PSG1102024CE

Service Manual

CD Stereo System

Model No. SA-AKX12PH
SA-AKX12PN

Product Color: (K)...Black Type

Please refer to the original service manual for:
- **CD Mechanism Unit (BRS1C), Order No. PSG1102001CE**
- **Speaker system SB-AKX12PN-K, Order No. PSG1102026CE**

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

1.1.1. Leakage Current Cold Check

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

1.1.2. Leakage Current Hot Check

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

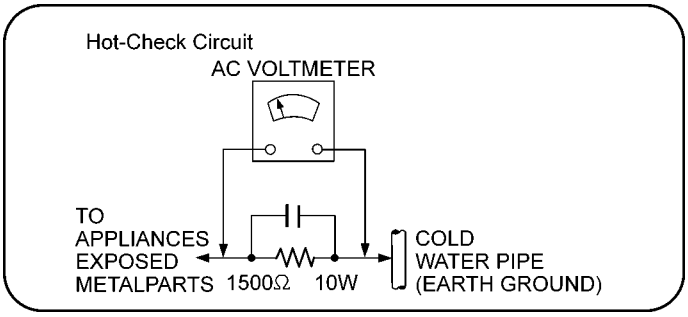


Figure 1

1.2. Before Use (For PH only)

Be sure to disconnect the mains cord before adjusting the voltage selector.
Use a minus(-) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used. (If the power supply in your area is 110V ~ 127V or 220V ~ 240V, set to the “110V ~ 127V or 220V ~ 240V” position.)
Note that this unit will be seriously damaged if this setting is not made correctly. (There is no voltage selector for some countries, the correct voltage is already set.)

1.3. Caution For Fuse Replacement

CAUTION:

Replace with the same type fuse:
(Manufacturer: LITTELFUSE, INC, Type: 233, F1, 8A, 125V) (For PN only)

CAUTION:

Replace with the same type fuse:
(Manufacturer: HOLLYLAND, INC, Type: 50T, F1, 6.3AL, 250V) (For PH only)

1.4. Before Repair and Adjustment

Disconnect AC power to discharge unit AC Capacitors as such (C5700,C5701, C5703, C5704, C5705, C5708) through a 10 Ω, 10 W 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 110~127 V, 60 Hz in Power ON, FM Tuner, No Signal, volume minimal mode should be ~ 400 mA.

Current consumption at AC 220~240 V, 50 Hz in Power ON, FM Tuner, No Signal, volume minimal mode should be ~ 300 mA.

1.5. Protection Circuitry

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

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are “shorted”, or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

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

Note:

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

1.6. Safety Parts Information

Safety Parts List:

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

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

Safety	Ref No.	Part No.	Part Name & Description	Remarks
⚠	4	REXX1122	1P BLACK WIRE (VOLTAGE SELECTOR-SMPS)	PH
⚠	5	REXX1123	1P RED WIRE (VOLTAGE SELECTOR-SMPS)	PH
⚠	8	RGRX1008A-A	REAR PANEL	PN
⚠	8	RGRX1008B-A	REAR PANEL	PH
⚠	14	RKMX1011-K	TOP CABINET	
⚠	301	RAEX1033Z-V	TRAVERSE ASS'Y	
⚠	A2	K2CB2CB00021	AC CORD	PN
⚠	A2	K2CQ2CA00007	AC CORD	PH
⚠	A3	RQTX1286-M	O/I BOOK (Sp/En)	PN
⚠	A3	RQTX1288-M	O/I BOOK (Sp)	PH
⚠	PCB8	REPX0886A	SMPS P.C.B.	(RTL) PN
⚠	PCB8	REPX0886C	SMPS P.C.B.	(RTL) PH
⚠	PCB9	REPX0886C	VOLTAGE SELECTOR P.C.B.	(RTL) PH
⚠	DZ5701	ERZVA5Z471	DIODE	
⚠	S5701	K0ABCA000007	SW VOLT ADJ	PH
⚠	L5701	G0B612H00002	LINE FILTER	
⚠	T5701	ETS39AG4M6AD	MAIN TRANSFORMER	PH
⚠	T5701	ETS39AG4NGAD	MAIN TRANSFORMER	PN
⚠	T5751	ETS19AB2E6AG	SUB TRANSFORMER	
⚠	PC5701	B3PBA0000503	PHOTO COUPLER	
⚠	PC5702	B3PBA0000503	PHOTO COUPLER	
⚠	PC5720	B3PBA0000503	PHOTO COUPLER	
⚠	PC5799	B3PBA0000503	PHOTO COUPLER	
⚠	F1	K5D632BK0007	FUSE	PH
⚠	F1	K5D802APA008	FUSE	PN
⚠	TH5702	D4CAA2R20001	THERMISTOR	
⚠	TH5860	D4CC11040013	THERMISTOR	
⚠	TH5900	D4CC11040013	THERMISTOR	
⚠	P5701	K2AA2B000011	AC INLET	PH
⚠	P5701	K2AB2B000007	AC INLET	PN
⚠	R5708	ERJ8GEYJ155V	1.5M 1/4W	
⚠	R5709	ERJ8GEYJ155V	1.5M 1/4W	
⚠	C5700	F1BAF471A013	470pF	
⚠	C5701	F0CAF104A105	0.1uF	
⚠	C5703	F0CAF224A105	0.22uF	
⚠	C5704	F1BAF471A013	470pF	
⚠	C5705	F1BAF471A013	470pF	
⚠	C5708	F1BAF1020020	1000pF	

2 Warning

2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatic Sensitive (ES) Devices

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

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

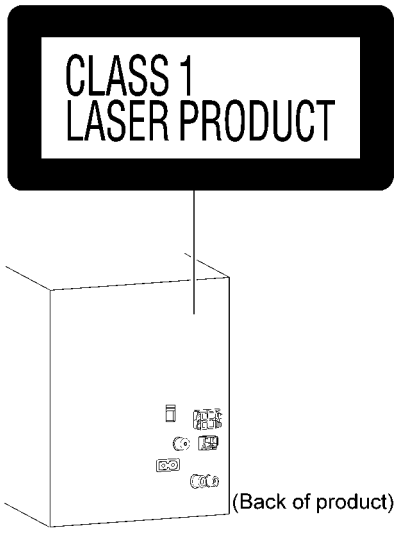
2.2. Precaution of Laser Diode

CAUTION:
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

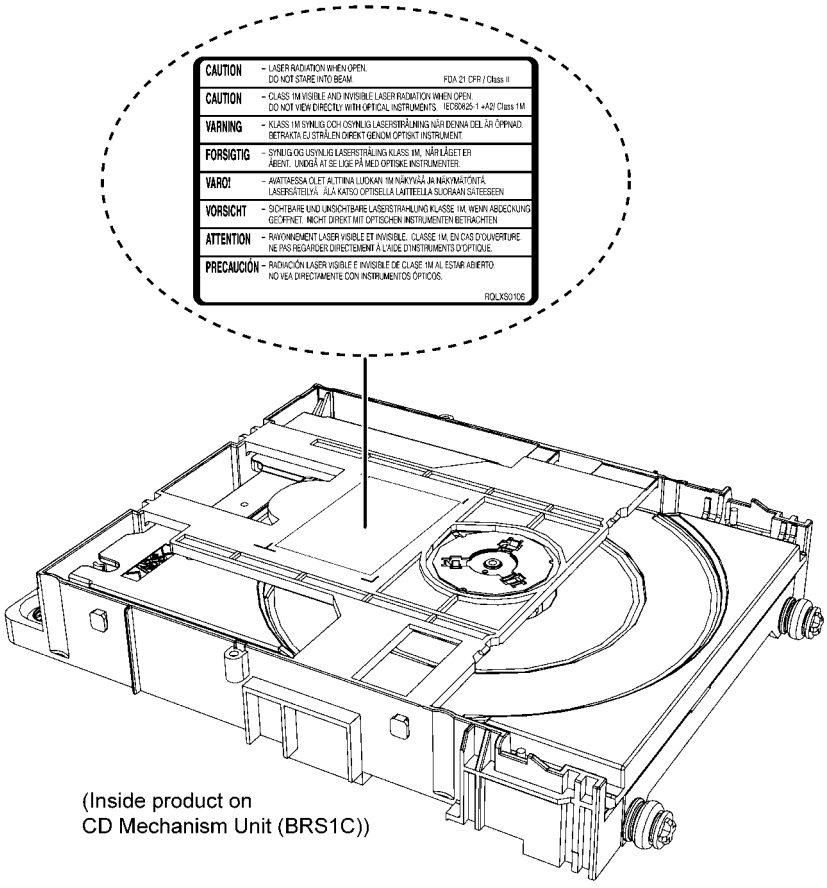
Caution:

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

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



(Back of product)



(Inside product on
CD Mechanism Unit (BRS1C))

2.3. Service caution based on Legal restrictions

2.3.1. General description about Lead Free Solder (PbF)

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

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

Definition of PCB Lead Free Solder being used

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

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

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

Recommended Lead Free Solder (Service Parts Route.)

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

Note

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

2.4. Handling Precautions for Traverse Unit

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

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

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

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

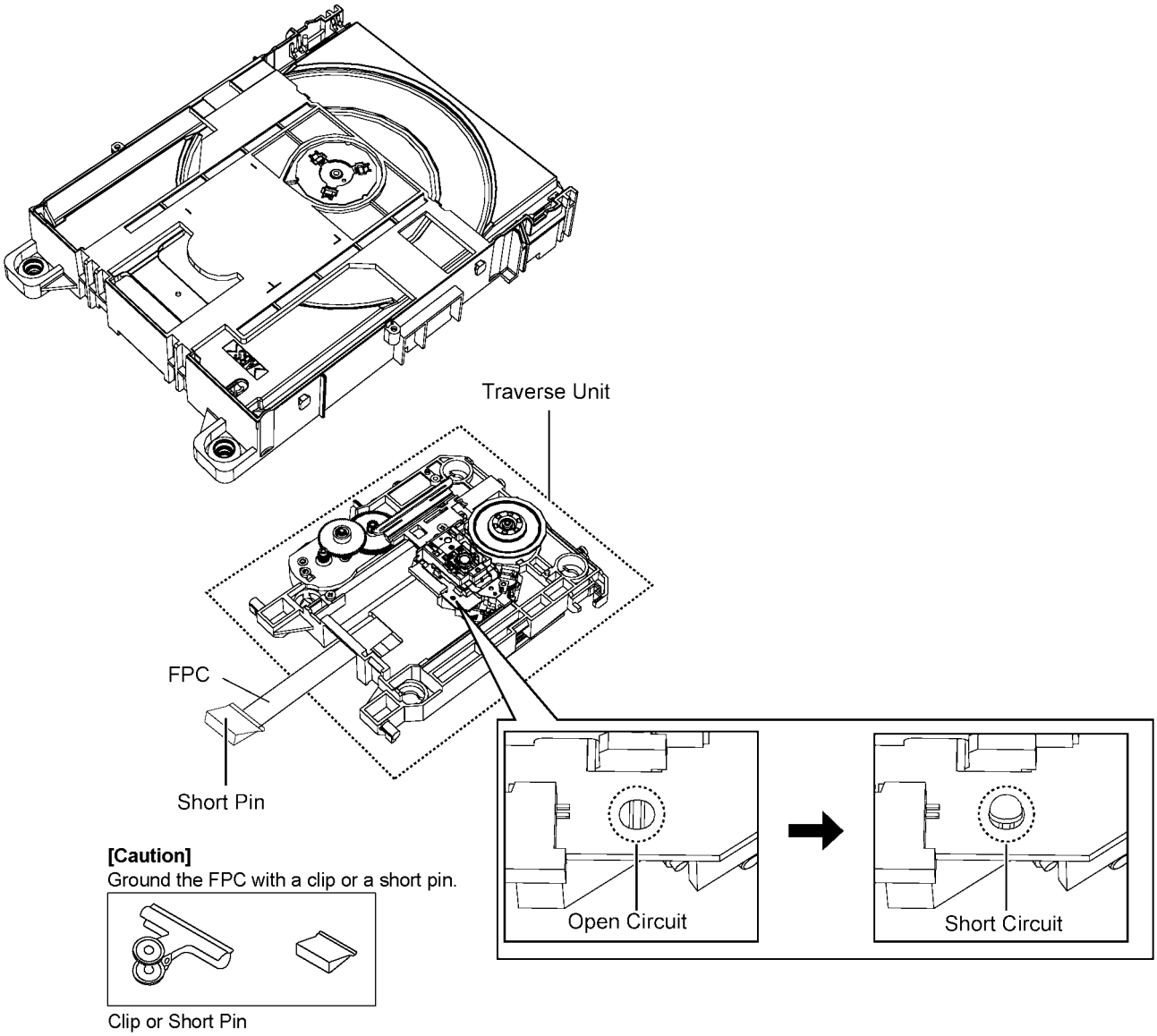


Figure A

2.4.2. Grounding for electrostatic breakdown prevention

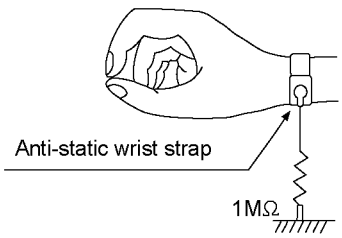
Some devices such as the DVD player use the optical pickup (laser diode) and the optical pickup will be damaged by static electricity in the working environment. Proceed servicing works under the working environment where grounding works is completed.

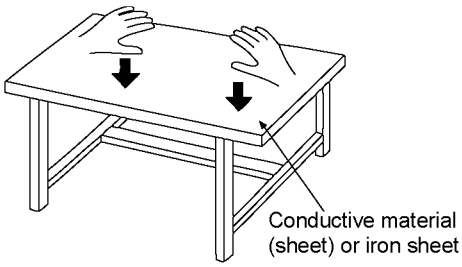
2.4.2.1. Worktable grounding

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

2.4.2.2. Human body grounding

1. Use the anti-static wrist strap to discharge the static electricity form your body.





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.

- **CD Mechanism Unit (BRS1C):**

1) This model uses CD Mechanism Unit (BRS1C).

- **Micro-processor:**

1) The following components are supplied as an assembled part.
   - Micro-processor IC, IC2003 (RFKWMAKX12M0)

- **Speaker System:**

1) This model uses Speaker System, SB-AKX12PN-K.

4 Specifications

■ **AMPLIFIER SECTION**

RMS output power stereo mode

Front (both channels driven)

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

Total RMS stereo mode power	250 W
PMPO output power (For PN only)	2800 W

■ **FM/AM TUNER, TERMINALS SECTION**

Preset station	FM 30 stations
	AM 15 stations

Frequency Modulation (FM)

Frequency range	
For PH only	87.50 to 108.00 MHz (50 kHz step)
For PN only	87.9 to 107.9 MHz (200 kHz step)
	87.5 to 108.0 MHz (100 kHz step)

Antenna terminal (s)

75 Ω (unbalanced)

Amplitude Modulation (AM)

Frequency range	
For PH only	522 to 1629 kHz (9 kHz step)
	520 to 1630 kHz (10 kHz step)
For PN only	520 to 1710 kHz (10 kHz step)

AUX Input

RCA pin jack

■ **DISC SECTION**

Discs played (8 cm or 12 cm)

(1) CD-Audio (CD-DA)
(2) CD-R/RW (CD-DA, MP3* formatted disc)
(3) MP3*
*MPEG-1 layer 3

Pick up

Wavelength	790 nm(CD)
Laser Power	CLASS 1 (CD)

Audio output (Disc)

Number of channels	2 (FL, FR)

FL = Front left channel
FR = Front right channel

■ **USB SECTION**

USB Port

USB standard	USB 2.0 full speed
Media file format support	MP3 (*.mp3)
USB device file system	FAT12, FAT16, FAT32
USB Port power	500 mA (max)
Bit Rate	16 kbps to 320 kbps (playback)

■ **GENERAL**

Power supply	
For PH only	AC 110 to 127 V, 220 to 240 V, 50/60 HZ
For PN only	AC 120 V, 60 Hz
Power Consumption	
For PH only	64 W
For PN only	61 W
Dimensions (W x H x D)	220 mm x 334 mm x 245 mm
Mass	3.0 kg
Operating temperature range	0 °C to +40 °C
Operating humidity range	35% to 80% RH (no condensation)
Power Consumption in standby mode	
For PH only	0.3 W (Approximate)
For PN only	0.2 W (Approximate)

Notes

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

■ System: SC-AKX12PH-K

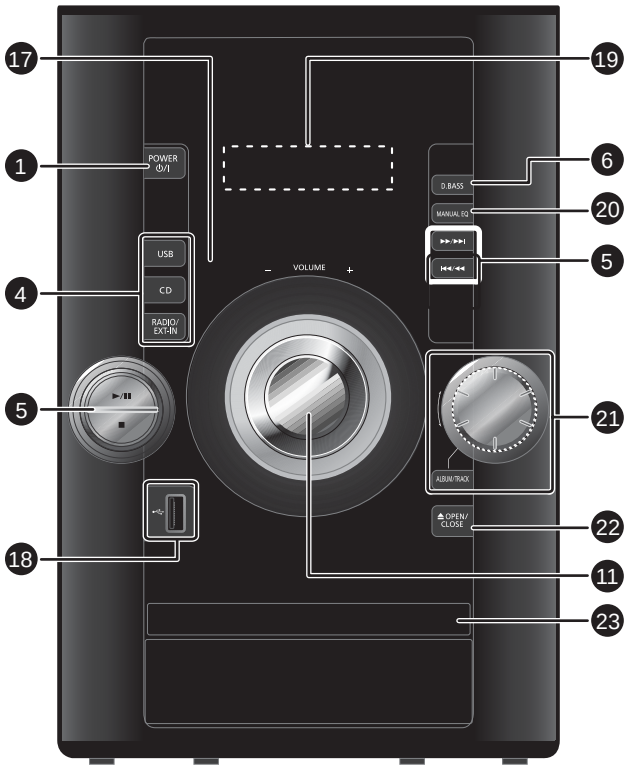
Main Unit: SA-AKX12PH-K
Front Speakers: SB-AKX12PN-K

■ System: SC-AKX12PN-K

Main Unit: SA-AKX12PN-K
Front Speakers: SB-AKX12PN-K

5 Location of Controls and Components

5.1. Main Unit Key Button Operation



Refer to the numbers in parentheses for chapter references.

1 **Standby/on switch (⏻ /I, POWER)**
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.

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

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

6 Select the sound effects

11 Adjust the volume of the system

17 Remote control sensor

18 USB port (⇤)

19 Display panel

20 Set the Manual EQ effect

22 Open or close the disc tray

23 Disc tray

5.2. Remote Control Key Button Operation

Refer to the numbers in parentheses for chapter references.

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

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

❸ Delete a programmed track

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

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

❻ Select the sound effects

❼ Auto preset the radio station

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

❾ Set the sleep timer
Set the clock and timer

❿ Set the program function

⓫ Adjust the volume of the system

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

⓭ Set the play menu item

⓮ Set the radio menu item

⓯ [▲, ▼]: Skip album
Adjust clock setting
[◀, ▶]: Select the item in the menu
[OK]: Confirm the setting

⓰ **Automatically switch off the system**
When you are in disc or USB source, the auto off function switches off the system if you do not use the system for 30 minutes.
To cancel, press the button again.

5.3. Media Information

NOTE on MP3

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

Limitations on MP3 play

- If you have recorded MP3 on the same disc as CD-DA, only the format recorded in the first session can be played.
- Some MP3s may not be played due to the condition of the disc or recording.
- Recordings will not necessarily be played in the order you recorded them.

NOTE on CDs

- This unit can access up to 99 tracks.
- This unit can play MP3 files and CD-DA format audio CD-R/RW that have been finalized.
- It may not be able to play some CD-R/RW due to the condition of the recording.
- Do not use irregularly shaped disc.
- Do not use disc with labels and stickers that are coming off or with adhesive exuding from under labels and stickers.
- Do not attach extra labels or stickers on the disc.
- Do not write anything on the disc.

NOTE on USB

Compatible devices

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

Supported format

- Folders are defined as album.
- Files are defined as track.
- Track must have the extension ".mp3" or ".MP3".
- CBI (Control/Bulk/Interrupt) is not supported.
- NTFS file system is not supported. (only FAT 12/16/32 file system is supported).
- Some files can fail to work because of the sector size.

Note:

- Maximum album: 255 albums (include albums without MP3 tracks).
- Maximum track: 2500 tracks
- Maximum track in one album: 999 tracks

6 Self-Diagnostic and Special Mode Setting

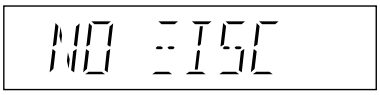
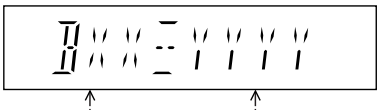
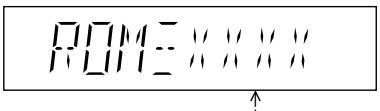
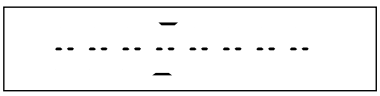
6.1. Cold-Start

Here is the procedure to carry out cold-start or initialize to shipping mode.

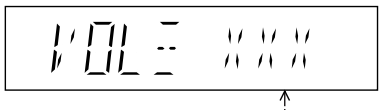
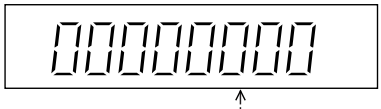
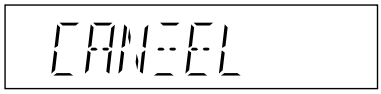
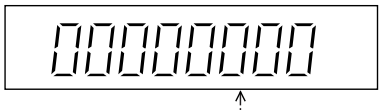
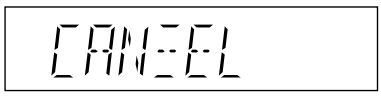
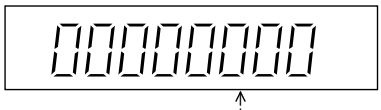
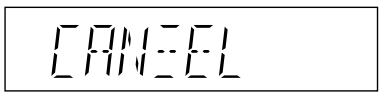
1. Unplug AC power cord
2. Press & hold [POWER] button
3. Plug AC power cord while [POWER] button being pressed
   FL Display will show “_ _ _ _ _ _ _ _”
4. Release [POWER] button

6.2. Doctor Mode Table

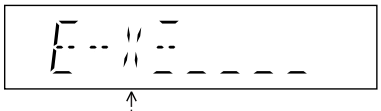
6.2.1. Doctor Mode Table 1

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Doctor Mode	To enter into Doctor Mode		In CD Mode: 1. Press [■] button on main unit follow by [4] and [7] on remote control. 2. To exit, press [POWER, ⏻/I] button on main unit or remote control.
EEPROM checksum check	For checking of various items and displaying EEPROM and Firmware version.	(Display 1)  (Display 2)  ROM No. (0001 ~ 9999) → specific for each ROM	In CD mode: 1. Enter Doctor Mode
Cold Start	To active cold start upon next AC power up when reset start is execute the next time.		In Doctor Mode: 1. Press [SLEEP] button on remote control.

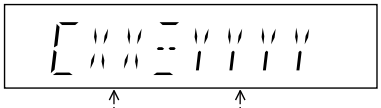
6.2.2. Doctor Mode Table 2

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Volume Setting Check	To check the volume setting of a main unit.	 Press [7]: VOL50 Press [8]: VOL35 Press [9]: VOL0 Volume	In Doctor Mode: 1. Press [7], [8], [9] button on remote control.
FL Display Check	To check the FL segment display All segment will light up while all LED blink at 0.5s,intervals.(if any)		In Doctor mode: 1. Press [1] button on remote control. 2. To cancel, press [0] on remote control.
BRS1C Reliability Test (Traverse)	To determine CD Mechanism BRS1C Access Inner & Outer disc operation. In this mode,ensure the CD is in the main unit. Note: Refer to Section 6.3 Fig 2. for process flow.	 The counter will increment by one. When reach 9999 will change to 0000 Cancellation Display 	In Doctor Mode: 1. Press [10]→ [1]→[2] button on remote control. 2. To cancel, press [0] on remote control.
BRS1C Reliability Test (Combination)	To determine CD Mechanism Unit (BRS1C) Open/Close & Access Inner & Outer Disc Operation. In this mode,ensure the CD is in the main unit. Note: Refer to Section 6.3 Fig 3. for process flow.	 The counter will increment by one. When reach 9999 will change to 0000 Cancellation Display 	In Doctor Mode: 1. Press [10]→[1]→[5] button on remote control. 2. To cancel, press [0] on remote control.
BRS1C Reliability Test (Loading)	To determine CD Mechanism Unit (BRS1C) Open/Close operation. In this mode, the tray will open & close. Note: Refer to Section 6.3 Fig 1 for process flow.	 The counter will increment by one. When reach 9999 will change to 0000 Cancellation Display 	In Doctor Mode: 1. Press [10]→[2]→[1] button on remote control. 2. To cancel, press [0] on remote control.

6.2.3. Doctor Mode Table 3

<table>
<tr><th colspan="2">Item</th><th rowspan="2">FL Display</th><th>Key Operation</th></tr>
<tr><th>Mode Name</th><th>Description</th><th>Front Key</th></tr>
<tr><td>CD
Self- Adjustment
(AJST)
Result Display</td><td>i. Function: To display result of self-adjustment for CD.
• This is used for servicing and analysis.</td><td> 
Display of auto adjustment result

Reference table:
<table><tr><th>ERROR Code / Status Condition</th><th>0</th><th>1</th><th>2</th><th>4</th><th>6</th><th>8</th><th>A</th><th>C</th><th>E</th><th>F</th></tr><tr><td>AOC1/AOC2</td><td>O</td><td>※</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>-</td></tr><tr><td>ABC2/ABC1</td><td>O</td><td>-</td><td>X</td><td>O</td><td>X</td><td>O</td><td>X</td><td>O</td><td>X</td><td>-</td></tr><tr><td>2nd AOC1</td><td>O</td><td>-</td><td>O</td><td>X</td><td>X</td><td>O</td><td>O</td><td>X</td><td>X</td><td>-</td></tr><tr><td>FAGC/TAGC</td><td>O</td><td>-</td><td>O</td><td>O</td><td>O</td><td>X</td><td>X</td><td>X</td><td>X</td><td>-</td></tr><tr><td>AGC2</td><td>O</td><td>-</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>△</td></tr></table>O: OK;
X: NG (In case that time out happens.)
※: Either one of FO AOC, TR AOC and FO coarse AGC is NG.
△: If the AGC is NG (ignore others).</td><td>In Doctor Mode:
1. Press [10]→ [1]→[4] button on remote control.

2.To cancel, press [0] on remote control.</td></tr>
<tr><td>CD LSI
Version Check</td><td>For checking CD LSI Version and checksum information.</td><td> 
Version (Decimal) Checksum (Hex)</td><td>In Doctor Mode:
1. Press [4] button on remote control.

2.To cancel, press [0] on remote control.</td></tr>
</table>

6.3. Reliability Test Mode (CD Mechanism Unit (BRS1C))

Below is the process flow chart of the aging test for the CD Mechanism Unit (BRS1C).

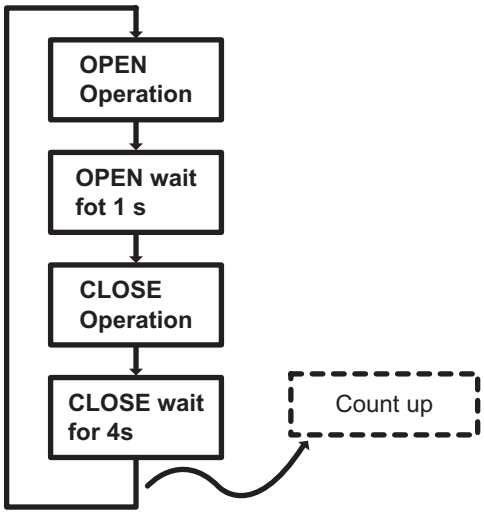


Fig. 1. Reliability Test (Loading)

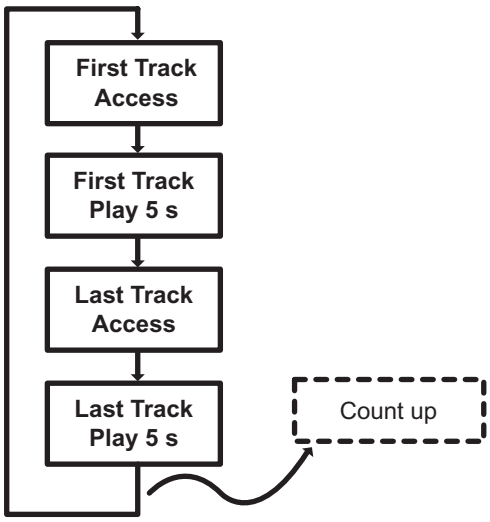


Fig. 2. Reliability Test (Traverse)

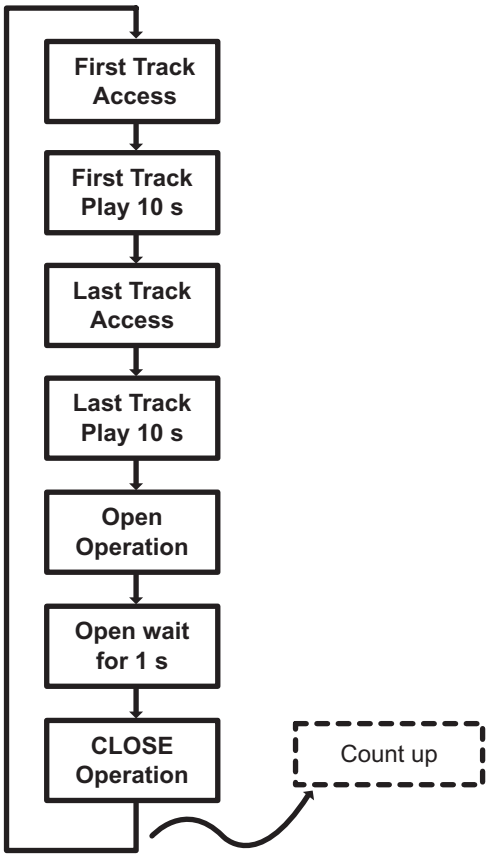
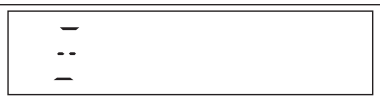


Fig. 3. Reliability Test (Combination)

6.4. Self-Diagnostic Mode

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

6.5. Self-Diagnostic Error Code Table

Self-Diagnostic Function (Refer Section 6.4. Self-Diagnostic Mode) provides information on any problems occurring for the unit and its respective components by displaying the error codes. These error code such as U**, H** and F** are stored in memory and held unless it is cleared.

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

6.5.1. Power Supply Error Code Table

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F61	Power Amp IC output abnormal	Upon power on, PCONT=HIGH, DC_DET_AMP after checking LSI.		Press [■] on main unit for next error.
F76		DC_DET_PWR		
F61-76		Both DCDET (NG)		
F26		Communication between CD servo LSI and micro-P abnormal (iPod, Radio, USB)		

6.5.2. CD Mechanism Error Code Table (CD Mechanism Unit (BRS1C))

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

6.6. Sales Demonstration Lock Function

6.6.1. Entering into sales Demo Mode

Here is the procedures to enter into Sales Demonstration Lock.
Step 1: Turn on the unit.
Step 2: Select to any mode function, press and hold [⏏OPEN/CLOSE] key and follow by [▶/▮▮] key within 0.5 sec.
Step 3: Hold both [⏏OPEN/CLOSE] and [▶/▮▮] keys for 5 sec.
Step 4: The display will show upon entering into this mode.

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

6.6.2. Cancellation

Step 1: To cancel only can be triggered in CD Mode and Volume 19.
Step 2: Press and hold [⏏OPEN/CLOSE] key and follow by [▶/▮▮] key. It must be pressed within 0.5 sec.
Step 3: Hold both [⏏OPEN/CLOSE] and [▶/▮▮] keys for 5 sec.
Step 4: The display will show after exit from this mode.

7 Troubleshooting Guide

7.1. Troubleshooting Guide for F61 and/or F76

This section illustrates the checking procedures when upon detecting the error of “F61” and/or “F76” after power up of the unit. It is for purpose of troubleshooting and checking in SMPS & Main P.C.B.

Symptom		Checking Items		Possible Fault(s)	Remarks
Set cannot ON	1	AC Cord	1	AC Cord Faulty, Loose connection.	Refer to Section 7.2.1 Fig. 1. SMPS P.C.B.
	2	AC Inlet, P5701	2	P5701 solder crack, dry joint.	
	3	Fuse, F1	3	Fuse, F1 Open.	
	4	Photocoupler	4	PC5702/PC5799 solder crack.	
		PC5702, PC5799		Dry joint, short circuit, open circuit.	
	5	Switching Regulator	5	IC5701 Faulty.	
		IC, IC5701			
	6	Switching Regulator	6	IC5799 Faulty.	
		IC, IC5799			
Set can ON then F61	1	Speaker Output	1	Faulty speaker unit, Loose connection, Short.	Refer to Section 7.2.2 Fig. 2. Main P.C.B.
	2	D-AMP circuit	2a	D-AMP IC, IC5902 defective.	
				(DC voltage of +/-30V detected at speaker output)	
Set can ON then F76	1	Transformer T5701	1a	Short circuit between Pin 14 and Pin 15.	Refer to Section 7.2.1 Fig. 1. SMPS P.C.B.
			1b	Short circuit between Pin 15 and Pin 16.	
			1c	Short circuit between Pin 16 and Pin 17.	
	2	DC-DC Circuit	2a	Check cable wire connection between cable wire ZJ2002	Refer to Section 7.2.2 Fig. 2. Main P.C.B.
				(At Main P.C.B) & connector CN5802 (At SMPS P.C.B)	
			2b	Voltage Regulator IC (IC2010) &	
				Switching Regulator IC (IC2011) faulty.	
	3	Photocoupler	3	PC5720 solder crack,	Refer to Section 7.2.1 Fig. 1. SMPS P.C.B.
		PC5720		Dry joint, short circuit, open circuit.	
Set can ON working normally for some time then F76	1	Rectifier Diode D5801	1a	Improper contact between D5801 to Heatsink.	Refer to Section 7.2.1 Fig. 1. SMPS P.C.B.
		Rectifier Diode D5802		Improper contact between D5802 to Heatsink.	
	2	Thermistor TH5860	1b	Set trigger temperature protection.	

7.2. Part Location

7.2.1. SMPS P.C.B.

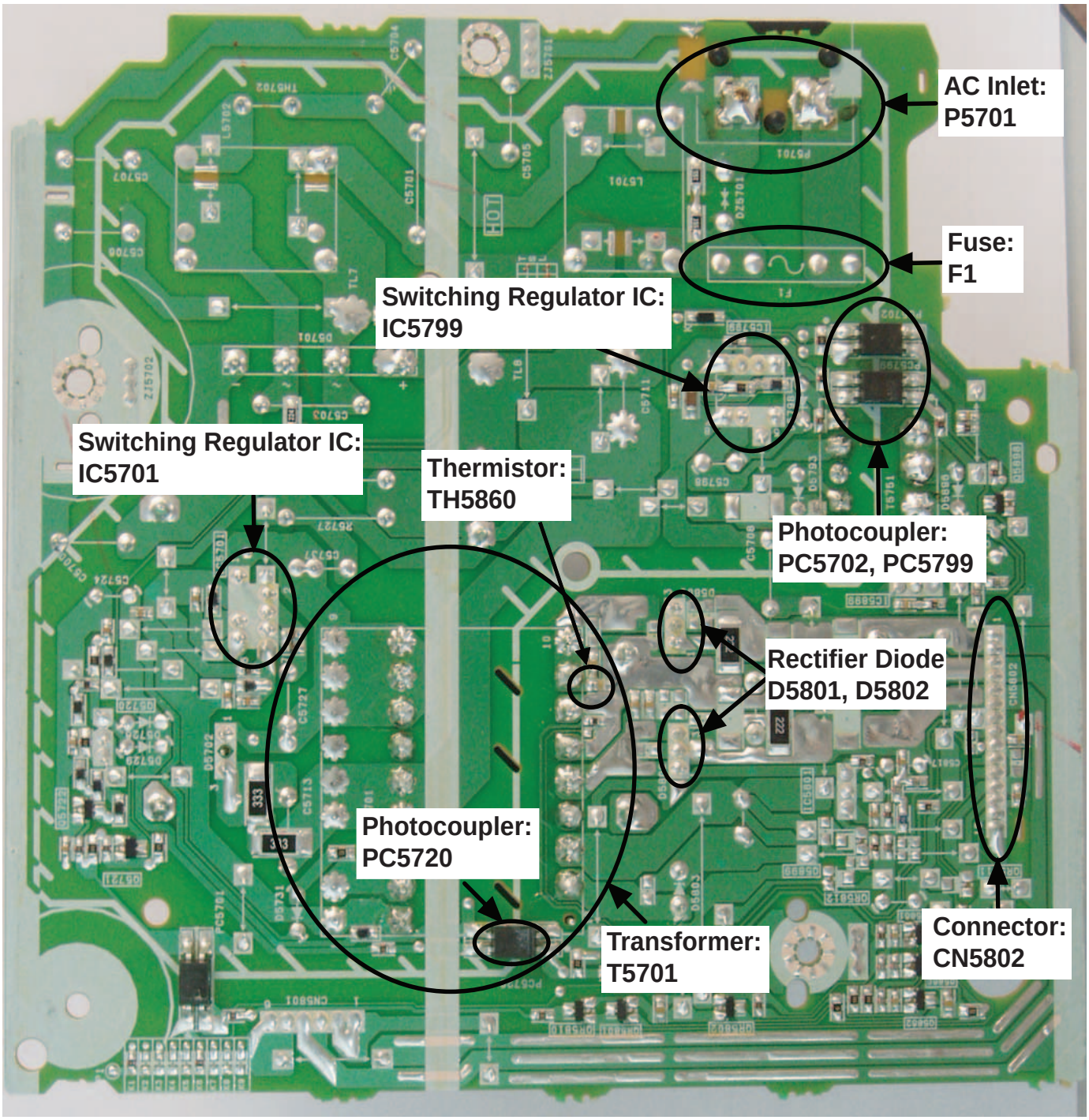


Fig. 1 SMPS P.C.B.

7.2.2. Main P.C.B.

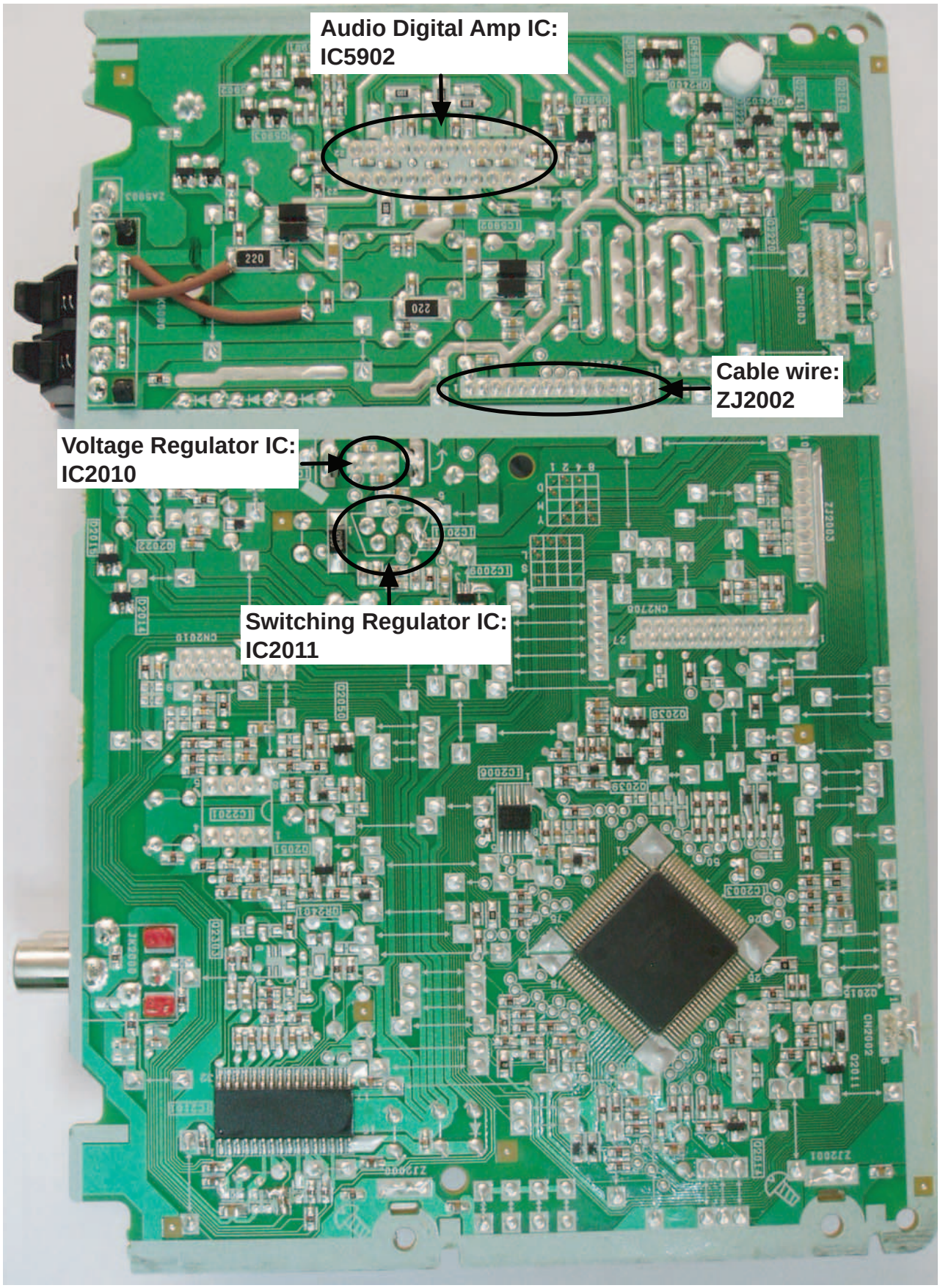


Fig. 2 Main P.C.B.

7.3. D-Amp IC Operation & Control

D-AMP IC Operation & Control

1) D-AMP IC (C1AB0000497) was used for this model (AKX12).
2) Three control pins (signal send from micro-processor IC) were used to control the D-AMP IC operation such as muting, standby and normal operation. They are described as below: -

No	Pin no	Signal name	Function
1	4	F_HOP	Frequency Hop control.
2	6	MODE_DA	Digital Amp On/Off control.
3	3	MUTE_F	Digital Amp Muting control

Table 1: Digital AMP Pin Control.

Here is detailed description of the three control pins for the D-AMP IC

A) **MODE_DA** & **MUTE_F** were used to switch the D-AMP IC in the following muting status:

- L(Low/OFF): Standby / OFF
- H (High/ON): Operating or Mute

Below is the logic for the two pins used for the control of the D-AMP IC.

No	MODE_DA	MUTE_F	Digital AMP IC mode status
1	L	X	OFF (0V)
2	H	H	Mute (2.5V)
3	H	L	Operating(5V)

Table 2: Digital AMP IC Mode Status.

Note: Standby/OFF condition of D.AMP IC is available / activated only during the following event: Switching of Frequency Hoping, power off and start up (when the unit is undergoing the transition from standby to normal operation mode)

B) **F_HOP** is used to control the D-AMP operation to avoid interference with AM source by controlling the frequency source used. It will switch from one frequency to the other, depending on the tuned AM frequency.

For 9 KHz Step

AM Band Frequency	F_HOP	Switching Frequency
522 ~ 558	L	301
567 ~ 639	H	350
648 ~ 855	L	301
864 ~ 945	H	350
954 ~ 1152	L	301
1161 ~ 1242	H	350
1251 ~ 1449	L	301
1458 ~ 1539	H	350
1548 ~ 1629	L	301

Table 3: F_HOP Control during 9 kHz Step

For 10 KHz Step

AM Band Frequency	F_HOP	Switching Frequency
520 ~ 560	L	301
570 ~640	H	350
650 ~ 860	L	301
870 ~ 950	H	350
960 ~ 1160	L	301

1170 ~ 1250	H	350
1260 ~ 1450	L	301
1460 ~ 1540	H	350
1550 ~ 1710	L	301

Table 4: F_HOP Control during 10 kHz Step

Note: During activating, the 3 control pins namely MUTE_F, MUTE_A and MODE_DA must be used to cover the “Pop” sound cause by F-HOP switching.

8 Disassembly and Assembly Instructions

• Illustration is based on SA-AKX12PH-K.

Caution Note:

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

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

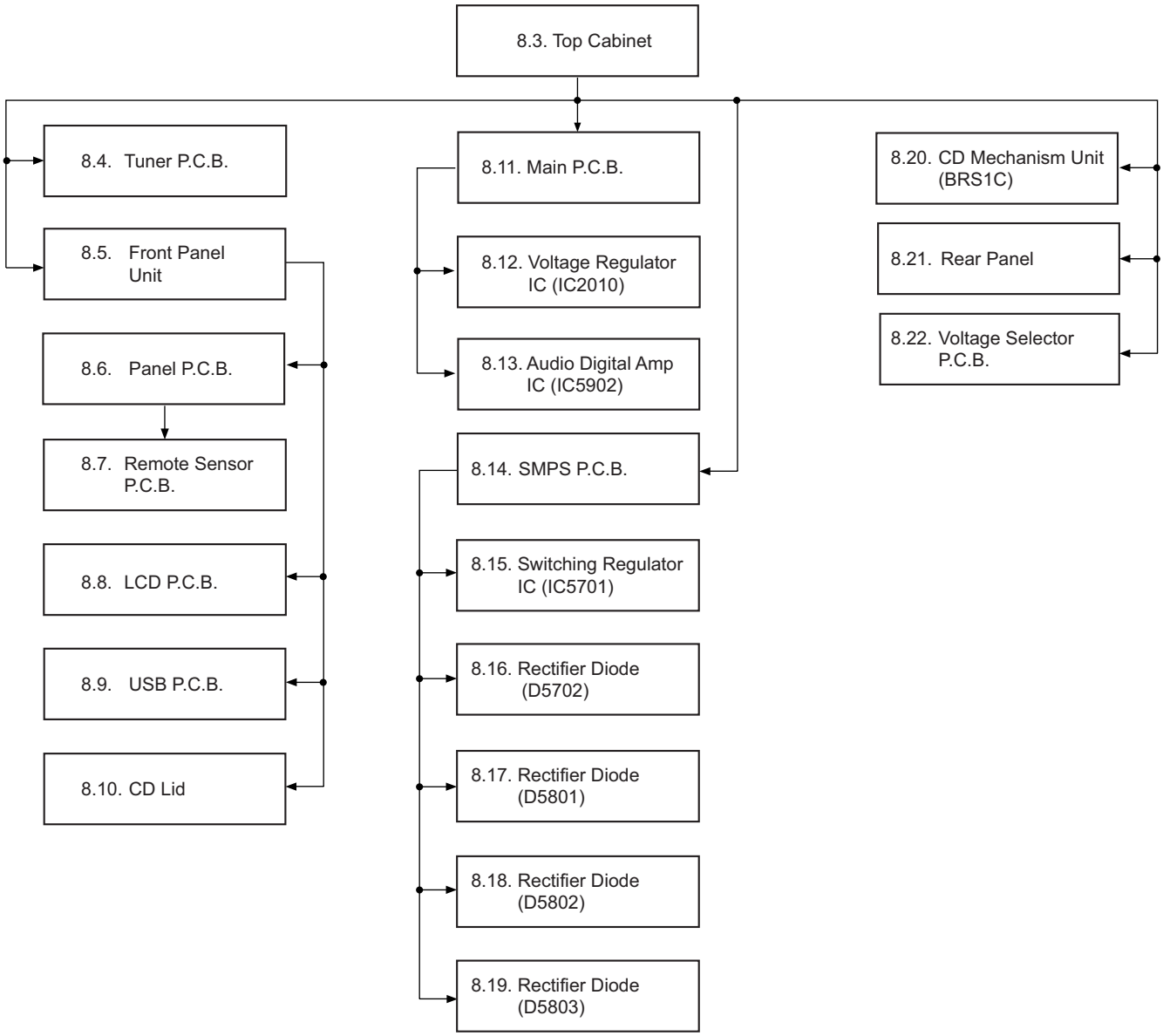
- **During disassembly and assembly, please ensure proper service tools, equipments or jigs is being used.**
- **During replacement of component parts, please refer to the section of "Replacement Parts List" as described in the service manual.**
- **Select items from the following indexes when disassembly or replacement are required.**
- Disassembly of Top Cabinet
- Disassembly of Tuner P.C.B.
- Disassembly of Front Panel Unit
- Disassembly of Panel P.C.B.
- Disassembly of Remote Sensor P.C.B.
- Disassembly of LCD P.C.B.
- Disassembly of USB P.C.B.
- Disassembly of CD Lid
- Disassembly of Main P.C.B.
- Replacement of Voltage Regulator IC (IC2010)
- Replacement of Audio Digital Amp IC (IC5902)
- Disassembly of SMPS P.C.B.
- Replacement of Switching Regulator IC (IC5701)
- Replacement of Rectifier Diode (D5702)
- Replacement of Rectifier Diode (D5801)
- Replacement of Rectifier Diode (D5802)
- Replacement of Rectifier Diode (D5803)
- Disassembly of CD Mechanism Unit (BRS1C)
- Disassembly of Rear Panel
- Disassembly of Voltage Selector P.C.B.

