

Service Manual

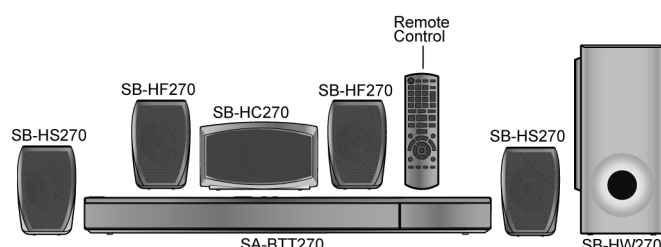
Blu-ray Disc™ Home Theater Sound System



Model No. **SA-BTT270P**
SA-BTT270PC
SA-BTT268P

Vol.1

Product Color: (K)...Black Type



Notes: Please refer to the original service manual for:

- Speaker system SB-BTT270P-K/PCK, 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.

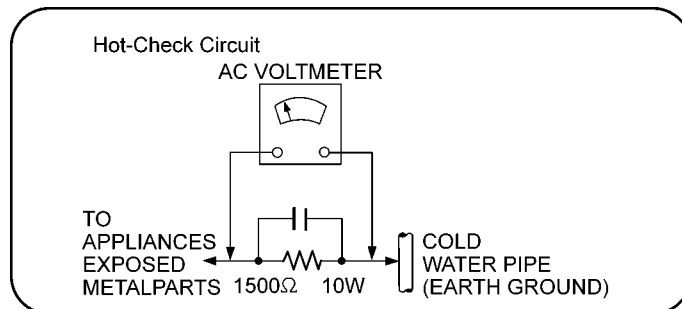


Figure 1

1.2. Before Repair and Adjustment

Disconnect AC power to discharge unit AC Capacitors as such (C5700, C5701, C5702, C5704, C5705, C5706) through a 10Ω , 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 120 V, 60 Hz in NO SIGNAL mode at volume minimum should be ~ 600 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 & 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	RGRX1006E-B1	REAR PANEL	BTT270P
△	19	RGRX1006E-C2	REAR PANEL	BTT270PC
△	19	RGRX1006E-D	REAR PANEL	BTT268P
△	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	
△	60	VXY2122T	BD MECHANISM	
△	101	VQL1V70-J	LASER CAUTION LABEL	
△	A2	K2CB2CB00021	AC CORD	
△	A3	VQT3D27-1	O/I BOOK (En)	BTT270P
△	A3	VQT3D28-1	O/I BOOK (Cf)	BTT270PC
△	A3	VQT3M40-1	O/I BOOK (En)	BTT268P
△	PCB6	REP4699E	AC INLET P.C.B	(RTL)
△	PCB7	REP4699E	SMPS P.C.B.	(RTL)
△	PCB9	RFKB4689A	DIGITAL P.C.B. ASS'Y	JIG & ADJ, (ESD)
△	DZ5701	ERZV10V511CS	ZNR	
△	L5701	ELF19H520E	INDUCTOR	
△	L5702	ELF19H520E	INDUCTOR	
△	T5701	ETS61BA11GBD	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	
△	F1	K5D602APA008	FUSE	
△	TH5702	D4CAA2R20001	THERMISTOR	
△	P5701	K2AB2B000007	AC INLET	
△	C5700	F1BAF1020020	1000pF	
△	C5701	F0CAF104A105	0.1uF	
△	C5702	F0CAF104A105	0.1uF	
△	C5704	F1BAF1020020	1000pF	
△	C5705	F1BAF1020020	1000pF	
△	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 buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as “anti-static (ESD protected)” can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution:

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

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

2.2. Precaution of Laser Diode

CAUTION:

THIS PRODUCT UTILIZES A LASER.

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

Caution:

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

Wavelength: 790 nm (CDs), 655 nm (DVDs), 405 nm (BDs)

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 :

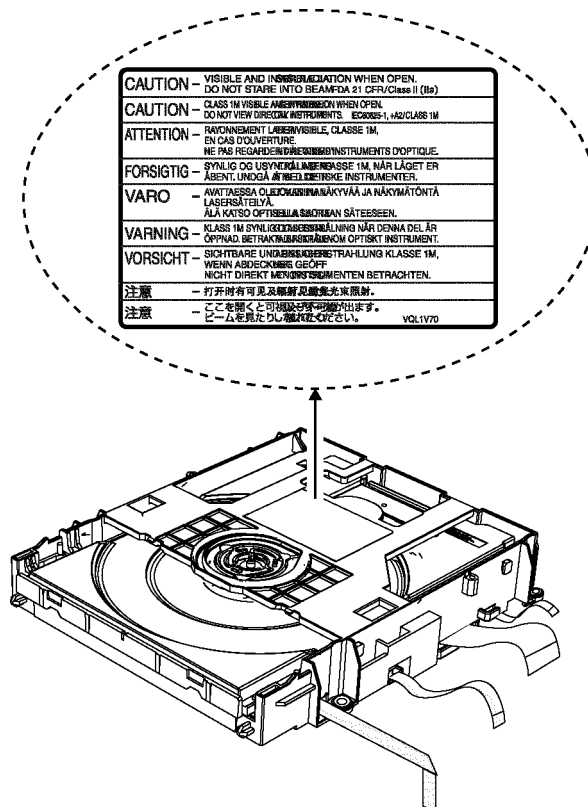
Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge: 790 nm (CDs), 655 nm (DVDs), 405 nm (BDs)

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

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

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

Definition of PCB Lead Free Solder being used

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

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

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

Recommended Lead Free Solder (Service Parts Route.)

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

Note

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

2.4. Handling Precaution for Traverse Unit

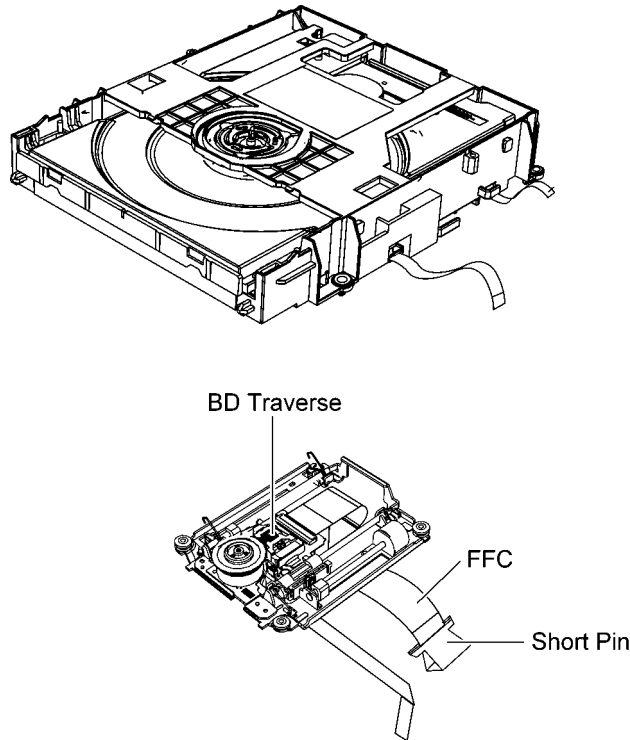
The laser diode in the optical pickup unit may break down due to static electricity of clothes or human body. Special care must be taken avoid caution to electrostatic breakdown when servicing and handling the laser diode in the traverse unit.

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

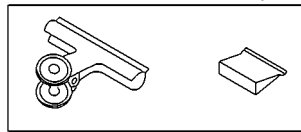
The laser diode in the optical pickup unit may be damaged due to electrostatic discharge generating from clothes or human body. Special care must be taken avoid caution to electrostatic discharge damage when servicing the laser diode.

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

ble cable, cut off the antistatic FPC.



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



Clip or Short Pin

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.

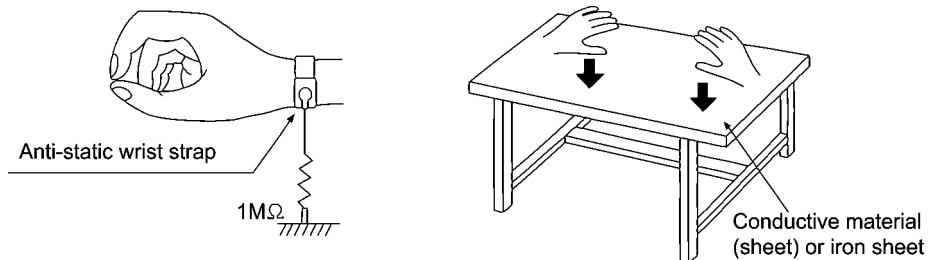


Figure 2

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 the original service manual.

- **BD Mechanism Unit & Digital Circuitries:**

- 1) This mode uses BD Mechanism Unit (BRS1P).
- 2) This service manual does not contain the following information, due to the impossibility of servicing at component level.

- Schematic Diagram, Block Diagram of Digital Circuitries on Digital P.C.B..
- Replacement Parts List for individual parts of Digital Circuitries on Digital P.C.B. & BD Mechanism Unit.
- Exploded View and Replacement Parts of individual parts of BD Mechanism Unit.

- 3) The following category are recycle module part. Please send them to Central Repair Center.

- Digital P.C.B.: RFKB4689A
- BD Mechanism Unit: VXY2122T

- **WIFI P.C.B. (SA-BTT270 only)**

This Service Manual does not contain the following information, due to the impossibility of servicing at the component level.

- Schematic Diagram, Block Diagram and Print Circuit diagram of WiFi P.C.B..
- Replacement Parts List for individual parts of WiFi P.C.B..

3.2. Combination of Multiple Pressing on the Remote Control

Press multi-buttons (in combination) on the remote control simultaneously for operations, such as initialization on service mode, etc. There are no multiple pressing function on the previous remote controls, thus, please be sure to use the supplied remote control.

3.3. Entering Special Modes with Combination of Multiple Pressing on the Remote Control

Enter the following special mode by multiple pressing functions on the supplied remote control. After entering each mode, switch to the desired menus for operation.

Disclosure mode	Nondisclosure mode 1	Nondisclosure mode 2
[OK] [Blue] [Yellow]	[6] [7] [Yellow]	[5] [9] [Red]

◆ **Menu switch:** ↓ mark.
Right cursor (remote control),
or
[Power] (main unit)

◆ **Operating menu:**
[OK] (remote control)
or
[O/C] (main unit)

※ Release from special modes automatically after the operation.

◆ **Release from special modes:**

- Press other buttons in no connection with the above operations.
- No operation for over 2 min.
- Press and hold [Power] on main unit (forced to turn off).

3.3.1. Disclosure mode (Combination of multiple pressing: [OK] [BLUE] [YELLOW])

Press and hold [OK] [BLUE] [YELLOW] on the remote control simultaneously for 5sec., then "00 RET" is displayed on FL display window.

Power	Disc	FL display	Key operation	Function	Ramarks
OFF	Yes/No	00 RET	No	No	
		↓			
		06 FT0	OK	Force tray open	When O/C button is invalid, the tray of BD driver is forced to open. If the tray still cannot be opened in this mode, please refer to "6.1.2 When Cannot Be Forced to Open" in Vol.1.
		↓			
		08 FIN	OK	Reset to factory default setting	Reset all to factory default settings, including Quick Start and Network related settings.
ON	Yes/No	00 RET	No	No	
	No	↓			
		03 VL	OK	Release from BD/DVD video play restriction	Release from the aging restriction on BD video and DVD video play.
		↓			
	Yes/No	04 PRG	OK (Press and hold)	Progressive initialization	Initialize the progressive settings, and switch to the interlaced display. Press and hold [Stop] (not [OK])(on the remote control or main unit) to switch to 10 OCL (setting shop lock mode)
		↓			
	Yes/No	07 DC	OK (Press and hold)	Deep Color initialization	Initialize Deep Color.
		↓			
	Yes	10 OCL	OK	Shop lock mode setting/release ([O/C] is invalid/valid, while setting/release this mode.)	When 04 PRG is displayed, press and hold [Stop] (on the remote control or main unit) to switch to other displays. Press [OK] to only lock the tray switch. * When there is no disc in the driver, "NoDISC" appears and locking is invalid. * Even turn ON/OFF the power, it is still in locking.

3.3.2. Nondisclosure mode 1 (Combination of multiple pressing: [6] [7] [Yellow])

Press and hold [6] [7] [Yellow] on the remote control simultaneously for 5sec., then "50 RET" is displayed on FL display window.

Power	Disc	FL display	Key operation	Function	Ramarks
ON	Yes/No	50 RET	No	No	
		↓			
		51 NOP	OK	No	When "51 NOP" is displayed, press and hold [Stop] (on the remote control or main unit) to switch to "52 BRE" (delete BD-ROM history settings)
		↓			
		52 BRE	OK	BD-ROM history delete	When "51 NOP" is displayed, press and hold [Stop] (on the remote control or main unit) to switch to other displays. Press [OK] to delete BD video history.

3.3.3. Nondisclosure mode 2 (Combination of multiple pressing: [5] [9] [Red])

Press and hold [5] [9] [Red] on the remote control simultaneously for about 5sec., then "70 RET" is displayed on FL display window.

Power	Disc	FL display	Key operation	Function	Remarks
OFF	Yes/No	70 RET	No	No	
		↓			
		80 SRV	OK	Switch to service mode	Press [OK], then "HELLO" is displayed, and wait about 30 sec. until "SERV" is displayed.
		↓			
		83 SDI	OK	CD/SD Diag	Do not apply in normal service.
ON	Yes/No	↓			
		91 SPD	OK	Special display	Do not apply in normal service.
		↓			
		92 F99	OK	F99 Validate/Invalidate switch	Do not apply in normal service.
		↓			
ON	Yes/No	70 RET	No	No	
		↓			
		81 AIG	OK	Switch to aging mode	
		↓			
		83 SDI	OK	CD/SD Diag	Do not apply in normal service.
		↓			
		91 SPD	OK	Special display	Do not apply in normal service.
		↓			
		92 F99	OK	F99 Validate/Invalidate switch	Do not apply in normal service.
		↓			

3.4. Caution for Replacing Parts

3.4.1. Firmware updates

Blu-ray Disc technology continues to add new features such as 3D Image supporting software. As the technology evolves firmware updates may be required to support the latest features. Panasonic strives to continually update firmware as new technology is released. It's very important you install the latest updates to maintain proper operation of your unit using one of the following methods.

* 3D technology cannot be added to models that did not originally support 3D technology.

Panasonic support site :

<http://panasonic.jp/support/global/cs/>

Updating the firmware

There are two ways to update your firmware

1 Internet connection ⇨ If your unit has the Internet connection, connect the unit to the Internet via a broadband connection and the unit can automatically check for the latest firmware version and update the firmware.

2 Using a CD-R disc ⇨ If your unit does not have the Internet connection, nor internet access, you can download the latest firmware version from the website "http://panasonic.jp/support/global/cs/". After you copy the latest firmware to a CD-R disc, play the disc in the unit and it will automatically update the firmware.

During the firmware update "DO NOT TURN OFF OR UNPLUG THE UNIT."
For more information, refer to the operating instructions.

3.4.2. Items that should be done after replacing parts

√: Necessary —: Unnecessary

Items that Should be done	Updating Firmware (Note 2)
Replacing Parts	
Digital P.C.B.	√

Note:

Download latest Firmware and burn it on CD-R or CD-RW, and update Firmware.

3.4.3. Standard Inspection Specifications after Making Repairs

After making repairs, we recommend performing the following inspection, to check normal operation.

No.	Procedure	Item to Check
1	Turn on the power, and confirm items pointed out.	Items pointed out should reappear.
2	Insert RAM disc.	The Panasonic RAM disc should be recognized.
4	Perform playback for one minute using the RAM disc.	No abnormality should be seen in the picture, sound or operation. *Panasonic DVD-RAM disc should be used when recording and playback.
5	Perform playback for one minute using the BD-Video disc.	No abnormality should be seen in the picture, sound or operation.
6	If a problem is caused by a BD-Video disc, VCD, DVD-R, DVD-Video, Audio-CD, or MP3, playback the test disc.	No abnormality should be seen in the picture, sound or operation.
7	After checking and making repairs, upgrade the firmware to the latest version.	Make sure that [UPD OK] appears in the FL displays. *[UNSUPPORT] display means the unit is already updated to newest same version. Then version up is not necessary.
8	Transfer [9][9] in the service mode setting, and initialize the service settings (return various settings and error information to their default values. The laser time is not included in this initialization).	Make sure that [CLR] appears in the FL display. After checking it, turn the power off.

Use the following checklist to establish the judgment criteria for the picture and sound.

Item	Contents	Check	Item	Contents	Check
Picture	Block noise		Sound	Distorted sound	
	Crosscut noise			Noise (static, background noise, etc.)	
	Dot noise			The sound level is too low.	
	Picture disruption			The sound level is too high.	
	Not bright enough			The sound level changes.	
	Too bright				
	Flickering color				
	Color fading				

4 Specifications

Main unit SA-BTT270P/PC/SA-BTT268P

●GENERAL

Power supply: AC 120 V, 60 Hz
Power consumption: 85 W
Power consumption in standby mode: 0.4 W

iPod/iPhone Connector: DC OUT 5V 1.0A MAX
Dimensions (WxHxD) 430 mm×38 mm×279 mm
 (16¹⁵/₁₆"X1¹/₂"X10³¹/₃₂"

Mass (Weight): Approx. 2.7 kg (6.0 lbs)
 (Dimensions and Weight do not include Speakers)

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 TTL Power Output: 1000 W

1 kHz, 10 % total harmonic distortion
 Front: 160 W per ch (3 Ω)
 Center: 160 W per ch (3 Ω)
 Surround: 160 W per ch (3 Ω)

100 Hz, 10 % total harmonic distortion
 Subwoofer: 200 W per ch (3 Ω)

FTC TTL Power Output: 430 W

120 Hz to 20 kHz, 1.0 % total harmonic distortion
 Front: 60 W per ch (3 Ω)
 Center: 90 W per ch (3 Ω)
 Surround: 60 W per ch (3 Ω)

45 Hz to 120 Hz, 1.0 % total harmonic distortion
 Subwoofer: 100 W per ch (3 Ω)

Audio input

AUX x 1

Digital audio input

Optical: x 1

Sampling frequency: 32 kHz, 44.1 kHz, 48 kHz

Audio Format: PCM, Dolby Digital, DTS

●FM TUNER SECTION

Frequency range: 87.90 MHz to 107.90 MHz (200 kHz step)
 87.50 MHz to 108.00 MHz (100 kHz step)
 Antenna terminals: 75 Ω (unbalanced)

TERMINAL SECTION

SD card slot: Connector: 1 system

Ethernet: 10BASE-T/100BASE-TX
 1 system

WLAN (For BTT270 only)

Antenna: Tx 1, Rx 2

Standard Compliance: IEEE802.11n / IEEE802.11a
 IEEE802.11g / IEEE802.11b

Transmission System: MISO-OFDM system, OFDM
 system, DSSS system

Transfer rate (Standard):
 IEEE802.11n: Tx Max, 150 Mbps, Rx Max.
 300 Mbps

IEEE802.11g / IEEE802.11a: Max. 54 Mbps
 IEEE802.11b: Max. 11 Mbps
 Access Mode: Infrastructure mode
 Security: WPA2-PSK (TKIP/AES)
 WPA-PSK (TKIP/AES)
 WEP (64 Bit / 128 Bit)
 (This unit supports WPA and WPA2 encryption)

●VIDEO SECTION

Signal system: NTSC

Video output

Output level: 1.0 Vp-p (75 Ω)
 Output connector: Pin jack (1 system)

HDMI AV output

Output format: 1080p/ 1080i/ 720p/ 480p
 Output connector: Type A (19 pin)
 This unit supports "HDAVI Control 5" function.

LASER Specification

Class I LASER Product
 Wave length: 790 nm (CDs)/655 nm (DVDs)/405 nm (BDs)
 Laser power:
 No hazardous radiation is emitted with the safety protection

Note:

1. Specifications are subject to change without notice.

Solder:

This model uses lead free solder (PbF).

System	SC-BTT270P-K/PCK	SA-BTT268P-K
Main unit	SA-BTT270P-K/PCK	SA-BTT268P-K
Speaker system	SB-BTT270P-K	

Refer to their respective original service manuals for *1.

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See <http://www.mpegla.com>.

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This product incorporates the following software:

- (1) the software developed independently by or for Panasonic Corporation,
- (2) the software owned by third party and licensed to Panasonic Corporation,
- (3) the software licensed under the GNU General Public License, Version 2 (GPL v2),
- (4) the software licensed under the GNU LESSER General Public License, Version 2.1 (LGPL v2.1) and/or,
- (5) open sourced software other than the software licensed under the GPL v2 and/or LGPL v2.1

For the software categorized as (3) and (4), please refer to the terms and conditions of GPL v2 and LGPL v2.1, as the case may be at <http://www.gnu.org/licenses/old-licenses/gpl-2.0.html> and <http://www.gnu.org/licenses/old-licenses/lgpl-2.1.html>. In addition, the software categorized as (3) and (4) are copyrighted by several individuals. Please refer to the copyright notice of those individuals at <http://www.am-linux.jp/dl/AWBPP11>

The GPL/LGPL software is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY, without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

At least three (3) years from delivery of products, Panasonic will give to any third party who contacts us at the contact information provided below, for a charge no more than our cost of physically performing source code distribution, a complete machine-readable copy of the corresponding source code covered under GPL v2/LGPL v2.1.

Contact Information
cdrequest@am-linux.jp

Source code is also freely available to you and any other member of the public via our website below.
<http://www.am-linux.jp/dl/AWBPP11>

For the software categorized as (5) includes as follows.

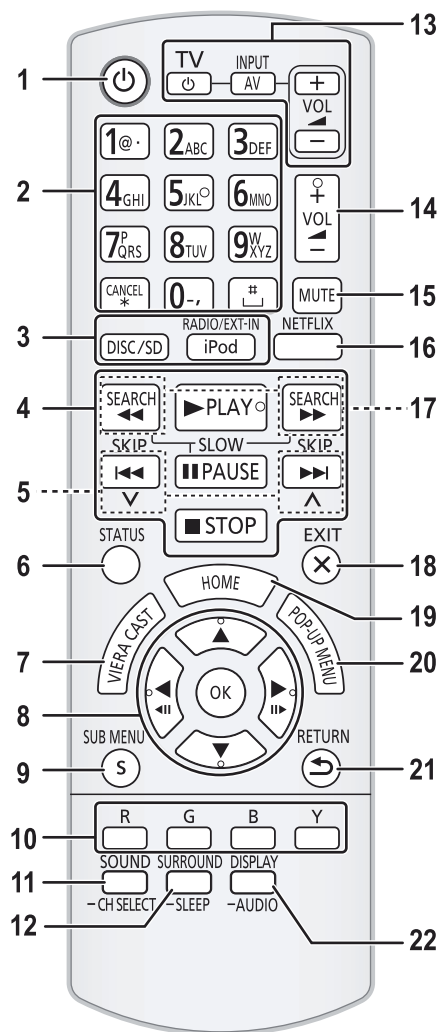
1. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit.
(<http://www.openssl.org/>)
2. This product includes software developed by the University of California, Berkeley and its contributors.
3. FreeType code.
4. The Independent JPEG Group's JPEG software.

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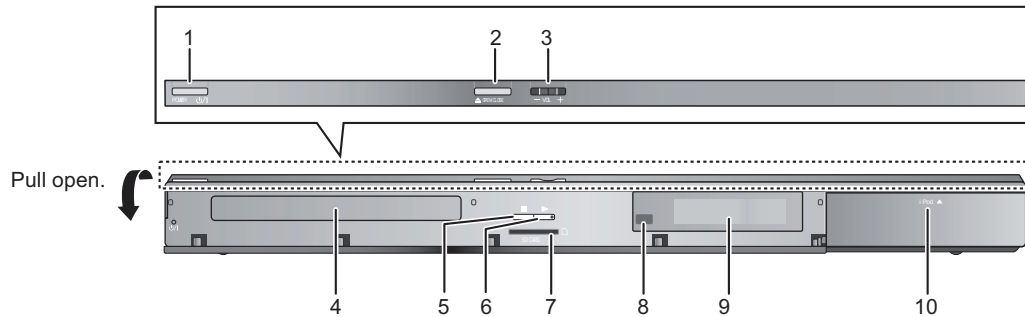
5 Location of Controls and Components

5.1. Remote Control Key Button Operations



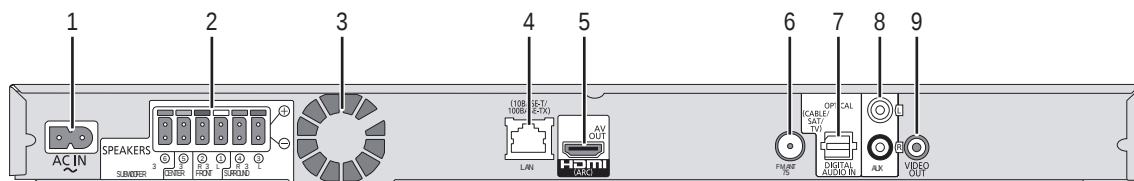
- 1 Turn the unit on and off
- 2 Select title numbers, etc./Enter numbers or characters
[CANCEL]: Cancel
- 3 Select the source
- 4 Basic playback control buttons
- 5 Select preset radio stations
- 6 Show status messages
- 7 Display the Home screen of VIERA CAST
- 8 Selection/OK, Frame-by-frame
- 9 Show sub menu
- 10 These buttons are used when;
 - Operating a BD-Video disc that includes Java™ applications (BD-J).
 - Operating contents of VIERA CAST
- 11 Set the sound mode/Select speaker channel
- 12 Select surround sound effects/Set the sleep timer
 - ① Press and hold [-SLEEP].
 - ② While "SLEEP * *" is displayed, press [-SLEEP] several times to select the time (in minutes).
 - Timer selection is up to 120 minutes.
 - Select "OFF" when canceling the setting.
 - To confirm the remaining time
Press and hold the button again.
- 13 **TV operation buttons**
 - [TV]: Turn the television on and off
 - [AV]: Switch the input select
 - [+ - VOL]: Adjust the volume
- 14 Adjust the volume of the main unit
- 15 Mute the sound
 - "MUTE" flashes on the unit's display, while the function is on.
 - To cancel, press the button again or adjust the volume
 - Muting is canceled if the unit is turned off.
- 16 Show NETFLIX screen
- 17 Select radio stations manually
- 18 Exit the menu screen
- 19 Show HOME screen
- 20 Show Pop-up menu
- 21 Return to previous screen
- 22 Show Playback menu/Select audio

5.2. Main Unit Key Button Operations



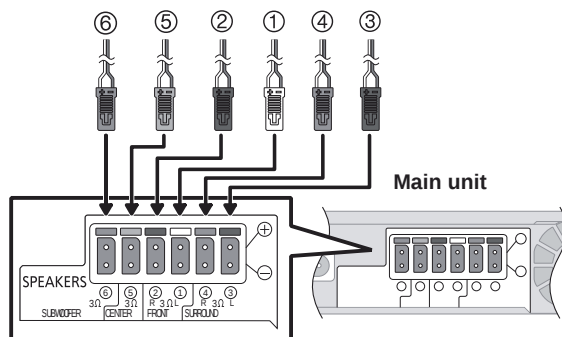
- | | |
|---|---|
| <p>1 Standby/on switch (POWER ϕ/I)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.</p> <p>2 Open or close the disc tray</p> <p>3 Adjust the volume of the main unit</p> <p>4 Disc tray</p> | <p>5 Stop</p> <p>6 Start play</p> <p>7 SD card slot</p> <p>8 Remote control signal sensor
Distance: Within approx. 7 m (23 ft.)
Angle: Approx. 20° up and down, 30 left and right</p> <p>9 Display (FL display)</p> <p>10 Connect iPod/iPhone</p> |
|---|---|

Main unit (Rear)



- | | |
|---|---|
| <p>1 AC IN terminal</p> <p>2 Speaker terminals</p> <p>3 Cooling fan</p> <p>4 LAN port</p> <p>5 HDMI AV OUT (ARC) terminal</p> | <p>6 FM radio antenna terminal</p> <p>7 DIGITAL AUDIO IN terminal</p> <p>8 AUX terminal</p> <p>9 VIDEO OUT terminal</p> |
|---|---|

5.3. Speaker Connection



- | | |
|----------|------------------------|
| ⑥ PURPLE | Subwoofer |
| ⑤ GREEN | Center speaker |
| ② RED | Front speaker (Rch) |
| ① WHITE | Front speaker (Lch) |
| ④ GRAY | Surround speaker (Rch) |
| ③ BLUE | Surround speaker (Lch) |

5.4. Power Saving Features

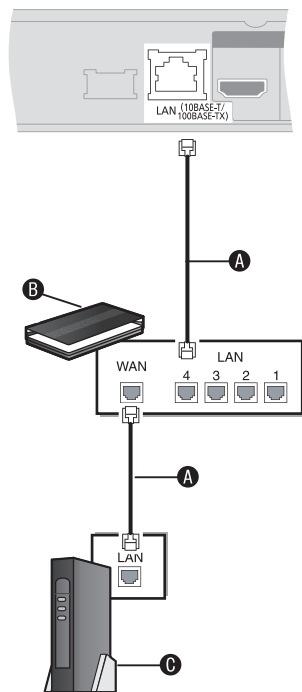
POWER-SAVING FEATURES	
The main unit is designed to conserve its power consumption and save energy.	
• Automatic power-down function The main unit will automatically switch to standby mode after 30 minutes if the main unit is inactive as follows.	e.g. – There is no audio signal from an external device. – 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.)

5.5. Connection to a Broadband Network

The following services can be used when this unit is connected to broadband.

- Firmware can be updated
- You can enjoy BD-Live
- You can enjoy VIERA CAST

■ LAN cable connection

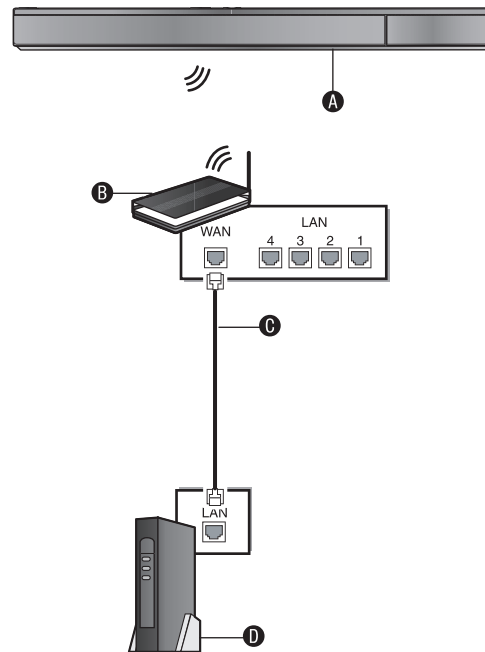


- Ⓐ LAN Cable (not supplied)
- Ⓑ Broadband router, etc.
- Ⓒ Modem (Broadband) *Provided by ISP

- Use category 5 or above straight LAN cables (STP) when connecting to peripheral devices.
- Inserting any cable other than a LAN cable in the LAN terminal can damage the unit.

For details about connection method, refer to the instructions supplied with the connected equipment.

■ Wireless LAN connection



- Ⓐ Main unit (Wireless LAN is built in.)
- Ⓑ Wireless router (Access point), etc.
- Ⓒ LAN Cable (not supplied)
- Ⓓ Modem (Broadband) *Provided by ISP

- For up to date compatibility information on your Wireless router (Access Point) refer to <http://panasonic.jp/support/global/cs/> (This site is in English only.)
- The unit is not compatible with public wireless LAN services provided in airports, stations, cafes etc. For additional information about this unit refer to <http://www.panasonic.com/consumer/support>

Precautions of Wireless LAN connection

The following limits are in place regarding the usage of this unit. You must be aware of these limits before using this unit. Panasonic will in no way be responsible for any incidental damage which may arise due to a failure to obey these limits, or to any condition of use or misuse of this unit.

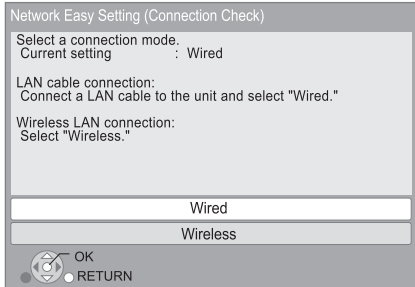
- **Data transmitted and received over radio waves may be intercepted and monitored.**
- **This unit contains delicate electronic components.**
Please use this unit in the manner in which it was intended and follow the following points:
 - Do not expose this unit to high temperatures or direct sunlight.
 - Do not bend, or subject this unit to strong impacts.
 - Keep this unit away from moisture.
 - Do not disassemble or alter this unit in any way.

5.6. Network Easy Setting

The configuration of your network is about to begin. If you failed to make the setting, refer to next page.

“Wired” connection

Select “Wired” and press [OK].



Follow the on-screen instructions to make your connection settings.

When you experience problems

“Wireless” connection

Preparation

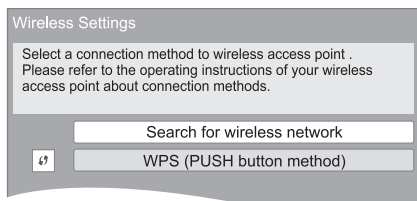
Obtain your network name.

If your wireless connection is encrypted please be sure that you know your encryption key.

- 1 Select “Wireless” and press [OK].
- 2 Select “Search for wireless network” or “WPS (PUSH button method)” and press [OK] then follow the on-screen instructions and make the settings.

“WPS (PUSH button method)”

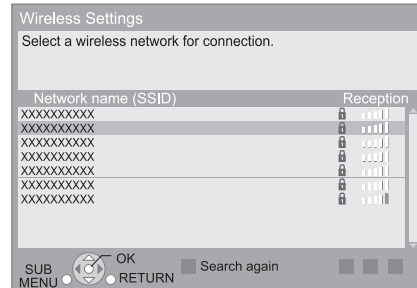
If you are using a Wireless router that supports WPS, you can easily perform the settings .



“Search for wireless network”

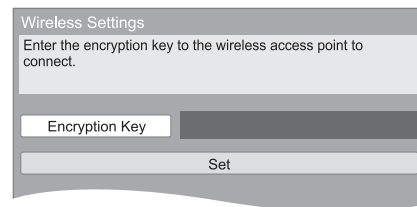
The available wireless networks will be displayed.

- ① Select your network name and press [OK].
If your network name is not displayed search again by pressing the [R] button on the remote control. Stealth SSID will not be displayed , in this case enter manually.

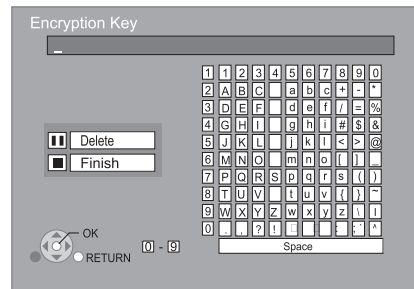


When your wireless network is encrypted

- ② Press [OK] to select “Encryption Key”.



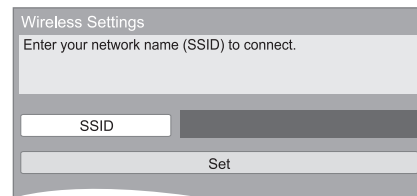
- ③ Enter your encryption key.



To enter SSID manually

If your SSID is not displayed in the step ① , follow these steps.

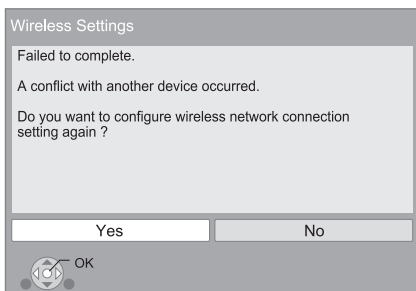
- 1 To display SSID input screen :
Press [HOME] ⇒ select “Settings” ⇒ [OK] ⇒ [OK] (“Setup”) ⇒ select “Network” ⇒ [OK] ⇒ select “Network Settings” ⇒ [OK] ⇒ select “Wireless Settings” ⇒ [OK] ⇒ select “Connection Setting” ⇒ [OK] ⇒ select “Manual setting” ⇒ [OK]
- 2 Press [OK] to select “SSID” and enter your SSID.



If your wireless network is encrypted, go to step ② .

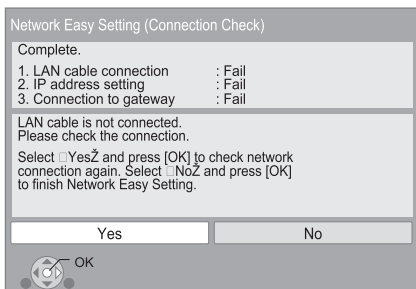
When you experience problems with settings

Wireless Setting



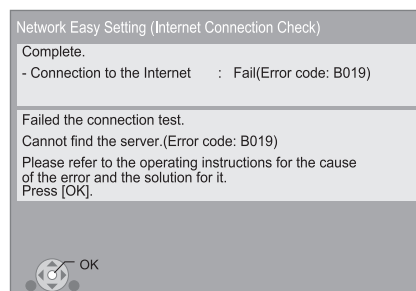
Display	Check the following
A conflict with another device occurred.	Please wait a few moments, and then try again.
A time out error occurred.	Setting of the Wireless router for MAC Address etc. The signal may be weak. The SSID and the encryption key of the Wireless router. Please wait a few moments, and then try again.
An authentication error or a time out error occurred.	
A device error occurred.	Contact our Customer Service Center or your nearest dealer.

Network Easy Setting (Connection Check)



Display	Check the following
1. LAN cable connection or Wireless setting :Fail 2. IP address setting :Fail 3. Connection to gateway :Fail	Connection of the LAN cables
1. LAN cable connection or Wireless setting :Pass 2. IP address setting :Fail 3. Connection to gateway :Fail	Connection and settings of the hub and router Settings of "IP Address / DNS Settings"
1. LAN cable connection or Wireless setting :Pass 2. IP address setting :Pass 3. Connection to gateway :Fail	

Network Easy Setting (Internet Connection Check)



Display	Check the following
Cannot find the server. (Error code: B019)	"Primary DNS" and "Secondary DNS" Settings of "IP Address / DNS Settings"
Failed to connect to the server. (Error code: B020)	The server may be busy or the service may have been suspended. Please wait a few moments, and then try again. Settings of "Proxy Server Settings" and the router.

Refer to the operating instructions of the hub or router.

WPS (Wi-Fi Protected Setup) is a function that facilitates settings relating to the connection and security of wireless LAN devices. To see whether your Wireless router (Access point) supports WPS, check the Wireless router operating instructions.

You can perform this setup anytime by selecting "Network Easy Setting" in the Setup menu.

You can redo these settings individually using "Network Settings".

Do not use this unit to connect to any wireless network for which you do not have usage rights.

During automatic searches in a wireless network environment, wireless networks (SSID*) for which you do not have usage rights may be displayed; however, using these networks may be regarded as illegal access.

After performing network settings on this unit, the settings (encryption level, etc.) of the Wireless router might change. When you have trouble getting online on your PC, perform the network settings on your PC in accordance with the settings of Wireless router.

Please be aware that connecting to a network without encryption may result in the content of the communication being illegitimately viewed by a third party, or the leaking of data such as personal or secret information.

* An SSID (Service Set IDentification) is a name used by wireless LAN to identify a particular network. Transmission is possible if the SSID matches for both devices.

5.7. Firmware Updates

Firmware updates

Occasionally, Panasonic may release updated firmware for this unit that may add or improve the way a feature operates. These updates are available free of charge.

This unit is capable of checking the firmware automatically when connected to the Internet via a broadband connection. When a new firmware version is available, the following message is displayed.

The latest firmware is available. Please update firmware in Setup.

To update the firmware

Press [HOME] ⇒ select "Setting" ⇒ [OK] ("Setup")
select "Others" ⇒ [OK] ⇒ select "Firmware Update"
[OK] ⇒ select "Update Now"

DO NOT DISCONNECT the unit from the AC power or perform any operation while the update takes place.

After the firmware is installed, "FINISH" will be displayed on the unit's display. Unit will restart and the following screen will be displayed.



If downloading on this unit fails or this unit is not connected to the Internet, then you can download the latest firmware from the following website and burn it to a CD-R to update the firmware.
<http://panasonic.jp/support/global/cs/>
(This site is in English only.)

To show the firmware version on this unit.

Downloading will require several minutes. It may take longer or the Internet may not be connected depending on the connection environment.

If you do not want to check for the latest firmware version, set "Automatic Update Check" to "Off".

5.8. Enjoying BD-LIVE or Picture-in-picture in BD-Video

Enjoying BD-Live discs with Internet

BD-Live allows you to enjoy more functions such as subtitles, exclusive images and online games by connecting this unit to the Internet. Since most of the BD-Live compatible discs are played back using the BD-Live function, additional contents are required to be downloaded into the external memory (local storage).

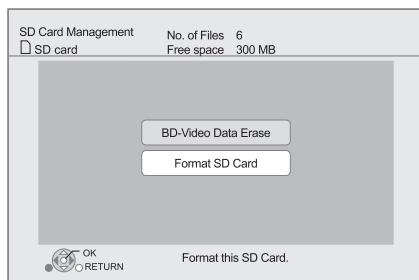
- This unit is using an SD card as a local storage device. BD-Live function cannot be used when there is no SD card inserted.

- 1 Perform network connection and settings.
- 2 Insert an SD card with 1 GB or more free space.
- 3 Insert the disc.

■ Deleting data/Formatting SD cards

If you no longer need data recorded on the SD card, you can delete data with the following operation.

- ① Insert an SD card.
- ② Press [HOME].
- ③ Press [▲, ▼, ◀, ▶] to select "Settings" and press [OK].
- ④ Press [▶] to select "SD Card Management".
- ⑤ Press [▲, ▼] to select "BD-Video Data Erase" or "Format SD Card" and press [OK].

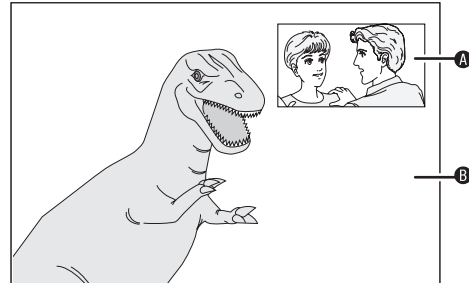


- ⑥ Press [◀, ▶] to select "Yes" and press [OK].
- ⑦ Press [◀, ▶] to select "Start" and press [OK].

Playing picture-in-picture

To turn on/off secondary video and audio

[DISPLAY] ⇒ select "Disc" ⇒ [▶] ⇒ select "Signal Type" ⇒ [OK] ⇒ set "Video" and "Soundtrack" in "Secondary Video" to "On" or "Off"



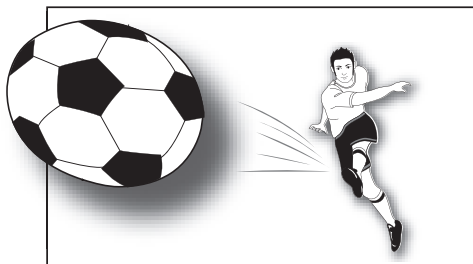
- A Secondary video
- B Primary video



- The usable functions and the operating method may vary with each disc, please refer to the instructions on the disc and/or visit their website.
- Some BD-Live content available on the Blu-ray discs may require an Internet account to be created in order to access the BD-Live content. Follow the screen display or instruction manual of the disc for information on acquiring an account.
- To use the BD-Live functions, it is recommended that you format the card on this unit. If the SD card you use is formatted, all data on the card will be erased. It cannot be recovered.
- "BD-Live Internet Access" may need to be changed for certain discs.
- When discs supporting BD-Live are played back, the player or disc IDs may be sent to the content provider via the Internet.
- During search/slow-motion or frame-by-frame, only the primary video is displayed.
- When "BD-Video Secondary Audio" in "Digital Audio Output" is set to "Off", secondary audio will not be played.

5.9. Enjoying 3D Video

You can enjoy powerful 3D videos with realistic sensations by connecting this unit with a High Speed HDMI Cable to a 3D compatible TV.



The illustration is an image.

Preparation

Connect 3D compatible TV to an HDMI AV OUT terminal of this unit using a High Speed HDMI Cable and select HDMI video input mode on the TV.

- Perform the necessary preparations for the TV.

Method of playback is the same as normal disc playback.

- Playback following the instructions displayed on the screen.

3D settings

Perform the following settings as necessary.

3D BD-Video Playback	It is also possible to play back 3D discs in 2D (conventional video).
3D Type	If 3D video cannot be played back in 3D, change the settings as required by the connected TV format. ● Change the settings for 3D on the TV also when "Checker board" or "Side by side" is selected.
3D Playback Precautions	Hide the 3D viewing warning screen.
Pop-Out Level	Adjust the pop-up position for the Playback menu or message screen etc.

Useful functions

- 1 While playing,
Press [SUB MENU].
- 2 Press [▲, ▼] to select "3D Settings" and press [OK].
- 3 Select an item, then press [OK].

Signal Format	Original	Keep original picture format.
	Side by side	3D picture format comprising of left and right screens.
	2D to 3D	Converts 2D pictures to 3D effect.
3D Picture Mode	Normal	Playback pictures with normal 3D effects.
	Soft	You can enjoy 3D pictures with a feeling of broadness, holding back the depth perception.
	Manual Settings	Set 3D effect manually. Distance Set the amount of depth perception. Screen Type Selects how the screen appears during 3D playback (flat or round). Frame Width Set the amount of feathering at the edge of screen. Frame Color Set the color of feathering at the edge of screen.



- Depending on the contents, displayed items are different.
- Please refrain from viewing 3D images if you do not feel well or are experiencing visual fatigue.
In the event that you experience dizziness, nausea, or other discomfort while viewing 3D images, discontinue use and rest your eyes.
- Depending on the connected TV, the video being played back might switch to 2D video due to changes in resolution etc. Check the 3D setting on the TV.
- 3D images may not output as settings of "HDMI Resolution" and "24p Output".

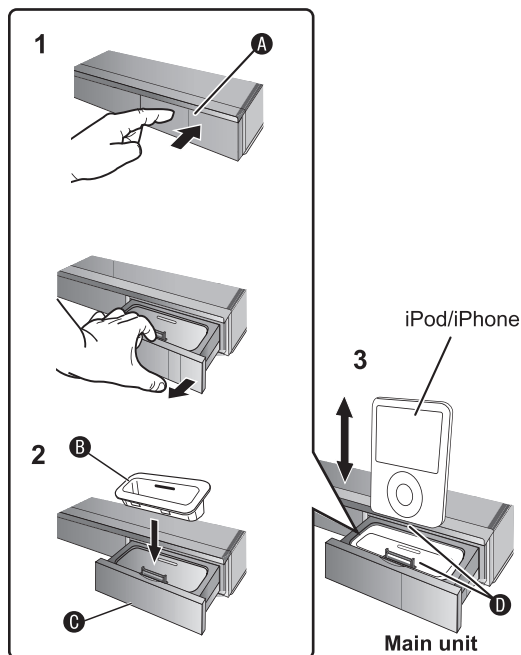
5.10. Using the iPod/iPhone

5.10.1. iPod /iPhone Connection

Preparation

- Before connecting/disconnecting the iPod/iPhone, turn the main unit off or reduce the volume of the main unit to its minimum.
- Make sure that the video cable connection is made to view photos/videos from the iPod/iPhone.

- 1 Push the center of drawer (A), and pull out fully until it clicks to open the Dock for iPod/iPhone (C).**
- 2 Install a Dock adaptor (not supplied) (B) before inserting your iPod/iPhone into the dock.**
- 3 Connect the iPod/iPhone (not supplied) firmly.**



- A** The center of drawer
- B** Dock adaptor (not supplied)
 - Please be sure to use the adaptor that is compatible with your model of iPod/iPhone.
 - Attach the dock adaptor until it is firmly in place.
 - To purchase a dock adaptor, consult your local iPod/iPhone dealer.
- C** Dock for iPod/iPhone
- D** Make sure to match when inserting.
 - Carefully insert and remove the iPod/iPhone to ensure long lasting product enjoyment.
 - Check that the connector has no dust or foreign materials before connecting.



- The 3D logo on the Dock for iPod/iPhone does not mean the 3D compatibility of iPod/iPhone.

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.
- Once fully recharged, additional recharging will not occur.

Compatible iPod/iPhone

- Update your iPod/iPhone with the latest software before using this unit.
- Compatibility depends on the software version of your iPod/iPhone.
- iPod/iPhone compatibility assures music, video playback and battery charge functions of this unit as a home theatre system.
- For more informations, refer to our website.
- For compatibility of iPod/iPhone, please refer to operating instruction.

In some locations, reception status of an iPhone may be poor when it is loaded on this unit.



- When the iPhone receives a call while connected to this unit, playback, etc. of the iPhone may stop.
To prioritize the operation with the iPhone connected to this unit, make the setting so that the iPhone does not receive calls.

5.10.2. iPod /iPhone Playback

Preparation

- Make sure that the "IPOD" source is selected. Press [iPod] to select the source.
- **To view photos/videos from the iPod/iPhone**
Operate the iPod/iPhone menu to make the appropriate photo/video output settings for your TV.
- To display the picture, turn on the TV and select the appropriate video input mode.

Enjoy music/video

- 1 Press [iPod] to select "IPOD".**
- 2 Press [STATUS] several times to select the music menu or videos menu.**
 - You can also select "Videos" or "Music" by using HOME menu. (⇒ 23)
- 3 Press [▲, ▼] to select an item and press [OK].**
 - Repeat this step until the selected title starts playback.
 - Press [2, 1] to display the previous or next page.
e.g., music playback screen



- A** Album artwork
- If album artwork is contained in the data of a song, it will appear on the TV. If there is no album artwork, "♪" will appear on TV.
 - Depending on the software version of your iPod/iPhone, the album artwork may not appear properly.
 - It may take time to read the album artwork.
 - Some operations may not work while reading the album artwork.

To exit, press [RETURN].

Basic controls

(For music and video playback only)

Buttons	Functions
[▶ PLAY]	Play
[■ STOP]	Pause
[⏸ PAUSE]	
[◀◀, ▶▶]	Skip
(Press and hold) [SEARCH◀◀, SEARCH▶▶]	Search

Enjoy photos

- 1 Press [iPod] to select "IPOD".**
- 2 Press [STATUS] several times to select "ALL" on the unit's display.**
 - You can also select "All" by using HOME menu.
- 3 Switch the TV input to video in.**
- 4 Play a slideshow on your iPod/iPhone.**
The picture will be displayed on your TV.

To use the iPod touch/iPhone features

- ① Press the Home button on the iPod touch/iPhone.
- ② Select the iPod touch/iPhone features on the touch screen to operate.

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

The operation may vary among iPod/iPhone models.

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

Other methods of playback

- 1 Press [SUB MENU].**
- 2 Press [▲, ▼] to select the item and press [OK].**

Play Mode

Shuffle (For music playback only.)

Songs:

Play all songs on iPod/iPhone in random order.

Albums:

Play all songs on an album in random order.

Repeat

One:

Play a single song/video repeatedly.

All:

Play all songs/videos from selected items (e.g., Playlists, Albums, etc.) repeatedly.

iPod Information

Display the firmware version of iPod/iPhone.

- 3 Press [▲, ▼] to select the setting and press [OK].**

- The setting of the playback mode will be kept until changes are made on the same iPod/iPhone.
- This function does not work when "All (iPod display)" is selected.
- Surround sound effect and sound mode are available.

5.12. Playable discs/Cards

Type	Logo examples	Type detail	Playable contents
BD		BD-Video	Video
		BD-RE	Video JPEG/MPO (3D still picture)
		BD-R	Video
DVD		DVD-Video	Video
		DVD-R	Video AVCHD MP3 JPEG/MPO (3D still picture)
		DVD-R DL	
		DVD-RW	
	—	+R/+RW/+R DL	Video AVCHD
CD		Music CD	Music [CD-DA]
	—	CD-R CD-RW	Music [CD-DA] MP3 JPEG/MPO (3D still picture)
SD		SD Memory Card (8 MB to 2 GB) SDHC Memory Card (4 GB to 32 GB) SDXC Memory Card (48 GB, 64 GB) (Compatible with both mini and micro types) (as of December 2010)	MPEG2 AVCHD JPEG/MPO (3D still picture)

■ Discs that cannot be played in this unit

Any other disc that is not specifically supported or previously described.

- DVD-RAM
- Super Audio CD
- Photo CD
- DVD-Audio
- Video CD and Super Video CD
- WMA discs
- DivX discs
- PAL discs
- HD DVD
- BD-Video discs recorded at a rate of 50 fields/sec

■ Region management information

BD-Video

This unit plays BD-Video marked with labels containing the region code "A".

Example:



DVD-Video

This unit plays DVD-Video marked with labels containing the region number "1" or "ALL".

Example:



■ Finalize

DVD-R/RW/R DL, +R/+RW/+R DL and CD-R/RW recorded by a recorder, etc. needs to be finalized by the recorder to play on this unit. Please refer to the recorder's instructions.

■ BD-Video

This unit supports high bit rate audio (Dolby Digital Plus, Dolby TrueHD, DTS-HD High Resolution Audio and DTS-HD Master Audio) adopted in BD-Video.

■ Music CD

- Operation and sound quality of CDs that do not conform to CD-DA specifications (copy control CDs, etc.) cannot be guaranteed.
- 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.

■ 3D

- 3D videos and 3D still pictures can be played back when this unit is connected to a 3D compatible TV using a High Speed HDMI Cable.
- 2D video can be enjoyed as 3D virtually.

■ SD card

- miniSD Cards, microSD Cards, microSDHC Cards and microSDXC Cards can be used, but must be used with an adaptor card. These are usually supplied with such cards, or otherwise customer provided.
- Keep the Memory Card out of reach of children to prevent swallowing.
- To protect the card's contents, move the record prevention tab (on the SD card) to "LOCK".
- This unit is compatible with SD Memory Cards that meet SD Card Specifications FAT12 and FAT16 formats, as well as SDHC Memory Cards in FAT32 format (Does not support long file name.) and SDXC Memory Cards in exFAT.
- If the SD card is used with incompatible computers or devices, recorded contents may be erased due to the card being formatted etc.
- Useable memory may be slightly less than the card capacity.



- It may not be possible to play the above media in some cases due to the type of media, the condition of the recording, the recording method and how the files were created.
- The producers of the disc can control how discs are played. So you may not always be able to control play as described in this Owner's Manual. Read the disc's instructions carefully.

5.13. File Extension Type Support (MP3/JPEG)

File format	Extension	Reference
MP3	".MP3", ".mp3"	ID3 tags (Only titles and the names of artists)
JPEG	".JPG", ".jpg"	MOTION JPEG and Progressive JPEG is not supported You may not be able to play back the file if you have edited the folder structure or the file name on a PC or other device.

With certain recording states and folder structures, the play order may differ or playback may not be possible.

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.

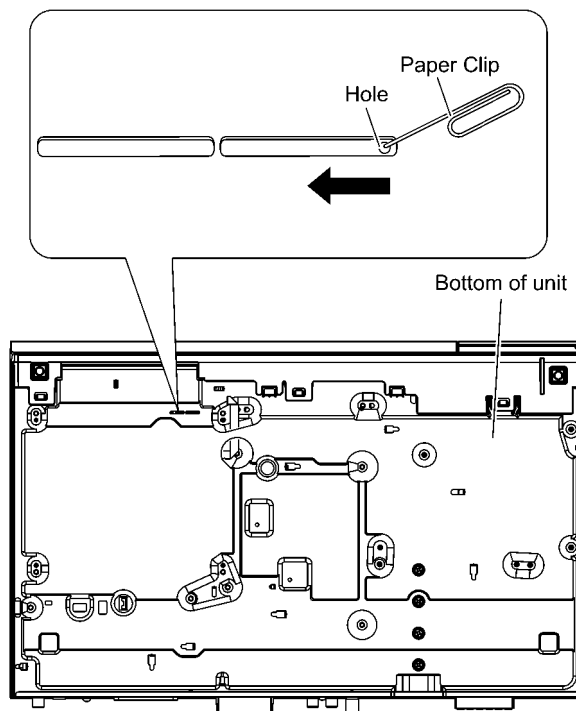
1. Turn off the power and press & hold [OK] button on main unit, and [B] & [Y] button on remote for 5 seconds.

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.

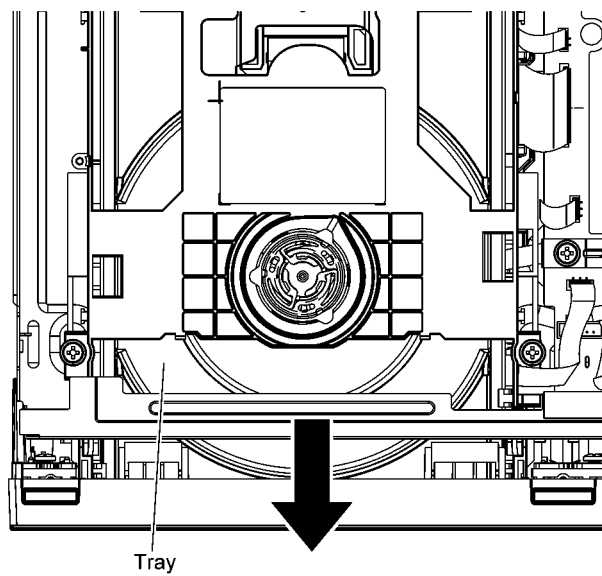
6.1.2. When the Forcible Dics Eject cannot be done.

1. Turn off the power and remove AC Cord.
2. Insert Paper Clip. etc. into the hole on the bottom of unit and slide the Paper Clip on the direction of the arrow to eject tray slightly. The tray will open automatically.



3. Gently pull out the tray.

4. Remove disc.



7 Self-Diagnostic and Special Mode Setting

7.1. Special Mode Setting

7.1.1. Special Mode Table 1

Item		FL display	Key operation
Mode name	Description		
Initialize Mode	*All the main unit's parameters are initialized. 1) Unit power-up 2) FL shows "Bye" 3) Unit power-down 4) Unplug & plug AC Cord		Press & hold [VOL+], [OPEN/CLOSE] follow by [POWER] button in sequence during power off.
Rating password	The audiovisual level setting password is initialized to Level 8.	① ② ③	① While the unit is on, press and hold [OK], [B] and [Y] on the remote control at the same time for more than 5 seconds. - "00 RET" is displayed on the unit's display. ② Repeatedly press [▶] on the remote control or [POWER] on the unit until "03 VL" is displayed on the unit's display. ③ Press [OK] on the remote control or [OPEN/CLOSE] on the unit.
Service Mode	Setting every kind of modes for servicing. *Details are described in 7.3 Service Mode	② ③ ④	① Turn the power off. ② Press the [5] [9] and [R] button simultaneously for five seconds, then [70 RET] is displayed on FL. ③ Press the [◀] or [▶] button to select until [80 SRV] is displayed on FL. ④ Press the [OK] button . *The command is transmitted by attached remote control.
BD-ROM history cleaning	< Persistent Storage> of BD-ROM standard is cleaned. Screen display: [The history has been cleared] is displayed for five seconds.	 Same display as before execution.	When the power is on, disc is not in tray, press [STOP] and [POWER] (Remote Controller) keys simultaneously for 5 seconds.
Forced disc eject	Removing a disc that cannot be ejected. The tray will open and unit will shift to P-off mode. While Demonstration Lock is being set, this Forced disc eject function is not accepted.	① ②	① While the unit is off, press and hold [OK], [B] and [Y] on the remote control at the same time for more than 5 seconds. - "00 RET" is displayed on the unit's display. ② Repeatedly press [▶] on the remote control or [POWER] on the unit until "06 FTO" is displayed on the unit's display. ③ Press [OK] on the remote control or [OPEN/CLOSE] on the unit.
Forced power-off	When the power button is not effective while power is ON, turn off the power forcibly.	Display in P-off mode.	Press [POWER] over than 10 seconds.
Aging	Perform sequence of modes as * Aging Description shown below continually.	Display following the mode.	① Turn the power on. ② Press the [5] [9] and [R] button simultaneously for five seconds, then [70 RET] is displayed on FL. ③ Press the [◀] or [▶] button to select until [81 AIG] is displayed on FL. ④ Press the [OK] button . *The command is transmitted by attached remote control. NOTE1: If the unit has hung-up because of pressing keys for over 10 seconds, once turn off the power, and re-execute this command. *When releasing Aging mode, press [POWER] key over 4 seconds.

7.1.2. Special Mode Table 2

Item		FL display	Key operation
Mode name	Description		Front Key
</			

7.1.3. Special Mode Table 3

Item		FL display	Key operation
Mode name	Description		Front Key
Progressive initialization	The progressive setting is initialized to Inter-face.	The display before execution leaves. *****	When the power is on (SS mode), press [STOP] and [PLAY] simultaneously for 5 seconds.
Micro-P version check	To check for main & sub firmware version no., model no. & date of production.	FL Display (i) M-XXXX -> Main Firmware Version (ii) YYYSUB -> Sub Firmware Version (iii) BZZZ -> Driver Version (iv) B99** -> Model Code (v) ** -> Area (vi) AA/BB/CC -> Date	When the power is on, press & hold [SKIP REV] on remote control follow by [POWER] on main unit.

7.2. Self-Diagnostic Function - Error Code

Self-Diagnostic Function provides information for error to service personnel by Self-Diagnostic Display when any error has occurred.

U, H** and F** are stored in my memory and held.**

- You can check latest error code by transmitting [0] [1] of Remote Control in Service Mode.

Automatic Display on FL will be cancelled when the power is turned off or AC input is turned off during self-diagnostic display is ON.

7.2.1. Error Code Table 1 (For BD)

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
U30	Remote control code error	Display appears when main unit and remote controller codes are not matched.	No display	SET * * is remote controller code of the main unit. Display for 5 seconds.
U59	Abnormal inner temperature detected	Display appears when the drive temperature exceeds 70°C. The power is turned off forcibly. For 30 minutes after this, all key entries are disabled. (Fan motor operates at the highest speed for the first 5 minutes. For the remaining 25 minutes, fan motor is also stopped.) The event is saved in memory as well.	No display	U59 "U59" is displayed for 30 minutes.
U71	HDMI incompatible error (HDMI incompatible)	Display this error when the equipment (compatible with DVI such as TV, amplifier etc.) connected to the unit by HDMI is incompatible with HDCP (High-bandwidth Digital Content Protection).	No display	U71
U72	HDMI connection error (communication error)	Display this error when there are any communication problems with the unit and the equipments (TV, amplifier ect.) connected to the unit by HDMI. (or when there is a problem with the HDMI cable). The display disappears only when the connection is released. Neither the button operation nor the passage of the fixed time disappear the display.	No display	U72 "U72" display disappears when error has been solved by Power OFF/ON of connecting equipment or by inserting/removing of HDMI cable.
U73	HDMI connection error (authentication error)	When authentication error occurs while the equipments (TV, amplifier etc.) are connected by HDMI. (or when there is a problem with the HDMI cable) The display disappears only when the connection is released. Neither the button operation nor the passage of the fixed time disappear the display.	No display	U73 "U73" display disappears when error has been solved by Power OFF/ON of connecting equipment or by inserting/removing of HDMI cable.
U76	Connection error	This error is displayed when equipment such as TVs or amplifiers connected to the unit with the HDMI cable do not correspond to the copyright protection. (The BD/DVD video where the copyright is protected cannot be played.)	No display	U76
U77	Illegal disc error	This error is displayed when it becomes impossible to reproduce because of copyright illegal information.	No display	U77
U88	Restoration is operation. (When the disc is in the disc tray)	This error is displayed when there is a disc in the disc tray or abnormality is confirmed during playback. It is shown that the restoration to return the main unit operation normally is operating. It becomes possible to use as soon as not the breakdown but the U88 display disappears.	No display	U88 Display for 30 seconds.
H19	No working Fan Motor	Preserves the Error record in case the Fan Motor doesn't work at the time of Power-On.	No display	No display

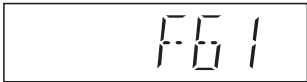
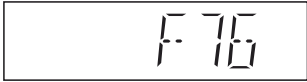
7.2.2. Error Code Table 2 (For BD)

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
F00	No error information	Initial setting for error code in memory (Error code Initialization is possible with error code initialization and main unit initialization).	No display	No display
F34	Initialization error	When initialization error is detected after starting up main microprocessor, the power is turned off automatically. The event is saved in memory.	No display	No display
F58	Drive hardware error	When drive unit error is detected, the event is saved in memory.	No display	No display
F74	HDMI Device Key Communication error	This error is displayed when the information error is occurred at HDMI device key loading.	No display	F74
F75	HDMI Device Key Loading error	This error is displayed when the key of loaded is illegal at HDMI device key loading.	No display	F75
F99	Hang-up	Displayed when communication error has occurred between Main microprocessor and Timer microprocessor.	No display	F99 "F99" is displayed until the [POWER] key is pressed.
UNSUPPORT	Unsupported disc error	*An unsupported format disc was played, although the drive starts normally. *The data format is not supported, although the media type is supported. *Exceptionally in case of the disc is dirty.	"This disc is incompatible."	UNSUPPORT It is displayed for 5 seconds. The character indication flows sideways.
NO READ	Disc read error	*A disc is flawed or dirty. *A poor quality failed to start. *The track information could not be read.	"Cannot read. Please check the disc."	No READ
HARD ERR	Drive error	The drive detected a hard error.	"DVD drive error."	HARD ERR It is displayed for 5 seconds. The character indication flows sideways.

7.2.3. Error Code Table 3 (For BD)

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
SELF CHECK	Restoration operation	Since the power cord fell out during a power failure or operation, it is under restoration operation. *It will OK, if a display disappears automatically. If a display does not disappear, there is the possibility that defective Digital P.C.B. / DVD drive.	No display	SELF CHECK
PLEASE WAIT	Unit is in termination process	Unit is in termination process now. BYE is displayed and power will be turned off.	No display	PLEASE WAIT The character indication flows sideways.
UNFORMAT	Unformatted disc error	You have inserted an unformatted DVD-RAM or DVD-RW that is unformatted or recorded on other equipment.	The disc is not formatted properly.	UNFORMAT
No PLAY	When there is a viewing restriction on a BD-Video or DVD-Video.	Rating password is set.	No display	No PLAY

7.2.4. Error Code Table 3 (Power Supply & Digital Amplifier)

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F61	The abnormalities in an output or power supply circuit of POWER AMP Fan unit & its circuitries	In normal operation, when DCDET2 goes to "L" (Low) (Not during POWER OFF condition), F61 appears on FLDisplay for 1 second and PCONT goes to "L" (Low). This is due to speaker output has DC voltage or fan is not working.		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.) C22 not available.		Press [■STOP] on main unit for next error.

7.3. Service Mode

Information necessary for service can be displayed.

Service mode setting:

1. Turn the power off.
2. Press the [5] [9] and [R] button simultaneously for five seconds, then [70 FRET] is displayed on FL.
3. Press the [▶] or [◀] button to select until [80 SRV] is displayed on FL.
4. Press the [OK] button.
5. It is displayed on FL as [SERV]:: it is shown to have entered the service mode.
6. The command is transmitted by attached remote control

Method of making clear service mode: Press the power button (power off).

The display of information to each command is as follows.

NOTE:

Do not use it excluding the designated command.

7.3.1. Service Mode Table 1

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
Release Items	Item of Service Mode executing is cancelled.	SERV	Press [0] [0] or [Return] in service mode.
Error Code Display	Last Error Code of U/H/F held by Timer is displayed on FL. *Details are described in 7.2. Self-Diagnostic Functions Error code.	 *  shows U/H/F.   shows number. If any error history dose not exist, [F00] is displayed.	Press [0] [1] in service mode
ROM Version Display	The display contents are switched over every 5 seconds. 1. Region code 2. Main firm version 3. Timer firm version 4. Drive firm version 5. ROM correction version 6. BOO2 version 7. BOO3 version	1. NO_ \$% \$: Region of DVD (Example: 1,2.....) %: Region of BD (Example: A,B.....) 2. **** 3. ## O*** ##: Timer firm version O: OEM ***: Product number of microcomputer 4. **** 5. *** 6. *** 7. ***	Press [0] [2] in service mode
Drive Application Check	Checking whether the drive is applicable drive or not	When the drive is applicable drive. DRV OK When the drive is not applicable drive. DRV NG	Press [0][3] in service mode.
Drive check	Simple quality of BD Mechanism.	When BD Mechanism is OK DRV OK When BD Mechanism is NG DRV NG *If the date of the present or the trouble occurred time is incorrect, it may be not able to judge correctly.	Press [3] [8] in service mode.

