

# Service Manual

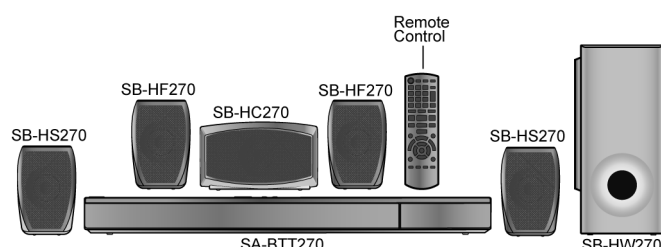
## Blu-ray Disc™ Home Theater Sound System



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  $\infty$

### 1.1.2. LEAKAGE CURRENT HOT CHECK

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

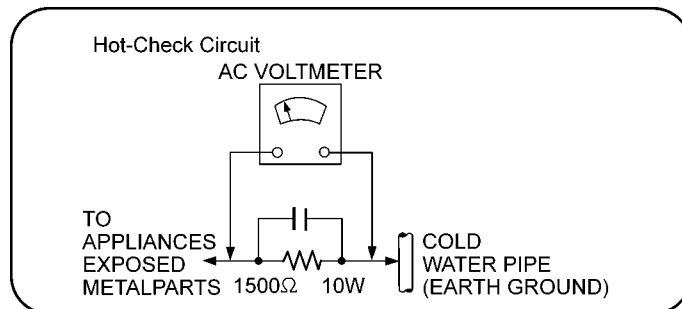


Figure 1

## 1.2. Before Repair and Adjustment

Disconnect AC power to discharge unit AC Capacitors as such (C5700, C5701, C5702, C5704, C5705, C5706) through a  $10\Omega$ , 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  $\sim 600$  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  $\mu$ 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 :

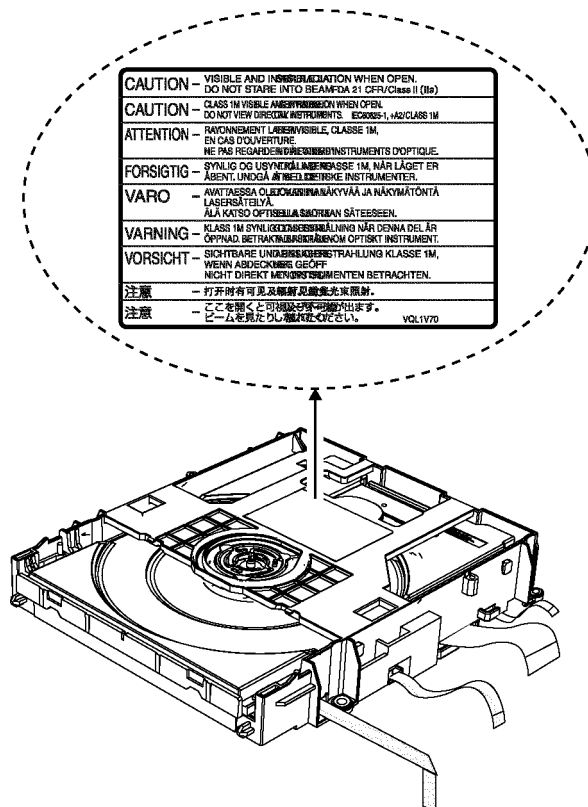
Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

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

Maximale Strahlungsleistung der Lasereinheit: 100  $\mu$ 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.<br>(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

