PSG1703006CE

Service Manual

CD Stereo System

Model No. SA-PMX82EB
SA-PMX82EG
SA-PMX82GN
SA-PMX82MEB
SA-PMX84EG

Remote Control SB-PMX70 SA-PMX82/84 SB-PMX70

Remote Control SA-PMX82M

Product Color: (S)...Silver Type (For EG/GN only)
(K)... Black Type (For EB/EG only)

Notes: Please refer to the Original Service Manual for :
- **CD Mechanism Unit (BRS12C), Order No. PSG1303059AE**
- **Speaker system SB-PMX70EG-K, Order No. PSG1502006CE**

⚠ WARNING

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

IMPORTANT SAFETY NOTICE

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

TABLE OF CONTENTS

Panasonic

1 Safety Precautions

1.1. General Guidelines

1. **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 Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.
2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.1.1. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. 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 1-1.
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.

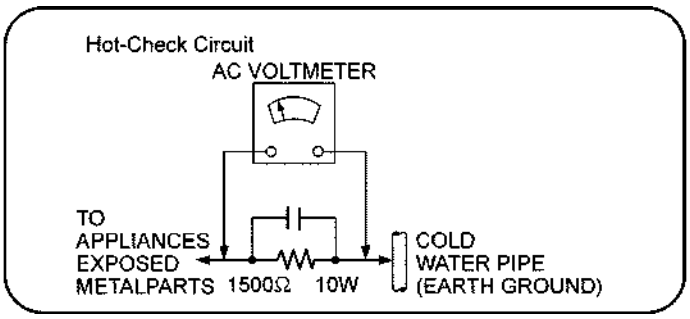


Figure. 1-1

1.2. Before Repair and Adjustment

Disconnect AC power & discharge AC Capacitors (C5700, C5701, C5702, C5704, C5705 and C5706) through a 10ohm, 1W resistor to ground.
Caution : DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.
After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

- Current consumption during AC 240V, at 50Hz in NO SIGNAL mode (at volume minimum in FM mode) should be ~200 mA.

1.3. Protection Circuitry

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

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

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.
If this occurs, follow the procedure outlines below:

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

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

1.4. Caution For Fuse Replacement

CAUTION:

Replace with the same type fuse:
(Manufacturer: Skygate, Type: SCT, F1, T3.15A, 250V)

1.5. Safety Part Information

Safety Parts List:

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

These parts are marked by ⚠ in the Schematic Diagrams, 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
⚠	12	RGR0474J-A	REAR CABINET	82EGK,82EGS,82EBK
⚠	12	RGR0474J-B	REAR CABINET	82GNS
⚠	12	RGR0474J-C	REAR CABINET	82MEBK
⚠	12	RGR0474J-D	REAR CABINET	84EGK,84EGS
⚠	16	RKM0766-K	TOP CABINET	82EGK,82EBK,82MEBK,84EGK
⚠	16	RKM0766-S	TOP CABINET	82EGS,82GNS,84EGS
⚠	301	TXQ0011	TRAVERSE ASS'Y	(E.S.D)
⚠	A2	K2CT2YY00089	AC CORD	82EBK
⚠	A2	K2CJ2YY00084	AC CORD	82GNS
⚠	A2	K2CQ2YY00107	AC CORD	82EGK,82EGS,84EGK,84EGS
⚠	A2	K2CT2YY00089	AC CORD	82MEBK
⚠	A3	TQBJ0997	O/I BOOK (En)	82MEBK
⚠	A3	TQBJ0999	O/I BOOK (En)	82EBK,82GNS
⚠	A3	TQBJ2001	O/I BOOK (Ge/It/Fr/Du)	82EGK,84EGK,84EGS
⚠	A3	TQBJ2002	O/I BOOK (Da/Sw/Fi)	82EGK,82EGS
⚠	PCB4	TNPA6420	SMPS P.C.B	(RTL)
⚠	C5700	F1BAF102A216	1000pF AC250 <= Vac <315	
⚠	C5701	F0CAF104A218	0.1uF AC250 <= Vac <315	
⚠	C5702	F0CAF104A218	0.1uF AC250 <= Vac <315	
⚠	C5704	F1BAF4710005	470pF AC250 <= Vac <315	
⚠	C5705	F1BAF4710005	470pF AC250 <= Vac <315	
⚠	C5706	F1BAF102A216	1000pF AC250 <= Vac <315	
⚠	DZ5701	D4EAY5110006	DIODE	
⚠	L5701	G0B103G00023	INDUCTOR	
⚠	L5702	G0B103G00023	INDUCTOR	
⚠	T5700	G4DYZ0000085	SWITCHING TRANSFORMER	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
⚠	PC5721	B3PBA0000579	PHOTO COUPLER	
⚠	PC5723	B3PBA0000579	PHOTO COUPLER	
⚠	PC5724	B3PBA0000579	PHOTO COUPLER	
⚠	P5701	K2AA2B000011	AC INLET	
⚠	R5700	ERJ12YJ125U	1.2M 1/2W	
⚠	R5701	ERJ12YJ125U	1.2M 1/2W	
⚠	F1	K5G312YA0159	F1	

2 Warning

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

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices.

Examples of typical ES devices are IC (integrated circuits) and some field-effect transistors and semiconductor "chip" components.

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

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as “anti-static (ESD protected)” can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION:
   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

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.

2.2. Precaution of Laser Diode

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

Caution:

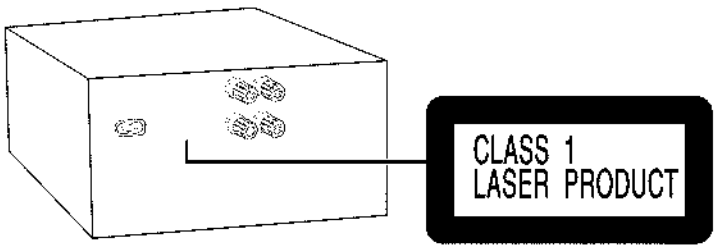
This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.
Wavelength: 790 nm (CD)
Maximum output radiation power from pickup: 100 μW/VDE
Laser radiation from the pickup unit is safety level, but be sure the followings:

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

ACHTUNG :

Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheitadg-estrahit.
Wellenlänge : 790nm (CD)
Maximale Strahlungsleistung der Lasereinheit :100 μW/VDE
Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

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



(Back of product)

2.3. Service caution based on Legal restrictions

2.3.1. General description about Lead Free Solder (PbF)

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

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

Definition of PCB Lead Free Solder being used

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

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

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

Recommended Lead Free Solder (Service Parts Route.)

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

Note

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

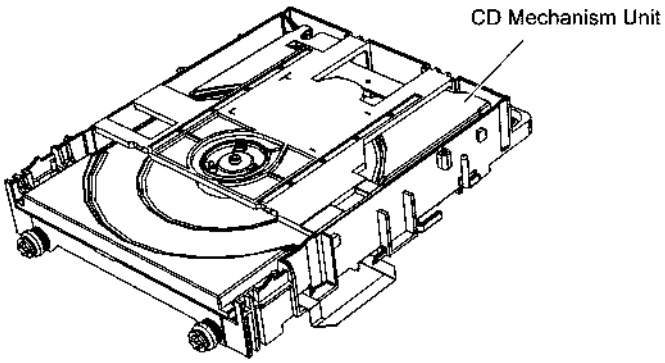
2.4. Handling Precaution for Traverse Unit

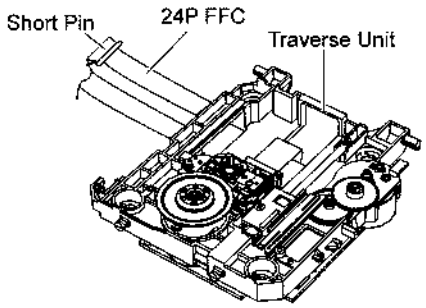
The laser diode in the optical pickup unit may break down due to static electricity of clothes or human body. Special care must be taken avoid caution to electrostatic breakdown when servicing and handling the laser diode in the Traverse Unit.

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

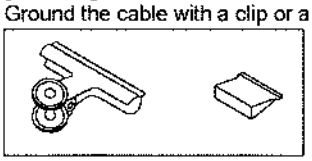
The laser diode in the optical pickup unit may be damaged due to electrostatic discharge generating from clothes or human body. Special care must be taken avoid caution to electrostatic discharge damage when servicing the laser diode.

1. Do not give a considerable shock to the optical pickup unit as it has an extremely high-precise structure.
2. To prevent the laser diode from the electrostatic discharge damage, the flexible cable of the optical pickup unit removed should be short-circuited with a short pin or a clip.
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 FFC is connected to the new optical pickup unit. After replacing the optical pickup unit and connecting the flexible cable, cut off the antistatic FFC.





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



Clip or Short Pin

2.4.2. Grounding for electrostatic breakdown prevention

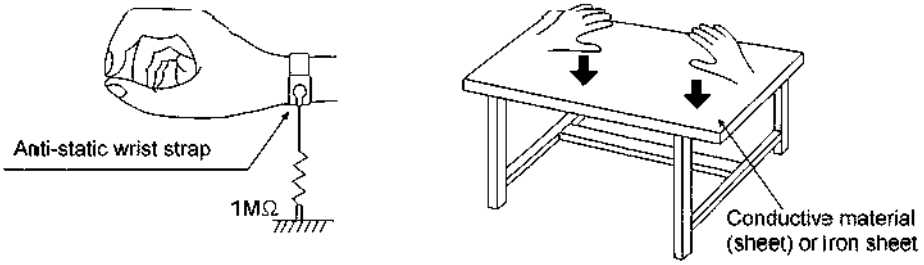
Some devices such as the CD player use the optical pickup (laser diode) and the optical pickup will be damaged by static electricity in the working environment. Proceed servicing works under the working environment where grounding works is completed.

2.4.2.1. Worktable grounding

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

2.4.2.2. Human body grounding

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



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.

3.1.1. P.C.B. repair method

In case of P.C.B. repair, please refer as follow :

Detective P.C.B. / Parts	Repair method	Remarks
1) CD INTERFACE P.C.B.	Change by component	
2) MAIN P.C.B.	Change by P.C.B. exchange	
3) DAB P.C.B.	Change by component	
4) USB P.C.B.	Change by component	
5) PANEL P.C.B.	Change by component	
6) IR SENSOR P.C.B.	Change by component	
7) HEADPHONE P.C.B.	Change by component	
8) SMPS P.C.B.	Change by component	
9) BLUETOOTH MODULE	Change by P.C.B. exchange	

Table 3-1

3.1.2. Individual Part repair method (For Main P.C.B.)

Main P.C.B is replaced by PCB exchange. Additionally, below are list of ICs that can be replaced individually. Please see Table 3-2. For the location of the respective ICs, please refer to P.C.B. section.

Detective P.C.B. / Parts	Repair method	Remarks
1) IC1101	Change by component	Main P.C.B. (Side B)
2) IC1102	Change by component	Main P.C.B. (Side B)
3) IC1103	Change by component	Main P.C.B. (Side B)
4) IC1104	Change by component	Main P.C.B. (Side B)
5) IC1106	Change by component	Main P.C.B. (Side B)
6) IC1107	Change by component	Main P.C.B. (Side B)
7) IC1108	Change by component	Main P.C.B. (Side B)
8) IC1110	Change by component	Main P.C.B. (Side B)
9) IC8001	Change by component	Main P.C.B. (Side B)

Table 3-2

3.2. Software / Firmware Update

Panasonic may release updated
software for this system that may add or improve the
way a feature operates.

For more details, refer to the following website.
http://panasonic.jp/support/global/cs/
(This site is in English only.)

4 Specifications

■ General

Power supply	AC 220 V to 240 V, 50 Hz
Power consumption	44 W
Dimensions (main unit)	
W x H x D	211 mm x 114 mm x 267 mm
Mass (main unit)	Approx. 2.8 kg
Operating temperature range	0 °C to +40 °C
Operating humidity range	35% to 80 % RH (no condensation)
Power consumption in standby mode*1, 2	0.35 W (approximate)
(When “BLUETOOTH STANDBY” is “ON”)*2	0.45 W (approximate)

■ Amplifier Section

RMS Output Power	
Front Ch (both ch driven)	60 W per channel (3 Ω), 1 kHz, 10% THD
Total RMS power	120 W

■ FM section

Preset memory	30 stations
Frequency range	87.50 MHz to 108.00 MHz (50 kHz step)
Antenna terminals	75 Ω (unbalanced)

■ DAB section

DAB memories	20 channels
Frequency band (wavelength)	
Band III	5A to 13F (174.928 MHz to 239.200 MHz)
Sensitivity *BER 4x10^{-4}	
Min requirement	–98 dBm
DAB external antenna terminal	F-Connector (75Ω)

■ Disc Section

Disc played (8 cm or 12 cm)	CD, CD-R/RW (CD-DA, MP3*)
Pick up	
Wavelength	790 nm (CD)

■ Terminals section

USB Port	Terminal type: USB-A
USB port power	DC OUT 5 V 2.1 A
USB standard	USB 2.0 High Speed
Media file format support	MP3*3 (*.mp3), AIFF (*.aiff), FLAC (*.flac), WAV (*.wav), AAC (*.m4a), DSD (*.dff/*.dsf)
Audio Support format	
MP3*3/AAC*4	
Sampling frequency	32/44.1/48 kHz
Audio word size	16 bits
Channel count	2 ch
AIFF/FLAC*5/WAV	
Sampling frequency	32/44.1/48/88.2/96/176.4/192 kHz
Audio word size	16 bits/24 bits
Channel count	2 ch
DSD	2.8 MHz
USB device file system	FAT12, FAT16, FAT32
PC IN (EXT-IN)*6	Terminal type: USB-B
USB standard	USB 2.0 High Speed
USB Audio Class specification	USB Audio Class 2.0, Asynchronous mode
Audio support format	
LPCM	
Sampling frequency	32/44.1/48/88.2/96/176.4/192 kHz
Audio word size	16 bits/24 bits
Channel count	2 ch
DSD	2.8 MHz
Headphones	Stereo, 3.5 mm jack
AUX IN (EXT-IN)	Pin jack

■ Speaker Section

Speaker unit(s)	
Woofer	14 cm cone type x 1
Tweeter	1.9 cm dome type x 1
Super tweeter	1.5 cm piezoelectric type x 1
Impedance	3 Ω
Dimensions (W x H x D)	161 mm x 238 mm x 262 mm
Mass	2.6 kg

■ Bluetooth® Section

Version	Bluetooth® Ver.2.1+EDR
Class	Class 2
Supported Profiles	A2DP, AVRCP
Frequency band	2.4 GHz band FH-SS
Operation Distance	10 m Line of sight
Supported Codec	AAC, SBC

Note:

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

*1: “BLUETOOTH STANDBY” is “OFF”.

*2: No device is connected to the USB port before turning to standby mode.

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

*4: Support profile AAC-LC only.

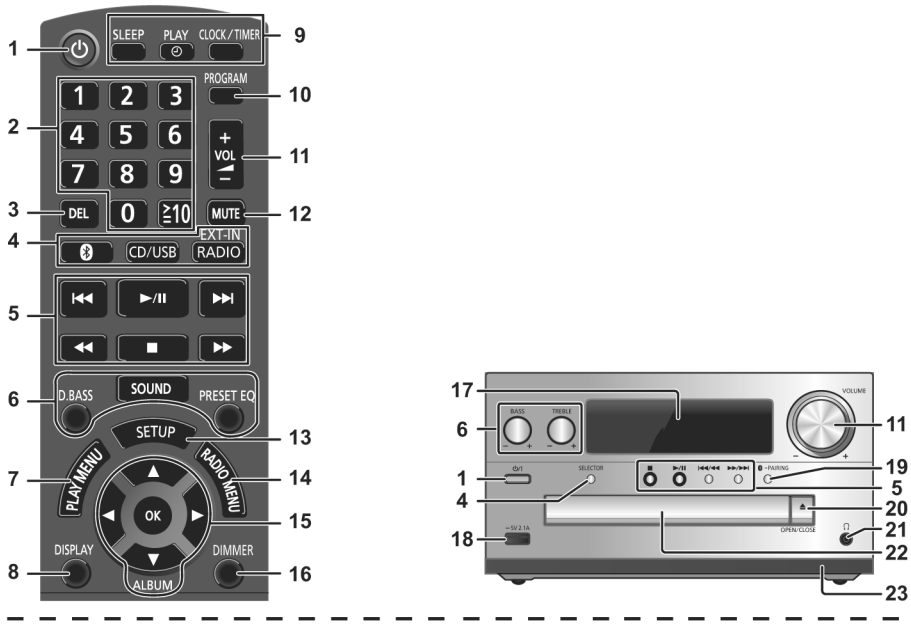
*5: Uncompressed FLAC files may not operate correctly. Support block size from 1152 to 4096.

*6: USB-DAC port.

■ System : SC-PMX84EB-S	Music center: SA-PMX84EB-S Speaker: SB-PMX70EG-K
■ System : SC-PMX84EB-K	Music center: SA-PMX84EB-K Speaker: SB-PMX70EG-K
■ System : SC-PMX82EG-S	Music center: SA-PMX82EG-S Speaker: SB-PMX70EG-K
■ System : SC-PMX82EG-K	Music center: SA-PMX82EG-K Speaker: SB-PMX70EG-K
■ System : SC-PMX82EB-K	Music center: SA-PMX82EB-K Speaker: SB-PMX70EG-K
■ System : SC-PMX82GN-S	Music center: SA-PMX82GN-S Speaker: SB-PMX70EG-K
■ System : SA-PMX82MEB-K	Music center: SA-PMX82MEB-K

5 Location of Controls and Components

5.1. Main Unit & Remote Control Key Button Operations



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

2 Numeric buttons [1 to 9, 0, ≧10]
- To select a 2-digit number
  Example: 16: [≧10] → [1] → [6]
- To select a 3-digit number
  Example: 124: [≧10] → [≧10] →[1] → [2]→ [4]

3 Delete a programmed track

4 Select audio source

On the remote control

[ ] : "BLUETOOTH"

[CD/USB]: "CD" ⟷ "USB"*1

[RADIO, EXT-IN]: "DAB+" → "PC" ← "AUX" ←

On the main unit

[SELECTOR]:

"CD" ⟶ "BLUETOOTH" ⟶ "DAB+" → "PC" ← "USB"*1 ← "AUX" ←

5 Basic playback control

6 Select the sound effects

7 Set the play menu item

8 View content information

9 Clock and timer operation

10 Set the programme function

11 Adjust the volume of the system

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

13 Enter setup menu

14 Set the radio menu item

15 Select the option

16 Dim the display panel
Press the button again to cancel.

17 Display panel

18 Port for iPhone/iPad/iPod and USB devices

19 Bluetooth®-pairing button
- Press to select "BLUETOOTH" as the audio source.
- Press and hold to enter pairing mode or disconnect a Bluetooth® device.

20 Open or close the disc tray

21 Headphones jack (∩)
- Plug type: 3.5 mm stereo (not supplied)
- Avoid listening for prolonged periods of time to prevent hearing damage.
- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Listening at full volume for long periods may damage the user's ears.

22 Disc tray
- Do not put any object in front of the disc tray.

23 Remote control sensor

*1: The display will automatically change to "IPOD" when a compatible iPhone/iPad/iPod is connected to the port for iPhone/iPad/iPod.

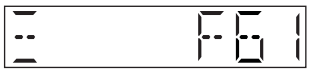
6 Service Mode

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

6.1. Service Mode Table

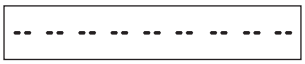
<table>
<tr><th colspan="2">Item</th><th rowspan="2">FL display</th><th rowspan="2">Key operation</th></tr>
<tr><th>Mode name</th><th>Description</th></tr>
<tr><td>Service Mode</td><td>To enter into Service Mode checking</td><td>  </td><td>Step 1 : Select CD mode
(Ensure no disc is inserted).

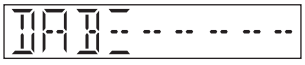
Step 2 : Press and hold [■] follow by [▶▶/▶▶|] on main unit for 2 second .

• To exit, press [⏻/I] on the main unit or using remote control.
• Unplug AC cord.</td></tr>
<tr><td>Error code information</td><td>System will perform a check on any unusual/error code from the memory</td><td>Example:
  </td><td>Step 1 : Press [STOP] on main unit.

• To exit, press the [⏻/I] on main unit or using remote control.
• Unplug AC cord.</td></tr>
<tr><td>Delete Error code</td><td>To clear the stored in memory (EEPROM IC)</td><td>  </td><td>Step 1 : Press and hold [OK] on remote control for more than 5 second.

• To exit, press the [⏻/I] on main unit or using remote control.
• Unplug AC cord.</td></tr>
<tr><td>Firmware version</td><td>To display model name & version
<table><tr><th>Model Name</th><th>Version display</th></tr><tr><td>PMX80</td><td>7IAΞ***_</td></tr><tr><td>PMX82/84/82M</td><td>7IBΞ***_</td></tr><tr><td>PMX150</td><td>7ICΞ***_</td></tr><tr><td>PMX152</td><td>7IDΞ***_</td></tr></table></td><td>(Display 1)
 
Version display
(Display 2)
  </td><td>Press [DISPLAY] button on remote control.

• To exit, press the [⏻/I] on main unit or using remote control.
• Unplug AC cord.</td></tr>
<tr><td>Cold Start</td><td>To activate cold start upon next power up.
(Backup data are initialized)</td><td>  </td><td>Press [SETUP] button on remote control.

• To exit, press the [⏻/I] on main unit or using remote control.
• Unplug AC cord.</td></tr>
<tr><td>Tuner DAB firmware version</td><td>To display DAB firmware version.
(For model with DAB Tuner)</td><td> 
(Scrolling display for version no.)</td><td>Step 1 : Change to DAB selector.
Step 2 : Press [SOUND] button on remote control.

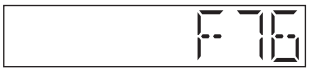
• To exit, press the [⏻/I] on main unit or using remote control.
• Unplug AC cord.</td></tr>
</table>

6.2. Service Mode Error Code

6.2.1. CD Mechanism Error Code Table

Error Code	Diagnostic Contents	Description of error	Automatic FL Display	Remarks
CD H15	CD Open Abnormal	During normal operation, if “POS_SW_R (OPEN_SW)” is not detected within 4~5 sec, “CD H15” shall be memorized.		Press [■] on main unit for next error.
CD H16	CD Closing Abnormal	During closing operation, if “POS_SW_CEN (CLOSE_SW)” is not detected within 4~5 sec, “CD H16” shall be memorized.		Press [■] on main unit for next error.

6.2.2. Power Amp Error Code Table

Error Code	Diagnostic Contents	Description of error	Automatic FL Display	Remarks
F61	D-AMP IC output abnormal	PDET2 (DC_DET_AMP)= L (NG). PDET2 (DC_DET_AMP) is checked by reading the input 2x20ms, F61 error code shall be memorized		Press [■] on main unit for next error.
F76	Power supply abnormal	PDET1 (DC_DET_PWR) = L (NG). PDET1 (DC_DET_PWR) is checked by reading the input 2x1ms, F76 error code shall be memorized.		Press [■] on main unit for next error.

6.2.3. Bluetooth Error Code Table

Error Code	Diagnostic Contents	Description of error	Automatic FL Display	Remarks
F703	Bluetooth Communication	Communication between Bluetooth module and micro-p abnormal		Press [■] on main unit for next error.
F77	Bluetooth Address Error	If there is no valid Bluetooth address stored in the EEPROM IC		Press [■] on main unit for next error.

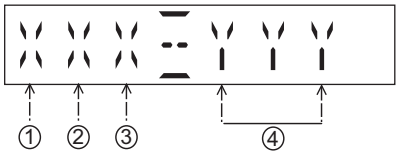
6.3. Doctor Mode

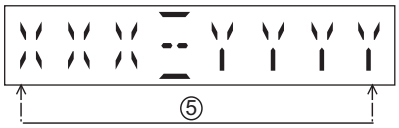
6.3.1. Doctor Mode Table 1

<table>
<tr><th colspan="2">Item</th><th rowspan="2">FL Display</th><th rowspan="2">Key Operation
Front Key</th></tr>
<tr><th>Mode Name</th><th>Description</th></tr>
<tr><td>Doctor Mode</td><td>To enter into Doctor Mode for checking of various items and displaying EEPROM check sum and Opecon firmware version

Note: The Opecon firmware version as shown is an example. It will be revised when there is updates.

Displaying of
1. Year of sales.
2. Model type.
3. ROM type.
4. Opecon version number.
5. SDK version.

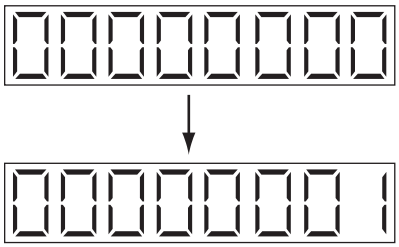
FL Display sequence Display
1→2→3
<table><tr><th>Model Name</th><th>Version display</th></tr><tr><td>PMX80</td><td>7IA☰***_</td></tr><tr><td>PMX82/84/82M</td><td>7IB☰***_</td></tr><tr><td>PMX150</td><td>7IC☰***_</td></tr><tr><td>PMX152</td><td>7ID☰***_</td></tr></table></td><td>(Display 1)
 
① ② ③ ④
The Checksum of EEPROM and firmware version will be display for 2 sec.

(Display 2)
 
⑤
The SDK version will be display for 2 sec.

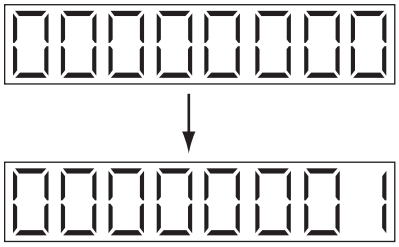
(Display 3)
  </td><td>In any mode:
Press [■] button on main unit follow by [4] & then [7] on remote control.

• To exit Doctor Mode, press [DEL] button on remote control without power off.
• Unplug AC cord.</td></tr>
<tr><td>FL Display Test</td><td>To check the FL segments display (All segments will light up)</td><td>  </td><td>In Doctor mode:
Press [1] button on remote control.

To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode.

• To exit Doctor Mode, press [DEL] button on remote control without power off.
• Unplug AC cord.</td></tr>
<tr><td>CD Tray Reliability</td><td>To check the Loading Reliability of tray.</td><td>  </td><td>In Doctor Mode:
Press [≧10] follow by [2] & then [1] button on remote control.

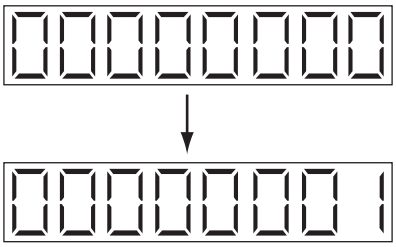
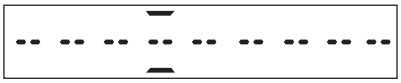
To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode.

• To exit Doctor Mode, press [DEL] button on remote control without power off.
• Unplug AC cord.</td></tr>
<tr><td>CD Traverse Test Mode</td><td>To check for the traverse unit operation. In this mode, the first & last track is access & read. (TOC). It fails when TOC is not completed by 10s or the traverse is out of focus. for more than 2s</td><td>  </td><td>In Doctor Mode:
Press [≧10] follow by [1] & then [2] button on remote control.

To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode.

• To exit Doctor Mode, press [DEL] button on remote control without power off.
• Unplug AC cord.</td></tr>
</table>

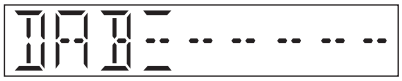
6.3.2. Doctor Mode Table 2

Item		FL Display	Key Operation
Mode Name	**Description**		**Front Key**
CD Combination Test	To check the open/close operation & inner outer disc access operation. 1. It fails when CD open/close is not completed by 4s. 2. The disc access fails in 10s. 3. The traverse is out of focus for more than 2s.		In Doctor Mode: Press [≧10] follow by [1] & then [5] button on remote control. To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode. • To exit Doctor Mode, press [DEL] button on remote control without power off. • Unplug AC cord.
CD Self-Adjusment Display	To display result of self adjustment for CD.	 The [NO DISC] display will appear after 2.5s. 	In Doctor Mode: Press [≧10] follow by [1] & then [4] button on remote control. To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode. • To exit Doctor Mode, press [DEL] button on remote control without power off. • Unplug AC cord.
Cold Start	To activate cold start upon next power up. (Backup data are initialized)	 The [NO DISC] display will appear after 2s. 	In Doctor Mode: Press [4] button on remote control. To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode. • To exit Doctor Mode, press [DEL] button on remote control without power off. • Unplug AC cord.
Bluetooth Module Test	Bluetooth module checking	Device name is set to **[SC-PMX82-YY] / [SC-PMX84-YY]** Y= Value number (Please refer table below). **Region** / **Value (Y)** DBEB, DBGN (For DAB) — 15 DBEG (For DAB) — 1 EG — 14 PC — 10 DBEB (For DAB - PMX82M model) — 0	In Doctor Mode: Press [≧10] follow by [2] & then [5] button on remote control. To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode. • To exit Doctor Mode, press [DEL] button on remote control without power off. • Unplug AC cord.
Bluetooth Mac Address Checking	Bluetooth Address Check	 Display of Bluetooth Address will scroll continuously	In Doctor Mode: Select to Bluetooth Mode Press [≧10] follow by [3] & then [1] button on remote control. To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode. • To exit Doctor Mode, press [DEL] button on remote control without power off. • Unplug AC cord.

6.3.3. Doctor Mode Table 3

<table>
<tr><th colspan="2">Item</th><th rowspan="2">FL Display</th><th rowspan="2">Key Operation
Front Key</th></tr>
<tr><th>Mode Name</th><th>Description</th></tr>
<tr><td>Region Check</td><td>Checking for model no and Region</td><td> 
The [NO DISC] display will appear after 2s.
 
AD value of region pin is check and display will show [REG=ON_YY] based on region table.
YY = 1 ~ 15 based on region table as below.
<table><tr><th>Region</th><th>Value (Y)</th></tr><tr><td>DBEB, DBGN (For DAB)</td><td>15</td></tr><tr><td>DBEG (For DAB)</td><td>1</td></tr><tr><td>EG</td><td>14</td></tr><tr><td>PC</td><td>10</td></tr><tr><td>DBEB (For DAB - PMX82M model)</td><td>0</td></tr></table></td><td>In Doctor Mode:
Press [≧10] follow by [1] & then [6] button on remote control.

To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode.

• To exit Doctor Mode, press [DEL] button on remote control without power off.
• Unplug AC cord.</td></tr>
<tr><td>DAB Module Firmware version</td><td>Checking for DAB firmware version.</td><td> 
(Scrolling display for version no.)</td><td>In Doctor Mode:
Press [8] button on remote control.
Change to DAB selector and display DAB module firmware version.
(Scrolling display)

To cancel, press [0] button on remote control. [CANCEL] will be display and returns to Doctor Mode.

• To exit Doctor Mode, press [DEL] button on remote control without power off.
• Unplug AC cord.</td></tr>
</table>

6.4. Sales Demonstration Lock Function Mode

6.4.1. Enter into Sales Demo Mode

Here is the procedures to enter into Sales Demo Mode.

Step 1 : Turn on the unit.
Step 2 : Press and hold [OPEN/CLOSE] and [SELECTOR] keys for 5 secs.
Step 3 : The display will show entering into the mode.