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

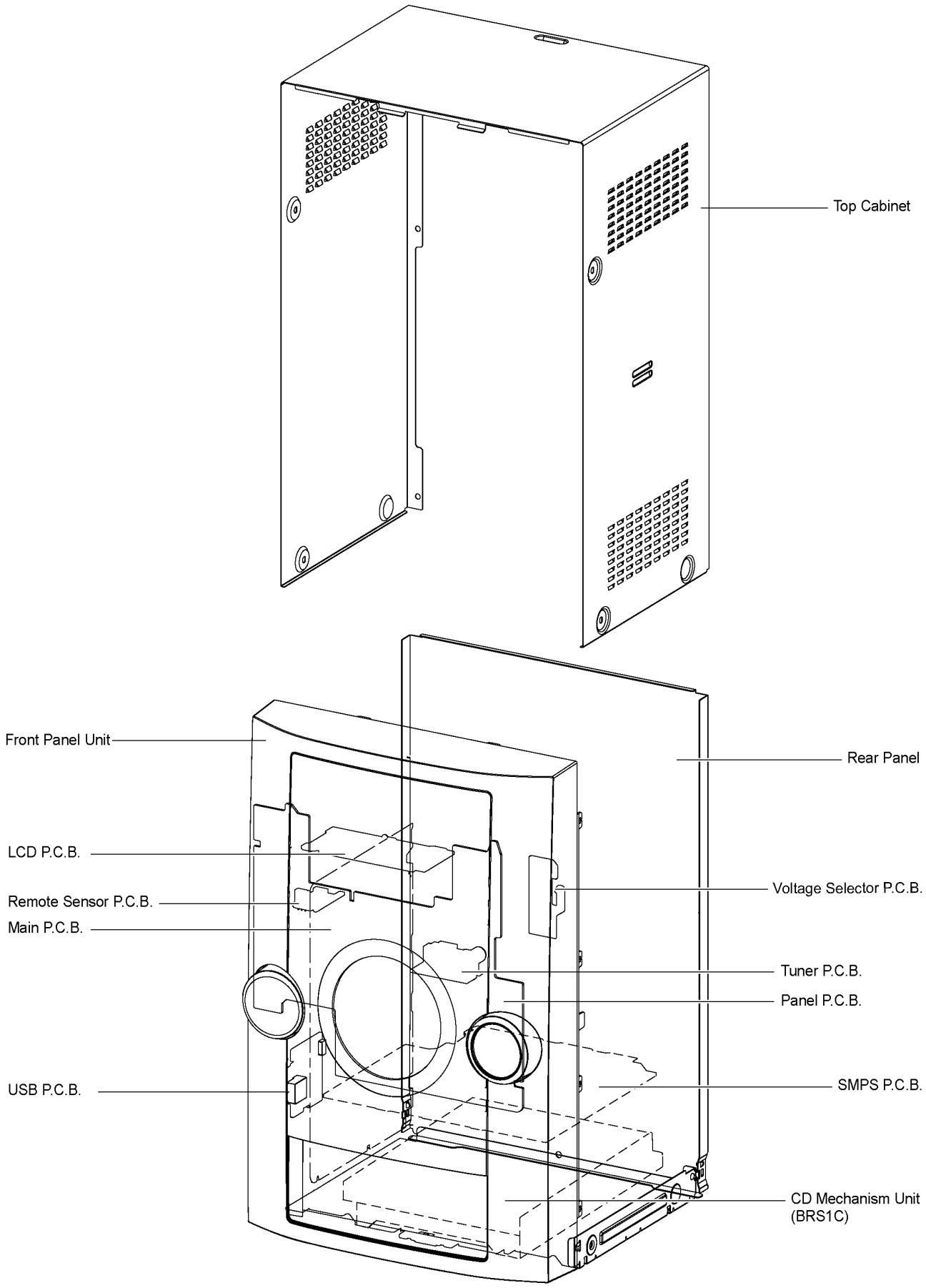
Below shown is part no. of different screw types used:

ⓐ :RHD30007-K2J	ⓔ :XTB3+10JFJ
ⓑ :RHD30119-S	ⓕ :RHDX031008
ⓒ :RHD26046-L	ⓖ :XTN2+6GFJ
ⓓ :RHD30111-31	

8.1. Disassembly Flow Chart

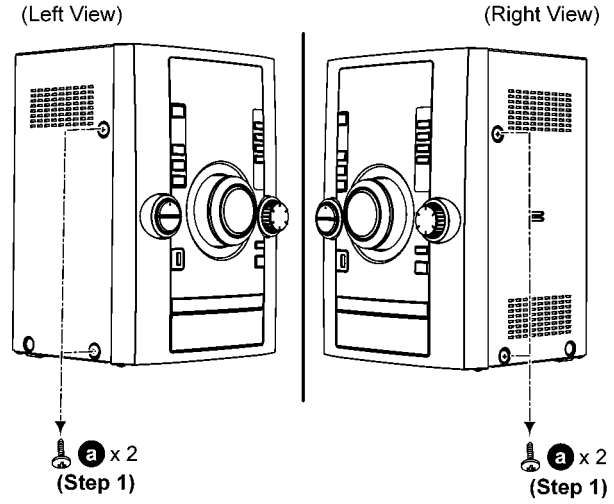


8.2. Main Components and P.C.B. Locations

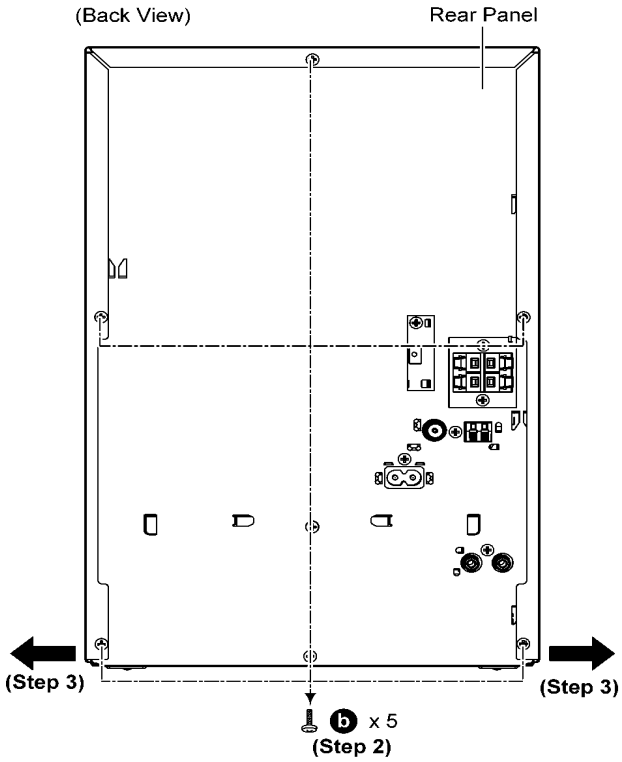


8.3. Disassembly of Top Cabinet

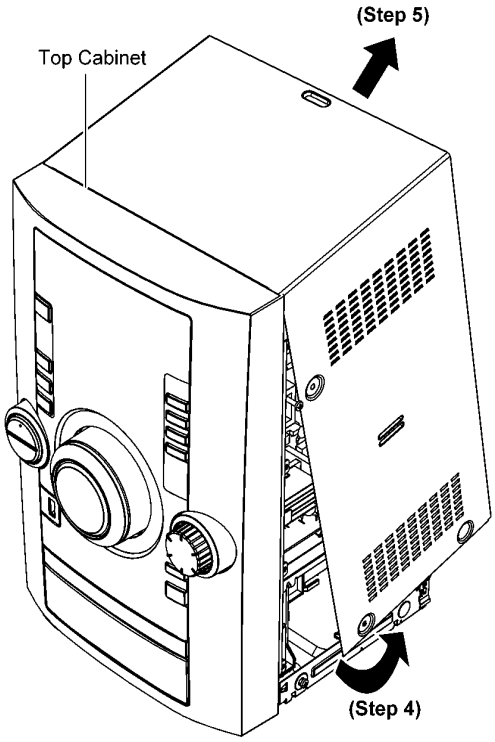
Step 1 Remove 2 screws on each side.



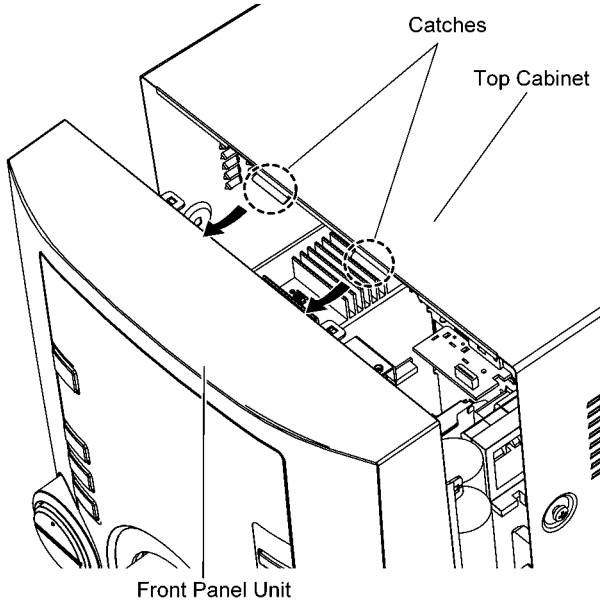
Step 2 Remove 5 screws.
Step 3 Slightly pull both side of Top Cabinet outwards as arrow shown.



Step 4 Slightly lift up both side of Top Cabinet in an outward direction as shown.
Step 5 Remove Top Cabinet.



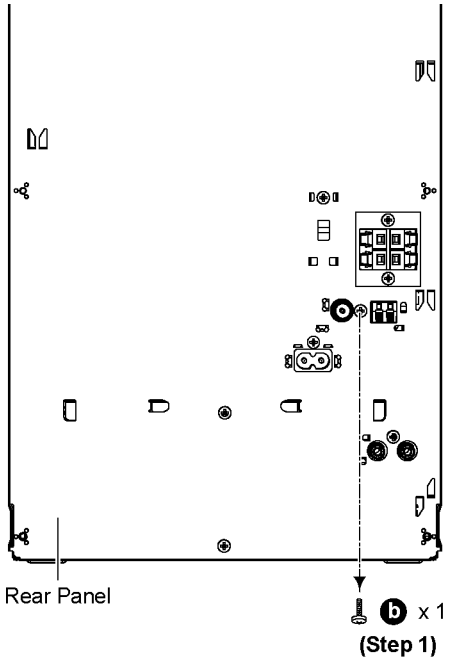
Caution: During assembling, ensure that the Top Cabinet catches are properly located into Front Panel Unit as shown.



8.4. Disassembly of Tuner P.C.B.

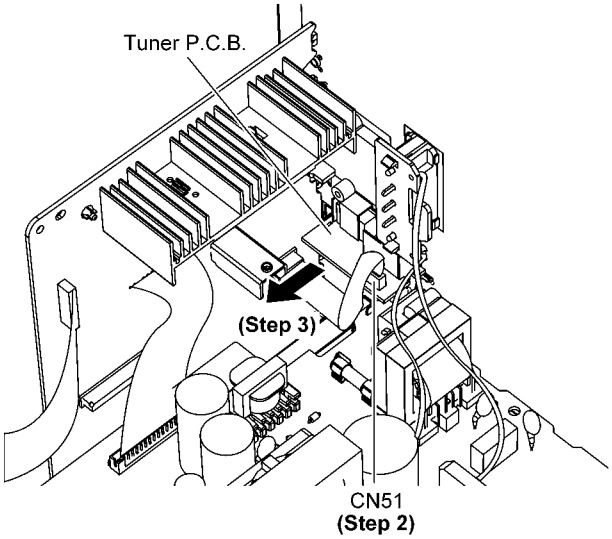
• **Refer to "Disassembly of Top Cabinet".**

Step 1 Remove 1 screw.



Step 2 Detach 9P FFC at the connector (CN51) on Tuner P.C.B..

Step 3 Remove Tuner P.C.B..

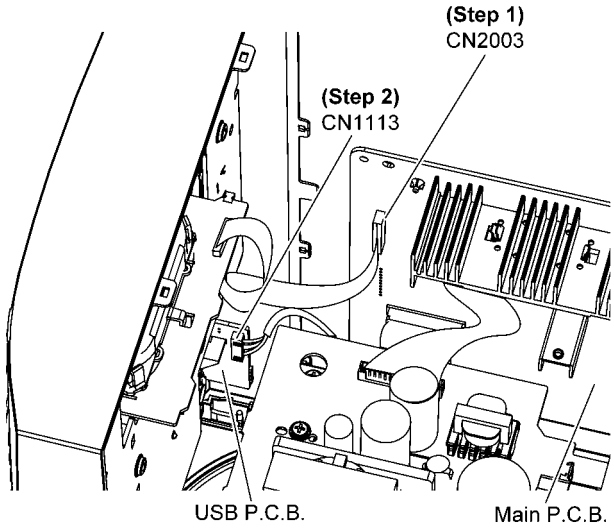


8.5. Disassembly of Front Panel Unit

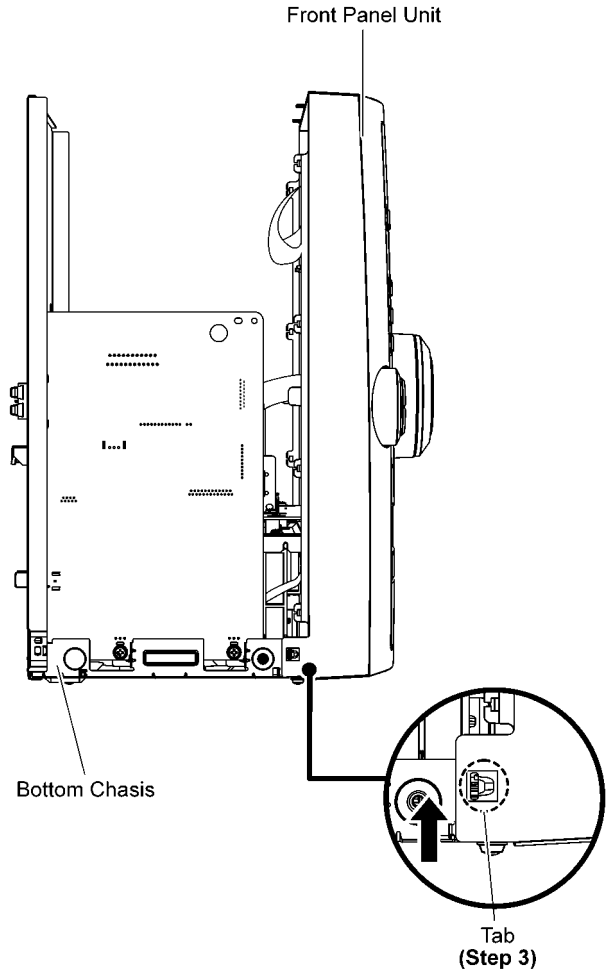
• **Refer to "Disassembly of Top Cabinet".**

Step 1 Detach 17P FFC at the connector (CN2003) on Main P.C.B.

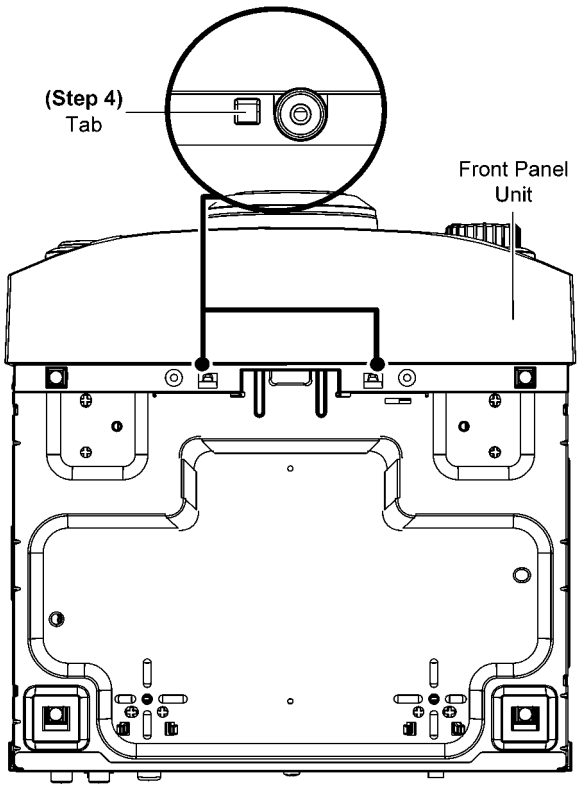
Step 2 Detach 5P Cable Wire at the connector (CN1113) on USB P.C.B.



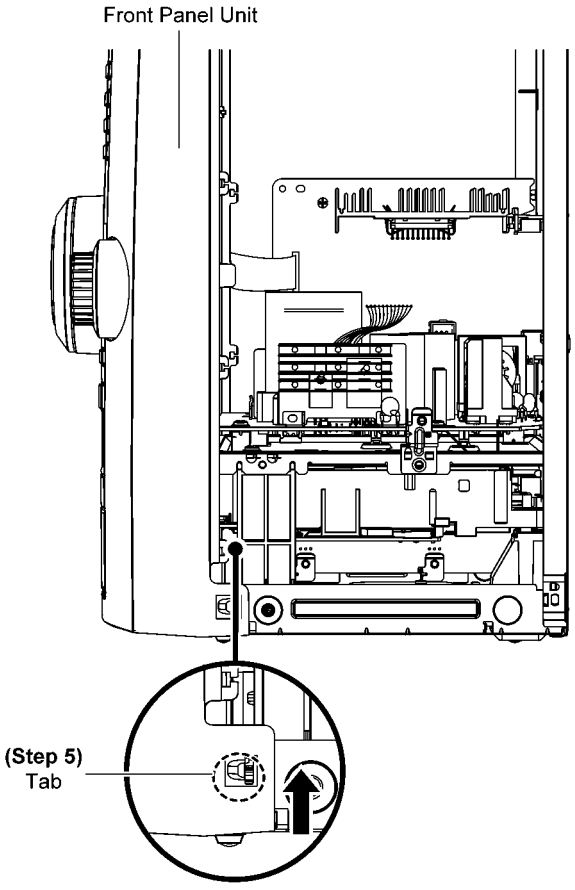
Step 3 Push inwards slightly at the Bottom Chassis as arrow shown and release tab at left side of Front Panel Unit.



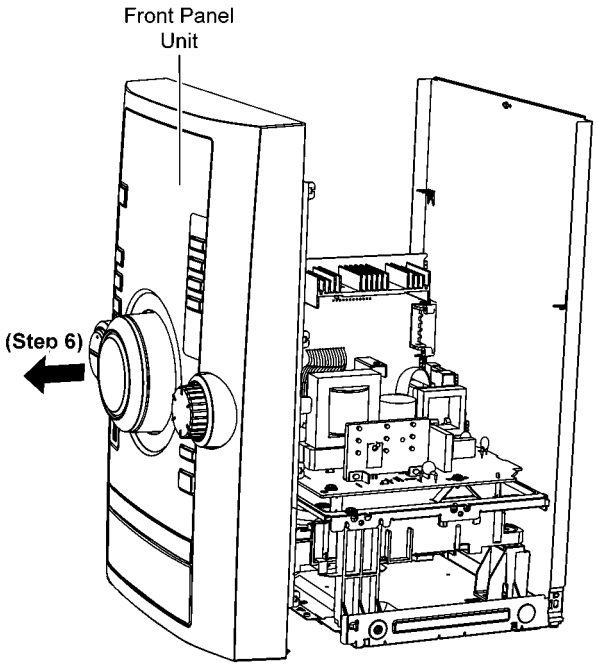
Step 4 Release tabs at bottom.



Step 5 Push inwards slightly at the Bottom Chassis and release tab at right side of Front Panel Unit.



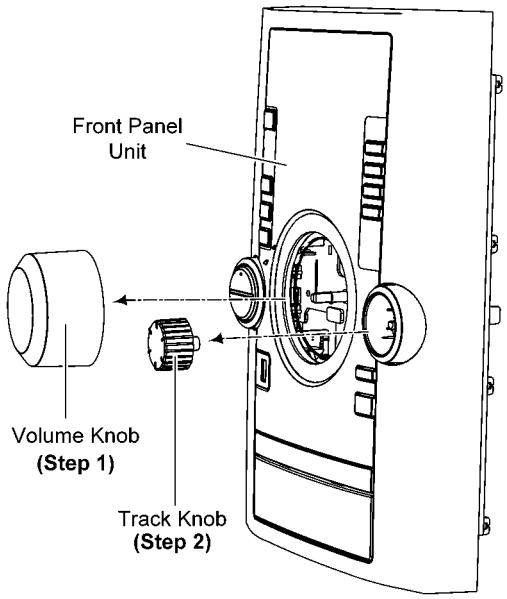
Step 6 Remove Front Panel Unit



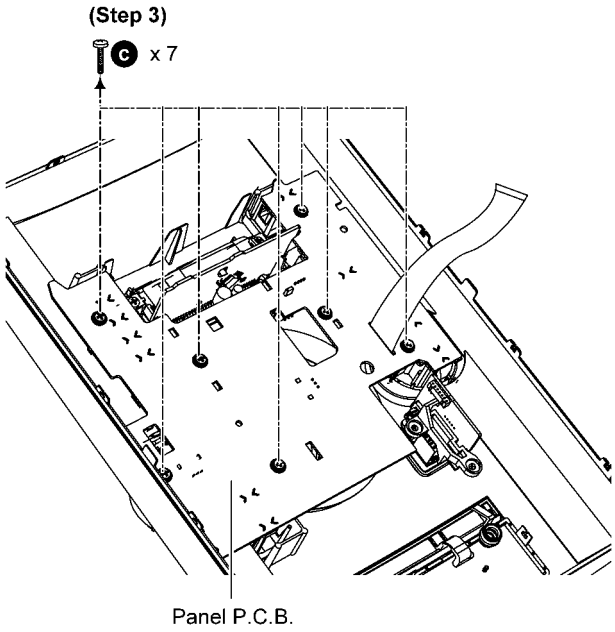
8.6. Disassembly of Panel P.C.B.

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

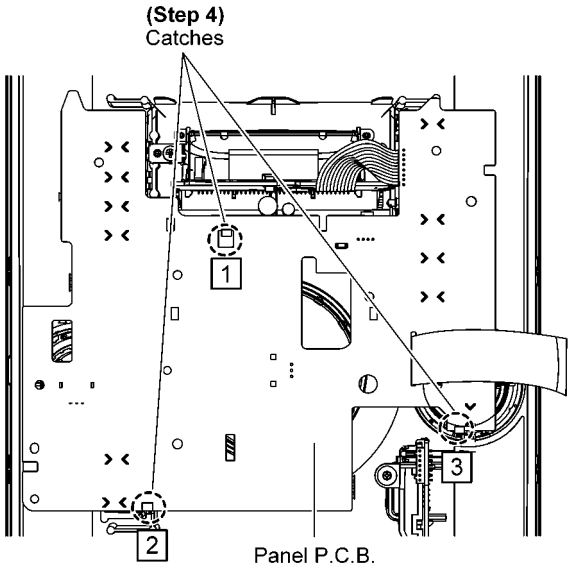
Step 1 Remove the Volume Knob.
Step 2 Remove the Track Knob.



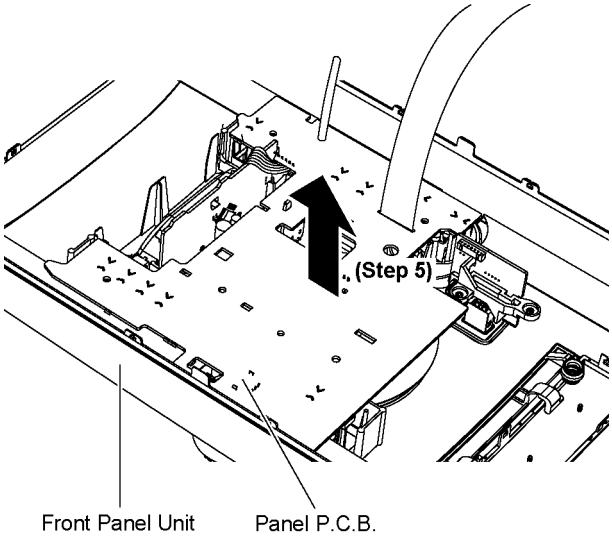
Step 3 Remove 7 screws.



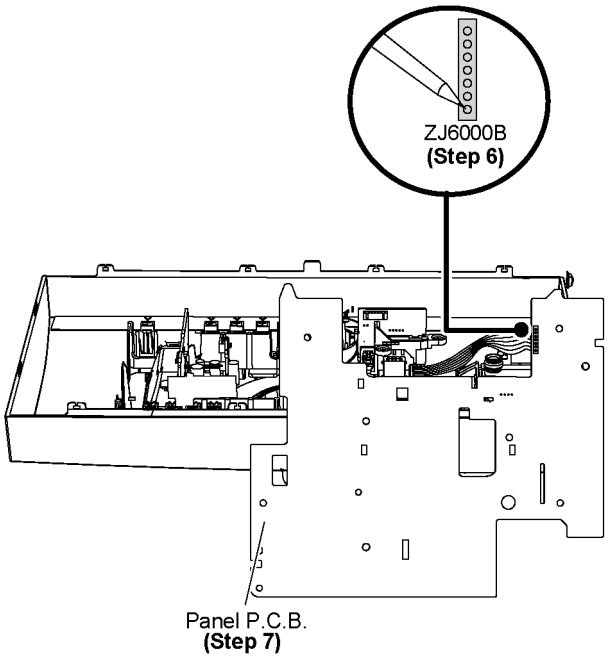
Step 4 Release catches by following the sequences (1-3).



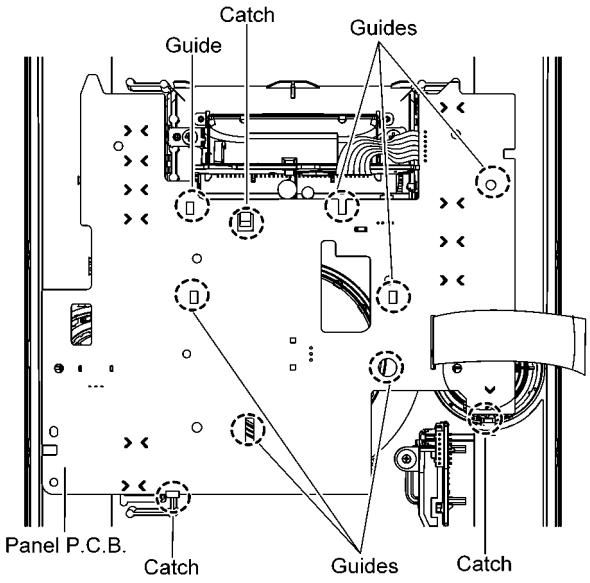
Step 5 Remove the Panel P.C.B. from Front Panel Unit.



Step 6 Desolder 7 pins at (ZJ600B) on Panel P.C.B..
Step 7 Remove the Panel P.C.B..



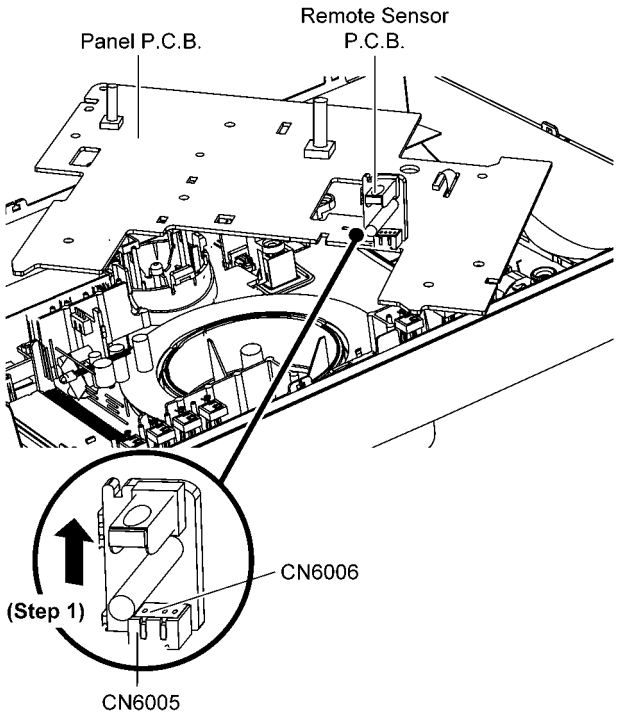
Caution: During assembling, ensure that Panel P.C.B. is seated properly through the guides & fully catched.



8.7. Disassembly of Remote Sensor P.C.B.

- **Refer to "Disassembly of Top Cabinet".**
- **Refer to "Disassembly of Front Panel Unit".**
- **Refer to (Step 1) to (Step 5) of item 9.6..**

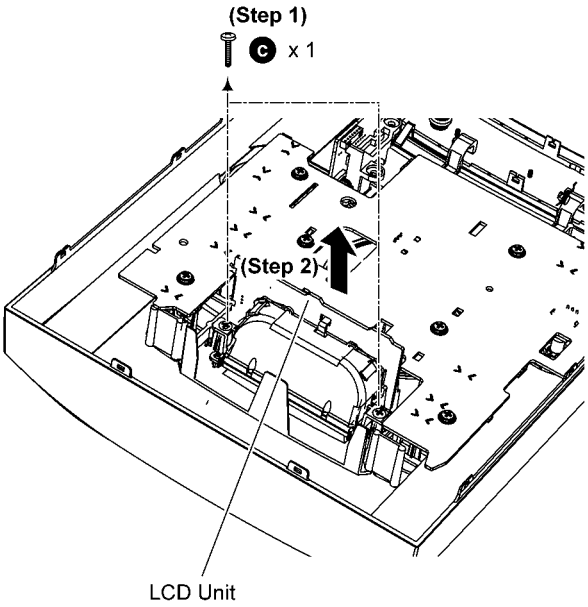
Step 1 Remove Remote Sensor P.C.B..
Caution: During assembling, ensure that Remote Sensor P.C.B. is properly inserted & fully connected to Panel P.C.B..



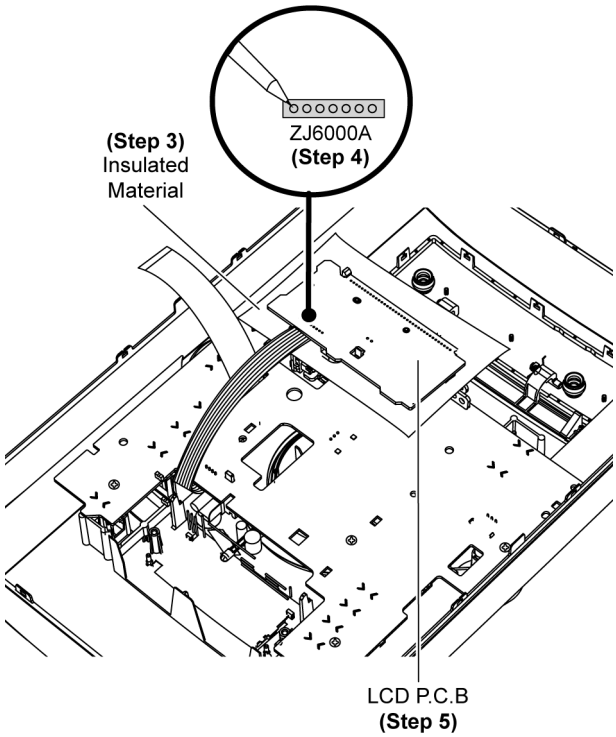
8.8. Disassembly of LCD P.C.B.

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

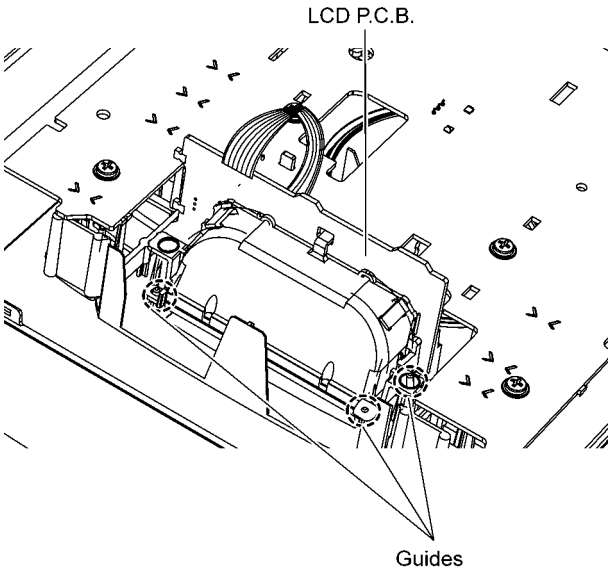
Step 1 Remove 2 screws.
Step 2 Lift up LCD Unit.



Step 3 Place LCD P.C.B. on an insulated material.
Step 4 Desolder 7 pins (ZJ6000A) on LCD P.C.B..
Step 5 Remove LCD P.C.B..



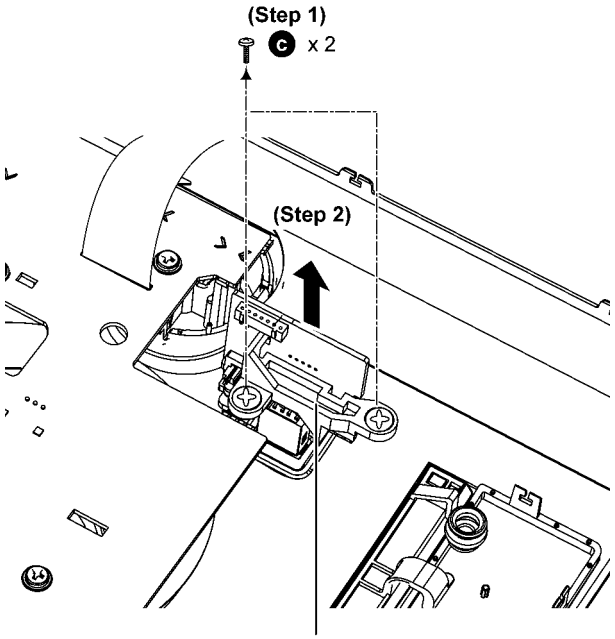
Caution: During assembling, ensure that LCD Unit is properly located & seated onto the guides.



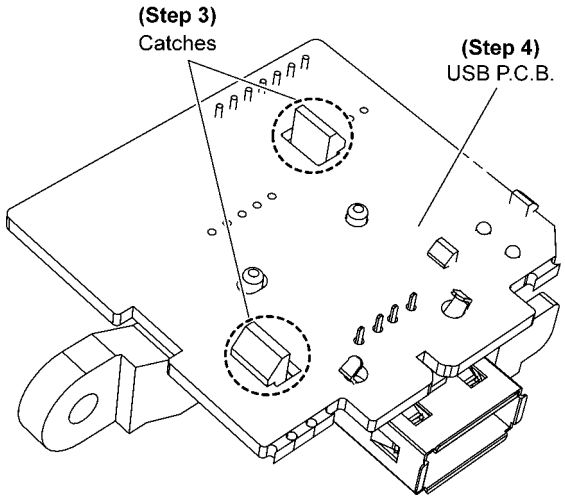
8.9. Disassembly of USB P.C.B.

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

Step 1 Remove 2 screws.
Step 2 Remove USB Unit.



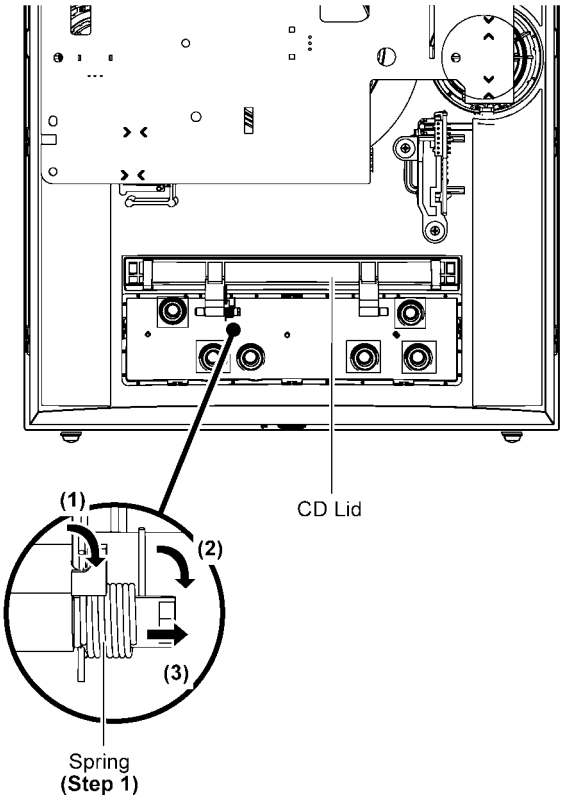
Step 3 Release 2 catches.
Step 4 Remove the USB P.C.B..



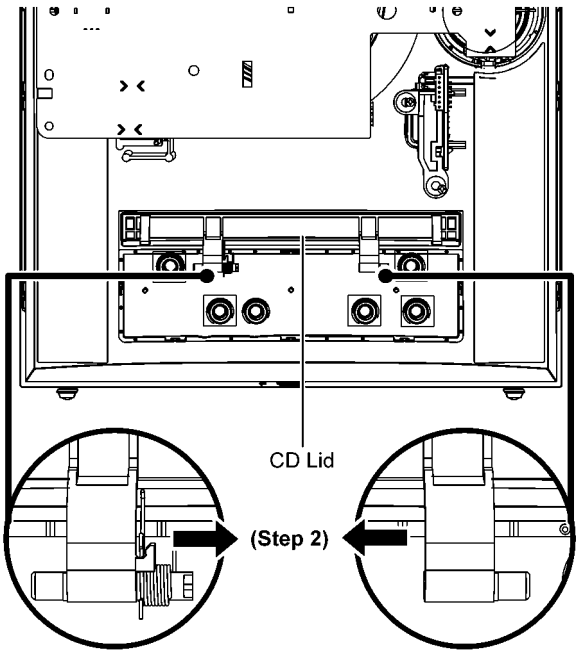
8.10. Disassembly of CD Lid

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

Step 1 Remove the spring as arrow shown in order of sequence (1) to (3).
Caution: During assembling, ensure that the spring is assembly at right position.



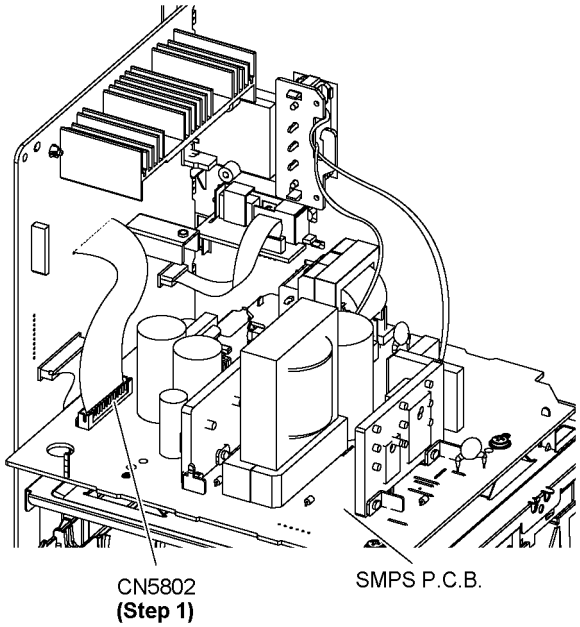
Step 2 Remove CD Lid as arrow shown.



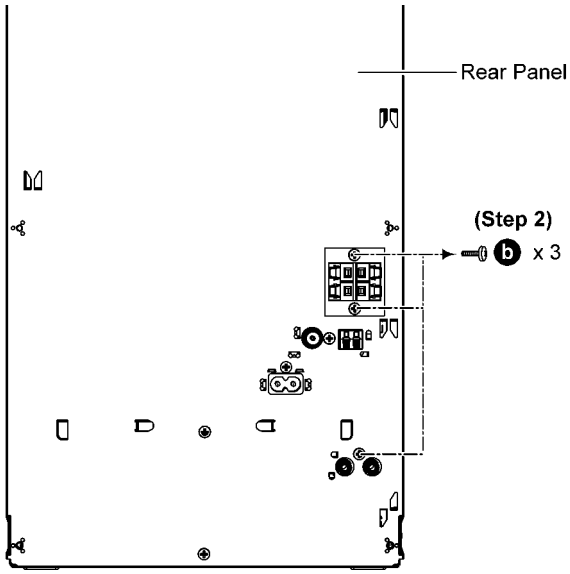
8.11. Disassembly of Main P.C.B.

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

Step 1 Detach 15P Cable Wire at the connector (CN5802) on SMPS P.C.B..

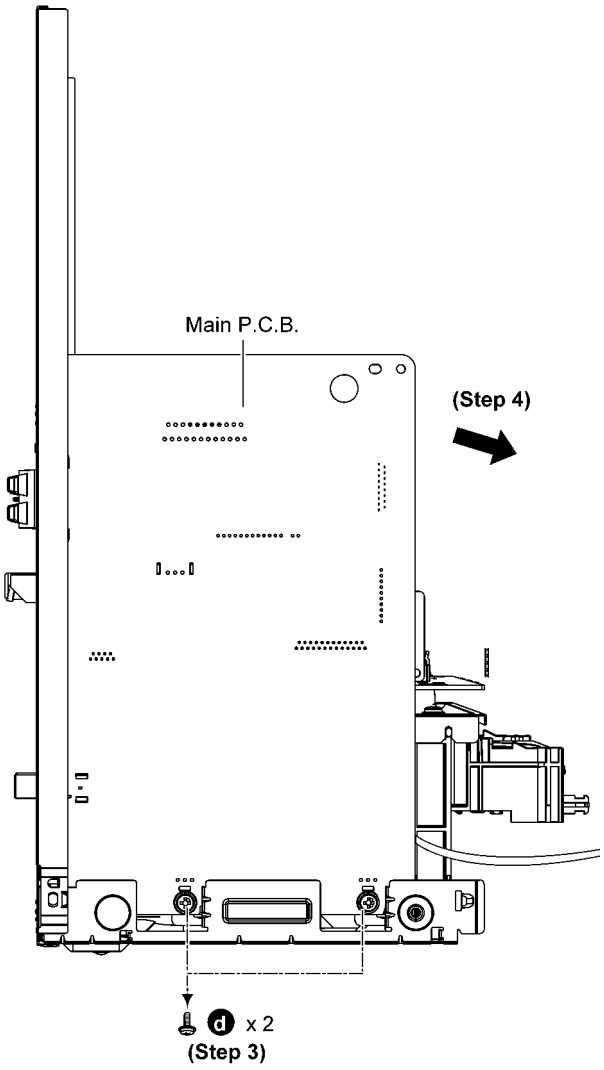


Step 2 Remove 3 screws.



Step 3 Remove 2 screws.

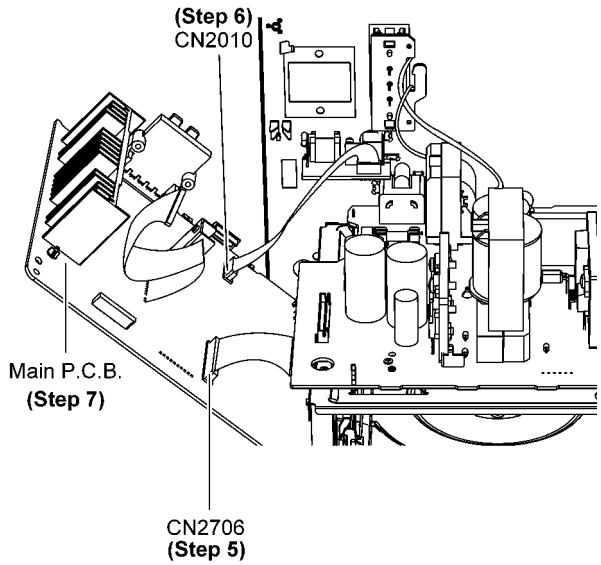
Step 4 Detach Main P.C.B. from Rear Panel according to arrow shown.



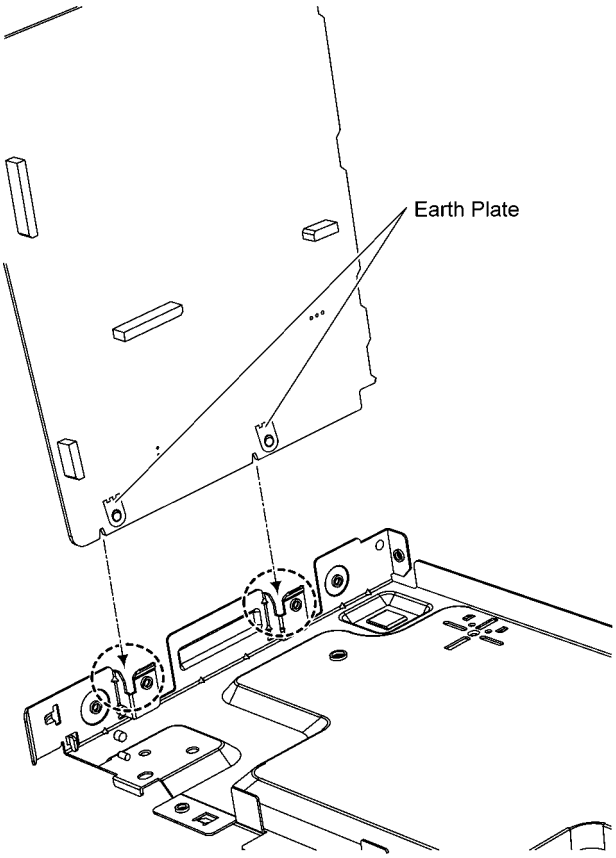
Step 5 Detach 27P FFC at the connector (CN2706) on Main P.C.B..

Step 6 Detach 9P FFC at the connector (CN2010) on Main P.C.B..

Step 7 Remove Main P.C.B..



Caution: During assembling, ensure that earth plate is bended flat against the Main P.C.B. properly when inserted to locators.

