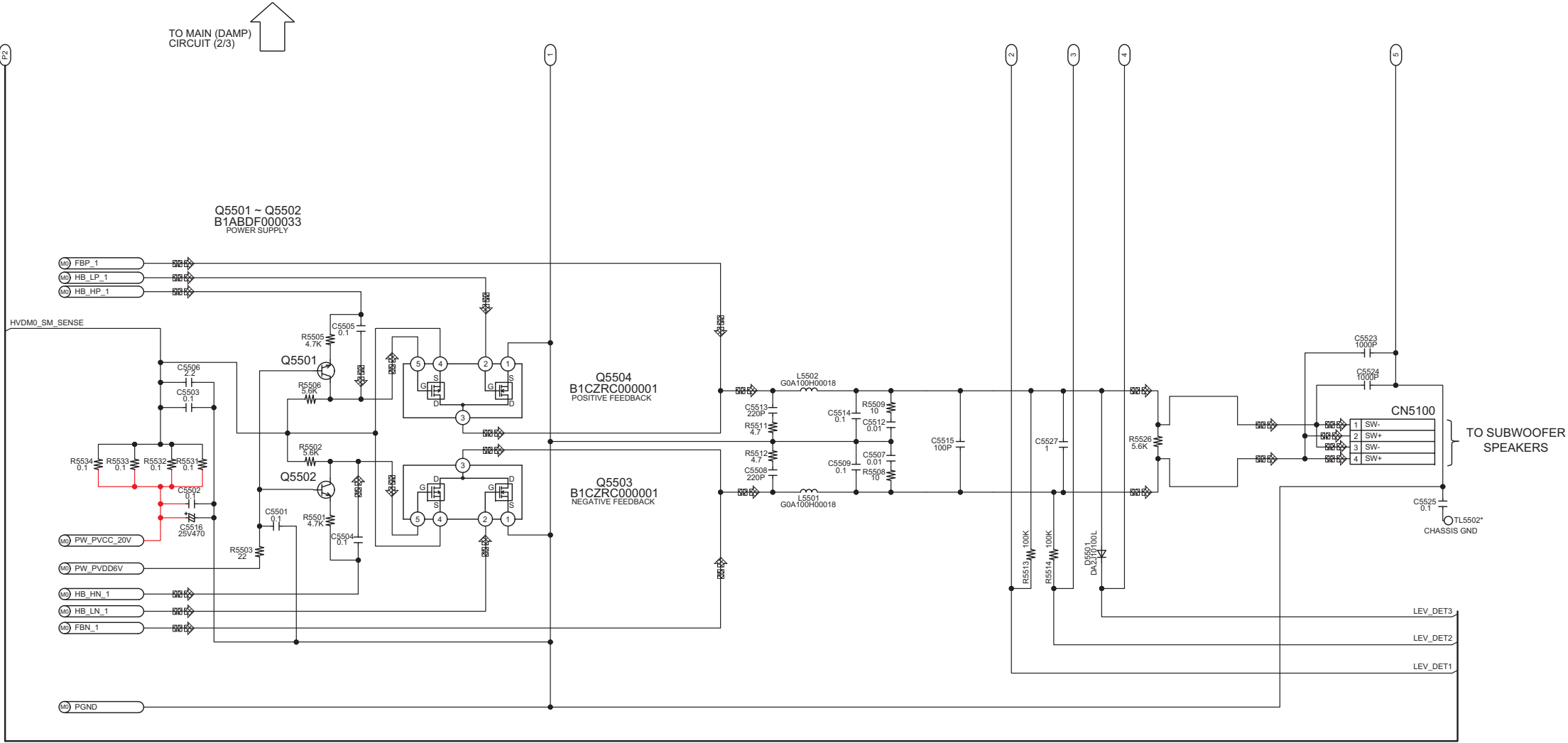


M0 ~ M9: MAIN (MICON) CIRCUIT: SCHEMATIC DIAGRAM - 1 ~ 4

1/3	2/3	SC-HTB70P/PC MAIN (DAMP) CIRCUIT
	3/3	

16.8. MAIN (DAMP) CIRCUIT (3/3)

SCHEMATIC DIAGRAM - 7
A MAIN (DAMP) CIRCUIT



M0 ~ M9: MAIN (MICON) CIRCUIT: SCHEMATIC DIAGRAM - 1 ~ 4

NOTE: " * " REF IS FOR INDICATION ONLY

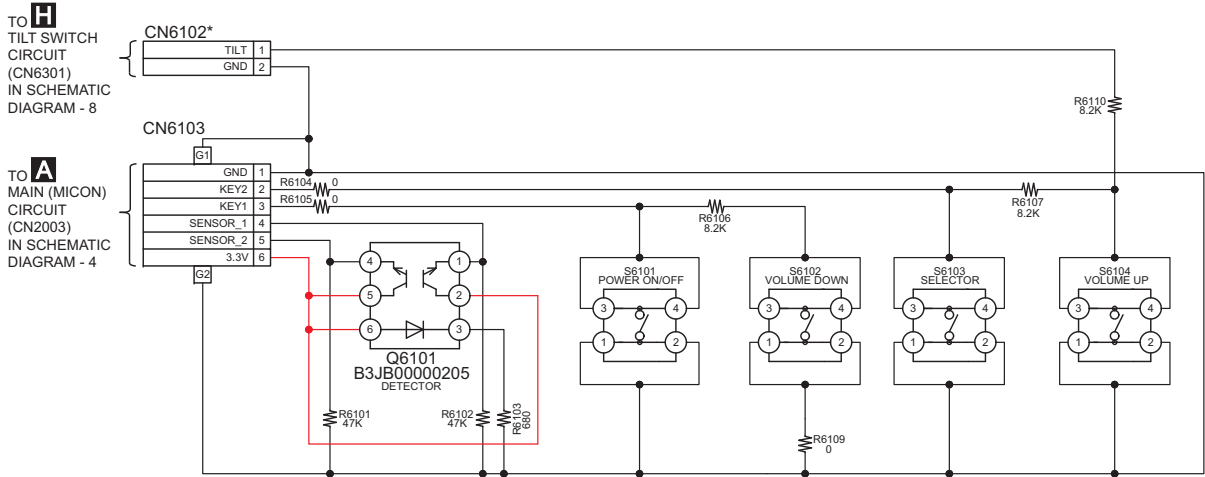
1/3 2/3 3/3
SC-HTB70P/PC
MAIN (DAMP) CIRCUIT

