

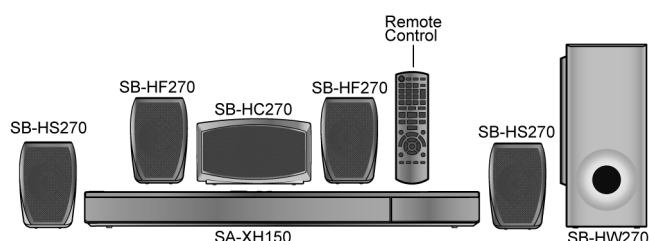
Service Manual

DVD Home Theater Sound System



Model No. **SA-XH150P**
SA-XH150PC

Product Color: (K)...Black Type



Note: Please refer to the original service manual for:

- DVD Mechanism Unit (BRS1D), Order No. PSG1012001CE
- Speaker system SB-XH150P/PC-K, Order No. PSG1101003CE

WARNING

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

IMPORTANT SAFETY NOTICE

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

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1 Safety Precautions

1.1. GENERAL GUIDELINES

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

1.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1M\Omega$ and $5.2M\Omega$.

When the exposed metal does not have a return path to the chassis, the reading must be ∞

1.1.2. LEAKAGE CURRENT HOT CHECK

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

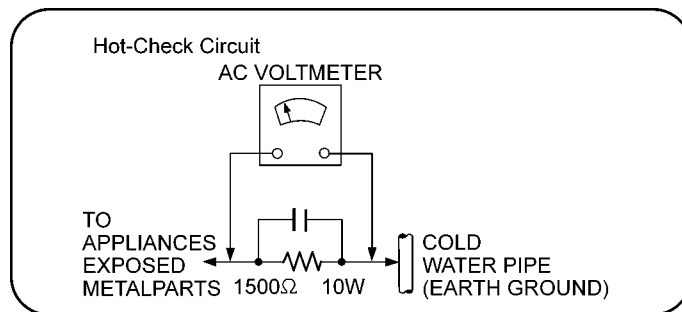


Figure 1

1.2. Before Repair and Adjustment

Disconnect AC power to discharge unit AC Capacitors as such (C5700, C5701, C5702, C5704, C5705, C5706) through a 10 Ω , 10 W resistor to ground.

Caution:

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

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

Current consumption at AC 120V, 60 Hz in NO SIGNAL at mode volume minimal should be ~ 500 mA.

1.2.1. Caution for fuse replacement

CAUTION:

i) Replace with the same type fuse:

(Manufacturer: LITTELFUSE, INC, Type: 233, F1, 6A, 125V)

(For Canadian French)

ATTENTION:

i) Utiliser un fusible de rechange de mme type:

(Manufacturer: LITTELFUSE, INC, Type: 233, F1, 6A, 125V)

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. Safety Parts Information

Safety Parts List:

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

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

Safety	Ref No.	Part No.	Part Name & Description	Remarks
	10	REXX1186	1P RED WIRE (AC INLET-SMPS)	
	11	REXX1187	1P BLACK WIRE (AC INLET-SMPS)	
	19	RGRX1006B-A1	REAR PANEL	P
	19	RGRX1006B-B1	REAR PANEL	PC
	29	RKMX1010-K	TOP CABINET	
	29-1	RMNX1062	SMPS PCB TOP INSULATOR	
	54	RXQX1056	SMPS PC SHEET UNIT	
	55	RXQX1057	AC-IN PC SHEET UNIT	
	301	RAY1101-V	TRAVERSE ASS'Y	
	A2	K2CB2CB00021	AC CORD	
	A3	RQTX1230-P	O/I B00K (En)	
	A3	RQTX1231-C	O/I B00K (Cf)	PC
	PCB3	REPX0932A	SMPS P.C.B.	(RTL)
	PCB4	REPX0932A	AC INLET P.C.B.	(RTL)
	DZ5701	ERZV10V511CS	ZNR	
	L5701	ELF19H520E	LINE FILTER	
	L5702	ELF19H520E	LINE FILTER	
	F1	K5D602APA008	FUSE	
	T5701	ETS61BA11GBD	SWITCHING TRANSFORMER	
	T5751	ETS19AB2E6AG	SUB TRANSFORMER	
	T6100	G4D1A0000142	SWITCHING TRANSFORMER	
	PC5702	B3PBA0000503	PHOTO COUPLER	
	PC5720	B3PBA0000503	PHOTO COUPLER	
	PC5799	B3PBA0000503	PHOTO COUPLER	
	PC5901	B3PBA0000503	PHOTO COUPLER	
	TH5702	D4CAA2R20001	THERMISTOR	
	P5701	K2AB2B000007	AC INLET	
	C5700	F1BAF1020020	1000pF	
	C5701	F0CAF224A105	0.22uF	
	C5702	F0CAF104A105	0.1uF	
	C5704	F1BAF471A013	470pF	
	C5705	F1BAF471A013	470pF	
	C5706	F1BAF471A013	470pF	

2 Warning

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

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

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

Caution:

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

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

2.2. Precaution of Laser Diode

CAUTION:

THIS PRODUCT UTILIZES A LASER.

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

Caution:

This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

Wavelength: 655 nm (DVD)/790 nm (CD)

Maximum output radiation power from pickup: 100 μ W/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 :

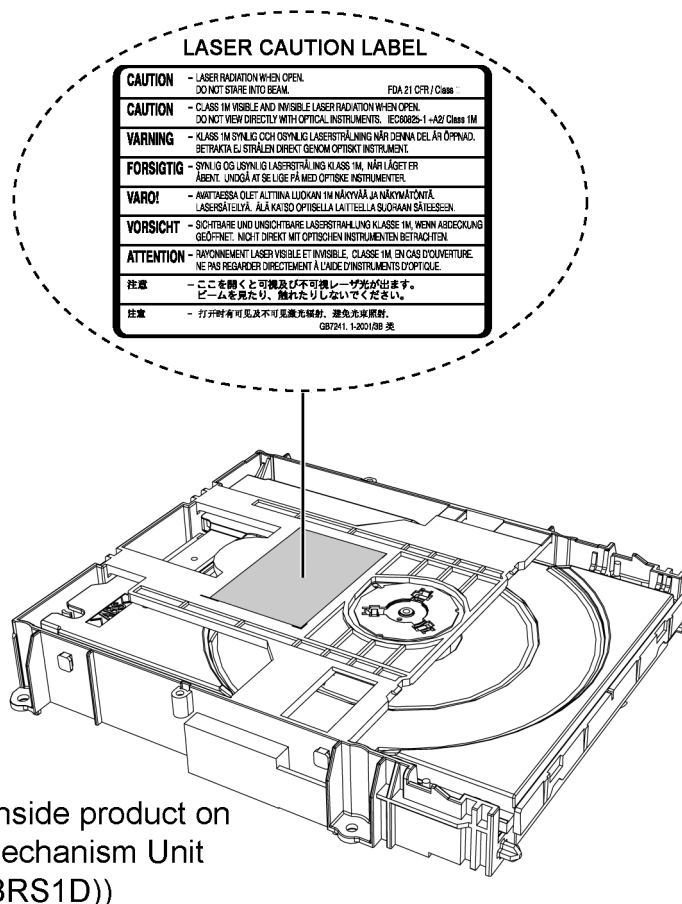
Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge: 655 nm (DVD)/790 nm (CD)

Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE

Die strahlung 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 werksseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.



2.3. Service caution based on Legal restrictions

2.3.1. General description about Lead Free Solder (PbF)

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

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

Definition of PCB Lead Free Solder being used

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

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

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

Recommended Lead Free Solder (Service Parts Route.)

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

Note

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

2.4. Handling Precautions for Traverse Unit

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

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

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

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

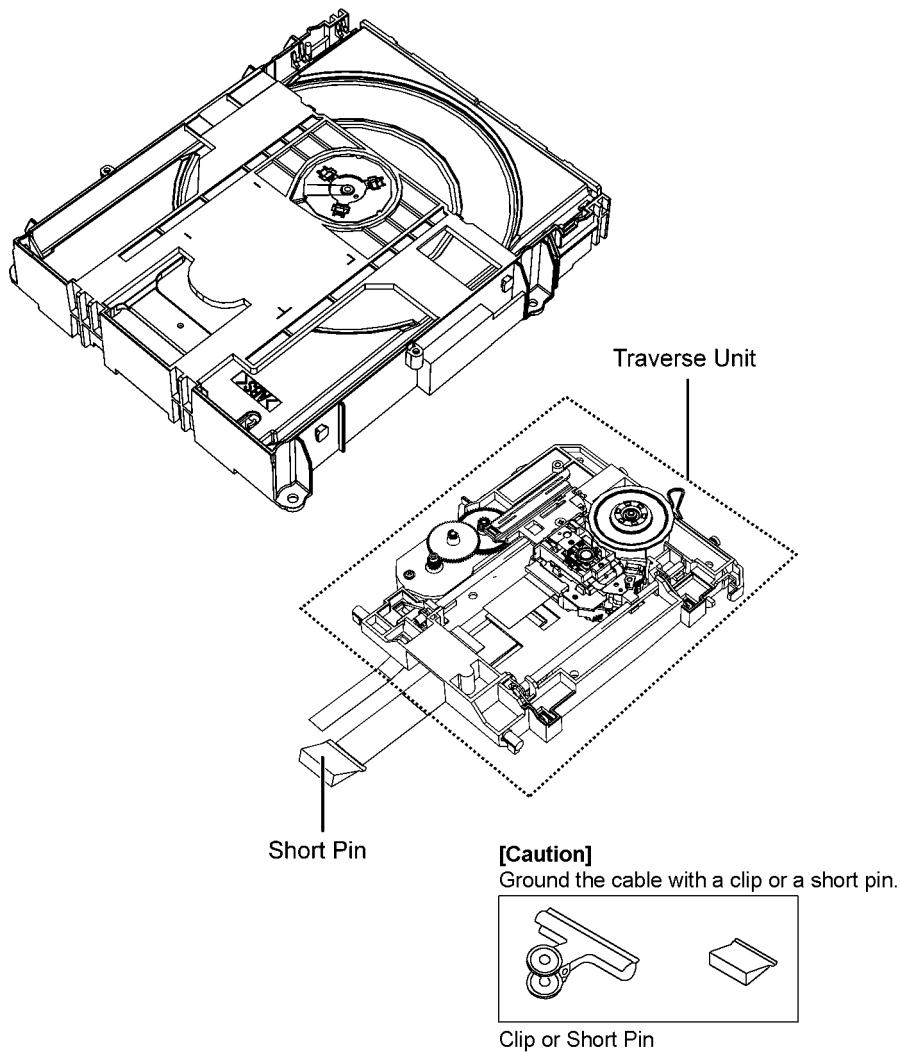


Figure 1

2.4.2. Grounding for electrostatic breakdown prevention

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

2.4.2.1. Worktable grounding

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

2.4.2.2. Human body grounding

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

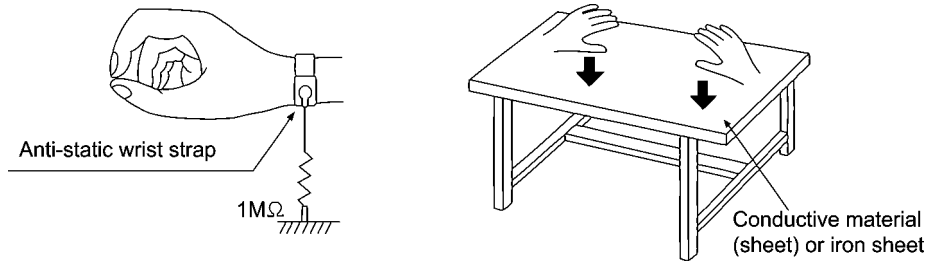


Figure 2

3 Service Navigation

3.1. Service Information

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

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

- **DVD Mechanism Unit (BRS1D):**

1) This model uses DVD Mechanism Unit (BRS1D).

- **Micro-processor:**

1) The following components are supplied as an assembled part.

- Micro-processor IC, IC2300 (RFKWMXH150P)

4 Specifications

Main unit SA-XH150P/PC

●GENERAL

Power supply:	AC 120 V, 60 Hz
Power consumption:	Main Unit 75 W
Dimensions (W×H×D):	430 mm×38 mm×279 mm (16 ¹⁵ / ₁₆ " x 1 ¹ / ₂ " x 10 ³¹ / ₃₂ ")
Mass [Weight]	Main unit 2.6 kg (5.7lbs)
Operating temperature range:	0 °C to +40 °C (+32°F to +104 °F)
Operating humidity range:	35 % to 80 % RH (no condensation)

●AMPLIFIER SECTION

RMS Output Power: Dolby Digital Mode

Front Ch:	160 W per channel (3 Ω), 1 kHz, 10% THD
Surround Ch:	160 W per channel (3 Ω), 1 kHz, 10% THD
Center Ch:	160 W per channel (6 Ω), 1 kHz, 10% THD
Subwoofer Ch:	200 W per channel (6 Ω), 100 Hz, 10% THD
Total RMS Dolby Digital mode power:	1000 W

FTC Output Power: Dolby Digital Mode

Front Ch:	60 W per channel (3 Ω), 150 Hz to 20 kHz, 1 % THD
Surround Ch:	60 W per channel (3 Ω), 150 Hz to 20 kHz, 1 % THD
Center Ch:	90 W per channel (3 Ω), 150 Hz to 20 kHz, 1 % THD
Subwoofer Ch:	100 W per channel (3 Ω), 50 Hz to 150kHz, 1 % THD
Total DIN Dolby Digital mode power:	430 W

●FM TUNER, TERMINALS SECTION

Preset Memory:	FM 30 stations
Frequency Modulation (FM)	
Frequency range:	87.9 MHz to 107.9 MHz (200-kHz step) 87.5 MHz to 108.0 MHz (100-kHz step)
Antenna terminals:	75 Ω (unbalanced)

Digital audio input

Optical digital input	Optical terminal
Sampling frequency	32 kHz, 44.1 kHz, 48 kHz

●DISC SECTION

Discs played [8 cm (3") or 12 cm (5")]

- (1) DVD (DVD-Video)
- (2) DVD-R (DVD-Video, DVD-VR, MP3*2, 4, JPEG*3, 4)
- (3) DVD-R DL (DVD-Video)
- (4) DVD-RW (DVD-Video, DVD-VR, MP3*2, 4, JPEG*3, 4)
- (5) +R/+RW (Video)
- (6) +R DL (Video)
- (7) CD, CD-R/RW (CD-DA, Video CD, SVCD*1, MP3*2, 4, JPEG*3, 4)

*1 Conforming to IEC62107

*2 MPEG-1 Layer 3, MPEG-2 Layer 3, MPEG-2.5 Layer 3

*3 Exif Ver 2.1 JPEG Baseline files

Picture resolution:

16:9 min. size 4 x 4, max.size (720 x 8) x (405 x 8);

4:3 min. size 4 x 4, max.size (720 x 8) x (540 x 8)

*4 The total combined maximum number of recognizable audio and picture content and groups: 1900 audio and picture content and 189 groups. (Excluding Root folder)

Pick up

Wavelength (DVD/CD):	655/790 nm
Laser power (For P only)	CLASS II
Laser power (For PC only)	CLASS 1M

Audio output (Disc)

Number of channels:	5.1 ch (FL, FR, C, SL, SR, SW)
---------------------	--------------------------------

●VIDEO SECTION

Video system:	NTSC
----------------------	------

Component video output

Output level:	1 Vp-p (75 Ω)
Terminal:	Pin jack (1 system)

HDMI AV output

Terminal	19-pin type A connector
----------	-------------------------

HDAVI Control:

This unit supports "HDAVI Control 5" function.

Note:

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

Solder:

This model uses lead free solder (PbF).

System	SC-XH150P-K	SC-XH150PC-K
Main unit	SA-XH150P-K	SA-XH150PC-K
Speakers system	SB-XH150P-K ^{*1}	SB-XH150PC-K ^{*1}

Refer to their respective original service manuals for *1.

4.1. Others (Licences)

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

This item incorporates copy protection technology that is protected by U.S. patents and other intellectual property rights of Rovi Corporation. Reverse engineering and disassembly are prohibited.

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HDAVI Control™ is a trademark of Panasonic Corporation.

VIERA Link™ is a trademark of Panasonic Corporation.

EZ Sync™ is a trademark of Panasonic Corporation.



"Made for iPod" and "Made for iPhone" mean that an electronic accessory has been designed to connect specifically to iPod, or iPhone, respectively, and has been certified by the developer to meet Apple performance standards.

Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

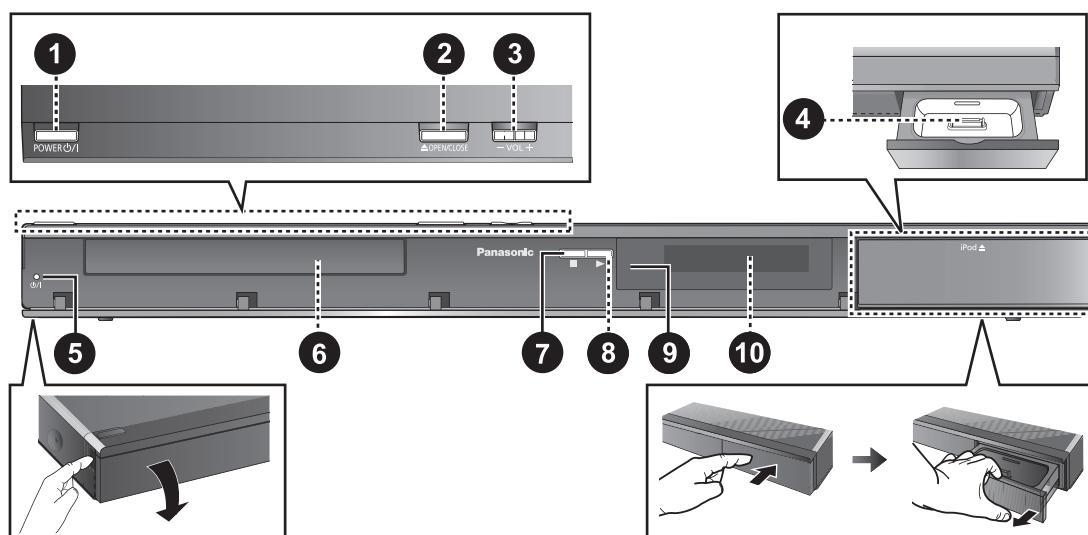
Please note that the use of this accessory with iPod, or iPhone may affect wireless performance.

iPhone, iPod, iPod classic, iPod nano, and iPod touch are trademarks of Apple Inc., registered in the U.S. and other countries.

"DVD Logo" is a trademark of DVD Format/Logo Licensing Corporation.

MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson.

5.2. Main Unit Key Button Operations



- 1 Standby/on switch (POWER $\odot$ / 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 Open/Close the disc tray**
- 3 Adjust the volume of the main unit**
- 4 Connect iPod/iPhone**
- 5 Power indicator**
The indicator lights when this unit is turned on.
- 6 Disc tray**
- 7 Stop**
- 8 Start play**
- 9 Remote control signal sensor**
- 10 Display (FL display)**

5.3. Power-Saving Features

POWER-SAVING FEATURES
The main unit is designed to conserve its power consumption and save energy. ■ Auto FL display turn-off function The main unit's display is automatically turned off when the volume is adjusted to "0". FL Control • On (Vol 0) : The Unit's display will turn off when the volume is adjust to "0". • Off ■ Auto power-down function The main unit will automatically switch to standby mode after 30 minutes of inactivity. e.g. – There is no audio signal from an external device. – Disc playback is stopped/paused. – iPod/iPhone playback is stopped/paused. – The disc menu is displayed and play is not selected. (This function may not work depending on the application type of discs.)

5.4. Speaker Connection

Pay attention to the type of speaker and the connector color when you place the speakers.

Main unit (rear)

Connect to the terminals of the same color.

Use of the speaker cable stickers is convenient when making cable connections.

Speakers (rear)

Insert the wire fully, taking care not to insert beyond the wire insulation.

+: White

-: Blue line

- Be careful not to cross (short circuit) or reverse the polarity of the speaker wires as doing so may damage the speakers.

5.5. Using the VIERA Link “HDAVI Control™”

Linked operations with the TV (VIERA Link™ “HDAVI Control™”)

What is VIERA Link “HDAVI Control”?

VIERA Link™ is a new name for EZ Sync™.

VIERA Link “HDAVI Control” is a convenient function that offers linked operations of this unit, and a Panasonic TV (VIERA) under “HDAVI Control”. You can use this function by connecting the equipment with the HDMI cable. See the operating instructions for connected equipment for operational details.

Preparation

- Confirm that the HDMI connection has been made.
- 1 Set “VIERA Link” to “On”.
(The default setting is “On”.)
- 2 Set the “HDAVI Control” operations on the connected equipment (e.g., TV).
- 3 Turn on all “HDAVI Control” compatible equipment and select this unit’s input channel on the connected TV so that the “HDAVI Control” function will work properly.

Whenever the connection or settings are changed, repeat this procedure and reconfirm the points in “Setting the audio link” (⇒ below).

Setting the audio link

• Setting the audio link with the TV

Select “AUX”, “ARC”^{※1} or “DIGITAL IN” for TV audio link.
Refer to TV audio setting in Easy setup or “TV Audio” in HDMI menu.
Confirm the TV audio connection to the AUX terminal (for “AUX”), HDMI AV OUT terminal (for “ARC”^{※1}) or DIGITAL AUDIO IN OPTICAL terminal (for “DIGITAL IN”) on the main unit.

• Setting the audio link with the STB

Select “D-IN” for STB audio link.
Refer to STB setting in “Making settings for digital audio input”.
Confirm the STB audio connection to the DIGITAL AUDIO IN OPTICAL terminal (for “D-IN”) on the main unit.



- VIERA Link “HDAVI Control”, based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control), is a unique function that we have developed and added. As such, its operation with other manufacturers’ equipment that supports HDMI CEC cannot be guaranteed.
- This unit supports “HDAVI Control 5” function.
“HDAVI Control 5” is the newest standard (current as of December, 2010) for Panasonic’s HDAVI Control compatible equipment. This standard is compatible with Panasonic’s conventional HDAVI equipment.
- Please refer to individual manuals for other manufacturers’ equipment supporting VIERA Link function.

Auto lip-sync

(For “HDAVI Control 3 or later”)

This function automatically provides synchronized audio and video output. (This works only when the source is “DVD/CD”, “AUX”^{※2}, “ARC”^{※1, 2} or “D-IN”^{※2, 3}.)

- When using “DVD/CD” as the source, set “Time Delay” in Video menu to “0ms/Auto”.

One touch play

You can turn the main unit and the TV on, and start playing a disc with a single press of a button.

(Remote control only)

During standby mode, press [▶ PLAY]⑤ to start disc playback.

This unit’s speakers will be automatically activated (⇒ below).



Playback may not be immediately displayed on the TV. If you miss the beginning portion of playback, press [SKIP ◀◀]⑥ or [SEARCH ◀◀]⑥ to go back to where playback started.

Auto input switching (Power on link)

When the following operations are performed, the TV will automatically switch the input channel and display the corresponding action. Additionally when the TV is off, the TV will automatically turn on:

- When play starts on the unit
- When an action that uses the display screen is performed (e.g., START menu)
- When you switch the TV input to TV tuner mode or the STB input channel, this unit will automatically switch to “AUX”^{※2}, “ARC”^{※1, 2} or “D-IN”^{※2, 3}. (For “IPOD” mode, this works only in iPod/iPhone music mode, or when iPod/iPhone is not connected.)
- When you start disc play, the TV will automatically switch its input mode for this unit.

Power off link

All connected equipment compatible with “HDAVI Control”, including this unit, automatically turn off when you switch the TV off.
To continue audio playback even when the TV is turned off, select “Video”



When you press [⏻]⑦, only this unit turns off. Other connected equipment compatible with VIERA Link “HDAVI Control” stays on.

For details, refer also to the operating instructions for your TV.

Speaker selection

You can select whether audio will output from this unit’s speakers or the TV speakers by using the TV menu settings. For details, refer to the operating instructions for your TV.

Home theater

This unit’s speakers are active.

- When you turn on this unit, this unit’s speakers will be automatically activated.
- When this unit is in standby mode, changing the TV speakers to this unit’s speakers in the TV menu will automatically turn this unit on and select “AUX”², “ARC”^{※1, 2} or “D-IN”^{※2, 3} as the source.
- The TV speakers are automatically muted.
- You can control the volume setting using the volume or mute button on the TV’s remote control. (The volume level is displayed on the main unit’s display.)
- To cancel muting, you can also use this unit’s remote control.
- If you turn off this unit, TV speakers will be automatically activated.

TV

TV speakers are active.

- The volume of this unit is set to “0”.
– This function works only when “DVD/CD”, “AUX”^{※2}, “ARC”^{※1, 2} or “D-IN”^{※2, 3} is selected as the source on this unit.
- Audio output is 2-channel audio.



When switching between this unit speakers and TV speakers, the TV screen may go blank for several seconds.

※1 The selection works only when using an ARC compatible TV.

※2 “AUX”, “ARC” or “D-IN” (DIGITAL IN) works depending on the TV audio setting (⇒ left, Setting the audio link with the TV).

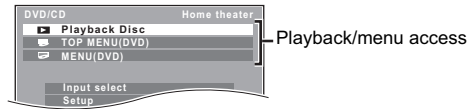
※3 “D-IN” (DIGITAL IN) works depending on the STB audio setting (⇒ left, Setting the audio link with the STB).

Easy control only with VIERA remote control

(For "HDAVI Control 2 or later")

You can control the playback menus of this unit with the TV's remote control. When operating the TV's remote control, refer to the below illustration for operation buttons.

- 1 Select this unit's operation menu by using the TV menu settings.
(For details, refer to the operating instructions for your TV.)
The START menu will be shown.
e.g. **DVD-V**

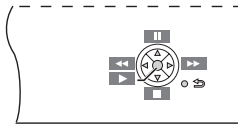


- The START menu can also be shown by using a button on the TV's remote control (e.g. [SUB MENU]).
 - When "DVD/CD" is selected as the source, the TV's remote control works only during stop mode.
 - This feature does not work while the iPod music playback screen is displayed on the TV.

- 2 Select the desired item on the START menu.

When the on-screen control panel appears

e.g. **DVD-V**(when "Playback Disc" is selected from the START menu.)



You can operate the playback with the indicated controls.

- The on-screen control panel can also be shown by using a button on the TV's remote control (e.g. [SUB MENU]).
 - This works only during "DVD/CD" playback and resume modes or, while the iPod music playback screen is displayed on the TV.



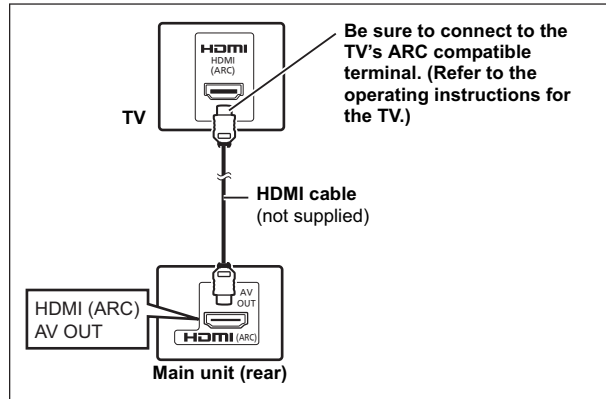
- Depending on the menu, some button operations cannot be performed from the TV's remote control.
- You cannot input numbers with the numbered buttons on the TV's remote control ([0] to [9]). Use this unit's remote control to select the play list etc.

5.6. Connection with an ARC compatible TV

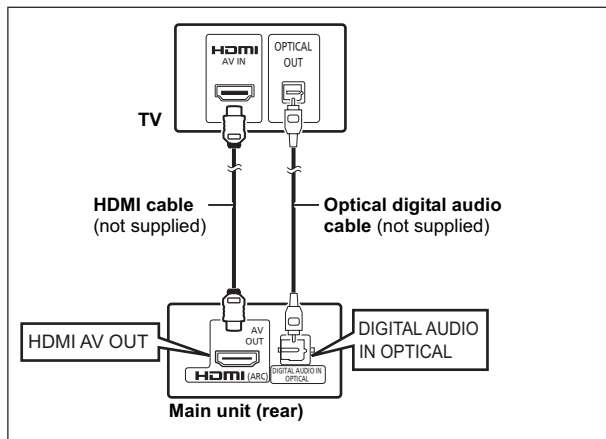
What is ARC?

ARC is an abbreviation of Audio Return Channel, also known as HDMI ARC. It refers to one of the HDMI functions. If the TV is ARC compatible, audio from the TV can be sent to this unit via the HDMI cable without the need to make an extra audio connection.

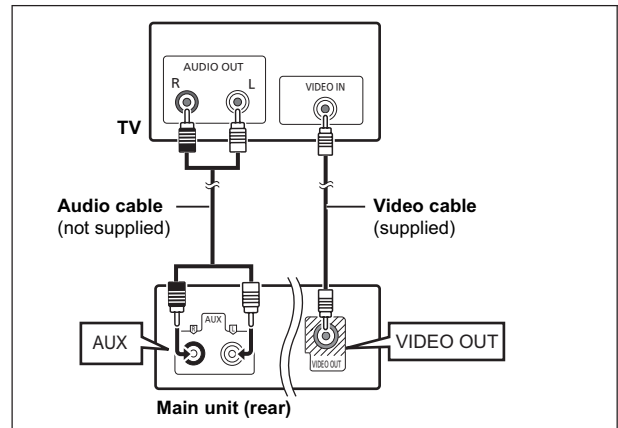
- Refer to the operating instructions of the TV for details.



■ Connection without an ARC compatible TV



Alternative connection to a TV



Set Top Box (cable/satellite/Blu-ray Disc player, etc) connection

Use this connection when you want to output the original surround audio from your STB, etc. to this unit.

Connect the optical digital audio cable (not supplied) from the DIGITAL AUDIO IN OPTICAL terminal on the main unit to the OPTICAL OUT terminal on your STB.

- If the DIGITAL AUDIO IN OPTICAL terminal is already in use for the TV audio, reconnect the TV audio to the AUX terminal using an audio cable.



If you have various sound sources (such as Blu-ray Disc player, DVD recorder, VCR, etc.), connect them to the available inputs on the TV and the TV output should then be connected to the AUX, HDMI AV OUT* or DIGITAL AUDIO IN OPTICAL terminal of the main unit.

5.7. Using of iPod/iPhone

You can enjoy iPod/iPhone music through this unit's speakers or view iPod/iPhone photos/videos on the TV.

Preparation

- To view photos/videos from the iPod/iPhone
 - Ensure the video connection to the VIDEO OUT terminal on this unit
 - Operate the iPod/iPhone menu to make the appropriate photo/video output settings for your TV. (Refer to operating instructions for your iPod/iPhone.)
- To display the picture, turn on the TV and select the appropriate video input mode.
- Before connecting/disconnecting the iPod/iPhone, turn the main unit off or reduce the volume of the main unit to its minimum.

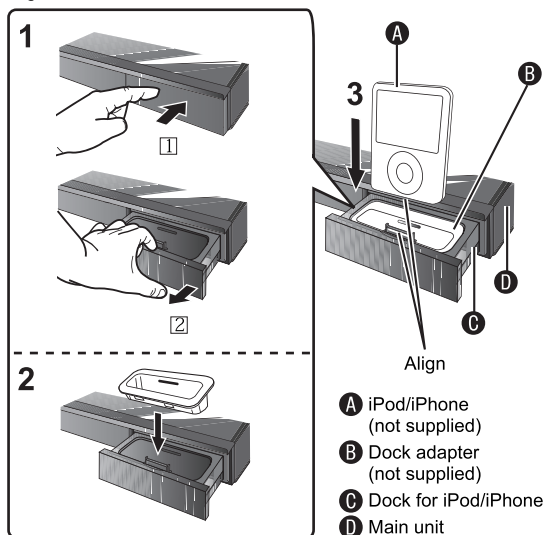
1 Open the Dock for iPod/iPhone.

- Push the center of the drawer.
- Pull the drawer until you hear a click.

2 Attach the dock adapter (not supplied) until it is firmly in place.

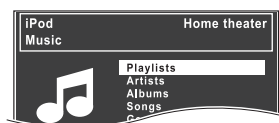
- Be sure to use a dock adapter that is compatible with your iPod/iPhone.
- To purchase a dock adapter, consult your iPod/iPhone dealer.

3 Connect the iPod/iPhone (not supplied) firmly.



4 Press [iPod] to select "IPOD".

The iPod/iPhone automatically switches to this unit's display mode.
e.g.

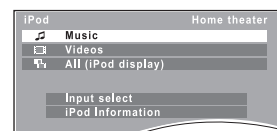


5 Press [FUNCTIONS] to select the menu.

Each time you press the button:

Music menu → Video menu
↑ iPod/iPhone menu (iPod/iPhone LCD) ←

When using the START menu in "IPOD" mode
e.g.



Music: Shows the music menu.

Videos: Shows the video menu.

All (iPod display): Switches to iPod/iPhone menu.

iPod Information: Display iPod/iPhone details.

Items shown will vary depending on the availability of the functions on your iPod/iPhone.

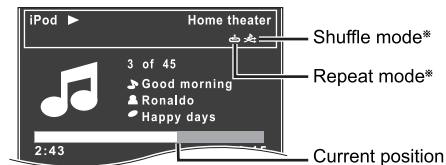
Enjoying music/videos

1 Press [FUNCTIONS] to select music or video menu on the TV.

2 Press [▼, ▲] to select an item and press [OK].

- Press [◀, ▶] to skip page by page.
- To return to the previous screen, press [RETURN].

Play starts from the selected song or video.
e.g. music playback screen



* These icons will only appear for music mode.

- ⌘ : Song shuffle
- ⌘ : Album shuffle
- ⌘ : Repeat 1 song
- ⌘ : Repeat all

Basic controls (For music and videos only)

Button	Function
[▶ PLAY]	Play
[■ STOP], [⏸ PAUSE]	Pause
[SKIP ◀], [SKIP ▶]	Skip
(press and hold) [SEARCH ◀], [SEARCH ▶]	Search

Other methods of playback

Shuffle mode (For music playback only)

Press [PLAY MODE] several times.

SONGS, ALBUMS, OFF

Repeat mode

Press and hold [–REPEAT] and then press the button several times within a few seconds.

During the music/video playback: ONE, ALL, OFF



Music playback modes set on the iPod/iPhone will be maintained when connected to the main unit. Changes made while the iPod/iPhone is connected to the main unit will be kept on the iPod/iPhone after disconnecting it.

Enjoying photos

1 Press [FUNCTIONS] to select the iPod/iPhone menu.

2 Play a slideshow on your iPod/iPhone.

You can use the remote control to operate the iPod/iPhone menu.

- [▼, ▲]: To navigate menu items.
- [OK]: To go to the next menu.
- [RETURN]: To return to the previous menu.

The remote control operation may vary between iPod/iPhone models.

While an iPod/iPhone is connected

Do not push or pull your iPod/iPhone back and forth.

About recharging the battery

- iPod/iPhone will start recharging regardless of whether this unit is on or off.
- "IPOD * " will be shown on the main unit's display during iPod/iPhone charging in main unit standby mode.
- Check iPod/iPhone to see if the battery is fully recharged.
- If you are not using iPod/iPhone for an extended period of time after recharging has completed, disconnect it from main unit, as the battery will be depleted naturally. (Once fully recharged, additional recharging will not occur.)

Compatible iPod/iPhone (as of December 2010)

- Update your iPod/iPhone with the latest software before using this unit.
- iPod/iPhone compatibility is based on the operations* described in this manual.
- * Subject to the availability of the functions on your iPod/iPhone.
- Compatibility depends on the software version of your iPod/iPhone.
- For compability of iPod/iPhone, please refer to operating instruction.

5.8. Disc Information

5.8.1. Disc Playability (Media)

Commercial discs

Type of media/ Logo	Remarks	Indicated as
DVD-Video  	High quality movie and music discs	DVD-V
Video CD  	Music discs with video Including SVCD (Conforming to IEC62107)	VCD
CD 	Music discs	CD

Recorded discs

Type of media/ Logo	Formats	Indicated as
DVD-R/RW  	- DVD-Video Format - MP3 format - JPEG format	DVD-V MP3 JPEG
DVD-R DL 	DVD-Video Format	DVD-V
+ R/+ RW/+ R DL	+ VR (+ R/+ RW Video Recording) Format	DVD-V
CD-R/RW	- CD-DA format - MP3 format - JPEG format	CD MP3 JPEG

- Before playback, finalize the disc on the device it was recorded on.
- It may not be possible to play all the above-mentioned discs in some cases due to the type of disc, the condition of the recording, the recording method, or how the files were created (→ 19, Tips for making data discs).
- During playback of DTS source, there will be no sound from the speakers.

Note about using a DualDisc

The digital audio content side of a DualDisc does not meet the technical specifications of the Compact Disc Digital Audio (CD-DA) format so playback may not be possible.

Discs that cannot be played

Blu-ray Discs, HD DVD, AVCHD discs, DVD-RW version 1.0, DVD-Audio, DVD-ROM, DVD-VR, CD-ROM, CDV, CD-G, SACD, DTS Music Discs, WMA discs, DivX discs and Photo CD, DVD-RAM, and "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

Region number

DVD-V

The player plays DVD-Video marked with labels containing the region number "1" or "ALL".
e.g.



Disc handling precautions

- Do not attach labels or stickers to discs. This may cause disc warping, rendering it unusable.
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, liquids which prevent static electricity, or any other solvent.
- Do not use scratch-proof protectors or covers.
- Do not use the following discs:
 - Discs with exposed adhesive from removed stickers or labels (rented discs, etc.).
 - Discs that are badly warped or cracked.
 - Irregularly shaped discs, such as heart shapes.

5.8.2. File Extension Type Support (MP3/JPEG)

MP3 (Extension: “.MP3”, “.mp3”)

Disc: DVD-R/RW, CD-R/RW

- Sampling frequency and compression rate:
8 kHz, 11.02 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz (8 kbps to 160 kbps), 32 kHz, 44.1 kHz and 48 kHz (32 kbps to 320 kbps)
- ID3 tags: version 1, 2

JPEG (Extension: “.JPG”, “.jpg”, “.JPEG”, “.jpeg”)

Disc: DVD-R/RW, CD-R/RW

- JPEG files taken on a digital camera that conform to DCF Standard (Design rule for Camera File system) Version 1.0 are displayed.
 - Files that have been altered, edited or saved with computer picture editing software may not be displayed.
- This unit cannot display moving pictures, MOTION JPEG and other such formats, still pictures other than JPEG (e.g. TIFF), or play pictures with attached audio.

- There may be differences in the display order on the menu screen and computer screen.
- This unit cannot play files recorded using packet write.

DVD-R/RW

- Discs must conform to UDF bridge (UDF 1.02/ISO9660).
- This unit does not support multi-session. Only the default session is played.

CD-R/RW

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit supports multi-session but if there are many sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.

6 Operating Instructions

6.1. Removing of disc during abnormality

6.1.1. Using main unit key buttons.

6.1.1.1. When the power can be turned off.

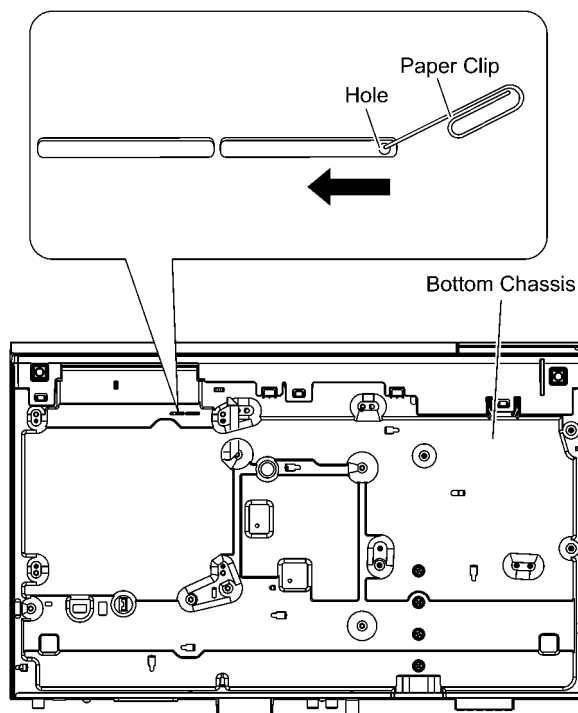
1. Turn off the power and press & hold [OPEN/CLOSE] button on main unit and [SKIP FWD] button on remote for 5 seconds

6.1.1.2. When the power cannot be turned off

1. Press & hold the [POWER] button to turn off the power forcibly, then press & hold [SKIP FWD] button on remote and [OPEN/CLOSE] button on main unit for 5 seconds.

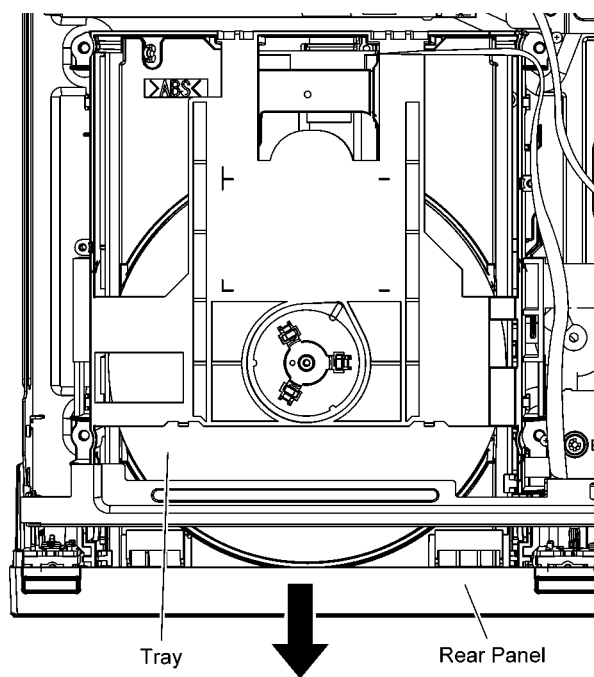
6.1.2. When the Forcible Disc Eject cannot be done.

1. Turn off the power and remove AC cord.
2. Remove the Top Cabinet.
3. Put deck so that bottom can be seen.
4. Insert Paper Clip into the hole on the bottom of DVD MECHANISM UNIT (BRS1D) and slide the paper clip in the direction of the arrow to eject tray slightly.



5. Pull deck upward, and push out Tray by the paper clip or minus screw driver (small).

6. Remove disc



7 Self-Diagnostic and Special Mode Setting

7.1. Cold-Start

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

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

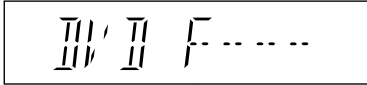
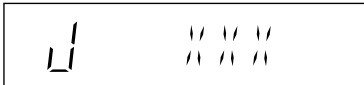
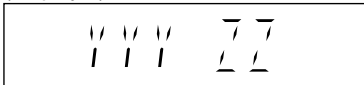
7.2. Service Mode Table

By pressing various button combinations on the main unit and remote control unit, you can activate the various service modes for checking.

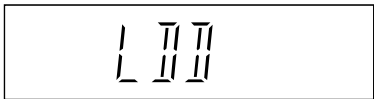
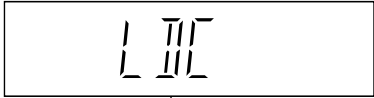
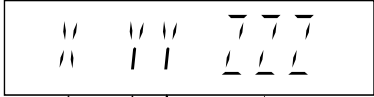
Special Note:

- Due to the limitations of the no. characters that can be shown on the FL Display, the “FL Display” button on the remote control unit can be used to show the two display pages. (Display 1 / Display 2).
- Refer to Section 5.1 for the section on “Remote Control Key Buttons Operations”.

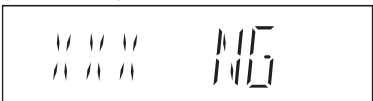
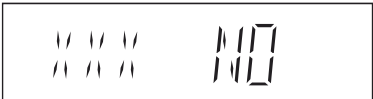
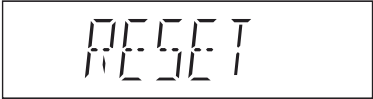
7.2.1. Service Mode Table 1 (For DVD)

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Error code check	Error code check The latest error code stored in the EEPROM IC is displayed. Note: Refer to "(Section 7.4) Self Diagnostic Function-Error Code" for more detailed information on the error codes.	 ↑ F / H / U Error code (play_err) is expressed in the following convention. Error code = 0 x DAXX is expressed: □ → DVDnn U12 Error code = 0 x DBXX is expressed: □ → DVDnn H12 Error code = 0 x DXXX is expressed: □ → DVDnn F123 Error code = 0 x 0000 is expressed: □ → DVDnn F--- * "xx" denotes the error code	In STOP (no disc) mode, press [STOP] button on the main unit, and [0] button on the remote control unit. *With pointing of cursor up and down on display. To exit, press [POWER] button on main unit or remote control.
Jitter check	Jitter check. Jitter rate is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be read out, the counter advances by one increment. When the failure is caused by minor error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the error persists even after retry, the counter may jump by two or more. FL Display sequence: Display 1 → 2.	(Display 1)  ↑ ↑ Jitter check Jitter rate mode Jitter rate is shown in decimal notation to one place of decimal. Focus drive value is shown in hexadecimal notation. (Display 2)  ↑ ↑ Lead Focus Drive Error Value Counter	In STOP (with disc inside tray) mode, press [STOP] button on the main unit, and [5] button on the remote control unit. Press [POWER] button to exit. Press [FL Display] on remote control unit for next page (FL Display).
Initial setting of laser drive current	Initial setting of laser drive current.	 ↑ Laser current measurement mode The value denotes the current in decimal notation.	In STOP (no disc) mode, press [STOP] button on the main unit, and [PAUSE] button on the remote control unit.

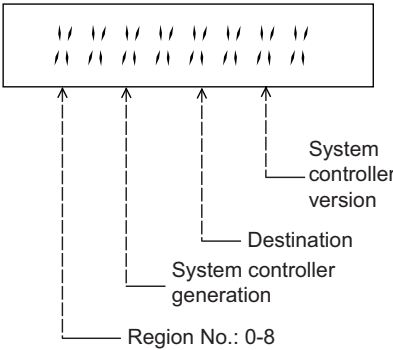
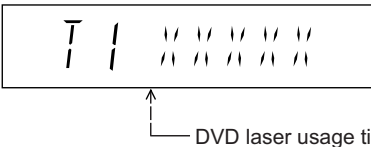
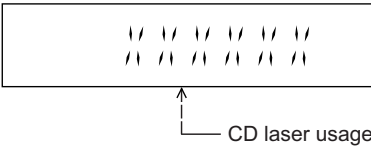
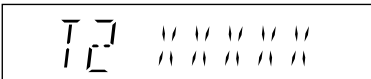
7.2.2. Service Mode Table 2 (For DVD)

Item		FL Display	Key Operation
Mode Name	Description		Front Key
DVD laser drive current measurement	DVD laser drive current measurement. For DVD laser drive current, refer to Troubleshooting Guide (Section 8.2)	 DVD laser current measurement mode The value denotes the current in decimal notation.	In STOP (no disc) mode, press [STOP] button on the main unit, and [FUNCTIONS] button on the remote control unit. To exit, press Power Off Button on remote control.
CD laser drive current measurement	CD laser drive current measurement. For CD laser drive current, refer to Troubleshooting Guide (Section 8.2)	(Display 1)  CD laser current measurement mode	In STOP (no disc) mode, press [STOP] button on the main unit, and [3] button on the remote control unit. To exit, press Power Off Button on remote control.
Region display	Region code display, TV broadcasting system & the model no. information. Note: Refer to Figure 7.1 for "Video Design Information".	 Model No. Information N: NTSC / 6: PAL60 N: no PAL / P: PAL Region No.: 0-8	In STOP (no disc) mode, press [STOP] button on the main unit, and [6] button on the remote control unit. Display is automatically clear after 5 seconds.

7.2.3. Service Mode Table 3 (For DVD)

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Micro-processor firmware version display & EEPROM checksum display.	Micro-processor firmware version display & EEPROM checksum display. EEPROM checksum is only available due to existence of EEPROM IC. Note: Condition 1/2/3 shows the state of EEPROM IC. FL Display sequence: Display 1→2→3.	(Display 1)  (Display 2)  (Condition 1)  If the version of the EEPROM does not match, [NG] is displayed. (Condition 2)  (a) If there is NO EEPROM header string OR (b) If there is no EEPROM (no data is received by Micro-processor), [NO] is displayed. (Condition 3)  If the EEPROM version matches, checksum [YYYYY] is displayed. (Display 3)  ↑ Opecon Version ↑ EEPROM Checksum (If applicable, refer below.)	In STOP (no disc) mode, press [STOP] button on the main unit, and [7] button on the remote control unit. Cancelled automatically 5 seconds later. Press [FL Display] button on remote control unit for next page. (FL Display)
Initialization	Initialization. User settings are cancelled and player is initialized to factory setting. It is necessary when after replacement of Micro-processor IC, FLASH ROM IC (IC8651), IC2300 & Main P.C.B.	 	In STOP (no disc) mode, press [STOP] button on the main unit, and [≧10] button on the remote control unit.

7.2.4. Service Mode Table 4 (For DVD)

Item		FL Display	Key Operation
Mode Name	Description		Front Key
DVD firmware version display	DVD firmware version is displayed on the FL Display. The firmware version can be updated using recovery disc. Note: It is necessary to check for firmware version before carrying out the version up using the disc.		In STOP (no disc) mode, press [STOP] button on the main unit, and [8] button on the remote control unit. Cancelled automatically 5 seconds later.
Timer 1 check	Timer 1 check Laser operation timer is measured separately for DVD laser and CD laser. FL Display sequence: Display 1→2.	(Display 1)  Shown to the above is DVD laser usage time, and to the below is CD laser usage time. Time is shown in 5 digits of decimal notation in a unit of 10 hours. "00000" will follow "99999". (DVD laser) (Display 2)  Time is shown in 6 digits of decimal notation in a unit of 10 hours. "000000" will follow "999999". (CD laser)	In STOP (no disc) mode, press [STOP] button on the main unit, and [▲] button on the remote control unit. Cancelled automatically 5 seconds later. Press [FL Display] button for next page of FL Display.
Timer 1 reset	Timer 1 reset Laser operation timer of both DVD laser and CD laser is reset all at once.	 Time is shown in 5 digits of decimal notation in a unit of 10 hours. It will clear to "00000" upon reset.	While displaying Timer 1 data, press [STOP] button on the main unit, and [▼] button on the remote control unit. Cancelled automatically 5 seconds later
Timer 2 check	Timer 2 check Spindle motor operation timer	 Time is shown in 5 digits of decimal notation in a unit of 1 hour. "00000" will follow "99999".	In STOP (no disc) mode, press [STOP] button on the main unit, and [▶] button on the remote control unit. Cancelled automatically 5 seconds later.
Timer 2 reset	Timer 2 reset Spindle motor operation timer	 Time is shown in 5 digits of decimal notation in a unit of 1 hour. It will be cleared to "00000" upon activating this.	While displaying Timer 2 data, press [STOP] button on the main unit, and [◀] button on the remote control unit. Cancelled automatically 5 seconds later.

Series Code	Country	DVD Region Code	TV Broadcasting System	Product			
				Selected TV System	Region Display (Default)	OSD Default	OSD Language
P, PC, PX, PP	USA, Canada, US Military	1	NTSC	AUTO2 (*A)	1PN	English	English (NA), Spanish (NA), Canadian, French
(blank)	Japan	2	NTSC	AUTO2 (*A)	2PN	Japanese	Japanese, English
EP	Poland, E.Europe	2	PAL	PAL (*C)	2PP	English	English (EU), French, German, Spanish (EU), Polish, Russian, Czech, Hungarian
EB, EG,	UK, Germany, W.Europe	2	PAL	PAL (*C)	2PP	English	English (EU), French, German, Italian, Spanish (EU), Polish, Swedish, Dutch
GC, GS	Middle East, Africa, S.E.A	2	PAL	PAL (*C)	2PP	English	English (NA), French, German, Spanish (EU), Polish, Russian, Czech, Hungarian
GA, GD GT, GJ	South East Asia, Korea, Taiwan	3	PAL / NTSC	Auto (*B)	3PN	English	English (NA), Traditional Chinese
GN	New Zealand, Australia	4	PAL	PAL (*C)	4PP	English	English (EU), French, German, Italian, Spanish (EU), Polish, Swedish, Dutch
PN	Central & S.America, Brazil	4	NTSC	NTSC (*D)	4PN	Spanish	English (NA), Spanish (Panama), French, Brazilian Portuguese
PB	Central & S.America, Brazil	4	NTSC	NTSC (*D)	4PN	Portuguese	English (NA), Spanish (Panama), French, Brazilian Portuguese
PH, PU, PR	South/Central America, Argentina	4	NTSC	NTSC (*D)	4PN	English	English (NA), Spanish (Panama), French, Brazilian Portuguese
EE	CIS	5	SECAM	PAL (*C)	5PP	English	English (EU), French, German, Spanish (EU), Polish, Russian, Czech, Hungarian
GW	India	5	PAL	PAL (*C)	5PP	English	English (NA), Traditional Chinese
GK	China	6	PAL	Auto (*B)	6PN	Simplified Chinese	English (NA), Simplified Chinese

Auto2 (*A)

※= default

Select TV System	No	
TV sys	Source	Output
PAL	--	--
NTSC	--	--
Auto	--	--
Auto2 ※	NTSC	NTSC
	PAL DVD-V	PAL
	PAL VCD	NTSC

Wallpaper = NTSC

Auto2 (*B)

※= default

Select TV System	Yes	
TV sys	Source	Output
PAL	PAL / NTSC	PAL
NTSC	PAL / NTSC	NTSC
Auto ※	PAL / NTSC	same as source
Auto2	--	--

Wallpaper = NTSC

PAL (*C)

※= default

Select TV System	Yes	
TV sys	Source	Output
PAL ※	PAL / NTSC	PAL
NTSC	PAL / NTSC	NTSC
Auto	PAL / NTSC	same as source
Auto2	--	--

Wallpaper = PAL

NTSC (*D)

※= default

Select TV System	Yes	
TV sys	Source	Output
PAL	--	--
NTSC ※	PAL / NTSC	NTSC
Auto	--	--
Auto2	--	--

Wallpaper = NTSC

Explanation of Display

1 PN 354

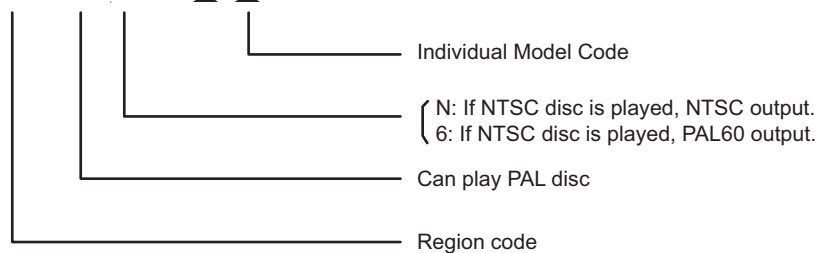
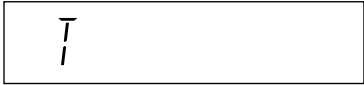
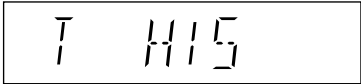
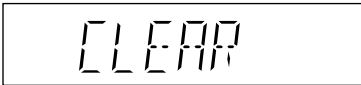


Figure 7.1 Video Design Information

7.3. Self-Diagnostic Mode

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Self-Diagnostic Mode	To enter into self-diagnostic checking		Press & hold [STOP] on main unit, follow by [4] then [9] on remote control. (When no disc in mechanism)
Error code information	System will perform a check on any unusual/error code from the memory	Error code will display Example: 	In self-diagnostic mode, press [STOP] on remote control. To exist, press [⏻ / I] on main unit or remote control.
Delete Error Codes	System will clear all of the contents of unusual/error code from the memory		In self-diagnostic mode, press [CANCEL] on remote control. To exist, press [⏻ / I] on main unit or remote control.

7.4. Self Diagnostic Function-Error Code

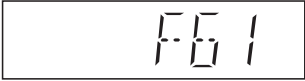
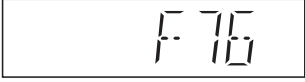
7.4.1. Mechanism Error Code Table (BRS1D)

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
H01	Tray loading error	The tray opening and closing is abnormal. CLOSE and OPEN of the tray cannot be carried out properly. Loading motor error, DV5 LSI IC (IC8001) error.		Press [■STOP] on main unit for next error. (OPEN time: OPEN → CLOSE → OPEN → H01 at CLOSE: CLOSE → OPEN → CLOSE H01)
H03	Traverse motor error	The traverse is abnormal. (Traverse servo, DV5 LSI IC (IC8001), TRV motor error.)		Press [■STOP] on main unit for next error.
U11	Focus servo error	Focus coil, FE signal error. Disc may be dirty.		Press [■STOP] on main unit for next error. (Unfinalized DVD-R is likely to become U11.)

7.4.2. DVD Module Error Code Table

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
U702	HDMI/DVI I2C communication error	The communication error of I2C when connecting it with HDMI/DVI. For instance, when EDID information to which information on the TV set side has been described cannot be read, it is generated.		Press [■STOP] on main unit for next error.
U703	HDMI/DVI attestation error	When attestation (HDCP) with the TV side fails when connecting it with HDMI/DVI, it is generated.		Press [■STOP] on main unit for next error.
U704	HDMI/DVI SRM Error	It is generated at the equipment to which the TV set is connected with HDMI/DVI.		Press [■STOP] on main unit for next error.
U705	HDMI/DVI SRM disk falsification check error	It is generated at the time of it is time when illegal the SRM data of the reproducing disk (verify error), when connecting it with HDMI/DVI.		Press [■STOP] on main unit for next error.
F899	The communication specification disagreement between micro-processor	Unsuitable combination of number of system com and panel com used. (Firmware)		Press [■STOP] on main unit for next error.

7.4.3. Power Supply & Digital Amplifier Error Code Table

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F61	The abnormalities in the D-Amp related problem (over-temperature/shutdown)	In normal operation, when DCDET2 goes to "L" (Low) (Not during POWER OFF condition), F61 appears on FL Display for 1 second and PCONT goes to "L" (Low). This is due to speaker output has DC voltage.		Press [■STOP] on main unit for next error.
F76	Abnormality in the output voltage of stabilized power supply	In normal operation when DCDET1 is detected "L" (Low) for two consecutive times, F76 is displayed on FL for 1 second and after that PCONT will be turned to "L" (Low). This is due to any of the DC voltages (+9V, +7V, -7V, +5V, +5.3V etc.) not available.		Press [■STOP] on main unit for next error.

7.5. Sales Demonstration Lock Function

This function prevents discs from being lost when the unit is used for sales demonstrations by disabling the disc eject function. "LOCKED" is displayed on the unit, and ordinary operation is disabled.

7.5.1. Setting

- **Prohibiting removal of disc**

1. Select the DVD/CD function.
2. At POWER ON condition, press and hold down the [■] button and the [POWER] button on the main unit for at least three seconds. (The message, "LOCKED" appears when the function is activated.)

Note:

OPEN/CLOSE ▲ button is invalid and the main unit displays "LOCKED" while the lock function mode is entered.

- **Prohibiting operation of selector and disc**

1. Select the DVD/CD function.
2. At POWER ON condition, press and hold down the [▶] button and the [POWER] button on the main unit for at least three seconds. (The message, "LOCKED" appears when the function is activated.)

Note:

The following buttons are invalid and the main unit displays "LOCKED" while the lock function mode is entered.

Main unit	▲ OPEN/CLOSE, ■, ▶, POWER ⏻/⏻
Remote controller unit	REPEAT, NUMERIC KEYS 0-9, ≥10, ⏮, ⏭, ⏪, ⏩, ■, ■■, ▶ RETURN, FUNCTIONS, EXT-IN/RADIO, IPOD, DVD, EXIT, TOP MENU, START, MENU, POWER, CANCEL, MUTE

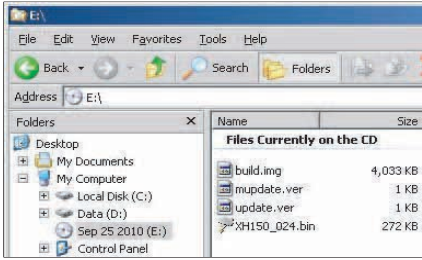
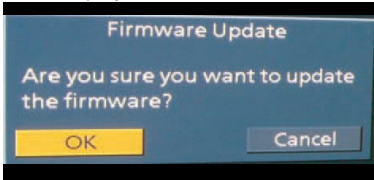
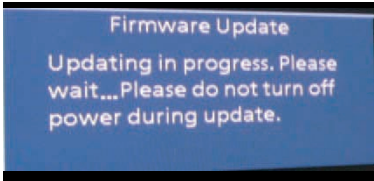
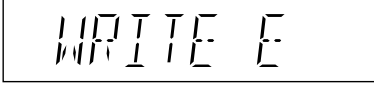
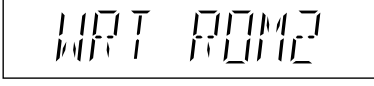
7.5.2. Cancellation

The lock can be cancelled by the same procedure as used in locking. ("UNLOCKED" is displayed on cancellation)

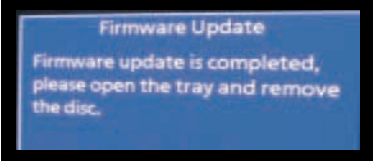
At normal Power ON/OFF the LOCKED condition is not cleared. However AC Power ON/OFF should clear LOCKED condition.

7.6. Firmware Version-Up Information

7.6.1. Process Flow (1/2)

Item		FL/ GUI Display	Remarks
Process	Description		
1	Collect ROM Files (Copy files into CD-R/RW) Step 1 Unzip the firmware update file. Step 2 Burn below files into root folder of the CD disc. Step 3 1. update.ver 2. build.img 3. mupdate.ver 4. XH150_045.bin Notes: 1. Software update files = "mupdate.ver" & "XH150_045.bin" 2. Firmware update files = "update.ver" & "build.img"	Display 1: 	User can put both files into the same root directory. DVD MODEL will choose the right ROM files to update its firmware.
2	Load disc into unit (To update rate) Step 1 Power on main unit. Step 2 Change selector to CD/DVD mode (default is DVD/CD mode) Step 3 Load in the disc with software/firmware update data. ➔ After disc reading, GUI will display as: "GUI Display 1.1: Are you sure you want to update the firmware?" Step 4 Use remote control to select "OK" button and press remote control [OK] key. ➔ Wait about 15~20 min to finish update process. ➔ After disc reading, GUI will display as: "GUI Display 1.2: Updating in progress. Please wait...Please do not turn off power during update." ➔ FL will display in the sequence of "WRITE C", "WRITE D", "WRITE E", "WRITE F" and "WRT ROM2" as FL display 1.1~1.5 shown.	GUI Display 1.1:  GUI Display 1.2:  FL Display 1.1:  FL Display 1.2:  FL Display 1.3:  FL Display 1.4:  FL Display 1.5: 	All panel keys and remote controller keys, including [POWER] key, are invalid during CD Update. Caution: Make sure the power supply during CD update. If the power supply cable is unplugged during update stage, CD update will fail. The DVD model can't work, and can't be recovered by CD update again.

7.6.2. Process Flow (2/2)

Item		FL/ GUI Display	Remarks
Process	Description		
	Update Completed If firmware software update completes successfully: ➔ <i>GUI Display 1.3:</i> Firmware update is completed, please open the tray and remove the disc ➔ <i>FL Display (Main Unit) will display "GOOD" as "FL Display 1.6" shown.</i> Step 5 Eject the disc and power off main unit. Step 6 Power on the unit and do system initialize. Step 7 Update process finish.	GUI Display 1.3:  FL Display 1.6: 	To initialize, press and hold main unit [STOP] then press remote control key [>10].

8 Troubleshooting Guide

8.1. Troubleshooting Guide for F61 and/or F76

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

Symptom(s)	Checking items	Possible Fault(s)	Remarks
Set cannot Power ON:			1) Refer to Fig. 1. SMPS P.C.B.
Condition 1: With Standby LED on	1 Photocoupler PC5702, PC5799	1 PC5702/PC5799 solder crack, dry joint ,short circuit,open circuit,etc	2) Refer to Schematic Diagram of SMPS Circuit (Item 17.7)
	2 Switching IC IC5701	2 Faulty IC5701, pin 1 and 2 shorted, VCC short to GND, etc	
	3 Switching IC IC5799	3 Faulty IC5799, pin 5 and 7 shorted, VCC short to GND, etc	
Condition 2: With Standby LED Off or flickering	1 AC cord	1 Faulty AC cord, loose connection	
	2 AC Inlet P5701	2 P5701 solder crack, dry joint etc	
	3 Fuse F1	3 F1 Fuse open	
Set can Power ON then F61	1 Transformer T5701	1a Pin 11/12 shorted to pin 13/14	Refer to Schematic Diagram of SMPS Circuit (Item 17.7) for terminal pin count on primary and secondary terminals
		1b Pin 16 shorted to pin 17	
	2 Photocoupler PC5720	2 Solder crack,dry joint ,short circuit,open circuit,etc	Refer to Fig. 1. SMPS P.C.B.
Set can Power ON then F76	1 DC-DC circuit	1a L2902 Open (no input to IC2901)	1) Refer to Fig. 2. Main P.C.B. 2) Refer to Schematic diagram of Main Circuit (Item 17.3)
		1b Faulty IC2901 (no output voltage at pin 10 and 11)	
		1c Faulty Q2902 and Q2903 (regulator)	
		1d L2908 open (No DC +5V)	
		1e R2399 open (No DC +9V)	
	2 SMPS FFC loose	2 Check FFC connection/ alignment from SMPS (JW2) to Main (CN2004)	Refer to Fig. 1. SMPS P.C.B.
	3 LDO regulator	3a Faulty Q2904 Transistor diode check (cannot switch ON then NO +9V)	1) Refer to Fig. 2. Main P.C.B. 2) Refer to Schematic diagram of Main Circuit (Item 17.3)
		3b LB2774 Open (+9V line going to Panel PCB CN2002)	
	4 Photocoupler PC5720	4 Solder crack,dry joint ,short circuit,open circuit,etc	
Set can Power ON working normally for sometime then F61	1 Thermal Diode D5802	1a Improper contact between D5802 to heatsink	Refer to Fig. 1. SMPS P.C.B.
		1b OTP (thermal) protection trigger prematurely	

8.1.1. SMPS P.C.B.

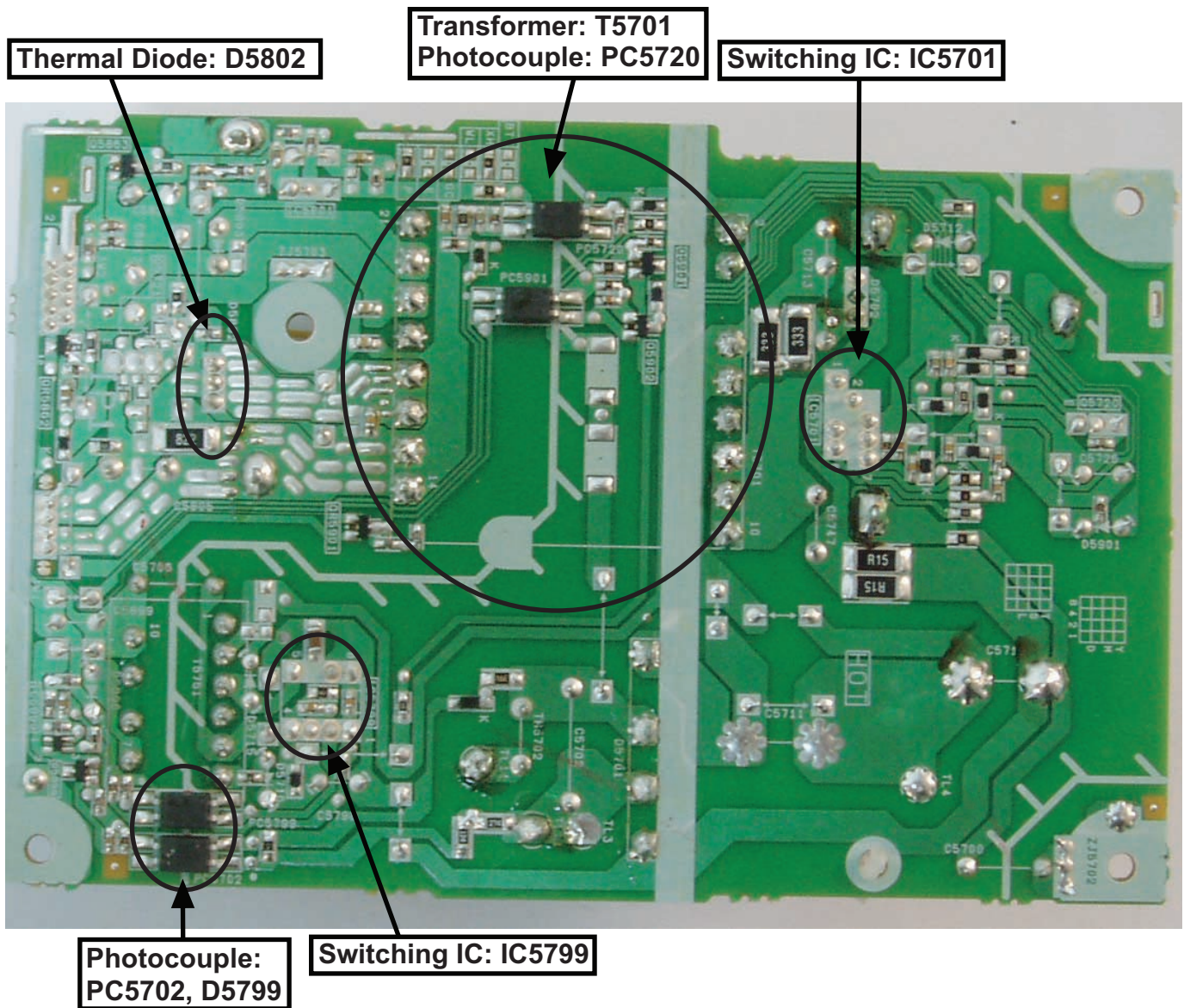
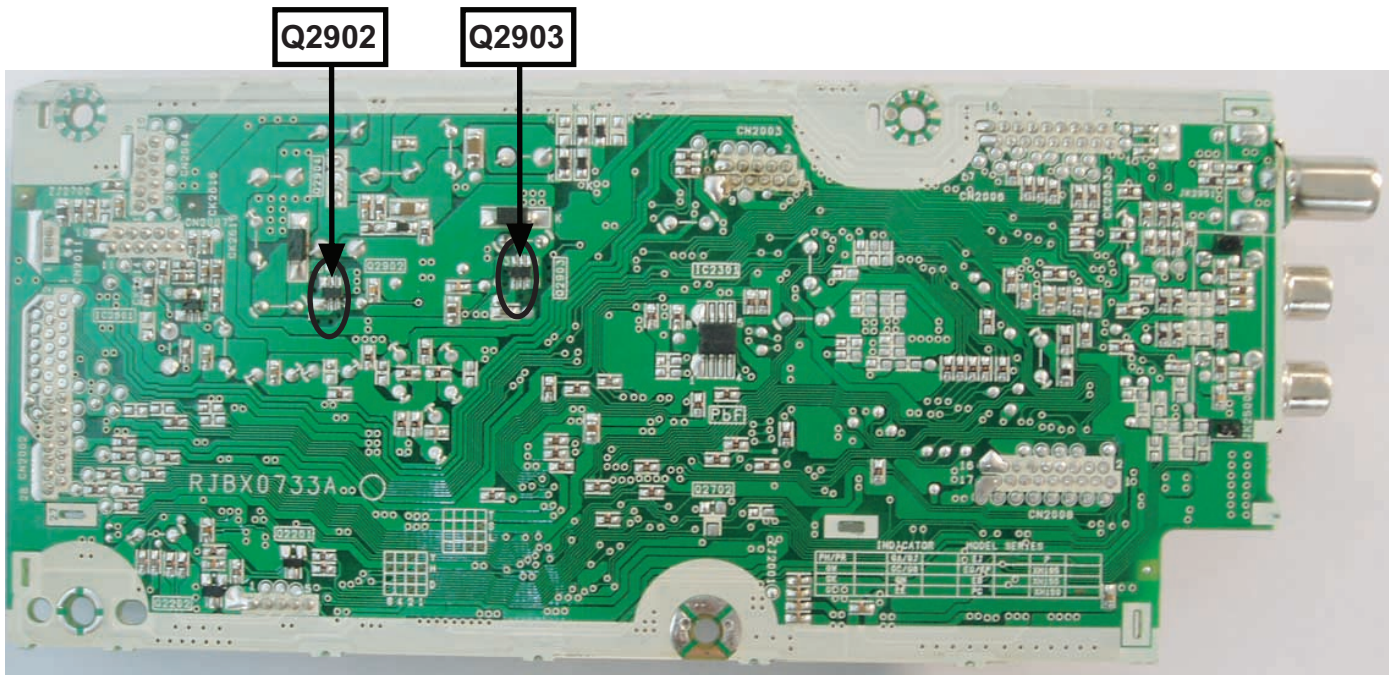


Fig. 1. SMPS P.C.B.