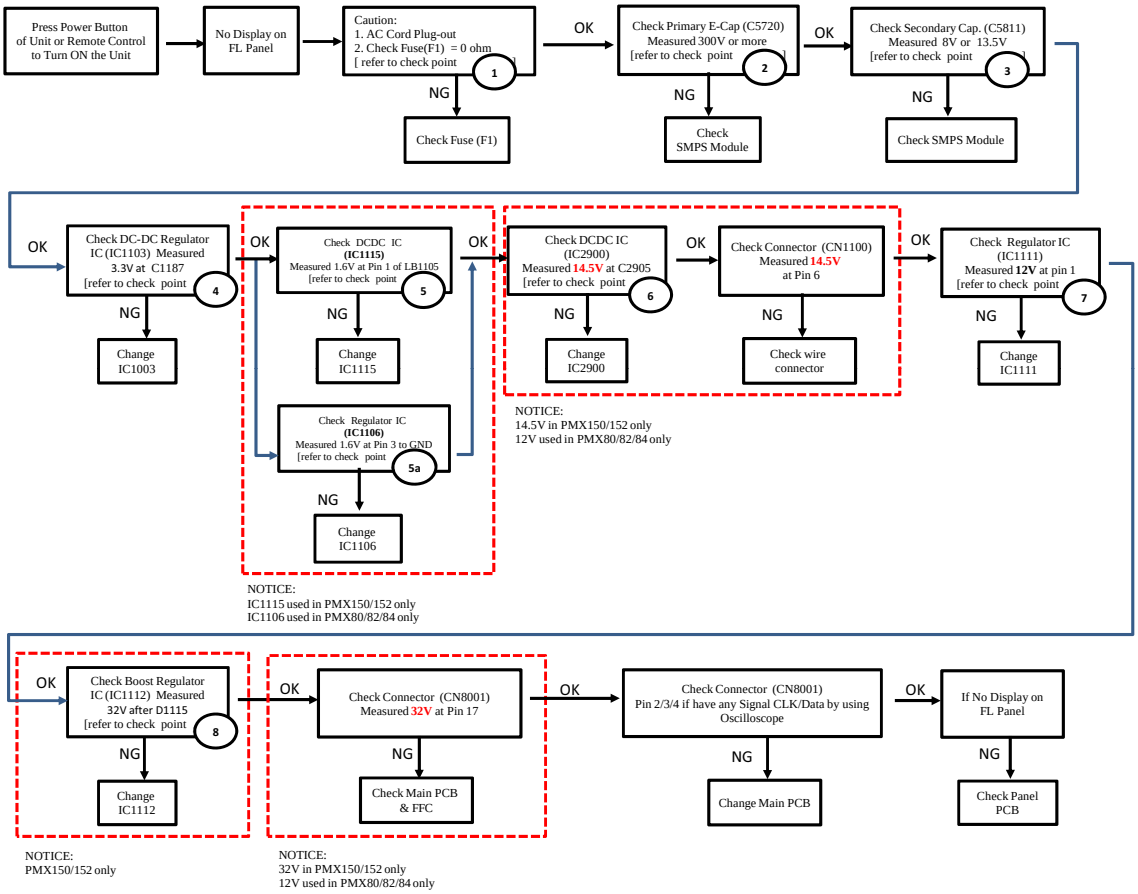
Notes : All keys are valid except [OPEN/CLOSE].

6.4.2. Cancellation

Step 1 : Select CD Mode and adjust volume level to 19.
Step 2 : Press and hold [OPEN/CLOSE] and [SELECTOR] keys for 5 secs.
Step 3 : The display will show after exit from the mode.

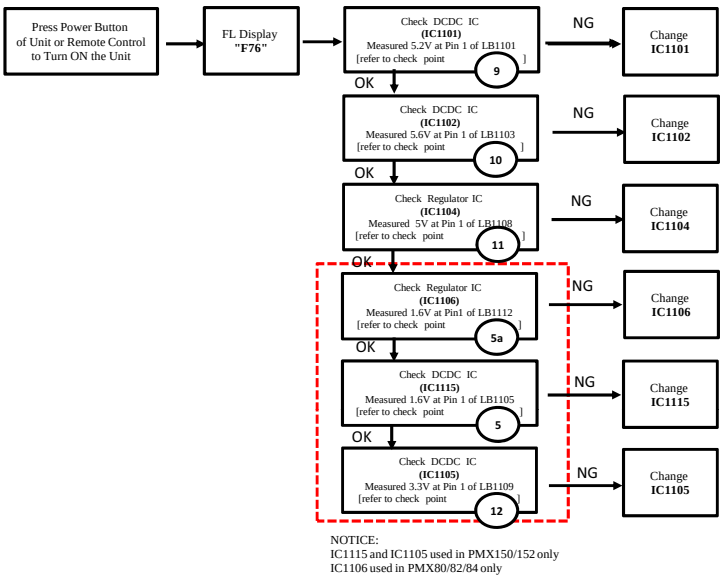
7 Troubleshooting Guide

1. No Power or No Display

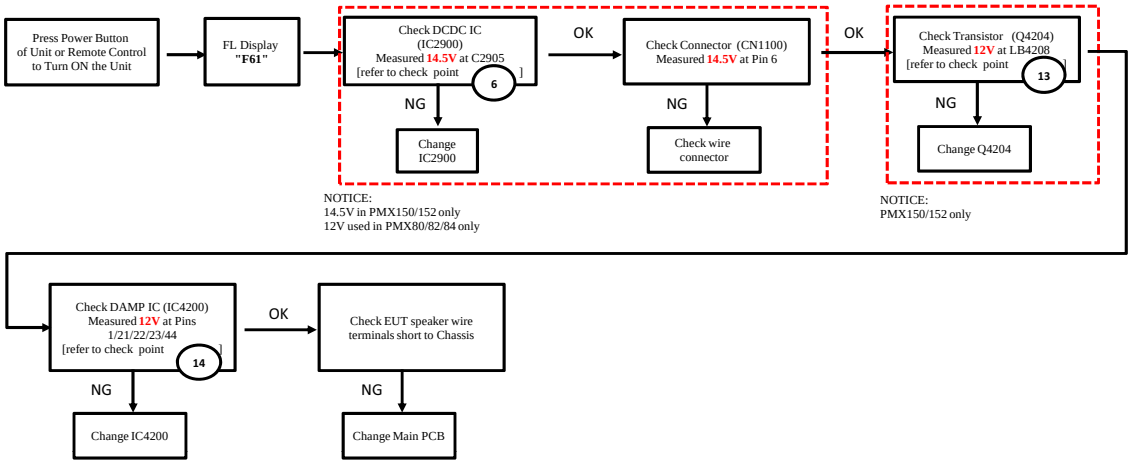


2. Cannot Power ON due to Error code F76

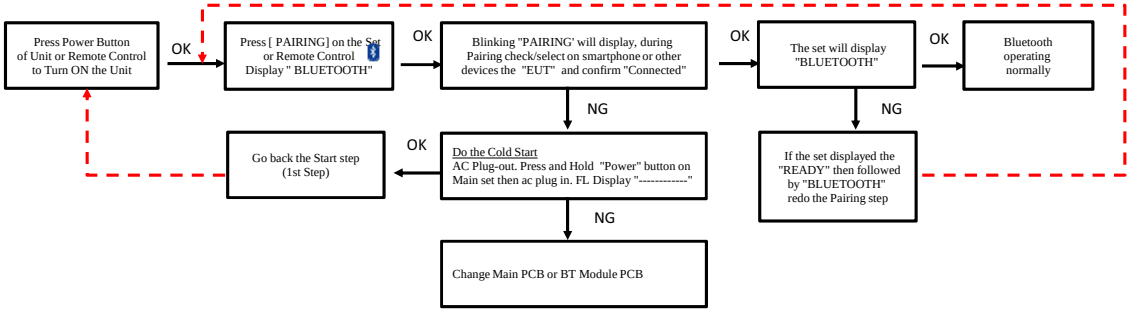
Note: Need to monitor Voltage Supply from Power on will reach expected output (Recommend to use Digital Oscilloscope)



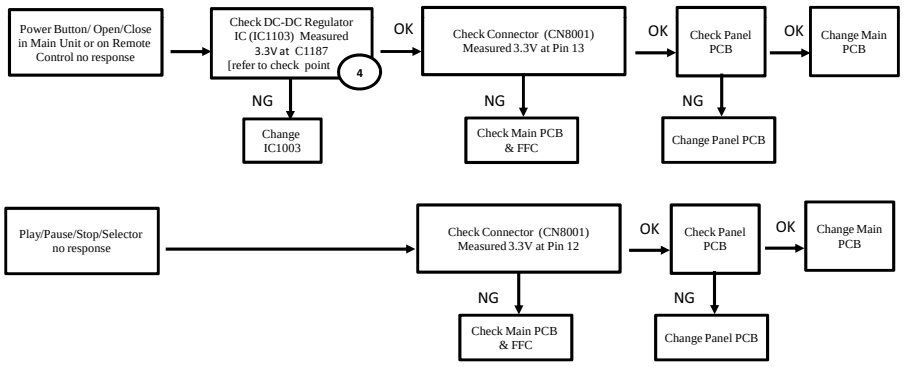
3. Cannot Power ON due to Error code F61



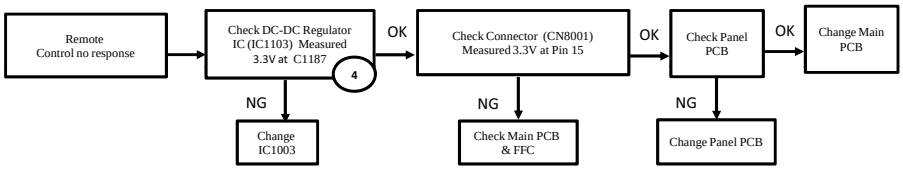
4. Bluetooth® Pairing Failure



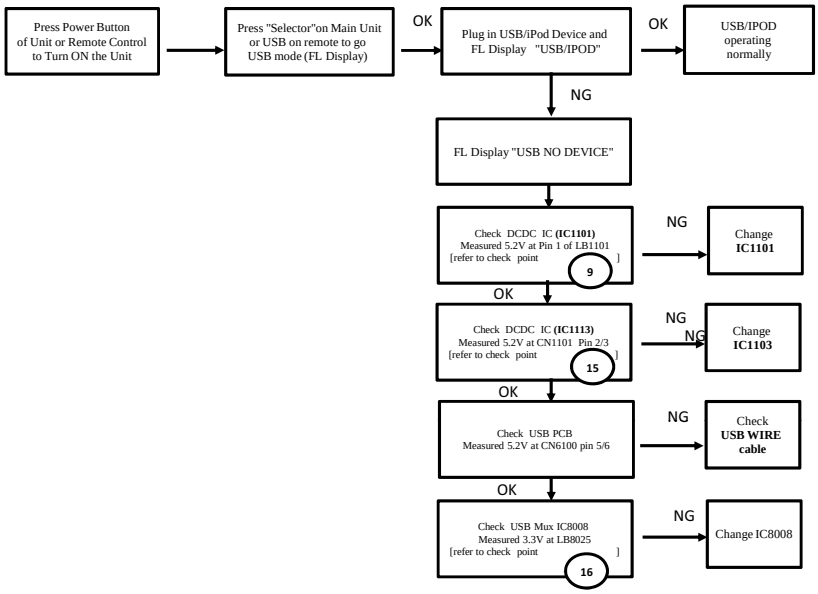
5. Main Set any buttons "NO function"



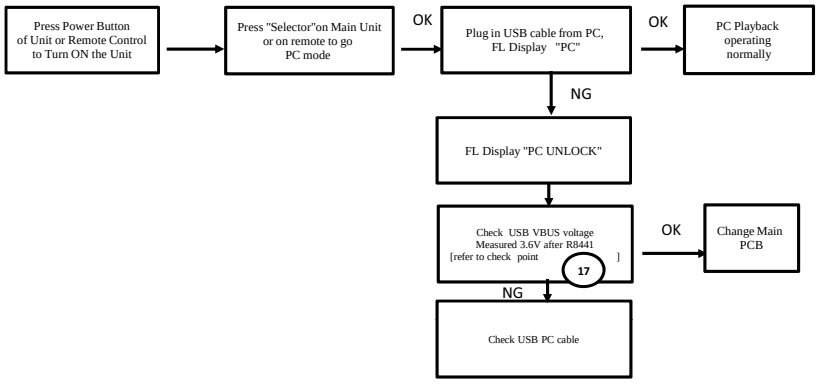
6. No Remote Control Function



7. USB Device Cannot Detect "NO DEVICE"

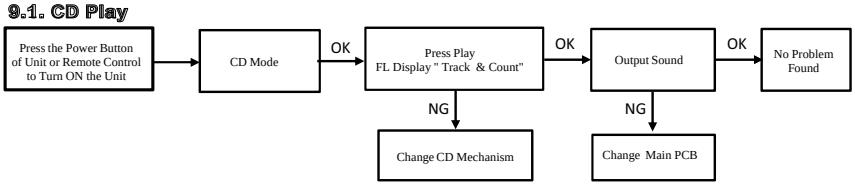


8. PC not detected "PC UNLOCK"

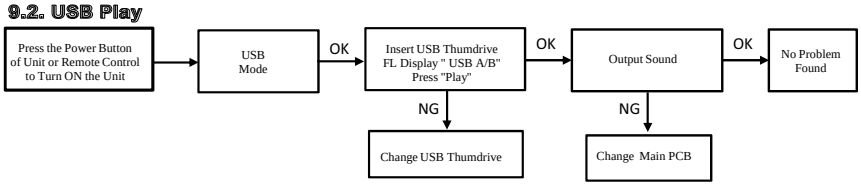


9. No Output Sound

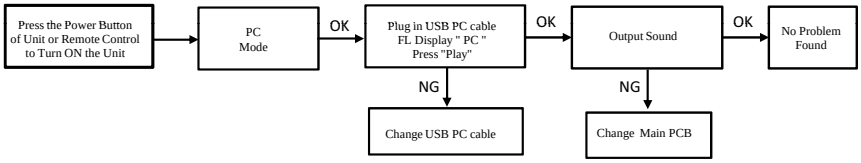
9.1. CD Play



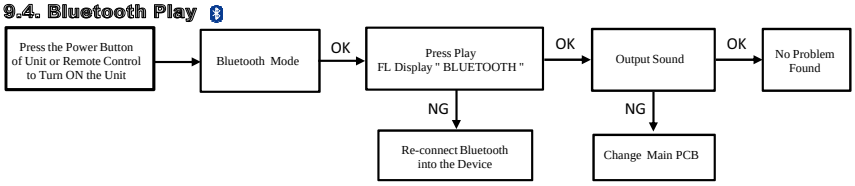
9.2. USB Play



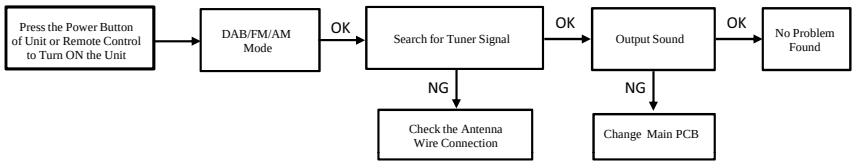
9.3. PC Play (USB-DAC)



9.4. Bluetooth Play

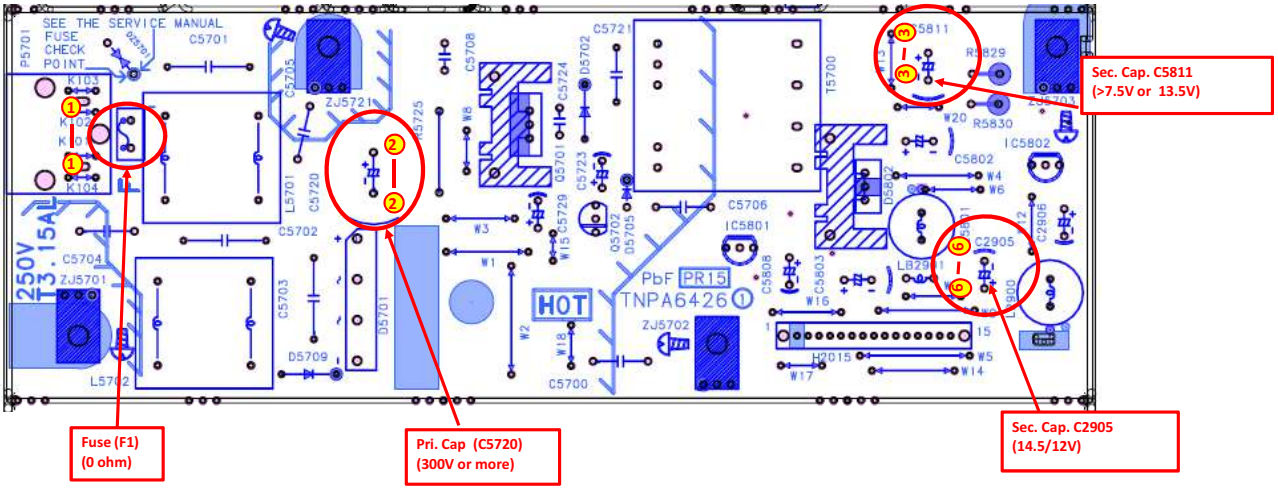


9.5. Tuner Mode

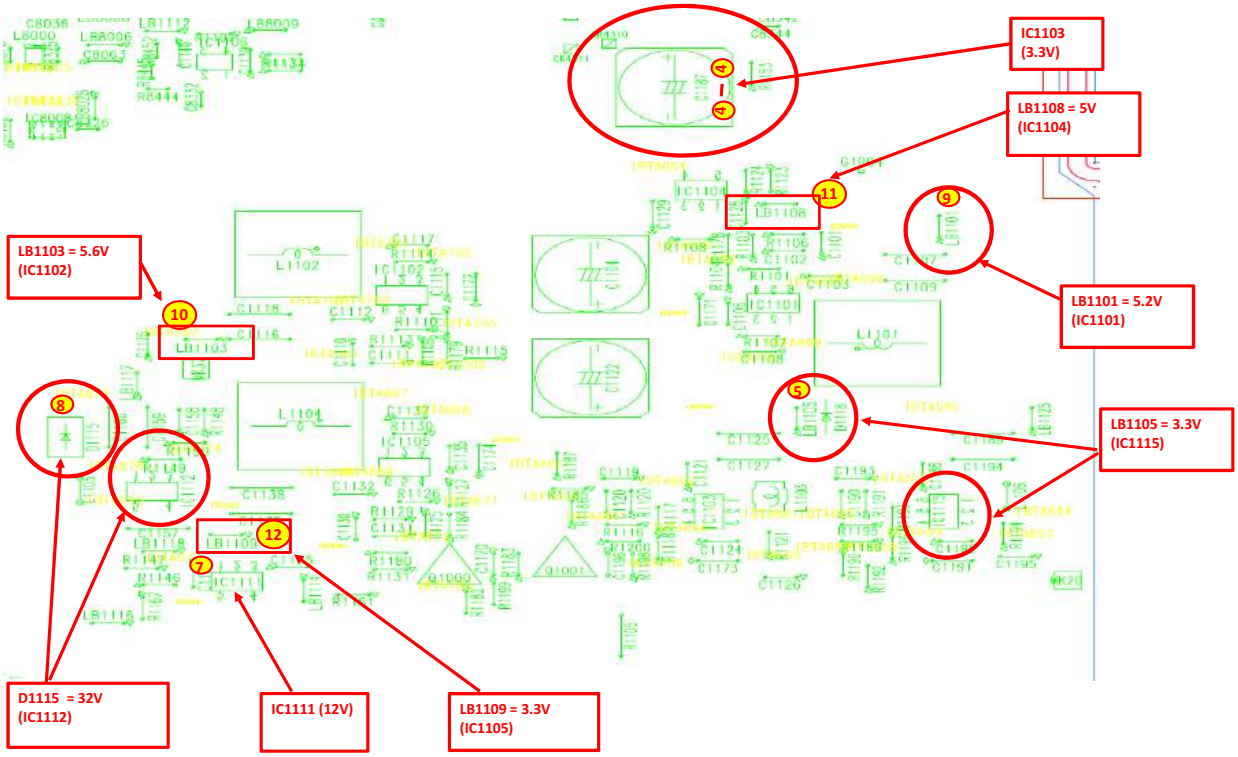


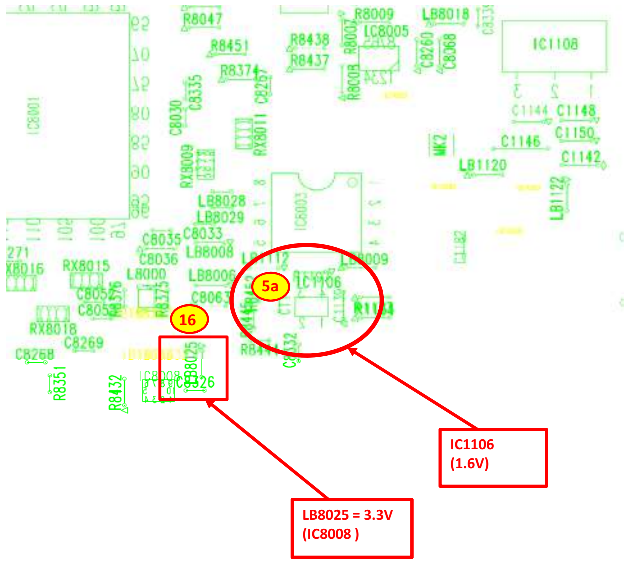
10. Check Point

10.1. Power PCB (SMPS PCB)

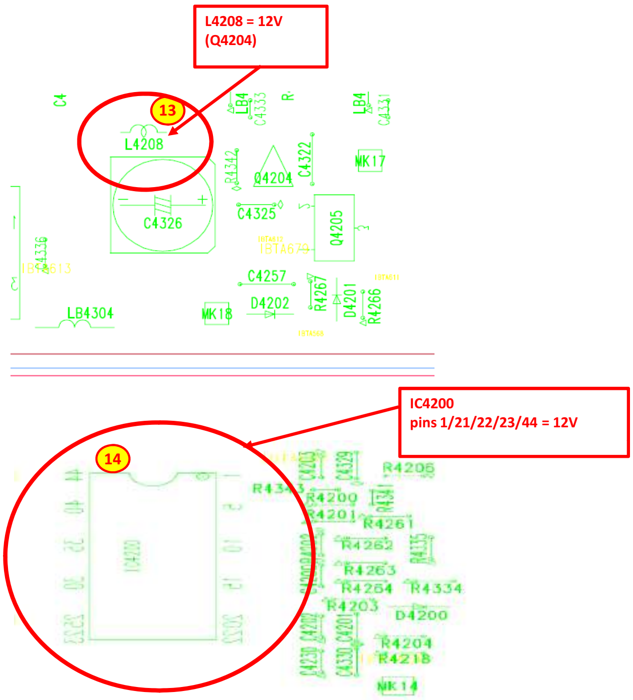


10.2 Main PCB

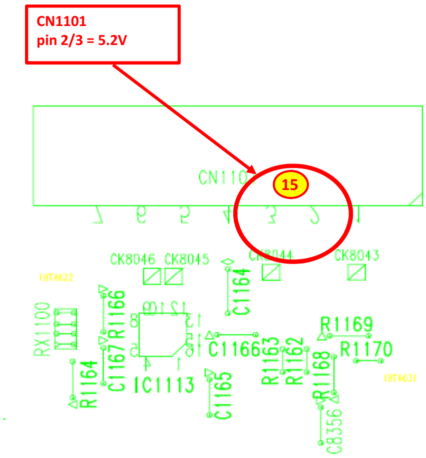




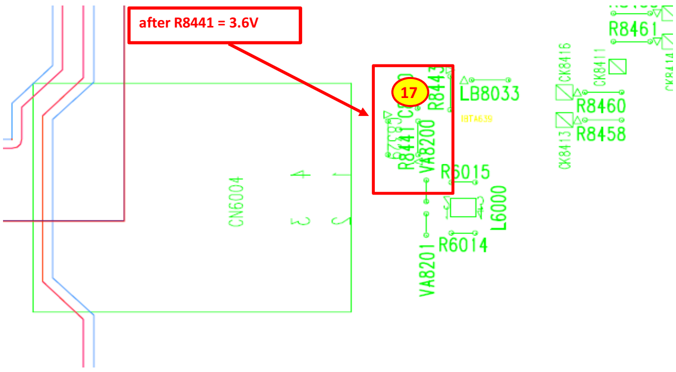
5a
16
IC1106
(1.6V)
LB8025 = 3.3V
(IC8008)



L4208 = 12V
(Q4204)
13
14
IC4200
pins 1/21/22/23/44 = 12V



CN1101
pin 2/3 = 5.2V
15



after R8441 = 3.6V
17

8 Disassembly and Assembly Instructions

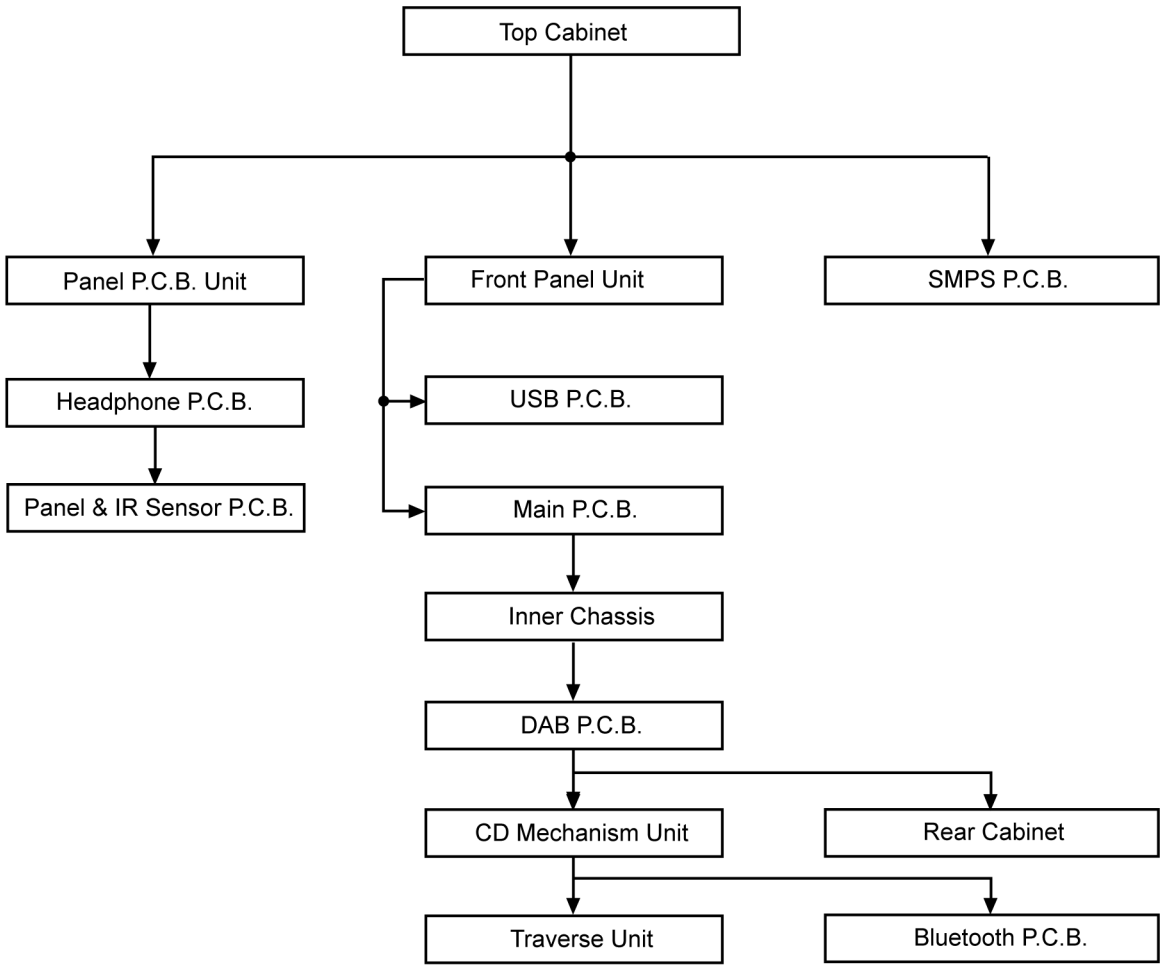
Caution Note:

- **This section describes the disassembly and/or assembly procedures for all major printed circuit boards & main components for the unit. (You may refer to the section of “Main components and P.C.B Locations” as described in this 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.**
- **Be sure to use proper service tools , equipments or jigs during repair.**
- **Select items from the following indexes when disassembly or replacement are required.**

- **Disassembly of Top Cabinet**
- **Disassembly of Front Panel Unit**
- **Disassembly of Panel P.C.B. Unit**
- **Disassembly of Headphone P.C.B.**
- **Disassembly of Panel & IR Sensor P.C.B.**
- **Disassembly of USB P.C.B.**
- **Disassembly of SMPS P.C.B.**
- **Disassembly of Main P.C.B.**
- **Disassembly of Inner Chassis**
- **Disassembly of DAB P.C.B.**
- **Disassembly of CD Mechanism Unit**
- **Replacement of Traverse Unit**
- **Disassembly of Bluetooth P.C.B.**
- **Disassembly of Rear Cabinet**

8.1. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.
To assemble the unit, reverse the steps shown in the chart below.