7.3.2. Service Mode Table 2

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
Laser Used Time Indication	Check laser used time (hours) of BD Mechanism.	***** (*****) is the used time display in hour. Laser used time of BD/DVD/CD in Playback/Recording mode is Counted. 1. Blu-ray Playback: BP **** 2. Blu-ray Recording: BR **** 3. DVD Playback: DP **** 4. DVD Recording: DR **** 5. CD: CD ****	Press [4] [1] in service mode.

7.3.3. Service Mode Table 3

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
BD Mechanim last error	BD Mechanim error code display.	1. Error Number is displayed for 5 seconds. NO **** 2. Time when the error has occurred is display for 5 seconds. YYMMDD DD : Day hh : Hour mm : Minute 3. Last drive error (1/2) is displayed for 5 seconds. ***** 00 : Bad disc 03 : Bad disc 04 : Bad disc or drive malfunction 4. Last drive error (2/2) is displayed for five seconds. ***** 5. Error occurring disc type is displayed for 5 seconds. DVD ROM DVD CD CD DVD-RAM (2.6GB) RAM26 DVD-RAM (4.7GB) RAM47 DVD-R DVDR DVD-RW DVDRW CD-R CDR	Press [4] [2] in service mode.

7.3.4. Service Mode Table 4

Item		FL display	Key operation												
Mode name	Description		(Remote controller key)												
		CD-RW CDRW DVD+R DVDPR DVD+RW DVDPRW BD-ROM BDRom BD-RE BDRE BD-R BDR Others MEDIA* * is displayed the resposed value from RTSC. 6. Disc maker ID is displayed for 5 seconds. ***** 7. Factor of drive error (hexadecimal) occurring is left displayed. * * + + & & * * : Error occurring operation code (This is not used) + + : Error occurring disc type <table><tr><td>00</td><td>DVD-ROM</td></tr><tr><td>01</td><td>CD</td></tr><tr><td>02</td><td>2.6GB DVD-RAM</td></tr><tr><td>03</td><td>4.7GB DVD-RAM</td></tr><tr><td>04</td><td>DVD-R</td></tr><tr><td>After 05</td><td>Others</td></tr></table>	00	DVD-ROM	01	CD	02	2.6GB DVD-RAM	03	4.7GB DVD-RAM	04	DVD-R	After 05	Others	In case that the maker cannot be identified, display is blackout.
00	DVD-ROM														
01	CD														
02	2.6GB DVD-RAM														
03	4.7GB DVD-RAM														
04	DVD-R														
After 05	Others														

7.3.5. Service Mode Table 5

Item		FL display	Key operation																																																																																									
Mode name	Description		(Remote controller key)																																																																																									
		&& : Error occurring disc situation <table><tr><th rowspan="2">Display</th><th colspan="4">Detail</th></tr><tr><th>Disc distinction</th><th>With or without Cartridge</th><th>Disc cart-ridge state</th><th>Size</th></tr><tr><td>00</td><td>OK</td><td>With</td><td>Not opened</td><td>12cm</td></tr><tr><td>10</td><td>OK</td><td>With</td><td>Not opened</td><td>8cm</td></tr><tr><td>20</td><td>OK</td><td>With</td><td>Opened</td><td>12cm</td></tr><tr><td>30</td><td>OK</td><td>With</td><td>Opened</td><td>8cm</td></tr><tr><td>40</td><td>OK</td><td>Without</td><td>Not opened</td><td>12cm</td></tr><tr><td>50</td><td>OK</td><td>Without</td><td>Not opened</td><td>8cm</td></tr><tr><td>60</td><td>OK</td><td>Without</td><td>Opened</td><td>12cm</td></tr><tr><td>70</td><td>OK</td><td>Without</td><td>Opened</td><td>8cm</td></tr><tr><td>80</td><td>NG</td><td>With</td><td>Not opened</td><td>12cm</td></tr><tr><td>90</td><td>NG</td><td>With</td><td>Not opened</td><td>8cm</td></tr><tr><td>A0</td><td>NG</td><td>With</td><td>Opened</td><td>12cm</td></tr><tr><td>B0</td><td>NG</td><td>With</td><td>Opened</td><td>8cm</td></tr><tr><td>C0</td><td>NG</td><td>Without</td><td>Not opened</td><td>12cm</td></tr><tr><td>D0</td><td>NG</td><td>Without</td><td>Not opened</td><td>8cm</td></tr><tr><td>E0</td><td>NG</td><td>Without</td><td>Opened</td><td>12cm</td></tr><tr><td>F0</td><td>NG</td><td>Without</td><td>Opened</td><td>8cm</td></tr></table> 8. When the last error doesn't exist NO DATA	Display	Detail				Disc distinction	With or without Cartridge	Disc cart-ridge state	Size	00	OK	With	Not opened	12cm	10	OK	With	Not opened	8cm	20	OK	With	Opened	12cm	30	OK	With	Opened	8cm	40	OK	Without	Not opened	12cm	50	OK	Without	Not opened	8cm	60	OK	Without	Opened	12cm	70	OK	Without	Opened	8cm	80	NG	With	Not opened	12cm	90	NG	With	Not opened	8cm	A0	NG	With	Opened	12cm	B0	NG	With	Opened	8cm	C0	NG	Without	Not opened	12cm	D0	NG	Without	Not opened	8cm	E0	NG	Without	Opened	12cm	F0	NG	Without	Opened	8cm	
Display	Detail																																																																																											
	Disc distinction	With or without Cartridge	Disc cart-ridge state	Size																																																																																								
00	OK	With	Not opened	12cm																																																																																								
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80	NG	With	Not opened	12cm																																																																																								
90	NG	With	Not opened	8cm																																																																																								
A0	NG	With	Opened	12cm																																																																																								
B0	NG	With	Opened	8cm																																																																																								
C0	NG	Without	Not opened	12cm																																																																																								
D0	NG	Without	Not opened	8cm																																																																																								
E0	NG	Without	Opened	12cm																																																																																								
F0	NG	Without	Opened	8cm																																																																																								
CEC (H) output	Check of the CEC terminal high output of HDMI.	When the check is OK CECHOK When the check is NG CECHNG	Press [5] [5] in service mode.																																																																																									
CEC (L) output	Check of the CEC terminal low output of HDMI.	When the check is OK CECLOK When the check is NG CECLNG	Press [5] [6] in service mode.																																																																																									
Manufacturing Date	Read out the manufacturing date of the unit.	YYMMDD YY: Year MM: Month DD: Day	Press [6] [1] in service mode.																																																																																									

7.3.6. Service Mode Table 6

Item		FL display	Key operation (Remote controller key)
Mode name	Description		
Drive adjustment value initialization	Initialize the drive going to factory production adjustment values.	DP DP * * * * **** : password digits ((4) (5) (3) (6)) Initializing: DINI Successful adjustment value initialization and automatic adjustment time : DINIOK Failed at initialization and automatic adjustment adjustment : DINING When you enter the wrong password service mode initially (SERV __ __) to return.	Press[7][1]in service mode. Wirte remote control number key perform the initialization.
Tray OPEN/CLOSE Test	The tray is opened and closed repeatedly.	***** * is number of open/close cycle times.	Press [9] [1] in service mode *When releasing this mode, press the [POWER] button of Remote Controller more than 10 seconds.
Delete the Laser Used Time	Laser used time stored in the memory of the unit is deleted.	CLR	Press [9] [5] in service mode.
Delete the Last Drive Error	Delete the Last Drive Error information stored on the BD Drive.	CLR	Press [9] [6] in service mode.
Delete the Error History	Delete Error History information stored on the unit. Release Service Mode and turns the Power off	CLR	Press [9] [7] in service mode.
Initialization of Error code	Initialization of the last error code held by timer (Write in F00) last error code information stored by timer is deleted (write in F00)	CLR	Press [9] [8] in service mode.
Initialization of Service mode	Last Drive Error, Error history and Error Codes stored on the unit are initialized to factory setting.	CLR	Press [9] [9] in service mode.
Release Service mode		Display in STOP (SS) mode. *****	Press power button on the front panel or Remote controller in service mode.

8 Troubleshooting Guide

8.1. Troubleshooting Guide for F61 and/or F76

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 1b Pin 16 shorted to pin 17	Refer to Schematic Diagram of SMPS Circuit (Item 17.7) for terminal pin count on primary and secondary terminals
	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) 1b Faulty IC2901 (no output voltage at pin 10 and 11) 1c Faulty Q2902 and Q2903 (regulator) 1d L2908 open (No DC +5V) 1e R7003 open (No DC +9V)	1) Refer to Fig. 2. Digital P.C.B. 2) Refer to Schematic diagram of Digital (Power) Circuit (Item 17.2)
	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 QR7071 Transistor diode check (cannot switch ON then NO +9V) 3b LB2843 Open (+12V line going to Panel PCB CN2002)	1) Refer to Fig. 2. Digital P.C.B. 2) Refer to Schematic diagram of Digital (Power) Circuit (Item 17.2)
	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 1b OTP (thermal) protection trigger prematurely	Refer to Fig. 1. SMPS P.C.B.

8.1.1. SMPS P.C.B.

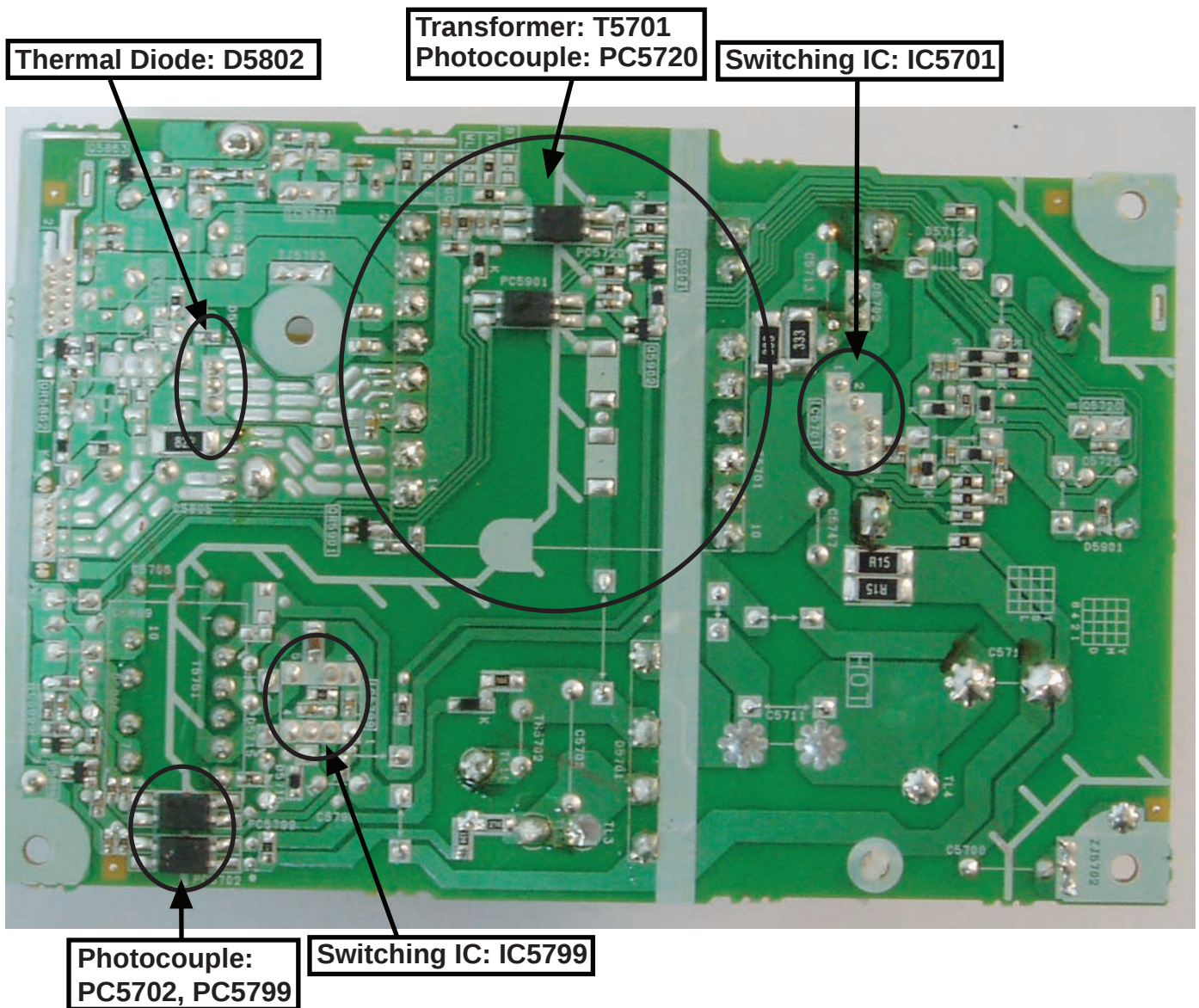
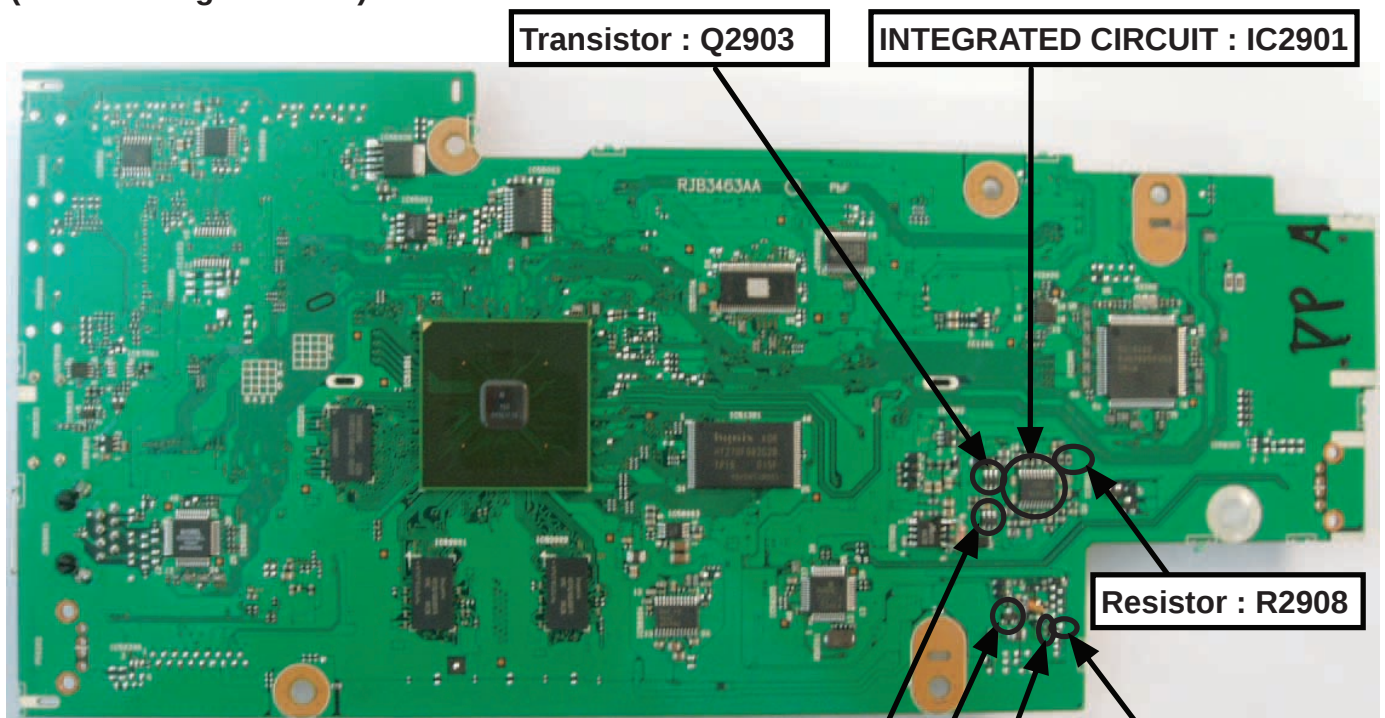


Figure 1. SMPS P.C.B.

8.1.2. Digital P.C.B.

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



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

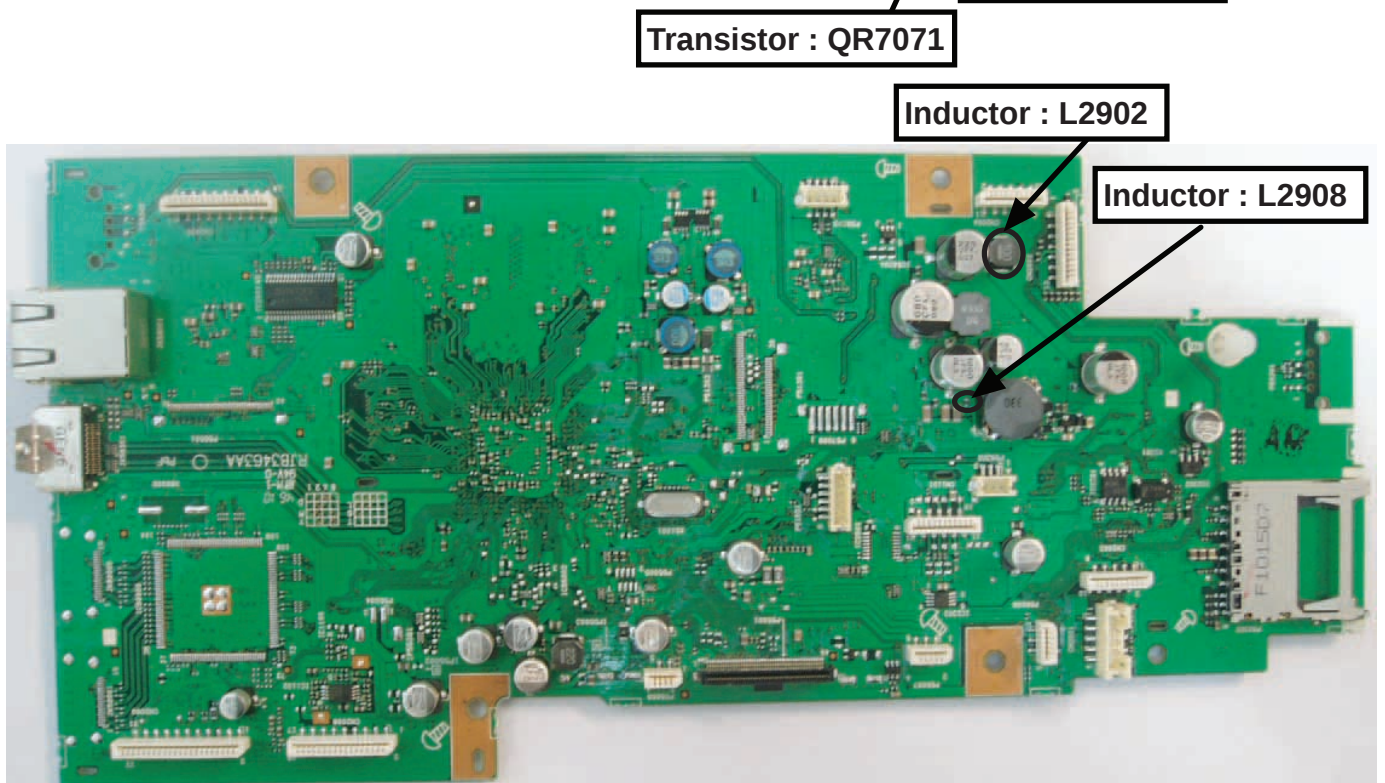


Fig 2. Digital P.C.B.

9 Service Fixture & Tools

9.1. Service Tools and Equipment

Prepare service tools before process service position.

Ref. No	Service Tools		Remarks
SFT1	Digital P.C.B. (CN2002) - Panel P.C.B. (P6001)	RFKZBTT270K1 (13P FFC)	
SFT2	Digital P.C.B. (CN2004) - SMPS P.C.B. (JW2)	RFKZBTT270K2 (10P FFC)	
SFT3	Digital P.C.B. (CN2006) - D.Amp P.C.B. (CN5402)	RFKZBTT270K3 (18P 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, equipment 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 WI-FI P.C.B. (For BTT270 only)
- Disassembly of Panel P.C.B
- Disassembly of Operation Button P.C.B.
- Disassembly of Power Button P.C.B.
- Replacement of iPod Cradle Assembly
- Disassembly of iPod P.C.B.
- Replacement of Front Lid Assembly
- Disassembly of BD Mechanism Unit (BRS1P)
- Disassembly of Dust Cover
- Replacement of Tray
- Replacement of Traverse Unit
(Note: This section is for reference only)
- Replacement of Slide Cam
- Replacement of Belt
- Replacement of Pulley Gear
- Replacement of Driver Gear
- Replacement of Loading P.C.B.
- Replacement of Loading Motor
- Disassembly of AC Inlet P.C.B.
- Disassembly of D-Amp P.C.B.
- Replacement of Digital Amplifier IC (IC5100/IC5200/IC5300)
- Disassembly of Digital P.C.B.
- Disassembly of AV 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)

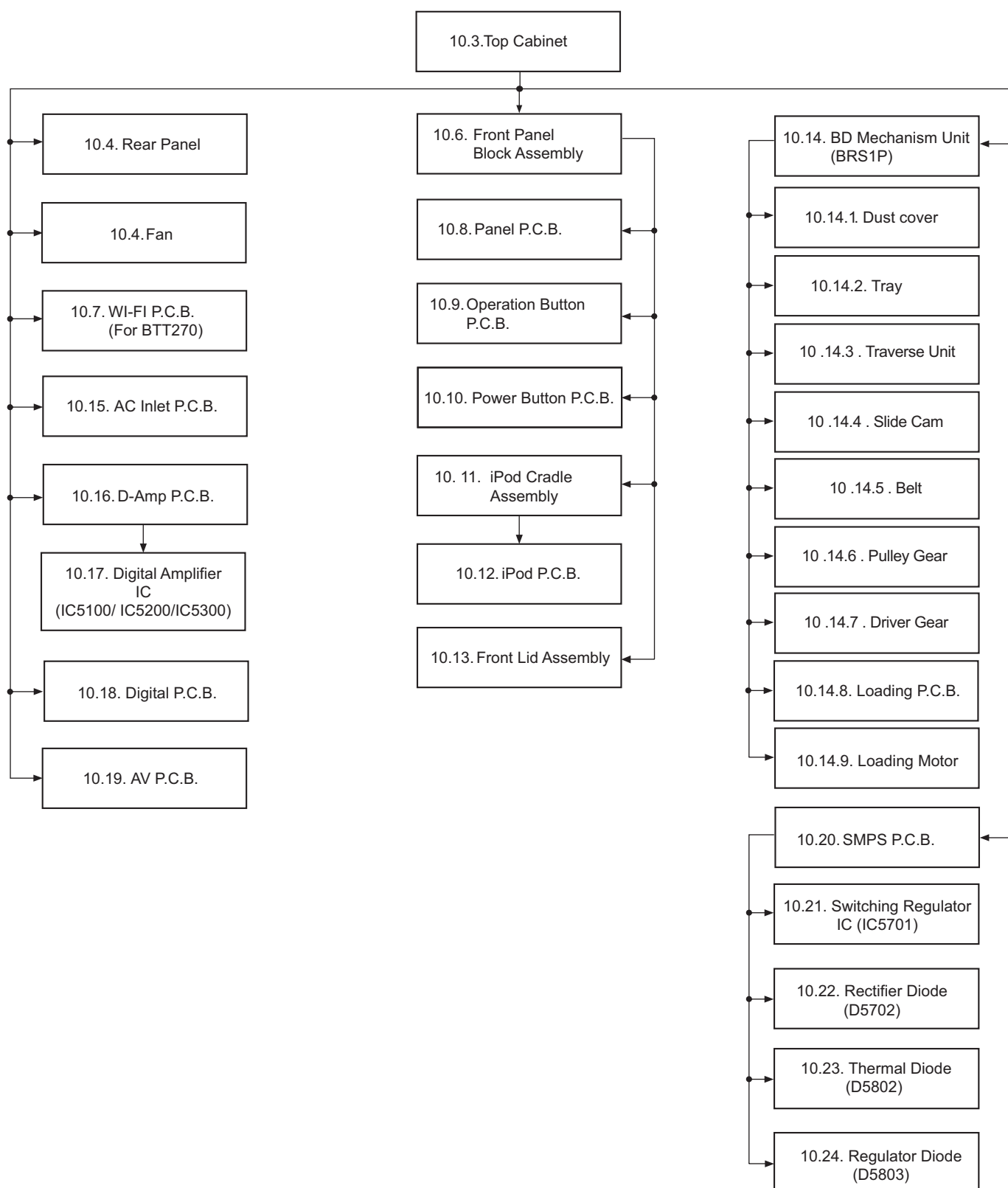
CAUTION NOTE:

Please use original screw and at correct locations.

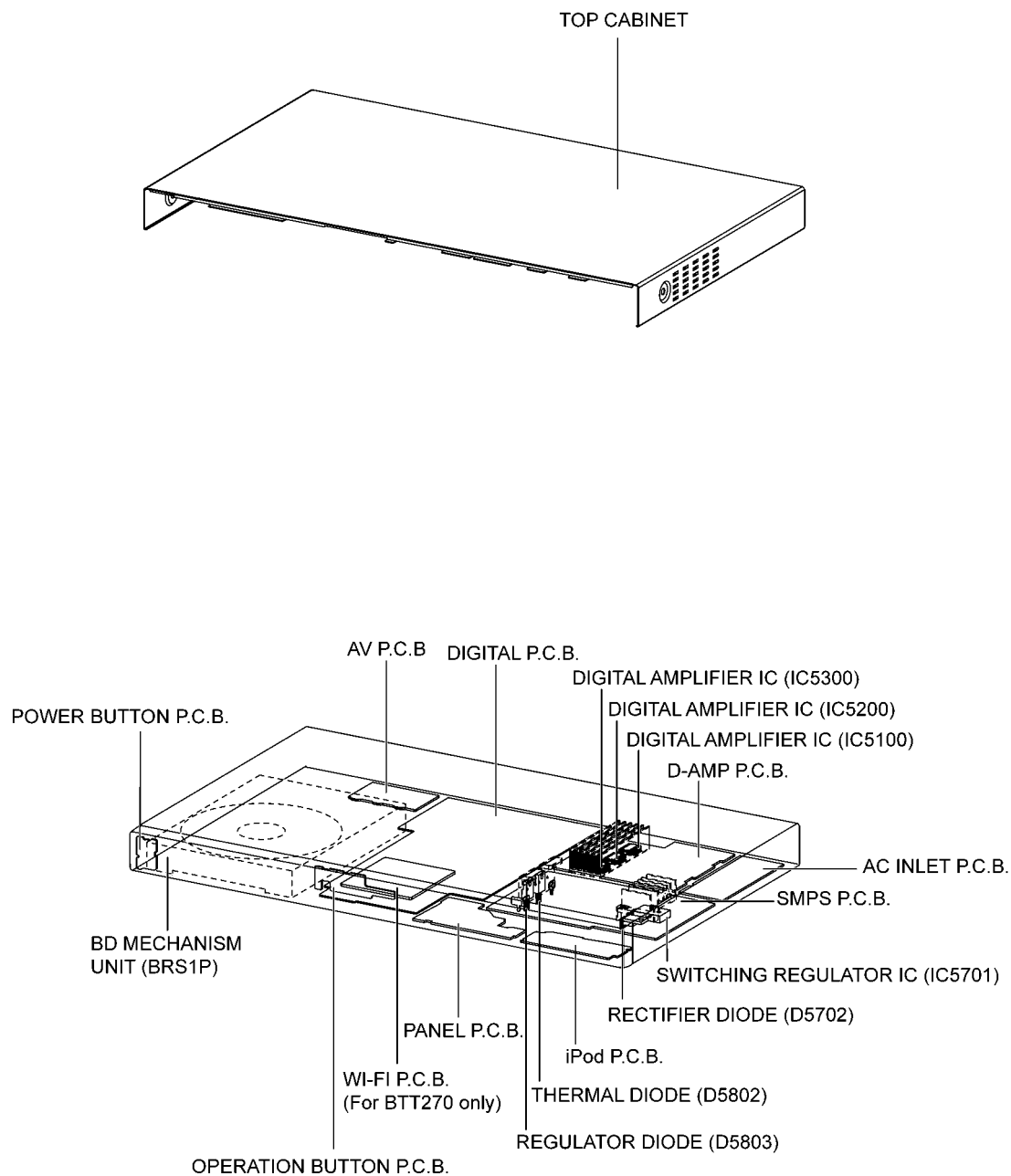
Below shown is part no. of different screw types used:

- | | |
|------------------------|----------------------|
| a :RHD30007-K2J | e :VHD1224-1 |
| b :RHD30119-S | f :RHDX261002 |
| c :RHD30168 | |
| d :RHD26046 | |

10.1. Disassembly Flow Chart

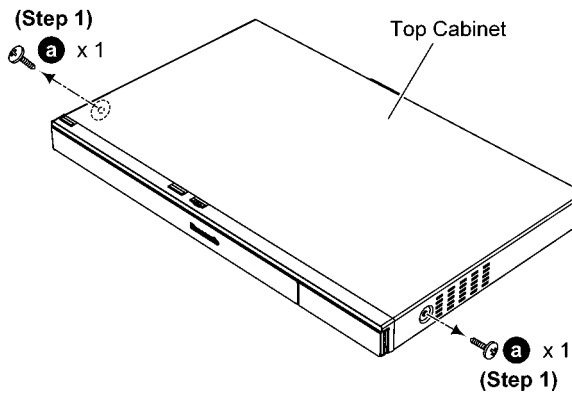


10.2. Main Components and P.C.B. Locations

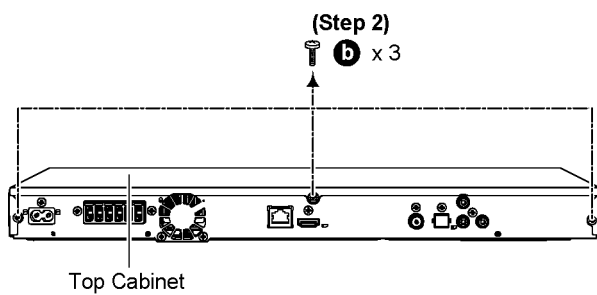


10.3. Disassembly of Top Cabinet

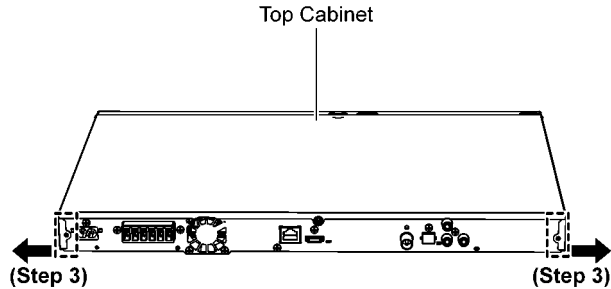
Step 1 Remove 2 screws.



Step 2 Remove 3 screws.

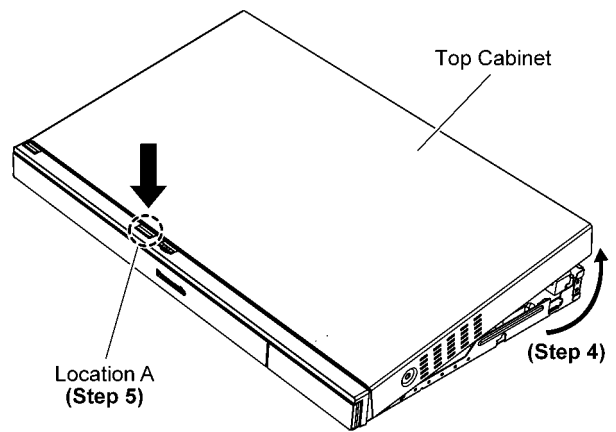


Step 3 Slightly pull both side of Top Cabinet in outward direction as diagram shown.

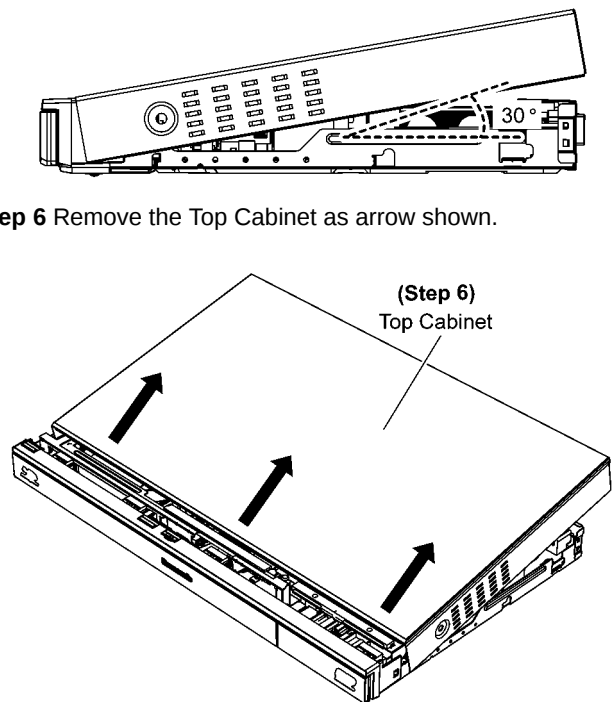


Step 4 Lift up back of Top Cabinet about 30°.

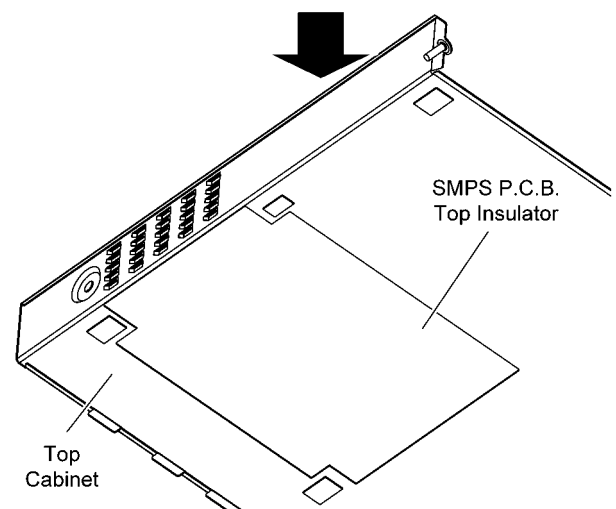
Step 5 Press location A in downward direction at Front Panel.



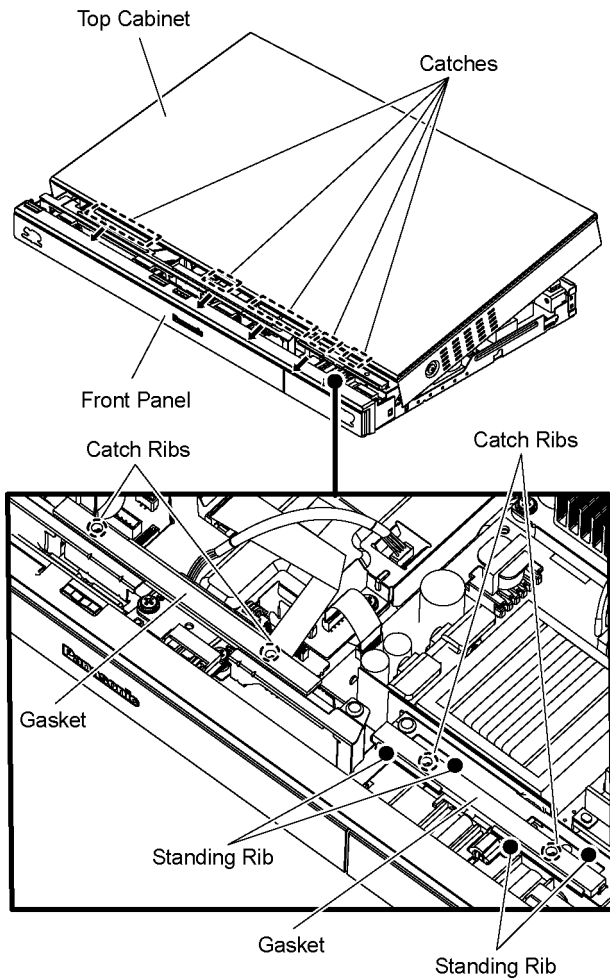
Step 6 Remove the Top Cabinet as arrow shown.



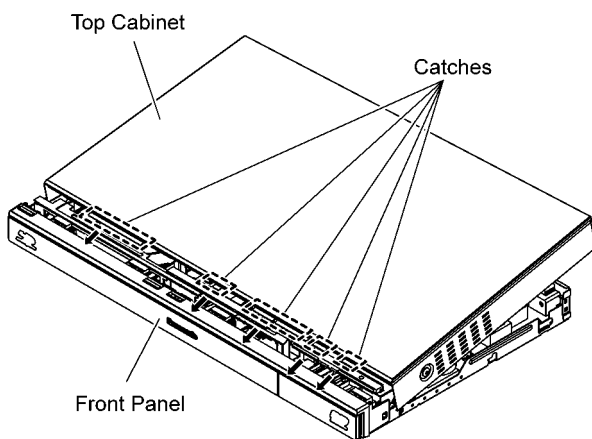
Caution: Replace the SMPS P.C.B. Top Insulator if broken. Ensure it is pasted properly on Top Cabinet as diagram shown.



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



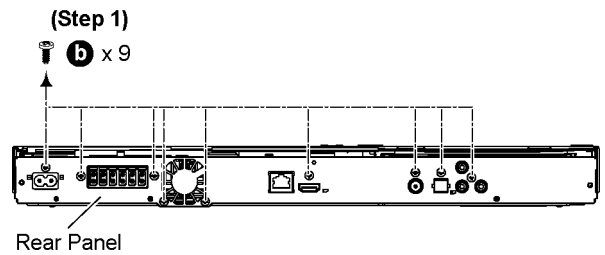
Caution: During assembling, ensure that the catches of Top Cabinet is inserted into Front Panel properly.



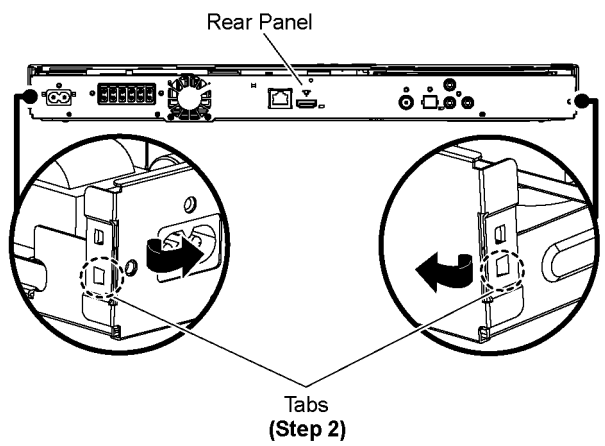
10.4. Disassembly of Rear Panel

• Refer to “Disassembly of Top Cabinet”.

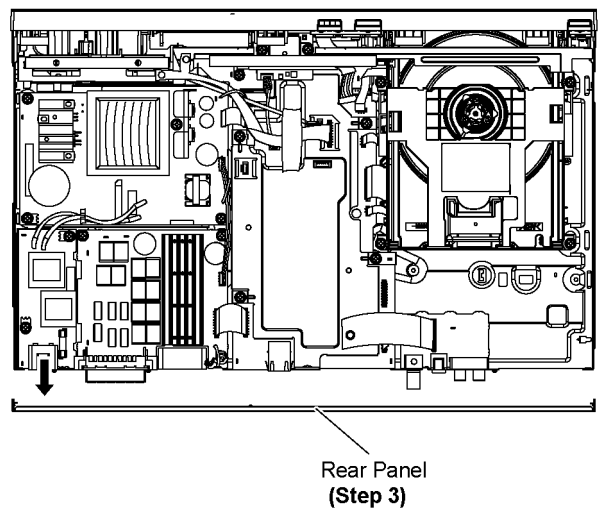
Step 1 Remove 9 screws.



Step 2 Release the tabs at both side of the Rear Panel in the direction of arrow.



Step 3 Remove Rear Panel.

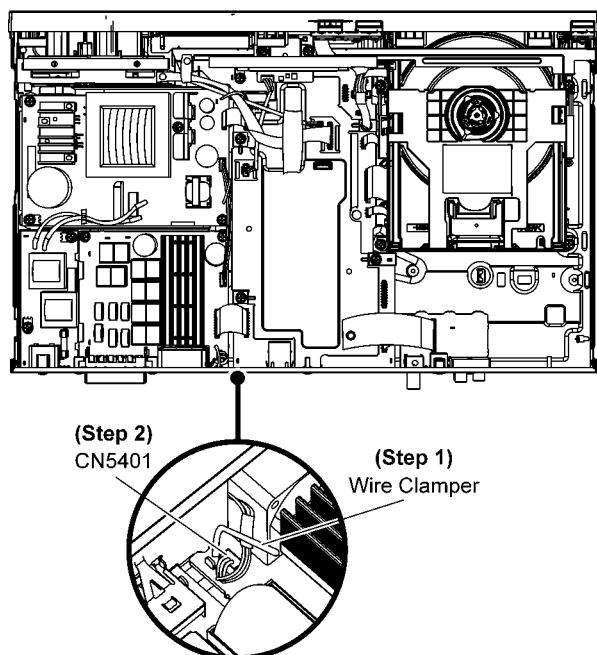


10.5. Disassembly of Fan

• Refer to “Disassembly of Top Cabinet”

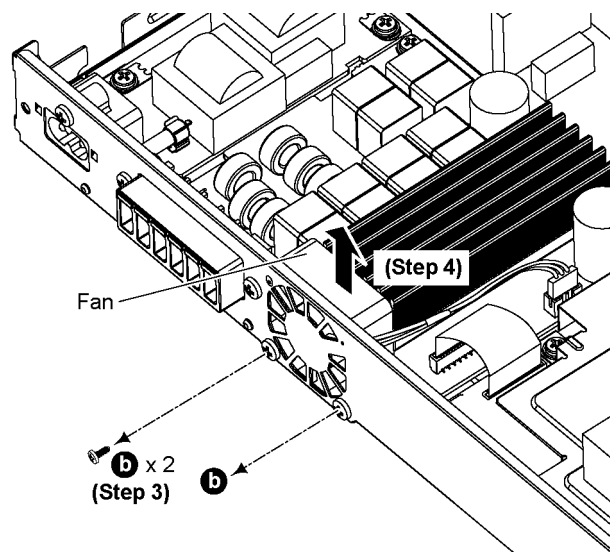
Step 1 Twist the Wire Clamper.

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



Step 3 Remove 2 screws.

Step 4 Lift up to remove Fan.



10.6. Disassembly of Front Panel Assembly

• Refer to “Disassembly of Top Cabinet”.

Step 1 Lift up Himelon.

Caution: Replace Himelon if torn.

Step 2 Lift up the Lead Clamper.

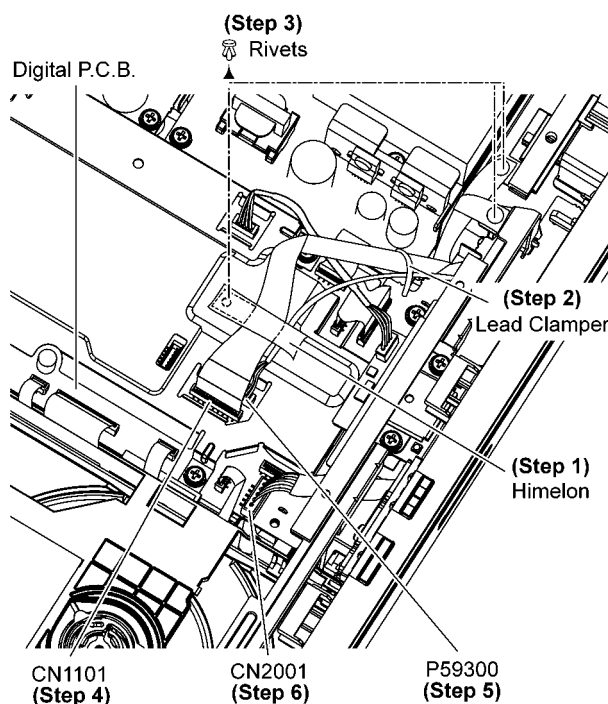
Step 3 Remove 3 rivets.

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

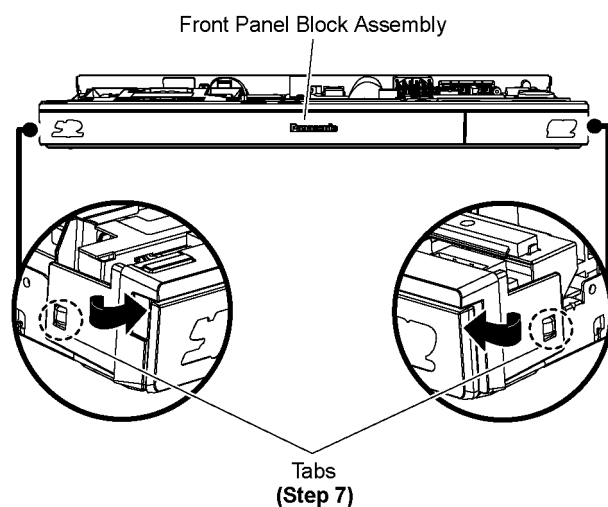
Step 4 Detach 11P FFC at the connector (CN1101) on Digital P.C.B..

Step 5 Detach 3P Wire at the connector (P59300) on Digital P.C.B..

Step 6 Detach 5P Cable at the connector (CN2001) on Digital P.C.B..



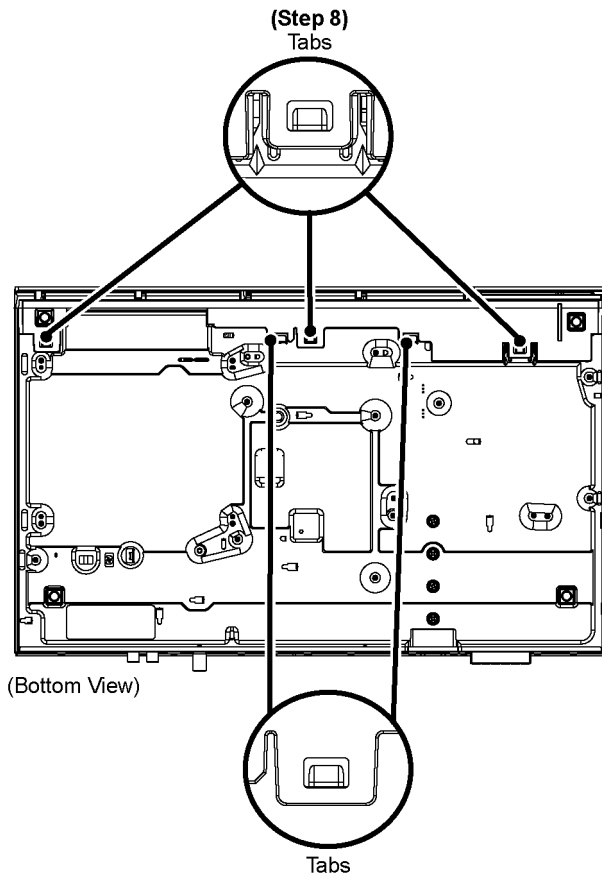
Step 7 Release tabs at both sides of the Front Panel Block Assembly in the direction of arrow.



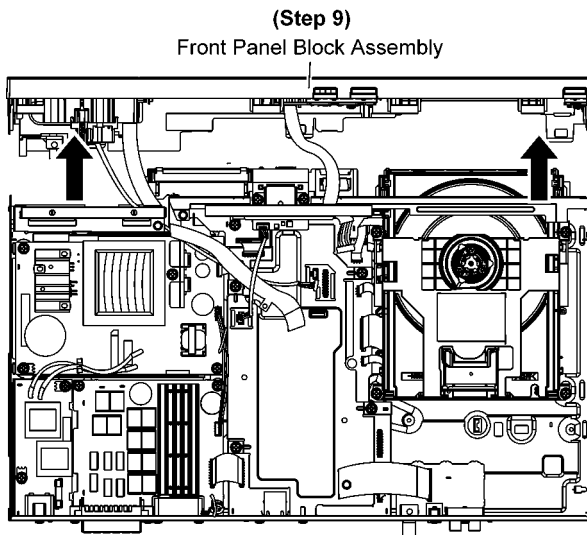
Caution: Do not exert strong force when releasing the tabs. During assembling, ensure that Front Panel Block assembly is properly inserted & fully caught onto Bottom Chassis.

Step 8 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.

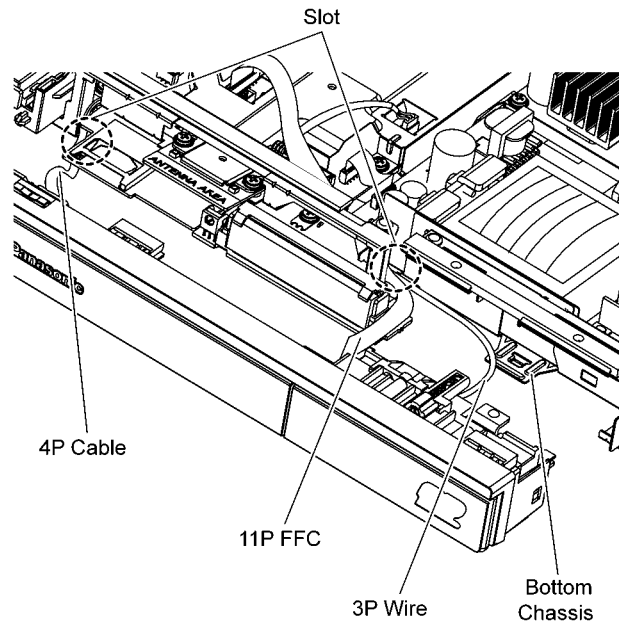


Step 9 Detach the Front Panel Block Assembly.



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

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

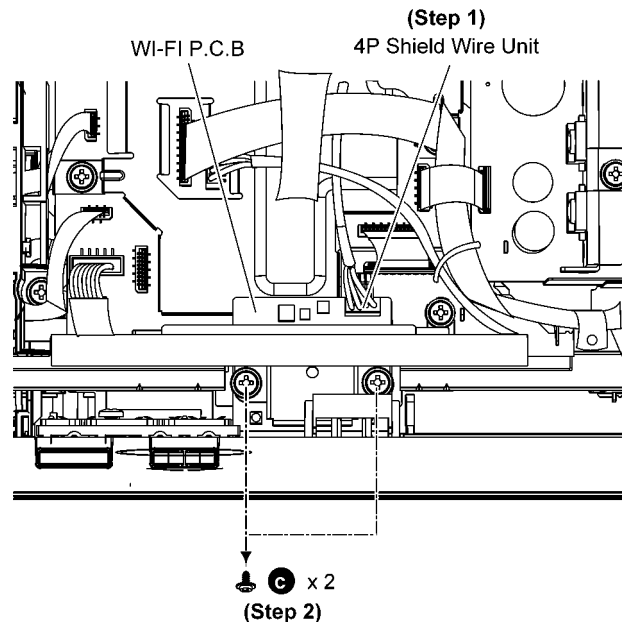


10.7. Disassembly of WI-FI P.C.B. (For SA-BTT270 Only)

• Refer to "Disassembly of Top Cabinet".

Step 1 Detach 4P shield wire unit on WI-FI P.C.B..

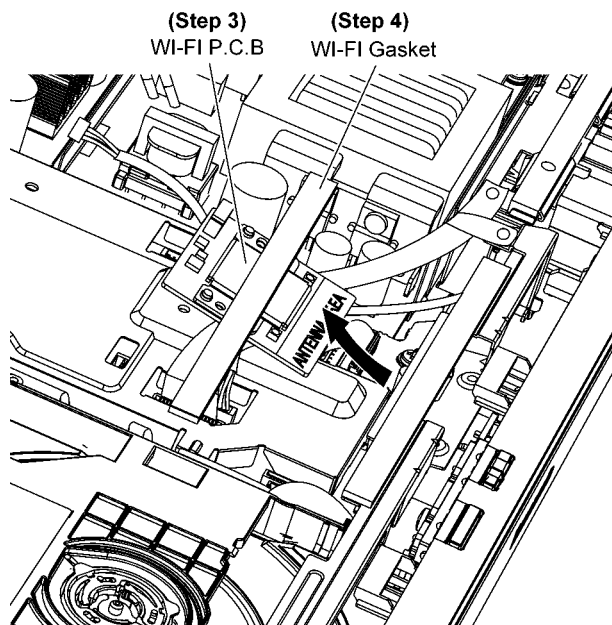
Step 2 Remove 2 screws.



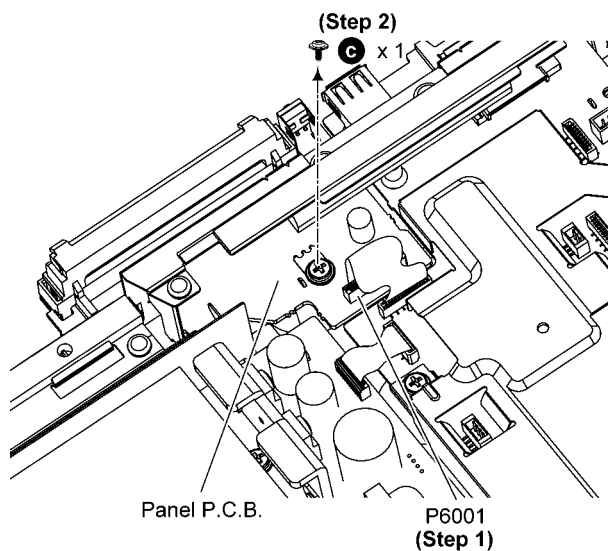
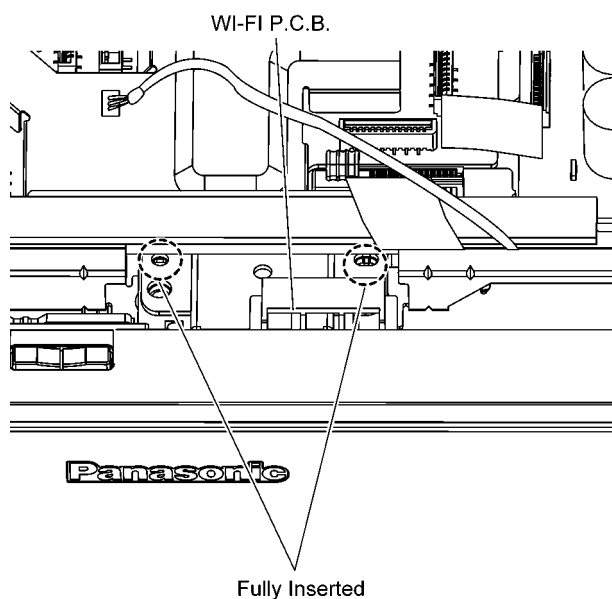
Step 3 Remove WI-FI P.C.B. according to arrow shown.

Step 4 Remove WI-FI Gasket from WI-FI P.C.B..

Caution: Keep WI-FI Gasket in a safe place, place it back during assembling. Replace the WI-FI Gasket if torn.

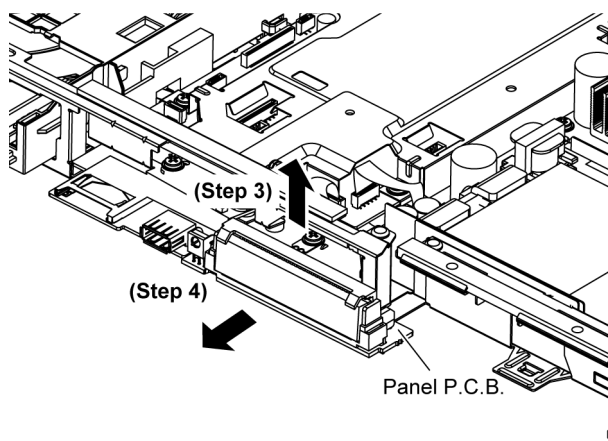


Caution: During assembling, ensure that WI-FI P.C.B. is properly located & fully fixed onto Bottom Chassis.



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

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



10.8. Disassembly of Panel P.C.B.

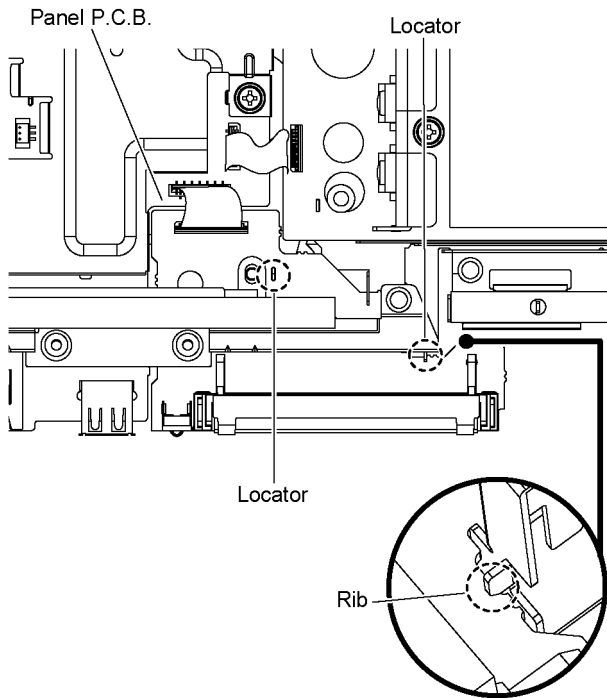
- Refer to "Disassembly of Top Cabinet".
- Refer to "Disassembly of Front Panel Block Assembly".
- Refer to "Disassembly of WI-FI P.C.B." (For SA-BTT270 only).

Step 1 Detach 13P FFC at the connector (P6001) on Panel P.C.B..

Step 2 Remove 1 screw.

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

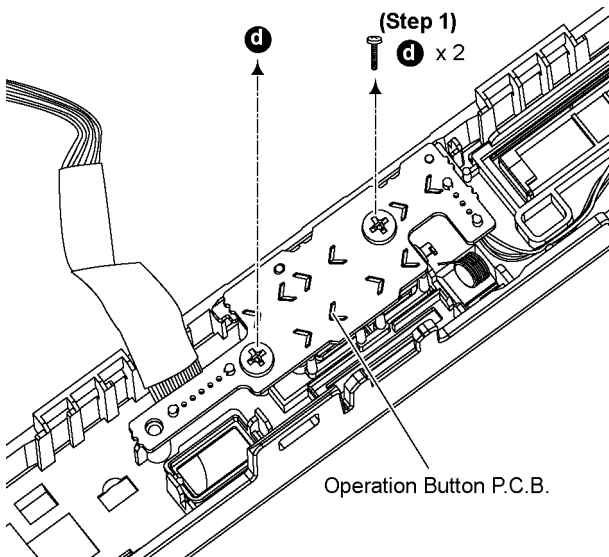
Caution (2): During assembling, ensure that Panel P.C.B. is inserted under the rib of Bottom Chassis.



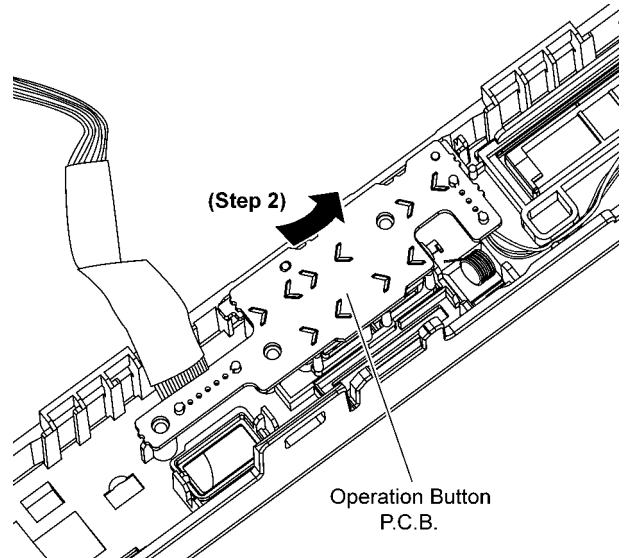
10.9. Disassembly of Operation Button P.C.B.

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

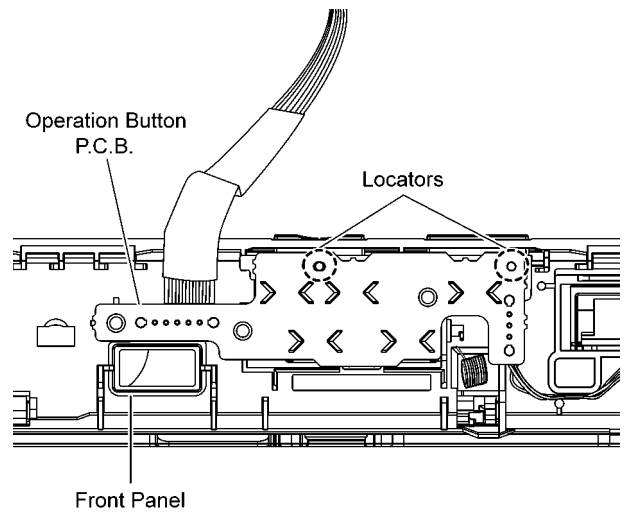
Step 1 Remove 2 screws.



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

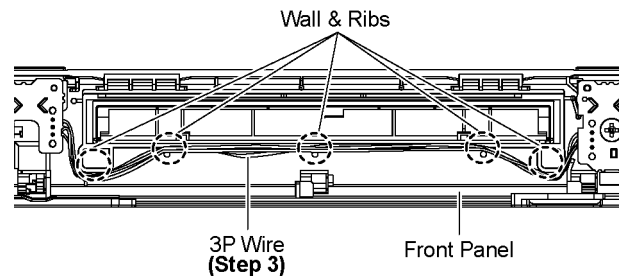


Caution: During assembling, ensure that Operation Button P.C.B. is properly located & fully fixed onto Front Panel.



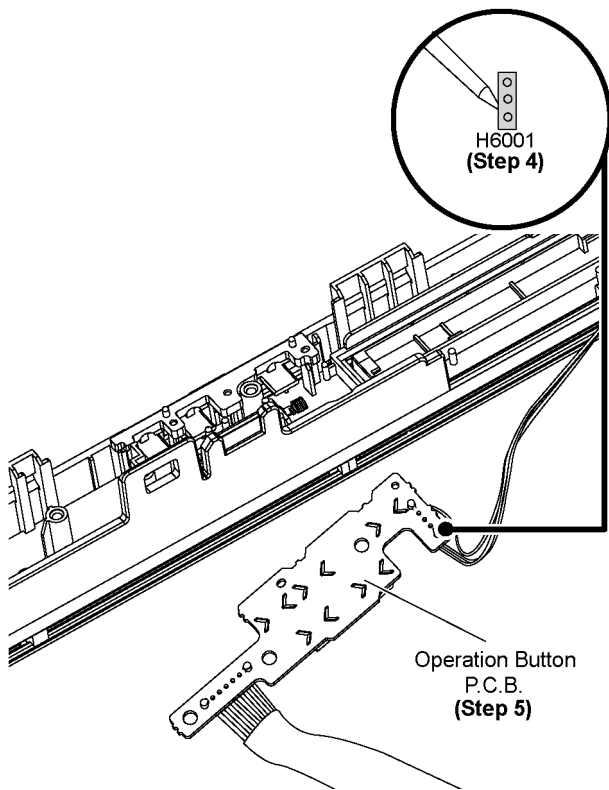
Step 3 Release 3P Wire from wall & ribs of Front Panel.

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 Operation Button P.C.B..

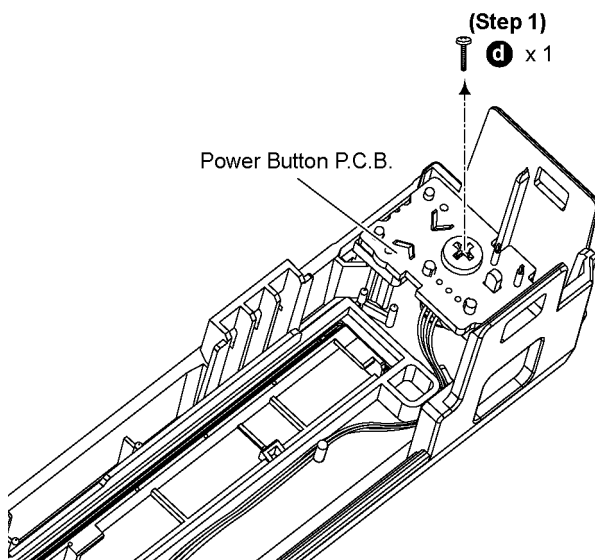
Step 5 Remove the Operation Button P.C.B..



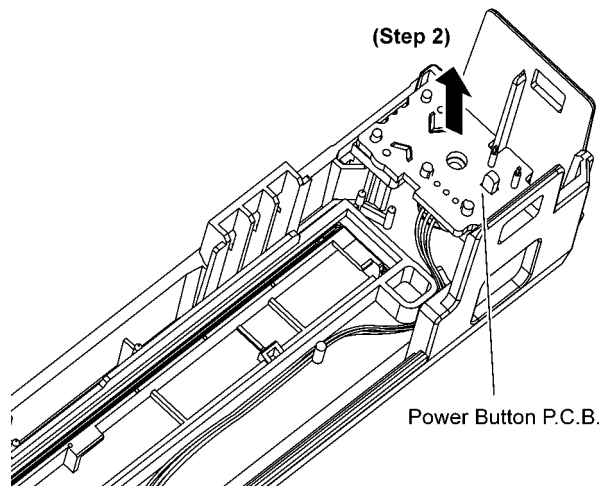
10.10. Disassembly of Power Button P.C.B.

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

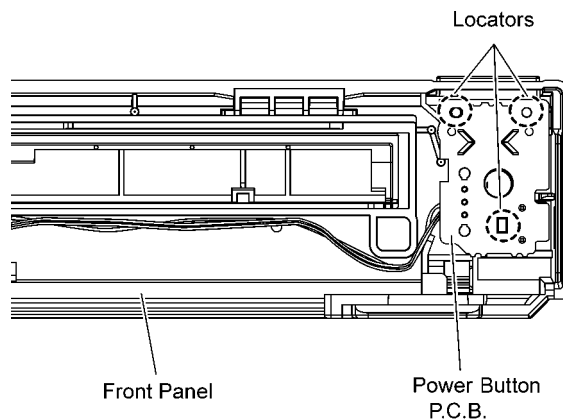
Step 1 Remove 1 screw.



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

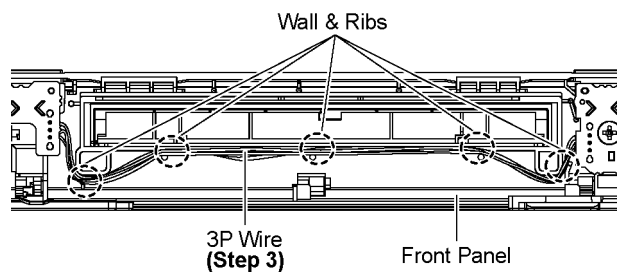


Caution: During assembling, ensure that Power Button P.C.B. is inserted & fully fixed onto Front Panel.



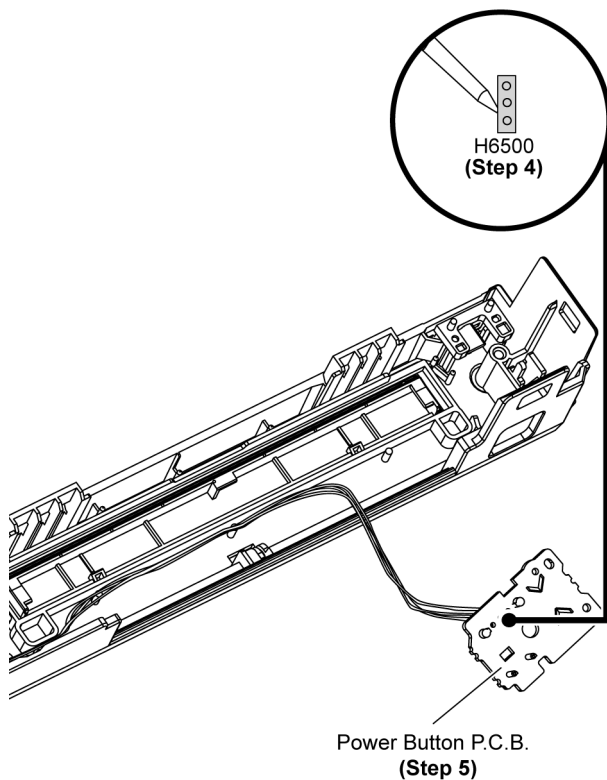
Step 3 Release 3P Wire from wall & ribs of Front Panel.