16.9. BUTTON, SENSOR & TILT SWITCH CIRCUIT

SCHEMATIC DIAGRAM - 8

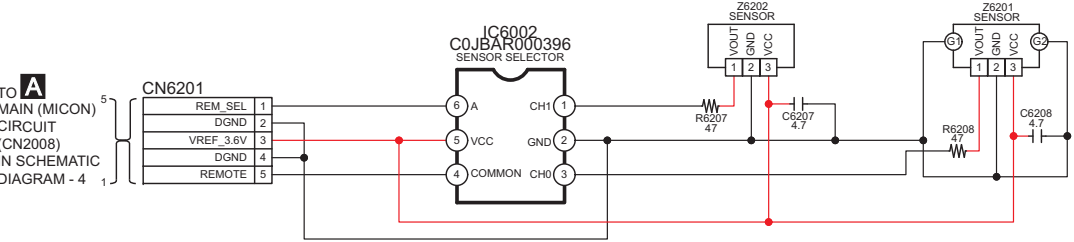
B BUTTON CIRCUIT

— : +B SIGNAL LINE



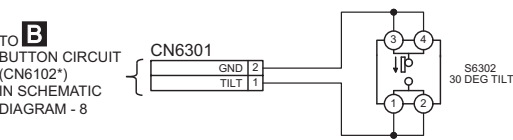
C SENSOR CIRCUIT

— : +B SIGNAL LINE



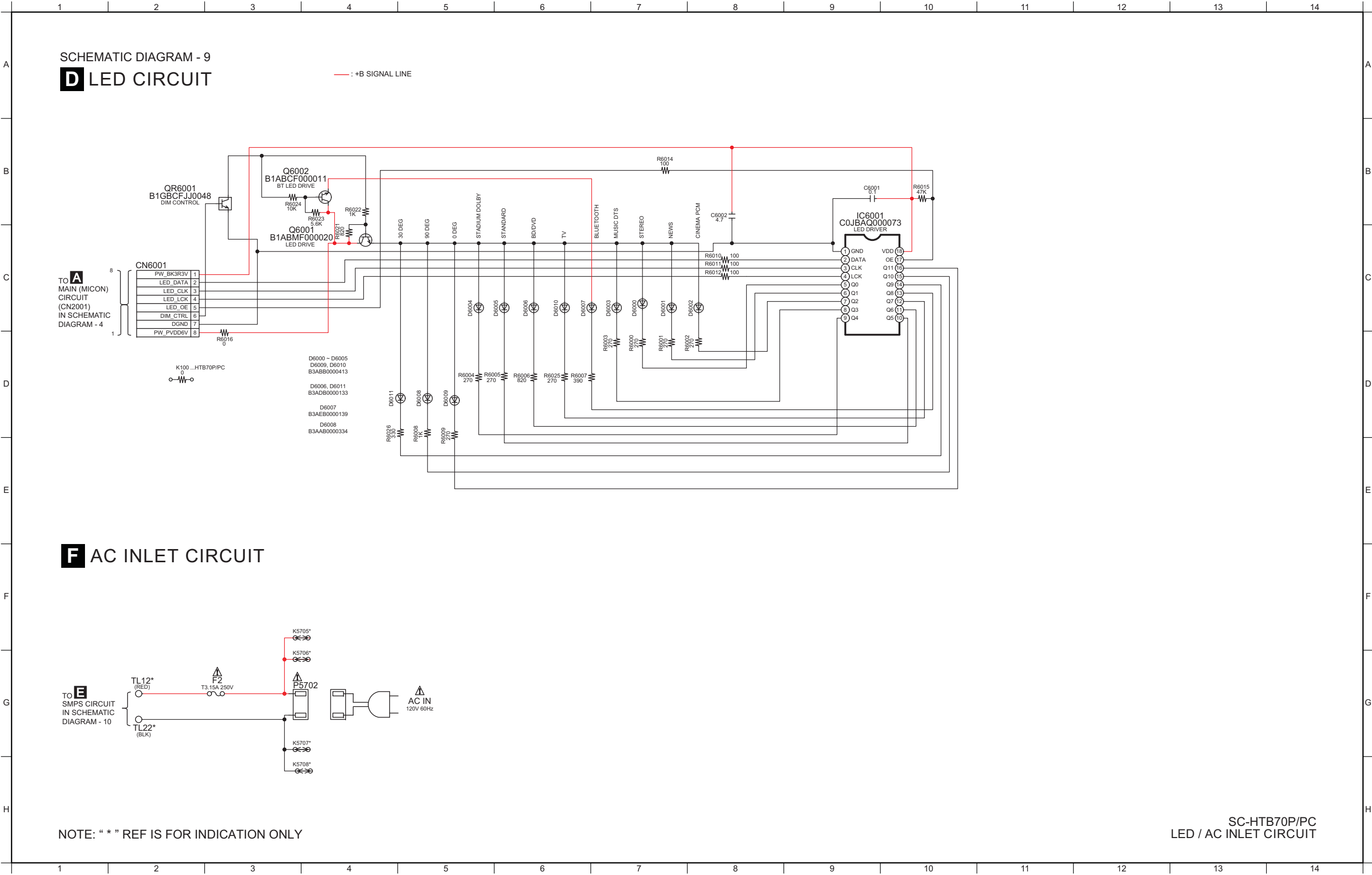
NOTE: " * " REF IS FOR INDICATION ONLY

H TILT SWITCH CIRCUIT

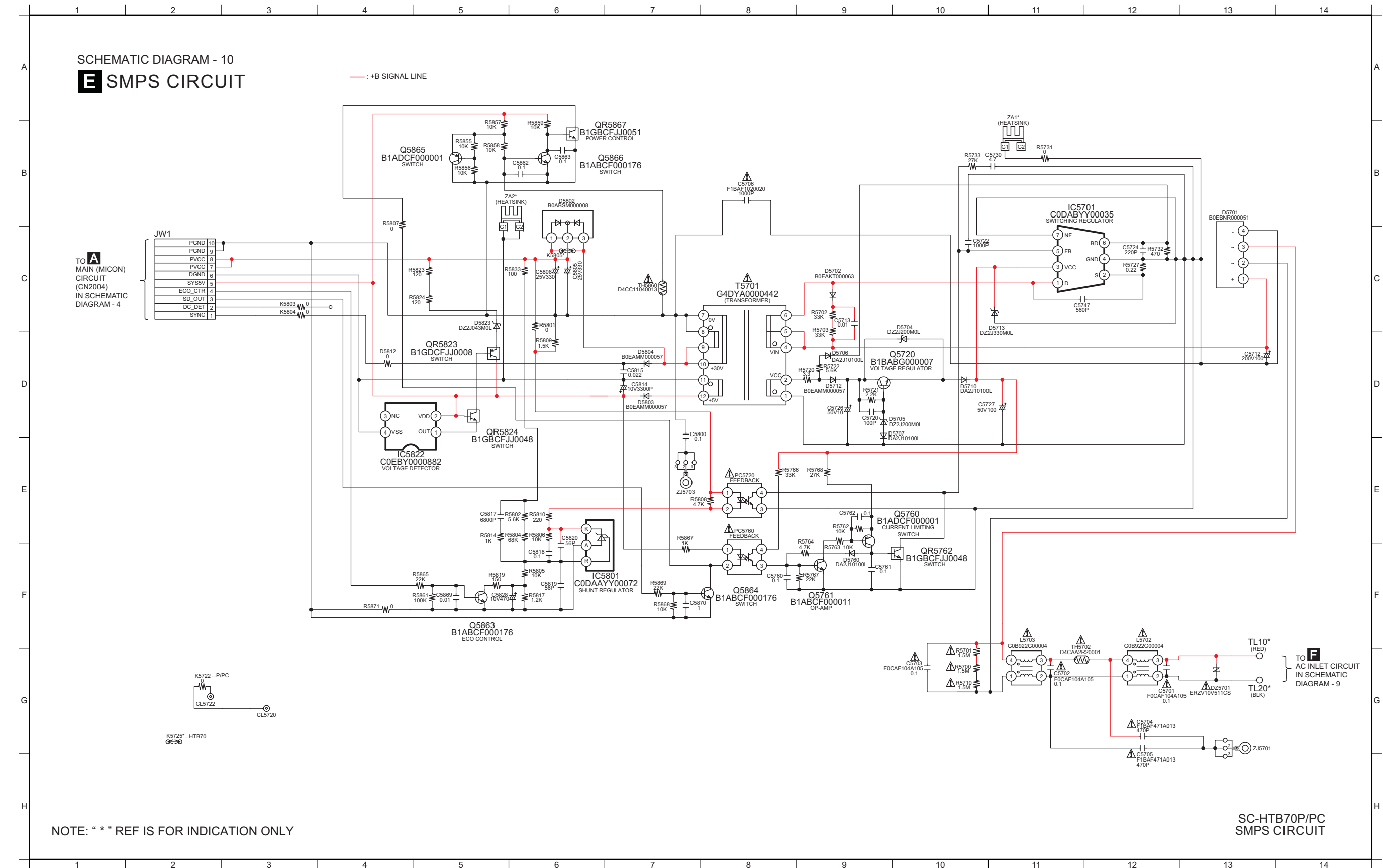


SC-HTB70P/PC
BUTTON / SENSOR / TILT SWITCH CIRCUIT

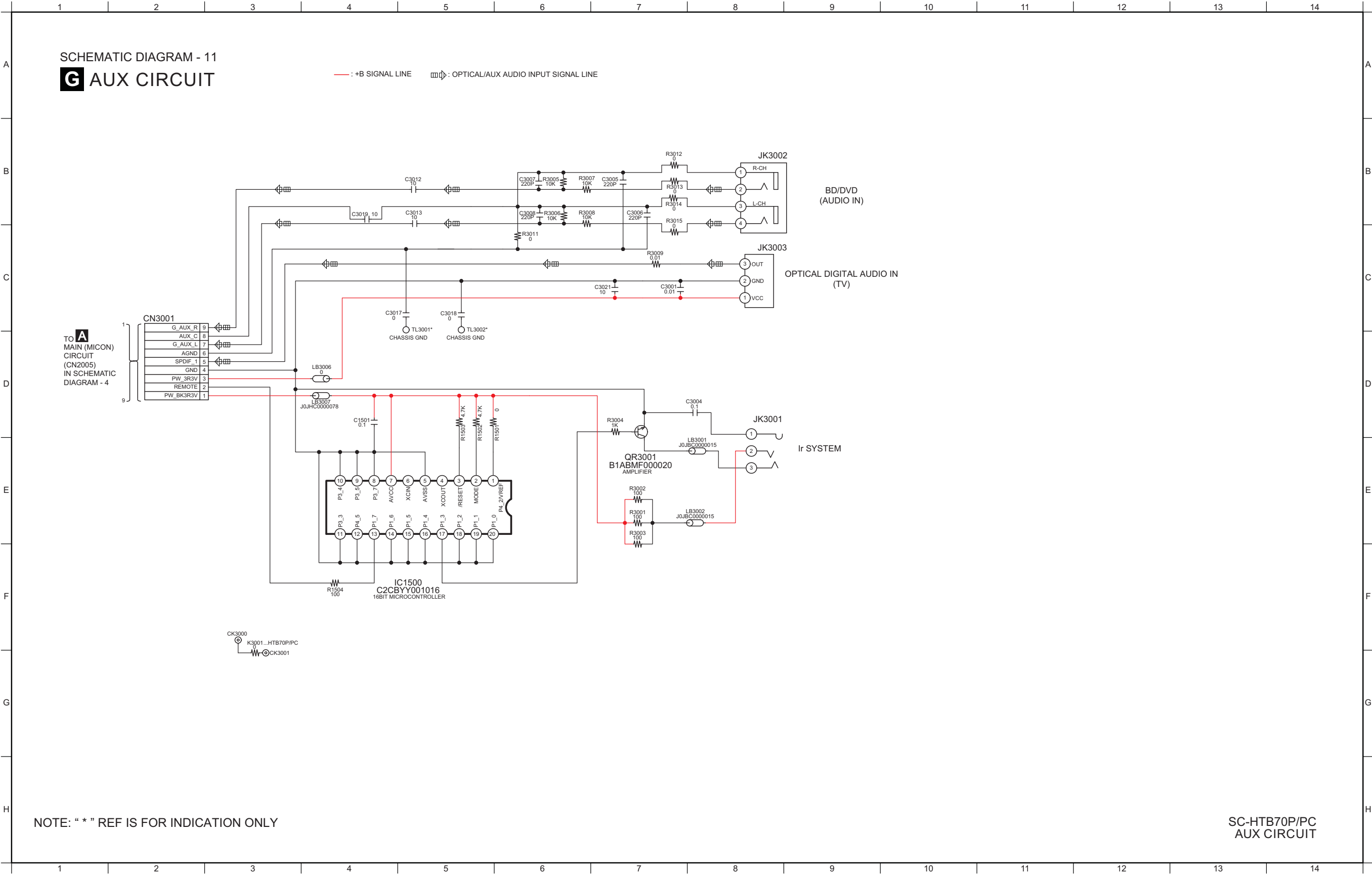
16.10. LED & AC Inlet CIRCUIT



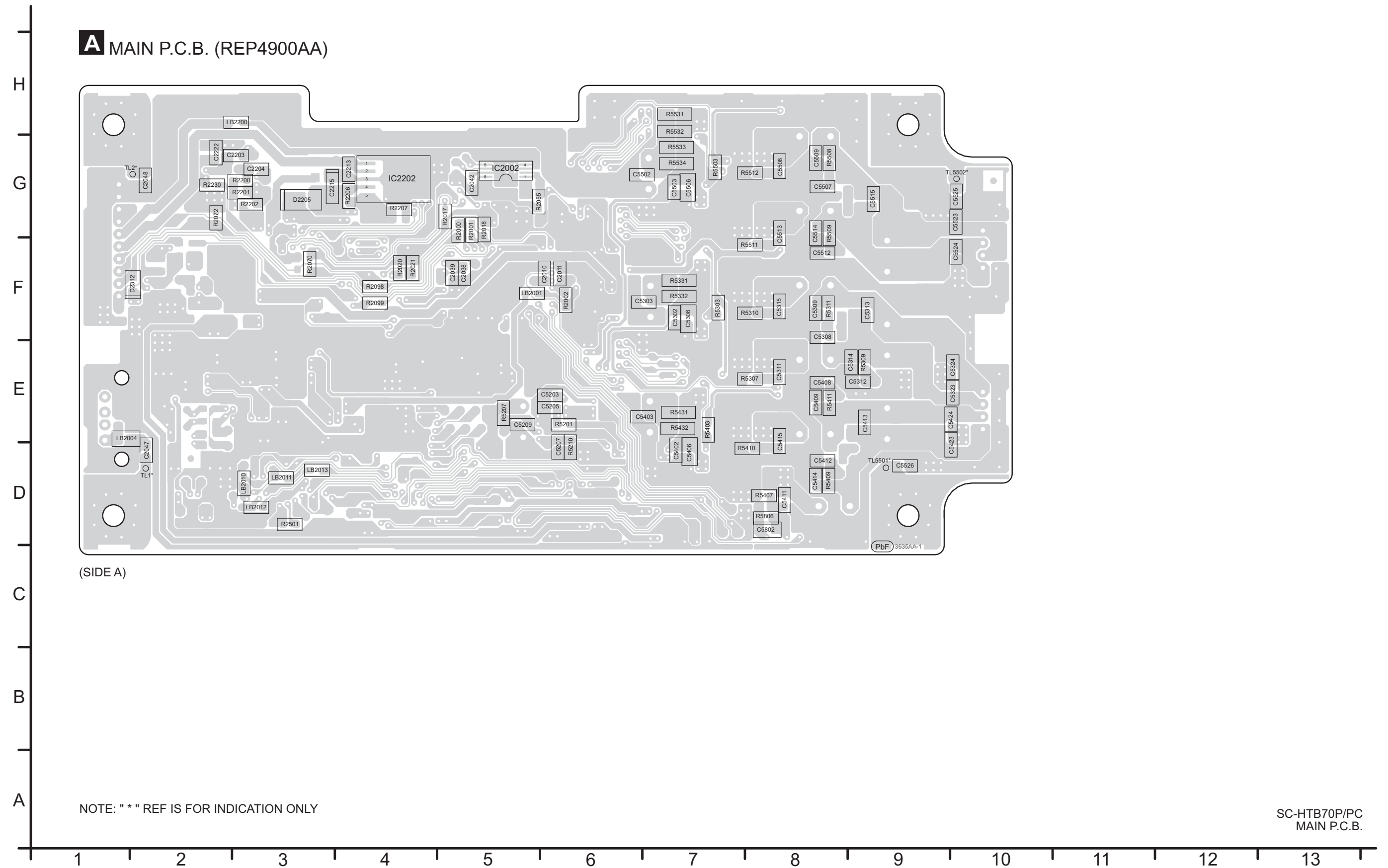
16.11. SMPS CIRCUIT



16.12. AUX CIRCUIT



17.1. Main P.C.B. (Side A)



A vertical number line with tick marks labeled A, B, C, D, E, F, G, and H from bottom to top.

NOTE: " * " REF IS FOR INDICATION ONLY

USB PORT
FOR SERVICE

SC-HTB70P/PC
MAIN P.C.B.

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

The diagram shows the PCB layout for the P5702. It includes the following components and connections:

- TL22* (BLK)**: A component at the top left.
- TL12* (RED)**: A component below TL22*.
- F2 T3 15A 250V**: A fuse component below TL12*.
- PbF**: A component in a circle at the bottom left.
- 3627AC**: A label at the bottom left.
- P5702**: A label at the top right.
- K5707**: A component at the top right, connected to TL22* by a double-headed arrow.
- K5708**: A component in the middle, connected to TL12* by a double-headed arrow.
- K5705**: A component below K5708, connected to F2 by a double-headed arrow.
- K5706**: A component at the bottom right, connected to K5705 by a double-headed arrow.
- AC IN ~**: A label in a box on the right.
- 120V 60Hz**: A label below the AC IN box.

NOTE: " * " REF IS FOR INDICATION ONLY

SC-HTB70P/PC
SMPS / AC INLET P.C.B.