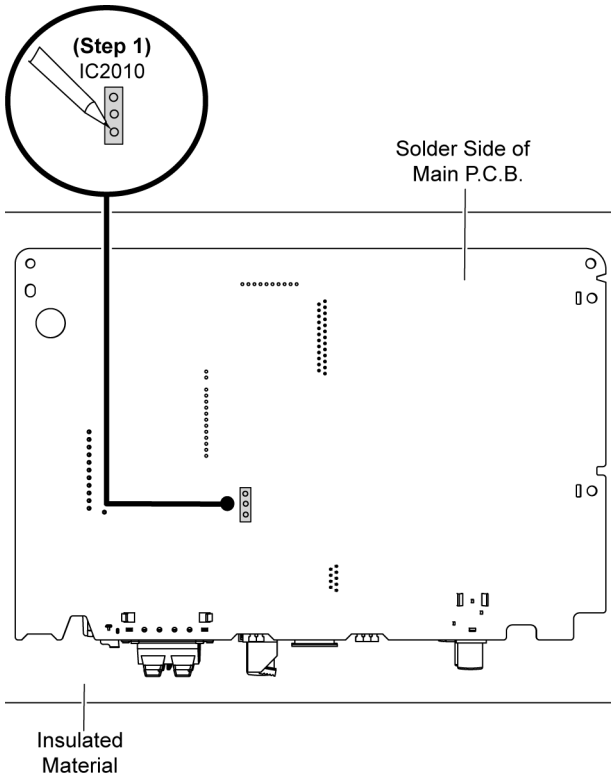


8.12. Replacement of Voltage Regulator IC (IC2010)

- **Refer to "Disassembly of Main P.C.B.".**

8.12.1. Disassembly of Voltage Regulator IC (IC2010)

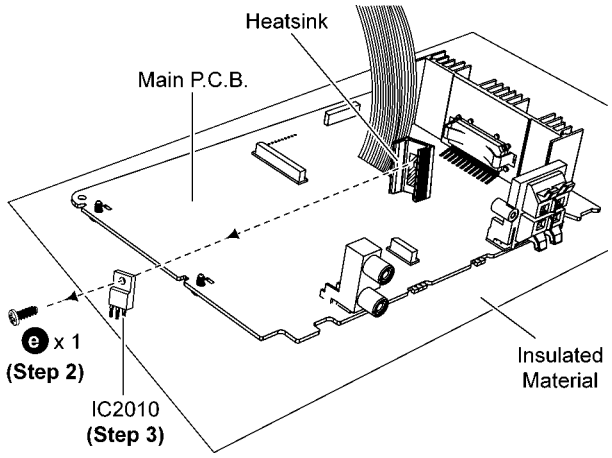
Step 1 Desolder pins of the Voltage Regulator IC (IC2010) on the solder side of Main P.C.B..



Step 2 Remove 1 screw.

Step 3 Remove the Voltage Regulator IC (IC2010) from the Main P.C.B..

Caution: Avoid touching the Heatsink due to its high temperature after prolong use. Touching it may lead to injuries.



8.12.2. Assembly of Voltage Regulator IC (IC2010)

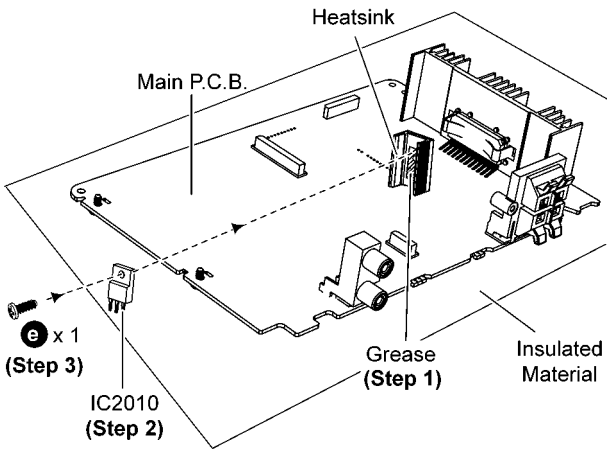
Step 1 Apply grease to the Heatsink.

Step 2 Fix the Voltage Regulator IC (IC2010) on Main P.C.B..

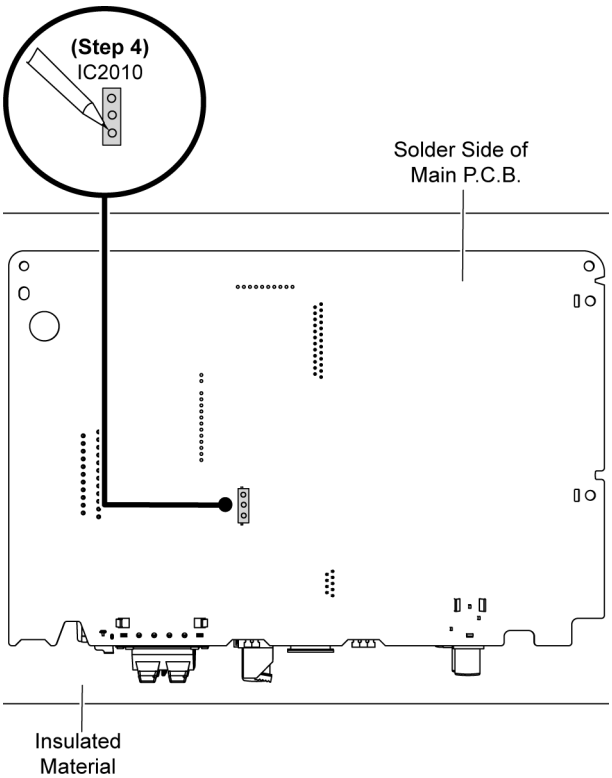
Caution: Ensure pins of the Voltage Regulator IC (IC2010) are properly seated on Main P.C.B..

Step 3 Screw the Voltage Regulator IC (IC2010) to the Heatsink.

Caution: Ensure the Voltage Regulator IC (IC2010) is tightly screwed to the Heatsink.



Step 4 Solder pins of the Voltage Regulator IC (IC2010) on the solder side of Main P.C.B..

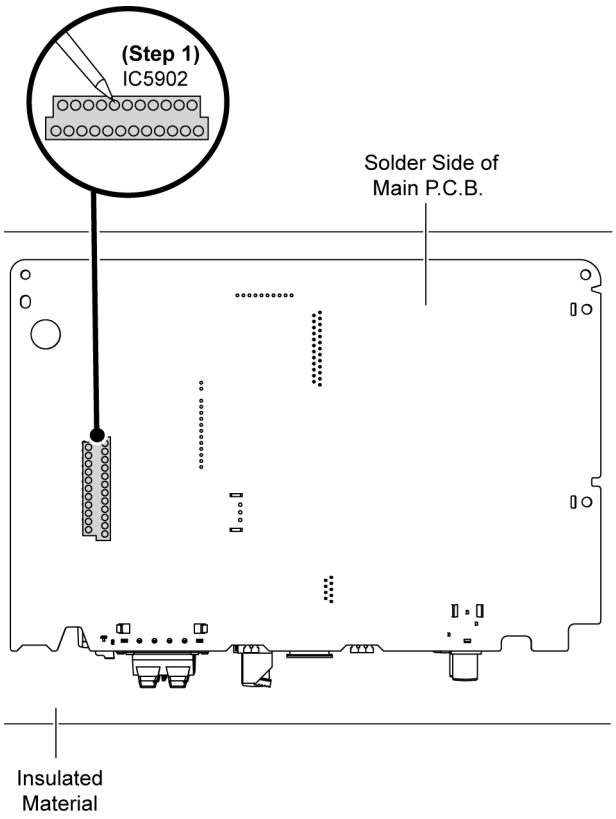


8.13. Replacement of Audio Digital Amp IC (IC5902)

- **Refer to "Disassembly of Main P.C.B.".**

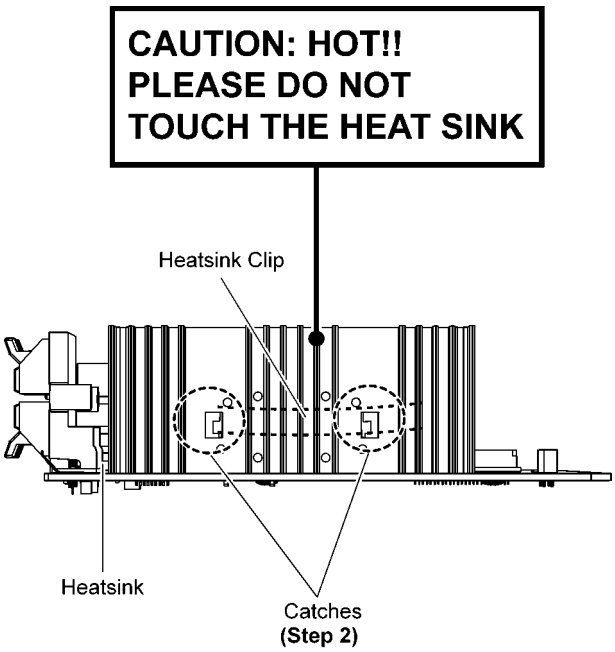
8.13.1. Disassembly of Audio Digital Amp IC (IC5902)

Step 1 Desolder pins of the Audio Digital Amp IC (IC5902) on the solder side of Main P.C.B..

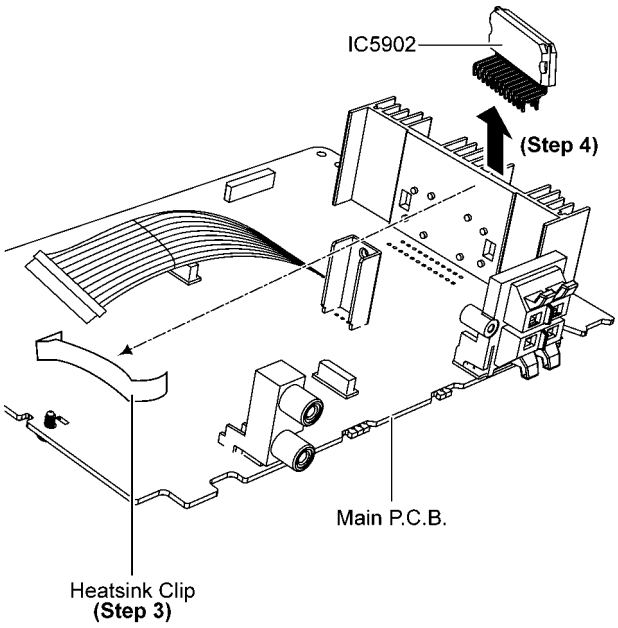


Step 2 Release 2 catches of Heatsink Clip.

Caution: During releasing of 2 catches, avoid touching the Heatsink, due to high temperature.

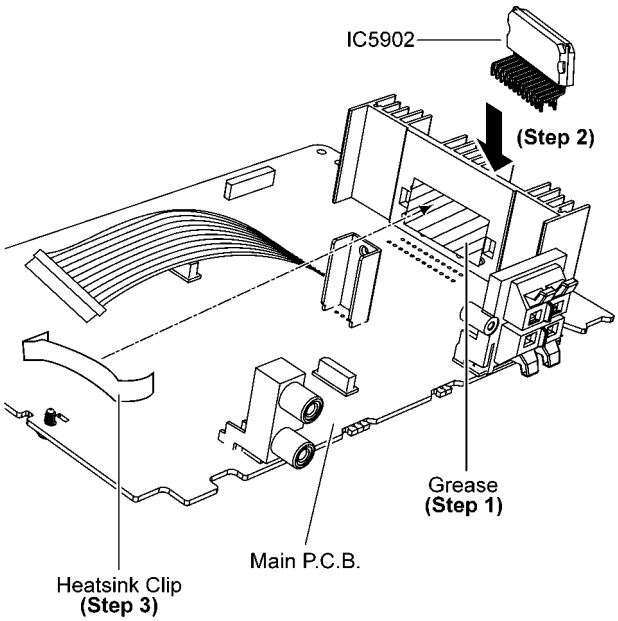


Step 3 Remove Heatsink Clip.
Step 4 Remove Audio Digital Amp IC (IC5902).

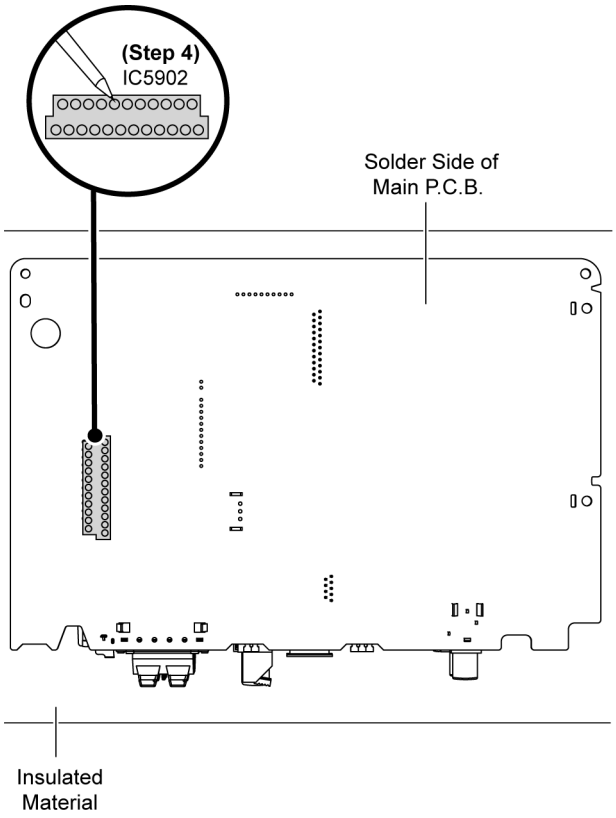


8.13.2. Assembly of Audio Digital Amp IC (IC5902)

Step 1 Apply grease to the Heatsink.
Step 2 Fix the Audio Digital Amp IC (IC5902) on Main P.C.B.
Caution: Ensure pins of the Audio Digital Amp IC (IC5902) are properly seated on Main P.C.B.
Step 3 Fix Heatsink Clip to the Heatsink.
Caution: During assembling, ensure that Heatsink Clip is catched onto Heatsink properly.



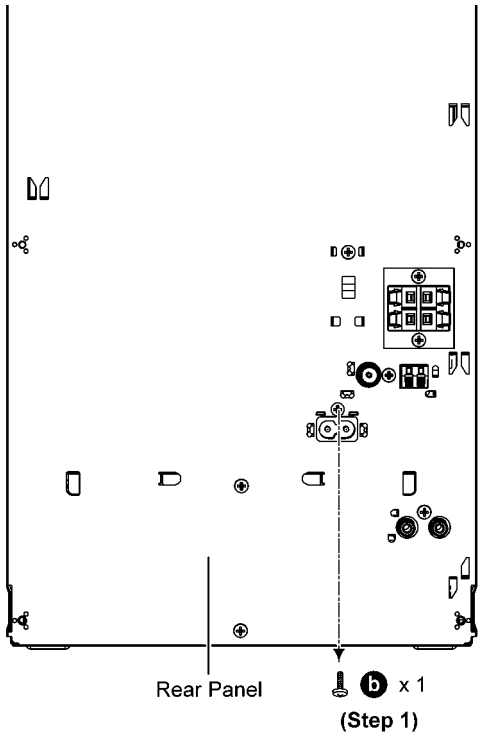
Step 4 Solder pins of the Audio Digital Amp IC (IC5902) on the solder side of Main P.C.B..



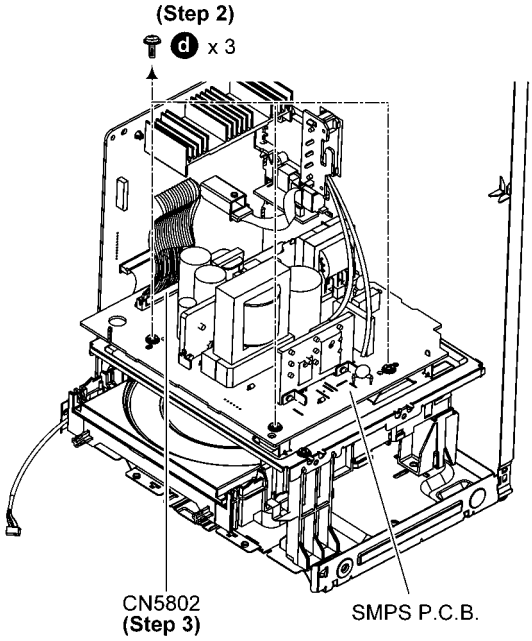
8.14. Disassembly of SMPS P.C.B.

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

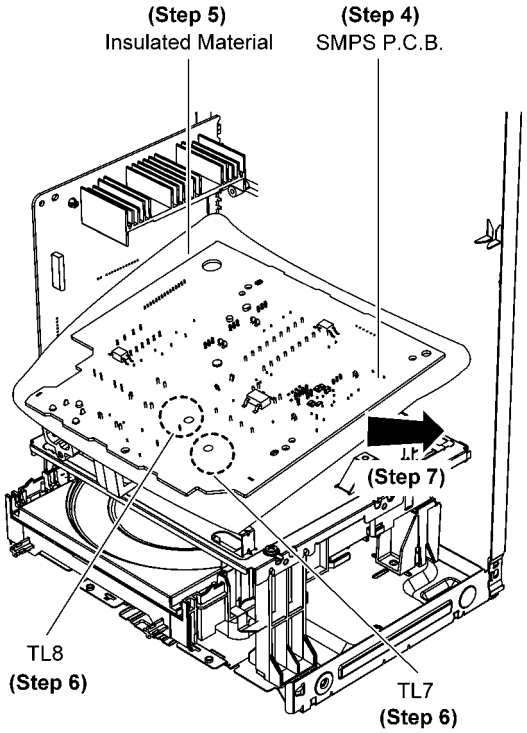
Step 1 Remove 1 screw.



Step 2 Remove 3 screws.
Step 3 Detach 15P Cable Wire at the connector (CN5802) on SMPS P.C.B..



Step 4 Flip the SMPS P.C.B. and position it according to diagram shown.
Step 5 Place SMPS P.C.B. on an insulated material.
Step 6 Desolder 2 Wire pins, TL7 (Black), TL8 (Red) wires pin.
Step 7 Remove SMPS P.C.B..

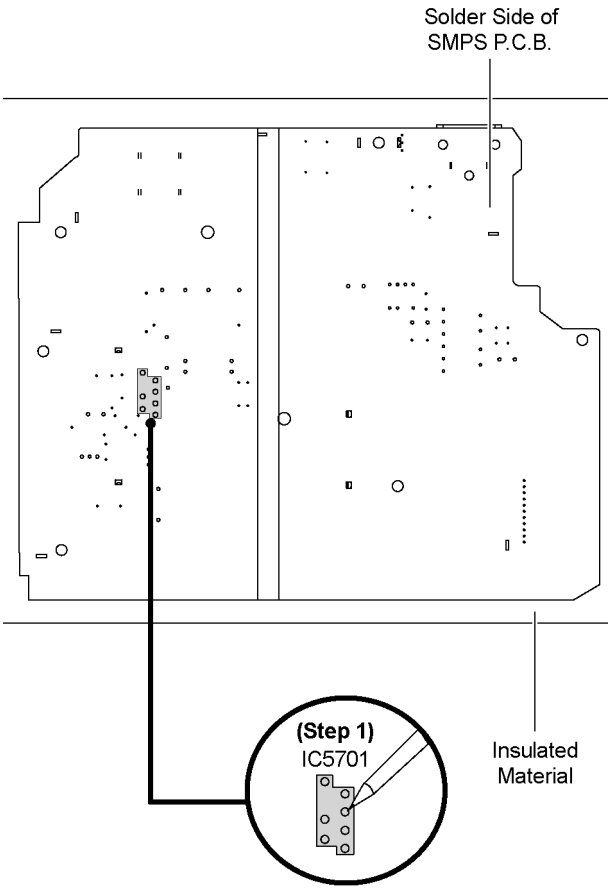


8.15. Replacement of Switching Regulator IC (IC5701)

- **Refer to "Disassembly of SMPS P.C.B.".**

8.15.1. Disassembly of Switching Regulator IC (IC5701)

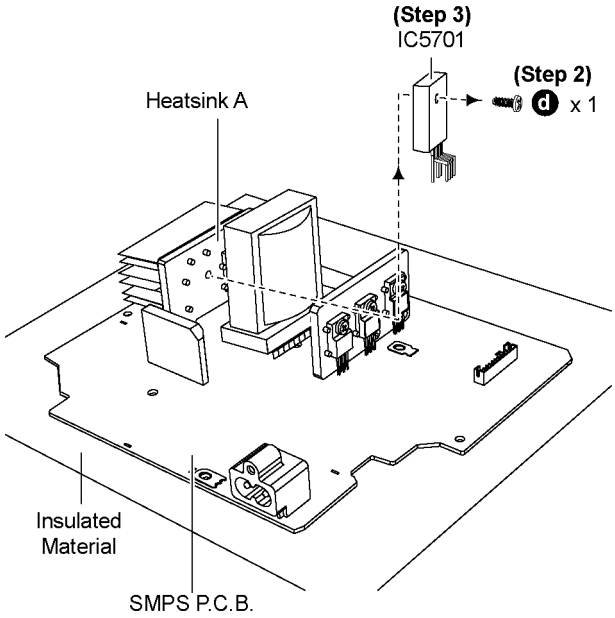
Step 1 Desolder pins of the Switching Regulator IC (IC5701) on the solder side of SMPS P.C.B..



Step 2 Remove 1 screw.

Step 3 Remove the Switching Regulator IC (IC5701).

Caution: Avoid touching the Heatsink A due to its high temperature after prolonged use. Touching it may lead to injuries.



8.15.2. Assembly of Switching Regulator IC (IC5701)

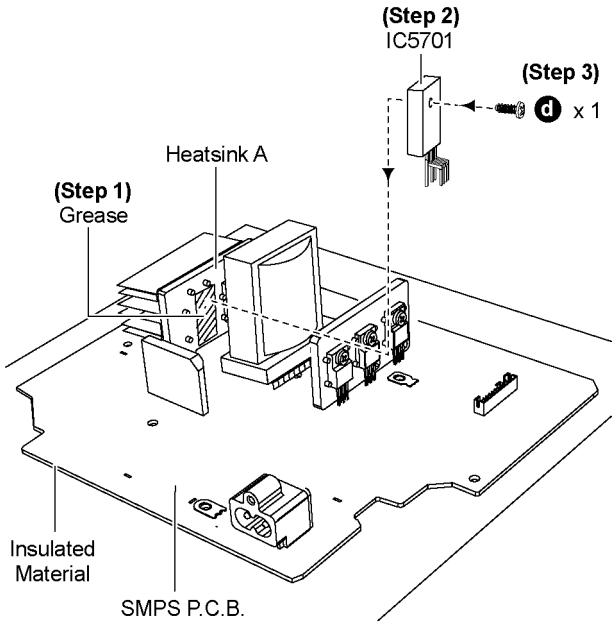
Step 1 Apply grease to the Heatsink A.

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

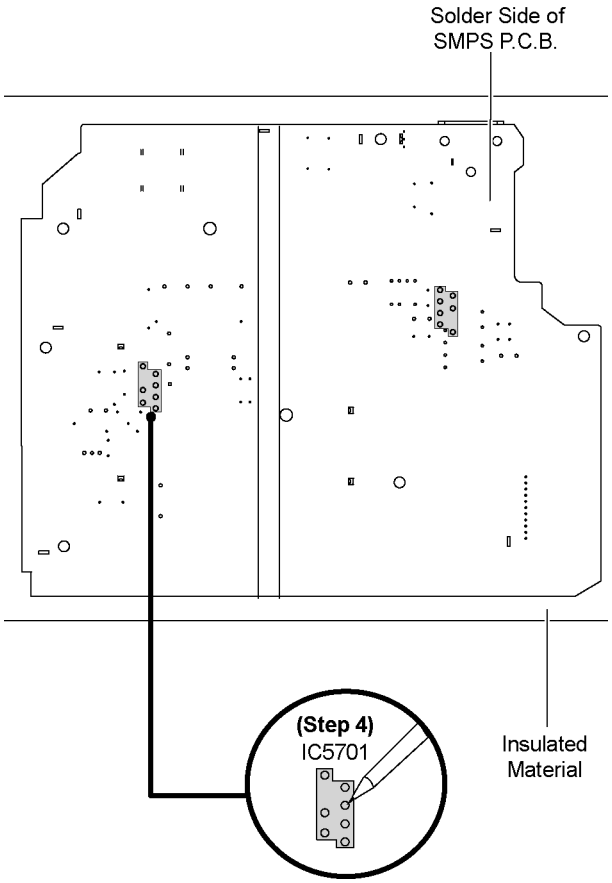
Caution: Ensure pins of the Switching Regulator IC (IC5701) are properly inserted and soldered on SMPS P.C.B..

Step 3 Screw the Switching Regulator IC (IC5701) to the Heatsink A.

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



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

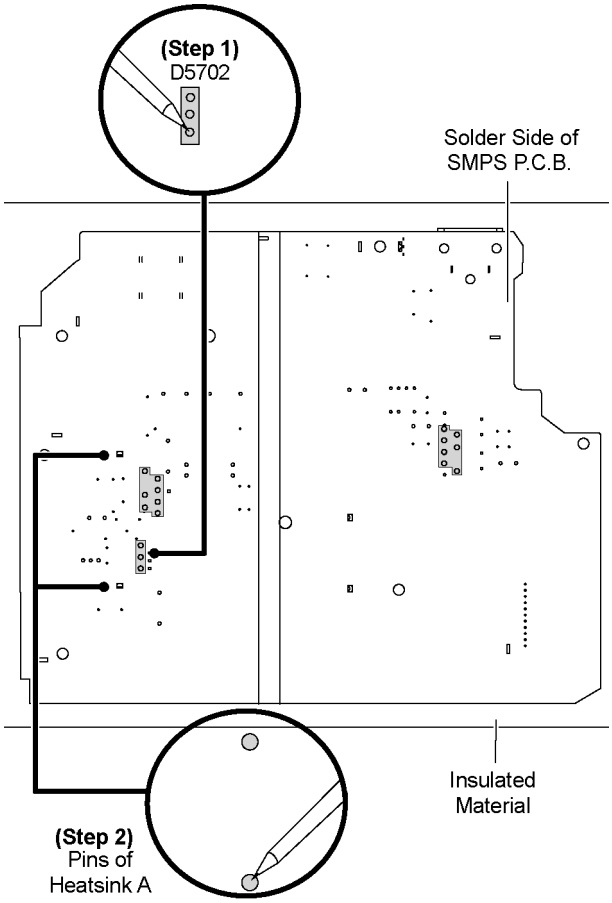


8.16. Replacement of Rectifier Diode (D5702)

- **Refer to "Disassembly of SMPS P.C.B.".**

8.16.1. Disassembly of Rectifier Diode (D5702)

Step 1 Desolder pins of the Rectifier Diode (D5702) on the solder side of SMPS P.C.B.
Step 2 Desolder pins of the Heatsink A.



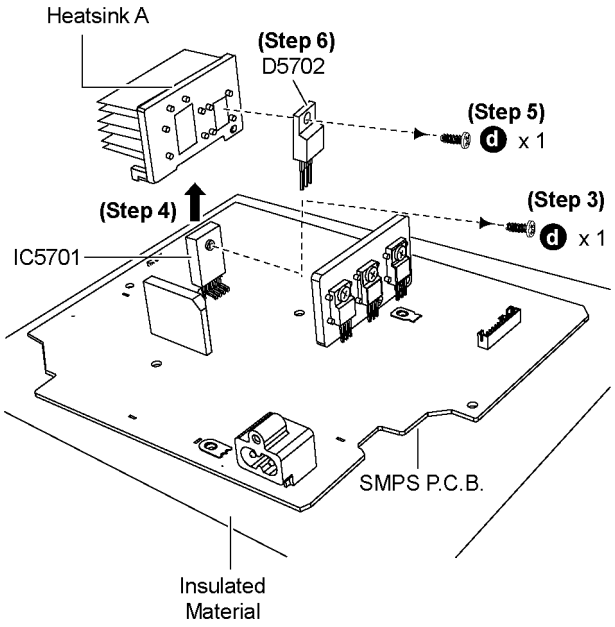
Step 3 Remove 1 screw at Switching Regulator IC (IC5701).

Step 4 Remove the Heatsink A with Rectifier Diode (D5702).

Step 5 Remove 1 screw.

Step 6 Remove the Rectifier Diode (D5702) from the Heatsink A.

Caution: Avoid touching the Heatsink A due to its high temperature after prolong use. Touching it may lead to injuries.



8.16.2. Assembly of Rectifier Diode (D5702)

Step 1 Apply grease to the Heatsink A.

Step 2 Screw the Rectifier Diode (D5702) to the Heatsink A.

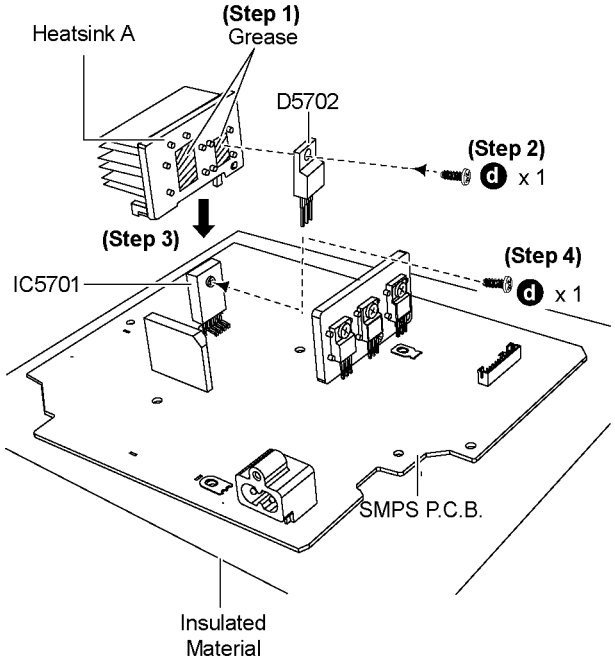
Caution: Ensure the Rectifier Diode (D5702) is tightly screwed to the Heatsink A.

Step 3 Fix the Heatsink A with Rectifier Diode (D5702) on SMPS P.C.B. in the direction of arrow.

Caution: Ensure the Heatsink A with Rectifier Diode (D5702) are properly seated on SMPS P.C.B.

Step 4 Screw the Switching Regulator IC (IC5701) to the Heatsink A.

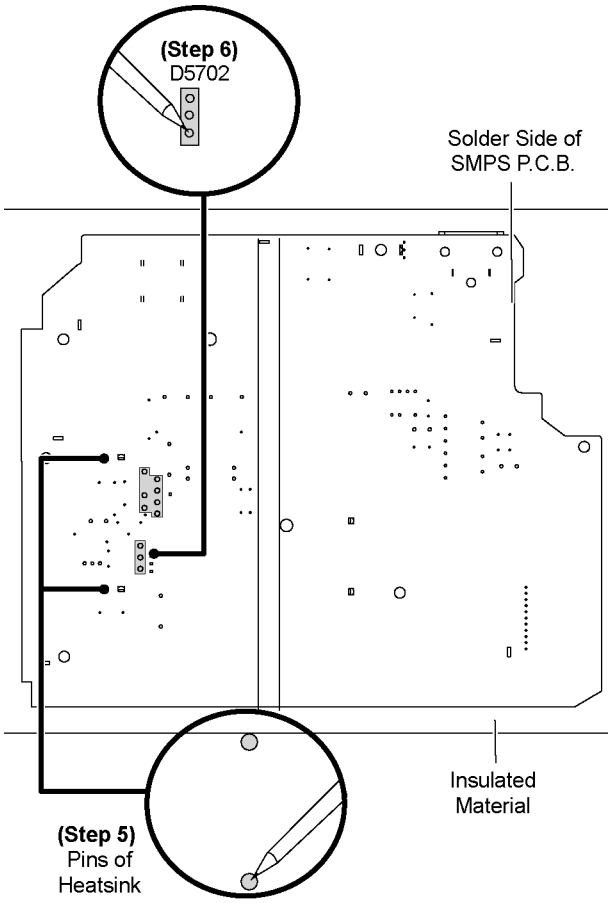
Caution: Ensure that Switching Regulator IC (IC5701) is tightly screwed to the Heatsink A.



Step 5 Solder pins of the Rectifier Diode (D5702) on the solder side of SMPS P.C.B..

Step 6 Solder pins of the Heatsink A on the solder side of SMPS P.C.B..

Caution: Ensure pins of the Rectifier Diode (D5702) are properly seated and soldered on SMPS P.C.B..

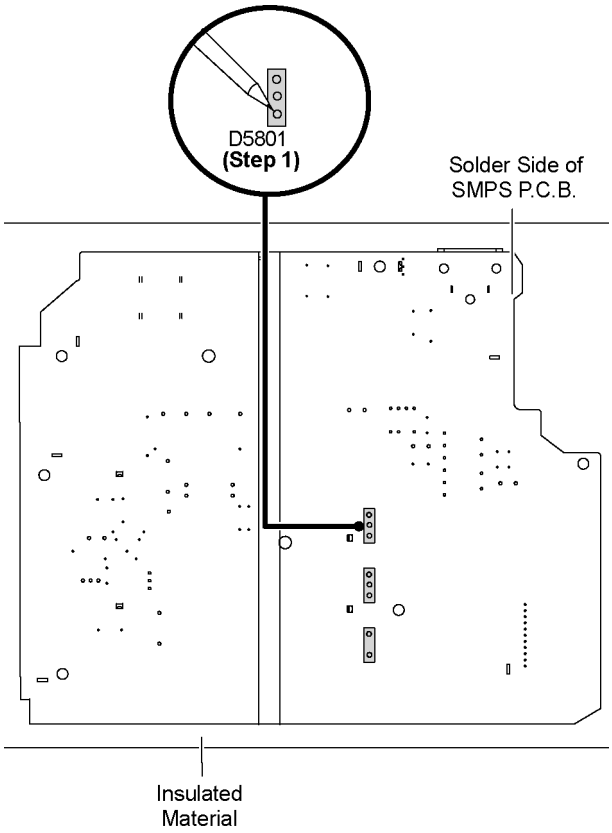


8.17. Replacement of Rectifier Diode (D5801)

- **Refer to "Disassembly of SMPS P.C.B.".**

8.17.1. Disassembly of Rectifier Diode (D5801)

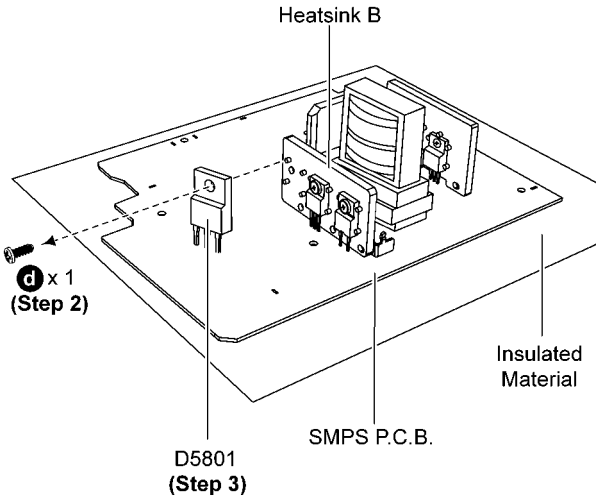
Step 1 Desolder pins of the Rectifier Diode (D5801) on the solder side of SMPS P.C.B.



Step 2 Remove 1 screw at Rectifier Diode (D5801).

Step 3 Remove the Rectifier Diode (D5801) from the SMPS P.C.B..

Caution: Avoid touching the Heatsink B due to its high temperature after prolonged use. Touching it may lead to injuries.



8.17.2. Assembly of Rectifier Diode (D5801)

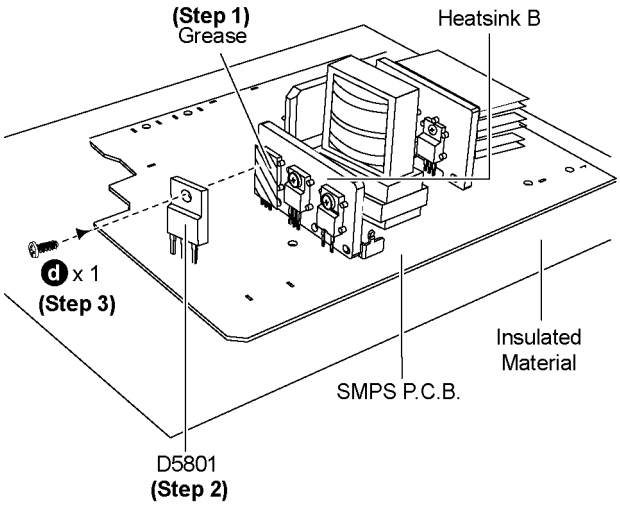
Step 1 Apply grease to the Heatsink B.

Step 2 Fix the Rectifier Diode (D5801) on SMPS P.C.B.

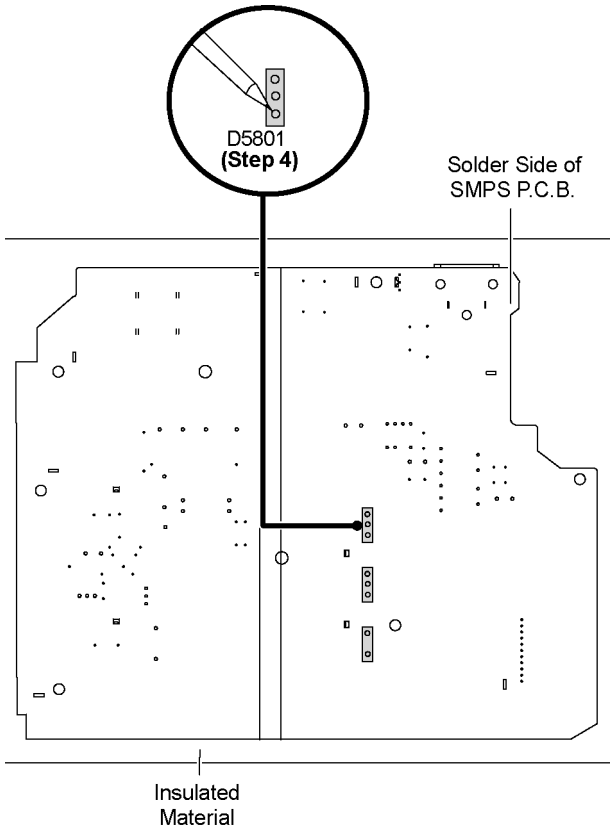
Caution: Ensure pins of the Rectifier Diode (D5801) is properly inserted on SMPS P.C.B.

Step 3 Screw the Rectifier Diode (D5801) to the Heatsink B.

Caution: Ensure the Rectifier Diode (D5801) is tightly screwed to the Heatsink B.



Step 4 Solder pins of the Rectifier Diode (D5801) on the solder side of SMPS P.C.B..

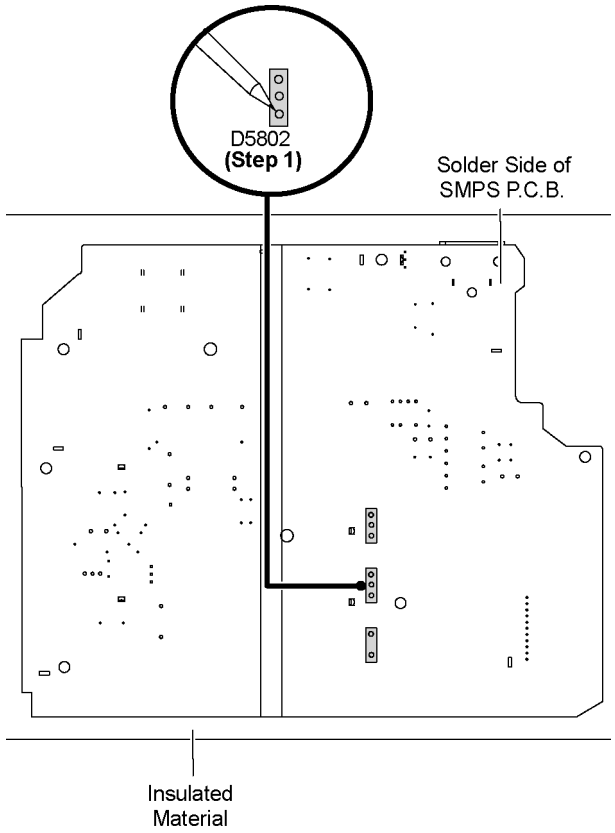


8.18. Replacement of Rectifier Diode (D5802)

- **Refer to "Disassembly of SMPS P.C.B.".**

8.18.1. Disassembly of Rectifier Diode (D5802)

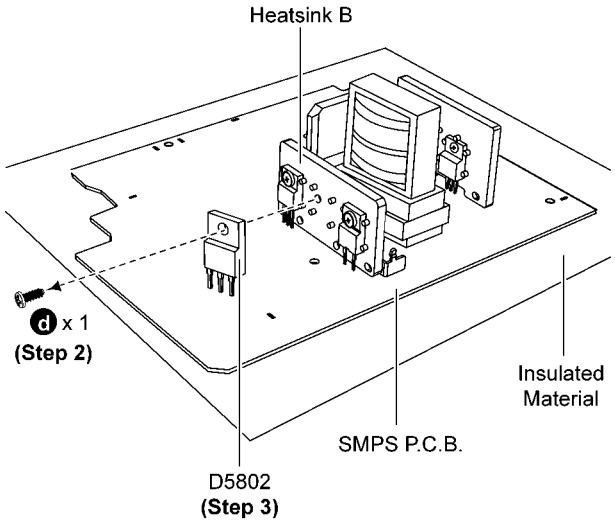
Step 1 Desolder pins of the Rectifier Diode (D5802) on the solder side of SMPS P.C.B.



Step 2 Remove 1 screw at Rectifier Diode (D5802).

Step 3 Remove the Rectifier Diode (D5802) from SMPS P.C.B..

Caution: Avoid touching the Heatsink B due to its high temperature after prolong use. Touching it may lead to injuries.



8.18.2. Assembly of Rectifier Diode (D5802)

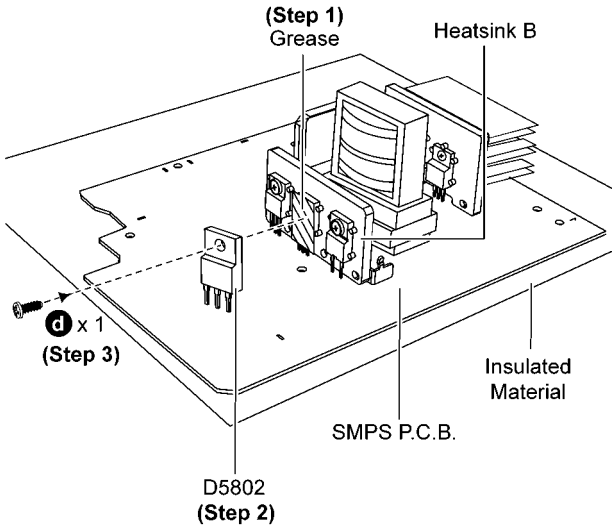
Step 1 Apply grease to the Heatsink B.

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

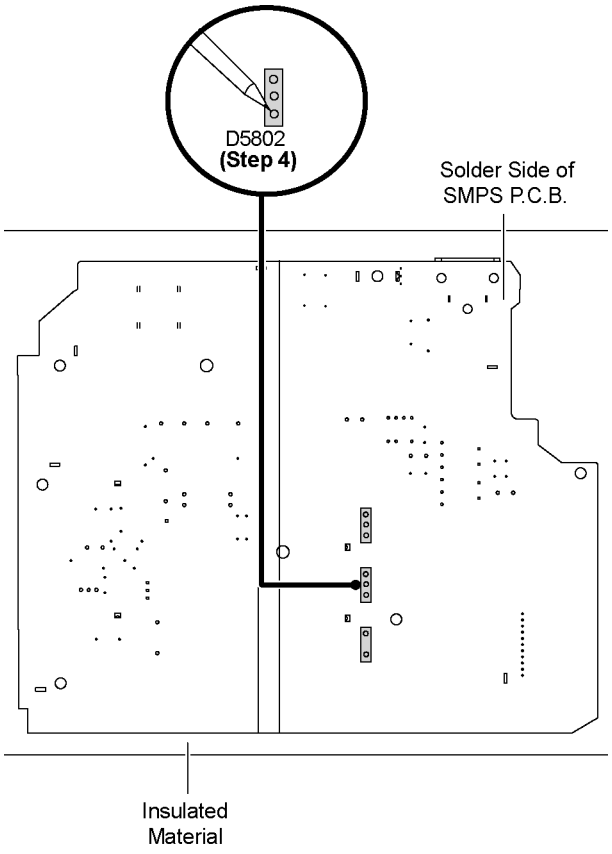
Caution: Ensure pins of the Rectifier Diode (D5802) is properly inserted on SMPS P.C.B.

Step 3 Screw the Rectifier Diode (D5802) to the Heatsink B.

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



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

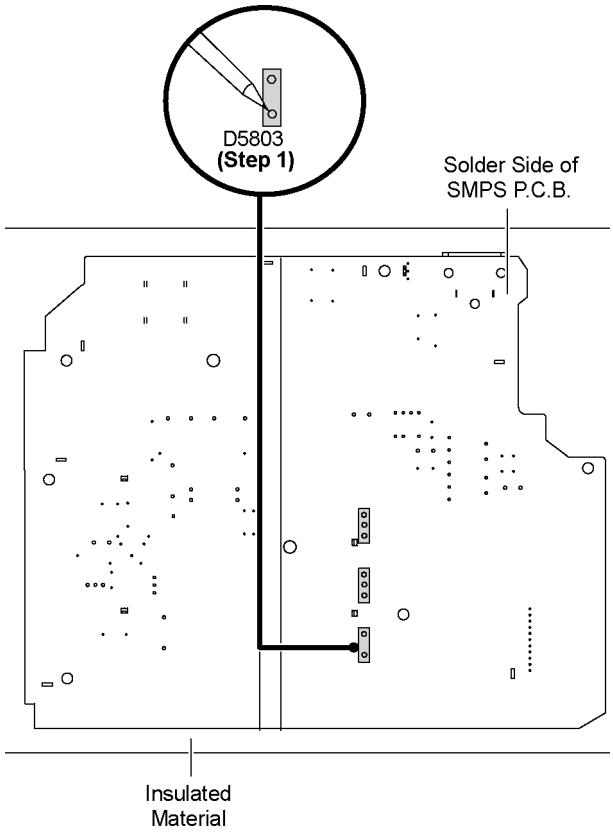


8.19. Replacement of Regulator Diode (D5803)

- **Refer to "Disassembly of SMPS P.C.B.".**

8.19.1. Disassembly of Rectifier Diode (D5803)

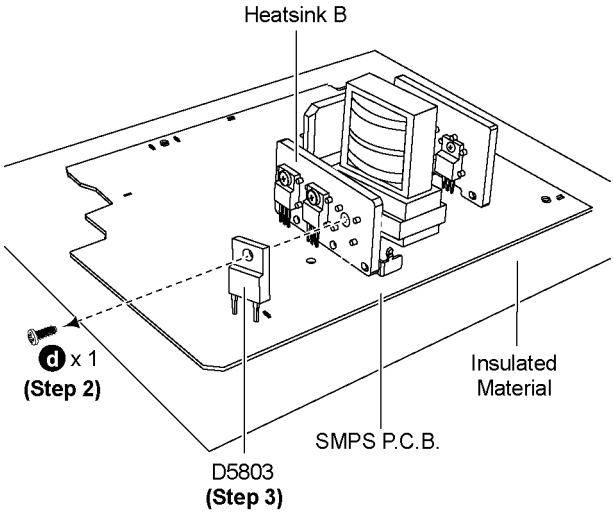
Step 1 Desolder pins of the Rectifier Diode (D5803) on the solder side of SMPS P.C.B.



Step 2 Remove 1 screw at Rectifier Diode (D5803).

Step 3 Remove the Rectifier Diode (D5803) from the SMPS P.C.B..

Caution: Avoid touching the Heatsink B due to its high temperature after prolonged use. Touching it may lead to injuries.



8.19.2. Assembly of Rectifier Diode (D5803)

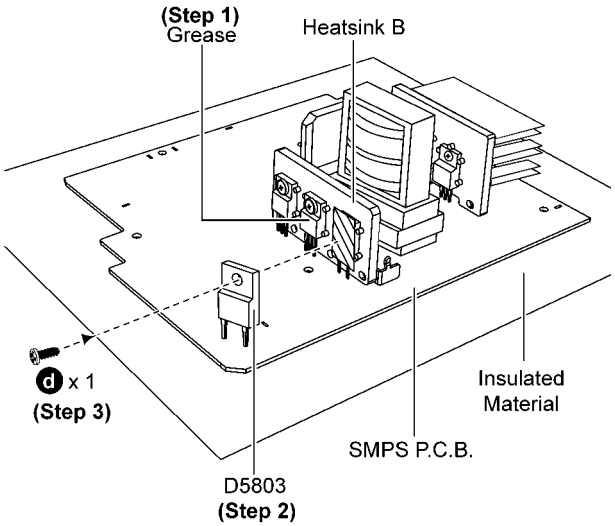
Step 1 Apply grease to the Heatsink B.

Step 2 Fix Rectifier Diode (D5803) on SMPS P.C.B.