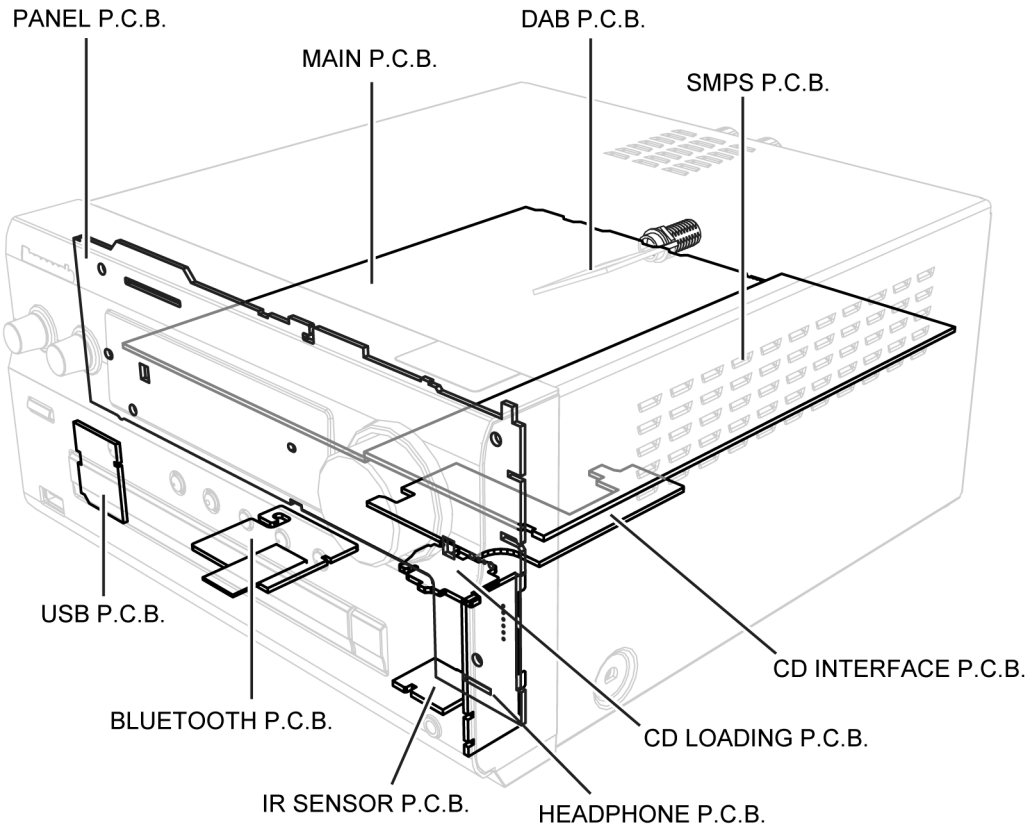
8.2. Type of screws

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

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

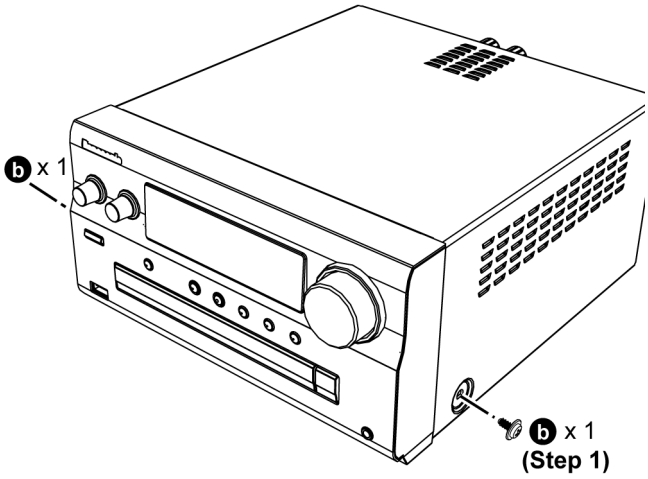
- ⓐ : XTB3+8JFJ
- ⓑ : RHD30007-1SJ (-S)
- ⓑ : RHD30007-K2J (-K)
- ⓒ : RHDX30005-J
- ⓓ : RHD26046-L
- ⓔ : RHD30111-31
- ⓕ : RHDX031008
- ⓖ : XTN2+6GFJ
- ⓗ : XYN3+C8FJK

8.3. Main Parts Location Diagram

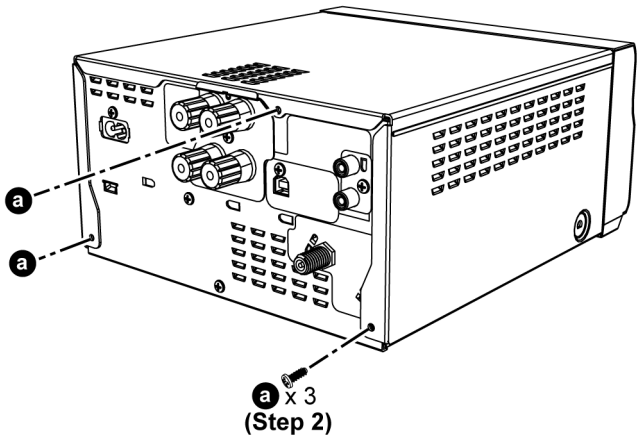


8.4. Disassembly of Top Cabinet

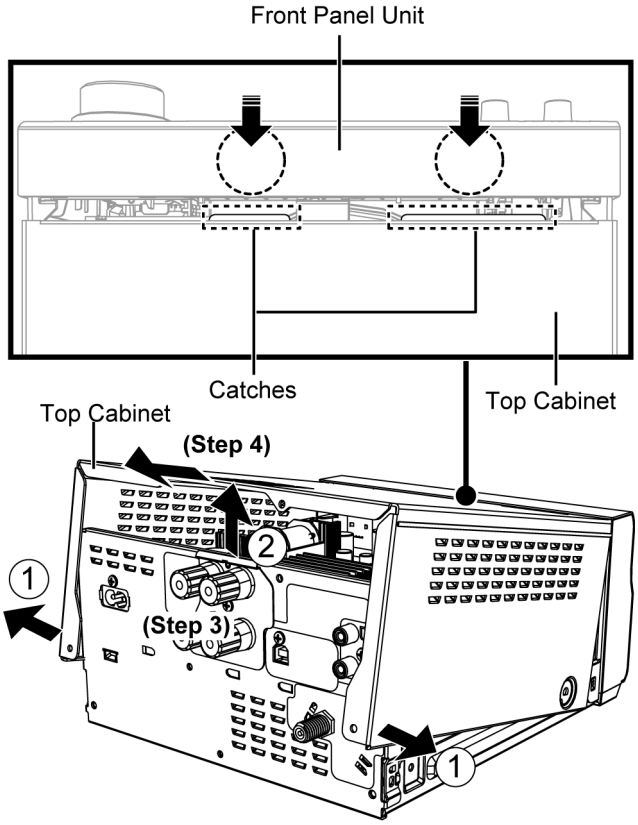
Step 1 : Remove 2 screws.



Step 2 : Remove 3 screws.



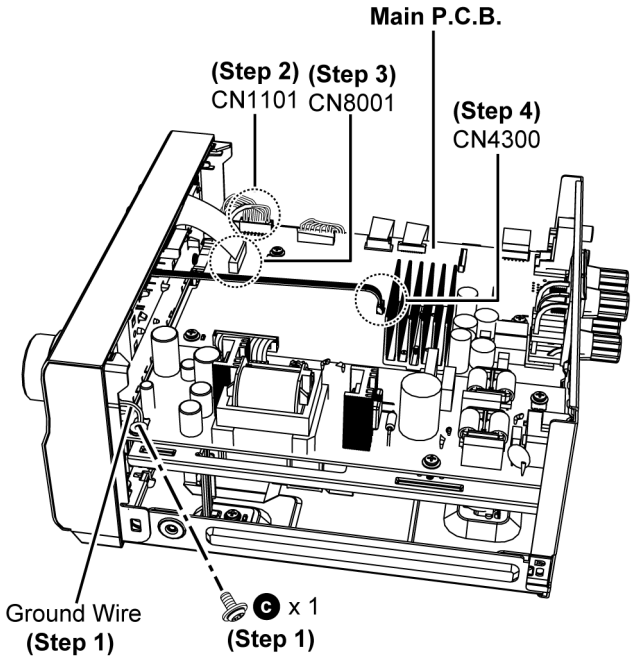
Step 3 : Lift up Top Cabinet as arrow shown.
Step 4 : Remove Top Cabinet.



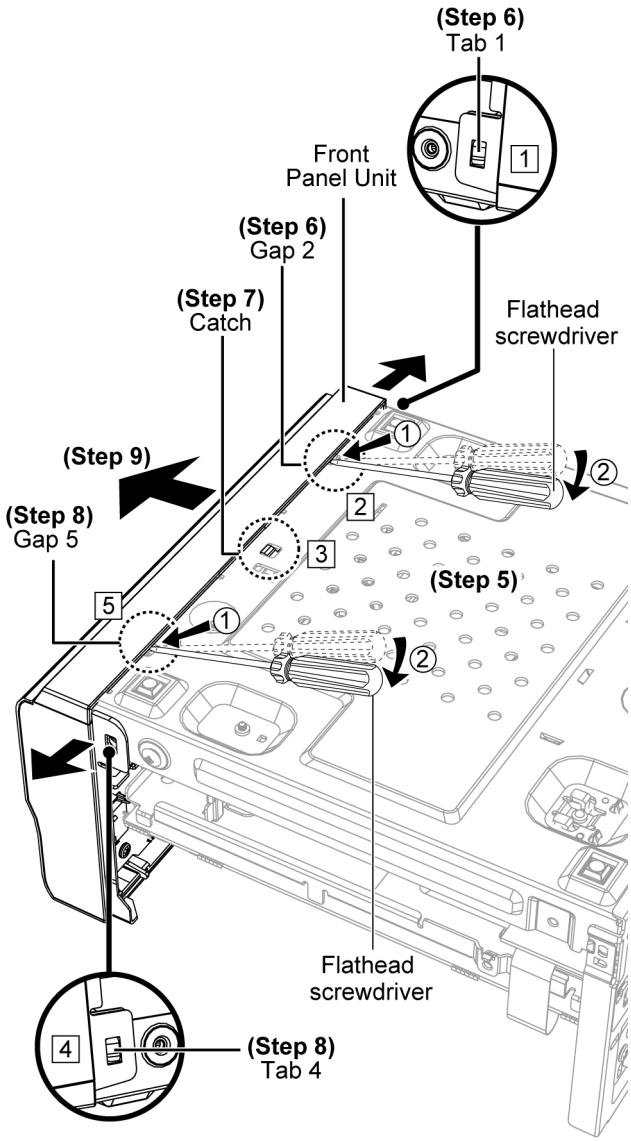
8.5. Disassembly of Front Panel Unit

• Refer to “Disassembly of Top Cabinet”

Step 1 : Remove screw and detach ground wire.
Step 2 : Detach 7P wire at connector (CN1101) on Main P.C.B..
Step 3 : Detach 19P FFC at connector (CN8001) on Main P.C.B..
Step 4 : Detach 5P wire at connector (CN4300) on Main P.C.B..



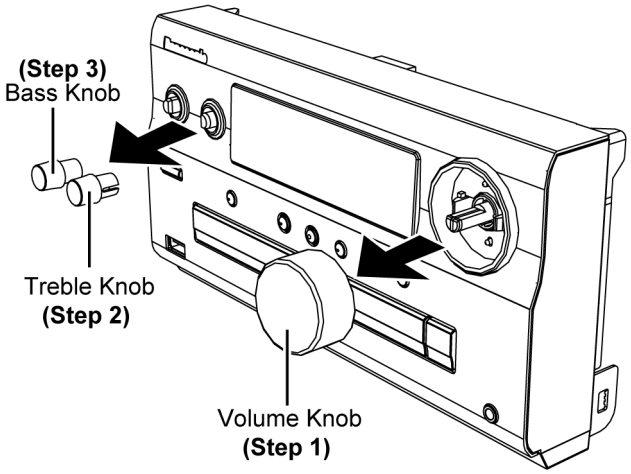
Step 5 : Upset the set.
Step 6 : Release tab 1 and gap 2.
Step 7 : Press to release catches.
Step 8 : Release tab 4 and gap 5.
Step 9 : Slightly lift forward and remove Front Panel Unit.



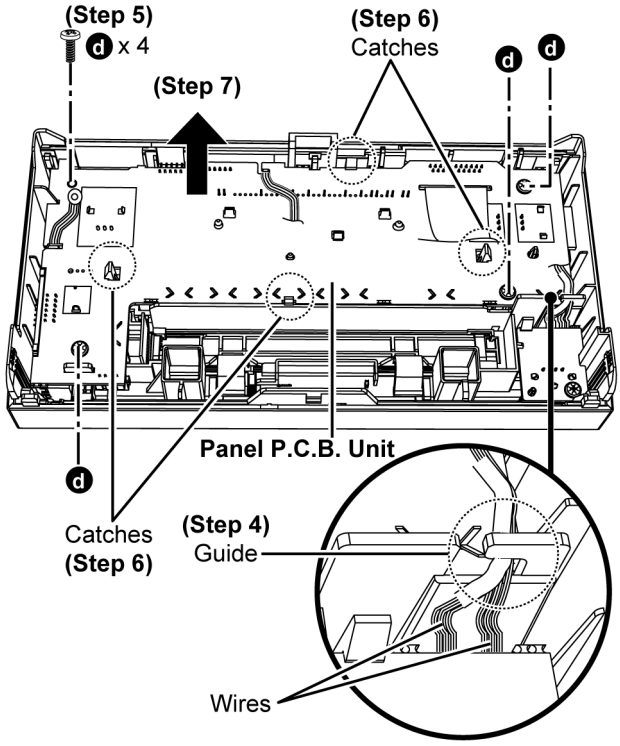
8.6. Disassembly of Panel P.C.B. Unit

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

Step 1 : Remove Volume Knob.
Step 2 : Remove Treble Knob.
Step 3 : Remove Bass Knob.



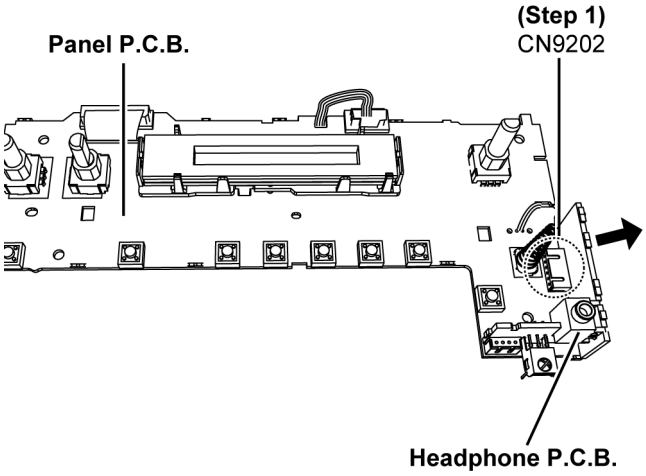
Step 4 : Release wires from the guide.
Step 5 : Remove 4 screws.
Step 6 : Release catches.
Step 7 : Remove Panel P.C.B. Unit.



8.7. Disassembly of Headphone P.C.B.

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

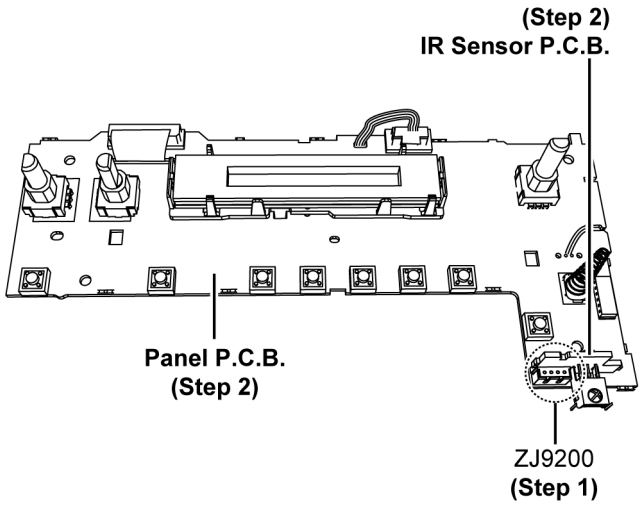
Step 1 : Detach and remove Headphone P.C.B. at connector (CN9202) from Panel P.C.B..



8.8. Disassembly of Panel & IR Sensor P.C.B.

- Refer to “Disassembly of Top Cabinet”
- Refer to “Disassembly of Front Panel Unit”
- Refer to “Disassembly of Panel P.C.B. Unit”
- Refer to “Disassembly of Headphone P.C.B.”

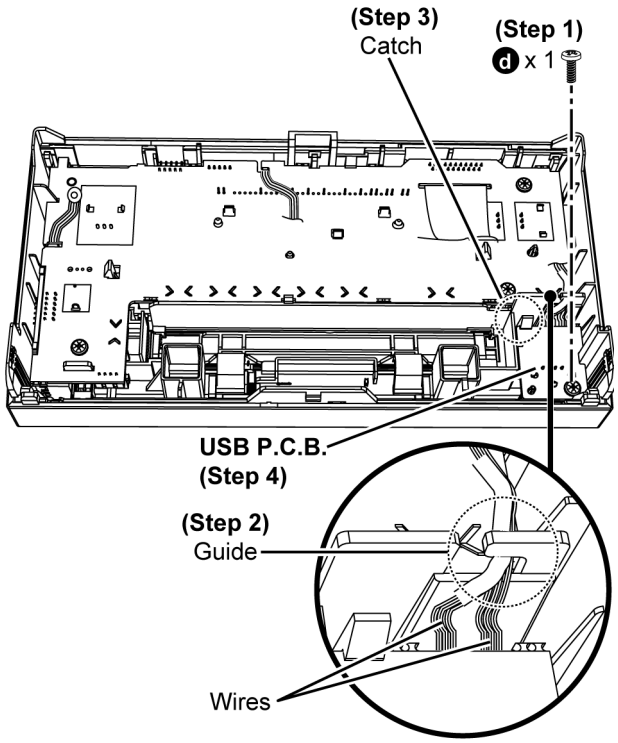
Step 1 : Detach IR Sensor P.C.B. at connector (ZJ9200) from Panel P.C.B..
Step 2 : Remove IR Sensor P.C.B. and Panel P.C.B..



8.9. Disassembly of USB P.C.B.

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

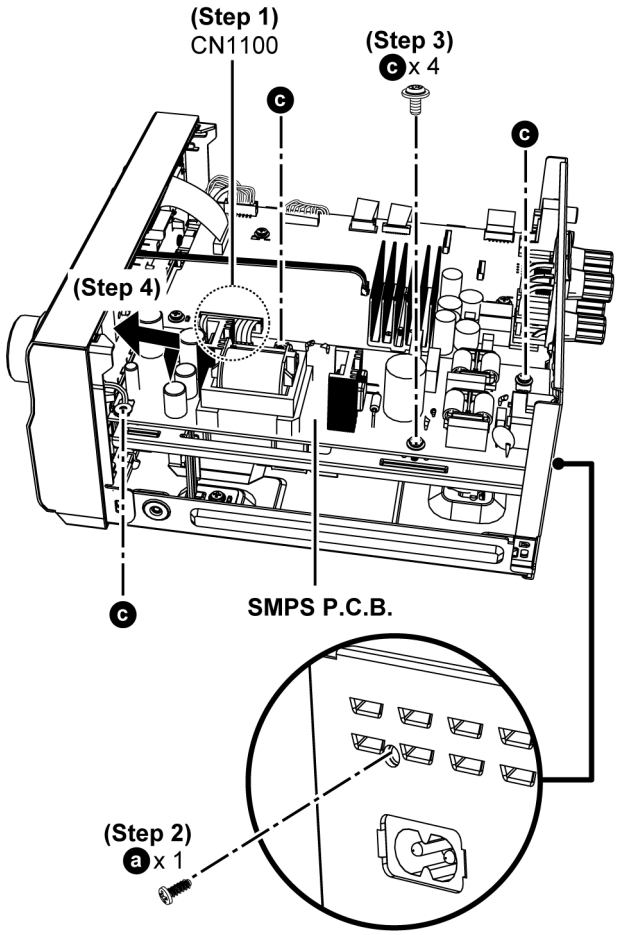
Step 1 : Remove screw.
Step 2 : Release wires from the guide.
Step 3 : Release catch.
Step 4 : Remove USB P.C.B..



8.10. Disassembly of SMPS P.C.B.

- Refer to “Disassembly of Top Cabinet”

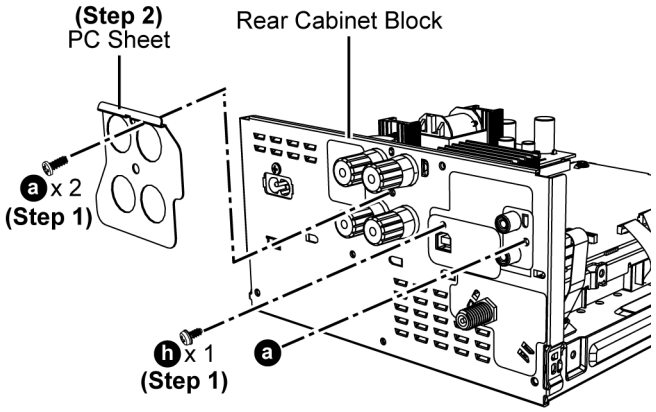
Step 1 : Detach 15P Wire at connector (CN1100) on Main P.C.B..
Step 2 : Remove screw.
Step 3 : Remove 4 screws.
Step 4 : Lift up to remove SMPS P.C.B..



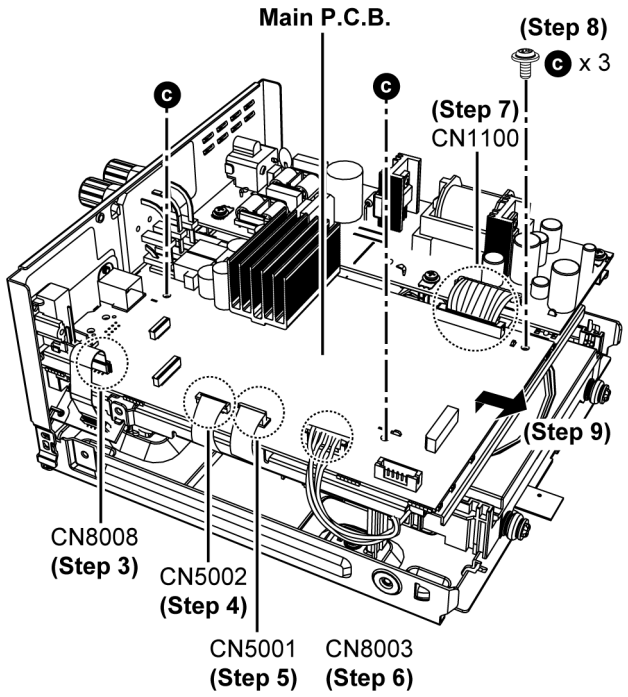
8.11. Disassembly of Main P.C.B.

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

Step 1 : Remove 3 screws.
Step 2 : Remove PC Sheet.



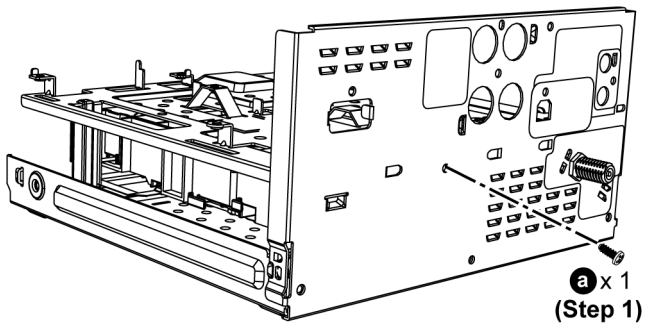
Step 3 : Detach 10P FFC at connector (CN8008) on Main P.C.B..
Step 4 : Detach 24P FFC at connector (CN5002) on Main P.C.B..
Step 5 : Detach 10P FFC at connector (CN5001) on Main P.C.B..
Step 6 : Detach 9P wire at connector (CN8003) on Main P.C.B..
Step 7 : Detach 15P wire at connector (CN1100) on Main P.C.B..
Step 8 : Remove 3 screws.
Step 9 : Lift up to remove Main P.C.B..



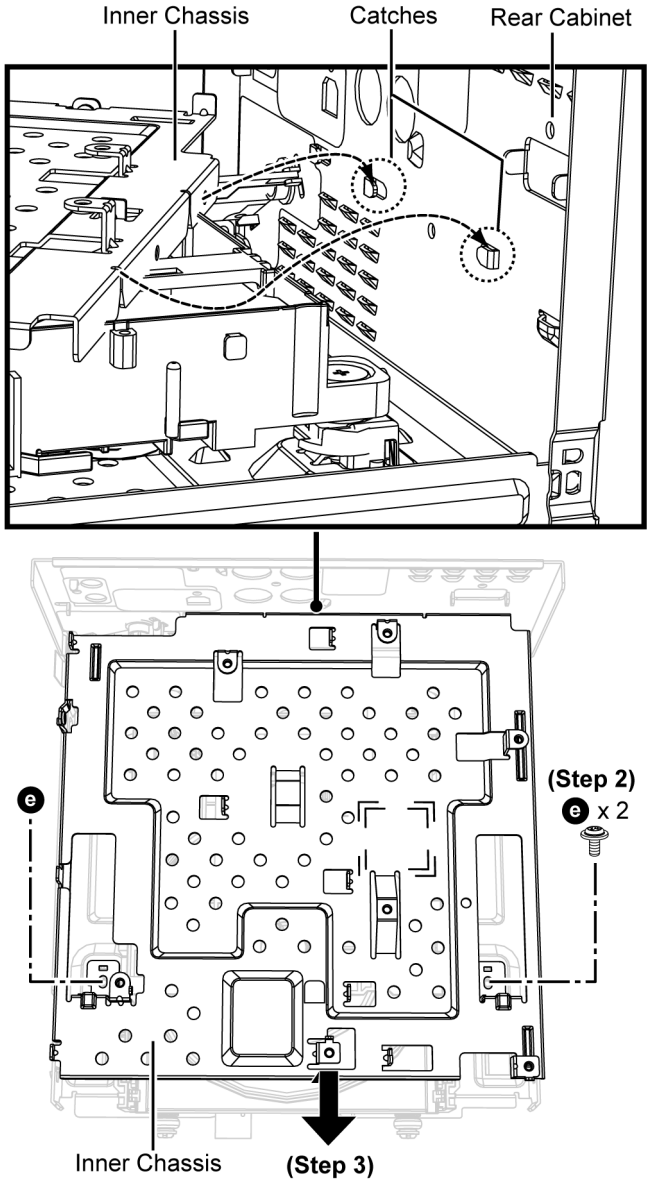
8.12. Disassembly of Inner Chassis

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

Step 1 : Remove screw.



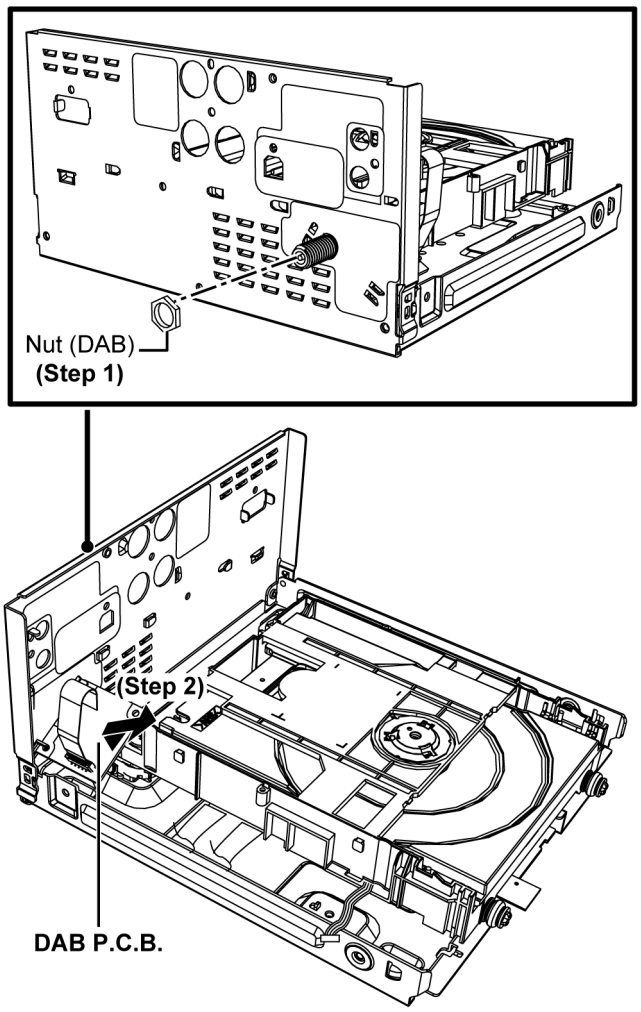
Step 2 : Remove 2 screws.
Step 3 : Lift up to release Inner Chassis from Rear Cabinet.
Caution : During assembling, ensure the Inner Chassis is fully inserted & properly seated onto the catches



8.13. Disassembly of DAB P.C.B.

- Refer to “Disassembly of Top Cabinet”
- Refer to “Disassembly of Front Panel Unit”
- Refer to “Disassembly of SMPS P.C.B.”
- Refer to “Disassembly of Main P.C.B.”
- Refer to “Disassembly of Inner Chassis”

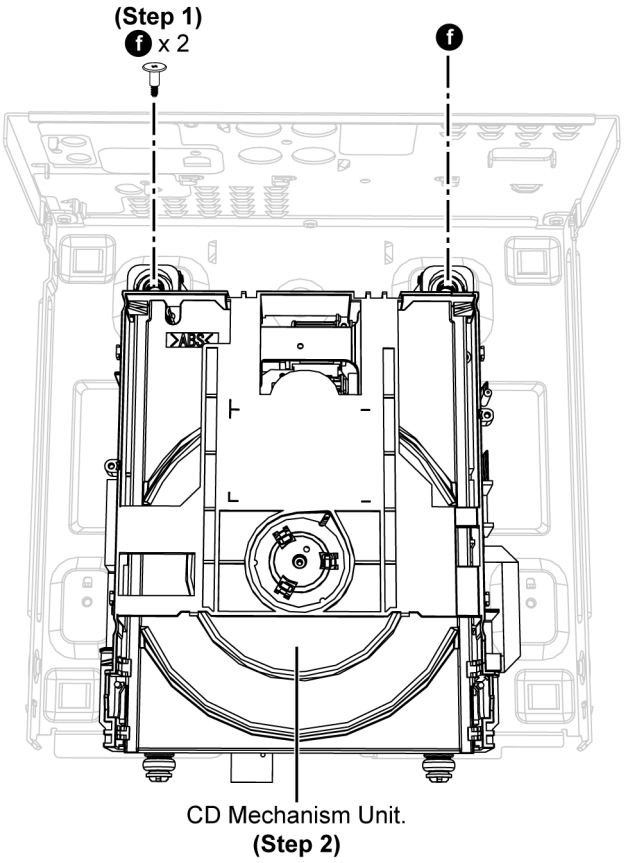
Step 1 : Remove Nut (DAB).
Step 2 : Lift up to remove DAB P.C.B..



8.14. Disassembly of CD Mechanism Unit

- Refer to “Disassembly of Top Cabinet”
- Refer to “Disassembly of Front Panel Unit”
- Refer to “Disassembly of SMPS P.C.B.”
- Refer to “Disassembly of Main P.C.B.”
- Refer to “Disassembly of Inner Chassis”
- Refer to “Disassembly of DAB P.C.B.”

Step 1 : Remove 2 screws.
Step 2 : Remove CD Mechanism Unit.



8.15. Replacement of Traverse Unit

• Refer to “Disassembly of CD Mechanism Unit”

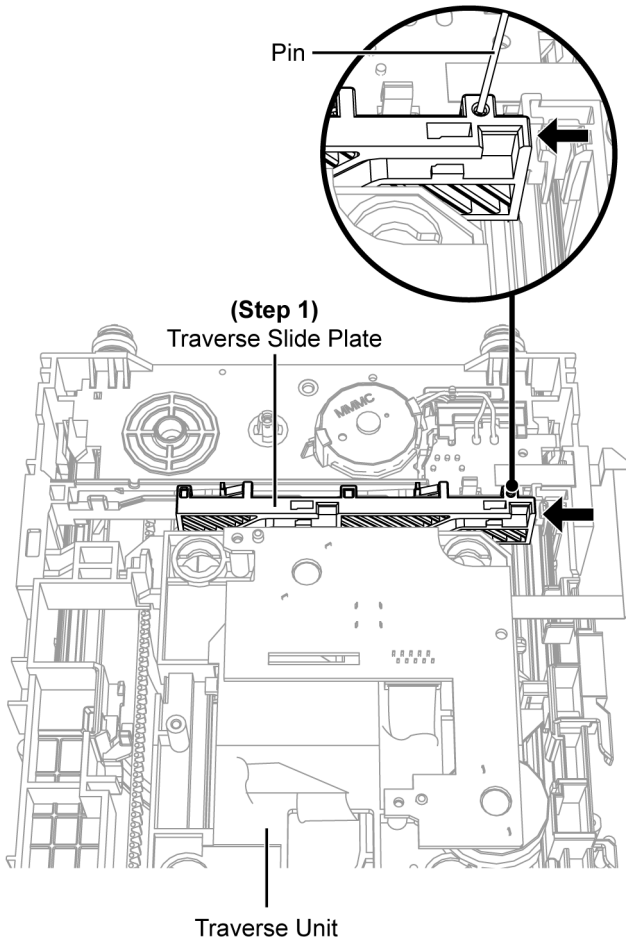
8.15.1. Disassembly of Traverse Unit

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

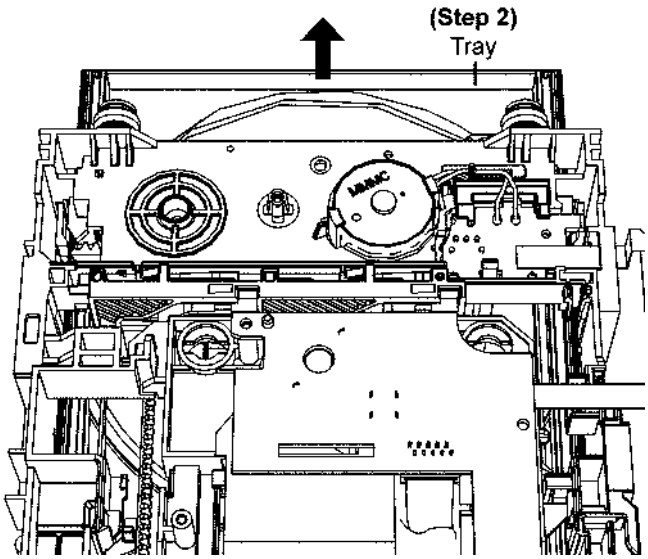
Note:

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.