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

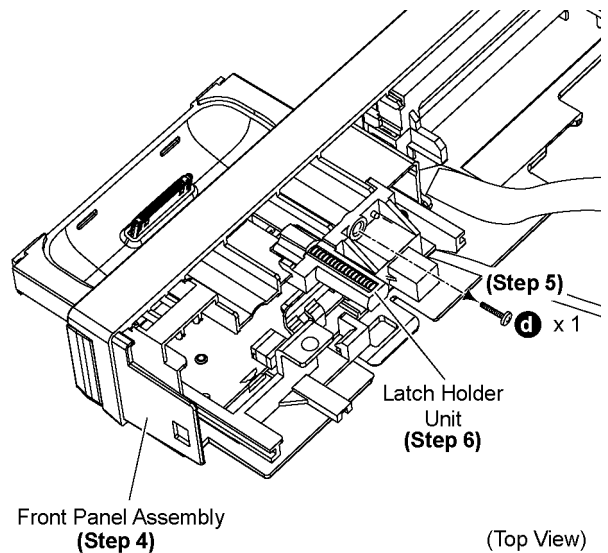


Step 4 Desolder pins of the connector (H6500) on Power Button P.C.B..

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

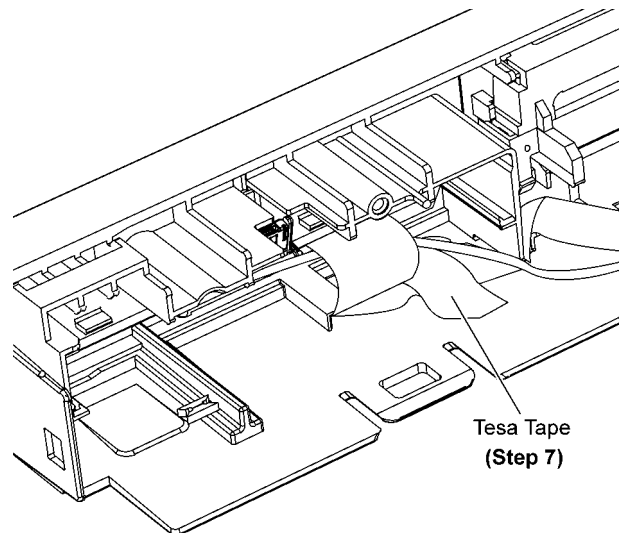


Caution: Keep the Latch Holder Unit in safe place, place it back during assembling.



Step 7 Lift up the tesa tape.

Caution: Replace the tesa tape if torn.



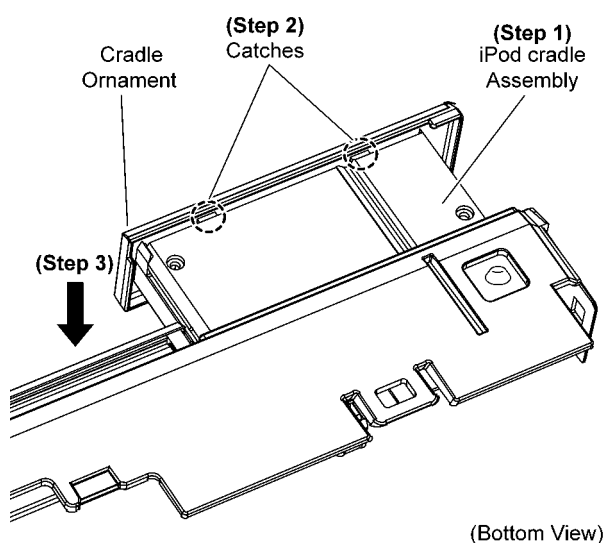
10.11. Disassembly of iPod Cradle Assembly

- 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 in the direction of arrow.



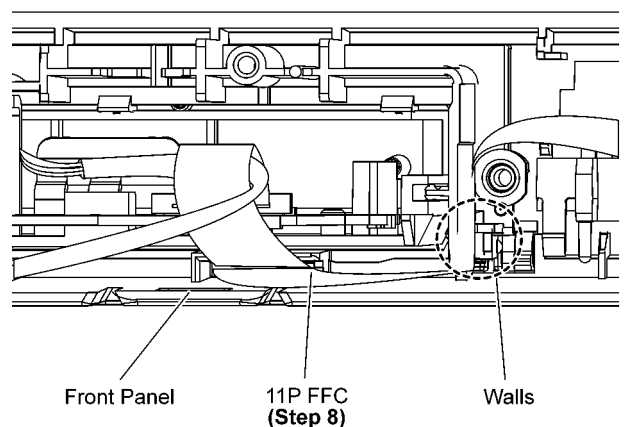
Step 4 Upset the Front Panel Assembly.

Step 5 Remove 1 screw.

Step 6 Remove the Latch Holder Unit.

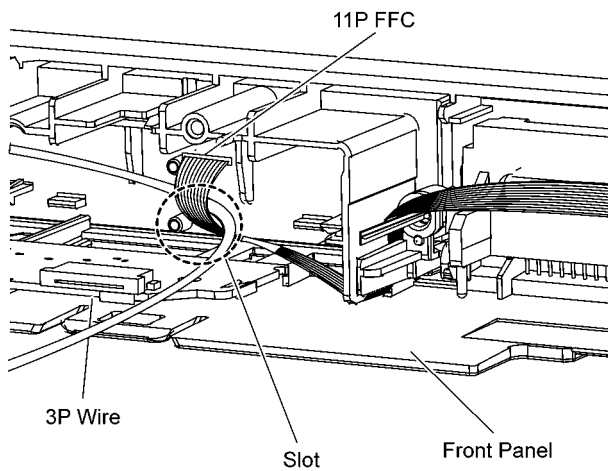
Step 8 Release 11P FFC from the walls of Front Panel.

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

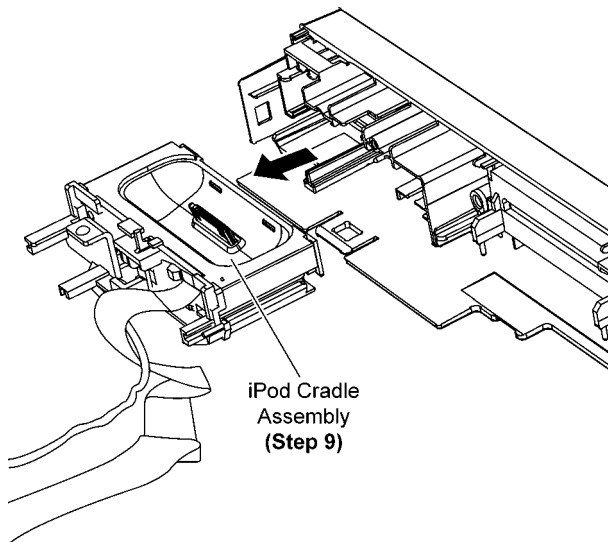


Caution (1): During assembling, ensure that 3P Wire is properly dressed through round of 11P FFC as diagram shown.

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



Step 9 Remove iPod Cradle Assembly.

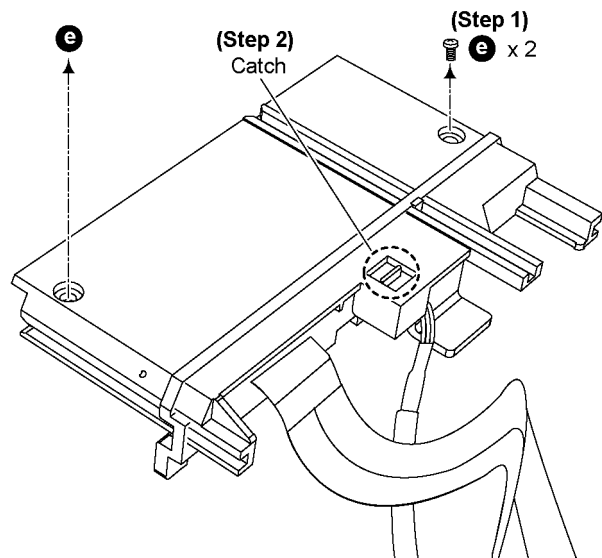


10.12. Disassembly of iPod P.C.B.

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

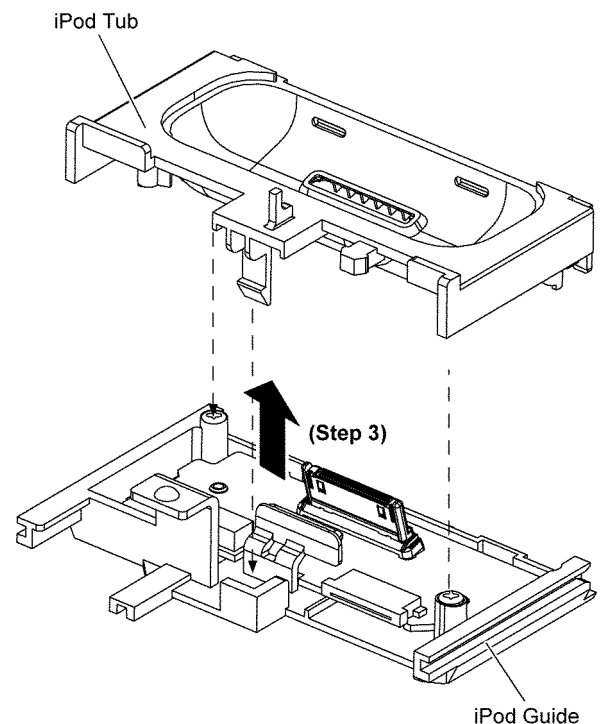
Step 1 Remove 2 screws.

Step 2 Release 1 catch.



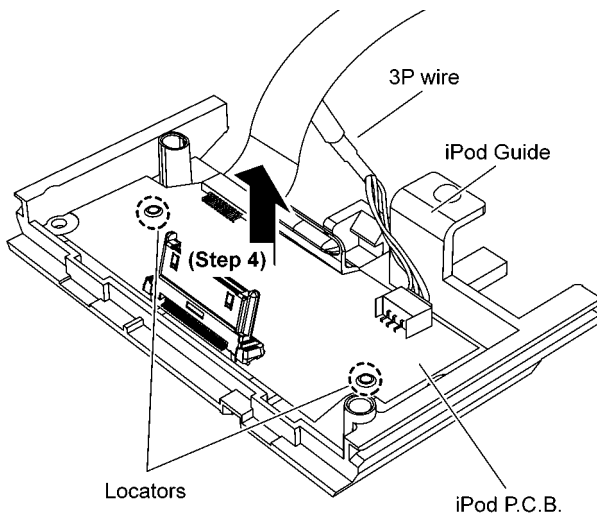
Step 3 Lift up the iPod Tub.

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.

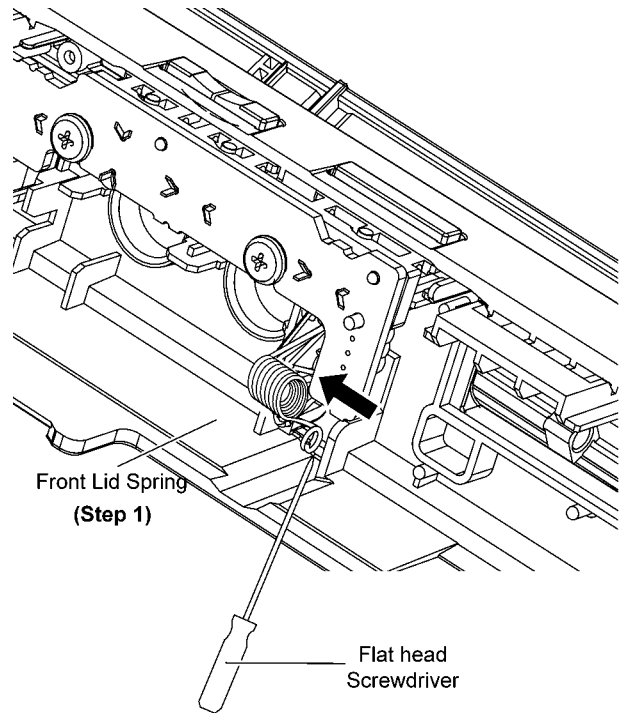
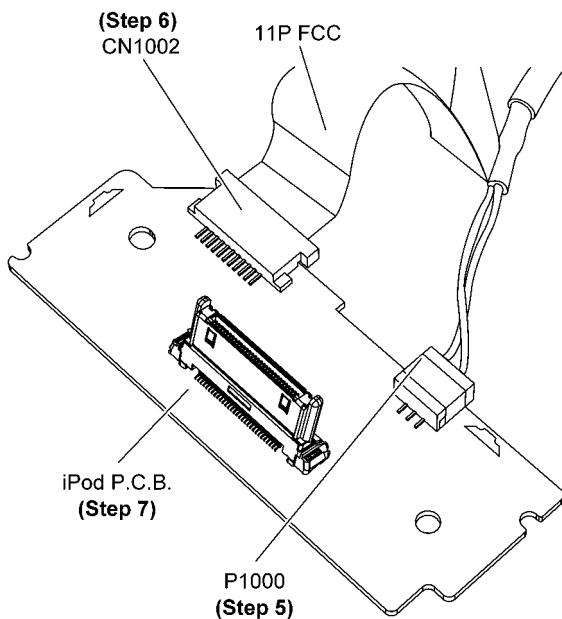


Step 5 Detach 3P Wire at the connector (P1000) on iPod P.C.B..

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.

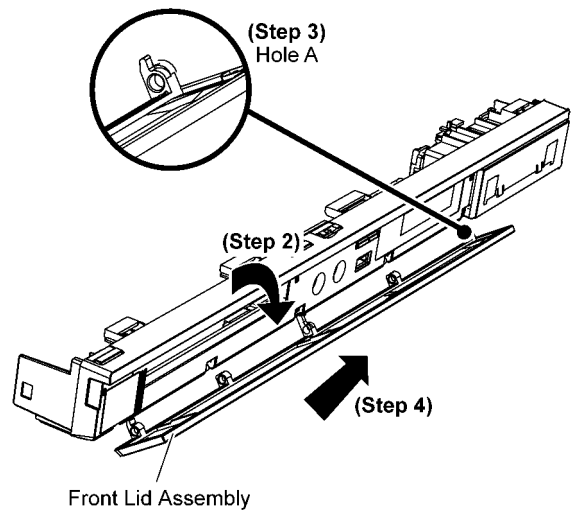
Step 7 Remove the iPod P.C.B..



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.



10.13. Replacement of Front Lid Assembly

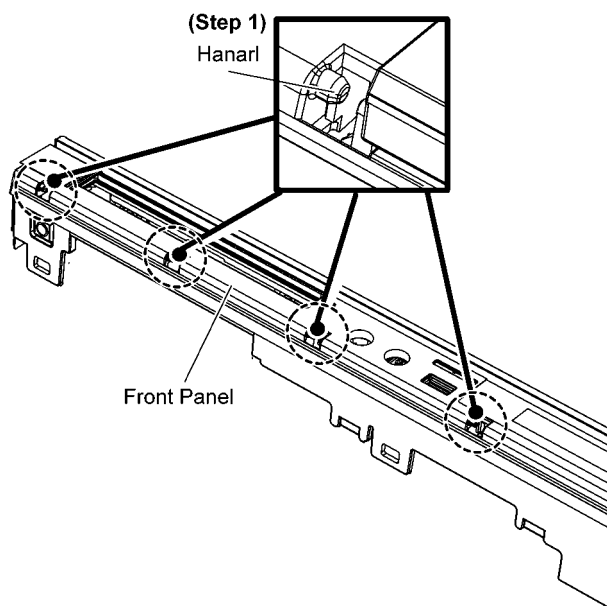
10.13.1. Disassembly of Front Lid Assembly

- 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.

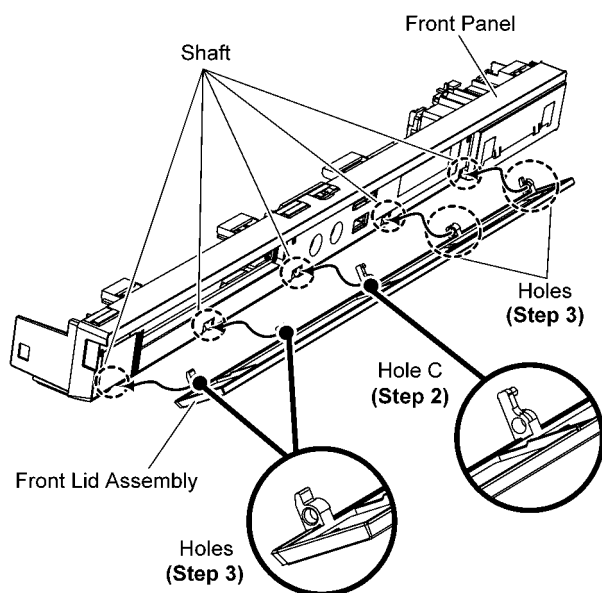
10.13.2. Assembly of Front Lid Assembly

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

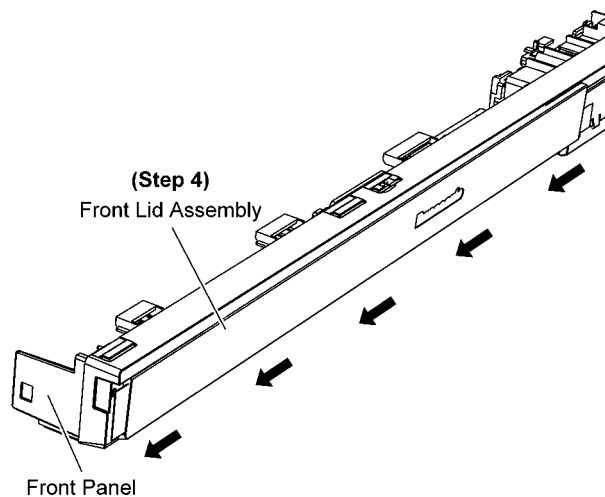


Step 2 Locate Hole C of Front Lid Assembly into shaft of Front Panel.

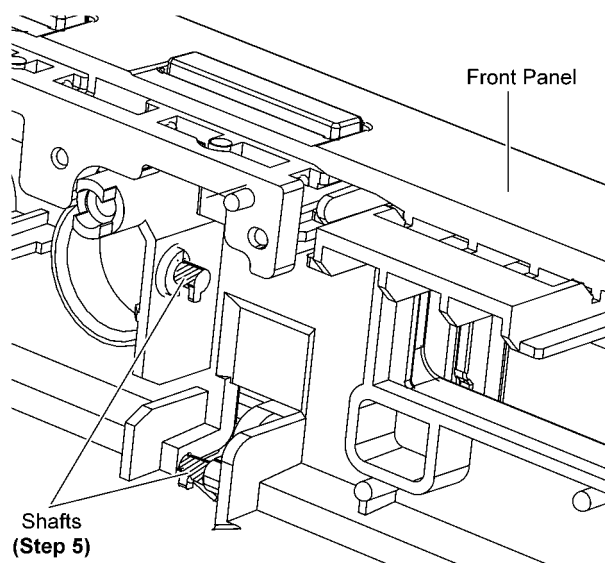
Step 3 Locate the rest of the holes into shafts of Front Panel.



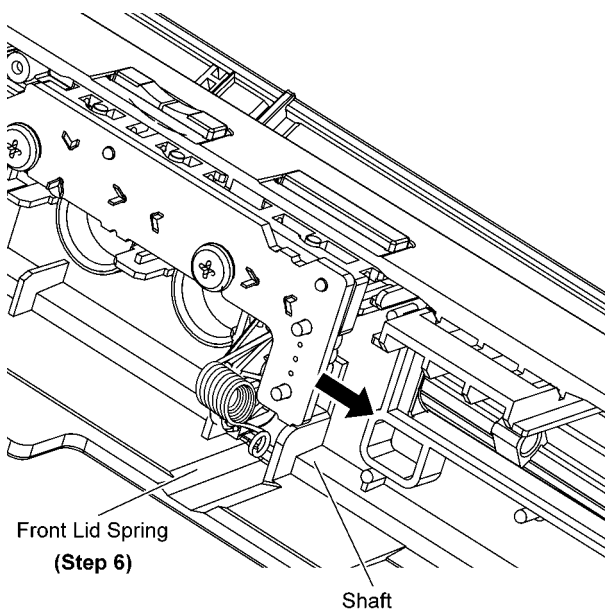
Step 4 Push Front Lid Assembly to the end according to direction of arrow.



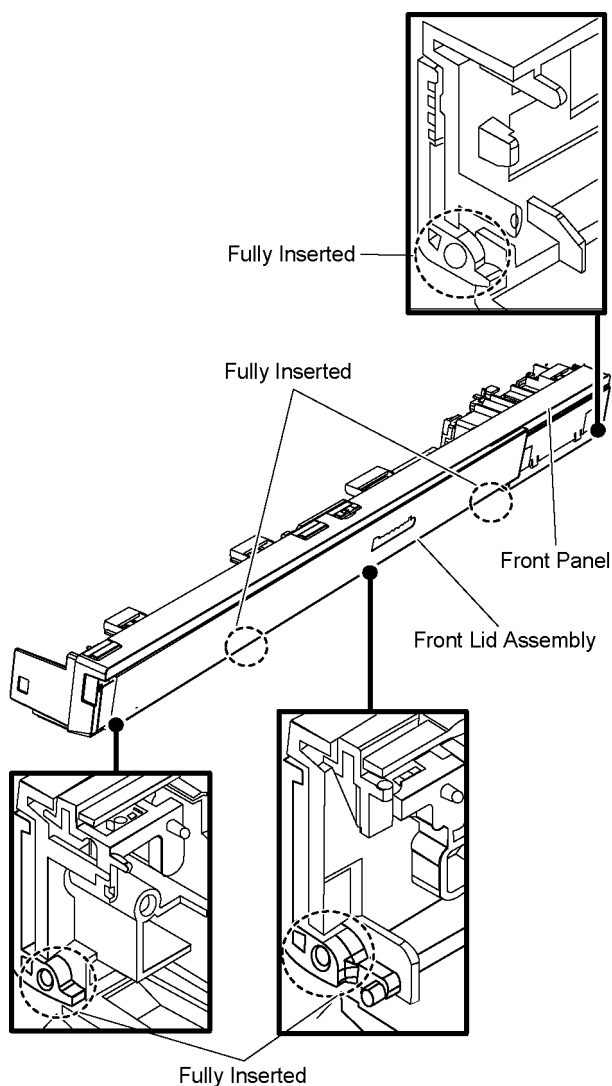
Step 5 Apply grease around the shafts of Front Panel & Front Lid as diagram shown.



Step 6 Fix the Front Lid Spring into the shaft.



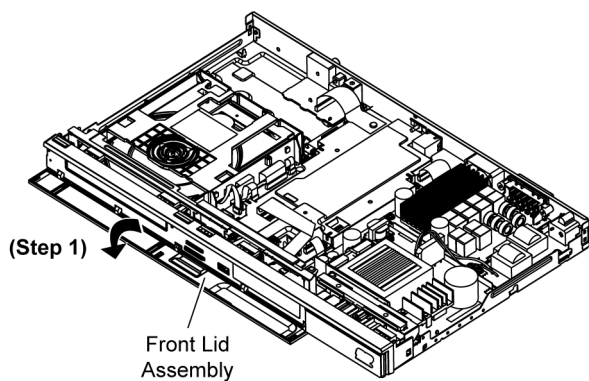
Caution: Ensure that the Front Lid Assembly are fully inserted into Front Panel.



10.14. Disassembly of BD Mechanism Unit (BRS1P)

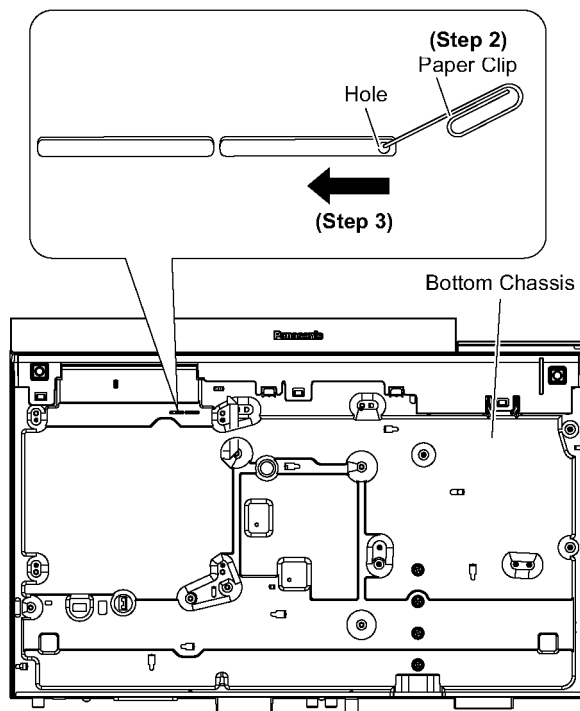
• Refer to “Disassembly of Top Cabinet”.

Step 1 Open the Front Lid Assembly.

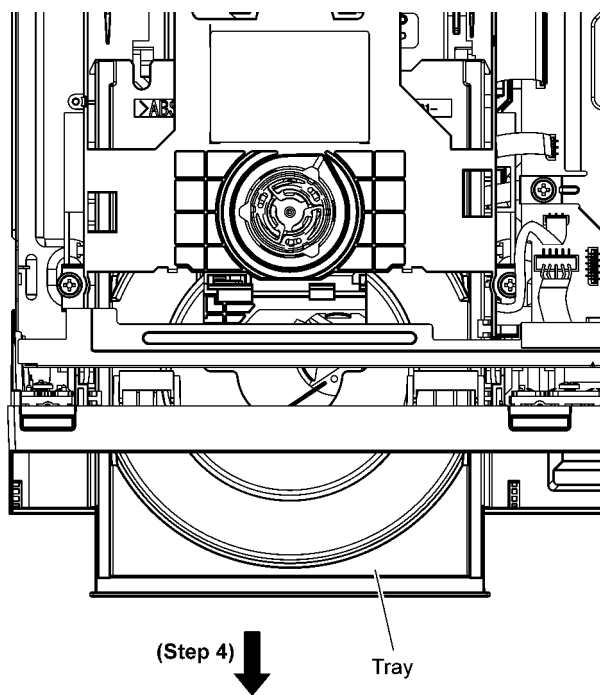


Step 2 Insert Paper Clip into the bottom of the unit.

Step 3 Push the paper clip in the direction of arrow to eject tray.



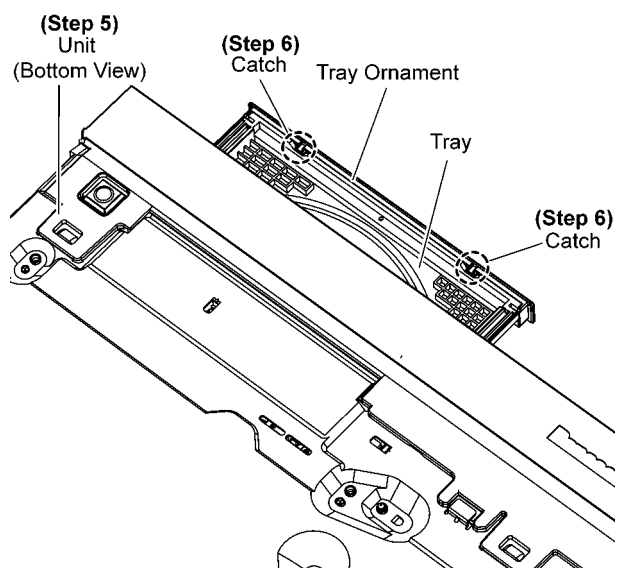
Step 4 Slide the Tray out fully as direction of arrow.



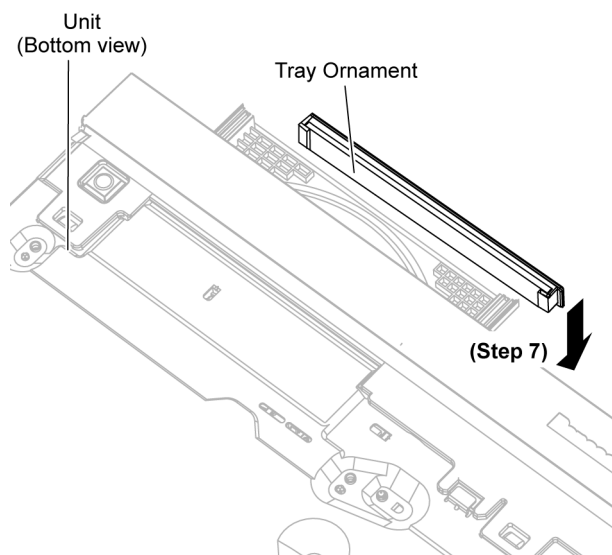
Step 5 Upset the unit.

Step 6 Release 2 catches.

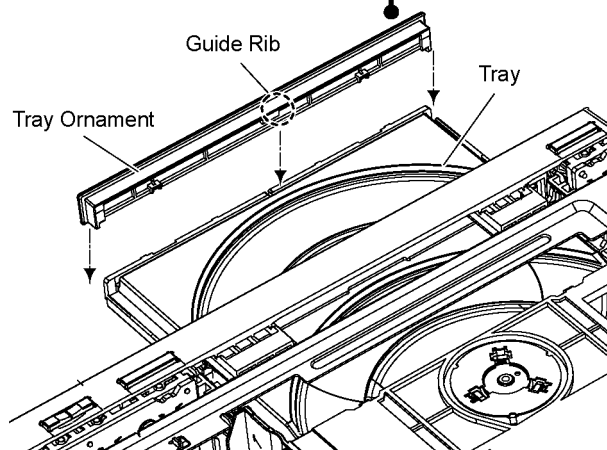
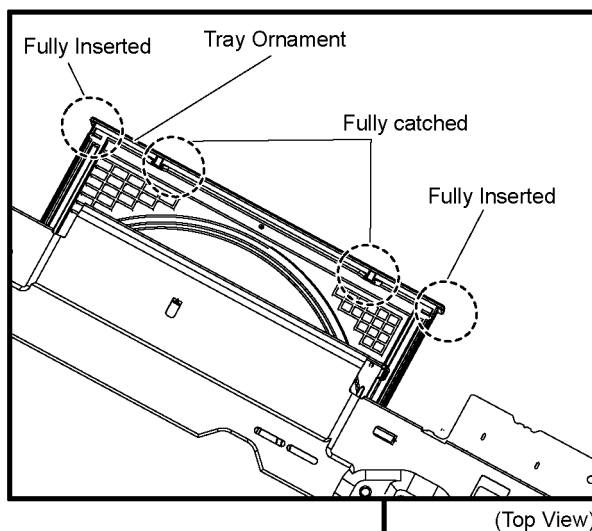
Caution: During assembling, ensure that Tray Ornament is properly inserted & fully caught onto Tray.



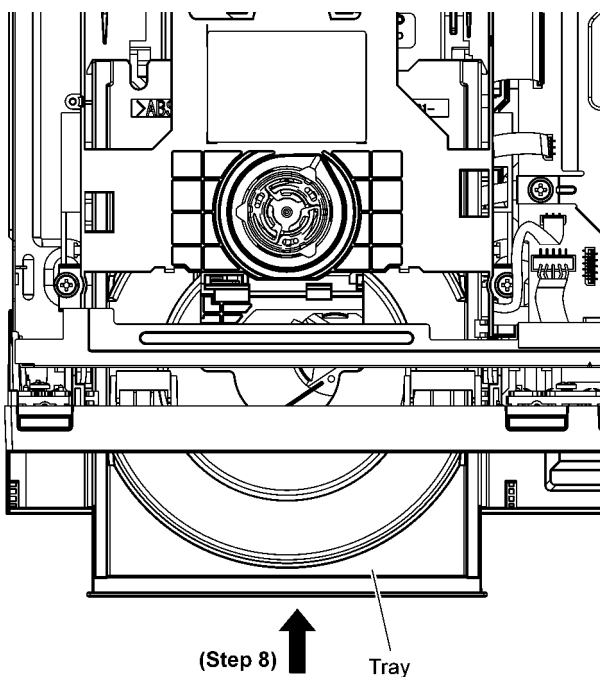
Step 7 Remove Tray Ornament in the direction of arrow.



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



Step 8 Slide the tray in fully as direction of arrow.

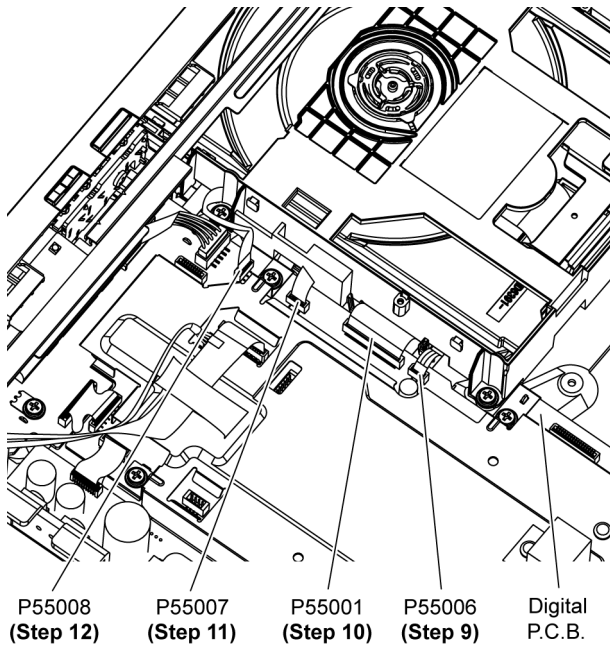


Step 9 Detach 4P FFC at the connector (P55006) on Digital P.C.B..

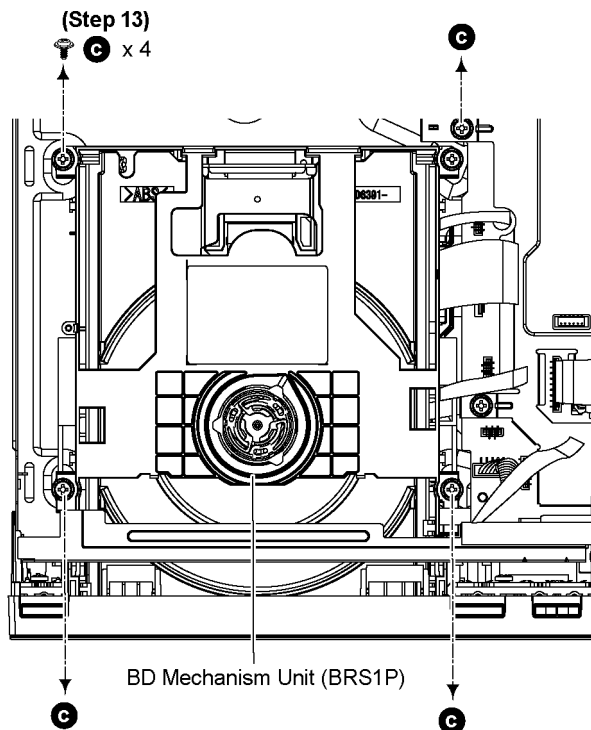
Step 10 Detach 45P FFC at the connector (P55001) on Digital P.C.B..

Step 11 Detach 5P FFC at the connector (P55007) on Digital P.C.B..

Step 12 Detach 5P FFC at the connector (P55008) on Digital P.C.B..

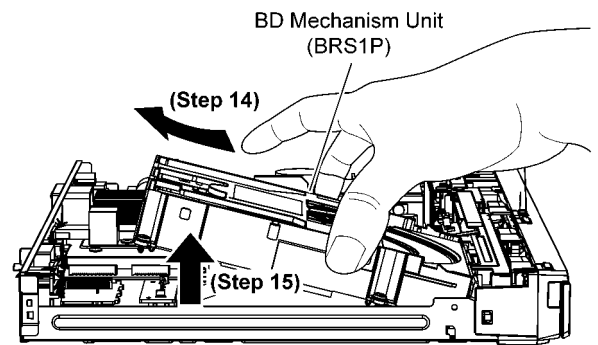


Step 13 Remove 4 screws.

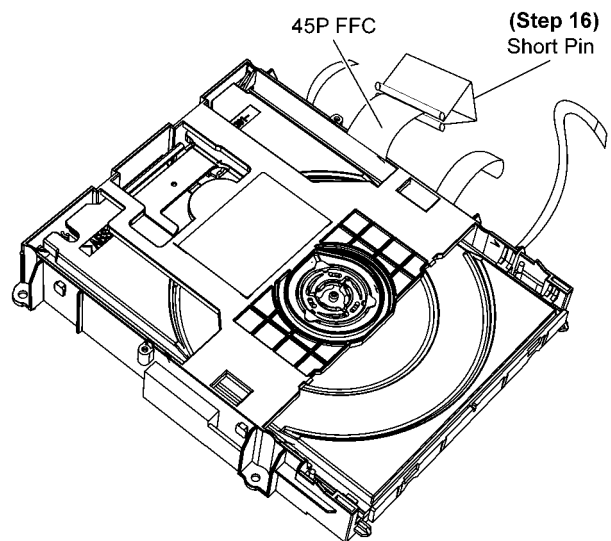


Step 14 Slightly lift up BD Mechanism Unit (BRS1P).

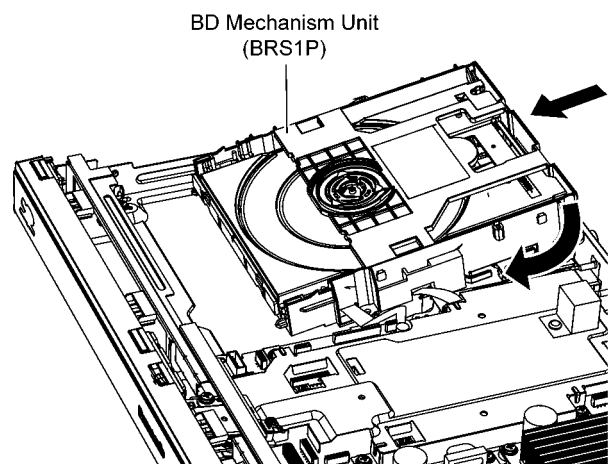
Step 15 Remove the BD Mechanism Unit (BRS1P).



Step 16 Attach a short pin to the 45P FFC of the BD Mechanism Unit (BRS1P).

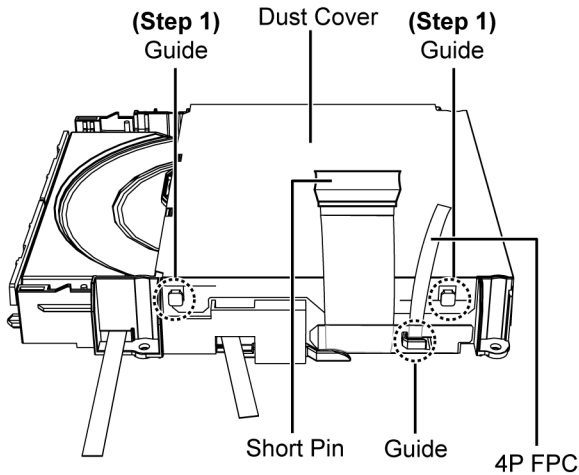


Caution: During assembling, ensure that BD Mechanism Unit (BRS1P) is properly inserted & fully seated on Bottom Chassis before screwing.

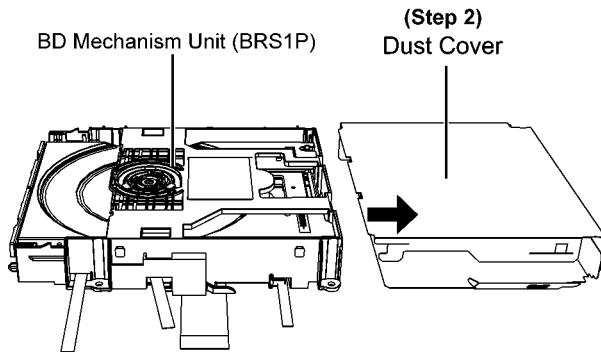


10.14.1. Disassembly of Dust Cover

Step 1: Release the Dust Cover from the guides.



Step 2: Remove the Dust Cover as shown.

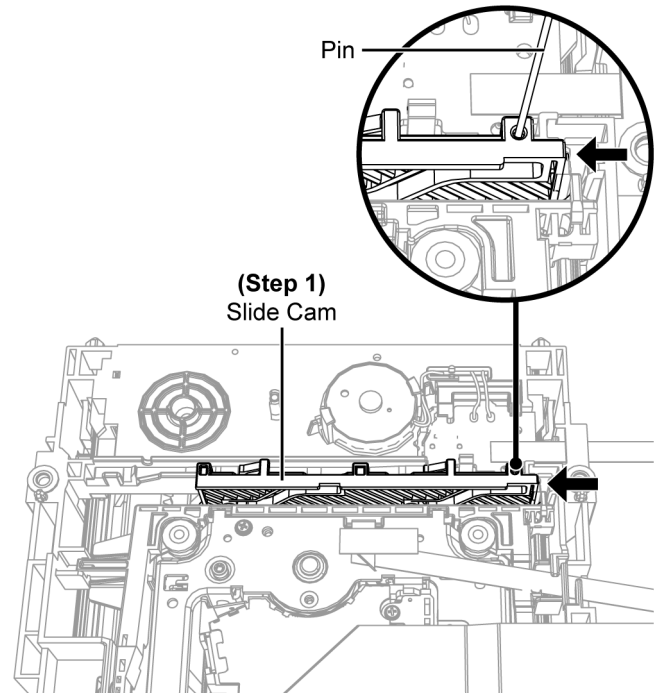


10.14.2. Replacement of Tray

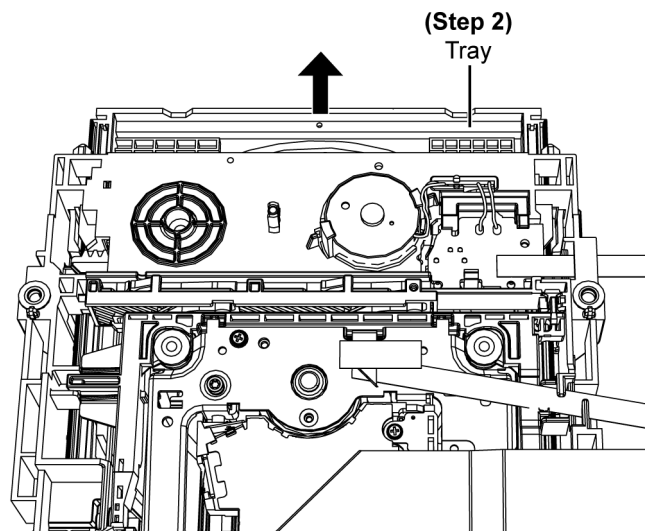
Refer to “Disassembly of Dust Cover”.

10.14.2.1. Disassembly of Tray

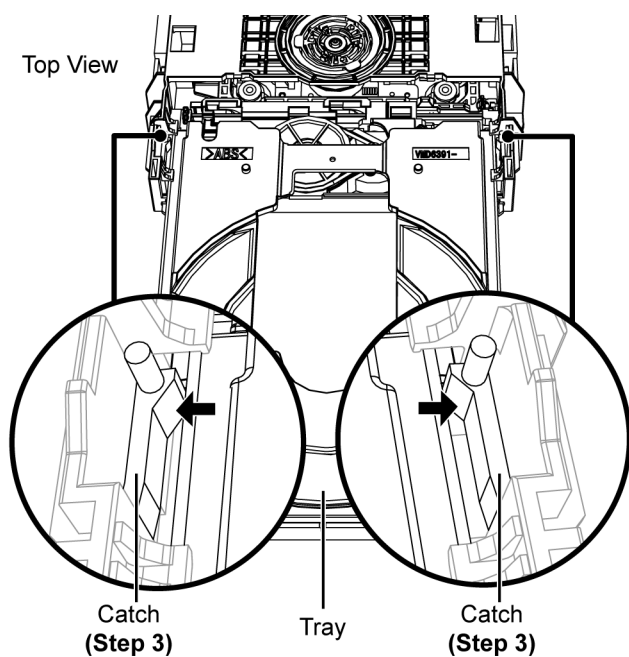
Step 1: Use a pin to push the Slide Cam until it come to a stop. The Tray will open automatically.



Step 2: Gently push out the tray until it is open fully.

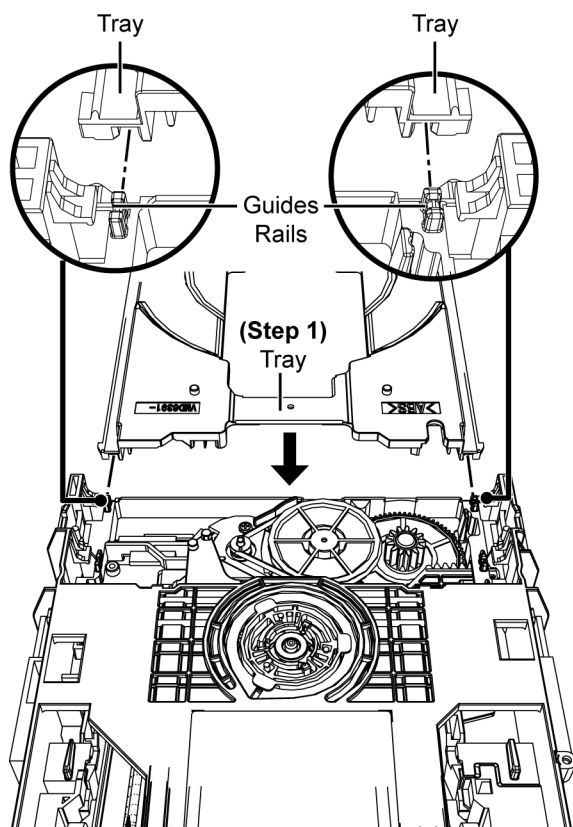


Step 3: Push the catches side way & remove the tray.

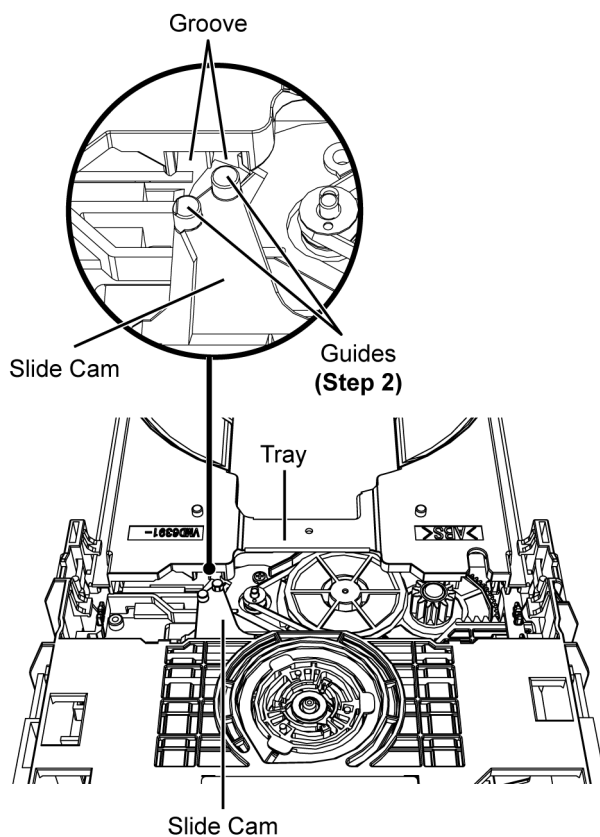


10.14.2.2. Assembly of Tray

Step 1: Insert the Tray into the guide rails as picture shown.



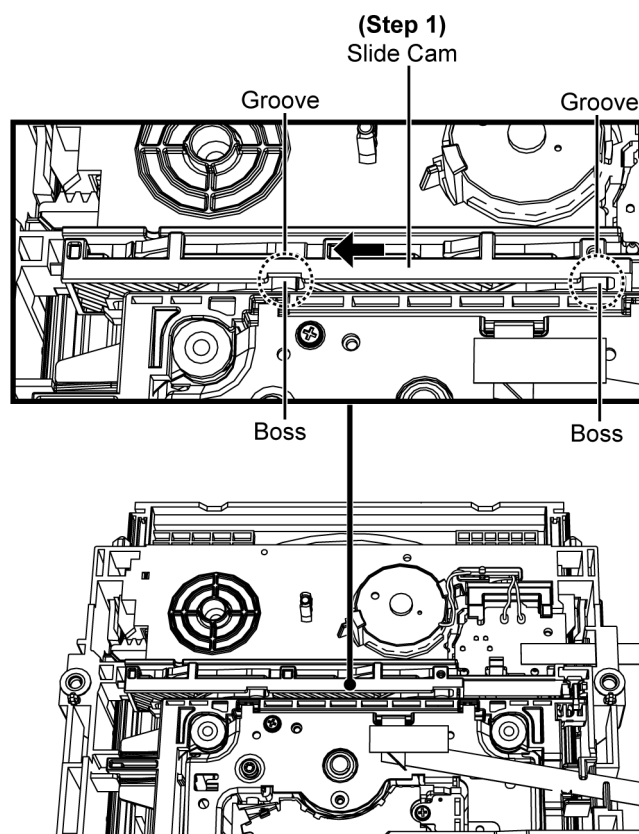
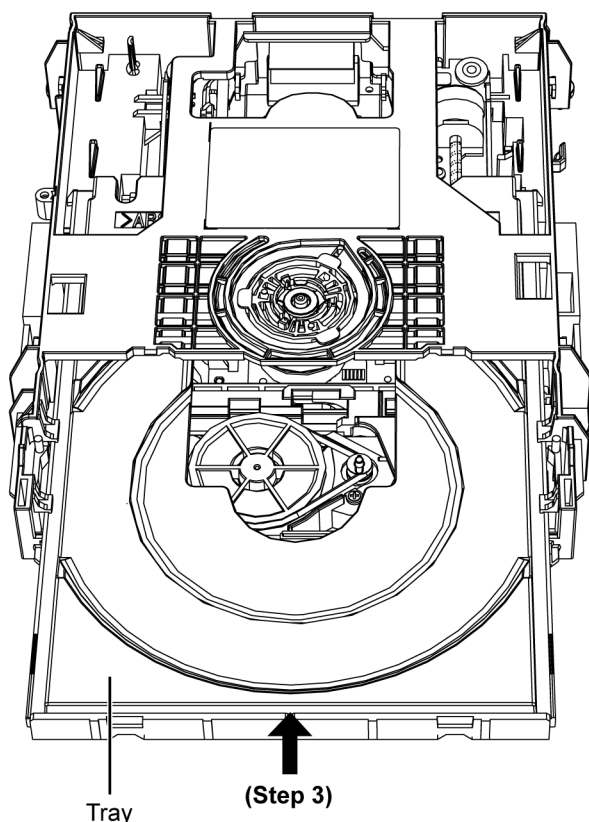
Step 2: Align the guides of the Slide Cam with the groove of the tray unit.



Step 3: Gently push in the tray unit until it is closed fully.

Caution: Do not use strong force during pushing of the tray unit.

Repeat Step 1 to Step 2, when the tray unit cannot be push forwards.



Step 2: Lift up the FFC Plastic Sheet.

Step 3: Release 45P FFC from the slots.

10.14.3. Replacement of BD Traverse Unit

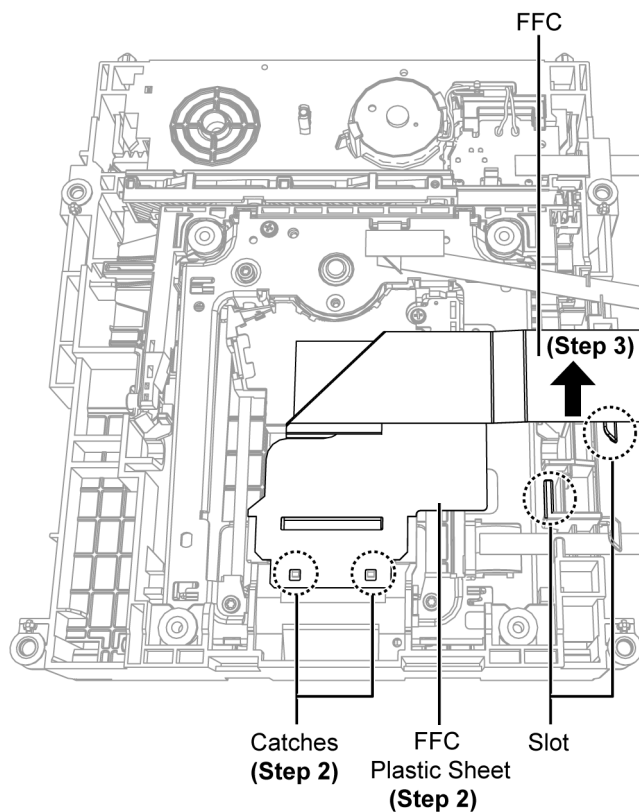
(Note: This section is for reference only)

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

10.14.3.1. Disassembly of BD Traverse Unit

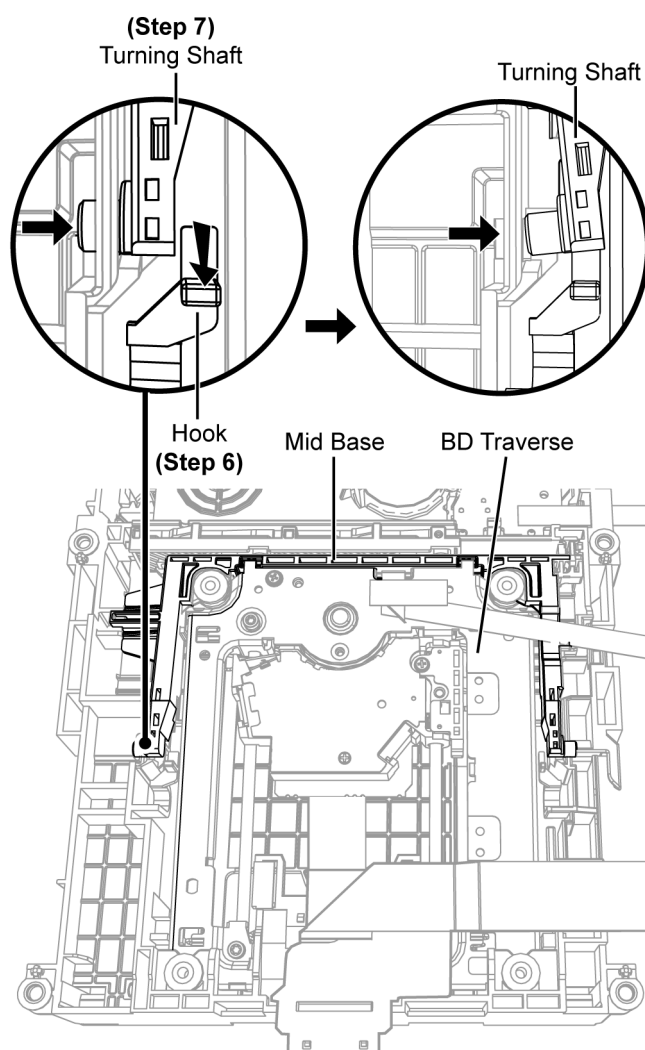
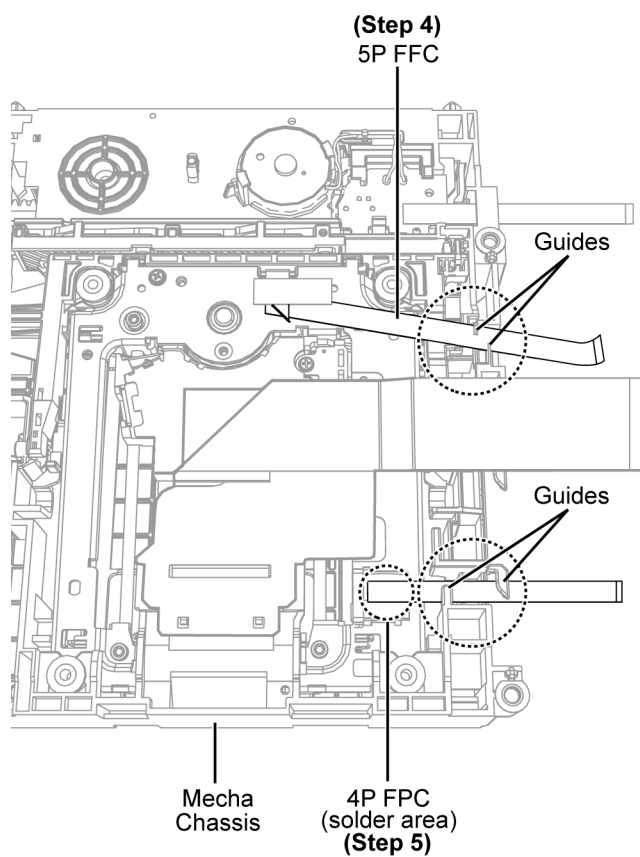
Step 1: Slide the Slide Cam until it come to a stop.



Step 4: Release 5P FFC from the BD Mechanism Unit (BRS1P).

Step 5: Release 4P FPC from the BD Mechanism Unit (BRS1P).

Caution: Avoid using strong force, to prevent damage on the solder area of 4P FPC.

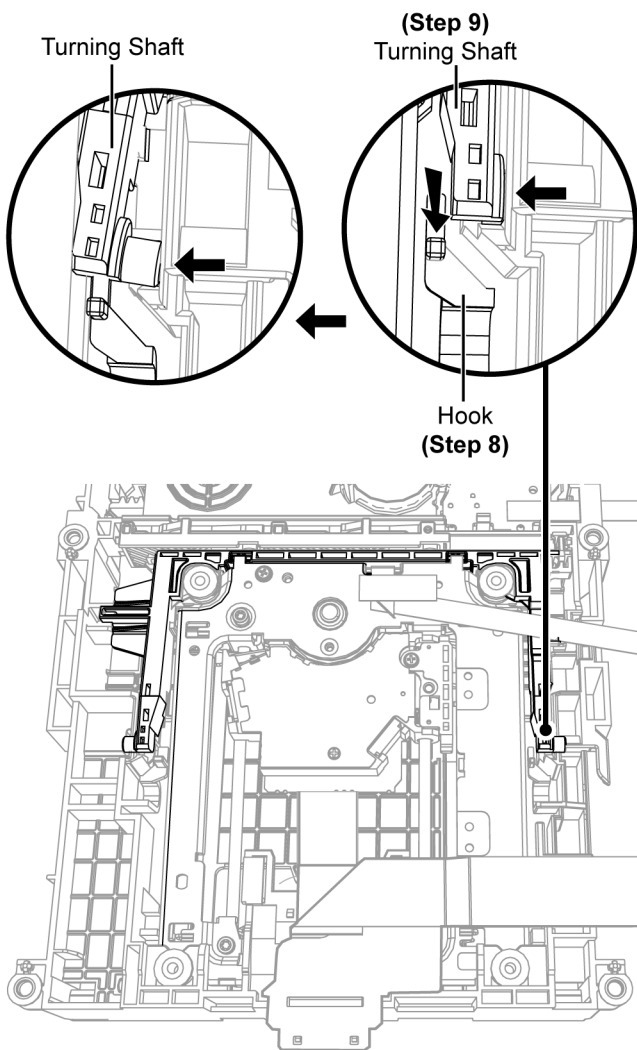


Step 6: Press down the hook.

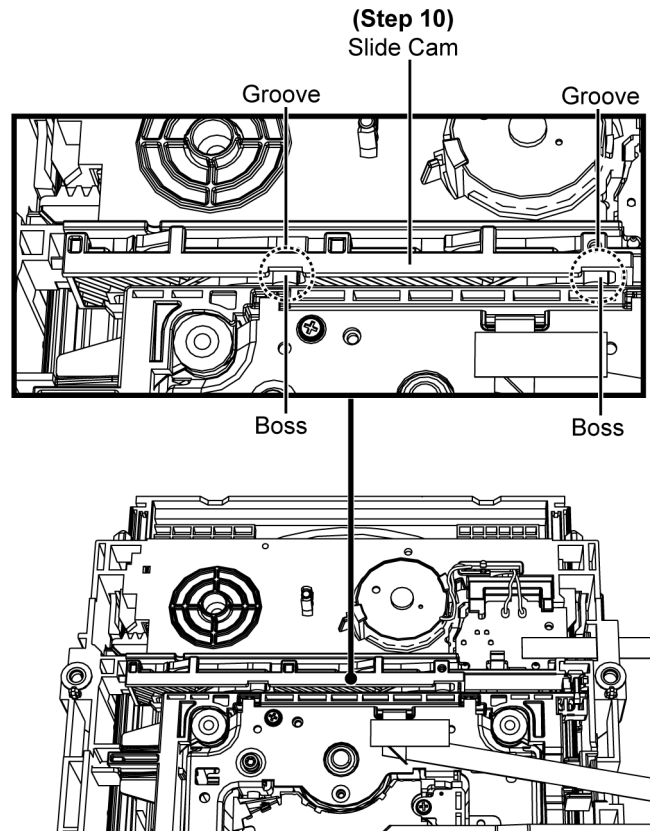
Step 7: Lift up the Turning Shaft of the Mid Base Unit as shown.

Step 8: Press down the hook.

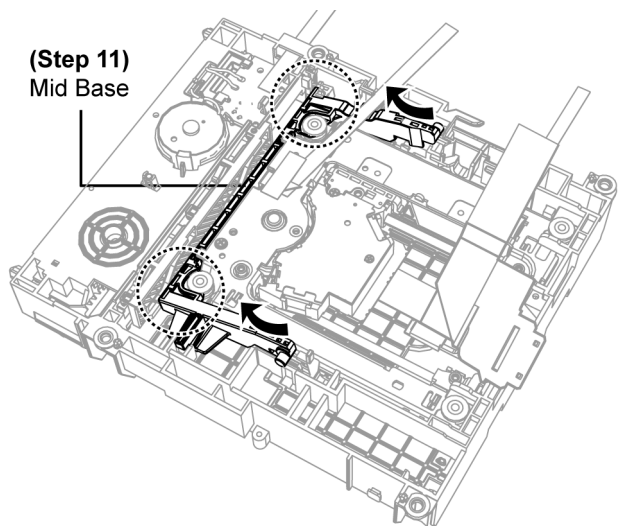
Step 9: Release the Turning Shaft of the Mid Base Unit as shown.



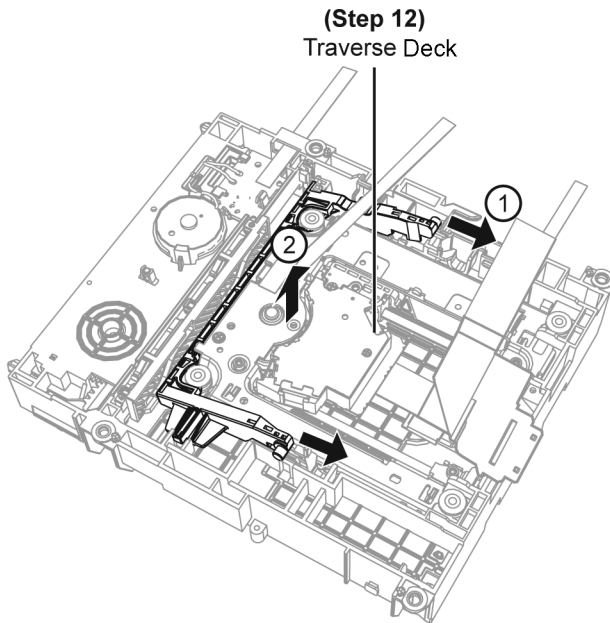
Step 10: Align the bosses of the Mid Base Unit with the grooves of the Slide Cam.



Step 11: Slightly tilt and lift up the arm of Mid Base at location as shown.



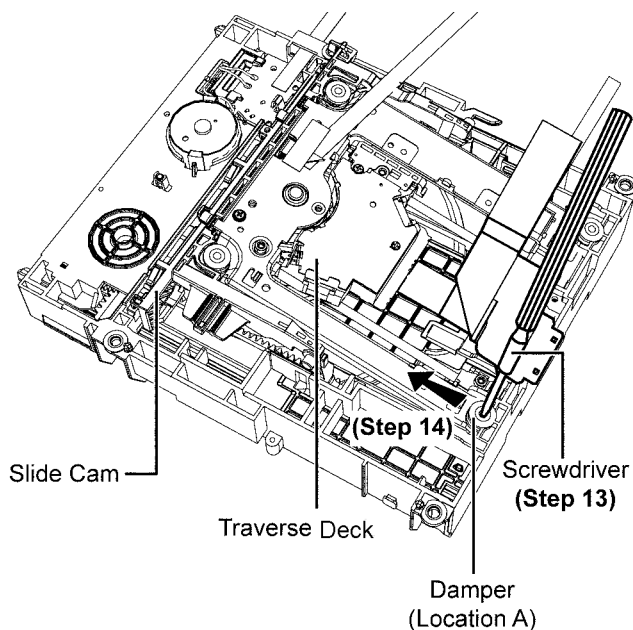
Step 12: Hold the arms of Mid Base, slightly pull backward and lift up the Traverse Deck as shown.



Step 13: While holding the Traverse Deck insert the Screwdriver at the Damper (Location A).

Step 14: Push out the Traverse Deck as shown.

Caution: During dissemble, ensure the Traverse Deck do not hit to the Slide Cam.

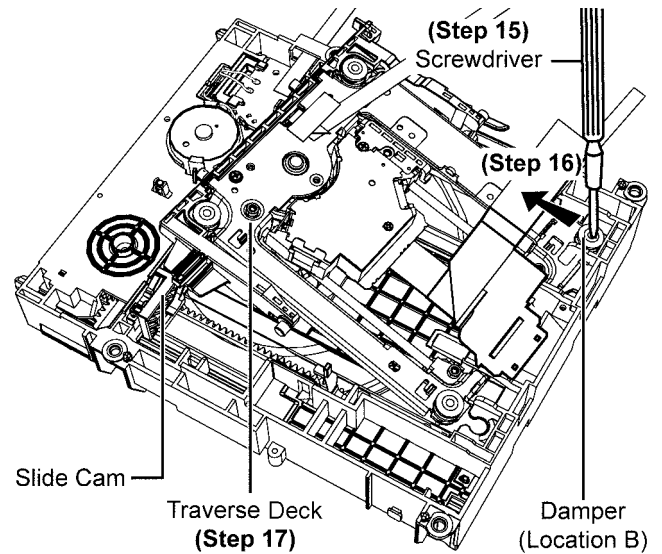


Step 15: Insert the Screwdriver at the Damper (Location B).

Step 16: Push up the Traverse Deck as shown.

Step 17: Remove the Traverse Deck.

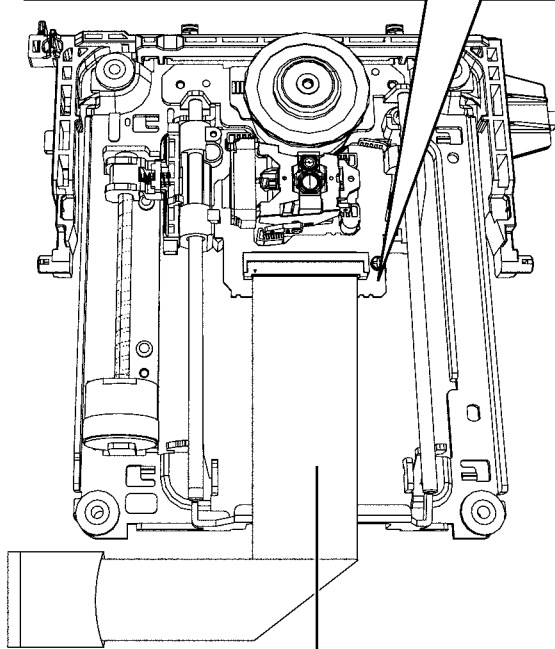
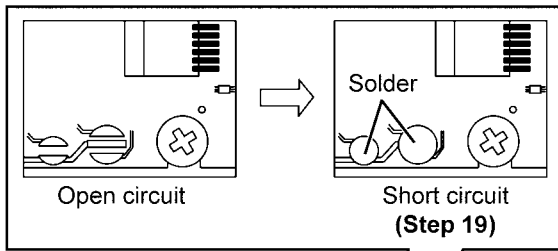
Caution: During dissemble, ensure the Traverse Deck do not hit to the Slide Cam.



Step 18: Before removing the optical pick-up unit, please apply an ESD Prevention Bag to the OPU FFC.