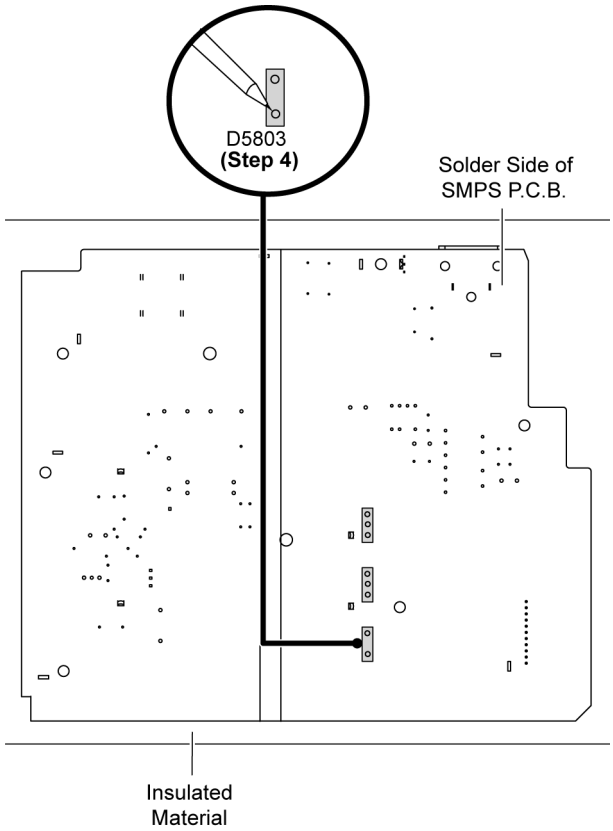
Caution: Ensure pins of the Rectifier Diode (D5803) are properly inserted on SMPS P.C.B.

Step 3 Screw the Rectifier diode (D5803) to the Heatsink B.

Caution: Ensure the Rectifier Diode (D5803) is tightly screwed to the Heatsink B.



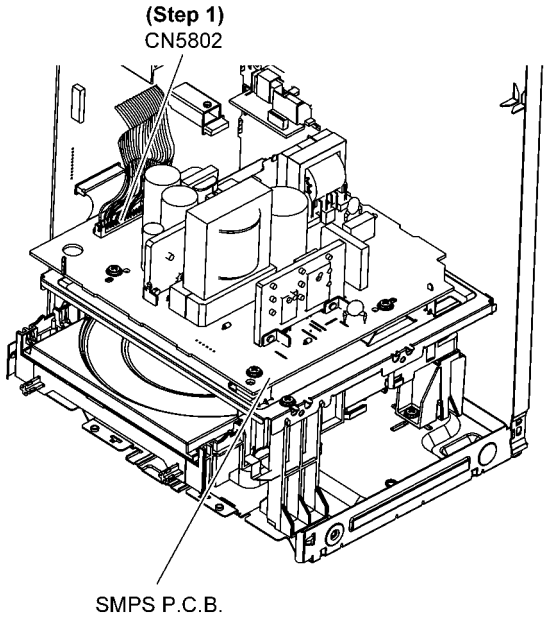
Step 4 Solder pins of the Rectifier Diode (D5803) on the solder side of SMPS P.C.B.



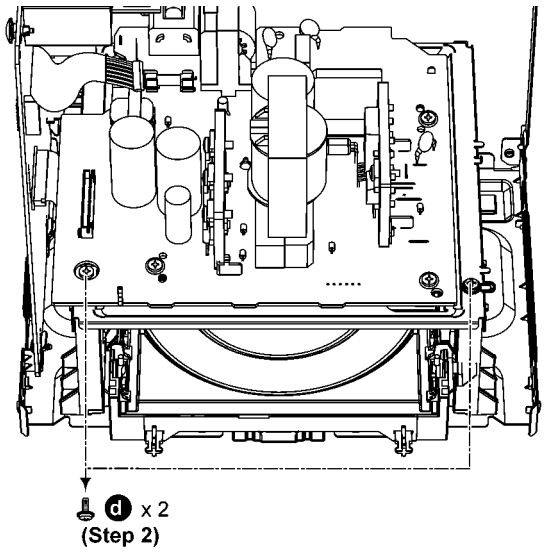
8.20. Disassembly of CD Mechanism Unit (BRS1C)

- **Refer to "Disassembly of Top Cabinet".**
- **Refer to "Disassembly of Front Panel Unit".**

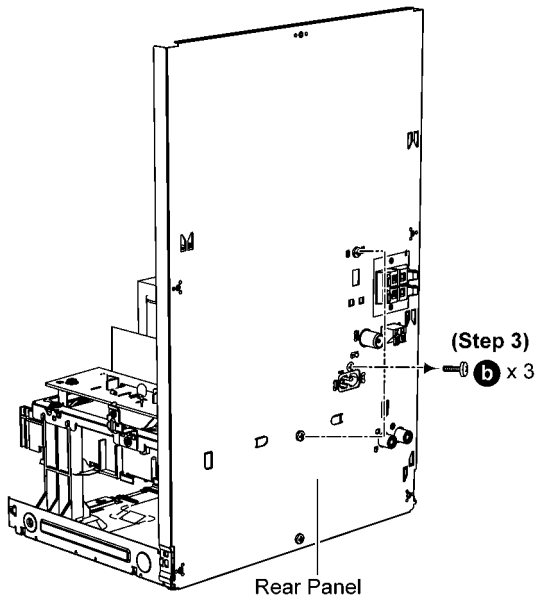
Step 1 Detach 15P Wire at the connector (CN5802) on SMPS P.C.B..



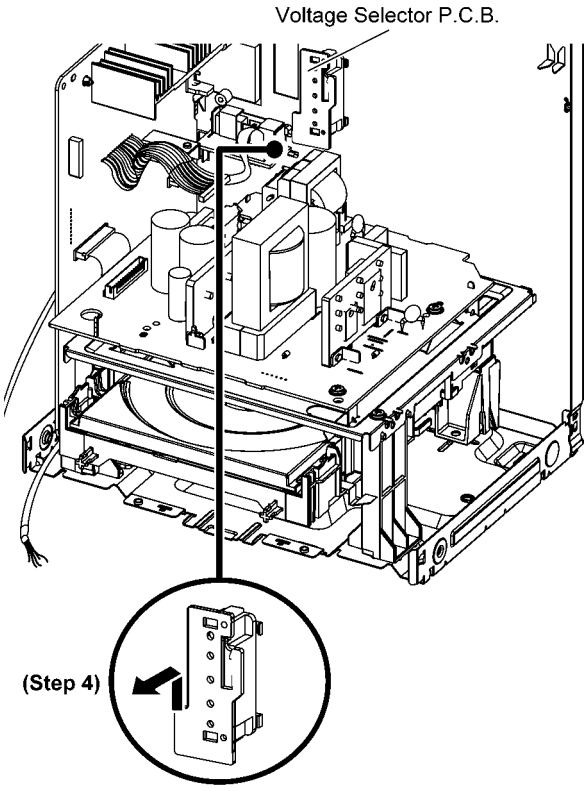
Step 2 Remove 2 screws.



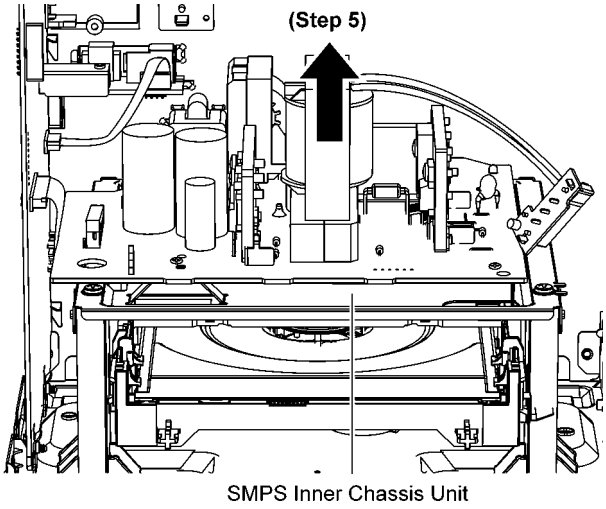
Step 3 Remove 3 screws.



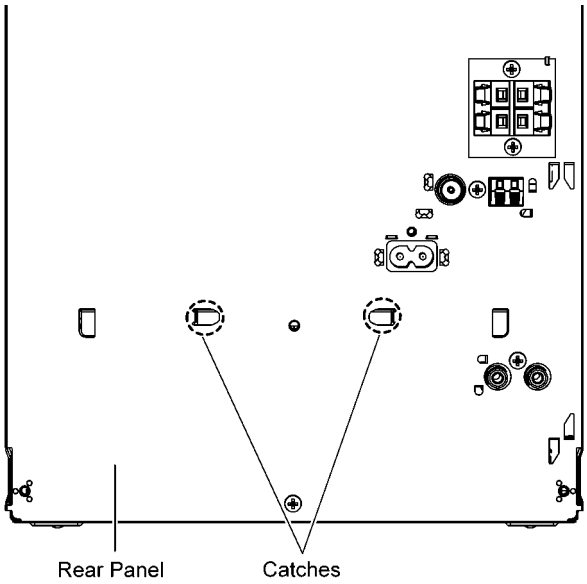
Step 4 Detach Voltage Selector P.C.B. from Rear Panel as arrow shown.



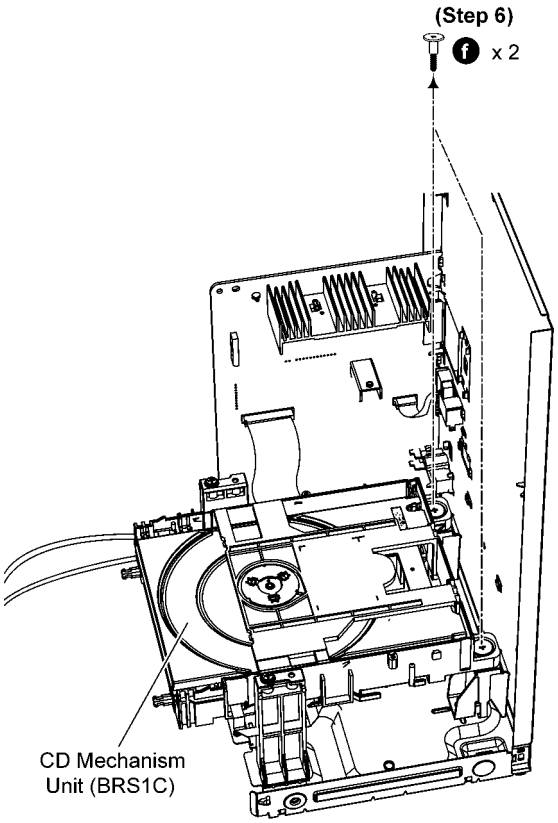
Step 5 Lift up and remove SMPS Inner Chassis Unit.



Caution: During assembling, ensure that SMPS Inner Chassis is catched onto Rear Panel properly.



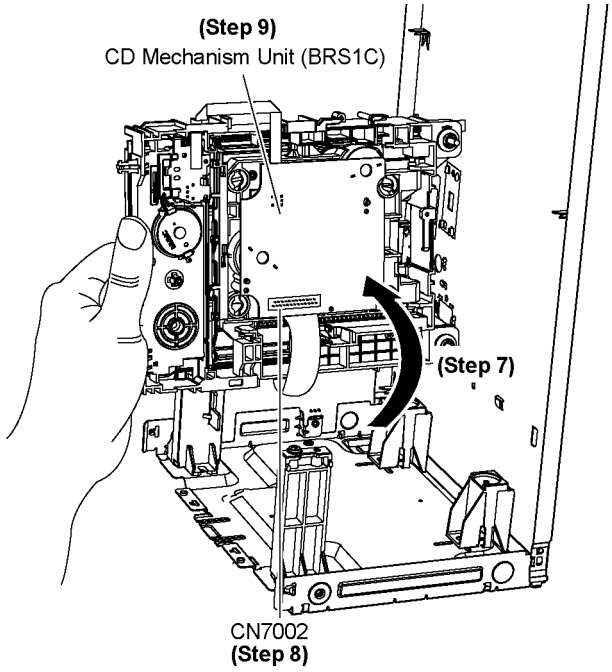
Step 6 Remove 2 screws.



Step 7 Lift up & upset the CD Mechanism Unit (BRS1C) as shown.

Step 8 Detach 27P FFC at the connector (CN7002) on CD Servo P.C.B..

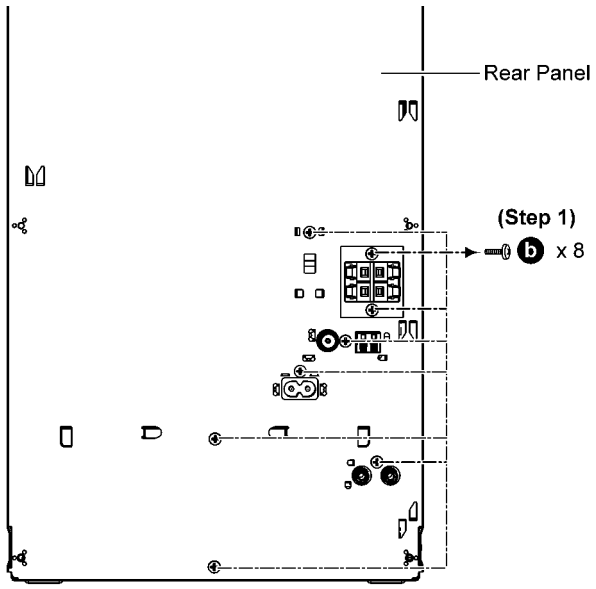
Step 9 Remove CD Mechanism Unit (BRS1C).



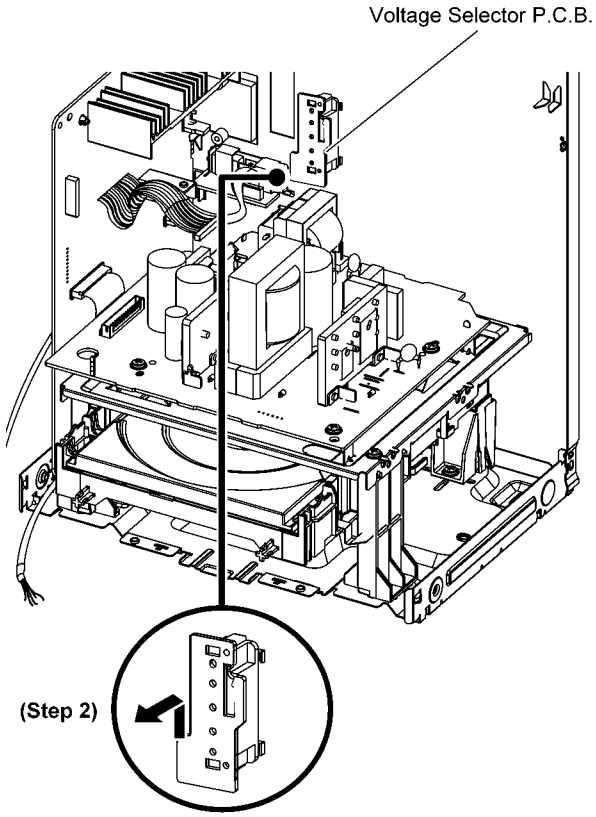
8.21. Disassembly of Rear Panel

- **Refer to "Disassembly of Top Cabinet".**
- **Refer to "Disassembly of Tuner P.C.B.".**

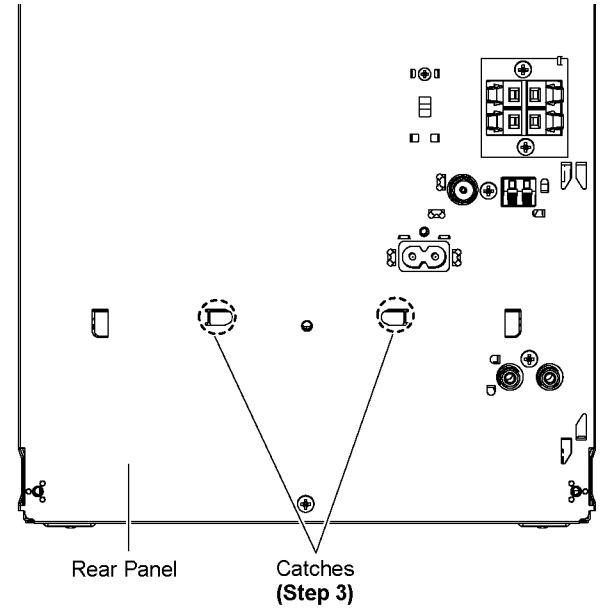
Step 1 Remove 8 screws.



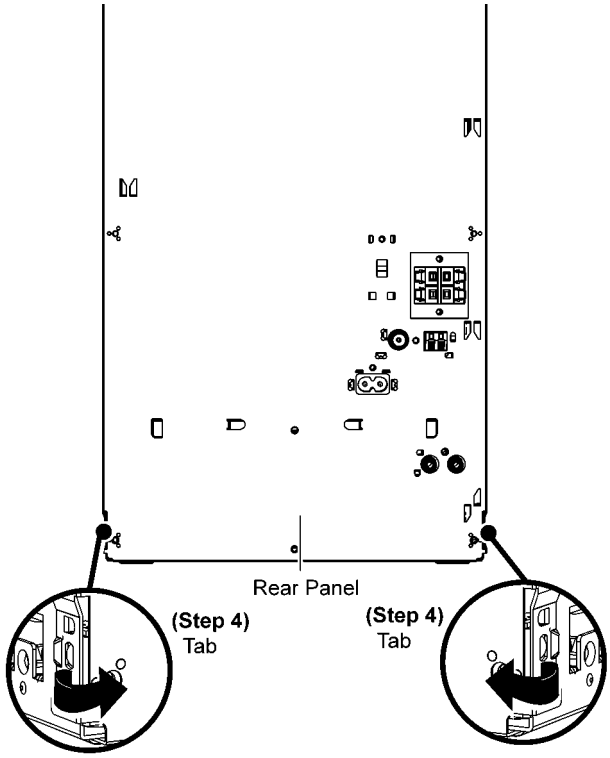
Step 2 Detach Voltage Selector P.C.B. from Rear Panel as arrow shown.



Step 3 Lift up SMPS Inner Chassis Unit to release the catch between the SMPS Inner Chassis Unit & the Rear Panel.



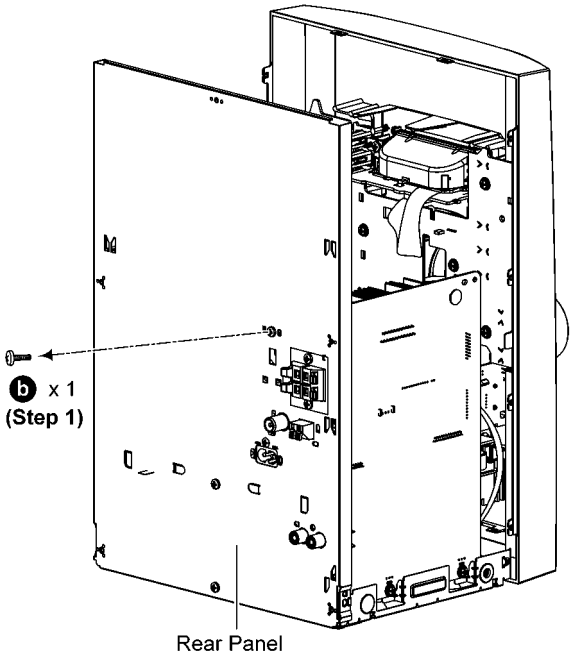
Step 4 Release 2 tabs.
Step 5 Remove Rear Panel.



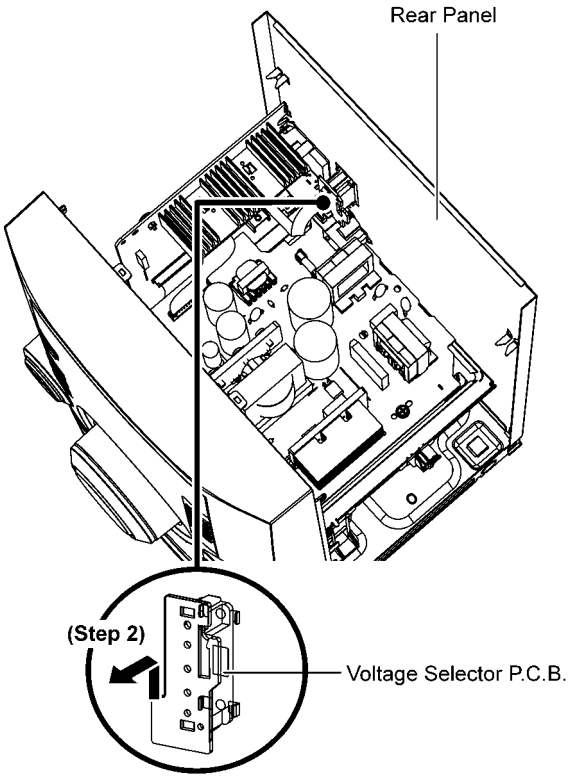
8.22. Disassembly of Voltage Selector P.C.B.

- **Refer to "Disassembly of Top Cabinet".**

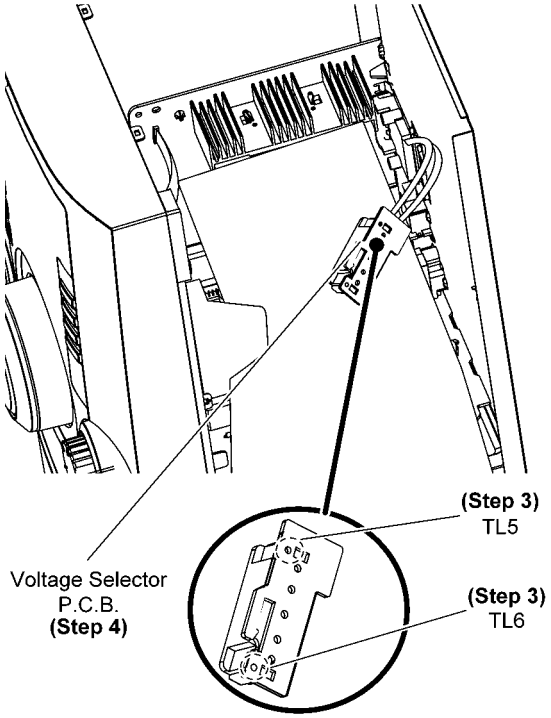
Step 1 Remove 1 screw.



Step 2 Detach Voltage Selector P.C.B. from Rear Panel.



Step 3 Desolder 2 Wire pins, TL5 (Black), TL6 (Red) on the Voltage Selector P.C.B..
Step 4 Remove Voltage Selector P.C.B..



9 Replacement of Traverse Unit

9.1. Disassembly of Traverse Unit

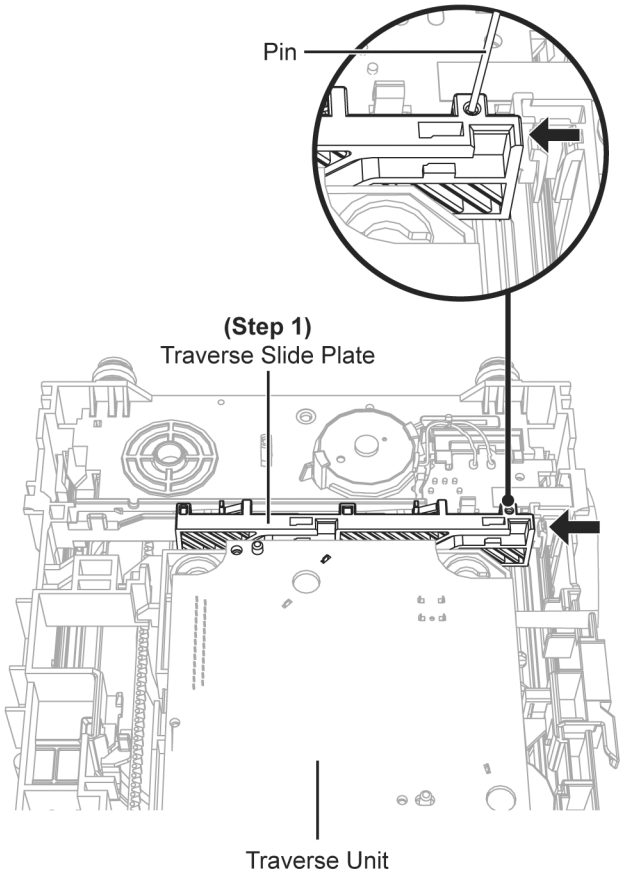
- **Refer to “Disassembly of CD Mechanism Unit (BRS1C)”.**

Caution: Refer to “2.4 Handling Precaution for Traverse Unit” to prevent static damage to the Optical Pickup Unit.

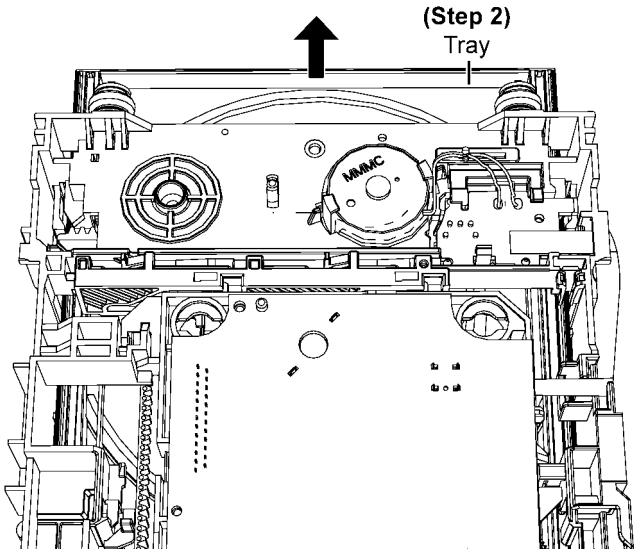
Note:

1. When the optical pickup unit is defective, the overall traverse unit needs replacement.
2. Please note that appropriate actions need to be taken to prevent static damage.
3. Ensure that the circuit is open before assembly BRS1 to the main set.

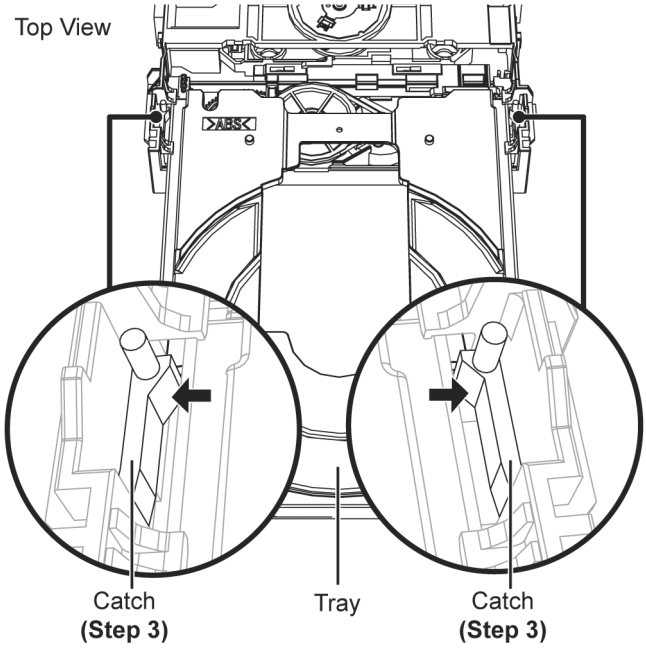
Step 1: Use a pin to slide the Traverse Slide Plate until it come to a stop.



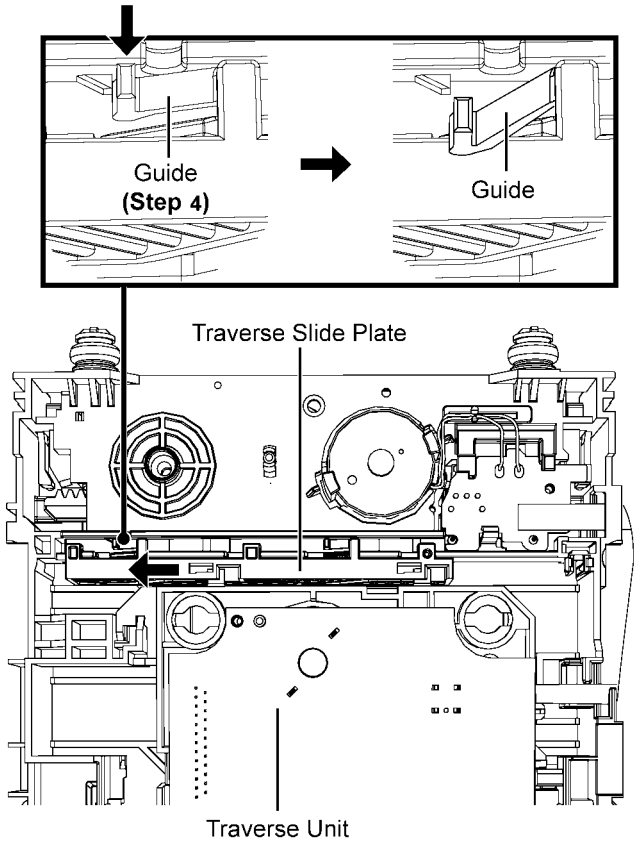
Step 2: Slide the tray out fully.



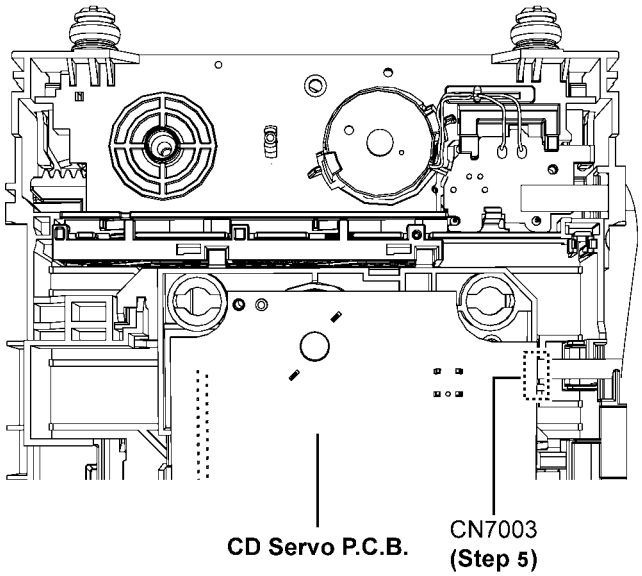
Step 3: Release the catches & remove the tray.



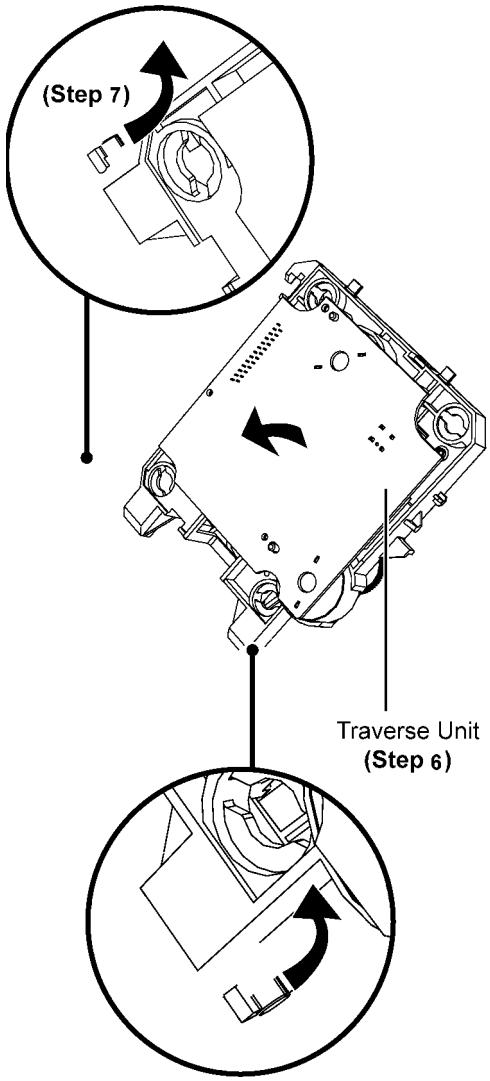
Step 4: Release the guide as shown & slide the Traverse Slide Plate to the end.



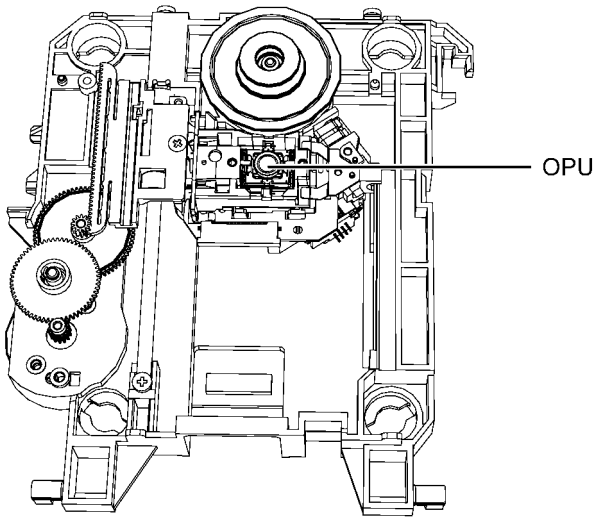
Step 5: Detach 5P FFC at the connector (CN7003) on CD Servo P.C.B..



Step 6: Lift the Traverse Unit by approximately 45°.
Step 7: Slide out the traverse unit as arrow shown.

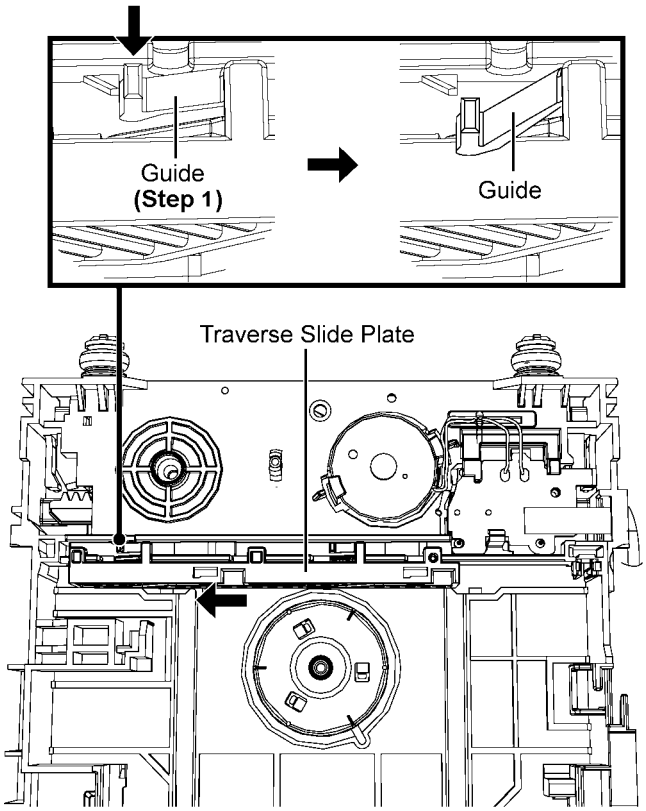


Caution: Avoid touching the surface of the Optical Pickup Unit.

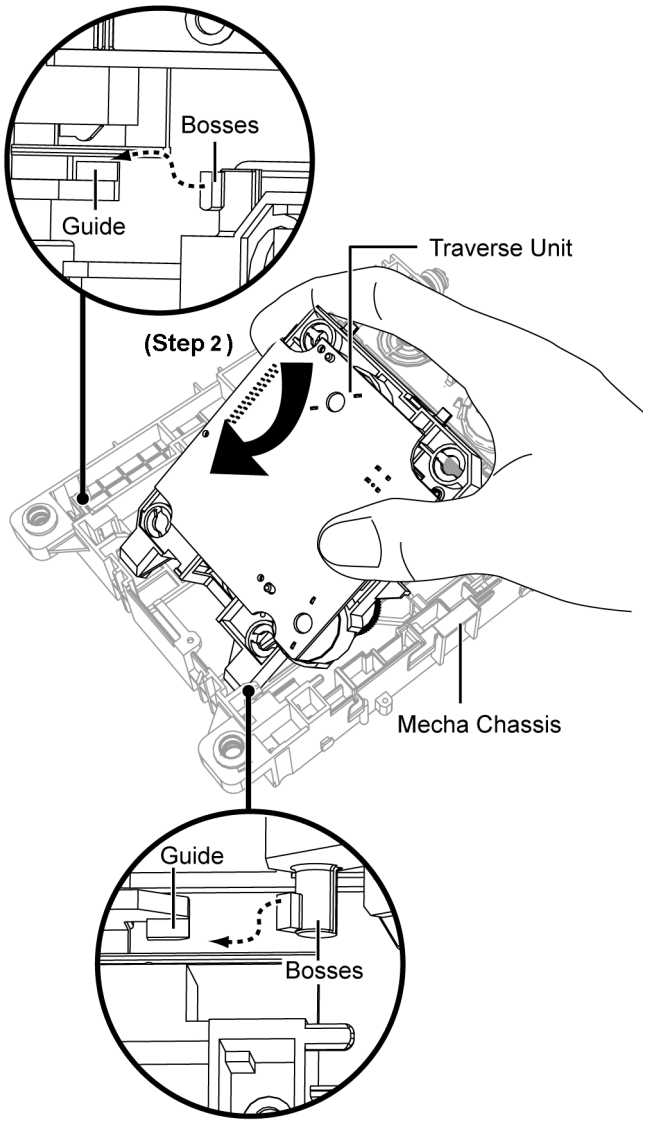


9.2. Assembly of Traverse Unit

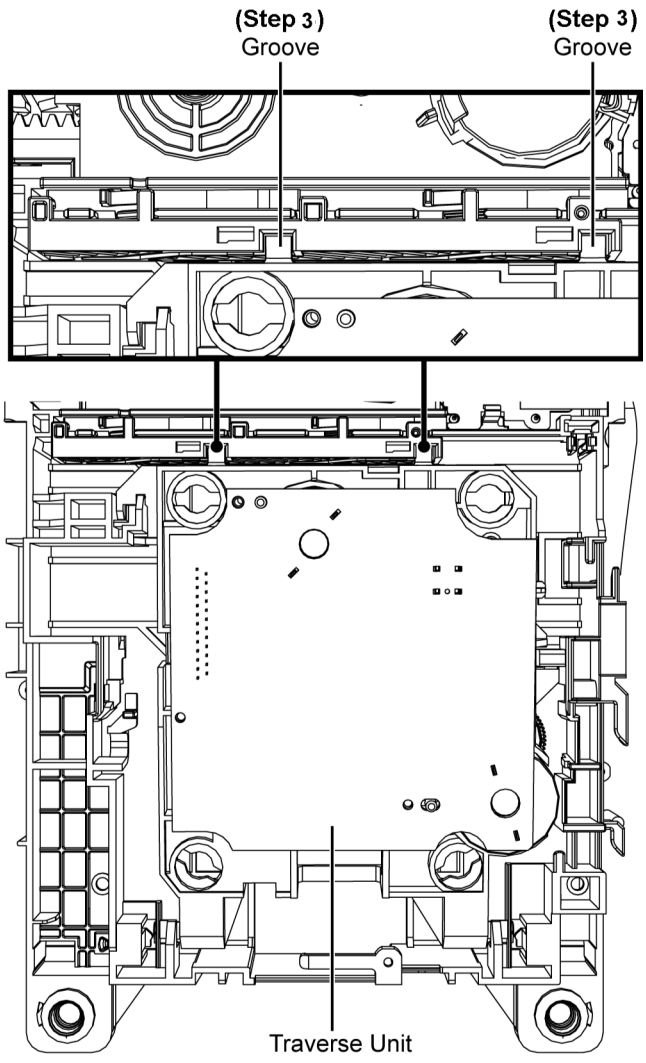
Step 1: Release the guide as shown & slide the Traverse Slide Plate to the end.



Step 2: Slot the Traverse Unit at approximately 45° into the mecha chassis as arrow shown.

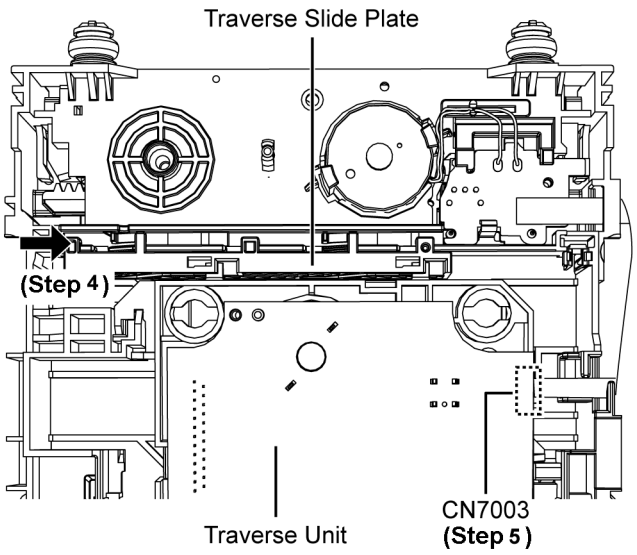


Step 3: Ensure the Traverse Unit seated properly onto the Groove.

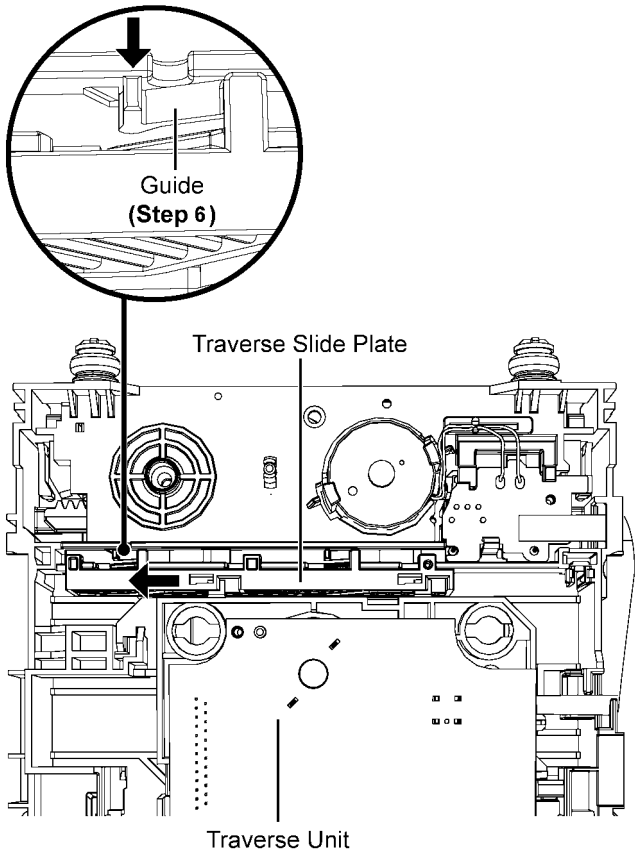


Step 4: Slide Traverse Slide Plate to lock the Traverse Unit as shown.

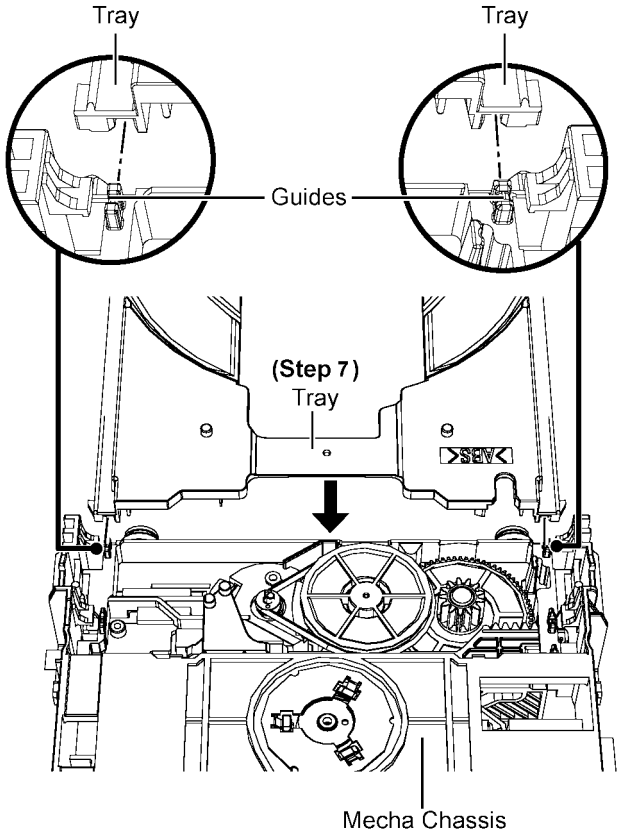
Step 5: Connect 5P FFC at the connector (CN7003) on CD Servo P.C.B..



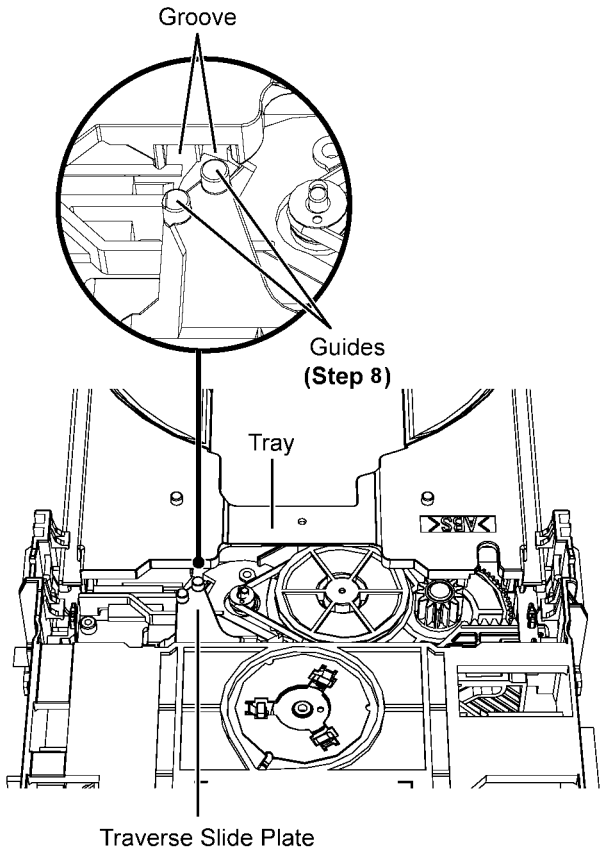
Step 6: Slide the Traverse Slide Plate unit it stop at the Guide.



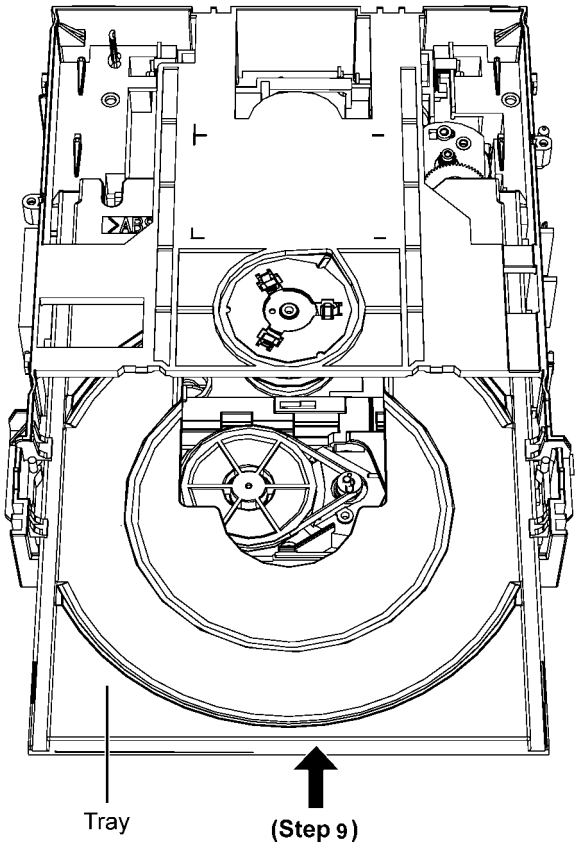
Step 7: Slot the Tray into the guides as Picture shown.



Step 8: Ensure the guides is align with the groove when sliding the tray in.