A vertical scale with labels A, B, C, D, E, F, G, and H from bottom to top.



A

SC-HTB70P/PC
AUX P.C.B.

18 Appendix Information of Schematic Diagram

18.1. 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.

18.1.1. Voltage Measurement

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

REF NO.	IC2000																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	3.4	0	3.4	0	0	3.4	3.4	1.2	0	0	3.4	3.5	3.5	3.4	0	0	3.4	3.4	3.5	1.1
STANDBY	3.4	0	3.4	0	0	3.4	3.4	1.2	0	0	3.4	3.5	3.5	3.4	0	0	3.4	3.4	3.5	1.1

REF NO.	IC2000																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	3.4	1.4	1.6	1.6	1.6	1.6	1.6	1.6	0	0	0	0	9.1	9.1	2.5	3.3	2.5	3.3	0	4.0
STANDBY	3.4	1.4	1.6	1.6	1.6	1.6	1.6	1.6	0	0	0	0	9.1	9.1	2.5	3.3	2.5	3.3	0	4.0

REF NO.	IC2000																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	3.0	2.5	3.3	2.5	3.3	9.1	9.1	6.0	0	0	1.2	4.0	0	3.6	6.0	9.1	9.1	3.3	2.5	3.3
STANDBY	3.0	2.5	3.3	2.5	3.3	9.1	9.1	6.0	0	0	1.2	4.0	0	3.6	6.0	9.1	9.1	3.3	2.5	3.3

REF NO.	IC2000																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	3.0	0	0	0	0	0	0	0	0	0	0.7	3.1	0	5.9	0	1.5	1.4	0	0
STANDBY	0	3.0	0	0	0	0	0	0	0	0	0	0.7	3.1	0	5.9	0	1.5	1.4	0	0

REF NO.	IC2000																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	1.7	0	0	0	3.1	3.2	3.2	3.5	0	3.5	0	0	0	0	1.2	1.2	0	0	1.2
STANDBY	0	1.7	0	0	0	3.1	3.2	3.2	3.5	0	3.5	0	0	0	0	1.2	1.2	0	0	1.2

REF NO.	IC2000																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
CD PLAY	0	3.5	0	0	0.5	0.3	1.0	1.0	0.8	0.9	1.2	1.0	3.5	1.4	3.3	3.3	3.3	3.3	0	3.5
STANDBY	0	3.5	0	0	0.5	0.3	1.0	1.0	0.8	0.9	1.2	1.0	3.5	1.4	3.3	3.3	3.3	3.3	0	3.5

REF NO.	IC2000																			
MODE	121	122	123	124	125	126	127	128												
CD PLAY	0	0	3.5	3.5	0	0.9	3.5	3.5												
STANDBY	0	0	3.5	3.5	0	0.9	3.5	3.5												

REF NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	3.4	1.2	3.4	0	3.4	3.3	0	3.5												
STANDBY	3.4	1.3	3.5	0	3.5	3.3	0	3.5												

REF NO.	IC2002																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	3.3	3.3	0	0	3.3	3.3	0	3.3												
STANDBY	3.3	3.3	0	0	3.3	3.3	0	3.3												

REF NO.	IC2003																			
MODE	1	2	3	4	5	6	7	8	9	10										
CD PLAY	3.2	0.9	0.9	0.9	0	0	0.8	3.2	0	5.0										
STANDBY	3.2	0.9	0.9	0.9	0	0	0.8	3.2	0	5.0										

SC-HTB70P/PC MAIN P.C.B.

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

REF NO.	IC2004																		
MODE	1	2	3	4	5														
CD PLAY	5.2	0	0	3.4	5.2														
STANDBY	4.9	0	0	3.4	5.2														
REF NO.	IC2200																		
MODE	1	2	3	4	5	6	7	8											
POWER ON	5.6	0	1.2	1.0	0	3.4	10.5	18.7											
STANDBY	5.8	0	1.2	1.0	0	3.4	10.6	18.8											
REF NO.	IC2202																		
MODE	1	2	3	4	5														
POWER ON	5.0	5.0	0	3.6	1.4														
STANDBY	5.0	5.0	0	3.6	1.4														
REF NO.	IC2203																		
MODE	1	2	3	4	5	6	7	8											
CD PLAY	3.4	0.8	0	0	6.0	0	0	6.0											
STANDBY	3.4	0.8	0	0	6.0	0	0	6.0											
REF NO.	IC2204																		
MODE	1	2	3	4	5	6	7	8											
POWER ON	5.2	0	0	0	5.8	0	0	5.9											
STANDBY	5.3	0	0	0	5.9	0	0	5.9											
REF NO.	IC5201																		
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14					
CD PLAY	3.0	3.2	21.6	18.5	18.7	18.5	18.7	18.5	18.7	0.9	0.9	0	0	2.8					
STANDBY	3.0	3.2	21.6	18.5	18.7	18.5	18.7	18.5	18.7	0.9	0.9	0	0	2.8					
REF NO.	Q5301 Q5302 Q5303 Q5304																		
MODE	E	C	B		E	C	B		1	2	3	4	5		1	2	3	4	5
CD PLAY	3.3	18.7	6.0		5.6	18.7	6.0		0	2.5	9.1	18.8	18.7		0	2.5	9.1	18.8	18.7
STANDBY	3.3	18.7	6.0		5.6	18.7	6.0		0	2.5	9.1	18.8	18.7		0	2.5	9.1	18.8	18.7
REF NO.	Q5401 Q5402 Q5403 Q5404																		
MODE	E	C	B		E	C	B		1	2	3	4	5		1	2	3	4	5
CD PLAY	3.3	16.0	6.0		5.6	18.7	6.0		0	2.5	9.0	18.8	18.7		0	2.5	9.0	18.8	18.7
STANDBY	3.3	16.0	6.0		5.6	18.7	6.0		0	2.5	9.0	18.8	18.7		0	2.5	9.0	18.8	18.7
REF NO.	Q5501 Q5502 Q5503 Q5504																		
MODE	E	C	B		E	C	B		1	2	3	4	5		1	2	3	4	5
CD PLAY	3.3	16.0	6.0		5.6	18.7	6.0		0	2.5	9.1	18.8	18.7		0	2.5	9.1	18.8	18.7
STANDBY	3.3	16.0	6.0		5.6	18.7	6.0		0	2.5	9.1	18.8	18.7		0	2.5	9.1	18.8	18.7
REF NO.	Q5802 Q5803 Q5804 Q5805 QR2303																		
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B
CD PLAY	0	3.4	0		18.7	4.5	0		9.1	0	9.1		9.1	0	9.1		0	3.4	0.3
STANDBY	0	3.4	0		18.7	4.5	0		9.1	0	9.1		9.1	0	9.1		0	3.4	0.3

SC-HTB70P/PC MAIN P.C.B.

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

REF NO.	QR5201																			
MODE	E	C	B																	
CD PLAY	0	0	3.4																	
STANDBY	0	0	3.4																	

SC-HTB70P/PC MAIN P.C.B.

18.1.1.4. BUTTON P.C.B.

REF NO.	Q6101																			
MODE	1	2	3	4	5	6														
CD PLAY	0	3.3	0	0	3.3	3.3														
STANDBY	0	3.3	0	0	3.3	3.3														

SC-HTB70P/PC BUTTON P.C.B.

18.1.1.5. SENSOR P.C.B.

REF NO.	IC6002																		
MODE	1	2	3	4	5	6													
CD PLAY	2.8	0	2.8	0	3.6	0													
STANDBY	2.8	0	2.8	0	3.6	0													

SC-HTB70P/PC SENSOR P.C.B.

18.1.1.6. LED P.C.B.

REF NO.	IC6001																		
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
POWER ON	0	3.5	0	3.5	1.9	1.8	1.8	1.8	1.8	0	0	2.3	1.6	1.8	1.8	0	0	3.5	
STANDBY	0	3.5	0	3.5	2.1	2.2	2.2	2.2	2.1	0	0	2.1	2.0	2.0	2.0	0	0	3.5	

REF NO.	Q6001				Q6002				QR6001										
MODE	E	C	B		E	C	B		E	C	B								
POWER ON	1.8	6.0	3.3		1.6	6.0	3.3		0	3.3	3.5								
STANDBY	1.8	6.0	3.3		1.6	6.0	3.3		0	3.3	3.5								

SC-HTB70P/PC LED P.C.B.

18.1.1.7. SMPS P.C.B.

REF NO.	IC5701																			
MODE	1	2	3	4	5	6	7													
POWER ON	166.6	0	14.4	0	0.9	0.4	0													
STANDBY	166.6	0	14.4	0	0.9	0.4	0													

REF NO.	IC5801																			
MODE	K	A	R																	
POWER ON	16.0	0	2.5																	
STANDBY	16.0	0	2.5																	

REF NO.	IC5822																			
MODE	1	2	3	4																
POWER ON	0	3.9	0	0																
STANDBY	0	3.9	0	0																

REF NO.	Q5720				Q5760				Q5761				Q5863				Q5864			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
POWER ON	15.1	15.7	15.7		14.3	0	14.3		0	14.3	0		0	0.9	0		0	3.5	0	
STANDBY	15.1	15.7	15.7		14.3	0	14.3		0	14.3	0		0	0.9	0		0	3.5	0	

REF NO.	Q5865				Q5866				QR5762				QR5823				QR5824			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
POWER ON	1.2	0	0.6		0	0	0.6		0	0.9	0		4.0	3.9	0		0	0	3.9	
STANDBY	1.2	0	0.6		0	0	0.6		0	0.9	0		4.0	3.9	0		0	0	3.9	

REF NO.	QR5867																			
MODE	E	C	B																	
POWER ON	0	3.5	0																	
STANDBY	0	3.5	0																	

SC-HTB70P/PC SMPS P.C.B.

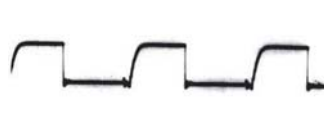
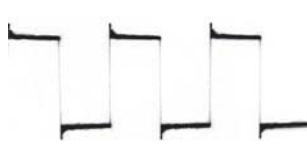
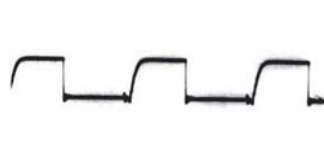
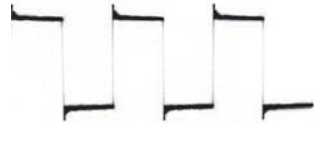
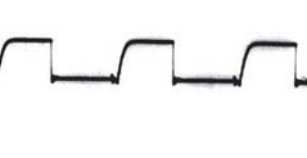
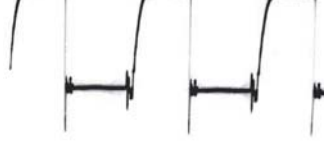
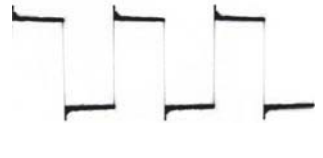
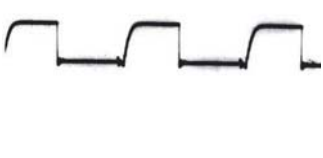
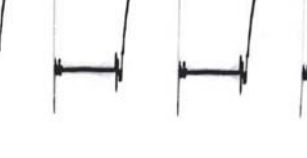
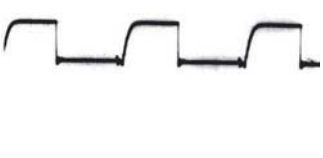
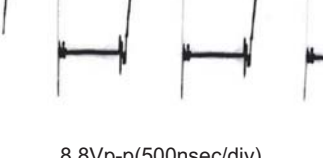
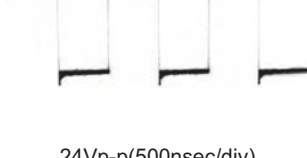
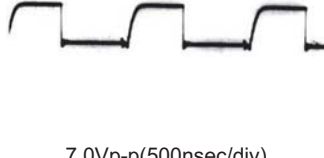
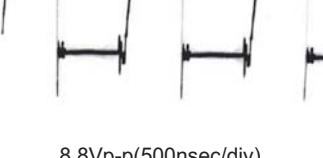
18.1.1.8. AUX P.C.B.