8.1.2. Main P.C.B.

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



(Side B of Main P.C.B.)

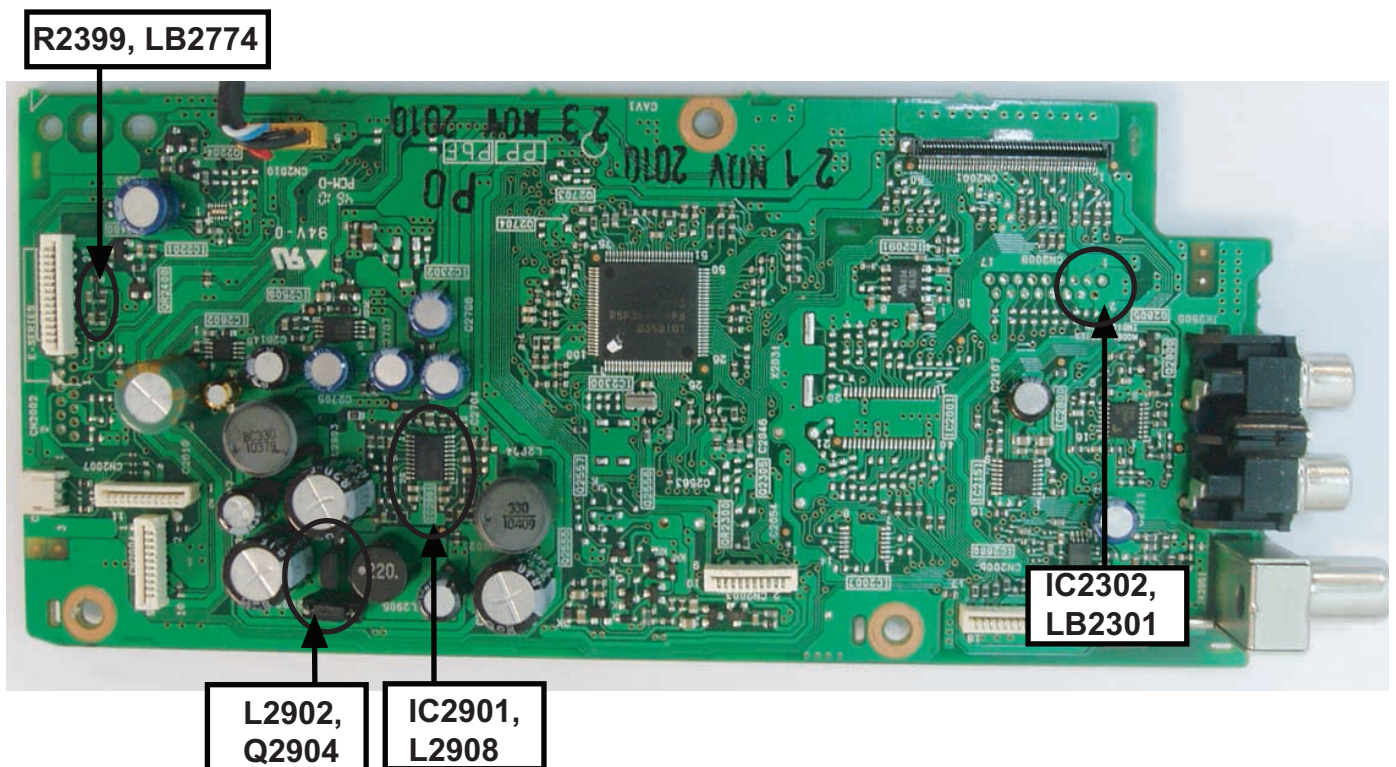


Fig. 2. Main P.C.B.

8.2. DVD/CD Laser Diode current measurement.

This section will illustrate procedures of measuring & deriving DVD/CD Laser Diode Current.

Item Description	Checking Item/ Formula	Remarks
CD Laser Diode Current Measurement	1. Measurement the voltage (V_{CD}) on the testpoints CL8530(+) & CL8531(-). This is voltage across R8566 which has a resistance value of 4.7 ohm. 2. Calculate the CD Laser current by the following formula: $CD_LD = VCD / 4.7$ 3. Specification for CD laser current is ≤ 58 mA	Refer to 8.2.1. Backend P.C.B. (Fig. 3. Backend P.C.B.)
DVD Laser Diode Current Measurement	1. Measurement the voltage (V_{DVD}) on the testpoints CL8530(+) & CL8532(-). This is voltage across R8556 which has a resistance value of 4.7 ohm. 2. Calculate the DVD Laser current by the following formula: $DVD_LD = VCD / 4.7$ 3. Specification for DVD laser current is ≤ 58 mA	Refer to 8.2.1. Backend P.C.B. (Fig. 3. Backend P.C.B.)

(Side A of Backend P.C.B.)

(Side A of Backend P.C.B.)

**CL8530, CL8531, CL8532**

8.3. Basic Troubleshooting Guide for Traverse Unit (Backend P.C.B.)

Problems	Checking Points	Checking components
1) Distorted picture or abnormal sound is heard during the initialization	a) Check SDRAM address, data bus, CLK and other control signals waveform	IC8051
	b) Check video signals (CVBS)	LB8317, R8325 (CVBS)
	c) Check audio DAC circuitry * Compare the above with OK condition DVD Module P.C.B	LB8422 till LB8428 *Check for solder short and/or component missing/damaged
2) No TOC/Long TOC	a) Check motor driver circuitry (VCC PVCC)	IC8251 Pin 8, (+9V), 21 (+5V)
	b) Check laser drive circuitry (Voltages & current)	Q8552, CL8510 (For DVD), Q8562, CL8520 (For CD)
	c) Check LSI IC connection to motor drive circuitry * Compare the above with OK condition Main P.C.B.	IC8001 Pin 90, 93, 94, 95 IC8251 Pin 11 to 18 * Check for solder short and/or component missing/damaged
3) Disc not spinning 4) Traverse not moving 5) Traverse and spindle abnormal movement	a) Check connection from Main to Traverse unit	FP8251
	b) Check motor driver circuitry on the voltages and control signals * Compare the above with OK condition Main P.C.B.	IC8251 * Check for solder short and/or component damaged
6) Cannot read the disc but spindle motor is spinning - Cannot read CD/DVD	a) Check laser drive circuitry (voltages and current) - Check CD Laser Drive - Check DVD Laser Drive * Check voltages and LD current and compare with OK condition Main P.C.B.	Q8552, LB8551 (For DVD Laser Drive current) Q8562, LB8561 (For CD Laser Drive current)
7) Block Noise during play	a) Check SDRAM address and data bus signal	IC8051
8) Jitter out of specification	a) Check LD current b) Check OPU (Change to other unit and confirmed operating condition)	OPU Unit (Traverse unit), FPC connection (FP8531 & FP8251)

8.4. Basic Troubleshooting Guide for HDMI AV output

Problems	Checking Points	Checking components
1) TV does not have any display. Set FL display shows U702/U703	1) Check setting of the set in Setup Menu whether the HDMI Video output is turned ON	* This year HDMI always ON. No need check Setup Menu. If no resolution selection GUI, then only check SETUP.
	2) +5V Supply to the TV	IC3952 (Pin 4)
	3) HDMI Connector Solderability condition	P3901
	4) HDMI Output TDMS signal lines (IC3901) - Clock (TXCP/TXCM => Pin 50, 49) - Data (TX0P/M => Pin 52, 51) - Data (TX1P/M => Pin 54, 53) - Data (TX2P/M => Pin 56, 55)	HDMI Connector (P3901) - Clock (TXCP/TXCM => Pin 10, 12) - Data (TX0P/M => Pin 7, 9) - Data (TX1P/M => Pin 4, 6) - Data (TX2P/M => Pin 1, 3)
	5) HDMI Transmitter communication lines to TV - Data, SDA (Pin 46, IC8001) - Clock, SCL (Pin 47, IC8001)	LB3905, R3905, Q3902, R3904 LB3904, R3907, Q3903, R3906
	6) HDMI Transmitter communication from LSI (IC8001) +3.3V Supply	LB3901 (Pin 57)
	7) HDMI Transmitter LSI IC (IC8001) +1.8 V Supply	LB3902, LB3910, R3910 (Pin 59)
	8) Hot-Plug Signal	LB3906, R3902, R3903, Q3901
	9) HDMI Interface Reference Resistor	R3901
2) When switching the video output mode from 480p to 720p /1080i, TV display become blank	1) Supply fo HDMI transmitter intergrated (IC8001) 2) Check for Capacitor short to GND	C8034, C8006C C8029, C8028, LB3901 (Pin 57), LB3902, LB3910 (Pin 59)
3) Error Video Output. TV screen shows green Display	Check Digital Signal Data communication lines from IC8001 to Serial Flash IC (IC8651)	Pin 1, 2, 5, 6 (IC8651) Pin 105, 106, 107, 109 (IC8001)
4) No audio output from HDMI	Check the setting under ' SETUP ' menu if HDMI Audio Output option is turned ' ON '	* Check for solder short/or component missing on TDMS line as well as signal intergrity HDMI Connector (P3901) - Clock (TXCP/TXCM => Pin 10, 12) - Data (TX0P/M => Pin 7, 9) - Data (TX1P/M => Pin 4, 6) - Data (TX2P/M => Pin 1, 3)

9 Service Fixture & Tools

9.1. Service Tools and Equipment

Prepare service tools before process service position.

Ref. No	Service Tools		Remarks
SFT1	Main P.C.B. (CN2002) - Panel P.C.B. (P6001)	RFKZXH150K1 (14P FFC)	
SFT2	Main P.C.B. (CN2001) - Backend P.C.B. (FP8101)	RFKZXH150K2 (50P FFC)	

10 Disassembly and Assembly Instructions

Caution Note:

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

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

- During disassembly and assembly, please ensure proper service tools, equipments or jigs is being used.
- During replacement of component parts, please refer to the section of “Replacement Parts List” as described in the service manual.
- Select items from the following indexes when disassembly or replacement are required.
 - Disassembly of Top Cabinet
 - Disassembly of Rear Panel
 - Disassembly of Fan
 - Disassembly of Front Panel Block Assembly
 - Disassembly of Panel P.C.B.
 - Disassembly of Operation Button P.C.B.
 - Disassembly of Power Button P.C.B.
 - Replacement of Cradle Unit
 - Disassembly of iPod P.C.B.
 - Disassembly of Front Lid Assembly
 - Disassembly of DVD Mechanism Unit (BRS1D)
 - Replacement of Traverse Unit.
 - Disassembly of AC Inlet P.C.B.
 - Disassembly of D-Amp P.C.B.
 - Replacement of Digital Amplifier IC (IC5100/IC5200/IC5300)
 - Disassembly of Main P.C.B.
 - Disassembly of Backend P.C.B.
 - Disassembly of SMPS P.C.B.
 - Replacement of Switching Regulator IC (IC5701)
 - Replacement of Rectifier Diode (D5702)
 - Replacement of Thermal Diode (D5802)
 - Replacement of Regulator Diode (D5803)

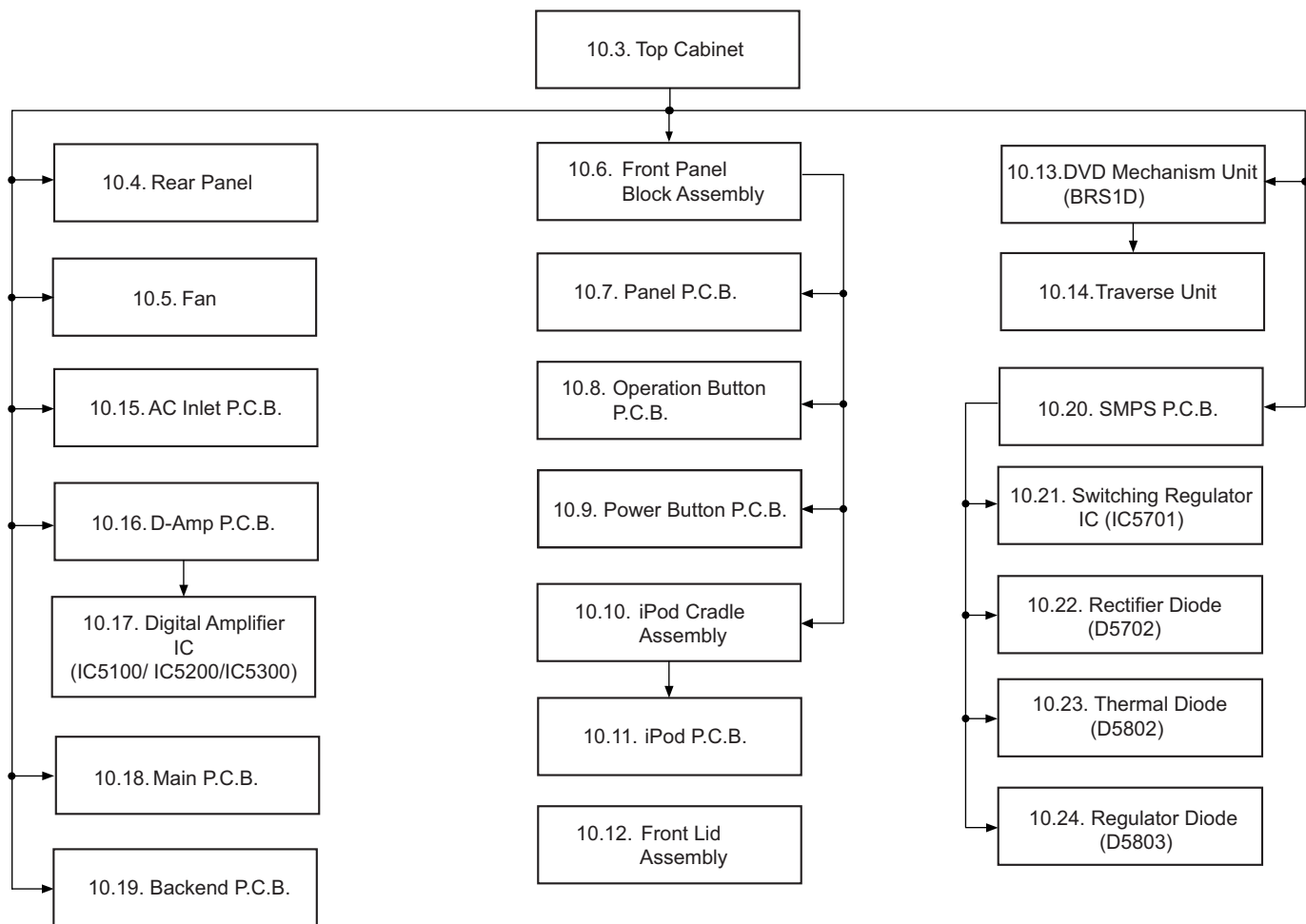
CAUTION NOTE:

Please use original screw and at correct locations.

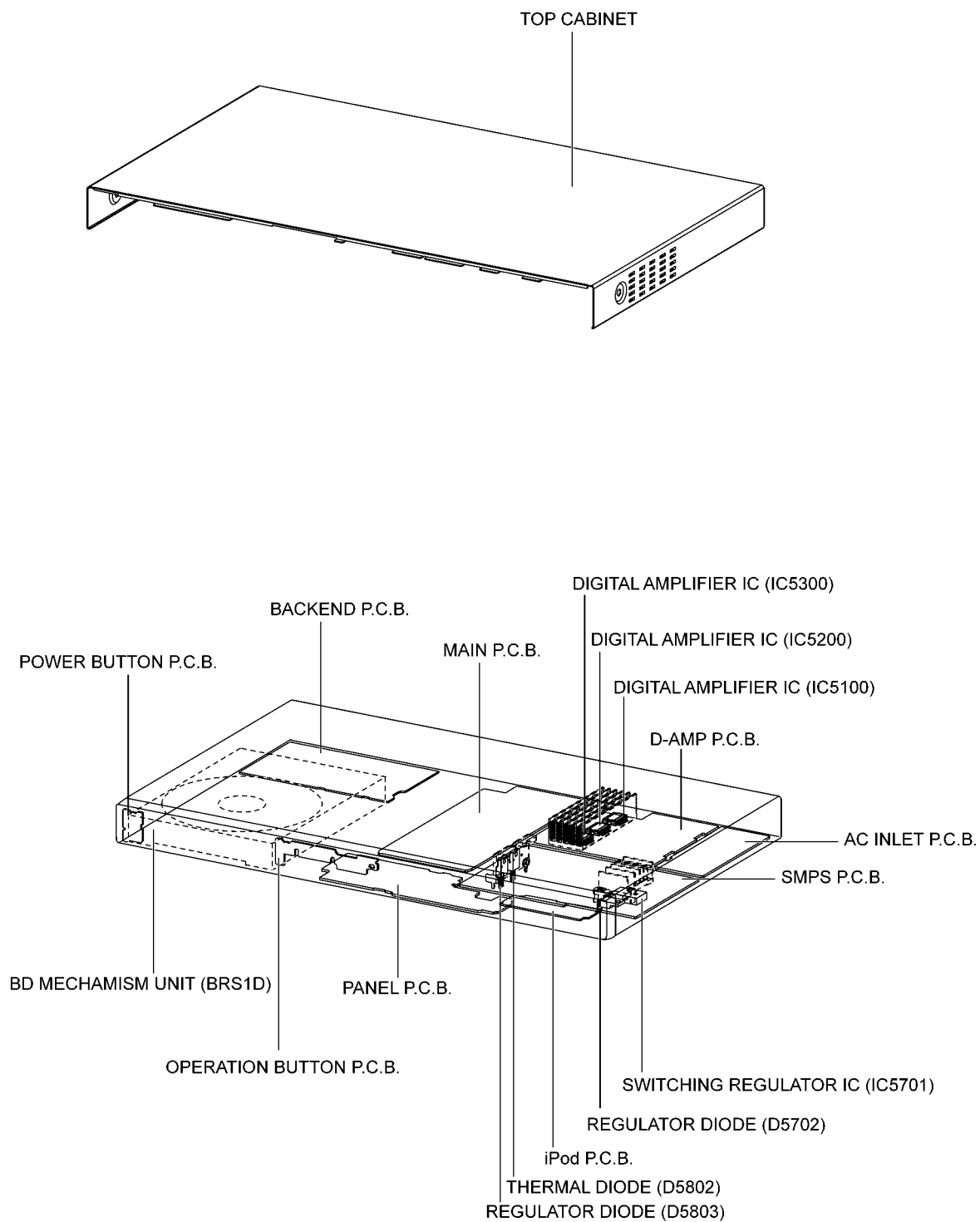
Below shown is part no. of different screw types used:

- | | |
|------------------------|----------------------|
| a :RHD30007-K2J | e :RHD26046 |
| b :RHD30119-S | f :RHDX261002 |
| c :XSN3+4FJ | g :VHD1224-1 |
| d :RHD30168 | |

10.1. Disassembly Flow Chart

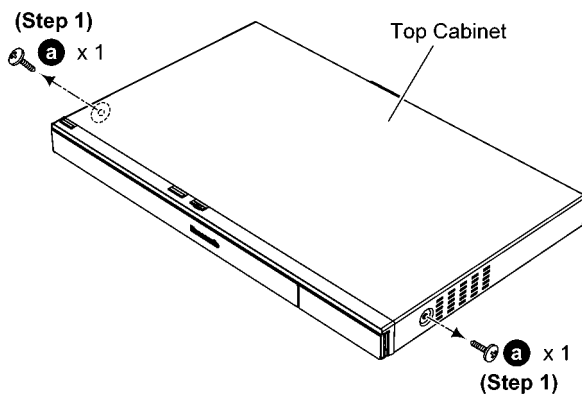


10.2. Main Components and P.C.B. Locations

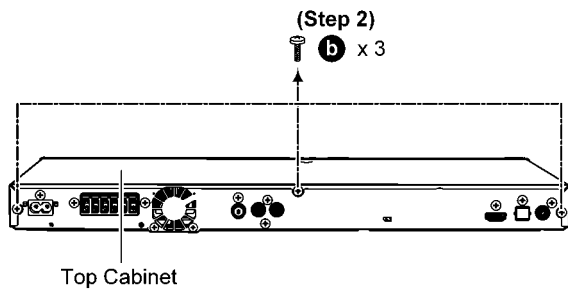


10.3. Disassembly of Top Cabinet

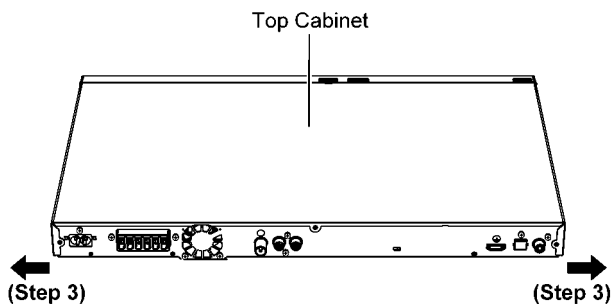
Step 1 Remove 2 screws.



Step 2 Remove 3 screws.



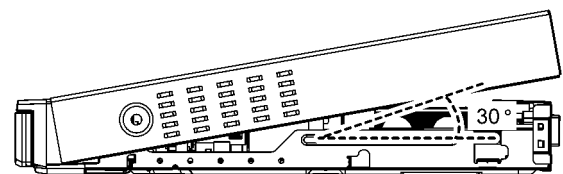
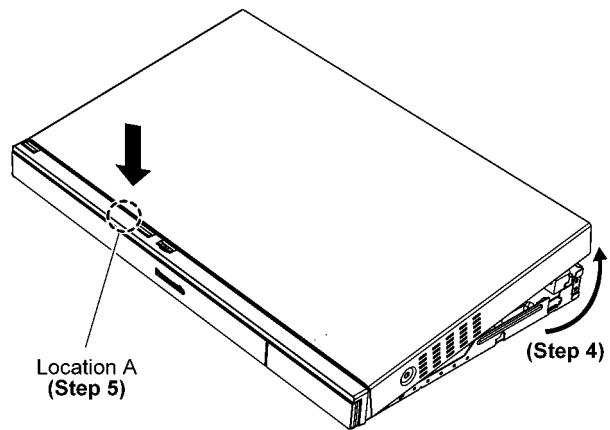
Step 3 Slightly pull both sides of Top Cabinet as diagram shown.



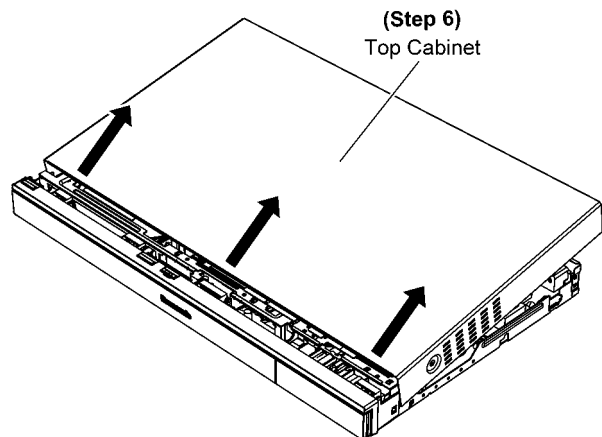
Step 4 Slightly lift both sides of Top Cabinet in an outward direction about 30°.

Caution: Ensure that the distance not greater than 30°.

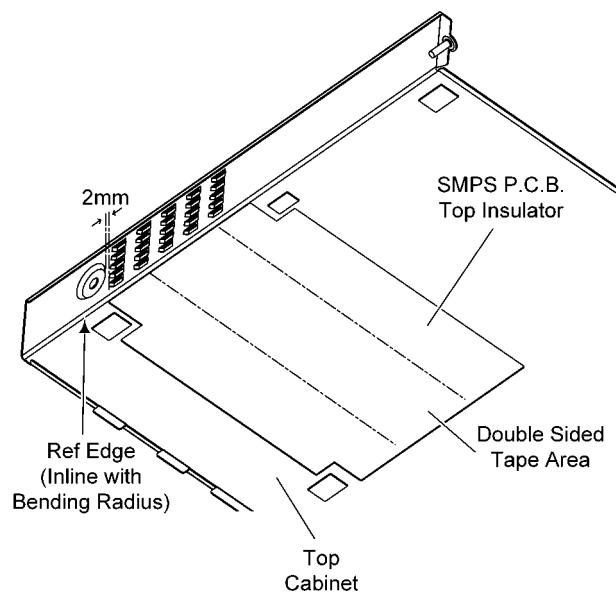
Step 5 Press location A in downward direction at front panel.



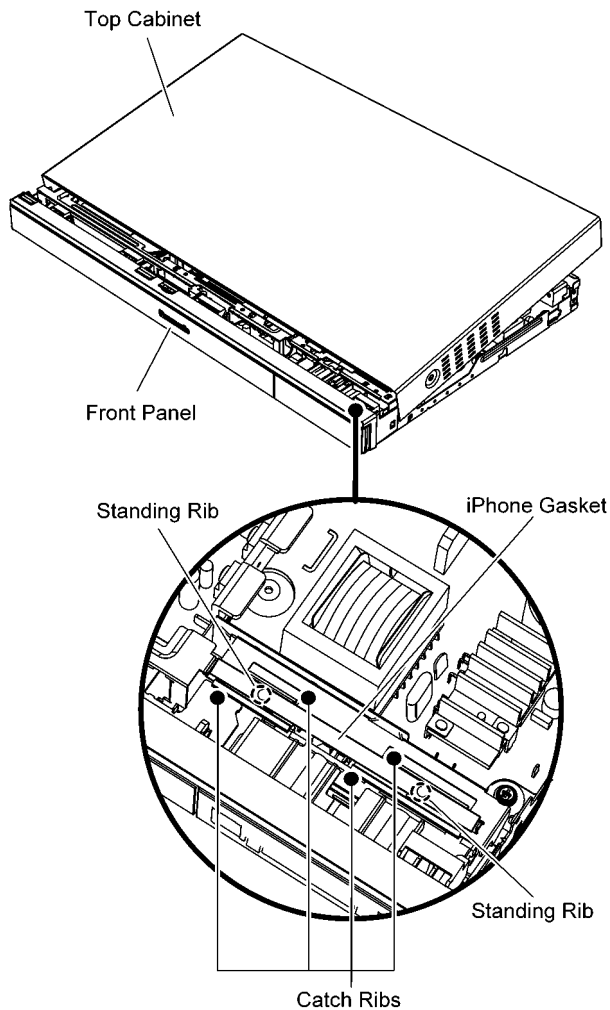
Step 6 Remove Top Cabinet as arrow shown.



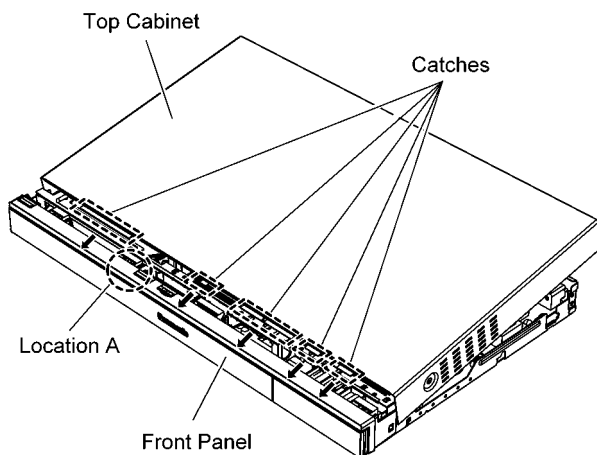
Caution: Replace the SMPS P.C.B. Top Insulator if broken. Ensure it is pasted properly on Top Cabinet as diagram shown.



Caution: During assembling, ensure that iPhone Gasket is properly inserted & fully fixed onto Bottom Chassis.



Caution: During assembling, ensure that the catches of Top Cabinet is inserted into Front Panel properly.

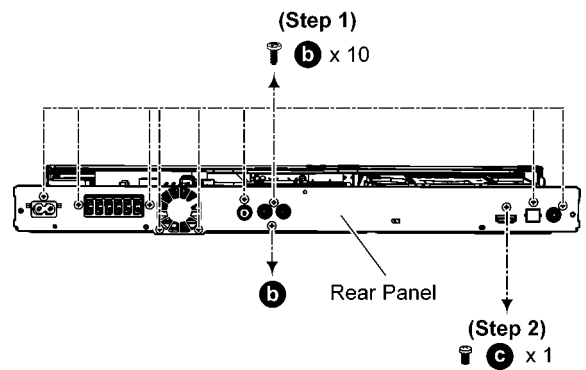


10.4. Disassembly of Rear Panel

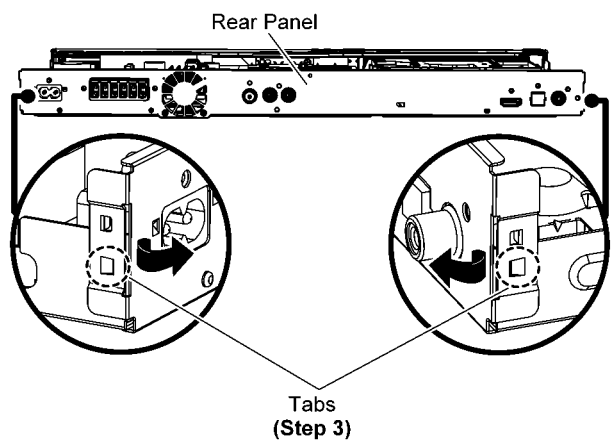
• Refer to “Disassembly of Top Cabinet”.

Step 1 Remove 10 screws.

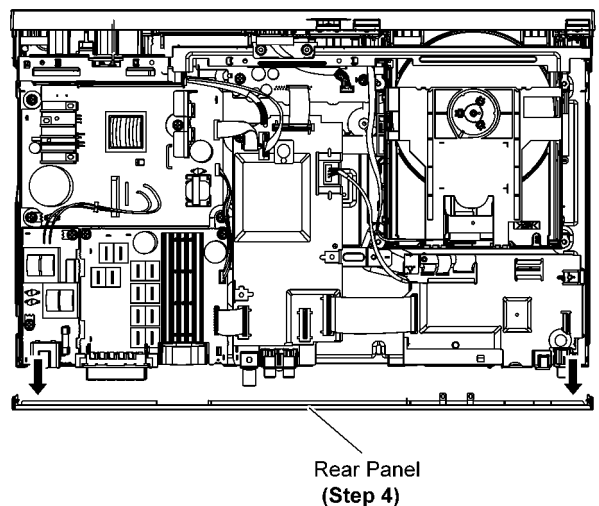
Step 2 Remove 1 screw.



Step 3 Release the tabs at both side of the Rear Panel in the direction of arrow.



Step 4 Remove the Rear Panel.

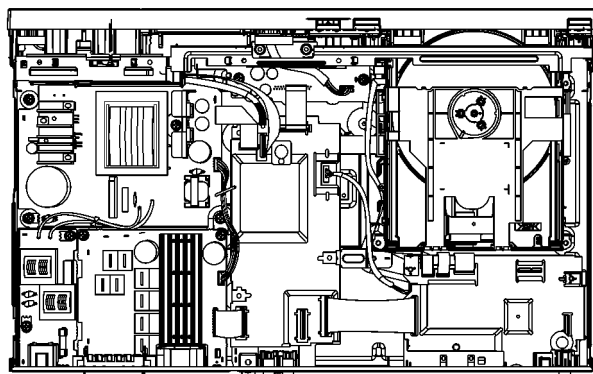


10.5. Disassembly of Fan

• Refer to “Disassembly of Top Cabinet”

Step 1 Lift up the Wire Clamper.

Step 2 Detach the Fan connector (CN5401) on D-Amp P.C.B..

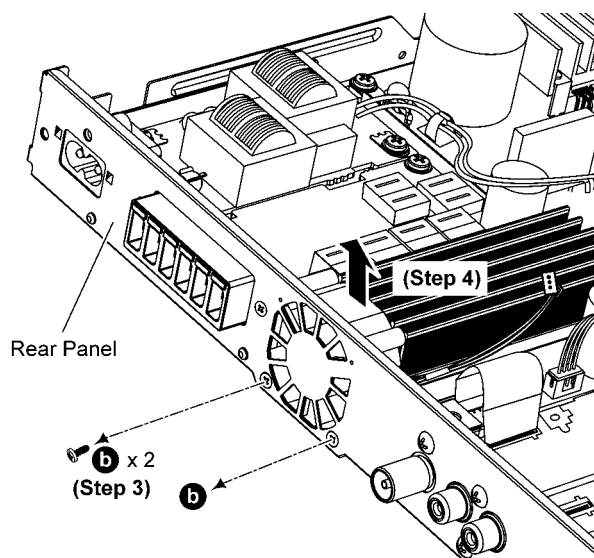


(Step 2)
CN5401

(Step 1)
Wire Clamper

Step 3 Remove 2 screws.

Step 4 Lift up to remove Fan.



Rear Panel

(b) x 2
(Step 3)

(b)

(Step 4)

10.6. Disassembly of Front Panel Block Assembly

• Refer to “Disassembly of Top Cabinet”

Step 1 Remove 1 Rivet.

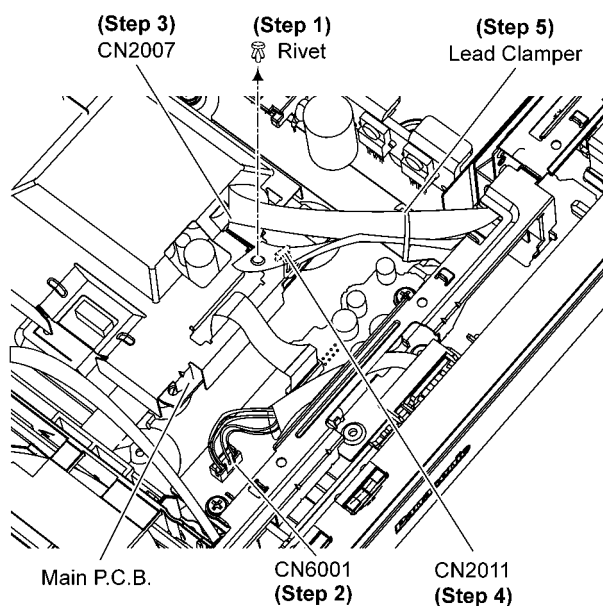
Caution: Keep the Rivet in safe place, place it back during assembling.

Step 2 Detach 4P FFC at the connector (CN6001) on FL P.C.B..

Step 3 Detach 11P FFC at the connector (CN2007) on Main P.C.B..

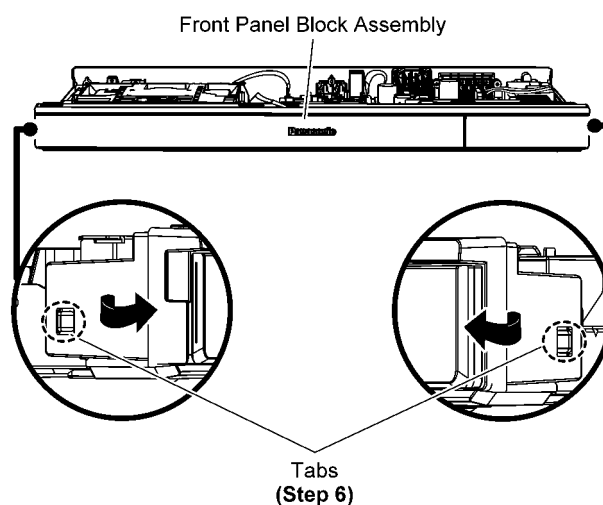
Step 4 Detach 3P Wire at the connector (CN2011) on Main P.C.B..

Step 5 Lift up the Lead Clamper to release 3P Wire & 11P FFC.



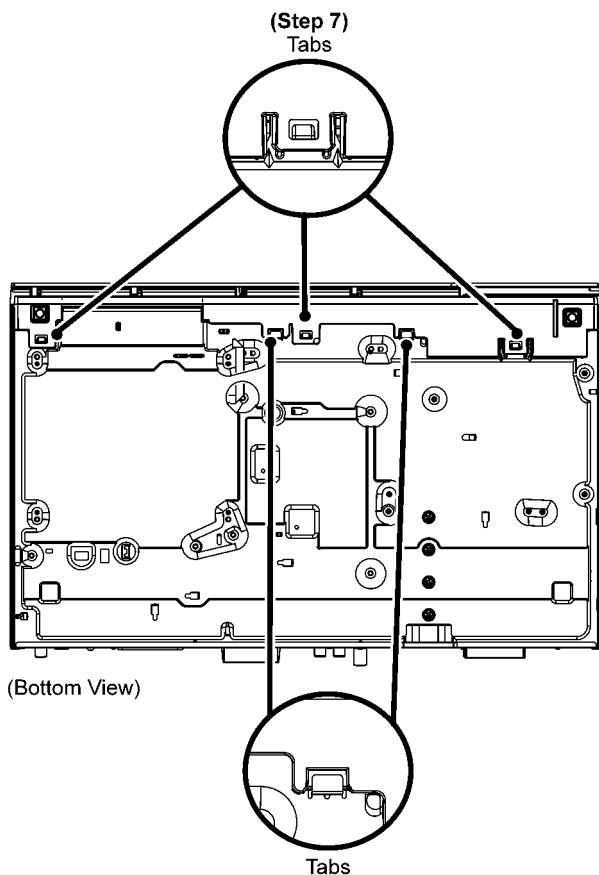
Step 6 Release 2 tabs at both side of the Front Panel Block Assembly in the direction of arrow.

Caution: Do not exert strong force when releasing the tabs. During assembling ensure that Front Panel Block Assembly is properly inserted and fully caught onto Bottom Chassis.

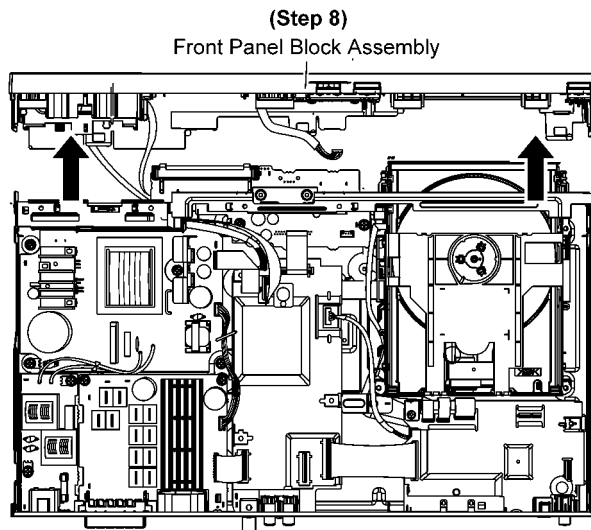


Step 7 Release 3 tabs at the Bottom Chassis.

Caution: Do not exert strong force when releasing the tabs. During assembling, ensure that Front Panel Block Assembly is properly inserted & fully caught onto Bottom Chassis.

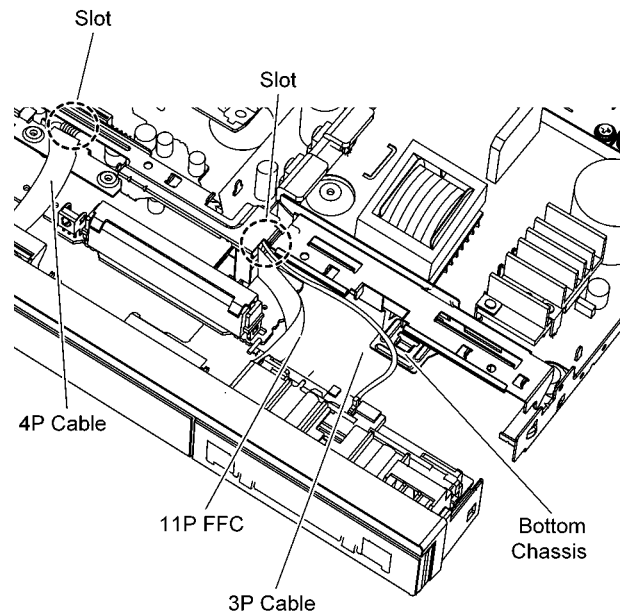


Step 8 Detach the Front Panel Block Assembly.



Caution (1): During assembling, ensure that 4P Cable, 11P FFC & 3P Cable are properly dressed through slots of Bottom Chassis.

Caution (2): During assembling, ensure that 3P Cable is properly dressed on top of Bottom Chassis.

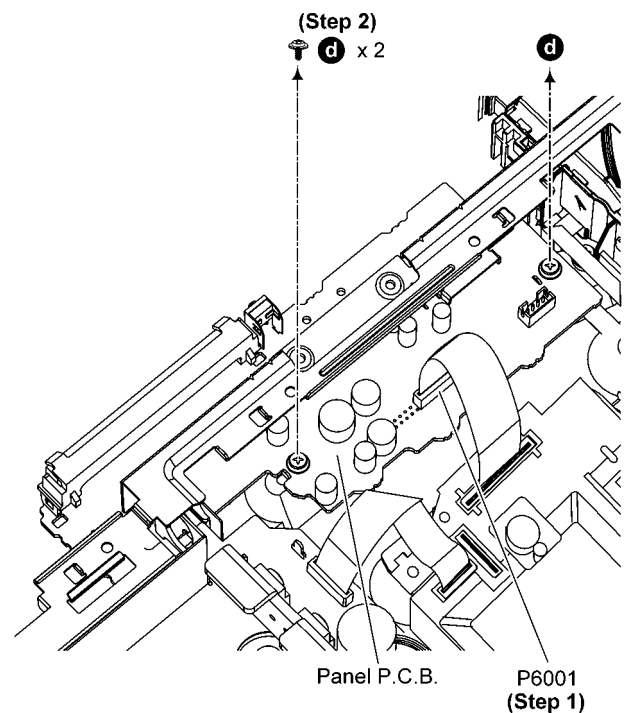


10.7. Disassembly of Panel P.C.B.

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

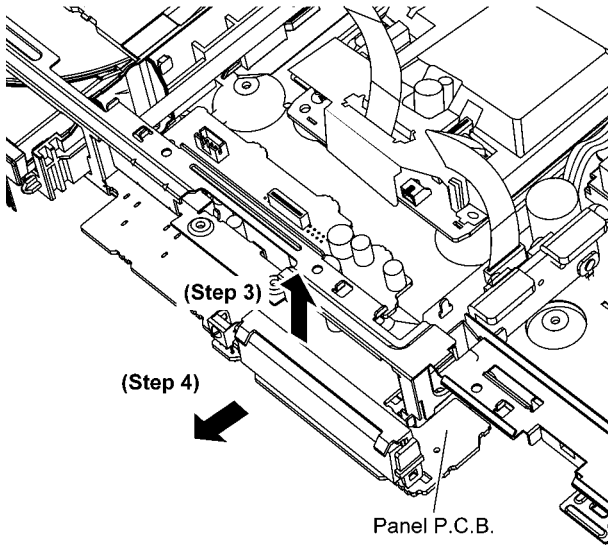
Step 1 Detach 14P FFC at the connector (P6001) on Panel P.C.B..

Step 2 Remove 2 screws.



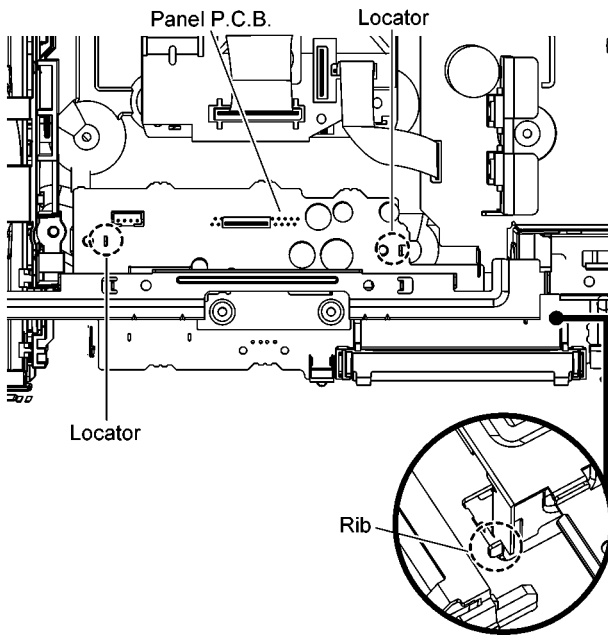
Step 3 Slightly lift up the Panel P.C.B..

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



Caution (1): During assembling, ensure that Panel P.C.B. is properly located & fully seated onto Bottom Chassis before screwing.

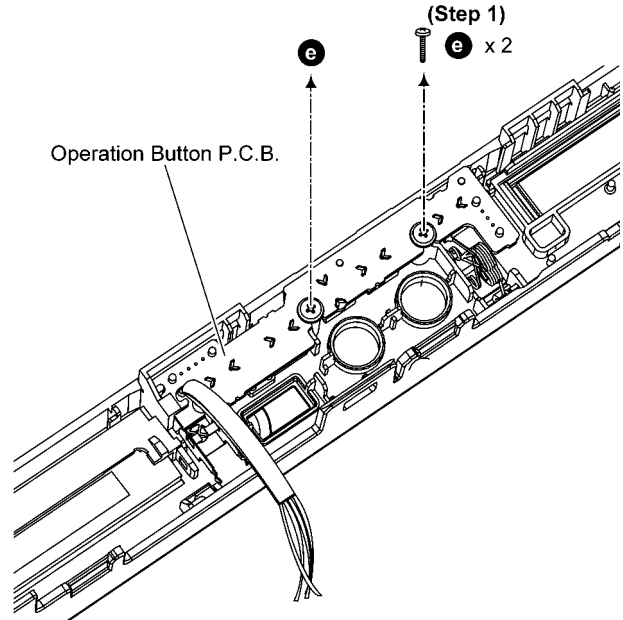
Caution (2): During assembling, ensure that Panel P.C.B. is properly inserted under the rib of Bottom Chassis.



10.8. Disassembly of Operation Button P.C.B.

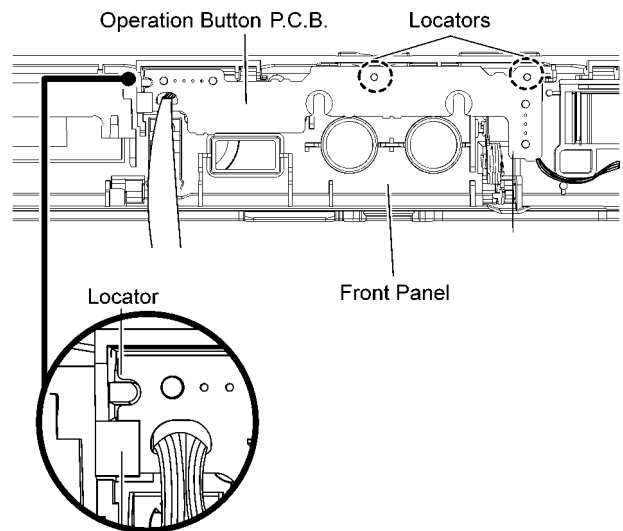
- Refer to "Disassembly of Top Cabinet".
- Refer to "Disassembly of Front Panel Block Assembly".

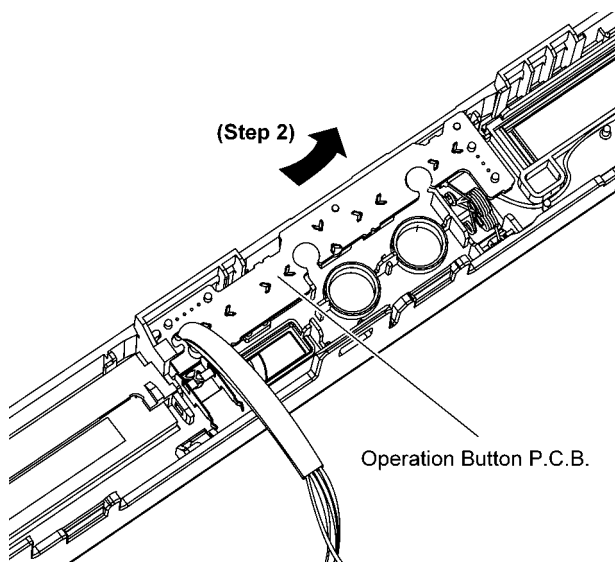
Step 1 Remove 2 screws.



Step 2 Lift up the Operation Button P.C.B. as direction of arrow.

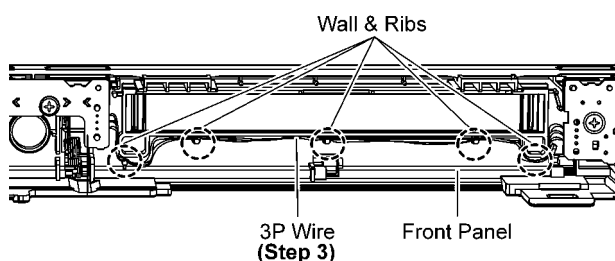
Caution: During assembling, ensure that Operation Button P.C.B is properly located & fully inserted under the rib of Front Panel.





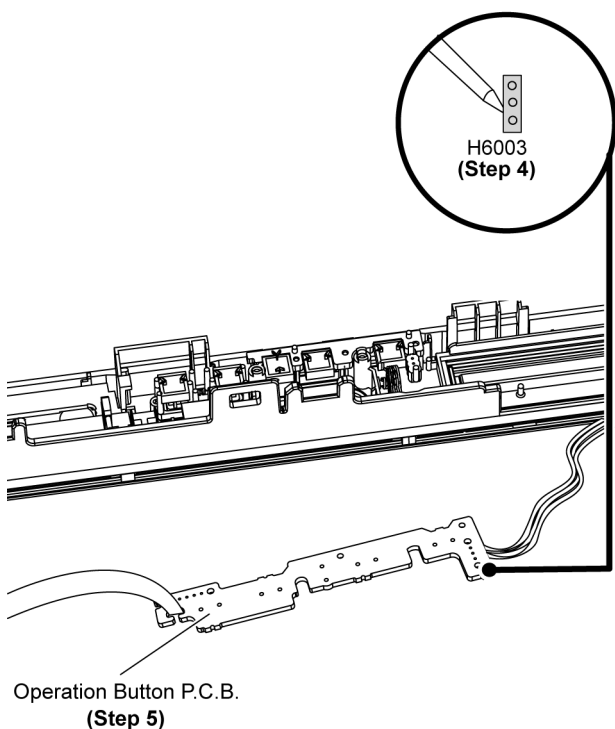
Step 3 Release 3P Wire from wall & rib of Front Panel.

Caution: During assembling, ensure that 3P Wire is properly dressed in between wall & ribs of Front Panel as diagram shown.

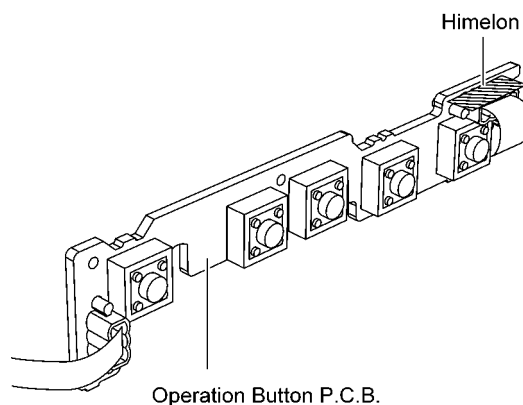


Step 4 Desolder pins of the connector (H6003) on Operation Button P.C.B..

Step 5 Remove the Operation Button P.C.B..



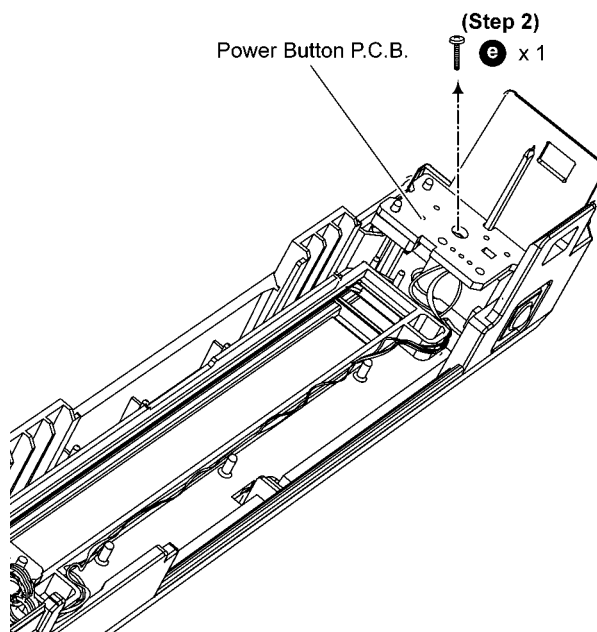
Caution: Replace the Himelon if torn.



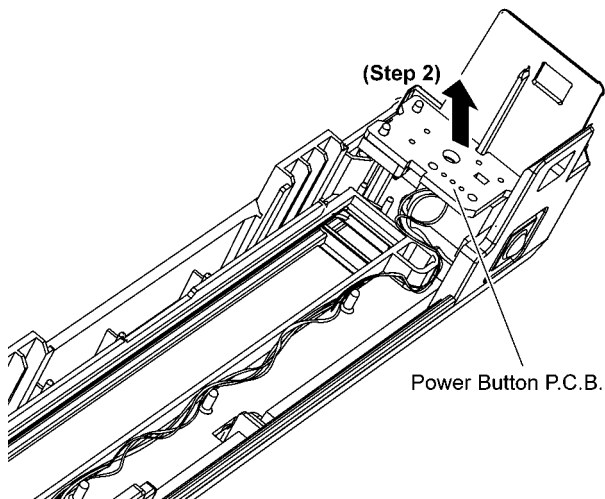
10.9. Disassembly of Power Button P.C.B.

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

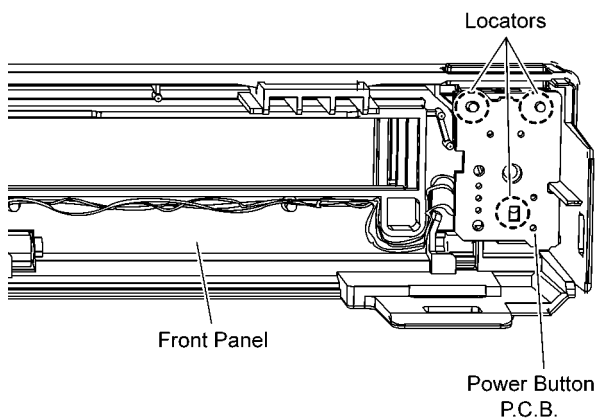
Step 1 Remove 1 screw.



Step 2 Lift up the Power Button P.C.B. as direction of arrow.

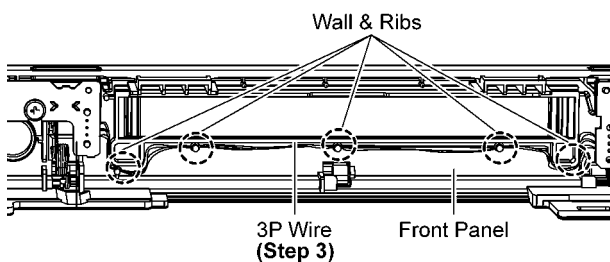


Caution: During assembling, ensure that Power Button P.C.B is properly inserted & fully fixed onto Front Panel.



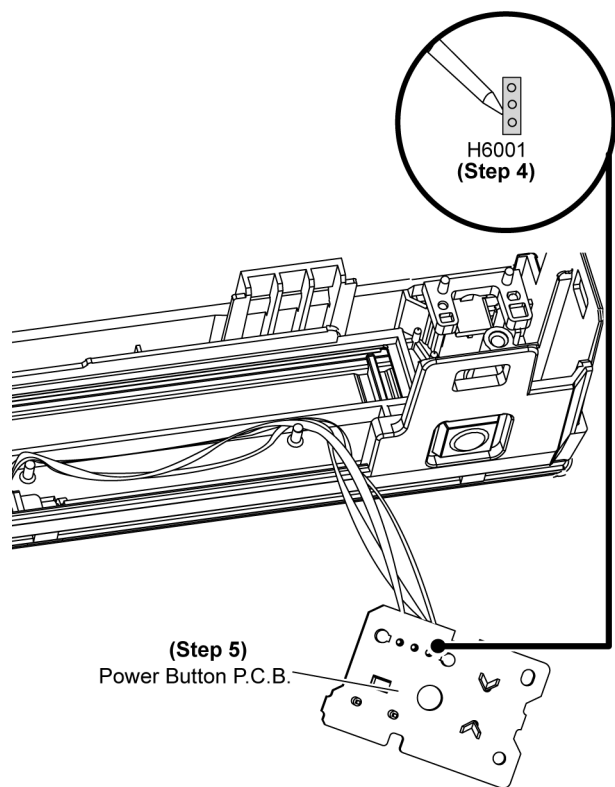
Step 3 Release 3P Wire from wall & rib of Front Panel.

Caution: During assembling, ensure that 3P Wire is properly dressed in between wall & ribs of Front Panel as diagram shown.



Step 4 Desolder pins of the connector (H6001) on Power Button P.C.B..

Step 5 Remove the Power Button P.C.B..



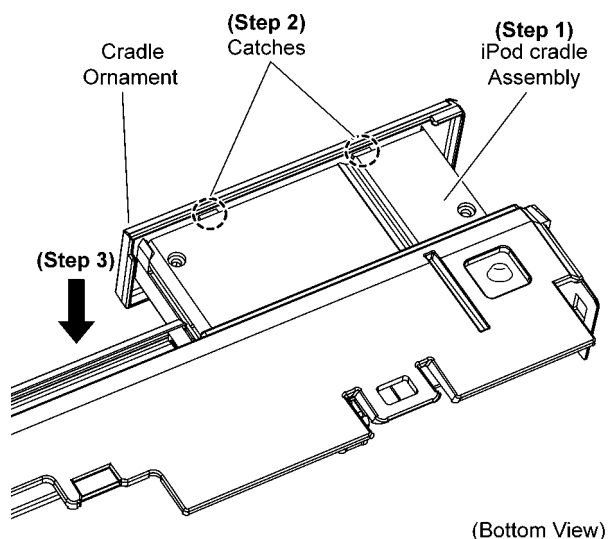
10.10. Disassembly of iPod Cradle Assembly

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

Step 1 Open the iPod Cradle Assembly as diagram shown.

Step 2 Release 2 catches.

Step 3 Remove the Cradle Ornament according to direction of arrow.

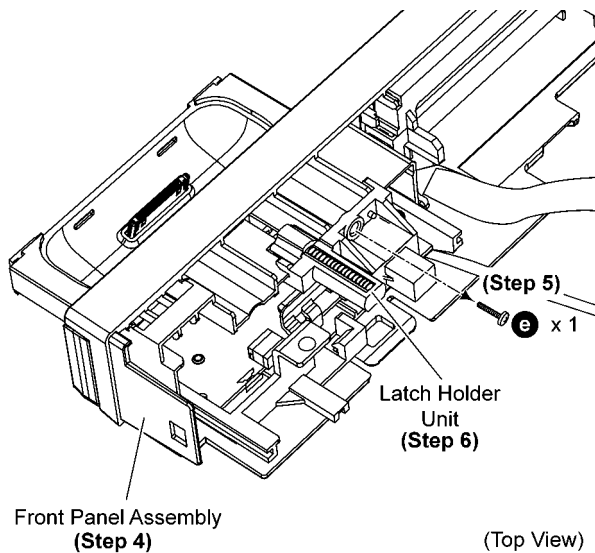


Step 4 Upset the Front Panel Assembly.

Step 5 Remove 1 screw.

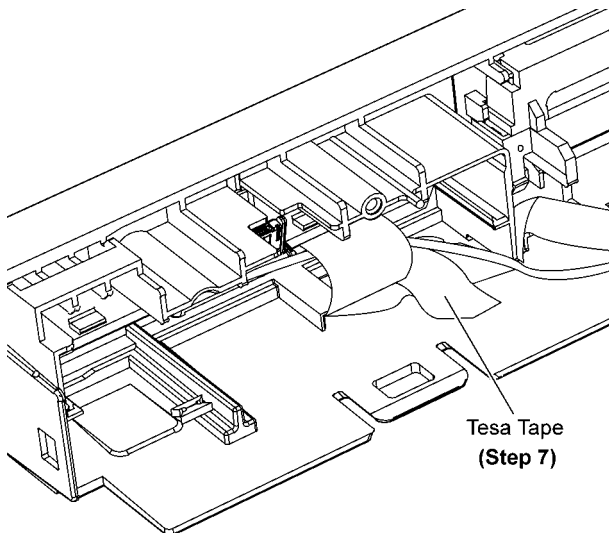
Step 6 Remove the Latch Holder Unit.

Caution: Keep the Latch Holder Unit in safe place, place it back during assembling.



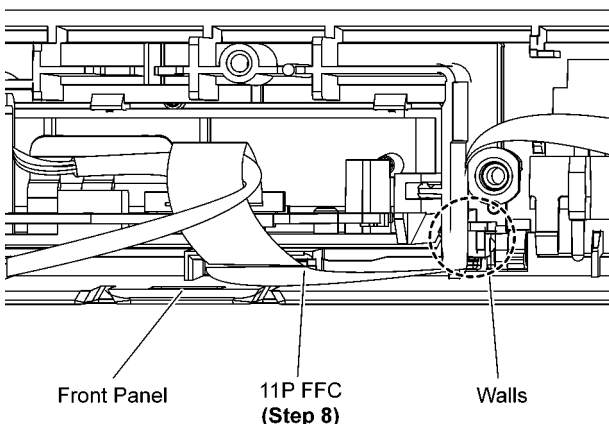
Step 7 Lift up the tesa tape.

Caution: During assembling, replace the tesa tape if torn.



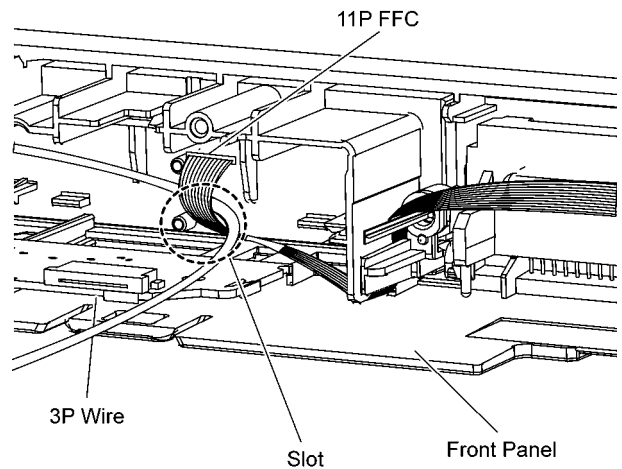
Step 8 Release 11P FFC from the 2 walls of Front Panel.

Caution: During assembling, ensure that 11P FFC is properly dressed in between 2 walls of Front Panel.

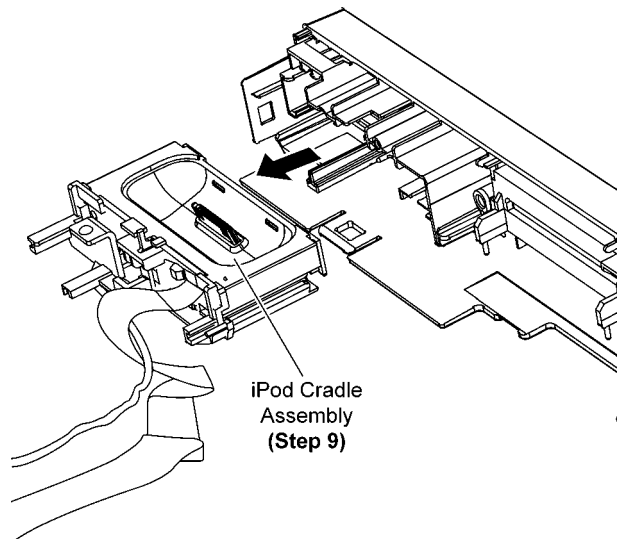


Caution (1): During assembling, ensure that 3P Wire is properly dressed through round of 11P FFC as diagram shown.

Caution (2): During assembling, ensure that 11P FFC is properly dressed into slot of Front Panel.



Step 9 Remove iPod Cradle Assembly.

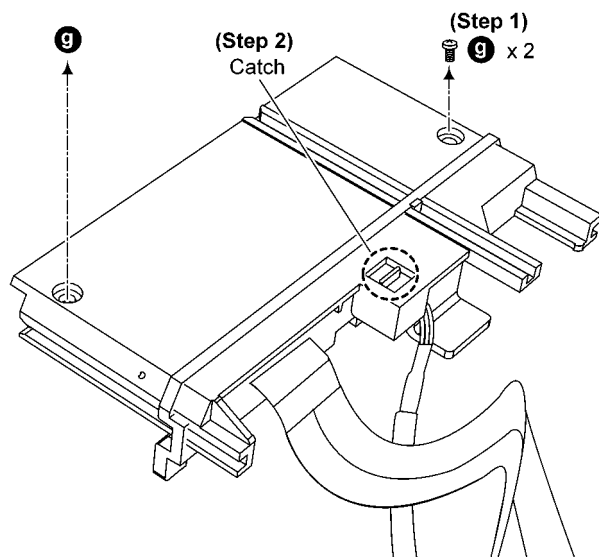


10.11. Disassembly of iPod P.C.B.

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

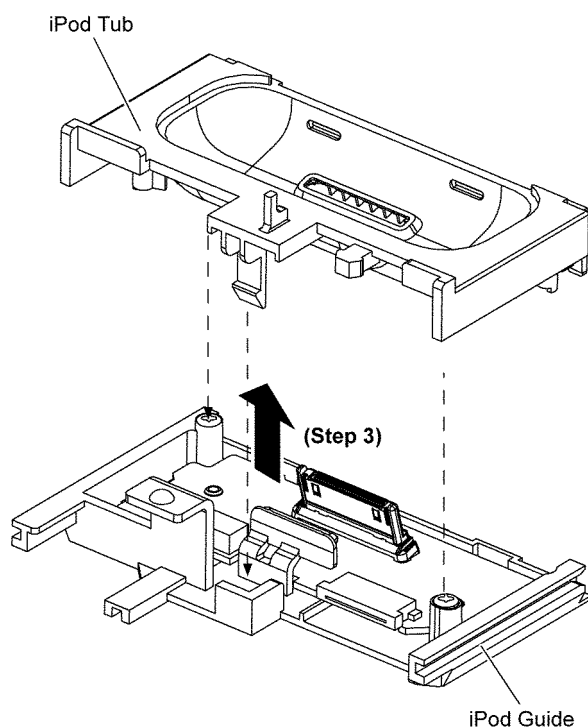
Step 1 Remove 2 screws.

Step 2 Release 1 catch.



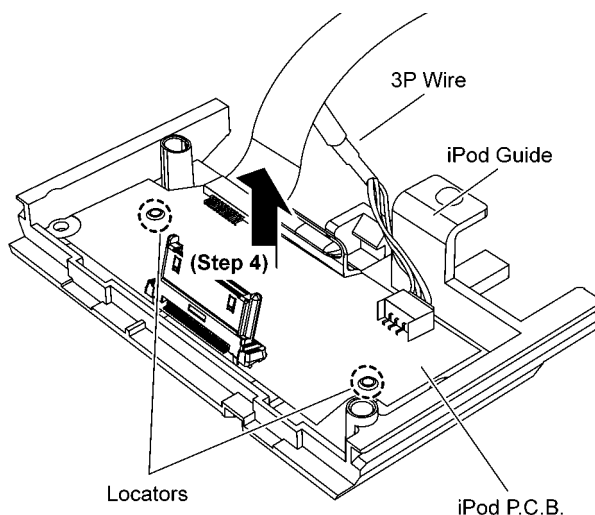
Step 3 Lift up the iPod Tub.

Caution: During assembling, ensure that iPod Tub is properly fixed & fully caught into iPod Guide before screwing.



Step 4 Lift up the iPod P.C.B..

Caution: During assembling, ensure that iPod P.C.B. is properly located & fully inserted onto iPod Guide with 3P Wire dressed according to diagram shown.