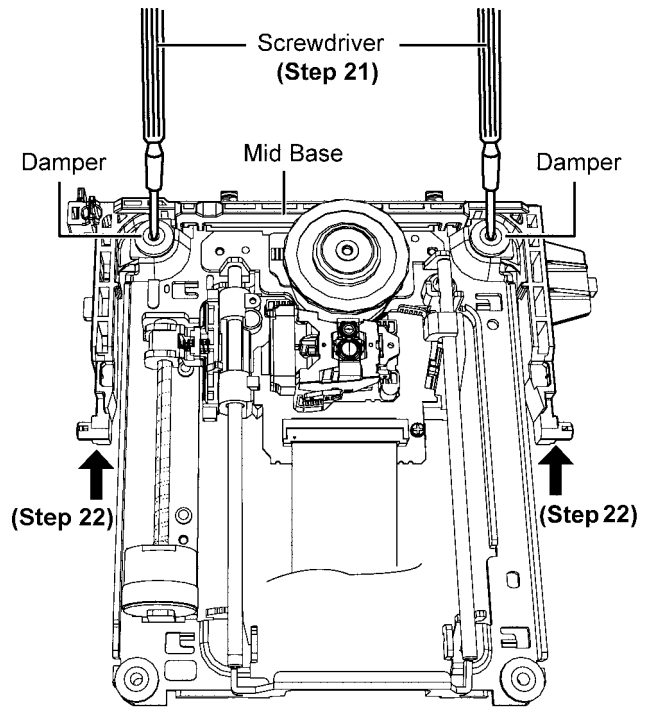
Step 19: Weld the short-circuit solder.

Step 20: Detach 45P FFC.

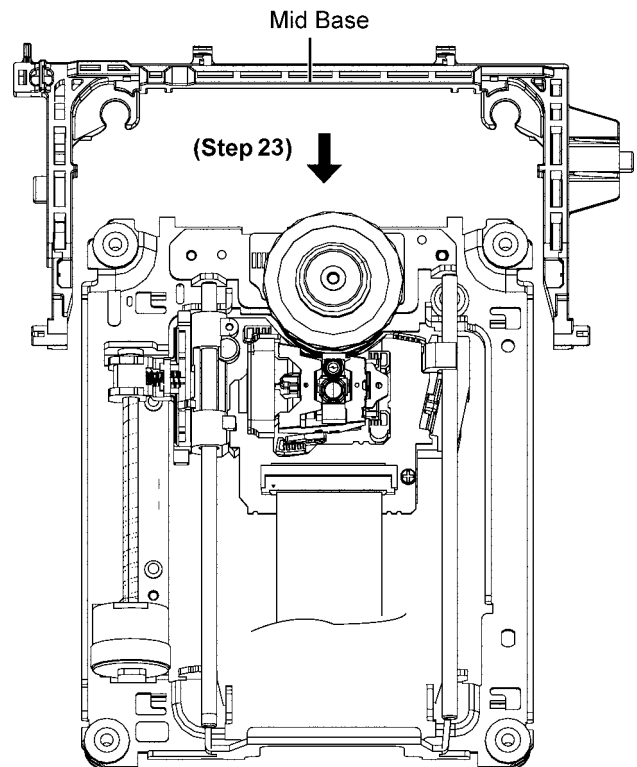


Step 21: Insert the Screwdriver to the Damper as shown condition.

Step 22: Push up the Mid Base while screwdriver are inserted as shown.



Step 23: Remove BD Traverse Unit as shown.

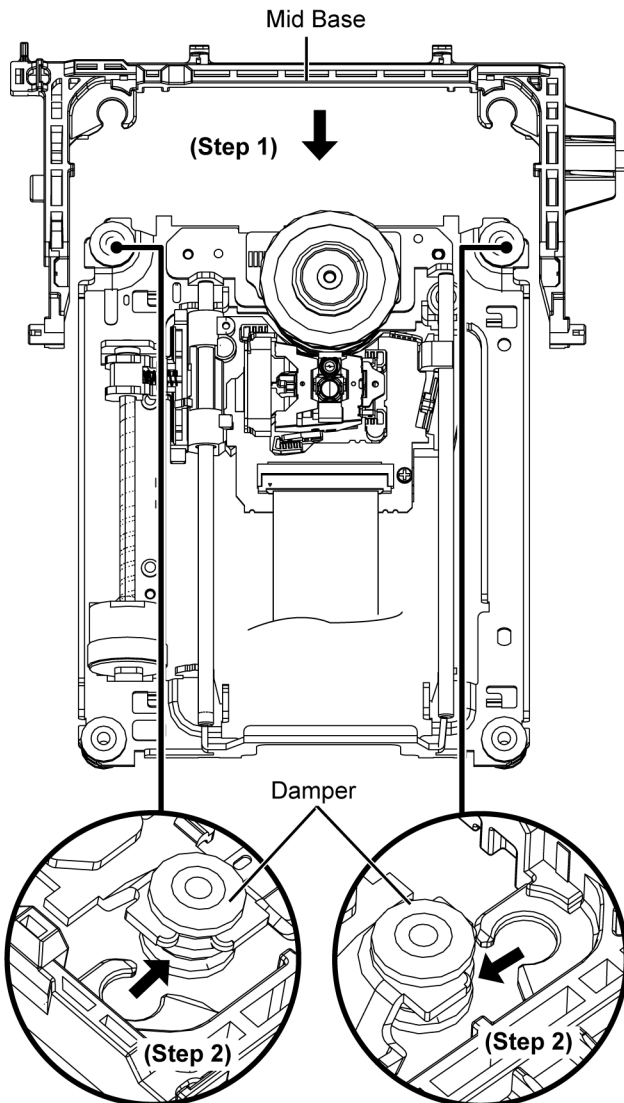


10.14.3.2. Assembly of Traverse Unit

Step 1: Align the Mid Base parallel with Traverse unit.

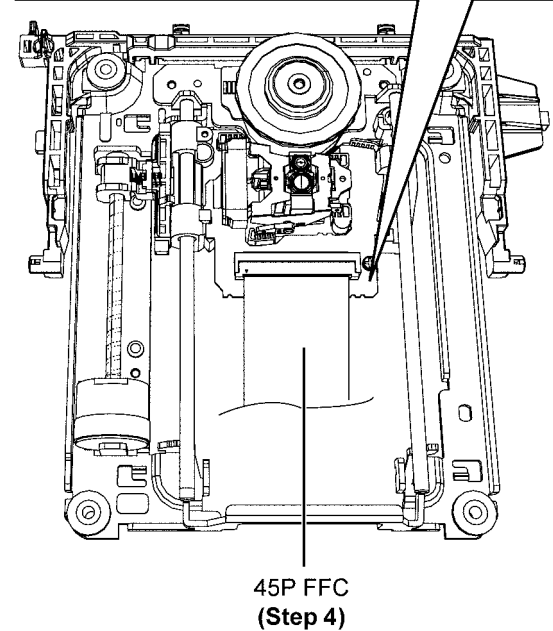
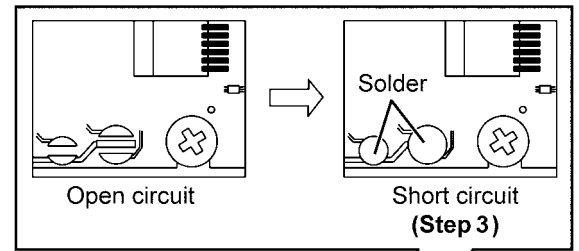
Step 2: Push to fix Mid Base into the Damper as shown.

Caution: Ensure the Mid Base is seated properly.



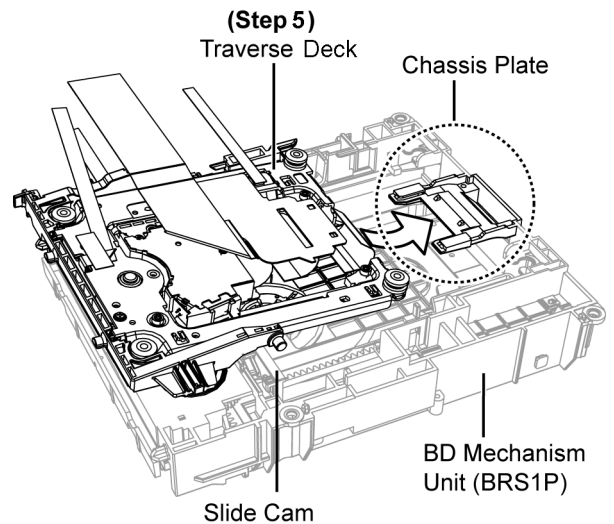
Step 3: Desolder the solder point to open circuit.

Step 4: Connect OPU FFC and remove ESD Prevention Bag from the 45P FFC.



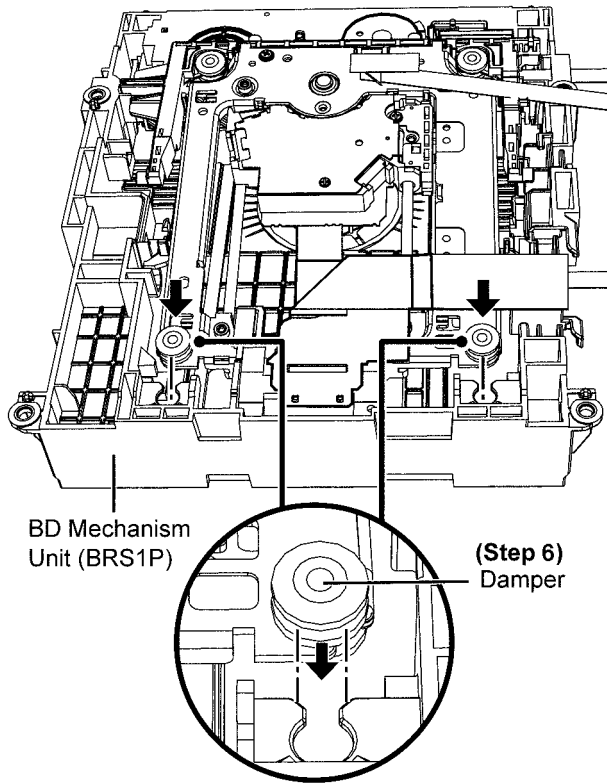
Step 5: Insert the Traverse Deck underneath the chassis plate.

Caution: During assembling, ensure the Traverse Deck do not hit to the Slide Cam.

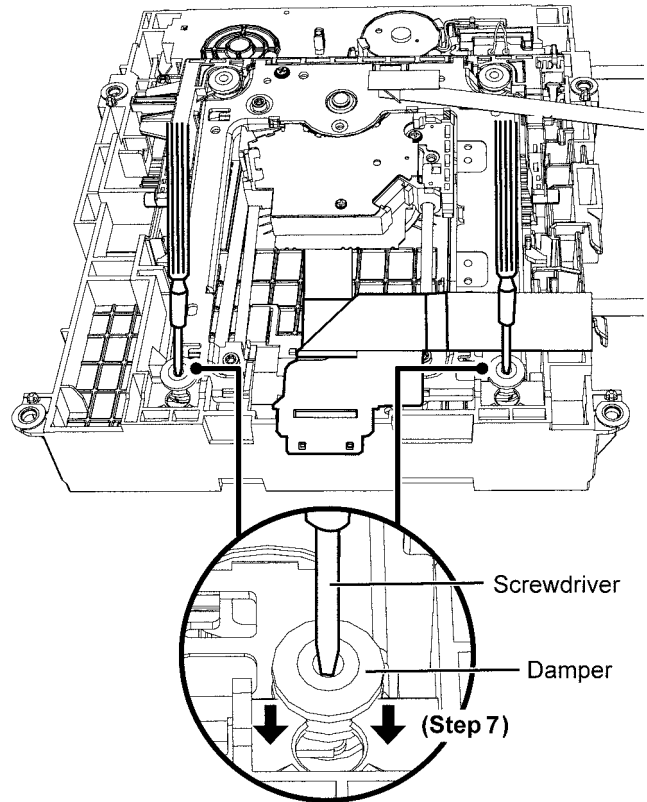


Step 6: Align the damper on Traverse Deck with the slot of the chassis of BD Mechanism Unit (BRS1P) as shown.

Caution: During assembling, ensure the Traverse Deck do not hit to the Slide Cam.

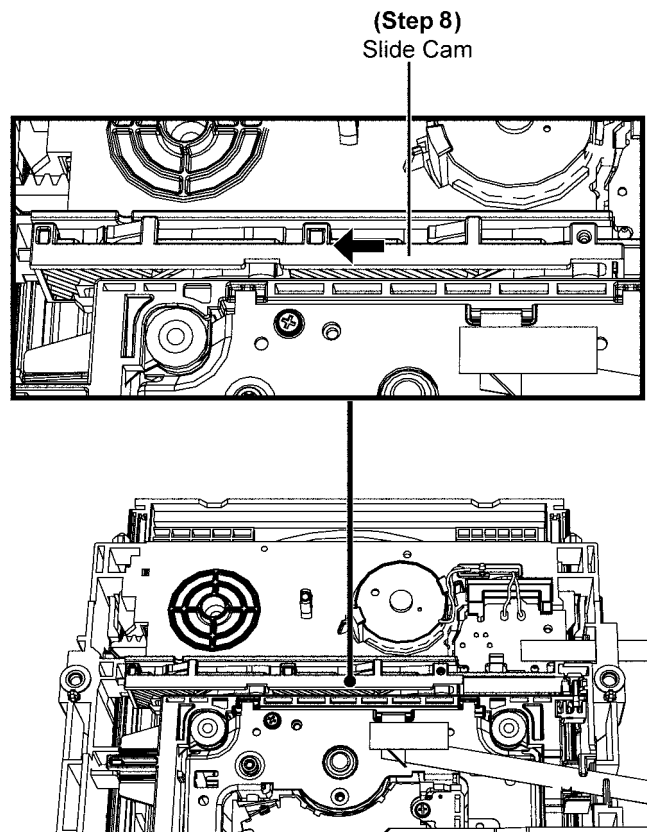


Caution: During assembling, ensure the BD Traverse inserted fully.

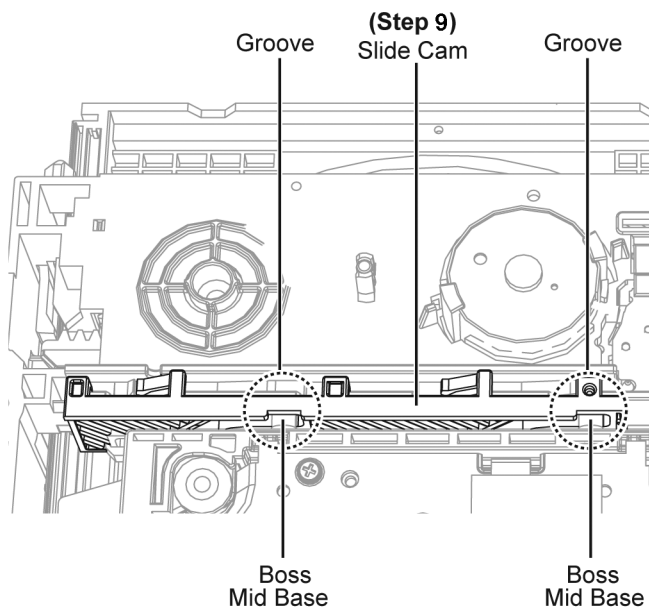


Step 7: Insert the Screwdriver and push inwards.

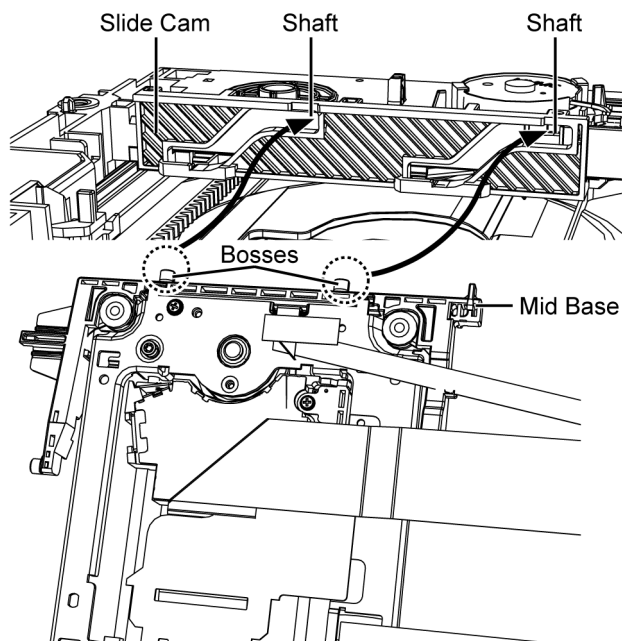
Step 8: Push the Slide Cam sideways.



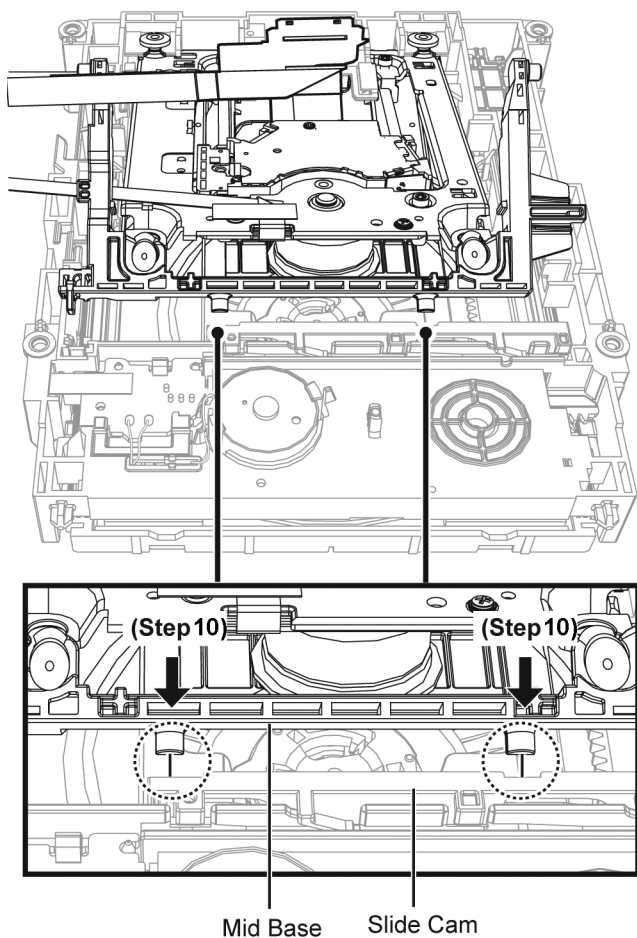
Step 9: Align the grooves of the Slide Cam with the bosses of the Mid Base.



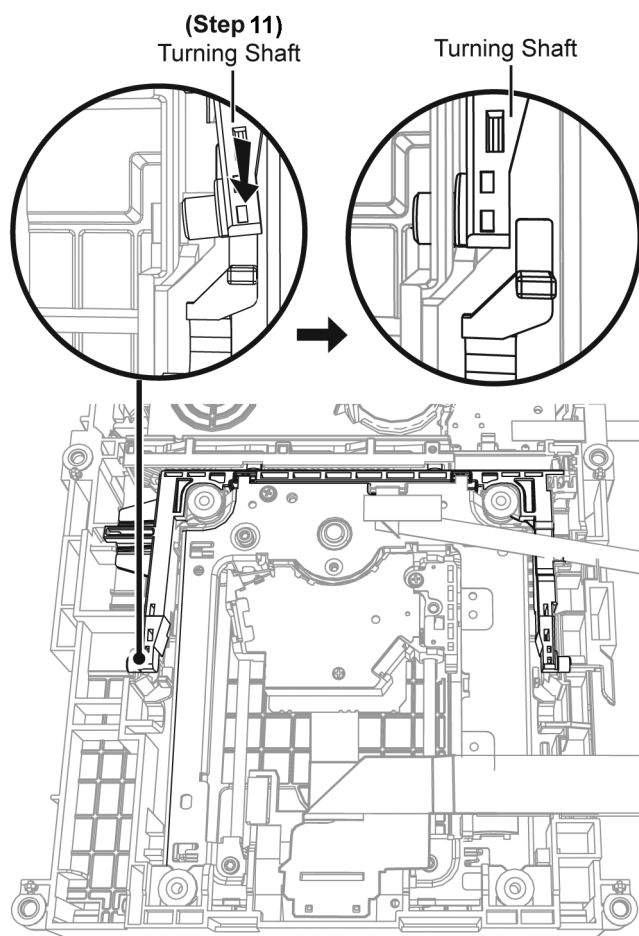
Caution: Ensure the bosses on the Mid Base is seated properly into the shaft of the Slide Cam.



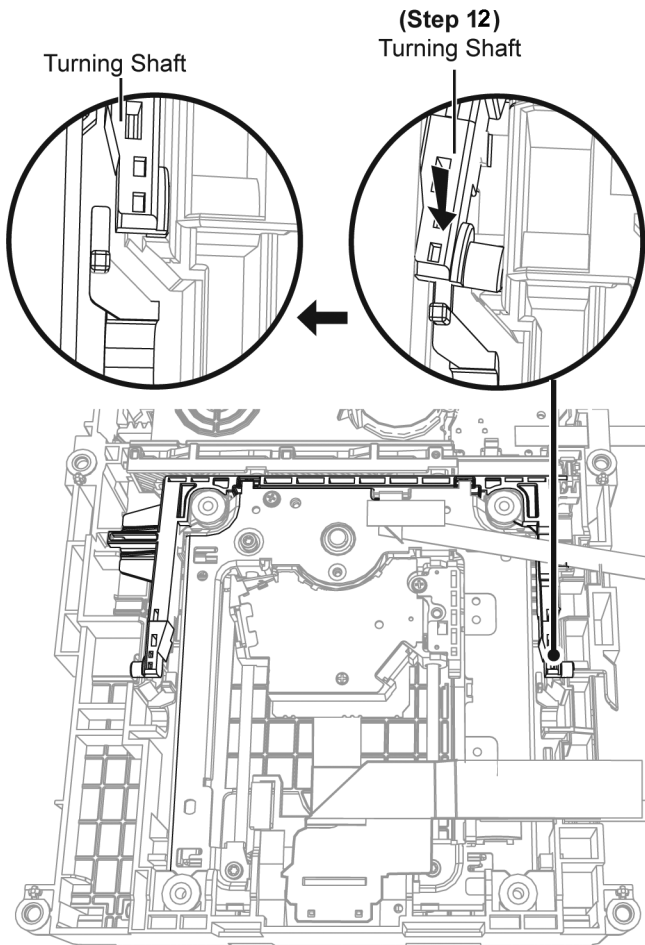
Step 10: Hold the Slide Cam, slightly pull backward the Mid Base and insert it into the grooves of the Slide Cam.



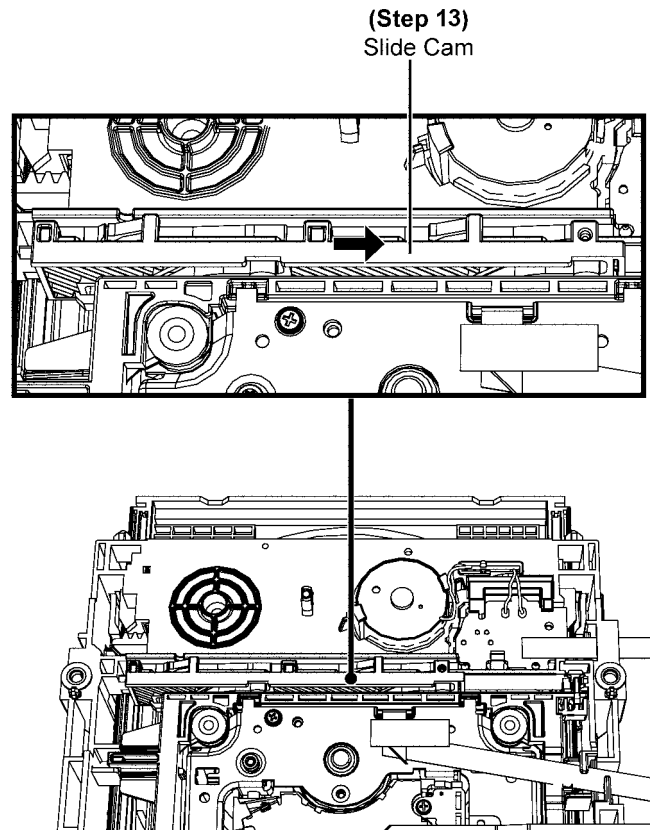
Step 11: Push and press the turning shaft of the Mid Base sideways, a "click" sound is heard when is fully insert.



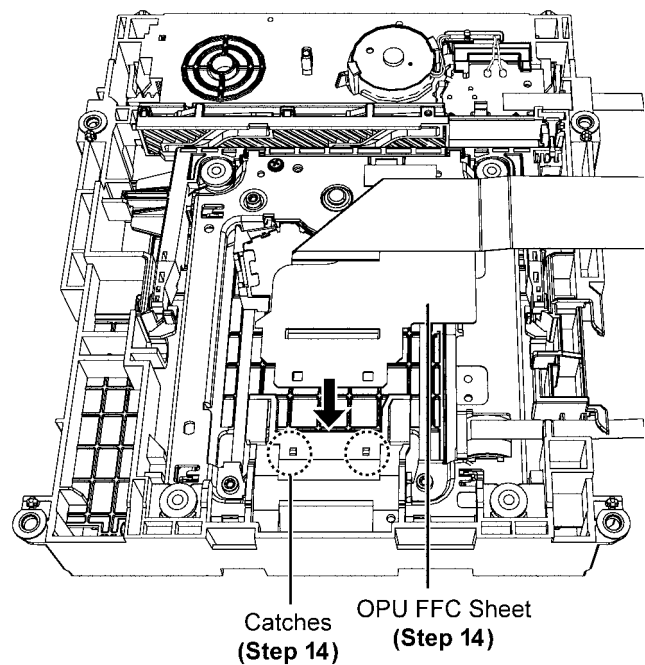
Step 12: Push and press the turning shaft of the Mid Base side-way, a “click” sound is heard when is fully insert.



Step 13: Slide the Slide Cam until it come to a stop.



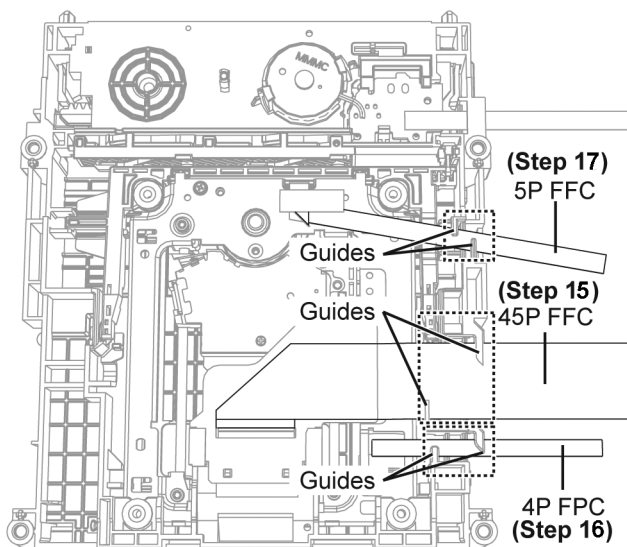
Step 14: Insert OPU FFC Sheet as show a “click” sound is heard when the OPU FFC is fully caught.



Step 15: Insert 45P FFC into the guides.

Step 16: Insert 4P FPC into the guides.

Step 17: Insert 5P FFC into the guides.

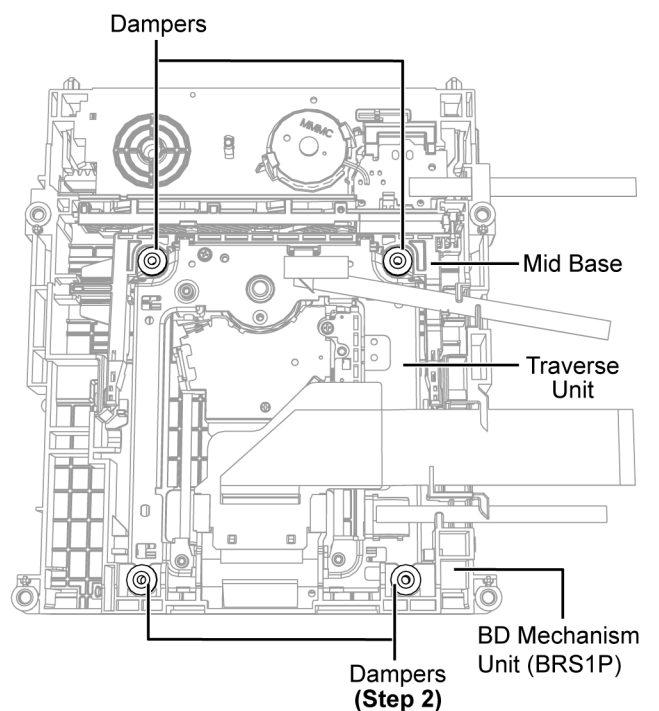
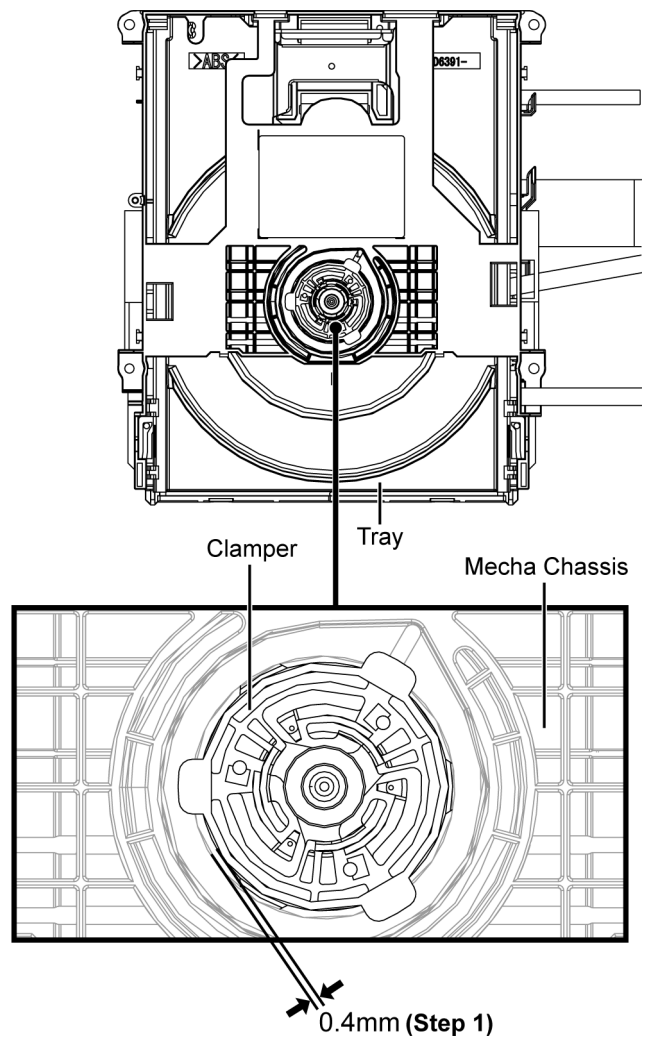


10.14.3.3. Checking point after replacement of Traverse Unit

Step 1: When Traverse unit in up position. Ensure the gap between Clamper and Mecha Chassis should more that 0.4mm to prevent rubbing.

Step 2: If the gap is less that 0.4mm condition, then proceed below checking points of Dampers.

1. Damper at Mid Base
2. Damper at BD Mechanism Unit (BRS1P)
3. Damper at Traverse Unit



10.14.4. Replacement of Slide Cam

Refer to “Disassembly of Dust Cover”.

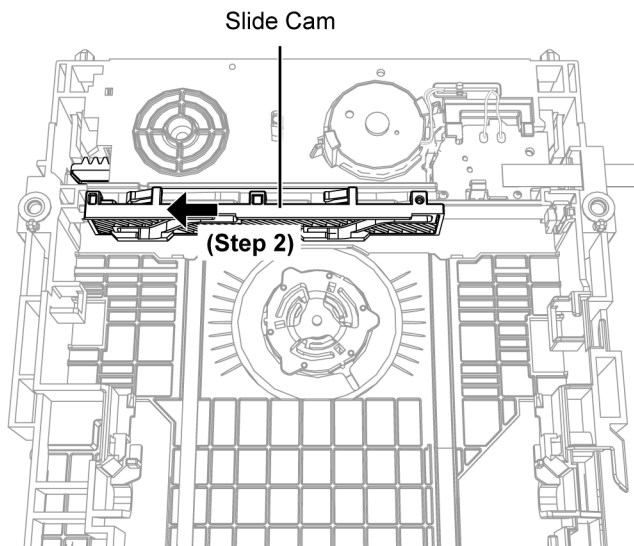
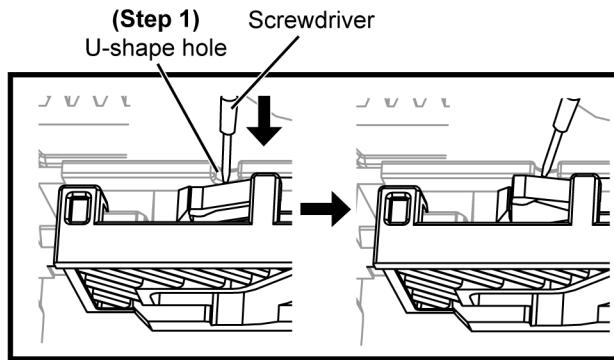
Refer to “Disassembly of Tray”.

Refer to “Disassembly of Traverse Unit”.

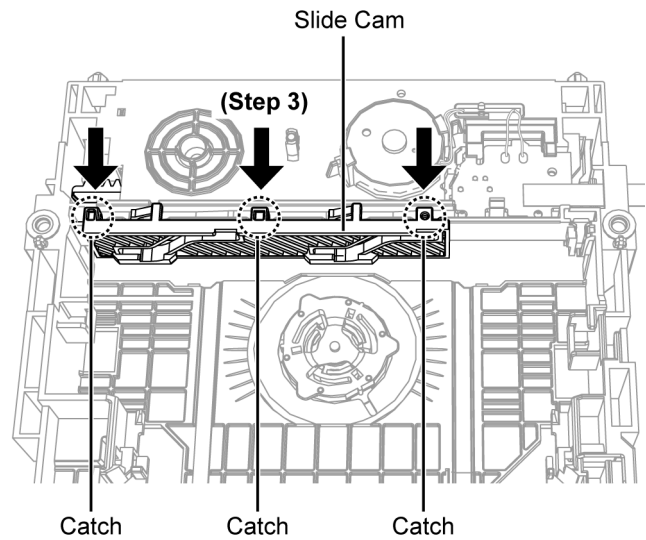
10.14.4.1. Disassembly of Slide Cam

Step 1: Insert the screwdriver into the U-shape hole and release the guide as shown

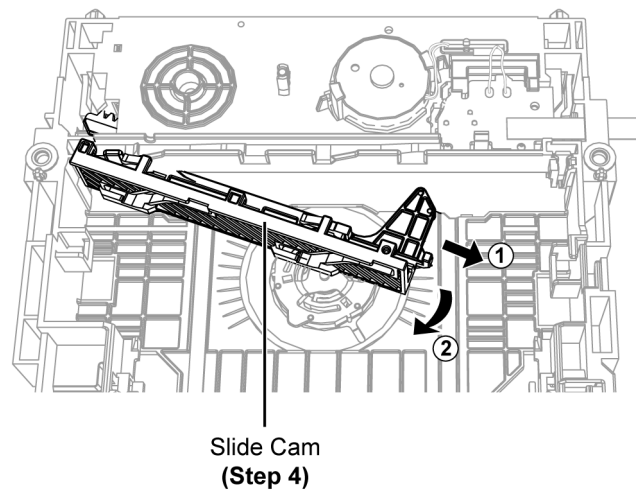
Step 2: Slide the Slide Cam to the end.



Step 3: Pull forward catches as shown to release Slide Cam.

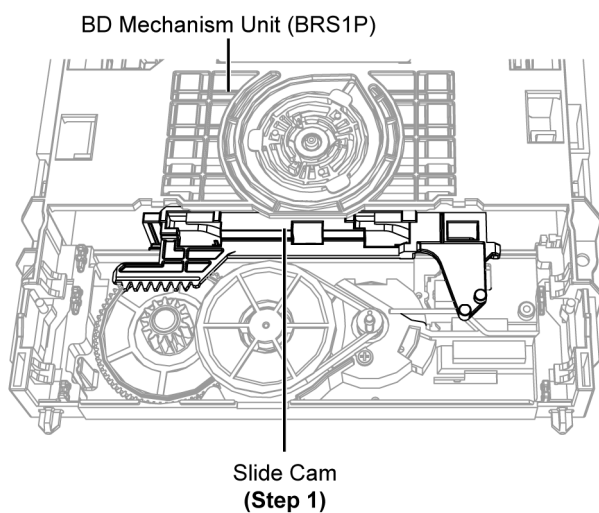


Step 4: Remove the Slide Cam in order of sequences (1) to (2) as shown.

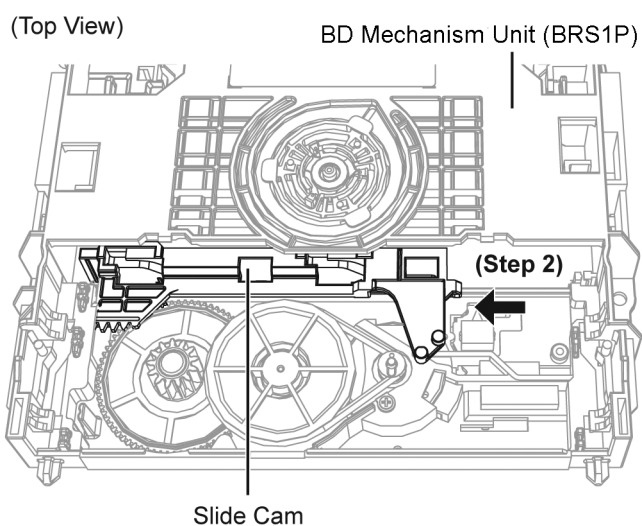


10.14.4.2. Assembly of Slide Cam

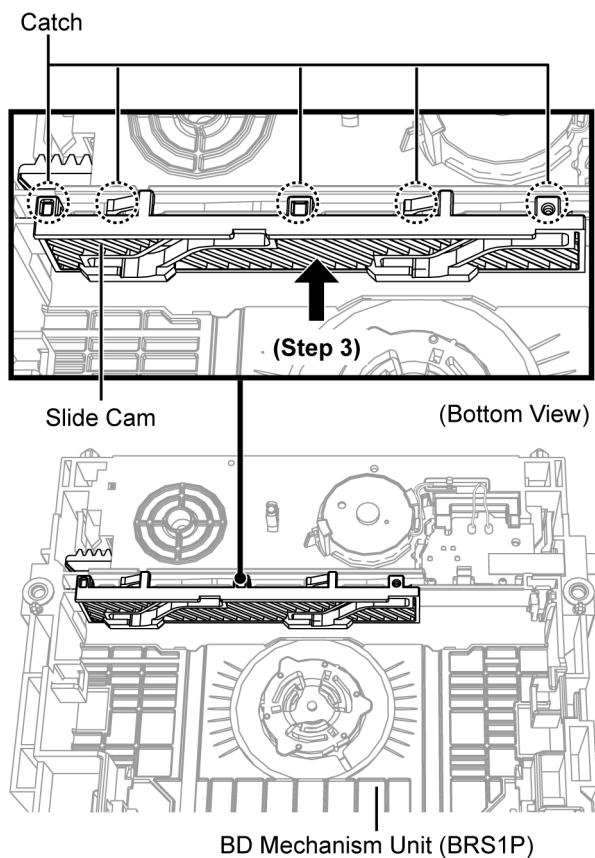
Step 1: Place the Slide Cam into the BD Mechanism Unit (BRS1P) as shown.



Step 2: Slide the Slide Cam to the end as shown & flip over the BD Mechanism Unit (BRS1P).



Step 3: Press the Slide Cam and make sure it is fully caught onto the BD Mechanism Unit (BRS1P).



10.14.5. Replacement of Belt

Refer to "Disassembly of Dust Cover".

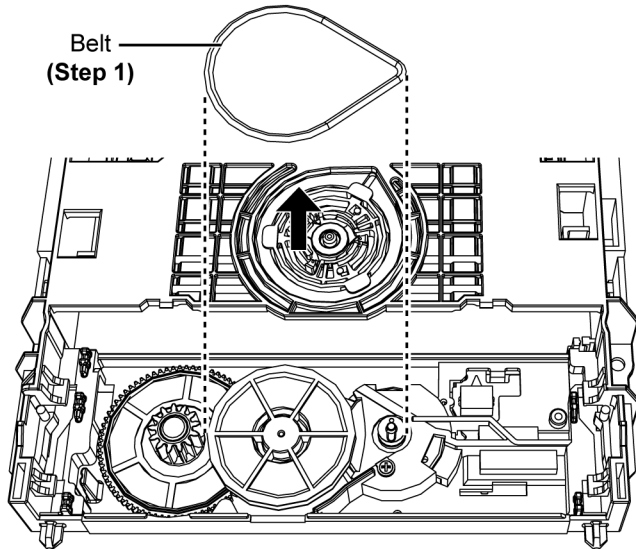
Refer to "Disassembly of Tray".

Refer to "Disassembly of Traverse Unit".

Refer to "Disassembly of Slide Cam".

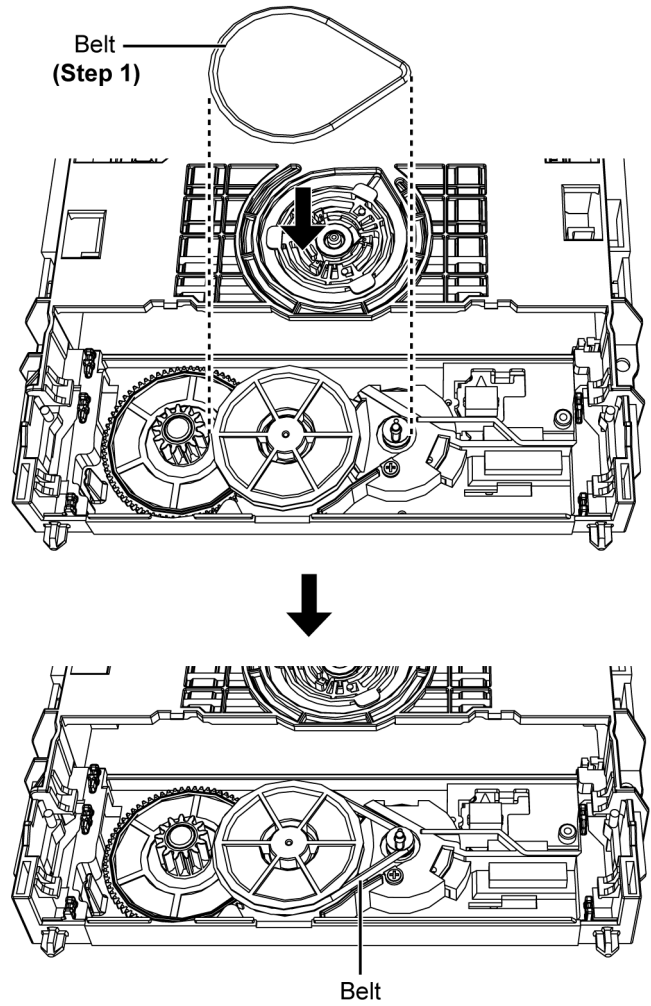
10.14.5.1. Disassembly of Belt

Step 1: Remove the Belt as shown.



10.14.5.2. Assembly of Belt

Step 1: Install Belt.



10.14.6. Replacement of Pulley Gear

Refer to “Disassembly of Dust Cover”.

Refer to “Disassembly of Tray”.

Refer to “Disassembly of Traverse Unit”.

Refer to “Disassembly of Slide Cam”.

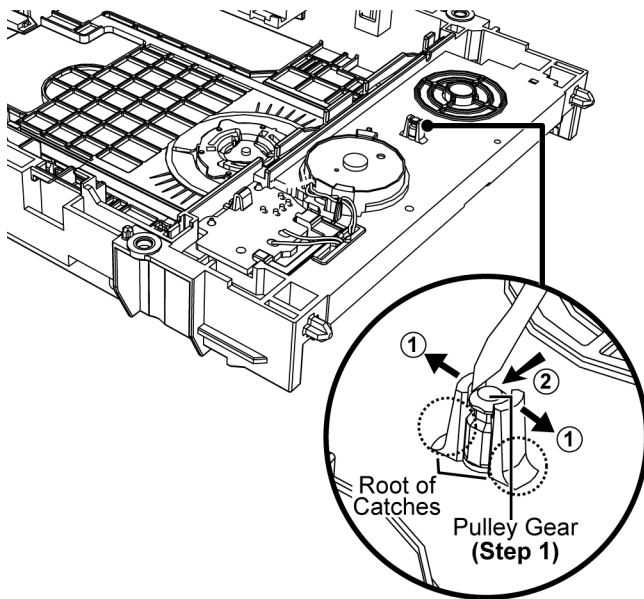
Refer to “Disassembly of Belt”.

10.14.6.1. Disassembly of Pulley Gear

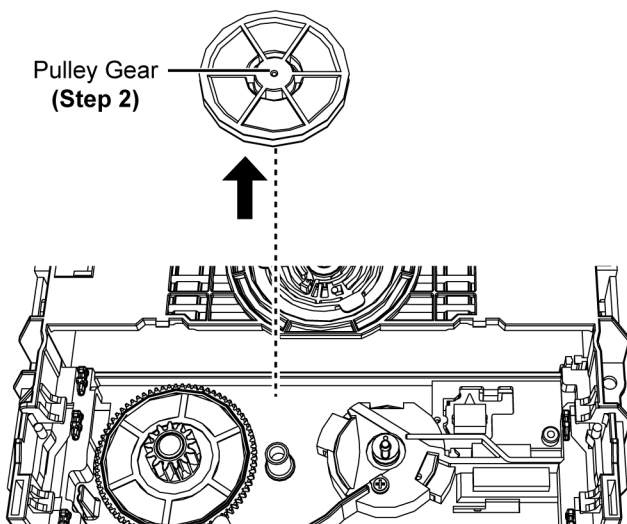
Step 1: Use a screwdriver to release the catches and push down the Pulley Gear.

Caution: Do not use strong force during release catches, to prevent the root of the catch broken.

(Bottom View)

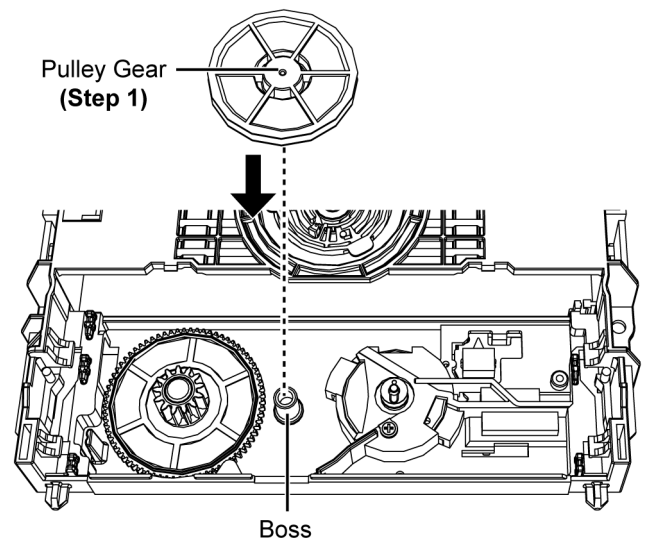


Step 2: Remove the Pulley Gear.



10.14.6.2. Assembly of Pulley Gear

Step 1: Fix the Pulley Gear into the boss a “click” sound is heard.



10.14.7. Replacement of Driver Gear

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

Refer to "Disassembly of Traverse Unit".

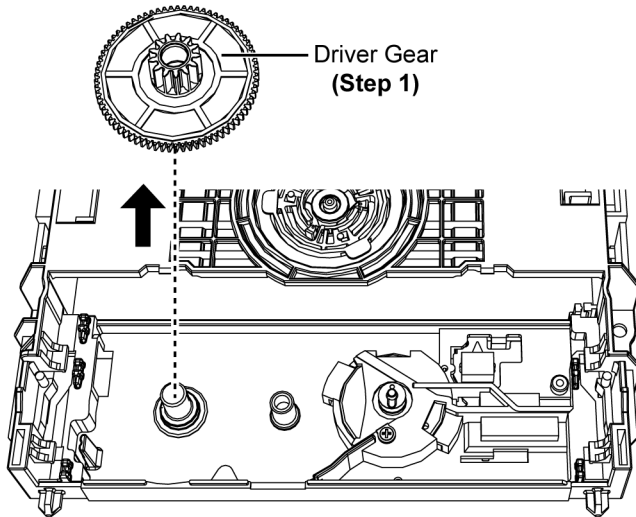
Refer to "Disassembly of Slide Cam".

Refer to "Disassembly of Belt".

Refer to "Disassembly of Pulley Gear".

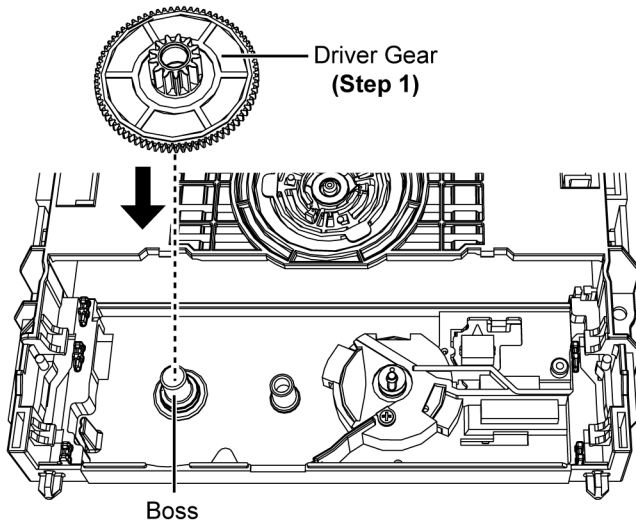
10.14.7.1. Disassembly of Driver Gear

Step 1: Remove the Driver Gear.



10.14.7.2. Assembly of Driver Gear

Step 1: Fix the Driver Gear into the boss.



10.14.8. Replacement of Loading P.C.B.

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

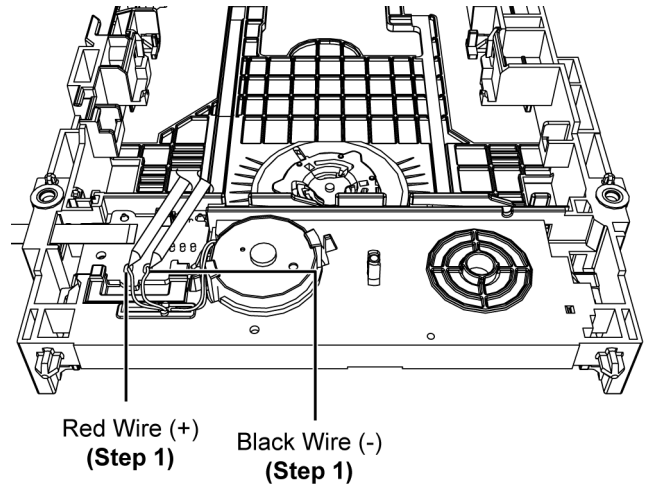
Refer to "Disassembly of Traverse Unit".

Refer to "Disassembly of Slide Cam".

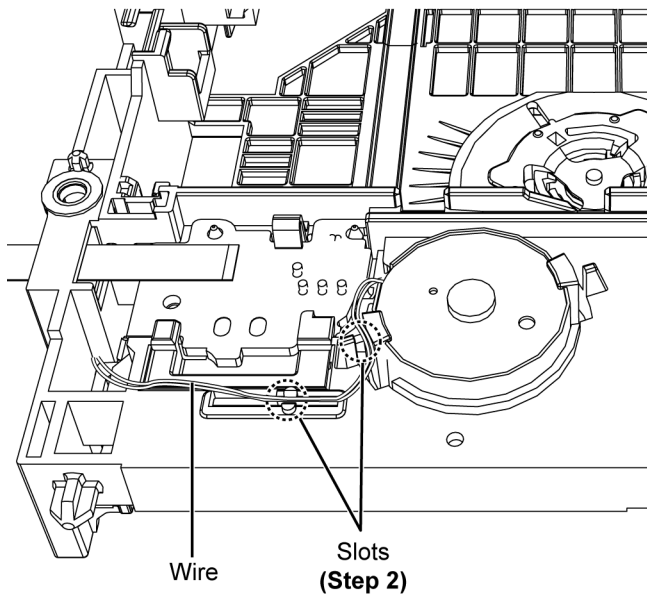
Refer to "Disassembly of Belt".

10.14.8.1. Disassembly of Loading P.C.B.

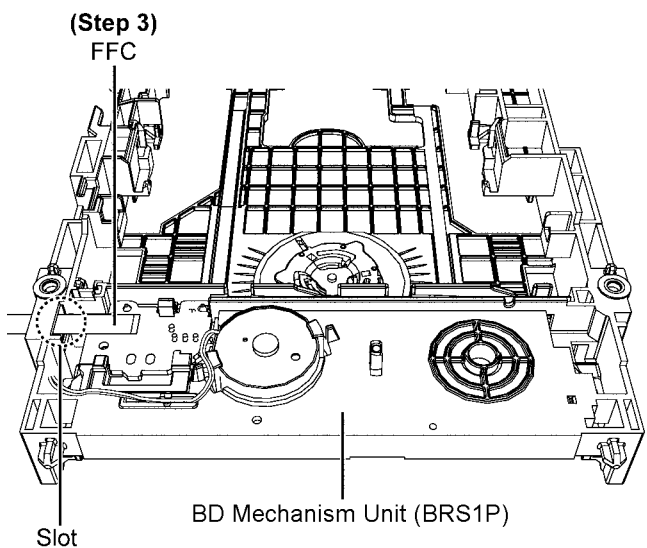
Step 1: Desolder pins of the Red Wire (+) & Black Wire (-) on the solder side of Loading P.C.B..



Step 2: Release Red Wire and Black Wire from the slots.

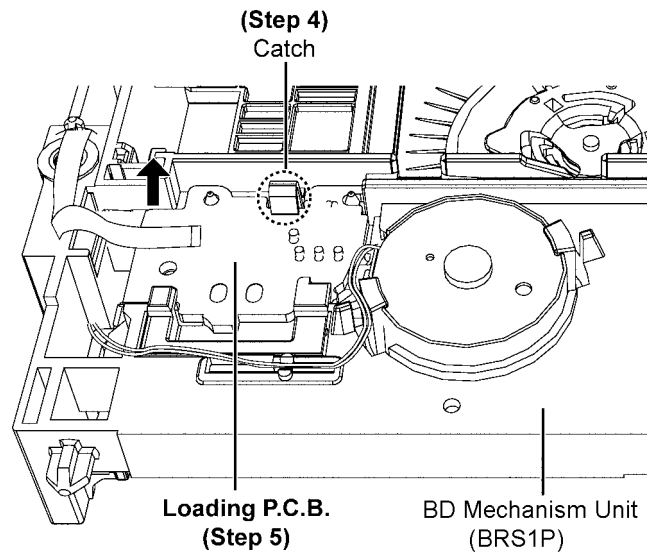


Step 3: Release the 5P FFC from the slot of BD Mechanism Unit (BRS1P).



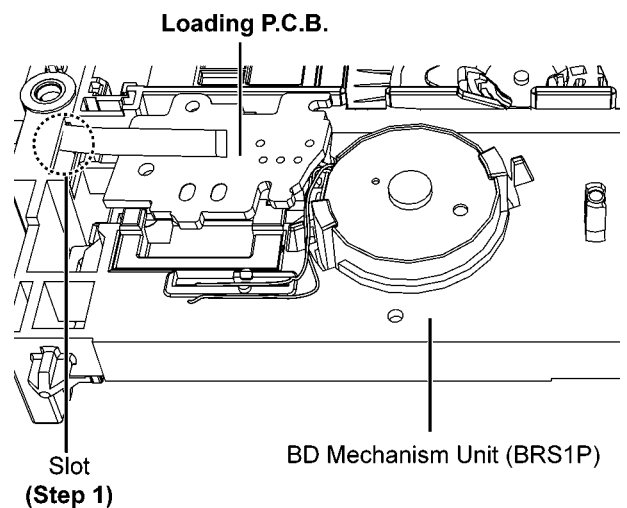
Step 4: Release the catch.

Step 5: Lift up and remove Loading P.C.B..



10.14.8.2. Assembly of Loading P.C.B.

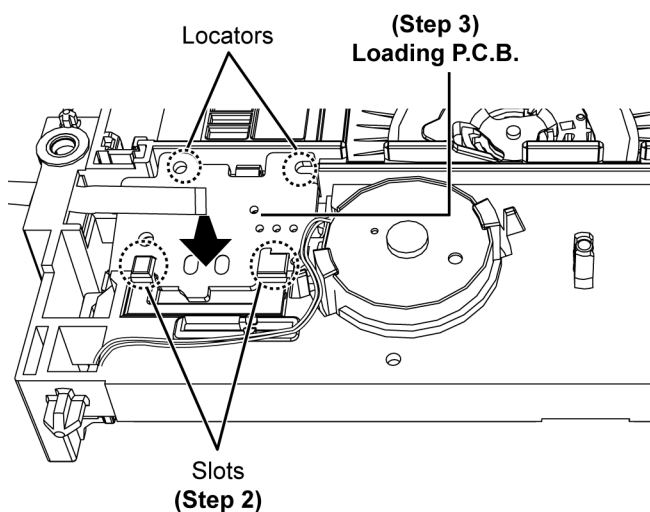
Step 1: Insert the FFC through the slot of BD Mechanism Unit (BRS1P).



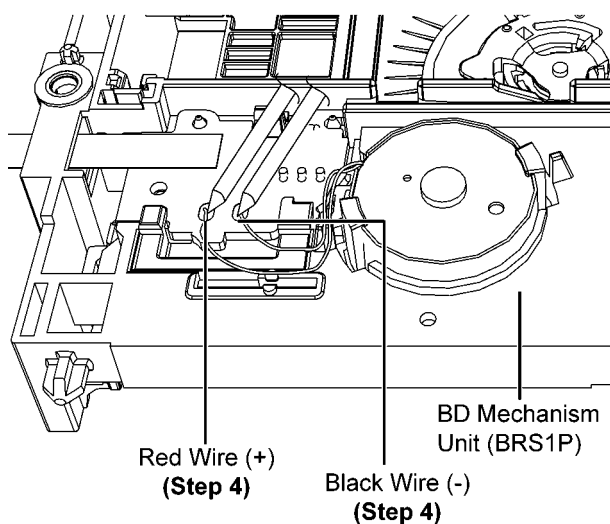
Step 2: Insert the Loading P.C.B. into the slots.

Step 3: Press down the Loading P.C.B., a "Click" sound is heard when the Loading P.C.B. is fully caught.

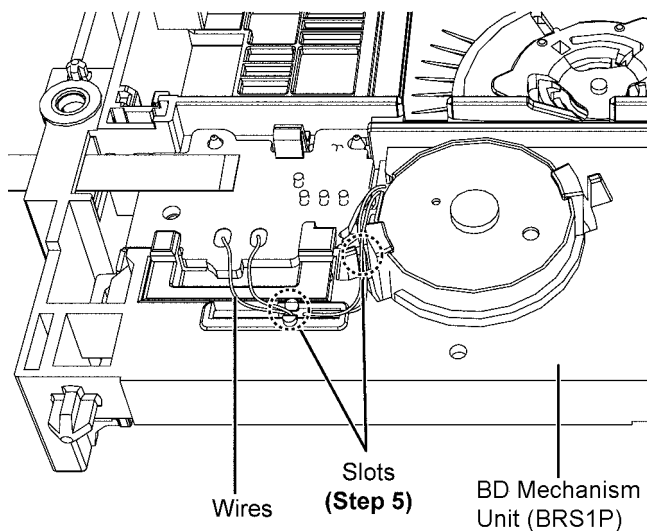
Caution: Ensure that the Loading P.C.B. is properly seated onto the 2 locators.



Step 4: Solder pins of the Red Wire (+) & Black Wire (-) on the Loading P.C.B..



Step 5: Dressed the wires into the slot as shown.



10.14.9. Replacement of Loading Motor

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

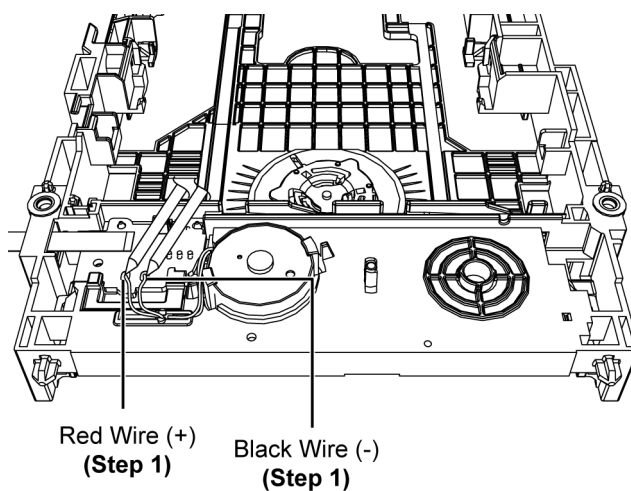
Refer to "Disassembly of Traverse Unit".

Refer to "Disassembly of Slide Cam".

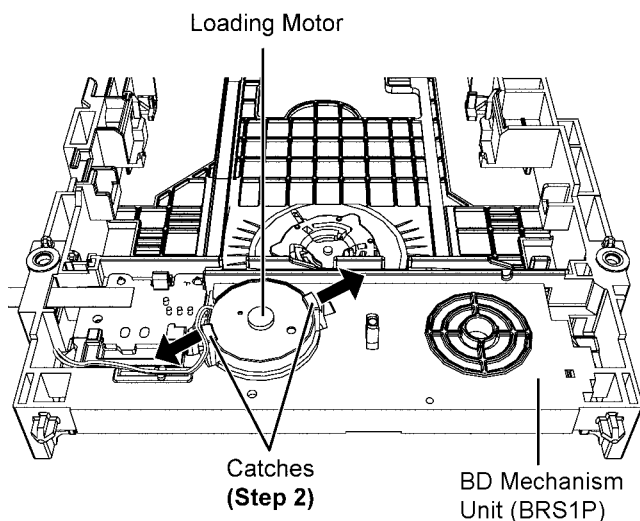
Refer to "Disassembly of Belt".

10.14.9.1. Disassembly of Loading Motor

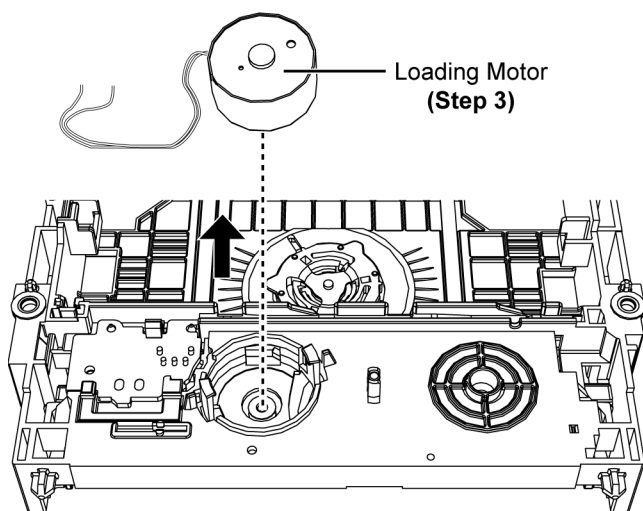
Step 1: Desolder pins of the Red Wire (+) & Black Wire (-) on the solder side of Loading P.C.B..



Step 2: Release 2 catches.

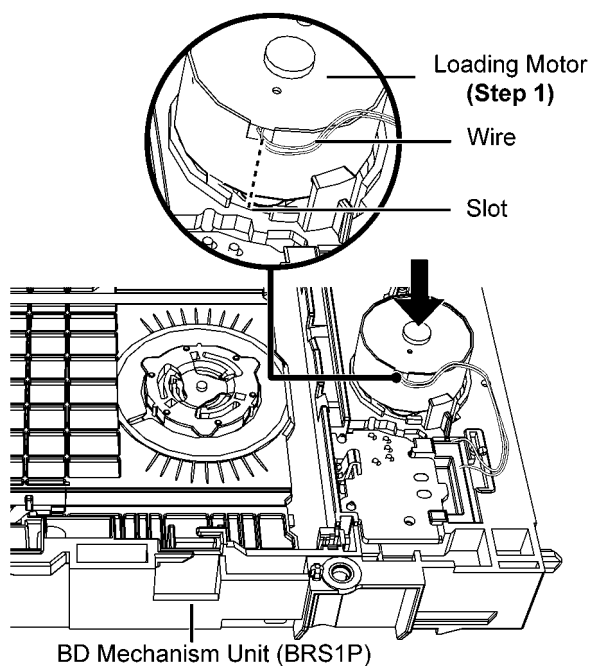


Step 3: Remove the Loading Motor as shown.

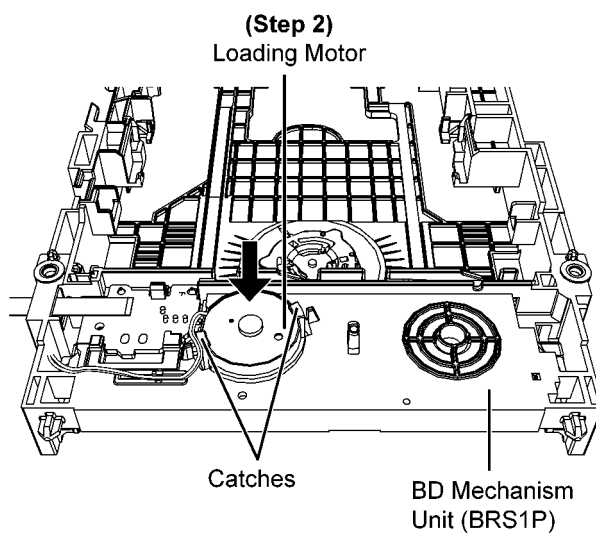


10.14.9.2. Assembly of Loading Motor

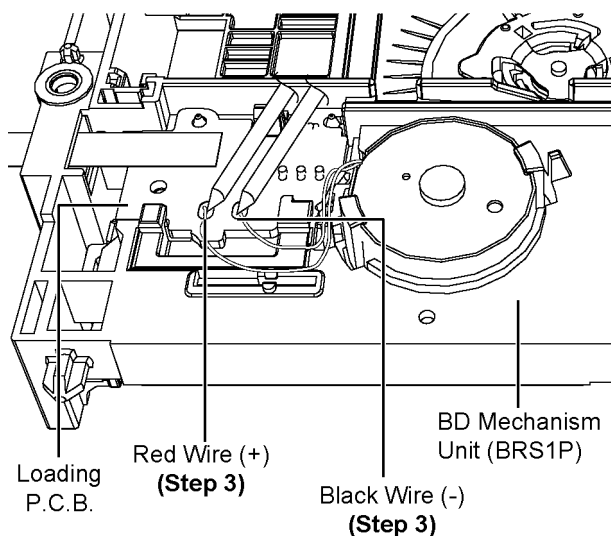
Step 1: Align the Loading Motor using the slot.



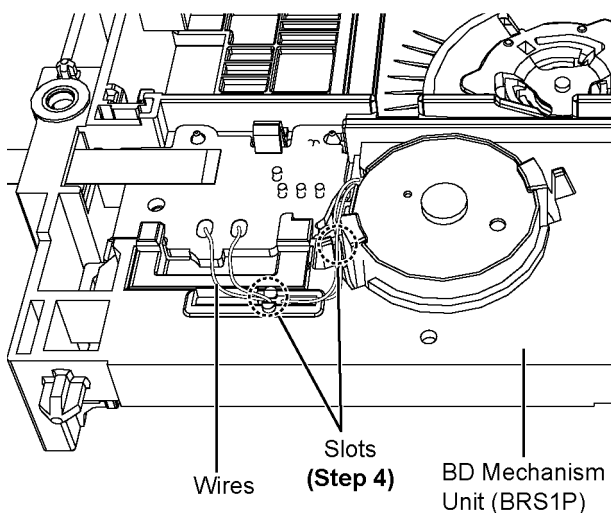
Step 2: Press the Loading motor as shown, ensure a “click” sound is heard when the Loading Motor is fully caught.



Step 3: Solder pins of the Red Wire (+) & Black Wire (-) on the Loading P.C.B..



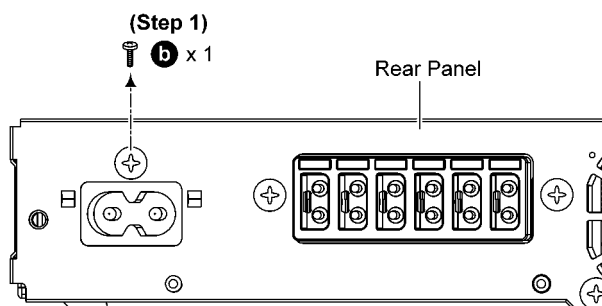
Step 4: Dressed the wire into slots as shown.