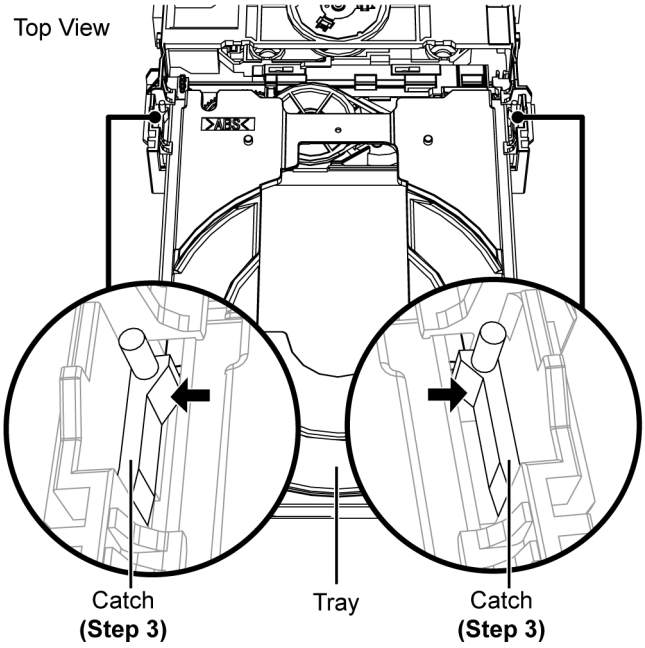
Step 1 : Use a pin to slide Traverse Slide Plate until it come to a stop.



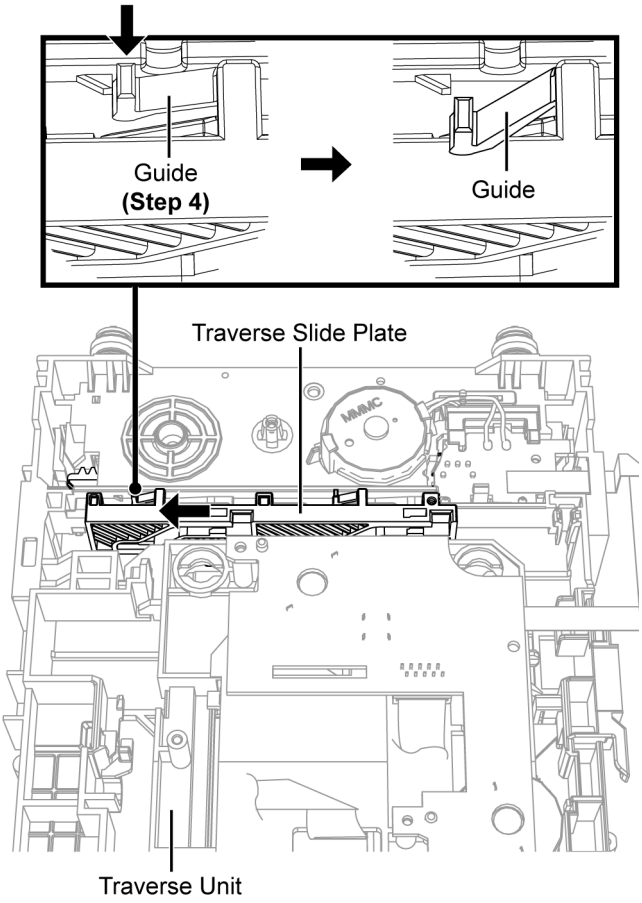
Step 2 : Slide tray out fully.



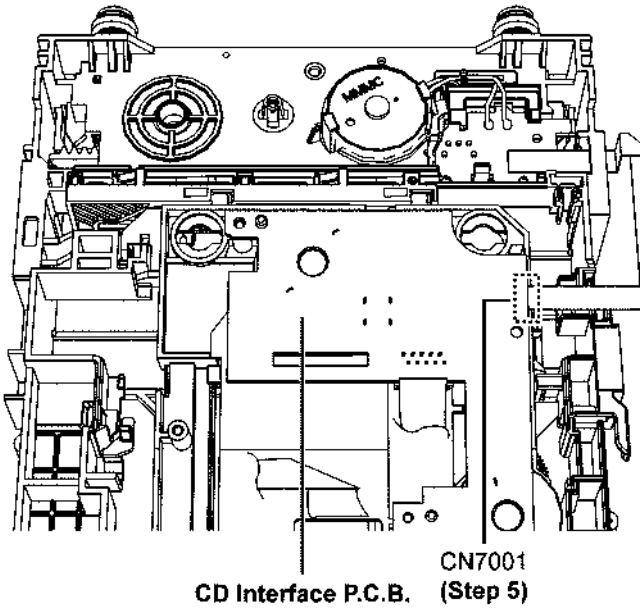
Step 3 : Release catches & remove tray.



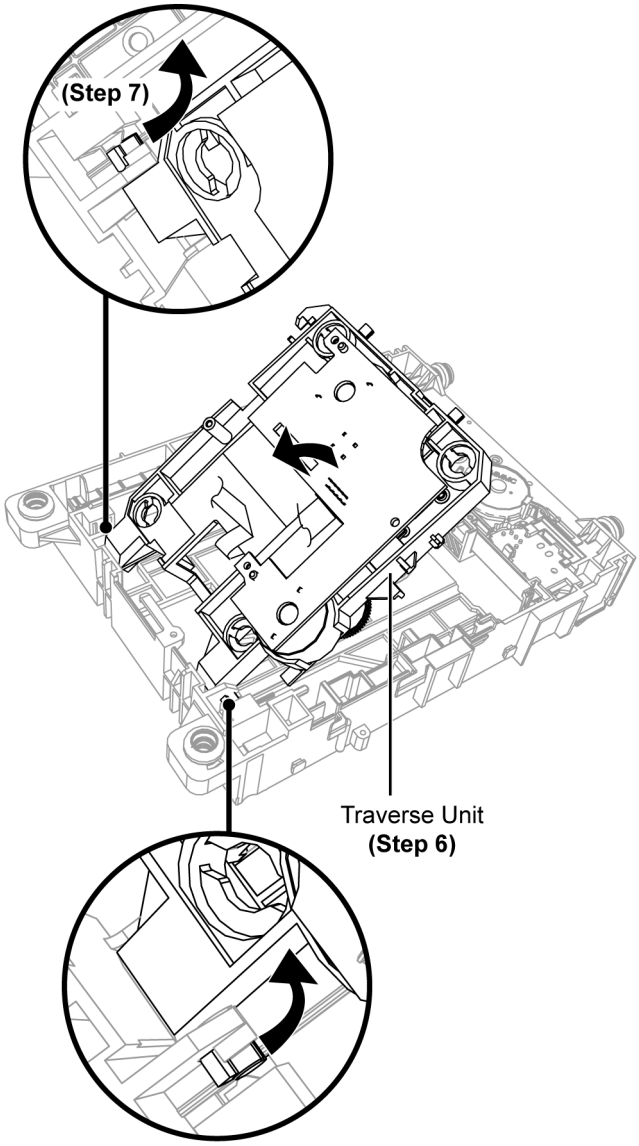
Step 4 : Release the guide as shown & slide Traverse Slide Plate to the end.



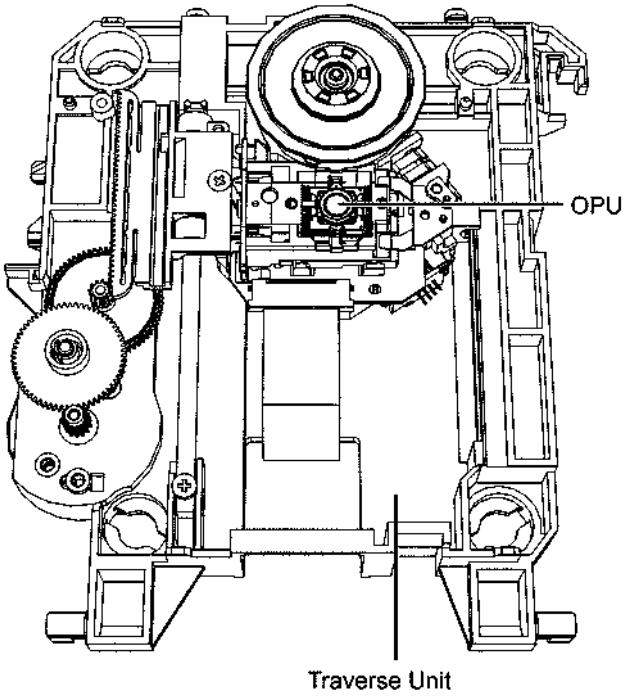
Step 5 : Detach 5P FFC at the connector (CN7001) on CD Interface P.C.B..



Step 6 : Lift up Traverse Unit by approximately 45°.
Step 7 : Remove traverse unit as arrow shown.

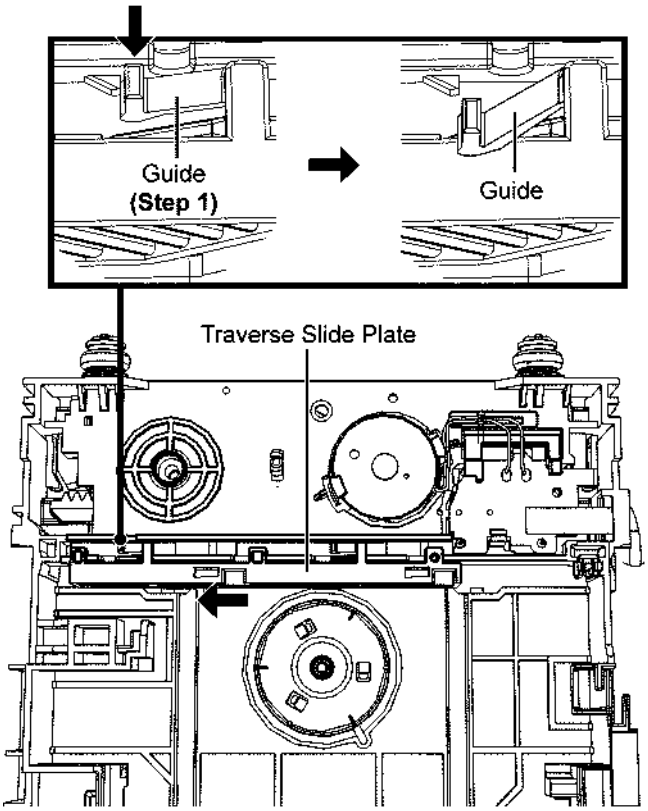


Caution : Avoid touching the surface of the Optical Pickup Unit on the traverse unit.

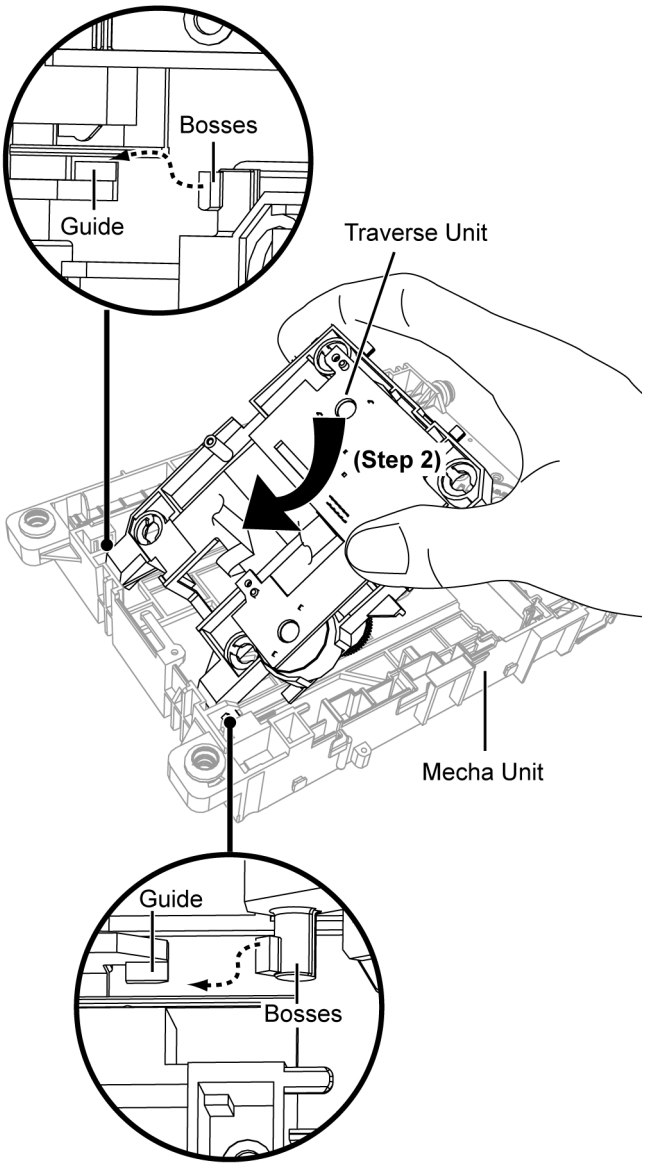


8.15.2. Assembly of Traverse Unit

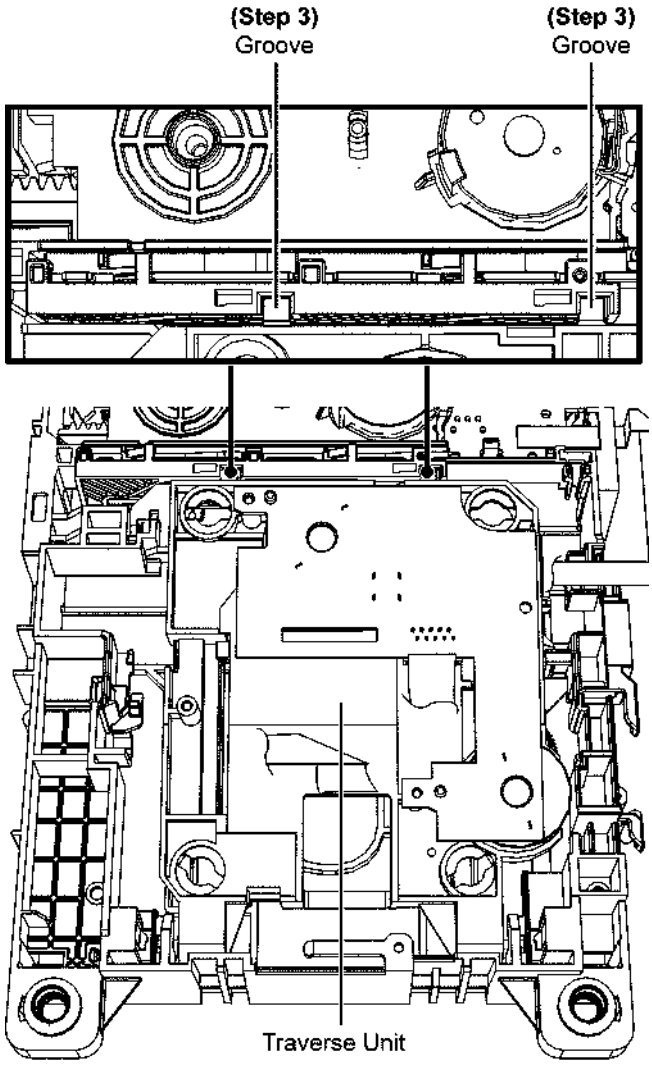
Step 1 : Release the guide as shown & slide Traverse Slide Plate to the end.



Step 2 : Insert Traverse Unit at approximately 45° into mecha unit as arrow shown.

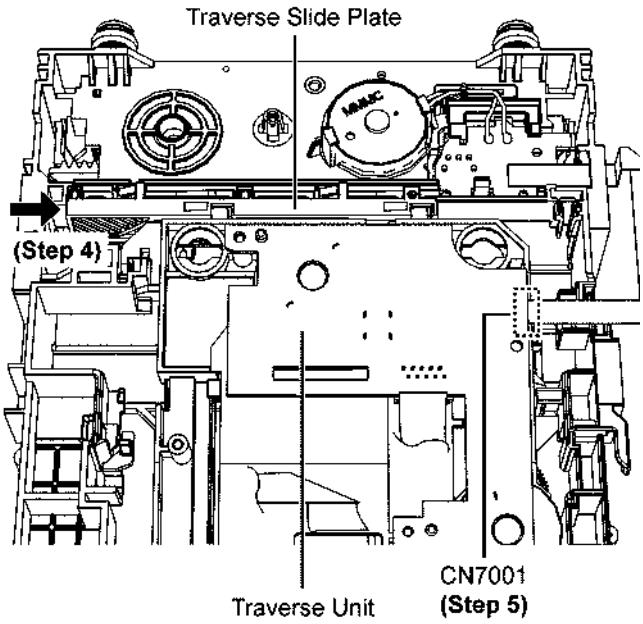


Step 3 : Insert Traverse Unit properly into the grooves.

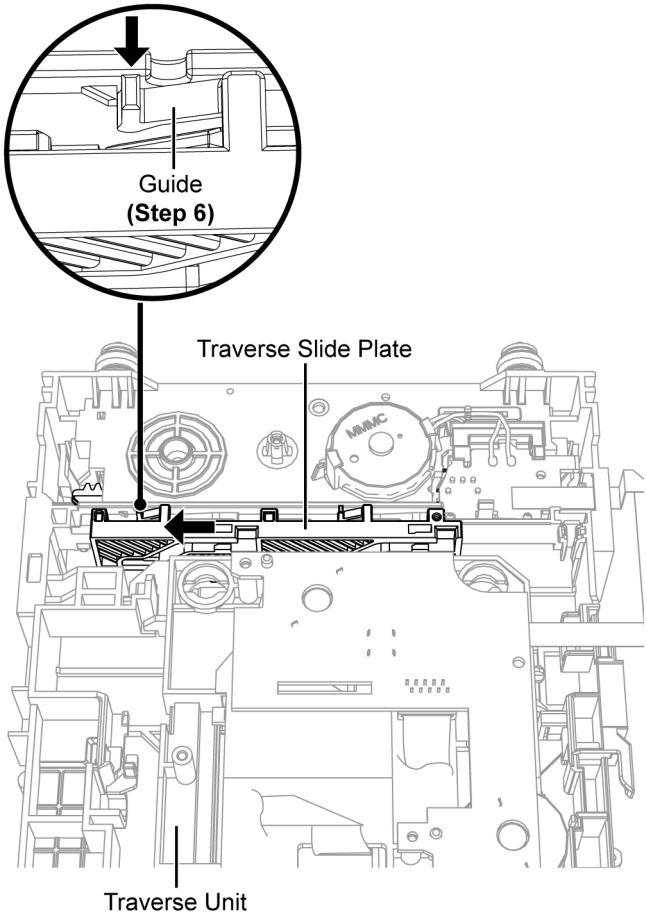


Step 4 : Slide Traverse Slide Plate to lock the Traverse Unit as shown.

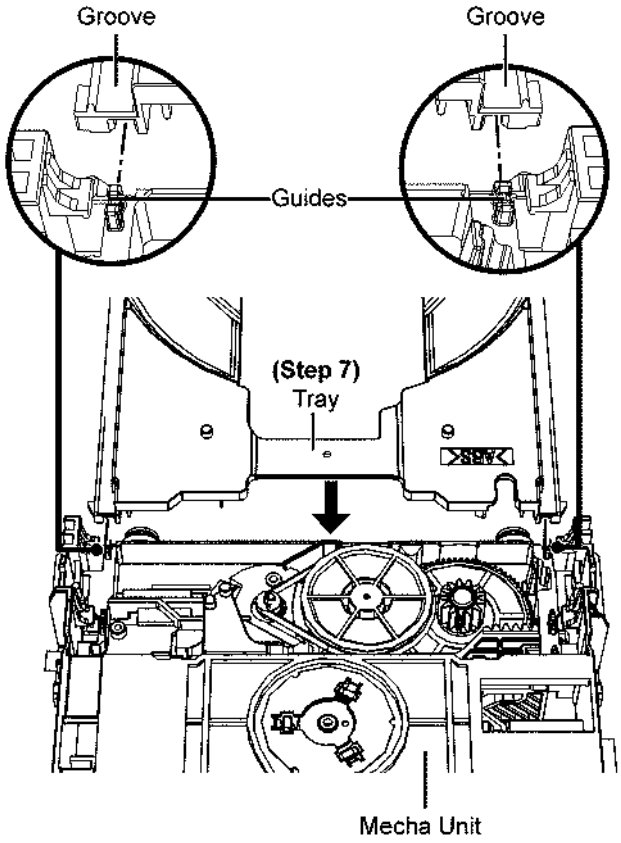
Step 5 : Connect 5P FFC at connector (CN7001) on CD Interface P.C.B..



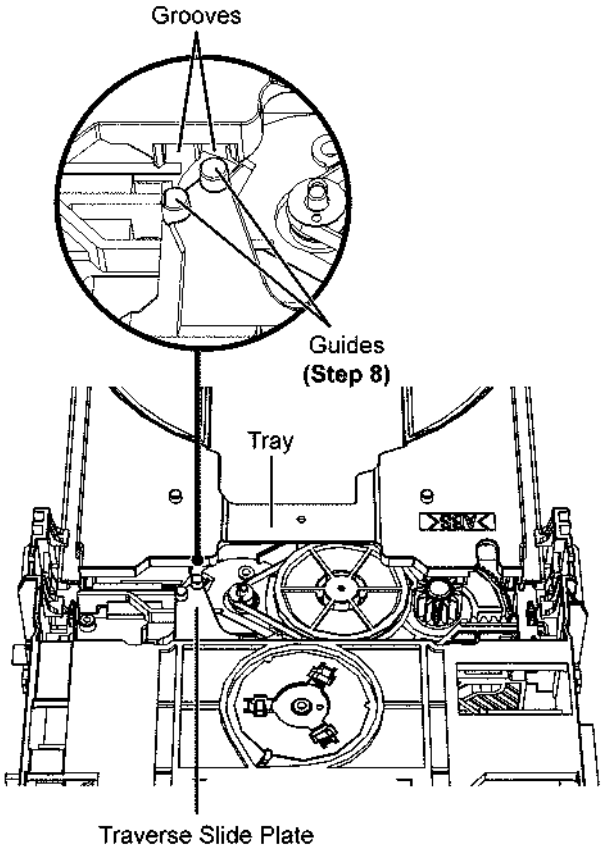
Step 6 : Slide Traverse Slide Plate until it stop at the guide.



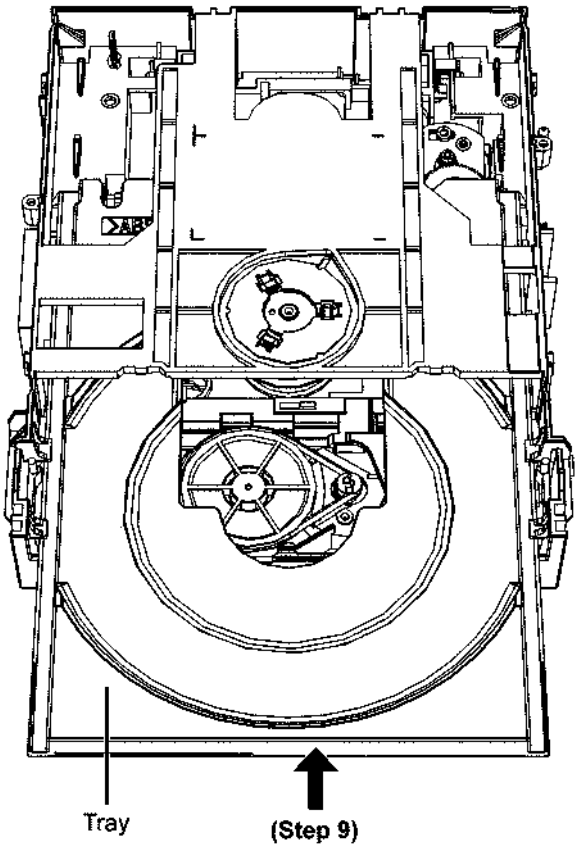
Step 7 : Align and insert the tray into the mecha unit.



Step 8 : Align the guides of the Traverse Slide Plate with the grooves when sliding the tray in.



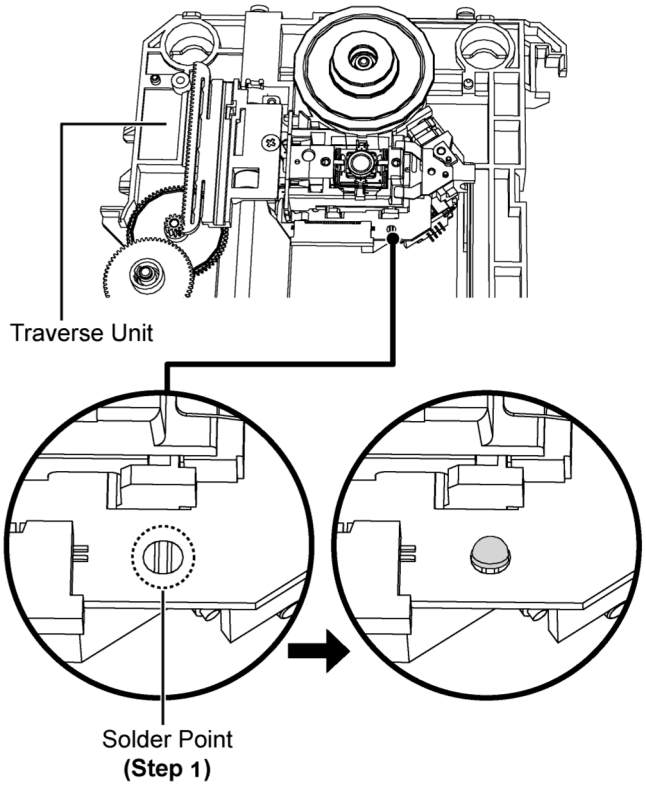
Step 9 : Slide the tray in fully.



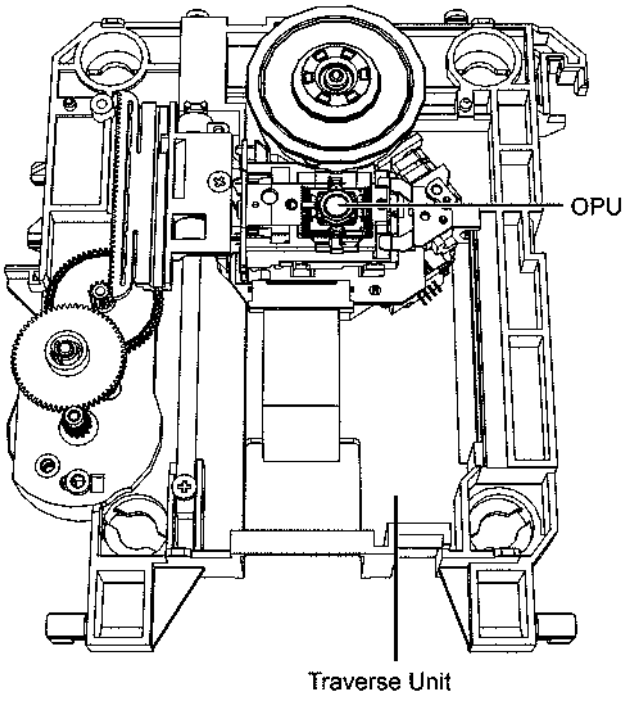
8.15.3. Disassembly of CD Interface P.C.B.

- Refer to “Disassembly of CD Mechanism Unit”
- Refer to “Disassembly of Traverse Unit”

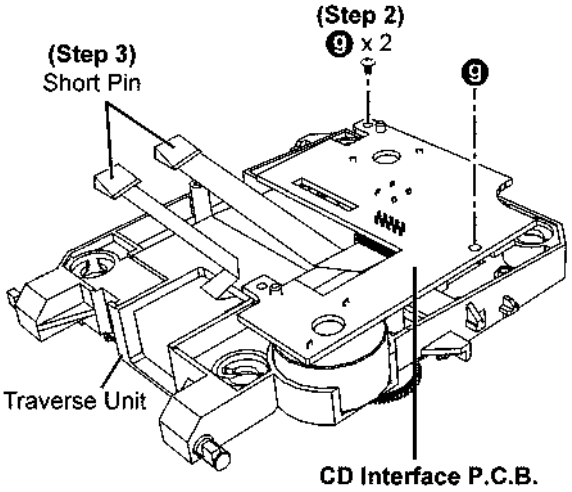
Note : The circuit is to be short to prevent electrostatic discharge during replacement of CD Interface P.C.B..
Step 1 : Solder point.



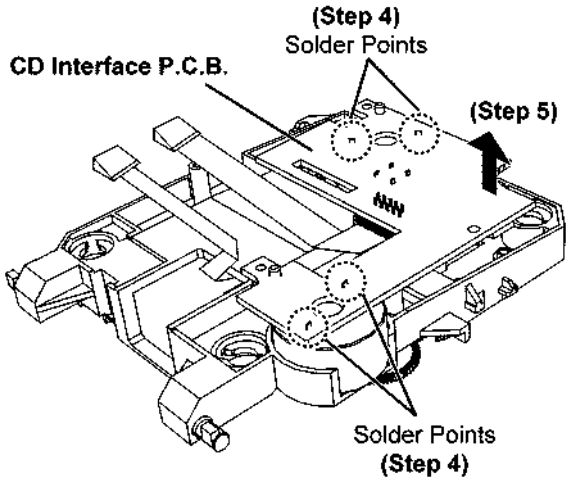
Caution : Avoid touching the surface of the Optical Pickup Unit on the Traverse Unit.



Step 2 : Remove 2 screws.
Step 3 : Attach short pin to Traverse Unit.