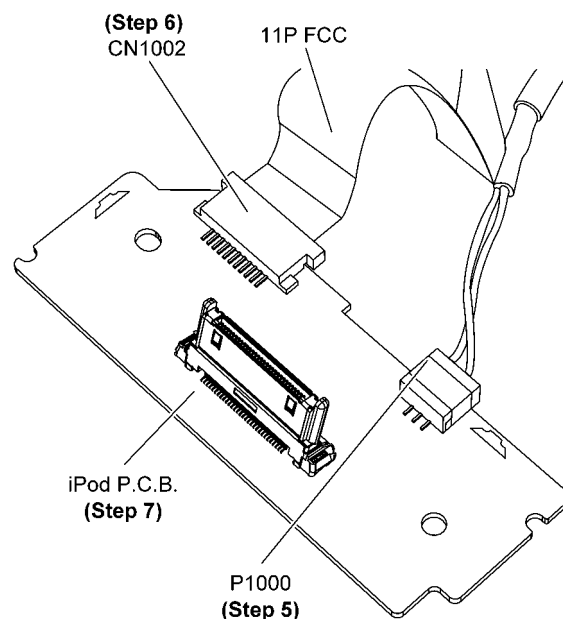


Step 5 Detach 3P Wire at the connector (P1000) on iPod P.C.B..

Step 6 Detach 11P FFC at the connector (CN1002) on iPod P.C.B..

Caution: Keep the 3P Wire and 11P FFC Cable in safe place, place it back during assembling.

Step 7 Remove the iPod P.C.B..

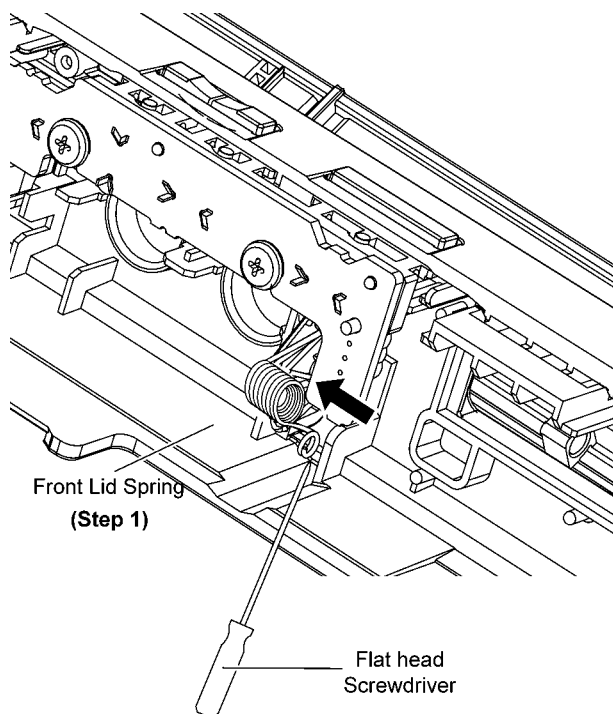


10.12. Replacement of Front Lid Assembly

10.12.1. Disassembly of Front Lid Assembly

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

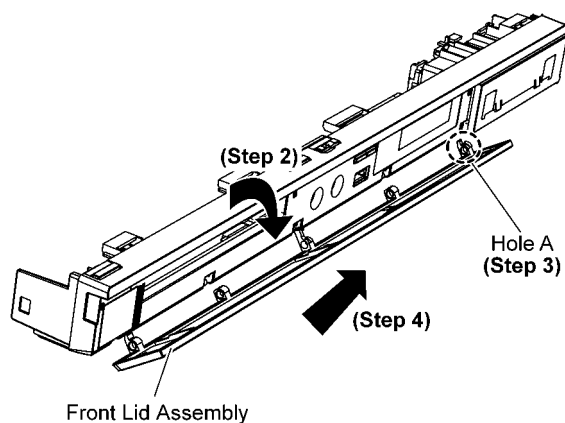
Step 1 Release the Front Lid Spring by using a Flat head screwdriver in the direction of arrow.



Step 2 Slightly open the Front Lid Assembly as diagram shown.

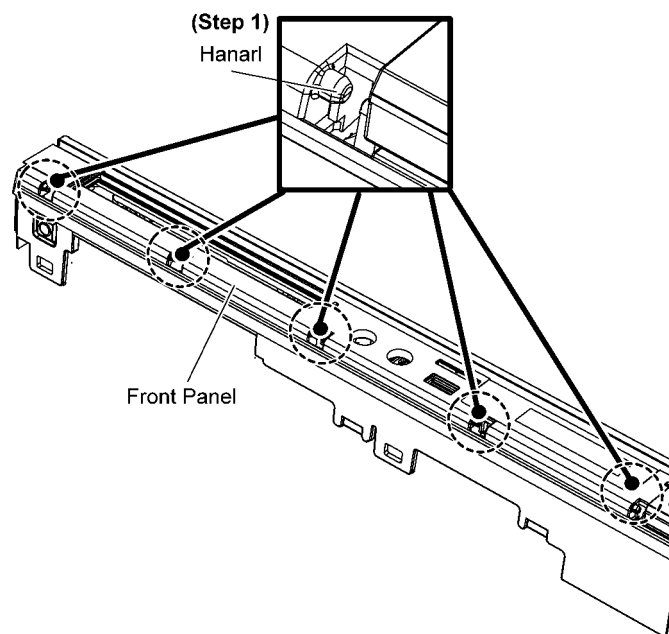
Step 3 Push and pull the Hole A out from the slot.

Step 4 Push to remove Front Lid Assembly in the direction of arrow.



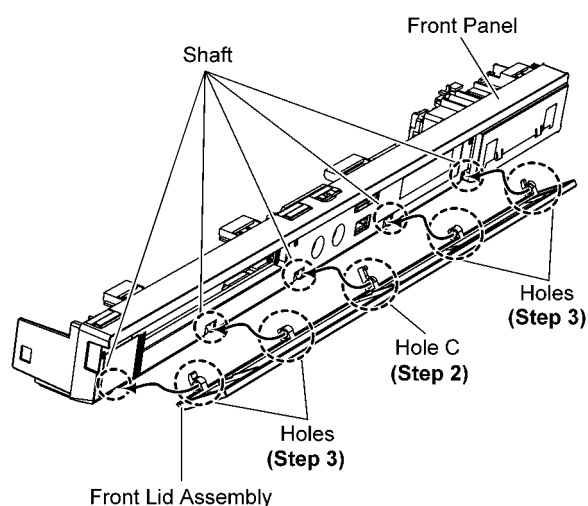
10.12.2. Assembly of Front Lid Assembly

Step 1 Apply hanarl all around the 5 shafts as shown in the diagram.

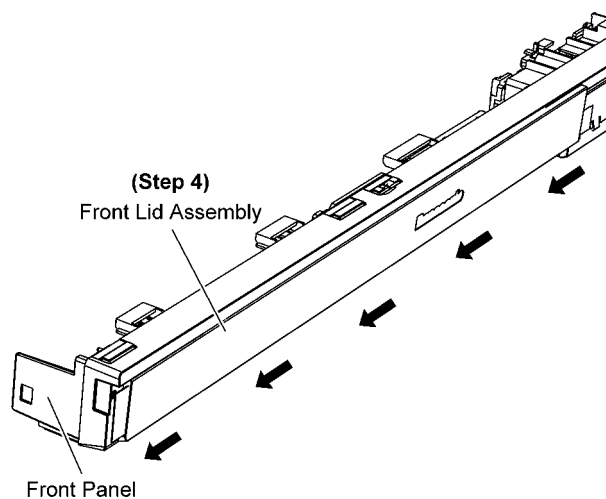


Step 2 Locate Hole C of Front Lid Assembly into shaft of Front Panel.

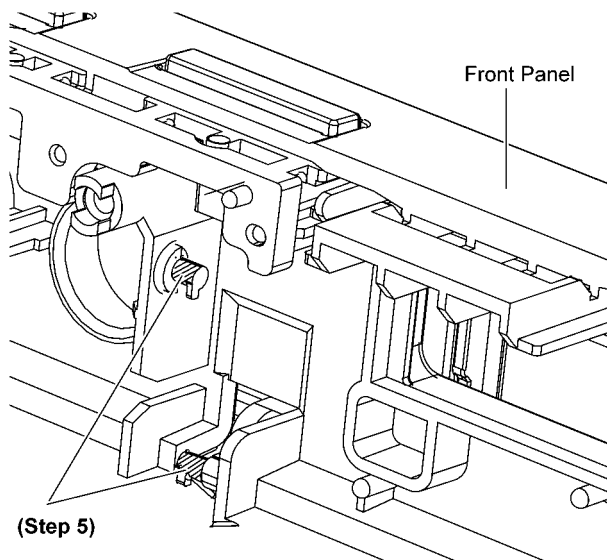
Step 3 Locate the rest of the holes into shafts of Front Panel.



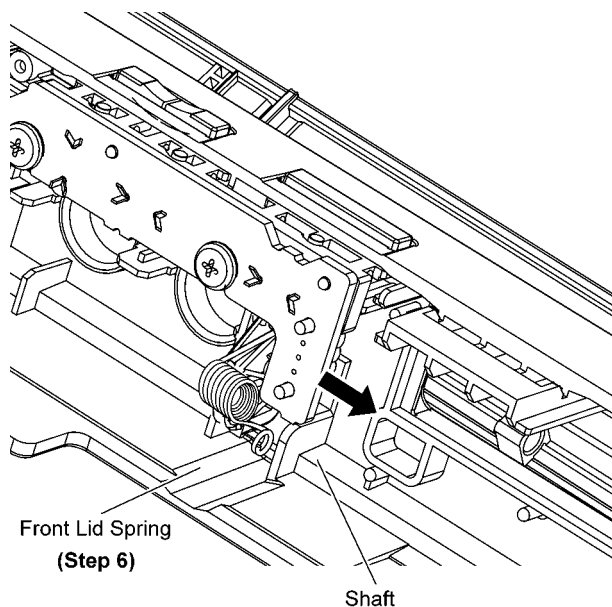
Step 4 Push Front Lid Assembly to the end according to direction of arrow.



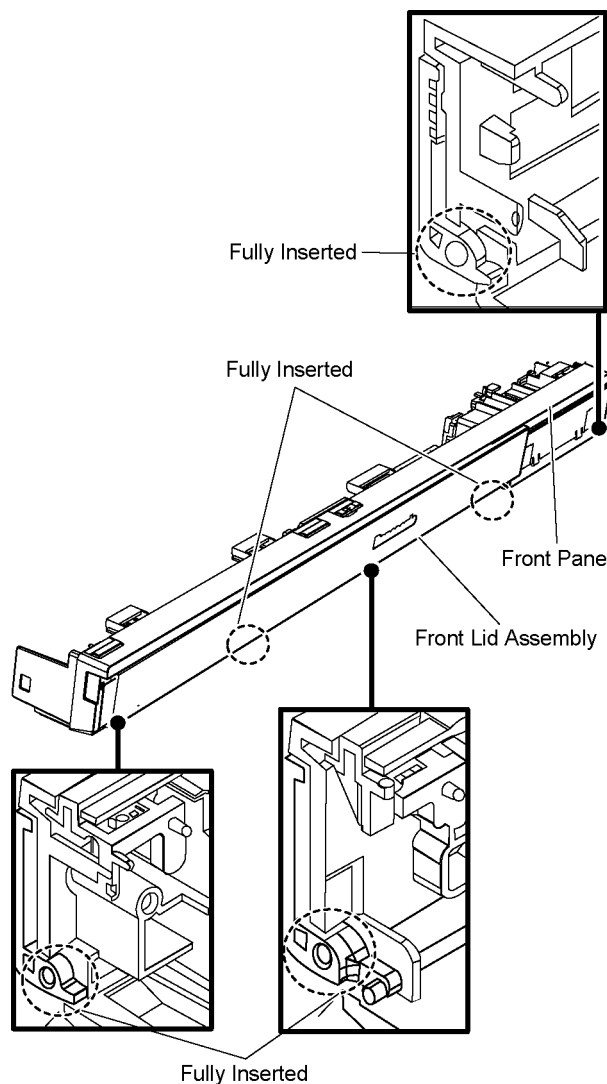
Step 5 Apply grease all around the 2 shafts of Front Panel & Front Lid as diagram shown.



Step 6 Fix the Front Lid Spring into the shaft.



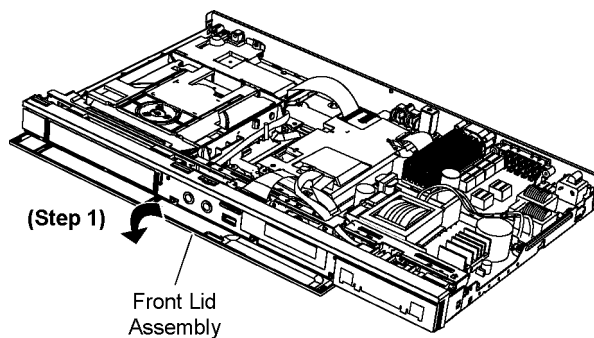
Caution: Ensure that all holes of Front Lid Assembly are fully inserted into Front Panel's shafts.



10.13. Disassembly of DVD Mechanism Unit (BRS1D)

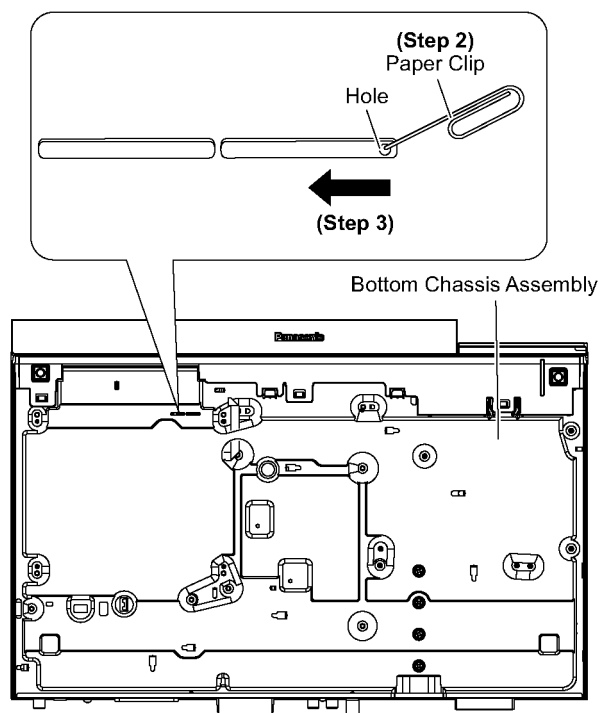
• Refer to “Disassembly of Top Cabinet”

Step 1 Pull to open Front Lid Assembly.

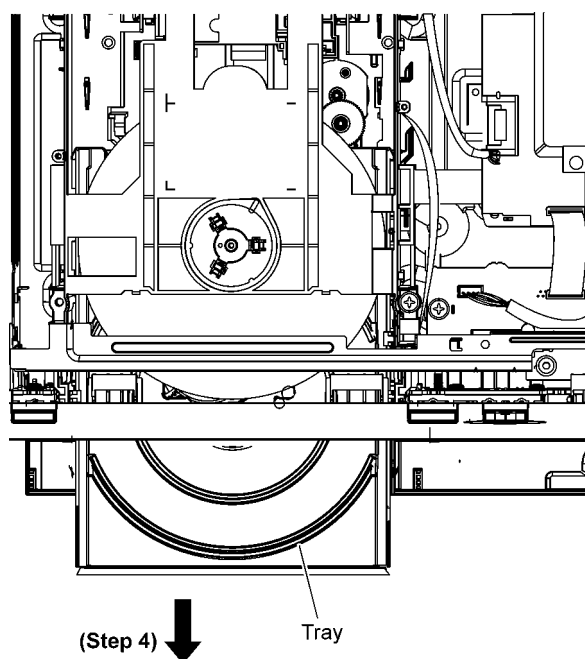


Step 2 Insert Paper Clip into the hole on the Bottom Chassis Assembly.

Step 3 Push the Paper Clip in the direction of the arrow to eject Tray.



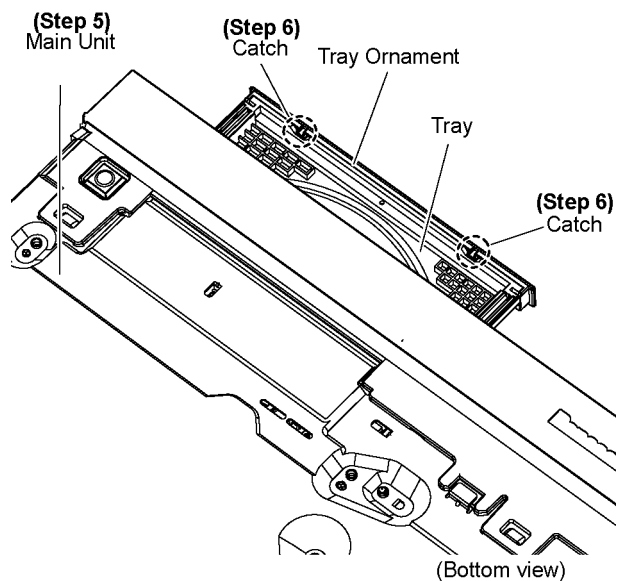
Step 4 Slide the Tray out fully as direction of arrow.



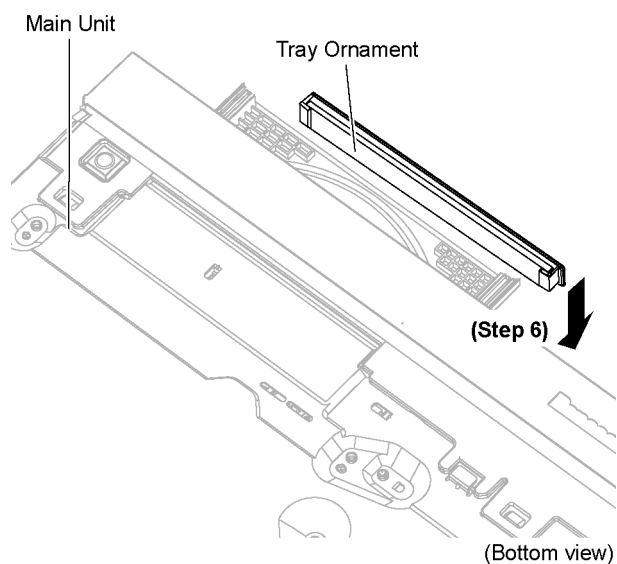
Step 5 Upset the Main Unit.

Step 6 Release 2 catches.

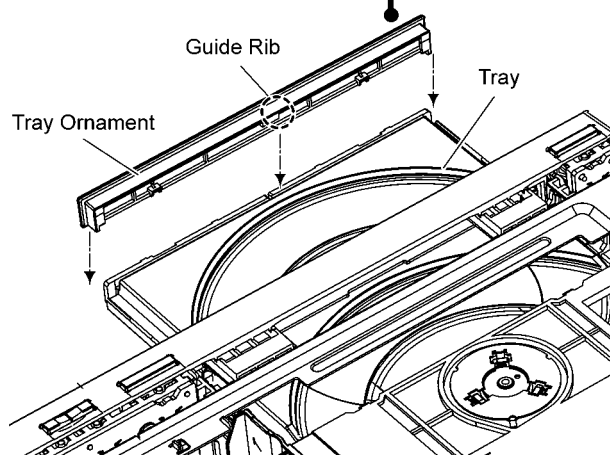
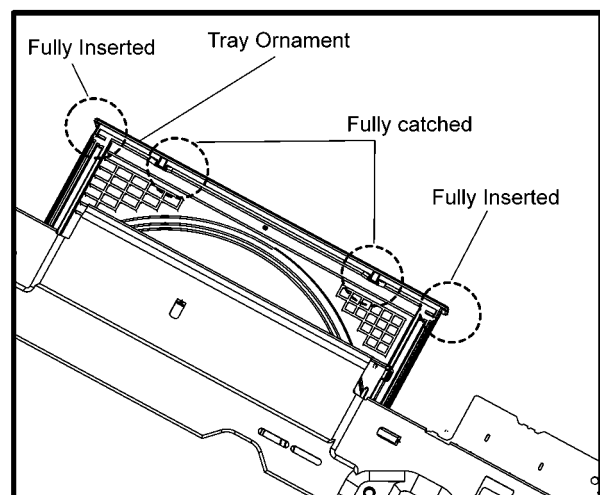
Caution: During assembling, ensure that Tray Ornament is inserted & fully caught onto Tray.



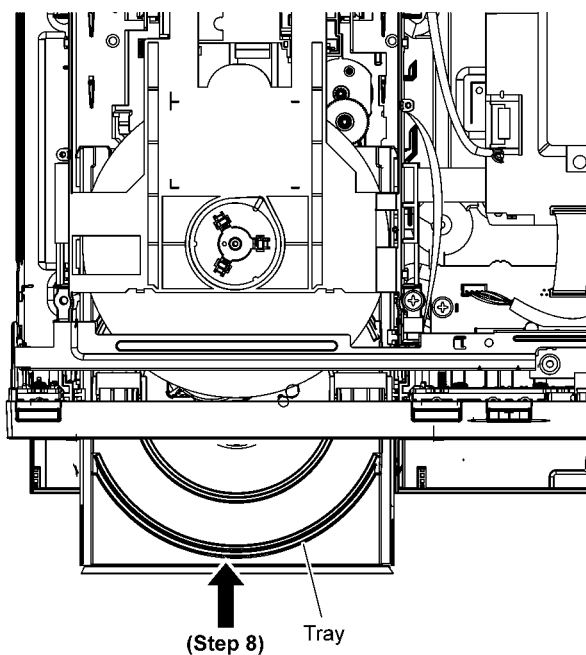
Step 7 Remove Tray Ornament in the direction of arrow.



Caution: During assembling, ensure that Tray Ornament's guide rib is properly inserted onto Tray.



Step 8 Slide the Tray in fully.



Step 9 Remove Himelon.

Caution: Replace the Himelon if torn.

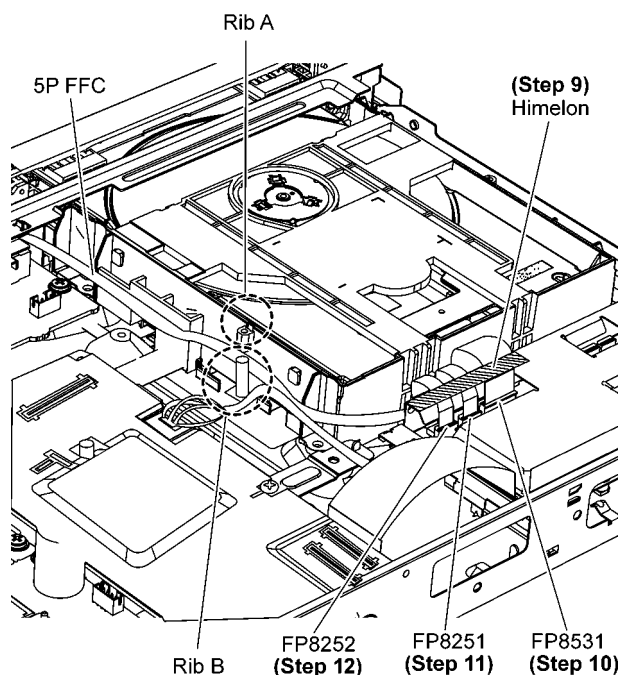
Step 10 Detach 24P FPC at the connector (FP8531) on Back-

end P.C.B..

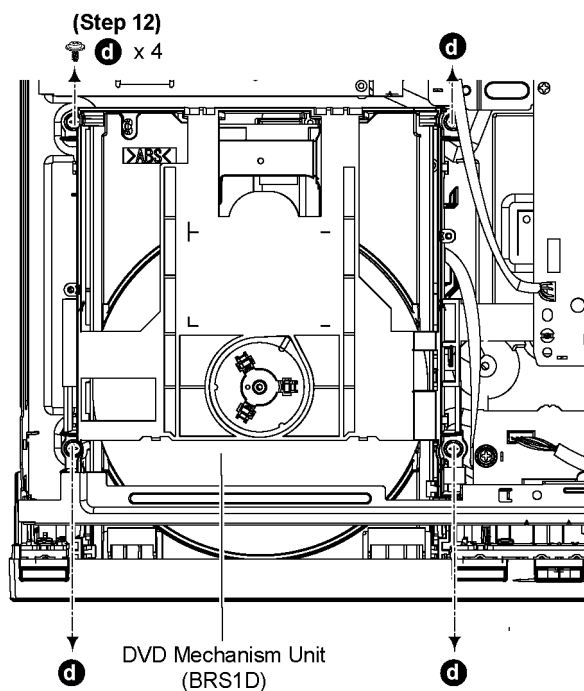
Step 11 Detach 6P FFC at the connector (FP8251) on Backend P.C.B..

Step 12 Detach 5P FFC at the connector (FP8252) on Backend P.C.B..

Caution: During assembling, dress the 5P FFC under Rib A and behind Rib B properly.

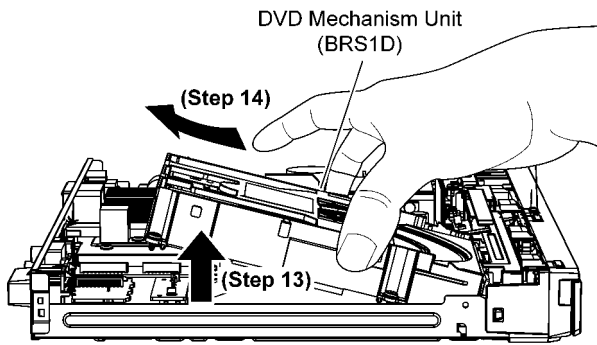


Step 12 Remove 4 screws.

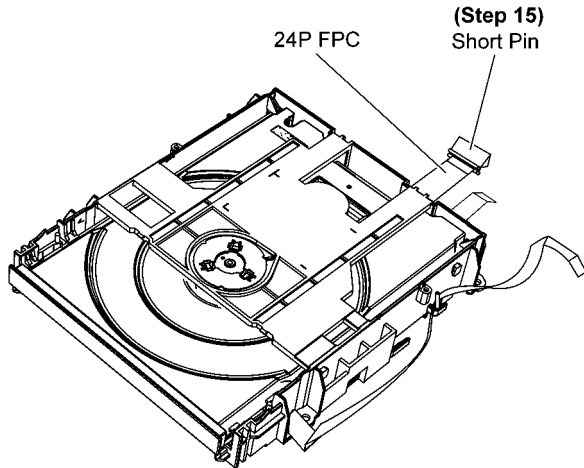


Step 13 Slightly lift up DVD Mechanism Unit (BRS1D).

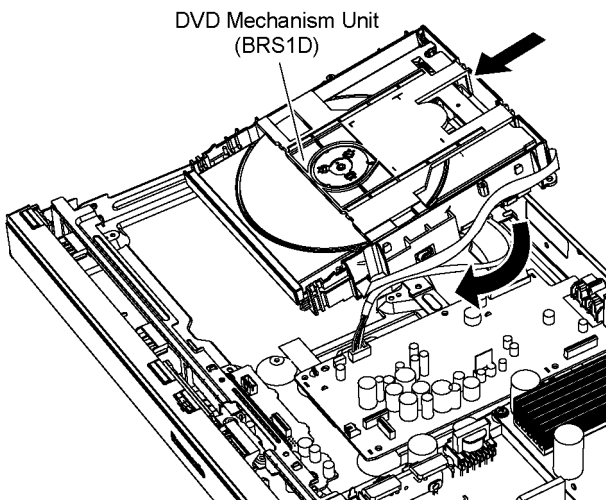
Step 14 Remove the DVD Mechanism Unit (BRS1D) in the direction of arrow.



Step 15 Attach a short pin to the 24P FPC of the DVD Mechanism Unit (BRS1D).



Caution: During assembling, ensure that DVD Mechanism Unit (BRS1D) is properly inserted & fully seated on Bottom Chassis before screwing.



10.14. Replacement of Traverse unit

• Refer to “Disassembly of DVD Mechanism Unit (BRS1D)”.

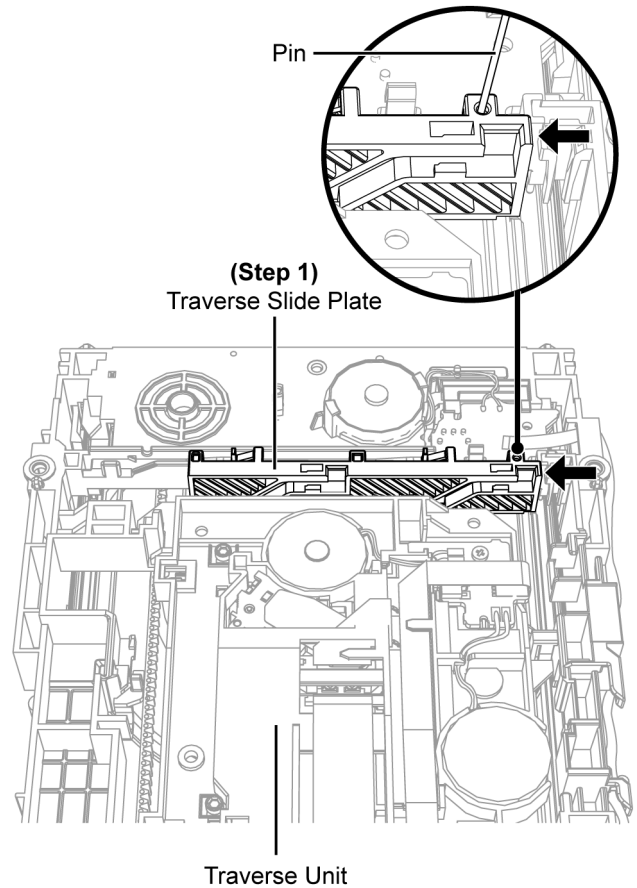
Caution: Refer to 2.4 “Handling Precaution for Traverse Unit” to prevent static damage to the Optical Pickup unit.

Note:

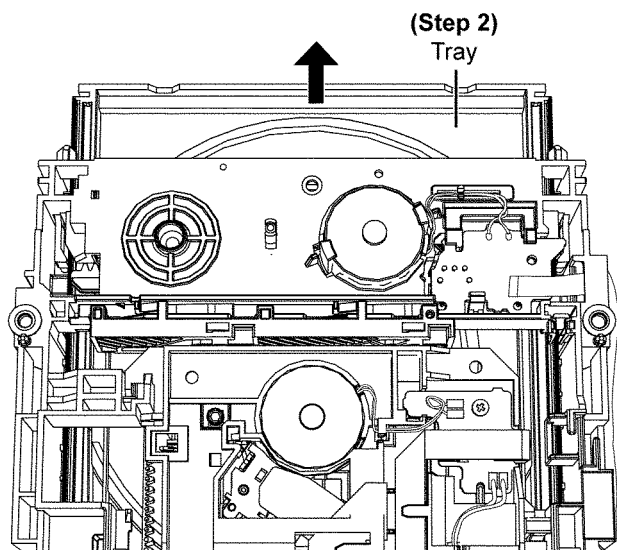
1. When the optical pickup unit is defective, the overall traverse unit needs replacement.
2. Please note that appropriate actions need to be taken to prevent static damage.

10.14.1. Disassembly of Traverse unit

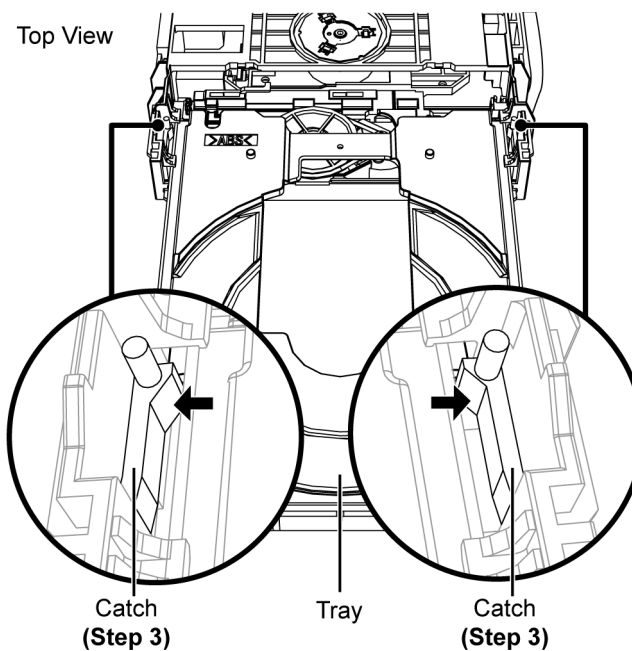
Step 1 : Use a pin to Slide the Traverse Slide Plate until it come to a stop.



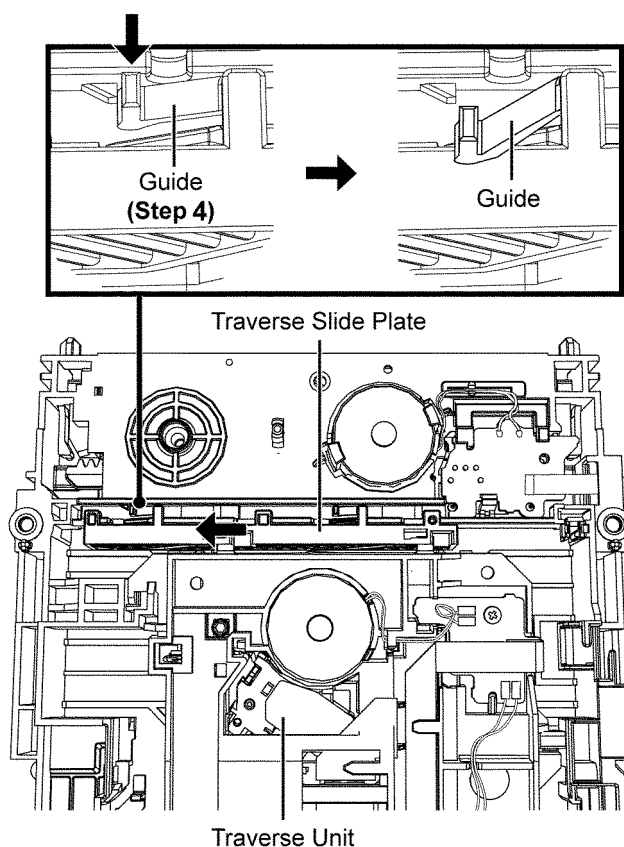
Step 2 : Slide the tray out fully.



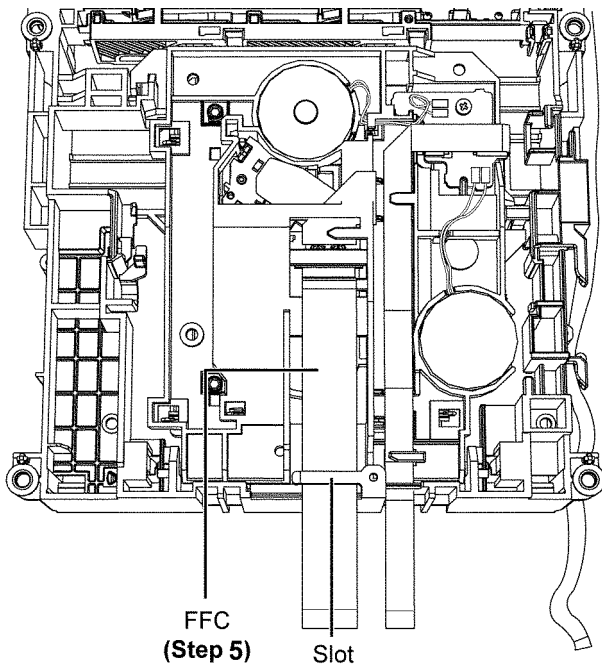
Step 3 : Release the catches & remove the tray.



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

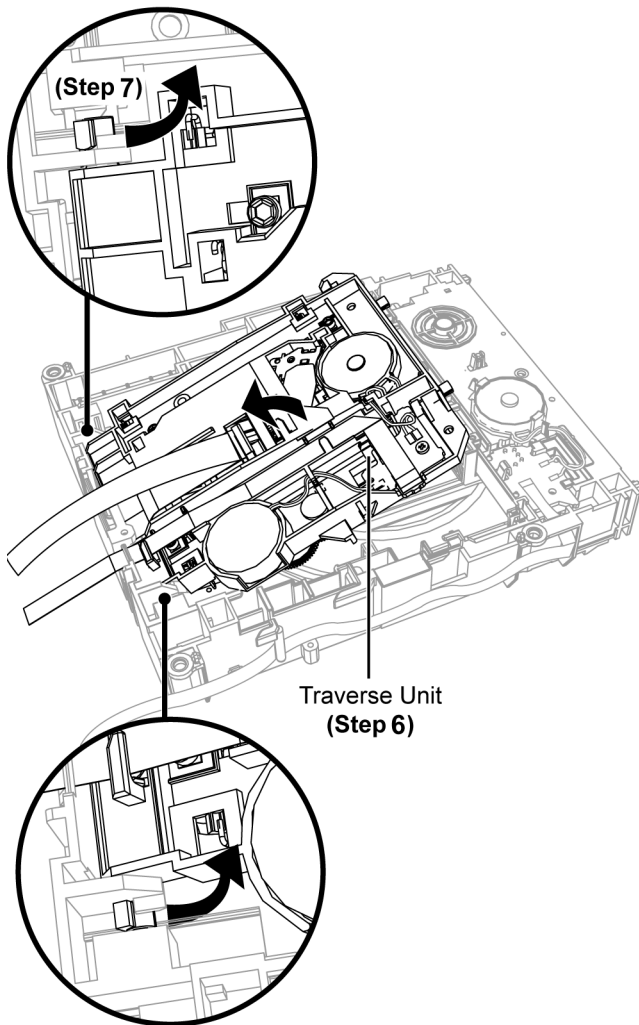


Step 5 : Release the 24P FFC from the slot.

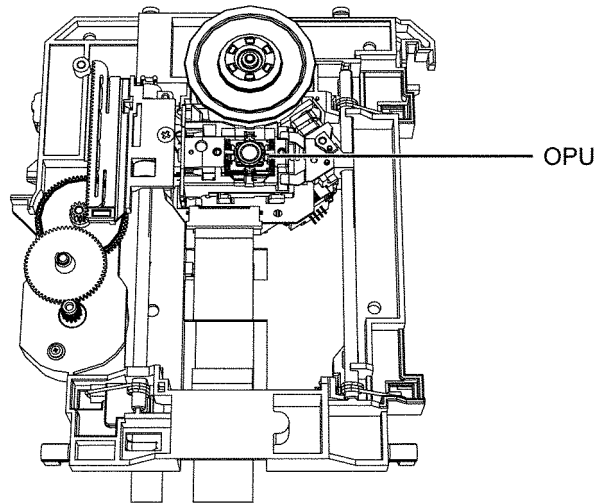


Step 6 : Lift the Traverse Unit by approximately 45°.

Step 7 : Slide out the traverse unit as arrow shown.

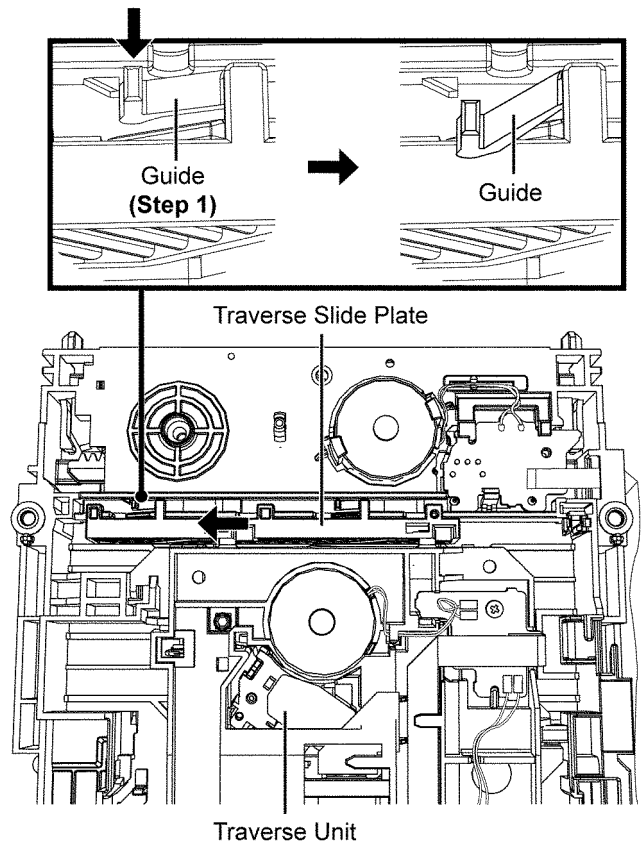


Caution : Avoid touching the surface of the traverse unit.

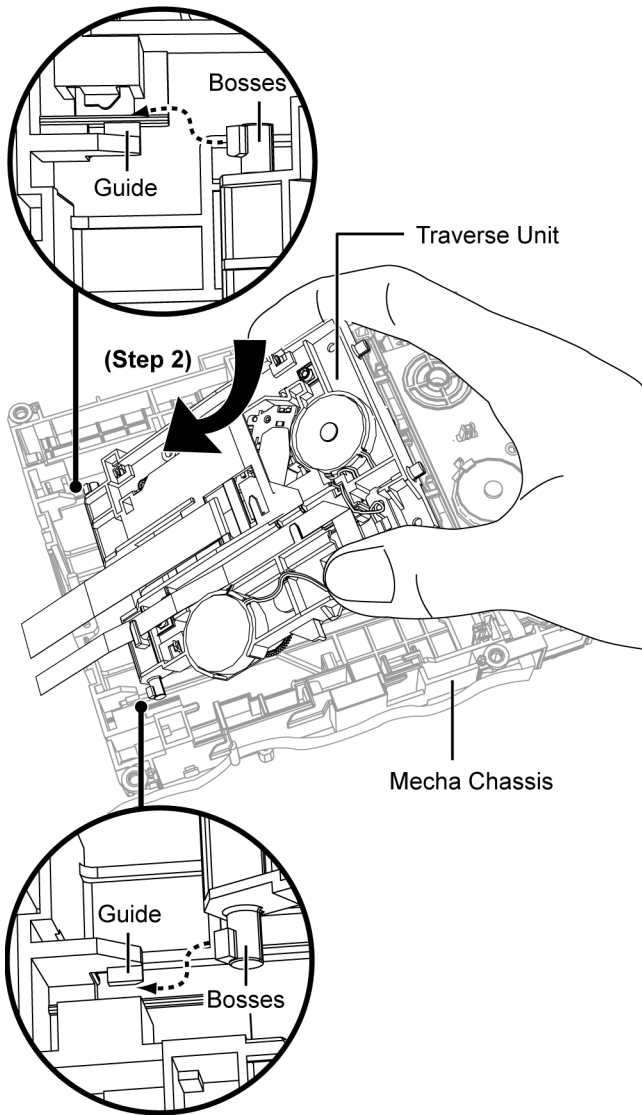


10.14.2. Assembly of Traverse Unit

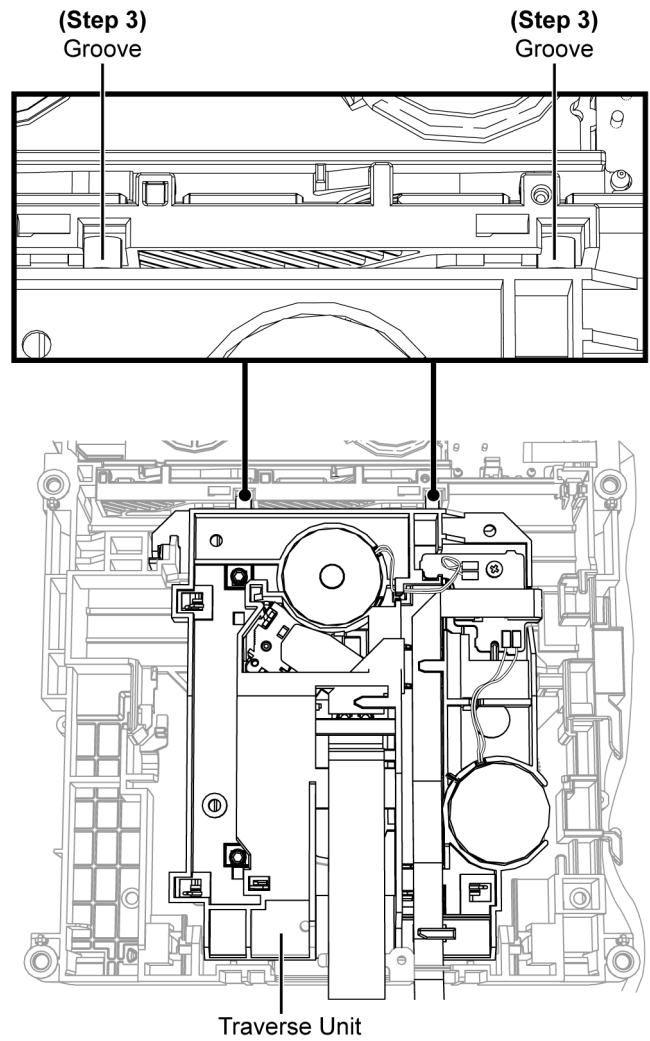
Step 1 : Release the guide as shown & slide the Traverse Slide Plate to the end.



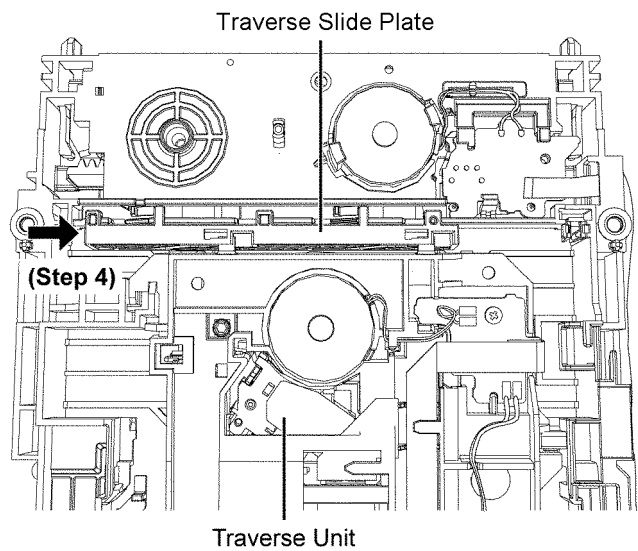
Step 2 : Slot the Traverse unit at approximately 45° into the mecha chassis as arrow shown.



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

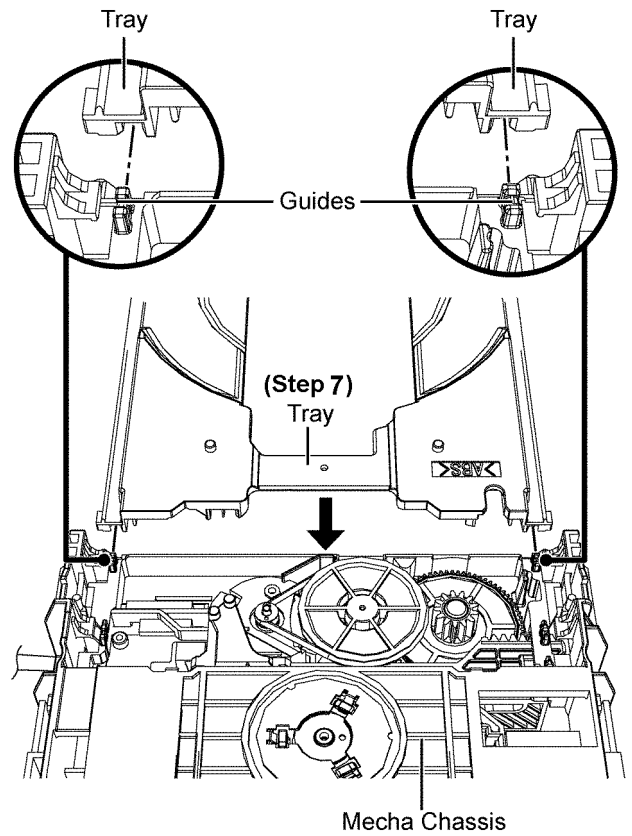
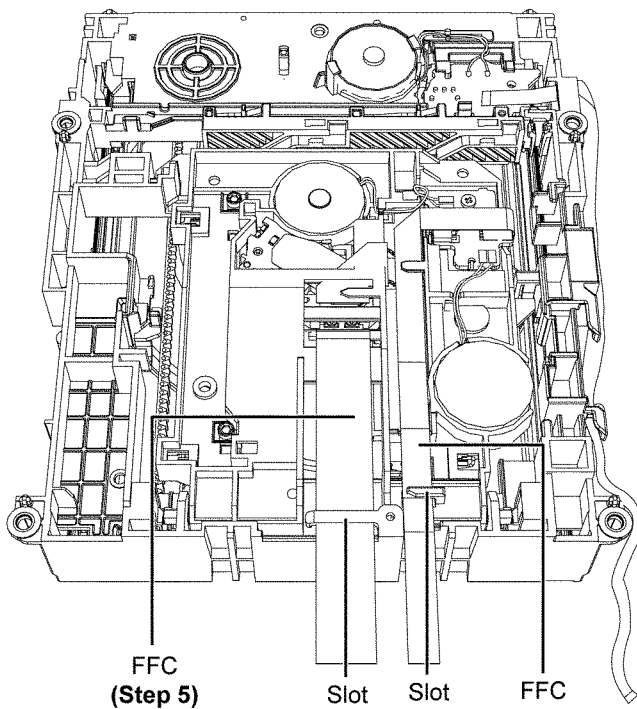


Step 4 : Slide Traverse Slide Plate to lock the Traverse Unit as shown.

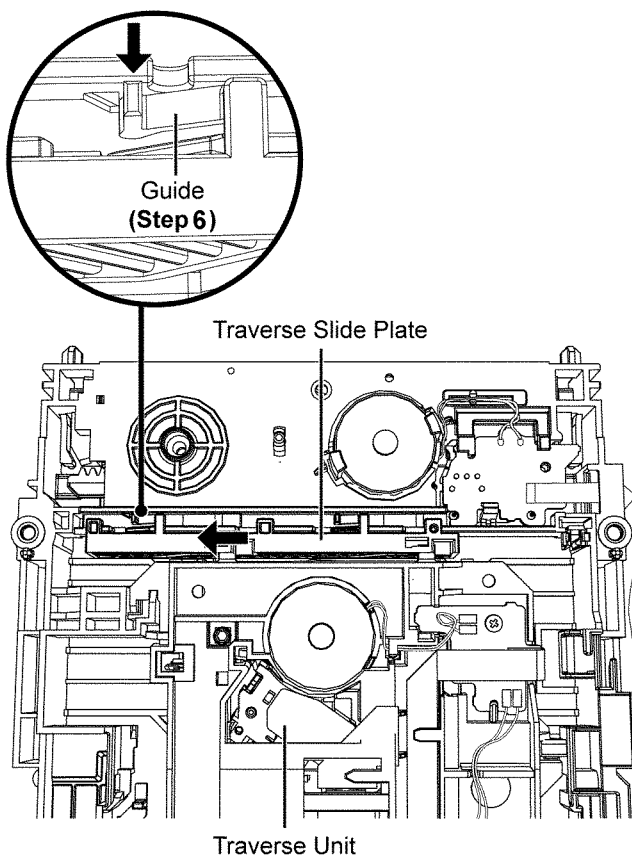


Step 5 : Slot the FFC onto the slot.

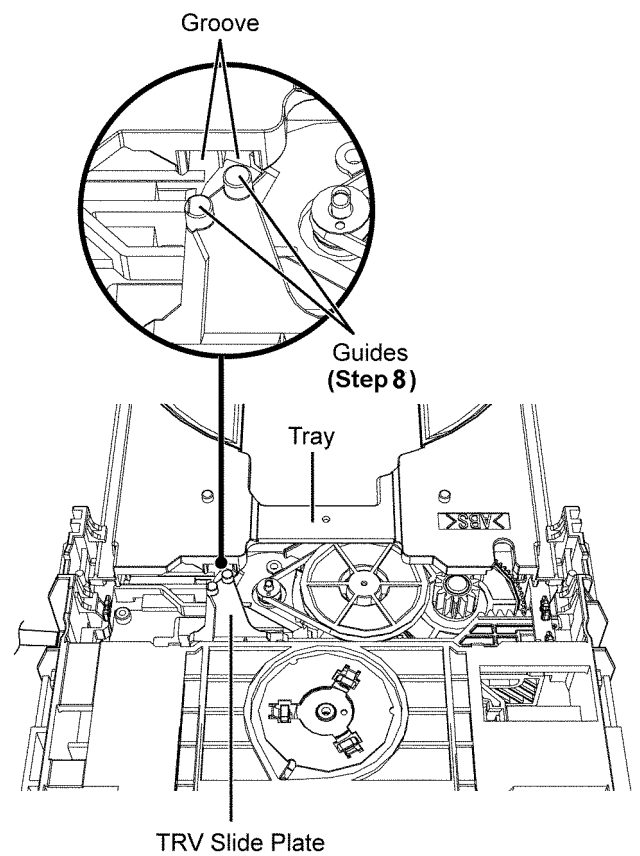
Caution : Ensure that the FFC are properly inserted into the slots as shown.



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

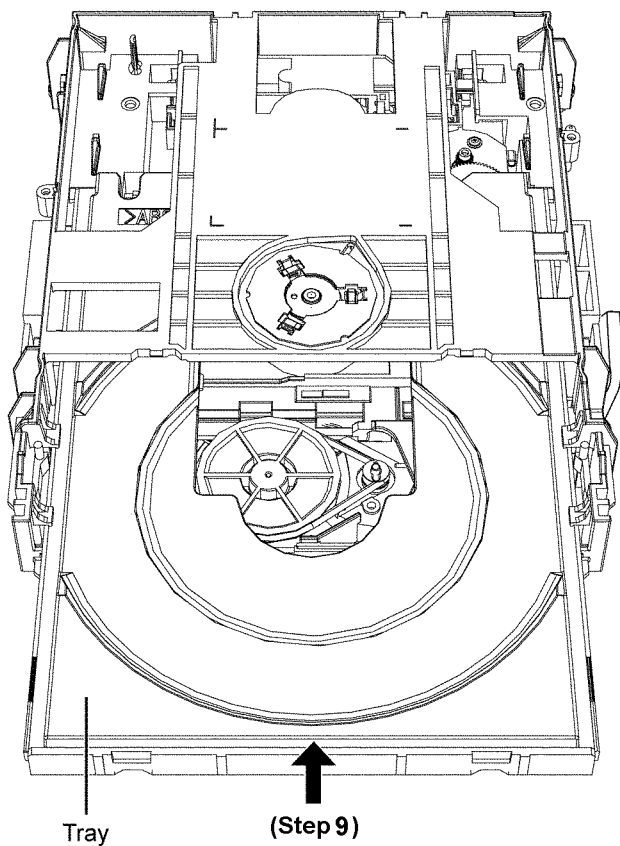


Step 8 Ensure the Guides are align with the groove when sliding the tray in.



Step 7 Slot the Tray into the Guides as picture shown.

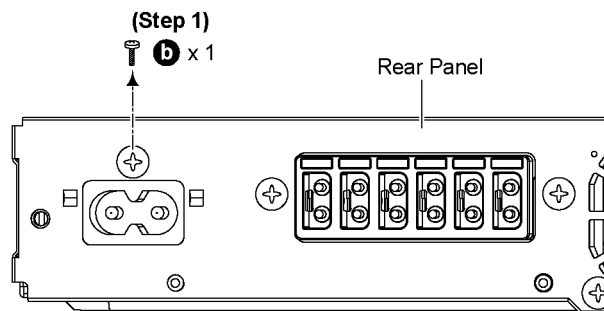
Step 9 Slide the tray in fully.



10.15. Disassembly of AC Inlet P.C.B.

• Refer to "Disassembly of Top Cabinet"

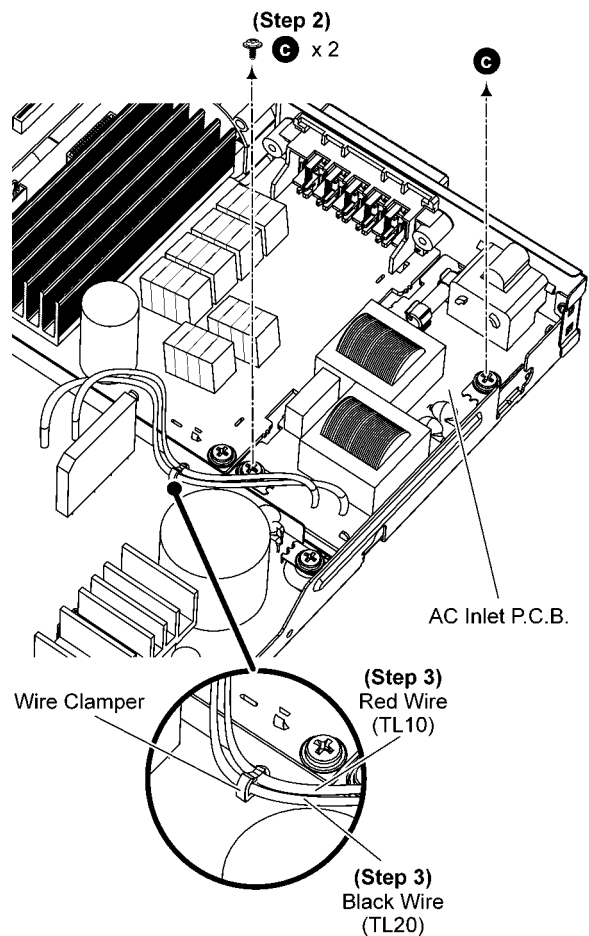
Step 1 Remove 1 screw.



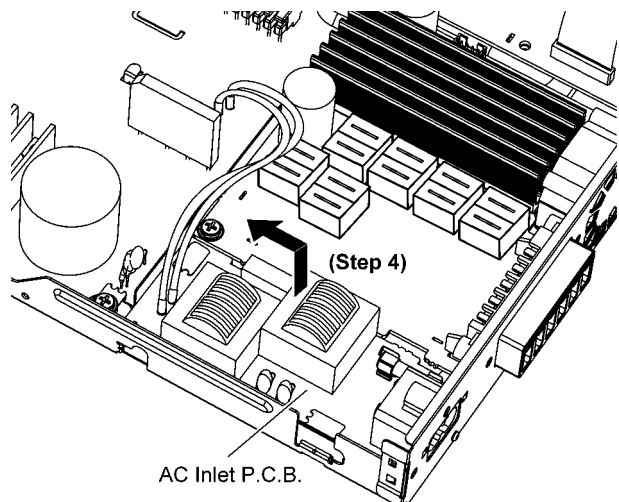
Step 2 Remove 2 screws.

Step 3 Release the Red (TL10) & Black (TL20) Wires from Wire Clamper.

Caution: During assembling, ensure that Red (TL10) & Black (TL20) Wires are dressed into Wire Clamper properly.



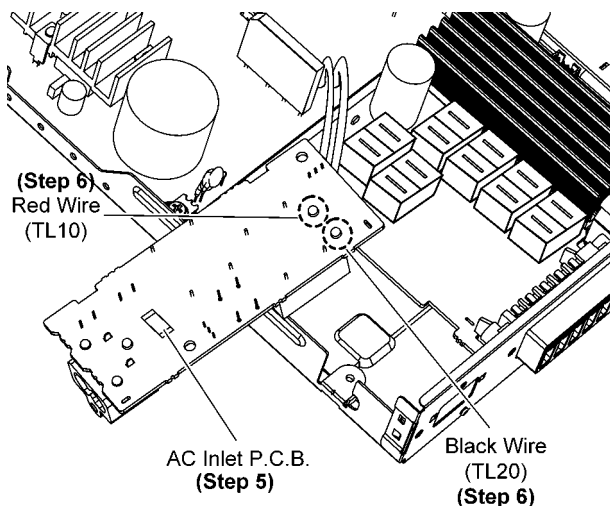
Step 4 Lift up the AC Inlet P.C.B. according to arrow shown.



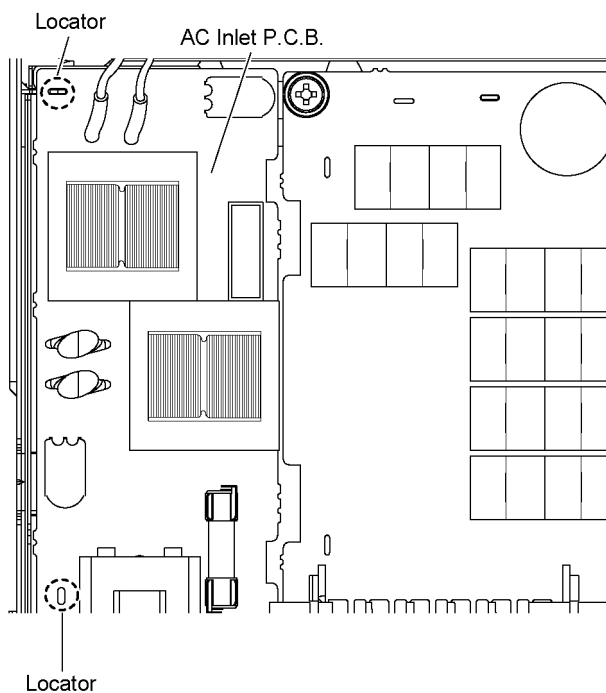
Step 5 Flip the AC Inlet P.C.B..

Step 6 Desolder Red (TL10) & Black (TL20) Wires on the AC Inlet P.C.B..

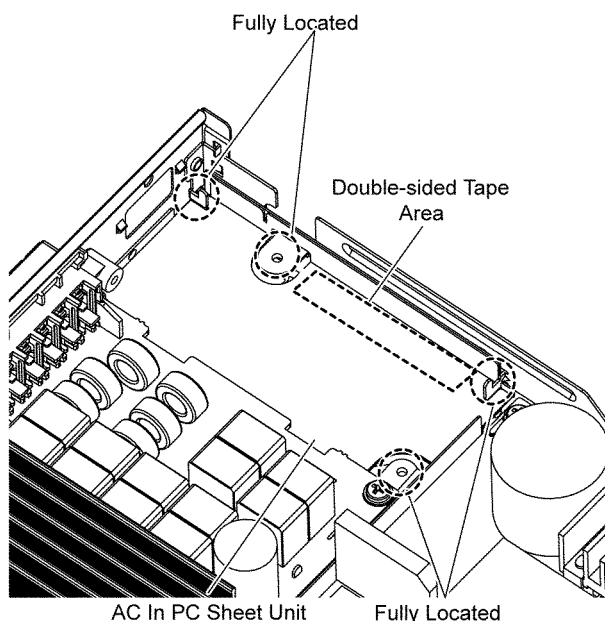
Step 7 Remove the AC Inlet P.C.B..



Caution: During assembling, ensure that AC Inlet P.C.B. is seated properly located & fully seated onto Bottom Chassis.



Caution: During assembling, replace the AC in PC Sheet Unit if torn.



10.16. Disassembly of D-Amp P.C.B.

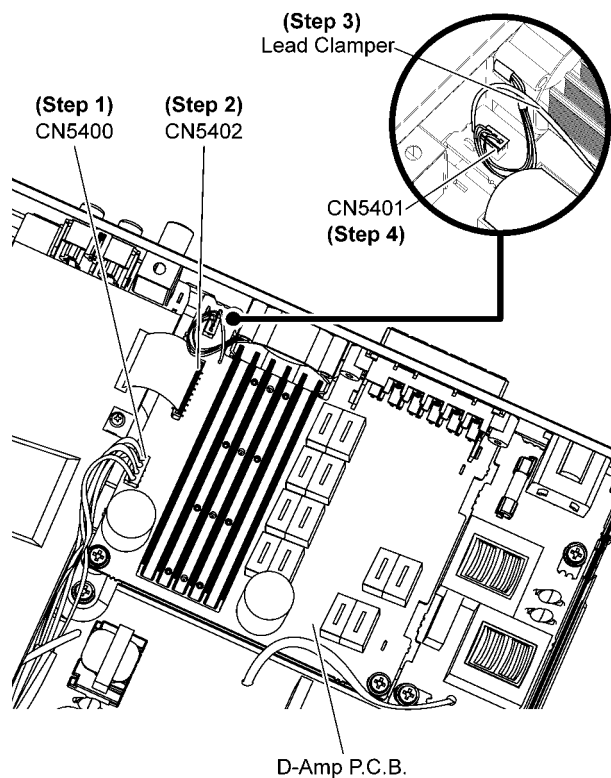
• Refer to "Disassembly of Top Cabinet"

Step 1 Detach 4P Cable at the connector (CN5400) on D-Amp P.C.B..

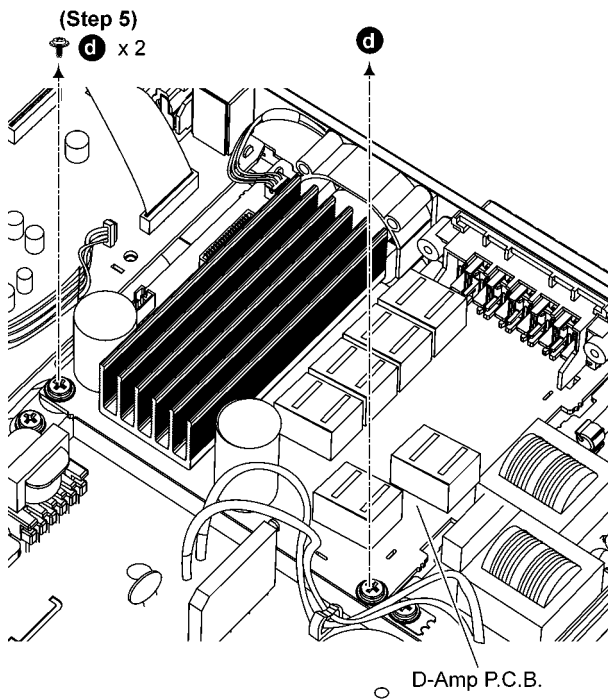
Step 2 Detach 18P FFC at the connector (CN5402) on D-Amp P.C.B..

Step 3 Lift up the Lead Clamper.

Step 4 Detach 3P Wire at the connector (CN5401) on D-Amp P.C.B..

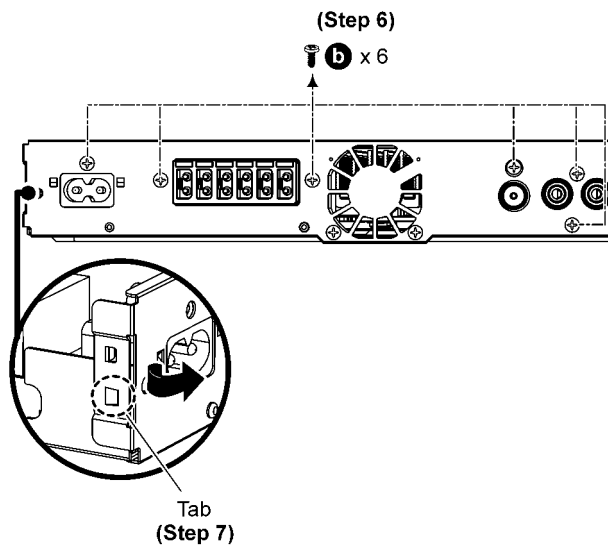


Step 5 Remove 2 screws.

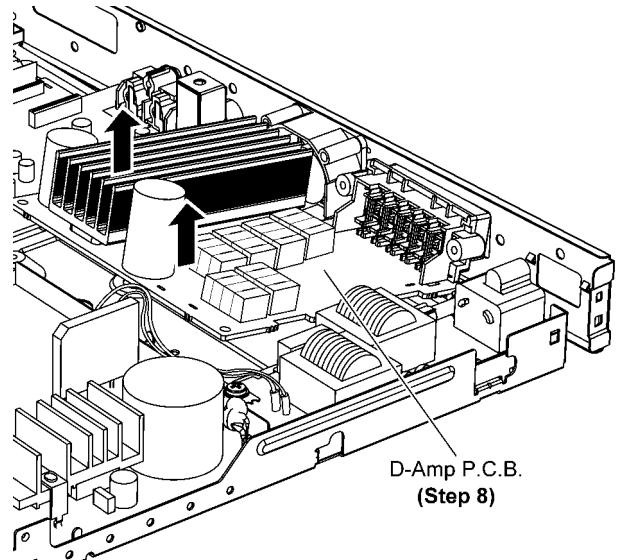


Step 6 Remove 6 screws.

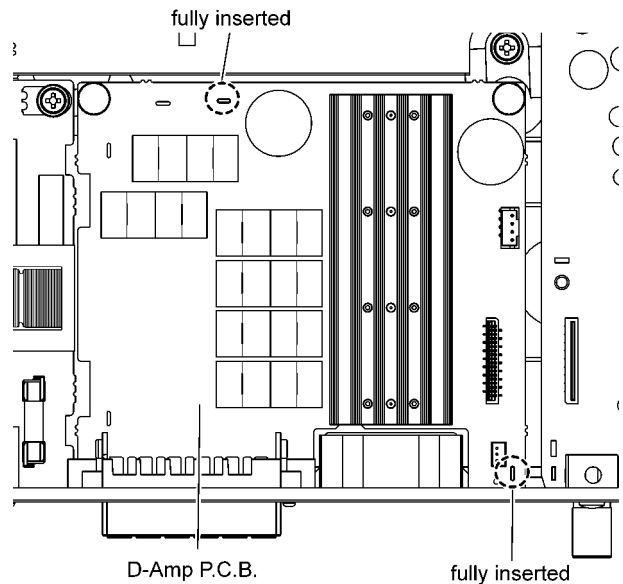
Step 7 Release the tab of the right side of Rear Panel in the direction of arrow.



Step 8 Remove D-Amp P.C.B. according to direction of arrow shown.



Caution: During assembling, ensure that D-Amp P.C.B. is properly located & fully seated onto Bottom Chassis before screwing.



10.17. Replacement of Digital Amplifier IC (IC5100/IC5200/IC5300)

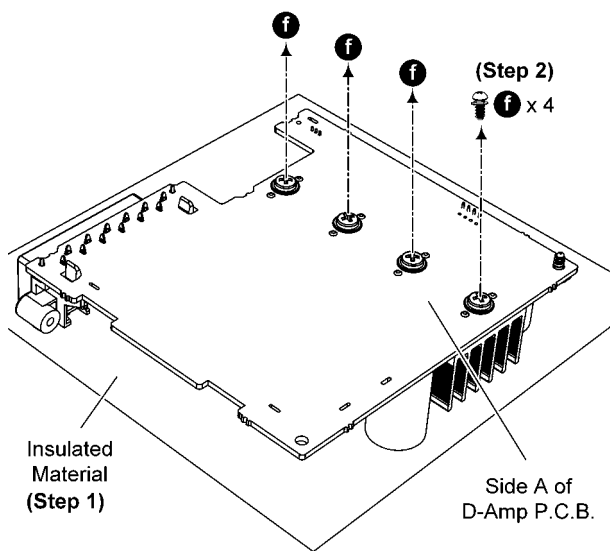
- Refer to "Disassembly of Top Cabinet".
- Refer to "Disassembly of D-Amp P.C.B.".