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

• Refer to "Disassembly of Top Cabinet"

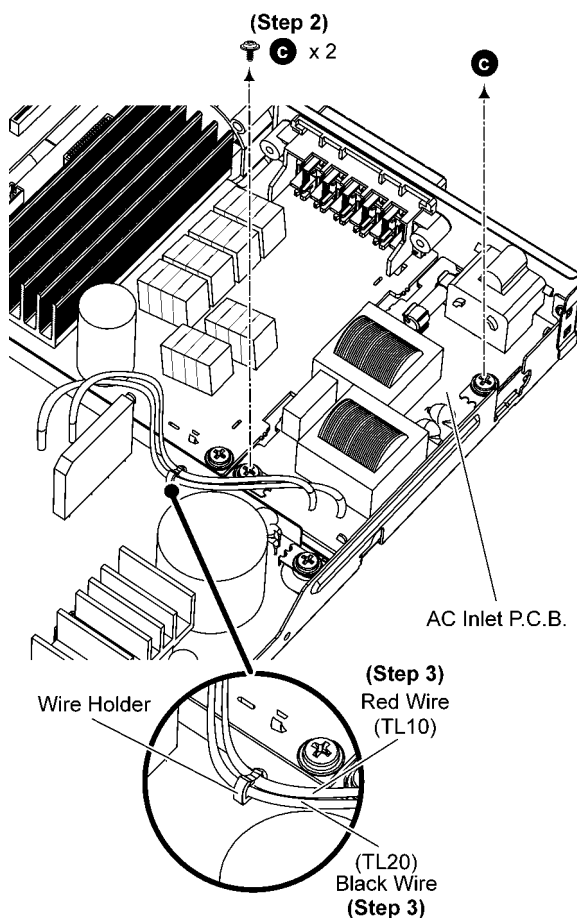
Step 1 Remove 1 screw.



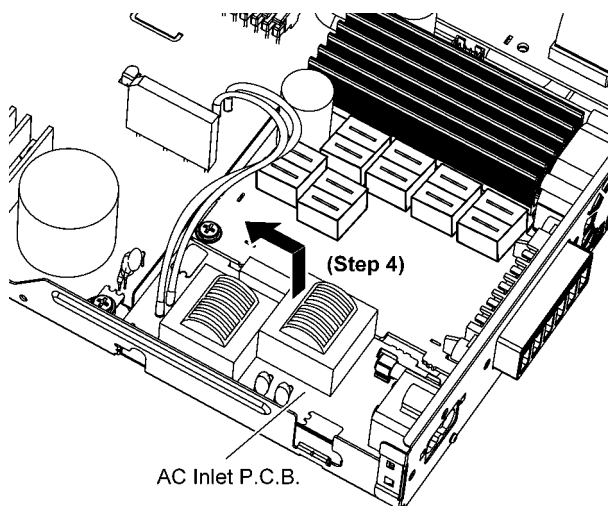
Step 2 Remove 2 screws.

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

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



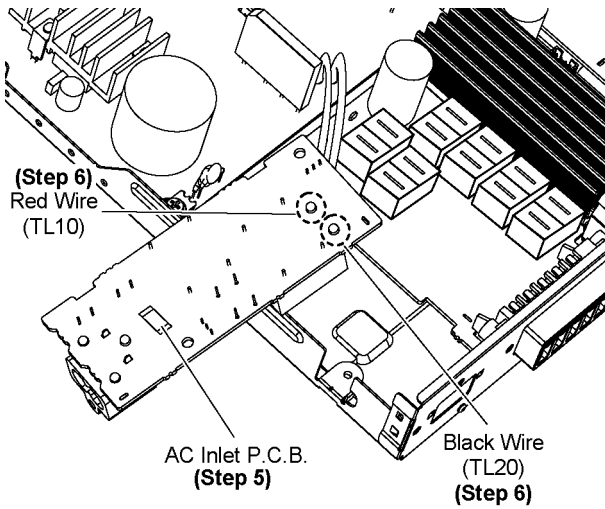
Step 4 Lift up the AC Inlet P.C.B. according to arrow shown.



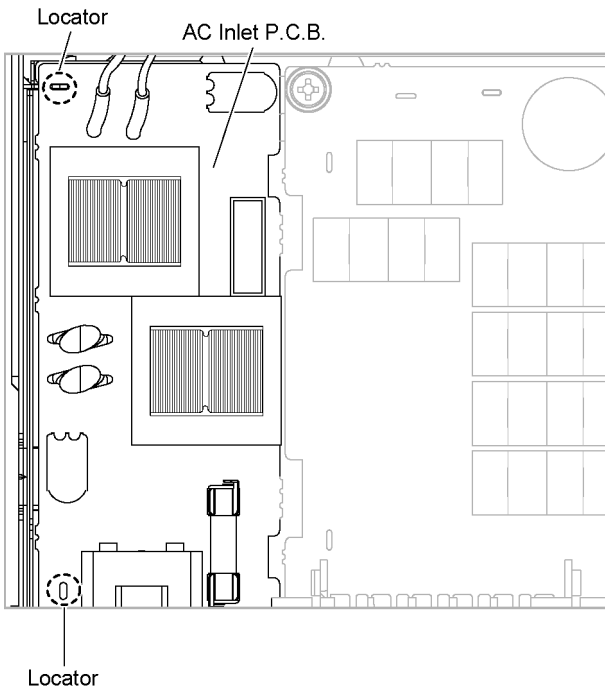
Step 5 Flip the AC Inlet P.C.B..

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

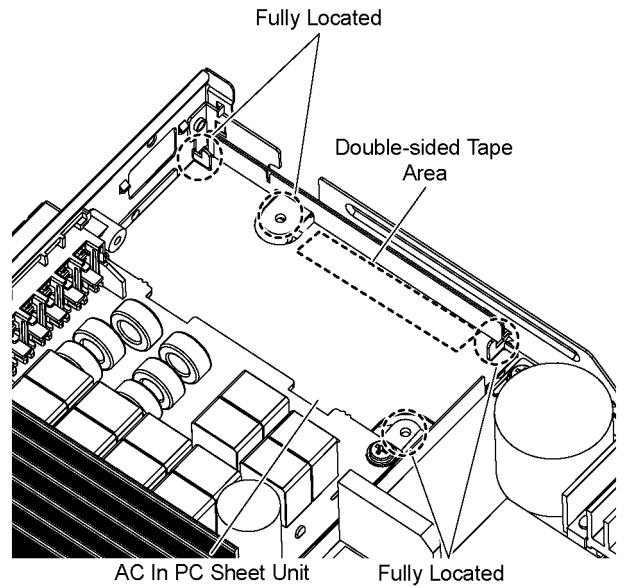
Step 7 Remove the AC Inlet P.C.B..



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.

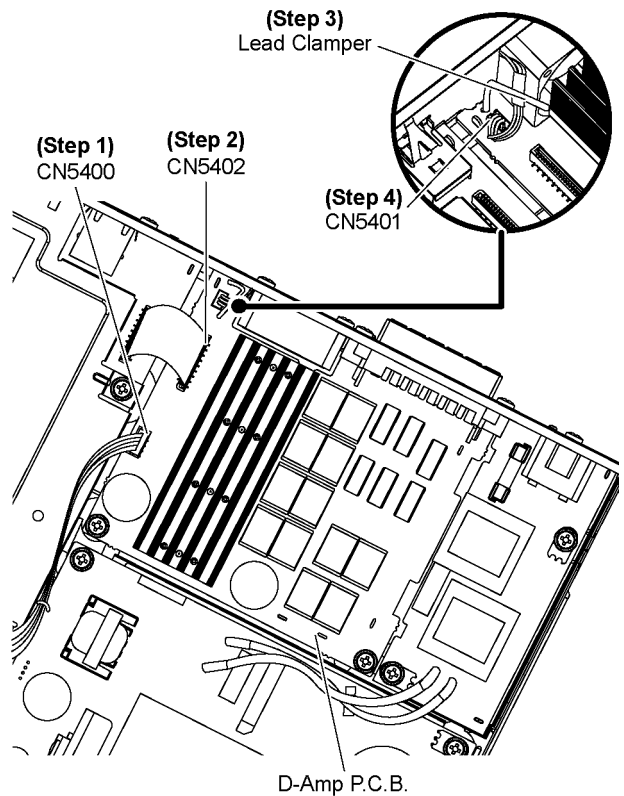
• Refer to “Disassembly of Top Cabinet”.

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

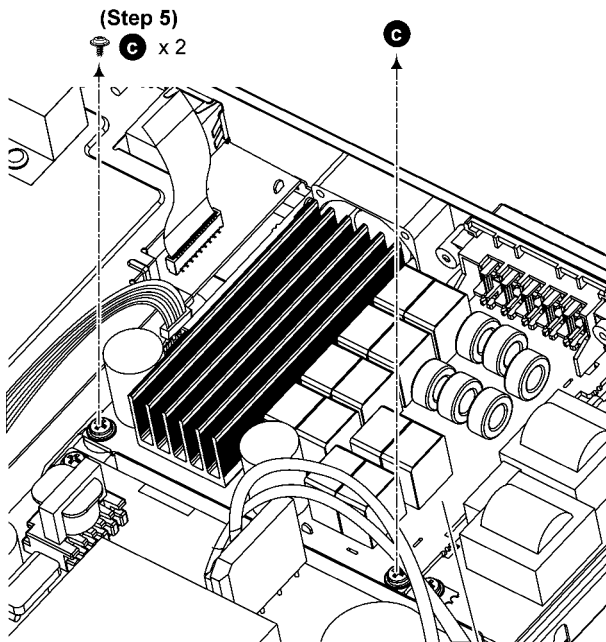
Step 2 Detach 18P FFC at the connector (CN5402) on D-Amp P.C.B..

Step 3 Lift Up the Lead Clamper.

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



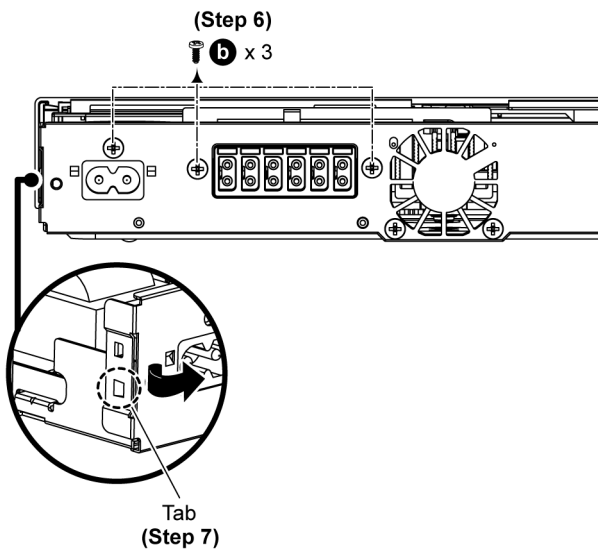
Step 5 Remove 2 screws.



D-Amp P.C.B.

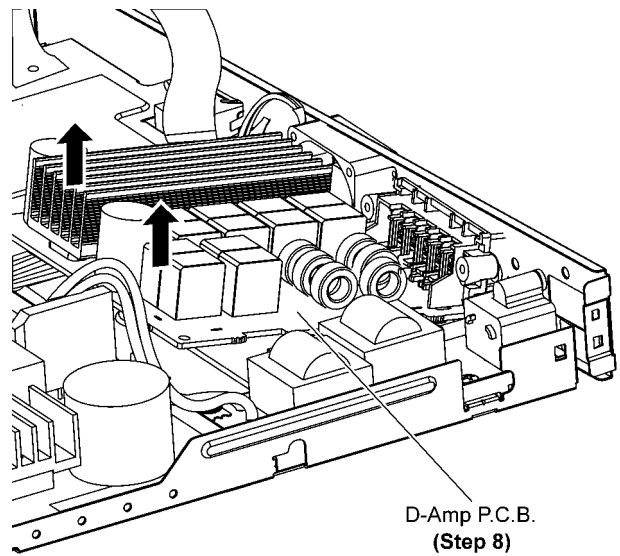
Step 6 Remove 3 screws.

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



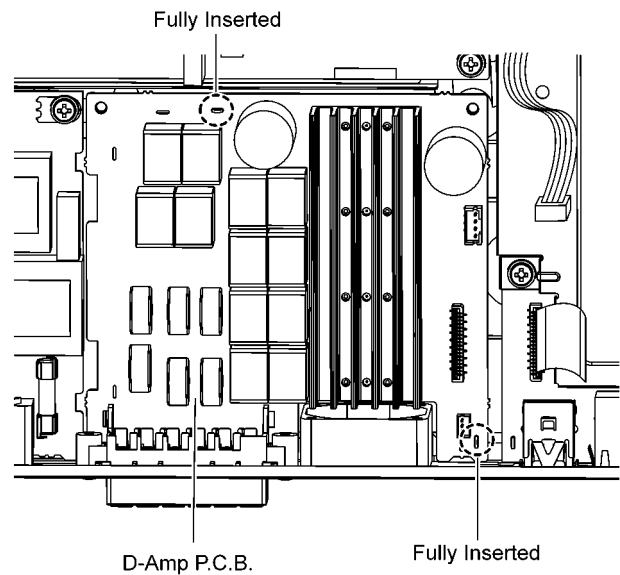
Tab
(Step 7)

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



D-Amp P.C.B.
(Step 8)

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



D-Amp P.C.B.

Fully Inserted

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

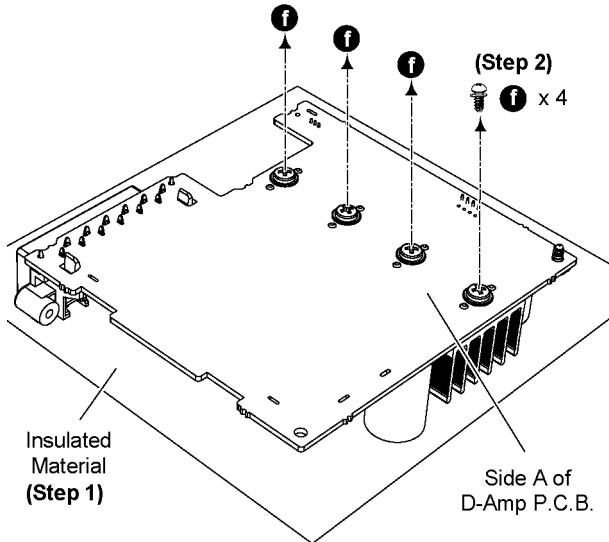
- Refer to “Disassembly of Top Cabinet”.
- Refer to “Disassembly of D-Amp P.C.B.”.

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

Caution: Handle the D-Amp P.C.B. with caution due to its high temperature after prolonged use.

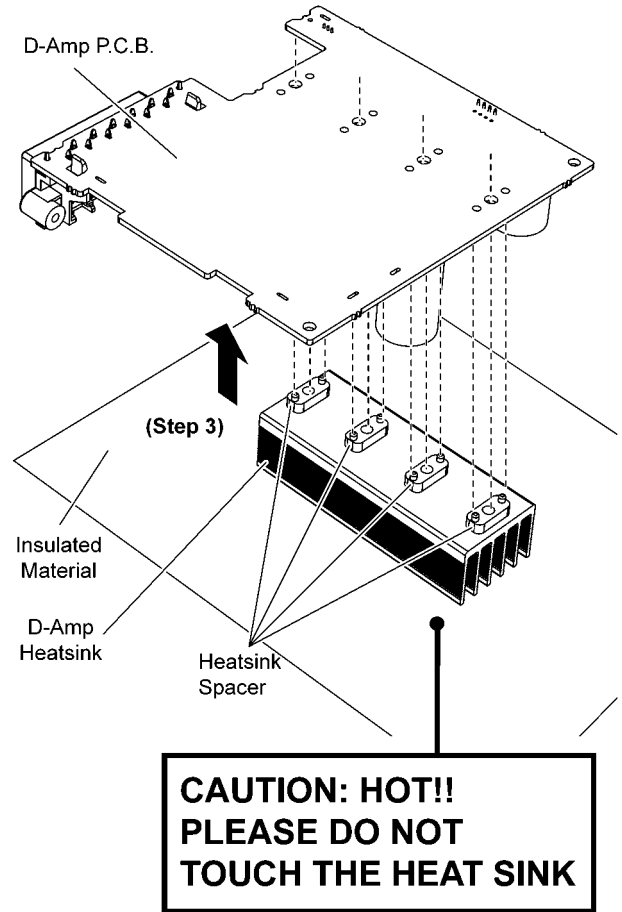
Step 1 Place D-Amp P.C.B. on an insulated material.

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.

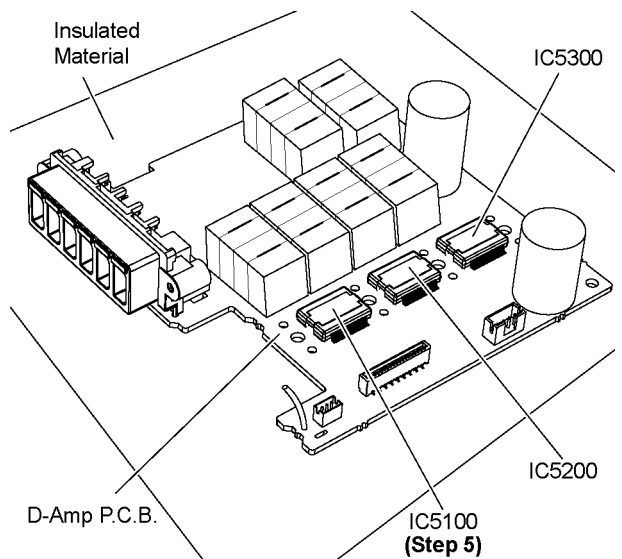


Step 4 Desolder the pins of Digital Amplifier IC (IC5100).

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 18.3) for location of part.



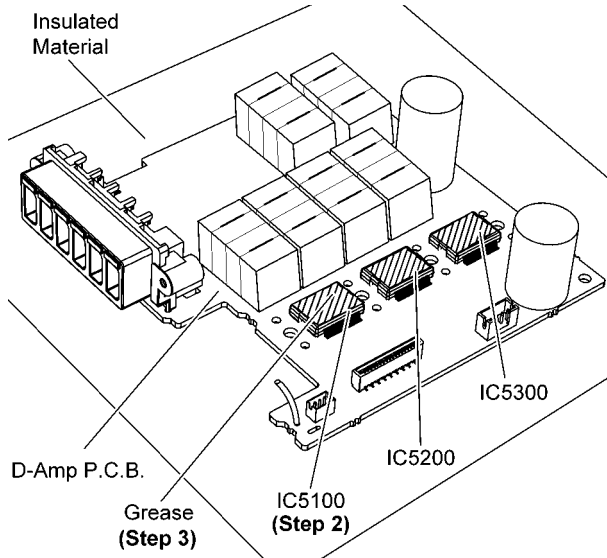
10.17.2. Assembly of Digital Amplifier IC (IC5100/IC5200/IC5300)

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

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

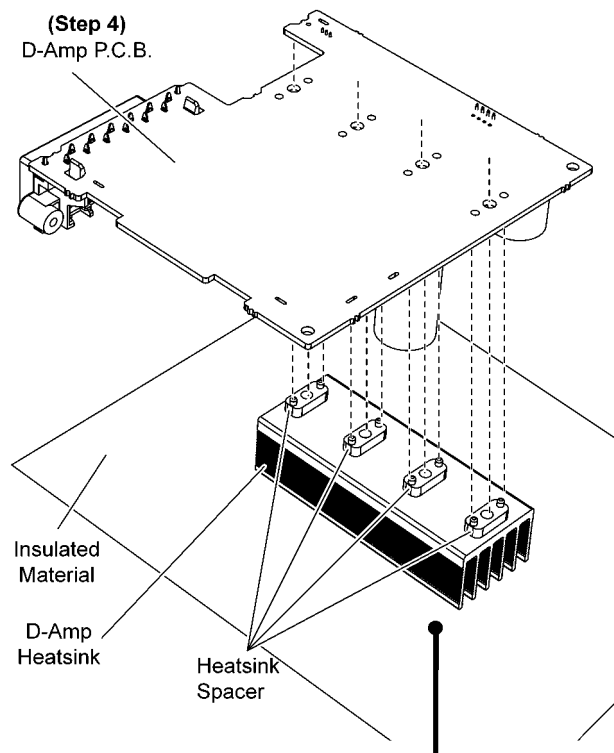
Caution: Ensure that the pins of Digital Amplifier IC (IC5100) is positioned correctly on D-Amp P.C.B. before soldering.

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



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

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



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

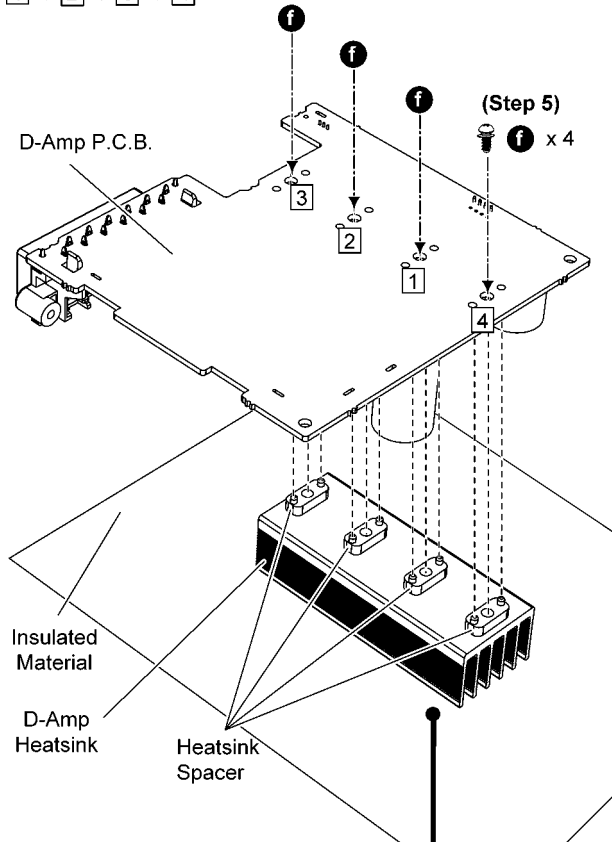
Step 5 Fix 4 screws.

Caution: 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 Digital P.C.B.

• Refer to “Disassembly of Top Cabinet”.

Step 1 Detach 4P FFC at the connector (P55006) on Digital P.C.B..

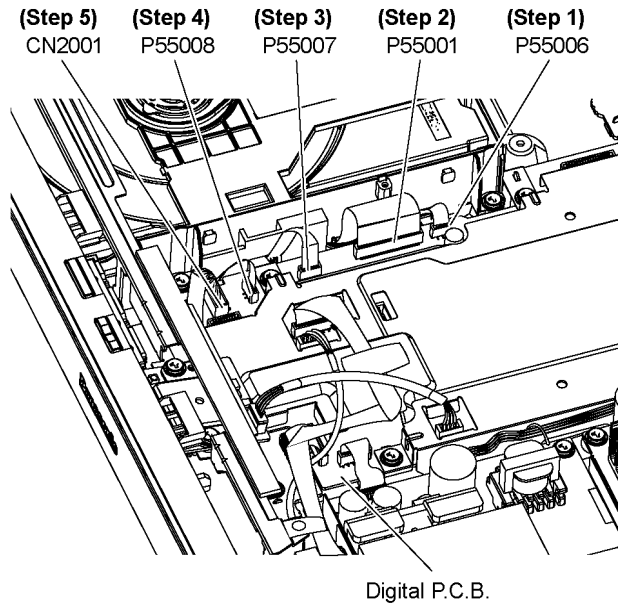
Step 2 Detach 45P FFC at the connector (P55001) on Digital P.C.B..

Step 3 Detach 5P FFC at the connector (P55007) on Digital P.C.B..

Step 4 Detach 5P FFC at the connector (P55008) on Digital P.C.B..

Step 5 Detach 5P Cable at the connector (CN2001) on Digital P.C.B..

Caution: Replace the Himelon if torn.



Step 6 Lift up the Himelon.

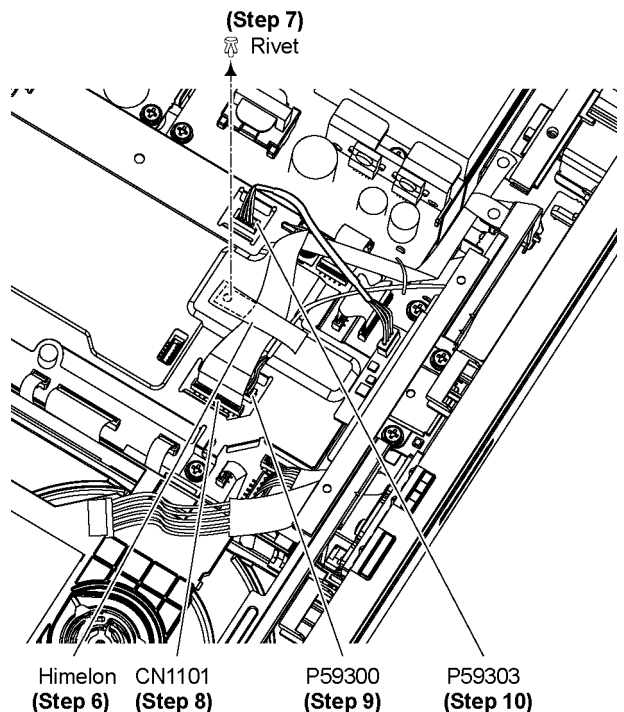
Step 7 Remove 1 Rivet.

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

Step 8 Detach 11P FFC at the connector (CN1101) on Digital P.C.B..

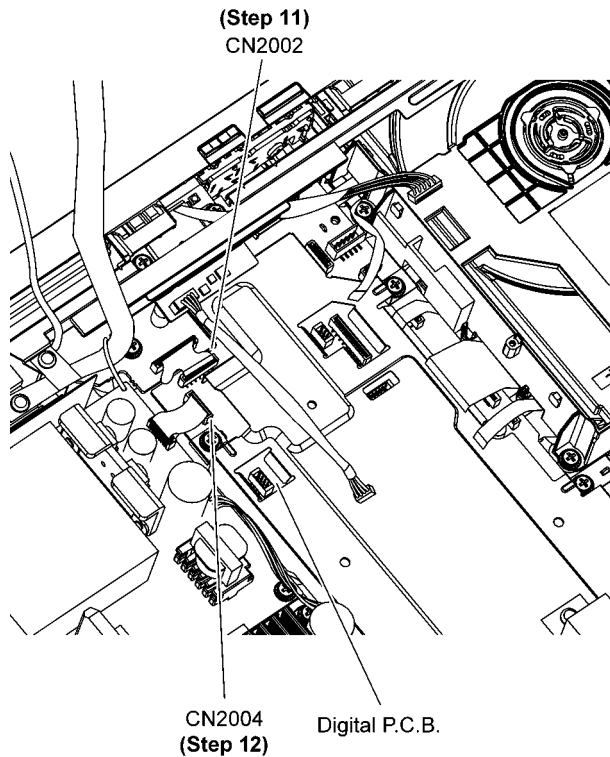
Step 9 Detach 3P Wire at the connector (P59300) on Digital P.C.B..

Step 10 Detach 4P Shield Wire Unit at the connector (P59303) on Digital P.C.B..



Step 11 Detach 13P Cable at the connector (CN2002) on Digital P.C.B..

Step 12 Detach 10P Cable at the connector (CN2004) on Digital P.C.B..

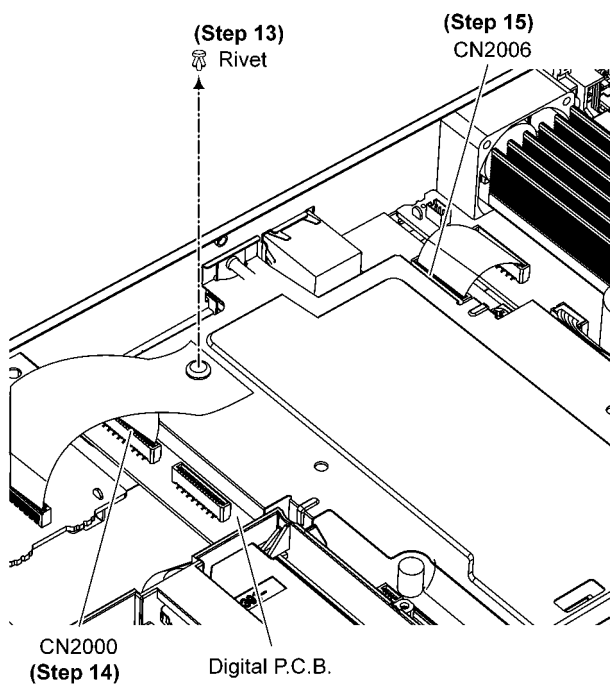


Step 13 Remove 1 rivet.

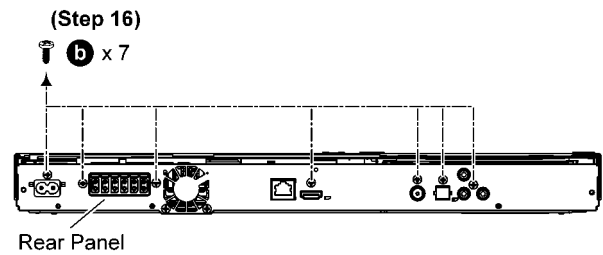
Caution: Keep the Rivet in safe place, place it back during assembling.

Step 14 Detach 22P FFC at the connector (CN2000) on Digital P.C.B..

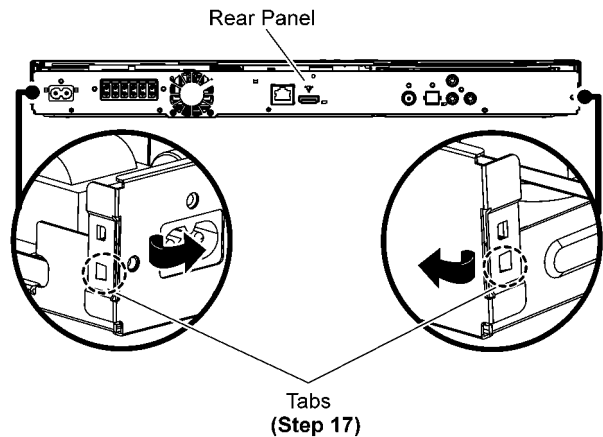
Step 15 Detach 18P FFC at the connector (CN2006) on Digital P.C.B..



Step 16 Remove 7 screws.

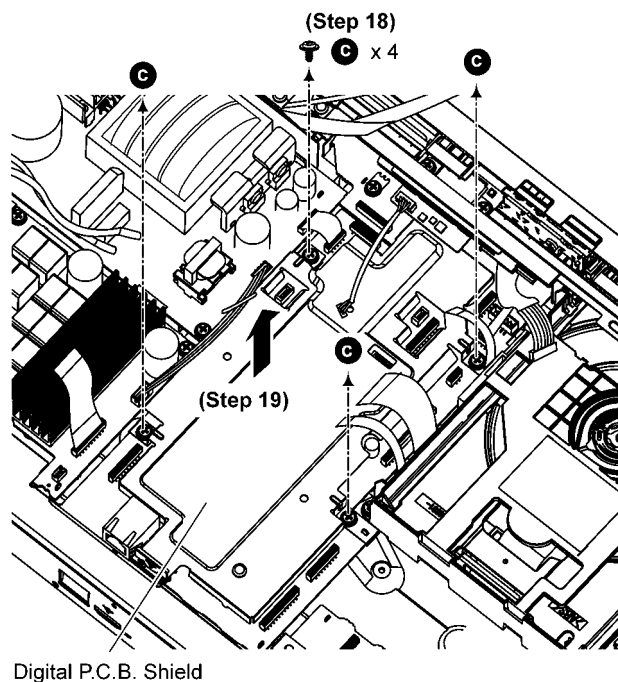


Step 17 Release the tabs at both side of the Rear Panel in the direction of arrow.

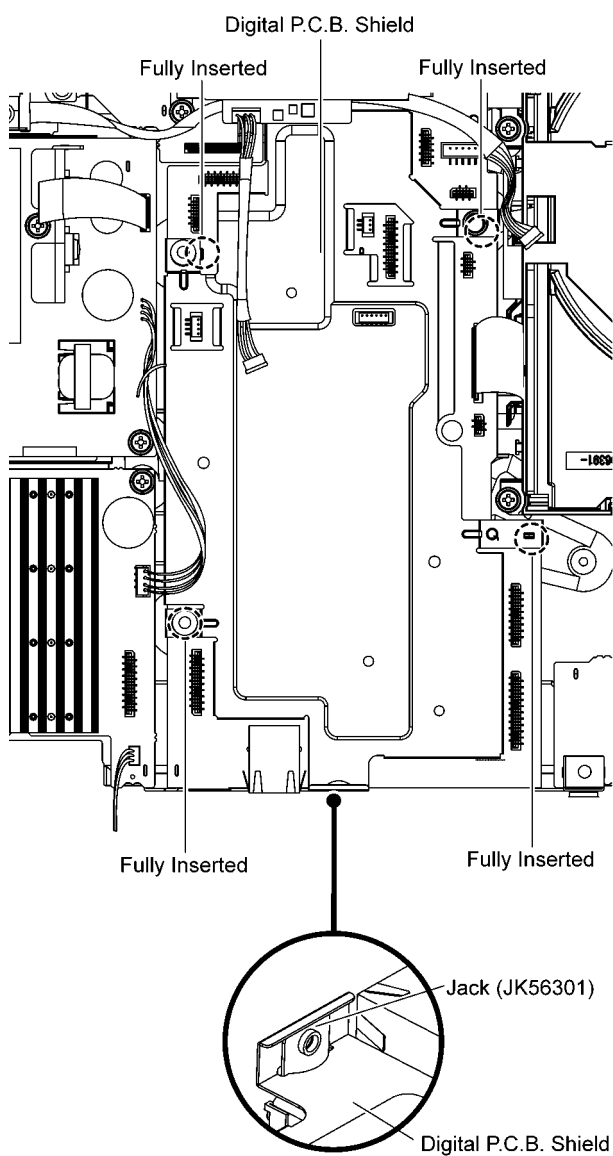


Step 18 Remove 4 screws.

Step 19 Remove the Digital P.C.B. Shield.

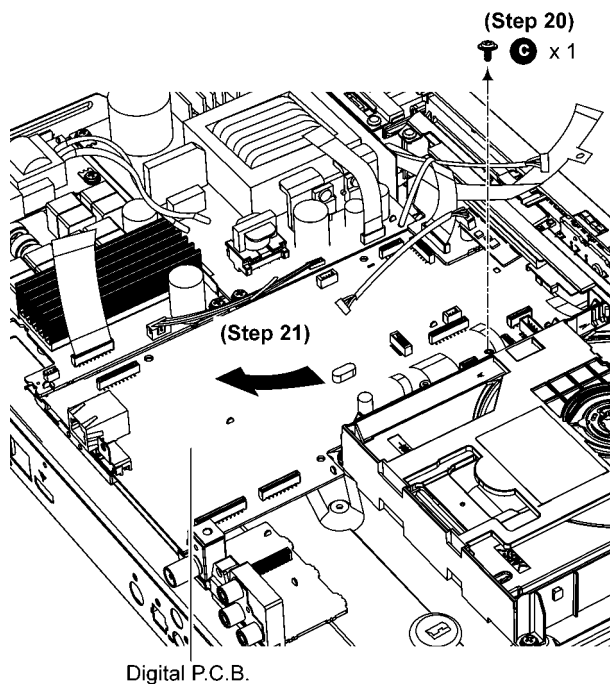


Caution: Keep the Digital P.C.B. Shield in safe place. During assembling, ensure that Digital P.C.B. Shield is properly inserted & fully seated onto Digital P.C.B..

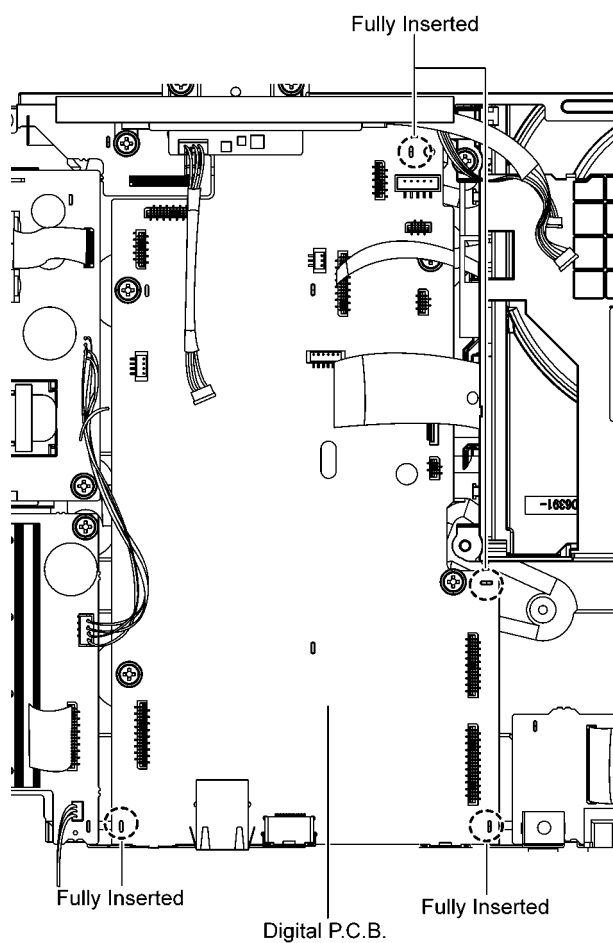


Step 20 Remove 1 screw.

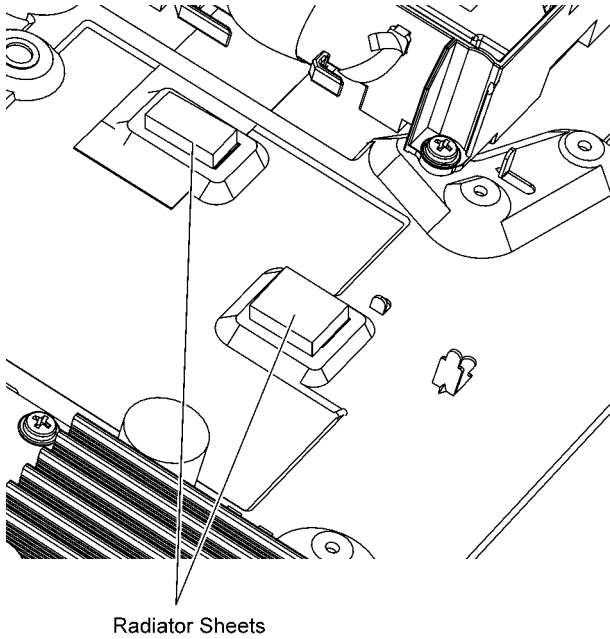
Step 21 Remove Digital P.C.B..



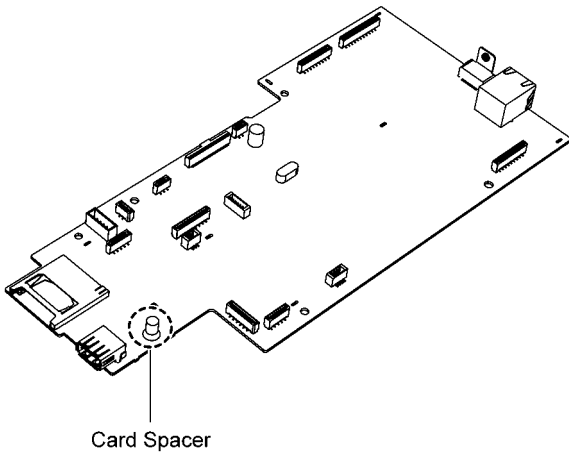
Caution: During assembling, ensure that Digital P.C.B. is properly located & fully seated onto Bottom Chassis.



Caution: Ensure that radiator sheets is properly seated within the emboss edges.



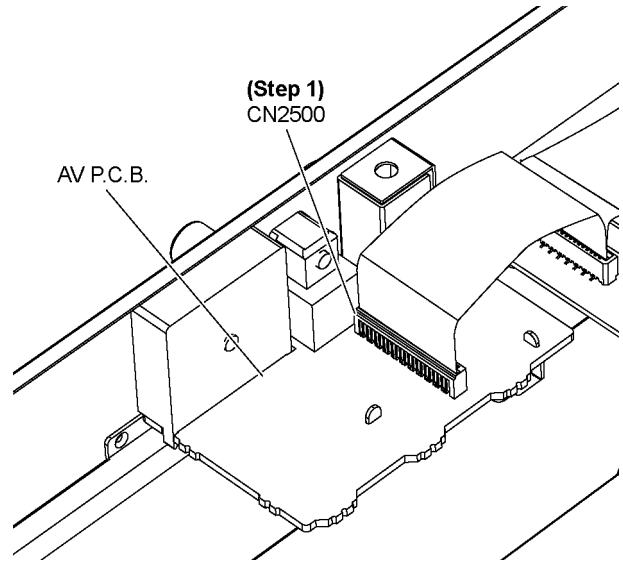
Caution: Replace the Card Spacer if broken.



10.19. Disassembly of AV P.C.B.

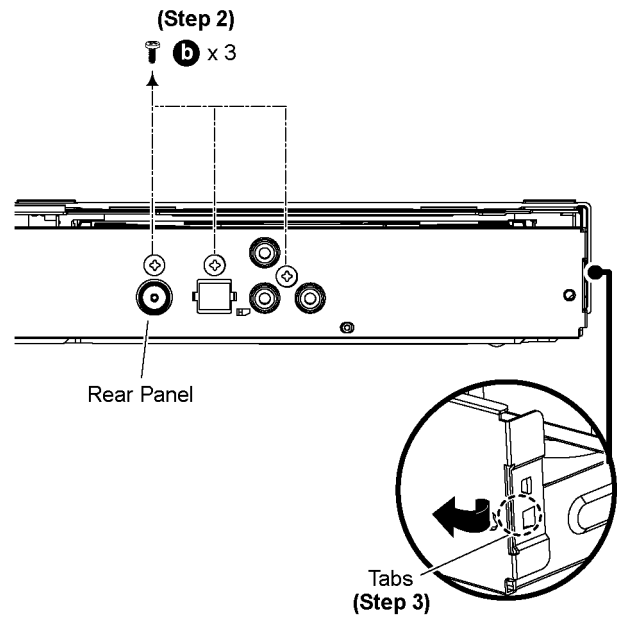
• Refer to "Disassembly of Top Cabinet".

Step 1 Detach 22P FFC at the connector (CN2500) on AV P.C.B..

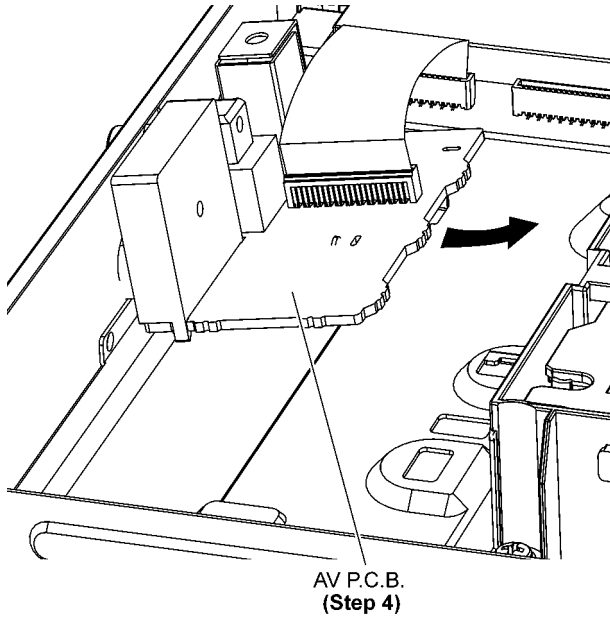


Step 2 Remove 3 screws.

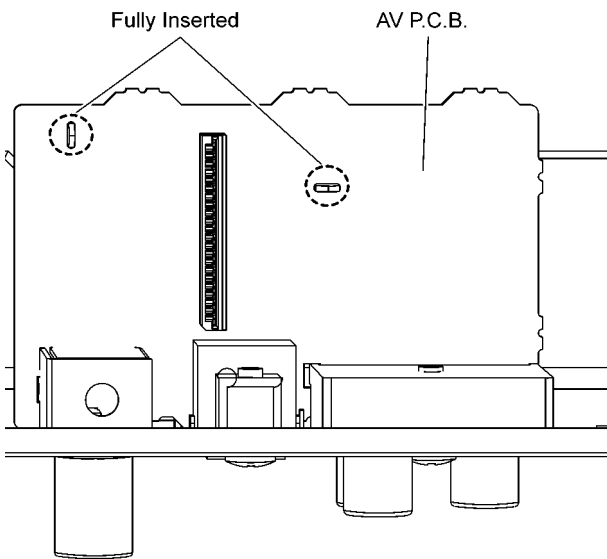
Step 3 Release the tabs of the right side of the Rear Panel in the direction of arrow.



Step 4 Remove the AV P.C.B. according to direction of arrow shown.



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



10.20. Disassembly of SMPS P.C.B.

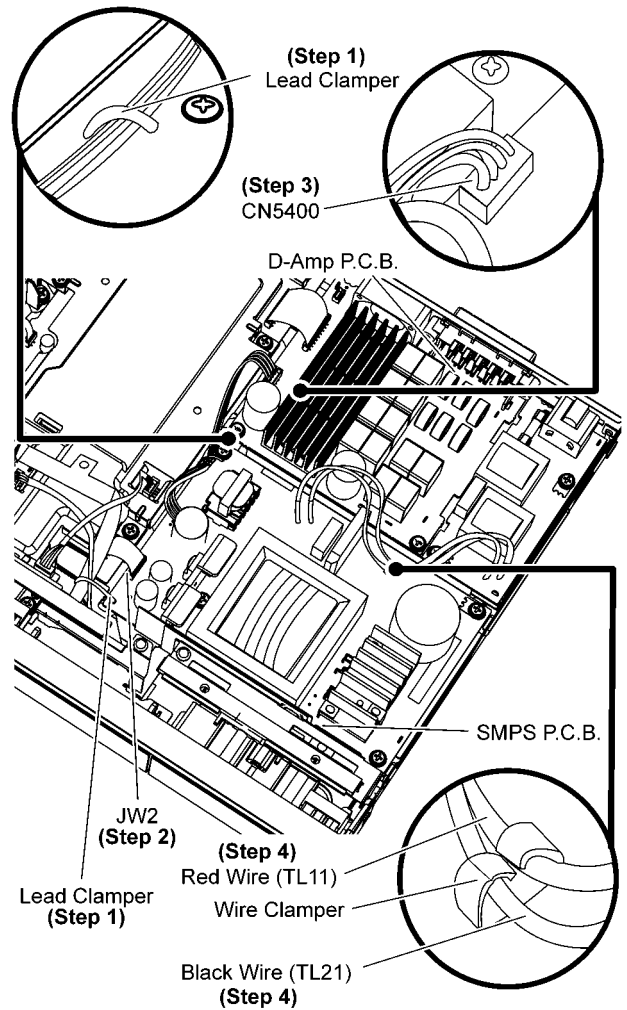
• Refer to "Disassembly of Top Cabinet".

Step 1 Lift up the Lead Clampers.

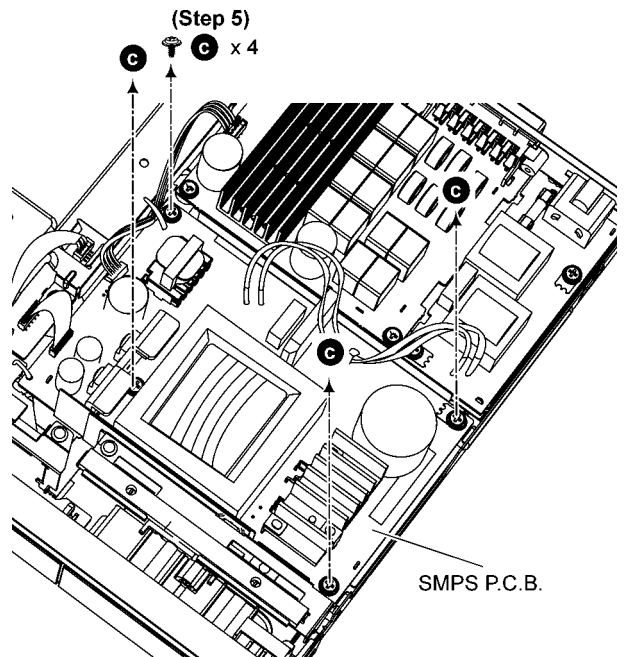
Step 2 Detach 10P FFC at the connector (JW2) on SMPS P.C.B..

Step 3 Detach 4P Cable at the connector (CN5400) on D-Amp P.C.B..

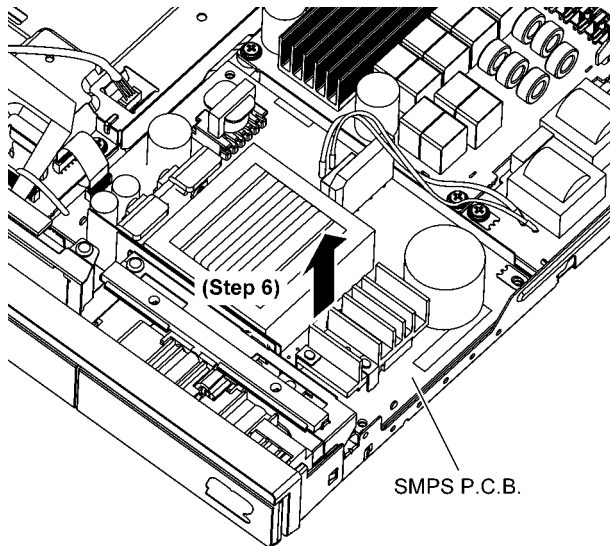
Step 4 Release Red Wire (TL11) & Black Wire (TL21) from the Wire Clamper.



Step 5 Remove 4 screws.



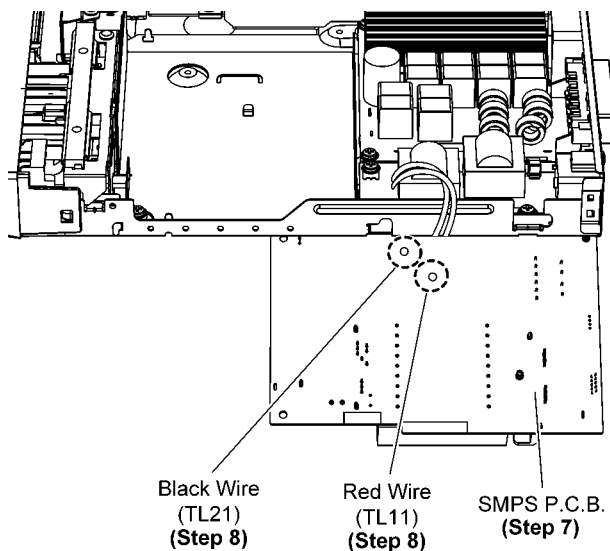
Step 6 Lift up the SMPS P.C.B..



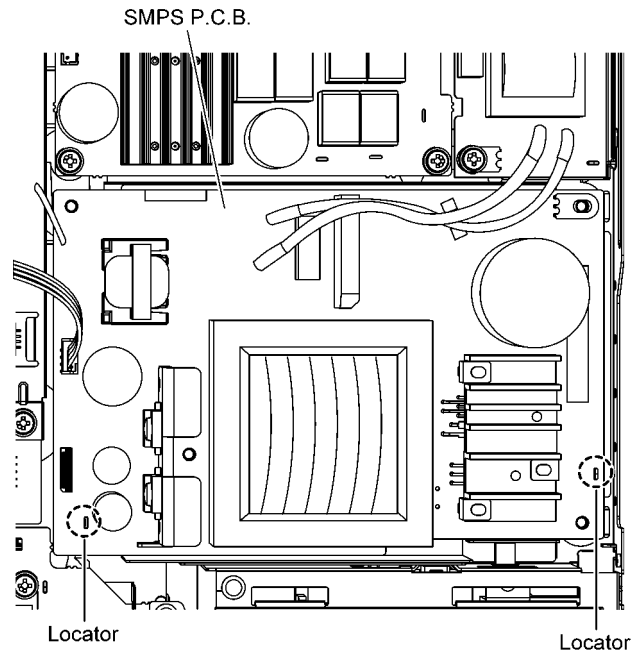
Step 7 Position the SMPS P.C.B. according to diagram shown.

Step 8 Desolder Red (TL11) and Black (TL21) Wires on solder side of SMPS P.C.B..

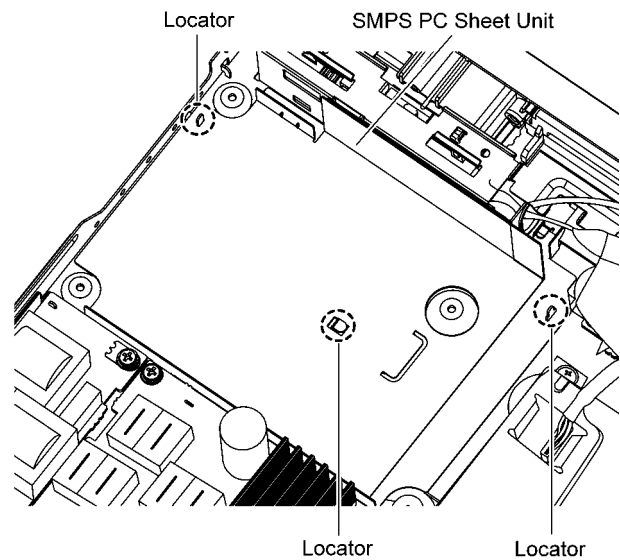
Step 9 Remove the SMPS P.C.B..



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.”.

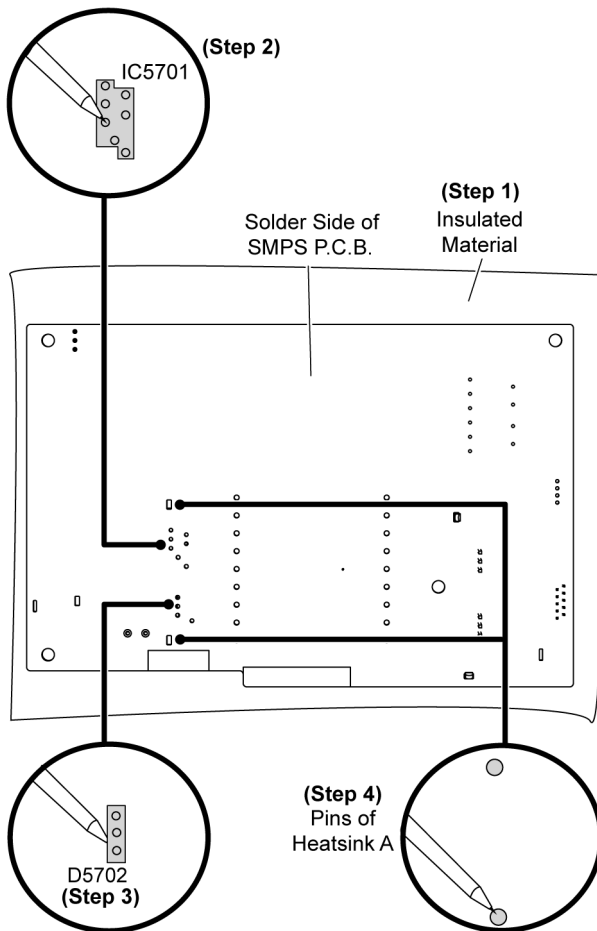
10.21.1. Disassembly of Switching Regulator IC (IC5701)

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..

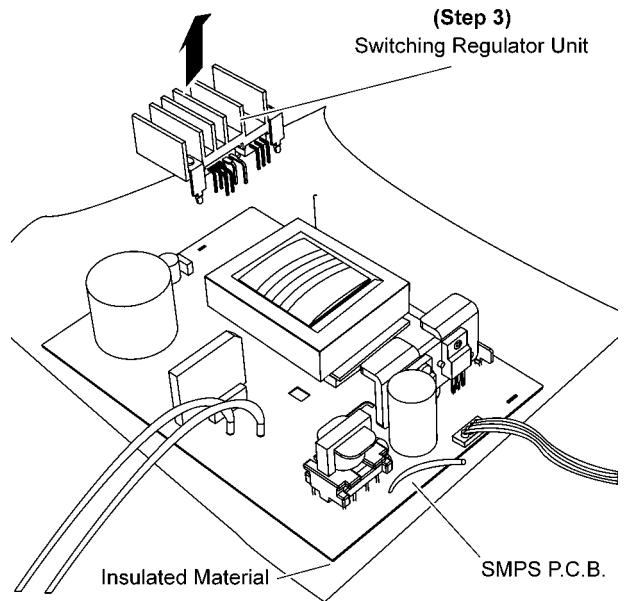
Step 3 Desolder pins of the Rectifier Diode (D5702) on the solder side of SMPS P.C.B..

Step 4 Desolder pins of the Heatsink A.



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

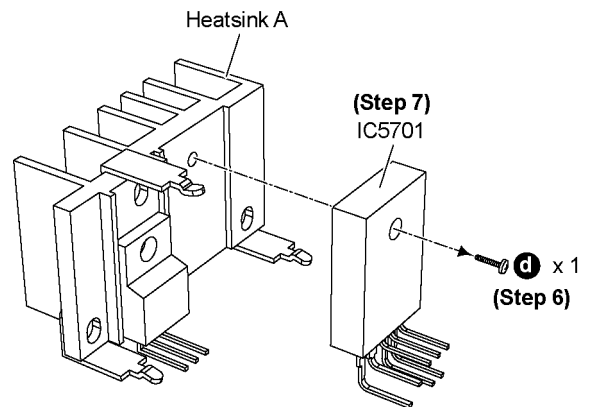
Caution: Avoid touching the Switching Regulator Unit due to its high temperature after prolonged use. Touching it may lead to injuries.



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 17.4) for location of the part.

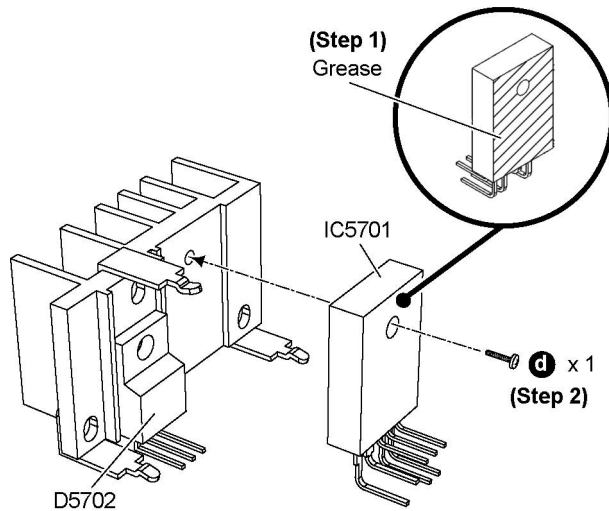


10.21.2. Assembly of Switching Regulator IC (IC5701)

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

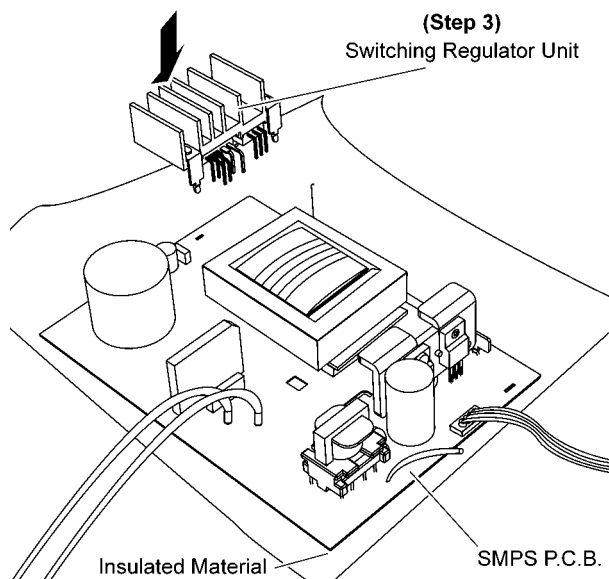
Step 2 Fix & screw the Switching Regulator IC (IC5701) to the Switching Regulator Unit.

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



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

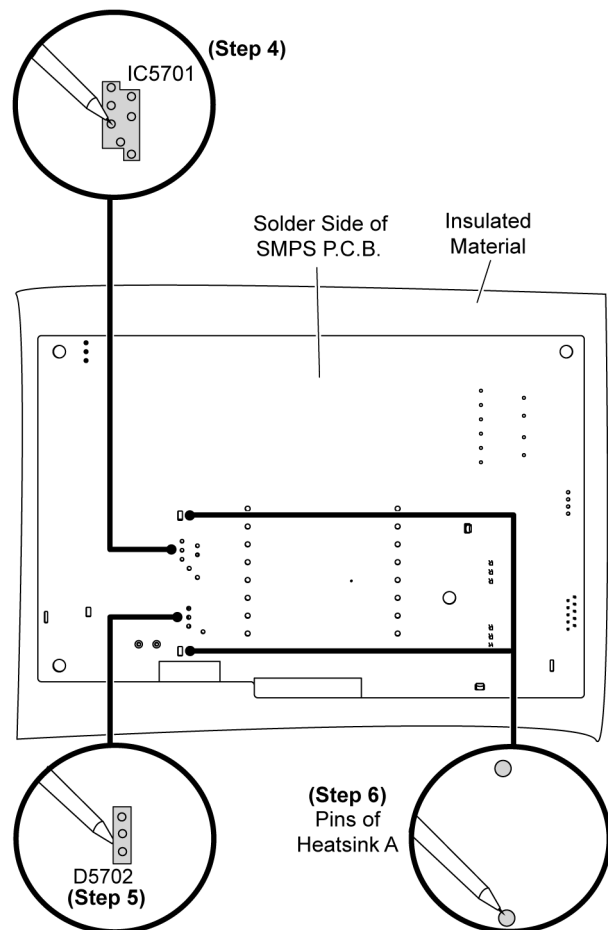
Caution: Ensure that Switching Regulator Unit is properly seated on SMPS P.C.B..



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.



10.22. Replacement of Rectifier Diode (D5702)

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

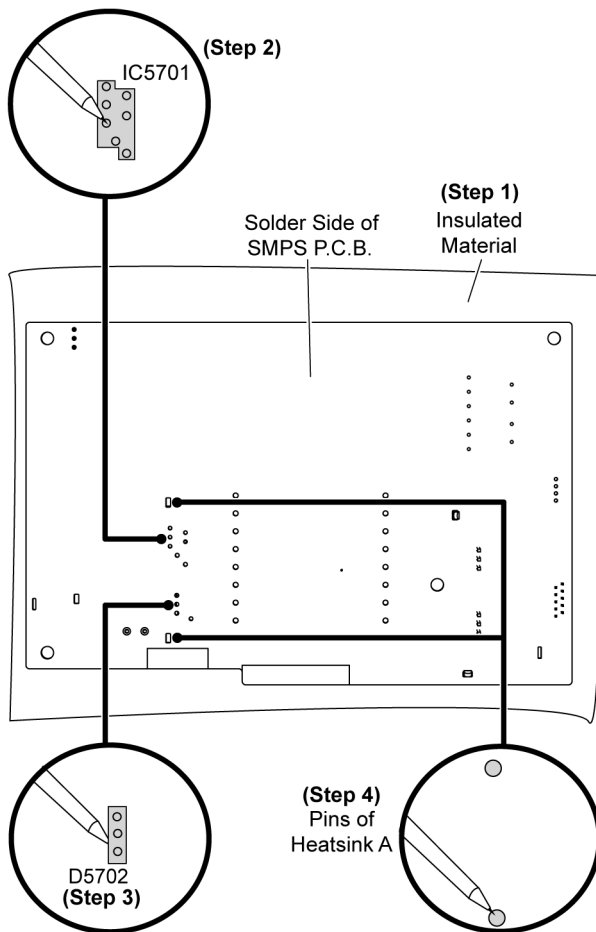
10.22.1. Disassembly of Rectifier Diode (D5702)

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..

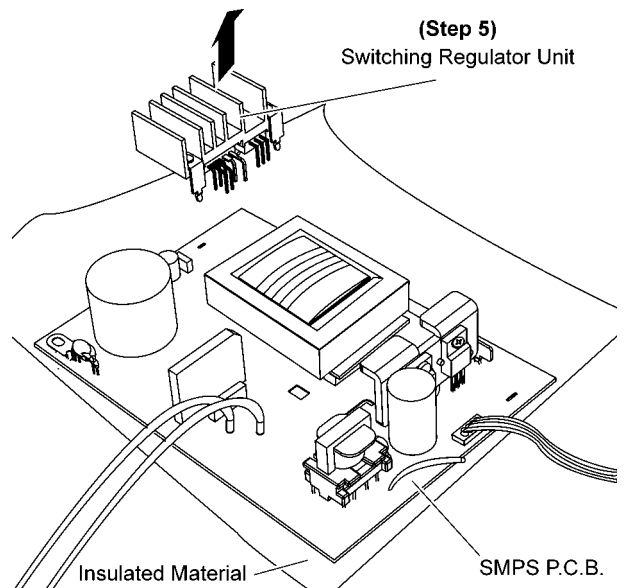
Step 3 Desolder pins of the Rectifier Diode (D5702) on the solder side of SMPS P.C.B..

Step 4 Desolder pins of the Heatsink A.



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

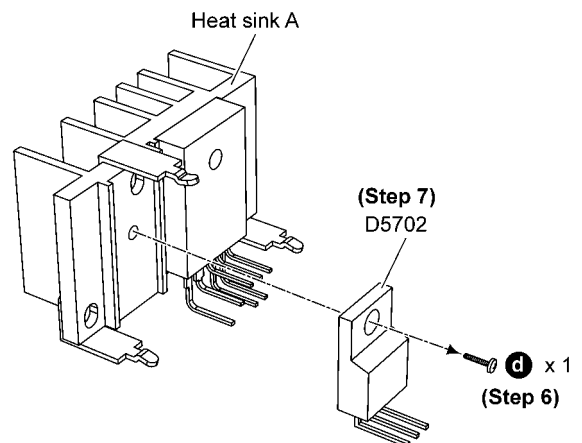
Caution: Avoid touching the Switching Regulator Unit due to its high temperature after prolonged use. Touching it may lead to injuries.



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 18.4) for location of the part.

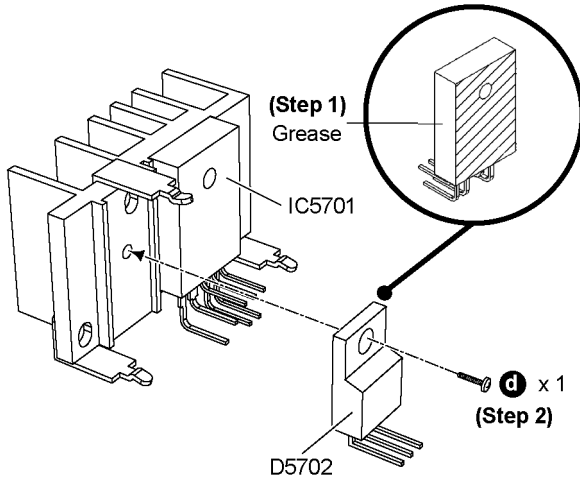


10.22.2. Assembly of Rectifier Diode (D5702)

Step 1 Apply Grease to the back of Rectifier Diode (D5702).

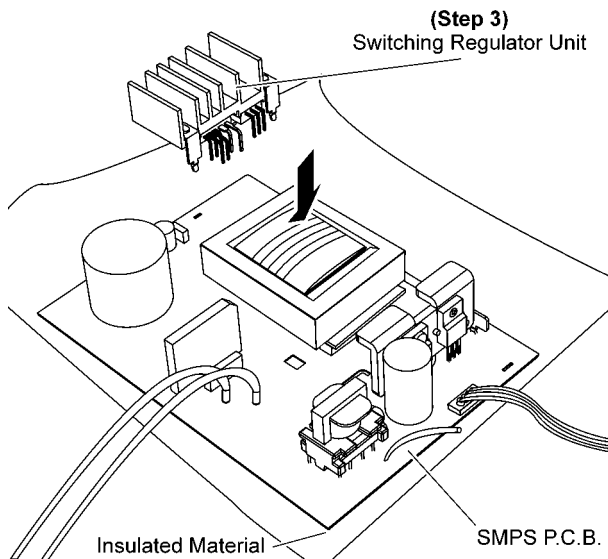
Step 2 Fix & screw the Rectifier Diode (D5702) to the Heatsink A.