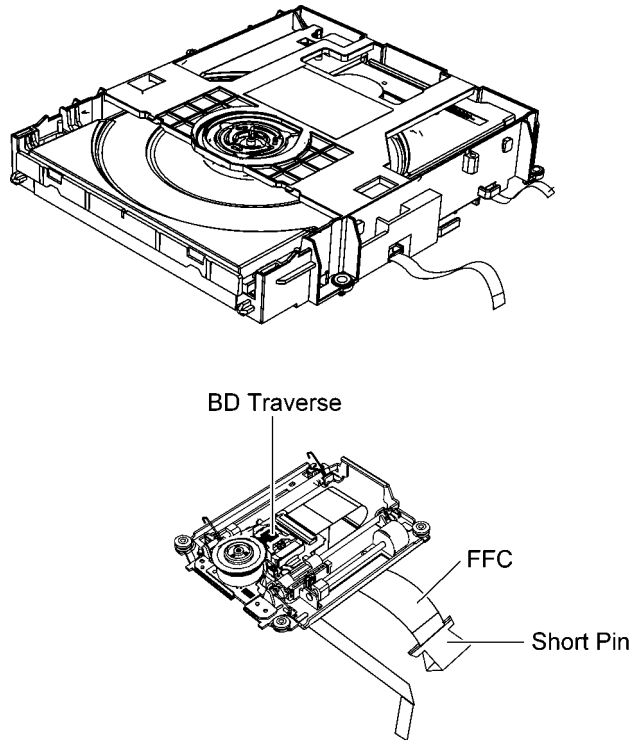
The laser diode in the optical pickup unit may break down due to static electricity of clothes or human body. Special care must be taken avoid caution to electrostatic breakdown when servicing and handling the laser diode in the traverse unit.

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

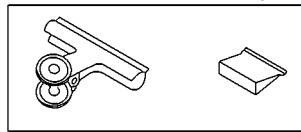
The laser diode in the optical pickup unit may be damaged due to electrostatic discharge generating from clothes or human body. Special care must be taken avoid caution to electrostatic discharge damage when servicing the laser diode.

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.

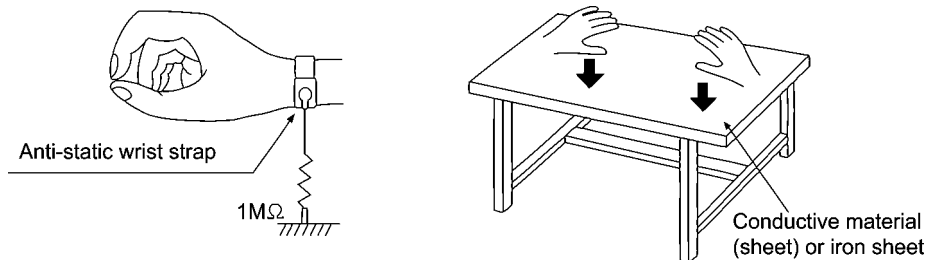


Figure 2

## 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.<br>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.<br>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.<br>* When there is no disc in the driver, "NoDISC" appears and locking is invalid.<br>* 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.<br>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.<br>*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.<br>*[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.<br>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  
 (16<sup>15</sup>/<sub>16</sub>"×1<sup>1</sup>/<sub>2</sub>"×10<sup>31</sup>/<sub>32</sub>"

**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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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](mailto: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.

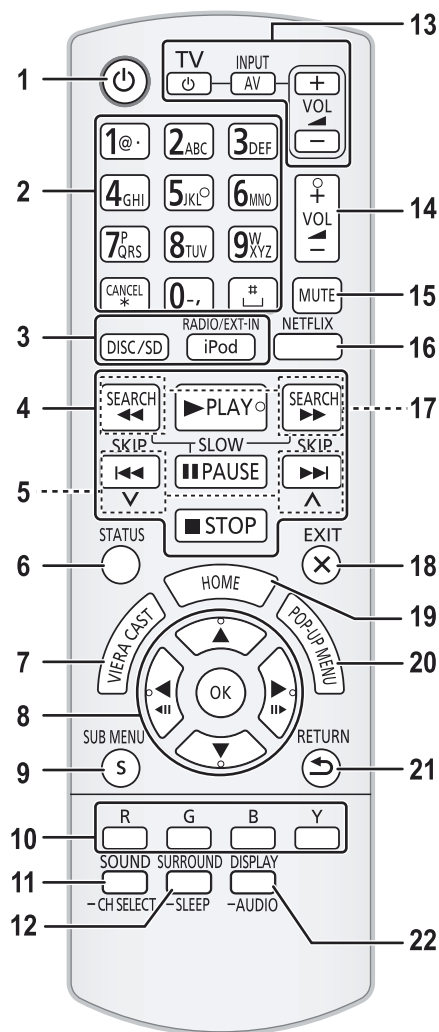
1. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit.  
(<http://www.openssl.org/>)
2. This product includes software developed by the University of California, Berkeley and its contributors.
3. FreeType code.
4. The Independent JPEG Group's JPEG software.