10.17.1. Disassembly of Digital Amplifier IC (IC5100/IC5200/IC5300)

Caution: Handle the D-Amp Heatsink & P.C.B. with caution due to it's high temperature after prolonged use. Touching it may lead to injuries.

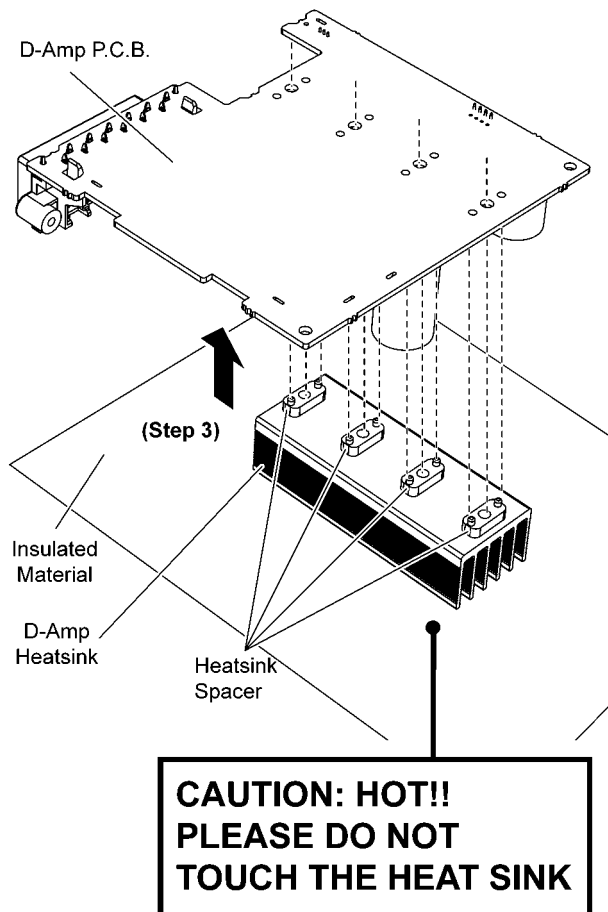
Step 1 Place SMPS P.C.B. on an insulated material.

Step 2 Remove 4 screws.



Step 3 Lift up D-Amp P.C.B. as arrow shown.

Caution: Keep the Heatsink Spacer in safe place. Avoid denting it, place it back during assembling.

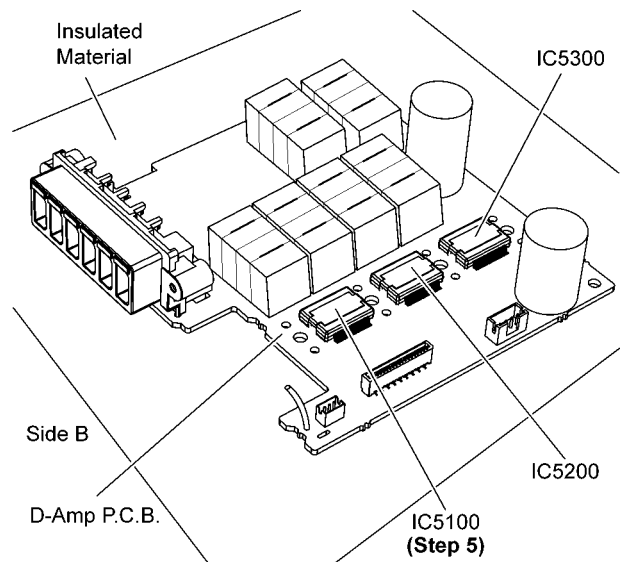


Step 4 Desolder the pins of Digital Amplifier IC (IC5100).

Step 5 Remove Digital Amplifier IC (IC5100).

Note 1: For disassembling of Digital Amplifier IC (IC5200) & (IC5300), repeat the (Step 1) to (Step 5) of 10.17.1.

Note 2: Refer to diagram of D-Amp P.C.B. (item 17.4) for location of part.



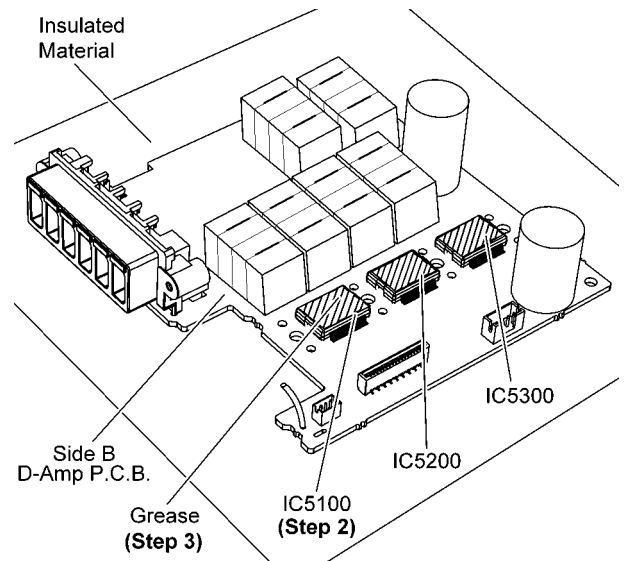
10.17.2. Assembly of Digital Amplifier IC (IC5100/IC5200/IC5300)

Step 1 Mount the Digital Amplifier IC (IC5100) onto the D-Amp P.C.B..

Step 2 Solder pins of Digital Amplifier IC (IC5100).

Caution: Ensure that the pins of Digital Amplifier IC (IC5100) is positioned correctly on D-Amp P.C.B. before soldering.

Step 3 Apply grease on the top side of the Digital Amplifier IC (IC5100).



Step 4 Upset the D-Amp P.C.B..

Caution 1: During assembling, ensure that heatsink spacer are properly located & fully seated onto D-Amp Heatsink.

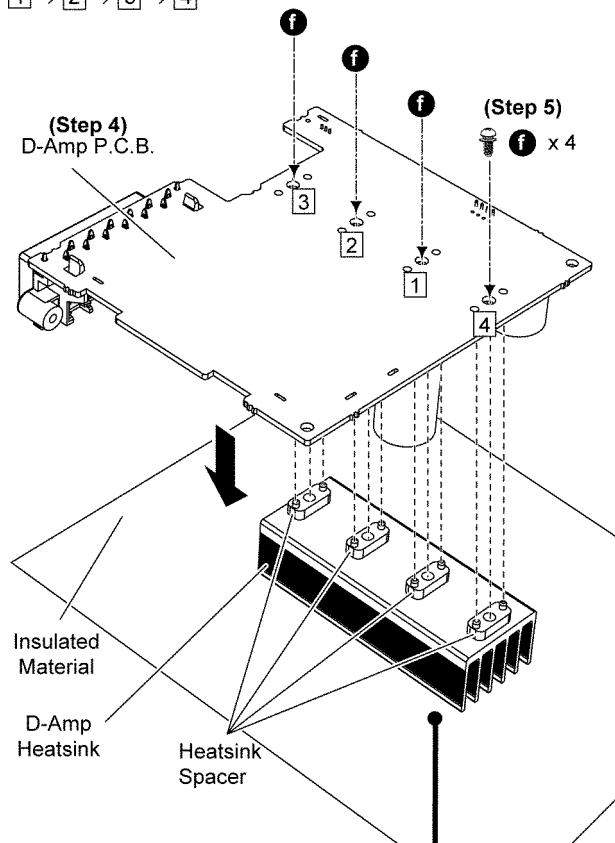
Step 5 Fix 4 screws.

Caution 2: During assembling, ensure that screwing sequence is strictly follow to the illustration shown.

Note: For assembling of Digital Amplifier IC (IC5200) & (IC5300), repeat the (Step 1) to (Step 5) of 10.17.2.

Screwing sequence:

1 → 2 → 3 → 4



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

10.18. Disassembly of Main P.C.B.

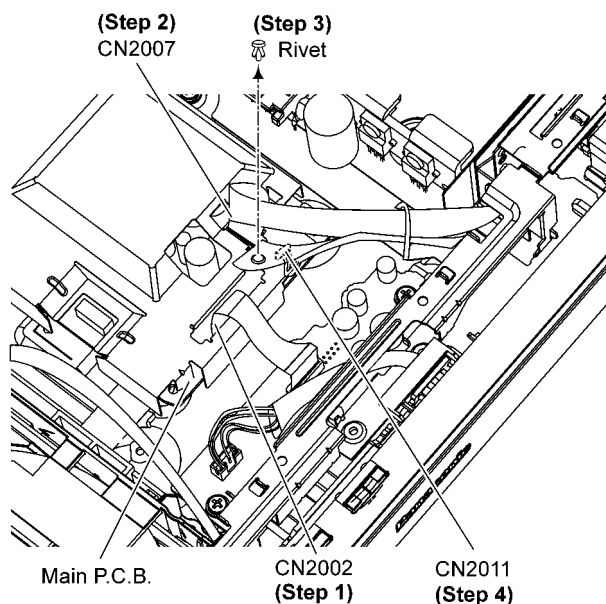
• Refer to "Disassembly of Top Cabinet".

Step 1 Detach 14P FFC at the connector (CN2002) on Main P.C.B..

Step 2 Detach 11P FFC at the connector (CN2007) on Main P.C.B..

Step 3 Remove 1 Rivet.

Step 4 Detach 3P Wire at the connector (CN2011) on Main P.C.B..

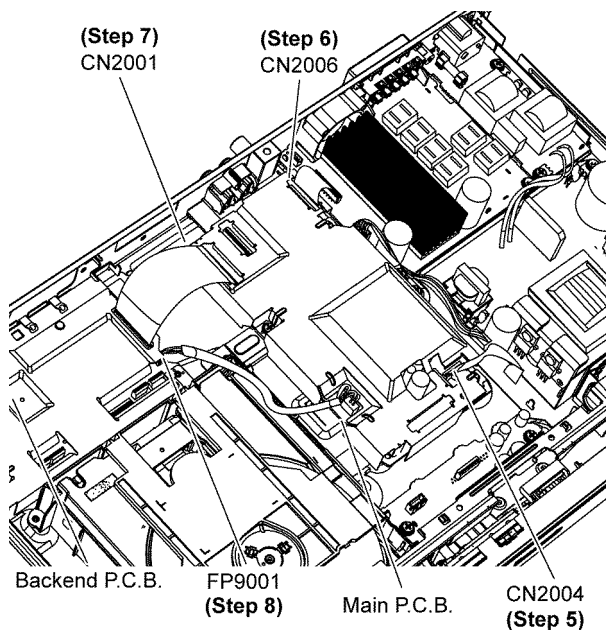


Step 5 Detach 10P FFC at the connector (CN2004) on Main P.C.B..

Step 6 Detach 18P FFC at the connector (CN2006) on Main P.C.B..

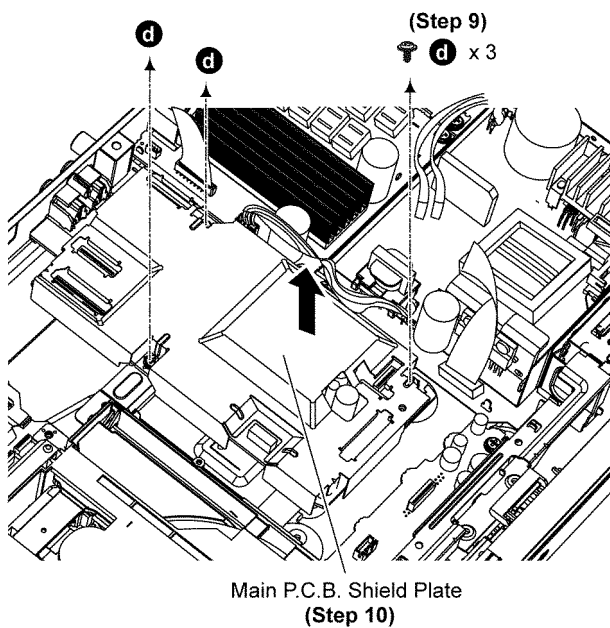
Step 7 Detach 50P FFC at the connector (CN2001) on Main P.C.B..

Step 8 Detach 5P Cable at the connector (FP9001) on Back-end P.C.B..

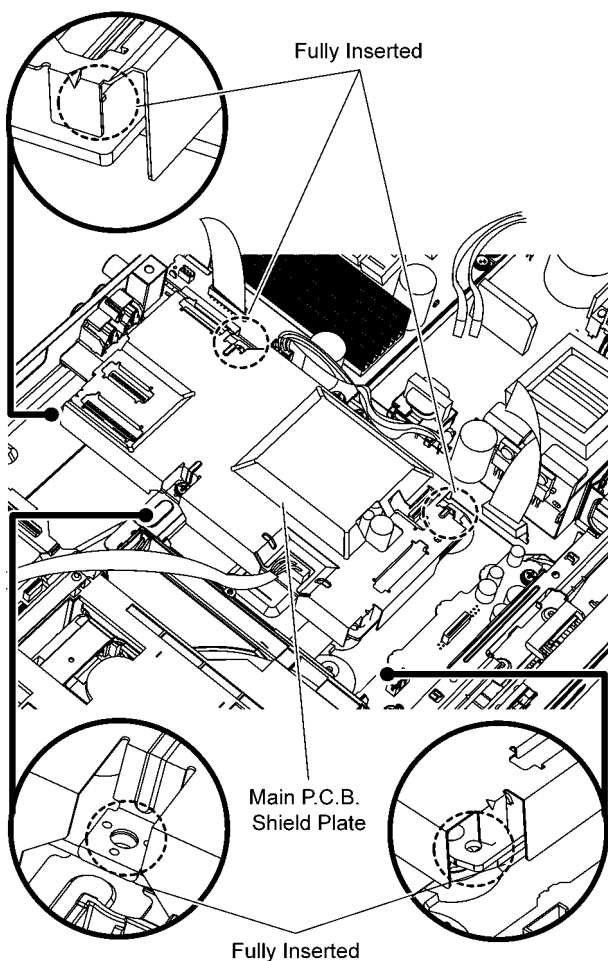


Step 9 Remove 3 screws.

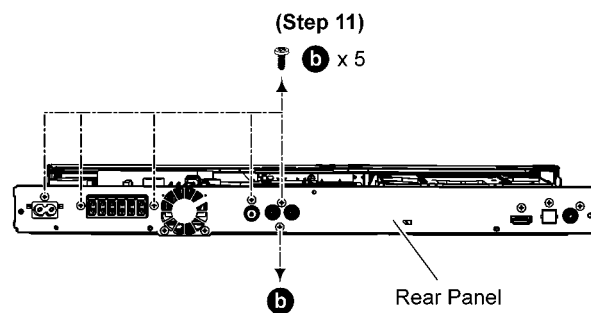
Step 10 Lift up to remove Main P.C.B. Shield Plate.



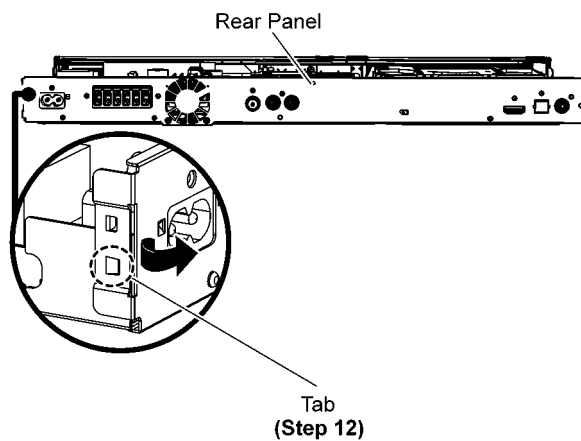
Caution 1: Keep the Main P.C.B. Shield Plate in safe place. During assembling, ensure that Main P.C.B. Shield Plate is properly inserted & fully fixed on Main P.C.B..



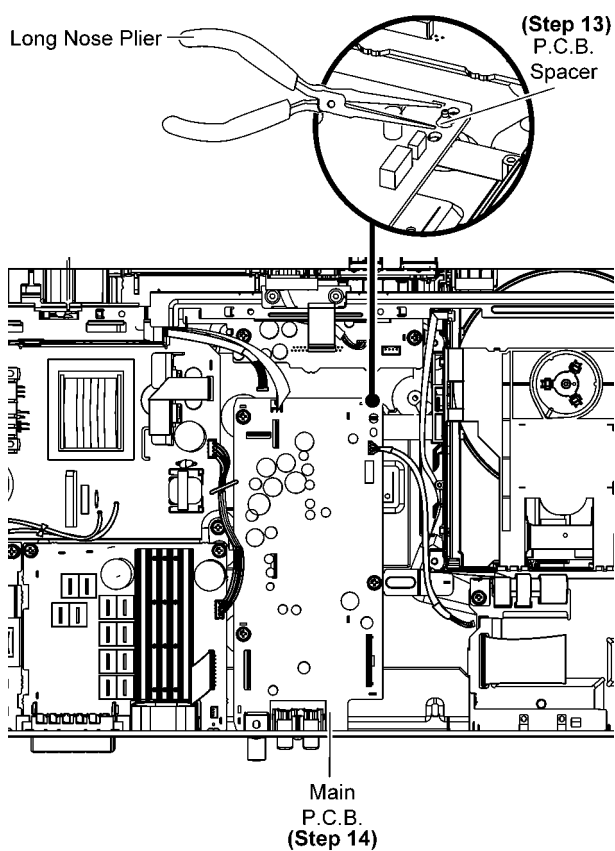
Step 11 Remove 5 screws.



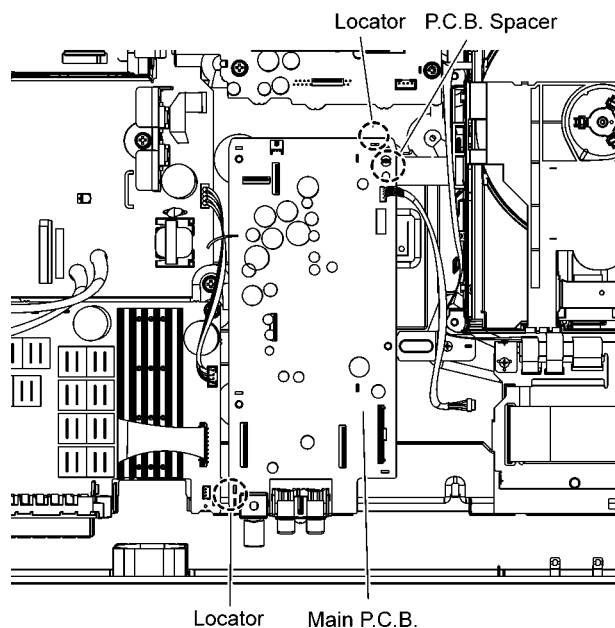
Step 12 Release the tabs at Left side of the Rear Panel in the direction of arrow.



Step 13 Release P.C.B. Spacer by using long nose plier.
Step 14 Remove the Main P.C.B..



Caution: During assembly, ensure that Main P.C.B. is properly inserted into P.C.B. Spacer & fully located onto Bottom Chassis.



10.19. Disassembly of Backend P.C.B.

• Refer to "Disassembly of Top Cabinet"

Step 1 Peel off the Himelon.

Caution: Replace the Himelon if torn.

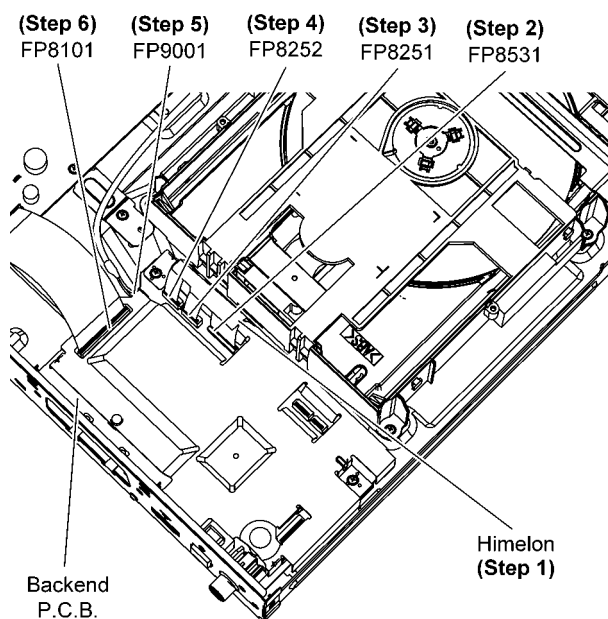
Step 2 Detach 24P FPC at the connector (FP8531) on Backend P.C.B..

Step 3 Detach 6P FFC at the connector (FP8251) on Backend P.C.B..

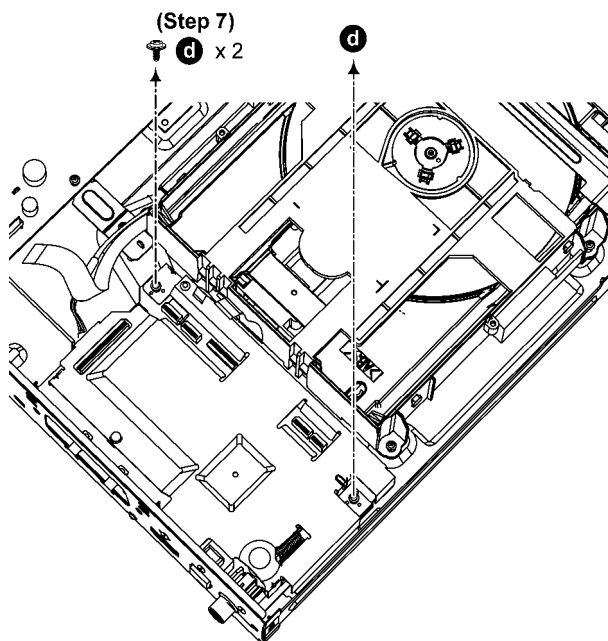
Step 4 Detach 5P FFC at the connector (FP8252) on Backend P.C.B..

Step 5 Detach 5P Cable at the connector (FP9001) on Backend P.C.B..

Step 6 Detach 50P FFC at the connector (FP8101) on Backend P.C.B..



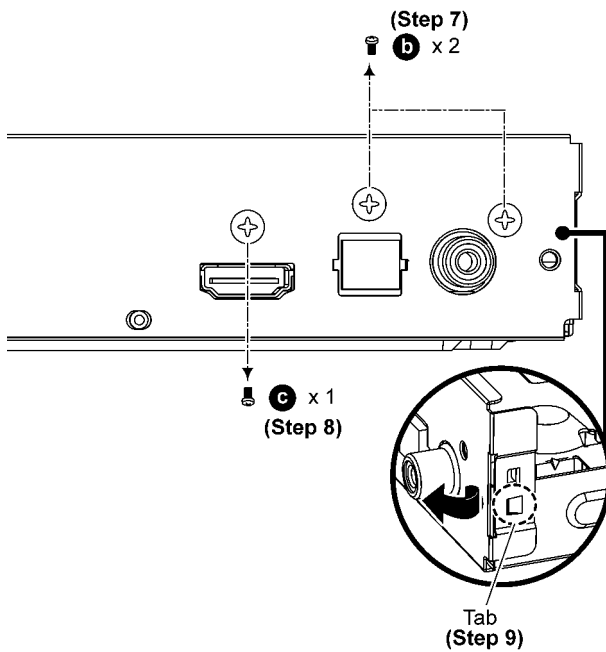
Step 7 Remove 2 screws.



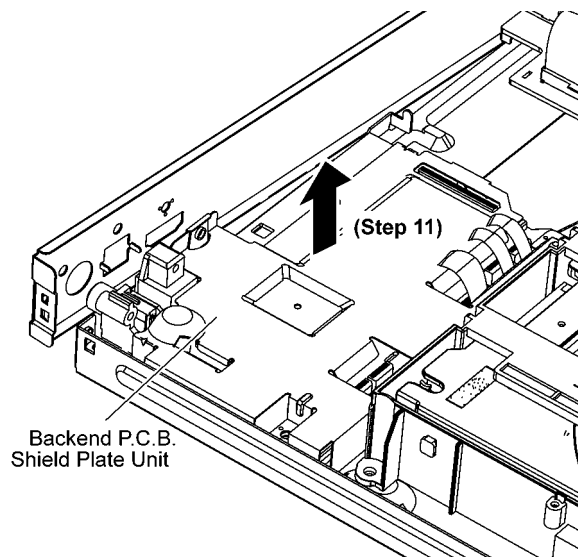
Step 8 Remove 2 screws.

Step 9 Remove 1 screw.

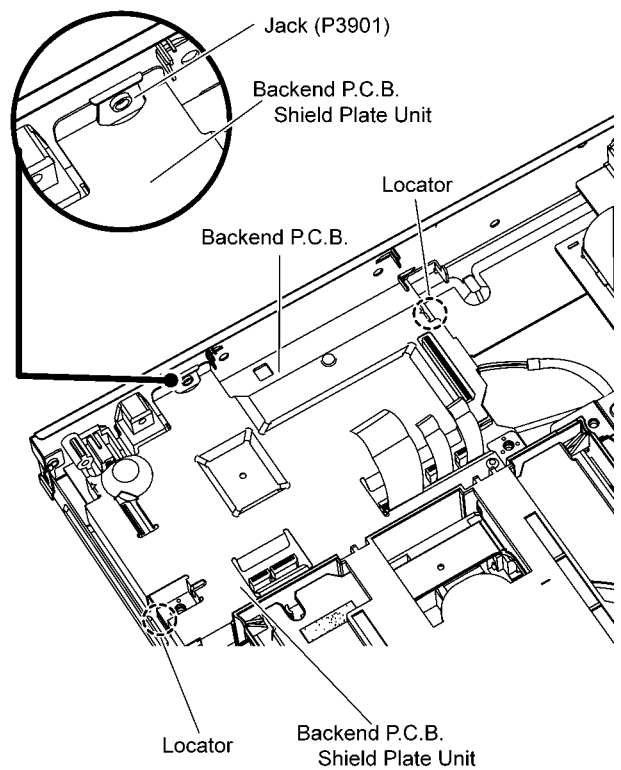
Step 10 Release the tabs at the side of Rear Panel in the direction of arrow.



Step 11 Lift up to remove Backend P.C.B. Shield Plate Unit.

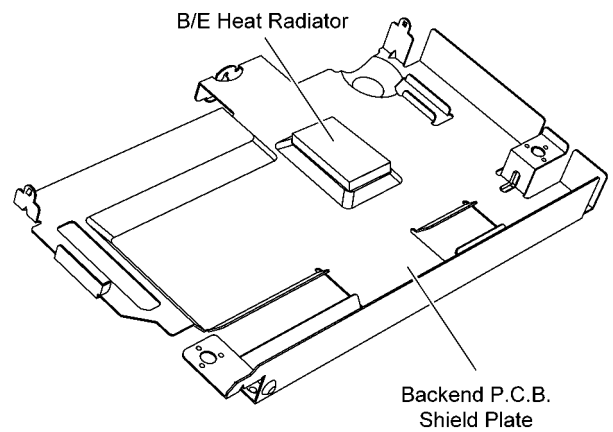


Caution (1): During assembling, ensure that Backend P.C.B. Shield Plate Unit is properly inserted and fully seated onto Backend P.C.B..

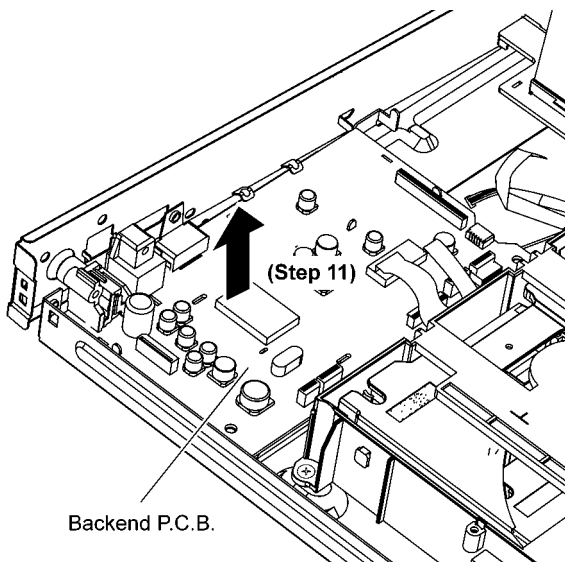


Caution (2): During assembling, replace the B/E Heat Radiator if torn.

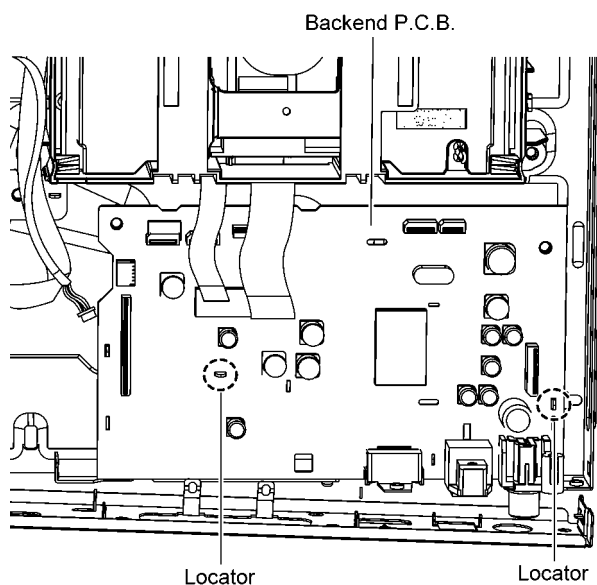
Caution (3): Ensure that B/E Heat Radiator is properly located & fully pasted within embossing on Backend P.C.B. Shield Plate.



Step 11 Remove Backend P.C.B..



Caution: During assembling, ensure that Backend P.C.B. is properly located & fully seated onto Bottom Chassis.



10.20. Disassembly of SMPS P.C.B.

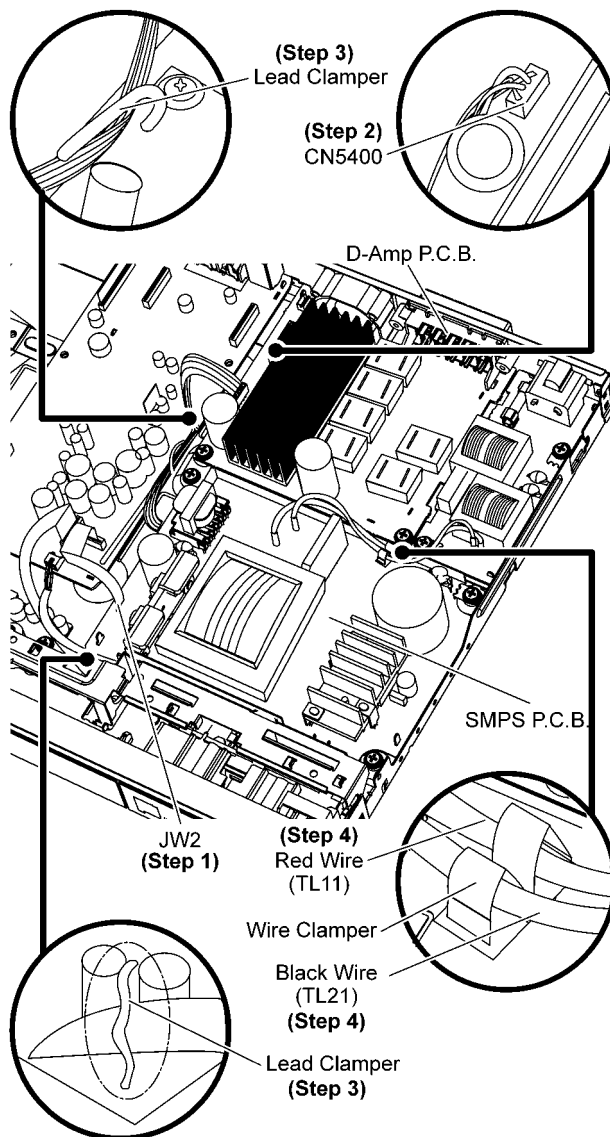
• Refer to "Disassembly of Top Cabinet"

Step 1 Detach 10P FFC at the connector (JW2) on SMPS P.C.B..

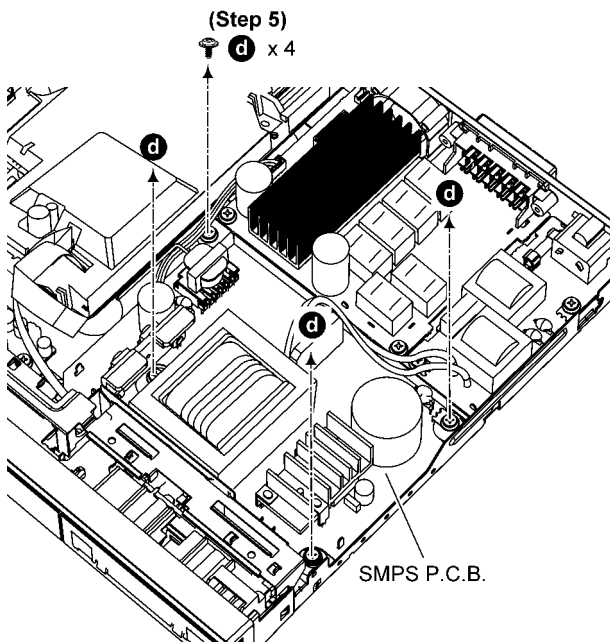
Step 2 Detach 4P Cable at the connector (CN5400) on D-Amp P.C.B..

Step 3 Lift up 2 Lead Clampers.

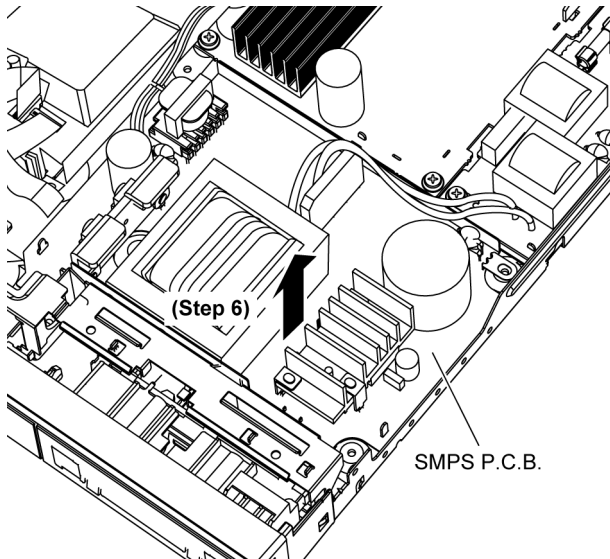
Step 4 Release Red (TL11) & Black (TL21) Wires from the Wire Clamper.



Step 5 Remove 4 screws.



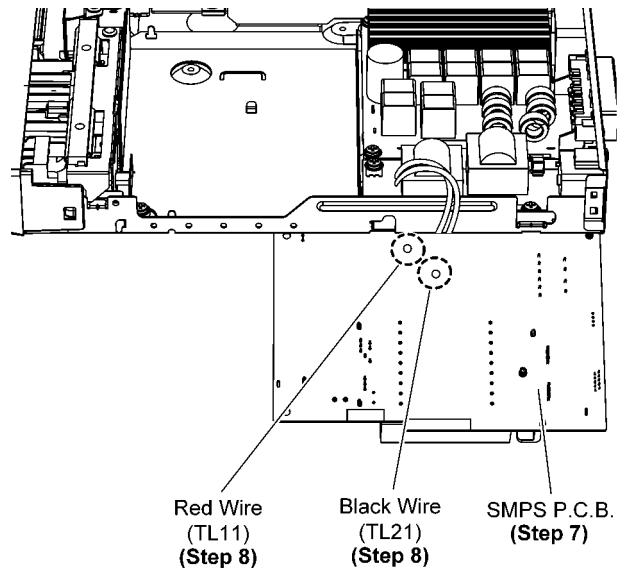
Step 6 Lift up the SMPS P.C.B..



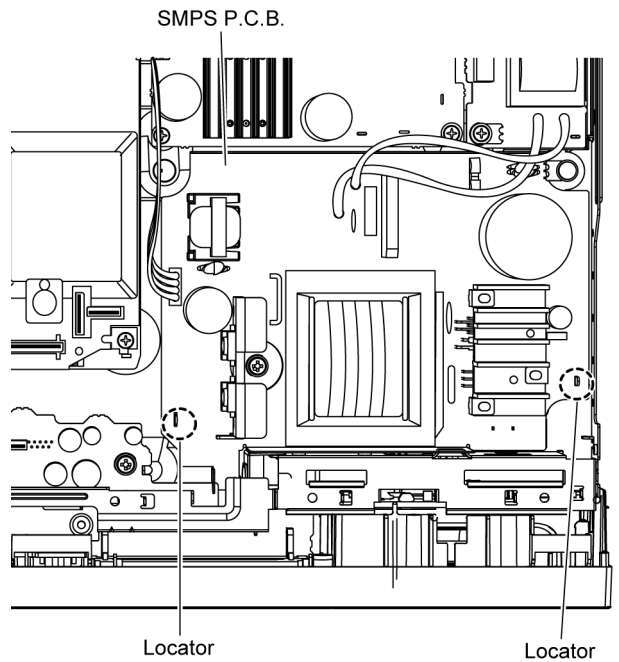
Step 7 Position the SMPS P.C.B. according to diagram shown.

Step 8 Desolder Red (TL11) & Black (TL21) Wires on Solder Side of SMPS P.C.B..

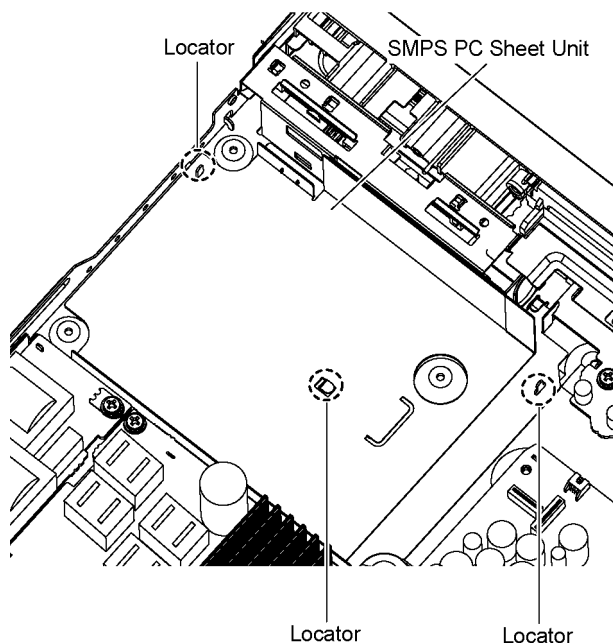
Step 9 Remove the SMPS P.C.B..



Caution: During assembling, ensure that SMPS P.C.B. is properly located & fully seated onto Bottom Chassis.



Caution: During assembling, replace the SMPS PC Sheet Unit if torn.



10.21. Replacement of Switching Regulator IC (IC5701)

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

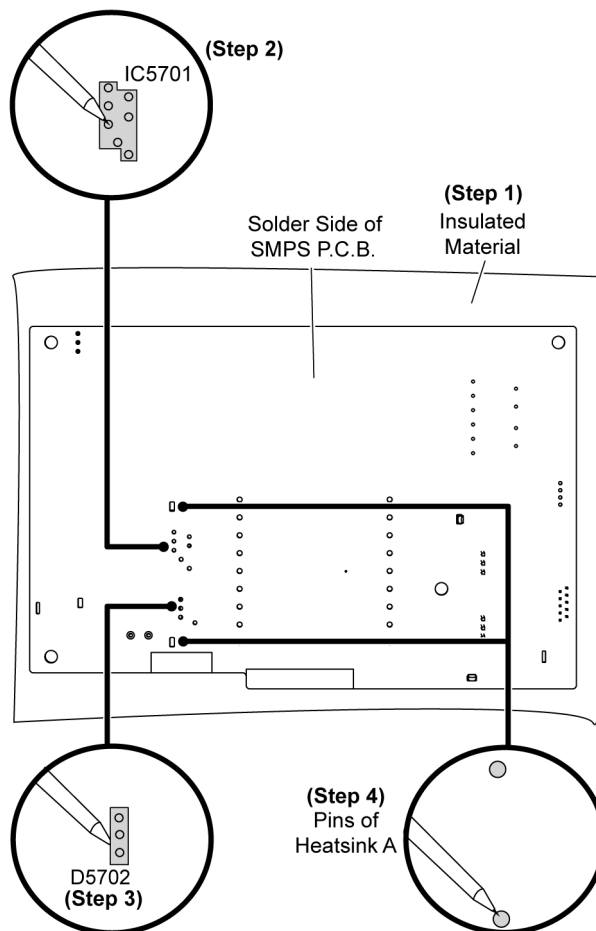
10.21.1. Disassembly of Switching Regulator IC (IC5701)

Step 1 Place SMPS P.C.B. on an insulated material.

Step 2 Desolder pins of the Switching Regulator IC (IC5701) on the solder side of SMPS P.C.B..

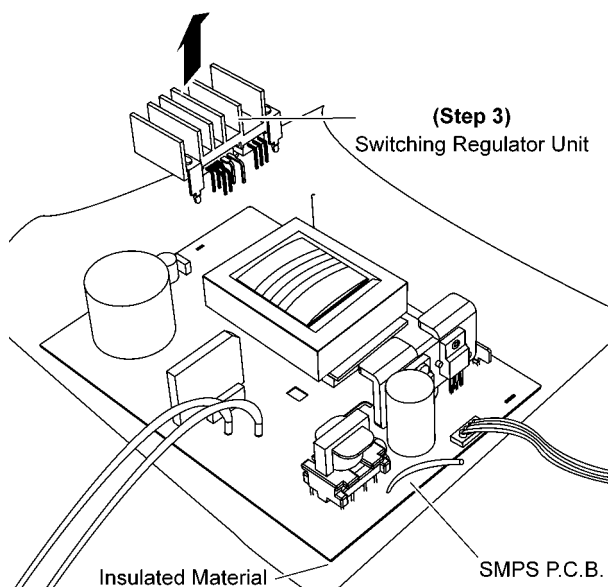
Step 3 Desolder pins of the Rectifier Diode (D5702) on the solder side of SMPS P.C.B..

Step 4 Desolder pins of the Heatsink A.



Step 5 Remove the Switching Regulator Unit in the direction of arrow.

Caution: Avoid touching the Switching Regulator Unit due to its high temperature after prolonged use. Touching it may lead to injuries.

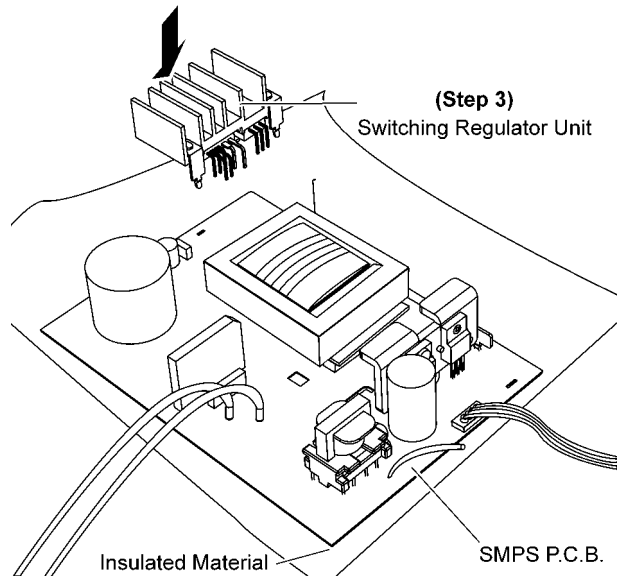
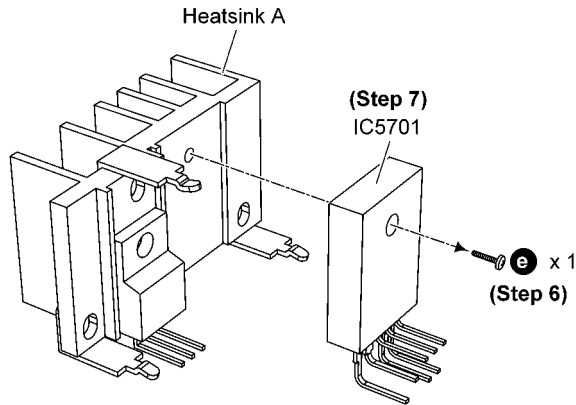


Step 6 Remove 1 screw from the Switching Regulator IC (IC5701).

Step 7 Remove the Switching Regulator IC (IC5701) from the Heatsink A.

Note: Refer to the diagrams of SMPS P.C.B. (Item 18.5) for location of the part.

Caution: Ensure that Switching Regulator Unit is properly seated on SMPS P.C.B..



10.21.2. Assembly of Switching Regulator IC (IC5701)

Step 1 Apply Grease to the back of Switching Regulator IC (IC5701).

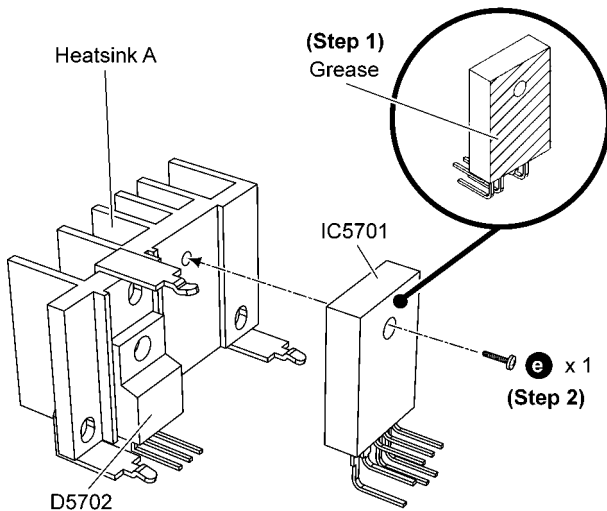
Step 2 Fix & screw the Switching Regulator IC (IC5701) to the Heatsink Unit A.

Caution: Ensure that the Switching Regulator IC (IC5701) is properly fixed & fully screwed onto Heatsink A.

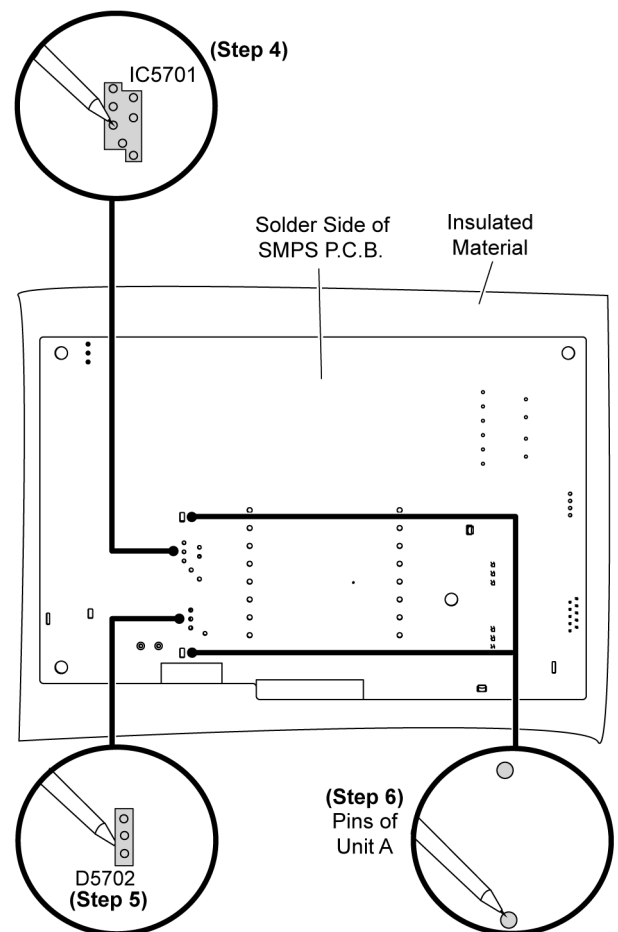
Step 4 Solder pins of the Switching Regulator IC (IC5701) on the solder side of SMPS P.C.B..

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

Step 6 Solder pins of the Heatsink A.



Step 3 Fix the Switching Regulator Unit onto SMPS P.C.B..

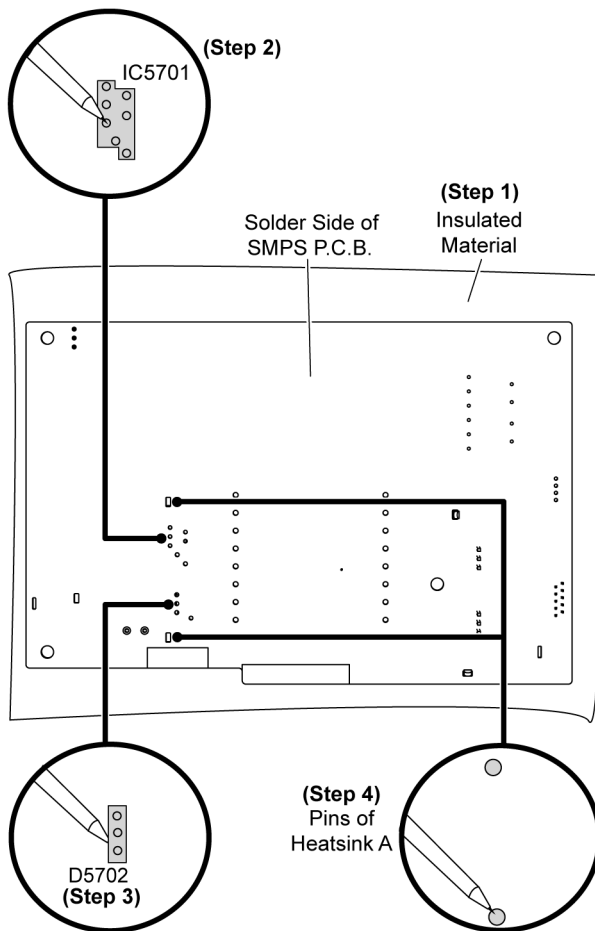


10.22. Replacement of Rectifier Diode (D5702)

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

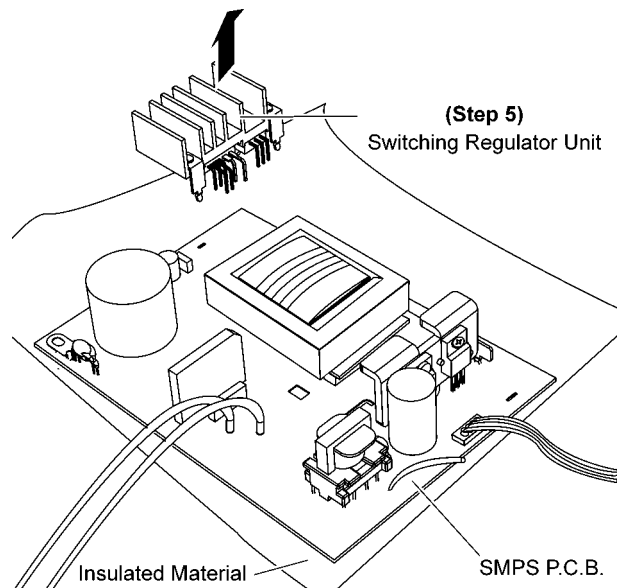
10.22.1. Disassembly of Rectifier Diode (D5702)

- Step 1** Place SMPS P.C.B. on an insulated material.
- Step 2** Desolder pins of the Switching Regulator IC (IC5701) on the solder side of SMPS P.C.B..
- Step 3** Desolder pins of the Rectifier Diode (D5702) on the solder side of SMPS P.C.B..
- Step 4** Desolder pins of the Heatsink A.

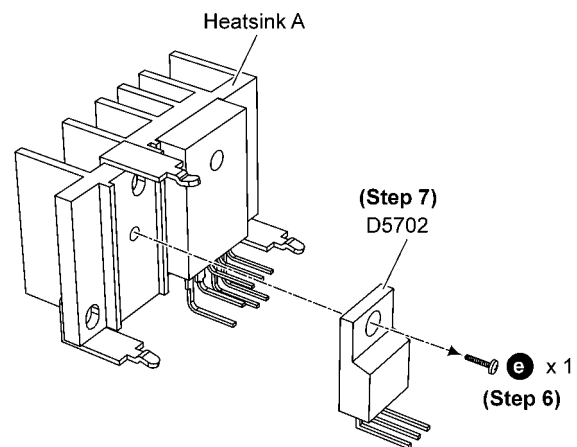


- Step 5** Remove the Switching Regulator Unit in the direction of arrow.

Caution: Avoid touching the Switching Regulator Unit due to its high temperature after prolonged use. Touching it may lead to injuries.



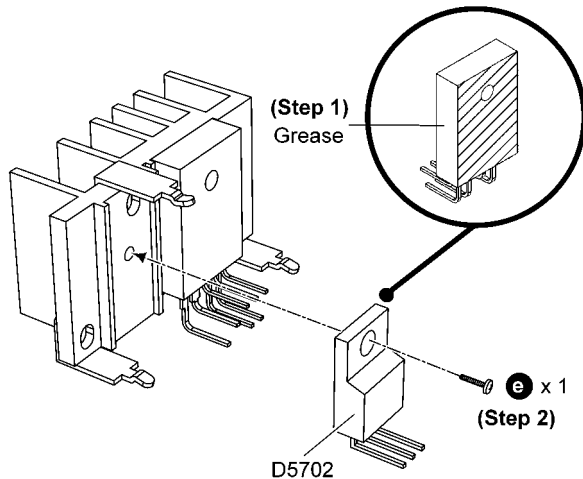
- Step 6** Remove 1 screw from the Rectifier Diode (D5702).
- Step 7** Remove Rectifier Diode (D5702) from the Heatsink A.
- Note:** Refer to the diagrams of SMPS P.C.B. (Item 18.5) for location of the part.



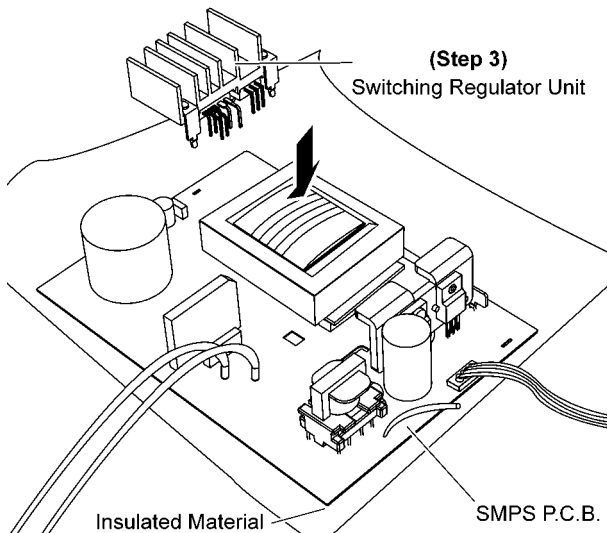
10.22.2. Assembly of Rectifier Diode (D5702)

- Step 1** Apply Grease to the back of Rectifier Diode (D5702).
- Step 2** Fix & screw the Rectifier Diode (D5702) to the Heatsink A.

Caution: Ensure that Rectifier Diode (D5702) is properly fixed & screwed onto Heatsink A.



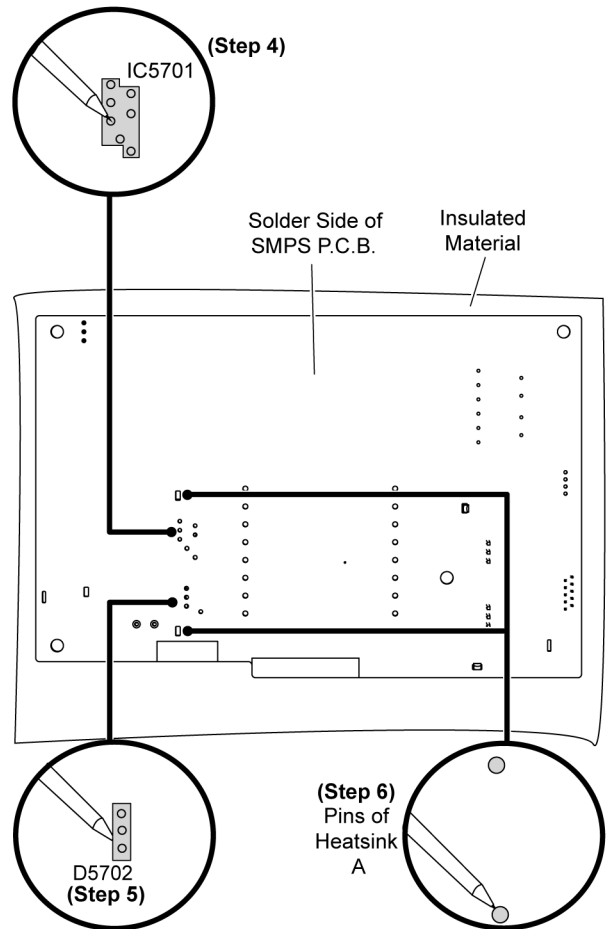
Step 3 Fix the Switching Regulator Unit onto SMPS P.C.B..
Caution: Ensure that Switching Regulator Unit is properly seated on SMPS P.C.B..



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

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

Step 6 Solder pins of the Heatsink A.



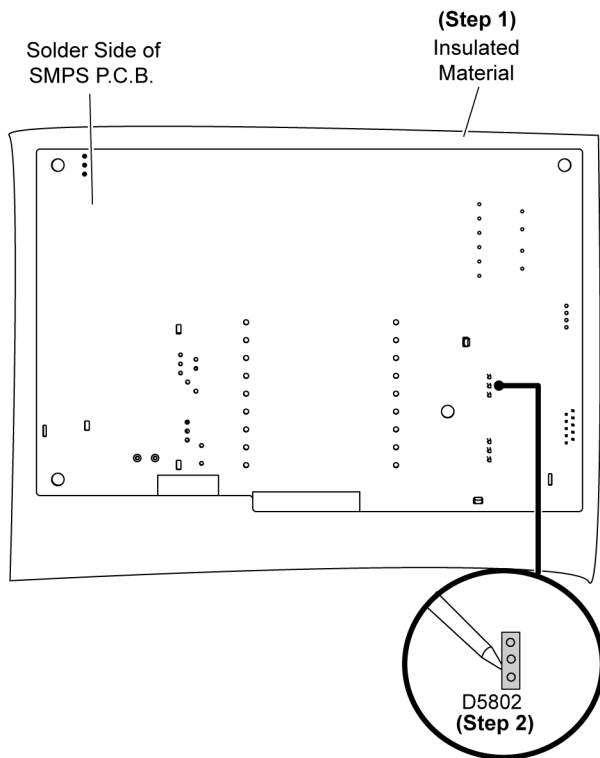
10.23. Replacement of Thermal Diode (D5802)

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

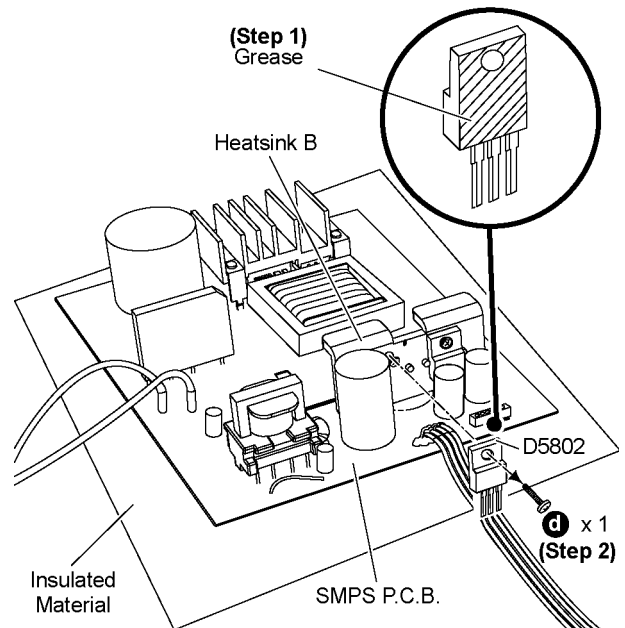
10.23.1. Dissassembly of Thermal Diode (D5802)

Step 1 Place SMPS P.C.B. on an insulated material.

Step 2 Desolder pins of the Thermal Diode (D5802) on the solder side of SMPS P.C.B..



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



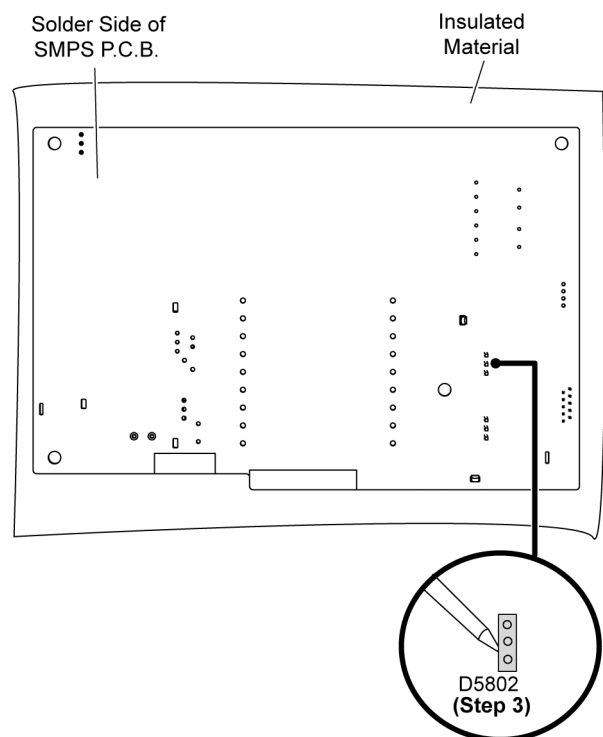
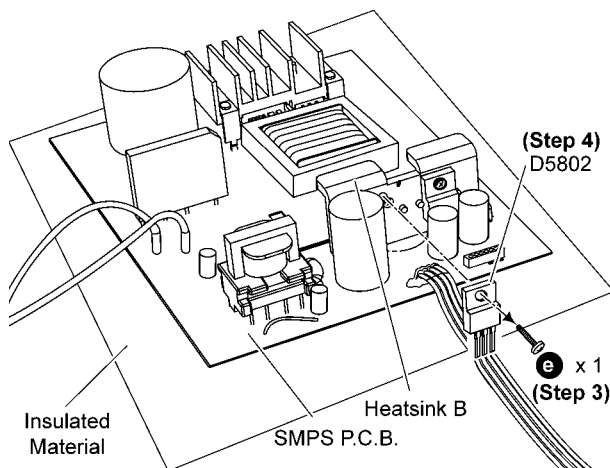
Step 3 Solder pins of the Thermal Diode (D5802) on the solder side of SMPS P.C.B..

Step 3 Remove 1 screw from the Thermal Diode (D5802).

Step 4 Remove the Thermal Diode (D5802) from SMPS P.C.B..

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

Note: Refer to the diagrams of SMPS P.C.B. (Item 18.5) for location of the part.



10.23.2. Assembly of Thermal Diode (D5802)

Step 1 Apply Grease to the back of Thermal Diode (D5802).

Step 2 Fix & screw the Thermal Diode (D5802) to the Heatsink Unit B.

10.24. Replacement of Regulator Diode (D5803)

• Refer to “Disassembly of Top Cabinet.”.

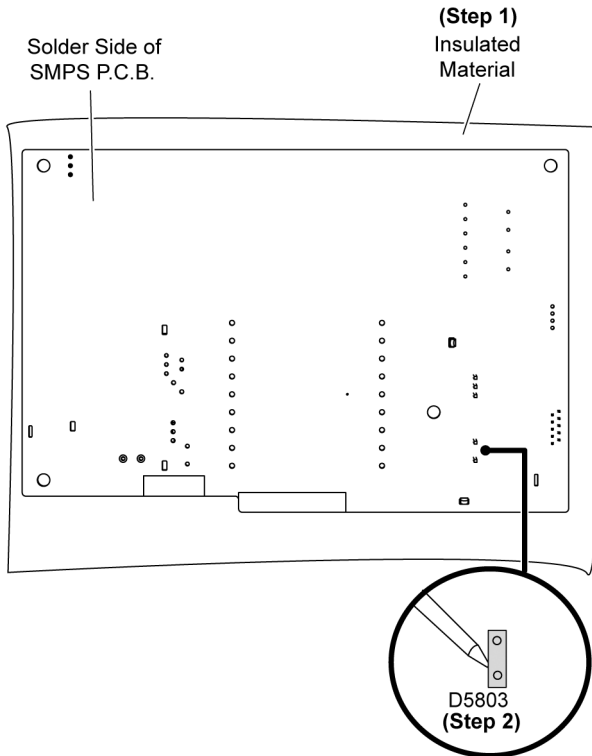
• Refer to “Disassembly of SMPS P.C.B.”.

10.24.1. Disassembly of Regulator Diode (D5803)

Step 1 Place an insulated material under SMPS P.C.B..

Step 2 Desolder pins of the Regulator Diode (D5803) on the

solder side of SMPS P.C.B..

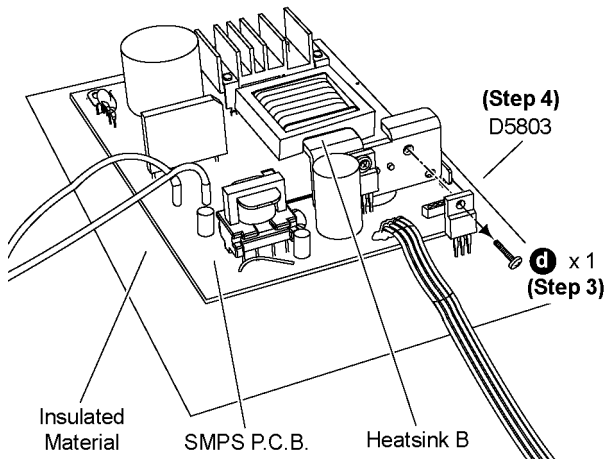


Step 3 Remove 1 screw from the Regulator Diode (D5803).

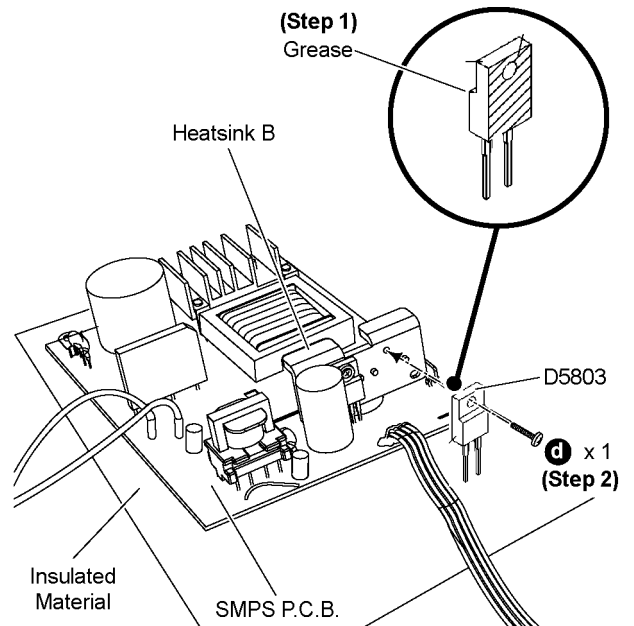
Step 4 Remove the Regulator Diode (D5803) from SMPS P.C.B..

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

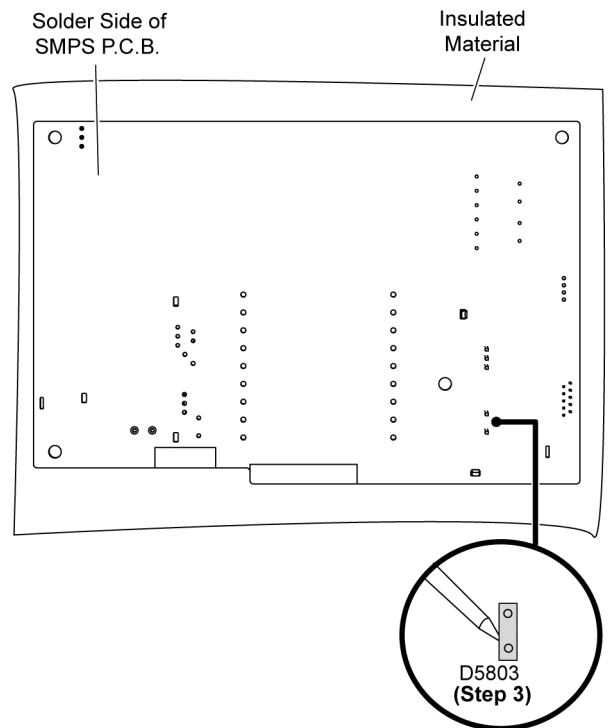
Note: Refer to the diagrams of SMPS P.C.B. (Item 18.5) for location of the part.



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



Step 3 Solder pins of the Regulator Diode (D5803) on the solder side of SMPS P.C.B..



10.24.2. Assembly of Regulator Diode (D5803)

Step 1 Apply Grease to the back of Regulator Diode (D5803).

Step 2 Fix & screw the Regulator Diode (D5803) to the Heat-sink Unit B.

11 Service Position

Note: For description of the disassembly procedures, see the Section 10.

11.1. Checking & Repairing of Main P.C.B.

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

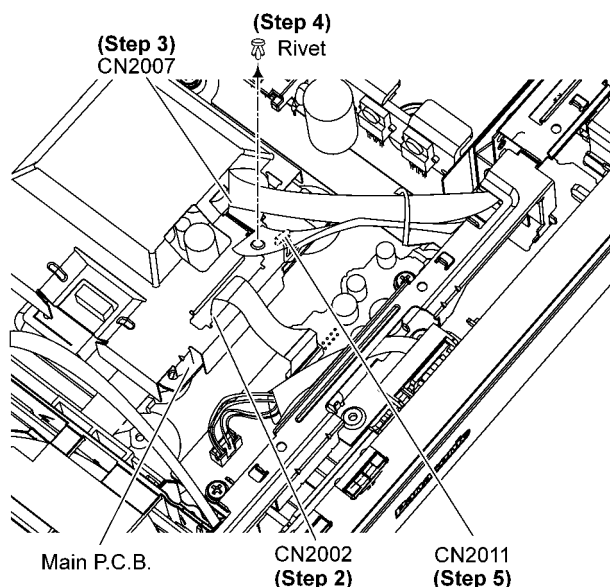
Step 1 Remove Top Cabinet.