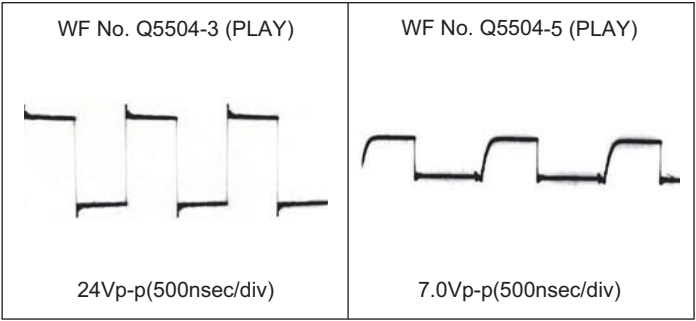
REF NO.	IC1500																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	3.3	3.3	3.3	1.1	0	1.0	3.3	0	0	0	0	0	3.4	0	0	0	0	0	0	0
STANDBY	3.3	3.3	3.3	1.2	0	1.2	3.3	0	0	0	0	0	3.4	0	0	0	0	0	0	0

REF NO.	QR3001																			
MODE	E	C	B																	
CD PLAY	0	1.0	0																	
STANDBY	0	1.0	0																	

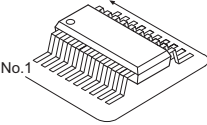
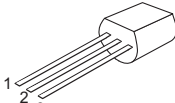
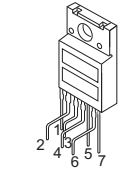
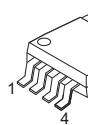
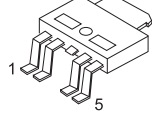
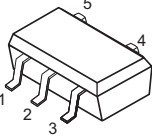
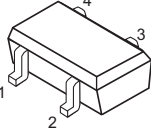
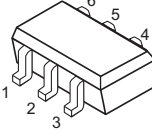
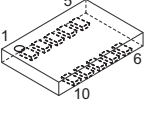
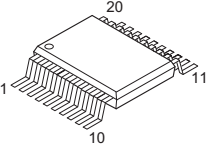
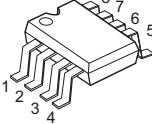
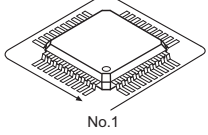
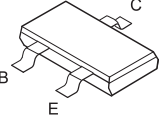
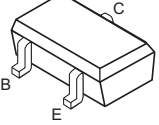
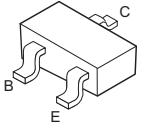
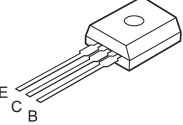
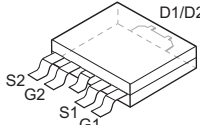
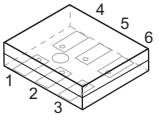
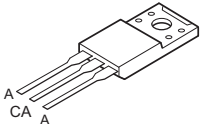
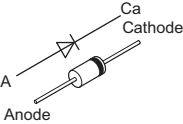
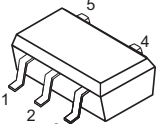
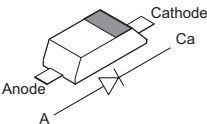
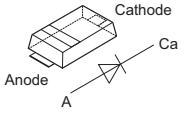
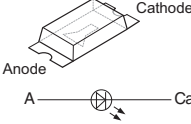
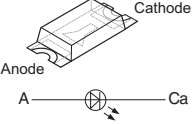
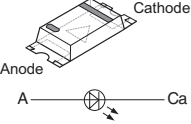
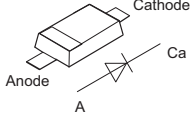
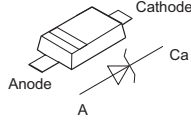
SC-HTB70P/PC AUX P.C.B.

18.1.2. Waveform Chart

WF No. IC2000-25 (PLAY)  1.8Vp-p(200usec/div)	WF No. IC2000-33,34,46,47 56,57 (PLAY)  24Vp-p(500nsec/div)	WF No. IC2000-35,36,37,38,42, 44,58,59,60,61 (PLAY)  7.0Vp-p(500nsec/div)	WF No. IC2000-73 (PLAY)  1.4Vp-p(20nsec/div)
WF No. Q5303-2 (PLAY)  8.8Vp-p(500nsec/div)	WF No. Q5303-3 (PLAY)  24Vp-p(500nsec/div)	WF No. Q5303-5 (PLAY)  7.0Vp-p(500nsec/div)	WF No. Q5304-2 (PLAY)  8.8Vp-p(500nsec/div)
WF No. Q5304-3 (PLAY)  24Vp-p(500nsec/div)	WF No. Q5304-5 (PLAY)  7.0Vp-p(500nsec/div)	WF No. Q5403-2 (PLAY)  8.8Vp-p(500nsec/div)	WF No. Q5403-3 (PLAY)  24Vp-p(500nsec/div)
WF No. Q5403-5 (PLAY)  7.0Vp-p(500nsec/div)	WF No. Q5404-2 (PLAY)  8.8Vp-p(500nsec/div)	WF No. Q5404-3 (PLAY)  24Vp-p(500nsec/div)	WF No. Q5404-5 (PLAY)  7.0Vp-p(500nsec/div)
WF No. Q5503-2 (PLAY)  8.8Vp-p(500nsec/div)	WF No. Q5503-3 (PLAY)  24Vp-p(500nsec/div)	WF No. Q5503-5 (PLAY)  7.0Vp-p(500nsec/div)	WF No. Q5504-2 (PLAY)  8.8Vp-p(500nsec/div)



18.2. Illustration of IC's, Transistors and Diodes

C0BBCZ000008 (14P) C0JBAQ000073 (18P) 	C0DAAYY00072 	C0DABYY00035 	C0DBAYY01282 C0DBEYY00197 RFKWEHTB70M 	C0DBEJG00001 	C0DBZYY00311 
C0EBY0000882 	C0JBAB000837 C0JBAR000396 	C0JBAR000581 	C2CBYY001016 	C3EBEY000042 	C1AB00004019 (128P) 
	B1ABCF000011 B1ABCF000176 B1ADBL000010 B1GDCFJJ0008 B1GBCFJJ0048 B1GBCFJJ0051 	B1ABDF000033 B1ADCF000001 	B1ABMF000020 B1GBCFJJ0041 	B1BABG000007 	B1CZRC000001 
B3JB00000205 	B0ABSM000008 	B0EAKT000063 B0EAMM000057 	B0EBNR000051 	B0JCGD000016 B0JCMD000010 	B0JCPG000032 
B3AAB0000334 	B3ABB0000413 B3ADB0000133 	B3AEB0000139 	DA2J10100L 		DZ2J043M0L DZ2J056M0L DZ2J068M0L DZ2J200M0L DZ2J330M0L

18.3. Terminal Function of IC's

18.3.1. IC2000 (C1AB00004019) MICROPROCESSOR IC

Pin No.	Terminal Name	I/O	Function
1	RESET_N	-	For on board programming
2	JTAG TDO	JTAG	For debugging
3	JTAG TCK	JTAG	For debugging
4	JTAG TDI	JTAG	For debugging
5	JTAG TMS	JTAG	For debugging
6	PCONT	O	Power control
7	S_DET	-	DCDC/LDO Short circuit and OV detection
8	SPDIF IN / ARC	-	No Connection
9	HDMI_PCON	-	No Connection
10	USB_EN(5V) / USB_SW	O	Bluetooth / Flash
11	USB_OC	I	Bluetooth / Flash
12	WL_SDA / EEP_SDA	I2C	Wireless control
13	WL_SCL / EEP_SCL	I2C	Wireless control
14	IR	I	Remote control input
15	ECO_PCONT	O	ECO mode control
16	SD_OUT	O	Protection on shut down output
17	DC_DET	I	DAMP & SMPS abnormal detection
18	AC SYNC	I	Detection of AC Power fail
19	VDDIO3P3	-	3.3V Digital logic I/O supply
20	USB_DM	I/O	Bluetooth / Flash update
21	USB_DP	I/O	Bluetooth / Flash update
22	VDDIG1P2	-	1.2V Digital core supply
23	AUX_L	I	AUX input
24	AUX_C	I	AUX input
25	AUX_R	I	AUX input
26	BT_L	I	Backup Bluetooth analog input.
27	BT_C	I	Backup Bluetooth analog input.
28	BT_R	I	Backup Bluetooth analog input.
29	AGND	-	Analog ground
30	HP_VCM	-	Common voltage for analog
31	SW_OUT	-	NO CONNECTION
32	FAN_CTRL	-	NO CONNECTION
33	FBP_1	-	Positive feedback for Subwoofer
34	FBN_1	-	Negative feedback for Subwoofer
35	HB_LN_1	-	Amplifier output for Subwoofer
36	HB_HN_1	-	Amplifier output for Subwoofer
37	HB_LP_1	-	Amplifier output for Subwoofer
38	HB_HP_1	-	Amplifier output for Subwoofer
39	AGND	-	Analog ground
40	FET TEMP DET1	I	DAMP Over Temperature
41	PHALF1	-	PVDD ½ voltage bias bypass
42	HB_LN_2	-	Amplifier output for Front Speaker Left
43	HB_HN_2	-	Amplifier output for Front Speaker Left
44	HB_LP_2	-	Amplifier output for Front Speaker Left
45	HB_HP_2	-	Amplifier output for Front Speaker Left
46	FBN_2	-	Negative feedback for Front Speaker Left
47	FBP_2	-	Positive feedback for Front Speaker Left
48	PVDD 6V	-	6V Supply voltage for power FET drive stage
49	AGND	-	Analog ground
50	FET OCP	I	Overcurrent Protection