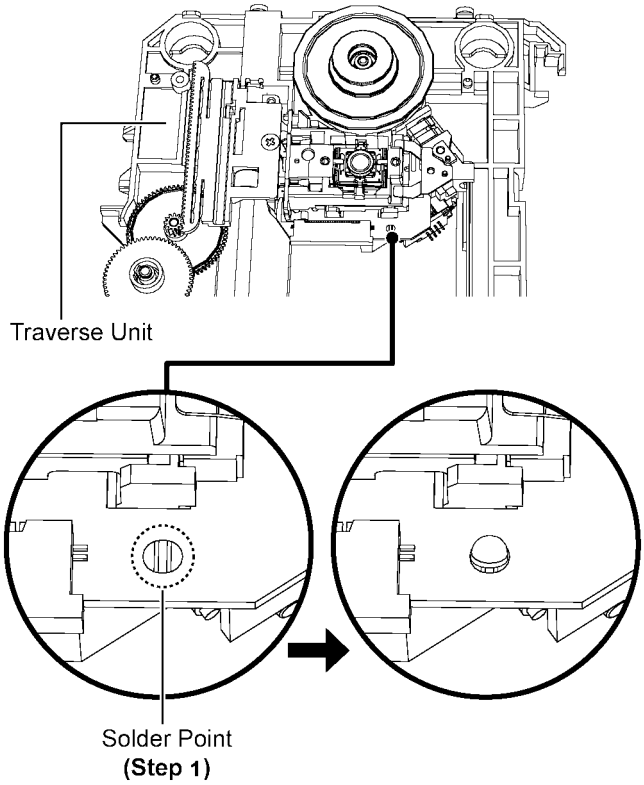
Step 9: Slide the tray in fully.



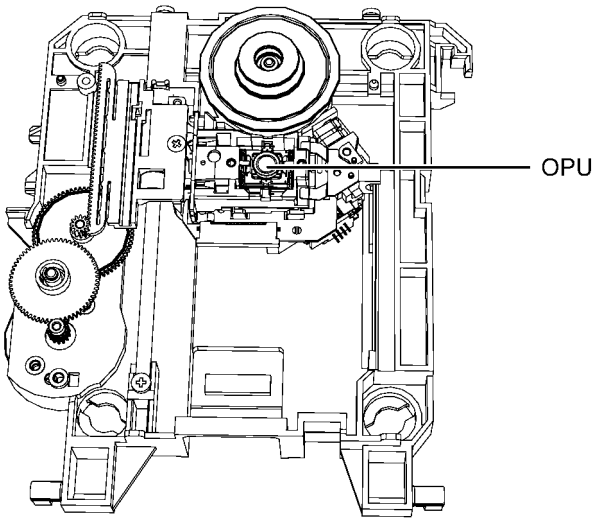
9.3. Disassembly of CD Servo P.C.B.

- **Refer to "Disassembly of CD Mechanism Unit (BRS1C)".**
- **Refer to "Replacement of Traverse Unit".**

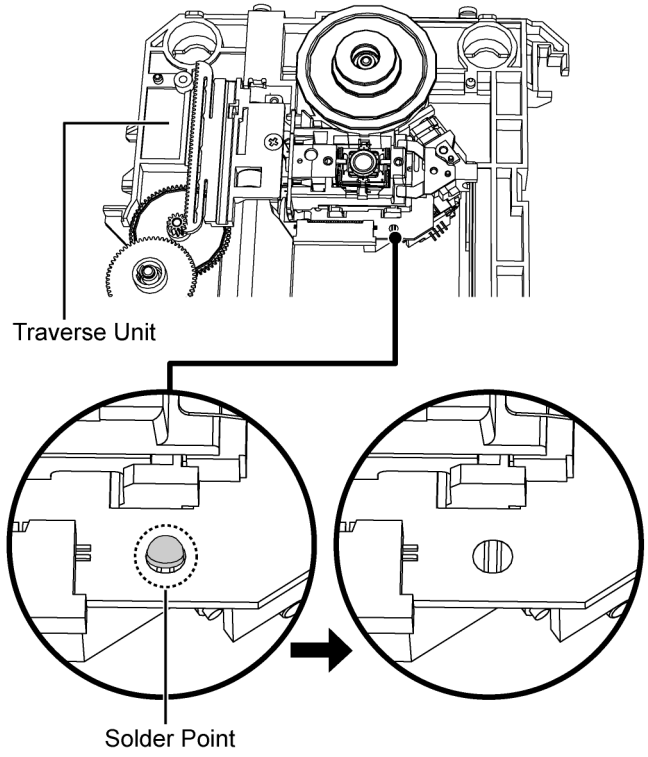
Caution: It is required to short the circuit.
Step 1: Solder the 3 solder points.



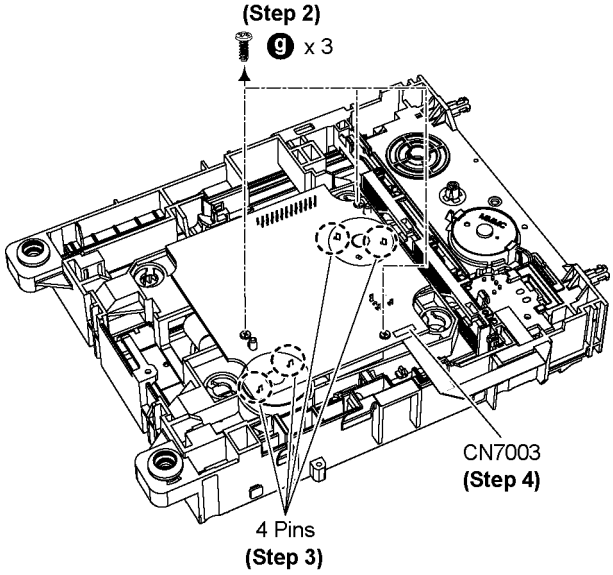
Caution 1: Avoid touching the surface of the Traverse Unit.



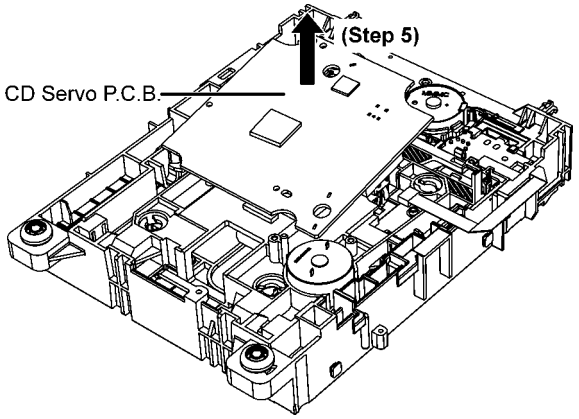
Caution 2: During assembling, desolder the solder points.



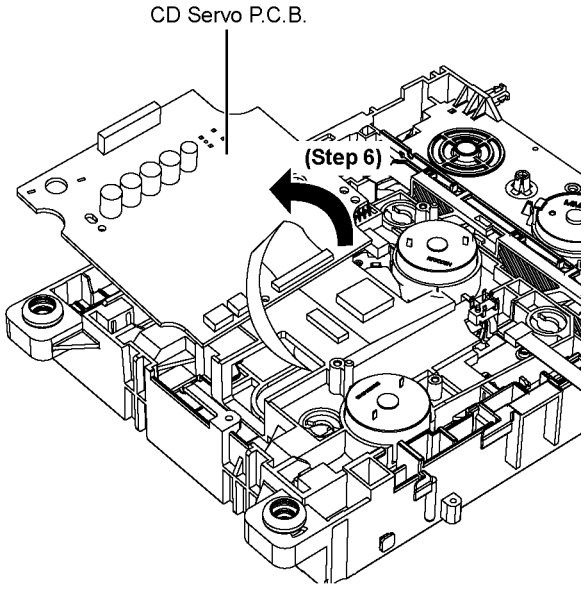
Step 2 Remove 3 screws.
Step 3 Desolder 4 pins.
Step 4 Detach 5P FFC at the connector (CN7003) on CD Servo P.C.B..



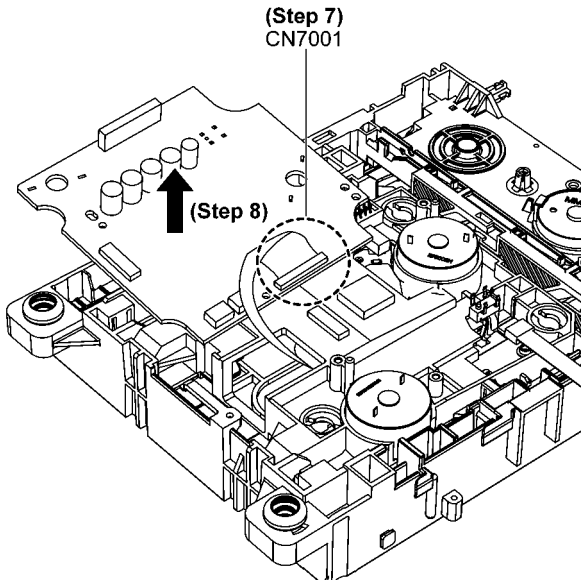
Step 5 Slightly lift up the CD Servo P.C.B.



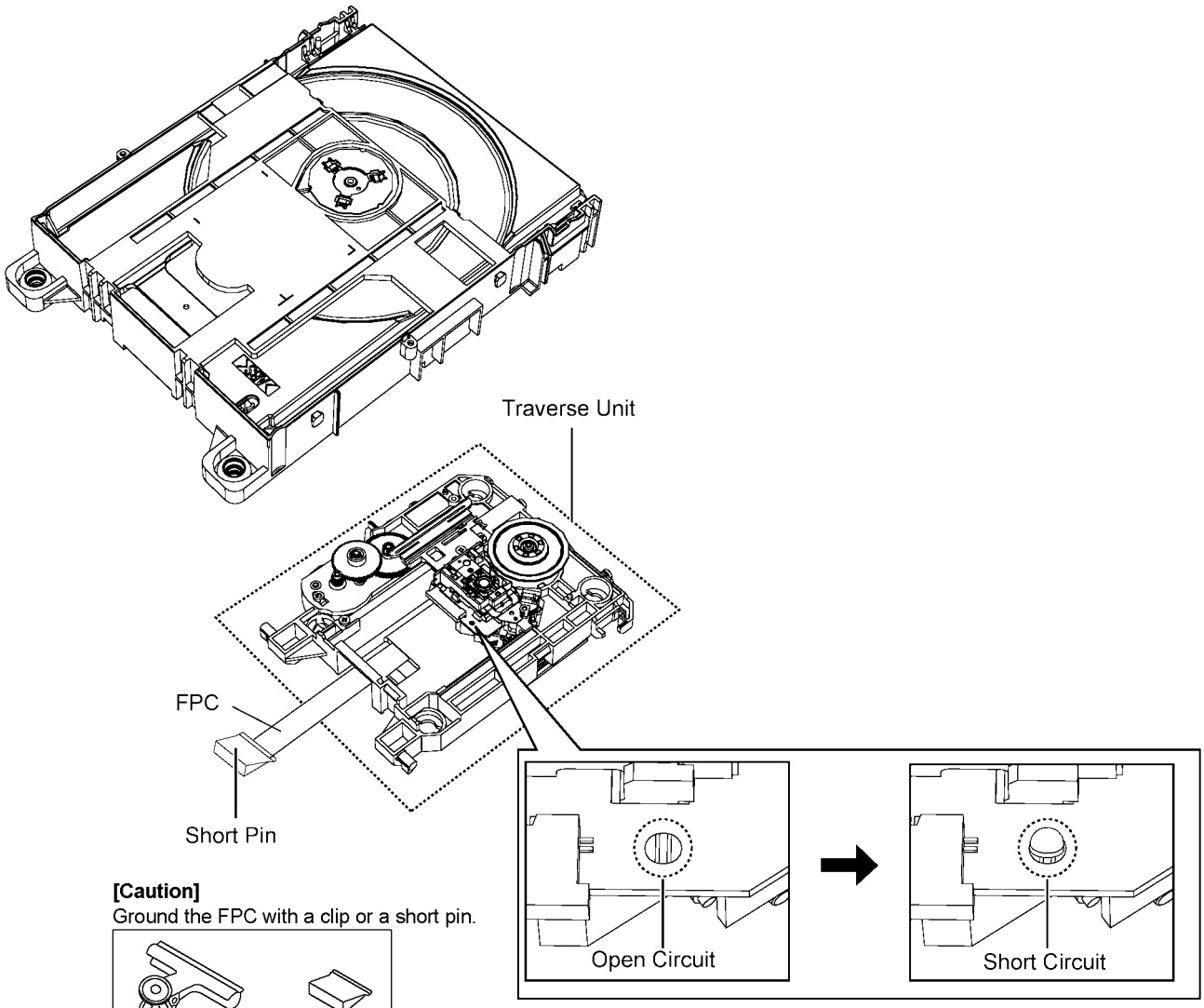
Step 6 Flip the CD Servo P.C.B.



Step 7 Detach 24P FPC at the connector (CN7001) on CD Servo P.C.B.
Step 8 Remove CD Servo P.C.B..



Step 9 Ground the 24P FFC with a short pin.



[Caution]
Ground the FPC with a clip or a short pin.

Clip or Short Pin

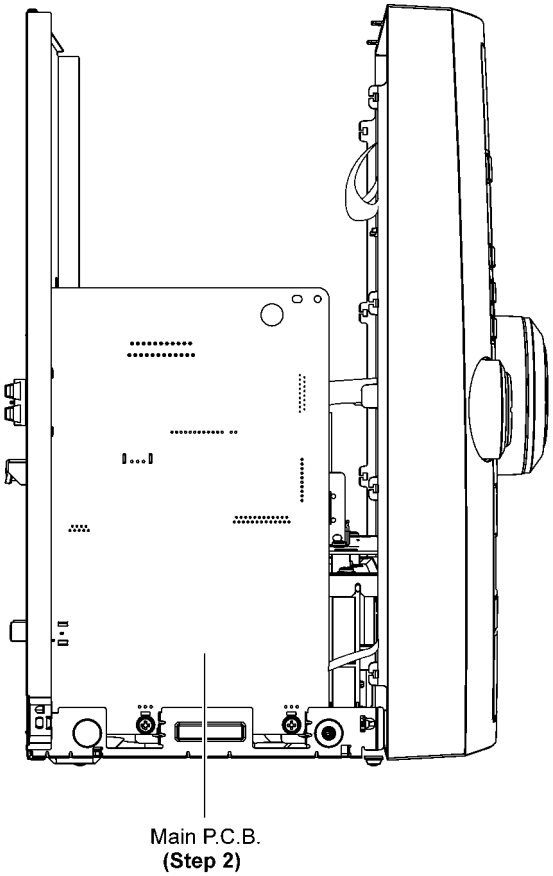
Figure A

10 Service Position

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

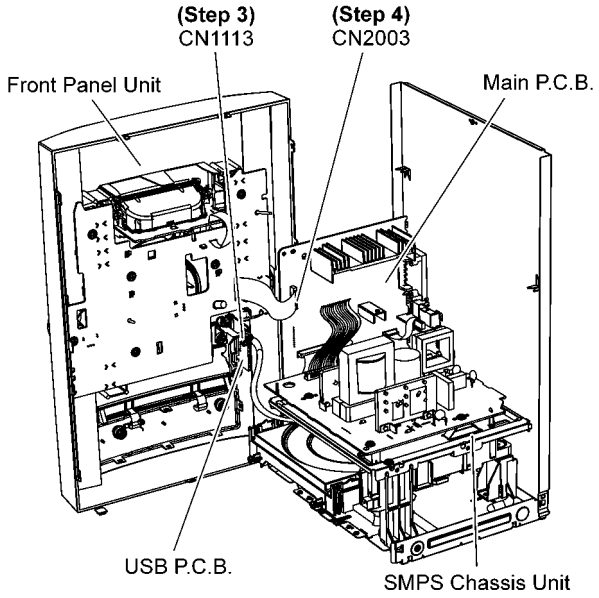
10.1. Checking and Repairing of Main P.C.B.

Step 1 Remove Top Cabinet.
Step 2 Main P.C.B. can be checked & repaired at its original position.



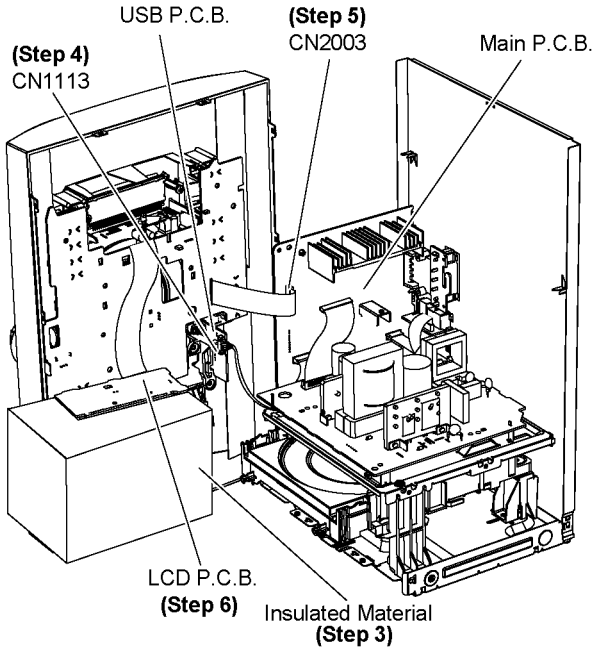
10.2. Checking and Repairing of Panel P.C.B.

Step 1 Remove Top Cabinet.
Step 2 Remove Front Panel Unit.
Step 3 Attach 5P Cable Wire to the connector (CN1113) on USB P.C.B..
Step 4 Attach 17P FFC to the connector (CN2003) on Main P.C.B..
Step 5 Panel P.C.B. can be checked and repaired as diagram shown.



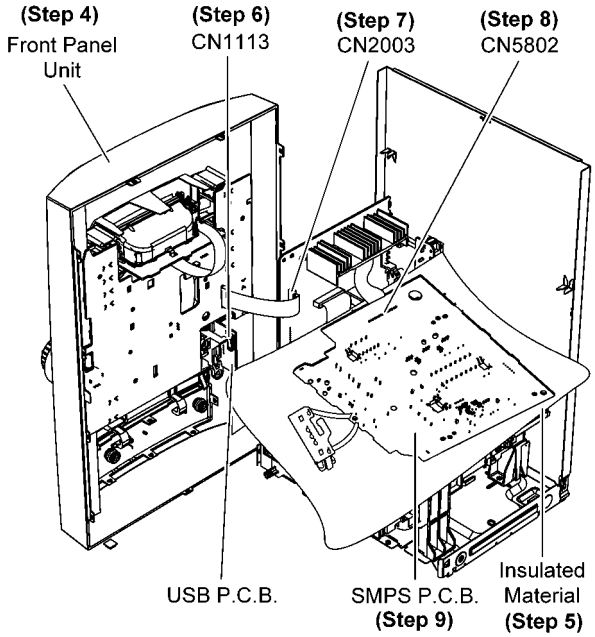
10.3. Checking and Repairing of LCD P.C.B.

Step 1 Remove Top Cabinet.
Step 2 Remove Front Panel Unit.
Step 3 Position LCD Unit on the insulated material as shown.
Step 4 Attach 5P Cable Wire to the connector (CN1113) on USB P.C.B..
Step 5 Attach 17P FFC to the connector (CN2003) on Main P.C.B..
Step 6 LCD P.C.B. can be checked and repaired as diagram shown.



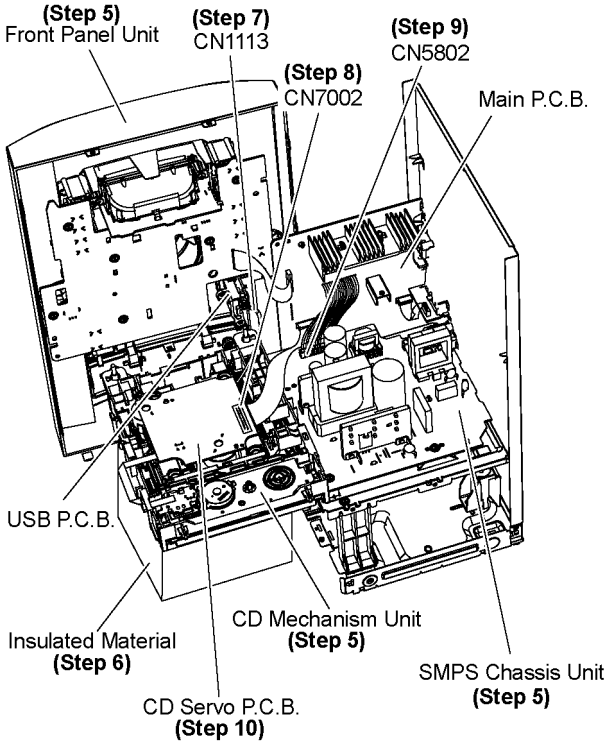
10.4. Checking and Repairing of SMPS P.C.B.

Step 1 Remove Top Cabinet.
Step 2 Remove Front Panel Unit.
Step 3 Remove SMPS P.C.B..
Step 4 Position Front Panel Unit as diagram shown.
Step 5 Position SMPS P.C.B. on the insulated material.
Step 6 Attach 5P Cable Wire to the connector (CN1113) on USB P.C.B..
Step 7 Attach 17P FFC to the connector (CN2003) on Main P.C.B..
Step 8 Attach 15P Cable Wire to the connector (CN5802) on SMPS P.C.B..
Step 9 SMPS P.C.B. can be checked and repaired as diagram shown.



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

Step 1 Remove Top Cabinet.
Step 2 Remove Front Panel Unit.
Step 3 Remove SMPS Chassis Unit.
Step 4 Remove CD Mechanism Unit (BRS1C).
Step 5 Position Front Panel Unit, SMPS Chassis Unit as diagram shown.
Step 6 Position CD Mechanism Unit (BRS1C) on the insulated material.
Step 7 Attach 5P Cable Wire to the connector (CN1113) on USB P.C.B..
Step 8 Attach 27P FFC to the connector (CN7002) on CD Servo P.C.B..
Step 9 Attach 15P Cable Wire to the connector (CN5802) on SMPS P.C.B..
Step 10 CD Servo P.C.B. can be checked and repaired as diagram shown.



11 Voltage & Waveform Chart

Note:

- Indication Voltage Values are in 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 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.

11.1. CD Servo P.C.B.

REF NO.	IC7002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.6	0	0	1.6	3.3	3.3	3.2	7.5	2.0	2.0	3.9	3.9	2.7	2.5	2.8	2.5	1.1	3.8	5.1	0

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

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

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

SA-AKX12PH/PN CD SERVO P.C.B.

11.2. Main P.C.B. (1/2)

REF NO.	IC2003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
POWER ON	0	0	0	3.1	0	0	3.2	0	0	0	0	1.5	1.5	0	1.4	1.6	3.2	1.8	3.3	3.3
STANDBY	0	0	0	3.1	0	0	0	0	0	0	0	1.5	1.5	0	1.4	1.6	3.2	1.8	3.3	3.3

REF NO.	IC2003																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
POWER ON	3.2	3.2	3.2	0	0	1.9	0	3.2	3.0	0	3.2	3.1	3.2	3.2	3.1	3.2	1.7	0	0	0
STANDBY	3.2	3.2	3.2	0	0	1.9	0	3.2	3.0	0	3.2	3.1	3.2	3.2	3.1	3.2	1.7	0	0	0

REF NO.	IC2003																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
POWER ON	0	3.1	0	3.2	0	3.1	0	3.2	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	3.1	0	3.2	0	3.1	0	3.2	0	0	0	0	0	0	0	0	0	0	0	0

REF NO.	IC2003																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
POWER ON	0	3.2	0	0	3.2	3.2	3.3	3.2	0	0	0	0	3.3	3.3	3.3	0	0	0	3.3	3.3
STANDBY	0	3.2	0	0	3.2	3.2	3.3	3.2	0	0	0	0	0	0	0	0	0	0	0	0

REF NO.	IC2003																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
POWER ON	3.3	0	0	0	3.3	0	3.2	0	3.3	0	0	3.3	3.3	0.8	0.8	3.3	0	2.2	0	3.2
STANDBY	0	0	0	0	3.3	0	3.2	0	3.3	0	0	3.3	3.3	0.8	0.8	3.3	0	2.2	0	3.2

REF NO.	IC2006																			
MODE	1	2	3	4	5	6	7	8												
POWER ON	0	0	0	0	0	0	0	3.3												
STANDBY	0	0	0	0	0	0	0	3.3												

REF NO.	IC2009																			
MODE	1	2	3	4	5															
POWER ON	5.2	0	5.2	0	3.3															
STANDBY	5.2	0	5.2	0	3.3															

REF NO.	IC2010																			
MODE	1	2	3																	
POWER ON	16.6	0	12.1																	
STANDBY	16.6	0	12.1																	

REF NO.	IC2011																			
MODE	1	2	3	4	5															
POWER ON	16.7	5.2	0	1.0	2.7															
STANDBY	16.7	5.2	0	1.0	2.7															

REF NO.	Q2011				Q2014				Q2015				Q2022				Q2035			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
POWER ON	0	3.3	0		0	0	3.1		3.2	3.2	2.5		7.7	9.8	8.1		0	35.2	0	
STANDBY	0	3.3	0		0	0	3.1		3.2	3.2	2.5		7.7	9.8	8.1		0	35.2	0	

SA-AKX12PH/PN MAIN P.C.B.

11.3. Main P.C.B. (2/2)

REF NO.	IC2101																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	4.6	0	4.6	0	4.6	0	4.6	0	4.6	0	4.6	0	0	4.6	9.3	0	3.3	3.3	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.6	9.3	0	3.3	3.3	0

REF NO.	IC2101																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
CD PLAY	4.4	4.6	4.6	4.4	4.5	4.6	4.6	4.6	4.5	4.6	4.6	4.5								
STANDBY	4.4	4.6	4.6	4.4	4.5	4.6	4.6	4.6	4.5	4.6	4.6	4.5								

REF NO.	IC2201																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	4.5	4.5	4.5	0	4.6	4.6	4.6	12.0												
STANDBY	4.5	4.5	4.5	0	4.6	4.6	4.6	12.0												

REF NO.	IC5902																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	2.5	7.7	0	35.1	0	-35.1	-26.7	35.4	8.9	16.8	-35.3	-25.3	-35.3	17.0	8.9	35.4	-35.1	-35.1	0	35.0
STANDBY	2.5	7.7	0	35.1	0	-35.1	-26.7	35.4	8.9	16.8	-35.3	-25.3	-35.3	17.0	8.9	35.4	-35.1	-35.1	0	35.0

REF NO.	IC5902																			
MODE	21	22	23																	
CD PLAY	7.7	0	0																	
STANDBY	7.7	0	0																	

REF NO.	Q2038				Q2039				Q2040				Q2041				Q2050			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	2.1	0.6		1.0	0	0.4		0	6.0	0		0	6.0	0		1.0	0	0.4	
STANDBY	0	2.1	0.6		1.0	0	0.4		0	6.0	0		0	6.0	0		1.0	0	0.4	

REF NO.	Q2051				Q2220				Q2222				Q5900				Q5901			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	1.0	0	0.3		4.9	12.1	5.5		4.9	12.1	5.5		-35.0	2.5	-35.1		5.0	0	4.6	
STANDBY	1.0	0	0.3		0	12.1	0		0	12.1	0		-35.0	2.5	-35.1		5.0	0	4.6	

REF NO.	Q5902				Q5903				Q5904				Q5905				QR2400			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	4.6	0.6		0	0	3.3		0	3.3	0		0	3.3	0		6.0	5.4	6.0	
STANDBY	0	4.6	0.6		0	0	3.3		0	3.3	0		0	3.3	0		6.0	5.4	6.0	

REF NO.	QR2402				QR5900				QR5901											
MODE	E	C	B		E	C	B		E	C	B									
CD PLAY	6.0	5.4	6.0		5.2	-34.6	5.2		0	0	3.3									
STANDBY	6.0	0	6.0		5.2	-34.6	5.2		0	5.2	0									

SA-AKX12PH/PN MAIN P.C.B.

11.4. LCD P.C.B.

REF NO.	IC900																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
POWER ON	3.3	3.2	3.3	3.3	0	2.9	3.3	0.9	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
STANDBY	3.3	3.2	3.3	3.3	0	2.9	3.3	0.9	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4

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

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

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

SA-AKX12PH/PN LCD P.C.B.

11.5. Tuner P.C.B.

REF NO.	IC52																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
TUNER	0	1.5	0	3.0	0	0	0	3.3	3.3	3.3	3.3	0	1.4	0.3	0	0	3.3	0	0	0

SA-AKX12PH/PN TUNER P.C.B.

11.6. SMPS P.C.B.

REF NO.	IC5701																			
MODE	1	2	3	4	5	6	7													
POWER ON	164.8	0	0	19.1	0.1	1.4	0.5													
STANDBY	164.8	0	0	19.1	0.1	1.4	0.5													

REF NO.	IC5799																			
MODE	1	2	3	4	5	6	7	8												
POWER ON	5.9	1.0	2.3	11.0	164.2	0	0	0												
STANDBY	5.9	1.0	2.3	11.0	164.2	0	0	0												

REF NO.	IC5801																			
MODE	1	2	3																	
POWER ON	2.4	2.0	-30.0																	
STANDBY	2.4	2.0	-30.0																	

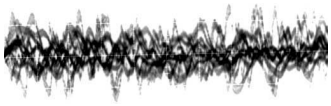
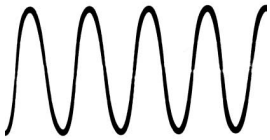
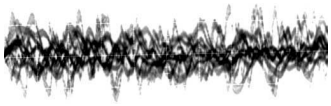
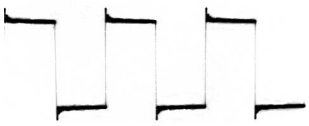
REF NO.	IC5899																			
MODE	1	2	3																	
POWER ON	1.2	0	0																	
STANDBY	1.2	0	0																	

REF NO.	Q5720				Q5721				Q5722				Q5860				Q5861			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
POWER ON	7.3	8.5	7.6		19.7	19.7	19.0		0	19.6	0.2		0	35.2	0		1.3	0	0.7	
STANDBY	7.4	8.6	7.7		19.7	19.7	19.0		0	19.6	0.2		0	35.2	0		1.3	0	0.7	

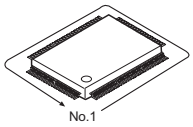
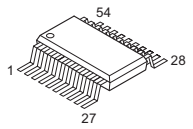
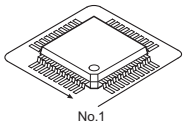
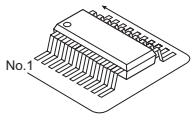
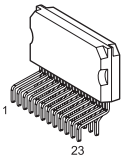
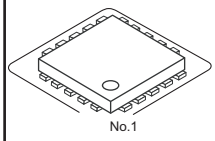
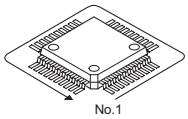
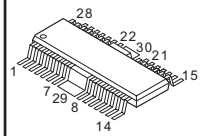
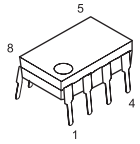
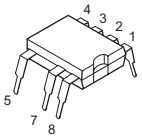
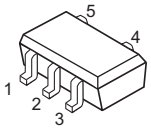
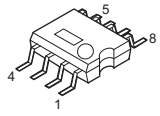
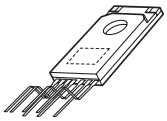
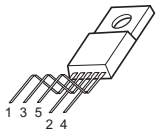
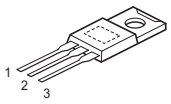
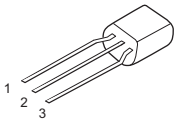
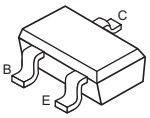
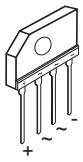
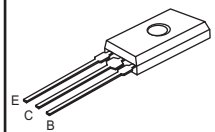
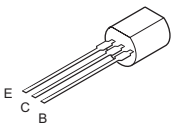
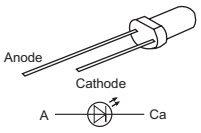
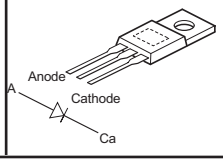
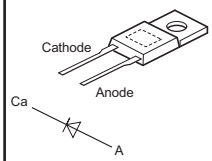
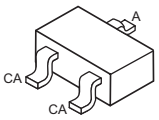
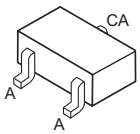
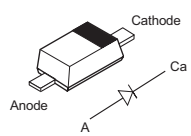
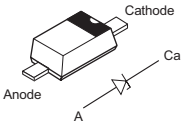
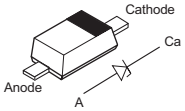
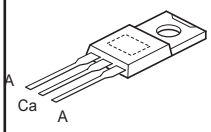
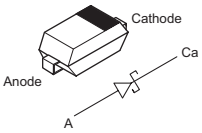
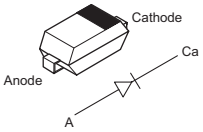
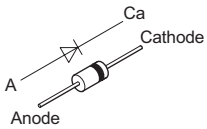
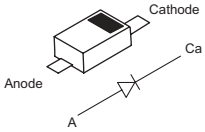
REF NO.	Q5862				Q5898				QR5801				QR5802				QR5810			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
POWER ON	0	0	0.7		0	1.9	0		0	3.1	-3.0		0	3.3	6.6		0	0.1	3.1	
STANDBY	0	3.3	0		0	1.9	0		0	3.1	-2.9		0	3.3	6.6		0	0.1	3.1	

SA-AKX12PH/PN SMPS P.C.B.

11.7. Waveform Table

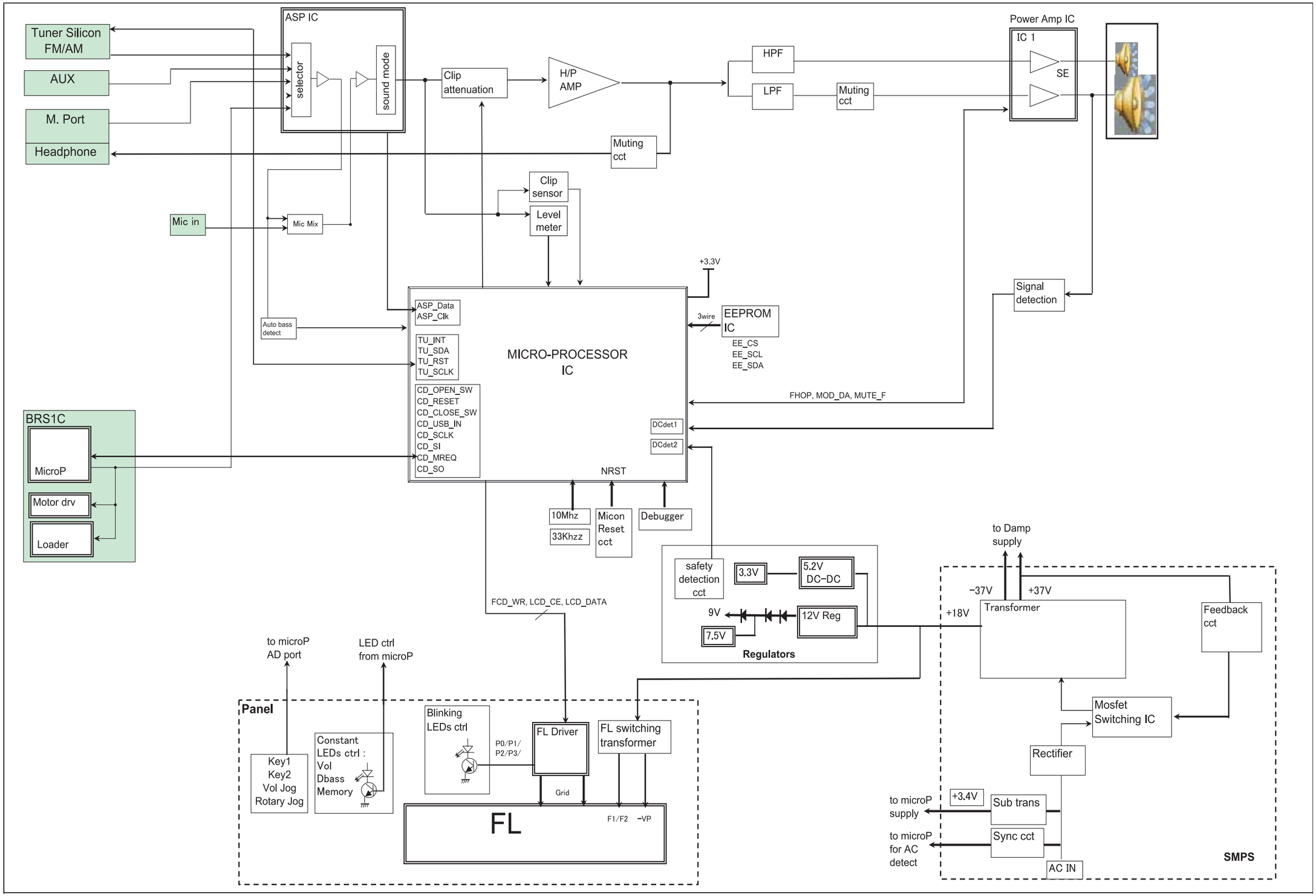
WF No. IC52-2,13,14 (PLAY)  0.1Vp-p(200usec/div)	WF No. IC52-9,17 (PLAY)  0.2Vp-p(100usec/div)	WF No. IC2003-15 (PLAY)  2Vp-p(10usec/div)	WF No. IC2003-16 (PLAY)  3Vp-p(20usec/div)
WF No. IC2101-2,12 (PLAY)  0.1Vp-p(200usec/div)	WF No. IC2101-6,8 (PLAY)  1.3Vp-p(200usec/div)	WF No. IC2101-31,32 (PLAY)  3.6Vp-p(200usec/div)	WF No. IC5902-2,3 (PLAY)  1.4Vp-p(1msec/div)
WF No. IC5902-10,14 (PLAY)  100Vp-p(1usec/div)	WF No. IC5902-21,22 (PLAY)  1.5Vp-p(500usec/div)		

12 Illustration of ICs, Transistor and Diode

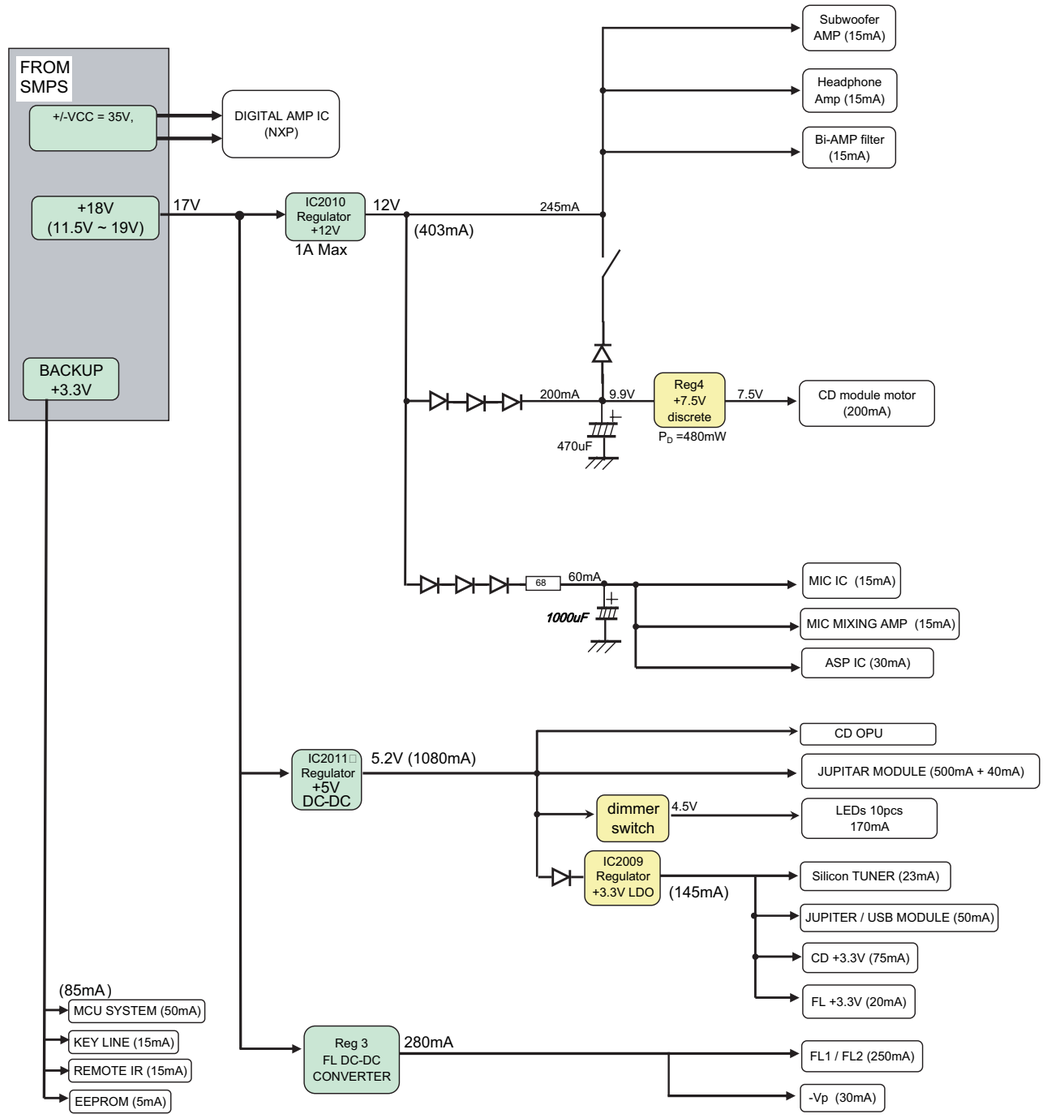
RFKWMAK12M0 (100P) 	C1BB00001151 (32P) 	C0HBA0000295 (44P) 	C3EBFY000006 (8P) 	C1BA00000497 (23P) 	VUEALLPT031 (20P) 
MN6627947RB (144P) 	C0GBY0000117 	C0AABB000125 (8P) 	MIP2F20MSSCF (8P) 	C0DBFYY00049 	C3EBFC000042 
C5HACYY00004 (7P) C5HACYY00005 (7P) 	C0DAAYG00001 (5P) 	C0CAAKG00046 	C0DABFC00002 C0DAEMZ00001 	B1ABGC000005 B1ADCE000012 B1ADCF000001 	B1ABCF000176 B1GBCFJJ0051 B1GBCFJN0033 B1GBCFLL0037 B1GDCFGA0018 B1GDCFJJ0047
B0FBAR000043 	B1BABG000007 B1BACD000018 	B1ACKD000006 	B3AFA0000131 	B0ZAZ0000052 	B0HFRJ000012 
B0ADCJ000020 	B1GBCFJN0038 	B0ACCK000012 		B0BC010A0007 B0BC019A0007 B0BC035A0007 B0BC6R100010 B0BC9R000008	B0BC018A0267 B0BC3R3A0262 B0BC5R6A0266 B0BC8R100004 
B0ABSM000008 	B0JCPD000025 	B0HCSP000001 B0ECKM000016 		B0EAKM000117 B0EAMM000057 B0HAMP000094	B0ECET000002 