Step 2 Detach 14P FFC at the connector (CN2002) on Main P.C.B..

Step 3 Detach 11P FFC at the connector (CN2007) on Main P.C.B..

Step 4 Remove 1 Rivet.

Step 5 Detach 3P Wire at the connector (CN2011) on Main P.C.B..

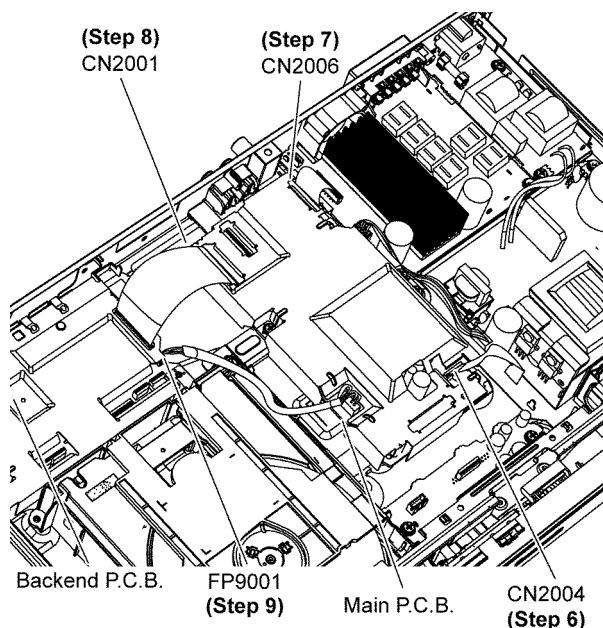


Step 6 Detach 10P FFC at the connector (CN2004) on Main P.C.B..

Step 7 Detach 18P FFC at the connector (CN2006) on Main P.C.B..

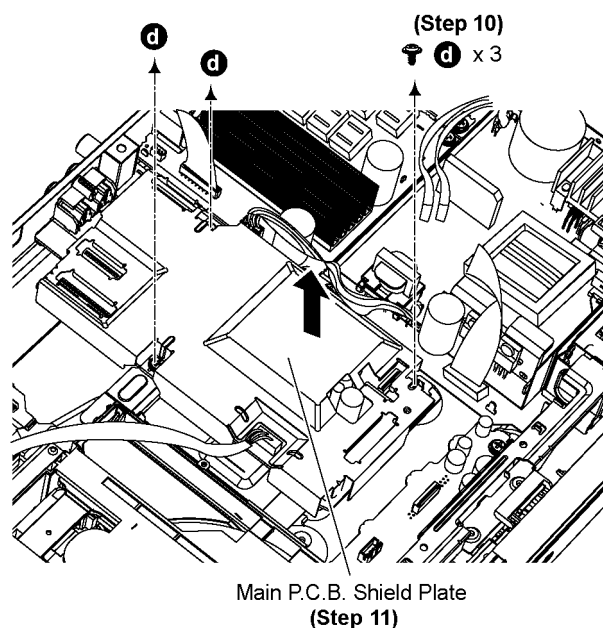
Step 8 Detach 50P FFC at the connector (CN2001) on Main P.C.B..

Step 9 Detach 5P Cable at the connector (FP9001) on Back-end P.C.B..



Step 10 Remove 3 screws.

Step 11 Lift up to remove Main P.C.B. Shield Plate.



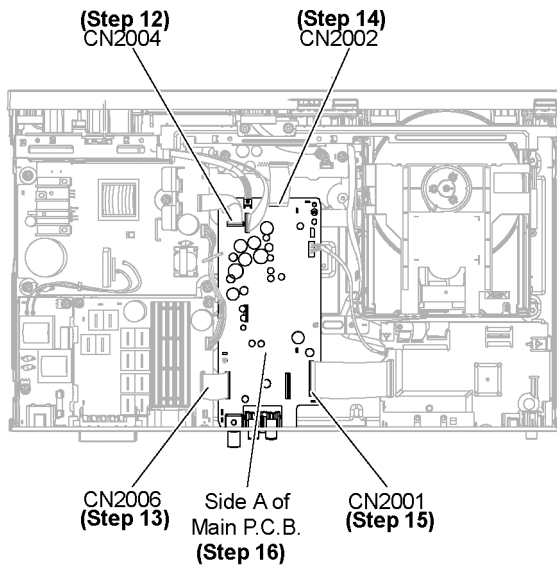
Step 12 Connect 10P FFC to the connector (CN2004) on Main P.C.B..

Step 13 Connect 18P FFC to the connector (CN2006) on Main P.C.B..

Step 14 Connect 14P FFC to the connector (CN2002) on Main P.C.B..

Step 15 Connect 50P FFC to the connector (CN2001) on Main P.C.B..

Step 16 Side B of Main P.C.B. can be checked and repaired at its original position.



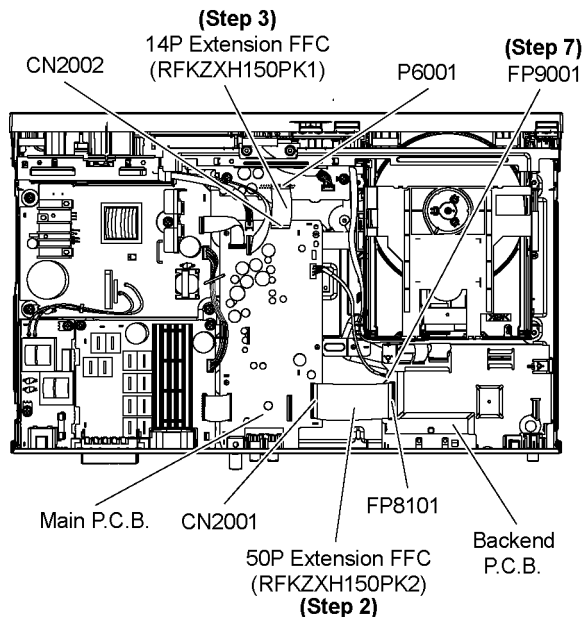
11.1.2. Checking & Repairing of Main P.C.B. (Side A)

• Refer to (Step 1) to (Step 13) of item 11.1.1.

Step 1 Detach 5P Cable at the connector (FP9001) on Back-end P.C.B..

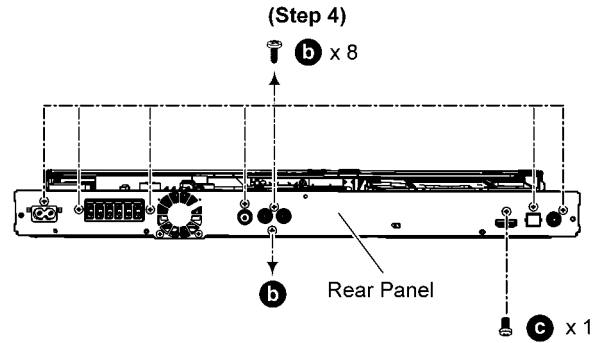
Step 2 Connect 50P Extension FFC (RFKZXH150PK2) from CN2001 to FP8101.

Step 3 Connect 14P Extension FFC (RFKZXH150PK1) from CN2002 to P6001.

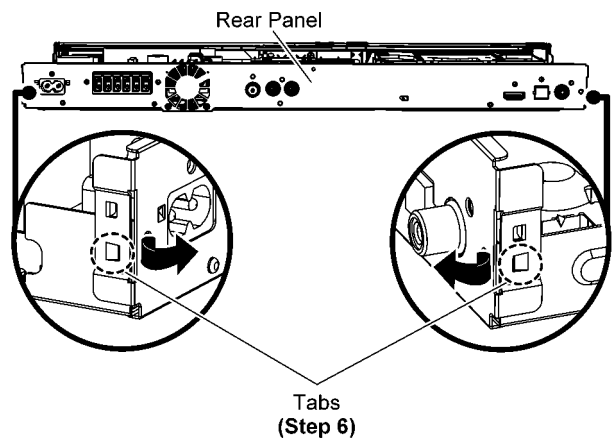


Step 4 Remove 8 screws.

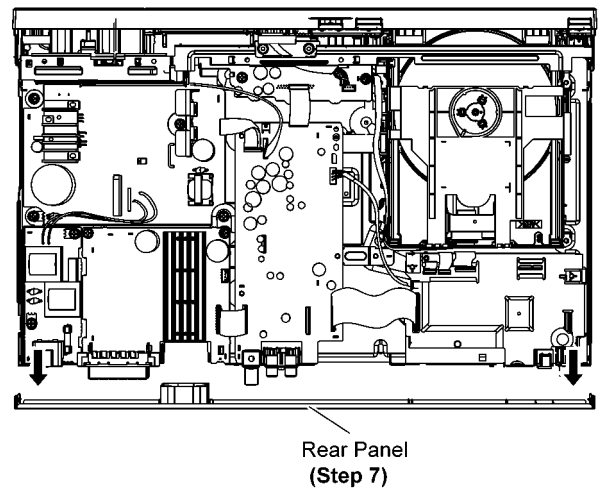
Step 5 Remove 1 screw.



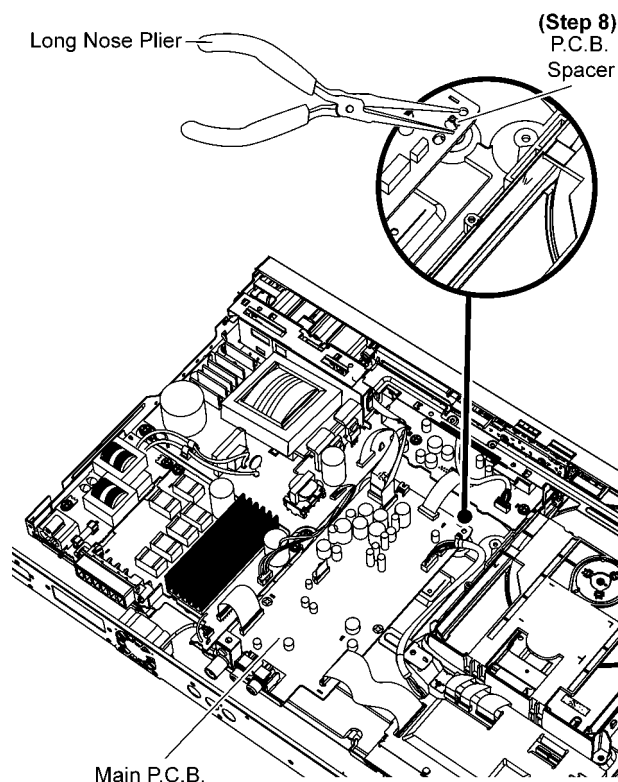
Step 6 Release the tabs at both side of the Rear Panel in the direction of arrow.



Step 7 Detach the Rear Panel in the direction of arrow.



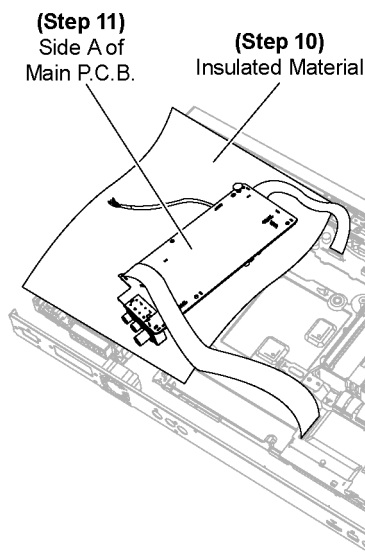
Step 8 Release P.C.B.. Spacer by using long nose piler.



Step 9 Flip the Main P.C.B. and position it according to diagram shown.

Step 10 Place Main P.C.B. on an insulated material.

Step 11 Proceed to check & repair Side A of Main P.C.B..



11.2. Checking & Repairing D-Amp P.C.B.

11.2.1. Checking & Repairing of D-Amp P.C.B. (Side B)

Step 1 Remove Top Cabinet.

Step 2 Remove D-Amp P.C.B..

Step 3 Remove D-Amp Heatsink.

Step 4 Place D-Amp onto Bottom Chassis.

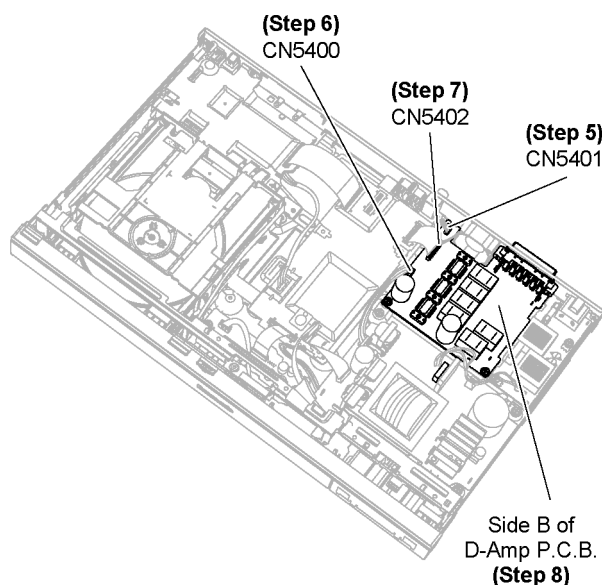
Step 5 Connect 3P Cable at connector (CN5401) on D-Amp

P.C.B..

Step 6 Connect 4P Cable at connector (CN5400) on D-Amp P.C.B..

Step 7 Connect 18P FFC at connector (CN5402) on D-Amp P.C.B..

Step 8 Proceed to check & repair Side B of D-Amp P.C.B..

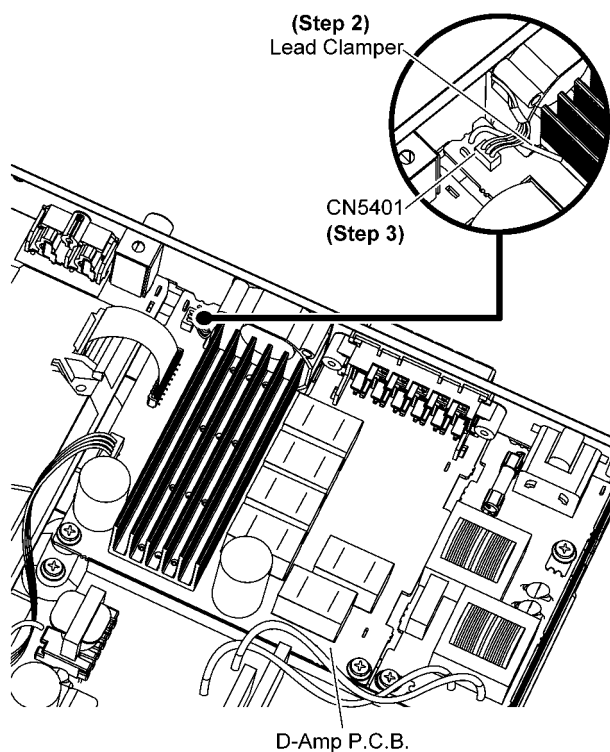


11.2.2. Checking & Repairing of D-Amp P.C.B. (Side B)

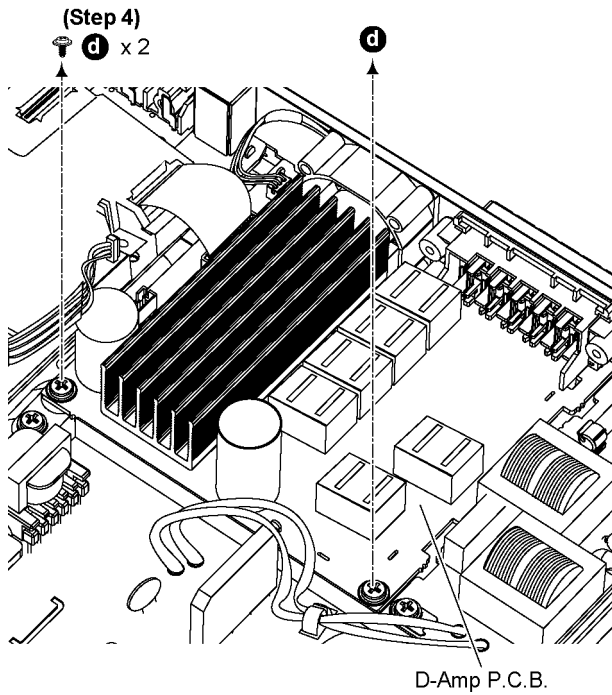
Step 1 Remove Top Cabinet.

Step 2 Lift up the Lead Clamper.

Step 3 Detach the Fan Unit connector (CN5401) on D-Amp P.C.B..

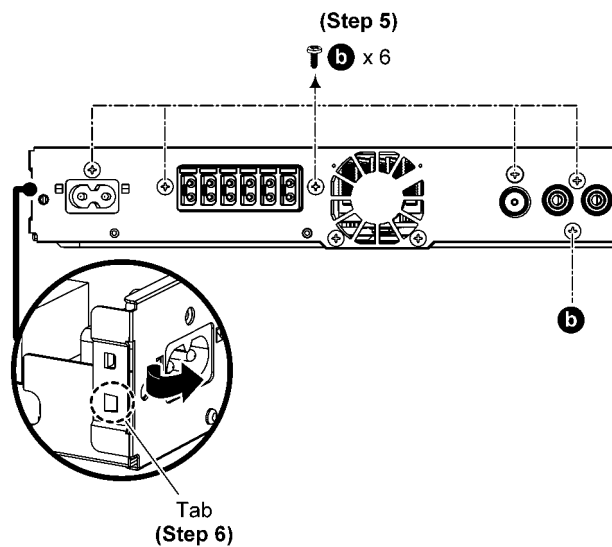


Step 4 Remove 2 screws.

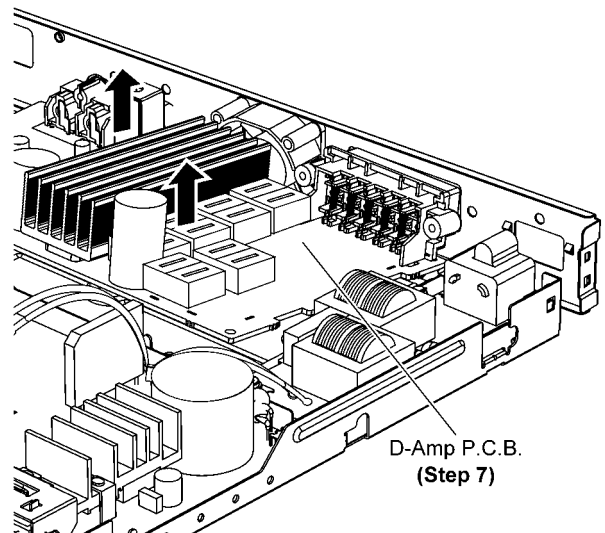


Step 5 Remove 6 screws.

Step 6 Release tab at the side of the Rear Panel in the direction of arrow.



Step 7 Slightly lift up to remove D-Amp P.C.B..

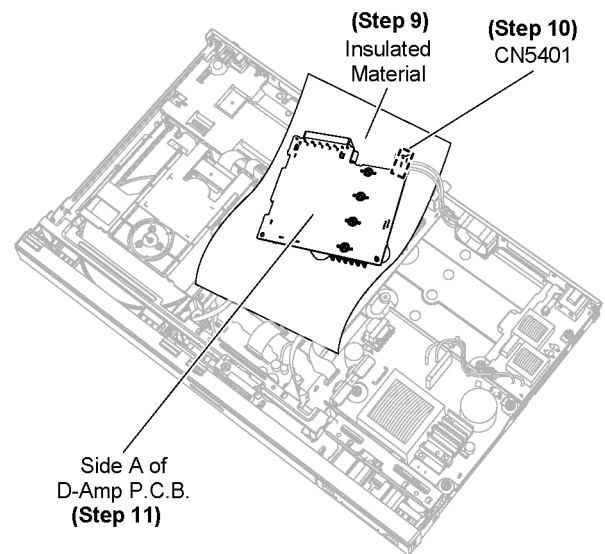


Step 8 Flip the D-Amp P.C.B. and position it according to diagram shown.

Step 9 Place Main P.C.B. on an insulated material.

Step 10 Connect 3P Cable to connector (CN5401) on D-Amp P.C.B..

Step 11 Proceed to check & repair Side A of D-Amp P.C.B..

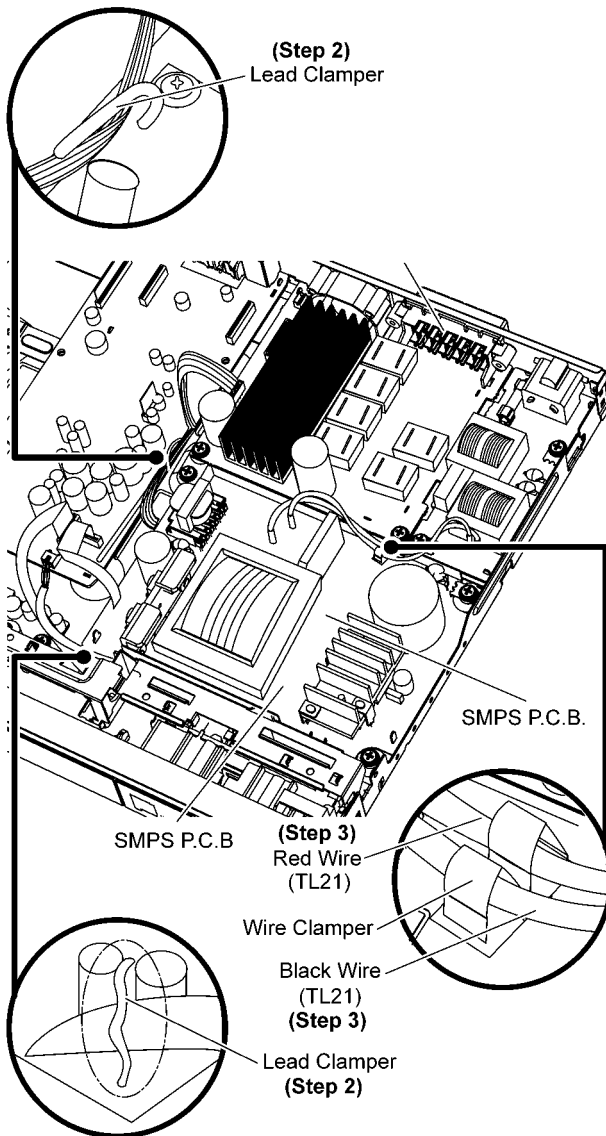


11.3. Checking & Repairing SMPS P.C.B.

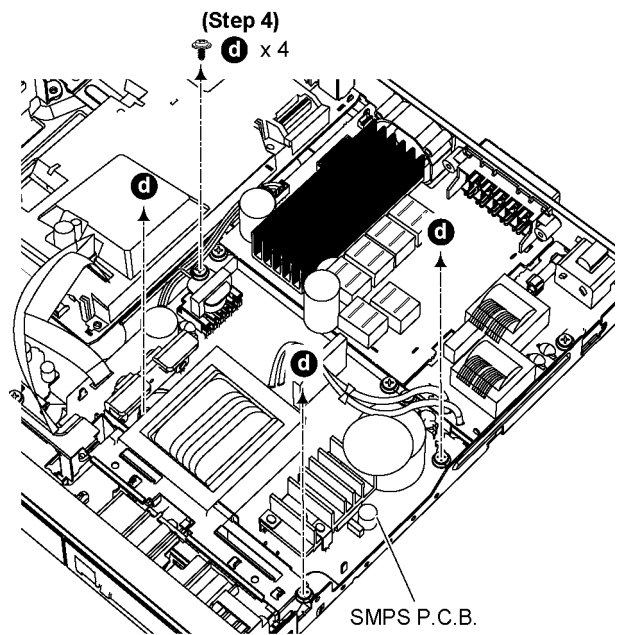
Step 1 Remove Top Cabinet.

Step 2 Lift up 2 Lead Clamper.

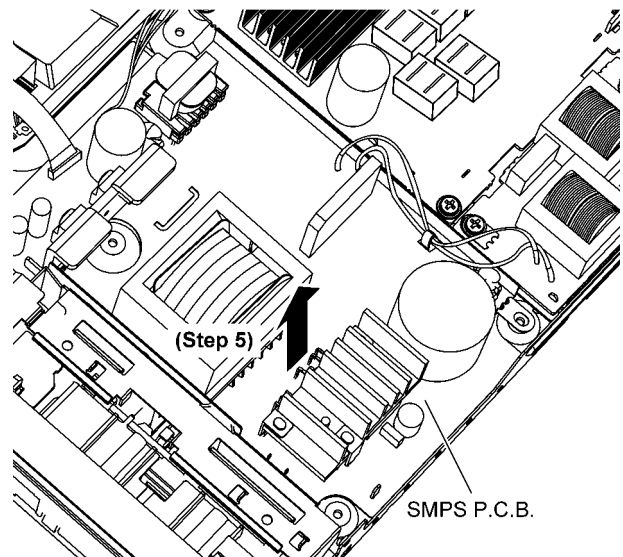
Step 3 Release Red (TL11) & Black (TL21) Wires from the Wire Clamper.



Step 4 Remove 4 screws.



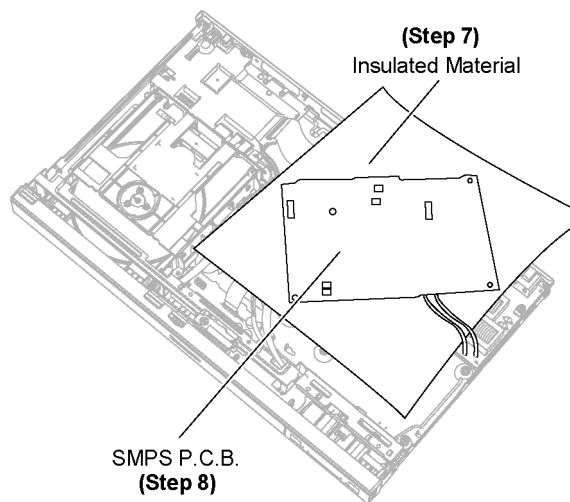
Step 5 Lift up the SMPS P.C.B..



Step 6 Flip the SMPS P.C.B. and position it according to diagram.

Step 7 Place SMPS P.C.B. on an insulated material.

Step 8 Proceed to check and repair SMPS P.C.B..



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

Step 1 Remove Top Cabinet.

Step 2 Remove Front Panel Block Assembly.

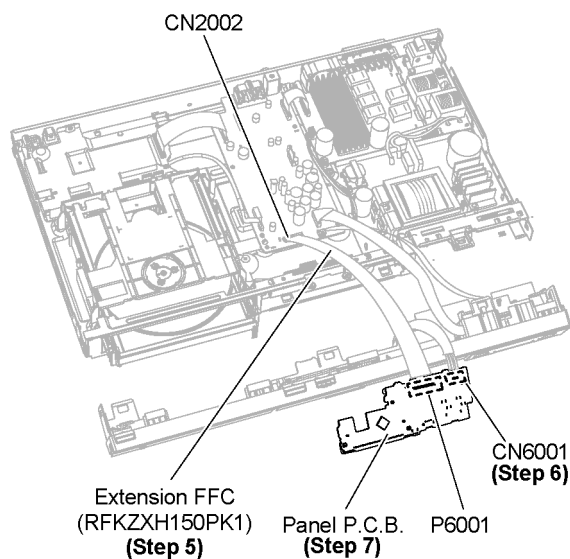
Step 3 Remove the Panel P.C.B.

Step 4 Position the Panel P.C.B & Front Panel Block Assembly according to diagram shown.

Step 5 Connect 14P Extension FFC (RFKZXH150PK1) from CN2002 to P6001.

Step 6 Connect 4P Cable to the connector (CN6001) on Panel P.C.B.

Step 7 Proceed to check & repair Panel P.C.B..



11.5. Checking & Repairing of Back-end P.C.B.

11.5.1. Checking & Repairing of Backend P.C.B. (Side B)

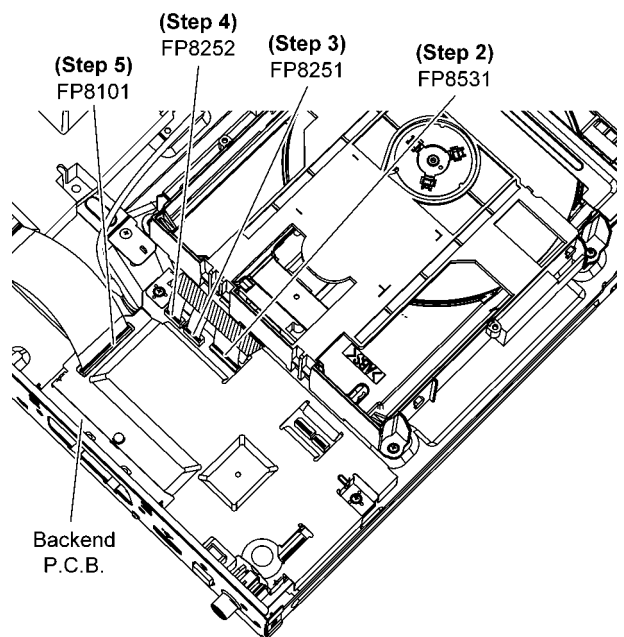
Step 1 Remove Top Cabinet.

Step 2 Detach 24P FPC at the connector (FP8531) on Back-end P.C.B..

Step 3 Detach 6P FFC at the connector (FP8251) on Backend P.C.B..

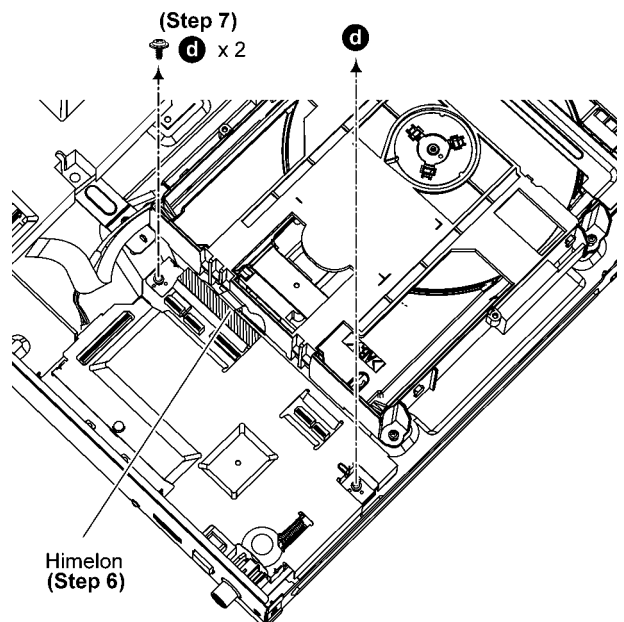
Step 4 Detach 5P FFC at the connector (FP8252) on Backend P.C.B..

Step 5 Detach 50P FFC at the connector (FP8101) on Backend P.C.B..



Step 6 Remove Himelon.

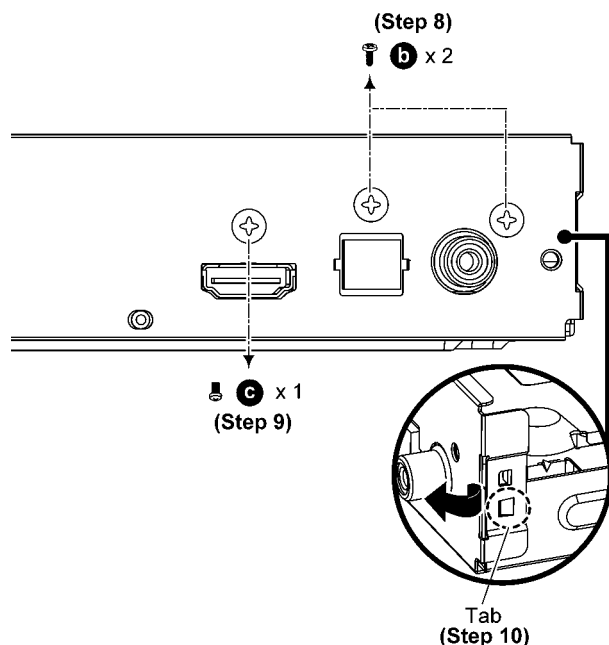
Step 7 Remove 2 screws.



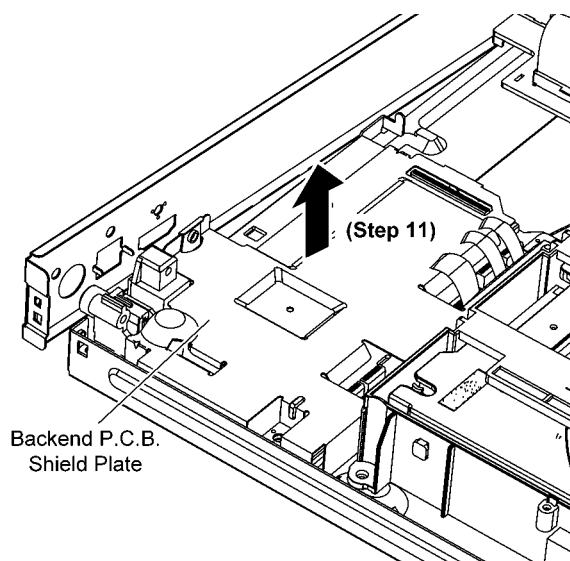
Step 8 Remove 2 screws.

Step 9 Remove 1 screw.

Step 10 Release the tabs at the side of the Rear Panel in the direction of arrow.



Step 11 Lift up to remove Backend P.C.B. Shield Plate Unit.



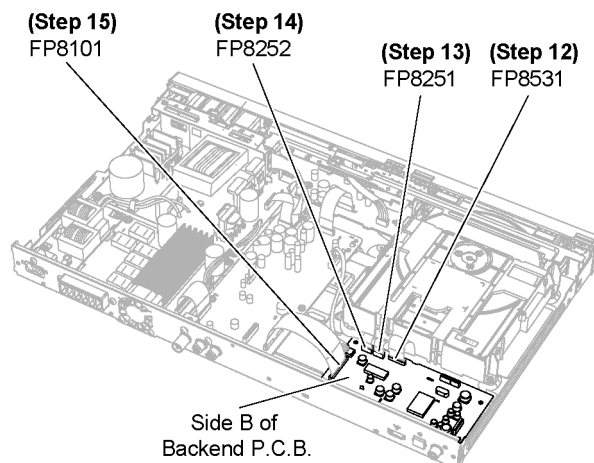
Step 12 Connect 24P FPC at the connector (FP8531) on Backend P.C.B..

Step 13 Connect 6P FFC at the connector (FP8251) on Backend P.C.B..

Step 14 Connect 5P FFC at the connector (FP8252) on Backend P.C.B..

Step 15 Connect 50P FFC at the connector (FP8101) on Backend P.C.B..

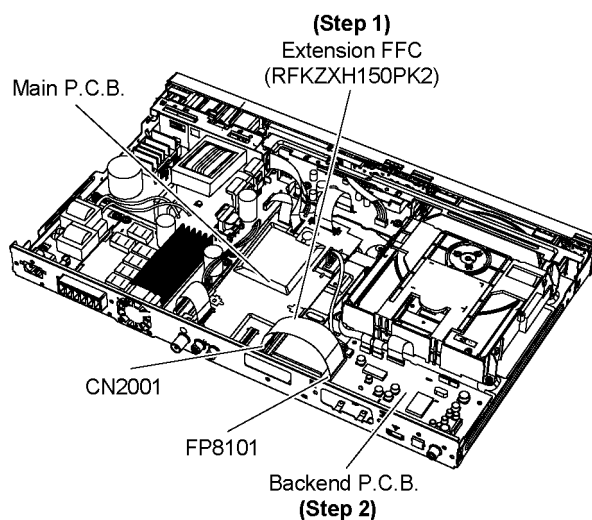
Step 16 Proceed to check & repair Side B of Backend P.C.B..



11.5.2. Checking & Repairing of Backend P.C.B. (Side A)

• Refer to (Step 1) to (Step 13) of item 11.5.1.

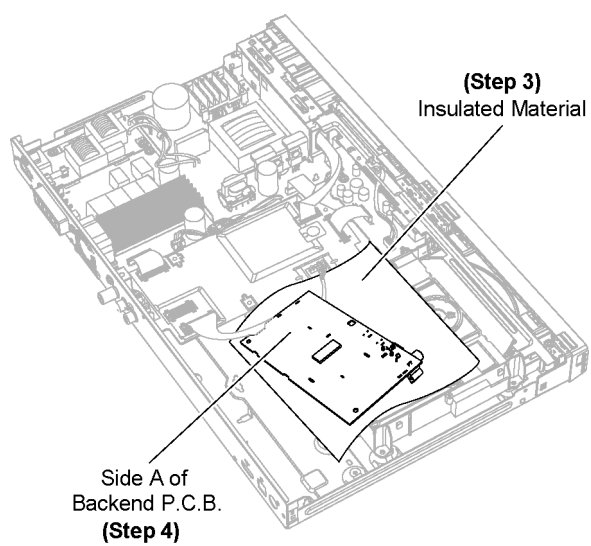
Step 1 Connect the 50P Extension FFC (RFKZXH150PK2) from FP8101 to CN2001.



Step 2 Flip the Backend P.C.B. and position it according to diagram shown.

Step 3 Place Backend P.C.B. on an insulated material.

Step 4 Proceed to check & repair Side A of Backend P.C.B..



12 Voltage & Waveform Chart

Note:

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

12.1. Backend P.C.B. (1/3)

REF NO.	IC2401																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	3.3	0	3.2	3.3	0	0	0	0	0	0	3.3	3.3	0	0	0	0	0	0	0
STANDBY	0	3.3	0	3.2	3.3	0	0	0	0	0	0	3.3	3.3	0	0	0	0	0	0	0

REF NO.	IC3952																			
MODE	1	2	3	4	5															
CD PLAY	9.0	0.1	1.3	5.1	9.4															
STANDBY	9.1	0	1.3	5.0	9.4															

REF NO.	IC3953																			
MODE	1	2	3	4	5	6														
CD PLAY	1.7	0.1	1.2	3.0	3.3	1.7														
STANDBY	1.7	0	1.3	3.0	3.3	1.7														

REF NO.	IC3954																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0.3	3.0	0.1	0.1	1.8	3.3	0.1	3.3												
STANDBY	0.3	3.0	0	0	1.7	3.3	3.3	3.3												

REF NO.	IC8001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.0	3.0	0	0	0	0	3.0	0	3.0	3.1	3.1	3.1	2.7	0	0.3	3.1	0.6	0.2	1.1	0.4
STANDBY	0.9	3.0	0	0	0	0	3.0	0	2.9	3.0	3.0	3.0	2.8	0	0.2	3.3	1.9	0	0.6	1.6

REF NO.	IC8001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	1.1	1.0	0.5	1.1	1.1	0.6	3.0	0.7	1.1	0.1	1.1	0.6	0.6	1.7	3.0	0	1.5	1.5	0	0
STANDBY	1.5	3.1	2.8	1.6	0.3	2.8	3.3	0.6	0.4	0.5	0.5	0	2.6	1.8	3.2	0	1.5	1.5	0	0

REF NO.	IC8001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	0	1.4	1.5	3.0	3.0	3.0	2.9	0	0	0	0	0	0	0	0	3.0	0.9	1.7	1.7
STANDBY	0	0	1.5	1.5	3.1	3.0	3.1	3.0	0	0	0	0	0	0	0	0	3.1	0.9	1.7	1.7

REF NO.	IC8001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	3.0	0.4	0	0	0	0	1.6	1.6	3.0	2.0	2.0	3.0	2.0	1.9	1.7	2.0	1.8	2.0	0
STANDBY	0	3.1	0.4	0	0	0	1.2	0	0	3.1	2.0	1.9	3.1	1.9	2.0	1.3	1.9	1.3	2.0	0

REF NO.	IC8001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	1.9	1.5	0.9	3.0	0	0.2	3.0	2.2	0	1.6	3.2	0	1.6	2.5	1.7	0.3	3.2	0	3.0	3.1
STANDBY	1.9	1.6	0.9	3.1	0	0	3.1	3.1	0	0	3.1	1.7	0	0	0	0.1	0	3.1	3.1	3.1

REF NO.	IC8001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
CD PLAY	3.0	1.2	0	1.6	2.1	1.3	2.6	3.2	0.6	3.0	1.6	1.6	0	1.8	1.8	3.2	0.8	1.2	1.3	1.8
STANDBY	3.1	1.3	0	1.6	3.1	3.1	3.1	3.1	0	3.1	1.5	1.5	0	1.8	1.7	3.1	0.7	1.2	1.2	1.8

SA-XH150P/PC BACKEND P.C.B.

12.2. Backend P.C.B. (2/3)

REF NO.	IC8001																			
MODE	121	122	123	124	125	126	127	128												
CD PLAY	1.7	1.7	1.7	1.2	1.6	1.3	1.6	0												
STANDBY	1.6	1.6	1.6	0.9	1.6	1.6	1.5	0												
REF NO.	IC8051																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	3.3	1.5	3.3	1.0	1.0	0	0.7	1.2	3.3	0.7	0.7	0	0.7	3.3	2.9	3.3	3.3	3.3	3.3	0.1
STANDBY	3.3	1.7	3.3	0.3	0.4	0	1.6	0.8	3.3	1.9	1.0	0	0.1	3.3	2.9	3.3	3.3	3.3	3.3	0.1
REF NO.	IC8051																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	3.3	0.1	1.2	1.7	1.2	1.6	3.3	0.1	1.6	1.6	1.7	1.7	0.1	0.1	0.1	0	3.3	0.3	2.9	0
STANDBY	3.3	0	0.1	1.7	1.3	1.9	3.3	0	0	1.8	1.7	1.7	0.1	0	0	0	3.3	0.3	2.9	0
REF NO.	IC8051																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54						
CD PLAY	0.1	0.8	3.3	1.0	1.0	0.1	0.7	1.2	3.3	0.7	0.7	0.1	0.8	0.1						
STANDBY	0	1.2	3.3	0.4	0.8	0	1.6	0.2	3.3	1.3	0.3	0	0.7	0						
REF NO.	IC8111																			
MODE	1	2	3	4	5															
CD PLAY	3.4	3.4	0	1.9	0.8															
STANDBY	3.5	3.5	0	1.9	0.8															
REF NO.	IC8112																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	3.1	0	0	1.8	4.7	0	0	4.7												
STANDBY	3.1	0	0	1.8	4.7	0	0	4.8												
REF NO.	IC8251																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.6	8.9	2.1	1.6	2.0	3.1	3.1	8.9	0	0	4.5	4.5	2.4	2.5	2.5	2.5	3.4	1.6	4.8	1.9
STANDBY	1.3	8.9	2.3	1.3	2.3	3.2	3.2	9.2	0	0	2.0	0	1.4	1.4	1.4	1.4	1.3	1.3	4.9	2.3
REF NO.	IC8251																			
MODE	21	22	23	24	25	26	27	28												
CD PLAY	1.4	0	1.9	8.9	8.9	1.6	1.6	3.1												
STANDBY	1.5	0	1.1	8.9	8.9	1.3	1.6	0												
REF NO.	IC8301																			
MODE	1	2	3	4	5	6														
CD PLAY	3.3	2.4	5.1	2.0	0.1	2.0														
STANDBY	3.3	2.3	5.0	1.9	0	1.9														
REF NO.	IC8606																			
MODE	1	2	3	4	5															
CD PLAY	0.1	0.1	0.1	3.1	3.3															
STANDBY	0	0	0	3.3	3.3															

SA-XH150P/PC BACKEND P.C.B.

12.3. Backend P.C.B. (3/3)

REF NO.	IC8651																		
MODE	1	2	3	4	5	6	7	8											
CD PLAY	2.2	2.7	3.3	0	1.2	0.6	3.3	3.3											
STANDBY	2.9	3.1	3.3	0	1.1	0.2	3.3	3.3											

REF NO.	IC9006																		
MODE	1	2	3	4	5														
CD PLAY	5.0	0.1	3.3	3.3	5.0														
STANDBY	5.1	0	3.3	3.3	5.1														

REF NO.	Q3901				Q3902				Q3903				Q3904				Q8552		
MODE	E	C	B		S	D	G		S	D	G		S	D	G		E	C	B
CD PLAY	0	3.0	-1.1		3.0	4.7	3.1		3.0	4.8	3.1		3.1	3.1	2.8		3.1	2.3	2.4
STANDBY	0	3.0	-1.1		3.1	4.7	3.1		3.1	4.7	3.1		3.1	3.0	2.8		3.3	0	3.3

REF NO.	Q8562				Q8565														
MODE	E	C	B		E	C	B												
CD PLAY	3.3	0.1	3.3		0.1	0.1	0.7												
STANDBY	3.3	0	3.3		0	4.8	0												

SA-XH150P/PC BACKEND P.C.B.

12.4. Main P.C.B. (1/3)

REF NO.	IC2091																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	3.2	0	0	1.7	2.9	0	0	4.8												
STANDBY	3.2	0	0	1.7	2.9	0	0	4.8												
REF NO.	IC2151																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	2.3	2.3	0	2.2	0	4.6	3.0	0	1.0	1.5	1.4	1.5	3.0	3.0	0	0				
STANDBY	2.3	2.3	0	2.3	0	4.7	3.0	0	1.0	1.5	1.5	1.5	3.1	3.0	0	0				
REF NO.	IC2300																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	1.4	3.0	0	0	0	0	1.4	1.3	3.1	1.6	0	1.5	3.3	3.2	0	2.0	1.5	0	3.1
STANDBY	0	1.4	3.1	0	0	0	0	0.7	1.3	3.1	1.5	0	1.4	3.1	3.1	0	1.9	0.6	0	3.1
REF NO.	IC2300																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	3.1	3.1	1.3	2.6	1.9	3.0	3.2	0	0	0	3.2	3.2	3.2	0	3.1	3.1	0	0	0
STANDBY	0	3.1	3.1	1.3	2.6	1.9	3.0	3.2	0	0	0	3.1	3.1	3.1	0	3.1	3.1	3.1	0	0
REF NO.	IC2300																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	3.1	0.4	3.2	0	3.2	0	3.1	3.2	0	3.2	3.1	3.1	3.2	0	4.0	3.3	0	0	0	3.2
STANDBY	3.1	0.5	3.1	0	3.1	0	3.1	3.1	0	3.1	3.2	3.1	3.0	0	3.8	3.1	0	0	0	3.1
REF NO.	IC2300																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	0	3.2	3.2	0	3.2	0	3.2	3.2	0	0	0	3.1	0	3.1	0	0	0	3.1	3.2
STANDBY	0	0	3.1	3.1	0	3.1	0	3.1	3.1	0	0	0	3.1	0	3.1	3.0	0	0	3.3	3.3
REF NO.	IC2300																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	3.2	0.3	0.3	3.1	2.1	0.3	0	0	2.1	3.2	3.2	3.2	0.8	0	0	3.1	3.1	0	3.1	3.1
STANDBY	3.2	0.3	0.3	3.1	2.3	0.4	0	0	2.2	3.3	3.3	3.3	0.8	0	0	3.3	3.3	0	3.3	3.3
REF NO.	IC2301																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	0	3.2	3.2	0	3.1												
STANDBY	0	0	0	0	3.0	3.2	0	3.2												
REF NO.	IC2500																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5.0	5.0	0	-6.8	0	0	0	6.7												
STANDBY	5.0	5.0	0	-6.8	0	0	0	6.7												
REF NO.	IC2600																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5.0	5.0	5.0	-4.8	5.0	5.0	5.0	4.8												
STANDBY	5.0	5.0	5.0	-5.0	5.0	5.0	5.0	4.8												

SA-XH150P/PC MAIN P.C.B.

12.5. Main P.C.B. (2/3)

REF NO.	IC2601																			
MODE	1	2	3	4	5															
CD PLAY	2.2	0	5.2	2.9	2.9															
STANDBY	2.2	0	5.2	2.9	2.9															

REF NO.	IC2602																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	5.1	4.8	0	3.0	5.0	5.0	5.0												
STANDBY	0	5.1	5.1	0	3.1	5.0	5.0	5.0												

REF NO.	IC2800																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	2.8	4.4	8.0	5.0	0	0	-6.0	0	6.7	7.0	5.0	2.8	8.0	0	4.4	6.5				
STANDBY	2.8	4.4	8.0	5.0	0	0	-6.0	0	6.7	7.0	5.0	2.8	8.0	0	4.4	6.5				

REF NO.	IC2901																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.6	2.3	2.0	1.0	1.5	0	16.0	15.6	10.6	14.0	12.7	16.2	16.3	16.3	14.3	1.7	1.0	1.9	2.4	2.4
STANDBY	1.6	2.3	2.0	1.0	1.5	0	16.0	15.6	10.6	14.0	12.5	15.7	15.7	15.9	14.0	1.7	1.0	1.9	2.4	2.4

REF NO.	IC2952																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	2.8	0	0	0	0	3.3	0	2.8	3.3	3.3	0	2.8	2.8	2.8	0	2.8	0	0	0
STANDBY	0	2.8	0	0	0	0	3.3	0	2.8	3.3	3.3	0	2.8	2.8	2.8	0	2.8	0	0	0

REF NO.	Q2201				Q2202				Q2203				Q2204				Q2400			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0.7		5.1	5.1	4.5		4.8	4.8	4.2		0	0	0.7		9.0	9.0	8.3	
STANDBY	0	0	0.7		5.2	5.2	4.5		5.0	4.9	4.2		0	0	0.7		9.0	9.0	8.4	

REF NO.	Q2401				Q2402				Q2501				Q2502				Q2503			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	11.5	12.0	5.0		5.0	5.0	3.3		6.3	8.6	7.0		-6.6	-8.6	-7.2		0	-7.1	-0.6	
STANDBY	11.5	12.0	5.0		5.0	5.0	3.3		6.3	8.8	7.1		-6.6	-8.6	-7.2		0	-7.2	-0.6	

REF NO.	Q2709				Q2719				Q2800				Q2805							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
CD PLAY	0	3.8	-0.6		0	3.8	0		0	0	3.2		0	0	3.0					
STANDBY	0	3.9	-0.6		0	3.9	0		0	0	3.0		0	0	3.2					

REF NO.	Q2902							Q2903							Q2904					
MODE	1	2	3	4	5	6		1	2	3	4	5	6		E	C	B			
CD PLAY	11.5	11.5	12.6	16.3	11.5	11.5		5.3	5.3	14.3	16.1	5.3	5.3		9.4	11.5	10.1			
STANDBY	11.5	11.5	11.8	15.7	11.5	11.5		5.3	5.3	13.9	15.7	5.3	5.3		9.4	11.5	10.1			

REF NO.	QR2400				QR2401				QR2402				QR2500				QR2700			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	3.0		0	5.0	3.0		0	3.3	11.5		0	3.1	0		6.3	3.7	2.9	
STANDBY	0	0	3.0		0	5.0	3.0		0	3.3	11.5		0	3.1	0		6.4	3.7	2.9	

SA-XH150P/PC MAIN P.C.B.

12.6. Main P.C.B. (3/3)

REF NO.	QR2701																			
MODE	E	C	B																	
CD PLAY	3.1	3.1	3.0																	
STANDBY	3.0	3.1	3.0																	

SA-XH150P/PC MAIN P.C.B.

12.7. Panel P.C.B.

REF NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	3.3	0	0	0	1.9	0.9	1.3	2.8	2.0	0.9	0.9	0	3.3	-20.6	-20.6	-20.6	-16.7	-11.0	-12.9	-10.9
STANDBY	0	0	0	0	1.9	0.9	1.4	2.8	1.9	0.9	0.9	0	3.3	-20.6	-20.6	-20.6	-20.6	-12.9	-14.8	-9.0

REF NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-20.6	-20.6	-20.6	-16.7	-16.7	-20.6	-20.6	-12.9	-14.8	-21.0	-9.2	-20.8	-18.8	-18.8	-18.8	-18.8	-18.8	-18.8	-18.8	-18.9
STANDBY	-18.7	-20.6	-18.7	-12.9	-12.9	-18.7	-20.6	-12.9	-11.0	-21.0	-15.0	-20.8	-18.9	-18.9	-18.9	-18.9	-18.9	-18.9	-18.9	-18.9

REF NO.	IC6001																			
MODE	41	42	43	44																
CD PLAY	-18.8	-18.8	3.3	0																
STANDBY	-18.8	-18.8	3.3	0																

REF NO.	Q6031				Q6100				QR6031											
MODE	E	C	B		E	C	B		E	C	B									
CD PLAY	3.3	3.2	2.6		0	9.0	-0.2		0	0	3.0									
STANDBY	3.3	3.2	2.6		0	9.0	-0.2		0	0	3.0									

SA-XH150P/PC PANEL P.C.B.

12.8. D-Amp P.C.B. (1/2)

REF NO.	IC5100																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.5	11.2	1.2	3.1	3.2	1.6	1.6	1.4	0	0	3.2	1.6	1.6	3.2	0	0	3.9	3.2	3.2	0
STANDBY	1.4	11.0	1.1	0	0	0	0	1.3	0	0	3.1	0	0	3.1	0	0	3.8	3.1	0	0
REF NO.	IC5100																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	11.0	24.0	27.6	27.6	13.7	13.7	0	0	13.7	27.6	24.0	24.1	27.6	13.8	0	0	13.8	13.8
STANDBY	0	0	11.1	10.4	27.6	27.6	0.3	0.3	0	0	0.3	27.6	10.7	10.7	27.6	0.3	0	0	0.3	0.3
REF NO.	IC5100																			
MODE	41	42	43	44																
CD PLAY	27.6	27.6	24.1	11.2																
STANDBY	27.6	27.6	10.7	11.4																
REF NO.	IC5200																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.5	11.2	1.2	3.1	3.3	1.6	1.6	1.4	0	0	3.3	1.6	1.6	3.3	0	0	3.9	3.3	3.3	0
STANDBY	1.5	11.3	1.2	0	0	0	0	1.4	0	0	3.3	0	0	3.3	0	0	3.9	3.3	0	0
REF NO.	IC5200																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	11.2	24.0	27.6	27.6	13.7	13.7	0	0	13.8	27.6	24.1	24.1	27.6	13.8	0	0	13.8	13.8
STANDBY	0	0	11.4	10.7	27.6	27.6	0.3	0.3	0	0	0.3	27.6	10.7	10.7	27.6	0.3	0	0	0.3	0.3
REF NO.	IC5200																			
MODE	41	42	43	44																
CD PLAY	27.6	27.6	24.1	11.2																
STANDBY	27.6	27.6	10.7	11.4																
REF NO.	IC5300																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0.1	3.5	0	3.1	0.1	1.5	1.5	0.3	0	0	0.2	1.5	1.5	0.2	0	0	3.4	0.2	0.2	0
STANDBY	0.1	3.1	0	0	0	0	0	0.3	0	0	0.1	0	0	0.1	0	0	3.4	0.1	0.1	0
REF NO.	IC5300																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	11.4	11.2	27.6	27.6	11.6	11.6	0	0	12.3	27.6	11.9	11.2	27.6	11.6	0	0	12.3	12.3
STANDBY	0	0	11.4	10.7	27.6	27.6	6.5	6.5	0	0	5.1	27.6	10.7	10.7	27.6	6.5	0	0	5.1	5.1
REF NO.	IC5300																			
MODE	41	42	43	44																
CD PLAY	27.6	27.6	11.9	11.4																
STANDBY	27.6	27.6	10.7	11.4																
REF NO.	IC5301																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.7	0	0.8	0.7	0	0	0	0	2.8	1.1	3.0	2.8	2.8	3.1	2.9	0	1.7	0	0.5	1.8
STANDBY	1.6	0	0	0.7	0	0	0	0	3.0	1.2	3.2	3.0	3.0	3.2	3.0	0	1.8	0	0.5	0.8

SA-XH150P/PC D-AMP P.C.B.

12.9. D-Amp P.C.B. (2/2)

REF NO.	IC5301																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	0	3.1	3.1	1.6	1.5	0	1.0	1.0	1.0	0	1.7	0	0	3.0	2.6	0	2.9	1.5
STANDBY	0	0	0	3.2	3.2	1.6	1.6	0	0	0	0	0	1.7	0	0	3.0	3.0	0	0	0

REF NO.	IC5301																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.7	1.5	1.5	1.5	1.5	0	3.0	1.5	1.5	1.5	1.5	0.7	0.6
STANDBY	0	0	0	0	0	0	0	1.8	0	0	0	0	0	3.0	0	0	0	0	0.7	0.7

REF NO.	IC5301																			
MODE	61	62	63	64																
CD PLAY	0.6	0.6	1.3	0																
STANDBY	0.7	0.7	1.6	0																

REF NO.	IC5401																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5.9	1.4	1.4	0	0	0	0	11.3												
STANDBY	0	1.5	1.5	0	0	0	0	11.5												

REF NO.	Q5400				Q5403				Q5408				Q5409				Q5412			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	5.5	11.4	6.2		0	3.3	0		13.2	27.3	13.1		13.1	27.3	13.2		0	3.2	0	
STANDBY	5.5	11.5	6.2		0	3.2	0		2.8	27.3	2.9		2.9	27.3	2.8		0	3.0	0	

REF NO.	Q5413				QR5400				QR5402											
MODE	E	C	B		E	C	B		E	C	B									
CD PLAY	27.6	0	27.5		3.4	3.4	11.5		11.4	11.0	11.5									
STANDBY	27.6	0	27.5		3.4	4.4	11.5		11.5	11.1	11.5									

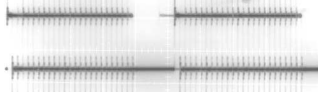
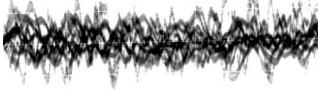
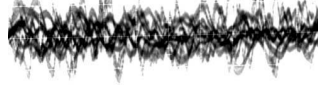
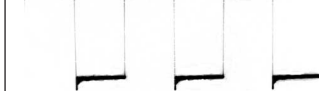
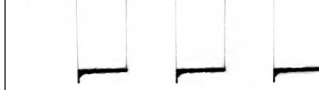
SA-XH150P/PC D-AMP P.C.B.

12.10. SMPS P.C.B.

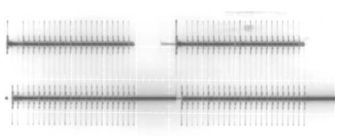
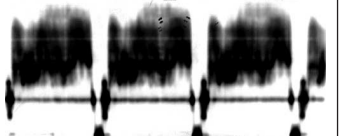
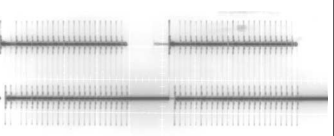
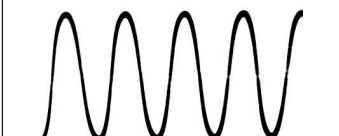
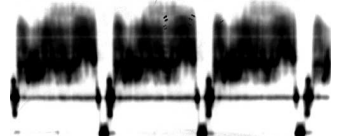
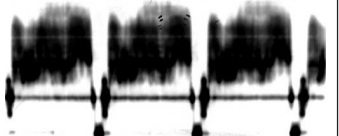
REF NO.	IC5701																			
MODE	1	2	3	4	5	6	7													
CD PLAY	164.8	0	0	19.1	0	1.4	0													
STANDBY	164.8	0	0	19.1	0	1.4	0													
REF NO.	IC5799																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5.9	1.0	2.3	11.0	164.2	0	0	0												
STANDBY	5.9	1.0	2.3	11.0	164.2	0	0	0												
REF NO.	IC5801																			
MODE	1	2	3																	
CD PLAY	12.2	2.0	3.0																	
STANDBY	12.2	2.0	3.0																	
REF NO.	IC5899																			
MODE	1	2	3	4																
CD PLAY	0	3.0	3.8	2.3																
STANDBY	0	3.0	3.8	2.3																
REF NO.	Q5720				Q5863				Q5898				Q5901				Q5902			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	7.3	8.5	7.6		0	0.6	0		0	1.9	0.4		5.1	5.1	4.5		0	3.8	-0.6	
STANDBY	7.4	8.6	7.7		0	0.6	0		0	1.9	0.4		5.2	5.2	4.5		0	3.9	-0.6	
REF NO.	QR5862				QR5901															
MODE	E	C	B		E	C	B													
CD PLAY	0	4.8	0		3.0	0	0													
STANDBY	0	4.8	0		3.0	0	0													

SA-XH150P/PC SMPS P.C.B.