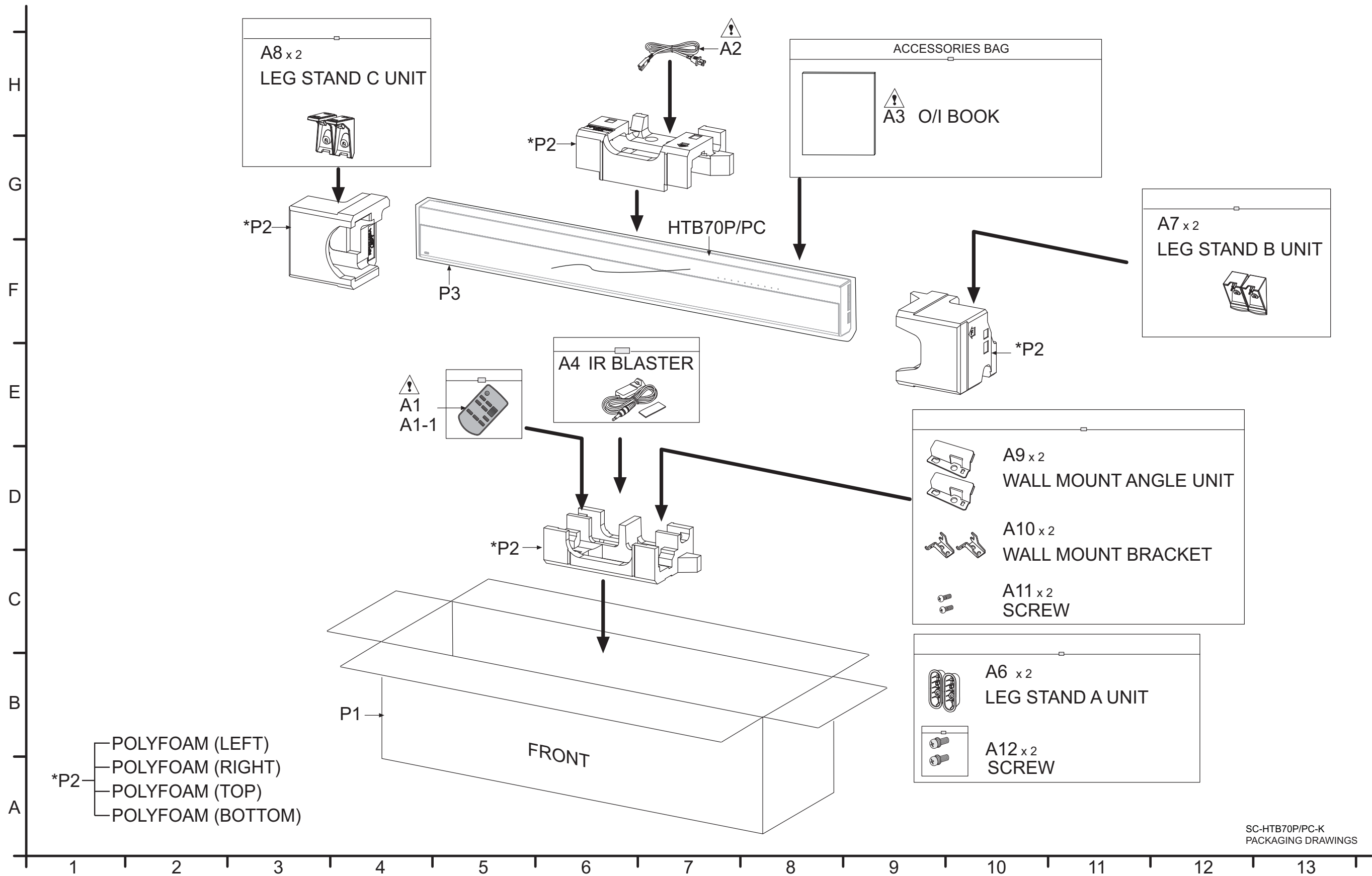
Pin No.	Terminal Name	I/O	Function
51	BYP_BG	-	Bypass capacitor for band gap
52	BYP_AN	-	Regulated supply voltage bypass: Analog circuit blocks
53	AGND	-	Analog ground
54	AVDD 3.6 V	-	3.6V DC voltage input to analog regulators
55	PVDD 6V	-	6V Supply voltage for power FET drive stage
56	FBP_3	-	Positive feedback for Front Speaker Right
57	FBN_3	-	Negative feedback for Front Speaker Right
58	HB_HP_3	-	Amplifier output for Front Speaker Right
59	HB_LP_3	-	Amplifier output for Front Speaker Right
60	HB_HN_3	-	Amplifier output for Front Speaker Right
61	HB_LN_3	-	Amplifier output for Front Speaker Right
62	PHALF2	-	Amplifier output for Front Speaker Right
63	FET TEMP DET2	I	DAMP Overload or Overtemp
64	AGND	-	Analog ground
65	HB_HP_4	-	No Connection
66	HB_LP_4	-	No Connection
67	HB_HN_4	-	No Connection
68	HB_LN_4	-	No Connection
69	FBP_4	-	No Connection
70	FBN_4	-	No Connection
71	AGND	-	Analog ground
72	XTALP	-	12.288MHz external crystal connection.
73	XTALN	-	12.288MHz external crystal connection.
74	SWREG_PHALF	-	Switching regulator bias
75	SWREG_PVDD	-	Switching regulator power
76	SWREG_GND	-	Switching regulator ground
77	SWREG_OUT	-	Switching regulator output
78	VDDDIG1P2	-	1.2V Digital core supply
79	HDMI_MCLK_IN	-	No Connection
80	HDMI_MCLK_OUT	-	No Connection
81	POWER DOWN	-	No Connection
82	VDD COMP	O	Clock for OCP comparator
83	VALID	I	VALID info of DAMP/Temp detect
84	DAP_SCL	-	No Connection
85	IR_SWITCH	O	Remote sensor select
86	SPDIF IN (TV)	I	Direct input
87	SPK_POS_DET 1	I	Detect Speaker Position
88	SPK_POS_DET 2	I	Detect Speaker Position
89	VDDIO3P3	-	3.3V Digital logic I/O supply
90	DAP_CT/SW & WL_SW	-	No Connection
91	DIMMER	O	Dimmer on/off
92	DAP_SCLK & WL_SCLK	-	No Connection
93	DAP_LRCK & WL_LRCK	-	No Connection
94	SPDIF IN (AUX 2)	-	No Connection

Pin No.	Terminal Name	I/O	Function
95	CEC	-	No Connection
96	HDMI_SCL	-	No Connection
97	HDMI_SDA	-	No Connection
98	HDMI_INT TX	-	No Connection
99	HDMI_MUTE_DET	-	No Connection
100	HDMI_VSYNC	-	No Connection
101	HDMI_RESET_DET	-	No Connection
102	V_CHECK	-	No Connection
103	HDMI_MUTE_DISS	-	No Connection
104	ECO_LEV	I	ECO LEVEL detection
105	REGION	I	Region setting
106	MODEL	I	Model setting
107	VFD_DET	-	No Connection
108	VFD_STB	I	ESD reset
109	LOG_UART_TX	O	For on board programming & Log monitor
110	LOG_UART_RX	I	For on board programming & Log monitor
111	HDMI_SCLK	-	No Connection
112	HDMI_LRCK	-	No Connection
113	VDDIO3P3	-	3.3V Digital logic I/O supply
114	VDDDIG1P2	-	1.2V Digital core supply
115	HDMI_SBL/SBR	-	No Connection
116	HDMI_SL/SR	-	No Connection
117	HDMI_LFE_C	-	No Connection
118	HDMI_FL/FR	-	No Connection
119	HDMI 5V DETECT	-	No Connection
120	KEY 1	I	ADC (IN)
121	KEY 2	I	ADC (IN)
122	LED_OE	O	LED control
123	LED_LCK	O	LED control
124	M_SSB	O	Flash control
125	M_CLK / LED_CLK	O	Flash control / LED control
126	M_MISO / LED_MISO	I	MISO_DSP / DT_OUT_CODECS
127	M_MOSI / LED_DATA	O	Flash control / LED control
128	VDDIO3P3	-	3.3V Digital logic I/O supply

19.1.1. Cabinet Parts Location



19.1.2. Packaging



SC-HTB70P/PC-K
PACKAGING DRAWINGS

19.1.3. 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 PAVCJM unless indicated likewise.
- 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	Fi:	Finnish

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
			CABINET AND CHASSIS		
	1	REE1746	8P FFC (MAIN-LED)	1	
	3	REE1763	5P FFC (MAIN - SENSOR)	1	
	4	REX1571	FRONT SPEAKER WIRE ASS'Y	1	
	5	REX1572	SUBWOOFER SPEAKER WIRE ASS'Y	1	
	6	REX1573	6P WIRE (MAIN - BUTTON)	1	
	7	REX1574	10P CABLE WIRE (SMPS - MAIN)	1	
	8	REX1575	5P WIRE (MAIN - BLUETOOTH)	1	
	9	REX1579	1P RED WIRE (SMPS - AC INLET)	1	
	10	REX1580	1P BLACK WIRE (SMPS - AC INLET)	1	
	11	REX1591	2P WIRE (TILT SWITCH - BUTTON)	1	
	12	RYP1833-K	FRONT PANEL ASS'Y	1	
	12-1	RGL0782-C	LED PANEL LIGHT	2	
	13	RYP1834A-K	REAR CABINET ASS'Y	1	
	14	RGN3334-K	NAME PLATE	1	P
	14	RGN3334A-K1	NAME PLATE	1	PC
	15	RGU2847-K	PUSH BUTTON	1	
	16	RHD14136	SCREW	7	
	17	RHD30102-1	SCREW	2	
	18	RHD30119-S	SCREW	7	
	20	RHD301005	SCREW	11	
	21	RKA0287-K	LEG CUSHION	4	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	22	RYT0026	PORT ASS'Y	1	
	23	RMF0458-J	EVA PACKING (TWEETER)	2	
	24	RMF0619	HIMELON	2	
	25	RMF0620	HIMELON	3	
	26	RMK0840	MAIN CHASSIS	1	
	27	RMR2104-K	AC HOLDER	1	
	28	RMR2105-K	BUTTON HOLDER	1	
	29	RMZ1337-1	INSULATOR (AUX/HDMI)	1	
	30	RMZ1341-1	INSULATOR (SMPS)	1	
	31	RMZ1342	INSULATOR (MAIN)	1	
	32	RMZ1361-1	INSULATOR (LED)	1	
	33	RSC1181	SMPS UPPER SHIELD	1	
	34	RSC1185	SUB CHASSIS	1	
	35	RSC1215	THERMAL ABSORBER	1	
	36	XTB3+10JFJ	SCREW	29	
	37	XTB3+12JFJK	SCREW	15	
	38	RMQ2161	PARTITION	3	
	39	RKM0703-K	WOOFER CABINET (UPPER)	1	
	40	RMF0616	EVA PACKING (SUB-WOOFER UNIT 1)	1	
	41	RMF0617	EVA PACKING (SUB-WOOFER UNIT 2)	1	
	42	REE1747	9P FFC (MAIN-AUX)	1	
	43	RMF0633	HIMELON (FRONT CAB)	1	
	44	RMF0634	HIMELON (MAIN CHASSIS)	1	
	45	RMF0635	HIMELON (REAR CAB)	1	
	46	RMF0624	ACOUSTIC ABSORBER	2	
	47	RMF0625	ACOUSTIC ABSORBER	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
			SPEAKERS		
	SP1	L0AZ03A00017	FRONT TWEETER SPEAKER	1	
	SP2	L0AZ03A00017	FRONT TWEETER SPEAKER	1	
	SP3	L0AA05A00102	FRONT WOOFER SPEAKER	1	
	SP4	L0AA05A00102	FRONT WOOFER SPEAKER	1	
	SP5	L0AA08A00038	SUBWOOFER SPEAKER	1	
	SP6	L0AA08A00038	SUBWOOFER SPEAKER	1	
			PACKING MATERIALS		
	P1	RP60C40	PACKING CASE	1	P
	P1	RP60C44	PACKING CASE	1	PC
	P2	RPN2493	POLYFOAM	1	
	P3	RPF0655	MIRAMAT BAG	1	
			ACCESSORIES		
⚠	A1	N2QAYC000083	REMOTE CONTROL	1	
	A1-1	RKK-HTB10GNK	R/C BATTERY COVER	1	
⚠	A2	K2CB2CB00022	AC CORD	1	
⚠	A3	RQT9775-Y	O/I BOOK (Cf)	1	PC
⚠	A3	RQT9763-P	O/I BOOK (En)	1	
	A4	K2ZZ02C00007	IR BLASTER	1	
	A6	RYQ1165-K	LEG STAND A UNIT	2	
	A7	RYQ1166-K	LEG STAND B UNIT	2	
	A8	RYQ1167-K	LEG STAND C UNIT	2	
	A9	RXA0260	WALL MOUNT ANGLE UNIT	2	
	A10	RMQX1082-K	WALL MOUNT BRACKET	2	
	A11	XSN4+8FJK	SCREW	2	
	A12	XYN5+J14FJK	SCREW	2	

19.2. 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 PAVCJM unless indicated likewise.

E.S.D. standards for Electrostatically Sensitive Devices, refer to "PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATIC SENSITIVE (ES) DEVICES" section.