13 Simplified Block Diagram

13.1. Overall Simplified Block Diagram



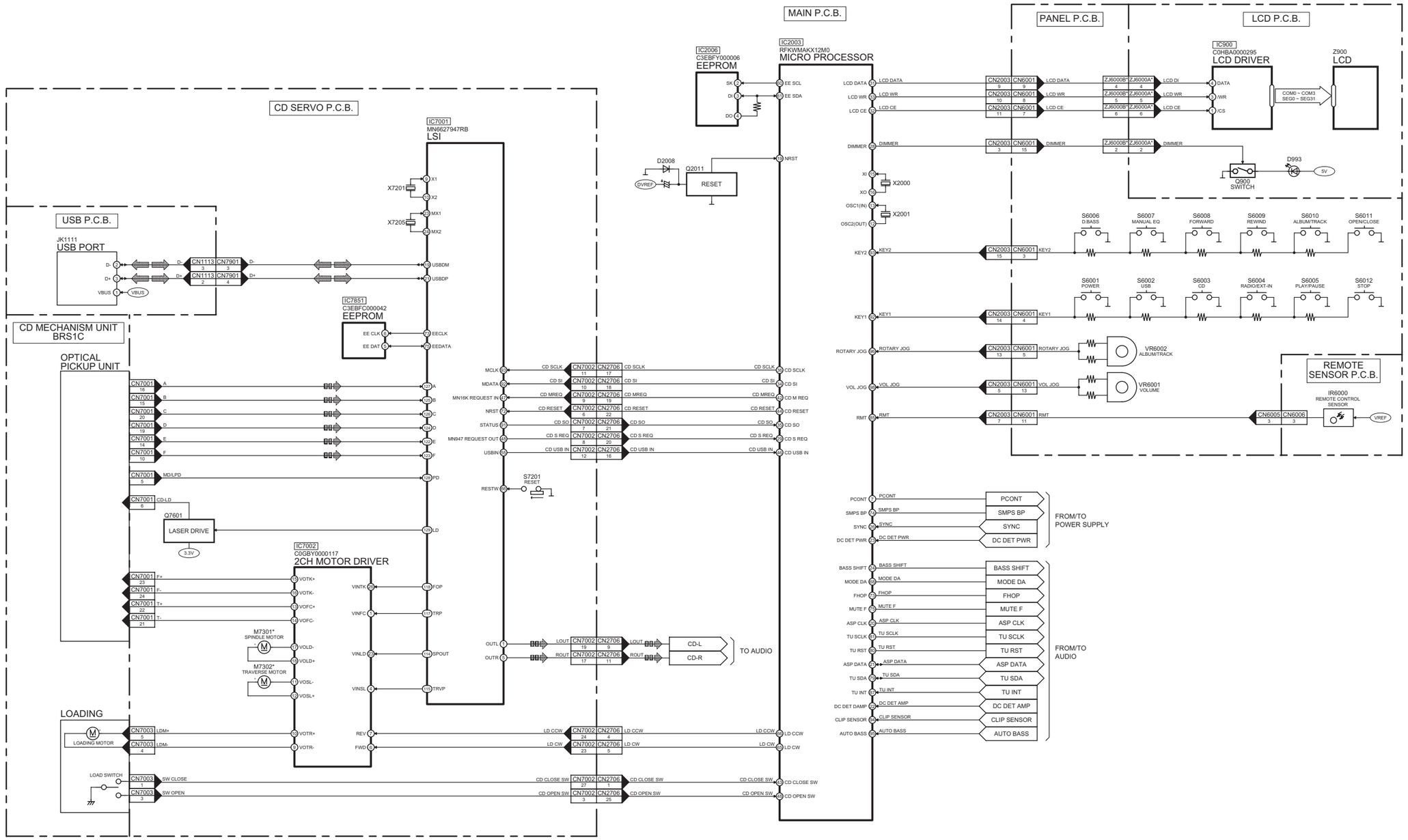
13.2. Power Block Diagram



14 Block Diagram

14.1. Servo & System Control

: CD AUDIO INPUT SIGNAL LINE : USB SIGNAL LINE

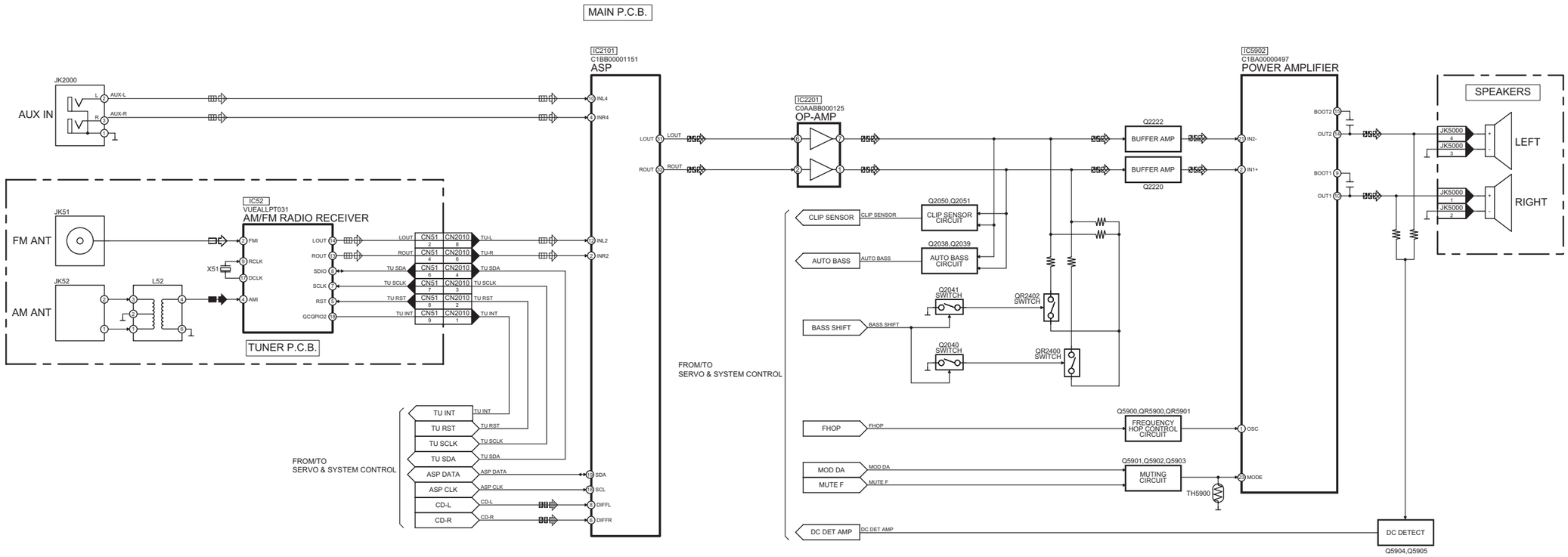


NOTE: “ * ” REF IS FOR INDICATION ONLY

SA-AKX12PH/PN SERVO & SYSTEM CONTROL BLOCK DIAGRAM

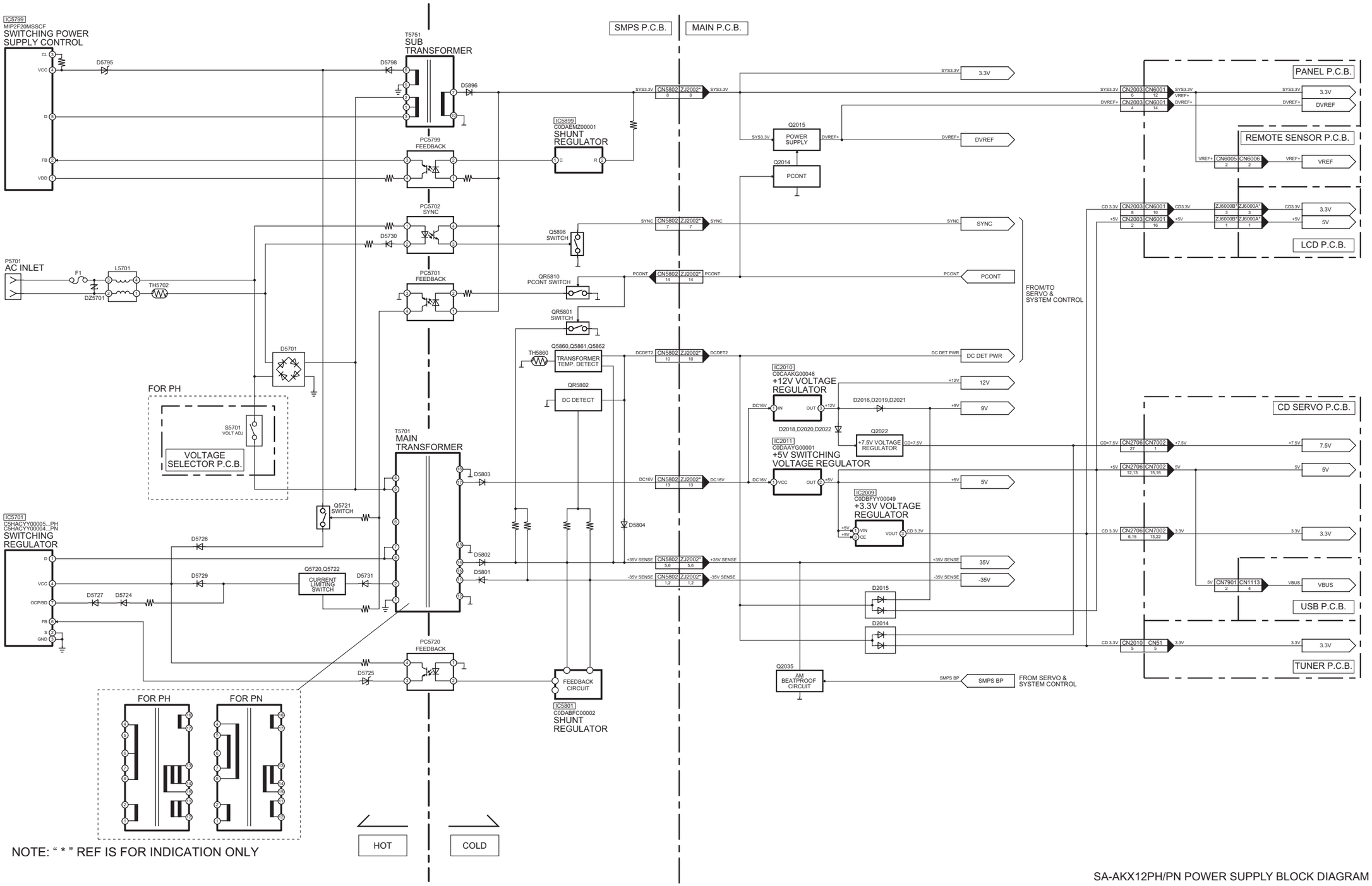
14.2. Audio

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



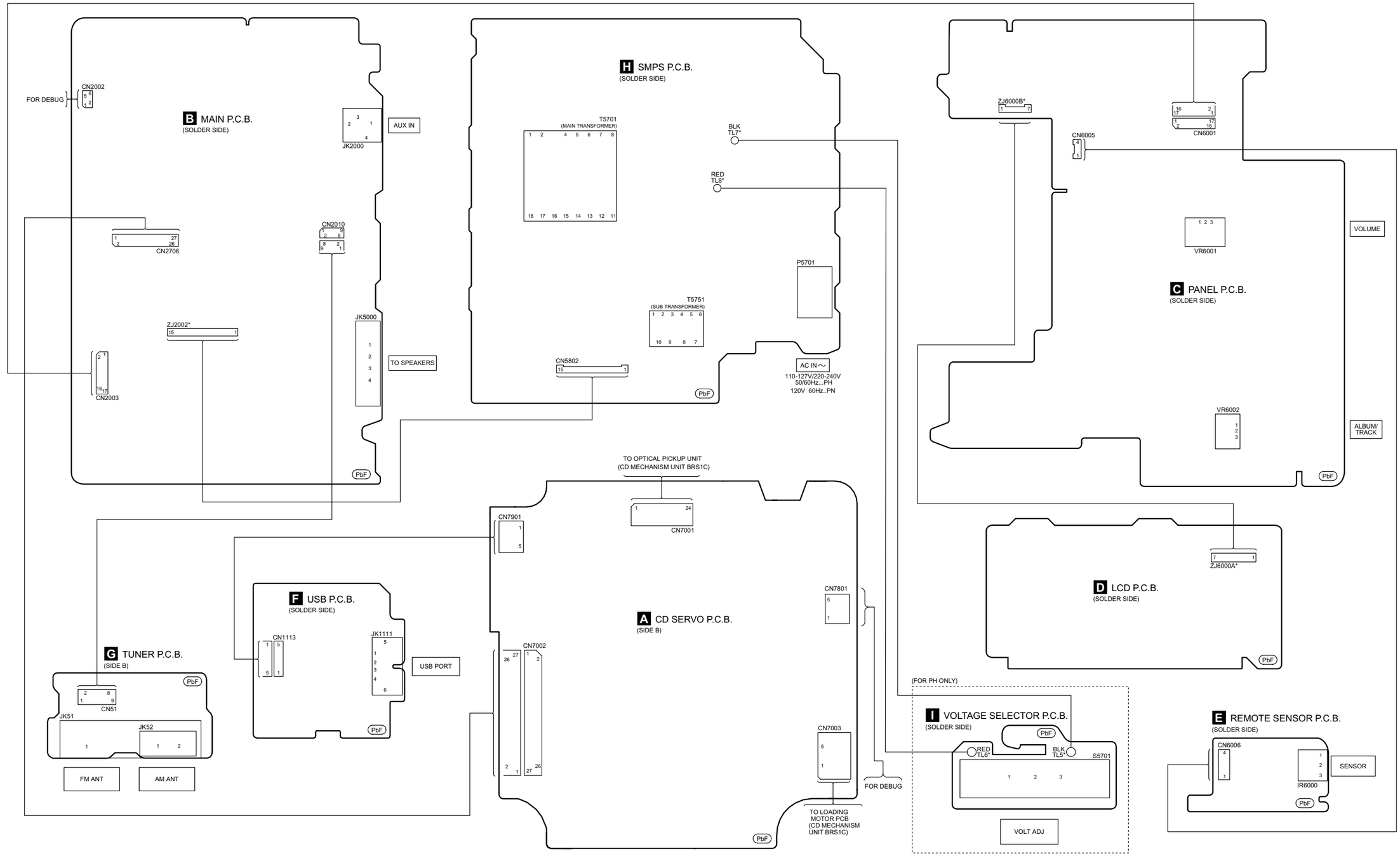
SA-AKX12PH/PN AUDIO BLOCK DIAGRAM

14.3. Power Supply



SA-AKX12PH/PN POWER SUPPLY BLOCK DIAGRAM

15 Wiring Diagram



NOTE: " * " REF IS FOR INDICATION ONLY.

SA-AKX12PH/PN WIRING CONNECTION DIAGRAM

16 Schematic Diagram

16.1. Schematic Diagram Notes

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

Notes:

S5701:	Voltage ADJ switch (For PH only).
S6001:	Power switch (⏻/I).
S6002:	USB switch.
S6003:	CD switch.
S6004:	Radio/EXT-IN switch.
S6005:	Play/Pause (▶ / ⏸) switch.
S6006:	D.BASS switch.
S6007:	Manual EQ switch.
S6008:	Forward (▶▶ / ▶▶|) switch.
S6009:	Rewind (|◀◀ / ◀◀) switch.
S6010:	Album/Track switch.
S6011:	Open/Close switch (⏏).
S6012:	Stop (■) switch.
VR6001:	Volume Jog.
VR6002:	Album/Track Jog.

- 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:
  C5700, C5701, C5703, C5704, C5705, C5708

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

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

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

- *****

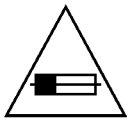
  REF IS FOR INDICATION ONLY.

- Voltage and signal line

  : +B signal line
  : -B signal line
  : CD Audio input signal line
  : AUX/Tuner Audio input signal line
  : Audio output signal line
  : USB signal line
  : AM/FM signal line
  : AM signal line
  : FM signal line

- For PH only

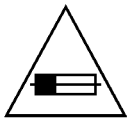
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F1 T6.3AL 250V FUSE



RISK OF FIRE-REPLACE FUSE AS MARKED.

- For PN only

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F1 8A 125V FUSE

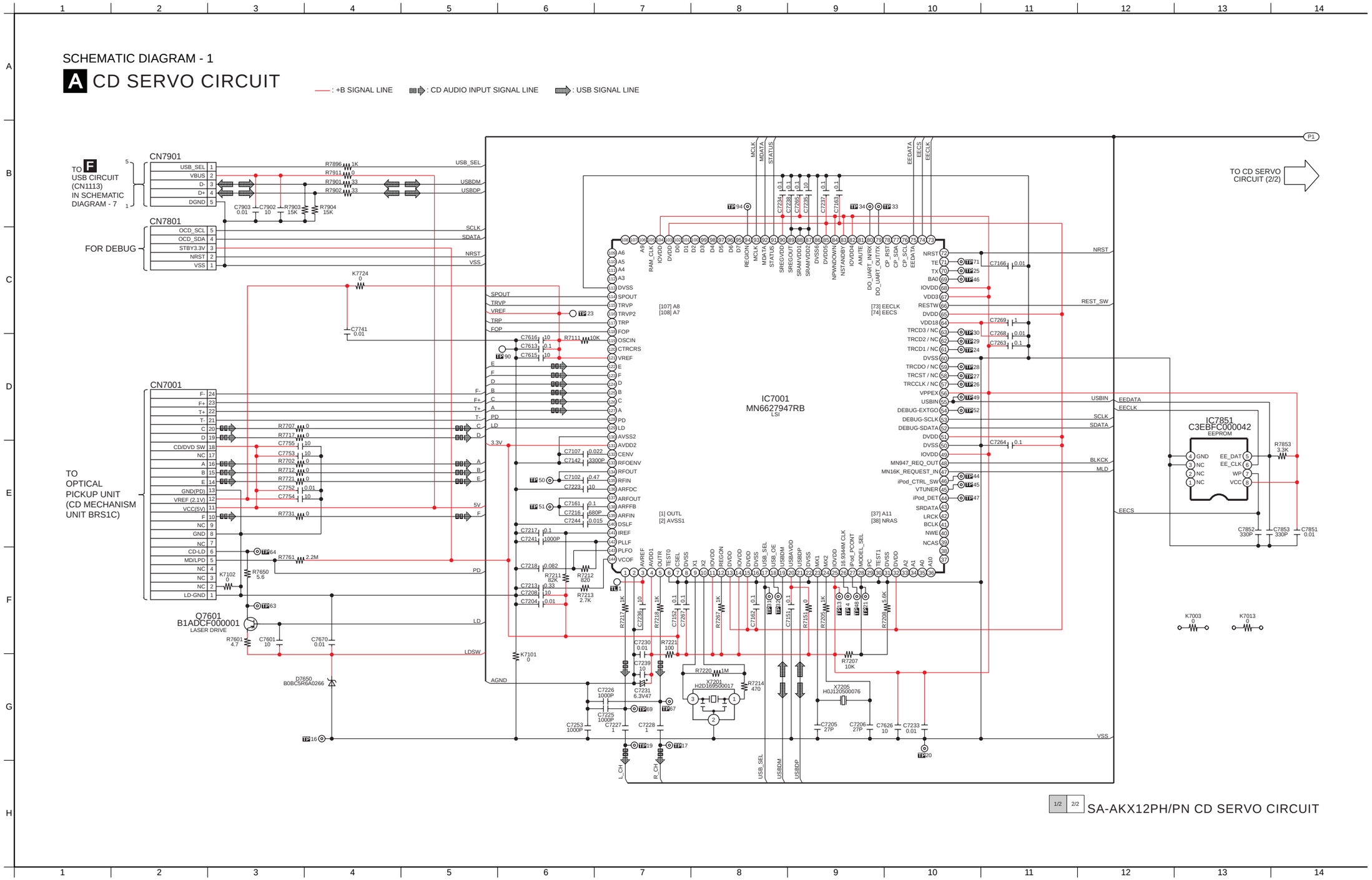


RISK OF FIRE-REPLACE FUSE AS MARKED.

FUSE CAUTION

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

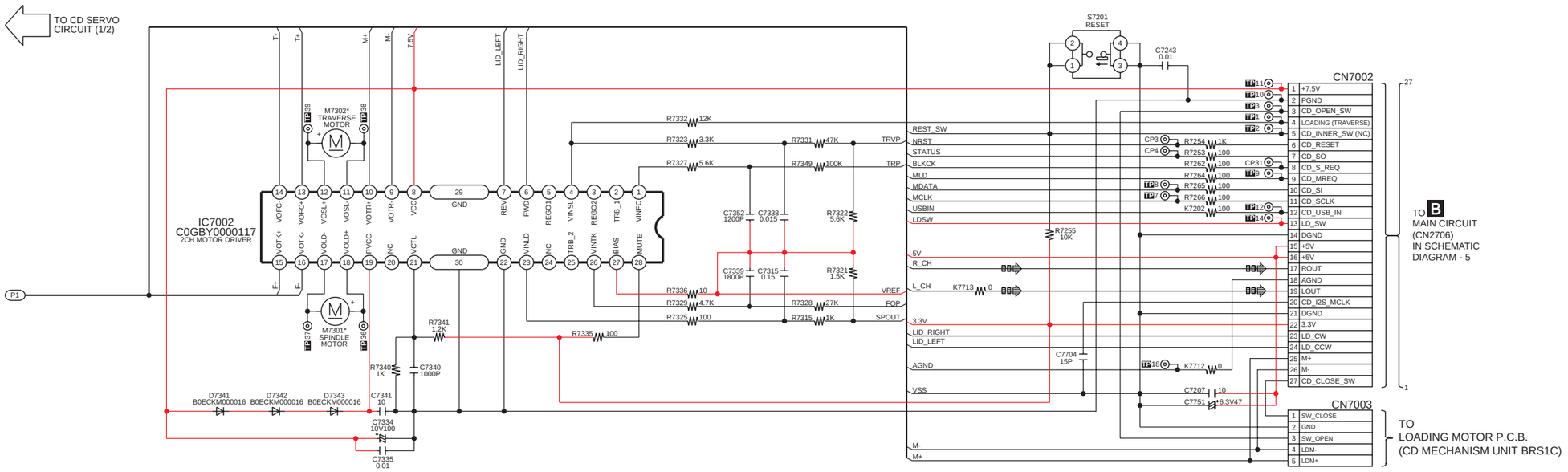
16.2. CD Servo Circuit



SCHEMATIC DIAGRAM - 2

A CD SERVO CIRCUIT

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



NOTE: “ * ” REF IS FOR INDICATION ONLY

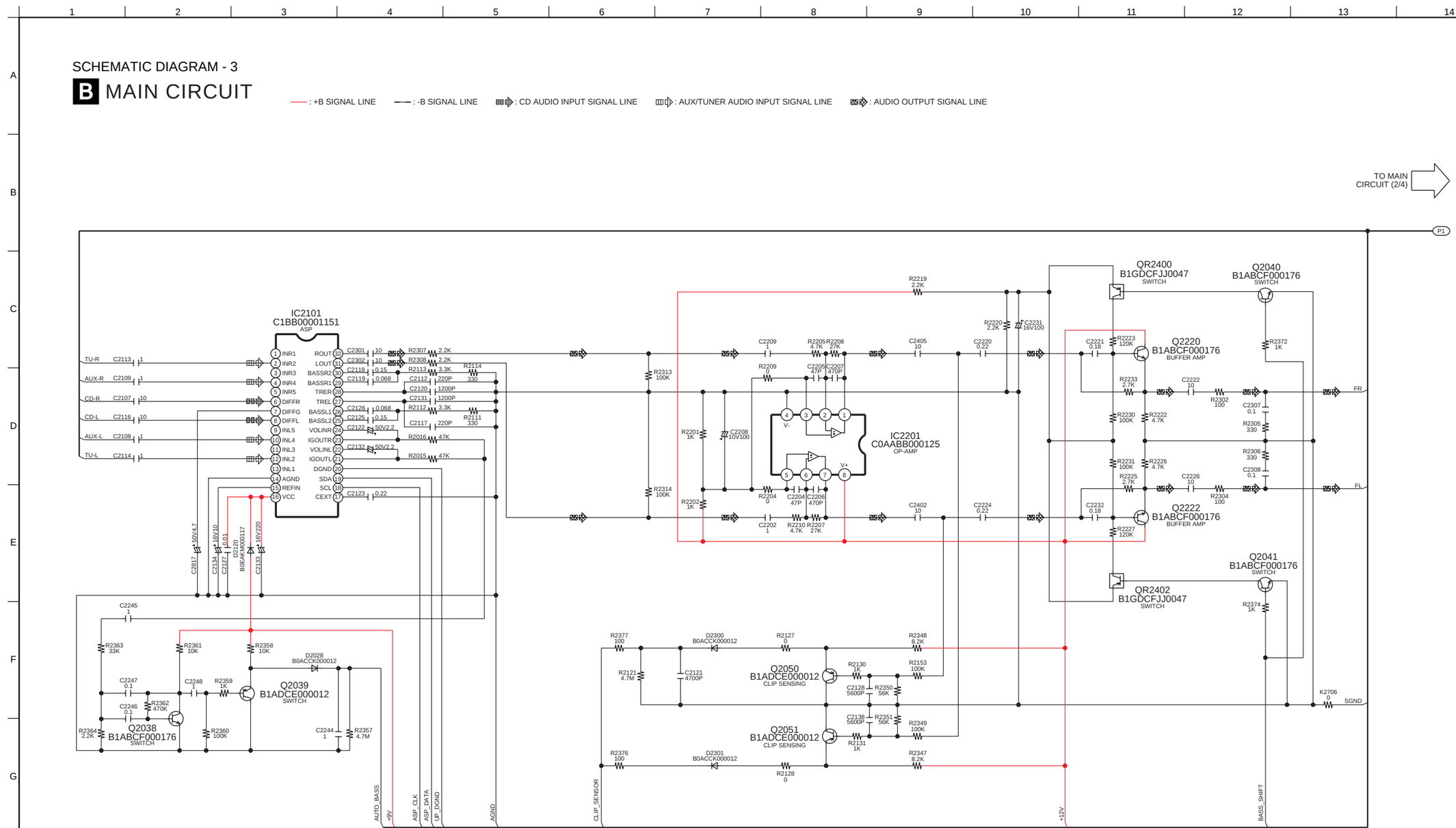
1/2 2/2 SA-AKX12PH/PN CD SERVO CIRCUIT

16.3. Main Circuit

SCHEMATIC DIAGRAM - 3

B MAIN CIRCUIT

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



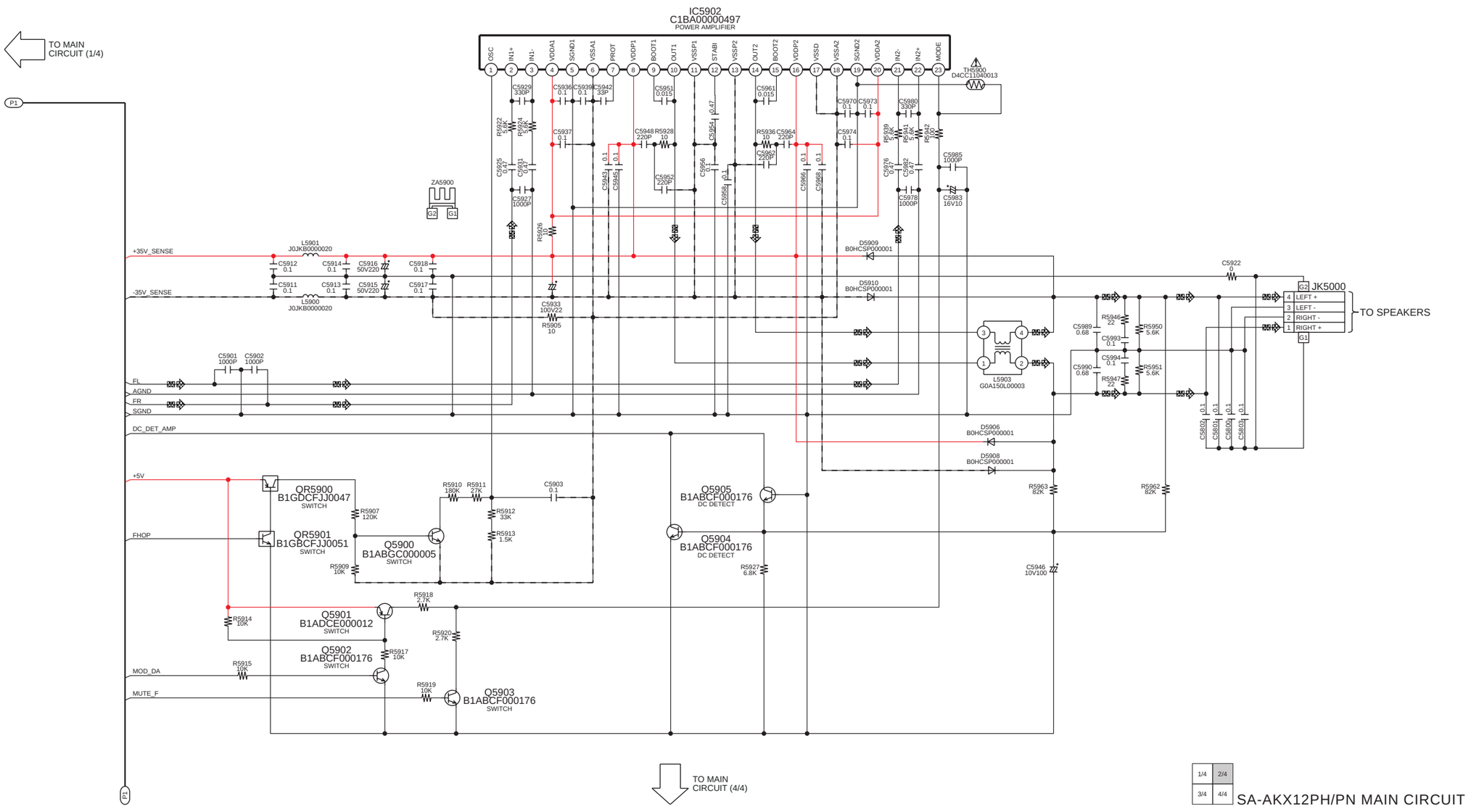
1/4	2/4
3/4	4/4

SA-AKX12PH/PN MAIN CIRCUIT

SCHEMATIC DIAGRAM - 4

B MAIN CIRCUIT

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



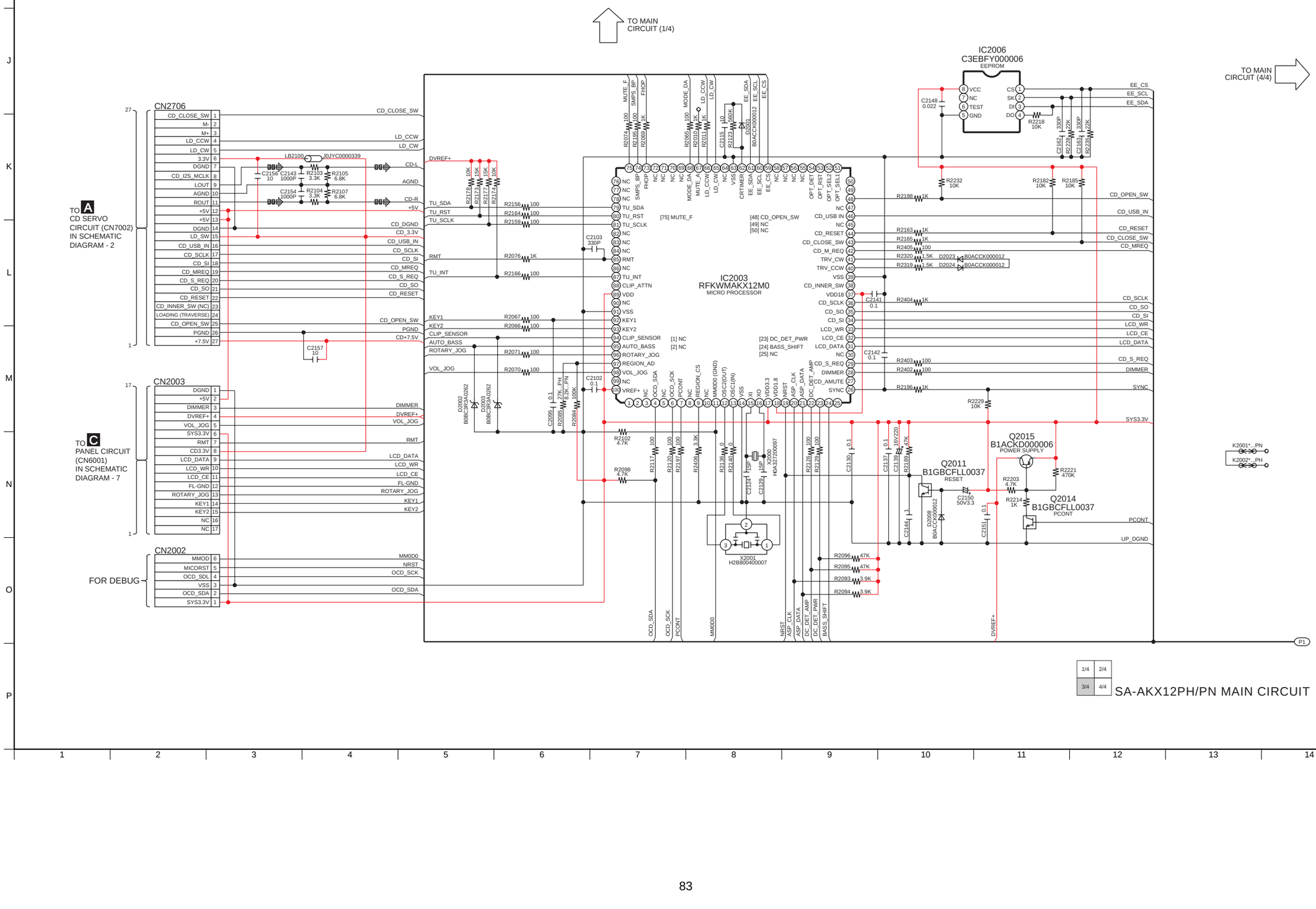
1/4	2/4
3/4	4/4

SA-AKX12PH/PN MAIN CIRCUIT

SCHEMATIC DIAGRAM - 5

B MAIN CIRCUIT

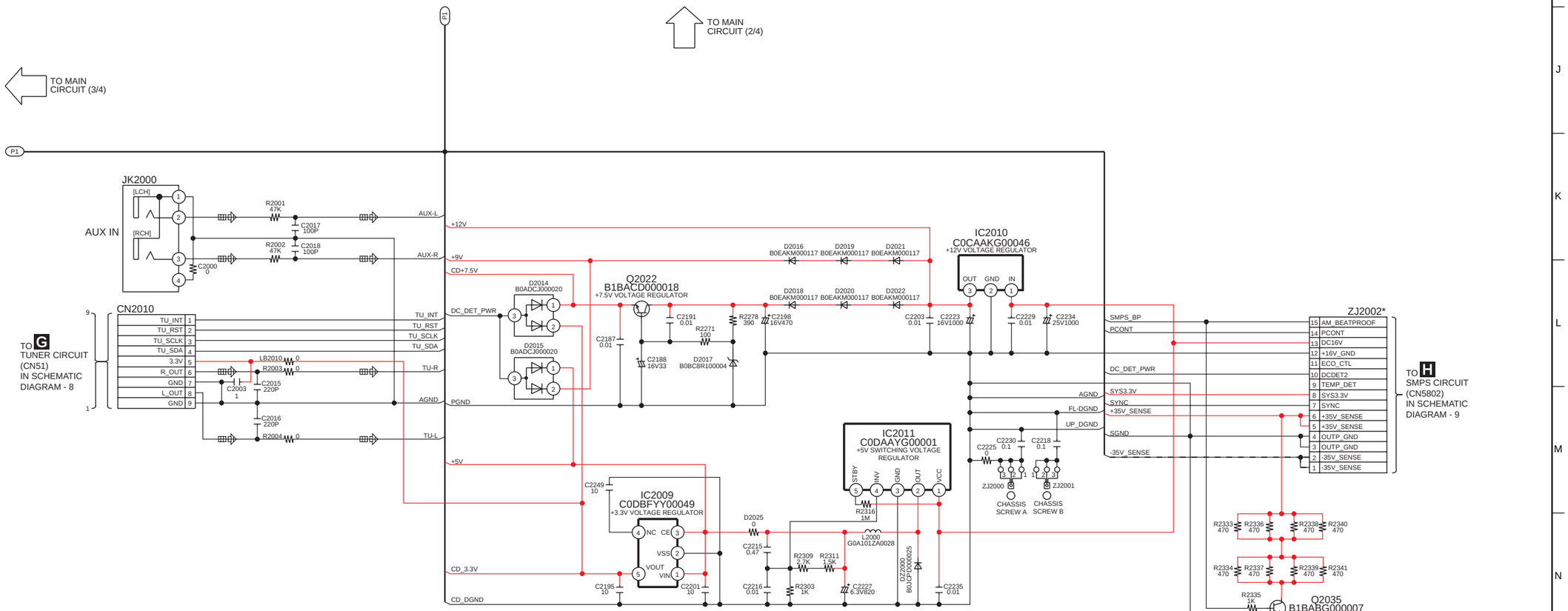
—— : +B SIGNAL LINE —— : -B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE : AUX/TUNER AUDIO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE



SCHEMATIC DIAGRAM - 6

B MAIN CIRCUIT

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



NOTE: " * " REF IS FOR INDICATION ONLY

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

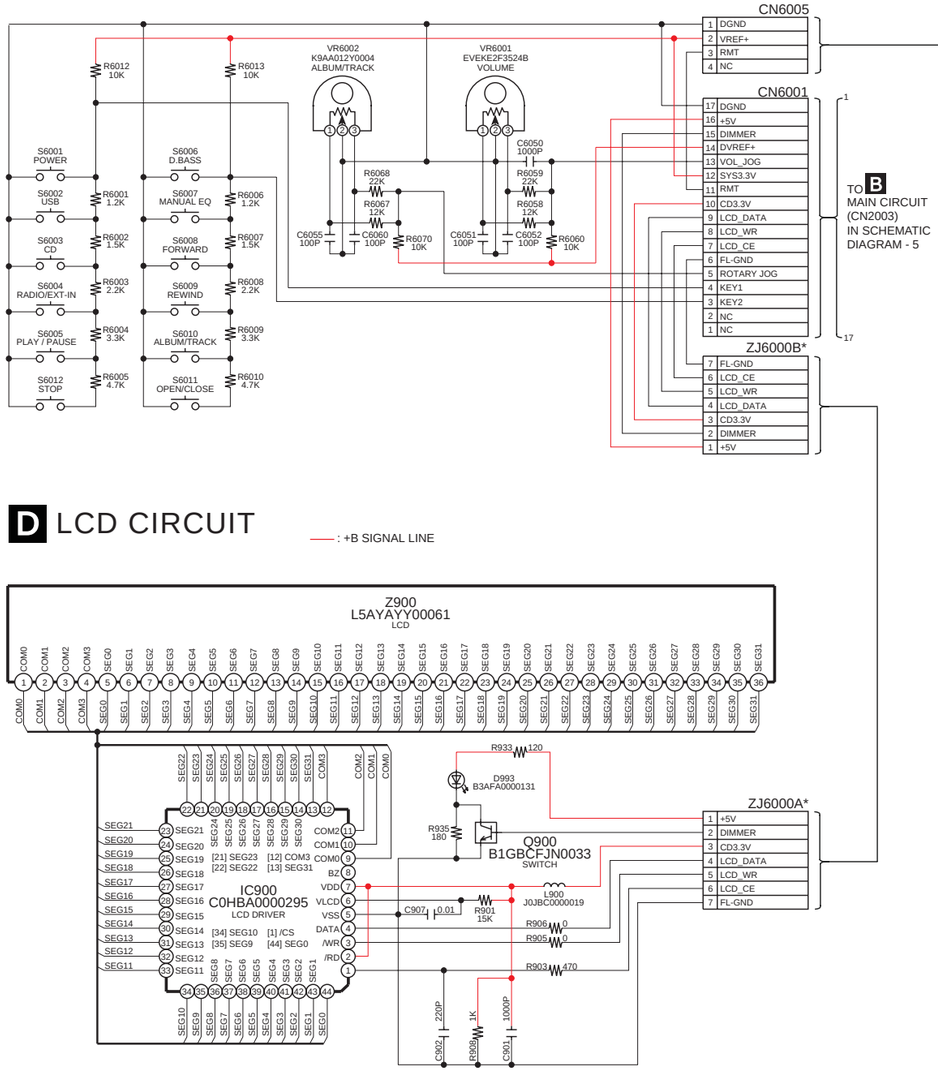
SA-AKX12PH/PN MAIN CIRCUIT

16.4. Panel, LCD, Remote Sensor & USB Circuit

SCHEMATIC DIAGRAM - 7

C PANEL CIRCUIT

—— : +B SIGNAL LINE



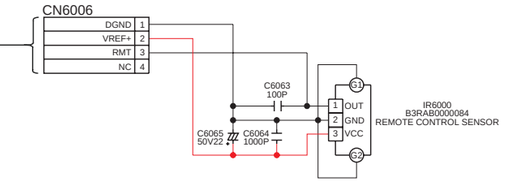
D LCD CIRCUIT

—— : +B SIGNAL LINE

NOTE: " * " REF IS FOR INDICATION ONLY

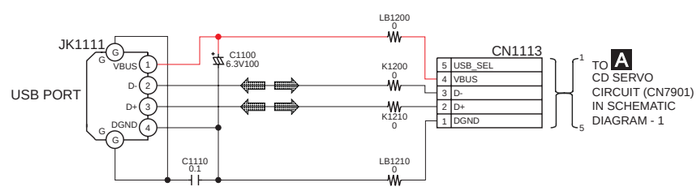
E REMOTE SENSOR CIRCUIT

—— : +B SIGNAL LINE



F USB CIRCUIT

—— : +B SIGNAL LINE ⇒ : USB SIGNAL LINE



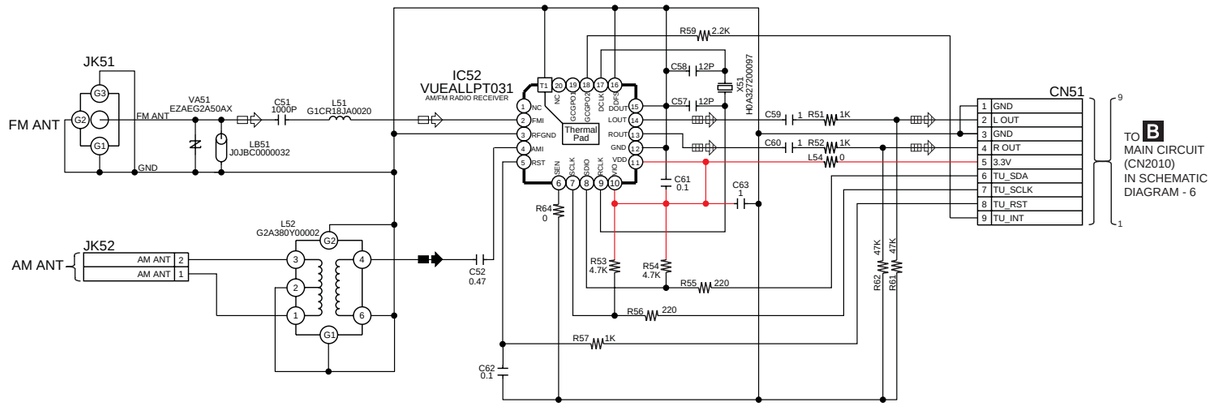
SA-AKX12PH/PN PANEL / LCD / REMOTE SENSOR / USB CIRCUIT

16.5. Tuner & Voltage Selector Circuit

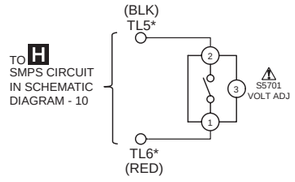
SCHEMATIC DIAGRAM - 8

G TUNER CIRCUIT

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



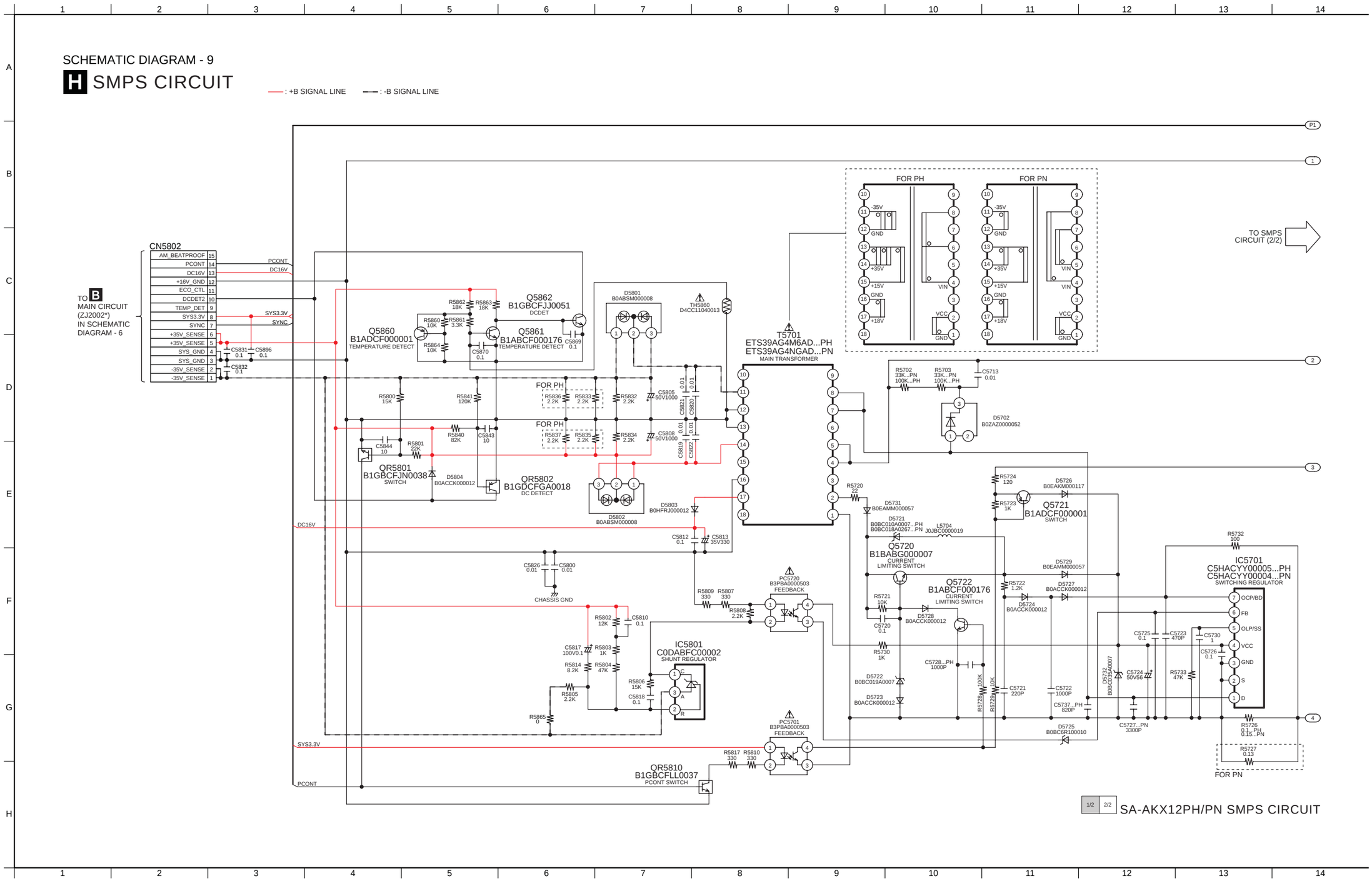
I VOLTAGE SELECTOR CIRCUIT (FOR PH)



NOTE: “ * ” REF IS FOR INDICATION ONLY

SA-AKX12PH/PN TUNER / VOLTAGE SELECTOR CIRCUIT

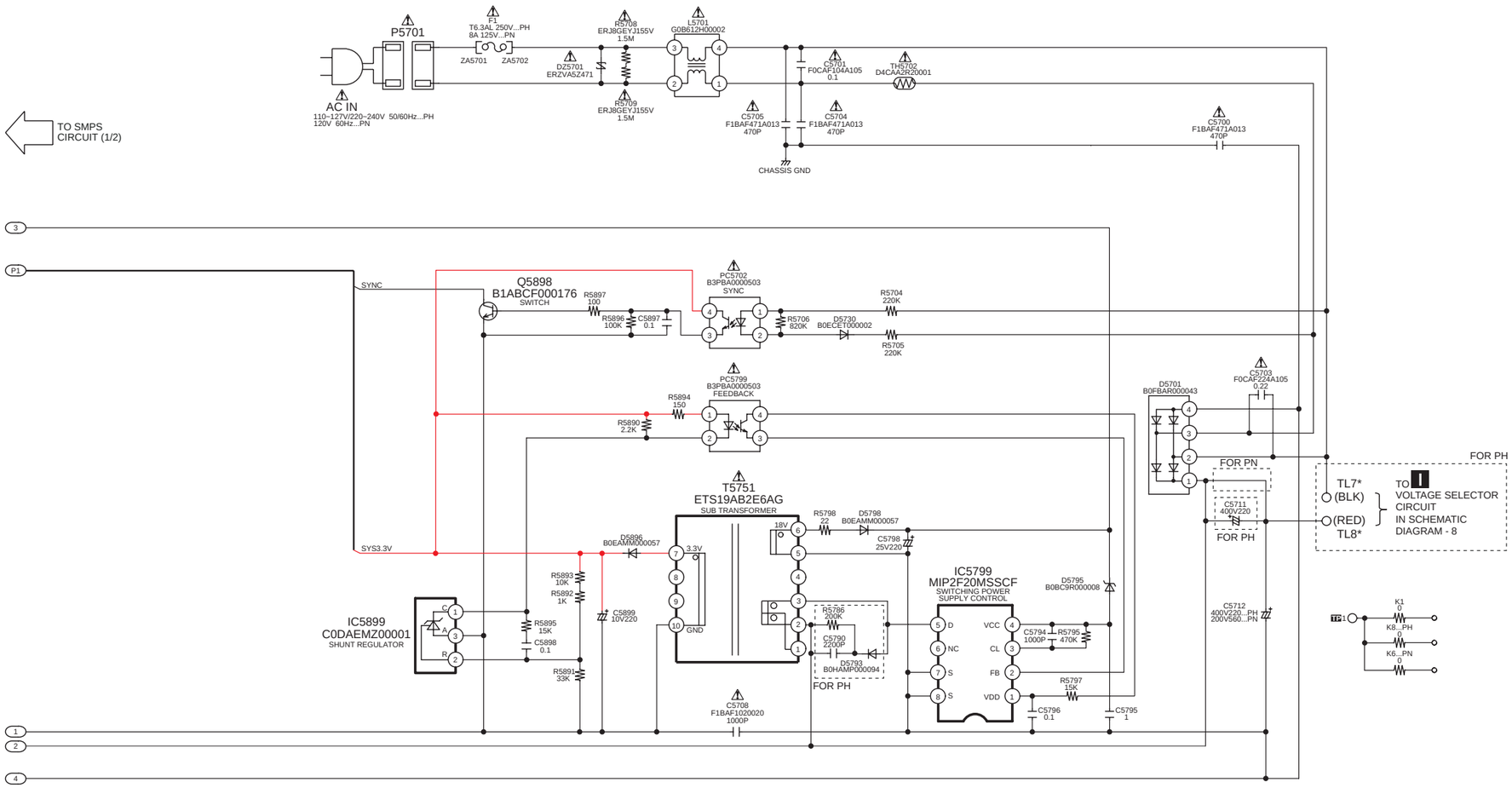
16.6. SMPS Circuit



SCHEMATIC DIAGRAM - 10

H SMPS CIRCUIT

—— : +B SIGNAL LINE —·— : -B SIGNAL LINE



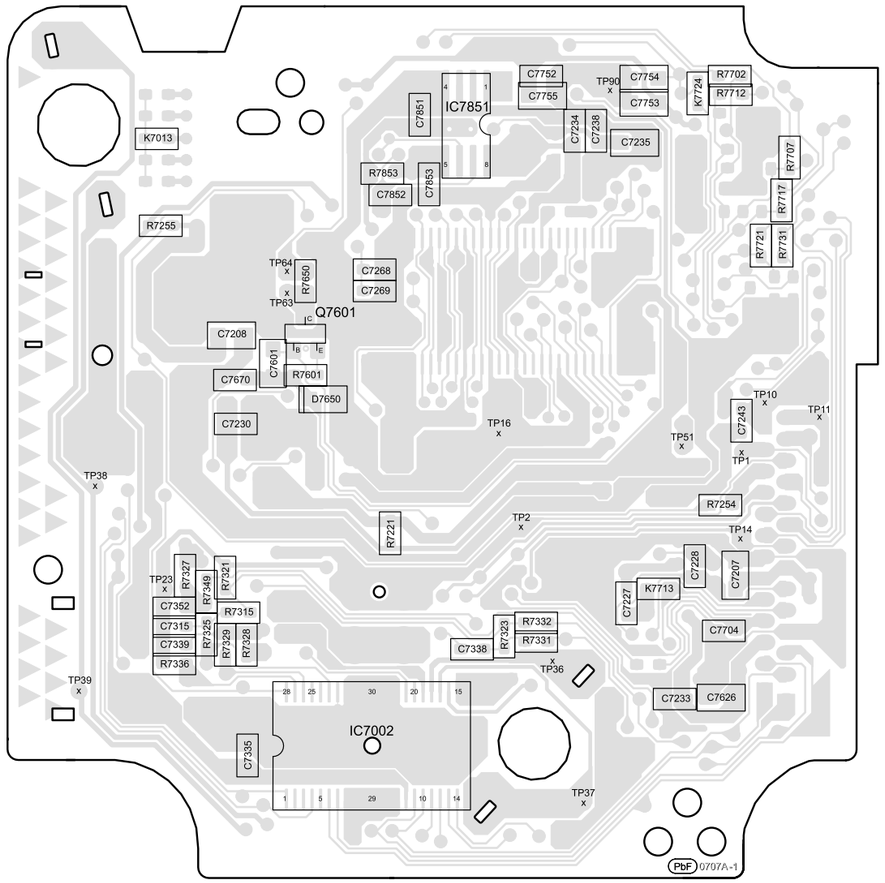
NOTE: “ * ” REF IS FOR INDICATION ONLY

1/2 2/2 SA-AKX12PH/PN SMPS CIRCUIT

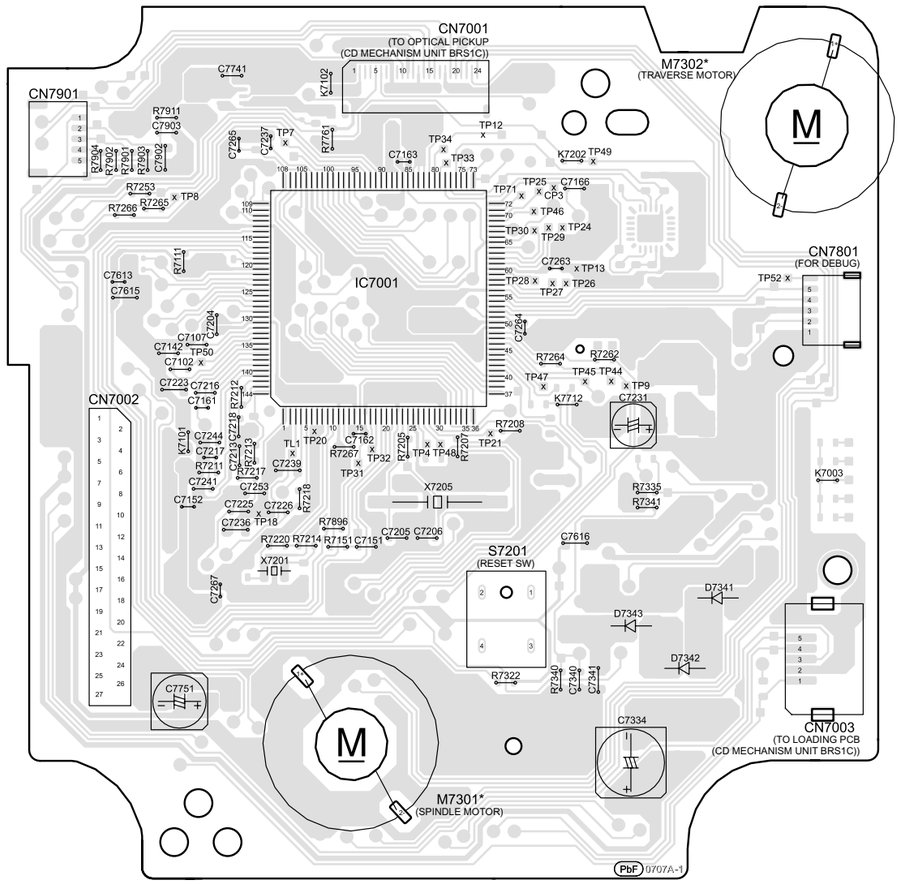
17 Printed Circuit Board

17.1. CD Servo P.C.B.

A CD SERVO P.C.B. (REPX0918C)



(SIDE A)



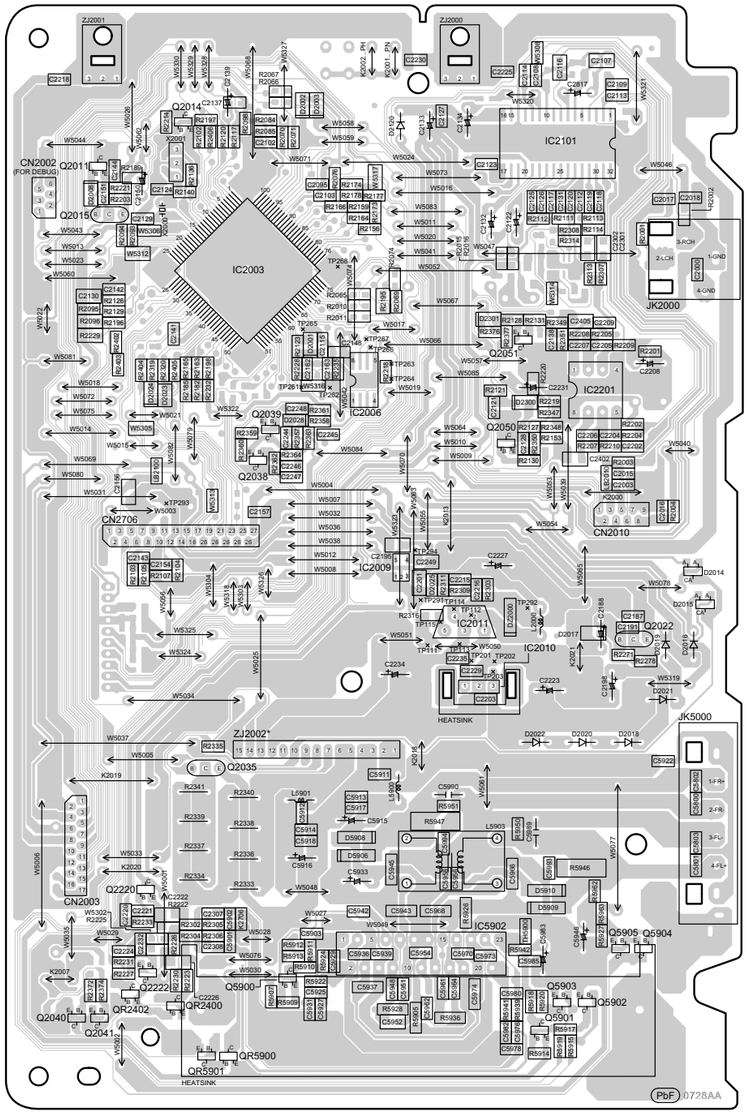
(SIDE B)

NOTE: * REF IS FOR INDICATION ONLY.