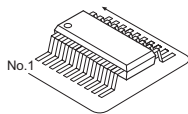
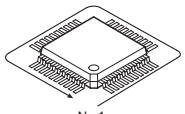
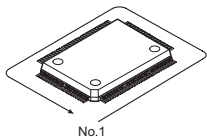
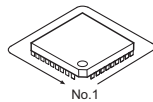
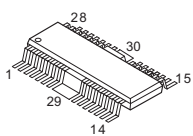
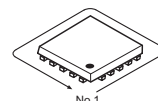
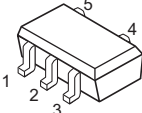
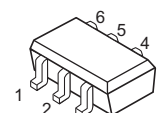
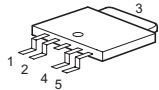
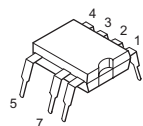
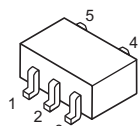
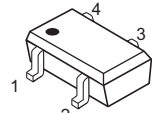
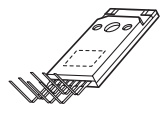
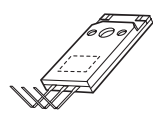
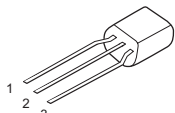
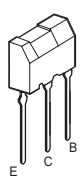
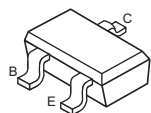
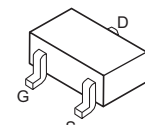
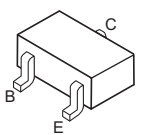
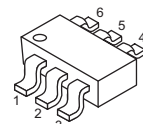
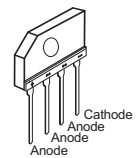
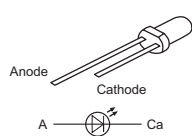
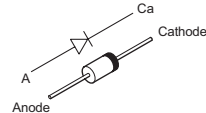
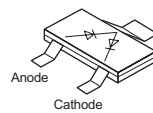
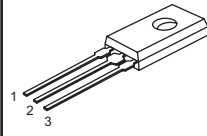
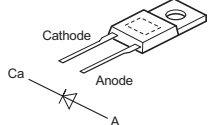
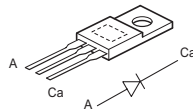
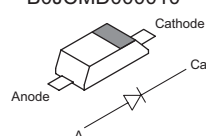
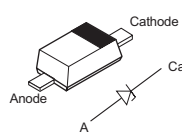
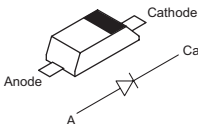
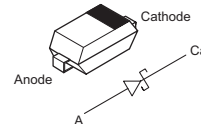
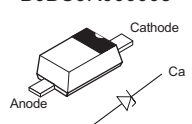
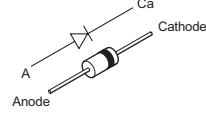
12.11. Waveform Table (1/2)

WF No. IC2151-1,2 (PLAY)  0.06Vp-p(2usec/div)	WF No. IC2151-9 (PLAY)  4.5Vp-p(2usec/div)	WF No. IC2300-11 (PLAY)  3Vp-p(50nsec/div)	WF No. IC2300-13 (PLAY)  2Vp-p(50nsec/div)
WF No. IC2800-1,12 (PLAY)  0.4Vp-p(200usec/div)	WF No. IC2800-2 (PLAY)  0.06Vp-p(2usec/div)	WF No. IC2800-3 (PLAY)  1.25Vp-p(2usec/div)	WF No. IC2800-13 (PLAY)  0.15Vp-p(2usec/div)
WF No. IC2800-15 (PLAY)  0.05Vp-p(2usec/div)	WF No. IC2952-2,13,14 (PLAY)  0.4Vp-p(200usec/div)	WF No. IC5100-6,7,12,13 (PLAY)  4.8Vp-p(1usec/div)	WF No. IC5100-27,31,36,39 (PLAY)  68Vp-p(1usec/div)
WF No. IC5200-6,7,12,13 (PLAY)  4.8Vp-p(1usec/div)	WF No. IC5200-27,31,36,39 (PLAY)  68Vp-p(1usec/div)	WF No. IC5300-6,7,12,13 (PLAY)  4.8Vp-p(1usec/div)	WF No. IC5300-27,31,36,39 (PLAY)  76Vp-p(1usec/div)
WF No. IC5301-19 (PLAY)  2Vp-p(20nsec/div)	WF No. IC5301-20 (PLAY)  1Vp-p(20nsec/div)	WF No. IC5301-29,31 (PLAY)  3.2Vp-p(5usec/div)	WF No. IC5301-40,41,42,43,44,45,46,47,49,50,51,52 (PLAY)  6Vp-p(1usec/div)

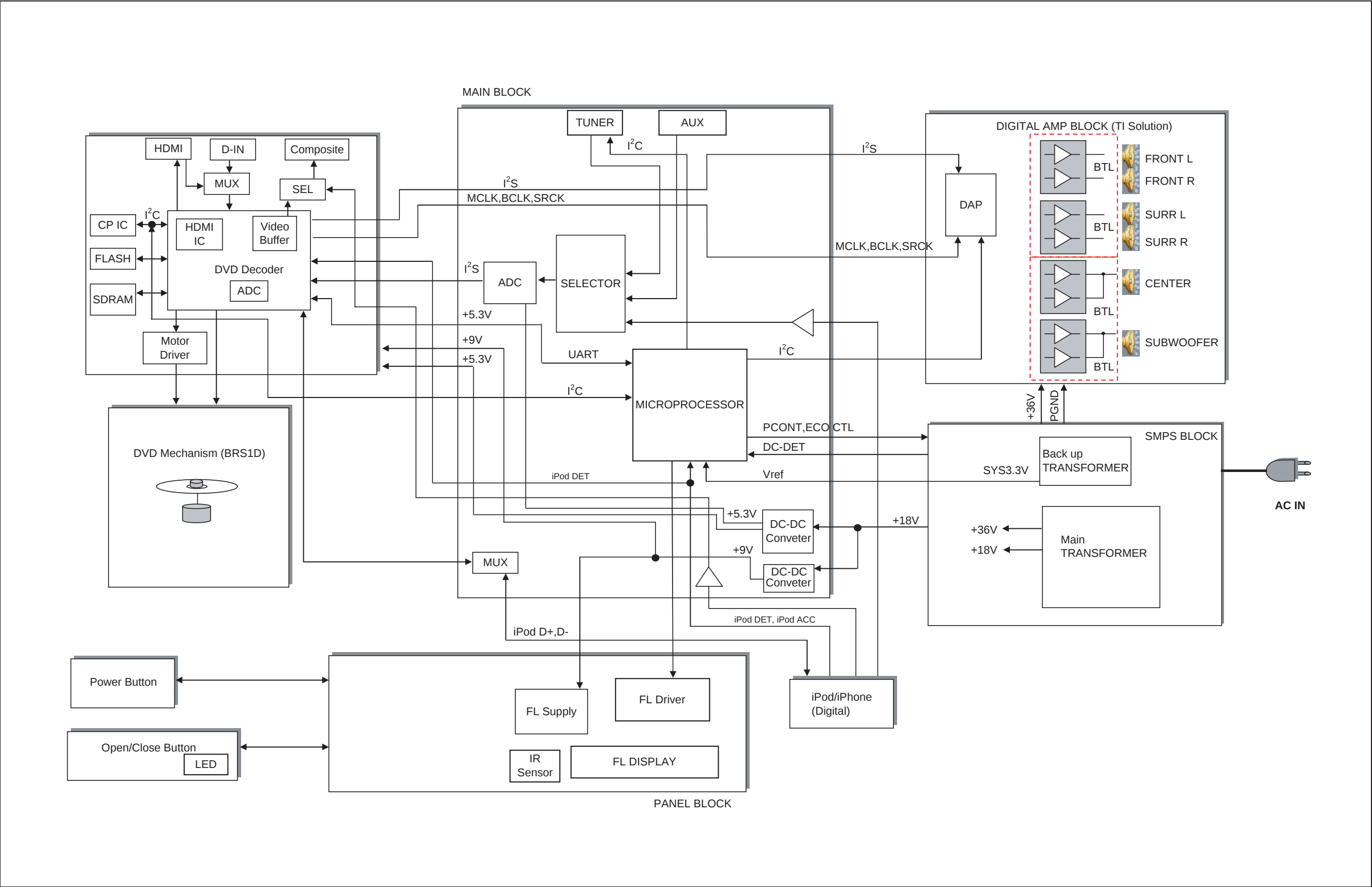
12.12. Waveform Table (2/2)

WF No. IC6001-5 (PLAY)  1.25Vp-p(2usec/div)	WF No. IC8001-36,42 (PLAY)  4.8Vp-p(2usec/div)	WF No. IC8001-63 (PLAY)  1.25Vp-p(50usec/div)	WF No. IC8001-102 (PLAY)  5Vp-p(1usec/div)
WF No. IC8001-111,112 (PLAY)  2Vp-p(20nsec/div)	WF No. IC8301-2 (PLAY)  2.5Vp-p(50usec/div)	WF No. IC8301-4 (PLAY)  1.25Vp-p(20usec/div)	

13 Illustration of ICs, Transistor and Diode

 No.1	C3EBFC000042 (8P) C0DBZYY004171 (8P) C0ABBB000189 (8P) C0DBZYY00018 (8P) C3ABPG000163 (54P) RFKWFXH150P0 (8P)	C0DBAYY00729 (20P) C0ABBA000168 (54P) C0JBAR000540 (16P) C0FBAK000026 (16P) C0JBAR000433 (8P)	 No.1	C1AB00003476 (128P) C1AB00003582 (44P) C1AB00003610 (64P) C0HBB0000057 (44P)	RFKWMXH150P (100P)  No.1
MFI341S2164 (20P)  No.1	C0GBY0000117  28 30 15 29 14	VUEALLPT040 (20P)  No.1	C0ABZA000080 C0DBZYY00311 C0EBE0000504  5 4 1 2 3	C0JBAB000986 C1AB00001934  6 5 4 1 2 3	C0DBEHG00006 (20P)  3 1 2 4 5
MIP2F20MSSCF  4 3 2 1 5 7 8	C0CBCDC00063  5 4 1 2 3	C0DBZMC00006  4 3 1 2	C0JBAR000433 (7P)  1 2 3 4 5 6 7	C5HACYY00007 (3P)  1 2 3	C0DABFC00002  1 2 3
 E C B	B1BAC000018 B1BABK000001 B1BAAJ000003	B1ABCF000176 B1ABGC000001 B1ABMF000020  C B E	B1ADCF000001 B1ADCE000012 B1ADGB000008 B1ADMD000001 B1ADNB000003 B1GBCFJJ0051 B1GBCFGG0030 B1GBCFNN0038	B1CFHA000002  D G S	B1ABCF000011 B1ABDF000026 B1GBCFLL0037  C B E
B1CHPD000003  6 5 4 1 2 3	B0FBAR000043  Cathode Anode Anode Anode	B3ABA0000187  Anode Cathode A Ca	B0EAMM000057  Ca Cathode A Anode	DA3X103E0L DA3X101F0L  Anode Cathode	B1BACD000018  1 2 3
B0HFRJ000012  Cathode Anode Ca A	B0ZAZ0000052 B0HBSM000056  A Cathode Ca A	B0ECET000002 B0ECFR000003 B0JCDD000002 B0JCMD000010  Cathode Anode Ca A	B0BC010A0267 B0BC010A0269 B0BC011A0264 B0BC015A0264 B0BC020A0267 B0BC3R0A0262 B0BC8R2A0266 B0BC030A0264 B0BC2R4A0263  Cathode Ca Anode A		
B0ACCK000012 B0ACCK000005  Cathode Anode Ca A	B0ECKP000002 B0JCPG000005  Cathode Anode Ca A	B0BC019A0007 B0BC035A0007 B0BC9R000008  Cathode Anode Ca A	B0EAKM000117  Ca Cathode A Anode		

14 Overall Simplified Block Diagram



15.2. IC Terminal Chart

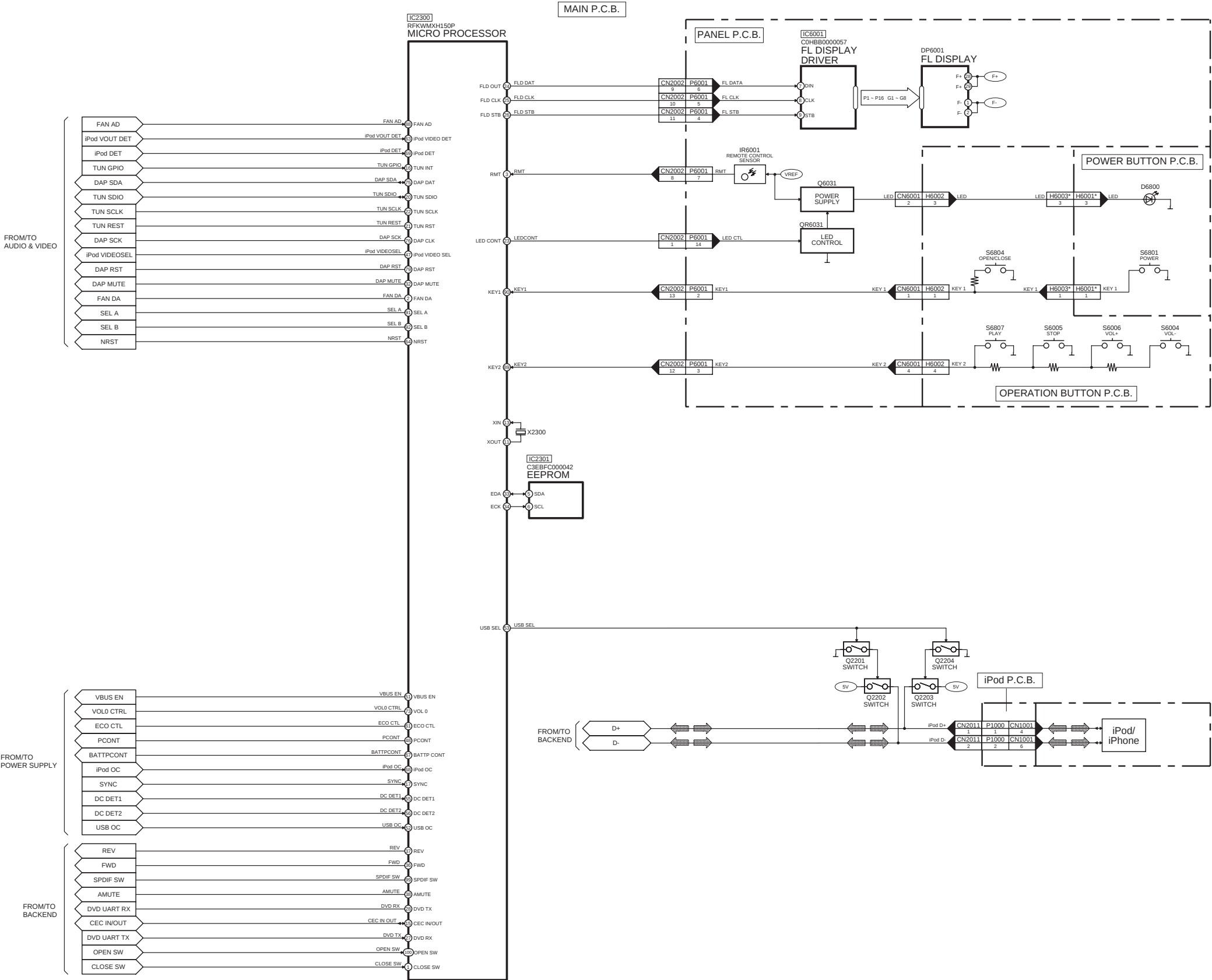
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	PORT NAME	PIN NO		PIN NO	PORT NAME
1	MA0	1	MA 0	23	A0
	MA1	126	MA 1	24	A1
	MA2	124	MA 2	25	A2
	MA3	122	MA 3	26	A3
	MA4	121	MA 4	29	A4
	MA5	123	MA 5	30	A5
	MA6	125	MA 6	31	A6
	MA7	121	MA 7	32	A7
	MA8	3	MA 8	33	A8
	MA9	5	MA 9	34	A9
	MA10	4	MA 10	22	A10
	MA11	6	MA 11	35	A11

TC	IC8001 DVD DECODER		SIGNAL NAME	P3901 HDMI AV OUT (ARC)	
	PORT NAME	PIN NO		PIN NO	PORT NAME
3	TXD0P	52	TXD0+	7	D0+
	TXD0N	51	TXD0-	9	D0-
	TXD1P	54	TXD1+	4	D1+
	TXD1N	53	TXD1-	6	D1-
	TXD2P	56	TXD2+	1	D2+
	TXD2N	55	TXD2-	3	D2-

TC	IC8001 DVD DECODER		SIGNAL NAME	IC8051 SDRAM	
	PORT NAME	PIN NO		PIN NO	PORT NAME
2	DQ0	33	MDQ 0	2	DQ0
	DQ1	31	MDQ 1	4	DQ1
	DQ2	29	MDQ 2	5	DQ2
	DQ3	26	MDQ 3	7	DQ3
	DQ4	24	MDQ 4	8	DQ4
	DQ5	22	MDQ 5	10	DQ5
	DQ6	20	MDQ 6	11	DQ6
	DQ7	18	MDQ 7	13	DQ7
	DQ8	17	MDQ 8	42	DQ8
	DQ9	19	MDQ 9	44	DQ9
	DQ10	21	MDQ 10	45	DQ10
	DQ11	23	MDQ 11	47	DQ11
	DQ12	25	MDQ 12	48	DQ12
	DQ13	28	MDQ 13	50	DQ13
	DQ14	30	MDQ 14	51	DQ14
	DQ15	32	MDQ 15	53	DQ15

15.3. System Control

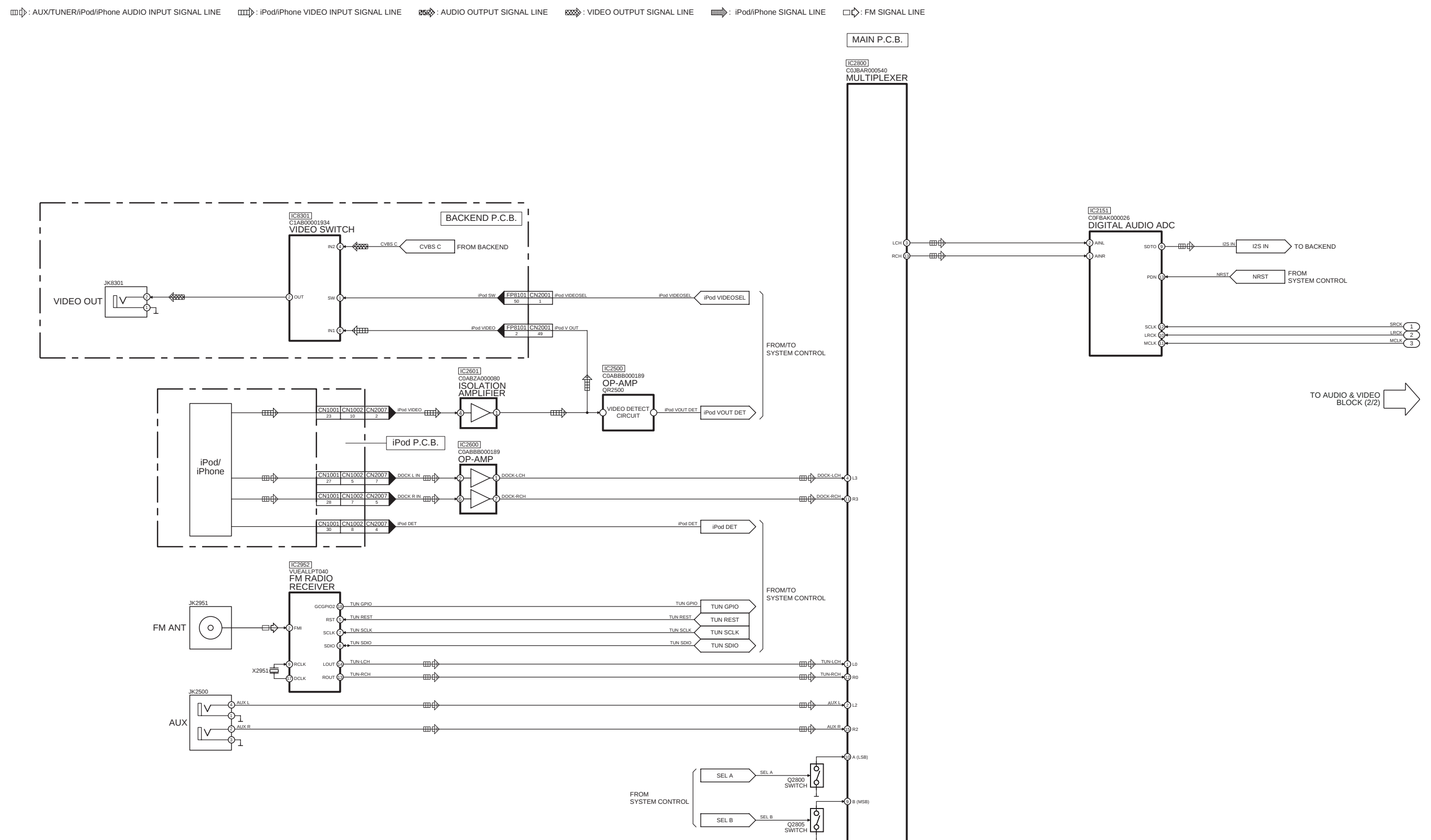
iPod/iPhone SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

SA-XH150P/PC SYSTEM CONTROL BLOCK DIAGRAM

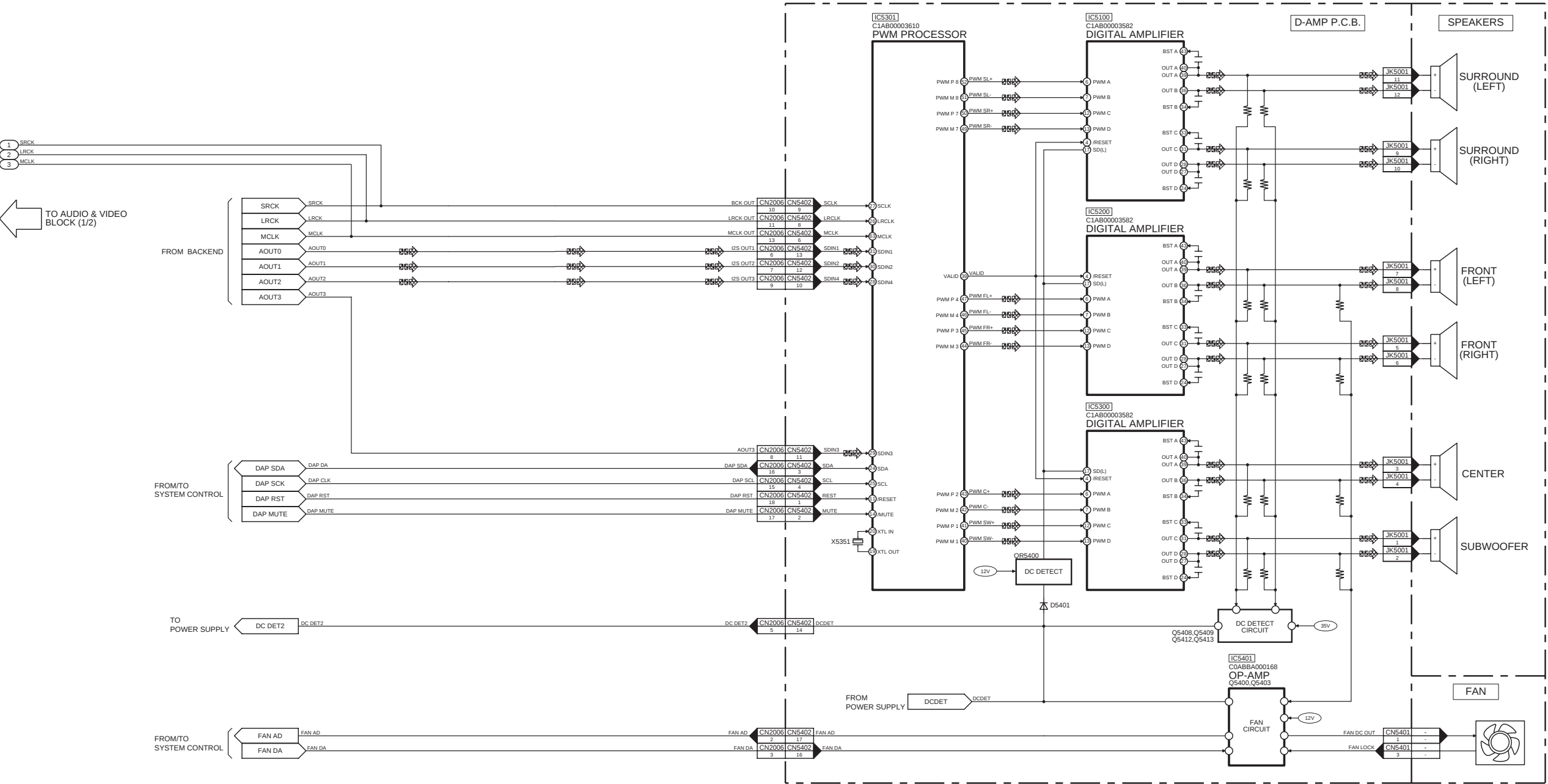
15.4. Audio & Video



SA-XH150P/PC AUDIO & VIDEO (1/2) BLOCK DIAGRAM

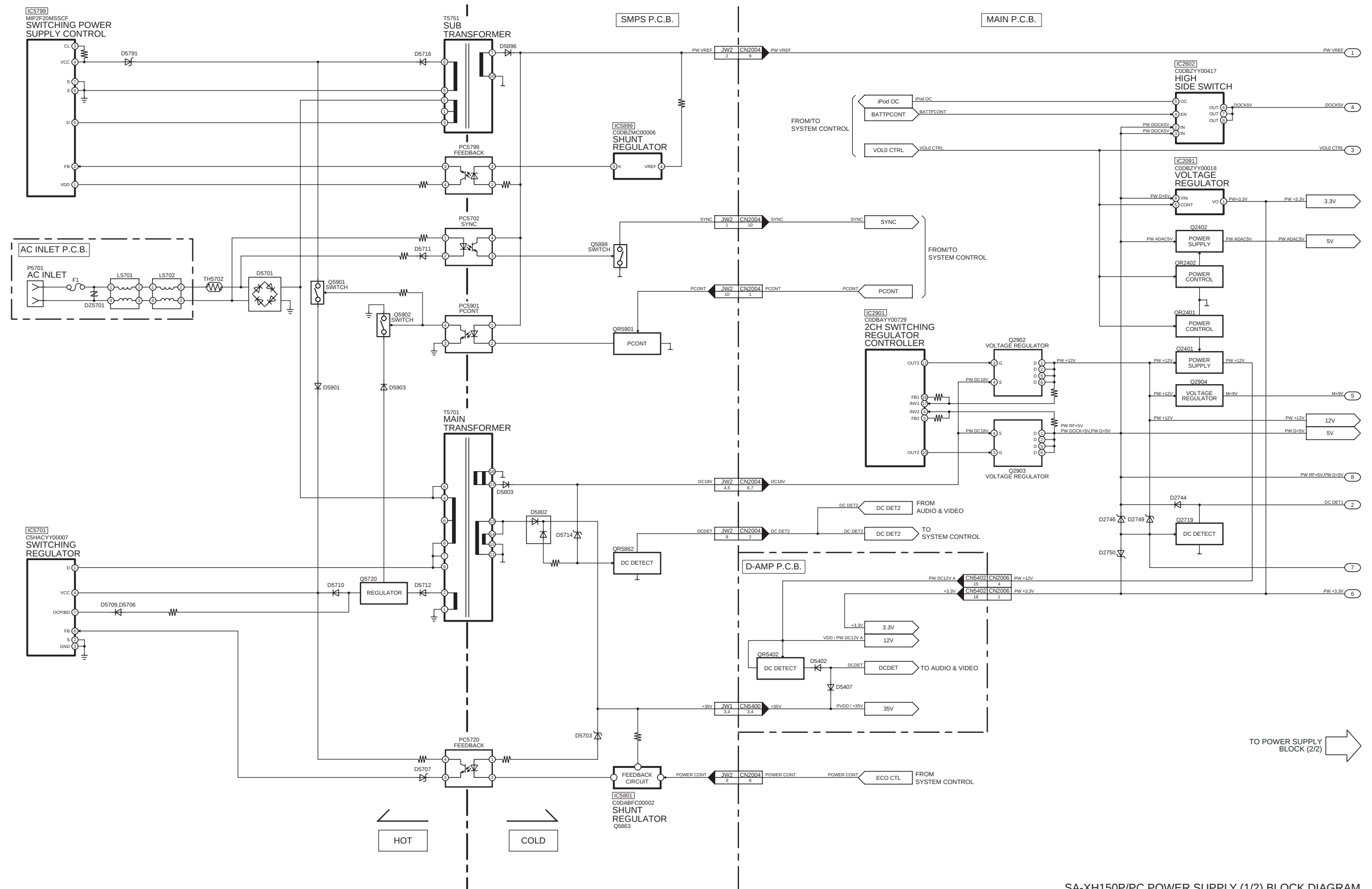
: AUX/TUNER/iPod/iPhone AUDIO INPUT SIGNAL LINE
 : iPod/iPhone VIDEO INPUT SIGNAL LINE
 : AUDIO OUTPUT SIGNAL LINE
 : VIDEO OUTPUT SIGNAL LINE
 : iPod/iPhone SIGNAL LINE
 : FM SIGNAL LINE

MAIN P.C.B.



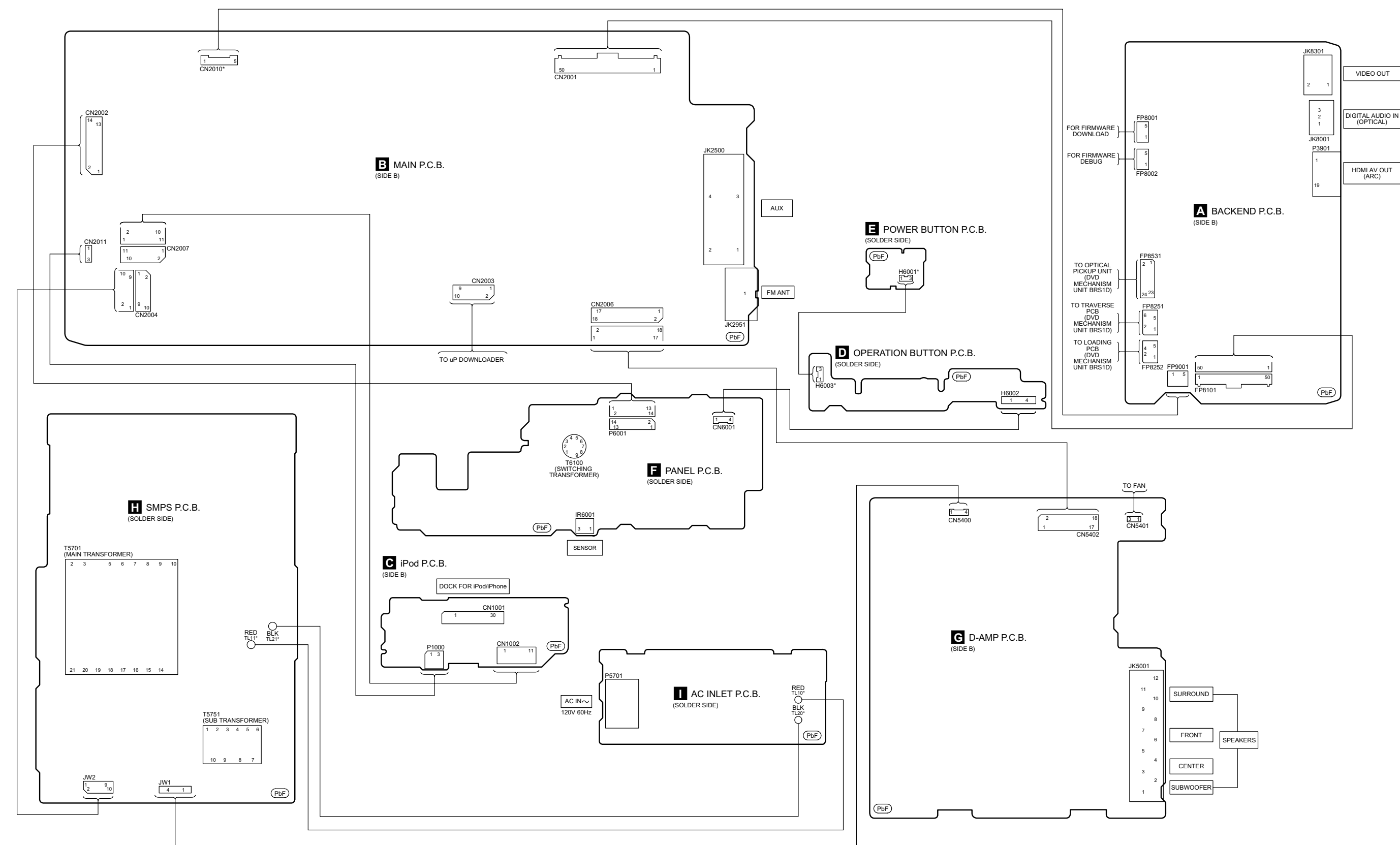
SA-XH150P/PC AUDIO & VIDEO (2/2) BLOCK DIAGRAM

15.5. Power Supply





16 Wiring Connection Diagram



NOTE: " * " REF IS FOR INDICATION ONLY.

SA-XH150P/PC WIRING CONNECTION DIAGRAM

17 Schematic Diagram

17.1. Schematic Diagram Notes

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

Notes:

S6004: Vol (-) switch.
S6005: Stop switch (■).
S6006: Vol (+) switch.
S6801: Power switch (⏻).
S6804: Open/Close switch (▲).
S6807: Play switch (▶).

- Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high quality sound (capacitors), low-noise (resistors), etc are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- In case of AC rated voltage Capacitors, the part no. and values will be indicated in the Schematic Diagram.

AC rated voltage capacitors:

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 μ F, unless otherwise noted. F=Farads, pF=pico-Farad.

- **Coil**

Unit of inductance is H, unless otherwise noted.

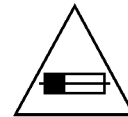
- *

REF is for indication only.

- Voltage and signal line

	: +B signal line
	: -B signal line
	: Audio output signal line
	: Video output signal line
	: CD/DVD Audio input signal line
	: CD/DVD Video input signal line
	: HDMI/Optical/AUX/iPod/iPhone/Tuner Audio input signal line
	: iPod/iPhone Video input signal line
	: FM signal line
	: iPod/iPhone signal line

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F1 6A 125V FUSE



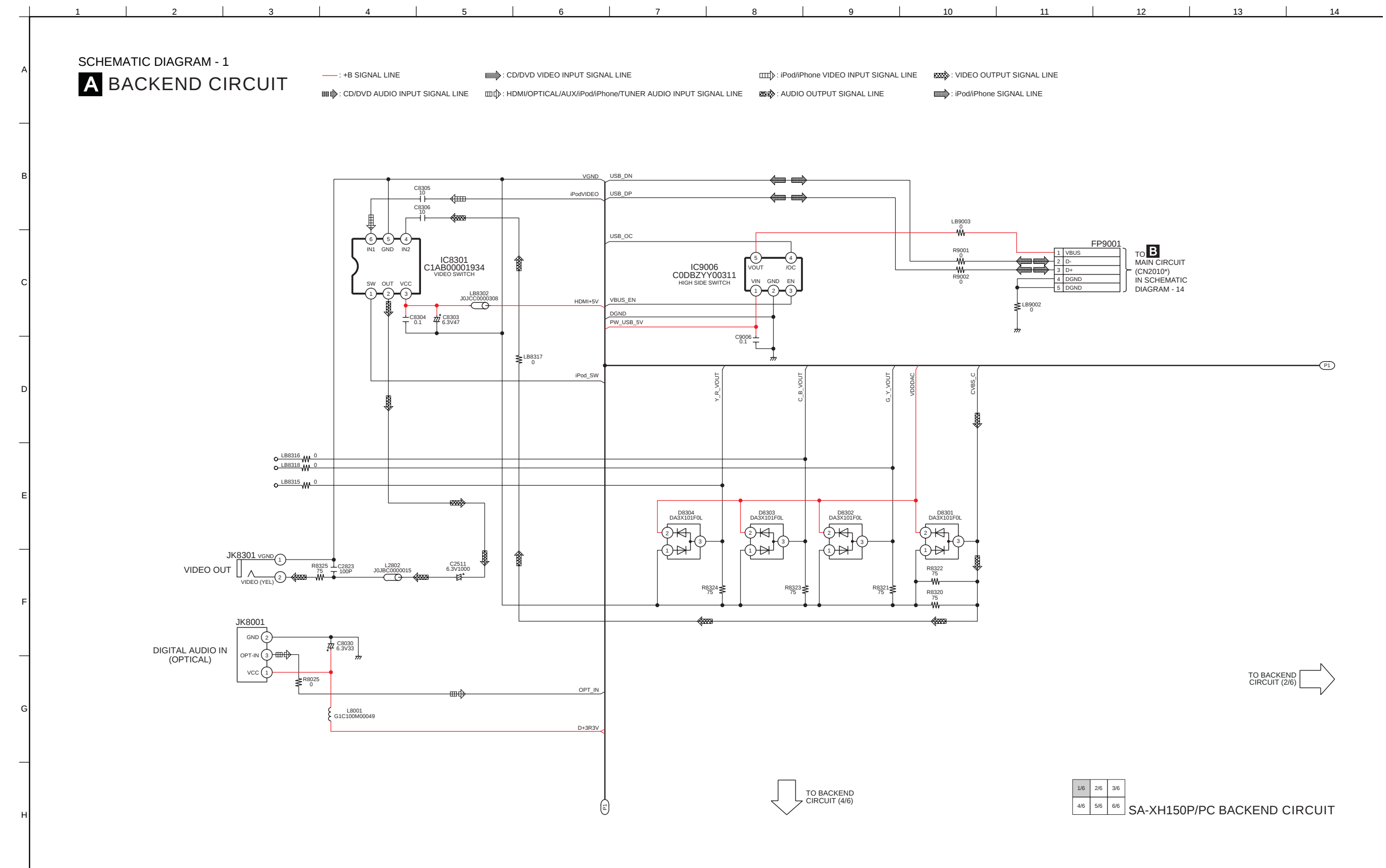
RISK OF FIRE-REPLACE FUSE AS MARKED.

FUSE CAUTION



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

17.2. Backend Circuit



SCHEMATIC DIAGRAM - 2

A BACKEND CIRCUIT

— : +B SIGNAL LINE

▬▬▬ : CD/DVD VIDEO INPUT SIGNAL LINE

▬▬▬▬ : iPod/iPhone VIDEO INPUT SIGNAL LINE

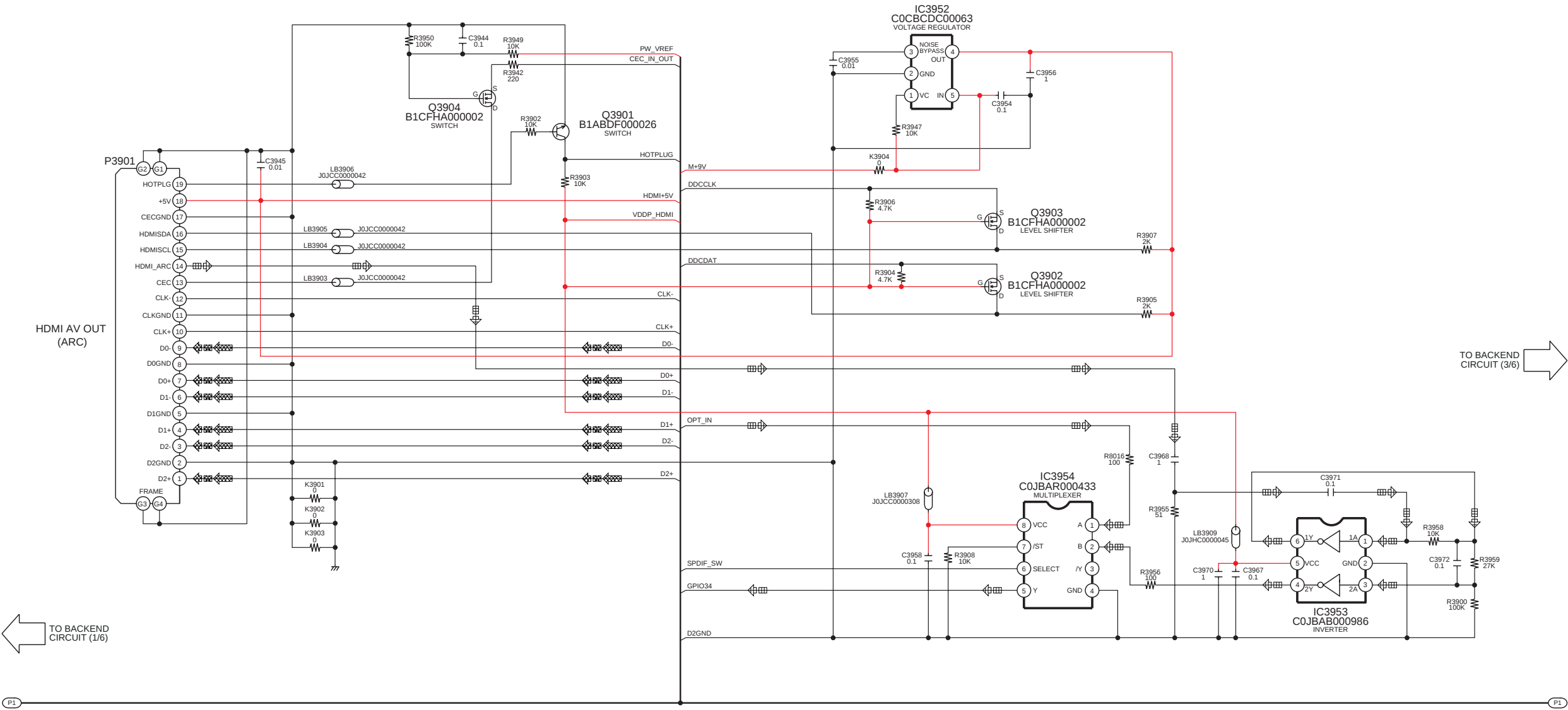
▬▬▬▬▬ : VIDEO OUTPUT SIGNAL LINE

▬▬▬▬▬▬ : CD/DVD AUDIO INPUT SIGNAL LINE

▬▬▬▬▬▬▬ : HDMI/OPTICAL/AUX/iPod/iPhone/TUNER AUDIO INPUT SIGNAL LINE

▬▬▬▬▬▬▬▬ : AUDIO OUTPUT SIGNAL LINE

▬▬▬▬▬▬▬▬▬ : iPod/iPhone SIGNAL LINE



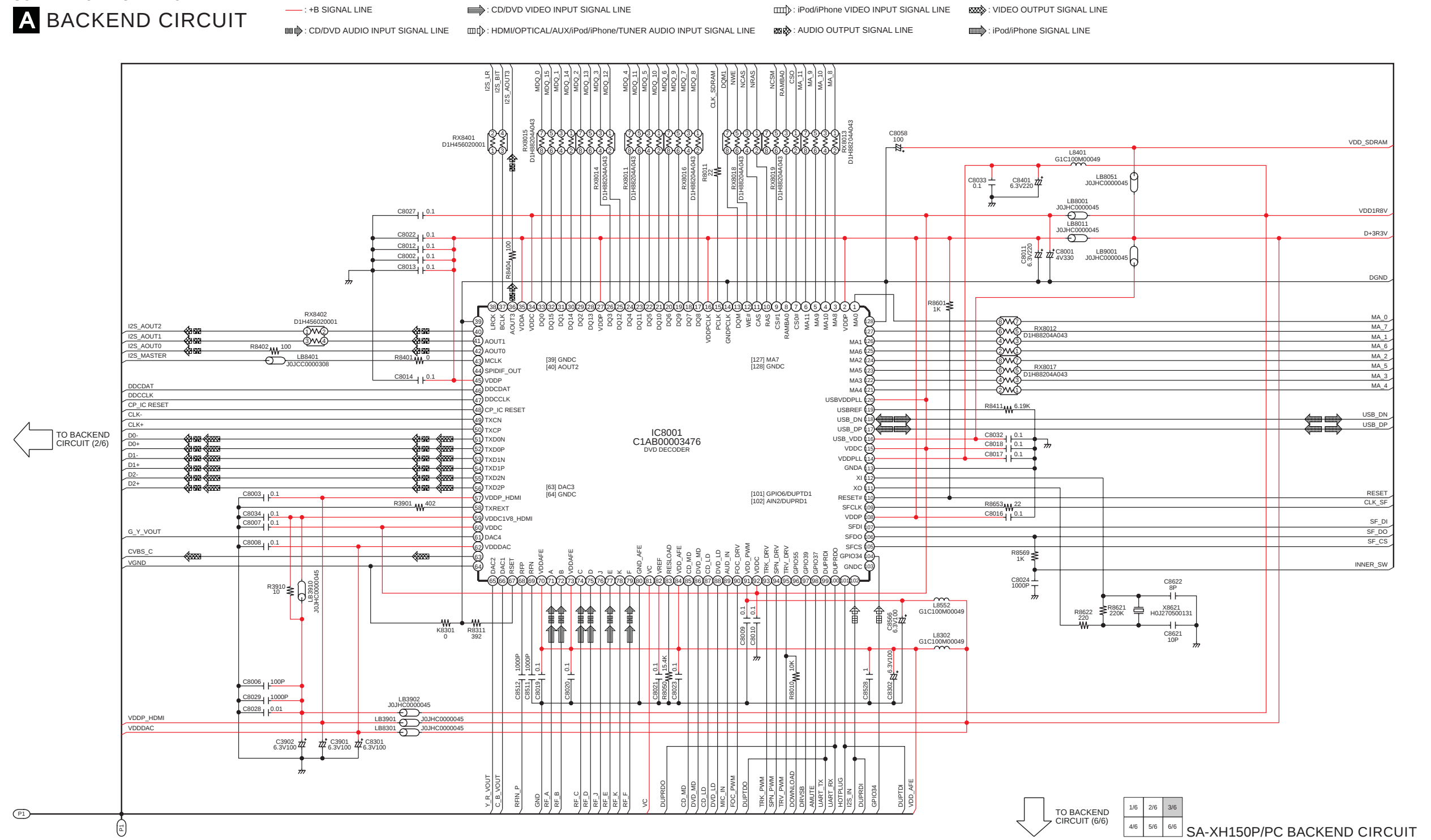
P1

TO BACKEND
CIRCUIT (5/6)

1/6	2/6	3/6
4/6	5/6	6/6

SA-XH150P/PC BACKEND CIRCUIT

SCHEMATIC DIAGRAM - 3
A BACKEND CIRCUIT



A BACKEND CIRCUIT



A BACKEND CIRCUIT

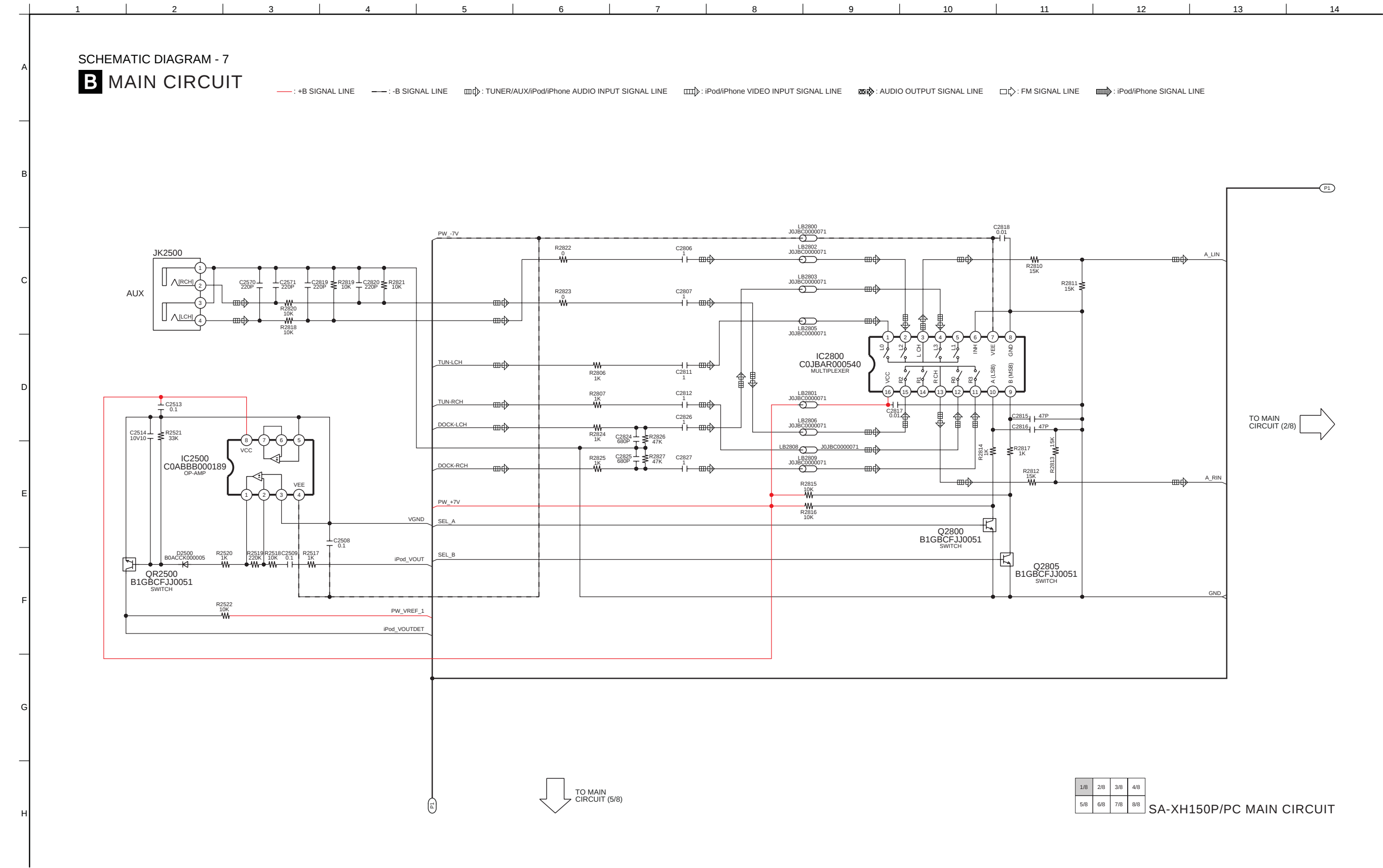


A BACKEND CIRCUIT

1/6	2/6	3/6
4/6	5/6	6/6

SA-XH150P/PC BACKEND CIRCUIT

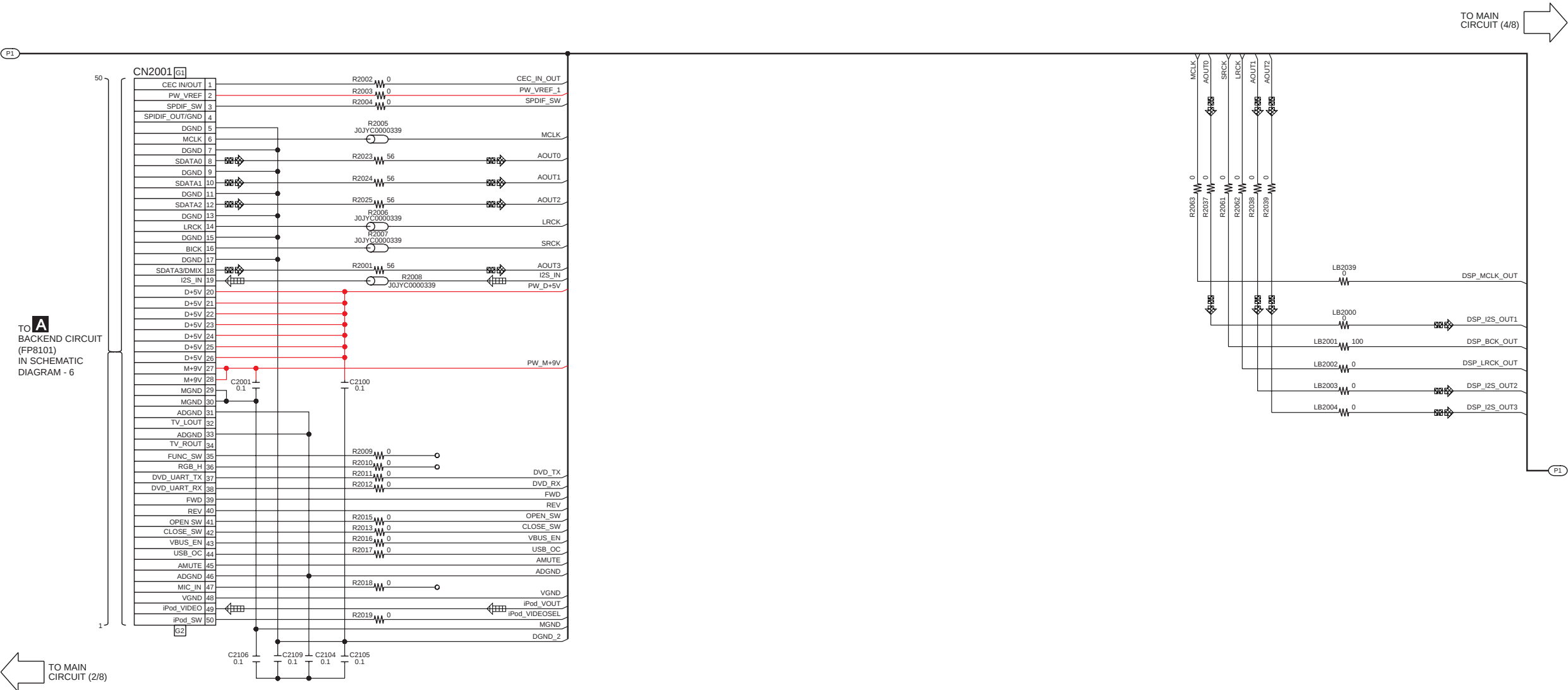
17.3. Main Circuit



SCHEMATIC DIAGRAM - 9

B MAIN CIRCUIT

— : +B SIGNAL LINE — : -B SIGNAL LINE : TUNER/AUX/iPod/iPhone AUDIO INPUT SIGNAL LINE : iPod/iPhone VIDEO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : FM SIGNAL LINE : iPod/iPhone SIGNAL LINE



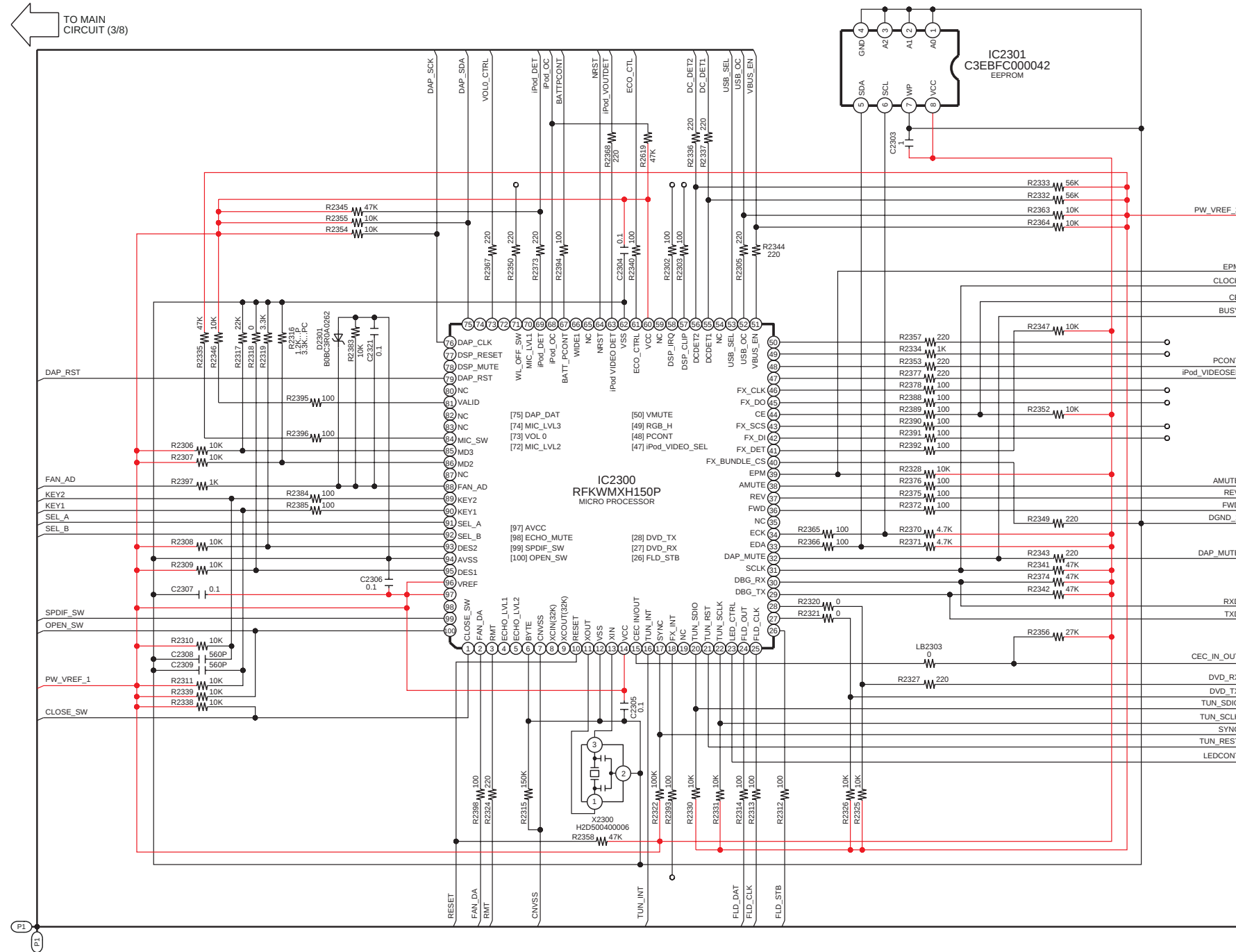
1/8	2/8	3/8	4/8
5/8	6/8	7/8	8/8

SA-XH150P/PC MAIN CIRCUIT

SCHEMATIC DIAGRAM - 10

B MAIN CIRCUIT

— : +B SIGNAL LINE — : -B SIGNAL LINE : TUNER/AUX/iPod/iPhone AUDIO INPUT SIGNAL LINE : iPod/iPhone VIDEO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : FM SIGNAL LINE : iPod/iPhone SIGNAL LINE



TO MAIN CIRCUIT (8/8)

1/8	2/8	3/8	4/8
5/8	6/8	7/8	8/8

SA-XH150P/PC
MAIN CIRCUIT

A

B

C

D

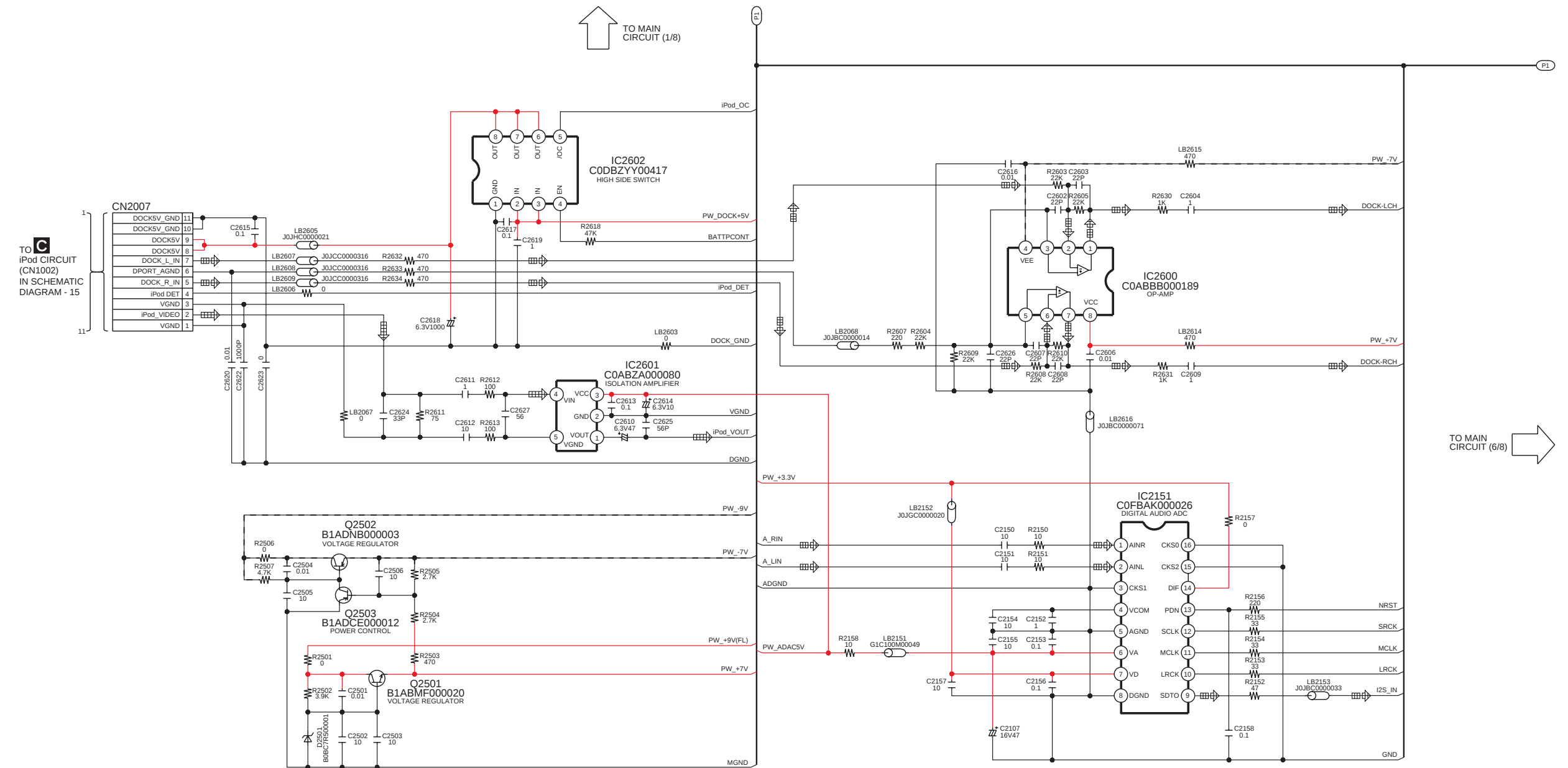
E

F

G

H

B MAIN CIRCUIT



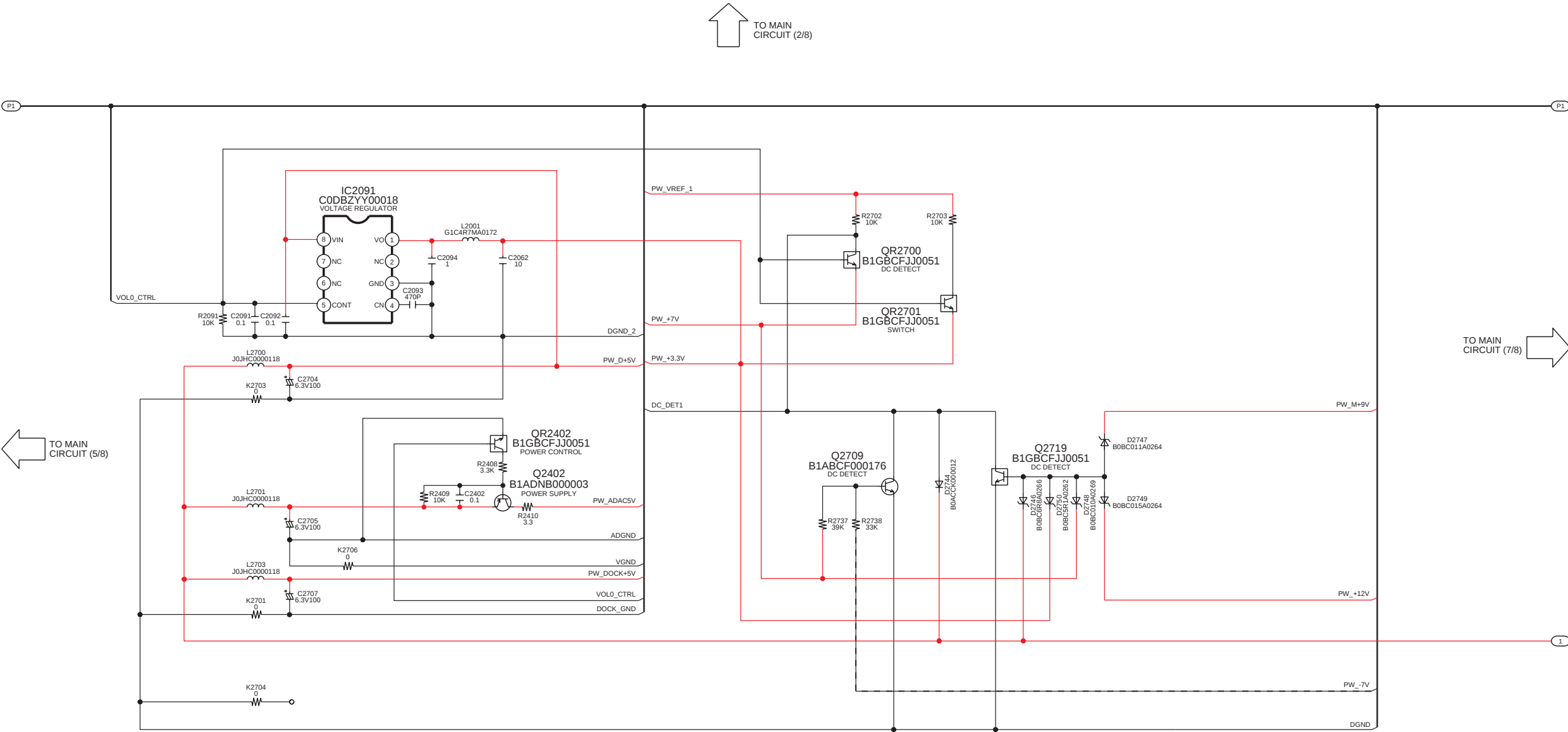
$\frac{1}{8}$	$\frac{2}{8}$	$\frac{3}{8}$	$\frac{4}{8}$
$\frac{5}{8}$	$\frac{6}{8}$	$\frac{7}{8}$	$\frac{8}{8}$

3/8 SA-XH150P/PC MAIN CIRCUIT

SCHEMATIC DIAGRAM - 12

B MAIN CIRCUIT

— : +B SIGNAL LINE — : -B SIGNAL LINE : TUNER/AUX/iPod/iPhone AUDIO INPUT SIGNAL LINE : iPod/iPhone VIDEO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : FM SIGNAL LINE : iPod/iPhone SIGNAL LINE



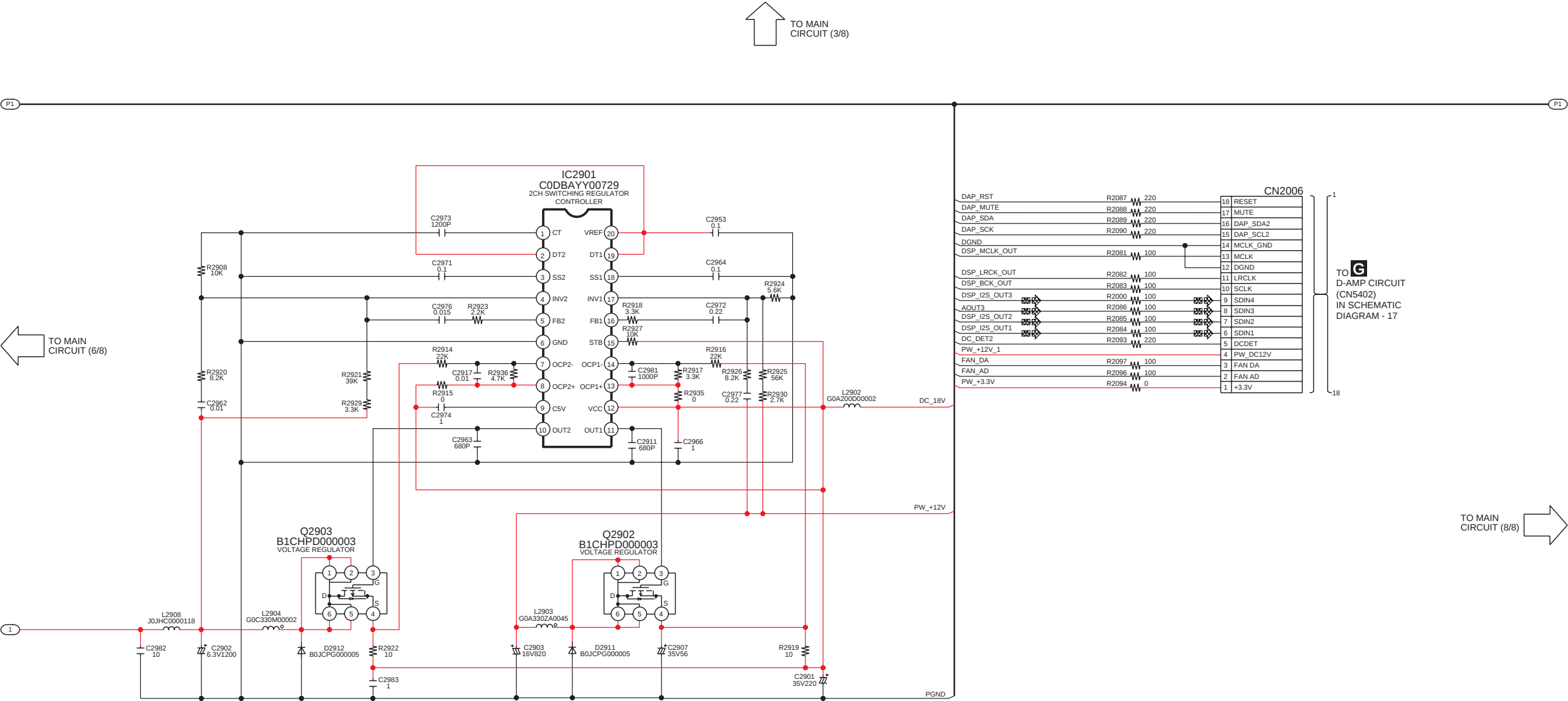
1/8	2/8	3/8	4/8
5/8	6/8	7/8	8/8

SA-XH150P/PC MAIN CIRCUIT

SCHEMATIC DIAGRAM - 13

B MAIN CIRCUIT

— : +B SIGNAL LINE — : -B SIGNAL LINE : TUNER/AUX/iPod/iPhone AUDIO INPUT SIGNAL LINE : iPod/iPhone VIDEO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : FM SIGNAL LINE : iPod/iPhone SIGNAL LINE



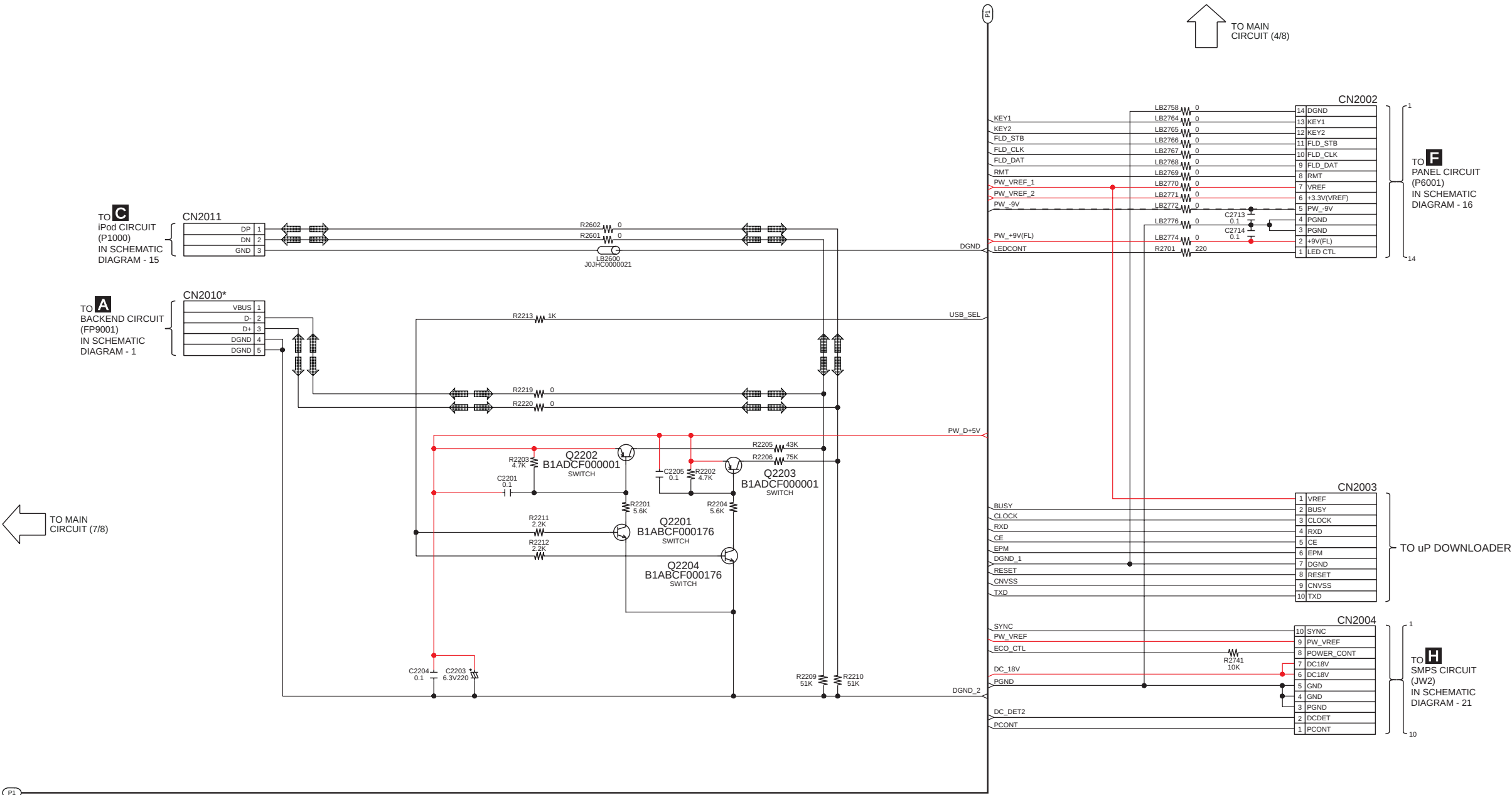
1/8	2/8	3/8	4/8
5/8	6/8	7/8	8/8

SA-XH150P/PC MAIN CIRCUIT

SCHEMATIC DIAGRAM - 14

B MAIN CIRCUIT

— : +B SIGNAL LINE — : -B SIGNAL LINE : TUNER/AUX/iPod/iPhone AUDIO INPUT SIGNAL LINE : iPod/iPhone VIDEO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : FM SIGNAL LINE : iPod/iPhone SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

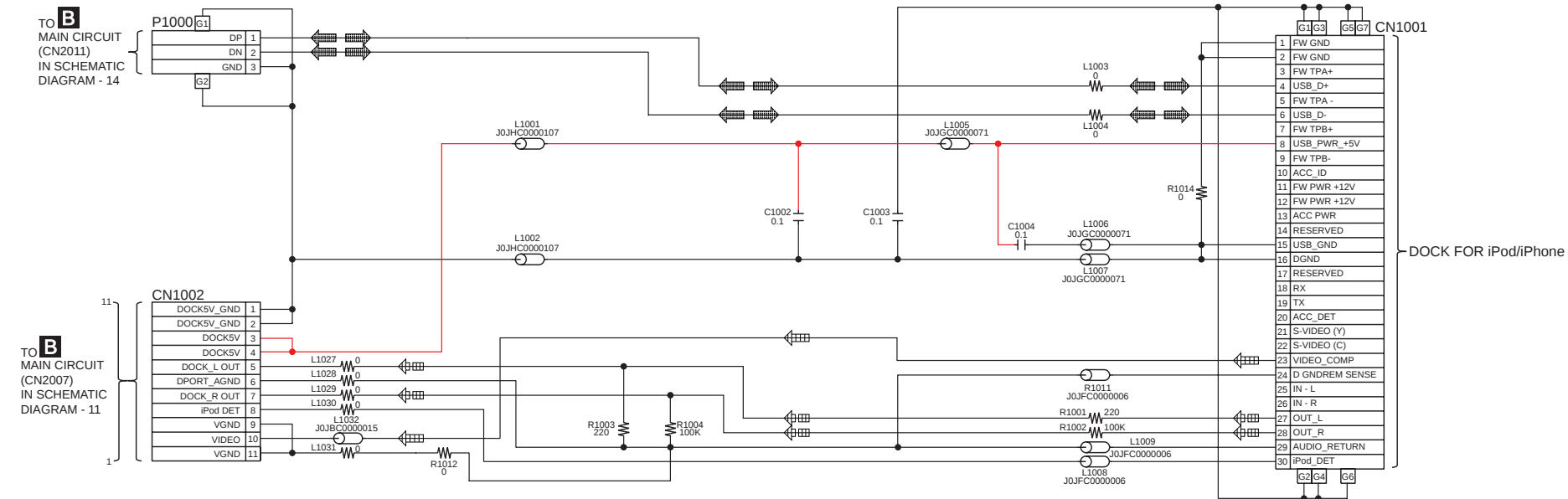
SA-XH150P/PC MAIN CIRCUIT

17.4. iPod, Operation Button & Power Button Circuit



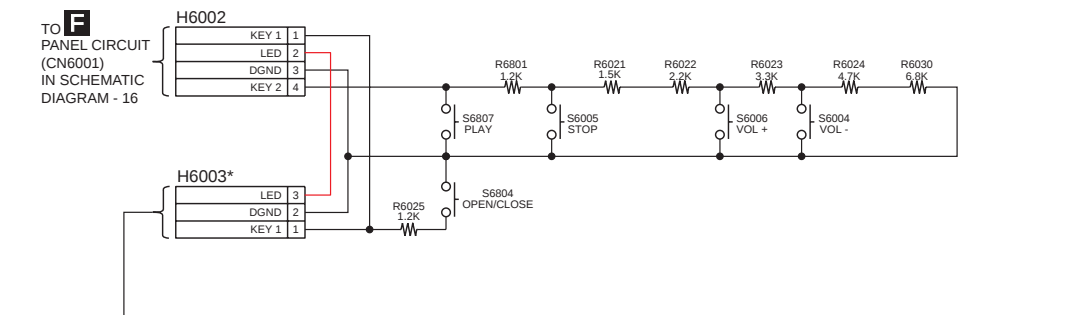
C iPod CIRCUIT

— : +B SIGNAL LINE : iPod/iPhone AUDIO INPUT SIGNAL LINE : iPod/iPhone VIDEO INPUT SIGNAL LINE : iPod/iPhone SIGNAL LINE



D OPERATION BUTTON CIRCUIT

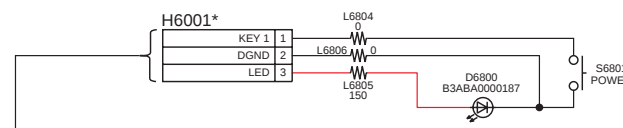
—: +B SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