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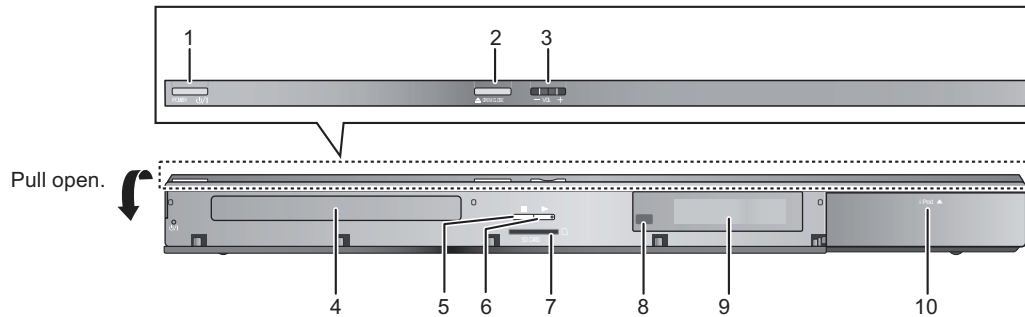
## 5 Location of Controls and Components

### 5.1. Remote Control Key Button Operations



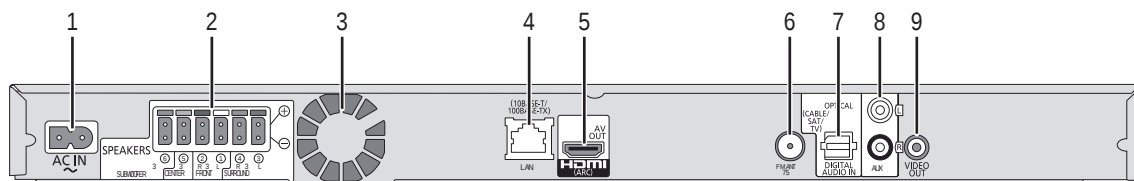
- 1 Turn the unit on and off
- 2 Select title numbers, etc./Enter numbers or characters  
[CANCEL]: Cancel
- 3 Select the source
- 4 Basic playback control buttons
- 5 Select preset radio stations
- 6 Show status messages
- 7 Display the Home screen of VIERA CAST
- 8 Selection/OK, Frame-by-frame
- 9 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



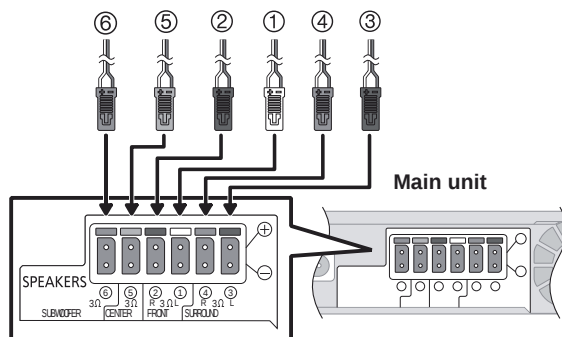
- |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1 <b>Standby/on switch (POWER <math>\phi</math>/I)</b><br/>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<br/>Distance: Within approx. 7 m (23 ft.)<br/>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