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
			PRINTED CIRCUITS BOARD		
	PCB1	REP4900AA	MAIN P.C.B.	1	(RTL)
	PCB2	REP4900AB	BUTTON P.C.B.	1	(RTL)
	PCB3	REP4900AC	SENSOR P.C.B.	1	(RTL)
	PCB4	REP4900AD	LED P.C.B.	1	(RTL)
	PCB5	REP4860B	SMPS P.C.B.	1	(RTL)
	PCB6	REP4860B	AC INLET P.C.B.	1	(RTL)
	PCB7	REP4901A	AUX P.C.B.	1	(RTL)
	PCB8	REP4900AE	TILT SWITCH P.C.B.	1	(RTL)
	PCB9	N5HZZ0000128	BLUETOOTH MODULE P.C.B.	1	
			INTEGRATED CIRCUITS		
	IC1500	C2CBYY001016	IC	1	(E.S.D)
	IC2000	C1AB00004019	IC	1	(E.S.D)
	IC2001	RFKWEHTB70M	IC	1	(E.S.D)
	IC2002	C3EBEY000042	IC	1	(E.S.D)
	IC2003	C0JBAR0000581	IC	1	(E.S.D)
	IC2004	C0DBZY000311	IC	1	(E.S.D)
	IC2200	C0DBAY01282	IC	1	(E.S.D)
	IC2202	C0DBEJG00001	IC	1	(E.S.D)
	IC2203	C0DBEYY00197	IC	1	(E.S.D)
	IC2204	C0DBEYY00197	IC	1	(E.S.D)
	IC5201	C0BBCZ000008	IC	1	(E.S.D)
	IC5701	C0DABYY00035	IC	1	(E.S.D)
	IC5801	C0DAAY000072	IC	1	(E.S.D)
	IC5822	C0EBY00000882	IC	1	(E.S.D)
	IC6001	C0JBAQ000073	IC	1	(E.S.D)
	IC6002	C0JBAR0000396	IC	1	(E.S.D)
			TRANSISTORS		

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	Q5301	B1ABDF000033	TRANSISTOR	1	(E.S.D)
	Q5302	B1ABDF000033	TRANSISTOR	1	(E.S.D)
	Q5303	B1CZRC000001	TRANSISTOR	1	(E.S.D)
	Q5304	B1CZRC000001	TRANSISTOR	1	(E.S.D)
	Q5401	B1ABDF000033	TRANSISTOR	1	(E.S.D)
	Q5402	B1ABDF000033	TRANSISTOR	1	(E.S.D)
	Q5403	B1CZRC000001	TRANSISTOR	1	(E.S.D)
	Q5404	B1CZRC000001	TRANSISTOR	1	(E.S.D)
	Q5501	B1ABDF000033	TRANSISTOR	1	(E.S.D)
	Q5502	B1ABDF000033	TRANSISTOR	1	(E.S.D)
	Q5503	B1CZRC000001	TRANSISTOR	1	(E.S.D)
	Q5504	B1CZRC000001	TRANSISTOR	1	(E.S.D)
	Q5720	B1BAG0000007	TRANSISTOR	1	(E.S.D)
	Q5760	B1ADCF000001	TRANSISTOR	1	(E.S.D)
	Q5761	B1ABCF000011	TRANSISTOR	1	(E.S.D)
	Q5802	B1ABCF000011	TRANSISTOR	1	(E.S.D)
	Q5803	B1ADBL000010	TRANSISTOR	1	(E.S.D)
	Q5804	B1ABCF000011	TRANSISTOR	1	(E.S.D)
	Q5805	B1ABCF000011	TRANSISTOR	1	(E.S.D)
	Q5863	B1ABCF000176	TRANSISTOR	1	(E.S.D)
	Q5864	B1ABCF000176	TRANSISTOR	1	(E.S.D)
	Q5865	B1ADCF000001	TRANSISTOR	1	(E.S.D)
	Q5866	B1ABCF000176	TRANSISTOR	1	(E.S.D)
	Q6001	B1ABMF000020	TRANSISTOR	1	(E.S.D)
	Q6002	B1ABCF000011	TRANSISTOR	1	(E.S.D)
	Q6101	B3JB00000205	TRANSISTOR	1	(E.S.D)
	QR2303	B1GBCFJJ0048	TRANSISTOR	1	(E.S.D)
	QR3001	B1ABMF000020	TRANSISTOR	1	(E.S.D)
	QR5201	B1GBCFJJ0041	TRANSISTOR	1	(E.S.D)
	QR5762	B1GBCFJJ0048	TRANSISTOR	1	(E.S.D)
	QR5823	B1GDCFJJ0008	TRANSISTOR	1	(E.S.D)
	QR5824	B1GBCFJJ0048	TRANSISTOR	1	(E.S.D)
	QR5867	B1GBCFJJ0051	TRANSISTOR	1	(E.S.D)
	QR6001	B1GBCFJJ0048	TRANSISTOR	1	(E.S.D)
			DIODES		
	D2001	B0JCGD000016	DIODE	1	(E.S.D)

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	D2201	B0JCPG000032	DIODE	1	(E.S.D)
	D2205	B0JCPG000032	DIODE	1	(E.S.D)
	D2302	DA2J10100L	DIODE	1	(E.S.D)
	D2303	DZ2J068M0L	DIODE	1	(E.S.D)
	D2305	DZ2J056M0L	DIODE	1	(E.S.D)
	D2307	DZ2J043M0L	DIODE	1	(E.S.D)
	D2308	DA2J10100L	DIODE	1	(E.S.D)
	D2309	DZ2J043M0L	DIODE	1	(E.S.D)
	D2312	DA2J10100L	DIODE	1	(E.S.D)
	D5201	B0JCMD000010	DIODE	1	(E.S.D)
	D5202	B0JCMD000010	DIODE	1	(E.S.D)
	D5203	DZ2J068M0L	DIODE	1	(E.S.D)
	D5204	DA2J10100L	DIODE	1	(E.S.D)
	D5301	DA2J10100L	DIODE	1	(E.S.D)
	D5401	DA2J10100L	DIODE	1	(E.S.D)
	D5501	DA2J10100L	DIODE	1	(E.S.D)
	D5701	B0EBNR000051	DIODE	1	(E.S.D)
	D5702	B0EAKT000063	DIODE	1	(E.S.D)
	D5704	DZ2J200M0L	DIODE	1	(E.S.D)
	D5705	DZ2J200M0L	DIODE	1	(E.S.D)
	D5706	DA2J10100L	DIODE	1	(E.S.D)
	D5707	DA2J10100L	DIODE	1	(E.S.D)
	D5710	DA2J10100L	DIODE	1	(E.S.D)
	D5712	B0EAMM000057	DIODE	1	(E.S.D)
	D5713	DZ2J330M0L	DIODE	1	(E.S.D)
	D5760	DA2J10100L	DIODE	1	(E.S.D)
	D5802	B0ABSM000008	DIODE	1	(E.S.D)
	D5803	B0EAMM000057	DIODE	1	(E.S.D)
	D5803	DA2J10100L	DIODE	1	(E.S.D)
	D5804	B0EAMM000057	DIODE	1	(E.S.D)
	D5804	DA2J10100L	DIODE	1	(E.S.D)
	D5823	DZ2J043M0L	DIODE	1	(E.S.D)
	D6000	B3ABB0000413	DIODE	1	(E.S.D)
	D6001	B3ABB0000413	DIODE	1	(E.S.D)
	D6002	B3ABB0000413	DIODE	1	(E.S.D)
	D6003	B3ABB0000413	DIODE	1	(E.S.D)
	D6004	B3ABB0000413	DIODE	1	(E.S.D)
	D6005	B3ABB0000413	DIODE	1	(E.S.D)
	D6006	B3ADB0000133	DIODE	1	(E.S.D)
	D6007	B3AEB0000139	DIODE	1	(E.S.D)
	D6008	B3AAB0000334	DIODE	1	(E.S.D)
	D6009	B3ABB0000413	DIODE	1	(E.S.D)
	D6010	B3ABB0000413	DIODE	1	(E.S.D)
	D6011	B3ADB0000133	DIODE	1	(E.S.D)
⚠	DZ5701	ERZV10V511CS	ZNR	1	(E.S.D)
			VARISTORS		
	VA2000	EZJZ1V171AA	VARISTOR	1	
	VA2001	EZJZ1V171AA	VARISTOR	1	
			SWITCHES		
	S6101	K0H1BA000267	SW POWER ON/OFF	1	
	S6102	K0H1BA000267	SW VOLUME DOWN	1	
	S6103	K0H1BA000267	SW SELECTOR	1	
	S6104	K0H1BA000267	SW VOLUME UP	1	
	S6302	K0L1BA000078	SW TILT	1	
			CONNECTORS		
	CN2001	K1MN08AA0046	8P CONNECTOR	1	
	CN2002	K1KA05AA0051	5P CONNECTOR	1	
	CN2003	K1KA06AA0051	6P CONNECTOR	1	
	CN2004	K1KA10AA0194	10P CONNECTOR	1	
	CN2005	K1MN09AA0046	9P CONNECTOR	1	
	CN2006	K1MN08AA0046	8P CONNECTOR	1	
	CN2008	K1MN05AA0046	5P CONNECTOR	1	
	CN3001	K1MN09B00038	9P CONNECTOR	1	
	CN5100	K1KA04AA0193	4P CONNECTOR	1	
	CN5101	K1KA04AA0193	4P CONNECTOR	1	
	CN6001	K1MN08B00013	8P CONNECTOR	1	
	CN6103	K1KA06BA0014	6P CONNECTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	CN6201	K1MN05AA0046	5P CONNECTOR	1	
	CN6301	K1KA02BA0061	2P CONNECTOR	1	
	JK2000	K1FY104A0007	USB CONNECTOR	1	
			COILS AND INDUC-TORS		
	L2001	G1C150M00023	INDUCTOR	1	
	L2201	G1C150MA0291	INDUCTOR	1	
	L5301	G0A100H00018	CHOKO COIL	1	
	L5302	G0A100H00018	CHOKO COIL	1	
	L5401	G0A100H00018	CHOKO COIL	1	
	L5402	G0A100H00018	CHOKO COIL	1	
	L5501	G0A100H00018	CHOKO COIL	1	
	L5502	G0A100H00018	CHOKO COIL	1	
⚠	L5702	G0B922G00004	LINE FILTER	1	
⚠	L5703	G0B922G00004	LINE FILTER	1	
	LB2000	J0JHC0000078	INDUCTOR	1	
	LB2001	J0JHC0000078	INDUCTOR	1	
	LB2002	J0JHC0000034	INDUCTOR	1	
	LB2003	J0JHC0000034	INDUCTOR	1	
	LB2004	J0JHC0000034	INDUCTOR	1	
	LB2005	J0JHC0000034	INDUCTOR	1	
	LB2006	J0JHC0000034	INDUCTOR	1	
	LB2007	J0JHC0000078	INDUCTOR	1	
	LB2008	J0JHC0000078	INDUCTOR	1	
	LB2009	J0JHC0000078	INDUCTOR	1	
	LB2200	J0JHC0000078	INDUCTOR	1	
	LB3001	J0JBC0000015	INDUCTOR	1	
	LB3002	J0JBC0000015	INDUCTOR	1	
	LB3007	J0JHC0000078	INDUCTOR	1	
			TRANSFORMER		
⚠	T5701	G4DYA0000442	TRANSFORMER	1	
			OPTO DEVICES		
	Z6201	B3RAB0000109	REMOTE SENSOR	1	
	Z6202	B3RAD0000209	REMOTE SENSOR	1	
			PHOTO COUPLERS		
⚠	PC5720	B3PBA0000579	PHOTO COUPLER	1	
⚠	PC5760	B3PBA0000579	PHOTO COUPLER	1	
			TERMINALS		
	ZJ5701	K4CZ01000027	TERMINAL	1	
	ZJ5703	K4CZ01000027	TERMINAL	1	
			OSCILLATOR		
	X2000	H0J122500049	OSCILLATOR	1	
			CABLE HOLDER		
	JW1	K1YZ10000001	10P CABLE HOLDER	1	
			FUSE		
⚠	F2	K5G312Y00007	FUSE	1	
			THERMISTORS		
⚠	TH5702	D4CAA2R20001	THERMISTOR	1	
⚠	TH5821	D4CC11040005	THERMISTOR	1	
⚠	TH5822	D4CC11040005	THERMISTOR	1	
⚠	TH5860	D4CC11040013	THERMISTOR	1	
			JACKS		