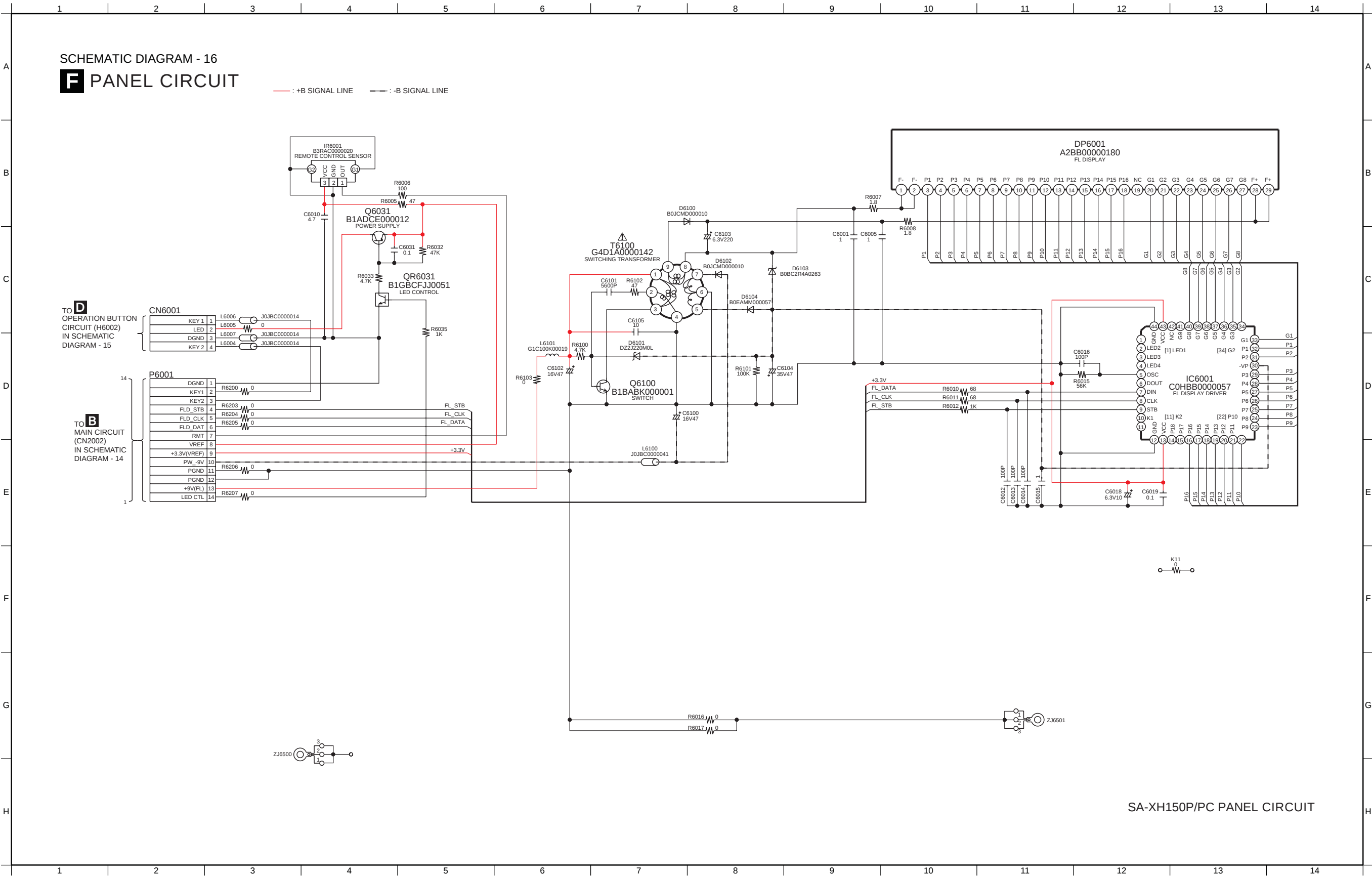
E POWER BUTTON CIRCUIT

—: +B SIGNAL LINE

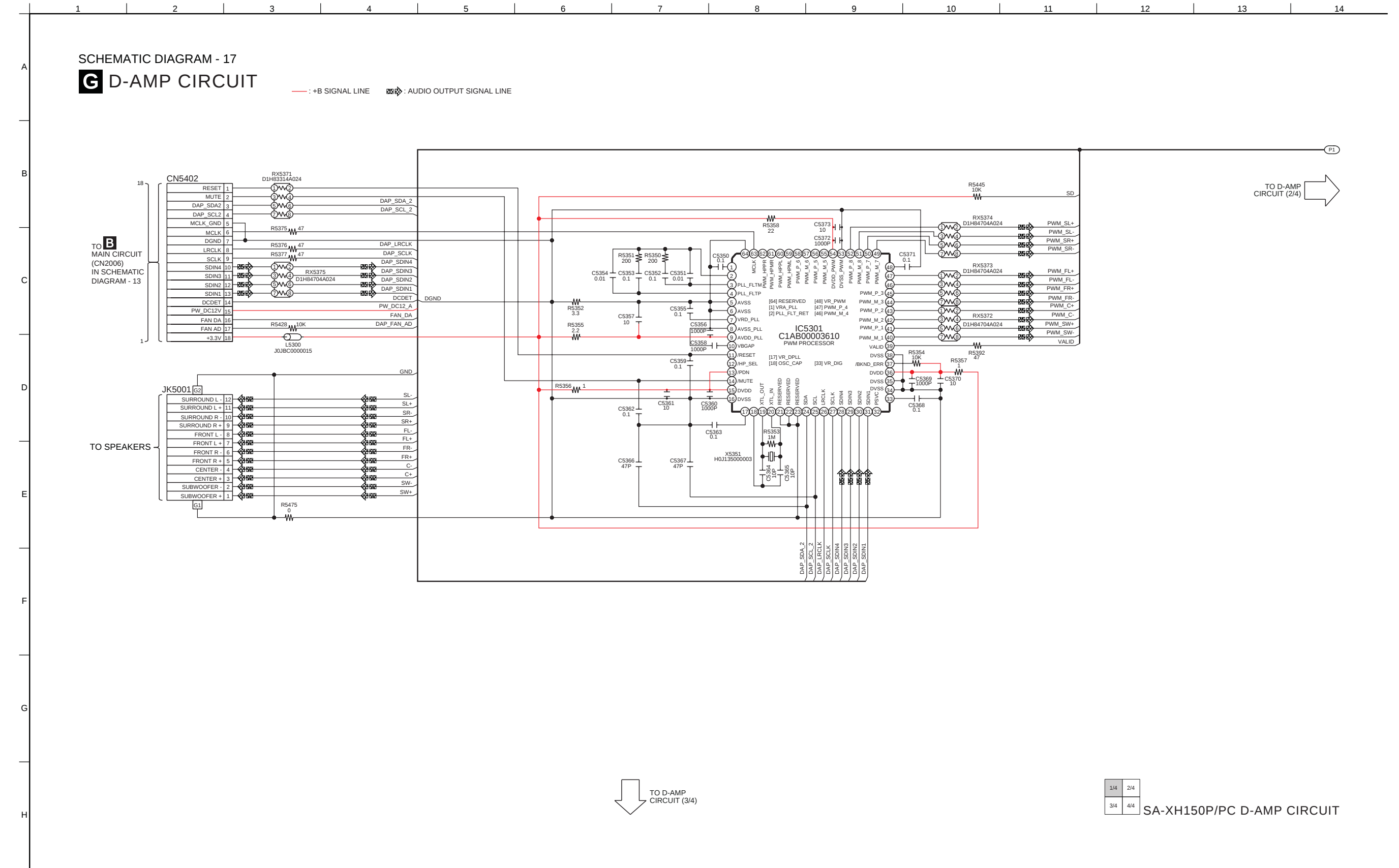


SA-XH150P/PC iPod / OPERATION BUTTON / POWER BUTTON CIRCUIT

17.5. Panel Circuit



17.6. D-Amp Circuit

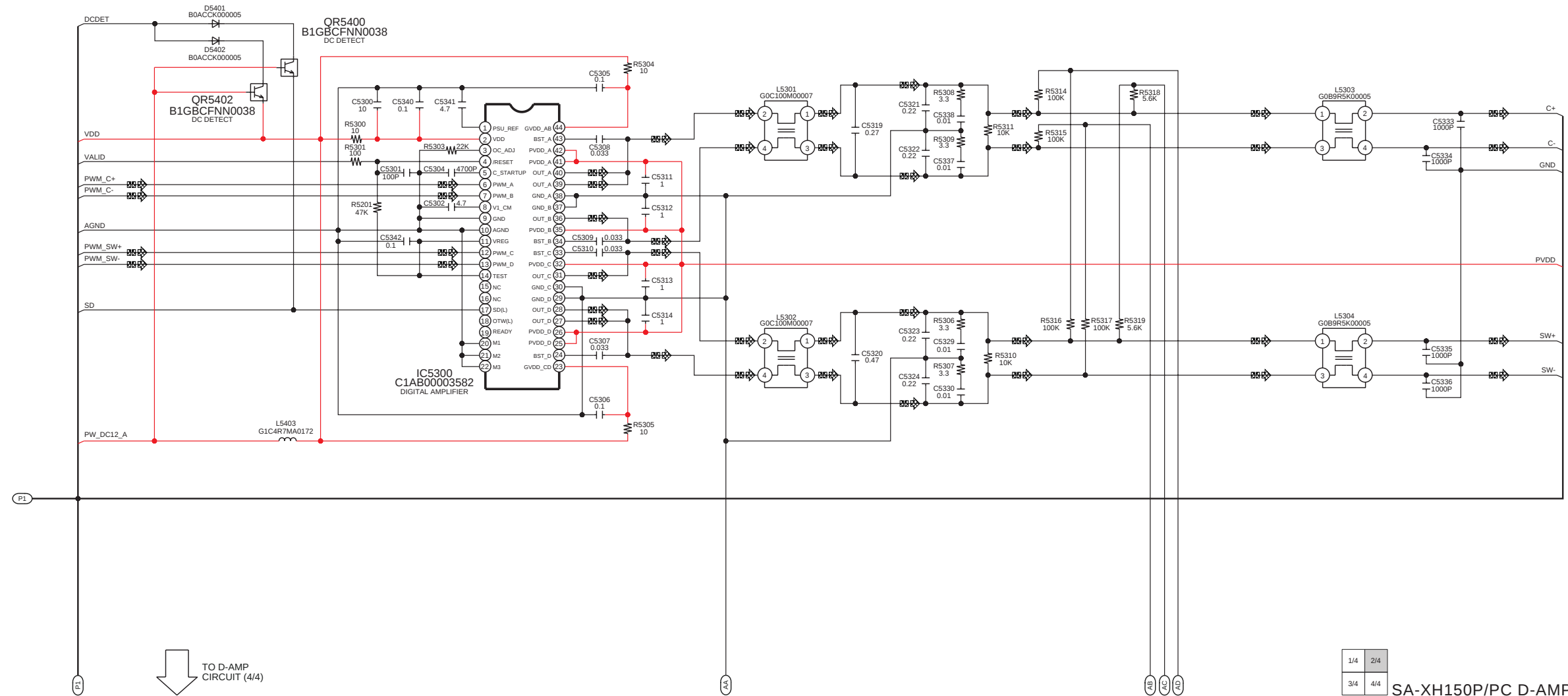


SCHEMATIC DIAGRAM - 18

G D-AMP CIRCUIT

— : +B SIGNAL LINE  : AUDIO OUTPUT SIGNAL LINE

← TO D-AMP
CIRCUIT (1/4)



↓ TO D-AMP
CIRCUIT (4/4)

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

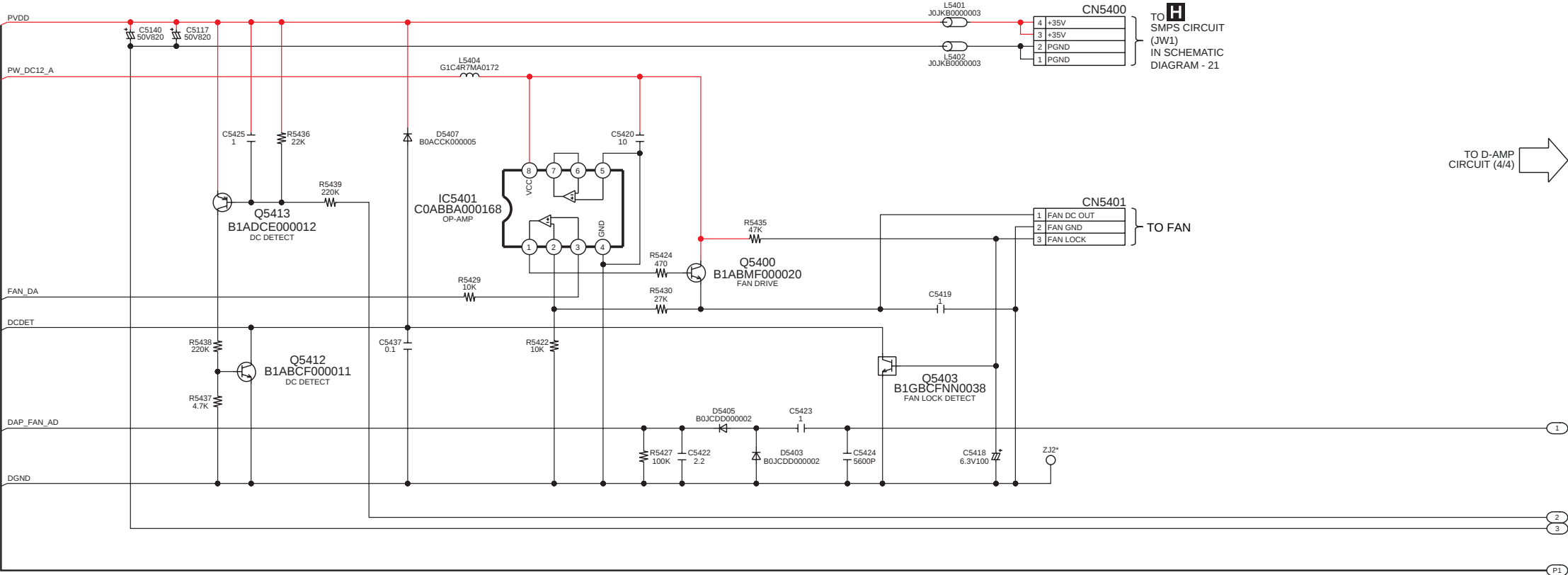
SA-XH150P/PC D-AMP CIRCUIT

SCHEMATIC DIAGRAM - 19

G D-AMP CIRCUIT

— : +B SIGNAL LINE  : AUDIO OUTPUT SIGNAL LINE

↑ TO D-AMP
CIRCUIT (1/4)



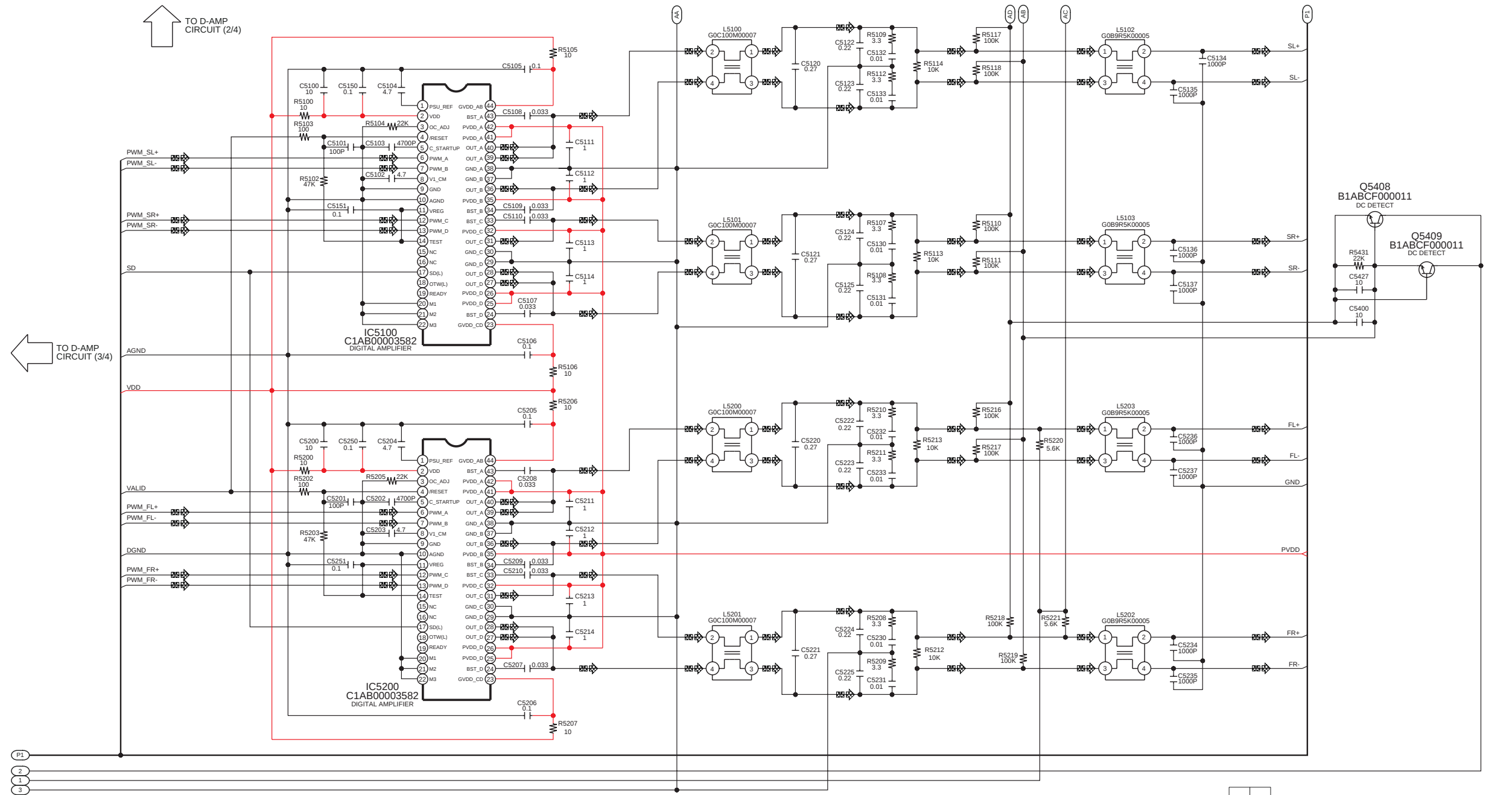
NOTE: “ * ” REF IS FOR INDICATION ONLY

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

 SA-XH150P/PC D-AMP CIRCUIT

G D-AMP CIRCUIT

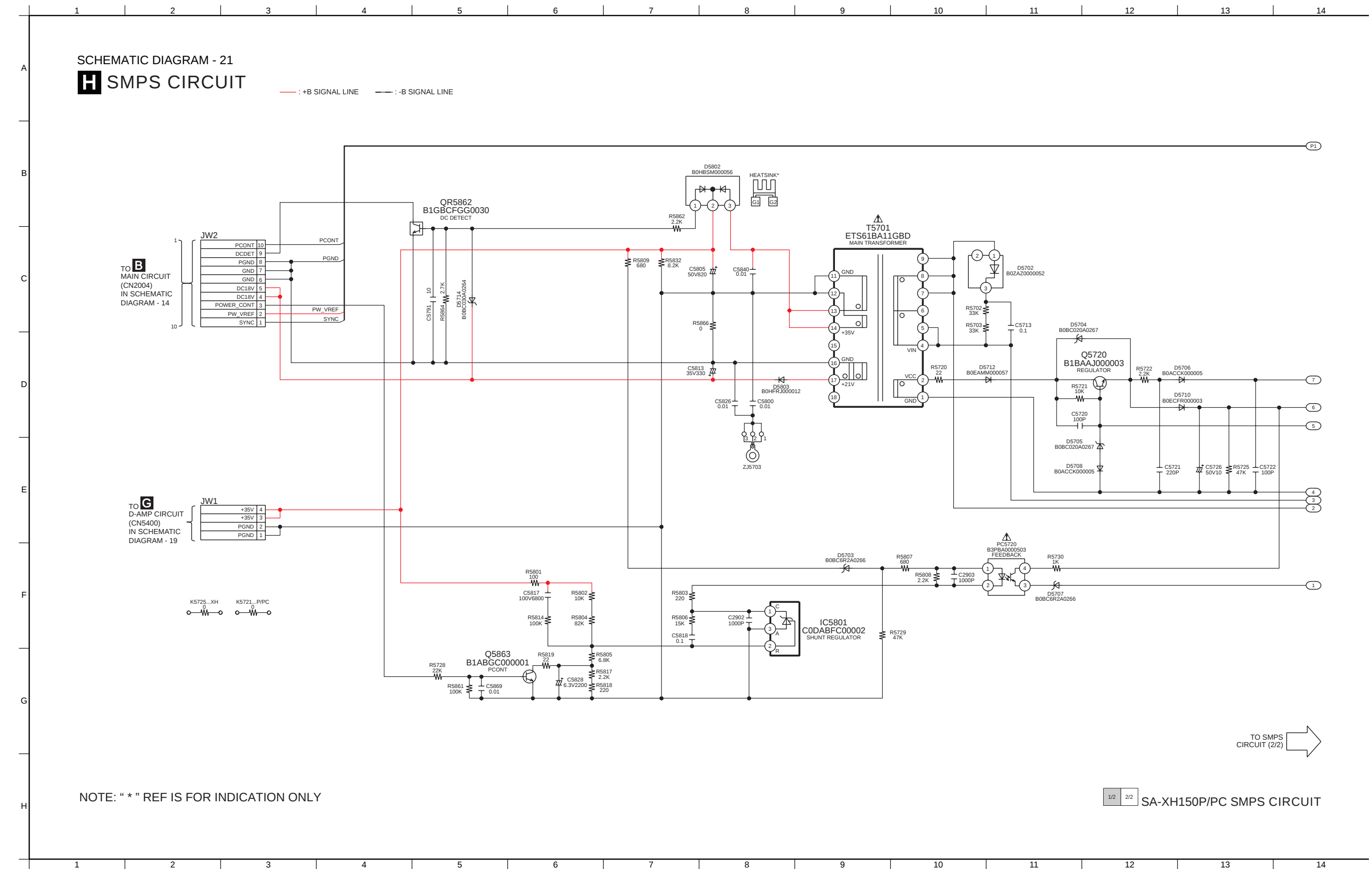
— : +B SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE



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

SA-XH150P/PC D-AMP CIRCUIT

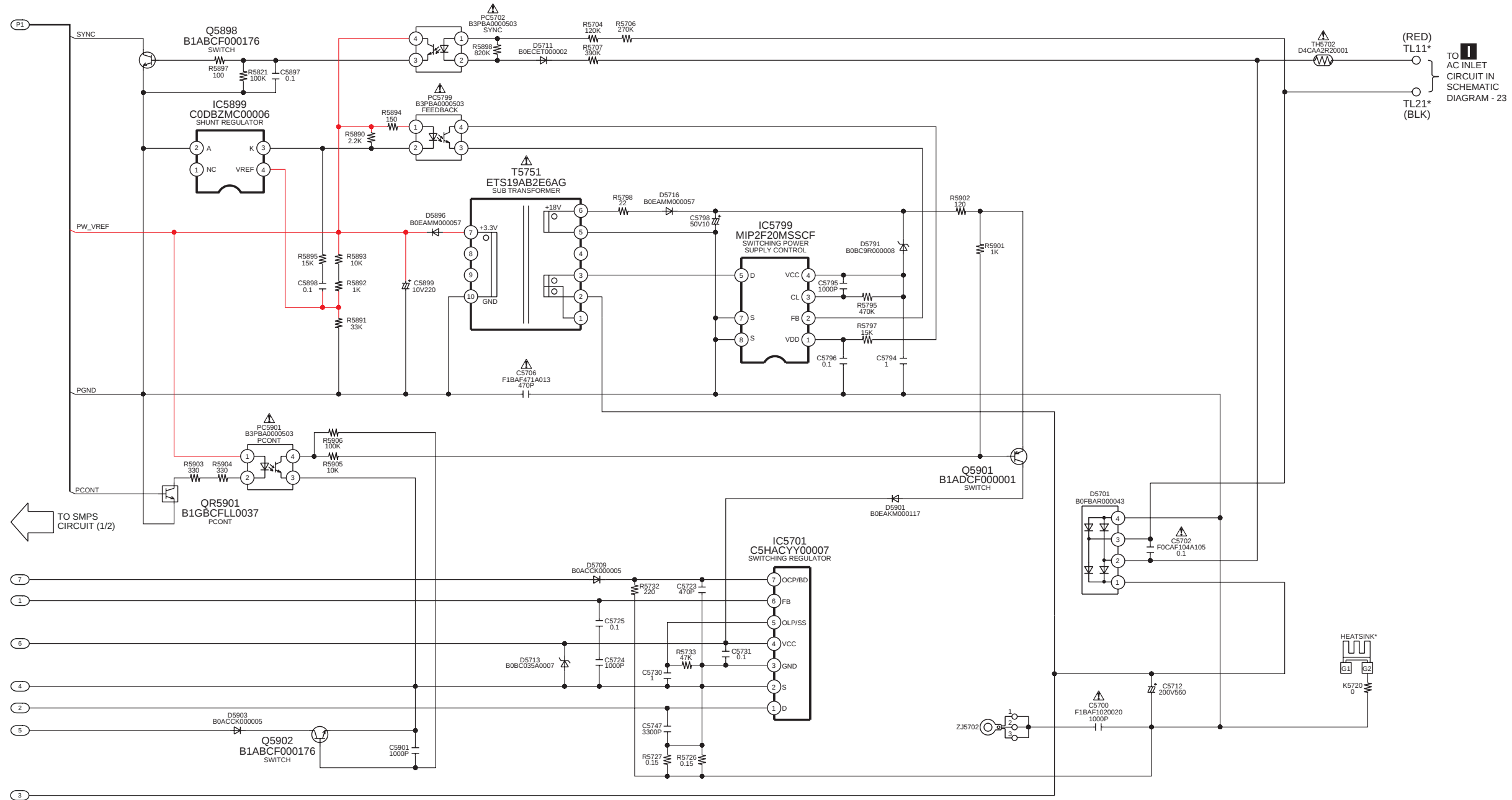
17.7. SMPS Circuit



SCHEMATIC DIAGRAM - 22

H SMPS CIRCUIT

— : +B SIGNAL LINE — : -B SIGNAL LINE

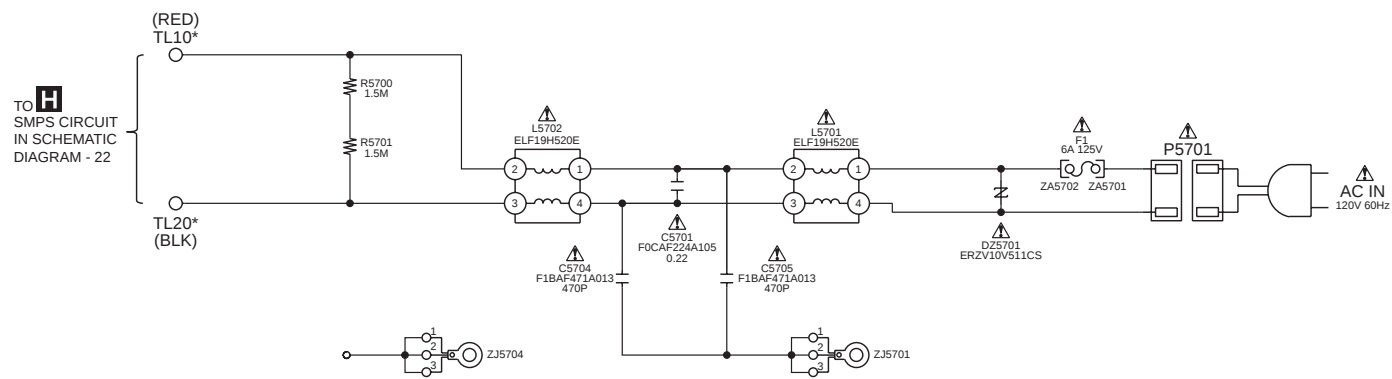


NOTE: " * " REF IS FOR INDICATION ONLY

1/2 2/2 SA-XH150P/PC SMPS CIRCUIT

17.8. AC Inlet Circuit

SCHEMATIC DIAGRAM - 23
I AC INLET CIRCUIT



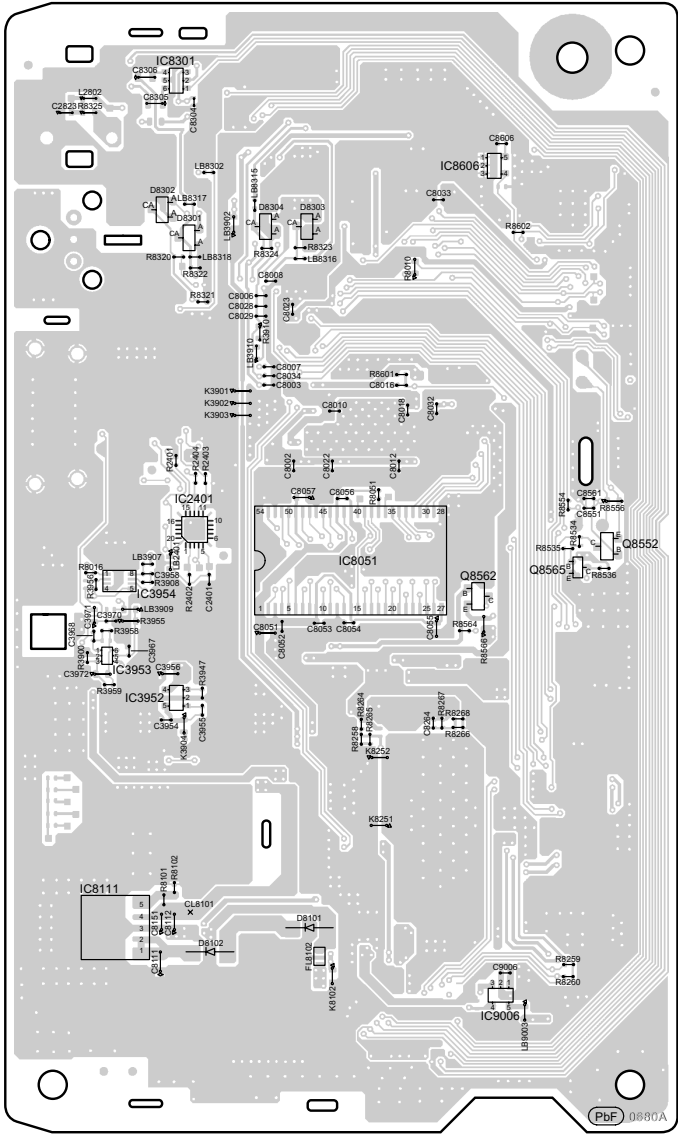
NOTE: " * " REF IS FOR INDICATION ONLY

SA-XH150P/PC AC INLET CIRCUIT

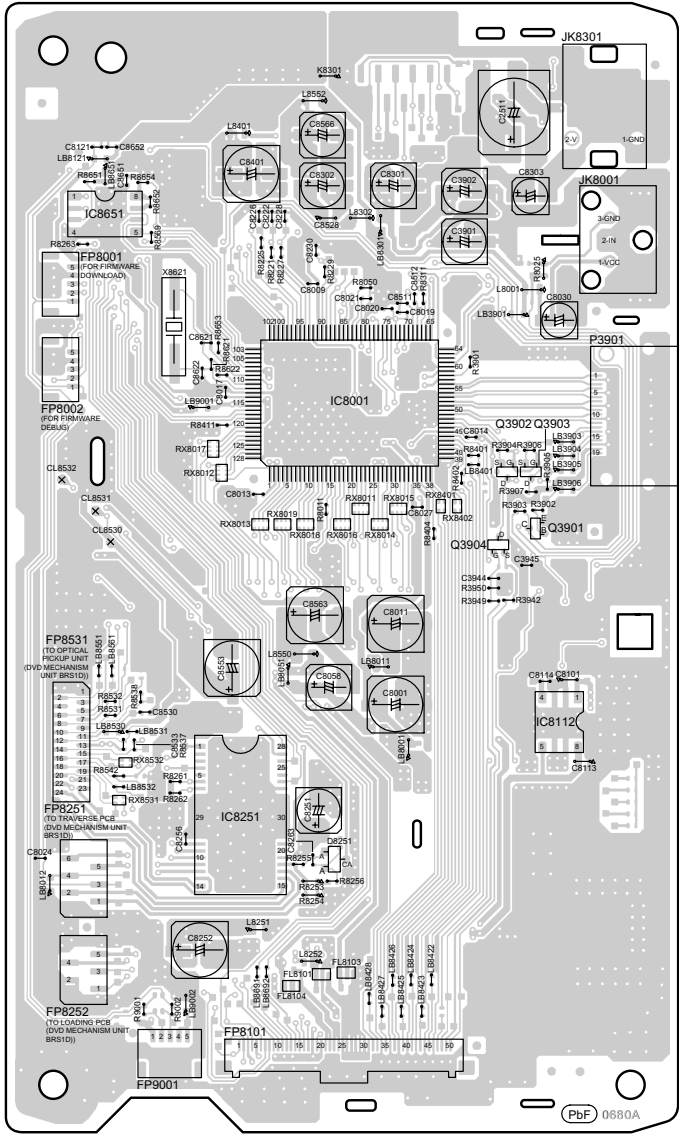
18 Printed Circuit Board

18.1. Backend P.C.B.

A BACKEND P.C.B. (RFKBB0934A)



(SIDE A)



(SIDE B)

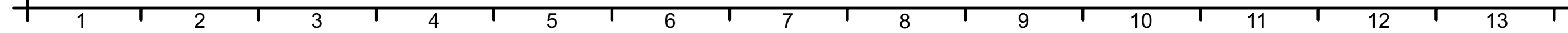
- VIDEO OUT
- DIGITAL AUDIO IN (OPTICAL)
- HDMI AV OUT (ARC)

B MAIN P.C.B. (REPX0893A...P)
(REPX0893B...PC)



139

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

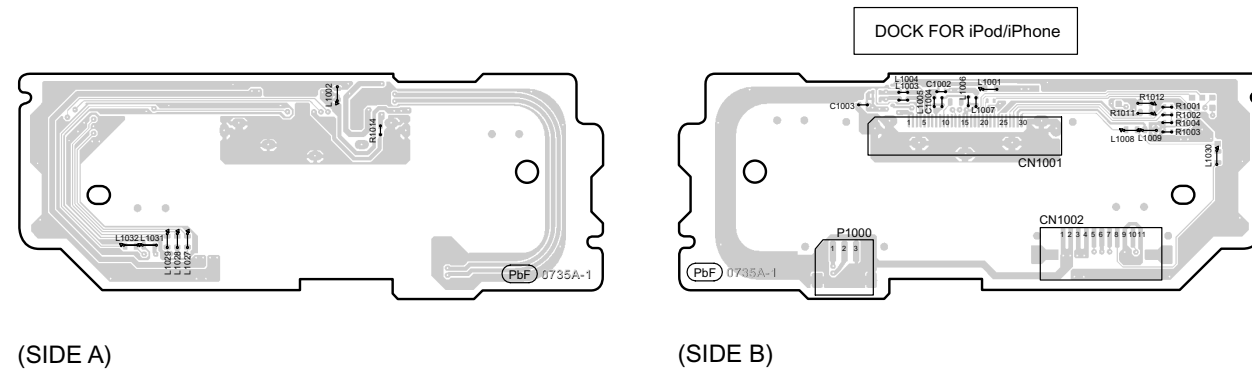


NOTE: " * " REF IS FOR INDICATION ONLY.

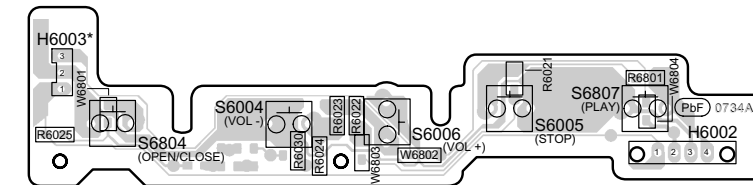
140

18.3. iPod, Operation Button, Power Button & Panel P.C.B.

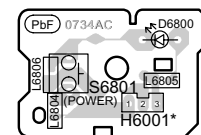
C iPod P.C.B. (REPX0895A)



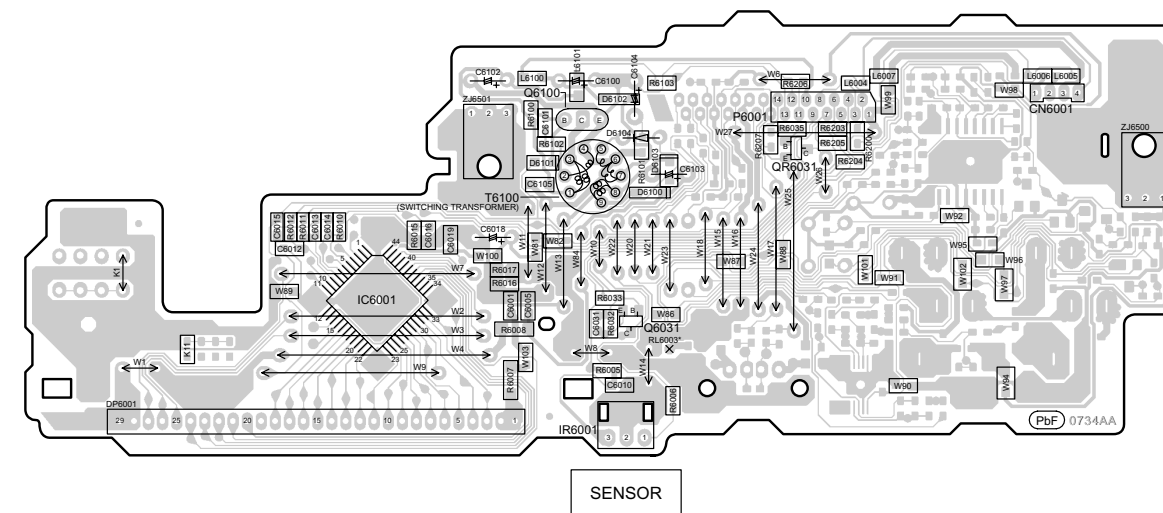
D OPERATION BUTTON P.C.B. (REPX0894DB)



E POWER BUTTON P.C.B. (REPX0894DB)



F PANEL P.C.B. (REPX0894DA)

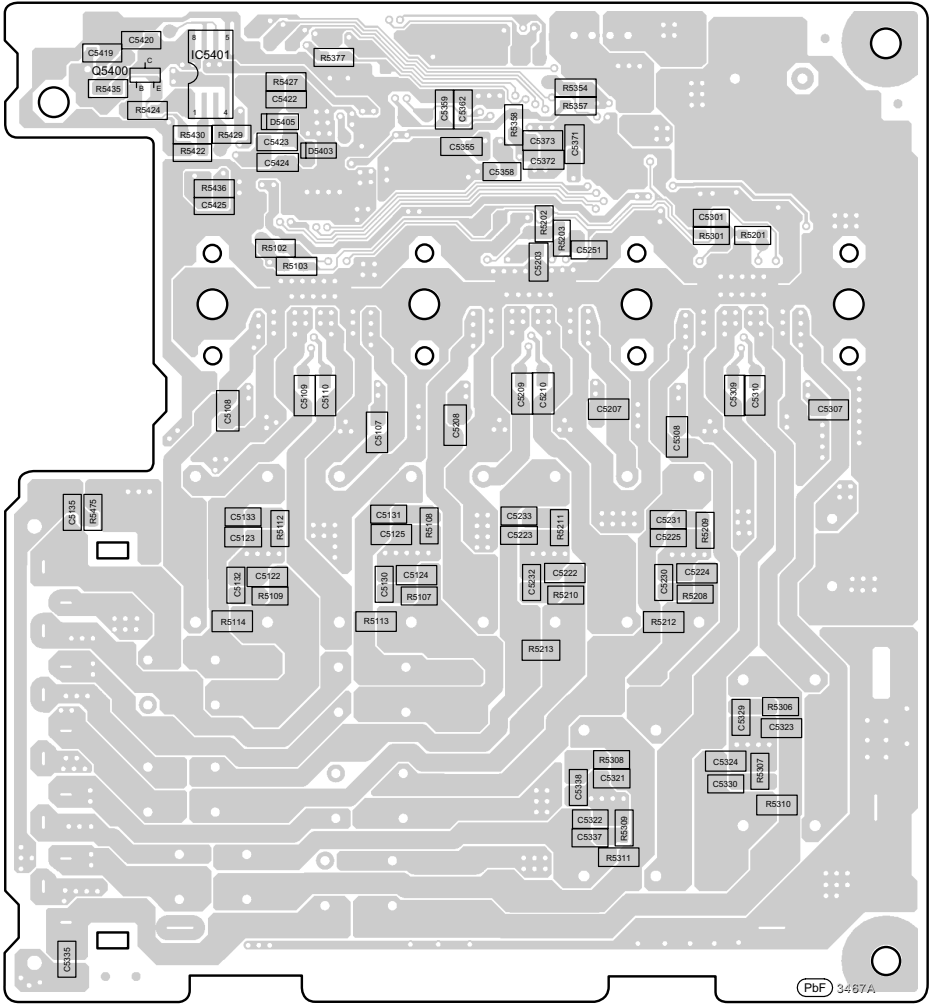


NOTE: " * " REF IS FOR INDICATION ONLY.

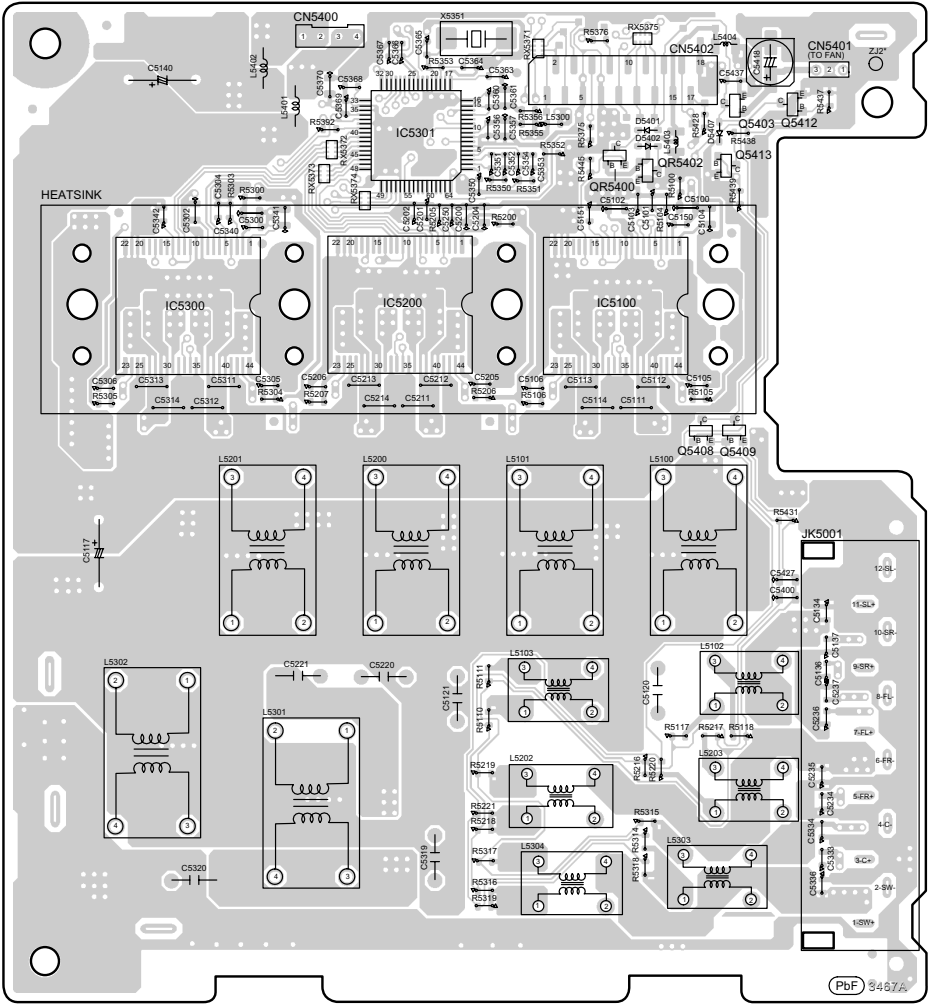
SA-XH150P/PC
iPod / OPERATION BUTTON / POWER BUTTON / PANEL P.C.B.

18.4. D-Amp P.C.B.

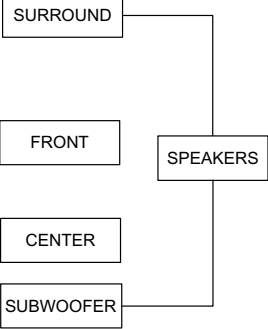
G D-AMP P.C.B. (REPX0924A)



(SIDE A)



(SIDE B)



NOTE: " * " REF IS FOR INDICATION ONLY.

SA-XH150P/PC
D-AMP P.C.B.

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

A horizontal number line with tick marks at every integer from 1 to 13. The numbers 1 through 13 are labeled below the line.

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

19 Terminal Function of ICs

19.1. IC2300 (RFKWMXH150P): IC MICROPROCESSOR

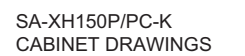
Pin No.	Terminal Name	I/O	Function
1	CLOSE_SW	I	Close Switch for BRS1D
2	FAN_DA	O	Fan Digital to analog control
3	RMT	I	Remote Control Signal
4	ECHO_LVL1	-	No Connection
5	ECHO_LVL2	-	No Connection
6	BYTE	-	External data bus width select input
7	CNVSS	-	Micon Programming-Processor / Single Chip Mode
8	XCIN(32K)	-	No Connection
9	XCOU(32K)	-	No Connection
10	RESET	I	Microp Reset Signal
11	XOUT	-	Clock In
12	VSS	-	GND
13	XIN	-	Clock Out
14	VCC	-	VCC +3.3V
15	CEC_IN/OUT	I/O	Use this port as CEC in/out
16	TUN_INT	O	Tuner Interrupt
17	SYNC	I	AC Sync Signal
18	FX_INT	-	Not in use
19	NC	-	No Connection
20	TUN_SDIO	O	Tuner I2C (Software) Data
21	TUN_RST	I	Tuner Reset Signal
22	TUN_SCLK	O	Tuner Serial Clock
23	LED_CTRL	O	Power On LED control
24	FLD_OUT	O	FL Display Data Out Signal
25	FLD_CLK	O	FL Display Clock Signal
26	FLD_STB	O	FL Display Strobe Signal
27	DVD_RX	I	DVD UART Receive
28	DVD_TX	O	DVD UART Transmit
29	DBG_TX	I	UART TX for Debug
30	DBG_RX	O	UART RX for Debug
31	SCLK	O	Clock Signal for Flash Writing
32	DAP_MUTE	O	Master mute for DAP
33	EDA	O	I2C EEPROM data
34	ECK	O	I2C EEPROM clock
35	NC	-	No Connection
36	FWD	O	Forward control for mecha
37	REV	O	Reverse control for mecha
38	AMUTE	O	Audio Muting
39	EPM	-	For Downloading Purpose
40	FX_BUNDLE_CS	O	DGND
41	FX_DET	-	DGND
42	FX_DI	-	Not in use
43	FX_SCS	O	Not in use
44	CE	I	For Downloading Purpose (with pull up)
45	FX_DO	-	Not in use
46	FX_CLK	-	Not in use
47	IPOD_VIDEO_SEL	O	Selection of Composite Output from iPod or Back End
48	PCONT	O	System Power Control
49	RGB_H	-	Not in use
50	VMUTE	-	Not in use
51	VBUS_EN	O	USB Vbus Supply
52	USB_OC	O	USB Over-Current Protection
53	USB_SEL	O	Selector control for USB/iPod
54	NC	-	No Connection

Pin No.	Terminal Name	I/O	Function
55	DCDET1	I	Power Supply Failure Detection (F76)
56	DCDET2	I	D-Amp and Fan Failure Detection (F61)
57	DSP_CLIP	-	Not in use
58	DSP_IRQ	-	Not in use
59	NC	-	No Connection
60	VCC	-	+3.3V System Supply
61	ECO_CTRL	O	Control Voltage Supply of D-AMP for Eco Mode
62	VSS	-	System Ground
63	iPod VIDEO DET	I	Detection for iPod Video
64	NRST	O	ADC Reset
65	NC	-	No Connection
66	WIDE1	O	Signal to control SCART 16:9 or 4:3
67	BATT_PCONT	O	iPod Charging Power Control
68	IPOD_OC	I	iPod Overcurrent Protection
69	IPOD_DET	I	iPod Insertion Detection
70	MIC_LVL 1	O	Mic Level 1
71	WL_OFF_SW	-	Not in use
72	MIC_LVL 2	O	Mic Level 2
73	VOL 0	O	For Energy Star
74	MIC_LVL 3	O	Mic Level 3
75	DAP_DAT	O	DAP/DSP data
76	DAP_CLK	O	DAP/DSP clock
77	DSP_RESET	O	DSP Reset Signal
78	DSP_MUTE	O	DSP Mute Signal
79	DAP_RST	O	DAP Reset
80	NC	-	No Connection
81	VALID	O	DAP valid
82	NC	-	No Connection
83	NC	-	No Connection
84	MIC_SW	I	MIC Plug in Detection
85	MD3	-	DVD Panel Code Digit 3
86	MD2	-	DVD Panel Code Digit 2
87	NC	-	No connection
88	FAN_AD	I	Fan analog to digital control
89	KEY 2	I	Keyline 2:
90	KEY1	I	Keyline 1: 1st key is POWER During STOP mode; act as K10 After wake up; act as AN4
91	SEL_A	I	Analog Input Selector Control A
92	SEL_B	I	Analog Input Selector Control B
93	DES2	-	Model Selector
94	AVSS	-	Analog GND
95	DES1	-	Series Selector
96	VREF	-	Voltage Reference +3.3V
97	AVCC	-	Analog +3.3V Supply
98	ECHO_MUTE	O	Bypass Echo Circuit
99	SPDIF SW	O	Selector control for D-IN/ARC
100	OPEN_SW	I	Open Switch for BRS1D

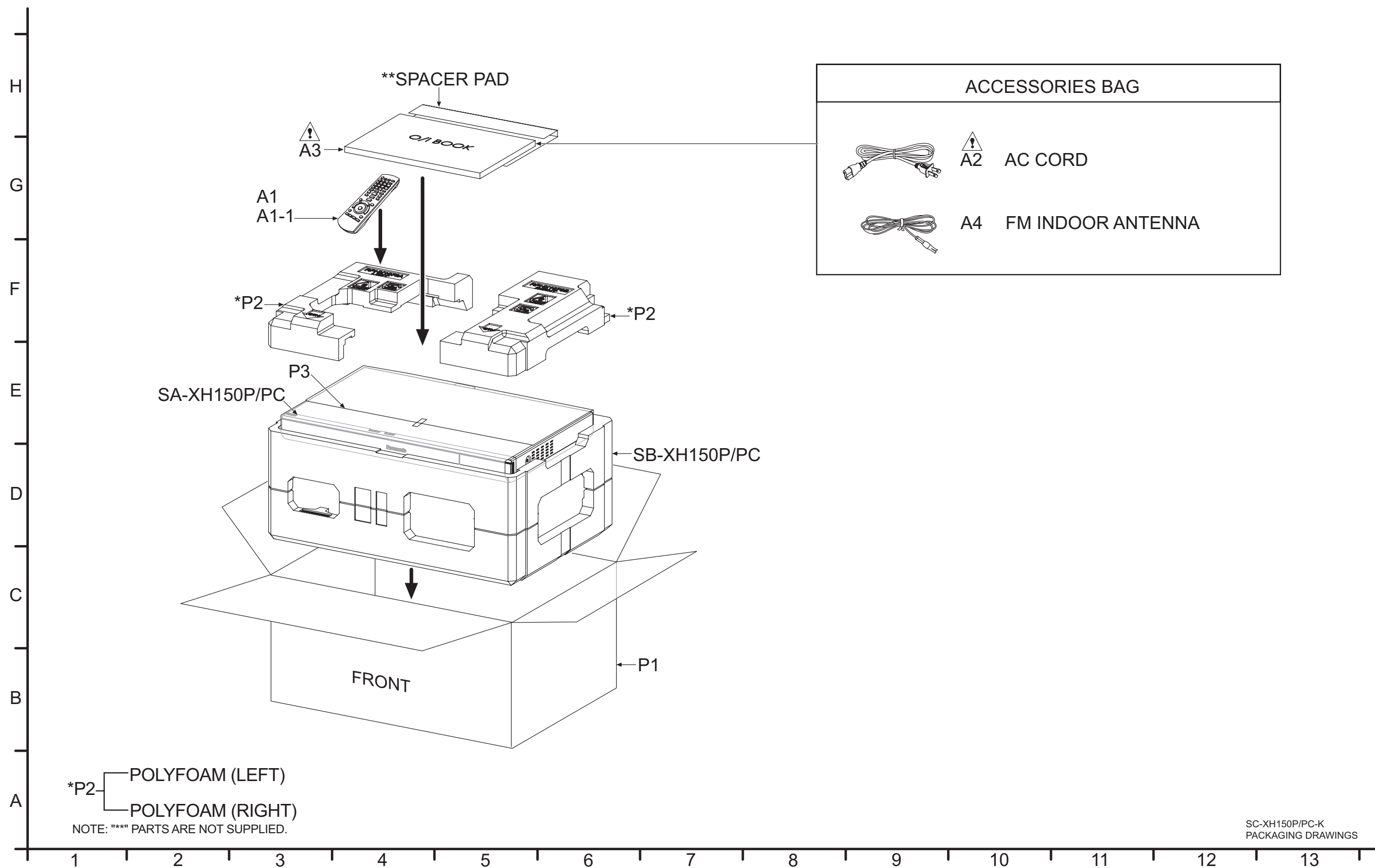
19.2. IC6001 (C0HBB0000057): IC FL Display Driver

Pin No.	Terminal Name	I/O	Function
1	LED1	-	No Connection
2	LED2	-	No Connection
3	LED3	-	No Connection
4	LED4	-	No Connection
5	OSC	I	Oscillator Input
6	DOUT	-	No Connection
7	DIN	I	Data Input
8	CLK	I	Clock Input
9	STB	I	Serial Interface Strobe
10	K1	-	Key Data Input 1 (No Connection)
11	K2	-	Key Data Input 2 (No Connection)
12	GND	-	GND
13	VCC	-	Power Supply (+5V)
14	P18	O	No Connection
15	P17	O	No Connection
16	P16	O	Segment Output 16
17	P15	O	Segment Output 15
18	P14	O	Segment Output 14
19	P13	O	Segment Output 13
20	P12	O	Segment Output 12
21	P11	O	Segment Output 11
22	P10	O	Segment Output 10
23	P9	O	Segment Output 9
24	P8	O	Segment Output 8
25	P7	O	Segment Output 7
26	P6	O	Segment Output 6
27	P5	O	Segment Output 5
28	P4	O	Segment Output 4
29	P3	O	Segment Output 3
30	-VP	-	Voltage Supply
31	P2	O	Segment Output 2
32	P1	O	Segment Output 1
33	G1	O	Grid Segment Output 1
34	G2	O	Grid Segment Output 2
35	G3	O	Grid Segment Output 3
36	G4	O	Grid Segment Output 4
37	G5	O	Grid Segment Output 5
38	G6	O	Grid Segment Output 6
39	G7	O	Grid Segment Output 7
40	G8	O	Grid Segment Output 8
41	G9	O	Grid Segment Output 9
42	NC	O	Grid Segment Output 10
43	VCC	-	Voltage Supply (+5V)
44	GND	-	GND

20.1.1. Cabinet Parts Location



20.1.2. Packaging



20.1.3. Mechanical Replacement Part List

Important Safety Notice

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

RTL (Retention Time Limited)

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

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

Note:

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

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

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			CABINET AND CHASSIS		
	1	L6FAYYYG0005	FAN MOTOR	1	
	2	REXX1190	5P CABLE WIRE (MAIN-BACKEND)	1	
	3	REE1586	18P FFC (MAIN-DAMP)	1	
	4	RFKZXH150PK4	11P FFC ASS'Y (MAIN-iPOD)	1	
	5	REEX1218	14P FFC (MAIN-PANEL)	1	
	6	REEX1219	50P FFC (MAIN-BACKEND)	1	
	7	REEX1243	10P FFC (MAIN-SMPS)	1	
	8	REX1426	3P CABLE WIRE (POWER BUTTON-OPERATION BUTTON)	1	
	9	RFKZXH150PK5	3P CABLE WIRE ASS'Y (iPOD-MAIN)	1	
	10	REXX1186	1P RED WIRE (AC INLET-SMPS)	1	
	11	REXX1187	1P BLACK WIRE (AC INLET-SMPS)	1	
	12	REXX1200	4P CABLE WIRE (DAMP-SMPS)	1	
	13	RFKZXH150PK3	4P CABLE WIRE ASS'Y (PANEL-OPERATION BUTTON)	1	
	14	RFKLAXH150PK	FRONT LID ASS'Y	1	
	14-1	RMX0302	LID DAMPER RUBBER	3	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	15	RGKX1054-K	TRAY ORNAMENT	1	
	16	RGKX1079-K	CRADLE ORNAMENT	1	
	17	RGLX1014-Q	LIGHT GUIDE	1	
	18	RFGKAXH150PK	FRONT PANEL ASS'Y	1	
	19	RGRX1006B-A1	REAR PANEL	1	P
	19	RGRX1006B-B1	REAR PANEL	1	PC
	20	RGUX1032-K	VOLUME BUTTON	1	
	21	RGUX1033-K	POWER BUTTON	1	
	22	RGUX1034-K	OPEN/CLOSE BUTTON	1	
	23	RHD26046	SCREW	9	
	24	RHD30007-K2J	SCREW	2	
	25	RHD30119-S	SCREW	13	
	26	RHD261002	SCREW	4	
	27	RHD30168	SCREW	20	
	28	RHQ0094-K	LATCH	1	
	29	RKMX1010-K	TOP CABINET	1	
	29-1	RMNX1062	SMPS PCB TOP INSULATOR	1	
	30	RMKX1027	BOTTOM CHASSIS	1	
	31	RMBX1016	FRONT LID SPRING	1	
	32	RMBX1019	iPod SPRING	1	
	33	RSCX1046	MAIN PCB BRACKET	1	
	35	RMNX1055	FRONT LID HOLDER	1	
	36	RMNX1056	FL HOLDER TOP	1	
	37	RMNX1057	FL HOLDER BOTTOM	1	
	39	RMNX1073	LATCH HOLDER	1	
	40	RMQX1086	GASKET	1	
	41	RMN0971	WIRE CLAMPER	1	
	42	XSN3+4FJ	SCREW	1	
	45	RMVX1026-K	CRADLE TUB	1	
	46	RMVX1027-K	iPOD GUIDE	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	47	RMZX1021	HEATSINK SPACER	4	
	48	RSCX1046	MAIN PCB SHIELD PLATE	1	
	49	RSCX1047	BACKEND PCB SHIELD PLATE	1	
	51	RSCX1060	B/E HEAD RADIA-TOR	1	
	52	VHD1224-1	SCREW	2	
	53	RKA0072-KJ	LEG RUBBER	4	
⚠	54	RXQX1056	SMPS PC SHEET UNIT	1	
⚠	55	RXQX1057	AC-IN PC SHEET UNIT	1	
	56	RMNX1026	PCB SPACER	1	
	57	RMF0511	HIMELON	1	
	58	RMQ1785	HIMELON	1	
			TRAVERSE DECK		
⚠	301	RAY1101-V	TRAVERSE ASS'Y	1	
			PACKING MATERI-ALS		
	P1	RPGX3427	PACKING CASE	1	P
	P1	RPGX3428	PACKING CASE	1	PC
	P2	RPNX1078	POLYFOAM	1	
	P3	RPFX1012-1	MIRAMAT	1	
			ACCESSORIES		
	A1	N2QAYB000623	REMOTE CONTROL	1	
	A1-1	RKK-PT470EBK	R/C BATTERY COVER	1	
⚠	A2	K2CB2CB00021	AC CORD	1	
⚠	A3	RQTX1230-P	O/I BOOK (En)	1	
⚠	A3	RQTX1231-C	O/I BOOK (Cf)	1	PC
	A4	RSAX0002	FM INDOOR ANTENNA	1	

20.2. Electrical Replacement Parts List

Important Safety Notice

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

RTL (Retention Time Limited)

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

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

Note:

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

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			PRINTED CIRCUITS BOARDS		
	PCB1	REPX0893A	MAIN P.C.B.	1	(RTL) P
	PCB1	REPX0893B	MAIN P.C.B.	1	(RTL) PC
	PCB2	REPX0924A	DAMP P.C.B.	1	(RTL)
$\triangle$	PCB3	REPX0932A	SMPS P.C.B.	1	(RTL)
$\triangle$	PCB4	REPX0932A	AC INLET P.C.B.	1	(RTL)
	PCB5	RFBX0934A	BACK END P.C.B	1	
	PCB6	REPX0894DA	PANEL P.C.B.	1	(RTL)
	PCB7	REPX0894DB	OPERATION BUTTON P.C.B.	1	(RTL)
	PCB8	REPX0894DB	POWER BUTTON P.C.B.	1	(RTL)
	PCB9	REPX0895A	iPod P.C.B.	1	(RTL)
			INTEGRATED CIRCUITS		
	IC2091	C0DBZY00018	IC	1	
	IC2151	C0FBAK000026	IC	1	
	IC2300	RFKWMXH150P	IC	1	
	IC2301	C3EBFC000042	IC	1	
	IC2401	MF1341S2164	IC	1	
	IC2500	C0ABBB000189	IC	1	
	IC2600	C0ABBB000189	IC	1	
	IC2601	C0ABZA000080	IC	1	
	IC2602	C0DBZY000417	IC	1	
	IC2800	C0JBAR000540	IC	1	
	IC2901	C0DBAYY00729	IC	1	
	IC2952	VUEALLPT040	IC	1	[SPG]
	IC3952	C0CBCDC000063	IC	1	
	IC3953	C0JBAB0000986	IC	1	
	IC3954	C0JBAR000433	IC	1	
	IC5100	C1AB00003582	IC	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	IC5200	C1AB00003582	IC	1	
	IC5300	C1AB00003582	IC	1	
	IC5301	C1AB00003610	IC	1	
	IC5401	C0ABBA000168	IC	1	
	IC5701	C5HACY000007	IC	1	
	IC5799	MIP2F20MSSCF	IC	1	
	IC5801	C0DABFC00002	IC	1	
	IC5899	C0DBZMC00006	IC	1	
	IC6001	C0HBB0000057	IC	1	
	IC8001	C1AB00003476	IC	1	
	IC8051	C3ABPG000163	IC	1	
	IC8111	C0DBEHG00006	IC	1	
	IC8112	C0DBZY000018	IC	1	
	IC8251	C0GBY0000117	IC	1	
	IC8301	C1AB00001934	IC	1	
	IC8606	C0EBE0000504	IC	1	
	IC8651	RFKWFXH150P0	IC	1	[SPG]
	IC9006	C0DBZY000311	IC	1	
			TRANSISTORS		
	Q2201	B1ABCF000176	TRANSISTOR	1	
	Q2202	B1ADCF000001	TRANSISTOR	1	
	Q2203	B1ADCF000001	TRANSISTOR	1	
	Q2204	B1ABCF000176	TRANSISTOR	1	
	Q2400	B1ADNB000003	TRANSISTOR	1	
	Q2401	B1ADMD000001	TRANSISTOR	1	
	Q2402	B1ADNB000003	TRANSISTOR	1	
	Q2501	B1ABMF000020	TRANSISTOR	1	
	Q2502	B1ADNB000003	TRANSISTOR	1	
	Q2503	B1ADCE000012	TRANSISTOR	1	
	Q2709	B1ABCF000176	TRANSISTOR	1	
	Q2719	B1GBCFJJ0051	TRANSISTOR	1	
	Q2800	B1GBCFJJ0051	TRANSISTOR	1	
	Q2805	B1GBCFJJ0051	TRANSISTOR	1	
	Q2902	B1CHPD000003	TRANSISTOR	1	
	Q2903	B1CHPD000003	TRANSISTOR	1	
	Q2904	B1BACD000018	TRANSISTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	Q3901	B1ABDF000026	TRANSISTOR	1	
	Q3902	B1CFHA000002	TRANSISTOR	1	
	Q3903	B1CFHA000002	TRANSISTOR	1	
	Q3904	B1CFHA000002	TRANSISTOR	1	
	Q5400	B1ABMF000020	TRANSISTOR	1	
	Q5403	B1GBCFNN0038	TRANSISTOR	1	
	Q5408	B1ABCF000011	TRANSISTOR	1	
	Q5409	B1ABCF000011	TRANSISTOR	1	
	Q5412	B1ABCF000011	TRANSISTOR	1	
	Q5413	B1ADCE000012	TRANSISTOR	1	
	Q5720	B1BAAJ000003	TRANSISTOR	1	
	Q5863	B1ABGC000001	TRANSISTOR	1	
	Q5898	B1ABCF000176	TRANSISTOR	1	
	Q5901	B1ADCF000001	TRANSISTOR	1	
	Q5902	B1ABCF000176	TRANSISTOR	1	
	Q6031	B1ADCE000012	TRANSISTOR	1	
	Q6100	B1BABK000001	TRANSISTOR	1	
	Q8552	B1ADGB000008	TRANSISTOR	1	
	Q8562	B1ADGB000008	TRANSISTOR	1	
	Q8565	B1ABDF000026	TRANSISTOR	1	
	QR2400	B1GBCFJJ0051	TRANSISTOR	1	
	QR2401	B1GBCFJJ0051	TRANSISTOR	1	
	QR2402	B1GBCFJJ0051	TRANSISTOR	1	
	QR2500	B1GBCFJJ0051	TRANSISTOR	1	
	QR2700	B1GBCFJJ0051	TRANSISTOR	1	
	QR2701	B1GBCFJJ0051	TRANSISTOR	1	
	QR5400	B1GBCFNN0038	TRANSISTOR	1	
	QR5402	B1GBCFNN0038	TRANSISTOR	1	
	QR5862	B1GBCFGG0030	TRANSISTOR	1	
	QR5901	B1GBCFLL0037	TRANSISTOR	1	
	QR6031	B1GBCFJJ0051	TRANSISTOR	1	
			DIODES		
	D2301	B0BC3R0A0262	DIODE	1	
	D2500	B0ACCK000005	DIODE	1	
	D2501	B0BC7R500001	DIODE	1	
	D2744	B0ACCK000012	DIODE	1	
	D2746	B0BC6R8A0266	DIODE	1	
	D2747	B0BC011A0264	DIODE	1	
	D2748	B0BC010A0269	DIODE	1	
	D2749	B0BC015A0264	DIODE	1	
	D2750	B0BC5R1A0262	DIODE	1	
	D2910	B0BC010A0267	DIODE	1	
	D2911	B0JCPG000005	DIODE	1	
	D2912	B0JCPG000005	DIODE	1	
	D5401	B0ACCK000005	DIODE	1	
	D5402	B0ACCK000005	DIODE	1	
	D5403	B0JCDD000002	DIODE	1	
	D5405	B0JCDD000002	DIODE	1	
	D5407	B0ACCK000005	DIODE	1	
	D5701	B0FBAR000043	DIODE	1	
	D5702	B0ZAZ0000052	DIODE	1	
	D5703	B0BC6R2A0266	DIODE	1	
	D5704	B0BC020A0267	DIODE	1	
	D5705	B0BC020A0267	DIODE	1	
	D5706	B0ACCK000005	DIODE	1	
	D5707	B0BC6R2A0266	DIODE	1	
	D5708	B0ACCK000005	DIODE	1	
	D5709	B0ACCK000005	DIODE	1	
	D5710	B0ECFR000003	DIODE	1	
	D5711	B0ECET000002	DIODE	1	
	D5712	B0EAMM000057	DIODE	1	
	D5713	B0BC035A0007	DIODE	1	
	D5714	B0BC030A0264	DIODE	1	
	D5716	B0EAMM000057	DIODE	1	
	D5791	B0BC9R000008	DIODE	1	
	D5802	B0HBSM000056	DIODE	1	
	D5803	B0HFRJ000012	DIODE	1	
	D5896	B0EAMM000057	DIODE	1	
	D5901	B0EAKM000117	DIODE	1	
	D5903	B0ACCK000005	DIODE	1	
	D6100	B0JCMD000010	DIODE	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	D6101	DZ2J220M0L	DIODE	1	
	D6102	B0JCMD000010	DIODE	1	
	D6103	B0BC2R4A0263	DIODE	1	
	D6104	B0EAMM000057	DIODE	1	
	D6800	B3ABA0000187	DIODE	1	
	D8101	B0ECKP000002	DIODE	1	
	D8102	B0ECKP000002	DIODE	1	
	D8251	DA3X103E0L	DIODE	1	
	D8301	DA3X101F0L	DIODE	1	
	D8302	DA3X101F0L	DIODE	1	
	D8303	DA3X101F0L	DIODE	1	
	D8304	DA3X101F0L	DIODE	1	
	⚠ DZ5701	ERZV10V511CS	ZNR	1	
			VARISTOR		
	VA2951	EZAE62A50AX	ESD SUPRESSOR	1	
			SWITCHES		
	S6004	EVQ21405R	SW VOL (-)	1	
	S6005	EVQ21405R	SW STOP	1	
	S6006	EVQ21405R	SW VOL (+)	1	
	S6801	EVQ21405R	SW POWER	1	
	S6804	EVQ21405R	SW OPEN/CLOSE	1	
	S6807	EVQ21405R	SW PLAY	1	
			CONNECTORS		
	CN1001	MFI514S0117	30P CONNECTOR	1	
	CN1002	K1MN11BA0139	11P CONNECTOR	1	
	CN2001	K1MN50AA0082	50P CONNECTOR	1	
	CN2002	K1MY14AA0124	14P CONNECTOR	1	
	CN2003	K1MY10AA0124	10P CONNECTOR	1	
	CN2004	K1MY10AA0124	10P CONNECTOR	1	
	CN2006	K1MY18AA0124	18P CONNECTOR	1	
	CN2007	K1MY11AA0124	11P CONNECTOR	1	
	CN2011	K1KA03B00215	3P CONNECTOR	1	
	CN5400	K1KA04AA0193	4P CONNECTOR	1	
	CN5401	K1KA03AA0188	3P CONNECTOR	1	
	CN5402	K1MN18AA0046	18P CONNECTOR	1	
	CN6001	K1KA04AA0193	4P CONNECTOR	1	
	P1000	K1KA03BA0047	3P CONNECTOR	1	
	P6001	K1MY14AA0124	14P CONNECTOR	1	
	FP8001	K1KA05AA0051	5P CONNECTOR	1	
	FP8002	K1KA05AA0051	5P CONNECTOR	1	
	FP8101	K1MN50AA0082	50P CONNECTOR	1	
	FP8251	K1MN06AA0046	6P CONNECTOR	1	
	FP8252	K1MN05AA0046	5P CONNECTOR	1	
	FP8531	K1MN24A00062	24P CONNECTOR	1	
	FP9001	K1KA05BA0014	5P CONNECTOR	1	
	JW1	K1YZ04000002	4P CABLE HOLDER	1	
	JW2	K1MY10AA0124	10P CONNECTOR	1	
			COILS AND INDUCTORS		
	L1001	J0JHC0000107	INDUCTOR	1	
	L1002	J0JHC0000107	INDUCTOR	1	
	L1003	ERJ2GE0R00X	INDUCTOR	1	
	L1004	ERJ2GE0R00X	INDUCTOR	1	
	L1005	J0JGC0000071	INDUCTOR	1	
	L1006	J0JGC0000071	INDUCTOR	1	
	L1007	J0JGC0000071	INDUCTOR	1	
	L1008	J0JFC0000006	INDUCTOR	1	
	L1009	J0JFC0000006	INDUCTOR	1	
	L1032	J0JBC0000015	INDUCTOR	1	
	L2001	G1C4R7MA0172	INDUCTOR	1	
	L2700	J0JHC0000118	INDUCTOR	1	
	L2701	J0JHC0000118	INDUCTOR	1	
	L2703	J0JHC0000118	INDUCTOR	1	
	L2705	J0JHC0000118	INDUCTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	L2802	J0JBC0000015	INDUCTOR	1	
	L2902	G0A200D00002	CHOKE COIL	1	
	L2903	G0A330ZA0045	CHOKE COIL	1	
	L2904	G0C330M00002	INDUCTOR	1	
	L2905	G0A220GA0002	CHOKE COIL	1	
	L2908	J0JHC0000118	INDUCTOR	1	
	L2951	G1CR18JA0020	INDUCTOR	1	
	L5100	G0C100M00007	INDUCTOR	1	
	L5101	G0C100M00007	INDUCTOR	1	
	L5102	G0B9R5K00005	LINE FILTER	1	
	L5103	G0B9R5K00005	LINE FILTER	1	
	L5200	G0C100M00007	INDUCTOR	1	
	L5201	G0C100M00007	INDUCTOR	1	
	L5202	G0B9R5K00005	LINE FILTER	1	
	L5203	G0B9R5K00005	LINE FILTER	1	
	L5300	J0JBC0000015	INDUCTOR	1	
	L5301	G0C100M00007	INDUCTOR	1	
	L5302	G0C100M00007	INDUCTOR	1	
	L5303	G0B9R5K00005	LINE FILTER	1	
	L5304	G0B9R5K00005	LINE FILTER	1	
	L5401	J0JKB0000003	INDUCTOR	1	
	L5402	J0JKB0000003	INDUCTOR	1	
	L5403	G1C4R7MA0172	INDUCTOR	1	
	L5404	G1C4R7MA0172	INDUCTOR	1	
⚠	L5701	ELF19H520E	LINE FILTER	1	
⚠	L5702	ELF19H520E	LINE FILTER	1	
	L6004	J0JBC0000014	INDUCTOR	1	
	L6006	J0JBC0000014	INDUCTOR	1	
	L6007	J0JBC0000014	INDUCTOR	1	
	L6100	J0JBC0000041	INDUCTOR	1	
	L6101	G1C100K00019	INDUCTOR	1	
	L8001	G1C100M00049	INDUCTOR	1	
	L8251	J0JHC0000117	INDUCTOR	1	
	L8252	J0JHC0000117	INDUCTOR	1	
	L8302	G1C100M00049	INDUCTOR	1	
	L8401	G1C100M00049	INDUCTOR	1	
	L8550	G1C100M00049	INDUCTOR	1	
	L8552	G1C100M00049	INDUCTOR	1	
	LB2068	J0JBC0000014	INDUCTOR	1	
	LB2151	G1C100M00049	INDUCTOR	1	
	LB2152	J0JGC0000020	INDUCTOR	1	
	LB2153	J0JBC0000033	INDUCTOR	1	
	LB2301	J0JYC0000193	INDUCTOR	1	
	LB2401	J0JGC0000021	INDUCTOR	1	
	LB2600	J0JHC0000021	INDUCTOR	1	
	LB2605	J0JHC0000021	INDUCTOR	1	
	LB2607	J0JCC0000316	INDUCTOR	1	
	LB2608	J0JCC0000316	INDUCTOR	1	
	LB2609	J0JCC0000316	INDUCTOR	1	
	LB2616	J0JBC0000071	INDUCTOR	1	
	LB2800	J0JBC0000071	INDUCTOR	1	
	LB2801	J0JBC0000071	INDUCTOR	1	
	LB2802	J0JBC0000071	INDUCTOR	1	
	LB2803	J0JBC0000071	INDUCTOR	1	
	LB2805	J0JBC0000071	INDUCTOR	1	
	LB2806	J0JBC0000071	INDUCTOR	1	
	LB2808	J0JBC0000071	INDUCTOR	1	
	LB2809	J0JBC0000071	INDUCTOR	1	
	LB2951	J0JBC0000032	INDUCTOR	1	
	LB3901	J0JHC0000045	INDUCTOR	1	
	LB3902	J0JHC0000045	INDUCTOR	1	
	LB3903	J0JCC0000042	INDUCTOR	1	
	LB3904	J0JCC0000042	INDUCTOR	1	
	LB3905	J0JCC0000042	INDUCTOR	1	
	LB3906	J0JCC0000042	INDUCTOR	1	
	LB3907	J0JCC0000308	INDUCTOR	1	
	LB3909	J0JHC0000045	INDUCTOR	1	
	LB3910	J0JHC0000045	INDUCTOR	1	
	LB8001	J0JHC0000045	INDUCTOR	1	
	LB8011	J0JHC0000045	INDUCTOR	1	
	LB8051	J0JHC0000045	INDUCTOR	1	
	LB8121	J0JHC0000045	INDUCTOR	1	
	LB8301	J0JHC0000045	INDUCTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	LB8302	J0JCC0000308	INDUCTOR	1	
	LB8401	J0JCC0000308	INDUCTOR	1	
	LB8427	J0JCC0000308	INDUCTOR	1	
	LB8530	J0JHC0000045	INDUCTOR	1	
	LB8532	J0JDC0000102	INDUCTOR	1	
	LB8551	J0JDC0000102	INDUCTOR	1	
	LB8561	J0JDC0000102	INDUCTOR	1	
	LB8651	J0JHC0000117	INDUCTOR	1	
	LB9001	J0JHC0000045	INDUCTOR	1	
	R1011	J0JFC0000006	INDUCTOR	1	
	R2005	J0JYC0000339	INDUCTOR	1	
	R2006	J0JYC0000339	INDUCTOR	1	
	R2007	J0JYC0000339	INDUCTOR	1	
	R2008	J0JYC0000339	INDUCTOR	1	
			FUSE		
⚠	F1	K5D602APA008	FUSE	1	
			FUSE HOLDERS		
	ZA5701	K3GE1ZZ00001	FUSE HOLDER	1	
	ZA5702	K3GE1ZZ00001	FUSE HOLDER	1	
			WIRE HOLDER		
	H6002	K1YZ04000002	4P WIRE HOLDER	1	
			TRANSFORMERS		
⚠	T5701	ETS61BA11GBD	SWITCHING TRANSFORMER	1	
⚠	T5751	ETS19AB2E6AG	SUB TRANSFORMER	1	
⚠	T6100	G4D1A0000142	SWITCHING TRANSFORMER	1	
			PHOTO COUPLERS		
⚠	PC5702	B3PBA0000503	PHOTO COUPLER	1	
⚠	PC5720	B3PBA0000503	PHOTO COUPLER	1	
⚠	PC5799	B3PBA0000503	PHOTO COUPLER	1	
⚠	PC5901	B3PBA0000503	PHOTO COUPLER	1	
			TERMINALS		
	ZJ5701	K4CZ01000027	TERMINAL	1	
	ZJ5702	K4CZ01000027	TERMINAL	1	
	ZJ5703	K4CZ01000027	TERMINAL	1	
	ZJ5704	K4CZ01000027	TERMINAL	1	
	ZJ6500	K4CZ01000027	TERMINAL	1	
	ZJ6501	K4CZ01000027	TERMINAL	1	
			OSCILLATORS		
	X2300	H2D500400006	CRYSTAL OSCILLATOR	1	
	X2951	H0A327200097	CRYSTAL OSCILLATOR	1	
	X5351	H0J135000003	CRYSTAL OSCILLATOR	1	
	X8621	H0J270500131	CRYSTAL OSCILLATOR	1	
			LCD DISPLAY		
	DP6001	A2BB00000180	LCD DISPLAY	1	
			REMOTE CONTROL SENSOR		
	IR6001	B3RAC0000020	REMOTE CONTROL SENSOR	1	
			THERMISTOR		