Caution: Ensure that Rectifier Diode (D5702) is properly fixed & screwed onto Switching Regulator Unit.



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

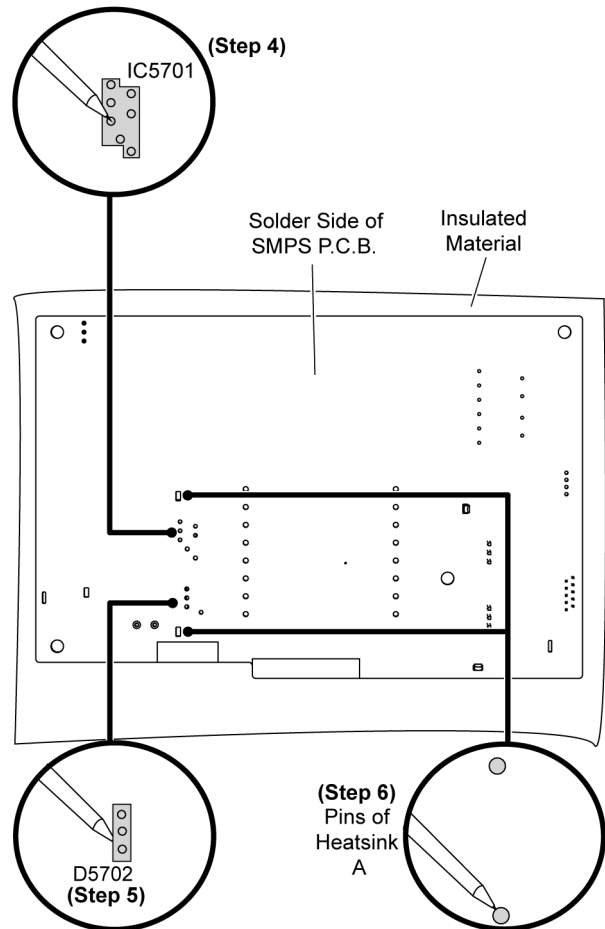
Caution: Ensure that Switching Regulator Unit is properly seated on SMPS P.C.B..



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.



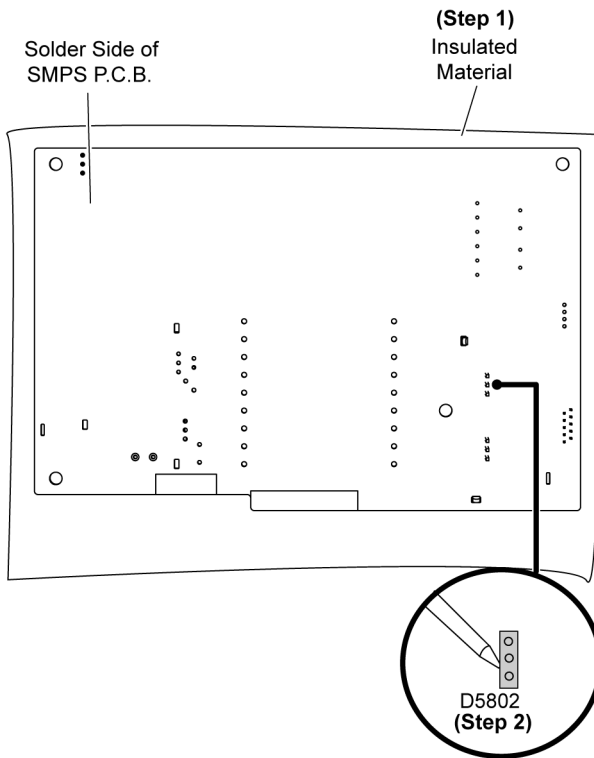
10.23. Replacement of Thermal Diode (D5802)

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

10.23.1. Replacement 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..

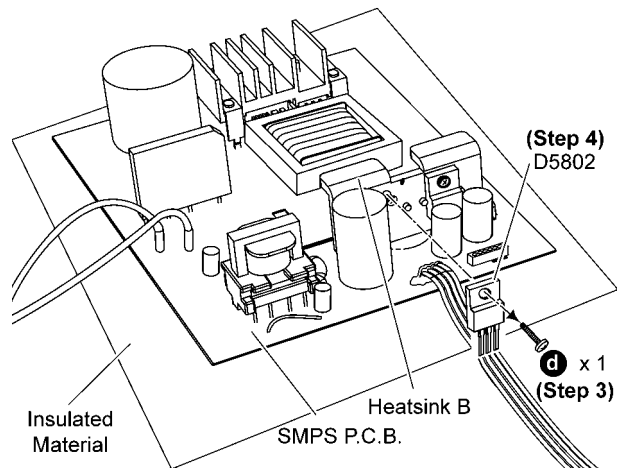


Step 3 Remove 1 screw from the Thermal Diode (D5802).

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 18.4) for location of the part.

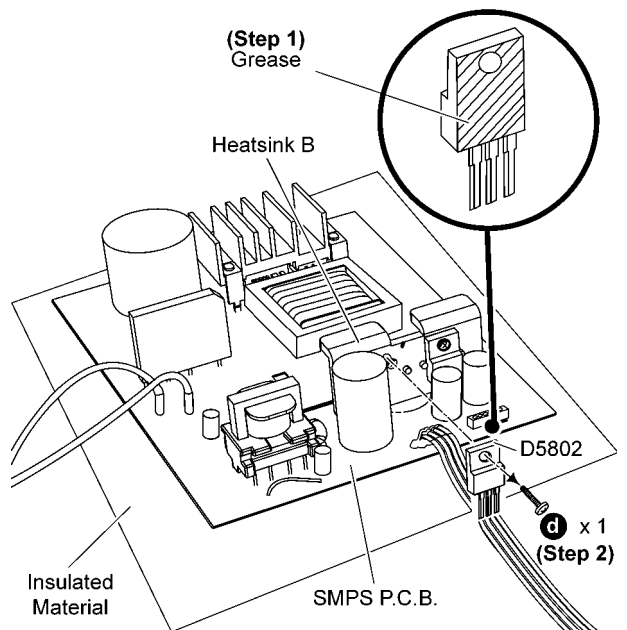


10.23.2. Assembly of Thermal Diode (D5802)

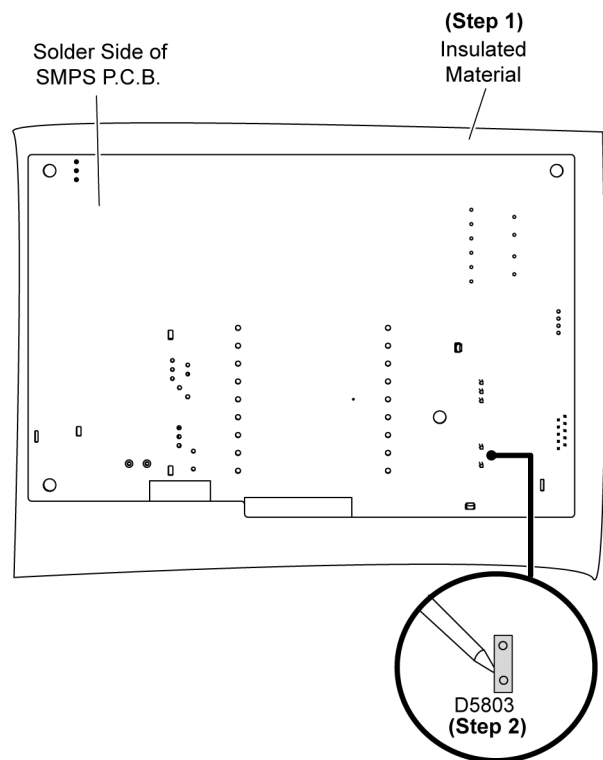
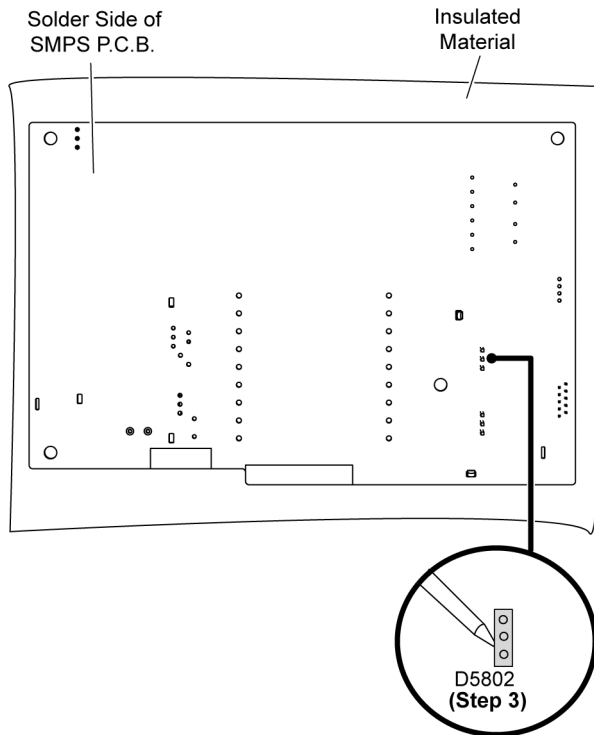
Step 1 Apply Grease to the back of Thermal Diode (D5802).

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



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..

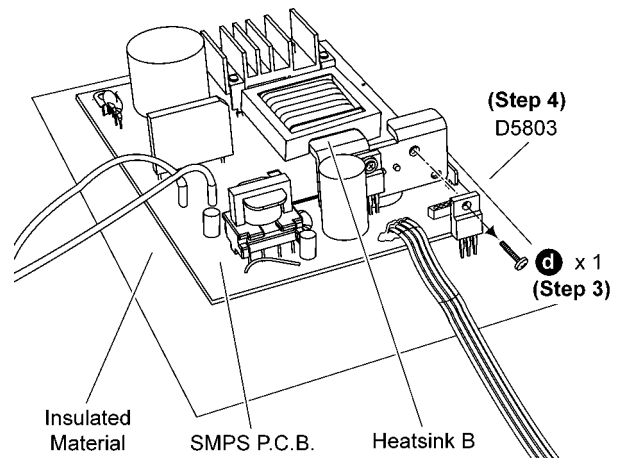
Step 2 Desolder pins of the Regulator Diode (D5803) on the solder side of SMPS P.C.B..

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 18.4) for location of the part.

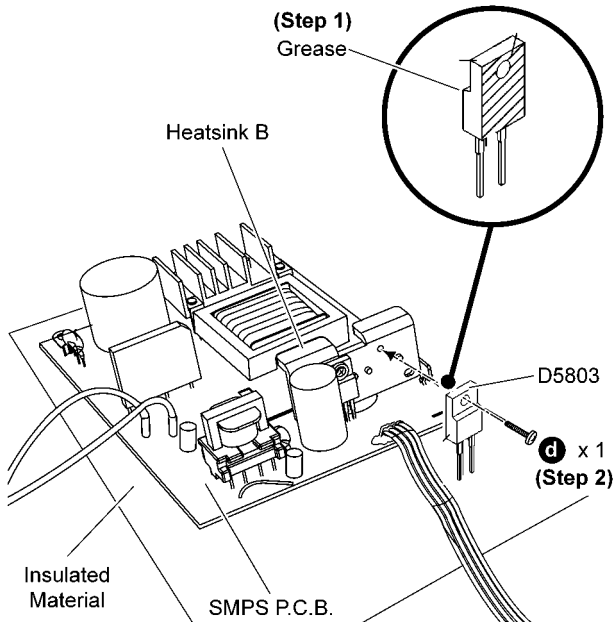


10.24.2. Assembly of Regulator Diode (D5803)

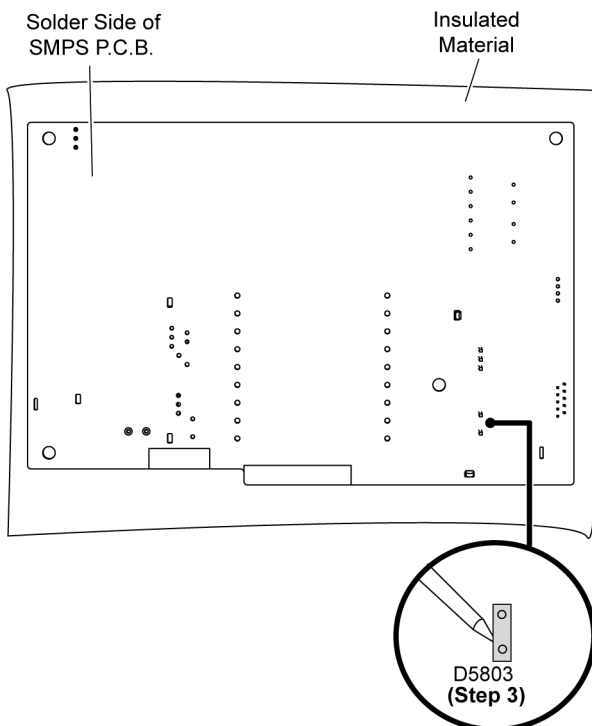
Step 1 Apply Grease to the back of Regulator Diode (D5803).

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

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..



11 Service Position

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

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

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

Step 1 Remove the Top Cabinet.

Step 2 Lift up the Himelon.

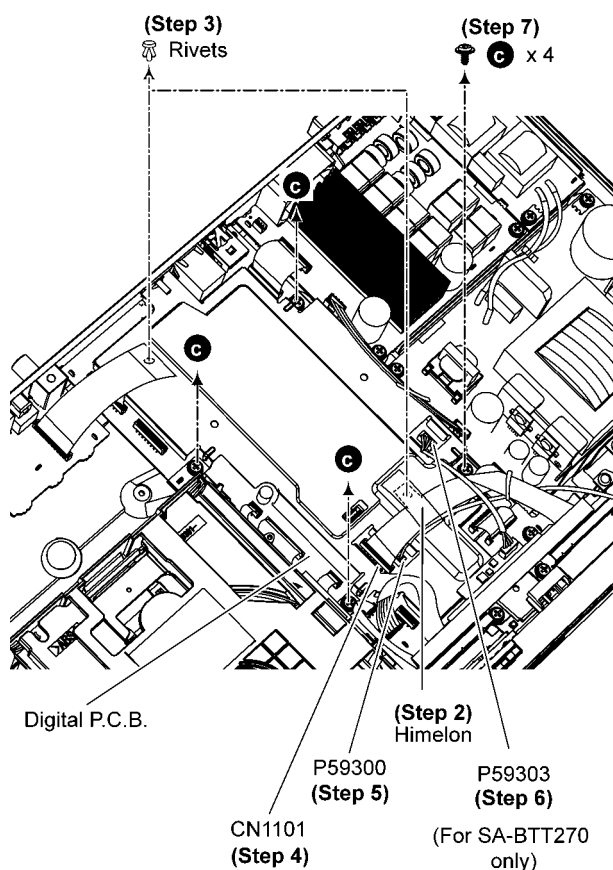
Step 3 Remove 2 Rivets.

Step 4 Detach 11P FFC at the connector (CN1101) on Digital P.C.B..

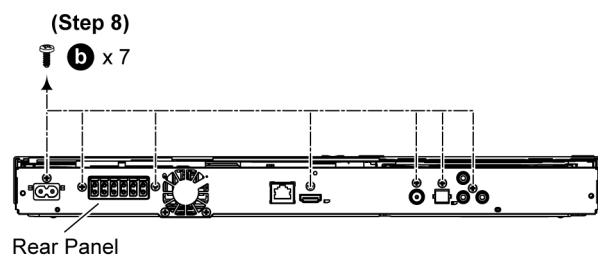
Step 5 Detach 3P Wire at the connector (P59300) on Digital P.C.B..

Step 6 Detach 4P Shield Wire Unit at the connector (P59303) on Digital P.C.B. (for SA-BTT270 only).

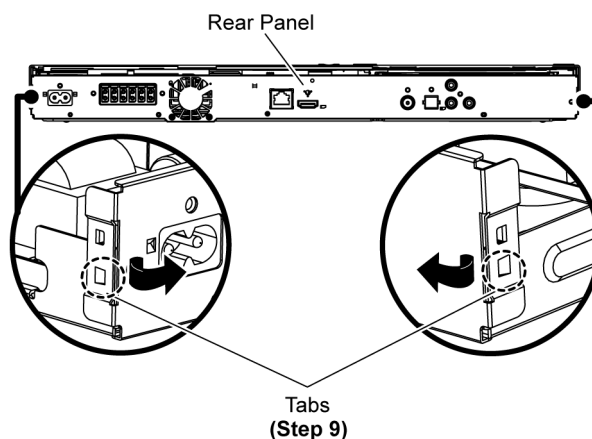
Step 7 Remove 4 screws.



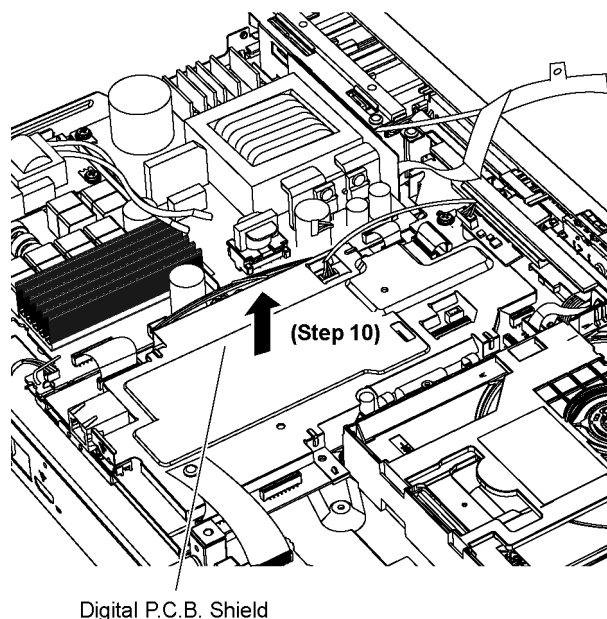
Step 8 Remove 7 screws.



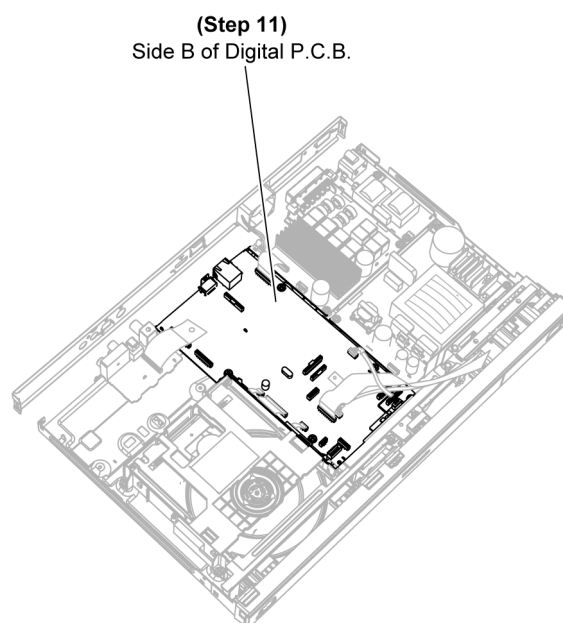
Step 9 Release the tabs at both side of the Rear Panel in the direction of arrow.



Step 10 Remove Digital P.C.B. Shield.



Step 11 Proceed to check & repair side B of Digital P.C.B..



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

Step 1 Remove Top Cabinet.

Step 2 Remove the Digital P.C.B..

Step 3 Connect 4P FFC at the connector (P55006) on Digital P.C.B..

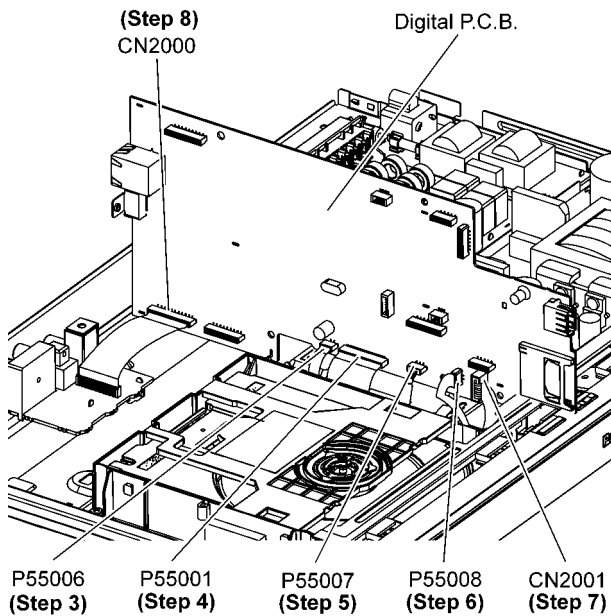
Step 4 Connect 45P FFC at the connector (P55001) on Digital P.C.B..

Step 5 Connect 5P FFC at the connector (P55007) on Digital P.C.B..

Step 6 Connect 5P FFC at the connector (P55008) on Digital P.C.B..

Step 7 Connect 5P Cable at the connector (CN2001) on Digital P.C.B..

Step 8 Connect 22P Cable at the connector (CN2000) on Digital P.C.B..



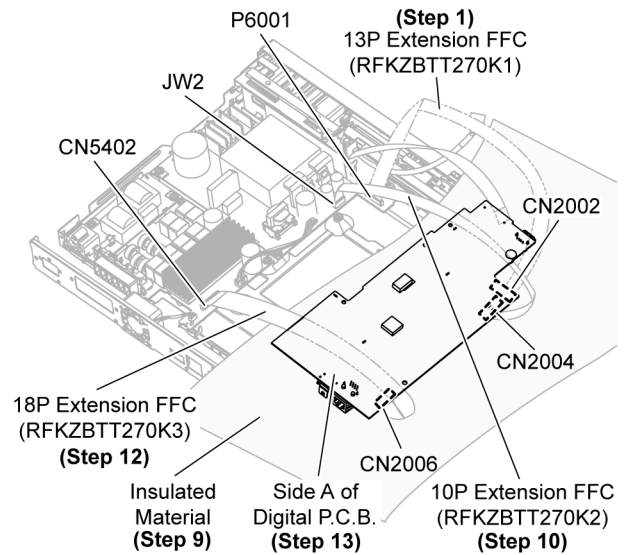
Step 9 Place Digital P.C.B. under an insulated material.

Step 10 Connect 10P Extension FFC (RFKZBTT270K2) from CN2004 to JW2.

Step 11 Connect 13P Extension FFC (RFKZBTT270K1) from CN2002 to P6001.

Step 12 Connect 18P Extension FFC (RFKZBTT270K3) from CN5402 to CN2006.

Step 13 Proceed to check & repair Side A of Digital 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.

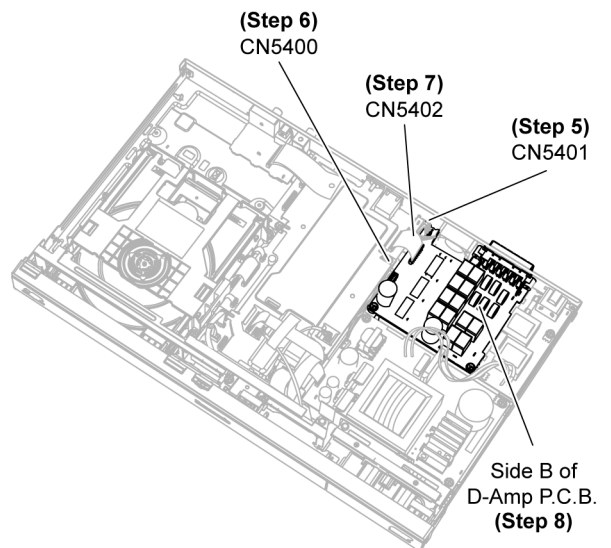
Step 4 Place D-Amp P.C.B. onto Bottom Chassis.

Step 5 Connect 3P Cable at the connector (CN5401) on D-Amp P.C.B..

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

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

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

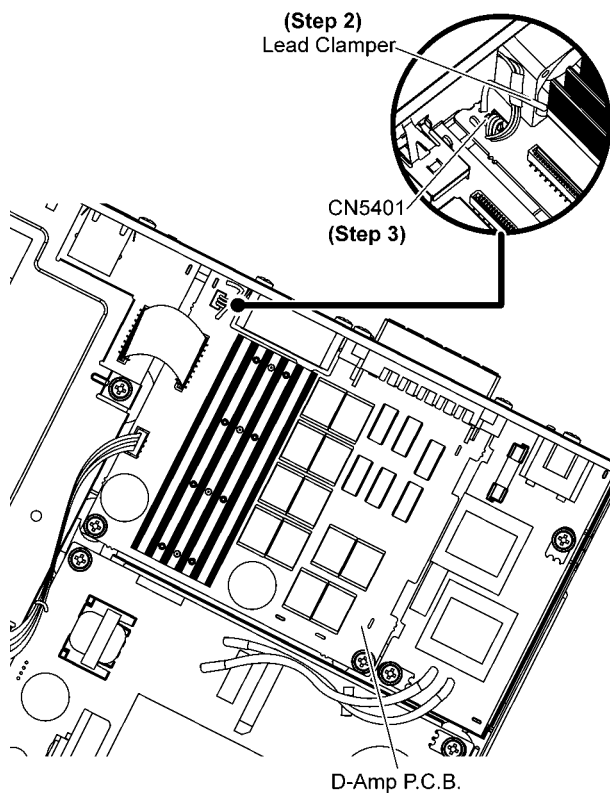


11.2.2. Checking & Repairing of D-Amp P.C.B. (Side A)

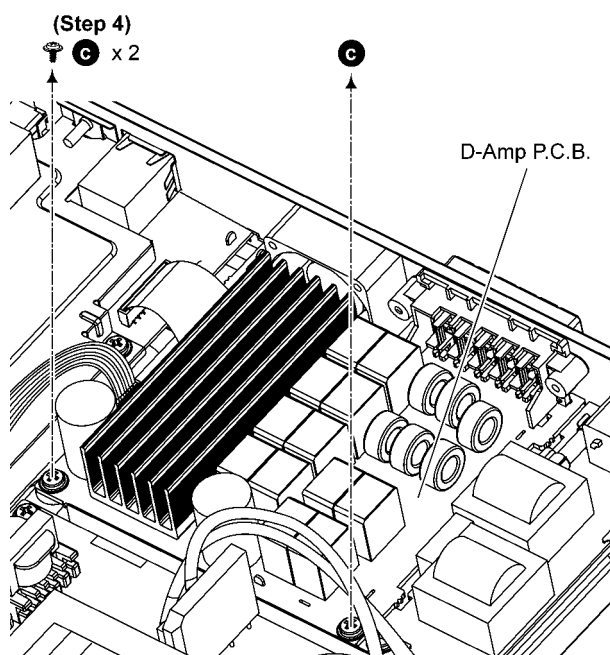
Step 1 Remove Top Cabinet.

Step 2 Lift up the Lead Clamper.

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

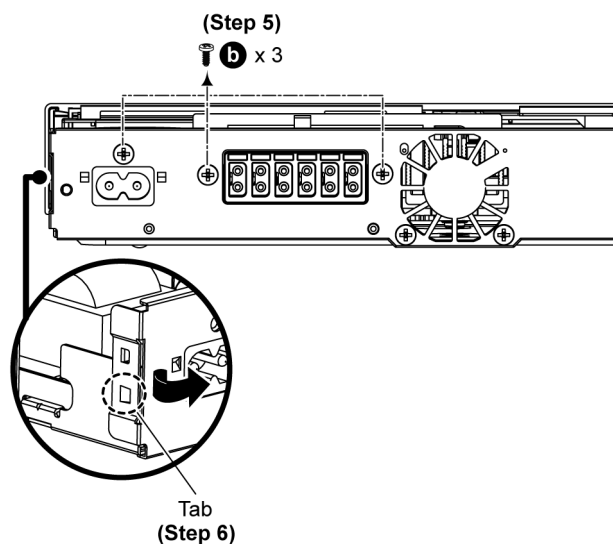


Step 4 Remove 2 screws.

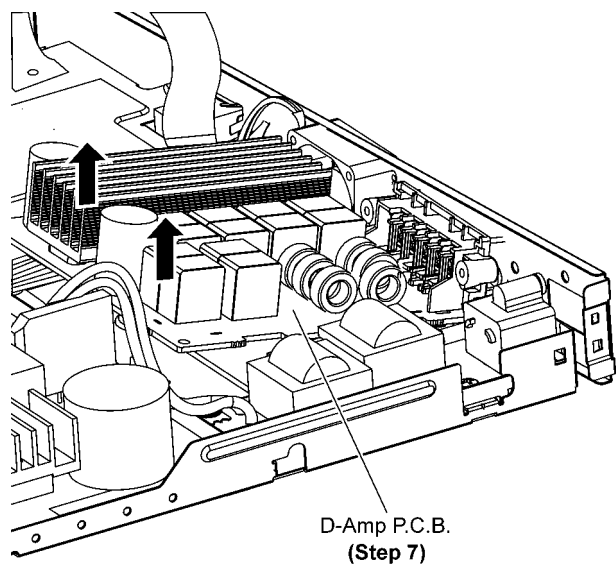


Step 5 Remove 3 screws.

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



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

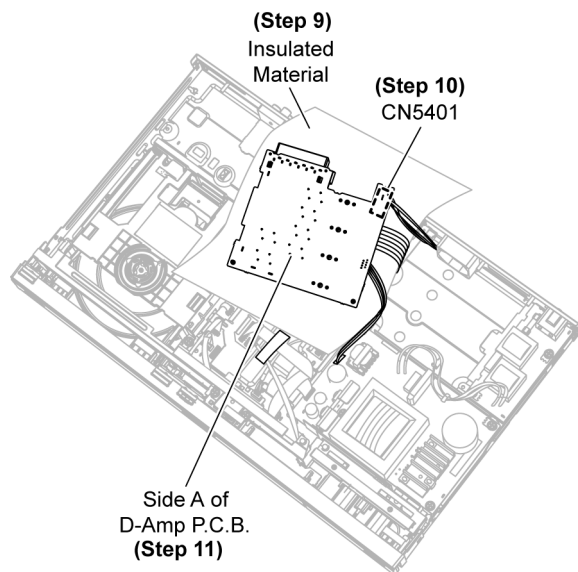


Step 8 Flip the D-Amp P.C.B. and position it according to diagram shown.

Step 9 Place D-Amp P.C.B. on an insulated material.

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

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

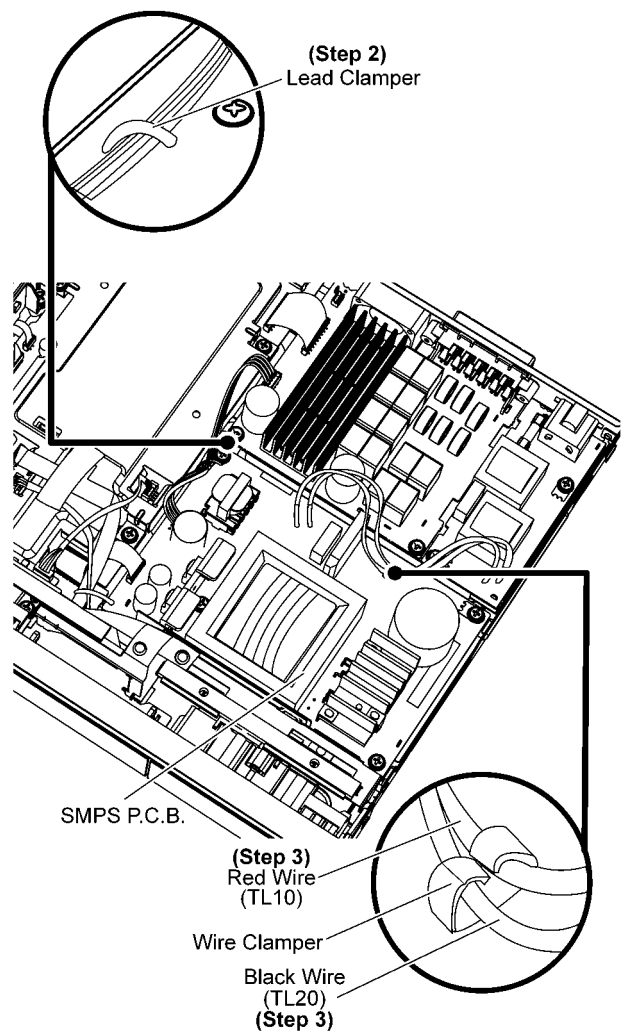


11.3. Checking & Repairing SMPS P.C.B.

Step 1 Remove Top Cabinet.

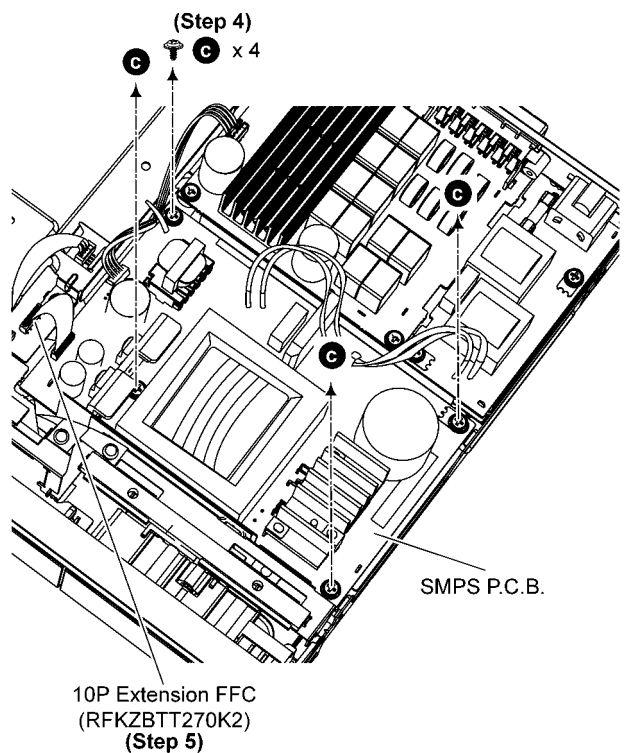
Step 2 Lift up the Lead Clamper.

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

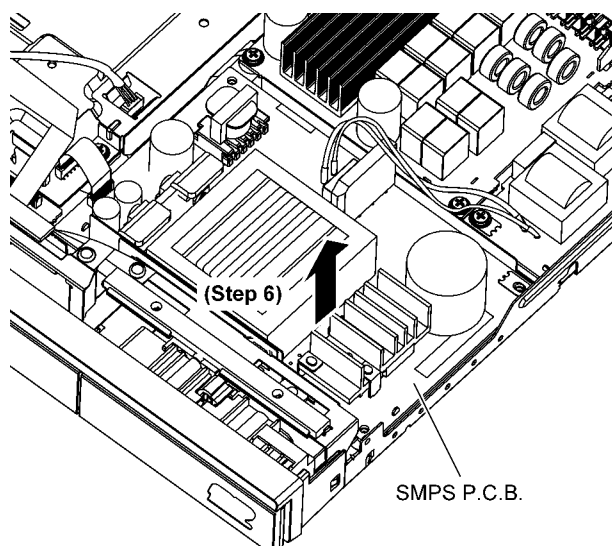


Step 4 Remove 4 screws.

Step 5 Connect 10P Extension FFC (RFKZBTT270K2) from CN2004 to JW2.



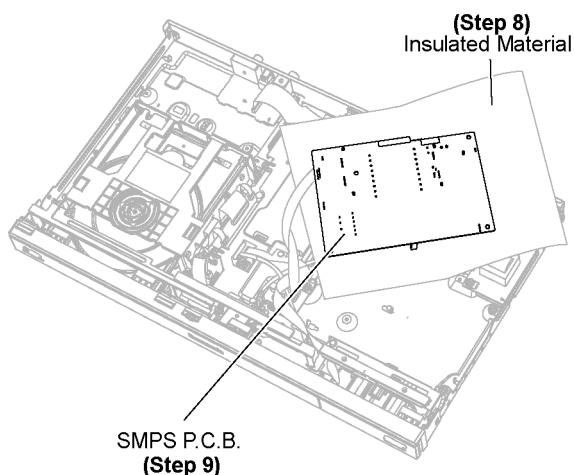
Step 6 Lift up the SMPS P.C.B..



Step 7 Flip the SMPS P.C.B and position it according to diagram shown.

Step 8 Place SMPS P.C.B on insulated material.

Step 9 Proceed to check and repair SMPS P.C.B..



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

Step 1 Remove Top Cabinet.

Step 2 Remove Front Panel Assembly.

Step 3 Remove WI-FI P.C.B. (for SA-BTT270 only).

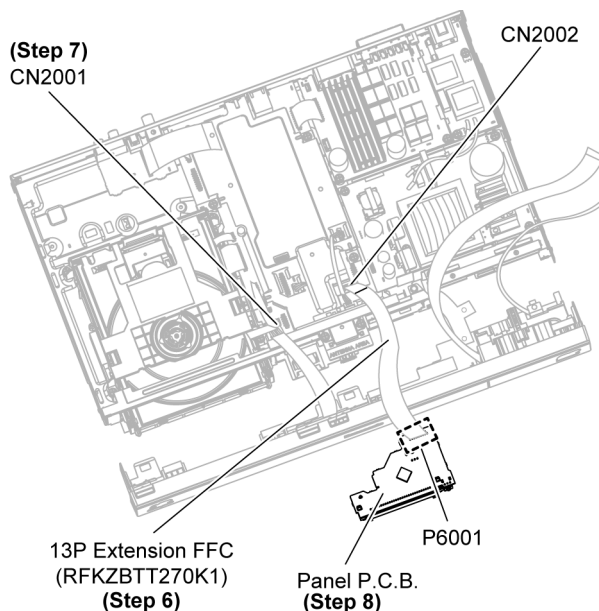
Step 4 Remove the Panel P.C.B..

Step 5 Position the Panel P.C.B & Front Panel Block Assembly according to diagram shown.

Step 6 Connect 13P Extension FFC (RFKZBTT270K1) from CN2002 to P6001.

Step 7 Connect 5P Cable to the connector (CN2001) on Digital P.C.B..

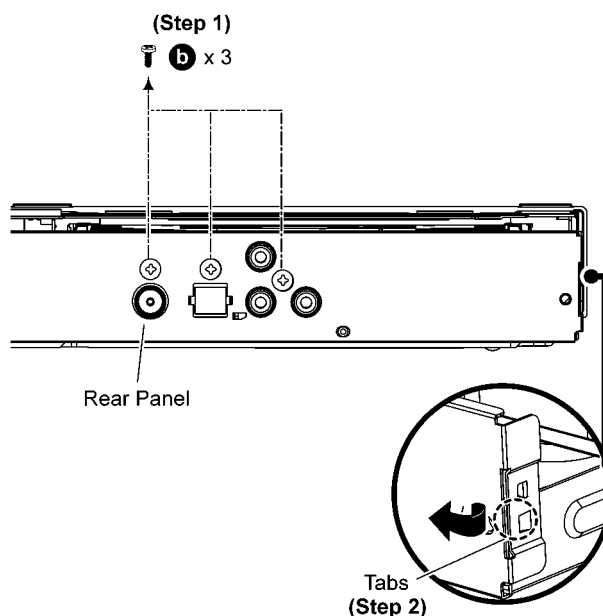
Step 8 Proceed to check & repair Panel P.C.B..



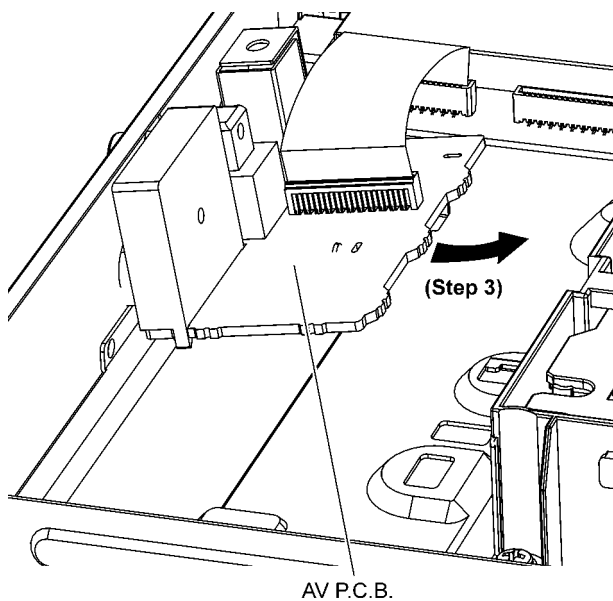
11.5. Checking & Repairing of AV P.C.B.

Step 1 Remove 3 screws.

Step 2 Release the tabs of the right side of the Rear Panel in the direction of arrow.



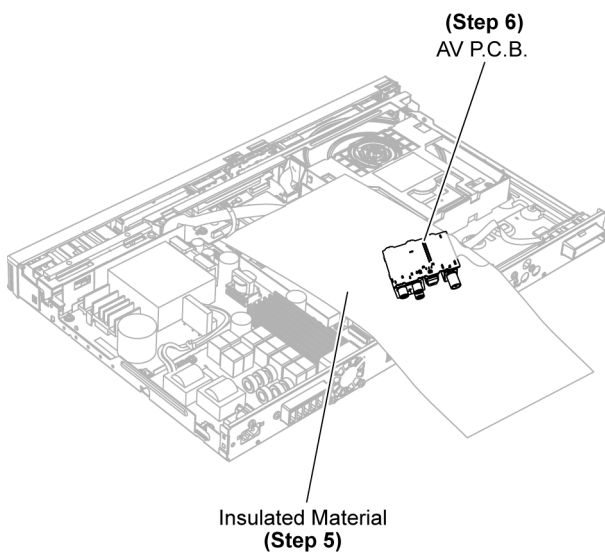
Step 3 Remove the AV P.C.B according to direction of arrow shown.



Step 4 Upset the AV P.C.B..

Step 5 Place AV P.C.B. on an insulated material.

Step 6 Proceed to check and repair the AV 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. Digital P.C.B. (1/2)

REF NO.	IC1101																			
MODE	1	2	3	4	5															
CD PLAY	1.8	0	5.0	2.8	0															
STANDBY	2.1	0	5.0	2.8	0															

REF NO.	IC1102																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	4.4	5.0	5.0	-4.7	5.0	4.8	5.0	9.3												
STANDBY	4.4	5.0	5.0	-4.8	5.0	4.8	5.0	9.3												

REF NO.	IC2001																			
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	1.6	1.6	0.6	0	0	0.7	1.6	1.6	1.6	0	3.3	3.3	3.3	3.3	3.2	1.6	0	3.2	0
STANDBY	1.6	1.7	0	0	0	0	0.6	1.6	1.6	1.6	0	3.3	0	3.3	3.3	3.2	1.6	0	3.2	0

REF NO.	IC2001																			
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	1.5	1.5	0	0.6	3.3	1.0	0	0	0	1.2	1.2	0.6	1.6	1.6	1.2	3.3	1.7
STANDBY	0	0	0	1.5	1.5	0	0.6	3.2	1.0	0	0	0	0	0	0	1.6	1.6	0	3.2	1.6

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	1.4	0	0	0	0	0	0	1.0	1.2	3.3	1.6	0	1.4	3.3	3.3	3.3	2.2	1.2	3.3	0.1
STANDBY	1.4	0	3.3	0	3.3	0	0	0.7	1.2	3.3	1.6	0	1.5	3.3	3.3	3.3	2.2	1.0	3.3	0.1

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	0.1	3.3	3.3	0	0	3.3	3.3	3.3	0	0	3.3	0	1.1	0	3.3	3.3	0	0	0.1
STANDBY	0	0.1	3.3	3.3	0	0	3.3	3.3	3.3	0	0	0	0	1.0	0	3.3	3.3	0	0	0.1

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	3.3	3.3	0	3.3	3.3	3.3	3.3	3.3	1.1	0	3.3	2.7	2.7	0	0	0.9	0	3.3	3.1	3.3
STANDBY	3.3	3.3	0	3.3	3.3	3.3	3.3	3.3	1.0	0	3.3	2.7	2.7	0	0	1.0	0	3.3	3.3	3.3

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	0	0	3.1	0	3.1	3.1	3.1	0	0	3.1	0	0	3.1	3.1	0	0.9	1.0	0
STANDBY	0	0	0	0	3.3	0	3.3	0	3.3	0	0	3.3	0	3.3	3.3	3.3	0	0.9	1.0	0

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	0.9	3.1	3.3	0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	0	3.3	0	0	3.3	3.3	3.0	3.3	3.3
STANDBY	0.9	3.3	3.3	0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	0	3.3	0	0	3.3	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	3.1	3.1	0	3.1												
STANDBY	0	0	0	0	3.1	3.1	0	3.1												

SA-BTT268P, SA-BTT270P/PC DIGITAL P.C.B.

12.2. Digital P.C.B. (2/2)

REF NO.	IC2302																					
MODE	1	2	3																			
CD PLAY	3.2	0	3.6																			
STANDBY	3.2	0	3.6																			
REF NO.	IC2303																					
MODE	1	2	3	4	5	6	7	8														
CD PLAY	0	5.0	4.9	0	0.5	0	0	0														
STANDBY	0	4.9	4.9	0	0.5	0	0	0														
REF NO.	IC2400																					
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
CD PLAY	0	0.8	0	0	3.3	0	0	0	0	0	0	3.1	3.1	0	0	0	0	0	0	0		
STANDBY	0	0.8	0	0	3.3	0	0	0	0	0	0	3.1	3.1	0	0	0	0	0	0	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	1.7	2.5	2.1	1.0	1.5	0	0	21.4	16.3	20.4	18.6	21.4	21.4	21.4	19.0	1.8	1.0	2.1	2.5	2.5		
STANDBY	1.7	2.5	2.1	1.0	1.6	0	0	22.1	17.0	21.3	19.8	22.1	22.1	22.1	19.6	1.7	1.0	2.1	2.5	2.5		
REF NO.	IC7002																					
MODE	1	2	3	4	5	6	7	8														
CD PLAY	3.2	0	0	1.9	5.2	0	0	4.8														
STANDBY	3.3	0	0	1.8	5.1	0	0	4.9														
REF NO.	IC54900																					
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16						
CD PLAY	0.2	0.2	0	0	0	5.2	3.1	0	0	0.8	0	0.8	3.1	0	0	0						
STANDBY	0.2	0.2	0	0	0	4.9	3.1	0	0	0.9	0	0.9	3.1	0	0	0						
REF NO.	IC57000																					
MODE	1	2	3	4	5	6	7	8														
CD PLAY	0.3	3.2	0	0	3.2	3.2	0	3.2														
STANDBY	0.3	3.1	0	0	3.1	3.1	0	3.1														
REF NO.	Q2902							Q2903							Q7004							
MODE	1	2	3	4	5	6		1	2	3	4	5	6		E	C	B					
CD PLAY	11.6	11.6	18.9	21.6	11.6	11.6		5.2	5.2	20.6	21.6	5.2	5.2		-6.9	-10.3	-7.4					
STANDBY	11.3	11.2	19.5	22.1	11.5	11.5		5.2	5.2	21.3	22.1	5.2	5.2		-6.9	-10.3	-7.4					
REF NO.	Q7007				Q7071				QR7001				QR7014				QR7071					
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B			
CD PLAY	0	3.2	-1.1		11.3	11.3	10.6		0	3.0	0		3.1	3.1	3.0		0	0.1	3.0			
STANDBY	0	3.1	-1.1		11.5	11.5	10.3		0	2.9	0		3.1	3.0	3.0		0	0.1	3.2			
SA-BTT268P, SA-BTT270P/PC DIGITAL P.C.B.																						

SA-BTT268P, SA-BTT270P/PC DIGITAL P.C.B.

12.3. AV P.C.B.

REF NO.	IC2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.8	0	0	2.1	3.3	0	0	1.5	1.5	0	0	0	0	0	0	5.0	2.5	2.5	0	2.5
STANDBY	5.1	0	0	2.2	3.2	0	0	1.8	2.3	0	0	0	0	0	0	5.2	2.7	2.7	0	2.6

REF NO.	IC2501																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
CD PLAY	2.5	0	1.1	1.0	0	1.6	1.7	0	1.7	1.6	0.1	2.3								
STANDBY	2.6	0	1.3	1.3	0	1.8	1.8	0	1.8	1.8	0.1	2.3								

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

SA-BTT268P, SA-BTT270P/PC AV P.C.B.

12.4. 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	0	0	0	0	2.0	0.7	0	0	3.2	0.7	0.7	0	3.3	-23.7	-23.7	-21.5	-23.7	-17.1	-12.7	-17.1
STANDBY	0	0	0	1.9	1.9	0.9	0	0	3.0	0.6	0.7	0	3.3	-23.6	-23.6	-23.6	-23.6	-14.9	-19.3	-17.1

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	-23.7	-23.7	-23.7	-19.3	-19.3	-23.7	-23.7	-17.1	-19.3	-24.1	-12.9	-23.8	-21.7	-21.7	-21.7	-21.7	-21.7	-21.7	-21.7	-21.7
STANDBY	-23.6	-21.5	-23.6	-19.3	-19.3	-23.6	-21.5	-19.3	-14.9	-24.1	-17.2	-23.8	-21.7	-21.7	-21.7	-21.7	-21.7	-21.7	-21.7	-21.7

REF NO.	IC6001																			
MODE	41	42	43	44																
CD PLAY	-21.6	-21.6	3.3	0																
STANDBY	-21.6	-21.6	3.3	0																

REF NO.	Q6100																			
MODE	E	C	B																	
CD PLAY	0	11.2	-0.5																	
STANDBY	0	11.2	-0.5																	

SA-BTT268P, SA-BTT270P/PC PANEL P.C.B.

12.5. 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-BTT268P, SA-BTT270P/PC D-AMP P.C.B.																				

12.6. 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-BTT268P, SA-BTT270P/PC D-AMP P.C.B.

12.7. 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																

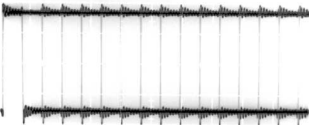
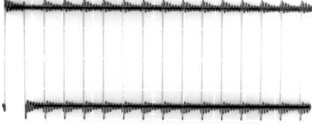
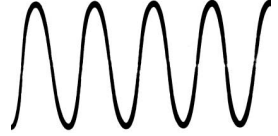
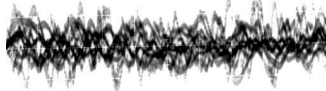
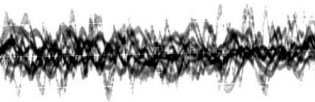
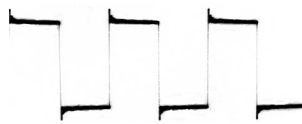
REF NO.	IC5899																		
MODE	1	2	3	4															
CD PLAY	0	3.0	3.8	2.3															
STANDBY	0	3.0	3.8	2.3															

REF NO.	Q5720				Q5898				Q5901				Q5902				QR5901		
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	1.9	0.4		5.1	5.1	4.5		0	3.8	-0.6		3.0	0	0
STANDBY	7.4	8.6	7.7		0	1.9	0.4		5.2	5.2	4.5		0	3.9	-0.6		3.0	0	0

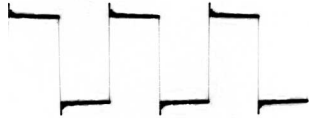
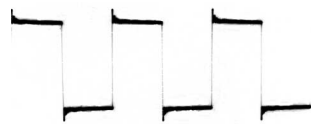
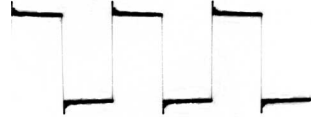
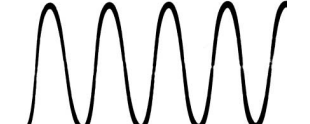
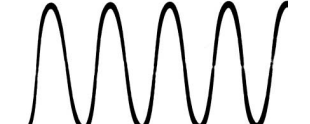
REF NO.	QR5862																		
MODE	E	C	B																
CD PLAY	0	4.8	0																
STANDBY	0	4.8	0																

SA-BTT268P, SA-BTT270P/PC SMPS P.C.B.

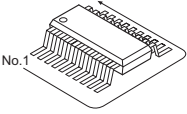
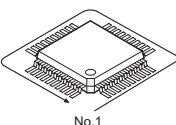
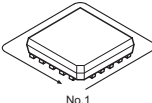
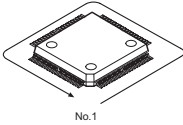
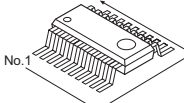
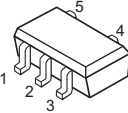
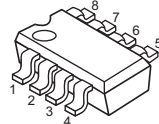
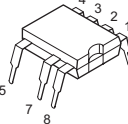
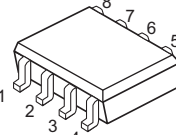
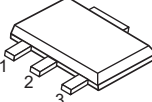
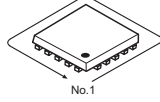
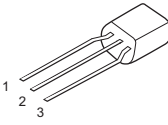
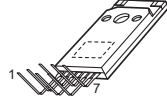
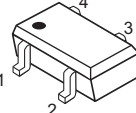
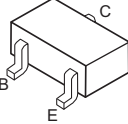
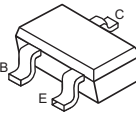
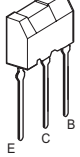
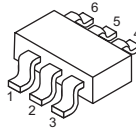
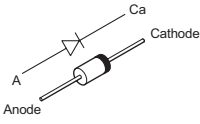
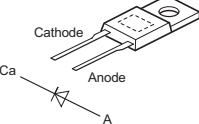
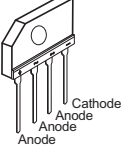
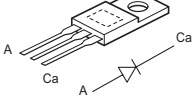
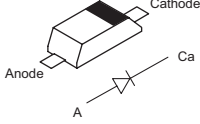
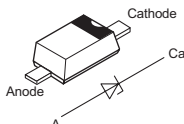
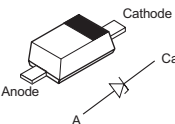
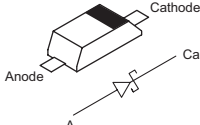
12.8. Waveform Table (1/2)

WF No. IC1101-1,4 (PLAY)  1Vp-p(50usec/div)	WF No. IC1102-1,2,6,7 (PLAY)  0.1Vp-p(2usec/div)	WF No. IC2001-3,4 (PLAY)  4.5Vp-p(1usec/div)	WF No. IC2001-5,6,33 (PLAY)  0.08Vp-p(2usec/div)
WF No. IC2001-35,38 (PLAY)  5Vp-p(500nsec/div)	WF No. IC2300-8 (PLAY)  1.25Vp-p(10usec/div)	WF No. IC2300-9 (PLAY)  2.5Vp-p(10usec/div)	WF No. IC2300-11 (PLAY)  4Vp-p(100nsec/div)
WF No. IC2300-13 (PLAY)  2.5Vp-p(50nsec/div)	WF No. IC2501-6 (PLAY)  1Vp-p(50usec/div)	WF No. IC2501-30 (PLAY)  2Vp-p(50usec/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)

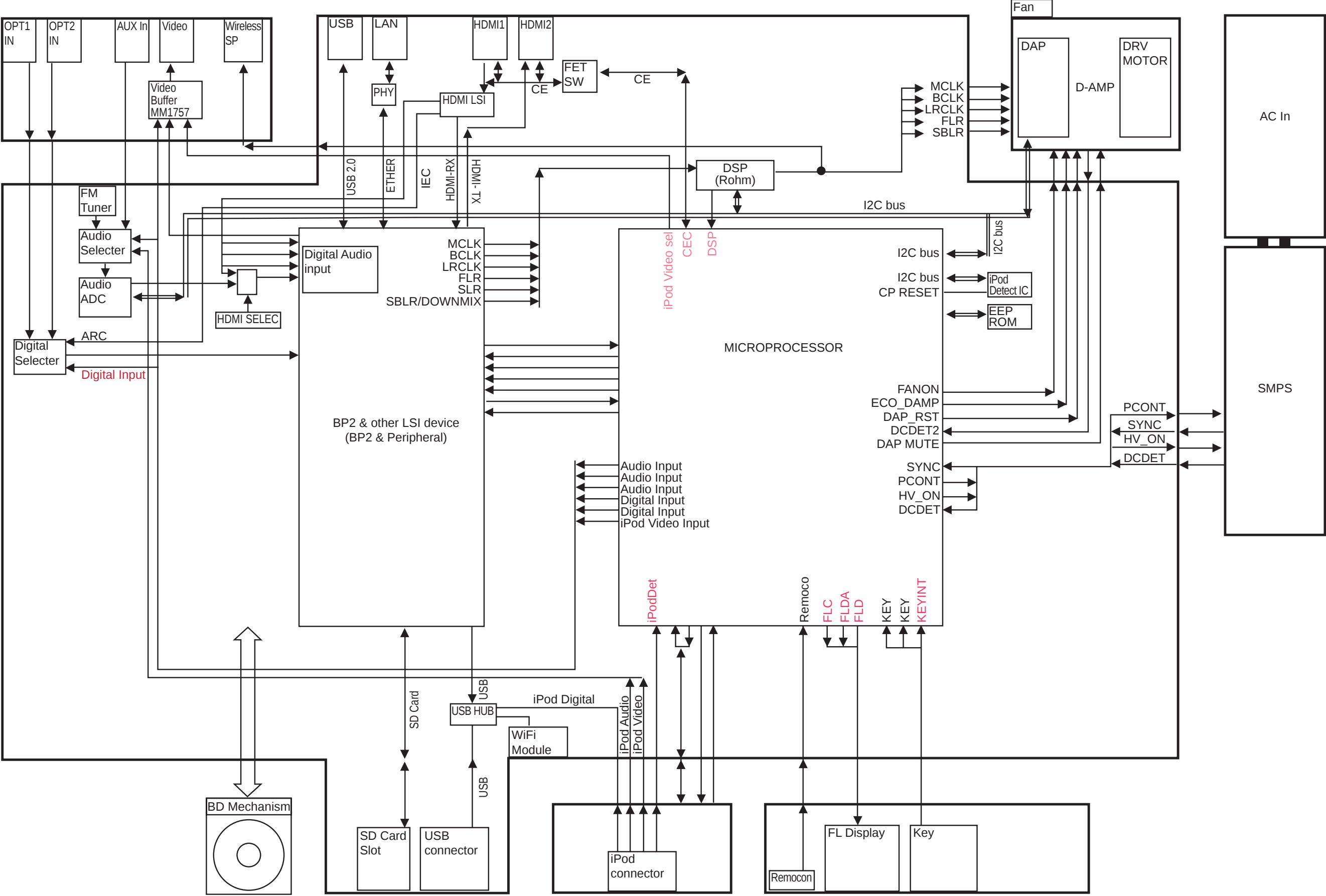
12.9. Waveform Table (2/2)

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)	WF No. IC6001-5 (PLAY)  1.25Vp-p(2usec/div)
WF No. IC54900-1,2 (PLAY)  0.25Vp-p(5usec/div)	WF No. IC54900-9 (PLAY)  0.35Vp-p(10usec/div)	WF No. IC57000-1,2,5 (PLAY)  0.35Vp-p(2usec/div)	

13 Illustration of ICs, Transistor and Diode

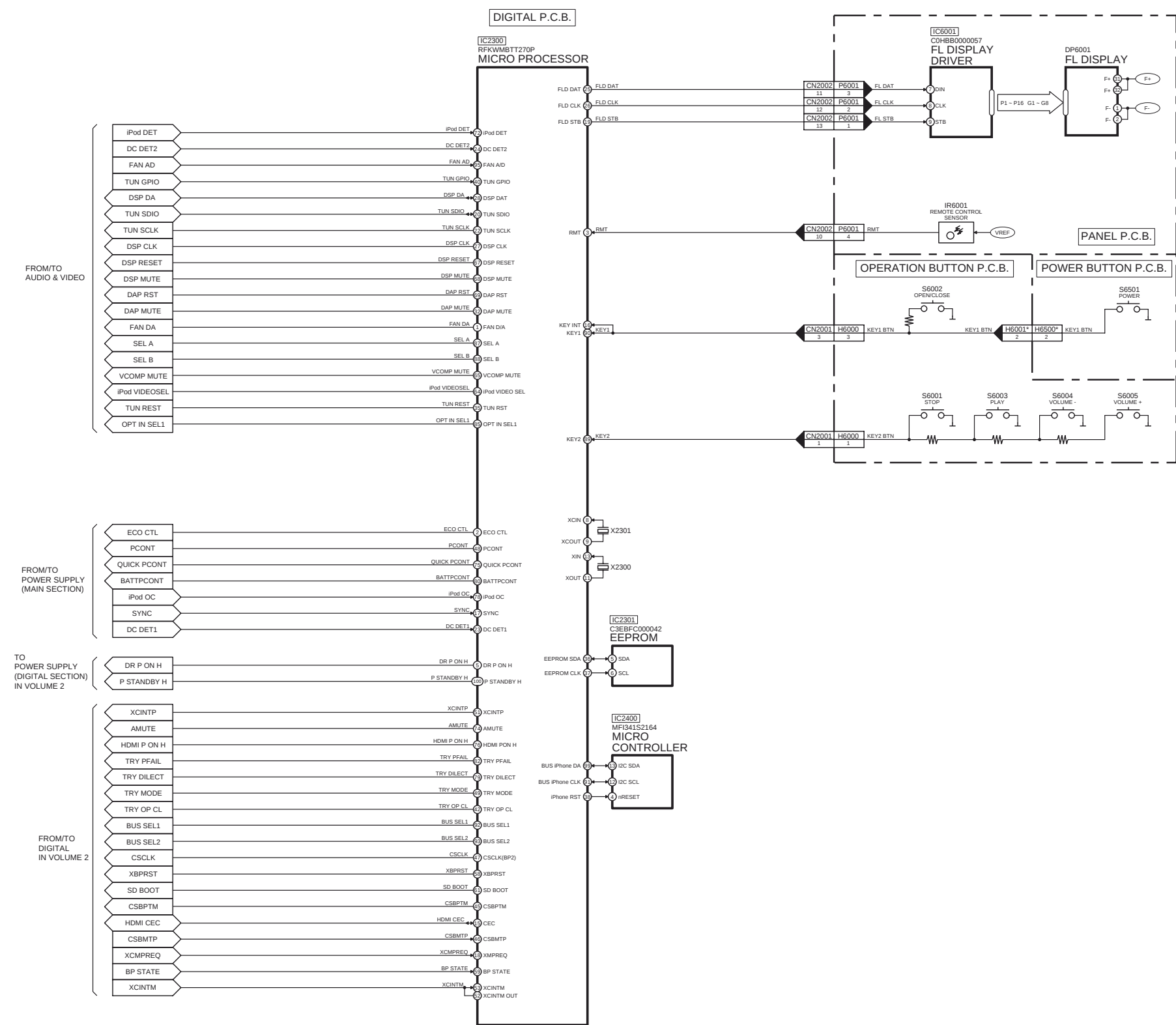
 No.1	C0ABBA000168 (8p) C0ABBB000189 (8p) C0DBZY00018 (8p) C0DBZY00417 (8p) C0FBAK000026 (16p) C0JBAR000540 (16p) C0DBAYY00729 (20p) C2HBCY000088 (40p) C1AB00003582 (44p)	C0HBB0000057 (44p) C1AB00003610 (64p)  No.1	MF1341S2164 (20p)  No.1	RFKWMBTT270P (100p)  No.1	C9ZB00000461 (32p)  No.1
C0ABZA000080 	C3EBFC000042 (8p) 	MIP2F20MSSCF 	C0JBAR000434 	C0CBABC00117 	VUEALLPT040 (20P)  No.1
C0DABFC00002 	C5HACYY00007 (7p) 	C0DBZMC00006 	B1ABCF000011 B1ADCF000001 	B1ABMF000020 B1ABCF000176 	B1ADCE000012 B1ADNB000003 B1GBCFGG0030 B1GBCFJJ0051 B1GBCFLL0037 B1GBCFNN0038
B1BABK000001 B1BAAJ000003 	B1DGDC000002 	B0EAKM000157 B0EAKM000117 B0EAMM000057 	B0HFRJ000012 	B0FBAR000043 	B0HBSM000056 B0ZAZ0000052 
 Anode Cathode Ca	B0JCDD000002 B0ACCK000005 B0ECET000002 B0ECFR000003	B0BC035A0007 B0BC9R000008  Anode Cathode Ca	 Anode Cathode Ca	B0BC010A0269 B0BC013A0269 B0BC020A0267 B0BC030A0264 B0BC024A0267 B0BC2R4A0263 B0BC3R0A0262	B0BC6R8A0266 B0BC6R2A0266 B0BC7R5A0266
B0JCMD000010 B0JCPG000030  Anode Cathode Ca					