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	JK3001	K2HC103B0188	JK IR BLASTER	1	
	JK3002	K2HA2YYA0006	JK AUX IN	1	
	JK3003	B3RAB0000056	JK OPT IN	1	
⚠	P5702	K2AB2B000007	AC INLET	1	
			CHIP JUMPERS		
	D5812	D0GDR00JA017	0 1/8W	1	
	K100	D0GBR00J0004	0 1/10W	1	
	K3001	D0GBR00J0004	0 1/10W	1	
	K5100	D0GBR00J0004	0 1/10W	1	
	K5722	D0GBR00JA008	0 1/10W	1	
	K5803	D0GBR00JA008	0 1/10W	1	
	K5804	D0GBR00JA008	0 1/10W	1	
	LB2010	D0GBR00J0004	0 1/10W	1	
	LB2011	D0GBR00J0004	0 1/10W	1	
	LB2012	D0GBR00J0004	0 1/10W	1	
	LB2013	D0GBR00J0004	0 1/10W	1	
	LB3006	D0GBR00J0004	0 1/10W	1	
	W1	D0GDR00JA017	0 1/8W	1	
	W4	D0GDR00JA017	0 1/8W	1	
	W12	D0GDR00JA017	0 1/8W	1	
			RESISTORS		
	R1501	D0GBR00J0004	0 1/10W	1	
	R1502	D0GB472JA065	4.7K 1/10W	1	
	R1503	D0GB472JA065	4.7K 1/10W	1	
	R1504	D0GB101JA065	100 1/10W	1	
	R2000	D0GB330JA065	33 1/10W	1	
	R2001	D0GB330JA065	33 1/10W	1	
	R2002	D0GBR00J0004	0 1/10W	1	
	R2007	D0GA330JA023	33 1/16W	1	
	R2008	D0GA123JA023	12K 1/16W	1	
	R2009	D0GA222JA023	2.2K 1/16W	1	
	R2010	D0GA123JA023	12K 1/16W	1	
	R2011	D0GA102JA023	1K 1/16W	1	
	R2014	D0GA330JA023	33 1/16W	1	
	R2017	D0GB473JA065	47K 1/10W	1	
	R2018	D0GB473JA065	47K 1/10W	1	
	R2019	D0GA473JA023	47K 1/16W	1	
	R2020	D0GB392JA065	3.9K 1/10W	1	
	R2021	D0GB392JA065	3.9K 1/10W	1	
	R2022	D0GA273JA023	27K 1/16W	1	
	R2023	D0GA103JA023	10K 1/16W	1	
	R2024	D0GA103JA023	10K 1/16W	1	
	R2025	D0GAR00J0005	0 1/16W	1	
	R2027	D0GAR00J0005	0 1/16W	1	
	R2028	D0GAR00J0005	0 1/16W	1	
	R2029	D0GA330JA023	33 1/16W	1	
	R2030	D0GA330JA023	33 1/16W	1	
	R2051	D0GA330JA023	33 1/16W	1	
	R2052	D0GA472JA023	4.7K 1/16W	1	
	R2053	D0GA472JA023	4.7K 1/16W	1	
	R2055	D0GB472JA065	4.7K 1/10W	1	
	R2056	D0GB472JA065	4.7K 1/10W	1	
	R2057	D0GB472JA065	4.7K 1/10W	1	
	R2063	D0GA473JA023	47K 1/16W	1	
	R2068	D0GA273JA023	27K 1/16W	1	
	R2070	D0GB103JA065	10K 1/10W	1	
	R2072	D0GB102JA065	1K 1/10W	1	
	R2098	D0GB330JA065	33 1/10W	1	
	R2099	D0GB330JA065	33 1/10W	1	
	R2200	D0GB103JA065	10K 1/10W	1	
	R2201	D1BB3002A074	30K 1/10W	1	
	R2202	D1BB1503A074	150K 1/10W	1	
	R2206	D1BB8872A074	88.7K 1/10W	1	
	R2207	D1BB4702A074	47K 1/10W	1	
	R2209	D1BA1502A022	15K 1/16W	1	
	R2210	D1BA4701A022	4.7K 1/16W	1	
	R2216	D1BB3301A074	3.3K 1/10W	1	
	R2217	D1BB1802A074	18K 1/10W	1	
	R2230	D0GB102JA065	1K 1/10W	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	R2302	D0GA103JA023	10K 1/16W	1	
	R2303	D0GA102JA023	1K 1/16W	1	
	R2501	D0GBR00J0004	0 1/10W	1	
	R2503	D0GBR00J0004	0 1/10W	1	
	R3001	D0GB101JA065	100 1/10W	1	
	R3002	D0GB101JA065	100 1/10W	1	
	R3003	D0GB101JA065	100 1/10W	1	
	R3004	D0GB102JA065	1K 1/10W	1	
	R3005	D0GB103JA065	10K 1/10W	1	
	R3006	D0GB103JA065	10K 1/10W	1	
	R3007	D0GB103JA065	10K 1/10W	1	
	R3008	D0GB103JA065	10K 1/10W	1	
	R3009	F1H1H103B047	0.01uF 50V	1	
	R3011	D0GBR00J0004	0 1/10W	1	
	R3012	D0GBR00J0004	0 1/10W	1	
	R3013	D0GBR00J0004	0 1/10W	1	
	R3014	D0GBR00J0004	0 1/10W	1	
	R3015	D0GBR00J0004	0 1/10W	1	
	R5201	D0GB472JA065	4.7K 1/10W	1	
	R5202	D0GB472JA065	4.7K 1/10W	1	
	R5203	D1BA1001A022	1K 1/16W	1	
	R5204	D1BA2202A022	22K 1/16W	1	
	R5205	D0GB682JA065	6.8K 1/10W	1	
	R5206	D0GB472JA065	4.7K 1/10W	1	
	R5207	D0GB220JA065	22 1/10W	1	
	R5208	D0GB100JA065	10 1/10W	1	
	R5209	D0GB104JA065	100K 1/10W	1	
	R5210	D0GB183JA065	18K 1/10W	1	
	R5301	D0GA472JA023	4.7K 1/16W	1	
	R5302	D0GA562JA023	5.6K 1/16W	1	
	R5303	D0GB220JA065	22 1/10W	1	
	R5305	D0GA472JA023	4.7K 1/16W	1	
	R5306	D0GA562JA023	5.6K 1/16W	1	
	R5307	D0GB4R7JA065	4.7 1/10W	1	
	R5309	D0GB100JA065	10 1/10W	1	
	R5310	D0GB4R7JA065	4.7 1/10W	1	
	R5311	D0GB100JA065	10 1/10W	1	
	R5313	D0GB104JA065	100K 1/10W	1	
	R5314	D0GB104JA065	100K 1/10W	1	
	R5326	D0GB562JA065	5.6K 1/10W	1	
	R5331	ERJ8RSFR10V	0.1 1/8W	1	
	R5332	ERJ8RSFR10V	0.1 1/8W	1	
	R5401	D0GA472JA023	4.7K 1/16W	1	
	R5402	D0GA562JA023	5.6K 1/16W	1	
	R5403	D0GB220JA065	22 1/10W	1	
	R5405	D0GA472JA023	4.7K 1/16W	1	
	R5406	D0GA562JA023	5.6K 1/16W	1	
	R5407	D0GB4R7JA065	4.7 1/10W	1	
	R5409	D0GB100JA065	10 1/10W	1	
	R5410	D0GB4R7JA065	4.7 1/10W	1	
	R5411	D0GB100JA065	10 1/10W	1	
	R5413	D0GB104JA065	100K 1/10W	1	
	R5414	D0GB104JA065	100K 1/10W	1	
	R5426	D0GB562JA065	5.6K 1/10W	1	
	R5431	ERJ8RSFR10V	0.1 1/8W	1	
	R5432	ERJ8RSFR10V	0.1 1/8W	1	
	R5501	D0GA472JA023	4.7K 1/16W	1	
	R5502	D0GA562JA023	5.6K 1/16W	1	
	R5503	D0GB220JA065	22 1/10W	1	
	R5505	D0GA472JA023	4.7K 1/16W	1	
	R5506	D0GA562JA023	5.6K 1/16W	1	
	R5508	D0GB100JA065	10 1/10W	1	
	R5509	D0GB100JA065	10 1/10W	1	
	R5511	D0GB4R7JA065	4.7 1/10W	1	
	R5512	D0GB4R7JA065	4.7 1/10W	1	
	R5513	D0GB104JA065	100K 1/10W	1	
	R5514	D0GB104JA065	100K 1/10W	1	
	R5526	D0GB562JA065	5.6K 1/10W	1	
	R5531	ERJ8RSFR10V	0.1 1/8W	1	
	R5532	ERJ8RSFR10V	0.1 1/8W	1	
	R5533	ERJ8RSFR10V	0.1 1/8W	1	
	R5534	ERJ8RSFR10V	0.1 1/8W	1	
⚠	R5700	ERJ8GEYJ155V	1.5M 1/4W	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
⚠	R5701	ERJ8GEYJ155V	1.5M 1/4W	1	
	R5702	ERJ1TYJ333U	33K 1W	1	
	R5703	ERJ1TYJ333U	33K 1W	1	
⚠	R5710	ERJ8GEYJ155V	1.5M 1/4W	1	
	R5720	ERJ6GEYJ3R3V	3.3 1/8W	1	
	R5721	D0GD222JA017	2.2K 1/8W	1	
	R5722	D0GB562JA008	5.6K 1/10W	1	
	R5727	ERX2SJ22P	0.22 2W	1	
	R5731	D0GBR00JA008	0 1/10W	1	
	R5732	D0GB471JA008	470 1/10W	1	
	R5733	D0GB273JA008	27K 1/10W	1	
	R5762	D0GB103JA008	10K 1/10W	1	
	R5763	D0GB103JA008	10K 1/10W	1	
	R5764	D0GB472JA008	4.7K 1/10W	1	
	R5766	D0GB333JA008	33K 1/10W	1	
	R5767	D0GB223JA008	22K 1/10W	1	
	R5768	D0GB273JA008	27K 1/10W	1	
	R5801	D0GB472JA065	4.7K 1/10W	1	
	R5801	D0GDR00JA017	0 1/8W	1	
	R5802	D0GB224JA065	220K 1/10W	1	
	R5802	ERJ3RBD562V	5.6K 1/16W	1	
	R5803	D0GB224JA065	220K 1/10W	1	
	R5804	D0GB473JA065	47K 1/10W	1	
	R5804	ERJ3RBD683V	68K 1/16W	1	
	R5805	D0GB563JA065	56K 1/10W	1	
	R5805	ERJ3RBD103V	10K 1/16W	1	
	R5806	D0GB103JA008	10K 1/10W	1	
	R5806	D0GB333JA065	33K 1/10W	1	
	R5807	D0GBR00JA008	0 1/10W	1	
	R5808	D0GB472JA008	4.7K 1/10W	1	
	R5809	D0GD152JA017	1.5K 1/8W	1	
	R5810	D0GB221JA007	220 1/10W	1	
	R5811	D0GB104JA065	100K 1/10W	1	
	R5814	D0GB102JA008	1K 1/10W	1	
	R5817	D0GB473JA065	47K 1/10W	1	
	R5817	ERJ3RBD122V	1.2K 1/16W	1	
	R5818	D0GB393JA065	39K 1/10W	1	
	R5819	D0GB151JA008	150 1/10W	1	
	R5823	D0GF121JA048	120 1/4W	1	
	R5823	D1BA1202A022	12K 1/16W	1	
	R5824	D0GF121JA048	120 1/4W	1	
	R5826	D1BA1202A022	12K 1/16W	1	
	R5833	D0GB101JA008	100 1/10W	1	
	R5855	ERJ3RBD103V	10K 1/16W	1	
	R5856	ERJ3RBD103V	10K 1/16W	1	
	R5857	D0GD103JA017	10K 1/8W	1	
	R5858	ERJ3RBD103V	10K 1/16W	1	
	R5859	D0GD103JA017	10K 1/8W	1	
	R5861	D0GB104JA008	100K 1/10W	1	
	R5865	D0GD223JA017	22K 1/8W	1	
	R5867	D0GB102JA008	1K 1/10W	1	
	R5868	D0GB103JA008	10K 1/10W	1	
	R5869	D0GB223JA008	22K 1/10W	1	
	R5871	D0GDR00JA017	0 1/8W	1	
	R6000	D0GB271JA065	270 1/10W	1	
	R6001	D0GB271JA065	270 1/10W	1	
	R6002	D0GB271JA065	270 1/10W	1	
	R6003	D0GB271JA065	270 1/10W	1	
	R6004	D0GB271JA065	270 1/10W	1	
	R6005	D0GB271JA065	270 1/10W	1	
	R6006	D0GB821JA065	820 1/10W	1	
	R6007	D0GB391JA065	390 1/10W	1	
	R6008	D0GB102JA065	1K 1/10W	1	
	R6009	D0GB271JA065	270 1/10W	1	
	R6010	D0GB101JA065	100 1/10W	1	
	R6011	D0GB101JA065	100 1/10W	1	
	R6012	D0GB101JA065	100 1/10W	1	
	R6014	D0GB101JA065	100 1/10W	1	
	R6015	D0GB473JA065	47K 1/10W	1	
	R6016	D0GBR00J0004	0 1/10W	1	
	R6021	D0GB821JA065	820 1/10W	1	
	R6022	D0GB102JA065	1K 1/10W	1	
	R6023	D0GB562JA065	5.6K 1/10W	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	R6024	D0GB103JA065	10K 1/10W	1	
	R6025	D0GB271JA065	270 1/10W	1	
	R6026	D0GB331JA065	330 1/10W	1	
	R6101	D0GB473JA065	47K 1/10W	1	
	R6102	D0GB473JA065	47K 1/10W	1	
	R6103	D0GB681JA065	680 1/10W	1	
	R6104	D0GBR00J0004	0 1/10W	1	
	R6105	D0GBR00J0004	0 1/10W	1	
	R6106	D0GB822JA065	8.2K 1/10W	1	
	R6107	D0GB822JA065	8.2K 1/10W	1	
	R6109	D0GBR00J0004	0 1/10W	1	
	R6110	D0GB682JA065	6.8K 1/10W	1	
	R6207	D0GB470JA065	47 1/10W	1	
	R6208	D0GB470JA065	47 1/10W	1	
			RESISTOR NETWORKS		
	RX2000	D1H83304A042	RESISTOR NETWORK	1	
	RX2001	D1H83304A042	RESISTOR NETWORK	1	
	RX2002	D1H83304A042	RESISTOR NETWORK	1	
	RX2003	D1H83304A042	RESISTOR NETWORK	1	
	RX2008	D1H83304A042	RESISTOR NETWORK	1	
	RX2009	D1H83304A042	RESISTOR NETWORK	1	
			CAPACITORS		
	C1501	F1H1H104B047	0.1uF 50V	1	
	C2000	F1H0J4750004	4.7uF 6.3V	1	
	C2001	F1G0J1050007	1uF 6.3V	1	
	C2002	F1H0J1060006	10uF 6.3V	1	
	C2003	F1G1C1030008	0.01uF 16V	1	
	C2004	F1G0J1050007	1uF 6.3V	1	
	C2005	F1J1A106A043	10uF 10V	1	
	C2006	F1H1A105A113	1uF 10V	1	
	C2007	F1J1A106A043	10uF 10V	1	
	C2008	F1H1A105A113	1uF 10V	1	
	C2009	F1J1A106A043	10uF 10V	1	
	C2010	F1H0J105A051	1uF 6.3V	1	
	C2011	F1H0J105A051	1uF 6.3V	1	
	C2012	F1H1A105A113	1uF 10V	1	
	C2013	F1J1A106A043	10uF 10V	1	
	C2014	F1G0J1050007	1uF 6.3V	1	
	C2015	F1J1A106A043	10uF 10V	1	
	C2016	F1G0J1050007	1uF 6.3V	1	
	C2017	F1J1A106A043	10uF 10V	1	
	C2018	F1H1A105A113	1uF 10V	1	
	C2019	F1J1A106A043	10uF 10V	1	
	C2020	F1G1C1030008	0.01uF 16V	1	
	C2021	F1G1H220A834	22pF 50V	1	
	C2022	F1G1H220A834	22pF 50V	1	
	C2023	F1J1A106A043	10uF 10V	1	
	C2024	F1G0J1050007	1uF 6.3V	1	
	C2025	F1G0J1050007	1uF 6.3V	1	
	C2026	F1J1A106A043	10uF 10V	1	
	C2027	F1G1A1050004	1uF 10V	1	
	C2028	F1J1A106A043	10uF 10V	1	
	C2029	F1G0J1050007	1uF 6.3V	1	
	C2030	F1L1A476A060	47uF 10V	1	
	C2031	F1G0J1050007	1uF 6.3V	1	
	C2032	F1G0J1050007	1uF 6.3V	1	
	C2033	F1G1C1030008	0.01uF 16V	1	
	C2034	F1G1C1030008	0.01uF 16V	1	
	C2035	F1G1C1030008	0.01uF 16V	1	
	C2036	F1G0J1050007	1uF 6.3V	1	
	C2037	F1H0J1060006	10uF 6.3V	1	
	C2038	F1H1H103B047	0.01uF 50V	1	
	C2039	F1H1H103B047	0.01uF 50V	1	
	C2040	F1G0J1050007	1uF 6.3V	1	
	C2041	F1G1A1040006	0.1uF 10V	1	
	C2042	F1H1C104A041	0.1uF 16V	1	
	C2043	F1G1A1040006	0.1uF 10V	1	
	C2044	F1G1A1040006	0.1uF 10V	1	
	C2045	F1G1A1040006	0.1uF 10V	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	C2046	F1G1A1040006	0.1uF 10V	1	
	C2047	F1H1H104A913	0.1uF 50V	1	
	C2048	D0GBR00J0004	0 1/10W	1	
	C2201	F1H1H104B047	0.1uF 50V	1	
	C2202	EEE1HA100SP	10uF 50V	1	
	C2203	F1H1H103A219	0.01uF 50V	1	
	C2204	F1H1H682B047	6800pF 50V	1	
	C2205	F1G1A1040006	0.1uF 10V	1	
	C2206	F1L1A476A060	47uF 10V	1	
	C2213	F1H1A105A113	1uF 10V	1	
	C2215	F1L1A476A060	47uF 10V	1	
	C2217	F1H1A225A051	2.2uF 10V	1	
	C2218	F1H1A225A051	2.2uF 10V	1	
	C2219	F1H1A225A051	2.2uF 10V	1	
	C2220	F1H1A225A051	2.2uF 10V	1	
	C2222	F1H1C104A041	0.1uF 16V	1	
	C2224	F1G1C1030008	0.01uF 16V	1	
	C2302	F1H0J1060006	10uF 6.3V	1	
	C3001	F1H1H103B047	0.01uF 50V	1	
	C3004	F1H1H104B047	0.1uF 50V	1	
	C3005	F1H1H221B052	220pF 50V	1	
	C3006	F1H1H221B052	220pF 50V	1	
	C3007	F1H1H221B052	220pF 50V	1	
	C3008	F1H1H221B052	220pF 50V	1	
	C3012	F1J1A106A043	10uF 10V	1	
	C3013	F1J1A106A043	10uF 10V	1	
	C3017	D0GBR00J0004	0 1/10W	1	
	C3018	D0GBR00J0004	0 1/10W	1	
	C3019	F1J1A106A043	10uF 10V	1	
	C3021	F1J1A106A043	10uF 10V	1	
	C5201	F1H1E105A153	1uF 25V	1	
	C5203	F1H1H103B047	0.01uF 50V	1	
	C5204	F1H1H103B047	0.01uF 50V	1	
	C5205	F1H1H103B047	0.01uF 50V	1	
	C5206	F1H1E105A153	1uF 25V	1	
	C5207	F1H1H104A913	0.1uF 50V	1	
	C5208	F2A1H1R0A213	1.0uF 50V	1	
	C5209	F1H1H103B047	0.01uF 50V	1	
	C5301	F1G1E1040001	0.1uF 25V	1	
	C5302	F1H1H104A913	0.1uF 50V	1	
	C5303	F1H1H104A913	0.1uF 50V	1	
	C5304	F1G1E1040001	0.1uF 25V	1	
	C5305	F1G1E1040001	0.1uF 25V	1	
	C5306	F1J1E225A157	2.2uF 25V	1	
	C5308	F1H1H103B047	0.01uF 50V	1	
	C5309	F1H1H104B047	0.1uF 50V	1	
	C5311	F1H1H221B052	220pF 50V	1	
	C5312	F1H1H103A238	0.01uF 50V	1	
	C5313	F1H1H101A230	100pF 50V	1	
	C5314	F1H1H104B047	0.1uF 50V	1	
	C5315	F1H1H221B052	220pF 50V	1	
	C5316	F2A1E471B424	470uF 25V	1	
	C5323	F1H1H102B047	1000pF 50V	1	
	C5324	F1H1H102B047	1000pF 50V	1	
	C5327	ECQV1H105JL3	1uF 50V	1	
	C5401	F1G1E1040001	0.1uF 25V	1	
	C5402	F1H1H104A913	0.1uF 50V	1	
	C5403	F1H1H104A913	0.1uF 50V	1	
	C5404	F1G1E1040001	0.1uF 25V	1	
	C5405	F1G1E1040001	0.1uF 25V	1	
	C5406	F1J1E225A157	2.2uF 25V	1	
	C5408	F1H1H103B047	0.01uF 50V	1	
	C5409	F1H1H104B047	0.1uF 50V	1	
	C5411	F1H1H221B052	220pF 50V	1	
	C5412	F1H1H103B047	0.01uF 50V	1	
	C5413	F1H1H101A230	100pF 50V	1	
	C5414	F1H1H104B047	0.1uF 50V	1	
	C5415	F1H1H221B052	220pF 50V	1	
	C5416	F2A1E471B424	470uF 25V	1	
	C5423	F1H1H102B047	1000pF 50V	1	
	C5424	F1H1H102B047	1000pF 50V	1	
	C5427	ECQV1H105JL3	1uF 50V	1	
	C5501	F1G1E1040001	0.1uF 25V	1	