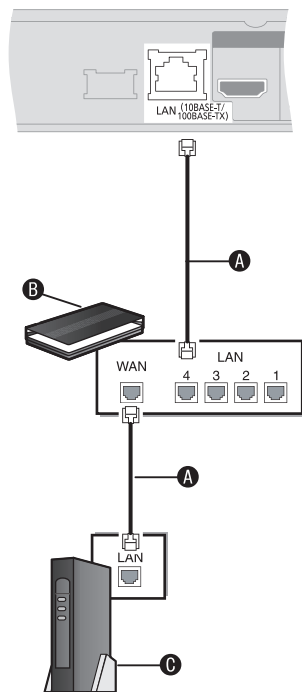
| POWER-SAVING FEATURES                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The main unit is designed to conserve its power consumption and save energy.                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                             |
| <ul style="list-style-type: none"><li>• <b>Automatic power-down function</b></li></ul> <p>The main unit will automatically switch to standby mode after 30 minutes if the main unit is inactive as follows.</p> | <p>e.g.</p> <ul style="list-style-type: none"><li>– There is no audio signal from an external device.</li><li>– Disc playback is stopped/paused.</li><li>– iPod/iPhone playback is stopped/paused.</li><li>– The disc menu is displayed and play is not selected.</li></ul> <p>(This function may not work depending on the application type of discs.)</p> |

## 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

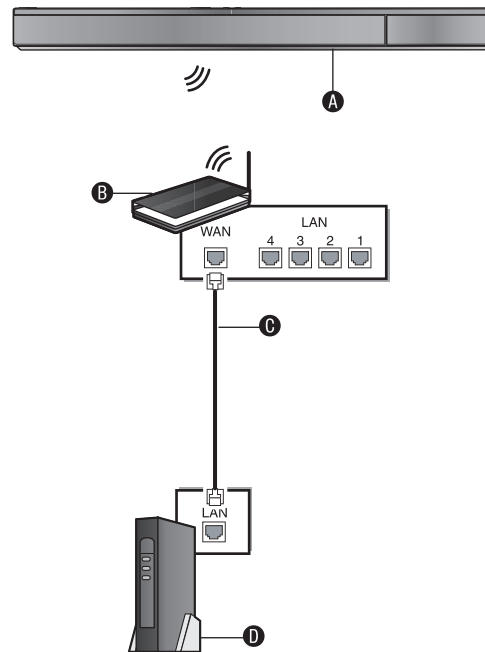


- Ⓐ LAN Cable (not supplied)
- Ⓑ Broadband router, etc.
- Ⓒ Modem (Broadband) \*Provided by ISP

- 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.

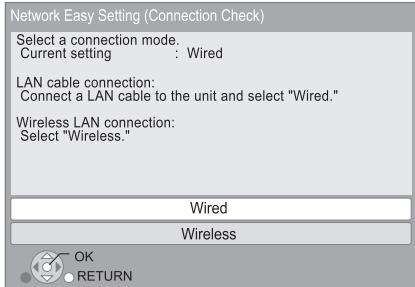
- **Data transmitted and received over radio waves may be intercepted and monitored.**
- **This unit contains delicate electronic components.**  
Please use this unit in the manner in which it was intended and follow the following points:
  - Do not expose this unit to high temperatures or direct sunlight.
  - 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

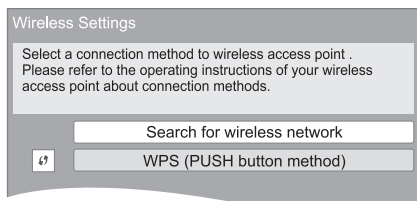
Obtain your network name.

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)”

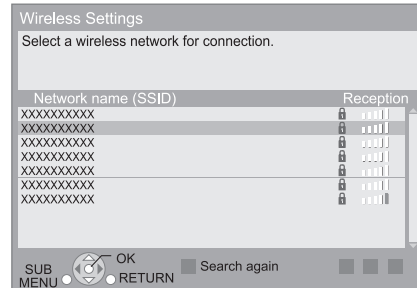
If you are using a Wireless router that supports WPS, you can easily perform the settings .



### “Search for wireless network”

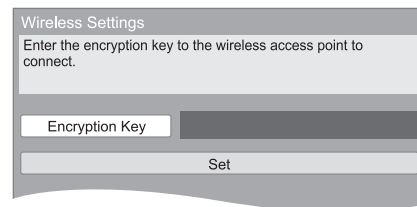
The available wireless networks will be displayed.