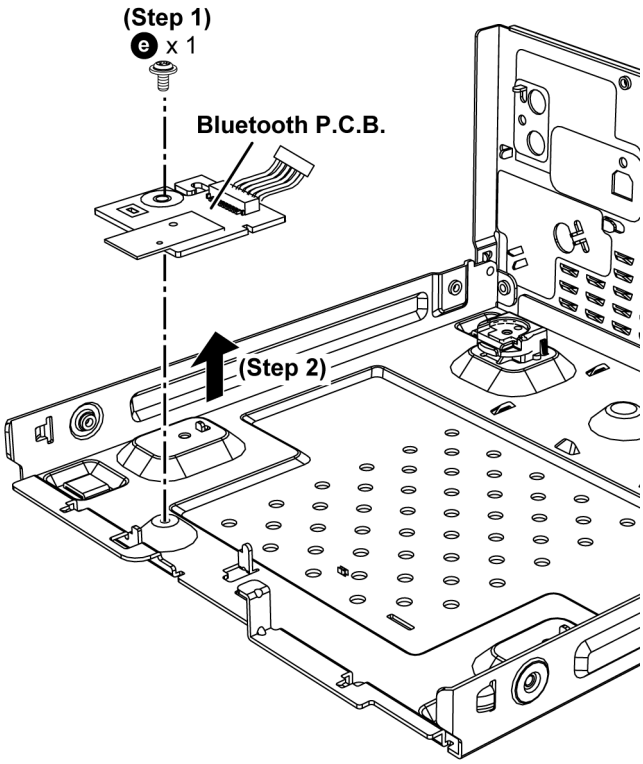
Step 4 : Desolder points on solder side of CD Interface P.C.B..
Step 5 : Remove CD Interface P.C.B..



8.16. Disassembly of Bluetooth P.C.B.

- Refer to “Disassembly of Top Cabinet”
- Refer to “Disassembly of Front Panel Unit”
- Refer to “Disassembly of SMPS P.C.B.”
- Refer to “Disassembly of Main P.C.B.”
- Refer to “Disassembly of Inner Chassis”
- Refer to “Disassembly of DAB P.C.B.”
- Refer to “Disassembly of CD Mechanism Unit”

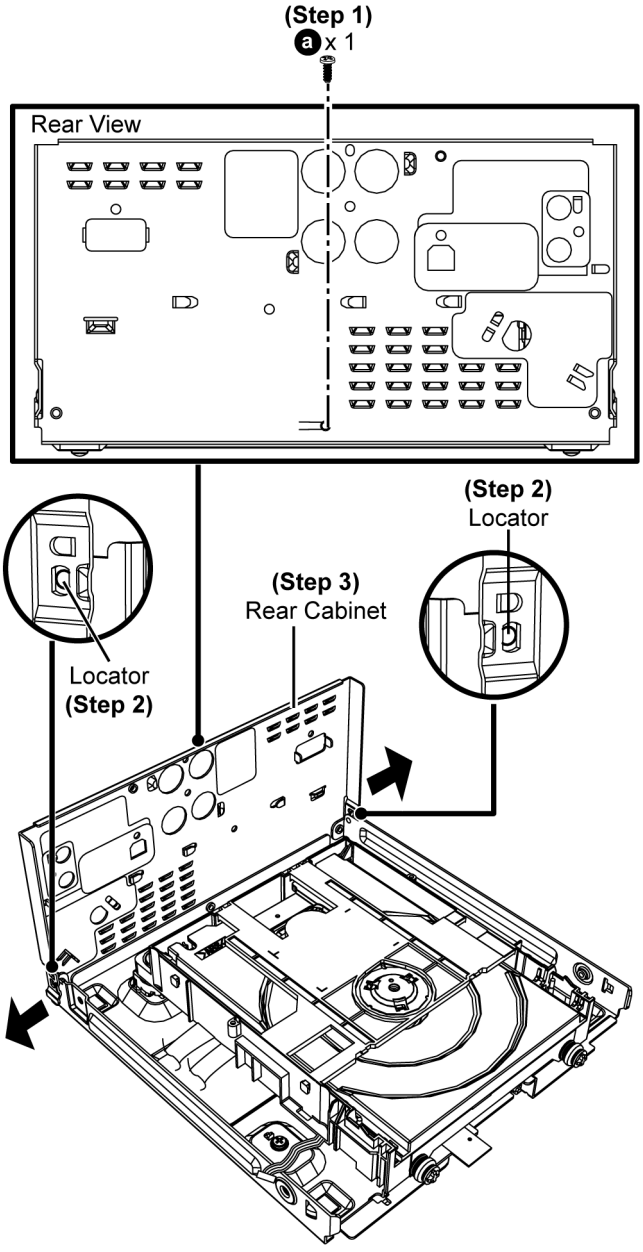
Step 1 : Remove screw.
Step 2 : Remove Bluetooth P.C.B..



8.17. Disassembly of Rear Cabinet

- Refer to “Disassembly of Top Cabinet”
- Refer to “Disassembly of Front Panel Unit”
- Refer to “Disassembly of SMPS P.C.B.”
- Refer to “Disassembly of Main P.C.B.”
- Refer to “Disassembly of Inner Chassis”
- Refer to “Disassembly of DAB P.C.B.”

Step 1 : Remove screw.
Step 2 : Release locators.
Step 3 : Remove Rear Cabinet.

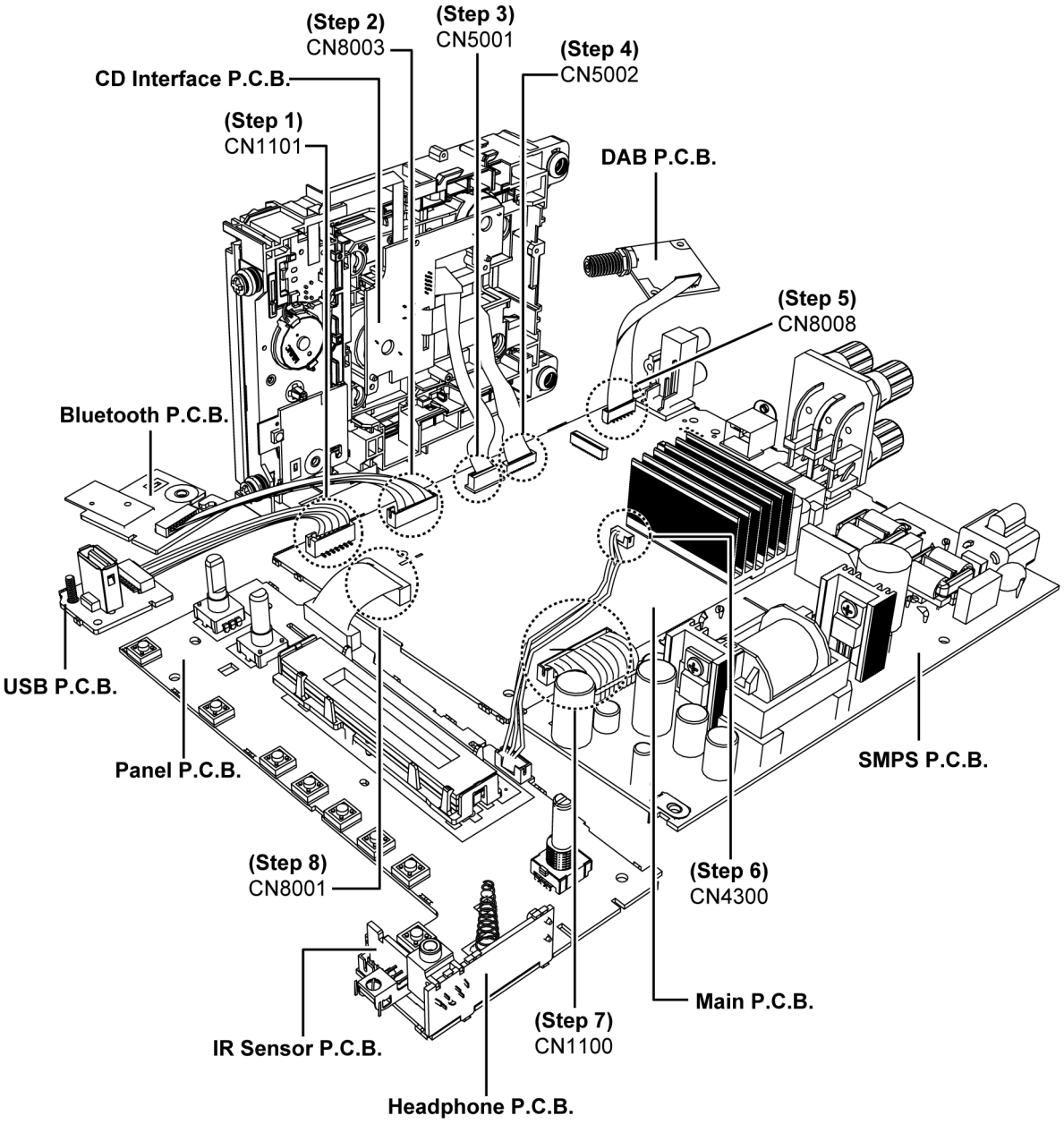


9 Service Position

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

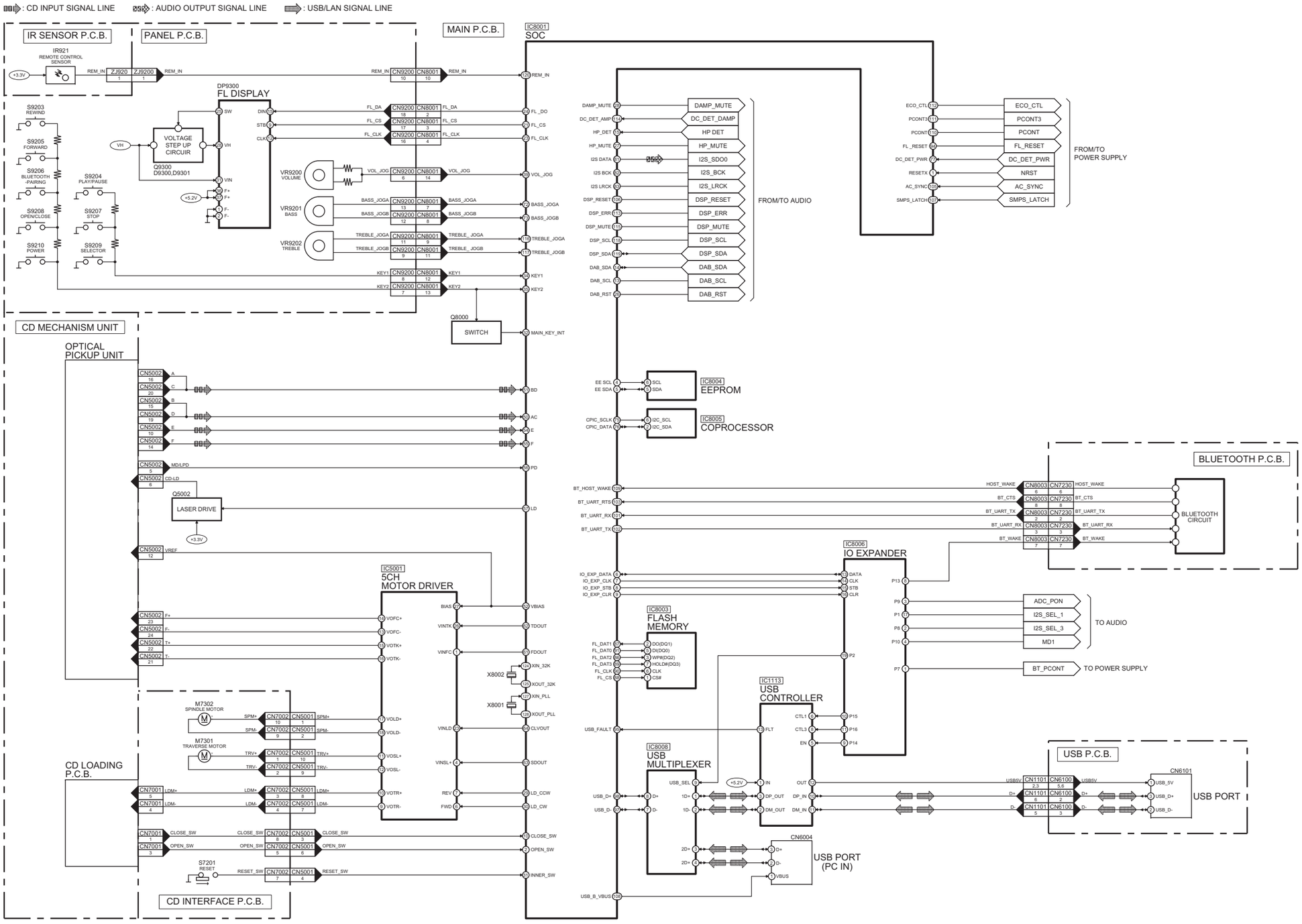
9.1. Checking of Panel, Main, SMPS and CD Interface P.C.B.

Step 1 : Connect 7P wire at the connector (CN1101) on the Main P.C.B..
Step 2 : Connect 9P wire at the connector (CN8003) on the Main P.C.B..
Step 3 : Connect 10P FFC at connector (CN5001) on Main P.C.B..
Step 4 : Connect 24P FFC at connector (CN5002) on Main P.C.B..
Step 5 : Connect 10P FFC at the connector (CN8008) on the Main P.C.B..
Step 6 : Connect 5P wire at the connector (CN4300) on the Main P.C.B..
Step 7 : Connect 15P wire at the connector (CN1100) on the Main P.C.B..
Step 8 : Connect 19P FFC at connector (CN8001) on Main P.C.B..
Step 9 : Check Panel, Main, SMPS and CD Interface P.C.B. according to the diagram shown.



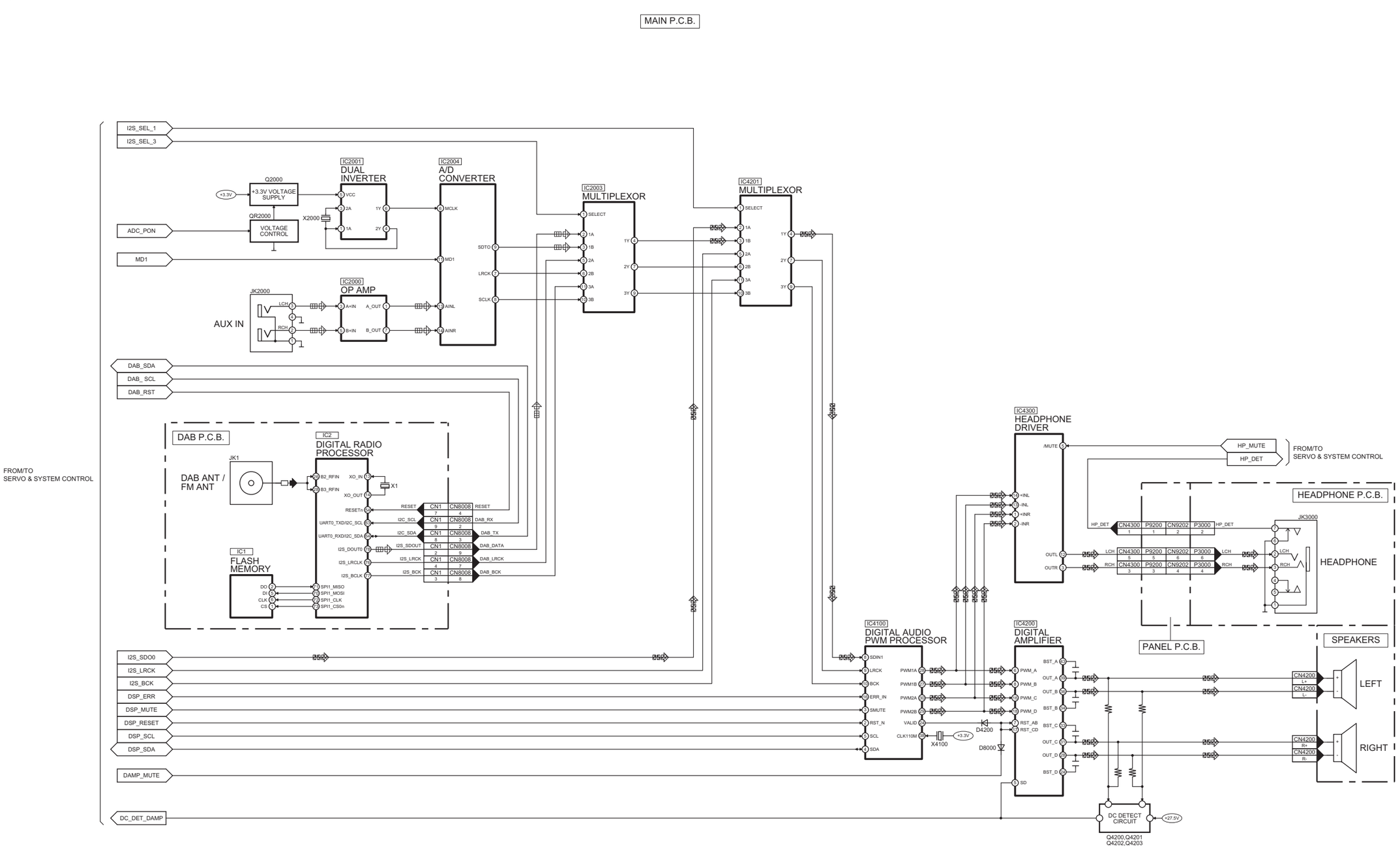
10 Block Diagram

10.1. SERVO & SYSTEM CONTROL BLOCK DIAGRAM



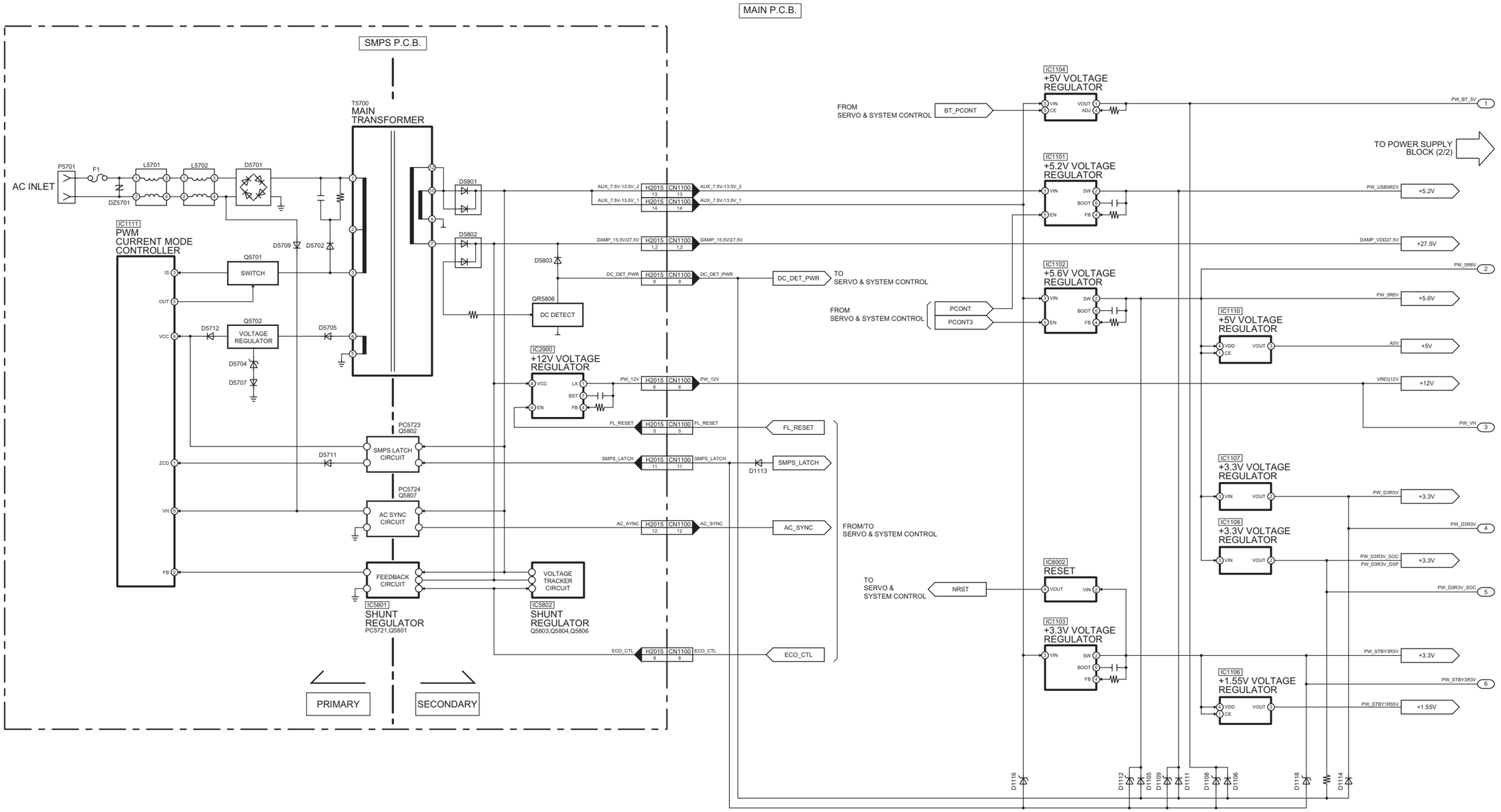
10.2. AUDIO BLOCK DIAGRAM

: TUNER/AUX INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : DAB/FM SIGNAL LINE



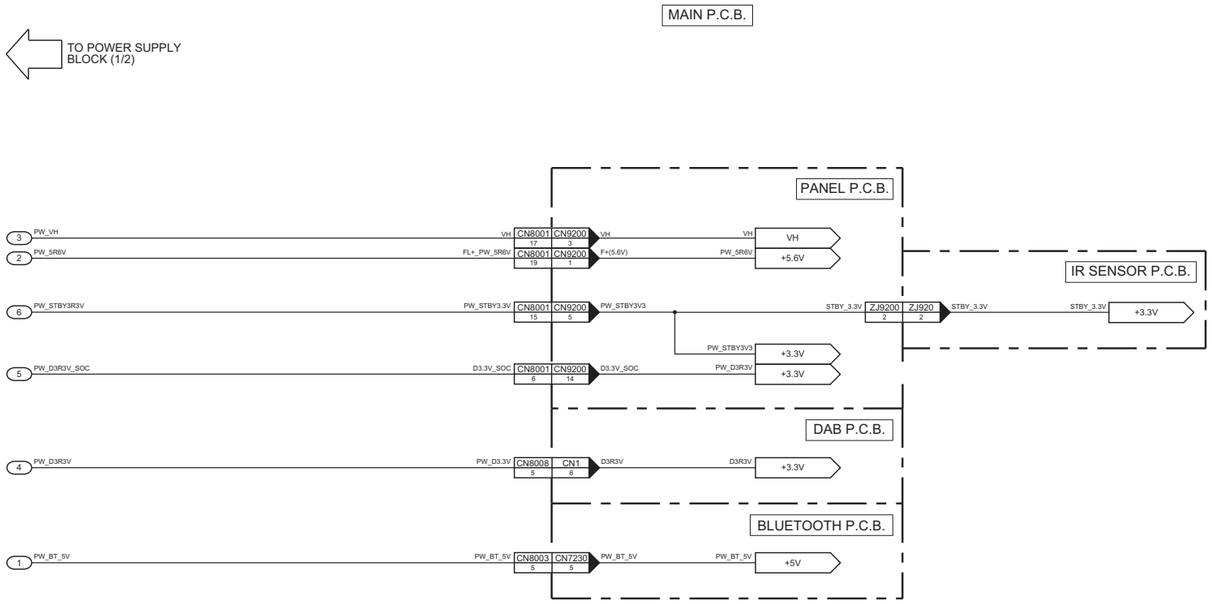
SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG AUDIO BLOCK DIAGRAM

10.3. POWER SUPPLY (1/2) BLOCK DIAGRAM

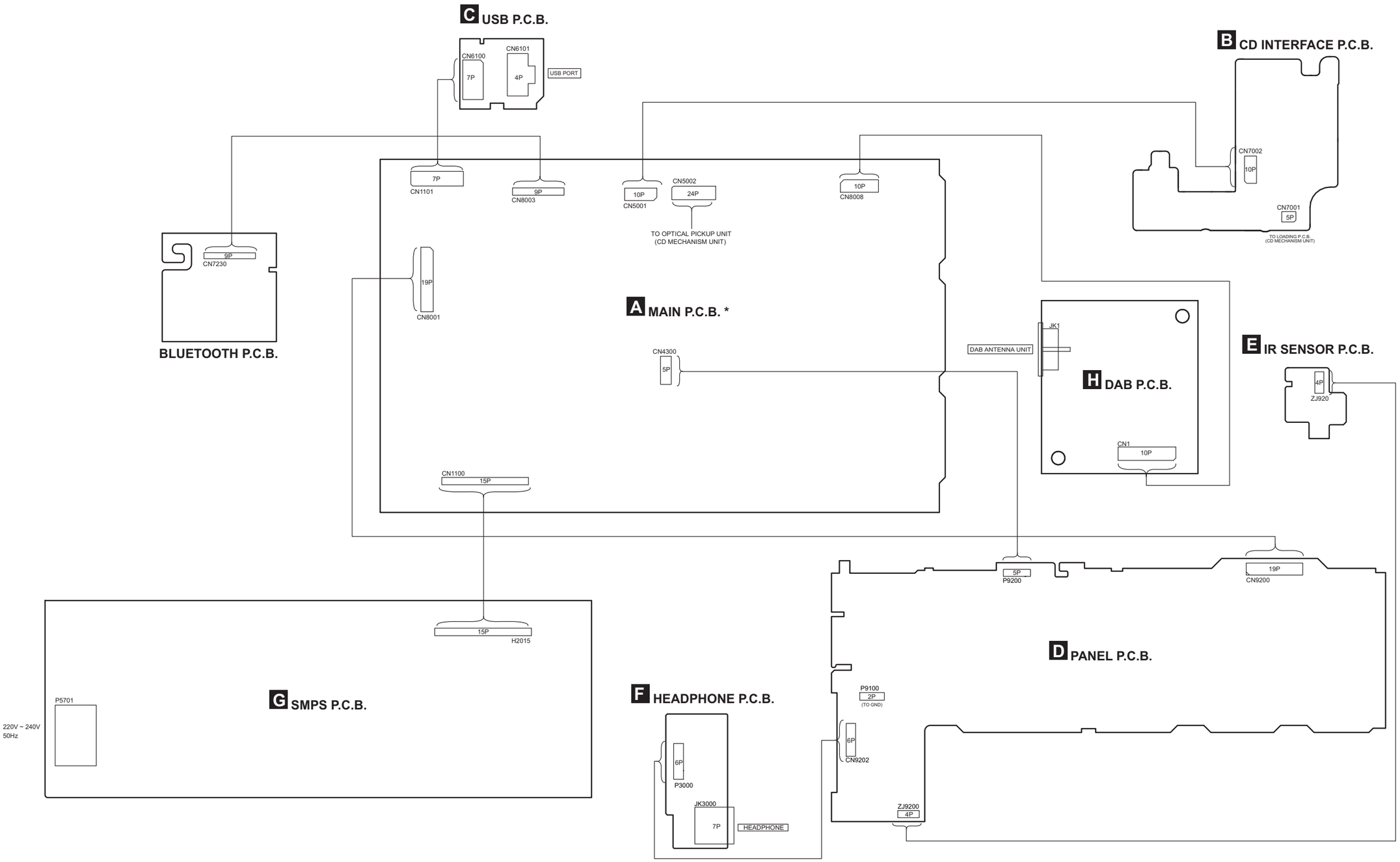


SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG POWER SUPPLY (1/2) BLOCK DIAGRAM

10.4. POWER SUPPLY (2/2) BLOCK DIAGRAM



11 Wiring Connection Diagram



Note : “ * ” REF IS FOR INDICATION ONLY.

SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG
WIRING CONNECTION DIAGRAM

12 Schematic Diagram

12.1. Schematic Diagram Notes

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

Notes:

S7201:	RESET switch.
S9203:	RWD switch (⏮/◀◀).
S9204:	PLAY/PAUSE switch (▶/⏸).
S9205:	FWD switch (▶▶/⏭).
S9206:	BT switch (-PAIRING).
S9207:	STOP switch (■).
S9208:	OPEN/CLOSE switch (⏏).
S9209:	SELECTOR switch.
S9210:	POWER switch (⏻/I).

- 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, C5702, C5704, C5705, C5706

- **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

  : Audio Signal Line

  : USB Signal Line

  : DAB/FM Signal Line

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F1 T3.15A, 250V FUSE

RISK OF FIRE-REPLACE FUSE AS MARKED.