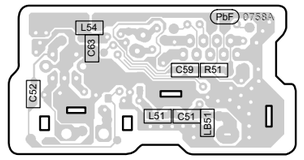
SA-AKX12PH/PN
CD SERVO P.C.B.

17.2. Main & Tuner P.C.B.

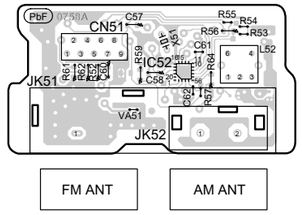
B MAIN P.C.B. (REPX0892BA...PH) (REPX0892AA...PN)



G TUNER P.C.B. (REPX0928A)



(SIDE A)



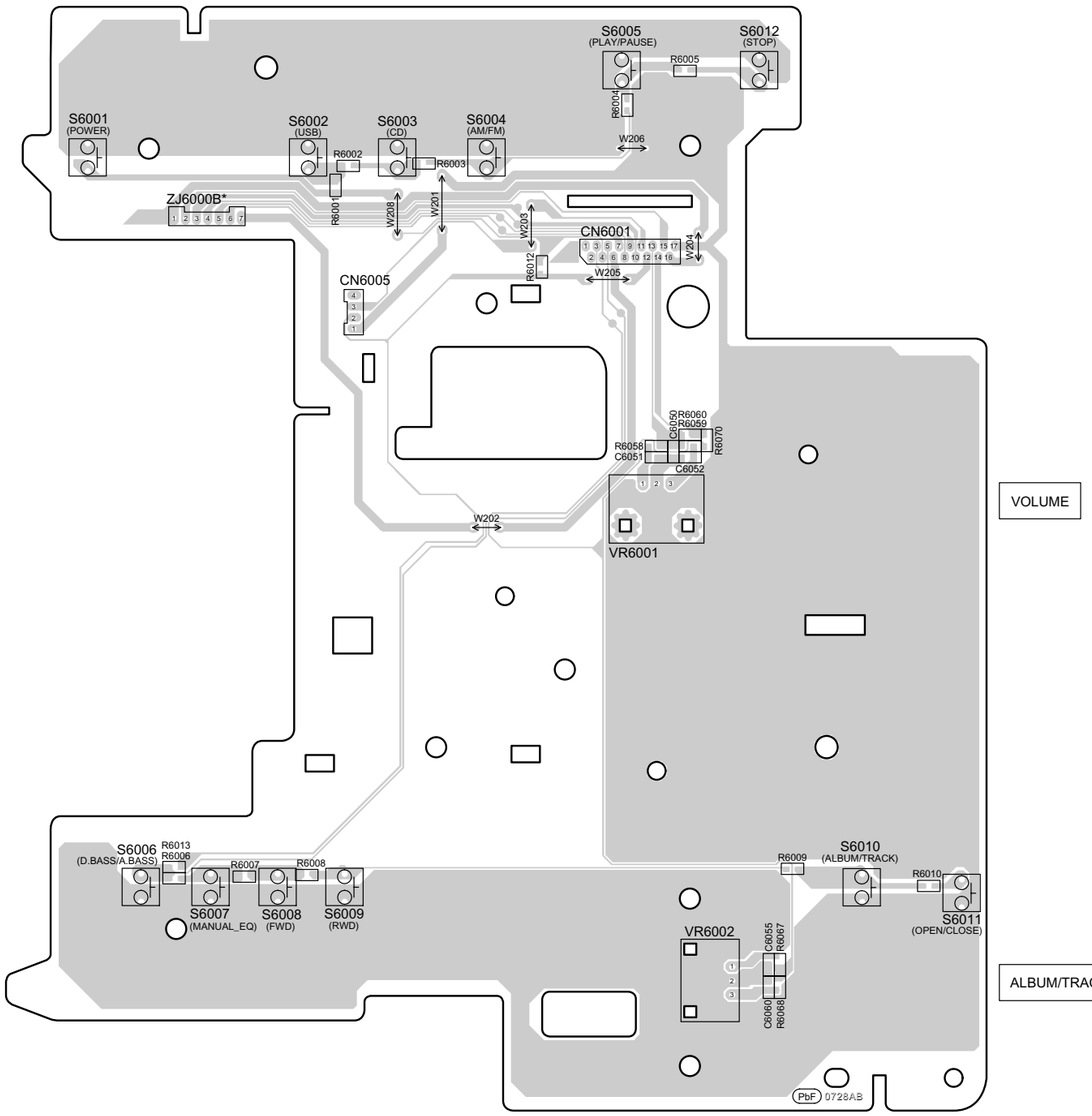
(SIDE B)

NOTE: " * " REF IS FOR INDICATION ONLY.

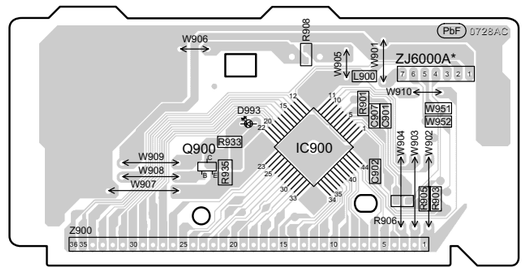
SA-AKX12PH/PN
MAIN / TUNER P.C.B.

17.3. Panel, LCD, Remote Sensor & USB P.C.B.

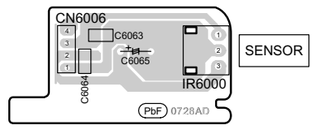
C PANEL P.C.B. (REPX0892BB...PH)
(REPX0892AB...PN)



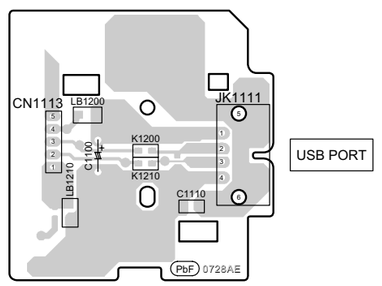
D LCD P.C.B. (REPX0892BB...PH)
(REPX0892AB...PN)



E REMOTE SENSOR P.C.B. (REPX0892BD...PH)
(REPX0892AD...PN)



F USB P.C.B. (REPX0892BE...PH)
(REPX0892AE...PN)

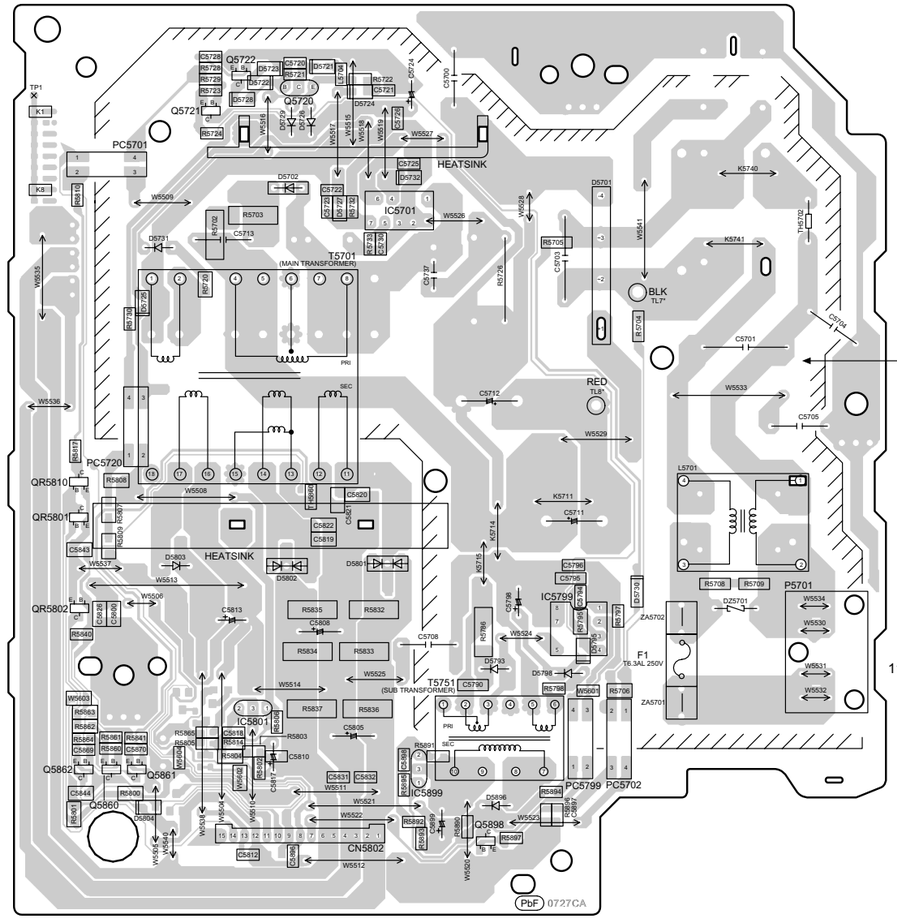


NOTE: " * " REF IS FOR INDICATION ONLY.

SA-AKX12PH/PN
PANEL / LCD / REMOTE SENSOR / USB P.C.B.

17.4. SMPS & Voltage Selector P.C.B.

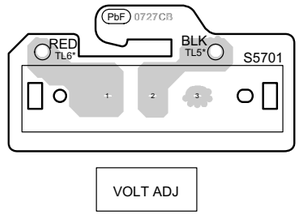
H SMPS P.C.B. (REPX0886C...PH)



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

AC IN ~
110-127V/220-240V
50/60Hz

I VOLTAGE SELECTOR P.C.B. (REPX0886C...PH)



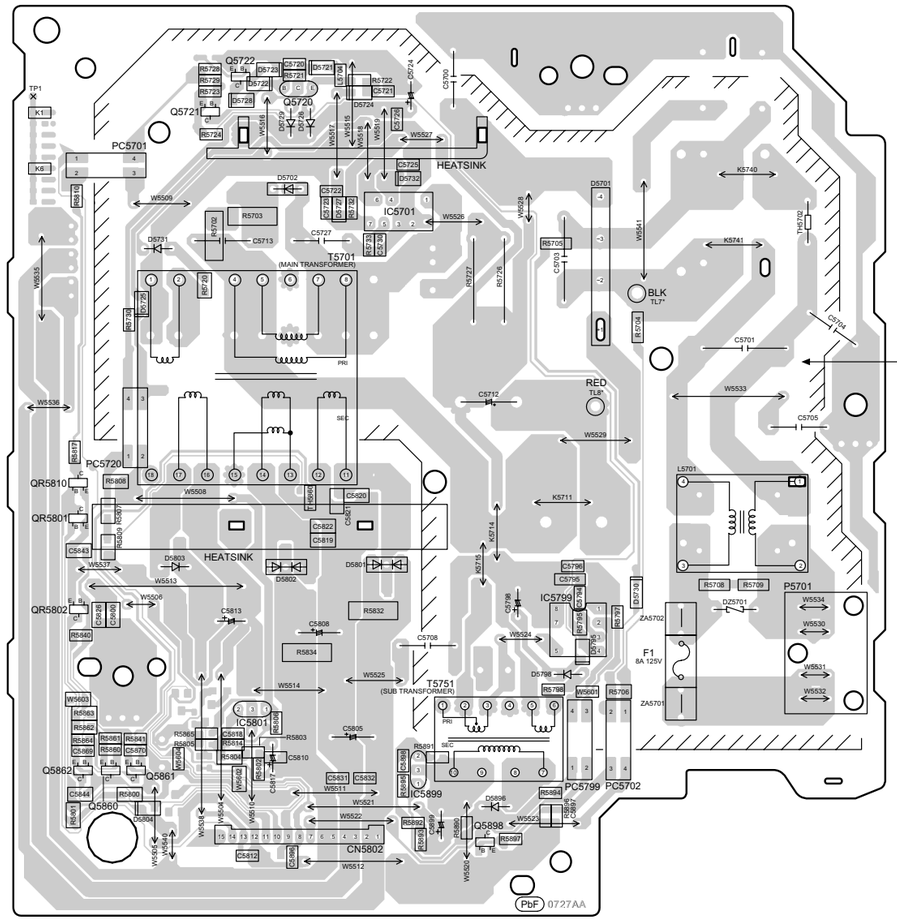
VOLT ADJ

NOTE: " * " REF IS FOR INDICATION ONLY.

SA-AKX12PH/PN
SMPS / VOLTAGE SELECTOR P.C.B.

17.5. SMPS P.C.B.

H SMPS P.C.B. (REPX0886A...PN)



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

AC IN ~
120V 60Hz

NOTE: " * " REF IS FOR INDICATION ONLY.

SA-AKX12PH/PN
SMPS P.C.B.

18 Terminal Function of ICs

18.1. IC2003 (RFKWMAKX12M0): IC MICRO-PROCESSOR

Pin No.	Terminal Name	I/O	Function
1	NC	-	No Connection
2	NC	-	No Connection
3	NC	-	No Connection
4	OCD_SDA	I/O	OCD Serial data
5	NC	-	No Connection
6	OCD_SCK	I/O	OC Serial Clock
7	PCONT	O	Power Control
8	NC	O	No Connection
9	REGION_CS	O	Region chip select
10	NC	O	No Connection
11	MM0D0 (GND)	-	Ground
12	OSC2(OUT)	-	Oscillator Output
13	OSC1(IN)	-	Oscillator Input
14	VSS	-	Ground
15	XI	-	Oscillator Input
16	XO	-	Oscillator Output
17	VDD3.3	-	+3.3 Voltage Supply
18	VDD1.8	-	+1.8 Voltage Supply
19	NRST	I	Reset Input (Active L)
20	ASP_CLK	O	ASP Clock
21	ASP_DATA	I/O	ASP data
22	DC_DET_AMP	I	DC Detect (D-AMP IC Failure Detection)
23	DC_DET_PWR	I	DC DETECT (Power Supply Failure Detection)
24	BASS_SHIFT	O	Bass Level Meter Adjustment
25	NC	-	No Connection
26	SYNC	I	AC Failure Detection Input
27	CD_AMUTE	I	CD Audio Muting
28	DIMMER	O	LCD Display Brightness
29	CD_S_REQ	I	CD status request
30	NC	-	No Connection
31	LCD_DATA	O	LCD data output
32	LCD_CE	O	LCD chip enable
33	LCD_WR	O	LCD write
34	CD_SI	O	CD Serial data input
35	CD_SO	I	CD Serial data output
36	CD_SCLK	O	CD Serial Clock
37	VDD18	-	+1.8V Voltage supply
38	CD_INNER_SW	-	CD Inner switch detection
39	VSS	-	Ground
40	TRV_CCW	O	Traverse motor turning counter-clockwise
41	TRV_CW	O	Traverse motor turning clock-wise
42	CD_M_REQ	O	CD Mode Request
43	CD_CLOSE_SW	I	CD Close Switch Detection
44	CD_RESET	I/O	CD Reset
45	NC	-	No Connection
46	CD_USB IN	I	CD USB Input
47	NC	-	No Connection
48	CD_OPEN_SW	I	CD Open Switch Detection
49	NC	-	No Connection
50	NC	-	No Connection
51	OPT_SEL1	O	Optical In Selector 1
52	OPT_SEL2	O	Optical In Selector 2
53	OPT_RST	O	Optical In Reset (H: ENABLE, L: DISABLE)
54	OPT_DET	I	Optical In Audio Data Detec-tion (L: No signal)
55	NC	-	No Connection
56	NC	-	No Connection
57	NC	-	No Connection
58	NC	-	No Connection
59	EE_CS	O	EEPROM IC Chip select
60	EE_SCL	O	EEPROM IC Serial clock
61	EE_SDA	I/O	EEPROM IC Serial data
62	CRTIMER	I/O	CR Timer
63	VSS	-	Ground
64	NC	-	No Connection
65	LD_CW	O	Loading Motor Turning Clock-wise (Tray Open)
66	LD_CCW	O	Loading Motor Turning Counter-Clockwise (Tray Close)
67	MUTE_A	O	Audio Muting
68	MODE_DA	O	Digital Amp On/Off control.
69	NC	-	No Connection
70	NC	-	No Connection
71	NC	-	No Connection
72	NC	-	No Connection
73	FHOP	O	Frequency Hop control
74	SMPS_BP	O	SMPS Breatproof
75	MUTE_F	O	Digital Amp Muting control
76	NC	-	No Connection
77	NC	-	No Connection
78	NC	-	No Connection
79	TU_SDA	I/O	Tuner serial data
80	TU_RST	O	Tuner reset
81	TU_SCLK	O	Tuner serial clock
82	NC	-	No Connection
83	NC	-	No Connection
84	NC	-	No Connection
85	RMT	I	Remote control serial data
86	NC	-	No Connection
87	TU_INT	I	Tuner Interrupt request
88	CLIP ATTN	O	Clipping attenuation
89	VDD	-	Voltage supply
90	NC	-	No Connection
91	VSS	-	Ground
92	KEY1	I	Key 1 Input
93	KEY2	I	Key 2 Input
94	CLIP SENSOR	I	Clipping sensor (Volume & ASP Bass control)
95	AUTO BASS	I	Auto Bass setting adjustment
96	ROTARY JOG	I	Rotary jog for browse opera-tion (Album & Track)
97	REGION_AD	I	Regio setting
98	VOL_JOG	I	Volume Level Adjustment
99	NC	-	No Connection
100	VREF+	-	Voltage Supply

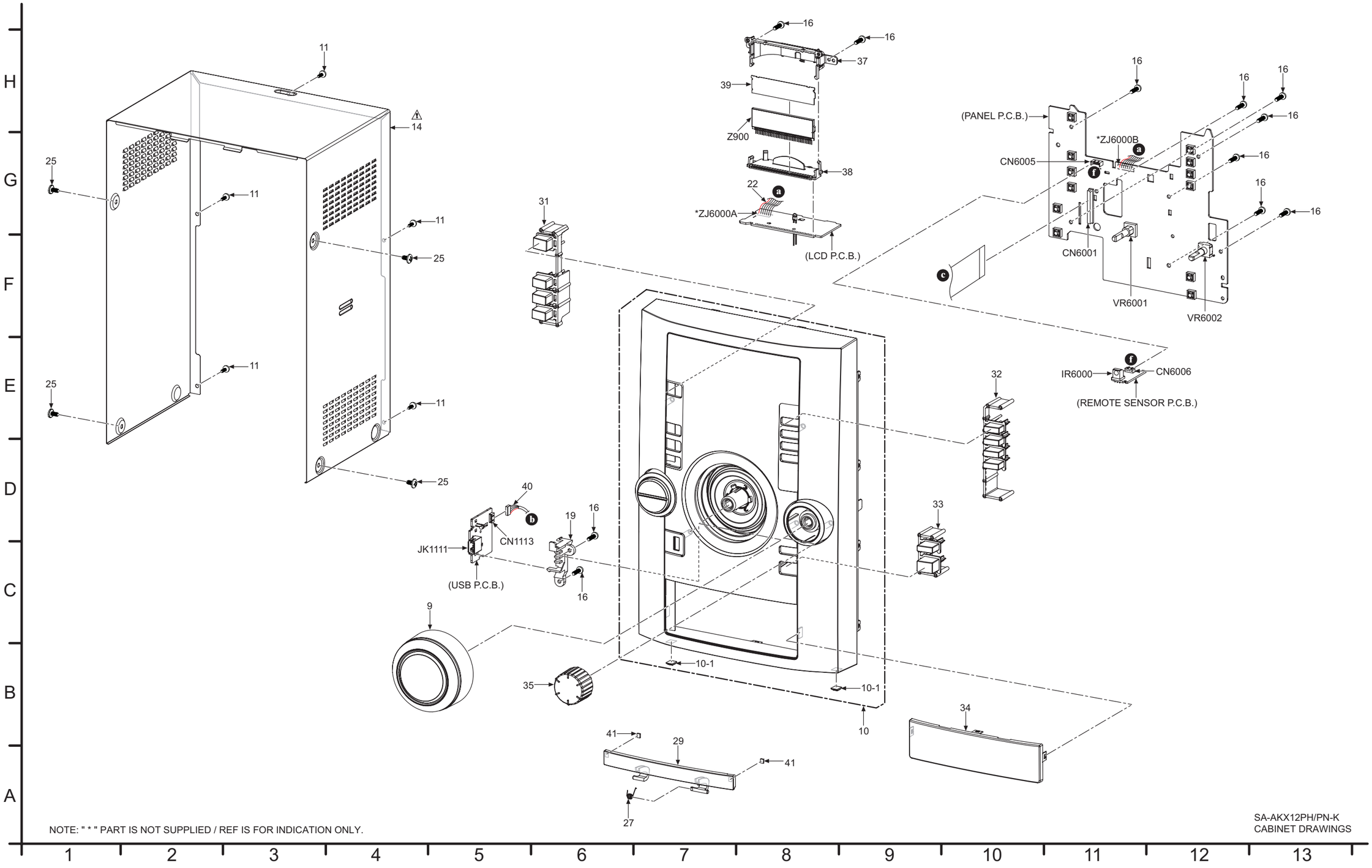
18.2. IC900(C0HBA0000295): IC FL Driver

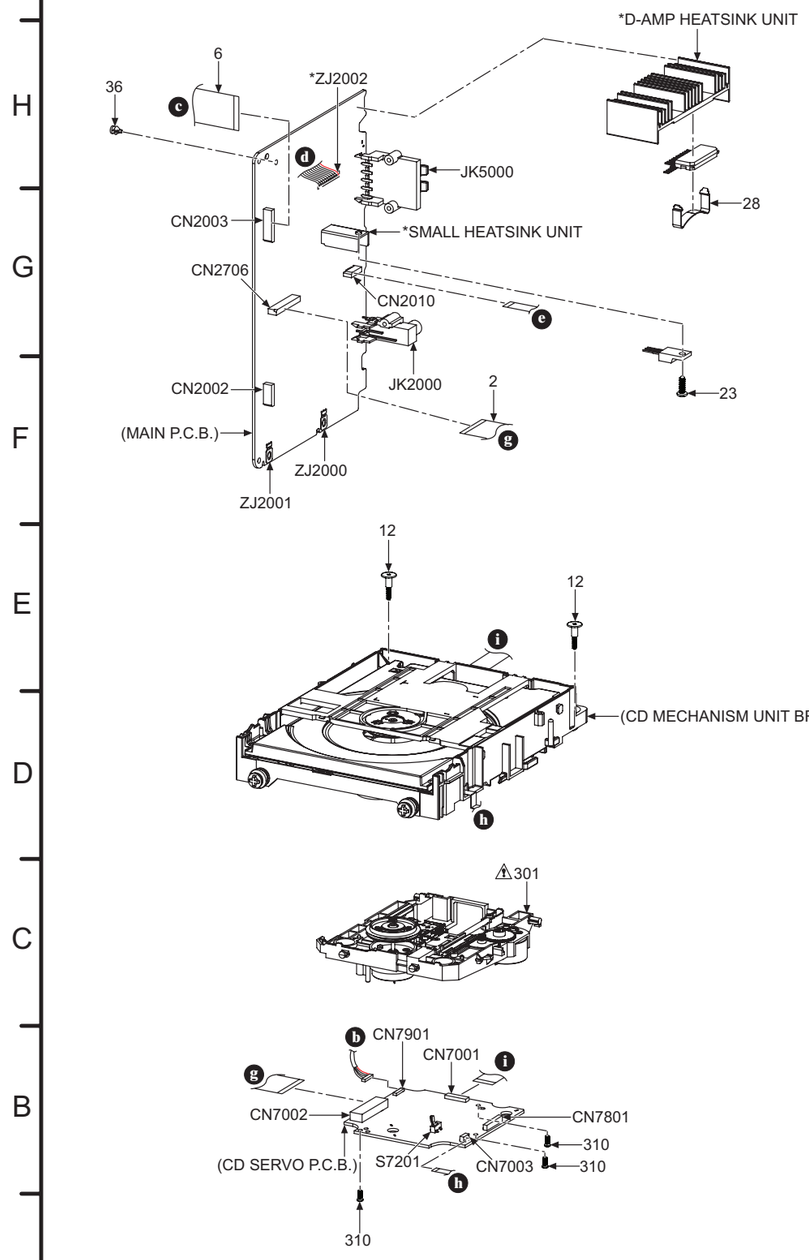
Pin No.	Terminal Name	I/O	Function
1	/CS	I	Chip Selection Input
2	/RD	I	Read Clock Input
3	/WR	I	Write Clock Input
4	DATA	I/O	Serial Data Input
5	VSS	I	Negative Power Supply
6	VLCD	I	LCD Power Input
7	VDD	I	Positive Power Supply
8	BZ	O	Tone Frequency Output Pair
9	COM0	O	Common Output 0
10	COM1	O	Common Output 1
11	COM2	O	Common Output 2
12	COM3	O	Common Output 3
13	SEG31	O	Segment Output 31
14	SEG30	O	Segment Output 30
15	SEG29	O	Segment Output 29
16	SEG28	O	Segment Output 28
17	SEG27	O	Segment Output 27
18	SEG26	O	Segment Output 26
19	SEG25	O	Segment Output 25
20	SEG24	O	Segment Output 24
21	SEG23	O	Segment Output 23
22	SEG22	O	Segment Output 22
23	SEG21	O	Segment Output 21
24	SEG20	O	Segment Output 20
25	SEG19	O	Segment Output 19
26	SEG18	O	Segment Output 18
27	SEG17	O	Segment Output 17
28	SEG16	O	Segment Output 16
29	SEG15	O	Segment Output 15
30	SEG14	O	Segment Output 14
31	SEG13	O	Segment Output 13
32	SEG12	O	Segment Output 12
33	SEG11	O	Segment Output 11
34	SEG10	O	Segment Output 10
35	SEG9	O	Segment Output 9
36	SEG8	O	Segment Output 8
37	SEG7	O	Segment Output 7
38	SEG6	O	Segment Output 6
39	SEG5	O	Segment Output 5
40	SEG4	O	Segment Output 4
41	SEG3	O	Segment Output 3
42	SEG2	O	Segment Output 2
43	SEG1	O	Segment Output 1
44	SEG0	O	Segment Output 0

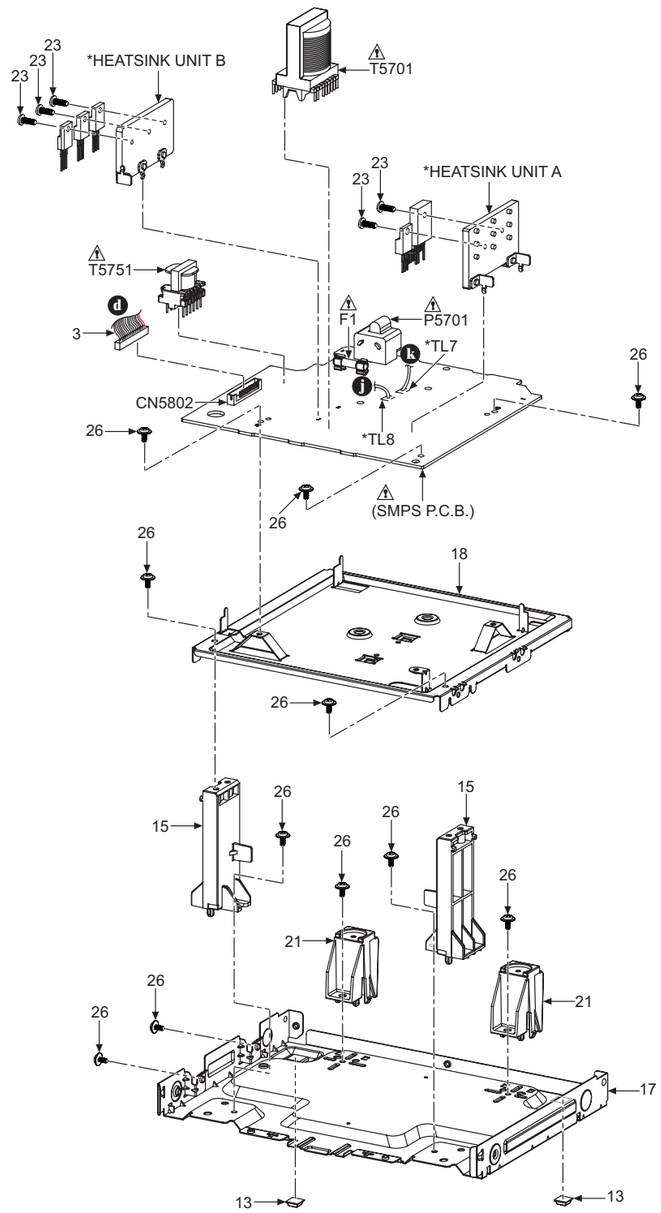
19 Exploded View and Replacement Parts List

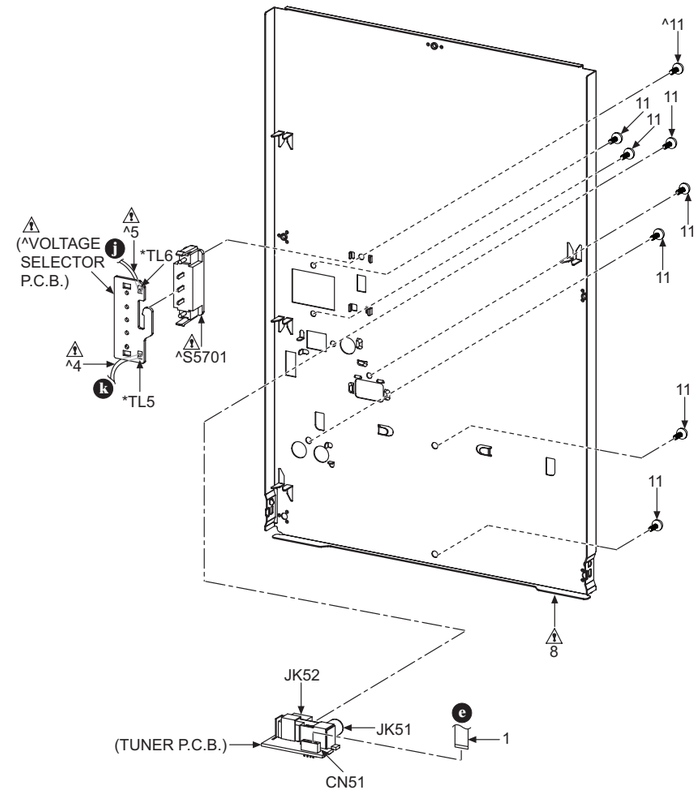
19.1. Exploded View and Mechanical Replacement Part List

19.1.1. Cabinet Parts Location





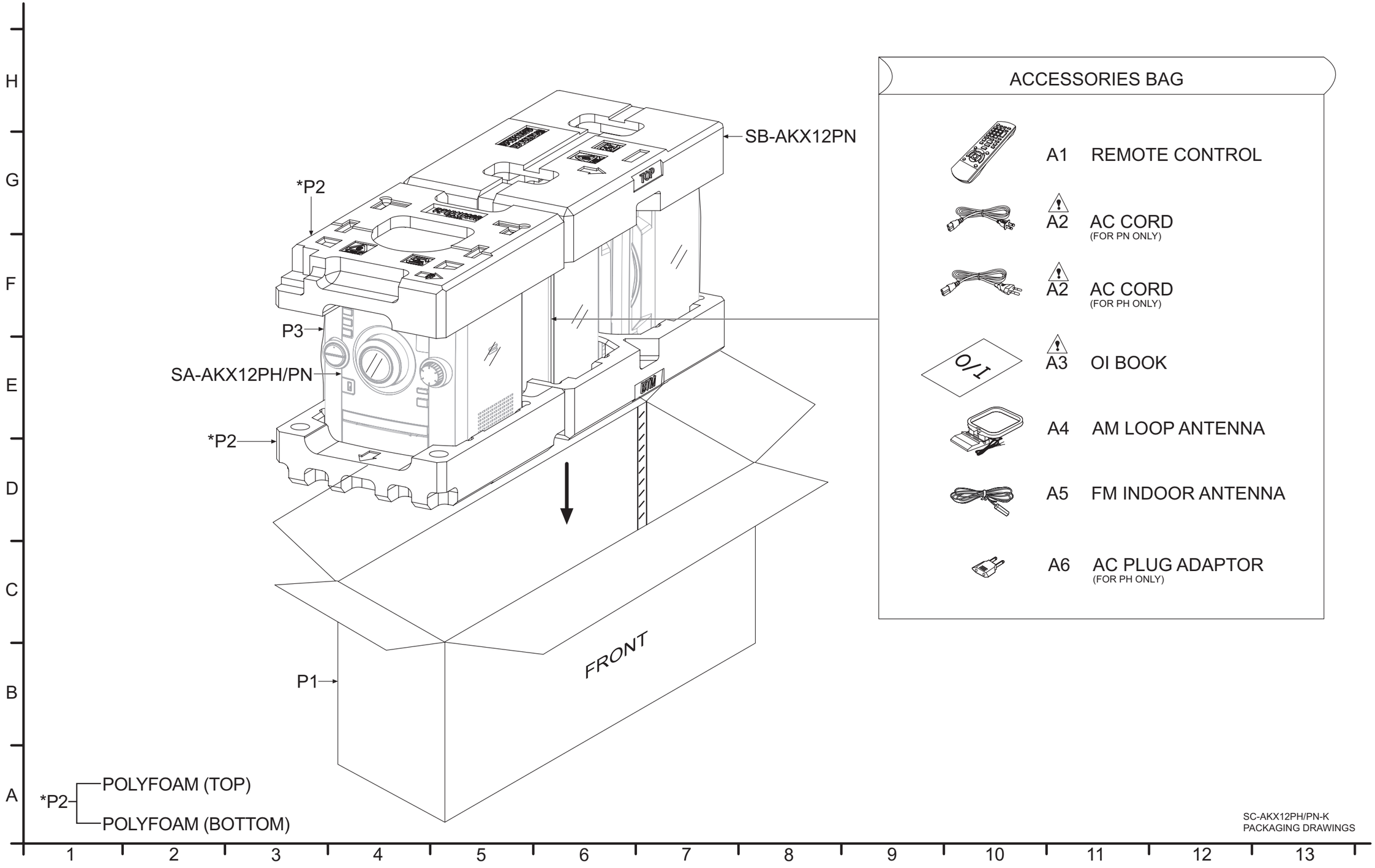




NOTE: " * " PART IS NOT SUPPLIED / REF IS FOR INDICATION ONLY.
" ^ " PART IS FOR PH ONLY.

SA-AKX12PH/PN-K
CABINET DRAWINGS

19.1.2. Packaging



19.1.3. Mechanical Replacement Part List

Important Safety Notice

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

RTL (Retention Time Limited)

Note: The marking (RTL) indicates that the Retention Time is Limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Note:

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

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

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			CABINET AND CHASSIS		
	1	REEX1135	9P FFC (MAIN-TUNER)	1	
	2	REEX1259	27P FFC (MAIN-CD SERVO)	1	
	3	REXX1207	15P CABLE WIRE (SMPS-MAIN)	1	
⚠	4	REXX1122	1P BLACK WIRE (VOLTAGE SELECTOR-SMPS)	1	PH
⚠	5	REXX1123	1P RED WIRE (VOLTAGE SELECTOR-SMPS)	1	PH
	6	REEX1263	17P FFC (MAIN-PANEL)	1	
⚠	8	RGRX1008A-A	REAR PANEL	1	PN
⚠	8	RGRX1008B-A	REAR PANEL	1	PH
	9	RGWX0112-S1	VOLUME KNOB	1	
	10	RFKGAKX12PHK	FRONT PANEL ASS'Y	1	
	10-1	RKAX0042-K	LEG CUSHION	2	
	11	RHD30119-S	SCREW	13	PH
	11	RHD30119-S	SCREW	12	PN
	12	RHDX031008	SCREW	2	
	13	RKAX0042-K	LEG CUSHION	2	
⚠	14	RKMX1011-K	TOP CABINET	1	
	15	RMAX1007	CHASSIS SUPPORT	2	
	16	RHD26046-L	SCREW	11	
	17	RMKX1031	BOTTOM CHASSIS	1	
	18	RMKX1037	INNER CHASSIS	1	
	19	RMNX0287	USB JACK HOLDER	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	21	RMQX1088	MECHA HOLDER	2	
	22	RWJA007120XX	7P CABLE WIRE (LCD-PANEL)	1	
	23	XTB3+10JFJ	SCREW	6	
	25	RHD30007-K2J	SCREW	4	
	26	RHD30111-31	SCREW	11	
	27	RMBX0073	CD LID OPEN SPRING	1	
	28	RMCX0035	HEAT SINK CLIP A	1	
	29	RGKX1073-K	CD LID	1	
	31	RGUX1044-K	POWER BUTTON	1	
	32	RGUX1045-K	MANUAL EQ BUTTON	1	
	33	RGUX1046-K	CD OPEN BUTTON	1	
	34	RGKX1076-K	UNDER ORNAMENT	1	
	35	RGWX0113-S	SKIP KNOB	1	
	36	RMR0502A-W	PCB SPACER	1	
	37	RMNX1011-W1	LCD HOLDER COVER	1	
	38	RMNX1012A-W1	LCD HOLDER BASE	1	
	39	RMXX1008	LCD DIFFUSER SHEET	1	
	40	REXX1209	5P CABLE WIRE (USB-CD SERVO)	1	
	41	RMGX0033	CD LID CUSHION	2	
			TRAVERSE DECK		
⚠	301	RAEX1033Z-V	TRAVERSE ASS'Y	1	
	310	XTN2+6GFJ	SCREW	3	
			PACKING MATERIALS		
	P1	RPGX3497	PACKING CASE	1	PN
	P1	RPGX3498	PACKING CASE	1	PH

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	P2	RPNX1096	POLYFOAM	1	
	P3	RPFX0198	MIRAMAT	1	
			ACCESSORIES		
	A1	N2QAYB000636	REMOTE CONTROL	1	
⚠	A2	K2CB2CB00021	AC CORD	1	PN
⚠	A2	K2CQ2CA00007	AC CORD	1	PH
⚠	A3	RQTX1286-M	O/I BOOK (Sp/En)	1	PN
⚠	A3	RQTX1288-M	O/I BOOK (Sp)	1	PH
	A4	N1DYYY00010	AM LOOP ANTENNA	1	
	A5	RSAX0002	FM INDOOR ANTENNA	1	
	A6	K2DAYYY00002	AC PLUG ADAPTER	1	PH

19.2. Electrical Replacement Part List

Important Safety Notice

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

RTL (Retention Time Limited)

Note: The marking (RTL) indicates that the Retention Time is Limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Note:

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

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			PRINTED CIRCUIT BOARDS		
	PCB1	REPX0918C	CD SERVO P.C.B.	1	(RTL)
	PCB2	REPX0892AA	MAIN P.C.B.	1	(RTL) PN
	PCB2	REPX0892BA	MAIN P.C.B.	1	(RTL) PH
	PCB3	REPX0892AB	PANEL P.C.B.	1	(RTL) PN
	PCB3	REPX0892BB	PANEL P.C.B.	1	(RTL) PH
	PCB4	REPX0892AB	LCD P.C.B.	1	(RTL) PN
	PCB4	REPX0892BB	LCD P.C.B.	1	(RTL) PH
	PCB5	REPX0892AD	REMOTE SENSOR P.C.B.	1	(RTL) PN
	PCB5	REPX0892BD	REMOTE SENSOR P.C.B.	1	(RTL) PH
	PCB6	REPX0892AE	USB P.C.B.	1	(RTL) PN
	PCB6	REPX0892BE	USB P.C.B.	1	(RTL) PH
	PCB7	REPX0928A	TUNER P.C.B.	1	(RTL)
⚠	PCB8	REPX0886A	SMPS P.C.B.	1	(RTL) PN
⚠	PCB8	REPX0886C	SMPS P.C.B.	1	(RTL) PH
⚠	PCB9	REPX0886C	VOLTAGE SELECTOR P.C.B.	1	(RTL) PH
			INTEGRATED CIRCUITS		
	IC52	VUEALLPT031	IC	1	[SPG]
	IC900	C0HBA0000295	IC	1	
	IC2003	RFKWMAKX12M0	IC	1	
	IC2006	C3EBFY000006	IC	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	IC2009	C0DBFYY00049	IC	1	
	IC2010	C0CAAKG00046	IC	1	
	IC2011	C0DAAYG00001	IC	1	
	IC2101	C1BB00001151	IC	1	
	IC2201	C0AABB000125	IC	1	
	IC5701	C5HACYY00004	IC	1	PN
	IC5701	C5HACYY00005	IC	1	PH
	IC5799	MIP2F20MSSCF	IC	1	
	IC5801	C0DABFC00002	IC	1	
	IC5899	C0DAEMZ00001	IC	1	
	IC5902	C1BA00000497	IC	1	
	IC7001	MN6627947RB	IC	1	
	IC7002	C0GBY0000117	IC	1	
	IC7851	C3EBFC000042	IC	1	
			TRANSISTORS		
	Q900	B1GBCFJN0033	TRANSISTOR	1	
	Q2011	B1GBCFLL0037	TRANSISTOR	1	
	Q2014	B1GBCFLL0037	TRANSISTOR	1	
	Q2015	B1ACKD000006	TRANSISTOR	1	
	Q2022	B1BACD000018	TRANSISTOR	1	
	Q2035	B1BABG000007	TRANSISTOR	1	
	Q2038	B1ABCF000176	TRANSISTOR	1	
	Q2039	B1ADCE000012	TRANSISTOR	1	
	Q2040	B1ABCF000176	TRANSISTOR	1	
	Q2041	B1ABCF000176	TRANSISTOR	1	
	Q2050	B1ADCE000012	TRANSISTOR	1	
	Q2051	B1ADCE000012	TRANSISTOR	1	
	Q2220	B1ABCF000176	TRANSISTOR	1	
	Q2222	B1ABCF000176	TRANSISTOR	1	
	Q5720	B1BABG000007	TRANSISTOR	1	
	Q5721	B1ADCF000001	TRANSISTOR	1	
	Q5722	B1ABCF000176	TRANSISTOR	1	
	Q5860	B1ADCF000001	TRANSISTOR	1	
	Q5861	B1ABCF000176	TRANSISTOR	1	
	Q5862	B1GBCFJJ0051	TRANSISTOR	1	
	Q5898	B1ABCF000176	TRANSISTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	Q5900	B1ABGC000005	TRANSISTOR	1	
	Q5901	B1ADCE000012	TRANSISTOR	1	
	Q5902	B1ABCF000176	TRANSISTOR	1	
	Q5903	B1ABCF000176	TRANSISTOR	1	
	Q5904	B1ABCF000176	TRANSISTOR	1	
	Q5905	B1ABCF000176	TRANSISTOR	1	
	Q7601	B1ADCF000001	TRANSISTOR	1	
	QR2400	B1GDCFJJ0047	TRANSISTOR	1	
	QR2402	B1GDCFJJ0047	TRANSISTOR	1	
	QR5801	B1GBCFJN0038	TRANSISTOR	1	
	QR5802	B1GDCFGA0018	TRANSISTOR	1	
	QR5810	B1GBCFLL0037	TRANSISTOR	1	
	QR5900	B1GDCFJJ0047	TRANSISTOR	1	
	QR5901	B1GBCFJJ0051	TRANSISTOR	1	
			DIODES		
	D993	B3AFA0000131	DIODE	1	
	D2001	B0ACCK000012	DIODE	1	
	D2002	B0BC3R3A0262	DIODE	1	
	D2003	B0BC3R3A0262	DIODE	1	
	D2008	B0ACCK000012	DIODE	1	
	D2014	B0ADCJ000020	DIODE	1	
	D2015	B0ADCJ000020	DIODE	1	
	D2016	B0EAKM000117	DIODE	1	
	D2017	B0BC8R100004	DIODE	1	
	D2018	B0EAKM000117	DIODE	1	
	D2019	B0EAKM000117	DIODE	1	
	D2020	B0EAKM000117	DIODE	1	
	D2021	B0EAKM000117	DIODE	1	
	D2022	B0EAKM000117	DIODE	1	
	D2023	B0ACCK000012	DIODE	1	
	D2024	B0ACCK000012	DIODE	1	
	D2028	B0ACCK000012	DIODE	1	
	D2120	B0EAKM000117	DIODE	1	
	D2300	B0ACCK000012	DIODE	1	
	D2301	B0ACCK000012	DIODE	1	
	D5701	B0FBAR000043	DIODE	1	
	D5702	B0ZAZ0000052	DIODE	1	
	D5721	B0BC010A0007	DIODE	1	PH
	D5721	B0BC018A0267	DIODE	1	PN
	D5722	B0BC019A0007	DIODE	1	
	D5723	B0ACCK000012	DIODE	1	
	D5724	B0ACCK000012	DIODE	1	
	D5725	B0BC6R100010	DIODE	1	
	D5726	B0EAKM000117	DIODE	1	
	D5727	B0ACCK000012	DIODE	1	
	D5728	B0ACCK000012	DIODE	1	
	D5729	B0EAMM000057	DIODE	1	
	D5730	B0ECET000002	DIODE	1	
	D5731	B0EAMM000057	DIODE	1	
	D5732	B0BC035A0007	DIODE	1	
	D5793	B0HAMP000094	DIODE	1	PH
	D5795	B0BC9R000008	DIODE	1	
	D5798	B0EAMM000057	DIODE	1	
	D5801	B0ABSM000008	DIODE	1	
	D5802	B0ABSM000008	DIODE	1	
	D5803	B0HFRJ000012	DIODE	1	
	D5804	B0ACCK000012	DIODE	1	
	D5896	B0EAMM000057	DIODE	1	
	D5906	B0HCSP000001	DIODE	1	
	D5908	B0HCSP000001	DIODE	1	
	D5909	B0HCSP000001	DIODE	1	
	D5910	B0HCSP000001	DIODE	1	
	D7341	B0ECKM000016	DIODE	1	
	D7342	B0ECKM000016	DIODE	1	
	D7343	B0ECKM000016	DIODE	1	
	D7650	B0BC5R6A0266	DIODE	1	
	DZ2000	B0JCPD000025	DIODE	1	
⚠	DZ5701	ERZVA5Z471	DIODE	1	
			VARISTOR		

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	VA51	EZAEG2A50AX	VARISTOR	1	
			SWITCHES		
⚠	S5701	K0ABCA000007	SW VOLT ADJ	1	PH
	S6001	EVQ21405RJ	SW POWER	1	
	S6002	EVQ21405RJ	SW USB	1	
	S6003	EVQ21405RJ	SW CD	1	
	S6004	EVQ21405RJ	SW RADIO /INT IN	1	
	S6005	EVQ21405RJ	SW PLAY/PAUSE	1	
	S6006	EVQ21405RJ	SW DBASE	1	
	S6007	EVQ21405RJ	SW MANUAL EQ	1	
	S6008	EVQ21405RJ	SW FWD	1	
	S6009	EVQ21405RJ	SW RWD	1	
	S6010	EVQ21405RJ	SW ALBUM/TRACK	1	
	S6011	EVQ21405RJ	SW OPEN/CLOSE	1	
	S6012	EVQ21405RJ	SW STOP	1	
	S7201	K0L1BA000158	SW RESET	1	
			CONNECTORS		
	CN51	K1MY09AA0124	9P CONNECTOR	1	
	CN1113	K1KA05BA0061	5P CONNECTOR	1	
	CN2002	K1MY06AA0124	6P CONNECTOR	1	
	CN2003	K1MY17AA0124	17P CONNECTOR	1	
	CN2010	K1MY09AA0124	9P CONNECTOR	1	
	CN2706	K1MY27AA0124	27P CONNECTOR	1	
	CN5802	K1KA15AA0194	15P CONNECTOR	1	
	CN6001	K1MY17AA0124	17P CONNECTOR	1	
	CN6005	K1KA04AA0031	4P CONNECTOR	1	
	CN6006	K1KB04B00038	4P CONNECTOR	1	
	CN7001	K1MN24BA0197	24P CONNECTOR	1	
	CN7002	K1MN27B00016	27P CONNECTOR	1	
	CN7003	K1MN05BA0147	5P CONNECTOR	1	
	CN7801	K1KA05BA0014	5P CONNECTOR	1	
	CN7901	K1KA05BA0014	5P CONNECTOR	1	
			COILS AND INDUC-TORS		
	L51	G1CR18JA0020	INDUCTOR	1	
	L52	G2A380Y00002	ANTENNA COIL	1	
	L900	J0JBC0000019	INDUCTOR	1	
	L2000	G0A101ZA0028	CHOKE COIL	1	
⚠	L5701	G0B612H00002	LINE FILTER	1	
	L5704	J0JBC0000019	INDUCTOR	1	
	L5900	J0JKB0000020	INDUCTOR	1	
	L5901	J0JKB0000020	INDUCTOR	1	
	L5903	G0A150L00003	CHOKE COIL	1	
	LB51	J0JBC0000032	INDUCTOR	1	
	LB2100	J0JYC0000339	INDUCTOR	1	
			TRANSFORMERS		
⚠	T5701	ETS39AG4M6AD	MAIN TRANSFORMER	1	PH
⚠	T5701	ETS39AG4NGAD	MAIN TRANSFORMER	1	PN
⚠	T5751	ETS19AB2E6AG	SUB TRANSFORMER	1	
			PHOTO COUPLERS		
⚠	PC5701	B3PBA0000503	PHOTO COUPLER	1	
⚠	PC5702	B3PBA0000503	PHOTO COUPLER	1	
⚠	PC5720	B3PBA0000503	PHOTO COUPLER	1	
⚠	PC5799	B3PBA0000503	PHOTO COUPLER	1	
			EARTH PLATES		
	ZJ2000	K9ZZ00001279	EARTH PLATE	1	
	ZJ2001	K9ZZ00001279	EARTH PLATE	1	
			OSCILLATORS		

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	X51	H0A327200097	CRYSTAL OSCILLA-TOR	1	
	X2000	H0A327200097	CRYSTAL OSCILLA-TOR	1	
	X2001	H2B800400007	CRYSTAL OSCILLA-TOR	1	
	X7201	H2D169500017	CRYSTAL OSCILLA-TOR	1	
	X7205	H0J120500076	CRYSTAL OSCILLA-TOR	1	
			VARIABLE RESIS-TORS		
	VR6001	EVEKE2F3524B	VOLUME JOG	1	
	VR6002	K9AA012Y0004	VARIABLE RESIS-TORS	1	
			REMOTE CONTROL SENSOR		
	IR6000	B3RAB0000084	REMOTE CONTROL SENSOR	1	
			FL DISPLAY		
	Z900	L5AYAYY00061	LCD DISPLAY	1	
			FUSES		
⚠	F1	K5D632BK0007	FUSE	1	PH
⚠	F1	K5D802APA008	FUSE	1	PN
			FUSE HOLDERS		
	ZA5701	K3GE1ZZ00001	FUSE HOLDER	1	
	ZA5702	K3GE1ZZ00001	FUSE HOLDER	1	
			THERMISTORS		
⚠	TH5702	D4CAA2R20001	THERMISTOR	1	
⚠	TH5860	D4CC11040013	THERMISTOR	1	
⚠	TH5900	D4CC11040013	THERMISTOR	1	
			JACKS		
	JK51	K4ZZ02000103	JK FM ANT	1	
	JK52	K4AC02B00042	JK AM ANT	1	
	JK1111	K1FY104B0011	JK USB	1	
	JK2000	K2HA204B0153	JK AUX IN	1	
	JK5000	K4AC04B00030	JK SPEAKER	1	
⚠	P5701	K2AA2B000011	AC INLET	1	PH
⚠	P5701	K2AB2B000007	AC INLET	1	PN
			CHIP JUMPERS		
	D2025	D0GBR00JA008	0 1/16W	1	
	K1	D0GBR00JA008	0 1/16W	1	PN
	K6	D0GBR00JA008	0 1/16W	1	PN
	K8	D0GBR00JA008	0 1/16W	1	PH
	K1200	D0GBR00JA008	0 1/16W	1	
	K1210	D0GBR00JA008	0 1/16W	1	
	K2706	D0GBR00JA008	0 1/16W	1	
	K7003	D0GBR00JA008	0 1/16W	1	
	K7013	D0GBR00JA008	0 1/16W	1	
	K7101	D0GBR00JA008	0 1/16W	1	
	K7102	D0GBR00JA008	0 1/16W	1	
	K7712	D0GBR00JA008	0 1/16W	1	
	K7713	D0GBR00JA008	0 1/16W	1	
	K7724	D0GBR00JA008	0 1/16W	1	
	L54	D0GBR00JA008	0 1/16W	1	
	LB1200	D0GDR00JA017	0 1/8W	1	
	LB1210	D0GDR00JA017	0 1/8W	1	
	LB2010	D0GBR00JA008	0 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	W951	D0GBR00JA008	0 1/16W	1	
	W952	D0GDR00JA017	0 1/8W	1	
	W5302	D0GBR00JA008	0 1/16W	1	
	W5305	D0GDR00JA017	0 1/8W	1	
	W5306	D0GBR00JA008	0 1/16W	1	
	W5308	D0GBR00JA008	0 1/16W	1	
	W5312	D0GDR00JA017	0 1/8W	1	
	W5313	D0GBR00JA008	0 1/16W	1	
	W5314	D0GBR00JA008	0 1/16W	1	
	W5316	D0GBR00JA008	0 1/16W	1	
	W5317	D0GDR00JA017	0 1/8W	1	
	W5601	D0GBR00JA008	0 1/16W	1	
	W5602	D0GDR00JA017	0 1/8W	1	
	W5603	D0GDR00JA017	0 1/8W	1	
	W5604	D0GBR00JA008	0 1/16W	1	
			RESISTORS		
	K7202	D0GB101JA008	100 1/16W	1	
	R51	D0GB102JA008	1K 1/16W	1	
	R52	D0GB102JA008	1K 1/16W	1	
	R53	D0GA472JA023	4.7K 1/16W	1	
	R54	D0GA472JA023	4.7K 1/16W	1	
	R55	D0GA221JA023	220 1/16W	1	
	R56	D0GB221JA007	220 1/10W	1	
	R57	D0GA102JA023	1K 1/16W	1	
	R59	D0GB222JA008	2.2K 1/16W	1	
	R61	D0GB473JA008	47K 1/16W	1	
	R62	D0GB473JA008	47K 1/16W	1	
	R64	D0GBR00JA008	0 1/16W	1	
	R901	D0GB153JA008	15K 1/16W	1	
	R903	D0GB471JA008	470 1/16W	1	
	R905	D0GBR00JA008	0 1/16W	1	
	R906	D0GBR00JA008	0 1/16W	1	
	R908	D0GB102JA008	1K 1/16W	1	
	R933	D0GD121JA017	120 1/8W	1	
	R935	D0GD181JA017	180 1/8W	1	
	R2001	D0GB473JA008	47K 1/16W	1	
	R2002	D0GB473JA008	47K 1/16W	1	
	R2003	D0GBR00JA008	0 1/16W	1	
	R2004	D0GBR00JA008	0 1/16W	1	
	R2010	D0GB102JA008	1K 1/16W	1	
	R2011	D0GB102JA008	1K 1/16W	1	
	R2015	D0GB473JA008	47K 1/16W	1	
	R2016	D0GB473JA008	47K 1/16W	1	
	R2065	D0GB101JA008	100 1/16W	1	
	R2066	D0GB101JA008	100 1/16W	1	
	R2067	D0GB101JA008	100 1/16W	1	
	R2069	D0GB102JA008	1K 1/16W	1	
	R2070	D0GB101JA008	100 1/16W	1	
	R2071	D0GB101JA008	100 1/16W	1	
	R2074	D0GB101JA008	100 1/16W	1	
	R2076	D0GB102JA008	1K 1/16W	1	
	R2084	D0GB104JA008	100K 1/16W	1	
	R2085	D0GB273JA008	27K 1/16W	1	PH
	R2085	D0GB822JA008	8.2K 1/16W	1	PN
	R2093	D0GB392JA008	3.9K 1/16W	1	
	R2094	D0GB392JA008	3.9K 1/16W	1	
	R2095	D0GB473JA008	47K 1/16W	1	
	R2096	D0GD473JA017	47K 1/8W	1	
	R2098	D0GB472JA008	4.7K 1/16W	1	
	R2102	D0GB472JA008	4.7K 1/16W	1	
	R2103	D0GB332JA008	3.3K 1/16W	1	
	R2104	D0GB332JA008	3.3K 1/16W	1	
	R2105	D0GB682JA008	6.8K 1/16W	1	
	R2107	D0GB682JA008	6.8K 1/16W	1	
	R2111	ERJ3GEYJ331V	330	1	
	R2112	D0GB332JA008	3.3K 1/16W	1	
	R2113	D0GB332JA008	3.3K 1/16W	1	
	R2114	ERJ3GEYJ331V	330	1	
	R2117	D0GB101JA008	100 1/16W	1	
	R2120	D0GB101JA008	100 1/16W	1	
	R2121	D0GB475JA008	4.7M 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description		Qty	Remarks
	R2123	D0GB564JA008	560K	1/16W	1	
	R2126	D0GB101JA008	100	1/16W	1	
	R2127	D0GBR00JA008	0	1/16W	1	
	R2128	D0GBR00JA008	0	1/16W	1	
	R2129	D0GB101JA008	100	1/16W	1	
	R2130	D0GB102JA008	1K	1/16W	1	
	R2131	D0GB102JA008	1K	1/16W	1	
	R2136	D0GBR00JA008	0	1/16W	1	
	R2140	D0GBR00JA008	0	1/16W	1	
	R2153	D0GB104JA008	100K	1/16W	1	
	R2156	D0GB101JA008	100	1/16W	1	
	R2159	D0GB101JA008	100	1/16W	1	
	R2163	D0GB102JA008	1K	1/16W	1	
	R2164	D0GB101JA008	100	1/16W	1	
	R2165	D0GB102JA008	1K	1/16W	1	
	R2166	D0GB101JA008	100	1/16W	1	
	R2173	D0GB153JA008	15K	1/16W	1	
	R2174	D0GB103JA008	10K	1/16W	1	
	R2177	D0GB153JA008	15K	1/16W	1	
	R2178	D0GB103JA008	10K	1/16W	1	
	R2182	D0GB103JA008	10K	1/16W	1	
	R2185	D0GB103JA008	10K	1/16W	1	
	R2189	D0GB473JA008	47K	1/16W	1	
	R2195	D0GD101JA017	100	1/8W	1	
	R2196	D0GB102JA008	1K	1/16W	1	
	R2197	D0GB101JA008	100	1/16W	1	
	R2198	D0GB102JA008	1K	1/16W	1	
	R2201	D0GB102JA008	1K	1/16W	1	
	R2202	D0GB102JA008	1K	1/16W	1	
	R2203	D0GB472JA008	4.7K	1/16W	1	
	R2204	D0GBR00JA008	0	1/16W	1	
	R2205	D0GB472JA008	4.7K	1/16W	1	
	R2207	D0GB273JA008	27K	1/16W	1	
	R2208	D0GB273JA008	27K	1/16W	1	
	R2209	D0GBR00JA008	0	1/16W	1	
	R2210	D0GB472JA008	4.7K	1/16W	1	
	R2214	D0GB102JA008	1K	1/16W	1	
	R2218	D0GB103JA008	10K	1/16W	1	
	R2219	D0GB222JA008	2.2K	1/16W	1	
	R2220	D0GB222JA008	2.2K	1/16W	1	
	R2221	D0GB474JA008	470K	1/16W	1	
	R2222	D0GB472JA008	4.7K	1/16W	1	
	R2223	D0GB124JA008	120K	1/16W	1	
	R2225	D0GB272JA008	2.7K	1/16W	1	
	R2226	D0GB472JA008	4.7K	1/16W	1	
	R2227	D0GB124JA008	120K	1/16W	1	
	R2228	D0GB223JA008	22K	1/16W	1	
	R2229	D0GD103JA017	10K	1/8W	1	
	R2230	D0GB104JA008	100K	1/16W	1	
	R2231	D0GB104JA008	100K	1/16W	1	
	R2232	D0GB103JA008	10K	1/16W	1	
	R2233	D0GB272JA008	2.7K	1/16W	1	
	R2235	D0GB223JA008	22K	1/16W	1	
	R2271	D0GB101JA008	100	1/16W	1	
	R2278	D0GB391JA008	390	1/16W	1	
	R2302	D0GB101JA008	100	1/16W	1	
	R2303	D0HB102ZA002	1K	1/16W	1	
	R2304	D0GB101JA008	100	1/16W	1	
	R2305	D0GB331JA008	330	1/16W	1	
	R2306	D0GB331JA008	330	1/16W	1	
	R2307	D0GB222JA008	2.2K	1/16W	1	
	R2308	D0GB222JA008	2.2K	1/16W	1	
	R2309	ERJ3RBD272V	2.7K	1/16W	1	
	R2311	D0HB152ZA002	1.5K	1/16W	1	
	R2313	D0GB104JA008	100K	1/16W	1	
	R2314	D0GB104JA008	100K	1/16W	1	
	R2316	D0GB105JA008	1M	1/16W	1	
	R2319	D0GB152JA008	1.5K	1/16W	1	
	R2320	D0GB152JA008	1.5K	1/16W	1	
	R2333	ERG2SJ471E	470	2W	1	
	R2334	ERG2SJ471E	470	2W	1	
	R2335	D0GB102JA008	1K	1/16W	1	
	R2336	ERG2SJ471E	470	2W	1	

Safety	Ref. No.	Part No.	Part Name & Description		Qty	Remarks
	R2337	ERG2SJ471E	470	2W	1	
	R2338	ERG2SJ471E	470	2W	1	
	R2339	ERG2SJ471E	470	2W	1	
	R2340	ERG2SJ471E	470	2W	1	
	R2341	ERG2SJ471E	470	2W	1	
	R2347	D0GB822JA008	8.2K	1/16W	1	
	R2348	D0GB822JA008	8.2K	1/16W	1	
	R2349	D0GB104JA008	100K	1/16W	1	
	R2350	D0GB563JA008	56K	1/16W	1	
	R2351	D0GB563JA008	56K	1/16W	1	
	R2357	D0GB475JA008	4.7M	1/16W	1	
	R2358	D0GB103JA008	10K	1/16W	1	
	R2359	D0GB102JA008	1K	1/16W	1	
	R2360	D0GB104JA008	100K	1/16W	1	
	R2361	D0GB103JA008	10K	1/16W	1	
	R2362	D0GB474JA008	470K	1/16W	1	
	R2363	D0GB333JA008	33K	1/16W	1	
	R2364	D0GB222JA008	2.2K	1/16W	1	
	R2372	D0GB102JA008	1K	1/16W	1	
	R2374	D0GB102JA008	1K	1/16W	1	
	R2376	D0GB101JA008	100	1/16W	1	
	R2377	D0GB101JA008	100	1/16W	1	
	R2402	D0GB101JA008	100	1/16W	1	
	R2403	D0GB101JA008	100	1/16W	1	
	R2404	D0GB102JA008	1K	1/16W	1	
	R2405	D0GB101JA008	100	1/16W	1	
	R2406	D0GB332JA008	3.3K	1/16W	1	
	R5702	D0GZ104JA012	100K	1W	1	PH
	R5702	D0GZ333JA012	33K	1W	1	PN
	R5703	D0GZ104JA012	100K	1W	1	PH
	R5703	D0GZ333JA012	33K	1W	1	PN
	R5704	ERJ8GEYJ224V	220K	1/4W	1	
	R5705	ERJ8GEYJ224V	220K	1/4W	1	
	R5706	D0GD824JA017	820K	1/8W	1	
⚠	R5708	ERJ8GEYJ155V	1.5M	1/4W	1	
⚠	R5709	ERJ8GEYJ155V	1.5M	1/4W	1	
	R5720	D0GD220JA017	22	1/8W	1	
	R5721	D0GD103JA017	10K	1/8W	1	
	R5722	D0GD122JA017	1.2K	1/8W	1	
	R5723	D0GB102JA008	1K	1/16W	1	
	R5724	D0GD121JA017	120	1/8W	1	
	R5726	ERX2SZJR10P	0.1	2W	1	PH
	R5726	ERX2SZJR15P	0.15	2W	1	PN
	R5727	ERX2SZJR13P	0.13	2W	1	PN
	R5728	D0GB104JA008	100K	1/16W	1	
	R5729	D0GD103JA017	10K	1/8W	1	
	R5730	D0GB102JA008	1K	1/16W	1	
	R5732	D0GB101JA008	100	1/16W	1	
	R5733	D0GB473JA008	47K	1/16W	1	
	R5786	D0GZ204JA012	200K	1W	1	PH
	R5795	D0GD474JA017	470K	1/8W	1	
	R5797	D0GB153JA008	15K	1/16W	1	
	R5798	D0GB220JA008	22	1/16W	1	
	R5800	D0GD153JA017	15K	1/8W	1	
	R5801	D0GD223JA017	22K	1/8W	1	
	R5802	D0HB123ZA002	12K	1/16W	1	
	R5803	D0HB102ZA002	1K	1/16W	1	
	R5804	D1BD4702A077	47K	1/8W	1	
	R5805	ERJ3RBD222V	2.2K	1/16W	1	
	R5806	D0GB153JA008	15K	1/16W	1	
	R5807	D0GD331JA017	330	1/8W	1	
	R5808	D0GD222JA017	2.2K	1/8W	1	
	R5809	D0GD331JA017	330	1/8W	1	
	R5810	D0GB331JA008	330	1/16W	1	
	R5814	D0GB822JA008	8.2K	1/16W	1	
	R5817	D0GB331JA008	330	1/16W	1	
	R5832	D0GZ222JA012	2.2K	1W	1	
	R5833	D0GZ222JA012	2.2K	1W	1	PH
	R5834	D0GZ222JA012	2.2K	1W	1	
	R5835	D0GZ222JA012	2.2K	1W	1	PH
	R5836	D0GZ222JA012	2.2K	1W	1	PH
	R5837	D0GZ222JA012	2.2K	1W	1	PH
	R5840	D0GB823JA008	82K	1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R5841	D0GB124JA008	120K 1/16W	1	
	R5860	ERJ3GEYF103V	10K 1/10W	1	
	R5861	ERJ3GEYF332V	3.3K 1/10W	1	
	R5862	D0GD183JA017	18K 1/8W	1	
	R5863	D0GD183JA017	18K 1/8W	1	
	R5864	ERJ3GEYF103V	10K 1/10W	1	
	R5865	D0GBR00JA008	0 1/16W	1	
	R5890	D0GB222JA008	2.2K 1/16W	1	
	R5891	ERJ3RBD333V	33K 1/16W	1	
	R5892	D0HB102ZA002	1K 1/16W	1	
	R5893	ERJ3RBD103V	10K 1/16W	1	
	R5894	D0GB151JA008	150 1/16W	1	
	R5895	D0GB153JA008	15K 1/16W	1	
	R5896	D0GB104JA008	100K 1/16W	1	
	R5897	D0GB101JA008	100 1/16W	1	
	R5905	D0GF100JA014	10 1/4W	1	
	R5907	D0GB124JA008	120K 1/16W	1	
	R5909	D0GB103JA008	10K 1/16W	1	
	R5910	D0GB184JA008	180K 1/16W	1	
	R5911	ERJ3RBD273V	27K 1/16W	1	
	R5912	ERJ3RBD333V	33K 1/16W	1	
	R5913	D0HB152ZA002	1.5K 1/16W	1	
	R5914	D0GB103JA008	10K 1/16W	1	
	R5915	D0GB103JA008	10K 1/16W	1	
	R5917	D0GB103JA008	10K 1/16W	1	
	R5918	ERJ3RBD272V	2.7K 1/16W	1	
	R5919	D0GB103JA008	10K 1/16W	1	
	R5920	ERJ3RBD272V	2.7K 1/16W	1	
	R5922	D0GB562JA008	5.6K 1/16W	1	
	R5924	D0GB562JA008	5.6K 1/16W	1	
	R5926	D0GF100JA014	10 1/4W	1	
	R5927	D0GB682JA008	6.8K 1/16W	1	
	R5928	D0GF100JA014	10 1/4W	1	
	R5936	D0GF100JA014	10 1/4W	1	
	R5939	D0GB562JA008	5.6K 1/16W	1	
	R5941	D0GB562JA008	5.6K 1/16W	1	
	R5942	D0GB101JA008	100 1/16W	1	
	R5946	ERJ1TYJ220U	22 1W	1	
	R5947	ERJ1TYJ220U	22 1W	1	
	R5950	D0GB562JA008	5.6K 1/16W	1	
	R5951	D0GB562JA008	5.6K 1/16W	1	
	R5962	D0GB823JA008	82K 1/16W	1	
	R5963	D0GB823JA008	82K 1/16W	1	
	R6001	D0GB122JA008	1.2K 1/16W	1	
	R6002	D0GB152JA008	1.5K 1/16W	1	
	R6003	D0GB222JA008	2.2K 1/16W	1	
	R6004	D0GB332JA008	3.3K 1/16W	1	
	R6005	D0GB472JA008	4.7K 1/16W	1	
	R6006	D0GB122JA008	1.2K 1/16W	1	
	R6007	D0GB152JA008	1.5K 1/16W	1	
	R6008	D0GB222JA008	2.2K 1/16W	1	
	R6009	D0GB332JA008	3.3K 1/16W	1	
	R6010	D0GB472JA008	4.7K 1/16W	1	
	R6012	D0GB103JA008	10K 1/16W	1	
	R6013	D0GB103JA008	10K 1/16W	1	
	R6058	D0GB123JA008	12K 1/16W	1	
	R6059	D0GB223JA008	22K 1/16W	1	
	R6060	D0GB103JA008	10K 1/16W	1	
	R6067	D0GB123JA008	12K 1/16W	1	
	R6068	D0GB223JA008	22K 1/16W	1	
	R6070	D0GB103JA008	10K 1/16W	1	
	R7111	D0GB103JA008	10K 1/16W	1	
	R7151	D0GBR00JA008	0 1/16W	1	
	R7205	D0GB102JA008	1K 1/16W	1	
	R7207	D0GB103JA008	10K 1/16W	1	
	R7208	D0GB562JA008	5.6K 1/16W	1	
	R7211	D0GB823JA008	82K 1/16W	1	
	R7212	D0GB821JA008	820 1/16W	1	
	R7213	D0GB272JA008	2.7K 1/16W	1	
	R7214	D0GB471JA008	470 1/16W	1	
	R7217	D0GB102JA008	1K 1/16W	1	
	R7218	D0GB102JA008	1K 1/16W	1	
	R7220	D0GB105JA008	1M 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R7221	D0GB101JA008	100 1/16W	1	
	R7253	D0GB101JA008	100 1/16W	1	
	R7254	D0GB102JA008	1K 1/16W	1	
	R7255	D0GB103JA008	10K 1/16W	1	
	R7262	D0GB101JA008	100 1/16W	1	
	R7264	D0GB101JA008	100 1/16W	1	
	R7265	D0GB101JA008	100 1/16W	1	
	R7266	D0GB101JA008	100 1/16W	1	
	R7267	D0GB102JA008	1K 1/16W	1	
	R7315	D0GB102JA008	1K 1/16W	1	
	R7321	D0GB152JA008	1.5K 1/16W	1	
	R7322	D0GB562JA008	5.6K 1/16W	1	
	R7323	D0GB332JA008	3.3K 1/16W	1	
	R7325	D0GB101JA008	100 1/16W	1	
	R7327	D0GB562JA008	5.6K 1/16W	1	
	R7328	D0GB273JA008	27K 1/16W	1	
	R7329	D0GB472JA008	4.7K 1/16W	1	
	R7331	D0GB473JA008	47K 1/16W	1	
	R7332	D0GB123JA008	12K 1/16W	1	
	R7335	D0GB101JA008	100 1/16W	1	
	R7336	D0GB100JA008	10 1/16W	1	
	R7340	D0GB102JA008	1K 1/16W	1	
	R7341	D0GB122JA008	1.2K 1/16W	1	
	R7349	D0GB104JA008	100K 1/16W	1	
	R7601	D0GB4R7JA008	4.7 1/16W	1	
	R7650	D0GB5R6JA008	5.6 1/16W	1	
	R7702	D0GBR00JA008	0 1/16W	1	
	R7707	D0GBR00JA008	0 1/16W	1	
	R7712	D0GBR00JA008	0 1/16W	1	
	R7717	D0GBR00JA008	0 1/16W	1	
	R7721	D0GBR00JA008	0 1/16W	1	
	R7731	D0GBR00JA008	0 1/16W	1	
	R7761	D0GB225JA008	2.2M 1/16W	1	
	R7853	D0GB332JA008	3.3K 1/16W	1	
	R7896	D0GB102JA008	1K 1/16W	1	
	R7901	D0GB330JA008	33 1/16W	1	
	R7902	D0GB330JA008	33 1/16W	1	
	R7903	D0GB153JA008	15K 1/16W	1	
	R7904	D0GB153JA008	15K 1/16W	1	
	R7911	D0GBR00JA008	0 1/16W	1	
			CAPACITORS		
	C51	F1H1H102A219	1000pF 50V	1	
	C52	F1H1A474A001	0.47uF 10V	1	
	C57	F1H1H120A230	12pF 50V	1	
	C58	F1H1H120A230	12pF 50V	1	
	C59	F1H1A105A025	1uF 10V	1	
	C60	F1H1A105A025	1uF 10V	1	
	C61	F1G1C104A077	0.1uF 16V	1	
	C62	F1G1C104A077	0.1uF 16V	1	
	C63	F1H0J1050012	1uF 6.3V	1	
	C901	F1H1H102A219	1000pF 50V	1	
	C902	F1H1H221A748	220pF 50V	1	
	C907	F1H1H103A219	0.01uF 50V	1	
	C1100	F2A0J101B034	100uF 6.3V	1	
	C1110	F1H1H104A013	0.1uF 50V	1	
	C2000	D0GBR00JA008	0 1/16W	1	
	C2003	F1H0J1050012	1uF 6.3V	1	
	C2015	F1H1H2210001	220pF 50V	1	
	C2016	F1H1H2210001	220pF 50V	1	
	C2017	F1H1H101A720	100pF 50V	1	
	C2018	F1H1H101A720	100pF 50V	1	
	C2095	F1H1C104A042	0.1uF 16V	1	
	C2102	F1H1C104A042	0.1uF 16V	1	
	C2103	F1H1H331A013	330pF 50V	1	
	C2107	F1J0J106A020	10uF 6.3V	1	
	C2108	F1H0J1050013	1uF 6.3V	1	
	C2109	F1H0J1050013	1uF 6.3V	1	
	C2112	F1H1H2210001	220P 50V	1	
	C2113	F1H0J1050013	1uF 6.3V	1	
	C2114	F1H0J1050013	1uF 6.3V	1	
	C2115	F1J0J106A020	10uF 6.3V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C2116	F1J0J106A020	10uF 6.3V	1	
	C2117	F1H1H2210001	220P 50V	1	
	C2118	F1H1A154A001	0.15uF 10V	1	
	C2119	F1H1H683A783	0.068uF 50V	1	
	C2120	F1H1H122A219	1200pF 50V	1	
	C2121	F1H1H472A219	4700pF 50V	1	
	C2122	F2A1H2R20063	2.2uF 50V	1	
	C2123	F1H1A224A007	0.22uF 10V	1	
	C2124	F1H1H1500009	15pF 50V	1	
	C2125	F1H1A154A001	0.15uF 10V	1	
	C2126	F1H1H683A783	0.068uF 50V	1	
	C2127	F1H1H103A219	0.01uF 50V	1	
	C2128	F1H1H562A219	5600pF 50V	1	
	C2129	F1H1H1500009	15pF 50V	1	
	C2130	F1J1H104A459	0.1uF 50V	1	
	C2131	F1H1H122A219	1200pF 50V	1	
	C2132	F2A1H2R20063	2.2uF 50V	1	
	C2133	F2A1C221A236	220uF 16V	1	
	C2134	F2A1C100A234	10uF 16V	1	
	C2137	F1H1C104A042	0.1uF 16V	1	
	C2138	F1H1H562A219	5600pF 50V	1	
	C2139	F2A1C221A019	220uF 16V	1	
	C2141	F1H1C104A042	0.1uF 16V	1	
	C2142	F1H1C104A042	0.1uF 16V	1	
	C2143	F1H1H102A219	1000pF 50V	1	
	C2144	F1H0J1050012	1uF 6.3V	1	
	C2148	F1H1H223A219	0.022uF 50V	1	
	C2150	F2A1H3R3A213	3.3uF 50V	1	
	C2151	F1H1C104A042	0.1uF 16V	1	
	C2154	F1H1H102A219	1000pF 50V	1	
	C2156	F1J0J106A020	10uF 6.3V	1	
	C2157	F1J0J106A020	10uF 6.3V	1	
	C2162	F1H1H331A013	330pF 50V	1	
	C2163	F1H1H331A013	330pF 50V	1	
	C2187	F1H1H103A219	0.01uF 50V	1	
	C2188	F2A1C330A698	33uF 16V	1	
	C2191	F1H1H103A219	0.01uF 50V	1	
	C2195	F1J0J106A020	10uF 6.3V	1	
	C2198	F2A1C471A498	470uF 16V	1	
	C2201	F1J0J106A020	10uF 6.3V	1	
	C2202	F1H0J1050013	1uF 6.3V	1	
	C2203	F1H1H103A219	0.01uF 50V	1	
	C2204	F1H1H470A004	47pF 50V	1	
	C2205	F1H1H470A004	47pF 50V	1	
	C2206	F1H1H471A219	470pF 50V	1	
	C2207	F1H1H471A219	470pF 50V	1	
	C2208	F2A1A101B138	100uF 10V	1	
	C2209	F1H0J1050013	1uF 6.3V	1	
	C2215	F1H1A474A025	0.47uF 10V	1	
	C2216	F1H1H103A219	0.01uF 50V	1	
	C2218	F1H1C104A042	0.1uF 16V	1	
	C2220	F1H1A224A007	0.22uF 10V	1	
	C2221	F1H1A184A012	0.18uF 10V	1	
	C2222	F1J0J106A020	10uF 6.3V	1	
	C2223	F2A1C102A019	1000uF 16V	1	
	C2224	F1H1A224A007	0.22uF 10V	1	
	C2225	D0GBR00JA008	0 1/16W	1	
	C2226	F1J0J106A020	10uF 6.3V	1	
	C2227	F2A0J821B044	820uF 6.3V	1	
	C2229	F1H1H103A219	0.01uF 50V	1	
	C2230	F1H1C104A042	0.1uF 16V	1	
	C2231	F2A1C101A208	100uF 16V	1	
	C2232	F1H1A184A012	0.18uF 10V	1	
	C2234	F2A1E102A207	1000uF 25V	1	
	C2235	F1H1H103A219	0.01uF 50V	1	
	C2244	F1H0J1050012	1uF 6.3V	1	
	C2245	F1H0J1050012	1uF 6.3V	1	
	C2246	F1H1C104A042	0.1uF 16V	1	
	C2247	F1H1C104A042	0.1uF 16V	1	
	C2248	F1H0J1050012	1uF 6.3V	1	
	C2249	F1J0J106A020	10uF 6.3V	1	
	C2301	F1J0J106A020	10uF 6.3V	1	
	C2302	F1J0J106A020	10uF 6.3V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C2307	F1H1H104A013	0.1uF 50V	1	
	C2308	F1H1H104A013	0.1uF 50V	1	
	C2402	F1J0J106A020	10uF 6.3V	1	
	C2405	F1J0J106A020	10uF 6.3V	1	
	C2817	F2A1H4R7A213	4.7uF 50V	1	
⚠	C5700	F1BAF471A013	470pF	1	
⚠	C5701	F0CAF104A105	0.1uF	1	
⚠	C5703	F0CAF224A105	0.22uF	1	
⚠	C5704	F1BAF471A013	470pF	1	
⚠	C5705	F1BAF471A013	470pF	1	
⚠	C5708	F1BAF1020020	1000pF	1	
	C5711	F2B2G2210025	220uF 400V	1	PH
	C5712	F2B2D5610024	560uF 200V	1	PN
	C5712	F2B2G2210025	220uF 400V	1	PH
	C5713	F0C2J1030007	0.01uF 630V	1	
	C5720	F1H1H104A013	0.1uF 50V	1	
	C5721	F1H1H2210001	220pF 50V	1	
	C5722	F1H1H102A219	1000pF 50V	1	
	C5723	F1H1H471A219	470pF 50V	1	
	C5724	F2A1H5600009	56uF 50V	1	
	C5725	F1H1H104A013	0.1uF 50V	1	
	C5726	F1H1H104A013	0.1uF 50V	1	
	C5727	F1B3A3320012	3300pF 1000V	1	PN
	C5728	F1H1H102A219	1000pF 50V	1	PH
	C5730	F1H1E105A116	1uF 25V	1	
	C5737	F1B3D821A084	820pF 2000V	1	PH
	C5790	F1K2J2220002	2200pF 630V	1	PH
	C5794	F1H1H102A219	1000pF 50V	1	
	C5795	F1K1H105A149	1uF 50V	1	
	C5796	F1H1H104A013	0.1uF 50V	1	
	C5798	F2A1E221B422	220uF 25V	1	
	C5800	F1H1H104A013	0.1uF 50V	1	
	C5800	F1J2E1030004	0.01uF 250V	1	
	C5801	F1H1H104A013	0.1uF 50V	1	
	C5802	F1H1H104A013	0.1uF 50V	1	
	C5803	F1H1H104A013	0.1uF 50V	1	
	C5805	F2A1H1020067	1000uF 50V	1	
	C5808	F2A1H1020067	1000uF 50V	1	
	C5810	F1H1H104A013	0.1uF 50V	1	
	C5812	F1H1H104A013	0.1uF 50V	1	
	C5813	F2A1V331B150	330uF 35V	1	
	C5817	F2A2AR100002	0.10uF 100V	1	
	C5818	F1H1H104A013	0.1uF 50V	1	
	C5819	F1J2E1030004	0.01uF 250V	1	
	C5820	F1J2E1030004	0.01uF 250V	1	
	C5821	F1J2E1030004	0.01uF 250V	1	
	C5822	F1J2E1030004	0.01uF 250V	1	
	C5826	F1J2E1030004	0.01uF 250V	1	
	C5831	F1H1H104A013	0.1uF 50V	1	
	C5832	F1H1H104A013	0.1uF 50V	1	
	C5843	F1J1A106A043	10uF 10V	1	
	C5844	F1J1A106A043	10uF 10V	1	
	C5869	F1H1H104A013	0.1uF 50V	1	
	C5870	F1H1H104A013	0.1uF 50V	1	
	C5896	F1H1H104A013	0.1uF 50V	1	
	C5897	F1H1H104A013	0.1uF 50V	1	
	C5898	F1H1H104A013	0.1uF 50V	1	
	C5899	F2A1A221B161	220uF 10V	1	
	C5901	F1H1H102A219	1000pF 50V	1	
	C5902	F1H1H102A219	1000pF 50V	1	
	C5903	F1H1H104A013	0.1 50V	1	
	C5911	F1H1H104A013	0.1uF 50V	1	
	C5912	F1H1H104A013	0.1uF 50V	1	
	C5913	F1H1H104A013	0.1uF 50V	1	
	C5914	F1H1H104A013	0.1uF 50V	1	
	C5915	F2A1H221B436	220uF 50V	1	
	C5916	F2A1H221B436	220uF 50V	1	
	C5917	F1H1H104A013	0.1uF 50V	1	
	C5918	F1H1H104A013	0.1uF 50V	1	
	C5922	D0GBR00JA008	0 1/16W	1	
	C5925	F1H1A474A001	0.47uF 10V	1	
	C5927	F1H1H102A219	1000pF 50V	1	
	C5929	F1H1H331A013	330pF 50V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C5931	F1H1A474A001	0.47uF 10V	1	
	C5933	F2A2A220A388	22uF 100V	1	
	C5936	F1H1H104A013	0.1uF 50V	1	
	C5937	F1K2A1040007	0.1uF 100V	1	
	C5939	F1H1H104A013	0.1uF 50V	1	
	C5942	F1H1H330A230	33pF 50V	1	
	C5943	F1K2A1040007	0.1uF 100V	1	
	C5945	F1K2A1040007	0.1uF 100V	1	
	C5946	F2A1A101B138	100uF 10V	1	
	C5948	F1J2A221A030	220pF 100V	1	
	C5951	F1H1H153A219	0.015uF 50V	1	
	C5952	F1J2A221A030	220pF 100V	1	
	C5954	F1H1C474A140	0.47uF 16V	1	
	C5956	F1H1H104A013	0.1uF 50V	1	
	C5958	F1H1H104A013	0.1uF 50V	1	
	C5961	F1H1H153A219	0.015uF 50V	1	
	C5962	F1J2A221A030	220pF 100V	1	
	C5964	F1J2A221A030	220pF 100V	1	
	C5966	F1K2A1040007	0.1uF 100V	1	
	C5968	F1K2A1040007	0.1uF 100V	1	
	C5970	F1H1H104A013	0.1uF 50V	1	
	C5973	F1H1H104A013	0.1uF 50V	1	
	C5974	F1K2A1040007	0.1uF 100V	1	
	C5976	F1H1A474A001	0.47uF 10V	1	
	C5978	F1H1H102A219	1000pF 50V	1	
	C5980	F1H1H331A013	330pF 50V	1	
	C5982	F1H1A474A001	0.47uF 10V	1	
	C5983	F2A1C100A234	10uF 16V	1	
	C5985	F1H1H102A219	1000pF 50V	1	
	C5989	ECQV1H684JL3	0.68uF 50V	1	
	C5990	ECQV1H684JL3	0.68uF 50V	1	
	C5993	F1H1H104A013	0.1uF 50V	1	
	C5994	F1H1H104A013	0.1uF 50V	1	
	C6050	F1H1H102A219	1000pF 50V	1	
	C6051	F1H1H101A720	100pF 50V	1	
	C6052	F1H1H101A720	100pF 50V	1	
	C6055	F1H1H101A230	100pF 50V	1	
	C6060	F1H1H101A230	100pF 50V	1	
	C6063	F1H1H101A720	100pF 50V	1	
	C6064	F1H1H102A219	1000pF 50V	1	
	C6065	F2A1H220B411	22uF 50V	1	
	C7102	F1H1A474A025	0.47uF 10V	1	
	C7107	F1H1H223A219	0.022uF 50V	1	
	C7142	F1H1H332A013	3300pF 50V	1	
	C7151	F1H1C104A120	0.1uF 16V	1	
	C7152	F1G1A1040006	0.1uF 10V	1	
	C7161	F1G1A1040006	0.1uF 10V	1	
	C7162	F1G1A1040006	0.1uF 10V	1	
	C7163	F1G1A1040006	0.1uF 10V	1	
	C7166	F1H1H103A885	0.01uF 50V	1	
	C7204	F1H1H103A885	0.01uF 50V	1	
	C7205	F1H1H270A004	27pF 50V	1	
	C7206	F1H1H270A004	27pF 50V	1	
	C7207	F1J1A106A041	10uF 10V	1	
	C7208	F1J1A106A041	10uF 10V	1	
	C7213	F1H1A334A028	0.33uF 10V	1	
	C7216	F1H1H681A013	680pF 50V	1	
	C7217	F1G1A1040006	0.1uF 10V	1	
	C7218	F1H1C823A001	0.082uF 16V	1	
	C7223	F1J1A106A041	10uF 10V	1	
	C7225	F1H1H102A219	1000pF 50V	1	
	C7226	F1H1H102A219	1000pF 50V	1	
	C7227	F1H1A105A004	1uF 10V	1	
	C7228	F1H1A105A004	1uF 10V	1	
	C7230	F1H1H103A885	0.01uF 50V	1	
	C7231	F2G0J470A031	47uF 6.3V	1	
	C7233	F1H1H103A885	0.01uF 50V	1	
	C7234	F1H1C104A120	0.1uF 16V	1	
	C7235	F1J1A106A041	10uF 10V	1	
	C7236	F1J1A106A041	10uF 10V	1	
	C7237	F1G1A1040006	0.1uF 10V	1	
	C7238	F1H1C104A120	0.1uF 16V	1	
	C7239	F1J1A106A041	10uF 10V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C7241	F1H1H102A219	1000pF 50V	1	
	C7243	F1H1H103A885	0.01uF 50V	1	
	C7244	F1H1C153A001	0.015uF 16V	1	
	C7253	F1H1H102A219	1000pF 50V	1	
	C7263	F1G1A1040006	0.1uF 10V	1	
	C7264	F1G1A1040006	0.1uF 10V	1	
	C7265	F1G1A1040006	0.1uF 10V	1	
	C7267	F1G1A1040006	0.1uF 10V	1	
	C7268	F1H1H103A885	0.01uF 50V	1	
	C7269	F1H1A105A004	1uF 10V	1	
	C7315	F1H1A154A001	0.15uF 10V	1	
	C7334	F2G1A101A019	100uF 10V	1	
	C7335	F1H1H103A885	0.01uF 50V	1	
	C7338	F1H1H153A885	0.015uF 50V	1	
	C7339	F1H1H182A219	1800pF 50V	1	
	C7340	F1H1H102A219	1000pF 50V	1	
	C7341	F1J1A106A041	10uF 10V	1	
	C7352	F1H1H122A219	1200pF 50V	1	
	C7601	F1J1A106A041	10uF 10V	1	
	C7613	F1G1A1040006	0.1uF 10V	1	
	C7615	F1J1A106A041	10uF 10V	1	
	C7616	F1J1A106A041	10uF 10V	1	
	C7626	F1J1A106A041	10uF 10V	1	
	C7670	F1H1H103A885	0.01uF 50V	1	
	C7704	F1H1H150A971	15pF 50V	1	
	C7741	F1H1H103A885	0.01uF 50V	1	
	C7751	F2G0J470A031	47uF 6.3V	1	
	C7752	F1H1H103A885	0.01uF 50V	1	
	C7753	F1J1A106A041	10uF 10V	1	
	C7754	F1J1A106A041	10uF 10V	1	
	C7755	F1J1A106A041	10uF 10V	1	
	C7851	F1H1H103A885	0.01uF 50V	1	
	C7852	F1H1H331A013	330pF 50V	1	
	C7853	F1H1H331A013	330pF 50V	1	
	C7902	F1J1A106A041	10uF 10V	1	
	C7903	F1H1H103A885	0.01uF 50V	1	