- 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.

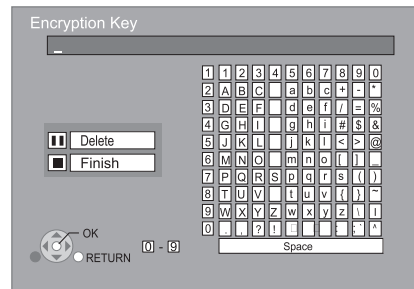


#### When your wireless network is encrypted

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



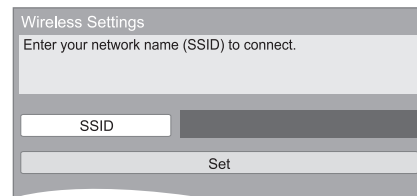
- ③ Enter your encryption key.



#### To enter SSID manually

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

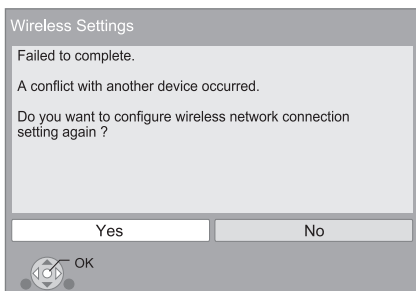
- 1 To display SSID input screen :  
Press [HOME] ⇒ select “Settings” ⇒ [OK] ⇒ [OK] (“Setup”) ⇒ select “Network” ⇒ [OK] ⇒ select “Network Settings” ⇒ [OK] ⇒ select “Wireless Settings” ⇒ [OK] ⇒ select “Connection Setting” ⇒ [OK] ⇒ select “Manual setting” ⇒ [OK]
- 2 Press [OK] to select “SSID” and enter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



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

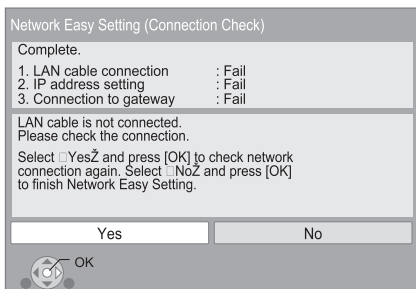
# When you experience problems with settings

## Wireless Setting



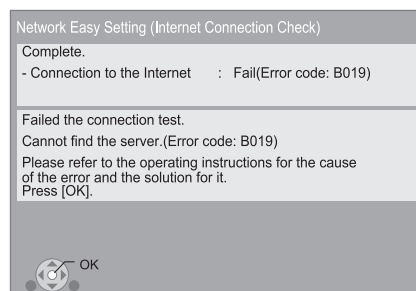
| Display                                               | Check the following                                                                                                                                                                         |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.<br>The signal may be weak.<br>The SSID and the encryption key of the Wireless router.<br>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<br>2. IP address setting :Fail<br>3. Connection to gateway :Fail | Connection of the LAN cables                                                             |
| 1. LAN cable connection or Wireless setting :Pass<br>2. IP address setting :Fail<br>3. Connection to gateway :Fail | Connection and settings of the hub and router<br>Settings of "IP Address / DNS Settings" |
| 1. LAN cable connection or Wireless setting :Pass<br>2. IP address setting :Pass<br>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).

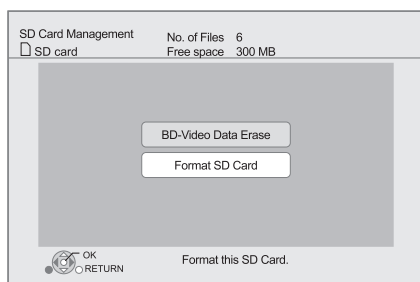
- This unit is using an SD card as a local storage device. BD-Live function cannot be used when there is no SD card inserted.

- 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].