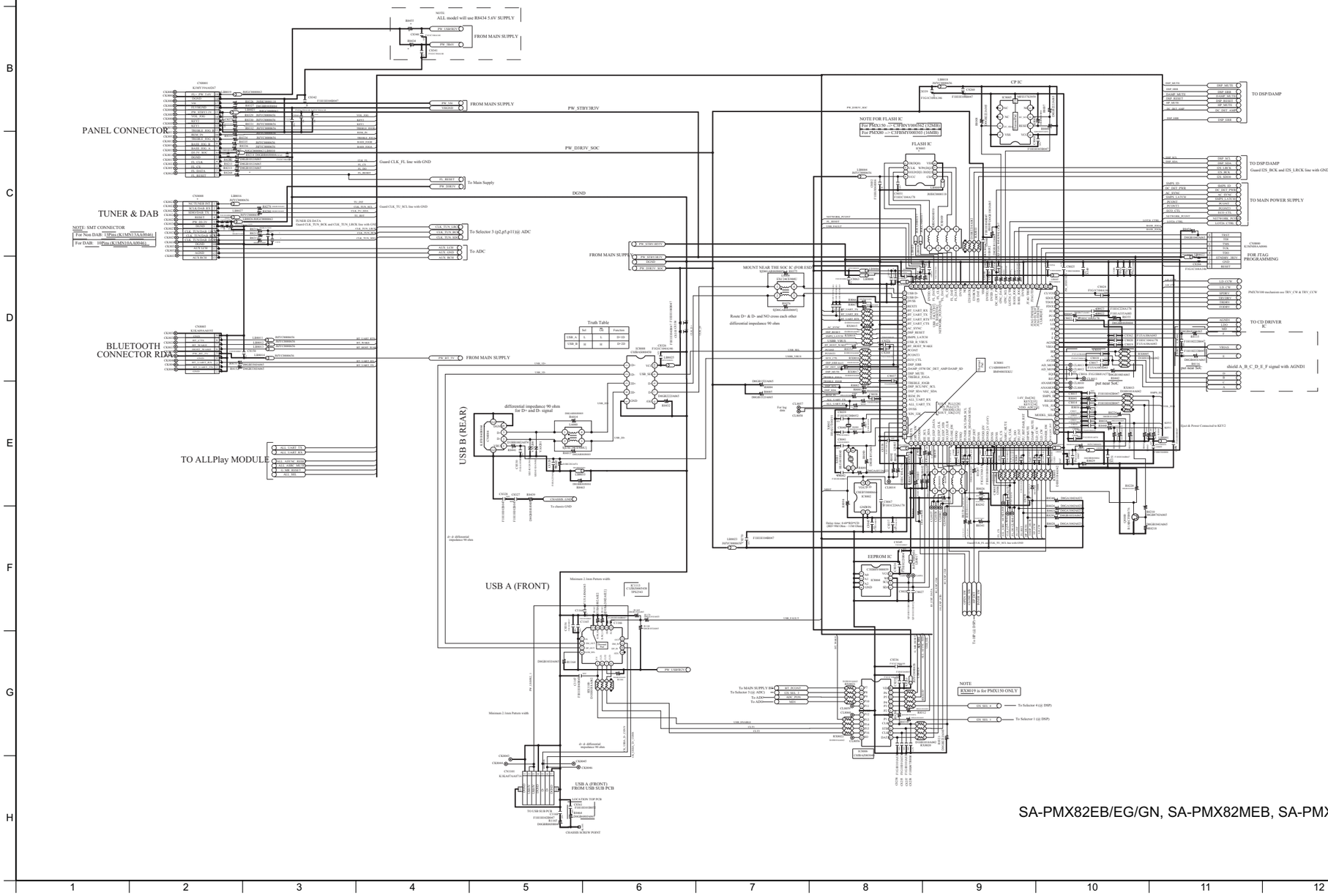
FUSE CAUTION

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

12.2. MAIN (MICON) CIRCUIT

SCHEMATIC DIAGRAM - 1

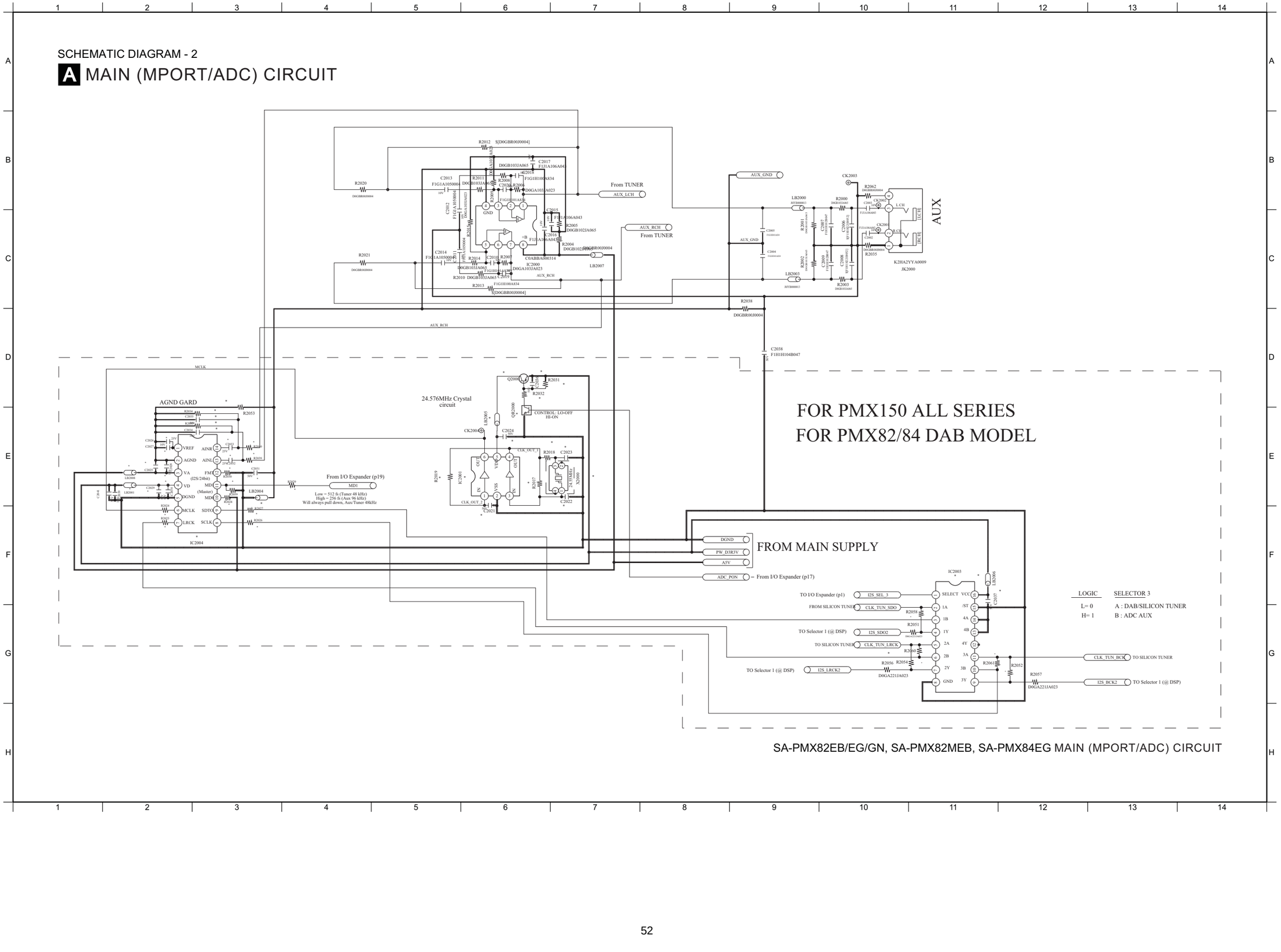
A MAIN (MICON) CIRCUIT



12.3. MAIN (MPORT/ADC) CIRCUIT

SCHEMATIC DIAGRAM - 2

A MAIN (MPORT/ADC) CIRCUIT

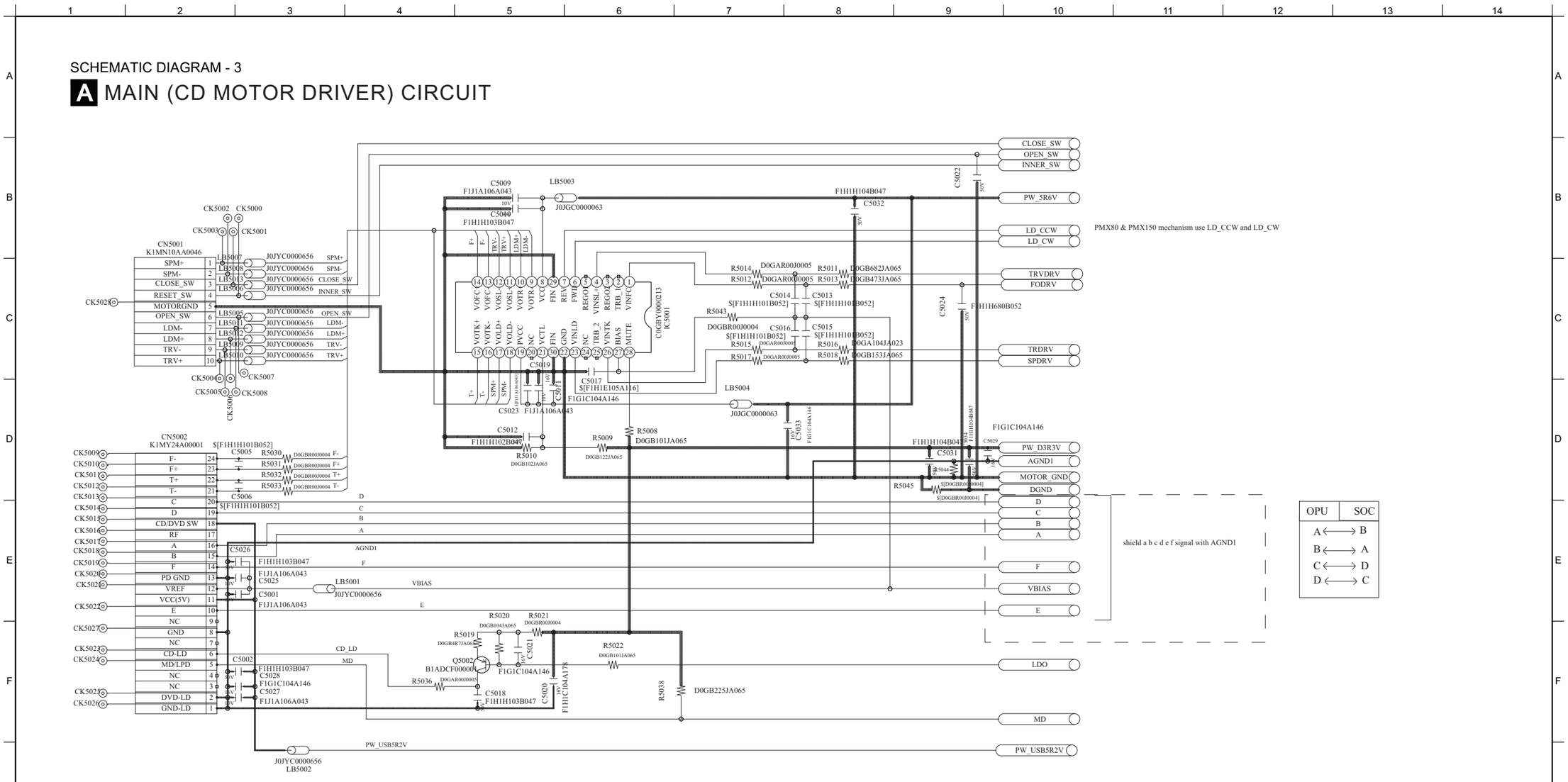


SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG MAIN (MPORT/ADC) CIRCUIT

12.4. MAIN (CD MOTOR DRIVER) CIRCUIT

SCHEMATIC DIAGRAM - 3

A MAIN (CD MOTOR DRIVER) CIRCUIT

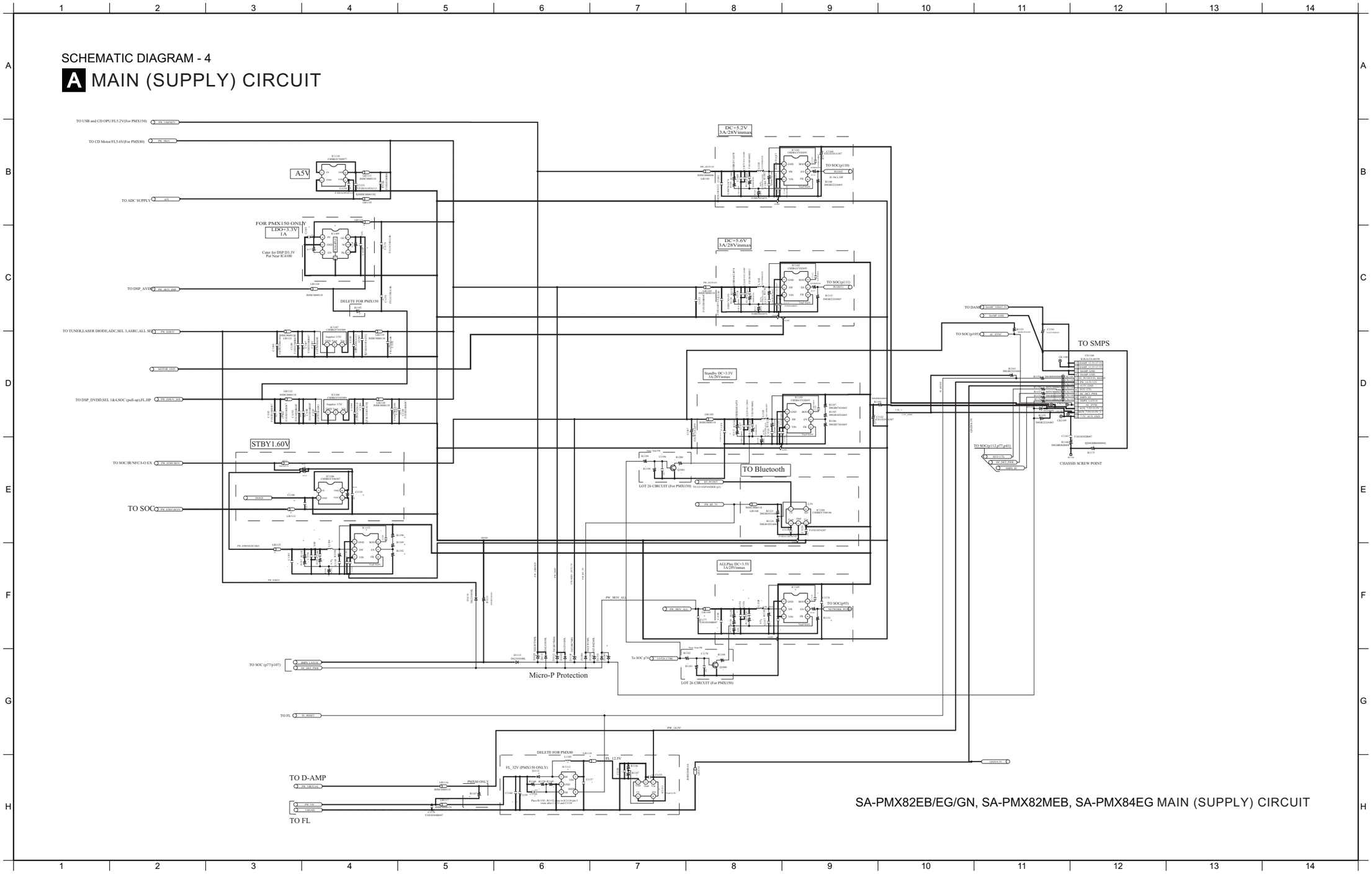


SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG MAIN (CD MOTOR DRIVER) CIRCUIT

12.5. MAIN (SUPPLY) CIRCUIT

SCHEMATIC DIAGRAM - 4

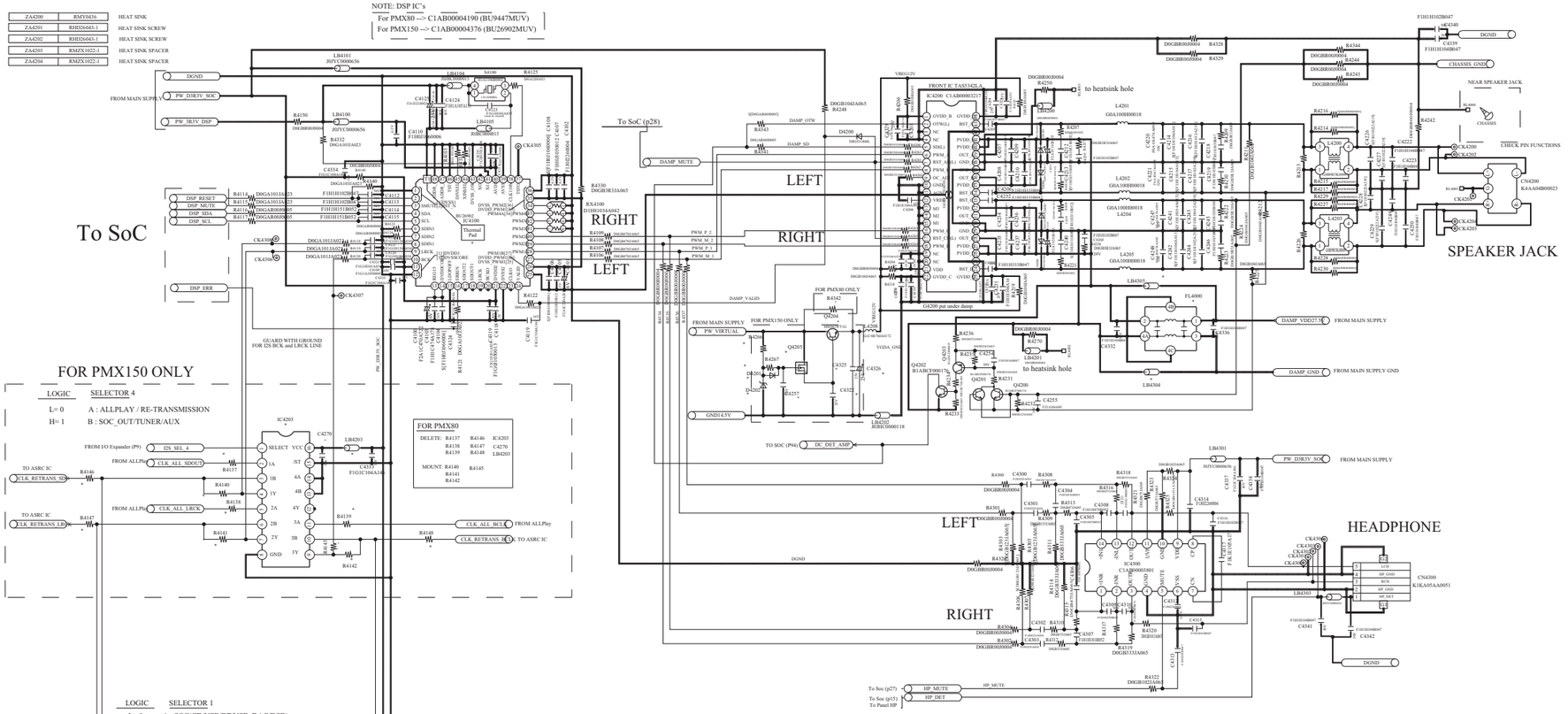
A MAIN (SUPPLY) CIRCUIT



12.6. MAIN (DSP/DAMP/HEADPHONE) CIRCUIT

SCHEMATIC DIAGRAM - 5

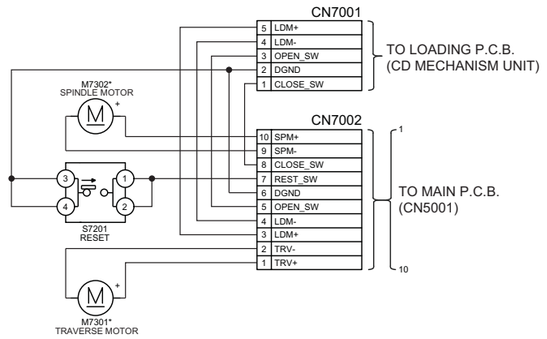
A MAIN (DSP/DAMP/HEADPHONE) CIRCUIT



12.7. CD INTERFACE & USB CIRCUIT

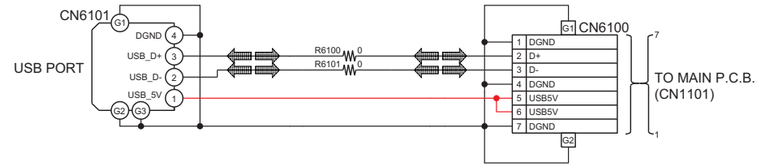
SCHEMATIC DIAGRAM - 6

B CD INTERFACE CIRCUIT



C USB CIRCUIT

: +B SIGNAL LINE : USB SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

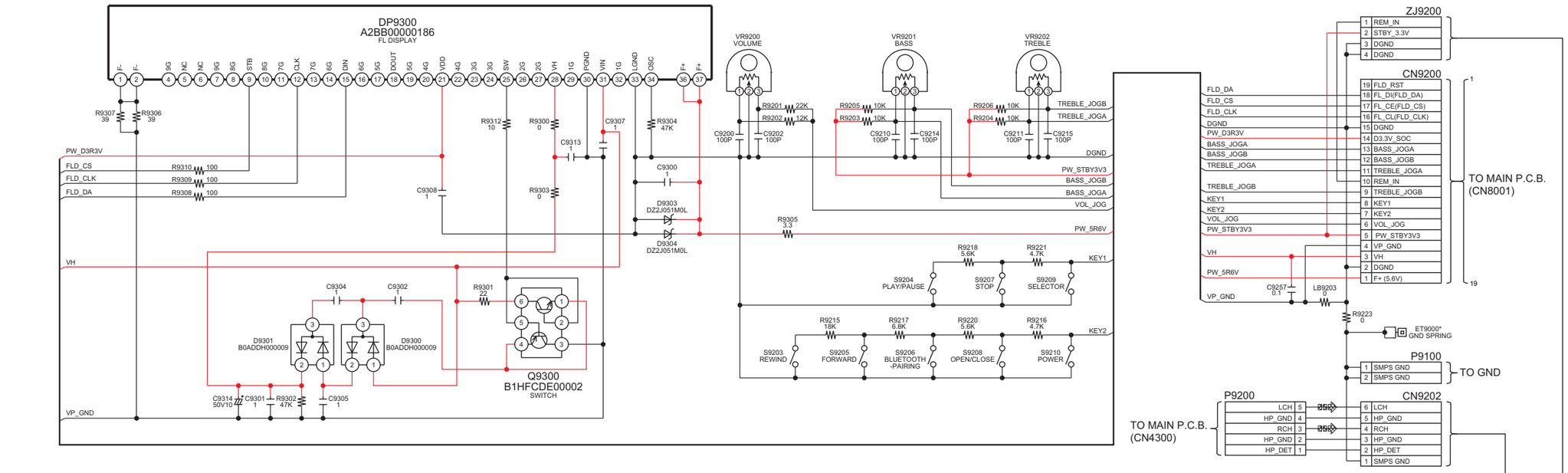
SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG CD INTERFACE / USB CIRCUIT

12.8. PANEL, IR SENSOR & HEADPHONE CIRCUIT

SCHEMATIC DIAGRAM - 7

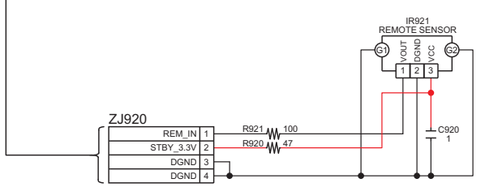
D PANEL CIRCUIT

—— : +B SIGNAL LINE : AUDIO SIGNAL LINE



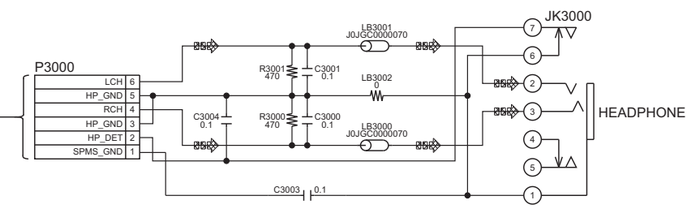
E IR SENSOR CIRCUIT

—— : +B SIGNAL LINE



F HEADPHONE CIRCUIT

 : AUDIO SIGNAL LINE



NOTE: “ * ” REF IS FOR INDICATION ONLY

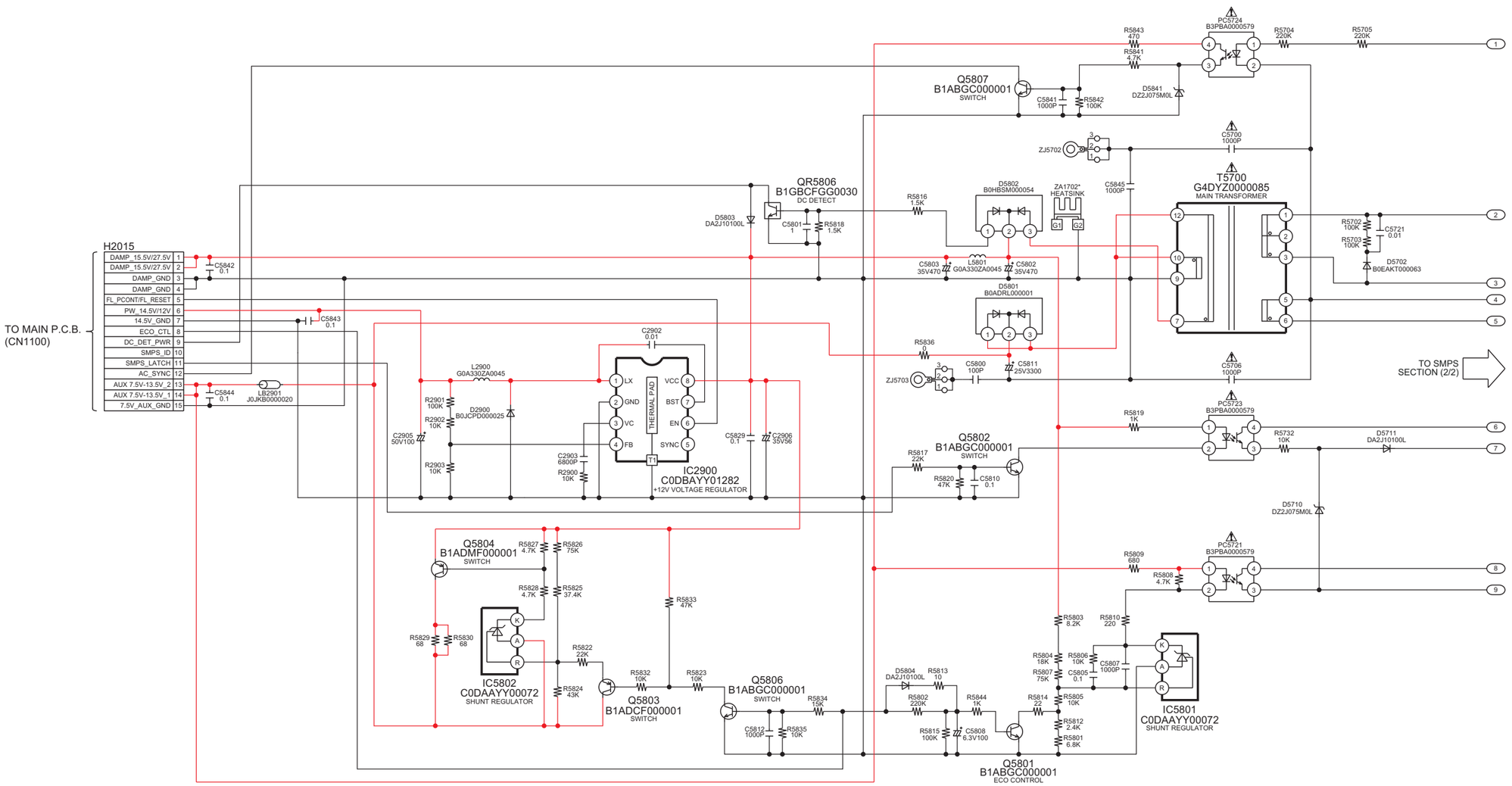
SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG PANEL / IR SENSOR / HEADPHONE CIRCUIT

12.9. SMPS CIRCUIT (1/2)

SCHEMATIC DIAGRAM - 8

G SMPS CIRCUIT

—— : +B SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

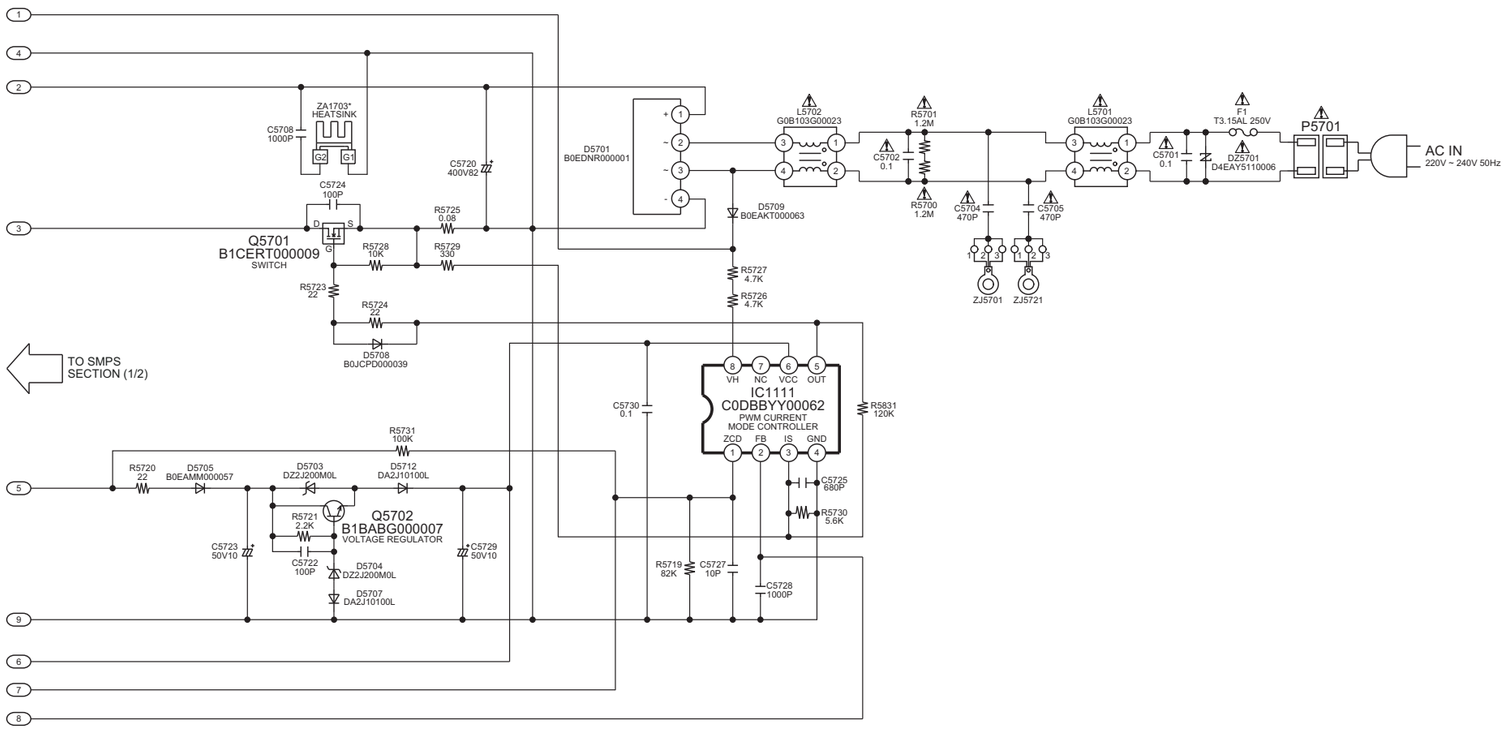
1/2 2/2 SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG SMPS CIRCUIT

12.10. SMPS CIRCUIT (2/2)

SCHEMATIC DIAGRAM - 9

G SMPS CIRCUIT

—— : +B SIGNAL LINE



NOTE: “ * ” REF IS FOR INDICATION ONLY

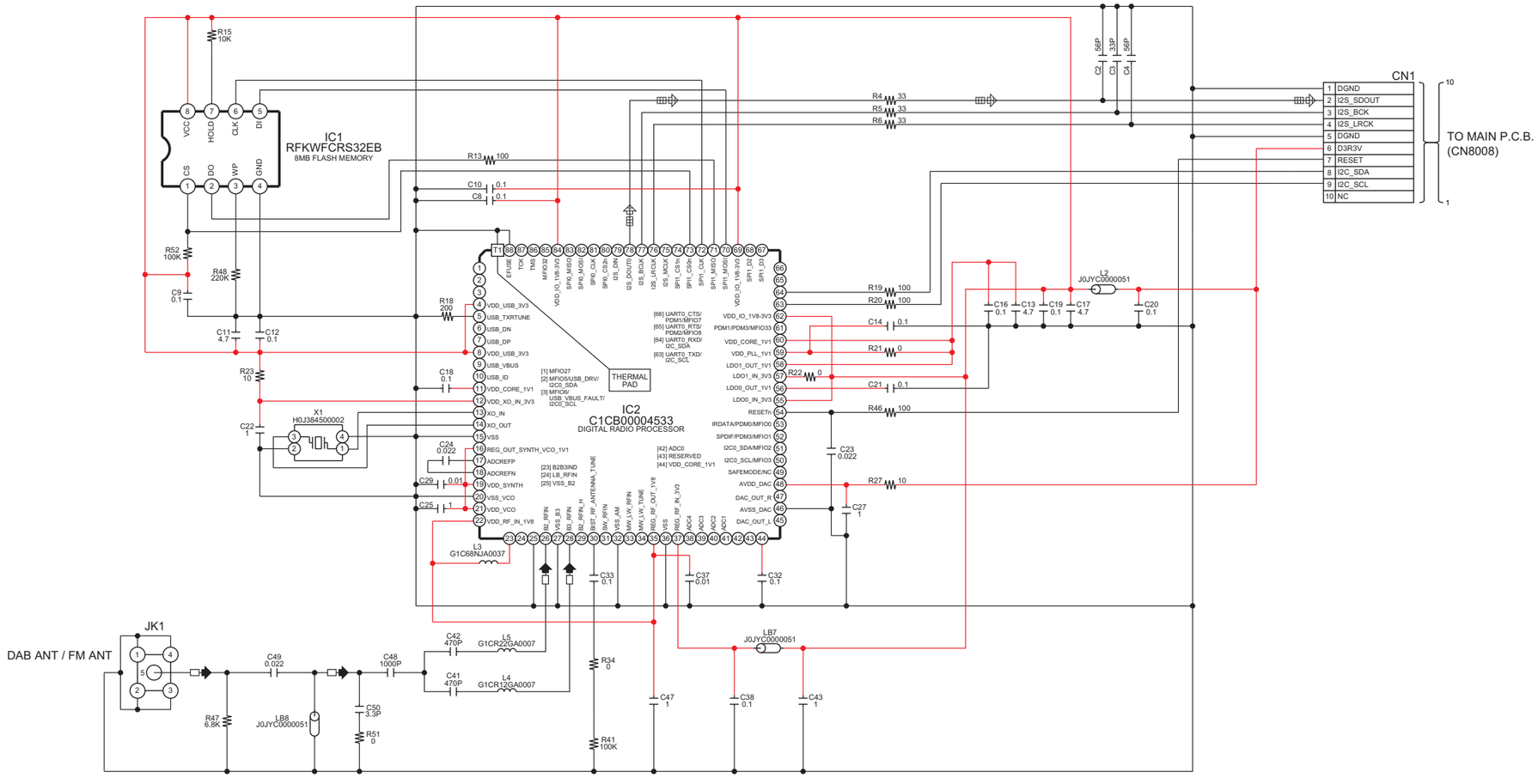
1/2 2/2 SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG SMPS CIRCUIT