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
⚠	TH5702	D4CAA2R20001	THERMISTOR	1	
			JACKS		
	JK2500	K2HA2YYA0006	JK AUX IN	1	
	JK2951	K4ZZ01000276	JK FM ANTENNA	1	
	JK5001	K4AL06B00006	JK SPEAKERS	1	
	JK8001	B3RAB0000056	JK DIGITAL AUDIO IN OPTICAL	1	
	JK8301	K2HA1YYB0022	JK VIDEO OUT	1	
	P3901	K1FY119E0002	JK HDMI (AV OUT)	1	
⚠	P5701	K2AB2B000007	AC INLET	1	
			CHIP JUMPER		
	K11	D0GBR00JA008	0 1/16W	1	
	K2700	D0GBR00JA008	0 1/16W	1	
	K2701	D0GBR00JA008	0 1/16W	1	
	K2703	D0GBR00JA008	0 1/16W	1	
	K2704	D0GBR00JA008	0 1/16W	1	
	K2705	D0GBR00JA008	0 1/16W	1	
	K2706	D0GBR00JA008	0 1/16W	1	
	K2710	D0GBR00JA008	0 1/16W	1	
	K2711	D0GBR00JA008	0 1/16W	1	
	K2712	D0GBR00JA008	0 1/16W	1	
	K2713	D0GBR00JA008	0 1/16W	1	
	K3901	D0GBR00JA008	0 1/16W	1	
	K3902	D0GBR00JA008	0 1/16W	1	
	K3903	D0GBR00JA008	0 1/16W	1	
	K3904	D0GBR00JA008	0 1/16W	1	
	K5720	D0GDR00JA017	0 1/8W	1	
	K5721	D0GDR00JA017	0 1/8W	1	
	K5725	D0GDR00JA017	0 1/8W	1	
	K8102	D0GBR00JA008	0 1/16W	1	
	K8251	D0GBR00JA008	0 1/16W	1	
	K8252	D0GBR00JA008	0 1/16W	1	
	K8301	D0GBR00JA008	0 1/16W	1	
	L1027	ERJ3GEY0R00V	0 1/10W	1	
	L1028	ERJ3GEY0R00V	0 1/10W	1	
	L1029	ERJ3GEY0R00V	0 1/10W	1	
	L1030	D0GBR00JA008	0 1/16W	1	
	L1031	D0GBR00JA008	0 1/16W	1	
	L6005	D0GBR00JA008	0 1/16W	1	
	L6804	D0GBR00JA008	0 1/16W	1	
	L6806	D0GBR00JA008	0 1/16W	1	
	LB2000	D0GBR00JA008	0 1/16W	1	
	LB2002	D0GBR00JA008	0 1/16W	1	
	LB2003	D0GBR00JA008	0 1/16W	1	
	LB2004	D0GBR00JA008	0 1/16W	1	
	LB2039	D0GBR00JA008	0 1/16W	1	
	LB2067	D0GBR00JA008	0 1/16W	1	
	LB2303	D0GBR00JA008	0 1/16W	1	
	LB2603	D0GBR00JA008	0 1/16W	1	
	LB2606	D0GBR00JA008	0 1/16W	1	
	LB2758	D0GBR00JA008	0 1/16W	1	
	LB2764	D0GBR00JA008	0 1/16W	1	
	LB2765	D0GBR00JA008	0 1/16W	1	
	LB2766	D0GBR00JA008	0 1/16W	1	
	LB2767	D0GBR00JA008	0 1/16W	1	
	LB2768	D0GBR00JA008	0 1/16W	1	
	LB2769	D0GBR00JA008	0 1/16W	1	
	LB2770	D0GBR00JA008	0 1/16W	1	
	LB2771	D0GBR00JA008	0 1/16W	1	
	LB2772	D0GBR00JA008	0 1/16W	1	
	LB2774	D0GBR00JA008	0 1/16W	1	
	LB2776	D0GBR00JA008	0 1/16W	1	
	LB8012	D0GBR00JA008	0 1/16W	1	
	LB8315	ERJ2GE0R00X	0 1/16W	1	
	LB8316	ERJ2GE0R00X	0 1/16W	1	
	LB8317	ERJ2GE0R00X	0 1/16W	1	
	LB8318	ERJ2GE0R00X	0 1/16W	1	
	LB8422	ERJ2GE0R00X	0 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	LB8423	ERJ2GE0R00X	0 1/16W	1	
	LB8424	ERJ2GE0R00X	0 1/16W	1	
	LB8425	ERJ2GE0R00X	0 1/16W	1	
	LB8426	ERJ2GE0R00X	0 1/16W	1	
	LB8428	ERJ2GE0R00X	0 1/16W	1	
	LB9002	D0GBR00JA008	0 1/16W	1	
	LB9003	D0GBR00JA008	0 1/16W	1	
	W16	D0GDR00JA017	0 1/8W	1	
	W17	D0GDR00JA017	0 1/8W	1	
	W27	D0GDR00JA017	0 1/8W	1	
	W81	D0GDR00JA017	0 1/8W	1	
	W82	D0GBR00JA008	0 1/16W	1	
	W86	D0GDR00JA017	0 1/8W	1	
	W87	D0GDR00JA017	0 1/8W	1	
	W88	D0GDR00JA017	0 1/8W	1	
	W89	D0GDR00JA017	0 1/8W	1	
	W90	D0GBR00JA008	0 1/16W	1	
	W91	D0GBR00JA008	0 1/16W	1	
	W92	D0GBR00JA008	0 1/16W	1	
	W94	D0GDR00JA017	0 1/8W	1	
	W95	D0GBR00JA008	0 1/16W	1	
	W96	D0GDR00JA017	0 1/8W	1	
	W97	D0GDR00JA017	0 1/8W	1	
	W98	D0GBR00JA008	0 1/16W	1	
	W99	D0GDR00JA017	0 1/8W	1	
	W100	D0GDR00JA017	0 1/8W	1	
	W101	D0GBR00JA008	0 1/16W	1	
	W102	D0GDR00JA017	0 1/8W	1	
	W103	D0GBR00JA008	0 1/16W	1	
	W6801	D0GBR00JA008	0 1/16W	1	
	W6802	D0GBR00JA008	0 1/16W	1	
	W6803	D0GBR00JA008	0 1/16W	1	
	W6804	D0GBR00JA008	0 1/16W	1	
			RESISTORS		
	L6805	D0GB151JA008	150 1/16W	1	
	LB2001	D0GB101JA008	100 1/16W	1	
	LB2614	ERJ2GEJ471X	470 1/16W	1	
	LB2615	ERJ2GEJ471X	470 1/16W	1	
	LB8531	D0GA220JA023	22 1/16W	1	
	LB8691	D0GA101JA023	100 1/16W	1	
	LB8692	D0GA101JA023	100 1/16W	1	
	R1001	D0GA221JA023	220 1/16W	1	
	R1002	D0GA104JA023	100K 1/16W	1	
	R1003	D0GA221JA023	220 1/16W	1	
	R1004	D0GA104JA023	100K 1/16W	1	
	R1012	D0GBR00JA008	0 1/16W	1	
	R1014	ERJ2GE0R00X	0 1/16W	1	
	R2000	D0GB101JA008	100 1/16W	1	
	R2001	D0GB560JA008	56 1/16W	1	
	R2002	D0GBR00JA008	0 1/16W	1	
	R2003	D0GBR00JA008	0 1/16W	1	
	R2004	D0GBR00JA008	0 1/16W	1	
	R2009	D0GBR00JA008	0 1/16W	1	
	R2010	D0GBR00JA008	0 1/16W	1	
	R2011	D0GBR00JA008	0 1/16W	1	
	R2012	D0GBR00JA008	0 1/16W	1	
	R2013	D0GBR00JA008	0 1/16W	1	
	R2015	D0GBR00JA008	0 1/16W	1	
	R2016	D0GBR00JA008	0 1/16W	1	
	R2017	D0GBR00JA008	0 1/16W	1	
	R2018	D0GBR00JA008	0 1/16W	1	
	R2019	D0GBR00JA008	0 1/16W	1	
	R2023	D0GB560JA008	56 1/16W	1	
	R2024	D0GB560JA008	56 1/16W	1	
	R2025	D0GB560JA008	56 1/16W	1	
	R2037	D0GBR00JA008	0 1/16W	1	
	R2038	D0GBR00JA008	0 1/16W	1	
	R2039	D0GBR00JA008	0 1/16W	1	
	R2061	D0GBR00JA008	0 1/16W	1	
	R2062	D0GBR00JA008	0 1/16W	1	
	R2063	D0GBR00JA008	0 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R2081	D0GB101JA008	100 1/16W	1	
	R2082	D0GB101JA008	100 1/16W	1	
	R2083	D0GB101JA008	100 1/16W	1	
	R2084	D0GB101JA008	100 1/16W	1	
	R2085	D0GB101JA008	100 1/16W	1	
	R2086	D0GB101JA008	100 1/16W	1	
	R2087	D0GB221JA007	220 1/10W	1	
	R2088	D0GB221JA007	220 1/10W	1	
	R2089	D0GB221JA007	220 1/10W	1	
	R2090	D0GB221JA007	220 1/10W	1	
	R2091	D0GB103JA008	10K 1/16W	1	
	R2093	D0GB221JA007	220 1/10W	1	
	R2094	D0GBR00JA008	0 1/16W	1	
	R2096	D0GB101JA008	100 1/16W	1	
	R2097	D0GB101JA008	100 1/16W	1	
	R2150	D0GB100JA008	10 1/16W	1	
	R2151	D0GB100JA008	10 1/16W	1	
	R2152	D0GB470JA008	47 1/16W	1	
	R2153	D0GB330JA008	33 1/16W	1	
	R2154	D0GB330JA008	33 1/16W	1	
	R2155	D0GB330JA008	33 1/16W	1	
	R2156	D0GB221JA007	220 1/10W	1	
	R2157	D0GBR00JA008	0 1/16W	1	
	R2158	D0GD100JA017	10 1/10W	1	
	R2201	D0GB562JA008	5.6K 1/16W	1	
	R2202	D0GB472JA008	4.7K 1/16W	1	
	R2203	D0GB472JA008	4.7K 1/16W	1	
	R2204	D0GB562JA008	5.6K 1/16W	1	
	R2205	ERJ3GEYF433V	43K 1/10W	1	
	R2206	D0GB753JA008	75K 1/16W	1	
	R2209	ERJ3GEYF513V	51K 1/10W	1	
	R2210	ERJ3GEYF513V	51K 1/10W	1	
	R2211	D0GB222JA008	2.2K 1/16W	1	
	R2212	D0GB222JA008	2.2K 1/16W	1	
	R2213	D0GB102JA008	1K 1/16W	1	
	R2219	D0GBR00JA008	0 1/16W	1	
	R2220	D0GBR00JA008	0 1/16W	1	
	R2302	D0GB101JA008	100 1/16W	1	
	R2303	D0GB101JA008	100 1/16W	1	
	R2305	D0GB221JA007	220 1/10W	1	
	R2306	D0GB103JA008	10K 1/16W	1	
	R2307	D0GB103JA008	10K 1/16W	1	
	R2308	D0GB103JA008	10K 1/16W	1	
	R2309	D0GB103JA008	10K 1/16W	1	
	R2310	D0GB103JA008	10K 1/16W	1	
	R2311	D0GB103JA008	10K 1/16W	1	
	R2312	D0GB101JA008	100 1/16W	1	
	R2313	D0GB101JA008	100 1/16W	1	
	R2314	D0GB101JA008	100 1/16W	1	
	R2315	D0GB154JA008	150K 1/16W	1	
	R2316	D0GB122JA008	1.2K 1/16W	1	P
	R2316	D0GB332JA008	3.3K 1/16W	1	PC
	R2317	D0GB223JA008	22K 1/16W	1	
	R2318	D0GBR00JA008	0 1/16W	1	
	R2319	D0GB332JA008	3.3K 1/16W	1	
	R2320	D0GBR00JA008	0 1/16W	1	
	R2321	D0GBR00JA008	0 1/16W	1	
	R2322	D0GB104JA008	100K 1/16W	1	
	R2324	D0GB221JA007	220 1/10W	1	
	R2325	D0GB103JA008	10K 1/16W	1	
	R2326	D0GB103JA008	10K 1/16W	1	
	R2327	D0GB221JA007	220 1/10W	1	
	R2328	D0GB103JA008	10K 1/16W	1	
	R2330	D0GB103JA008	10K 1/16W	1	
	R2331	D0GB103JA008	10K 1/16W	1	
	R2332	D0GB563JA008	56K 1/16W	1	
	R2333	D0GB563JA008	56K 1/16W	1	
	R2334	D0GB102JA008	1K 1/16W	1	
	R2335	D0GB473JA008	47K 1/16W	1	
	R2336	D0GB221JA007	220 1/10W	1	
	R2337	D0GB221JA007	220 1/10W	1	
	R2338	D0GB103JA008	10K 1/16W	1	
	R2339	D0GB103JA008	10K 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R2340	D0GB101JA008	100 1/16W	1	
	R2341	D0GB473JA008	47K 1/16W	1	
	R2342	D0GB473JA008	47K 1/16W	1	
	R2343	D0GB221JA007	220 1/10W	1	
	R2344	D0GB221JA007	220 1/10W	1	
	R2345	D0GB473JA008	47K 1/16W	1	
	R2346	D0GB103JA008	10K 1/16W	1	
	R2347	D0GB103JA008	10K 1/16W	1	
	R2349	D0GB221JA007	220 1/10W	1	
	R2350	D0GB221JA007	220 1/10W	1	
	R2351	D0GBR00JA008	0 1/16W	1	
	R2352	D0GB103JA008	10K 1/16W	1	
	R2353	D0GB221JA007	220 1/10W	1	
	R2354	D0GB103JA008	10K 1/16W	1	
	R2355	D0GB103JA008	10K 1/16W	1	
	R2356	D0GB273JA008	27K 1/16W	1	
	R2357	D0GB221JA007	220 1/10W	1	
	R2358	D0GB473JA008	47K 1/16W	1	
	R2361	D0GBR00JA008	0 1/16W	1	
	R2363	D0GB103JA008	10K 1/16W	1	
	R2364	D0GB103JA008	10K 1/16W	1	
	R2365	D0GB103JA008	100 1/16W	1	
	R2366	D0GB101JA008	100 1/16W	1	
	R2367	D0GB221JA007	220 1/10W	1	
	R2368	D0GB221JA007	220 1/10W	1	
	R2370	D0GB472JA008	4.7K 1/16W	1	
	R2371	D0GB472JA008	4.7K 1/16W	1	
	R2372	D0GB101JA008	100 1/16W	1	
	R2373	D0GB221JA007	220 1/10W	1	
	R2374	D0GB473JA008	47K 1/16W	1	
	R2375	D0GB101JA008	100 1/16W	1	
	R2376	D0GB101JA008	100 1/16W	1	
	R2377	D0GB221JA007	220 1/10W	1	
	R2378	D0GB101JA008	100 1/16W	1	
	R2383	D0GB103JA008	10K 1/16W	1	
	R2384	D0GB101JA008	100 1/16W	1	
	R2385	D0GB101JA008	100 1/16W	1	
	R2388	D0GB101JA008	100 1/16W	1	
	R2389	D0GB101JA008	100 1/16W	1	
	R2390	D0GB101JA008	100 1/16W	1	
	R2391	D0GB101JA008	100 1/16W	1	
	R2392	D0GB101JA008	100 1/16W	1	
	R2393	D0GB101JA008	100 1/16W	1	
	R2394	D0GB101JA008	100 1/16W	1	
	R2395	D0GB101JA008	100 1/16W	1	
	R2396	D0GB101JA008	100 1/16W	1	
	R2397	D0GB102JA008	1K 1/16W	1	
	R2398	D0GB101JA008	100 1/16W	1	
	R2399	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R2401	D0GA221JA023	220 1/16W	1	
	R2402	D0GA221JA023	220 1/16W	1	
	R2403	D0GA221JA023	220 1/16W	1	
	R2403	D0GB103JA008	10K 1/16W	1	
	R2404	D0GA221JA023	220 1/16W	1	
	R2404	D0GB332JA008	3.3K 1/16W	1	
	R2405	ERJ3GEYJ103V	10K 1/10W	1	
	R2406	ERJ3GEYJ332V	3.3K 1/10W	1	
	R2407	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R2408	ERJ3GEYJ332V	3.3K 1/10W	1	
	R2409	ERJ3GEYJ103V	10K 1/10W	1	
	R2410	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R2501	D0GBR00JA008	0 1/16W	1	
	R2502	D0GB392JA008	3.9K 1/16W	1	
	R2503	D0GB471JA008	470 1/16W	1	
	R2504	D0GB272JA008	2.7K 1/16W	1	
	R2505	D0GB272JA008	2.7K 1/16W	1	
	R2506	D0GBR00JA008	0 1/16W	1	
	R2507	D0GB472JA008	4.7K 1/16W	1	
	R2517	D0GB102JA008	1K 1/16W	1	
	R2518	D0GB103JA008	10K 1/16W	1	
	R2519	D0GB224JA008	220K 1/16W	1	
	R2520	D0GB102JA008	1K 1/16W	1	
	R2521	D0GB333JA008	33K 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R2522	D0GB103JA008	10K 1/16W	1	
	R2601	D0GBR00JA008	0 1/16W	1	
	R2602	D0GBR00JA008	0 1/16W	1	
	R2603	D0GA223JA023	22K 1/16W	1	
	R2604	D0GA223JA023	22K 1/16W	1	
	R2605	D0GA223JA023	22K 1/16W	1	
	R2607	ERJ2GEJ221X	220 1/16W	1	
	R2608	D0GA223JA023	22K 1/16W	1	
	R2609	D0GA223JA023	22K 1/16W	1	
	R2610	D0GA223JA023	22K 1/16W	1	
	R2611	D0GB750JA008	75 1/16W	1	
	R2612	D0GB101JA008	100 1/16W	1	
	R2613	D0GB101JA008	100 1/16W	1	
	R2618	D0GB473JA008	47K 1/16W	1	
	R2619	D0GB473JA008	47K 1/16W	1	
	R2630	D0GB102JA008	1K 1/16W	1	
	R2631	D0GB102JA008	1K 1/16W	1	
	R2632	ERJ2GEJ471X	470 1/16W	1	
	R2633	ERJ2GEJ471X	470 1/16W	1	
	R2634	ERJ2GEJ471X	470 1/16W	1	
	R2701	D0GB221JA007	220 1/10W	1	
	R2702	D0GB103JA008	10K 1/16W	1	
	R2703	D0GB103JA008	10K 1/16W	1	
	R2737	D0GB393JA008	39K 1/16W	1	
	R2738	D0GB333JA008	33K 1/16W	1	
	R2741	D0GB103JA008	10K 1/16W	1	
	R2806	D0GB102JA008	1K 1/16W	1	
	R2807	D0GB102JA008	1K 1/16W	1	
	R2810	D0GB153JA008	15K 1/16W	1	
	R2811	D0GB153JA008	15K 1/16W	1	
	R2812	D0GB153JA008	15K 1/16W	1	
	R2813	D0GB153JA008	15K 1/16W	1	
	R2814	D0GB102JA008	1K 1/16W	1	
	R2815	D0GB103JA008	10K 1/16W	1	
	R2816	D0GB103JA008	10K 1/16W	1	
	R2817	D0GB102JA008	1K 1/16W	1	
	R2818	D0GB103JA008	10K 1/16W	1	
	R2819	D0GB103JA008	10K 1/16W	1	
	R2820	D0GB103JA008	10K 1/16W	1	
	R2821	D0GB103JA008	10K 1/16W	1	
	R2822	D0GBR00JA008	0 1/16W	1	
	R2823	D0GBR00JA008	0 1/16W	1	
	R2824	ERJ3GEYJ102V	1K 1/10W	1	
	R2825	ERJ2GEJ102X	1K 1/16W	1	
	R2826	ERJ2GEJ473X	47K 1/16W	1	
	R2827	ERJ2GEJ473X	47K 1/16W	1	
	R2900	D0GB122JA008	1.2K 1/16W	1	
	R2901	D0GB101JA008	100 1/16W	1	
	R2908	ERJ3RBD1002V	10K 1/16W	1	
	R2914	D0GB223JA008	22K 1/16W	1	
	R2915	D0GBR00JA008	0 1/16W	1	
	R2916	D0GB223JA008	22K 1/16W	1	
	R2917	D0GB332JA008	3.3K 1/16W	1	
	R2918	D0GB332JA008	3.3K 1/16W	1	
	R2919	D1BDR1000003	10 1/4W	1	
	R2920	D0GB822JA008	8.2K 1/16W	1	
	R2921	ERJ3RBD3902V	39K 1/16W	1	
	R2922	D1BDR1000003	10 1/4W	1	
	R2923	D0GB222JA008	2.2K 1/16W	1	
	R2924	ERJ3RBD5601V	5.6K 1/16W	1	
	R2925	ERJ3RBD5602V	56K 1/16W	1	
	R2926	D0GB822JA008	8.2K 1/16W	1	
	R2927	D0GB103JA008	10K 1/16W	1	
	R2929	ERJ3RBD3301V	3.3K 1/16W	1	
	R2930	ERJ3RBD2701V	2.7K 1/16W	1	
	R2935	D0GBR00JA008	0 1/16W	1	
	R2936	D0GB472JA008	4.7K 1/16W	1	
	R2951	D0GB102JA008	1K 1/16W	1	
	R2952	D0GB102JA008	1K 1/16W	1	
	R2953	D0GB472JA008	4.7K 1/16W	1	
	R2954	D0GB472JA008	4.7K 1/16W	1	
	R2955	D0GB221JA007	220 1/10W	1	
	R2956	D0GB221JA007	220 1/10W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R2957	D0GB102JA008	1K 1/16W	1	
	R2959	D0GB222JA008	2.2K 1/16W	1	
	R2961	D0GB473JA008	47K 1/16W	1	
	R2962	D0GB473JA008	47K 1/16W	1	
	R2963	D0GBR00JA008	0 1/16W	1	
	R2964	D0GBR00JA008	0 1/16W	1	
	R3900	D0GA104JA023	100K 1/16W	1	
	R3901	ERJ2RHD4020X	402 1/16W	1	
	R3902	D0GA103JA023	10K 1/16W	1	
	R3903	D0GA103JA023	10K 1/16W	1	
	R3904	D0GA472JA023	4.7K 1/16W	1	
	R3905	ERJ2GEJ202X	2K 1/16W	1	
	R3906	D0GA472JA023	4.7K 1/16W	1	
	R3907	ERJ2GEJ202X	2K 1/16W	1	
	R3908	D0GA103JA023	10K 1/16W	1	
	R3910	D0GB100JA008	10 1/16W	1	
	R3942	D0GA221JA023	220 1/16W	1	
	R3947	D0GA103JA023	10K 1/16W	1	
	R3949	D0GA103JA023	10K 1/16W	1	
	R3950	D0GA104JA023	100K 1/16W	1	
	R3955	D0GA510JA023	51 1/16W	1	
	R3956	D0GA101JA023	100 1/16W	1	
	R3958	D0GA103JA023	10K 1/16W	1	
	R3959	D0GA273JA023	27K 1/16W	1	
	R5100	D0GB100JA008	10 1/16W	1	
	R5102	D0GB473JA008	47K 1/16W	1	
	R5103	D0GB101JA008	100 1/16W	1	
	R5104	D0GB223JA008	22K 1/16W	1	
	R5105	D0GB100JA008	10 1/16W	1	
	R5106	D0GB100JA008	10 1/16W	1	
	R5107	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5108	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5109	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5110	D0GB104JA008	100K 1/16W	1	
	R5111	D0GB104JA008	100K 1/16W	1	
	R5112	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5113	D0GD103JA017	10K 1/10W	1	
	R5114	D0GD103JA017	10K 1/10W	1	
	R5117	D0GB104JA008	100K 1/16W	1	
	R5118	D0GB104JA008	100K 1/16W	1	
	R5200	D0GB100JA008	10 1/16W	1	
	R5201	D0GB473JA008	47K 1/16W	1	
	R5202	D0GB101JA008	100 1/16W	1	
	R5203	D0GB473JA008	47K 1/16W	1	
	R5205	D0GB223JA008	22K 1/16W	1	
	R5206	D0GB100JA008	10 1/16W	1	
	R5207	D0GB100JA008	10 1/16W	1	
	R5208	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5209	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5210	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5211	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5212	D0GD103JA017	10K 1/10W	1	
	R5213	D0GD103JA017	10K 1/10W	1	
	R5216	D0GB104JA008	100K 1/16W	1	
	R5217	D0GB104JA008	100K 1/16W	1	
	R5218	D0GB104JA008	100K 1/16W	1	
	R5219	D0GB104JA008	100K 1/16W	1	
	R5220	D0GB562JA008	5.6K 1/16W	1	
	R5221	D0GB562JA008	5.6K 1/16W	1	
	R5300	D0GB100JA008	10 1/16W	1	
	R5301	D0GB101JA008	100 1/16W	1	
	R5303	D0GB223JA008	22K 1/16W	1	
	R5304	D0GB100JA008	10 1/16W	1	
	R5305	D0GB100JA008	10 1/16W	1	
	R5306	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5307	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5308	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5309	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5310	D0GD103JA017	10K 1/10W	1	
	R5311	D0GD103JA017	10K 1/10W	1	
	R5314	D0GB104JA008	100K 1/16W	1	
	R5315	D0GB104JA008	100K 1/16W	1	
	R5316	D0GB104JA008	100K 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R5317	D0GB104JA008	100K 1/16W	1	
	R5318	D0GB562JA008	5.6K 1/16W	1	
	R5319	D0GB562JA008	5.6K 1/16W	1	
	R5350	ERJ3GEYJ201V	200 1/10W	1	
	R5351	ERJ3GEYJ201V	200 1/10W	1	
	R5352	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R5353	D0GB105JA008	1M 1/16W	1	
	R5354	D0GB103JA008	10K 1/16W	1	
	R5355	D0GB2R2JA007	2.2 1/10W	1	
	R5356	D0GB1R0JA008	1.0 1/16W	1	
	R5357	D0GB1R0JA008	1.0 1/16W	1	
	R5358	D0GB220JA008	22 1/16W	1	
	R5375	D0GB470JA008	47 1/16W	1	
	R5376	D0GB470JA008	47 1/16W	1	
	R5377	D0GB470JA008	47 1/16W	1	
	R5392	D0GB470JA008	47 1/16W	1	
	R5422	D0GB103JA008	10K 1/16W	1	
	R5424	D0GB471JA008	470 1/16W	1	
	R5427	D0GB104JA008	100K 1/16W	1	
	R5428	D0GB103JA008	10K 1/16W	1	
	R5429	D0GB103JA008	10K 1/16W	1	
	R5430	D0GB273JA008	27K 1/16W	1	
	R5431	D0GB223JA008	22K 1/16W	1	
	R5435	D0GB473JA008	47K 1/16W	1	
	R5436	D0GB223JA008	22K 1/16W	1	
	R5437	D0GB472JA008	4.7K 1/16W	1	
	R5438	D0GB224JA008	220K 1/16W	1	
	R5439	D0GB224JA008	220K 1/16W	1	
	R5445	D0GB103JA008	10K 1/16W	1	
	R5475	D0GBR00JA008	0 1/16W	1	
	R5700	ERJ8GEYJ155V	1.5M 1/4W	1	
	R5701	ERJ8GEYJ155V	1.5M 1/4W	1	
	R5702	ERJ1TYJ333U	33K 1W	1	
	R5703	ERJ1TYJ333U	33K 1W	1	
	R5704	ERJ8GEYJ124V	120K 1/4W	1	
	R5706	ERJ8GEYJ274V	270K 1/4W	1	
	R5707	D0GF394JA017	390K 1/4W	1	
	R5720	D0GD220JA017	22 1/10W	1	
	R5721	D0GD103JA017	10K 1/10W	1	
	R5722	D0GD222JA017	2.2K 1/8W	1	
	R5725	D0GB473JA008	47K 1/16W	1	
	R5726	ERJ1TRSJR15U	0.15 1W	1	
	R5727	ERJ1TRSJR15U	0.15 1W	1	
	R5728	D0GB223JA008	22K 1/16W	1	
	R5729	D0GB473JA008	47K 1/16W	1	
	R5730	D0GB102JA008	1K 1/16W	1	
	R5732	ERJ6GEYJ221V	220 1/8W	1	
	R5733	D0GB473JA008	47K 1/16W	1	
	R5795	D0GD474JA017	470K 1/8W	1	
	R5797	D0GB153JA008	15K 1/16W	1	
	R5798	D0GB220JA008	22 1/16W	1	
	R5801	D0GB101JA008	100 1/16W	1	
	R5802	ERJ3RBD103V	10K 1/16W	1	
	R5803	D0GD221JA017	220 1/8W	1	
	R5804	ERJ3RBD823V	82K 1/16W	1	
	R5805	ERJ3RBD682V	6.8K 1/16W	1	
	R5806	D0GB153JA008	15K 1/16W	1	
	R5807	D0GD681JA017	680 1/8W	1	
	R5808	D0GB222JA008	2.2K 1/16W	1	
	R5809	D0GD681JA017	680 1/8W	1	
	R5814	D0GB104JA008	100K 1/16W	1	
	R5817	ERJ3RBD222V	2.2K 1/16W	1	
	R5818	D0GB221JA007	220 1/10W	1	
	R5819	D0GD220JA017	22 1/10W	1	
	R5821	D0GB104JA008	100K 1/16W	1	
	R5832	ERJ1TYJ822U	8.2K 1W	1	
	R5861	D0GB104JA008	100K 1/16W	1	
	R5862	D0GD222JA017	2.2K 1/8W	1	
	R5864	D0GB272JA008	2.7K 1/16W	1	
	R5866	D0GDR00JA017	0 1/8W	1	
	R5890	D0GB222JA008	2.2K 1/16W	1	
	R5891	ERJ3RBD333V	33K 1/16W	1	
	R5892	D0HB102ZA002	1K 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R5893	ERJ3RBD103V	10K 1/16W	1	
	R5894	D0GB151JA008	150 1/16W	1	
	R5895	D0GB153JA008	15K 1/16W	1	
	R5897	D0GB101JA008	100 1/16W	1	
	R5898	D0GD824JA017	820K 1/8W	1	
	R5901	D0GB102JA008	1K 1/16W	1	
	R5902	D0GD121JA017	120 1/8W	1	
	R5903	D0GB331JA008	330 1/16W	1	
	R5904	D0GB331JA008	330 1/16W	1	
	R5905	D0GD103JA017	10K 1/10W	1	
	R5906	D0GB104JA008	100K 1/16W	1	
	R6005	D0GB470JA008	47 1/16W	1	
	R6006	D0GB101JA008	100 1/16W	1	
	R6007	ERJ8GEYJ1R8V	1.8 1/4W	1	
	R6008	ERJ8GEYJ1R8V	1.8 1/4W	1	
	R6010	D0GB680JA008	68 1/16W	1	
	R6011	D0GB680JA008	68 1/16W	1	
	R6012	D0GB102JA008	1K 1/16W	1	
	R6015	D0GB563JA008	56K 1/16W	1	
	R6016	D0GBR00JA008	0 1/16W	1	
	R6017	D0GBR00JA008	0 1/16W	1	
	R6021	D0GB152JA008	1.5K 1/16W	1	
	R6022	D0GB222JA008	2.2K 1/16W	1	
	R6023	D0GB332JA008	3.3K 1/16W	1	
	R6024	D0GB472JA008	4.7K 1/16W	1	
	R6025	D0GB122JA008	1.2K 1/16W	1	
	R6030	D0GB682JA008	6.8K 1/16W	1	
	R6032	D0GB473JA008	47K 1/16W	1	
	R6033	D0GB472JA008	4.7K 1/16W	1	
	R6035	D0GB102JA008	1K 1/16W	1	
	R6100	D0GB472JA008	4.7K 1/16W	1	
	R6101	D0GB104JA008	100K 1/16W	1	
	R6102	D0GB470JA008	47 1/16W	1	
	R6103	D0GBR00JA008	0 1/16W	1	
	R6200	D0GBR00JA008	0 1/16W	1	
	R6203	D0GBR00JA008	0 1/16W	1	
	R6204	D0GBR00JA008	0 1/16W	1	
	R6205	D0GBR00JA008	0 1/16W	1	
	R6206	D0GBR00JA008	0 1/16W	1	
	R6207	D0GBR00JA008	0 1/16W	1	
	R6801	D0GB122JA008	1.2K 1/16W	1	
	R8010	D0GB103JA008	10K 1/16W	1	
	R8011	D0GA220JA023	22 1/16W	1	
	R8016	D0GA101JA023	100 1/16W	1	
	R8025	D0GBR00JA008	0 1/16W	1	
	R8050	ERJ2RHD1542X	15.4K 1/16W	1	
	R8051	D0GA103JA023	10K 1/16W	1	
	R8101	ERJ2RHD1471X	1.47K 1/16W	1	
	R8102	ERJ2RHD1001X	1K 1/16W	1	
	R8221	ERJ2RHD2202X	22K 1/16W	1	
	R8225	ERJ2RHD5102X	51K 1/16W	1	
	R8227	ERJ2RHD5102X	51K 1/16W	1	
	R8229	ERJ2RHD5102X	51K 1/16W	1	
	R8253	D0GB2R2JA007	2.2 1/10W	1	
	R8254	D0GB2R2JA007	2.2 1/10W	1	
	R8255	ERJ2GEJ202X	2K 1/16W	1	
	R8256	ERJ2GEJ202X	2K 1/16W	1	
	R8258	ERJ2RHD6191X	6.19K 1/16W	1	
	R8259	D0GA103JA023	10K 1/16W	1	
	R8260	D0GA103JA023	10K 1/16W	1	
	R8261	D0GA103JA023	10K 1/16W	1	
	R8262	D0GA103JA023	10K 1/16W	1	
	R8263	D0GA472JA023	4.7K 1/16W	1	
	R8264	ERJ2RHD1001X	1K 1/16W	1	
	R8265	ERJ2RHD1001X	1K 1/16W	1	
	R8266	ERJ2RHD1001X	1K 1/16W	1	
	R8267	ERJ2RHD1001X	1K 1/16W	1	
	R8268	D0GA333JA023	33K 1/16W	1	
	R8311	ERJ2RHD3920X	392 1/16W	1	
	R8320	ERJ2RKD75R0X	75 1/16W	1	
	R8321	ERJ2RKD75R0X	75 1/16W	1	
	R8322	ERJ2RKD75R0X	75 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R8323	ERJ2RKD75R0X	75 1/16W	1	
	R8324	ERJ2RKD75R0X	75 1/16W	1	
	R8325	D0GB750JA008	75 1/16W	1	
	R8401	ERJ2GE0R00X	0 1/16W	1	
	R8402	D0GA101JA023	100 1/16W	1	
	R8404	D0GA101JA023	100 1/16W	1	
	R8411	ERJ2RHD6191X	6.19K 1/16W	1	
	R8531	ERJ2GE0R00X	0 1/16W	1	
	R8532	ERJ2GE0R00X	0 1/16W	1	
	R8534	D0GA103JA023	10K 1/16W	1	
	R8535	D0GA473JA023	47K 1/16W	1	
	R8536	D0GA332JA023	3.3K 1/16W	1	
	R8537	ERJ2GE0R00X	0 1/16W	1	
	R8538	ERJ2GE0R00X	0 1/16W	1	
	R8542	ERJ2GE0R00X	0 1/16W	1	
	R8554	D0GA221JA023	220 1/16W	1	
	R8556	D0GB4R7JA008	4.7 1/16W	1	
	R8564	D0GA221JA023	220 1/16W	1	
	R8566	D0GB4R7JA008	4.7 1/16W	1	
	R8569	D0GA102JA023	1K 1/16W	1	
	R8601	D0GA102JA023	1K 1/16W	1	
	R8602	D0GA102JA023	1K 1/16W	1	
	R8621	ERJ2GEJ224X	220K 1/16W	1	
	R8622	D0GA221JA023	220 1/16W	1	
	R8651	D0GA472JA023	4.7K 1/16W	1	
	R8652	D0GA472JA023	4.7K 1/16W	1	
	R8653	D0GA220JA023	22 1/16W	1	
	R8654	D0GA472JA023	4.7K 1/16W	1	
	R9001	ERJ2GE0R00X	0 1/16W	1	
	R9002	ERJ2GE0R00X	0 1/16W	1	
			RESISTOR NET- WORKS		
	RX5371	D1H83314A024	RESISTOR NETWORK	1	
	RX5372	D1H84704A024	RESISTOR NETWORK	1	
	RX5373	D1H84704A024	RESISTOR NETWORK	1	
	RX5374	D1H84704A024	RESISTOR NETWORK	1	
	RX5375	D1H84704A024	RESISTOR NETWORK	1	
	RX8011	D1H88204A043	RESISTOR NETWORK	1	
	RX8012	D1H88204A043	RESISTOR NETWORK	1	
	RX8013	D1H88204A043	RESISTOR NETWORK	1	
	RX8014	D1H88204A043	RESISTOR NETWORK	1	
	RX8015	D1H88204A043	RESISTOR NETWORK	1	
	RX8016	D1H88204A043	RESISTOR NETWORK	1	
	RX8017	D1H88204A043	RESISTOR NETWORK	1	
	RX8018	D1H88204A043	RESISTOR NETWORK	1	
	RX8019	D1H88204A043	RESISTOR NETWORK	1	
	RX8401	D1H456020001	RESISTOR NETWORK	1	
	RX8402	D1H456020001	RESISTOR NETWORK	1	
	RX8531	D1H456020001	RESISTOR NETWORK	1	
	RX8532	D1H456020001	RESISTOR NETWORK	1	
			CAPACITORS		
	C1002	F1G1C104A083	0.1uF 16V	1	
	C1003	F1G1C104A083	0.1uF 16V	1	
	C1004	F1G1C104A083	0.1uF 16V	1	
	C2001	F1H1C104A042	0.1uF 16V	1	
	C2062	F1J1A106A043	10uF 10V	1	
	C2091	F1H1C104A042	0.1uF 16V	1	
	C2092	F1H1C104A042	0.1uF 16V	1	
	C2093	F1H1H471A219	470pF 50V	1	
	C2094	F1H0J1050013	1uF 6.3V	1	
	C2100	F1H1C104A042	0.1uF 16V	1	
	C2104	F1H1H104A013	0.1uF 50V	1	
	C2105	F1H1H104A013	0.1uF 50V	1	
	C2106	F1H1H104A013	0.1uF 50V	1	
	C2107	F2A1C470A155	47uF 16V	1	
	C2109	F1H1H104A013	0.1uF 50V	1	
	C2150	F1J1A106A043	10uF 10V	1	
	C2151	F1J1A106A043	10uF 10V	1	
	C2152	F1H0J1050013	1uF 6.3V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C2153	F1H1C104A042	0.1uF 16V	1	
	C2154	F1J0J106A020	10uF 6.3V	1	
	C2155	F1J0J106A020	10uF 6.3V	1	
	C2156	F1H1C104A042	0.1uF 16V	1	
	C2157	F1J0J106A020	10uF 6.3V	1	
	C2158	F1H1C104A042	0.1uF 16V	1	
	C2201	F1H1C104A042	0.1uF 16V	1	
	C2203	F2A0J221A256	220uF 6.3V	1	
	C2204	F1H1C104A008	0.1uF 16V	1	
	C2205	F1H1C104A042	0.1uF 16V	1	
	C2303	F1H0J1050013	1uF 6.3V	1	
	C2304	F1H1H104A013	0.1uF 50V	1	
	C2305	F1H1H104A013	0.1uF 50V	1	
	C2306	F1H1H104A013	0.1uF 50V	1	
	C2307	F1J1H104A459	0.1uF 50V	1	
	C2308	F1H1H561A013	560pF 50V	1	
	C2309	F1H1H561A013	560pF 50V	1	
	C2316	F1K1H105A149	1uF 50V	1	
	C2321	F1H1C104A042	0.1uF 16V	1	
	C2401	F1G1A1040006	0.1uF 10V	1	
	C2401	F1H1H104A013	0.1uF 50V	1	
	C2402	F1H1H104A013	0.1uF 50V	1	
	C2501	F1H1H103A219	0.01uF 50V	1	
	C2502	F1J1A106A043	10uF 10V	1	
	C2503	F1J1A106A043	10uF 10V	1	
	C2504	F1H1H103A219	0.01uF 50V	1	
	C2505	F1J1A106A043	10uF 10V	1	
	C2506	F1J1A106A043	10uF 10V	1	
	C2508	F1H1H104A013	0.1uF 50V	1	
	C2509	F1H1H104A013	0.1uF 50V	1	
	C2511	EEH0J102UP	1000uF 6.3V	1	
	C2513	F1H1H104A013	0.1uF 50V	1	
	C2514	F1J1A106A043	10uF 10V	1	
	C2570	F1H1H2210001	220pF 50V	1	
	C2571	F1H1H2210001	220pF 50V	1	
	C2602	F1H1H220A230	22pF 50V	1	
	C2603	F1H1H220A230	22pF 50V	1	
	C2604	F1H0J1050013	1uF 6.3V	1	
	C2606	F1H1H103A219	0.01uF 50V	1	
	C2607	F1H1H220A230	22pF 50V	1	
	C2608	F1H1H220A230	22pF 50V	1	
	C2609	F1H0J1050013	1uF 6.3V	1	
	C2610	F2A0J470A024	47uF 6.3V	1	
	C2611	F1H0J106A009	1uF 6.3V	1	
	C2612	F1H0J106A009	10uF 6.3V	1	
	C2613	F1H1H104A013	0.1uF 50V	1	
	C2614	F2A0J1000008	10uF 6.3V	1	
	C2615	F1H1H104A013	0.1uF 50V	1	
	C2616	F1H1H103A219	0.01uF 50V	1	
	C2617	F1H1H104A013	0.1uF 50V	1	
	C2618	F2A0J102B059	1000uF 6.3V	1	
	C2619	F1H0J1050013	1uF 6.3V	1	
	C2620	F1H1H103A219	0.01uF 50V	1	
	C2622	F1H1H102A219	1000pF 50V	1	
	C2623	D0GBR00JA008	0 1/16W	1	
	C2624	F1H1H330A230	33pF 50V	1	
	C2625	F1H1H560A230	56pF 50V	1	
	C2626	F1H1H220A230	22pF 50V	1	
	C2627	F1H1H560A230	56pF 50V	1	
	C2704	F2A0J101A024	100uF 6.3V	1	
	C2705	F2A0J101A024	100uF 6.3V	1	
	C2707	F2A0J101A024	100uF 6.3V	1	
	C2708	F1H1H104A013	0.1uF 50V	1	
	C2711	F2A0J101A024	100uF 6.3V	1	
	C2712	F1H1C104A008	0.1uF 16V	1	
	C2713	F1H1H104A013	0.1uF 50V	1	
	C2714	F1H1H104A013	0.1uF 50V	1	
	C2806	F1H1C105A097	1uF 16V	1	
	C2807	F1H1C105A097	1uF 16V	1	
	C2811	F1H1C105A097	1uF 16V	1	
	C2812	F1H1C105A097	1uF 16V	1	
	C2815	F1H1H470A004	47pF 50V	1	
	C2816	F1H1H470A004	47pF 50V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C2817	F1H1H103A219	0.01uF 50V	1	
	C2818	F1H1H103A219	0.01uF 50V	1	
	C2819	F1H1H2210001	220pF 50V	1	
	C2820	F1H1H2210001	220pF 50V	1	
	C2823	F1H1H101A230	100pF 50V	1	
	C2824	F1H1H681A935	680pF 50V	1	
	C2825	F1H1H681A935	680pF 50V	1	
	C2826	F1H1C105A097	1uF 16V	1	
	C2827	F1H1C105A097	1uF 16V	1	
	C2901	F2A1V2210049	220uF 35V	1	
	C2902	F1H1H102A219	1000pF 50V	1	
	C2902	F2A0J1220028	1200uF 6.3V	1	
	C2903	F1H1H102A219	1000uF 50V	1	
	C2903	F2A1C8210008	820uF 16V	1	
	C2904	F1H1H102A219	1000pF 50V	1	
	C2905	F1K1C1050005	1uF 16V	1	
	C2907	F2A1V5600013	56uF 35V	1	
	C2908	F2A1A121A396	120uF 10V	1	
	C2909	F1H1H104A013	0.1uF 50V	1	
	C2911	F1H1H681A013	680pF 50V	1	
	C2912	F1H1C104A008	0.1uF 16V	1	
	C2917	F1H1H103A219	0.01uF 50V	1	
	C2951	F1H1H102A219	1000pF 50V	1	
	C2953	F1H1H104A013	0.1uF 50V	1	
	C2957	F1H1H220A230	22pF 50V	1	
	C2958	F1H1H220A230	22pF 50V	1	
	C2959	F1H1A105A025	1uF 10V	1	
	C2960	F1H1A105A025	1uF 10V	1	
	C2961	F1H1C104A008	0.1uF 16V	1	
	C2962	F1H1H103A219	0.01uF 50V	1	
	C2963	F1H1H681A013	680pF 50V	1	
	C2964	F1H1H104A013	0.1uF 50V	1	
	C2966	F1J1V1050001	1uF 35V	1	
	C2971	F1H1H104A013	0.1uF 50V	1	
	C2972	F1H1C224A068	0.22uF 16V	1	
	C2973	F1H1H122A013	1200pF 50V	1	
	C2974	F1H1A105A025	1uF 10V	1	
	C2976	F1H1H153A219	0.015uF 50V	1	
	C2977	F1H1C224A068	0.22uF 16V	1	
	C2981	F1H1H102A219	1000pF 50V	1	
	C2982	F1K1C1060001	10uF 16V	1	
	C2983	F1J1V1050001	1uF 35V	1	
	C3901	F2G0J101A031	100uF 6.3V	1	
	C3902	F2G0J101A031	100uF 6.3V	1	
	C3944	F1G1A1040006	0.1uF 10V	1	
	C3945	F1G1C1030007	0.01uF 16V	1	
	C3954	F1G1A1040006	0.1uF 10V	1	
	C3955	F1G1C1030007	0.01uF 16V	1	
	C3956	F1H0J1050013	1uF 6.3V	1	
	C3958	F1G1A1040006	0.1uF 10V	1	
	C3967	F1G1A1040006	0.1uF 10V	1	
	C3968	F1H0J1050013	1uF 6.3V	1	
	C3970	F1H0J1050013	1uF 6.3V	1	
	C3971	F1G1A1040006	0.1uF 10V	1	
	C3972	F1H1C104A008	0.1uF 16V	1	
	C5100	F1J1C106A059	10uF 16V	1	
	C5101	F1H1H1010005	100pF 50V	1	
	C5102	F1J1C475A059	4.7uF 16V	1	
	C5103	F1H1H472A013	4700pF 50V	1	
	C5104	F1J1C475A059	4.7uF 16V	1	
	C5105	F1H1H104A013	0.1uF 50V	1	
	C5106	F1H1H104A013	0.1uF 50V	1	
	C5107	F1J1H3330006	0.033uF 50V	1	
	C5108	F1J1H3330006	0.033uF 50V	1	
	C5109	F1J1H3330006	0.033uF 50V	1	
	C5110	F1J1H3330006	0.033uF 50V	1	
	C5111	F1K1H1050005	1uF 50V	1	
	C5112	F1K1H1050005	1uF 50V	1	
	C5113	F1K1H1050005	1uF 50V	1	
	C5114	F1K1H1050005	1uF 50V	1	
	C5117	F2A1H8210023	820uF 50V	1	
	C5120	ECQV1H274JL3	0.27uF 50V	1	
	C5121	ECQV1H274JL3	0.27uF 50V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C5122	F1J1H2240016	0.22uF 50V	1	
	C5123	F1J1H2240016	0.22uF 50V	1	
	C5124	F1J1H2240016	0.22uF 50V	1	
	C5125	F1J1H2240016	0.22uF 50V	1	
	C5130	F1H1H103A219	0.01uF 50V	1	
	C5131	F1H1H103A219	0.01uF 50V	1	
	C5132	F1H1H103A219	0.01uF 50V	1	
	C5133	F1H1H103A219	0.01uF 50V	1	
	C5134	F1H2A102A009	1000pF 100V	1	
	C5135	F1H2A102A009	1000pF 100V	1	
	C5136	F1H2A102A009	1000pF 100V	1	
	C5137	F1H2A102A009	1000pF 100V	1	
	C5140	F2A1H8210023	820uF 50V	1	
	C5150	F1H1H104A013	0.1uF 50V	1	
	C5151	F1H1H104A013	0.1uF 50V	1	
	C5200	F1J1C106A059	10uF 16V	1	
	C5201	F1H1H1010005	100pF 50V	1	
	C5202	F1H1H472A013	4700pF 50V	1	
	C5203	F1J1C475A059	4.7uF 16V	1	
	C5204	F1J1C475A059	4.7uF 16V	1	
	C5205	F1H1H104A013	0.1uF 50V	1	
	C5206	F1H1H104A013	0.1uF 50V	1	
	C5207	F1J1H3330006	0.033uF 50V	1	
	C5208	F1J1H3330006	0.033uF 50V	1	
	C5209	F1J1H3330006	0.033uF 50V	1	
	C5210	F1J1H3330006	0.033uF 50V	1	
	C5211	F1K1H1050005	1uF 50V	1	
	C5212	F1K1H1050005	1uF 50V	1	
	C5213	F1K1H1050005	1uF 50V	1	
	C5214	F1K1H1050005	1uF 50V	1	
	C5220	ECQV1H274JL3	0.27uF 50V	1	
	C5221	ECQV1H274JL3	0.27uF 50V	1	
	C5222	F1J1H2240016	0.22uF 50V	1	
	C5223	F1J1H2240016	0.22uF 50V	1	
	C5224	F1J1H2240016	0.22uF 50V	1	
	C5225	F1J1H2240016	0.22uF 50V	1	
	C5230	F1H1H103A219	0.01uF 50V	1	
	C5231	F1H1H103A219	0.01uF 50V	1	
	C5232	F1H1H103A219	0.01uF 50V	1	
	C5233	F1H1H103A219	0.01uF 50V	1	
	C5234	F1H2A102A009	1000pF 100V	1	
	C5235	F1H2A102A009	1000pF 100V	1	
	C5236	F1H2A102A009	1000pF 100V	1	
	C5237	F1H2A102A009	1000pF 100V	1	
	C5250	F1H1H104A013	0.1uF 50V	1	
	C5251	F1H1H104A013	0.1uF 50V	1	
	C5300	F1J1C106A059	10uF 16V	1	
	C5301	F1H1H1010005	100pF 50V	1	
	C5302	F1J1C475A059	4.7uF 16V	1	
	C5304	F1H1H472A013	4700pF 50V	1	
	C5305	F1H1H104A013	0.1uF 50V	1	
	C5306	F1H1H104A013	0.1uF 50V	1	
	C5307	F1J1H3330006	0.033uF 50V	1	
	C5308	F1J1H3330006	0.033uF 50V	1	
	C5309	F1J1H3330006	0.033uF 50V	1	
	C5310	F1J1H3330006	0.033uF 50V	1	
	C5311	F1K1H1050005	1uF 50V	1	
	C5312	F1K1H1050005	1uF 50V	1	
	C5313	F1K1H1050005	1uF 50V	1	
	C5314	F1K1H1050005	1uF 50V	1	
	C5319	ECQV1H274JL3	0.27uF 50V	1	
	C5320	ECQV1H274JL3	0.47uF 50V	1	
	C5321	F1J1H2240016	0.22uF 50V	1	
	C5322	F1J1H2240016	0.22uF 50V	1	
	C5323	F1J1H2240016	0.22uF 50V	1	
	C5324	F1J1H2240016	0.22uF 50V	1	
	C5329	F1H1H103A219	0.01uF 50V	1	
	C5330	F1H1H103A219	0.01uF 50V	1	
	C5333	F1H2A102A009	1000pF 100V	1	
	C5334	F1H2A102A009	1000pF 100V	1	
	C5335	F1H2A102A009	1000pF 100V	1	
	C5336	F1H2A102A009	1000pF 100V	1	
	C5337	F1H1H103A219	0.01uF 50V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C5338	F1H1H103A219	0.01uF 50V	1	
	C5340	F1H1H104A013	0.1uF 50V	1	
	C5341	F1J1C475A059	4.7uF 16V	1	
	C5342	F1H1H104A013	0.1uF 50V	1	
	C5350	F1H1H104A013	0.1uF 50V	1	
	C5351	F1H1H103A219	0.01uF 50V	1	
	C5352	F1H1H104A013	0.1uF 50V	1	
	C5353	F1H1H104A013	0.1uF 50V	1	
	C5354	F1H1H103A219	0.01uF 50V	1	
	C5355	F1H1H104A013	0.1uF 50V	1	
	C5356	F1H1H102A219	1000pF 50V	1	
	C5357	F1J1A106A043	10uF 10V	1	
	C5358	F1H1H102A219	1000pF 50V	1	
	C5359	F1H1H104A013	0.1uF 50V	1	
	C5360	F1H1H102A219	1000pF 50V	1	
	C5361	F1J1A106A043	10uF 10V	1	
	C5362	F1H1H104A013	0.1uF 50V	1	
	C5363	F1H1H104A013	0.1uF 50V	1	
	C5364	F1H1H100A831	10pF 50V	1	
	C5365	F1H1H100A831	10pF 50V	1	
	C5366	F1H1H470A004	47pF 50V	1	
	C5367	F1H1H470A004	47pF 50V	1	
	C5368	F1H1H104A013	0.1uF 50V	1	
	C5369	F1H1H102A219	1000pF 50V	1	
	C5370	F1J1A106A043	10uF 10V	1	
	C5371	F1H1H104A013	0.1uF 50V	1	
	C5372	F1H1H102A219	1000pF 50V	1	
	C5373	F1J1A106A043	10uF 10V	1	
	C5400	F1J1A106A043	10uF 10V	1	
	C5418	EEE0JA101WR	100uF 6.3V	1	
	C5419	F1H1E105A116	1uF 25V	1	
	C5420	F1J1C106A059	10uF 16V	1	
	C5422	F1J1C2250012	2.2uF 16V	1	
	C5423	F1J1V1050001	1uF 35V	1	
	C5424	F1H1H562A219	5600pF 50V	1	
	C5425	F1H1E105A116	1uF 25V	1	
	C5427	F1J1A106A043	10uF 10V	1	
	C5437	F1H1H104A013	0.1uF 50V	1	
⚠	C5700	F1BAF1020020	1000pF	1	
⚠	C5701	F0CAF224A105	0.22uF	1	
⚠	C5702	F0CAF104A105	0.1uF	1	
⚠	C5704	F1BAF471A013	470pF	1	
⚠	C5705	F1BAF471A013	470pF	1	
⚠	C5706	F1BAF471A013	470pF	1	
	C5712	F2B2D5610025	560uF 200V	1	
	C5713	F0C2J1030007	0.01uF 630V	1	
	C5720	F1H1H101A230	100pF 50V	1	
	C5721	F1H1H2210001	220pF 50V	1	
	C5722	F1H1H101A230	100pF 50V	1	
	C5723	F1H1H471A219	470pF 50V	1	
	C5724	F1H1H102A219	1000pF 50V	1	
	C5725	F1H1H104A013	0.1uF 50V	1	
	C5726	F2A1H100A454	10uF 50V	1	
	C5730	F1H1E105A116	1uF 25V	1	
	C5731	F1H1H104A013	0.1uF 50V	1	
	C5747	F1B3A332A008	3300pF 1000V	1	
	C5791	F1J0J106A020	10uF 6.3V	1	
	C5794	F1K1H105A149	1uF 50V	1	
	C5795	F1H1H102A219	1000pF 50V	1	
	C5796	F1H1H104A013	0.1uF 50V	1	
	C5798	F2A1H100A454	10uF 50V	1	
	C5800	F1J2E1030004	0.01uF 250V	1	
	C5805	F2A1H8210023	820uF 50V	1	
	C5813	F2A1V331B150	330uF 35V	1	
	C5817	F1H2A682A002	6800pF 100V	1	
	C5818	F1H1H104A013	0.1uF 50V	1	
	C5826	F1J2E1030004	0.01uF 250V	1	
	C5828	F2A0J222A247	2200uF 6.3V	1	
	C5840	F1J2E1030004	0.01uF 250V	1	
	C5869	F1H1H103A219	0.01uF 50V	1	
	C5897	F1H1H104A013	0.1uF 50V	1	
	C5898	F1H1H104A013	0.1uF 50V	1	
	C5899	F2A1A2210063	220uF 10V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C5901	F1H1H102A219	1000pF 50V	1	
	C6001	F1J1V1050001	1uF 35V	1	
	C6005	F1J1V1050001	1uF 35V	1	
	C6010	F1J1A4750002	4.7uF 10V	1	
	C6012	F1H1H1010005	100pF 50V	1	
	C6013	F1H1H1010005	100pF 50V	1	
	C6014	F1H1H1010005	100pF 50V	1	
	C6015	F1J1V1050001	1uF 35V	1	
	C6016	F1H1H1010005	100pF 50V	1	
	C6018	F2A0J1000008	10uF 6.3V	1	
	C6019	F1H1H104A013	0.1uF 50V	1	
	C6031	F1H1C104A042	0.1uF 16V	1	
	C6100	F2A1C470A913	47uF 16V	1	
	C6101	F1H1H562A219	5600pF 50V	1	
	C6102	F2A1C470A913	47uF 16V	1	
	C6103	F2A0J221A024	220uF 6.3V	1	
	C6104	F2A1V470A939	47uF 35V	1	
	C6105	F1J1C106A059	10uF 16V	1	
	C8001	EEE0GA331WP	330uF 4V	1	
	C8002	F1G1A1040006	0.1uF 10V	1	
	C8003	F1G1A1040006	0.1uF 10V	1	
	C8006	F1G1H101A566	100pF 50V	1	
	C8007	F1G1A1040006	0.1uF 10V	1	
	C8008	F1G1A1040006	0.1uF 10V	1	
	C8009	F1G1A1040006	0.1uF 10V	1	
	C8010	F1G1A1040006	0.1uF 10V	1	
	C8011	F2G0J221A031	220uF 6.3V	1	
	C8012	F1G1A1040006	0.1uF 10V	1	
	C8013	F1G1A1040006	0.1uF 10V	1	
	C8014	F1G1A1040006	0.1uF 10V	1	
	C8016	F1G1A1040006	0.1uF 10V	1	
	C8017	F1G1A1040006	0.1uF 10V	1	
	C8018	F1G1A1040006	0.1uF 10V	1	
	C8019	F1G1A1040006	0.1uF 10V	1	
	C8020	F1G1A1040006	0.1uF 10V	1	
	C8021	F1G1A1040006	0.1uF 10V	1	
	C8022	F1G1A1040006	0.1uF 10V	1	
	C8023	F1G1A1040006	0.1uF 10V	1	
	C8024	F1G1E1020001	1000pF 25V	1	
	C8027	F1G1A1040006	0.1uF 10V	1	
	C8028	F1G1C1030007	0.01uF 16V	1	
	C8029	F1G1E1020001	1000pF 25V	1	
	C8030	F2G0J330A031	33uF 6.3V	1	
	C8032	F1G1A1040006	0.1uF 10V	1	
	C8033	F1G1A1040006	0.1uF 10V	1	
	C8034	F1G1A1040006	0.1uF 10V	1	
	C8051	F1H0J1050013	1uF 6.3V	1	
	C8052	F1G1A1040006	0.1uF 10V	1	
	C8053	F1G1A1040006	0.1uF 10V	1	
	C8054	F1G1H221A444	220pF 50V	1	
	C8055	F1H0J1050013	1uF 6.3V	1	
	C8056	F1G1E2220001	2200pF 25V	1	
	C8057	F1H0J1050013	1uF 6.3V	1	
	C8058	F2G0J101A031	100uF 6.3V	1	
	C8101	F1H0J4750005	4.7uF 6.3V	1	
	C8111	F1J1A106A043	10uF 10V	1	
	C8112	F1H0J1050013	1uF 6.3V	1	
	C8113	F1H0J4750005	4.7uF 6.3V	1	
	C8114	F1G1E4710001	470pF 25V	1	
	C8121	F1G1A1040006	0.1uF 10V	1	
	C8151	F1H0J4750005	4.7uF 6.3V	1	
	C8222	F1G1C273A081	0.027uF 16V	1	
	C8226	F1G1C273A081	0.027uF 16V	1	
	C8228	F1G1E1020001	1000pF 25V	1	
	C8230	F1G1E1020001	1000pF 25V	1	
	C8251	F2G0J101A031	100uF 6.3V	1	
	C8252	F2G1C4700061	47uF 16V	1	
	C8256	F1G1A1040006	0.1uF 10V	1	
	C8263	F1G1A1040006	0.1uF 10V	1	
	C8264	F1G1A1040006	0.1uF 10V	1	
	C8301	F2G0J101A031	100uF 6.3V	1	
	C8302	F2G0J101A031	100uF 6.3V	1	
	C8303	F2G0J470A031	47uF 6.3V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C8304	F1G1A1040006	0.1uF 10V	1	
	C8305	F1J1A106A043	10uF 10V	1	
	C8306	F1J1A106A043	10uF 10V	1	
	C8401	F2G0J221A031	220uF 6.3V	1	
	C8511	F1G1E1020001	1000pF 25V	1	
	C8512	F1G1E1020001	1000pF 25V	1	
	C8528	F1H0J1050013	1uF 6.3V	1	
	C8530	F1G1A1040006	0.1uF 10V	1	
	C8533	F1G1A1040006	0.1uF 10V	1	
	C8551	F1G1A1040006	0.1uF 10V	1	
	C8553	F2G0J221A031	220uF 6.3V	1	
	C8561	F1G1A1040006	0.1uF 10V	1	
	C8563	F2G0J221A031	220uF 6.3V	1	
	C8566	F2G0J101A031	100uF 6.3V	1	
	C8606	F1G1A1040006	0.1uF 10V	1	
	C8621	F1G1H100A565	10pF 50V	1	
	C8622	F1G1H8R0A456	8.0pF 50V	1	
	C8651	F1G1A1040006	0.1uF 10V	1	
	C8652	F1G1A1040006	0.1uF 10V	1	
	C9006	F1G1A1040006	0.1uF 10V	1	
	FL8101	F1H0J1050018	1uF 6.3V	1	
	FL8102	F1H0J1050018	1uF 6.3V	1	
	FL8103	F1H0J1050018	1uF 6.3V	1	
	FL8104	F1J1E1040022	0.1uF 25V	1	
			SERVICE FIXTURE & TOOLS		
	SFT1	RFKZXH150PK1	14P WIRE (PANEL TO MAIN)	1	
	SFT2	RFKZXH150PK2	50P WIRE (MAIN- BACKEND)	1	

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