14 Simplified Block Diagram



15 Block Diagram

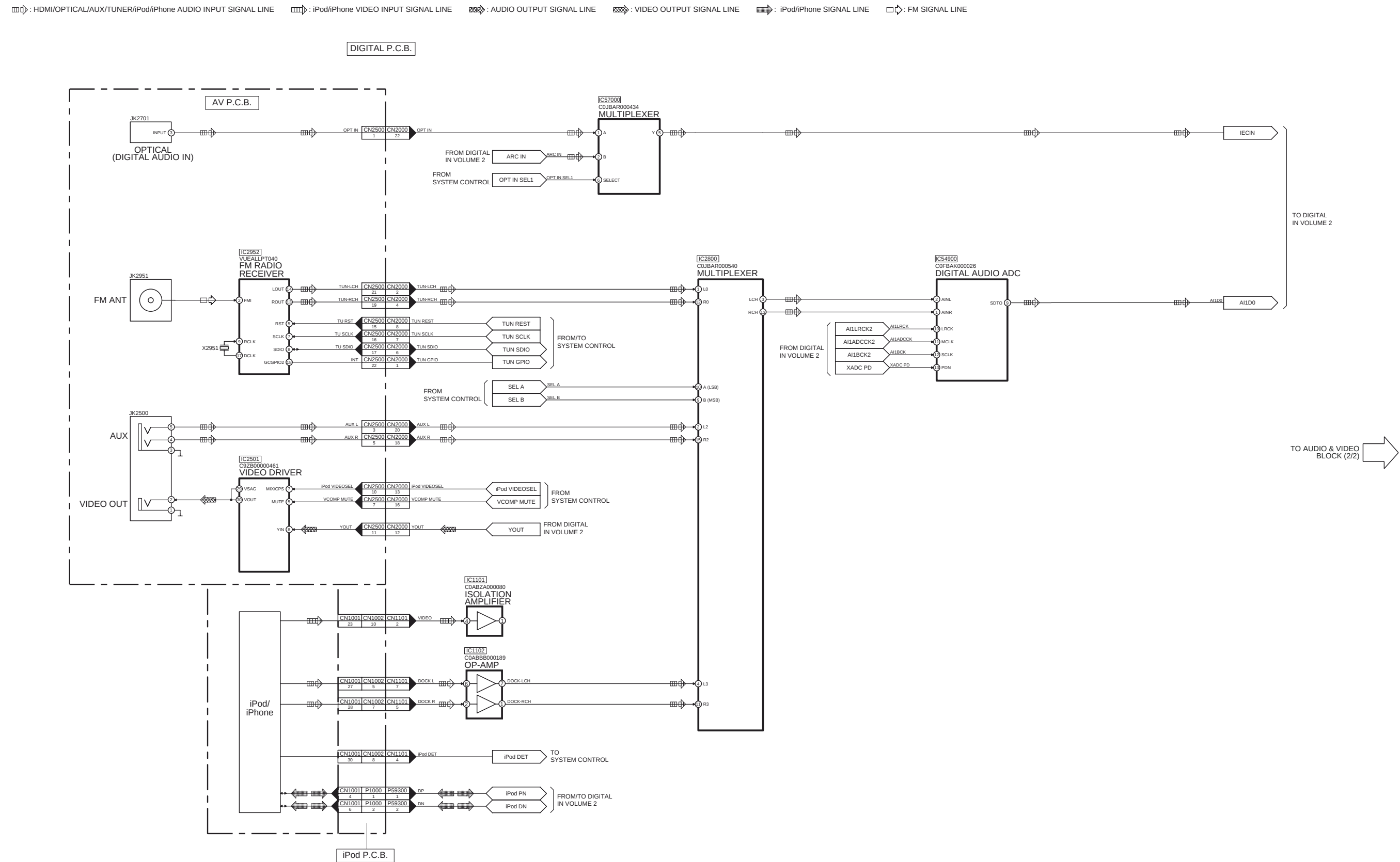
15.1. System Control



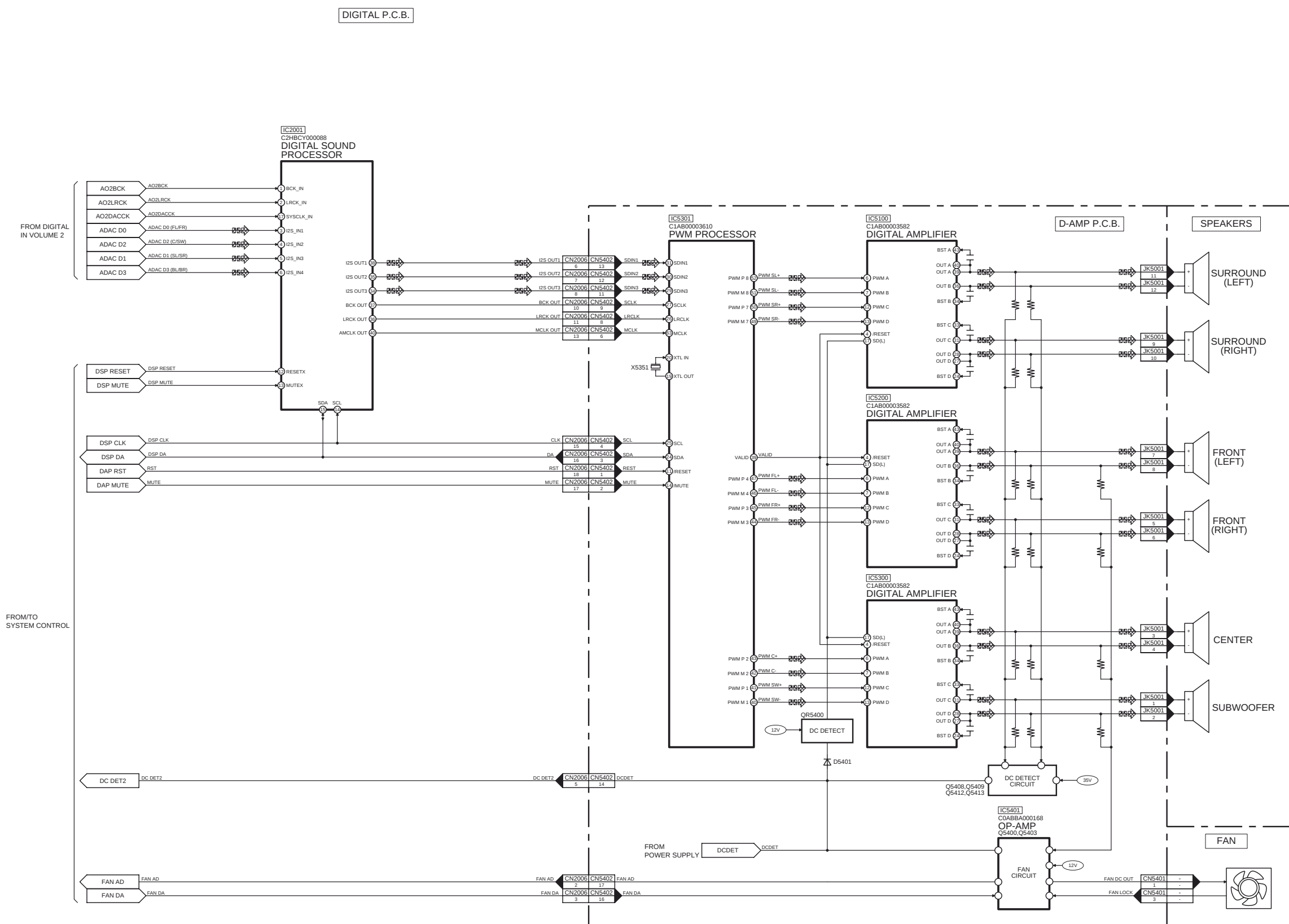
NOTE: “ * ” REF IS FOR INDICATION ONLY

SA-BTT268P,SA-BTT270P/PC SYSTEM CONTROL BLOCK DIAGRAM

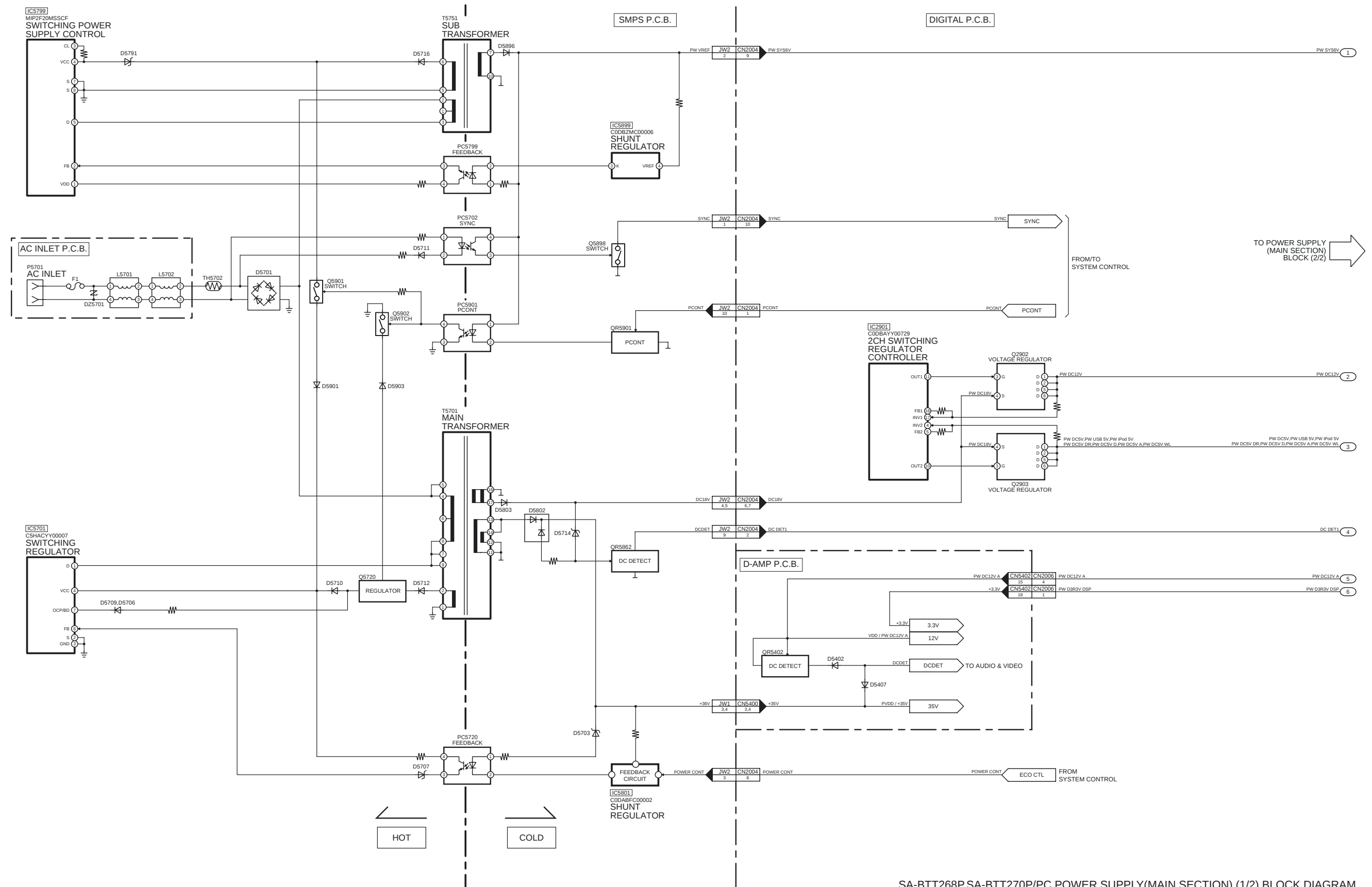
15.2. Audio & Video



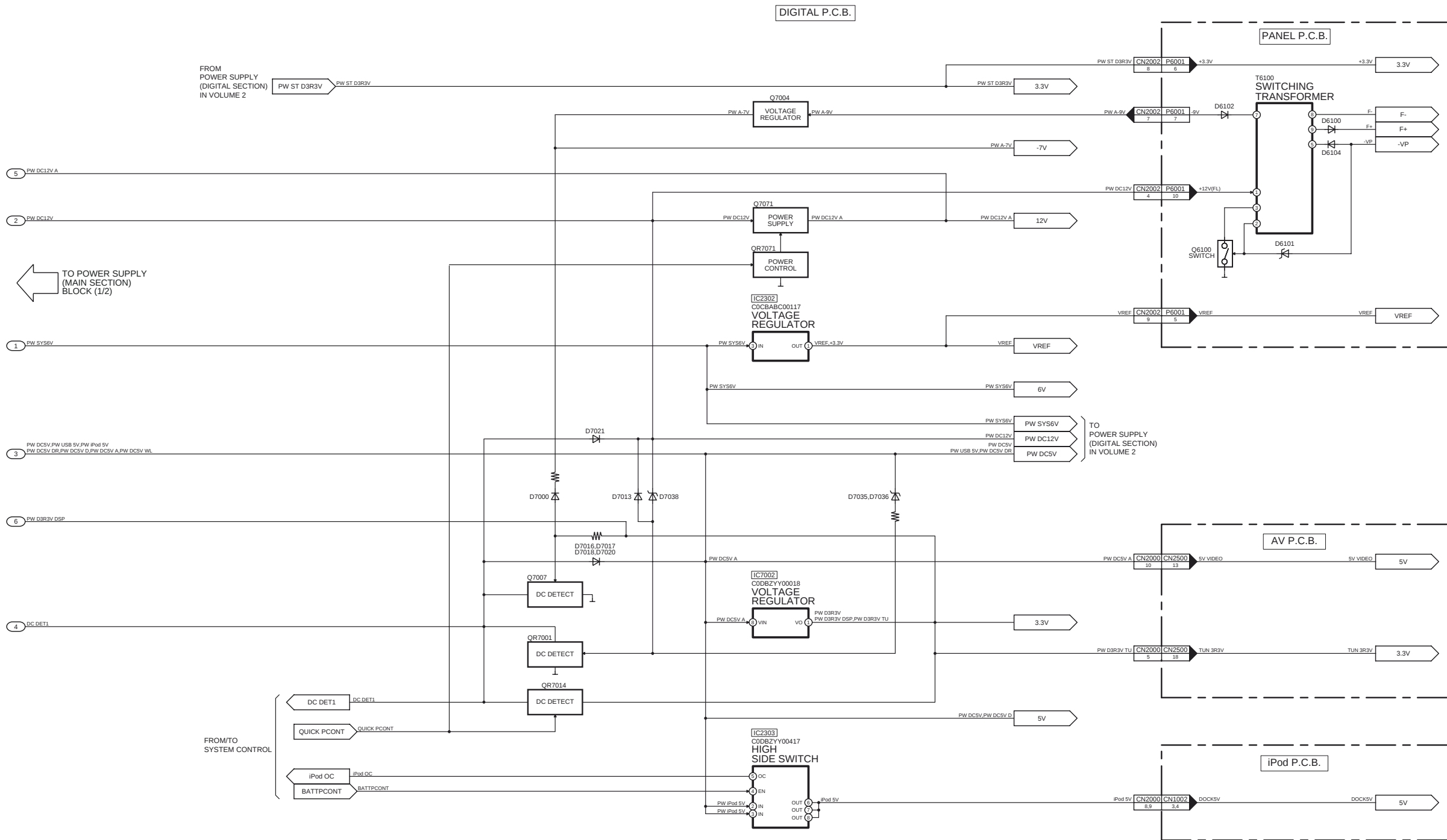
SA-BTT268P,SA-BTT270P/PC AUDIO & VIDEO (1/2) BLOCK DIAGRAM



15.3. Power Supply(Main Section)

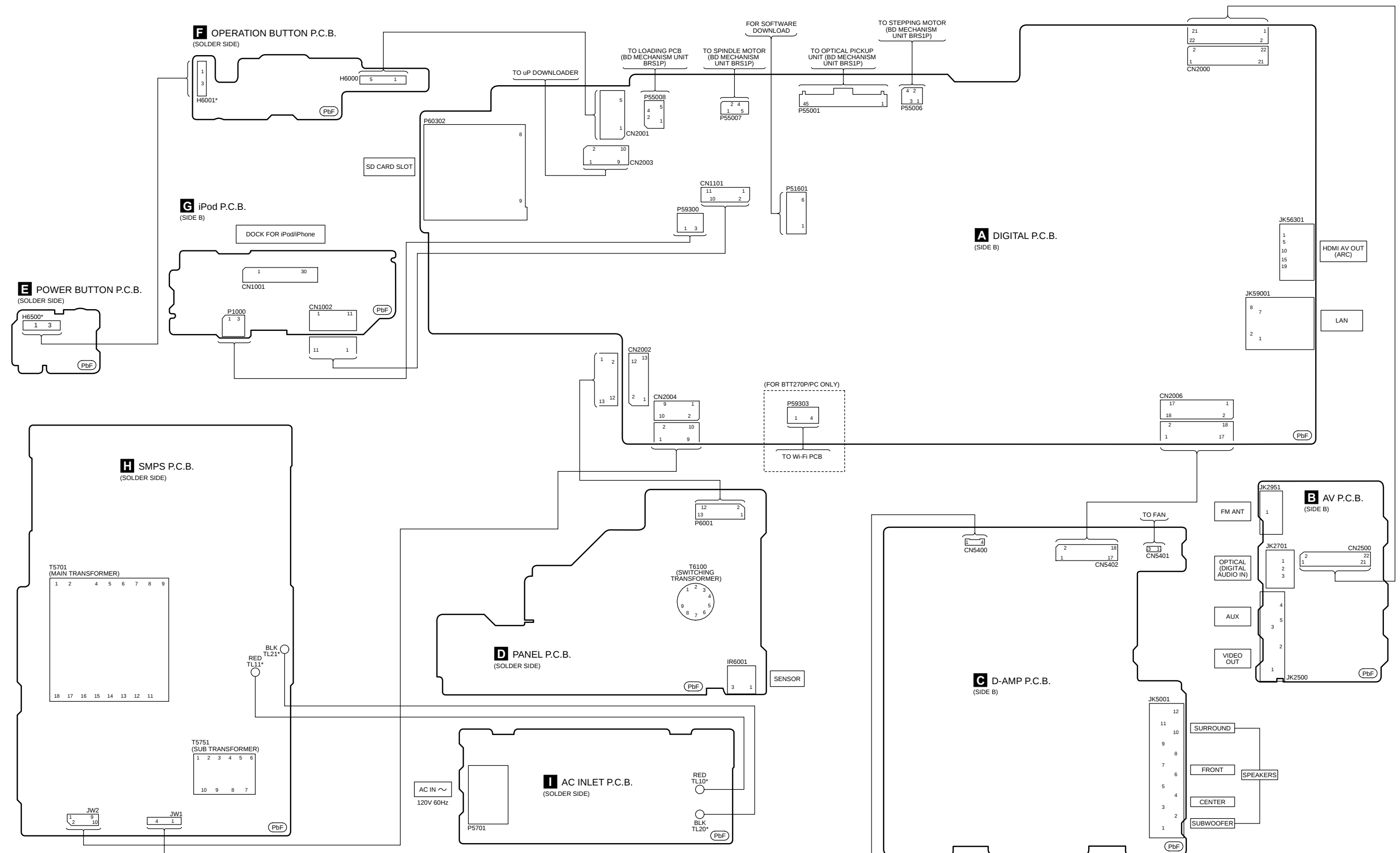


SA-BTT268P,SA-BTT270P/PC POWER SUPPLY(MAIN SECTION) (1/2) BLOCK DIAGRAM



SA-BTT268P,SA-BTT270P/PC POWER SUPPLY(MAIN SECTION) (2/2) BLOCK DIAGRAM

16 Wiring Connection Diagram



NOTE: " * " REF IS FOR INDICATION ONLY.

SA-BTT268P, SA-BTT270P/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:

S6001:	Stop switch (■).
S6002:	Open/Close switch (▲).
S6003:	Play switch (▶).
S6004:	Vol Down (-).
S6005:	Vol Up (+).
S6501:	Power 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.

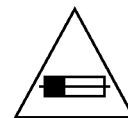
- **Coil**
Unit of inductance is H, unless otherwise noted.

- *****
Ref. is for indication only.

• Voltage and signal line

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

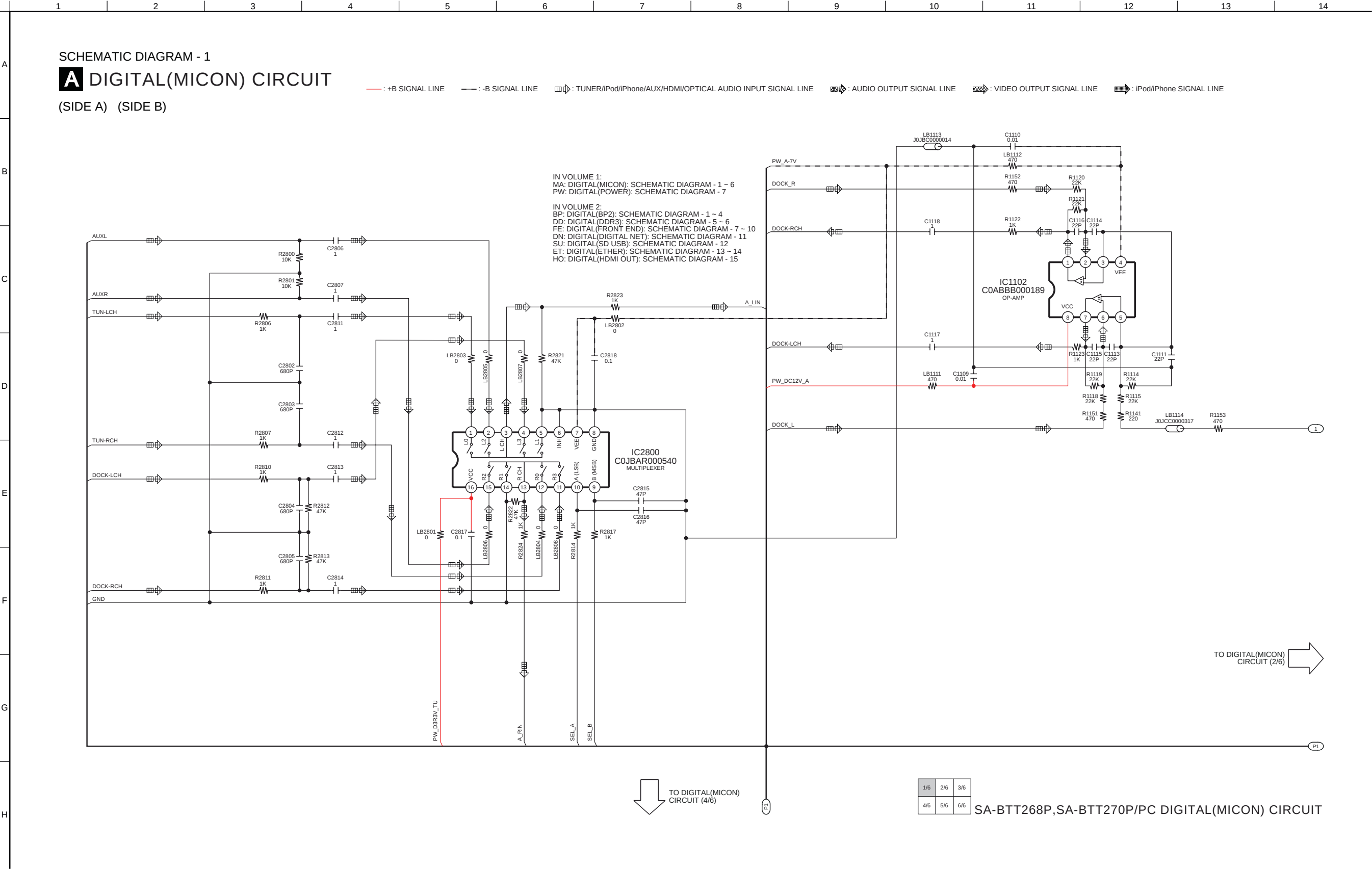


These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire hazard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.



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

17.2. Digital(Micon/Power) Circuit

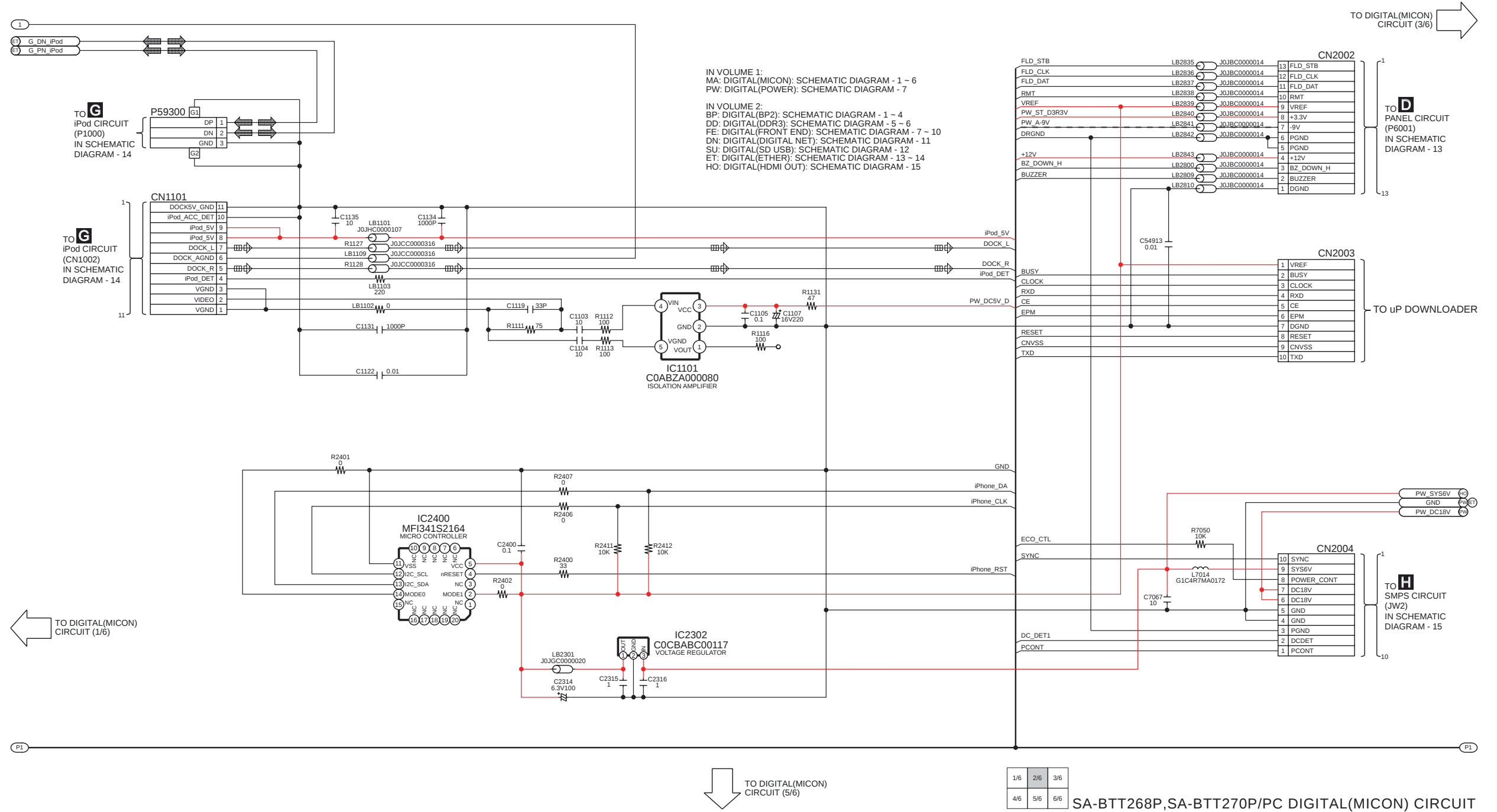


SCHEMATIC DIAGRAM - 2

A DIGITAL(MICON) CIRCUIT

(SIDE A) (SIDE B)

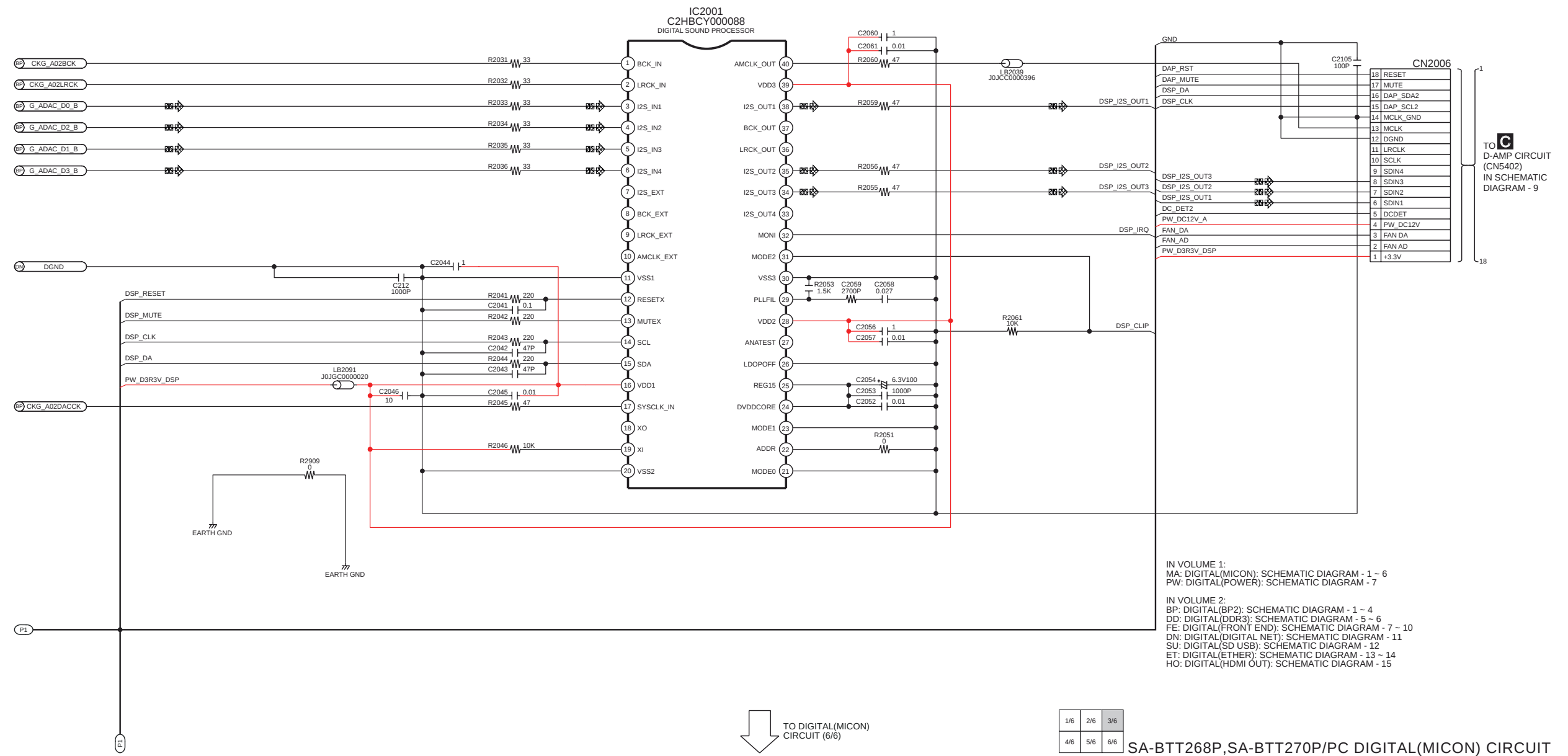
— : +B SIGNAL LINE — : -B SIGNAL LINE : TUNER/Ipod/iPhone/AUX/HDMI/OPTICAL AUDIO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : VIDEO OUTPUT SIGNAL LINE : Ipod/iPhone SIGNAL LINE



SCHEMATIC DIAGRAM - 3

A DIGITAL(MICON) CIRCUIT
(SIDE A) (SIDE B)

TO DIGITAL(MICON)
CIRCUIT (2/6)



TO DIGITAL(MICON)
CIRCUIT (6/6)

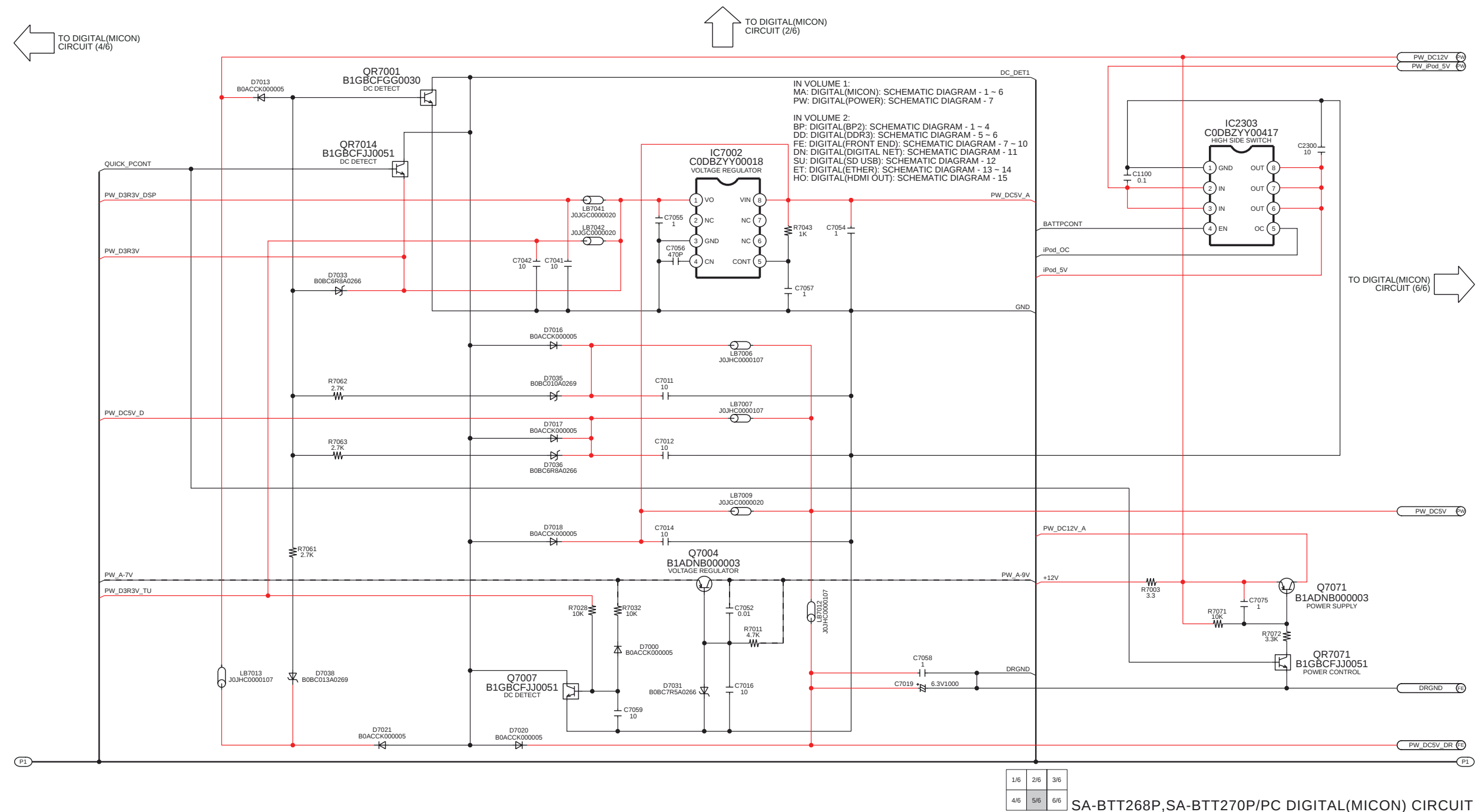
A DIGITAL(MICON) CIRCUIT

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



A DIGITAL(MICON) CIRCUIT

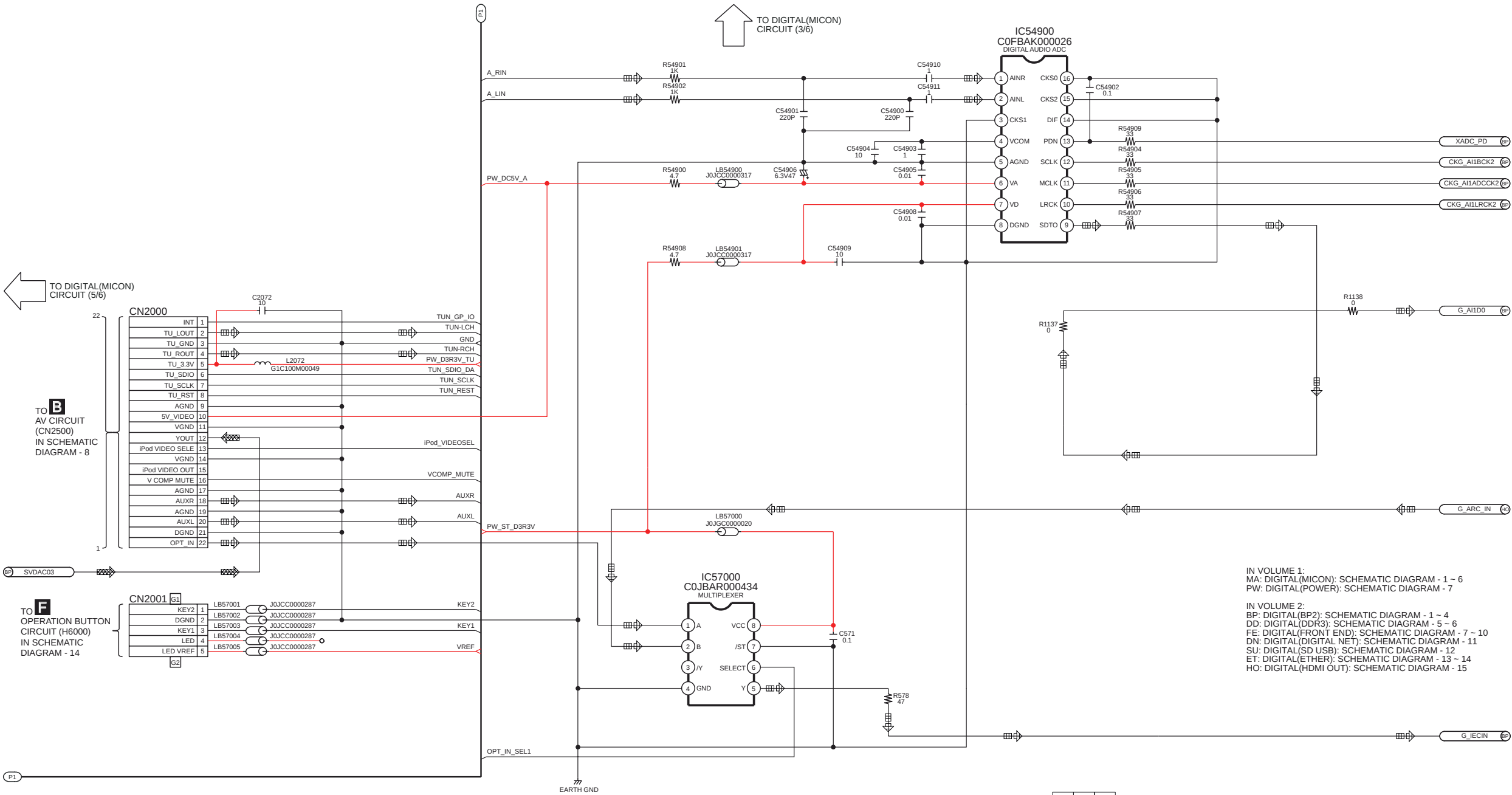
— : +B SIGNAL LINE — : -B SIGNAL LINE : TUNER/iPod/iPhone/AUX/HDMI/OPTICAL AUDIO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : VIDEO OUTPUT SIGNAL LINE : iPod/iPhone SIGNAL LINE



SCHEMATIC DIAGRAM - 6

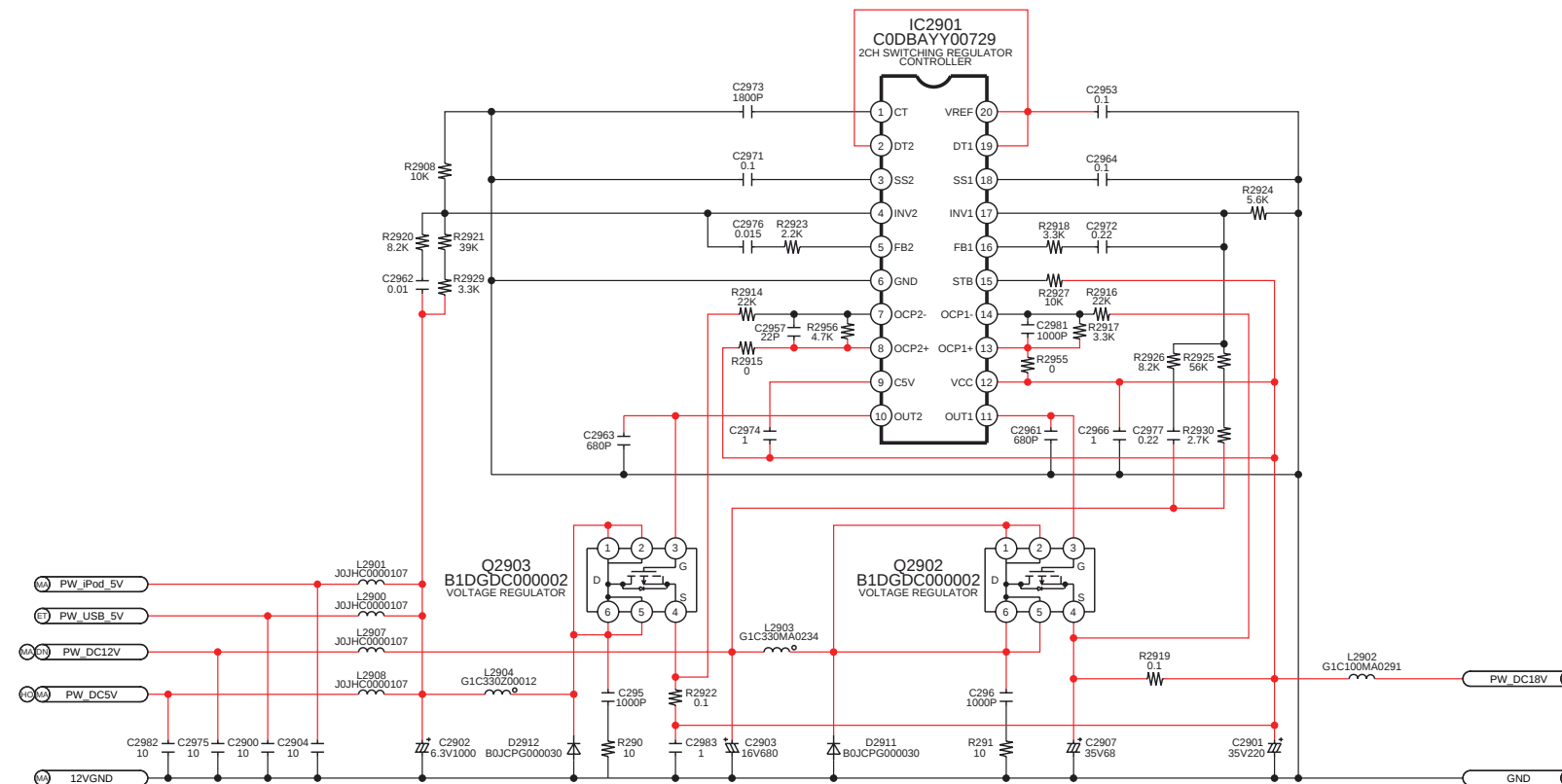
A DIGITAL(MICON) CIRCUIT

(SIDE A) (SIDE B)



(SIDE A) (SIDE B)

— : +B SIGNAL LINE



IN VOLUME 2:
BP: DIGITAL(BP2): SCHEMATIC DIAGRAM - 1 ~ 4
DD: DIGITAL(DDR3): SCHEMATIC DIAGRAM - 5 ~ 6
FE: DIGITAL(FRONT END): SCHEMATIC DIAGRAM - 7 ~ 10
DN: DIGITAL(DIGITAL NET): SCHEMATIC DIAGRAM - 11
SU: DIGITAL(SD USB): SCHEMATIC DIAGRAM - 12
ET: DIGITAL(ETHER): SCHEMATIC DIAGRAM - 13 ~ 14
HO: DIGITAL(HDMI OUT): SCHEMATIC DIAGRAM - 15

IN VOLUME 2:
BP: DIGITAL(BP2): SCHEMATIC DIAGRAM - 1 ~ 4
DD: DIGITAL(DDR3): SCHEMATIC DIAGRAM - 5 ~ 6
FE: DIGITAL(FRONT END): SCHEMATIC DIAGRAM - 7 ~ 10
DN: DIGITAL(DIGITAL NET): SCHEMATIC DIAGRAM - 11
SU: DIGITAL(SD USB): SCHEMATIC DIAGRAM - 12
ET: DIGITAL(ETHER): SCHEMATIC DIAGRAM - 13 ~ 14
HO: DIGITAL(HDMI OUT): SCHEMATIC DIAGRAM - 15

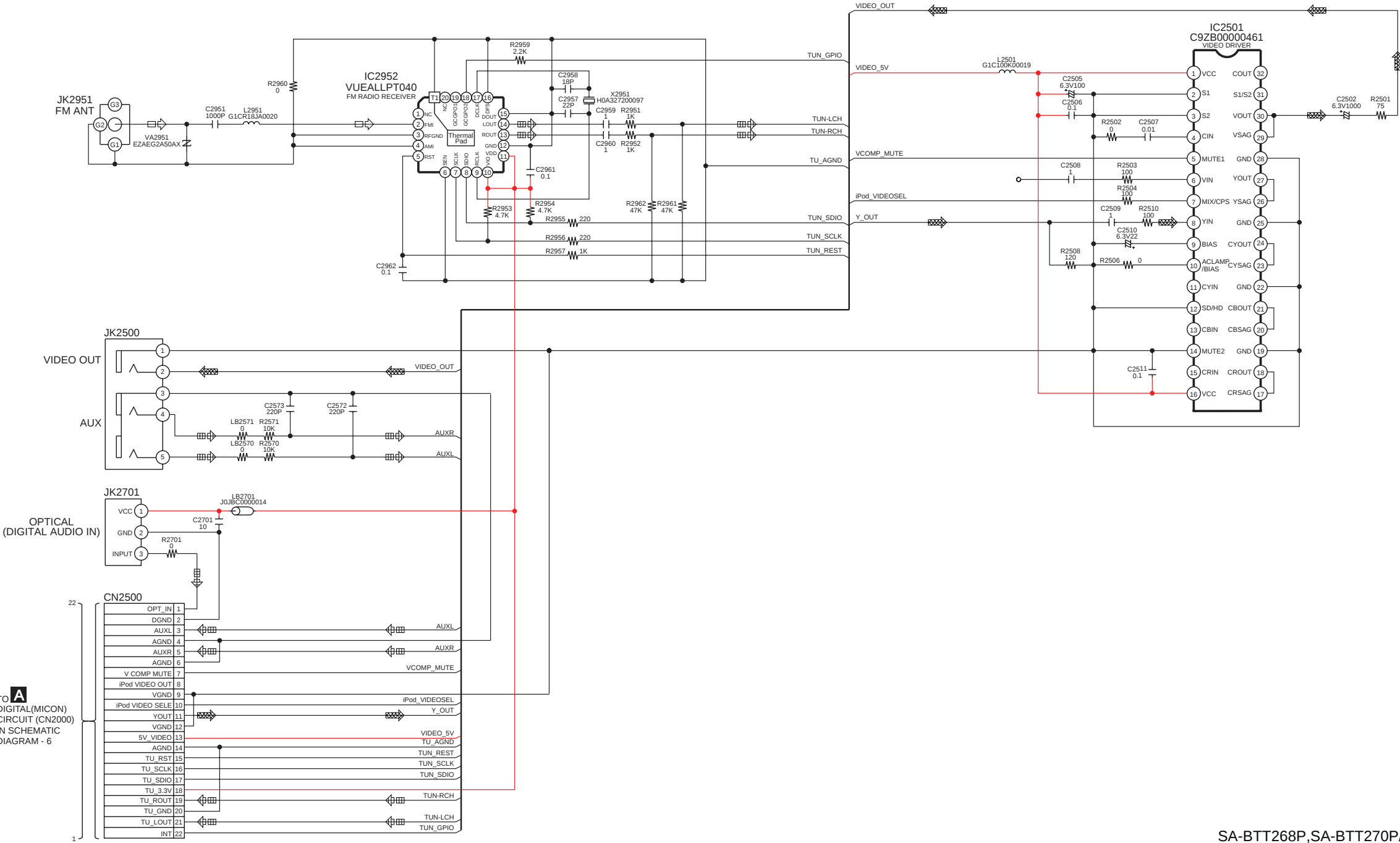
SA-BTT268P,SA-BTT270P/PC DIGITAL(POWER) CIRCUIT

17.3. AV Circuit

SCHEMATIC DIAGRAM - 8

B AV CIRCUIT

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



SA-BTT268P,SA-BTT270P/PC AV CIRCUIT

17.4. D-Amp Circuit

SCHEMATIC DIAGRAM - 9

C D-AMP CIRCUIT

— : +B SIGNAL LINE  : AUDIO OUTPUT SIGNAL LINE

TO **A**
DIGITAL(MICON)
CIRCUIT (CN2006)
IN SCHEMATIC
DIAGRAM - 3

TO SPEAKERS

TO D-AMP
CIRCUIT (2/4)

TO D-AMP
CIRCUIT (3/4)

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

SA-BTT268P,SA-BTT270P/PC D-AMP CIRCUIT

— : +B SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE

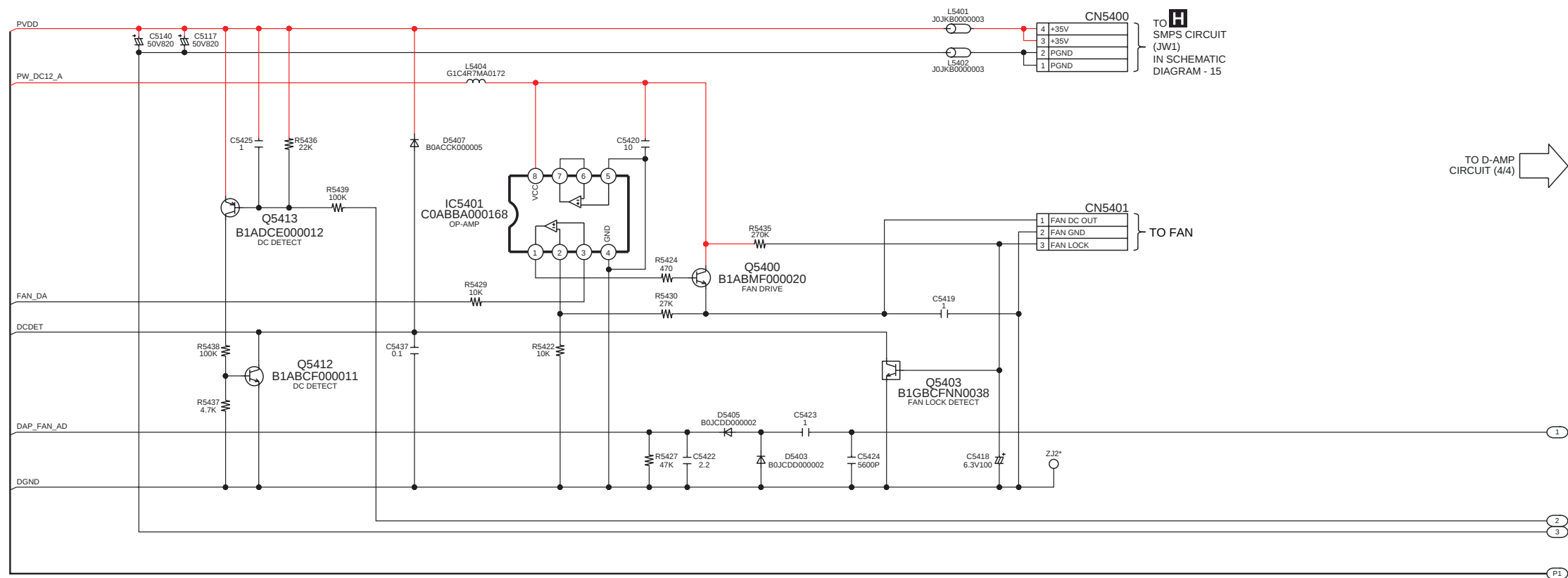


SA-BTT268P,SA-BTT270P/PC D-AMP CIRCUIT

SCHEMATIC DIAGRAM - 11
C D-AMP CIRCUIT

— : +B SIGNAL LINE  : AUDIO OUTPUT SIGNAL LINE

↑
TO D-AMP
CIRCUIT (1/4)



NOTE: " * " REF IS FOR INDICATION ONLY

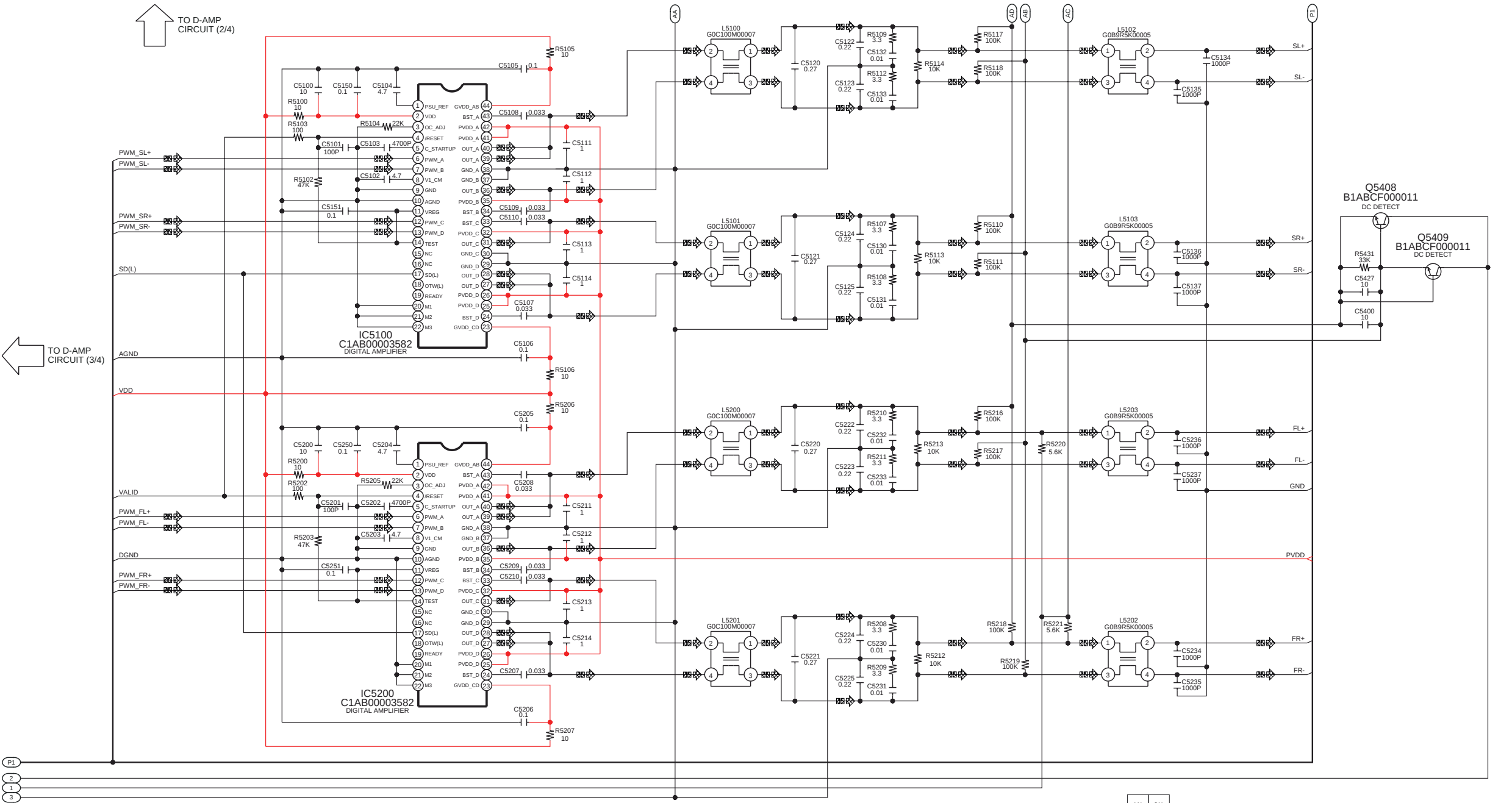
1/4	2/4
3/4	4/4

SA-BTT268P,SA-BTT270P/PC D-AMP CIRCUIT

SCHEMATIC DIAGRAM - 12

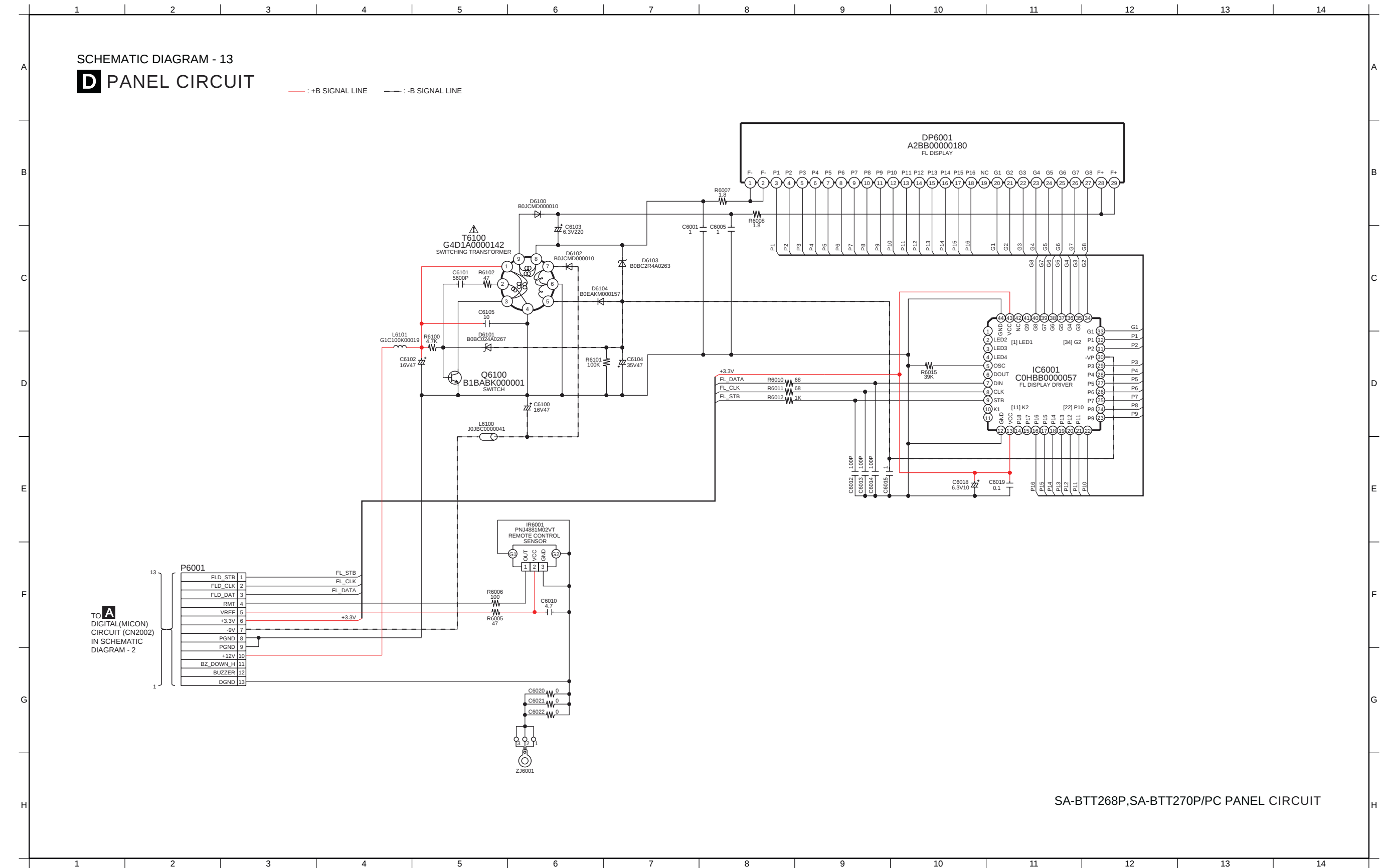
C D-AMP CIRCUIT

— : +B SIGNAL LINE  : AUDIO OUTPUT SIGNAL LINE



1/4 2/4
3/4 4/4
SA-BTT268P,SA-BTT270P/PC D-AMP CIRCUIT

17.5. Panel Circuit

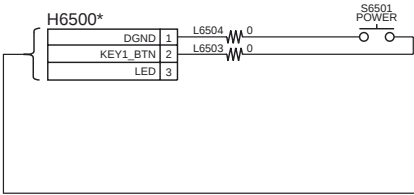


17.6. Power Button, Operation Button & iPod Circuit

SCHEMATIC DIAGRAM - 14

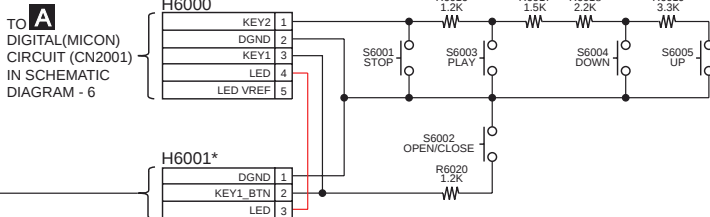
E POWER BUTTON CIRCUIT

—: +B SIGNAL LINE



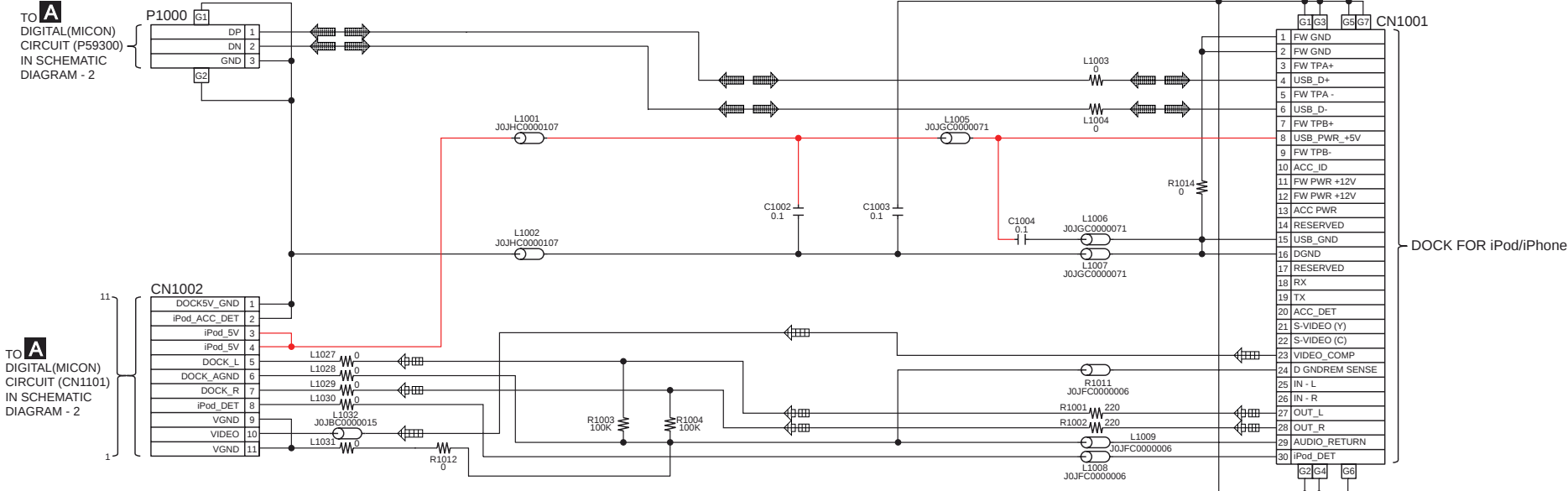
F OPERATION BUTTON CIRCUIT

—: +B SIGNAL LINE



G iPod CIRCUIT

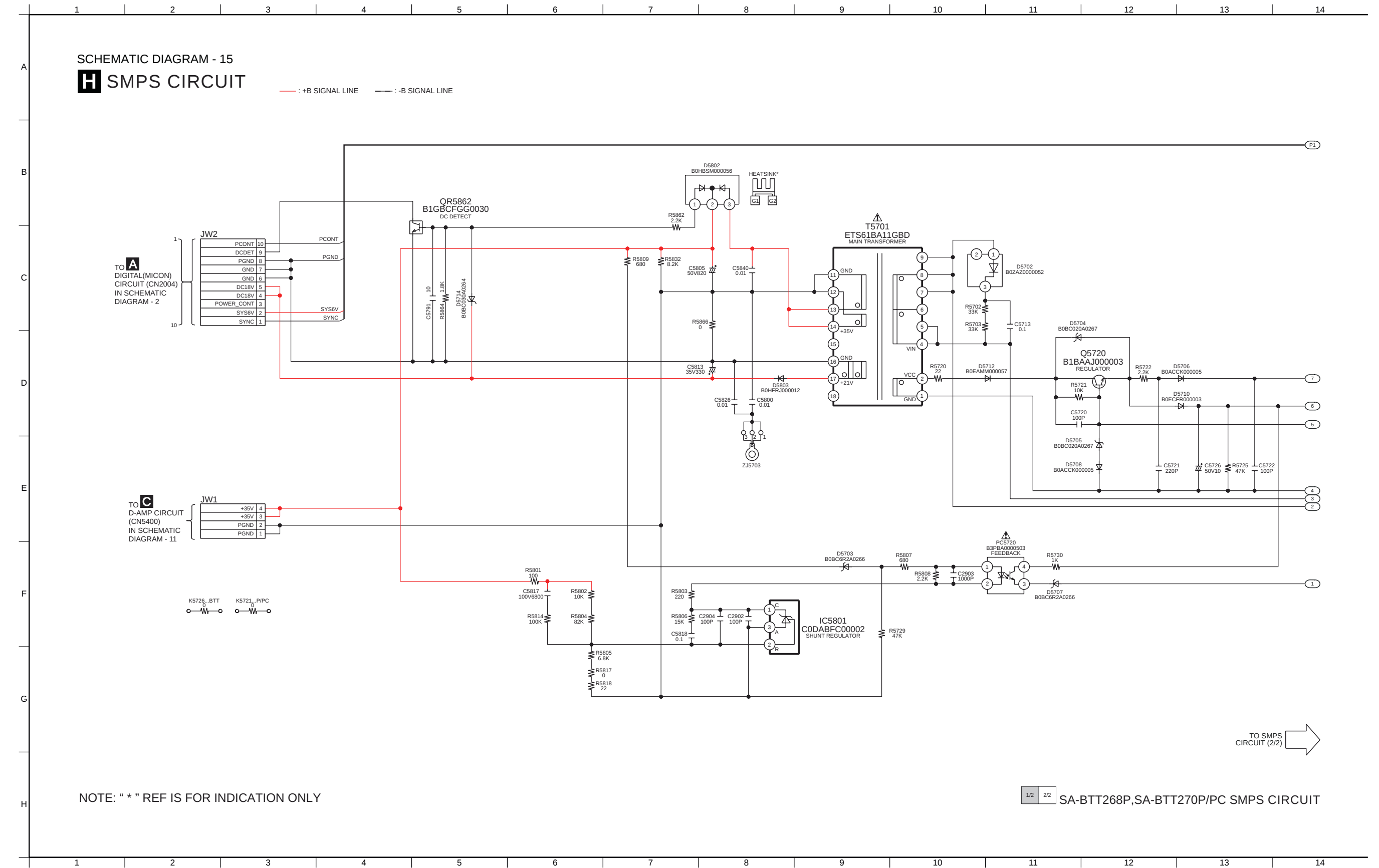
—: +B SIGNAL LINE : iPod/iPhone AUDIO INPUT SIGNAL LINE : iPod/iPhone VIDEO INPUT SIGNAL LINE : USB SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

SA-BTT268P,SA-BTT270P/PC POWER BUTTON / OPERATION BUTTON / iPod CIRCUIT

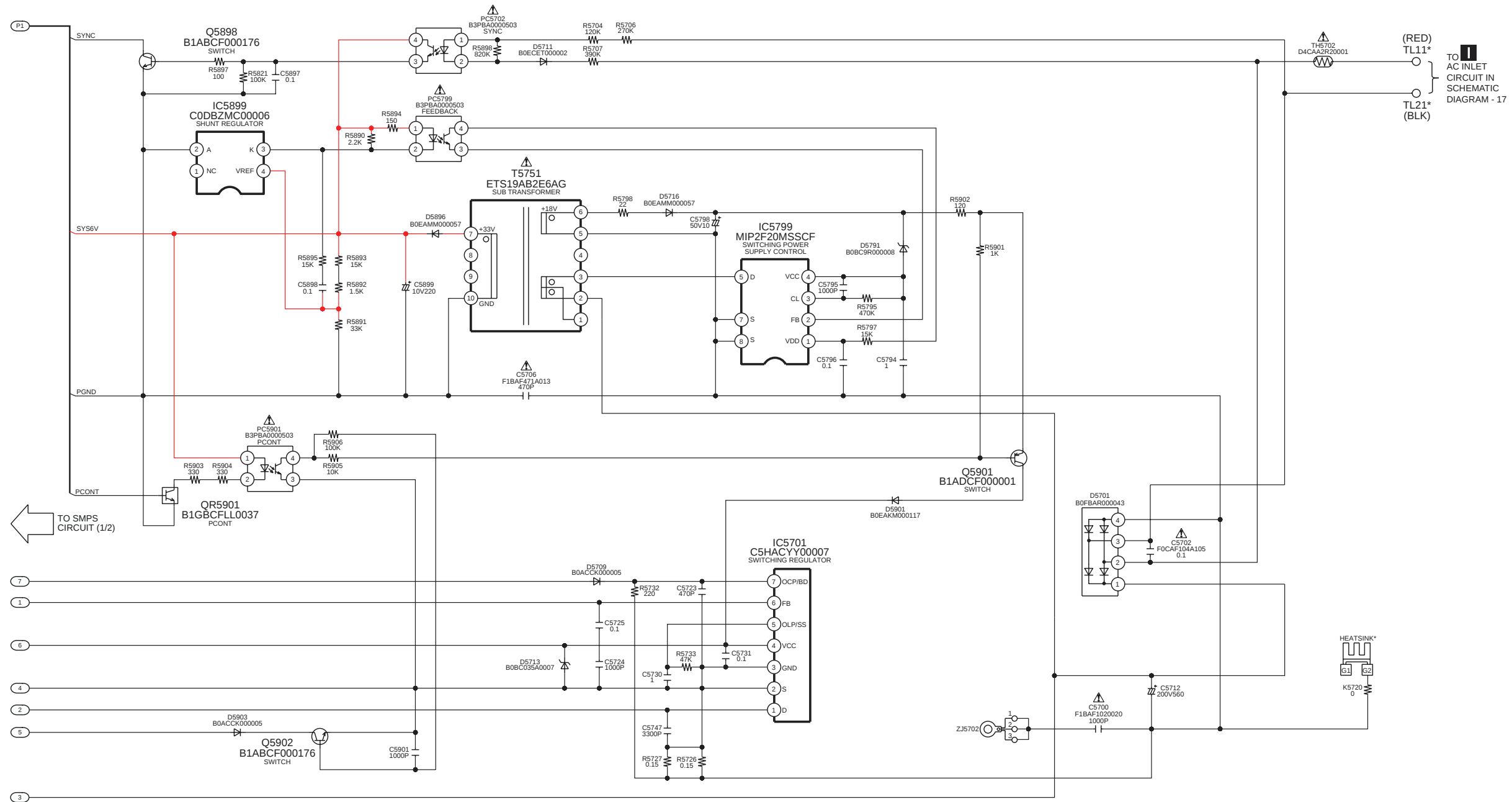
17.7. SMPS Circuit



SCHEMATIC DIAGRAM - 16

H SMPS CIRCUIT

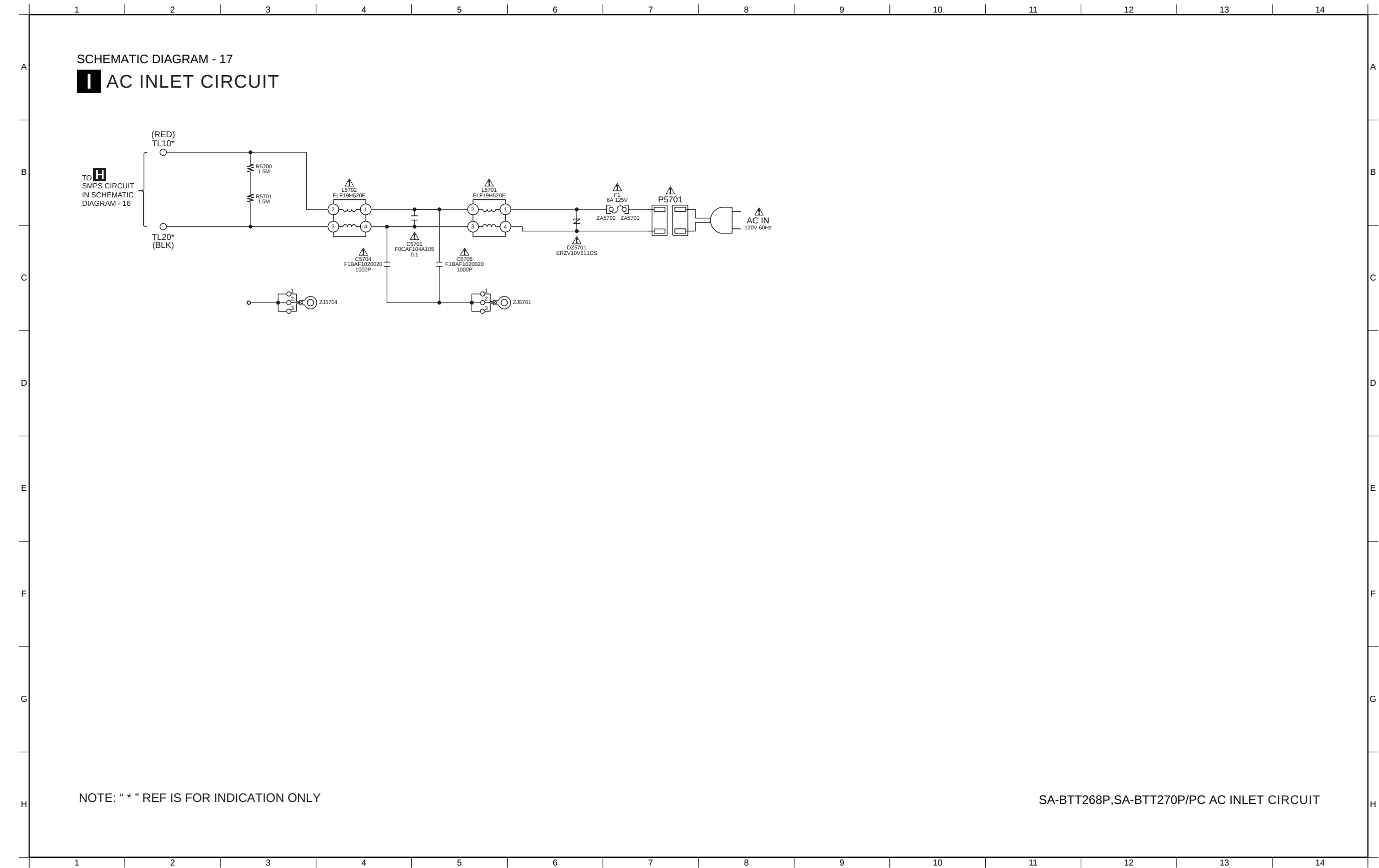
— : +B SIGNAL LINE — : -B SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

1/2 2/2 SA-BTT268P,SA-BTT270P/PC SMPS CIRCUIT

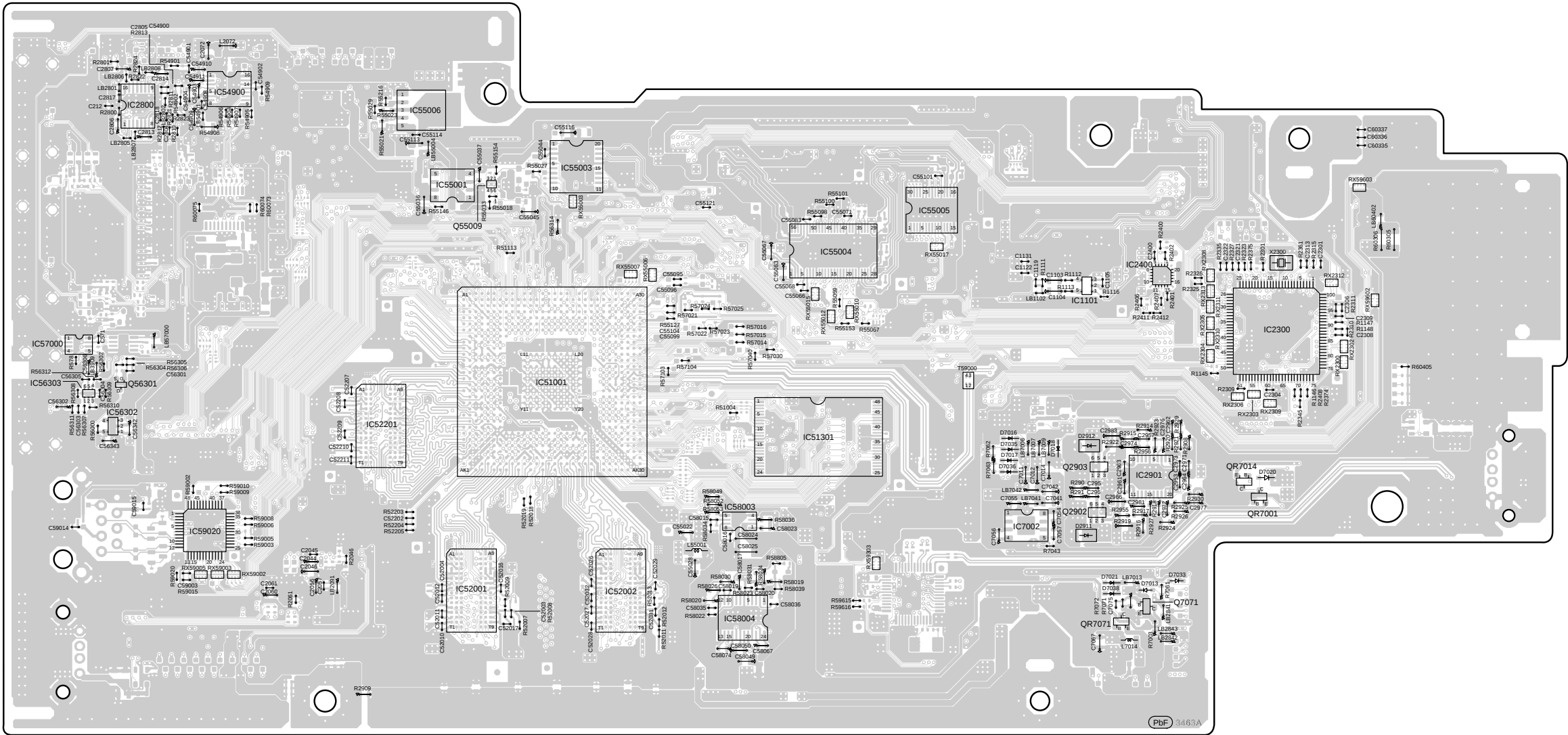
17.8. AC Inlet Circuit



18 Printed Circuit Board

18.1. Digital P.C.B.

A DIGITAL P.C.B. (RFKB4689A)



(SIDE A)

SA-BTT268P, SA-BTT270P/PC
DIGITAL P.C.B.