12.11. DAB CIRCUIT

SCHEMATIC DIAGRAM - 10

H DAB CIRCUIT

—— : +B SIGNAL LINE : TUNER SIGNAL LINE : DAB/FM SIGNAL LINE

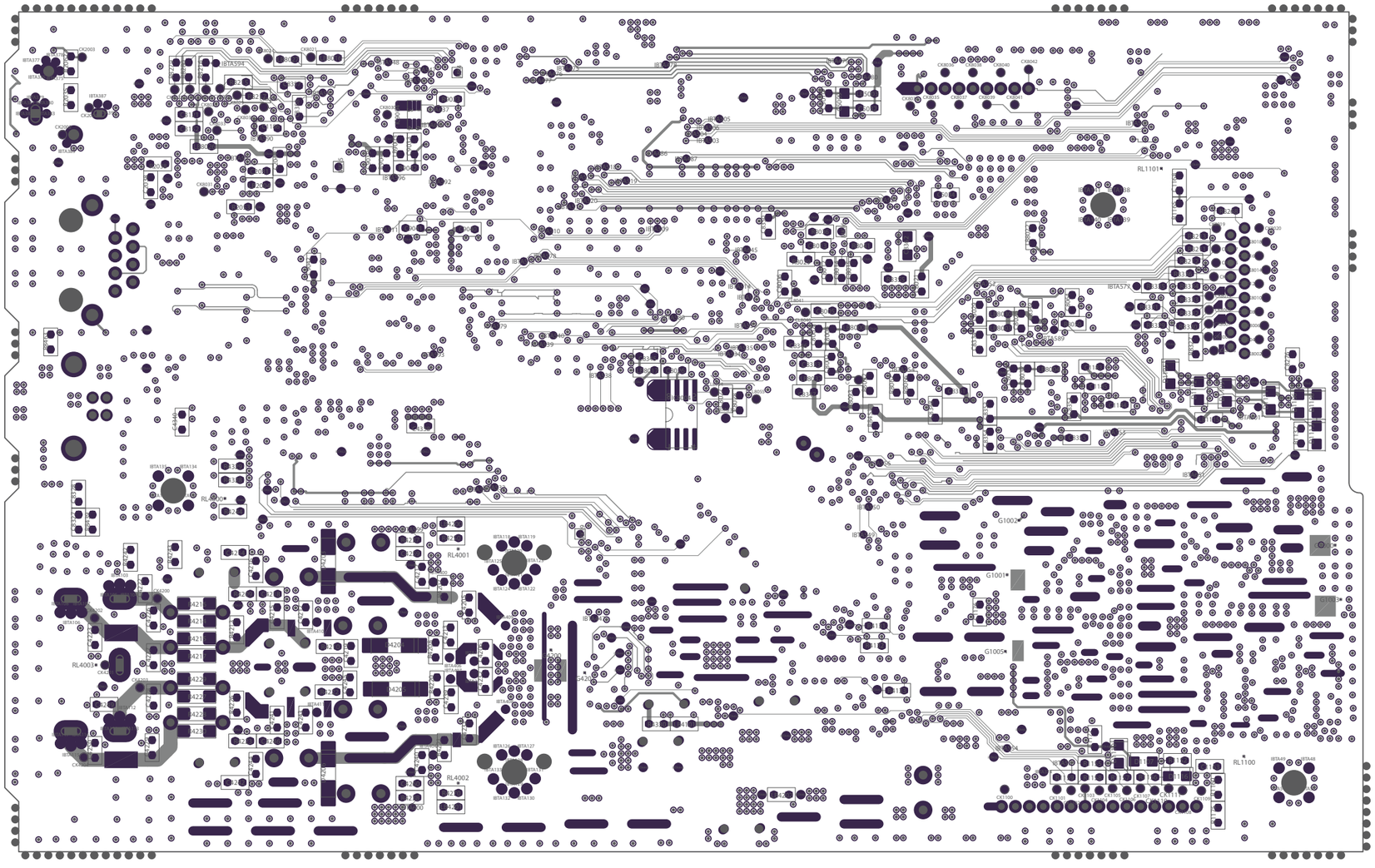


SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG DAB CIRCUIT

13 Printed Circuit Board

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

A MAIN P.C.B. (TNPA6413AD...PMX82EB/GN, TNPA6413AM...PMX82MEB, TNPA6413AE...PMX82EG, TNPA6413AF...PMX84EG)

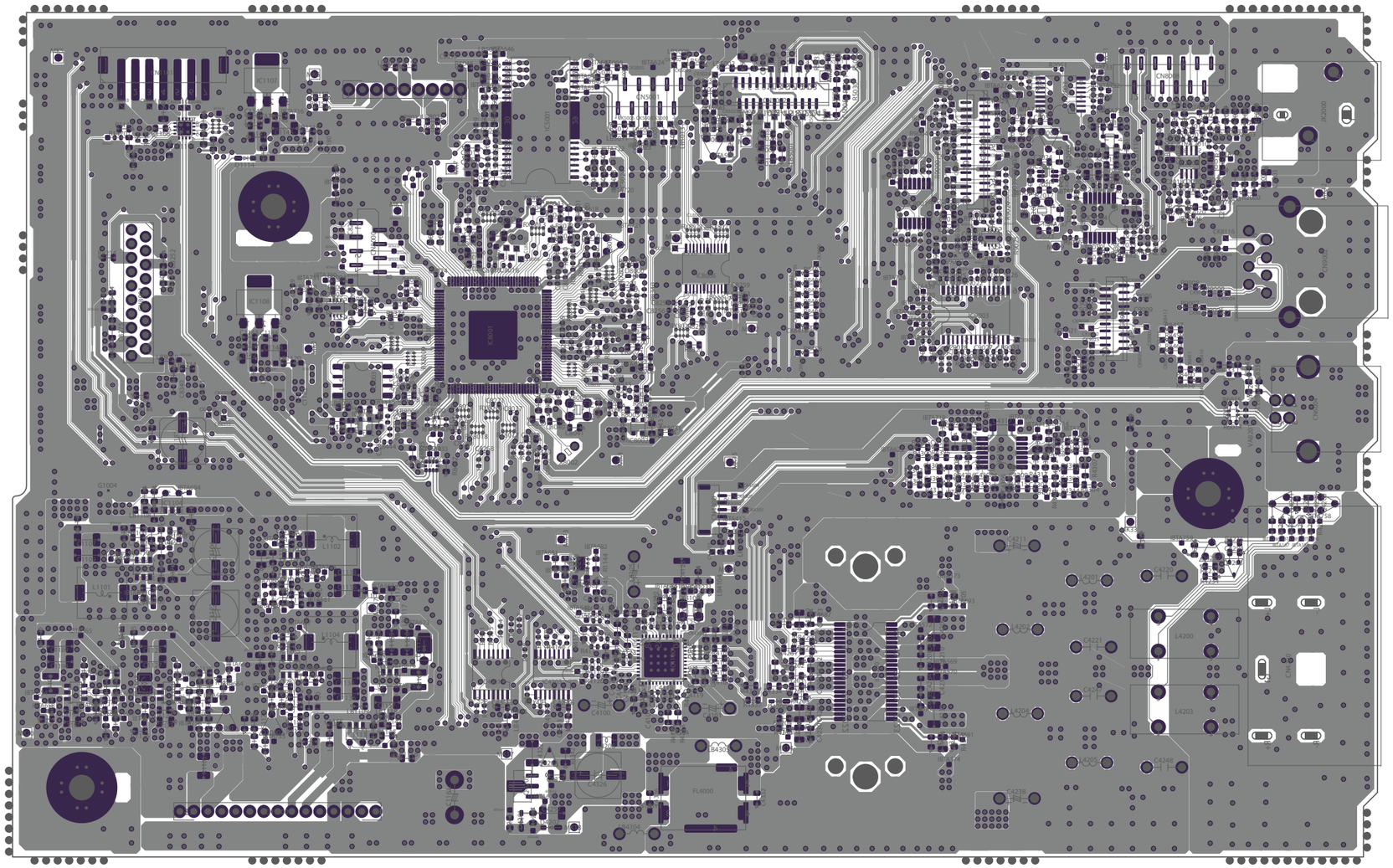


(SIDE A)

SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG
MAIN P.C.B.

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

A MAIN P.C.B. (TNPA6413AD...PMX82EB/GN, TNPA6413AM...PMX82MEB, TNPA6413AE...PMX82EG, TNPA6413AF...PMX84EG)

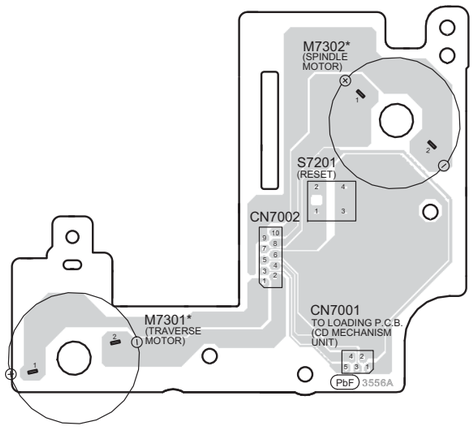


(SIDE B)

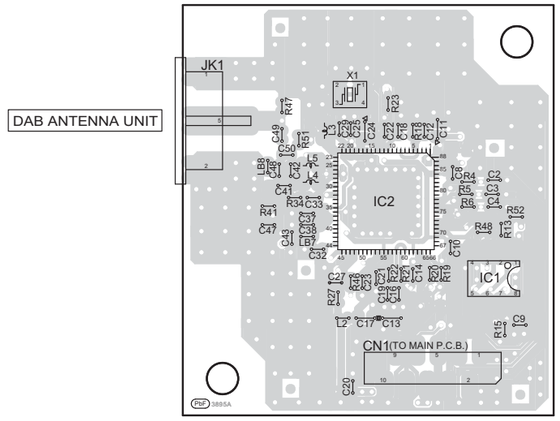
SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG
MAIN P.C.B.

13.3. CD INTERFACE, USB, HEADPHONE & DAB P.C.B.

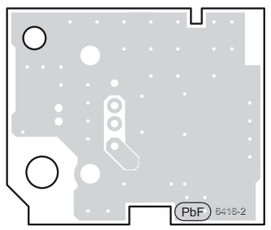
B CD INTERFACE P.C.B. (REP4945B)



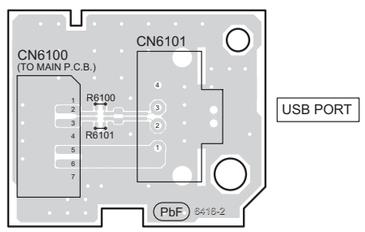
H DAB P.C.B. (REP5310A)



C USB P.C.B. (TNPA6416AD...PMX82EB/GN, TNPA6416AM...PMX82MEB, TNPA6416AE...PMX82EG, TNPA6416AF...PMX84EG)

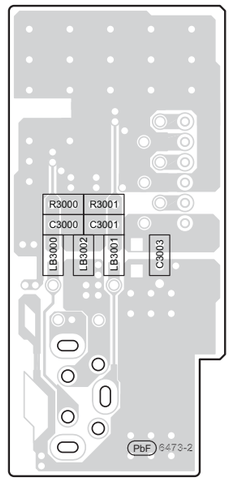


(SIDE A)

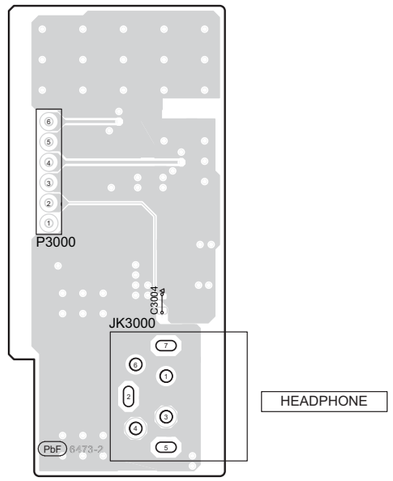


(SIDE B)

F HEADPHONE P.C.B. (TNPA6473AD...PMX82EB/GN, TNPA6473AM...PMX82MEB, TNPA6473AE...PMX82EG, TNPA6473AF...PMX84EG)



(SIDE A)



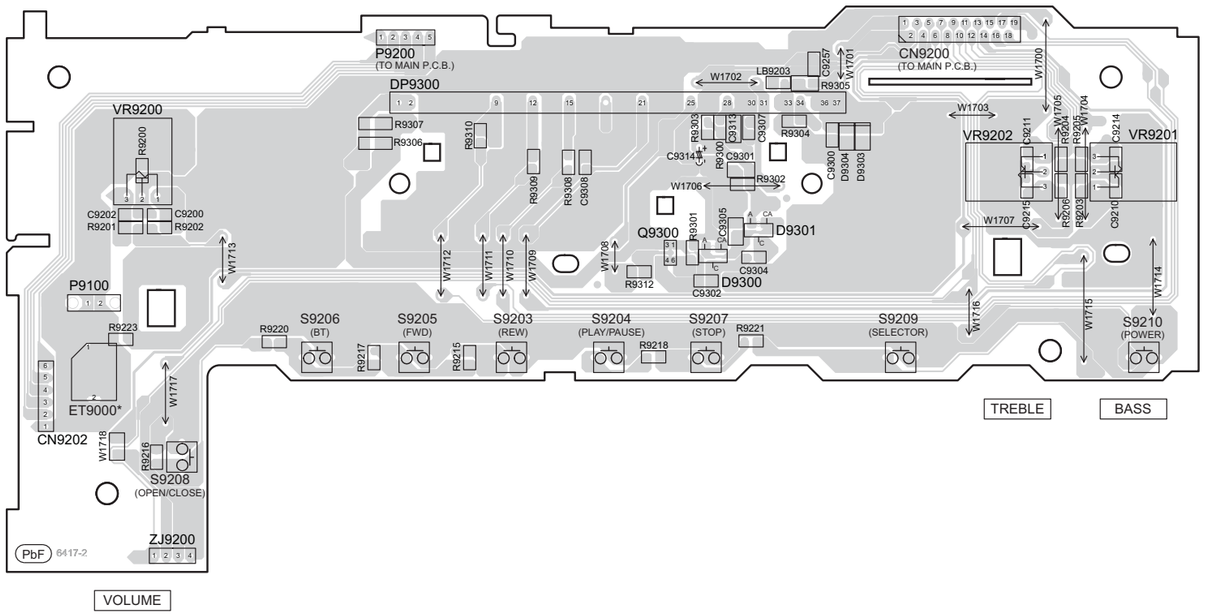
(SIDE B)

NOTE: " * " REF IS FOR INDICATION ONLY

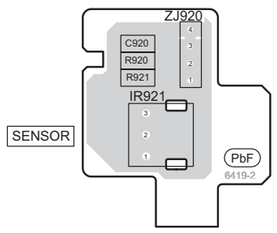
SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG
CD INTERFACE / USB / HEADPHONE / DAB P.C.B.

13.4. PANEL & IR SENSOR P.C.B.

D PANEL P.C.B. (TNPA6417)



E IR SENSOR P.C.B. (TNPA6419)

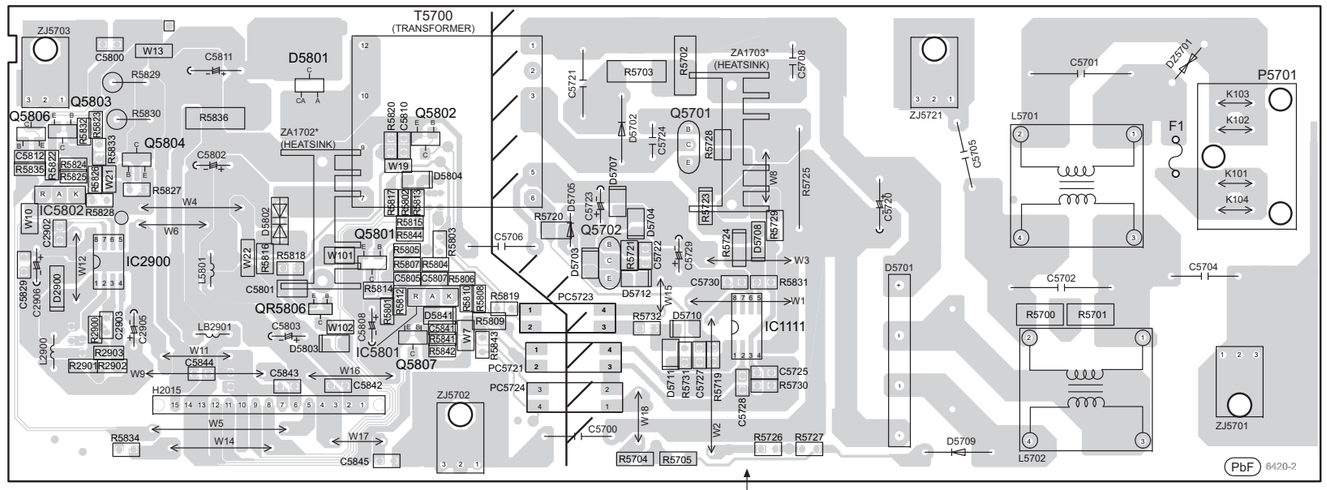


NOTE: " * " REF IS FOR INDICATION ONLY

SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG
PANEL / IR SENSOR P.C.B.

13.5. SMPS P.C.B.

G SMPS P.C.B. (TNPA6420)



NOTE: " * " REF IS FOR INDICATION ONLY

SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG
SMPS P.C.B.

14 Voltage Measurement

Note:

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
  Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
- Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point because it may differ from actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

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

REF NO.	IC1101																			
MODE	1	2	3	4	5	6														
POWER ON	0	5.2	13	0.66	2.97	10.14														

REF NO.	IC1102																			
MODE	1	2	3	4	5	6														
POWER ON	0	5.66	13	0.6	2.97	11.7														

REF NO.	IC1103																			
MODE	1	2	3	4	5	6														
POWER ON	0	3.3	13	0.6	2.97	9.6														

REF NO.	IC1104																			
MODE	1	2	3	4	5															
POWER ON	5	3	11.78	2.513	3.3															

REF NO.	IC1106																			
MODE	1	2	3	4																
POWER ON	3.3	0	1.6	3.3																

REF NO.	IC1107																			
MODE	1	2	3																	
POWER ON	0	3.3	5.6																	

REF NO.	IC1108																			
MODE	1	2	3																	
POWER ON	0	3.3	5.6																	

REF NO.	IC1110																			
MODE	1	2	3	4																
POWER ON	5.6	0	5	5.6																

REF NO.	IC8001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
POWER ON	3.29	3.26	3.29	3.29	3.29	0.01	3.29	3.29	3.22	0	3.29	0	0	3.29	0	0	3.29	1.6	0	0

REF NO.	IC8001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
POWER ON	2.95	3.29	0.25	1.13	3.29	3.29	0.02	3.29	0	0	3.29	0.13	3.29	3.28	3.23	1.48	1.77	-	3.28	0.62

REF NO.	IC8001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
POWER ON	1.48	0	0	0	1.07	1.08	0	0	3.21	1.60	1.60	1.60	0	1.60	1.60	0	3.27	0.01	0.49	1.49

REF NO.	IC8001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
POWER ON	1.60	1.60	1.60	1.60	0.01	0	0.98	0.98	0.98	3.26	0	3.29	3.29	3.28	3.31	3.31	3.28	3.29	3.29	0

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

REF NO.	IC8001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
POWER ON	0	1.65	1.64	3.28	0	3.11	1.03	3.02	3.11	0.12	0.12	1.48	3.16	3.16	3.15	3.29	0	0	0	0

REF NO.	IC8001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
POWER ON	3.15	3.28	0	0	1.75	3.25	0	0	0	3.15	3.15	0	0	3.24	0	0	3.29	0	0	3.26

REF NO.	IC8001																			
MODE	121	122	123	124	125	126	127	128												
POWER ON	0.85	0	0	0	1.62	0.85	1.41	1.51												

SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG MAIN P.C.B.

14.3. SMPS & PANEL P.C.B.

REF NO.	IC1111																			
MODE	1	2	3	4	5	6	7	8												
POWER ON	0	0.47	0	0	0	19.47	-	110.7												

REF NO.	IC2900																			
MODE	1	2	3	4	5	6	7	8												
POWER ON	12.17	0	1.276	1	0	3	16.93	27.52												

REF NO.	IC5801																			
MODE	R	A	K																	
POWER ON	2.48	0	11.59																	

REF NO.	IC5802																			
MODE	R	A	K																	
POWER ON	14.78	13.16	26.86																	

REF NO.	Q5701				Q5702				Q5801				Q5802				Q5803			
MODE	G	D	S		B	C	E		B	C	E		B	C	E		B	C	E	
POWER ON	0	365	0		21.64	20.22	19.65		6	0	0.7		0	26.84	0		12.5	13.12	13.17	

REF NO.	Q5804				Q5806				Q5807				QR5806							
MODE	B	C	E		B	C	E		B	C	E		B	C	E					
POWER ON	27.19	13.17	27.52		0	0	0.6		0.33	1.7	0		0	3.3	0					

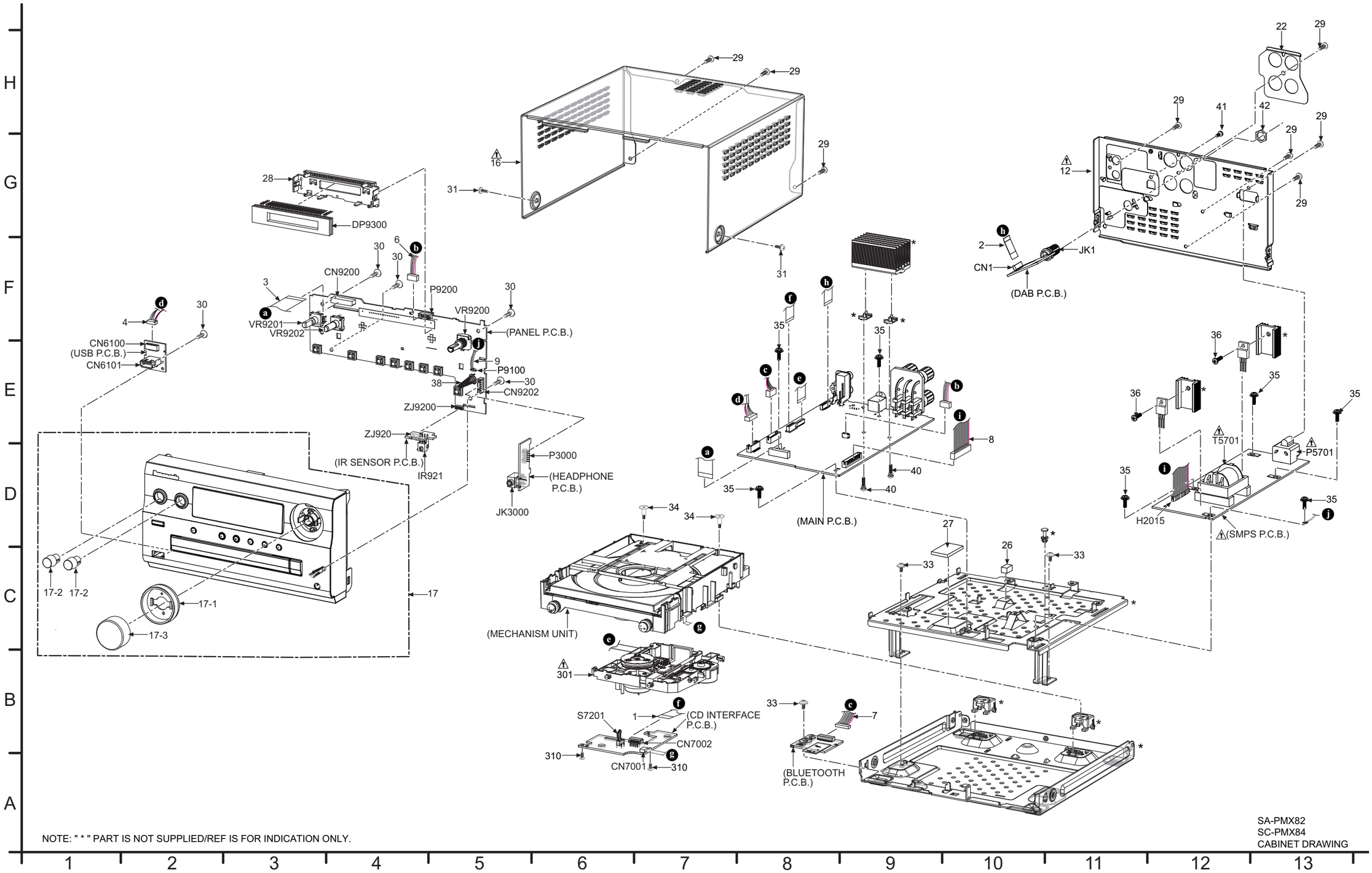
SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG SMPS P.C.B.

REF NO.	Q9300																			
MODE	1	2	3	4	5	6														
POWER ON	6	6	0	6	6	11.72														

SA-PMX82EB/EG/GN, SA-PMX82MEB, SA-PMX84EG PANEL P.C.B.

15 Exploded View and Replacement Parts List

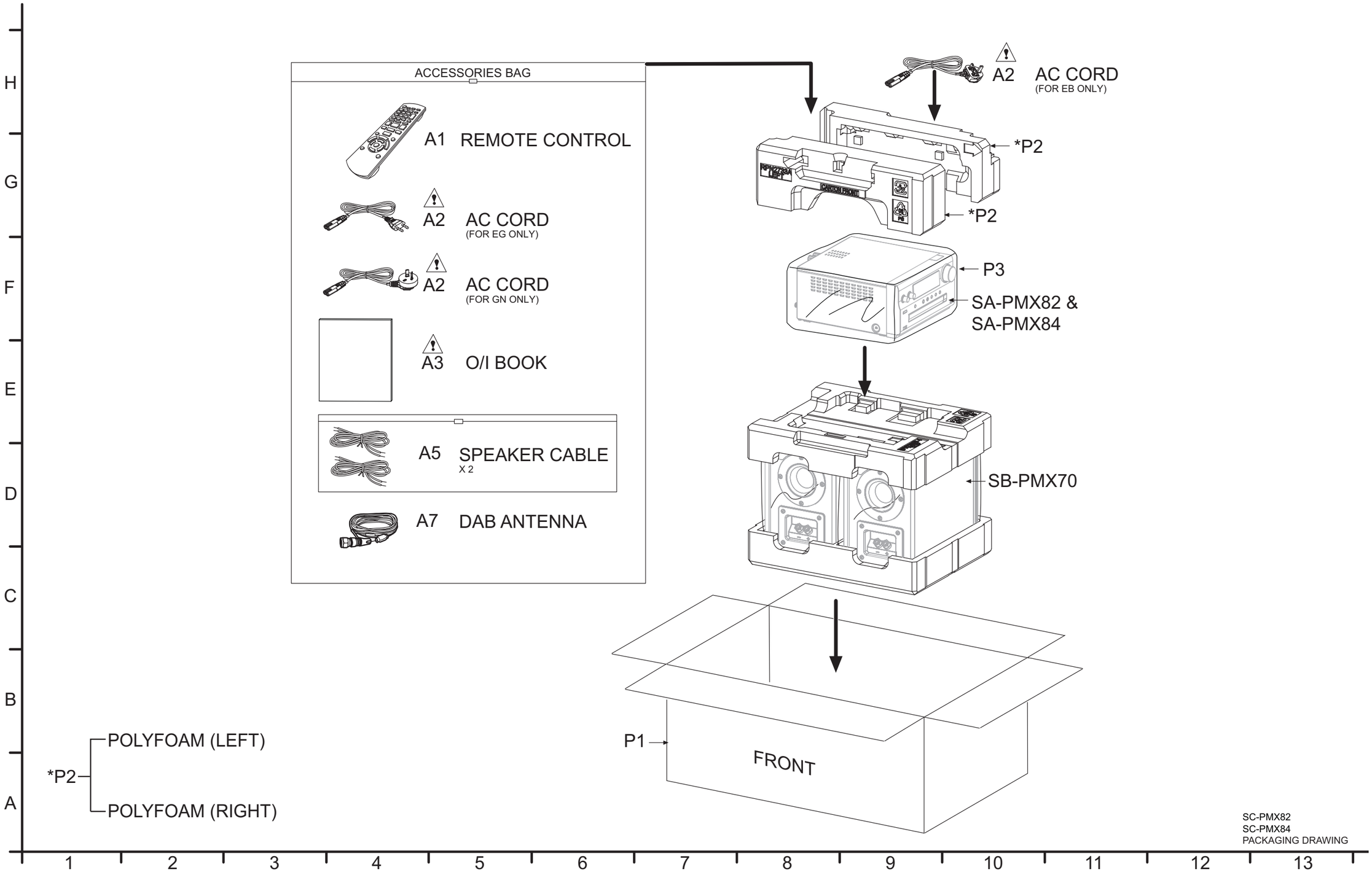
15.1. Cabinet Parts Location



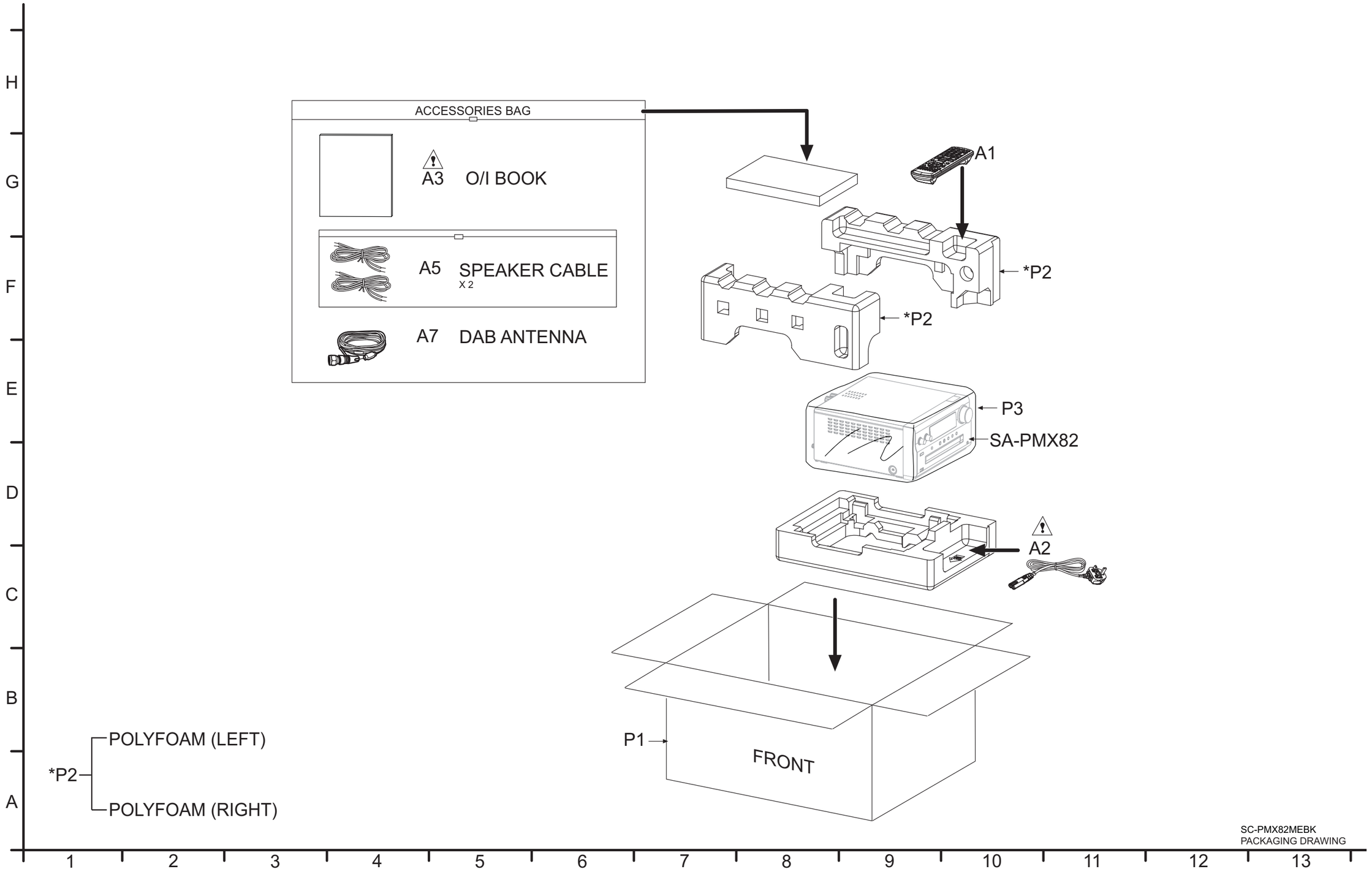
NOTE: " * " PART IS NOT SUPPLIED/REF IS FOR INDICATION ONLY.