Safety	Ref. No.	Part No.	Part Name & Description	QTY	Remarks
	C5502	F1H1H104A913	0.1uF 50V	1	
	C5503	F1H1H104A913	0.1uF 50V	1	
	C5504	F1G1E1040001	0.1uF 25V	1	
	C5505	F1G1E1040001	0.1uF 25V	1	
	C5506	F1J1E225A157	2.2uF 25V	1	
	C5507	F1H1H103B047	0.01uF 50V	1	
	C5508	F1H1H221B052	220pF 50V	1	
	C5509	F1H1H104B047	0.1uF 50V	1	
	C5512	F1H1H103A238	0.01uF 50V	1	
	C5513	F1H1H221B052	220pF 50V	1	
	C5514	F1H1H104B047	0.1uF 50V	1	
	C5515	F1H1H101A230	100pF 50V	1	
	C5516	F2A1E471B424	470uF 25V	1	
	C5523	F1H1H102B047	1000pF 50V	1	
	C5524	F1H1H102B047	1000pF 50V	1	
	C5525	F1H1H104A913	0.1uF 50V	1	
	C5526	F1H1H104A913	0.1uF 50V	1	
	C5527	ECQV1H105JL3	1uF 50V	1	
⚠	C5701	F0CAF104A105	0.1uF	1	
⚠	C5702	F0CAF104A105	0.1uF	1	
⚠	C5703	F0CAF104A105	0.1uF	1	
⚠	C5704	F1BAF471A013	470pF	1	
⚠	C5705	F1BAF471A013	470pF	1	
⚠	C5706	F1BAF1020020	1000pF	1	
	C5712	F2B2D1010003	100uF 200V	1	
	C5713	F0C2J1030005	0.01uF 630V	1	
	C5720	F1H1H101A230	100pF 50V	1	
	C5722	F1H1H102A219	1000pF 50V	1	
	C5724	F1H1H221A792	220pF 50V	1	
	C5726	F2A1H100A214	10uF 50V	1	
	C5727	F2A1H1010115	100uF 50V	1	
	C5730	F1J1E4750002	4.7uF 25V	1	
	C5747	F1B3D561A011	560pF 2000V	1	
	C5760	F1H1H104A913	0.1uF 50V	1	
	C5761	F1H1H104A913	0.1uF 50V	1	
	C5762	F1H1H104A913	0.1uF 50V	1	
	C5800	F1J2E1030004	0.01uF 250V	1	
	C5801	F1H1H104A913	0.1uF 50V	1	
	C5802	F1J1C106A059	10uF 16V	1	
	C5803	F1H1H104A913	0.1uF 50V	1	
	C5804	F1H1E105A153	1uF 25V	1	
	C5805	F1H1H102B047	1000pF 50V	1	
	C5805	F2A1E331B423	330uF 25V	1	
	C5808	F2A1E331B423	330uF 25V	1	
	C5814	F2A1A3320054	3300uF 10V	1	
	C5815	F1J1H2240017	0.22uF 50V	1	
	C5817	F1H1H682A219	6800pF 50V	1	
	C5818	F1H1H104A913	0.1uF 50V	1	
	C5819	F1H1H560A230	56pF 50V	1	
	C5820	F1H1H560A230	56pF 50V	1	
	C5828	F2A1A4710079	470uF 10V	1	
	C5862	F1H1H104A913	0.1uF 50V	1	
	C5863	F1H0J106A009	10uF 6.3V	1	
	C5869	F1H1H103A238	0.01uF 50V	1	
	C5870	F1H0J105A051	1uF 6.3V	1	
	C6001	F1H1H104A913	0.1uF 50V	1	
	C6002	F1J1A4750011	4.7uF 10V	1	
	C6207	F1J1A4750002	4.7uF 10V	1	
	C6208	F1J1A4750002	4.7uF 10V	1	
			SERVICE FIXTURE & TOOLS		
	SFT1	REX1574	10P CABLE WIRE (SMPS-MAIN)	1	

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