A DIGITAL P.C.B. (RFKB4689A)

SD CARD
SLOT

HDMI
AV OUT
(ARC)

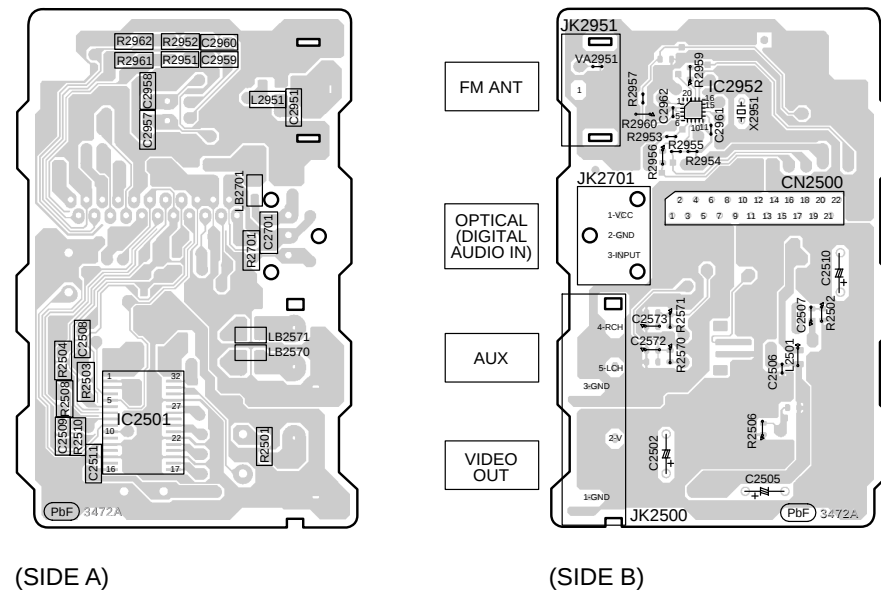
LAN

(SIDE B)

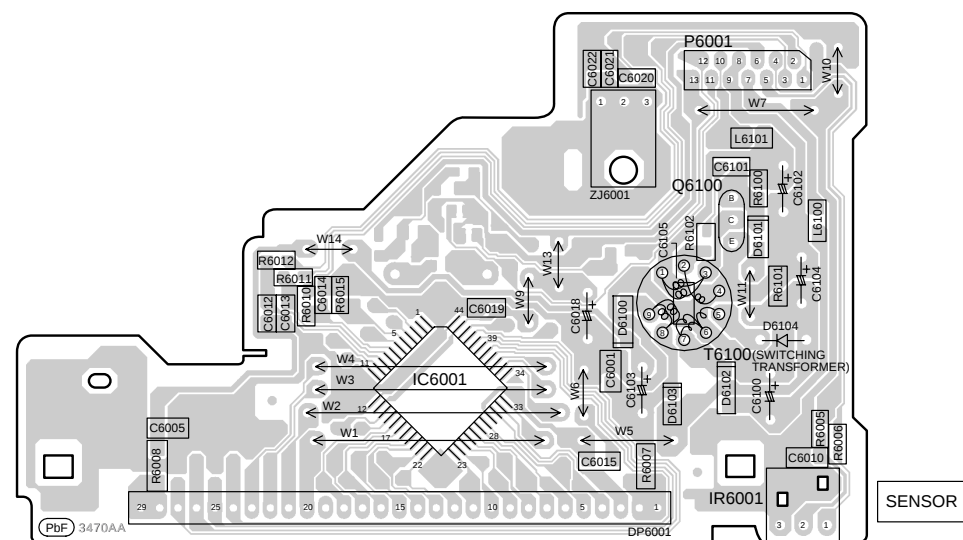
SA-BTT268P, SA-BTT270P/PC
DIGITAL P.C.B.

18.2. AV, Panel, Power Button, Operation Button & iPod P.C.B.

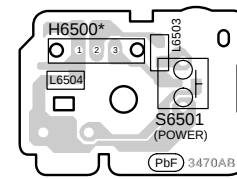
B AV P.C.B. (REP4693A)



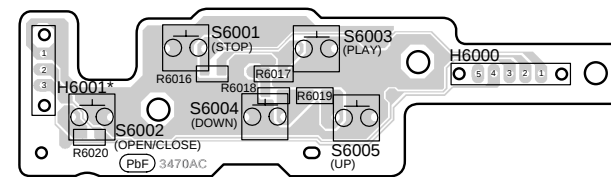
D PANEL P.C.B. (REP4690AA)



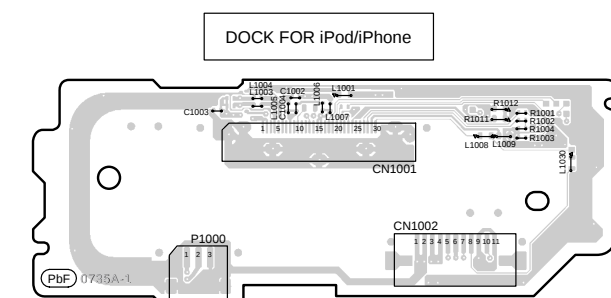
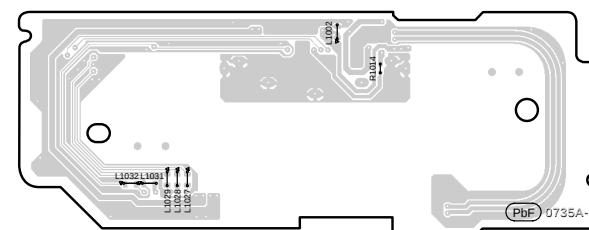
E POWER BUTTON P.C.B. (REP4690AB)



F OPERATION BUTTON P.C.B. (REP4690AB)



G iPod P.C.B. (REPX0895A)



SA-BTT268P, SA-BTT270P/PC
AV / PANEL / POWER BUTTON / OPERATION BUTTON / iPod P.C.B.

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



NOTE: " * " REF IS FOR INDICATION ONLY.



```

graph LR
    S[SURROUND] --- R[SURROUND]
    F[FRONT] --- R[FRONT]
    C[CENTER] --- R[CENTER]
    SW[SUBWOOFER] --- R[SUBWOOFER]
    Sp[SPEAKERS] --- R[SPEAKERS]
  
```

SA-BTT268P, SA-BTT270P/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.

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

19 Terminal Function of ICs

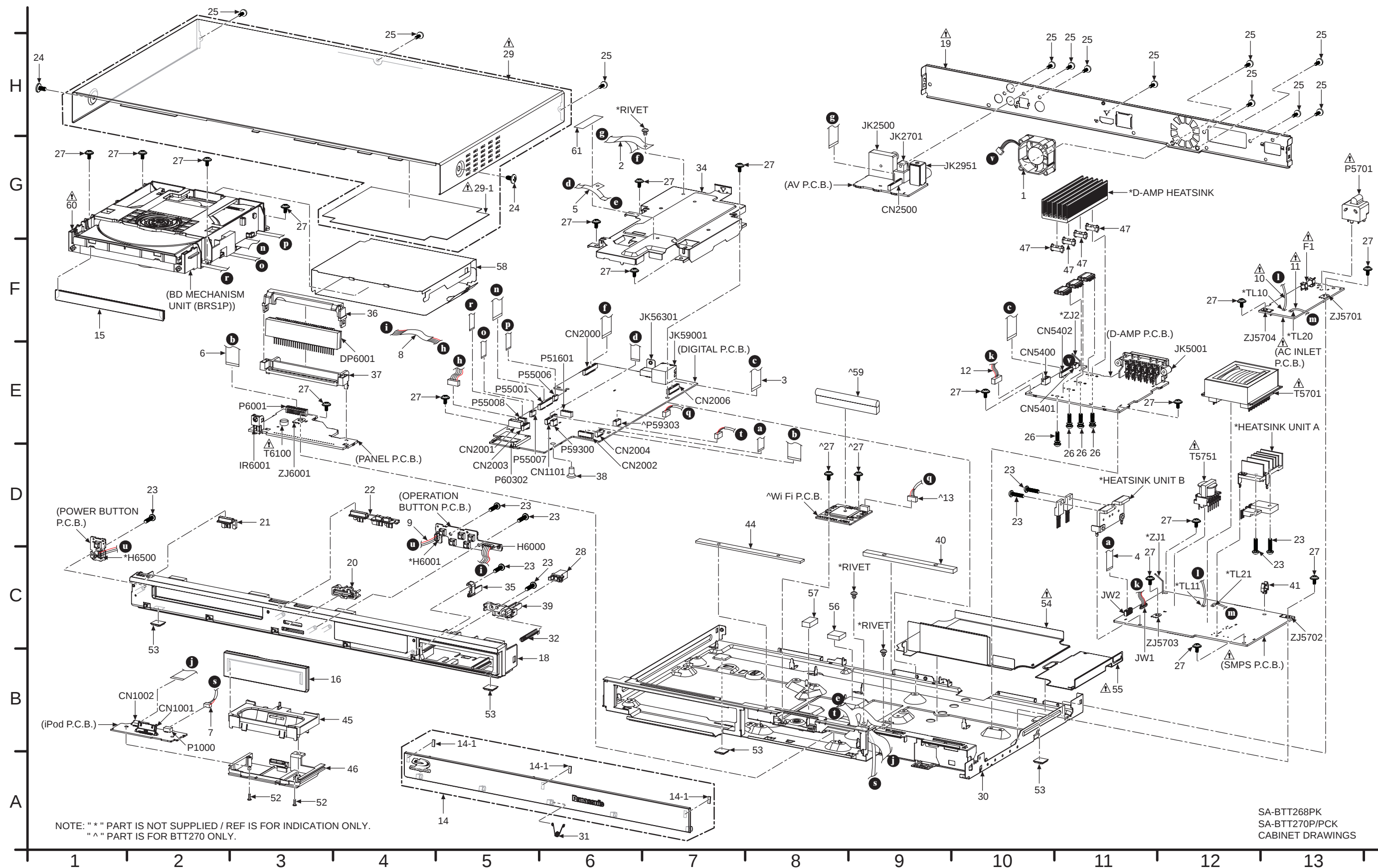
19.1. IC6001(C0HBB0000057): IC FL Driver

Pin No.	Terminal Name	I/O	Function
1	LED1	O	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	-	No Connection
11	K2	-	No Connection
12	GND	-	GND
13	VCC	-	Power Supply (+5V)
14	P18	-	No Connection
15	P17	-	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 Output5
38	G6	O	Grid Segment Output 6
39	G7	O	Grid Segment Output7
40	G8	O	Grid Segment Output 8
41	G9	O	Grid Segment Output 9
42	G10	O	Grid Segment Output 10
43	VCC	-	Voltage Supply (+5V)
44	GND	-	GND

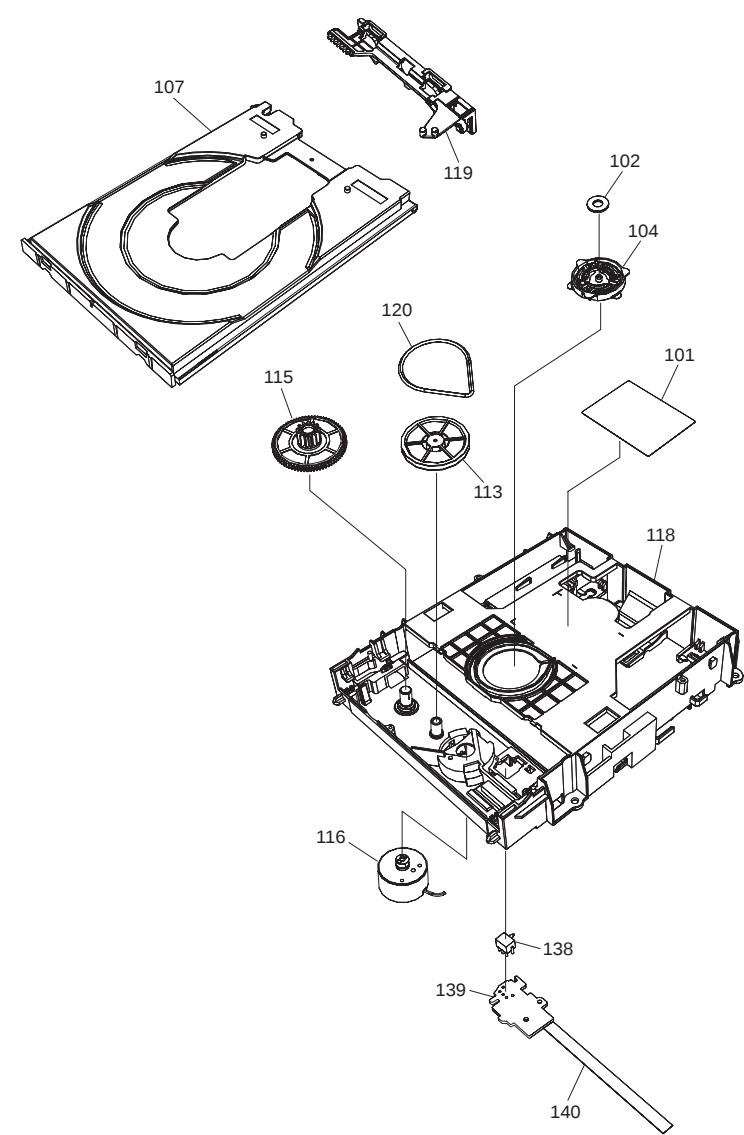
20 Exploded View and Replacement Parts List

20.1. Exploded View and Mechanical replacement Part List

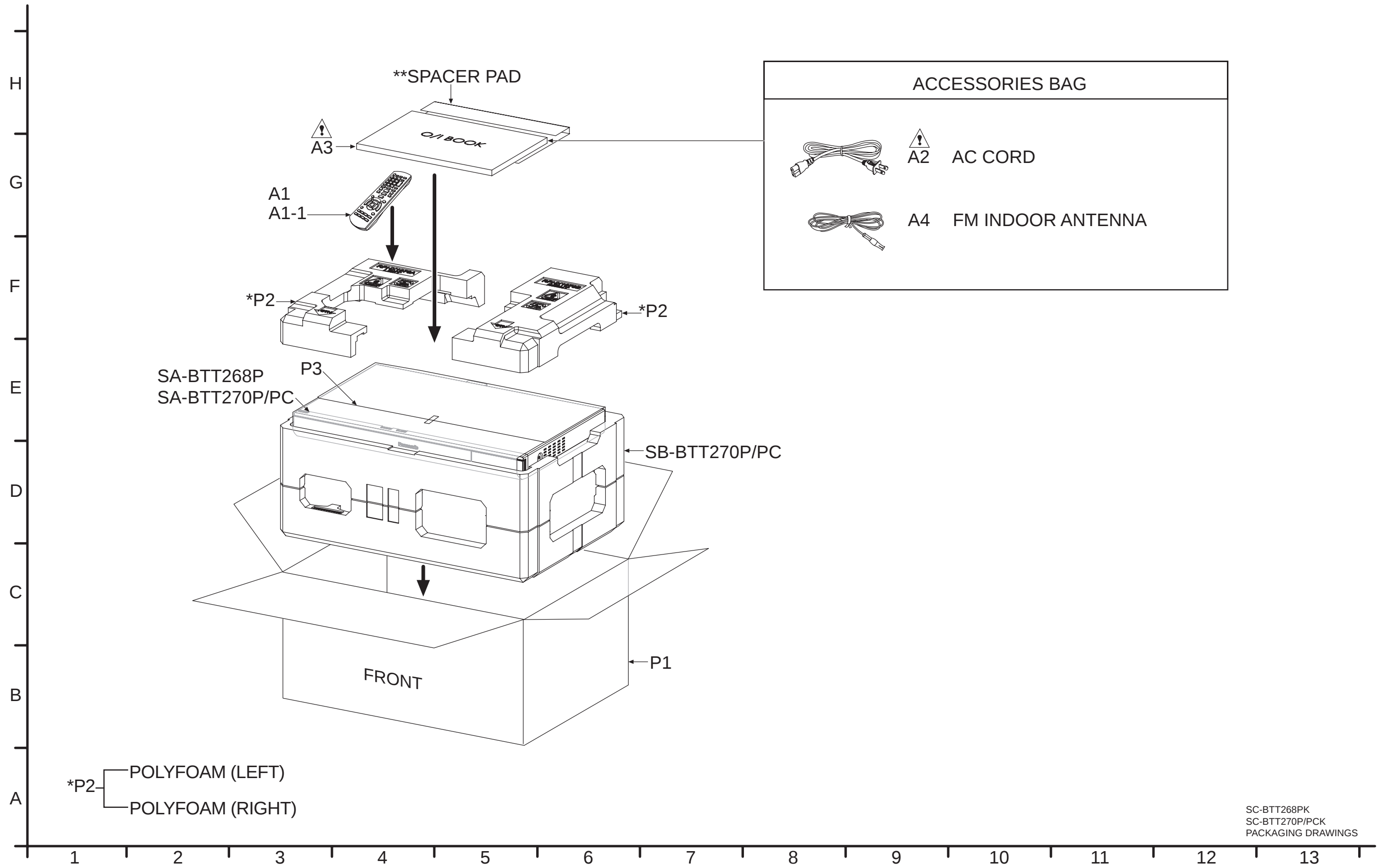
20.1.1. Cabinet Parts Location



20.1.2. BD Mechanism



20.1.3. Packaging



20.1.4. Mechanical Replacement Part List

Important Safety Notice

Components identified by Δ 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:

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

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 UNIT	1	
	2	REE1594-2	22P FFC ASS'Y (AV-DIGITAL)	1	
	3	REE1586	18P FFC (MAIN-D-AMP)	1	
	4	REEX1230	10P FFC (SMPS-DIGITAL)	1	
	5	REE1585	11P FFC ASS'Y (iPOD-DIGITAL)	1	
	6	REEX1233	13P FFC (PANEL-DIGITAL)	1	
	7	REXX1182	3P WIRE (iPOD-DIGITAL)	1	
	8	REX1425	5P CABLE WIRE (OPERATION BUTTON-DIGITAL)	1	
	9	REX1426	3P CABLE WIRE (OPERATION BUTTON-POWER)	1	
Δ	10	REXX1186	1P RED WIRE (AC INLET-SMPS)	1	
Δ	11	REXX1187	1P BLACK WIRE (AC INLET-SMPS)	1	
	12	REXX1202	4P WIRE (D-AMP - SMPS)	1	
	13	REXX1203	4P SHIELD WIRE UNIT (WiFi - DIGITAL)	1	BTT270P/PC
	14	RFKLBTT268PK	FRONT LID ASS'Y	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	14-1	RMX0302	LID DAMPER RUBBER	3	
	15	RGKX1054-K	TRAY ORNAMENT	1	
	16	RYQX1073-K	CRADLE LID ASS'Y	1	
	18	RFKGBTT270PK	FRONT PANEL ASS'Y	1	BTT270P/PC
	18	RFKGBTT268PK	FRONT PANEL ASS'Y	1	BTT268P
Δ	19	RGRX1006E-B1	REAR PANEL	1	BTT270P
Δ	19	RGRX1006E-C2	REAR PANEL	1	BTT270P/C
Δ	19	RGRX1006E-D	REAR PANEL	1	BTT268P
	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	12	
	26	RHDX261002	SCREW	4	
	27	RHD30168	SCREW	20	BTT270P/PC
	27	RHD30168	SCREW	18	BTT268P
	28	RHQ0094-K	LATCH	1	
Δ	29	RKMX1010-K	TOP CABINET	1	
Δ	29-1	RMNX1062	SMPS PCB TOP INSULATOR	1	
	30	RMKX1027	BOTTOM CHASSIS	1	
	31	RMBX1016	FRONT LID SPRING	1	
	32	RMBX1019	iPOD SPRING	1	
	34	RSCX1051	DIGITAL PCB SHIELD	1	
	35	RMNX1055	FRONT LID HOLDER	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	36	RMNX1056	FL HOLDER TOP	1	
	37	RMNX1057	FL HOLDER TOP	1	
	38	RJF0044	CARD SPACER	1	
	39	RMNX1073	LATCH HOLDER	1	
	40	RMQX1086	GASKET	1	
	41	RMN0971	WIRE CLAMPER	1	
	44	RMQ1880	GASKET (FRONT SIDE)	1	
	45	RMVX1026-K	CRADLE TUB	1	
	46	RMVX1027-K	CRADLE GUIDE	1	
	47	RMZX1021	HEATSINK SPACER	4	
	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	RSC0905	RADIATOR SHEET	1	
	57	RSC1013	RADIATOR SHEET	1	
	58	RMV0377-1	DUST COVER	1	
	59	RMQ1919	WI FI GASKET	1	BTT270P /PC
⚠	60	VXY2122T	BD MECHANISM	1	
	61	RMF0443	HIMELON	1	
			BRS1P BD MECHANISM		
⚠	101	VQL1V70-J	LASER CAUTION LABEL	1	
	102	VMA0V86	YOKE	1	
	104	VMD6392	CLAMPER	1	
	107	VMD6391	TRAY	1	
	113	VDG1756	PULLEY GEAR	1	
	115	VDG1757	MID GEAR	1	
	116	VEM0885	LOADING MOTOR U	1	
	118	VMD6389	MECHA CHASSIS	1	
	119	VMD6390	SLIDE CAM	1	
	120	VMG1720	BELT	1	
	138	K0L1CB000004	LEVER SWITCH	1	
	139	VJB70396	LOADING P.C.B.	1	
	140	VWJ2228	SW FFC	1	
			PACKING MATERIALS		
	P1	RPG9352	PACKING CASE	1	BTT270P
	P1	RPG9353	PACKING CASE	1	BTT270P C
	P1	RPG9462	PACKING CASE	1	BTT268P
	P2	RPNX1078	POLYFOAM	1	
	P3	RPFX1012-1	MIRAMAT	1	
			ACCESSORIES		
	A1	N2QAYB000629	REMOTE CONTROL	1	
	A1-1		R/C BATTERY COVER	1	
⚠	A2	K2CB2CB00021	AC CORD	1	
⚠	A3	VQT3D27-1	O/I BOOK (En)	1	BTT270P
⚠	A3	VQT3D28-1	O/I BOOK (Cf)	1	BTT270P C
⚠	A3	VQT3M40-1	O/I BOOK (En)	1	BTT268P
	A4	RSAX0002	FM INDOOR ANTENNA	1	

20.2. Electrical Replacement Part 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 (μ F) 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.

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

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			PRINTED CIRCUITS BOARDS		
	PCB1	REP4690AA	PANEL P.C.B.	1	(RTL)
	PCB2	REP4690AB	POWER BUTTON P.C.B.	1	(RTL)
	PCB3	REP4690AB	OPERATION BUTTON P.C.B.	1	(RTL)
	PCB4	REP4692A	D-AMP P.C.B.	1	(RTL)
	PCB5	REP4693A	AV P.C.B.	1	(RTL)
$\triangle$	PCB6	REP4699E	AC INLET P.C.B.	1	(RTL)
$\triangle$	PCB7	REP4699E	SMPS P.C.B.	1	(RTL)
$\triangle$	PCB8	REPX0895A	IPOD P.C.B.	1	(RTL)
$\triangle$	PCB9	RFKB4689A	DIGITAL P.C.B. ASS'Y	1	JIG & ADJ (ESD)
	PCB10	RFKBTT270WM	WIFI P.C.B. ASS'Y	1	BTT270P /PC (ESD)
			INTEGRATED CIRCUITS		
	IC1101	C0ABZA000080	IC	1	
	IC1102	C0ABBB000189	IC	1	
	IC2001	C2HBCY000088	IC	1	
	IC2300	RFKWBTT270P	IC	1	
	IC2301	C3EBFC000042	IC	1	
	IC2302	C0CBABC00117	IC	1	
	IC2303	C0DBZYY00417	IC	1	
	IC2400	MF1341S2164	IC	1	
	IC2501	C9ZB00000461	IC	1	
	IC2800	C0JBAR0000540	IC	1	
	IC2901	C0DBAYY00729	IC	1	
	IC2952	VUEALLPT040	IC	1	[SPG]

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	IC5100	C1AB00003582	IC	1	
	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	
	IC7002	C0DBZYY00018	IC	1	
	IC54900	C0FBAK000026	IC	1	(ESD)
	IC57000	C0JBAR000434	IC	1	(ESD)
			TRANSISTORS		
	Q2902	B1DGDC000002	TRANSISTOR	1	
	Q2903	B1DGDC000002	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	
	Q5898	B1ABCF000176	TRANSISTOR	1	
	Q5901	B1ADCF000001	TRANSISTOR	1	
	Q5902	B1ABCF000176	TRANSISTOR	1	
	Q6100	B1BARK000001	TRANSISTOR	1	
	Q7004	B1ADNB000003	TRANSISTOR	1	
	Q7007	B1GBCFJJ0051	TRANSISTOR	1	
	Q7071	B1ADNB000003	TRANSISTOR	1	
	QR5400	B1GBCFNN0038	TRANSISTOR	1	
	QR5402	B1GBCFNN0038	TRANSISTOR	1	
	QR5862	B1GBCFG60030	TRANSISTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	QR5901	B1GBCFL0037	TRANSISTOR	1	
	QR7001	B1GBCFGG0030	TRANSISTOR	1	
	QR7014	B1GBCFJJ0051	TRANSISTOR	1	
	QR7071	B1GBCFJJ0051	TRANSISTOR	1	
			DIODES		
	D2301	B0BC3R0A0262	DIODE	1	
	D2911	B0JCPG000030	DIODE	1	
	D2912	B0JCPG000030	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	
	D6101	B0BC024A0267	DIODE	1	
	D6102	B0JCMD000010	DIODE	1	
	D6103	B0BC2R4A0263	DIODE	1	
	D6104	B0EAKM000157	DIODE	1	
	D7000	B0ACCK000005	DIODE	1	
	D7013	B0ACCK000005	DIODE	1	
	D7016	B0ACCK000005	DIODE	1	
	D7017	B0ACCK000005	DIODE	1	
	D7018	B0ACCK000005	DIODE	1	
	D7020	B0ACCK000005	DIODE	1	
	D7021	B0ACCK000005	DIODE	1	
	D7031	B0BC7R5A0266	DIODE	1	
	D7033	B0BC6R8A0266	DIODE	1	
	D7035	B0BC010A0269	DIODE	1	
	D7036	B0BC6R8A0266	DIODE	1	
	D7038	B0BC013A0269	DIODE	1	
⚠	DZ5701	ERZV10V511CS	ZNR	1	
			VARISTOR		
	VA2951	EZAEG2A50AX	VARISTOR	1	
			SWITCHES		
	S6001	EVQ21405R	SW STOP	1	
	S6002	EVQ21405R	SW OPEN/CLOSE	1	
	S6003	EVQ21405R	SW PLAY	1	
	S6004	EVQ21405R	SW DOWN	1	
	S6005	EVQ21405R	SW UP	1	
	S6501	EVQ21405R	SW POWER	1	
			CONNECTORS		
	CN1001	MFI514S0117	30P CONNECTOR	1	
	CN1002	K1MN11BA0139	11P CONNECTOR	1	
	CN1101	K1MN11AA0046	11P CONNECTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	CN2000	K1MN22AA0046	22P CONNECTOR	1	
	CN2001	K1KA05AA0150	5P CONNECTOR	1	
	CN2002	K1MN13AA0046	13P CONNECTOR	1	
	CN2003	K1MN10AA0046	10P CONNECTOR	1	
	CN2004	K1MN10AA0046	10P CONNECTOR	1	
	CN2006	K1MN18AA0046	18P CONNECTOR	1	
	CN2500	K1MN22AA0004	22P CONNECTOR	1	
	CN5400	K1KA04AA0193	4P CONNECTOR	1	
	CN5401	K1KA03A00546	3P CONNECTOR	1	
	CN5402	K1MN18AA0046	18P CONNECTOR	1	
	P1000	K1KA03BA0047	3P CONNECTOR	1	
	P6001	K1MN13AA0003	13P CONNECTOR	1	
	P59300	K1KA03AA0083	3P CONNECTOR	1	
	P59303	K1KA04AA0083	4P CONNECTOR	1	BTT270P /PC
	JW1	K1YZ04000002	4P CABLE HOLDER	1	
	JW2	K1MN10AA0003	10P CONNECTOR	1	
			COILS AND INDUCTORS		
	L1001	J0JHC0000107	INDUCTOR	1	
	L1002	J0JHC0000107	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	
	L2072	G1C100M00049	INDUCTOR	1	
	L2501	G1C100K00019	INDUCTOR	1	
	L2900	J0JHC0000107	INDUCTOR	1	
	L2901	J0JHC0000107	INDUCTOR	1	
	L2902	G1C100MA0291	INDUCTOR	1	
	L2903	G1C330MA0234	INDUCTOR	1	
	L2904	G1C330Z00012	INDUCTOR	1	
	L2907	J0JHC0000107	INDUCTOR	1	
	L2908	J0JHC0000107	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	INDUCTOR	1	
⚠	L5702	ELF19H520E	INDUCTOR	1	
	L6100	J0JBC0000041	INDUCTOR	1	
	L6101	G1C100K00019	INDUCTOR	1	
	L7014	G1C4R7MA0172	INDUCTOR	1	
	LB1101	J0JHC0000107	INDUCTOR	1	
	LB1109	J0JCC0000316	INDUCTOR	1	
	LB1113	J0JBC0000014	INDUCTOR	1	
	LB1114	J0JCC0000317	INDUCTOR	1	
	LB2039	J0JCC0000396	INDUCTOR	1	
	LB2091	J0JGC0000020	INDUCTOR	1	
	LB2301	J0JGC0000020	INDUCTOR	1	
	LB2701	J0JBC0000014	INDUCTOR	1	
	LB2800	J0JBC0000014	INDUCTOR	1	
	LB2809	J0JBC0000014	INDUCTOR	1	
	LB2810	J0JBC0000014	INDUCTOR	1	
	LB2835	J0JBC0000014	INDUCTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	LB2836	J0JBC0000014	INDUCTOR	1	
	LB2837	J0JBC0000014	INDUCTOR	1	
	LB2838	J0JBC0000014	INDUCTOR	1	
	LB2839	J0JBC0000014	INDUCTOR	1	
	LB2840	J0JBC0000014	INDUCTOR	1	
	LB2841	J0JBC0000014	INDUCTOR	1	
	LB2842	J0JBC0000014	INDUCTOR	1	
	LB2843	J0JBC0000014	INDUCTOR	1	
	LB7006	J0JHC0000107	INDUCTOR	1	
	LB7007	J0JHC0000107	INDUCTOR	1	
	LB7009	J0JGC0000020	INDUCTOR	1	
	LB7012	J0JHC0000107	INDUCTOR	1	
	LB7013	J0JHC0000107	INDUCTOR	1	
	LB7041	J0JGC0000020	INDUCTOR	1	
	LB7042	J0JGC0000020	INDUCTOR	1	
	LB54900	J0JCC0000317	INDUCTOR	1	
	LB54901	J0JCC0000317	INDUCTOR	1	
	LB57000	J0JGC0000020	INDUCTOR	1	
	LB57001	J0JCC0000287	INDUCTOR	1	
	LB57002	J0JCC0000287	INDUCTOR	1	
	LB57003	J0JCC0000287	INDUCTOR	1	
	LB57004	J0JCC0000287	INDUCTOR	1	
	LB57005	J0JCC0000287	INDUCTOR		
	R1011	J0JFC0000006	INDUCTOR	1	
	R1127	J0JCC0000316	INDUCTOR	1	
	R1128	J0JCC0000316	INDUCTOR	1	
			TRANSFORMERS		
				1	
⚠	T5701	ETS61BA11GBD	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	
			EARTH PLATE		
	ZJ6001	K4CZ01000027	EARTH PLATE	1	
			OSCILLATORS		
	X2300	H2D500400006	CRYSTAL OSCILLATOR	1	
	X2301	H0J327200115	CRYSTAL OSCILLATOR	1	
	X2951	H0A327200097	CRYSTAL OSCILLATOR	1	
	X5351	H0J135000003	CRYSTAL OSCILLATOR	1	
			FUSE		
⚠	F1	K5D602APA008	FUSE	1	
			CABLE HOLDERS		
	H6000	K1YZ05000005	5P CABLE HOLDER	1	
			FUSE HOLDERS		

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	ZA5701	K3GE1ZZ00001	FUSE HOLDER	1	
	ZA5702	K3GE1ZZ00001	FUSE HOLDER	1	
			LCD DISPLAY		
	DP6001	A2BB00000180	LCD DISPLAY	1	
			REMOTE CONTROL SENSOR		
	IR6001	PNJ4881M02VT	REMOTE CONTROL SENSOR	1	
			THERMISTOR		
⚠	TH5702	D4CAA2R20001	THERMISTOR	1	
			JACKS		
	JK2500	K2HA305A0001	JK AUX IN	1	
	JK2701	B3RAB0000056	JK DIGITAL AUDION IN OPTICAL	1	
	JK2951	K4ZZ01000276	JK FM ANTENNA	1	
	JK5001	K4AL06B00006	JK SPEAKERS	1	
⚠	P5701	K2AB2B000007	AC INLET	1	
			CHIP JUMPER		
	K5720	ERJ6GEY0R00V	0 1/8W	1	
	K5721	ERJ6GEY0R00V	0 1/8W	1	
	K5726	ERJ6GEY0R00V	0 1/8W	1	
	L1003	ERJ2GE0R00X	0 1/16W	1	
	L1004	ERJ2GE0R00X	0 1/16W	1	
	L1027	D0GBR00JA008	0 1/16W	1	
	L1028	D0GBR00JA008	0 1/16W	1	
	L1029	D0GBR00JA008	0 1/16W	1	
	L1030	D0GBR00JA008	0 1/16W	1	
	L1031	D0GBR00JA008	0 1/16W	1	
	L6503	D0GBR00JA008	0 1/16W	1	
	L6504	D0GBR00JA008	0 1/16W	1	
	LB1102	ERJ2GE0R00X	0 1/16W	1	
	LB2570	D0GBR00JA008	0 1/16W	1	
	LB2571	D0GBR00JA008	0 1/16W	1	
	LB2801	ERJ2GE0R00X	0 1/16W	1	
	LB2802	ERJ2GE0R00X	0 1/16W	1	
	LB2803	ERJ2GE0R00X	0 1/16W	1	
	LB2804	ERJ2GE0R00X	0 1/16W	1	
	LB2805	ERJ2GE0R00X	0 1/16W	1	
	LB2806	ERJ2GE0R00X	0 1/16W	1	
	LB2807	ERJ2GE0R00X	0 1/16W	1	
	LB2808	ERJ2GE0R00X	0 1/16W	1	
	W16	ERJ6GEY0R00V	0 1/8W	1	
	W17	ERJ6GEY0R00V	0 1/8W	1	
	W27	ERJ6GEY0R00V	0 1/8W	1	
			RESISTORS		
	LB1103	D0GA221JA023	220 1/16W	1	
	LB1111	D0GA471JA023	470 1/16W	1	
	LB1112	D0GA471JA023	470 1/16W	1	
	R290	D0GB100JA008	10 1/16W	1	
	R291	D0GB100JA008	10 1/16W	1	
	R578	D0GA470JA023	47 1/16W	1	
	R1001	D0GA221JA023	220 1/16W	1	
	R1002	D0GA221JA023	220 1/16W	1	
	R1003	D0GA104JA023	100K 1/16W	1	
	R1004	D0GA104JA023	100K 1/16W	1	
	R1012	D0GBR00JA008	0 1/16W	1	
	R1014	ERJ2GE0R00X	0 1/16W	1	
	R1111	ERJ2GEJ750X	75 1/16W	1	
	R1112	D0GA101JA023	100 1/16W	1	
	R1113	D0GA101JA023	100 1/16W	1	
	R1114	D0GA223JA023	22K 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R1115	D0GA223JA023	22K 1/16W	1	
	R1116	D0GA101JA023	100 1/16W	1	
	R1118	D0GA223JA023	22K 1/16W	1	
	R1119	D0GA223JA023	22K 1/16W	1	
	R1120	D0GA223JA023	22K 1/16W	1	
	R1121	D0GA223JA023	22K 1/16W	1	
	R1122	D0GA102JA023	1K 1/16W	1	
	R1123	D0GA102JA023	1K 1/16W	1	
	R1126	D0GA331JA023	330 1/16W	1	
	R1131	D0GD470JA017	47 1/8W	1	
	R1137	ERJ2GE0R00X	0 1/16W	1	
	R1138	ERJ2GE0R00X	0 1/16W	1	
	R1141	D0GA221JA023	220 1/16W	1	
	R1145	D0GA101JA023	100 1/16W	1	
	R1146	D0GA101JA023	100 1/16W	1	
	R1147	D0GA101JA023	100 1/16W	1	
	R1148	D0GA101JA023	100 1/16W	1	
	R1151	D0GA471JA023	470 1/16W	1	
	R1152	D0GA471JA023	470 1/16W	1	
	R1153	D0GA471JA023	470 1/16W	1	
	R2031	D0GA330JA023	33 1/16W	1	
	R2032	D0GA330JA023	33 1/16W	1	
	R2033	D0GA330JA023	33 1/16W	1	
	R2034	D0GA330JA023	33 1/16W	1	
	R2035	D0GA330JA023	33 1/16W	1	
	R2036	D0GA330JA023	33 1/16W	1	
	R2041	D0GA221JA023	220 1/16W	1	
	R2042	D0GA221JA023	220 1/16W	1	
	R2043	D0GA221JA023	220 1/16W	1	
	R2044	D0GA221JA023	220 1/16W	1	
	R2045	D0GA470JA023	47 1/16W	1	
	R2046	D0GA103JA023	10K 1/16W	1	
	R2051	ERJ2GE0R00X	0 1/16W	1	
	R2053	D0GA152JA023	1.5K 1/16W	1	
	R2055	D0GA470JA023	47 1/16W	1	
	R2056	D0GA470JA023	47 1/16W	1	
	R2059	D0GA470JA023	47 1/16W	1	
	R2060	D0GA470JA023	47 1/16W	1	
	R2061	D0GA103JA023	10K 1/16W	1	
	R2301	D0GA273JA023	27K 1/16W	1	
	R2302	D0GA103JA023	10K 1/16W	1	
	R2304	D0GA103JA023	10K 1/16W	1	
	R2309	D0GA221JA023	220 1/16W	1	
	R2310	D0GA103JA023	10K 1/16W	1	
	R2311	D0GA103JA023	10K 1/16W	1	
	R2312	D0GA102JA023	1K 1/16W	1	
	R2315	ERJ2GEJ154X	150K 1/16W	1	
	R2322	D0GA104JA023	100K 1/16W	1	
	R2323	D0GA104JA023	100K 1/16W	1	
	R2325	D0GA472JA023	4.7K 1/16W	1	
	R2326	D0GA472JA023	4.7K 1/16W	1	
	R2327	D0GA104JA023	100K 1/16W	1	
	R2328	D0GA103JA023	10K 1/16W	1	
	R2330	D0GA103JA023	10K 1/16W	1	
	R2331	D0GA103JA023	10K 1/16W	1	
	R2332	D0GA472JA023	4.7K 1/16W	1	
	R2333	D0GA472JA023	4.7K 1/16W	1	
	R2335	D0GA473JA023	47K 1/16W	1	
	R2341	D0GA473JA023	47K 1/16W	1	
	R2342	D0GA473JA023	47K 1/16W	1	
	R2345	D0GA103JA023	10K 1/16W	1	
	R2346	D0GA103JA023	10K 1/16W	1	
	R2352	D0GA103JA023	10K 1/16W	1	
	R2359	D0GA104JA023	100K 1/16W	1	
	R2361	D0GA473JA023	47K 1/16W	1	
	R2364	ERJ2GE0R00X	0 1/16W	1	
	R2366	D0GA101JA023	100 1/16W	1	
	R2367	D0GA101JA023	100 1/16W	1	
	R2374	D0GA331JA023	330 1/16W	1	
	R2375	D0GA331JA023	330 1/16W	1	
	R2400	D0GA330JA023	33 1/16W	1	
	R2401	ERJ2GE0R00X	0 1/16W	1	
	R2402	ERJ2GE0R00X	0 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R2406	ERJ2GE0R00X	0 1/16W	1	
	R2407	ERJ2GE0R00X	0 1/16W	1	
	R2408	D0GA221JA023	220 1/16W	1	
	R2411	D0GA103JA023	10K 1/16W	1	
	R2412	D0GA103JA023	10K 1/16W	1	
	R2501	D1BB75R0A012	75 1/16W	1	
	R2502	D0GBR00JA008	0 1/16W	1	
	R2503	D0GB101JA008	100 1/16W	1	
	R2504	D0GB101JA008	100 1/16W	1	
	R2506	D0GBR00JA008	0 1/16W	1	
	R2508	D0GB121JA008	120 1/16W	1	
	R2510	D0GB101JA008	100 1/16W	1	
	R2570	D0GB103JA008	10K 1/16W	1	
	R2571	D0GB103JA008	10K 1/16W	1	
	R2701	D0GBR00JA008	0 1/16W	1	
	R2800	D0GA103JA023	10K 1/16W	1	
	R2801	D0GA103JA023	10K 1/16W	1	
	R2806	D0GA102JA023	1K 1/16W	1	
	R2807	D0GA102JA023	1K 1/16W	1	
	R2810	D0GA102JA023	1K 1/16W	1	
	R2811	D0GA102JA023	1K 1/16W	1	
	R2812	D0GA473JA023	47K 1/16W	1	
	R2813	D0GA473JA023	47K 1/16W	1	
	R2814	D0GA102JA023	1K 1/16W	1	
	R2817	D0GA102JA023	1K 1/16W	1	
	R2821	D0GA473JA023	47K 1/16W	1	
	R2822	D0GA473JA023	47K 1/16W	1	
	R2823	D0GA102JA023	1K 1/16W	1	
	R2824	D0GA102JA023	1K 1/16W	1	
	R2908	ERJ3RBD1002V	10K 1/16W	1	
	R2909	D0GBR00JA008	0 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	ERJ6RSJR10V	0.1 1/10W	1	
	R2920	D0GB822JA008	8.2K 1/16W	1	
	R2921	ERJ3RBD3902V	39K 1/16W	1	
	R2922	ERJ6RSJR10V	0.1 1/10W	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	
	R2951	D0GB102JA008	1K 1/16W	1	
	R2952	D0GB102JA008	1K 1/16W	1	
	R2953	D0GA472JA023	4.7K 1/16W	1	
	R2954	D0GA472JA023	4.7K 1/16W	1	
	R2955	D0GA221JA023	220 1/16W	1	
	R2955	D0GBR00JA008	0 1/16W	1	
	R2956	D0GB221JA007	220 1/10W	1	
	R2956	D0GB472JA008	4.7K 1/16W	1	
	R2957	D0GA102JA023	1K 1/16W	1	
	R2959	D0GB222JA008	2.2K 1/16W	1	
	R2960	D0GBR00JA008	0 1/16W	1	
	R2961	D0GB473JA008	47K 1/16W	1	
	R2962	D0GB473JA008	47K 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 1/8W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R5114	D0GD103JA017	10K 1/8W	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 1/8W	1	
	R5213	D0GD103JA017	10K 1/8W	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 1/8W	1	
	R5311	D0GD103JA017	10K 1/8W	1	
	R5314	D0GB104JA008	100K 1/16W	1	
	R5315	D0GB104JA008	100K 1/16W	1	
	R5316	D0GB104JA008	100K 1/16W	1	
	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	D0GB473JA008	47K 1/16W	1	
	R5428	D0GB103JA008	10K 1/16W	1	
	R5429	D0GB103JA008	10K 1/16W	1	
	R5430	D0GB273JA008	27K 1/16W	1	
	R5431	D0GB333JA008	33K 1/16W	1	
	R5435	D0GB274JA007	270K 1/10W	1	
	R5436	D0GB223JA008	22K 1/16W	1	
	R5437	D0GB472JA008	4.7K 1/16W	1	
	R5438	D0GB104JA008	100K 1/16W	1	
	R5439	D0GB104JA008	100K 1/16W	1	
	R5445	D0GB103JA008	10K 1/16W	1	
	R5475	F1H1H102A219	1000pF 50V	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	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R5720	ERJ6GEYJ220V	22 1/8W	1	
	R5721	ERJ6GEYJ103V	10K 1/8W	1	
	R5722	ERJ6GEYJ222V	2.2K 1/8W	1	
	R5725	ERJ3GEYJ473V	47K 1/10W	1	
	R5726	ERJ1TRSJR15U	0.15 1W	1	
	R5727	ERJ1TRSJR15U	0.15 1W	1	
	R5729	ERJ3GEYJ473V	47K 1/10W	1	
	R5730	ERJ3GEYJ102V	1K 1/10W	1	
	R5732	ERJ6GEYJ221V	220 1/8W	1	
	R5733	ERJ3GEYJ473V	47K 1/10W	1	
	R5795	ERJ6GEYJ474V	470K 1/8W	1	
	R5797	ERJ3GEYJ153V	15K 1/10W	1	
	R5798	ERJ3GEYJ220V	22 1/10W	1	
	R5801	ERJ3GEYJ101V	100 1/10W	1	
	R5802	ERJ3RBD103V	10K 1/16W	1	
	R5803	ERJ6GEYJ221V	220 1/8W	1	
	R5804	ERJ3RED823V	82K 1/16W	1	
	R5805	ERJ3RBD682V	6.8K 1/16W	1	
	R5806	ERJ3GEYJ153V	15K 1/10W	1	
	R5807	ERJ6GEYJ681V	680 1/8W	1	
	R5808	ERJ3GEYJ222V	2.2K 1/10W	1	
	R5809	ERJ6GEYJ681V	680 1/8W	1	
	R5814	ERJ3GEYJ104V	100K 1/10W	1	
	R5817	ERJ3GEY0R00V	0 1/10W	1	
	R5818	ERJ3GEYJ220V	22 1/10W	1	
	R5821	ERJ3GEYJ104V	100K 1/10W	1	
	R5832	ERJ1TYJ822U	8.2K 1W	1	
	R5862	ERJ6GEYJ222V	2.2K 1/8W	1	
	R5864	D0GB182JA008	1.8K 1/16W	1	
	R5866	ERJ6GEY0R00V	0 1/8W	1	
	R5890	ERJ3GEYJ222V	2.2K 1/10W	1	
	R5891	ERJ3RBD333V	33K 1/16W	1	
	R5892	ERJ3RBD152V	1.5K 1/16W	1	
	R5893	ERJ3RBD153V	15K 1/16W	1	
	R5894	ERJ3GEYJ151V	150 1/10W	1	
	R5895	ERJ3GEYJ153V	15K 1/10W	1	
	R5897	ERJ3GEYJ101V	100 1/10W	1	
	R5898	ERJ6GEYJ824V	820K 1/8W	1	
	R5901	ERJ3GEYJ102V	1K 1/10W	1	
	R5902	ERJ6GEYJ121V	120 1/8W	1	
	R5903	ERJ3GEYJ331V	330 1/10W	1	
	R5904	ERJ3GEYJ331V	330 1/10W	1	
	R5905	ERJ6GEYJ103V	10K 1/8W	1	
	R5906	ERJ3GEYJ104V	100K 1/10W	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	D0GB393JA008	39K 1/16W	1	
	R6016	D0GB122JA008	1.2K 1/16W	1	
	R6017	D0GB152JA008	1.5K 1/16W	1	
	R6018	D0GB222JA008	2.2K 1/16W	1	
	R6019	D0GB332JA008	3.3K 1/16W	1	
	R6020	D0GB122JA008	1.2K 1/16W	1	
	R6100	D0GB472JA008	4.7K 1/16W	1	
	R6101	D0GB104JA008	100K 1/16W	1	
	R6102	D0GB470JA008	47 1/16W	1	
	R7003	ERJ3GEYJ3R3V	3.3 1/10W	1	
	R7011	D0GB472JA008	4.7K 1/16W	1	
	R7028	D0GB103JA008	10K 1/16W	1	
	R7032	D0GB103JA008	10K 1/16W	1	
	R7043	D0GA102JA023	1K 1/16W	1	
	R7050	D0GA103JA023	10K 1/16W	1	
	R7061	D0GB272JA008	2.7K 1/16W	1	
	R7062	D0GB272JA008	2.7K 1/16W	1	
	R7063	D0GB272JA008	2.7K 1/16W	1	
	R7071	D0GA103JA023	10K 1/16W	1	
	R7072	D0GA332JA023	3.3K 1/16W	1	
	R54900	D0GD4R7JA017	4.7 1/8W	1	
	R54901	D0GA102JA023	1K 1/16W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R54902	D0GA102JA023	1K 1/16W	1	
	R54904	D0GA330JA023	33 1/16W	1	
	R54905	D0GA330JA023	33 1/16W	1	
	R54906	D0GA330JA023	33 1/16W	1	
	R54907	D0GA330JA023	33 1/16W	1	
	R54908	D0GD4R7JA017	4.7 1/8W	1	
	R54909	D0GA330JA023	33 1/16W	1	
	R56309	D0GA273JA023	27K 1/16W	1	
				1	
			RESISTOR NET- WORKS	1	
				1	
	RX2300	D1H83314A024	RESISTOR NETWORK	1	
	RX2301	D1H83314A024	RESISTOR NETWORK	1	
	RX2302	D1H83314A024	RESISTOR NETWORK	1	
	RX2303	D1H83314A024	RESISTOR NETWORK	1	
	RX2304	D1H83314A024	RESISTOR NETWORK	1	
	RX2305	D1H83314A024	RESISTOR NETWORK	1	
	RX2306	D1H83314A024	RESISTOR NETWORK	1	
	RX2307	D1H83314A024	RESISTOR NETWORK	1	
	RX2308	D1H83314A024	RESISTOR NETWORK	1	
	RX2309	D1H83314A024	RESISTOR NETWORK	1	
	RX2310	D1H83314A024	RESISTOR NETWORK	1	
	RX2311	D1H83314A024	RESISTOR NETWORK	1	
	RX2312	D1H83304A024	RESISTOR NETWORK	1	
	RX2313	D1H83314A024	RESISTOR NETWORK	1	
	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	
			CAPACITORS		
	C212	F1G1E1020001	1000pF 25V	1	
	C295	F1H1H102A219	1000pF 50V	1	
	C296	F1H1H102A219	1000pF 50V	1	
	C571	F1G1A1040006	0.1uF 10V	1	
	C1002	F1G1C104A083	0.1uF 16V	1	
	C1003	F1G1C104A083	0.1uF 16V	1	
	C1004	F1G1C104A083	0.1uF 16V	1	
	C1100	F1G1A1040006	0.1uF 10V	1	
	C1103	F1J1A106A043	10uF 10V	1	
	C1104	F1J1A106A043	10uF 10V	1	
	C1105	F1G1A1040006	0.1uF 10V	1	
	C1107	F2G1C221A079	220uF 16V	1	
	C1109	F1G1C1030007	0.01uF 16V	1	
	C1110	F1G1C1030007	0.01uF 16V	1	
	C1111	F1G1H2200001	22pF 50V	1	
	C1113	F1G1H2200001	22pF 50V	1	
	C1114	F1G1H2200001	22pF 50V	1	
	C1115	F1G1H2200001	22pF 50V	1	
	C1116	F1G1H2200001	22pF 50V	1	
	C1117	F1H1A105A025	1uF 10V	1	
	C1118	F1H1A105A025	1uF 10V	1	
	C1119	F1G1H330A565	33pF 50V	1	
	C1122	F1G1C1030007	0.01uF 16V	1	
	C1131	F1G1E1020001	1000pF 25V	1	
	C1134	F1G1E1020001	1000pF 25V	1	
	C1135	F1J1A106A043	10uF 10V	1	
	C2041	F1G1A1040006	0.1uF 10V	1	
	C2042	F1G1H470A444	47pF 50V	1	
	C2043	F1G1H470A444	47pF 50V	1	
	C2044	F1H1A105A025	1uF 10V	1	
	C2045	F1G1C1030007	0.01uF 16V	1	
	C2046	F1J1A106A043	10uF 10V	1	
	C2052	F1G1C1030007	0.01uF 16V	1	
	C2053	F1G1E1020001	1000pF 25V	1	
	C2054	F2G0J101A083	100uF 6.3V	1	
	C2056	F1H1A105A025	1uF 10V	1	
	C2057	F1G1C1030007	0.01uF 16V	1	
	C2058	F1G1C273A081	0.027uF 16V	1	
	C2059	F1G1E270001	2700pF 25V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C2060	F1H1A105A025	1uF 10V	1	
	C2061	F1G1C1030007	0.01uF 16V	1	
	C2072	F1J1A106A043	10uF 10V	1	
	C2105	F1G1H1010001	100pF 50V	1	
	C2300	F1J1A106A043	10uF 10V	1	
	C2301	F1G1H470A444	47pF 50V	1	
	C2302	F1G1A1040006	0.1uF 10V	1	
	C2304	F1G1A1040006	0.1uF 10V	1	
	C2305	F1G1A1040006	0.1uF 10V	1	
	C2306	F1G1A1040006	0.1uF 10V	1	
	C2307	F1G1A1040006	0.1uF 10V	1	
	C2308	F1G1E4720002	4700pF 25V	1	
	C2309	F1G1E4720002	4700pF 25V	1	
	C2310	F1G1H120A444	12pF 50V	1	
	C2311	F1G1H330A444	33pF 50V	1	
	C2312	F1G1A1040006	0.1uF 10V	1	
	C2313	F1G1A1040006	0.1uF 10V	1	
	C2314	F2G0J101A083	100uF 6.3V	1	
	C2315	F1H1A105A025	1uF 10V	1	
	C2316	F1H1A105A025	1uF 10V	1	
	C2321	F1G1E4720002	4700pF 25V	1	
	C2322	F1G1E4720002	4700pF 25V	1	
	C2400	F1G1A1040006	0.1uF 10V	1	
	C2502	F2A0J102A247	1000uF 6.3V	1	
	C2505	F2A0J101A024	100uF 6.3V	1	
	C2506	F1G1A1040006	0.1uF 10V	1	
	C2507	F1H1H103A219	0.01uF 50V	1	
	C2508	F1H1A105A025	1uF 10V	1	
	C2509	F1H1A105A025	1uF 10V	1	
	C2510	F2A0J220A245	22uF 6.3V	1	
	C2511	F1H1C104A042	0.1uF 16V	1	
	C2572	F1H1H2210001	220pF 50V	1	
	C2573	F1H1H2210001	220pF 50V	1	
	C2701	F1J1A106A043	10uF 10V	1	
	C2802	F1G1E6810001	680pF 25V	1	
	C2803	F1G1E6810001	680pF 25V	1	
	C2804	F1G1E6810001	680pF 25V	1	
	C2805	F1G1E6810001	680pF 25V	1	
	C2806	F1H1A105A025	1uF 10V	1	
	C2807	F1H1A105A025	1uF 10V	1	
	C2811	F1H1A105A025	1uF 10V	1	
	C2812	F1H1A105A025	1uF 10V	1	
	C2813	F1H1A105A025	1uF 10V	1	
	C2814	F1H1A105A025	1uF 10V	1	
	C2815	F1G1H470A444	47pF 50V	1	
	C2816	F1G1H470A444	47pF 50V	1	
	C2817	F1G1A1040006	0.1uF 10V	1	
	C2818	F1G1A1040006	0.1uF 10V	1	
	C2900	F1K1C1060001	10uF 16V	1	
	C2901	EEEFK1V221P	220uF 35V	1	
	C2902	EEEFK0J102P	1000uF 6.3V	1	
	C2902	F1H1H101A230	100pF 50V	1	
	C2903	EEEFK1C681P	680uF 16V	1	
	C2903	F1H1H102A219	1000pF 50V	1	
	C2904	F1H1H101A230	100pF 50V	1	
	C2904	F1K1C1060001	10uF 16V	1	
	C2907	EEEFK1V680XP	68uF 35V	1	
	C2951	F1H1H102A219	1000pF 50V	1	
	C2953	F1H1H104A013	0.1uF 50V	1	
	C2957	F1H1H220A004	22pF 50V	1	
	C2957	F1H1H220A230	22pF 50V	1	
	C2958	F1H1H180A004	18pF 50V	1	
	C2959	F1H1A105A025	1uF 10V	1	
	C2960	F1H1A105A025	1uF 10V	1	
	C2961	F1G1C104A077	0.1uF 16V	1	
	C2961	F1H1H681A013	680pF 50V	1	
	C2962	F1G1C104A077	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	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C2973	F1H1H182A219	1800pF 50V	1	
	C2974	F1H1A105A025	1uF 10V	1	
	C2975	F1K1C1060001	10uF 16V	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	
	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	F1K1H105A182	1uF 50V	1	
	C5112	F1K1H105A182	1uF 50V	1	
	C5113	F1K1H105A182	1uF 50V	1	
	C5114	F1K1H105A182	1uF 50V	1	
	C5117	F2A1H8210023	820uF 50V	1	
	C5120	ECQV1H274JL3	0.27uF 50V	1	
	C5121	ECQV1H274JL3	0.27uF 50V	1	
	C5122	F1J1H224A736	0.22uF 50V	1	
	C5123	F1J1H224A736	0.22uF 50V	1	
	C5124	F1J1H224A736	0.22uF 50V	1	
	C5125	F1J1H224A736	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	F1K1H105A182	1uF 50V	1	
	C5212	F1K1H105A182	1uF 50V	1	
	C5213	F1K1H105A182	1uF 50V	1	
	C5214	F1K1H105A182	1uF 50V	1	
	C5220	ECQV1H274JL3	0.27uF 50V	1	
	C5221	ECQV1H274JL3	0.27uF 50V	1	
	C5222	F1J1H224A736	0.22uF 50V	1	
	C5223	F1J1H224A736	0.22uF 50V	1	
	C5224	F1J1H224A736	0.22uF 50V	1	
	C5225	F1J1H224A736	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	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	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	F1K1H105A182	1uF 50V	1	
	C5312	F1K1H105A182	1uF 50V	1	
	C5313	F1K1H105A182	1uF 50V	1	
	C5314	F1K1H105A182	1uF 50V	1	
	C5319	ECQV1H274JL3	0.27uF 50V	1	
	C5320	ECQV1H474JL3	0.47uF 50V	1	
	C5321	F1J1H224A736	0.22uF 50V	1	
	C5322	F1J1H224A736	0.22uF 50V	1	
	C5323	F1J1H224A736	0.22uF 50V	1	
	C5324	F1J1H224A736	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	
	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	
	C5381	F1H1H220A230	22pF 50V	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	F0CAF104A105	0.1uF	1	
⚠	C5702	F0CAF104A105	0.1uF	1	
⚠	C5704	F1BAF1020020	1000pF	1	
⚠	C5705	F1BAF1020020	1000pF	1	
⚠	C5706	F1BAF471A013	470pF	1	
	C5712	F2B2D5610025	560uF 200V	1	
	C5713	F0C2J1030007	0.01uF 630V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	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	
	C5840	F1J2E1030004	0.01uF 250V	1	
	C5897	F1H1H104A013	0.1uF 50V	1	
	C5898	F1H1H104A013	0.1uF 50V	1	
	C5899	F2A1A2210063	220uF 10V	1	
	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	
	C6018	F2A0J1000008	10uF 6.3V	1	
	C6019	F1H1H104A783	0.1uF 50V	1	
	C6020	D0GBR00JA008	0 1/16W	1	
	C6021	D0GBR00JA008	0 1/16W	1	
	C6022	D0GBR00JA008	0 1/16W	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	
	C7011	F1J1A106A043	10uF 10V	1	
	C7012	F1J1A106A043	10uF 10V	1	
	C7014	F1J1A106A043	10uF 10V	1	
	C7016	F1J1A106A043	10uF 10V	1	
	C7019	EEEFK0J102P	1000uF 6.3V	1	
	C7041	F1J1A106A043	10uF 10V	1	
	C7042	F1J1A106A043	10uF 10V	1	
	C7052	F1H1H103A219	0.01uF 50V	1	
	C7054	F1H1E105A116	1uF 25V	1	
	C7055	F1H1E105A116	1uF 25V	1	
	C7056	F1H1H471A971	470pF 50V	1	
	C7057	F1H1E105A116	1uF 25V	1	
	C7058	F1H1E105A116	1uF 25V	1	
	C7059	F1J1A106A043	10uF 10V	1	
	C7067	F1J1A106A043	10uF 10V	1	
	C7075	F1H1E105A116	1uF 25V	1	
	C54900	F1G1H221A541	220pF 50V	1	
	C54901	F1G1H221A541	220pF 50V	1	
	C54902	F1G1A1040006	0.1uF 10V	1	
	C54903	F1H1A105A025	1uF 10V	1	
	C54904	F1J0J106A020	10uF 6.3V	1	
	C54905	F1G1C1030007	0.01uF 16V	1	
	C54906	F2G0J4700010	47uF 6.3V	1	
	C54908	F1G1C1030007	0.01uF 16V	1	
	C54909	F1J0J106A020	10uF 6.3V	1	
	C54910	F1H1A105A025	1uF 10V	1	
	C54911	F1H1A105A025	1uF 10V	1	
	C54913	F1G1C1030007	0.01uF 16V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			SERVICE FIXTURE & TOOLS		
	SFT1	RFKZBTT270K1	13P FFC (FL-DIG-ITAL)	1	
	SFT2	RFKZBTT270K2	10P WIRE (SMPS-DIGITAL)	1	
	SFT3	RFKZBTT270K3	18P FFC (MAIN-D-AMP)	1	