SA-PMX82
SC-PMX84
CABINET DRAWING

15.2. Packaging (For SC-PMX82/SC-PMX84)



15.3. Packaging (For SC-PMX82M)



15.4. Mechanical Replacement Parts List

Important Safety Notice

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

RTL (Retention Time Limited)

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

Note:

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

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

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			CABINET AND CHASSIS		
	1	TZH3QEZ003	10P FFC WIRE (MECHA-MAIN)	1	
	2	TZH3QEZ011	10P FFC (DAB-MAIN)	1	
	3	TZH3QKZ012	19P FFC (PANEL-MAIN)	1	
	4	REX1823	7P WIRE (USB-MAIN)	1	
	6	TNMX030	5P WIRE (PANEL-MAIN)	1	
	7	REX1827-1	9P WIRE (BLUE-TOOTH-MAIN)	1	
	8	REX1526	15P WIRE (SMPS-MAIN)	1	
	9	REX1541	2P WIRE (SMPS-PANEL)	1	
⚠	12	RGR0474J-A	REAR CABINET	1	82EGK, 82EGS, 82EBK
⚠	12	RGR0474J-B	REAR CABINET	1	82GNS
⚠	12	RGR0474J-C	REAR CABINET	1	82MEBK
⚠	12	RGR0474J-D	REAR CABINET	1	84EGK, 84EGS
⚠	16	RKM0766-K	TOP CABINET	1	82EGK, 82EBK, 82MEBK, 84EGK

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
⚠	16	RKM0766-S	TOP CABINET	1	82EGS, 82GNS, 84EGS
	17	RYP2063J-K	FRONT PANEL ASS'Y	1	82EGK, 82EBK
	17	RYP2063J-S	FRONT PANEL ASS'Y	1	82EGS, 82GNS
	17	RYP2063L-K	FRONT PANEL ASS'Y	1	82MEBK
	17	RYP2063K-K	FRONT PANEL ASS'Y	1	84EGK
	17	RYP2063K-S	FRONT PANEL ASS'Y	1	84EGS
	17-1	RGK2605-K	VOLUME RING ORNAMENT	1	82EGK, 82EBK, 82MEBK, 84EGK
	17-1	RGK2605-S	VOLUME RING ORNAMENT	1	82EGS, 82GNS, 84EGS
	17-2	RGW0458-K	TUNE KNOB	2	82EGK, 82EBK, 82MEBK, 84EGK
	17-2	RGW0458-S	TUNE KNOB	2	82EGS, 82GNS, 84EGS
	17-3	RGW0431-S	VOLUME KNOB ASS'Y	1	82EGS, 82GNS, 84EGS
	17-3	RGW0431-K	VOLUME KNOB ASS'Y	1	82EGK, 82EBK, 82MEBK, 84EGK
	22	TEKX073	PC SHEET	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	26	RSC1097	D-AMP HEAT ABSORBER	1	
	27	RSC1305	THERMAL PAD	1	
	28	RMN1049-1	FL HOLDER	1	
	29	XTB3+8JFJ	SCREW	8	
	30	RHD26046-L	SCREW	5	
	31	RHD30007-1SJ	SCREW	2	82EGS, 82GNS, 84EGS
	31	RHD30007-K2J	SCREW	2	82EGK, 82EBK, 82MEBK, 84EGK
	33	RHD30111-31	SCREW	3	
	34	RHDX031008	SCREW	2	
	35	RHDX30005-J	SCREW	7	
	36	XTB3+8JFJ-J	SCREW	2	
	38	RMN1115	GROUND SPRING	1	
	40	RHD26043-1	SCREW	2	
	41	XYN3+C8FJK	SCREW	1	
	42	RHN95002	DAB NUT	1	
			TRAVERSE DECK		
⚠	301	TXQ0011	TRAVERSE ASS'Y	1	(E.S.D)
	310	XTN2+6GFJ	SCREW	2	
			PACKING MATERI-ALS		
	P1	TPCD58401	PACKING CASE	1	82EGS
	P1	TPCD58501	PACKING CASE	1	82EGK
	P1	TPCD59001	PACKING CASE	1	82EBK
	P1	TPCD59101	PACKING CASE	1	82GNS
	P1	TPCD59201	PACKING CASE	1	82MEBK
	P1	TPCD59301	PACKING CASE	1	84EGK
	P1	TPCD59401	PACKING CASE	1	84EGS
	P2	RPN2733-2	POLYFOAM	1	
	P2	TPH0062	POLYFOAM	1	82MEBK
	P3	RPFX1012-1	MIRAMAT BAG	1	
			ACCESSORIES		
	A1	N2QAYB001101	REMOTE CONTROL	1	
⚠	A2	K2CT2YY00089	AC CORD	1	82EBK/ MEBK
⚠	A2	K2CJ2YY00084	AC CORD	1	82GNS
⚠	A2	K2CQ2YY00107	AC CORD	1	82EGK, 82EGS, 84EGK, 84EGS
⚠	A3	TQBJ0997	O/I BOOK (En)	1	82MEBK
⚠	A3	TQBJ0999	O/I BOOK (En)	1	82EBK, 82GNS
⚠	A3	TQBJ2001	O/I BOOK (Ge/It/ Fr/Du)	1	82EGK, 84EGK, 84EGS
⚠	A3	TQBJ2002	O/I BOOK (Da/Sw/ Fi)	1	82EGK, 82EGS
	A5	REE1713	SPEAKER CABLE	2	
	A7	N1CYYYY00022	DAB ANTENNA	1	

15.5. Electrical Replacement Parts List

Important Safety Notice

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

RTL (Retention Time Limited)

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

Note:

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

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

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			PRINTED CIRCUIT BOARDS		
	PCB1	TNPA6413AD	MAIN P.C.B	1	82EBK, 82GNS
	PCB1	TNPA6413AM	MAIN P.C.B	1	82MEBK
	PCB1	TNPA6413AE	MAIN P.C.B	1	82EGK, 82EGS
	PCB1	TNPA6413AF	MAIN P.C.B	1	84EGK, 84EGS
			INTEGRATED CIR-CUITS		
	IC1101	C0DBAYY02695	IC	1	(E.S.D)
	IC1102	C0DBAYY02695	IC	1	(E.S.D)
	IC1103	C0DBAYY02695	IC	1	(E.S.D)
	IC1104	C0DBEYY00146	IC	1	(E.S.D)
	IC1106	C0DBGYY06507	IC	1	(E.S.D)
	IC1107	C0DBGYY03909	IC	1	(E.S.D)
	IC1108	C0DBGYY03909	IC	1	(E.S.D)
	IC1110	C0DBGYY00977	IC	1	(E.S.D)
	IC8001	C1AB00004475	IC	1	(E.S.D)
			PRINTED CIRCUIT BOARDS		
	PCB2	TNPA6415AD	BLUETOOTH PCB		82EBK, 82GNS
	PCB2	TNPA6415AM	BLUETOOTH PCB		82MEBK
	PCB2	TNPA6415AE	BLUETOOTH PCB		82EGK, 82EGS
	PCB2	TNPA6415AF	BLUETOOTH PCB		84EGK, 84EGS

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			PRINTED CIRCUIT BOARD		
	PCB3	TNPA6416AD	USB P.C.B	1	(RTL) 82EBK, 82GNS
	PCB3	TNPA6416AM	USB P.C.B	1	(RTL) 82MEBK
	PCB3	TNPA6416AE	USB P.C.B	1	(RTL) 82EGK, 82EGS
	PCB3	TNPA6416AF	USB P.C.B	1	(RTL) 84EGK, 84EGS
			CONNECTORS		
	CN6100	K1KA07BA0047	7P CONNECTOR	1	
	CN6101	K1FY104A0015	USB CONNECTOR	1	
			RESISTOR		
	R6100	D0GAR00J0005	0 1/16W	1	
	R6101	D0GAR00J0005	0 1/16W	1	
			PRINTED CIRCUIT BOARDS		
⚠	PCB4	TNPA6420	SMPS P.C.B	1	(RTL)
			INTERGRATED CIR-CUITS		
	IC1111	C0DBBYY00062	IC	1	
	IC2900	C0DBAYY01282	IC	1	
	IC5801	C0DAAYY00072	IC	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	IC5802	C0DAAYY00072	IC	1	
			CAPACITORS		
	C2902	F1H1H103B047	0.01uF 50V	1	
	C2903	F1H1H682B047	6800pF 50V	1	
	C2905	F2A1H101A147	100uF 50V	1	
	C2906	F2A1V560B146	56uF 35V	1	
⚠	C5700	F1BAF102A216	1000pF AC250 <= Vac <315	1	
⚠	C5701	F0CAF104A218	0.1uF AC250 <= Vac <315	1	
⚠	C5702	F0CAF104A218	0.1uF AC250 <= Vac <315	1	
⚠	C5704	F1BAF4710005	470pF AC250 <= Vac <315	1	
⚠	C5705	F1BAF4710005	470pF AC250 <= Vac <315	1	
⚠	C5706	F1BAF102A216	1000pF AC250 <= Vac <315	1	
	C5708	F1B3D102A132	1000pF 2000V	1	
	C5720	F2A2G820A354	82uF 400V	1	
	C5721	F0C2K103A053	0.01uF 800V	1	
	C5722	F1H1H101B052	100pF 50V	1	
	C5723	F2A1H100B411	10uF 50V	1	
	C5724	F1B3D101A132	100pF 2000V	1	
	C5725	F1H1H681B047	680pF 50V	1	
	C5727	F1H1H100B051	10pF 50V	1	
	C5728	F1H1H102B047	1000pF 50V	1	
	C5729	F2A1H100B411	10uF 50V	1	
	C5730	F1H1H104B047	0.1uF 50V	1	
	C5800	F1H1H101B052	100pF 50V	1	
	C5801	F1J1H105A918	1uF 50V	1	
	C5802	F2A1V4710074	470uF 35V	1	
	C5803	F2A1V4710074	470uF 35V	1	
	C5805	F1H1H104B047	0.1uF 50V	1	
	C5807	F1H1H102B047	1000pF 50V	1	
	C5808	F2A0J101A208	100uF 6.3V	1	
	C5810	F1H1H104B047	0.1uF 50V	1	
	C5811	F2A1E3320065	3300uF 25V	1	
	C5812	F1H1H102B047	1000pF 50V	1	
	C5829	F1H1H104B047	0.1uF 50V	1	
	C5841	F1H1H102B047	1000pF 50V	1	
	C5842	F1H1H104B047	0.1uF 50V	1	
	C5843	F1H1H104B047	0.1uF 50V	1	
	C5844	F1H1H104B047	0.1uF 50V	1	
	C5845	F1H1H102B052	1000pF 50V	1	
			DIODES		
	D2900	B0JCPD000025	DIODE	1	
	D5701	B0EDNR000001	DIODE	1	
	D5702	B0EAKT000063	DIODE	1	
	D5703	DZ2J200M0L	DIODE	1	
	D5704	DZ2J200M0L	DIODE	1	
	D5705	B0EAMM000057	DIODE	1	
	D5707	DA2J10100L	DIODE	1	
	D5708	B0JCPD000039	DIODE	1	
	D5709	B0EAKT000063	DIODE	1	
	D5710	DZ2J075M0L	DIODE	1	
	D5711	DA2J10100L	DIODE	1	
	D5712	DA2J10100L	DIODE	1	
	D5801	B0ADRL000001	DIODE	1	
	D5802	B0HBSM000054	DIODE	1	
	D5803	DA2J10100L	DIODE	1	
	D5804	DA2J10100L	DIODE	1	
	D5841	DZ2J075M0L	DIODE	1	
⚠	DZ5701	D4EAY5110006	DIODE	1	
			INDUCTORS		
	L2900	G0A330ZA0045	INDUCTOR	1	
	LB2901	J0JKB0000020	INDUCTOR	1	
⚠	L5701	G0B103G00023	INDUCTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
⚠	L5702	G0B103G00023	INDUCTOR	1	
	L5801	G0A330ZA0045	INDUCTOR	1	
			TRANSISTORS		
	Q5701	B1CERT000009	TRANSISTOR	1	
	Q5702	B1BABG000007	TRANSISTOR	1	
	Q5801	B1ABGC000001	TRANSISTOR	1	
	Q5802	B1ABGC000001	TRANSISTOR	1	
	Q5803	B1ADCF000001	TRANSISTOR	1	
	Q5804	B1ADMF000001	TRANSISTOR	1	
	Q5806	B1ABGC000001	TRANSISTOR	1	
	Q5807	B1ABGC000001	TRANSISTOR	1	
	QR5806	B1GBCFGG0030	TRANSISTOR	1	
			TRANSFORMER		
⚠	T5700	G4DYZ0000085	SWITCHING TRANS-FORMER	1	
			PHOTO COUPLER		
⚠	PC5721	B3PBA0000579	PHOTO COUPLER	1	
⚠	PC5723	B3PBA0000579	PHOTO COUPLER	1	
⚠	PC5724	B3PBA0000579	PHOTO COUPLER	1	
			JACKS		
⚠	P5701	K2AA2B000011	AC INLET	1	
			CABLE HOLDER		
	H2015	K1ZZ00000836	15P CABLE HOLDER	1	
			RESISTORS		
	R2900	D0GB103JA065	10K 1/10W	1	
	R2901	D1BB1003A074	100K 1/10W	1	
	R2902	D1BB1002A074	10K 1/10W	1	
	R2903	D1BB1002A074	10K 1/10W	1	
⚠	R5700	ERJ12YJ125U	1.2M 1/2W	1	
⚠	R5701	ERJ12YJ125U	1.2M 1/2W	1	
	R5702	ERJ1TYJ104U	100K 1W	1	
	R5703	ERJ1TYJ104U	100K 1W	1	
	R5704	D0GF224JA048	220K 1/4W	1	
	R5705	D0GF224JA048	220K 1/4W	1	
	R5719	D0GB823JA065	82K 1/10W	1	
	R5720	D0GD220JA052	22 1/8W	1	
	R5721	D0GD222JA052	2.2K 1/8W	1	
	R5723	ERJ14YJ220U	22 1/2W	1	
	R5724	ERJ14YJ220U	22 1/2W	1	
	R5725	ERX2LJ82MP	0.08 2W	1	
	R5726	D0GB472JA065	4.7K 1/10W	1	
	R5727	D0GB472JA065	4.7K 1/10W	1	
	R5728	D0GD103JA052	10K 1/8W	1	
	R5729	D0GD331JA052	330 1/8W	1	
	R5730	D0GB562JA065	5.6K 1/10W	1	
	R5731	D0GB104JA065	100K 1/10W	1	
	R5732	D0GB103JA065	10K 1/10W	1	
	R5801	D1BB6801A074	6.8K 1/10W	1	
	R5802	D0GB224JA065	220K 1/10W	1	
	R5803	D1BB8201A074	8.2K 1/10W	1	
	R5804	D1BB1802A074	18K 1/10W	1	
	R5805	D1BB1002A074	10K 1/10W	1	
	R5806	D0GB103JA065	10K 1/10W	1	
	R5807	D1BB7502A074	75K 1/10W	1	
	R5808	D0GB472JA065	4.7K 1/10W	1	
	R5809	D0GD681JA052	680 1/8W	1	
	R5810	D0GB221JA065	220 1/10W	1	
	R5812	D1BB2401A074	2.4K 1/10W	1	
	R5813	D0GB100JA065	10 1/10W	1	
	R5814	ERJ6GEYJ220V	22 1/8W	1	
	R5815	D0GB104JA065	100K 1/10W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R5816	D0GD152JA052	1.5K 1/8W	1	
	R5817	D0GB223JA065	22K 1/10W	1	
	R5818	D0GB152JA065	1.5K 1/10W	1	
	R5819	D0GB102JA065	1K 1/10W	1	
	R5820	D0GB473JA065	47K 1/10W	1	
	R5822	D0GB223JA065	22K 1/10W	1	
	R5823	D0GB103JA065	10K 1/10W	1	
	R5824	D1BB4302A074	43K 1/10W	1	
	R5825	D1BB3742A074	37.4K 1/10W	1	
	R5826	D1BB7502A074	75K 1/10W	1	
	R5827	D0GB472JA065	4.7K 1/10W	1	
	R5828	D0GB472JA065	4.7K 1/10W	1	
	R5829	ERG2SJ680E	68 2W	1	
	R5830	ERG2SJ680E	68 2W	1	
	R5831	D0GB124JA065	120K 1/10W	1	
	R5832	D0GB103JA065	10K 1/10W	1	
	R5833	D0GB473JA065	47K 1/10W	1	
	R5834	D0GB153JA065	15K 1/10W	1	
	R5835	D0GB103JA065	10K 1/10W	1	
	R5836	D0YRR0000001	0 31.5W	1	
	R5841	D0GB472JA065	4.7K 1/10W	1	
	R5842	D0GB104JA065	100K 1/10W	1	
	R5843	D0GB471JA065	470 1/10W	1	
	R5844	D0GB102JA065	1K 1/10W	1	
			CHIP JUMPERS		
	W7	D0GDR00J0004	0 1/8W	1	
	W10	D0GDR00J0004	0 1/8W	1	
	W13	D0GFR00J0005	0 1/4W	1	
	W19	D0GBR00J0004	0 1/10W	1	
	W21	D0GBR00J0004	0 1/10W	1	
	W22	D0GFR00J0005	0 1/4W	1	
	W101	D0GDR00J0004	0 1/8W	1	
	W102	D0GBR00J0004	0 1/10W	1	
			TERMINAL		
	ZJ5701	K4CZ01000027	TERMINAL	1	
	ZJ5702	K4CZ01000027	TERMINAL	1	
	ZJ5703	K4CZ01000027	TERMINAL	1	
	ZJ5721	K4CZ01000027	TERMINAL	1	
			FUSE		
⚠	F1	K5G312YA0159	F1	1	
			PRINTED CIRCUIT BOARDS		
	PCB5	TNPA6417	PANEL P.C.B	1	
			CAPACITORS		
	C9200	F1H1H101B052	100pF 50V	1	
	C9202	F1H1H101B052	100pF 50V	1	
	C9210	F1H1H101B052	100pF 50V	1	
	C9211	F1H1H101B052	100pF 50V	1	
	C9214	F1H1H101B052	100pF 50V	1	
	C9215	F1H1H101B052	100pF 50V	1	
	C9257	F1H1H104B047	0.1uF 50V	1	
	C9300	F1H1A105A113	1uF 10V	1	
	C9301	F1J1V1050001	1uF 35V	1	
	C9302	F1H1E105A153	1uF 25V	1	
	C9304	F1H1E105A153	1uF 25V	1	
	C9305	F1J1E105A287	1uF 25V	1	
	C9307	F1H1E105A153	1uF 25V	1	
	C9308	F1H1E105A153	1uF 25V	1	
	C9313	F1J1V1050001	1uF 35V	1	
	C9314	F2A1H100C122	10uF 50V	1	
			CONNECTORS		

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	CN9200	K1MY19AA0267	19P CONNECTOR	1	
	CN9202	K1KY06B00021	6P CONNECTOR	1	
			DIODE		
	D9300	B0ADDH000009	DIODE	1	
	D9301	B0ADDH000009	DIODE	1	
	D9303	DZ2J051M0L	DIODE	1	
	D9304	DZ2J051M0L	DIODE	1	
			COILS AND INDUCTORS		
	LB9203	D0GBR00J0004	0 1/10W	1	
			TRANSISTORS	1	
	Q9300	B1HFCDE00002	TRANSISTORS	1	
			CONNECTORS		
	P9100	K1ZZ00001238	2P CONNECTOR	1	
	P9200	K1KA05AA0193	5P CONNECTOR	1	
			FL DISPLAY		
	DP9300	A2BB00000186	FL DISPLAY	1	
			VARIABLE RESISTORS		
	VR9200	K9AA024Y0013	VOLUME JOG	1	
	VR9201	K9AA012Y0002	BASS JOG	1	
	VR9202	K9AA012Y0002	TREBLE JOG	1	
			TERMINAL		
	ZJ9200	K1KY04A00072	TERMINAL	1	
			CHIP JUMPER		
	W1718	D0GDR00J0004	0 1/8W	1	
			SWITCHES		
	S9203	EVQ21405RJ	SW	1	
	S9204	EVQ21405RJ	SW	1	
	S9205	EVQ21405RJ	SW	1	
	S9206	EVQ21405RJ	SW	1	
	S9207	EVQ21405RJ	SW	1	
	S9208	EVQ21405RJ	SW	1	
	S9209	EVQ21405RJ	SW	1	
	S9210	EVQ21405RJ	SW	1	
			RESISTORS		
	R9201	D0GB223JA065	22K 1/10W	1	
	R9202	D0GB123JA065	12K 1/10W	1	
	R9203	D0GB103JA065	10K 1/10W	1	
	R9204	D0GB103JA065	10K 1/10W	1	
	R9205	D0GB103JA065	10K 1/10W	1	
	R9206	D0GB103JA065	10K 1/10W	1	
	R9215	D0GB183JA065	18K 1/10W	1	
	R9216	D0GB472JA065	4.7K 1/10W	1	
	R9217	D0GB682JA065	6.8K 1/10W	1	
	R9218	D0GB562JA065	5.6K 1/10W	1	
	R9220	D0GB562JA065	5.6K 1/10W	1	
	R9221	D0GB472JA065	4.7K 1/10W	1	
	R9223	D0GBR00J0004	0 1/10W	1	
	R9300	D0GBR00J0004	0 1/10W	1	
	R9301	D0GB220JA065	22 1/10W	1	
	R9302	D0GB473JA065	47K 1/10W	1	
	R9303	D0GBR00J0004	0 1/10W	1	
	R9304	D0GB473JA065	47K 1/10W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R9305	D0GD3R3JA052	3.3 1/8W	1	
	R9306	D0GF390JA048	39 1/4W	1	
	R9307	D0GF390JA048	39 1/4W	1	
	R9308	D0GB101JA065	100 1/10W	1	
	R9309	D0GB101JA065	100 1/10W	1	
	R9310	D0GB101JA065	100 1/10W	1	
	R9312	D0GB100JA065	10 1/10W	1	
			PRINTED CIRCUIT BOARDS		
	PCB6	TNPA6419	IR SENSOR P.C.B	1	(RTL)
			CAPACITORS		
	C920	F1H1A105A113	1uF 10V	1	
			REMOTE SENSOR		
	IR921	B3RAD0000225	REMOTE SENSOR	1	
			CONNECTORS		
	ZJ920	K1KY04B00023	4P CONNECTOR	1	
			RESISTORS		
	R920	D0GB470JA065	47 1/10W	1	
	R921	D0GB101JA065	100 1/10W	1	
			PRINTED CIRCUIT BOARDS	1	
	PCB7	TNPA6473AD	HEADPHONE P.C.B	1	(RTL) 82EBK, 82GNS
	PCB7	TNPA6473AM	HEADPHONE P.C.B	1	(RTL) 82MEBK
	PCB7	TNPA6473AE	HEADPHONE P.C.B	1	(RTL) 82EGK, 82EGS
	PCB7	TNPA6473AF	HEADPHONE P.C.B	1	(RTL) 84EGK, 84EGS
			CAPACITORS		
	C3000	F1H1C104A178	0.1uF 16V	1	
	C3001	F1H1C104A178	0.1uF 16V	1	
	C3003	F1H1C104A178	0.1uF 16V	1	
	C3004	F1H1C104A178	0.1uF 16V	1	
			INDUCTORS		
	LB3000	J0JGC0000070	INDUCTOR	1	
	LB3001	J0JGC0000070	INDUCTOR	1	
	LB3002	D0GBR00J0004	0 1/10W	1	
			CONNECTORS		
	P3000	K1KY06AA1356	6P CONNECTOR	1	
			JACKS		
	JK3000	K2HC1YYB0033	JK HEADPHONE	1	
			RESISTORS		
	R3000	D0GB471JA065	470 1/10W	1	
	R3001	D0GB471JA065	470 1/10W	1	
			PRINTED CIRCUIT BOARDS		

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	PCB8	REP4945B	CD INTERFACE P.C.B	1	
			SWITCHES		
	S7201	K0L1BA000158	SW	1	
			CONNECTOR		
	CN7001	K1MY05BA0565	5P CONNECTOR	1	
	CN7002	K1MN10B00016	10P CONNECTOR	1	
			PRINTED CIRCUIT BOARDS		
	PCB9	REP5310A	DAB P.C.B	1	(RTL)
			INTEGRATED CIR-CUITS		
	IC1	RFKWFCRS32EB	IC	1	
	IC2	C1CB00004533	IC	1	
			CAPACITORS		
	C2	F1G1H560A834	56pF 50V	1	
	C3	F1G1H330A834	33pF 50V	1	
	C4	F1G1H560A834	56pF 50V	1	
	C8	F1G1A1040006	0.1uF 10V	1	
	C9	F1G1A1040006	0.1uF 10V	1	
	C10	F1G1A1040006	0.1uF 10V	1	
	C11	F1H0J4750004	4.7uF 6.3V	1	
	C12	F1G1A1040006	0.1uF 10V	1	
	C13	F1H0J4750004	4.7uF 6.3V	1	
	C14	F1G1A1040006	0.1uF 10V	1	
	C16	F1G1A1040006	0.1uF 10V	1	
	C17	F1H0J4750004	4.7uF 6.3V	1	
	C18	F1G1A1040006	0.1uF 10V	1	
	C19	F1G1A1040006	0.1uF 10V	1	
	C20	F1G1A1040006	0.1uF 10V	1	
	C21	F1G1A1040006	0.1uF 10V	1	
	C22	F1G1A1050004	1uF 10V	1	
	C23	F1G1H223A739	0.022uF 50V	1	
	C24	F1H1H223B047	0.022uF 50V	1	
	C25	F1G1A1050004	1uF 10V	1	
	C27	F1G1A1050004	1uF 10V	1	
	C29	F1G1C103A146	0.01uF 16V	1	
	C32	F1G1A1040006	0.1uF 10V	1	
	C33	F1G1A1040006	0.1uF 10V	1	
	C37	F1G1C103A146	0.01uF 16V	1	
	C38	F1G1A1040006	0.1uF 10V	1	
	C41	F1G1H471A541	470pF 50V	1	
	C42	F1G1H471A541	470pF 50V	1	
	C43	F1G1A1050004	1uF 10V	1	
	C47	F1G1A1050004	1uF 10V	1	
	C48	F1G1H102A830	1000pF 50V	1	
	C49	F1G1H223A739	0.022uF 50V	1	
	C50	F1G1H3R3A784	3.3pF 50V	1	
			COIL AND INDUC-TORS		
	L2	J0JYC0000051	INDUCTOR	1	
	L3	G1C68NJA0037	INDUCTOR	1	
	L4	G1CR12GA0007	INDUCTOR	1	
	L5	G1CR22GA0007	INDUCTOR	1	
	LB7	J0JYC0000051	INDUCTOR	1	
	LB8	J0JYC0000051	INDUCTOR	1	
			OSCILLATORS		
	X1	H0J384500002	OSCILLATORS	1	
			JACKS		

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	JK1	K4AK01Z00002	JK	1	
			CONNECTORS		
	CN1	K1MN10AA0046	10P CONNECTOR	1	
			RESISTORS		
	R4	D0GA330JA023	33 1/16W	1	
	R5	D0GA330JA023	33 1/16W	1	
	R6	D0GA330JA023	33 1/16W	1	
	R13	D0GA101JA023	100 1/16W	1	
	R15	D0GA103JA023	10K 1/16W	1	
	R18	D0GA201JA023	200 1/16W	1	
	R19	D0GA101JA023	100 1/16W	1	
	R20	D0GA101JA023	100 1/16W	1	
	R21	D0GAR00J0008	0 1/16W	1	
	R22	D0GAR00J0008	0 1/16W	1	
	R23	D0GA100JA023	10 1/16W	1	
	R27	D0GA100JA023	10 1/16W	1	
	R34	D0GAR00J0008	0 1/16W	1	
	R41	D0GA104JA023	100K 1/16W	1	
	R46	D0GA101JA023	100 1/16W	1	
	R47	D0GA682JA023	6.8K 1/16W	1	
	R48	D0GA224JA023	220K 1/16W	1	
	R51	D0GAR00J0008	0 1/16W	1	
	R52	D0GA104JA023	100K 1/16W	1	

IPSG1703