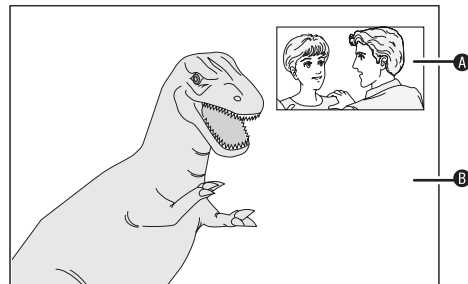


- ⑥ Press [◀, ▶] to select "Yes" and press [OK].
- ⑦ Press [◀, ▶] to select "Start" and press [OK].

### 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"



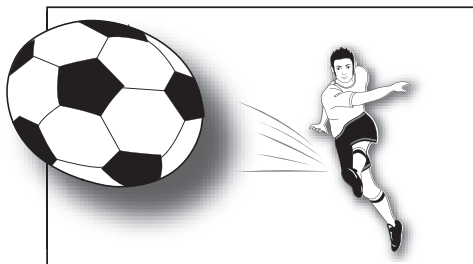
- A Secondary video
- B Primary video



- 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.

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

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

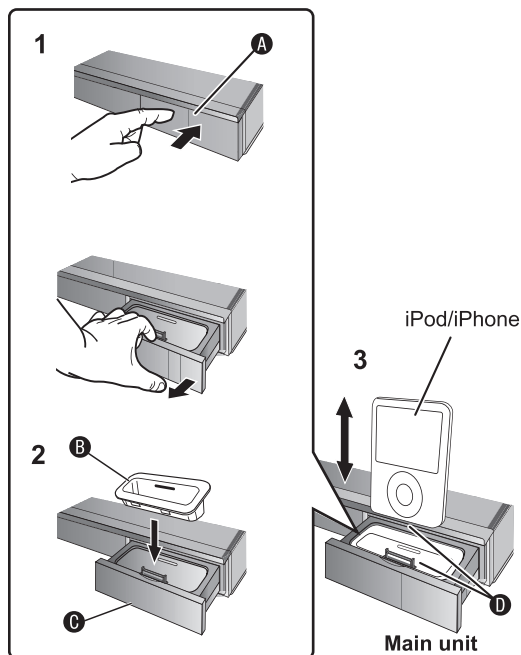
## 5.10. Using the iPod/iPhone

### 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)<br>[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.

## 5.11. Enjoying VIERA CAST™

You can access a selection of Internet services from the Home screen with VIERA CAST, for example YouTube, Picasa Web Albums. (Current as of December 2010)

### Preparation

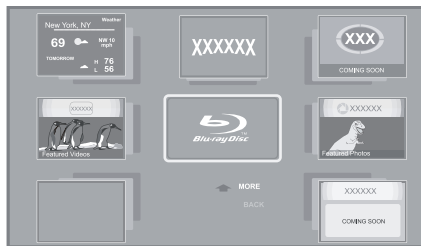
- Network connection
- Network setting
- NETFLIX can be accessed directly by [NETFLIX] button.
- Message is displayed. Please read these instructions carefully and then press [OK].

### 1 Press [▲, ▼, ◀, ▶] to select the item and press [OK].

Operable buttons:

[▲, ▼, ◀, ▶], [OK], [RETURN], colored buttons, number buttons

**VIERA CAST Home screen;**



Images are for illustration purposes, contents may change without notice.

### To return to VIERA CAST Home screen

Press [VIERA CAST].

### To exit from VIERA CAST

Press [EXIT], [HOME] or [POP-UP MENU].



- When playing content from a disc/SD card VIERA CAST cannot be accessed by pressing [VIERA CAST].
- In the following cases, settings are possible using "Internet Content Settings"
  - When restricting the use of VIERA CAST.
  - When the audio is distorted.
  - When wrong time is displayed
- If using slow Internet connection, the video may not be displayed correctly. A high-speed Internet service with a speed of at least 6 Mbps is recommended.
- Be sure to update the firmware when a firmware update notice is displayed on the screen. If the firmware is not updated, you will not be able to use the VIERA CAST function.
- VIERA CAST™ home screen is subject to change without notice.
- The services through VIERA CAST™ are operated by their respective service providers, and service may be discontinued either temporarily or permanently without notice. Therefore, Panasonic will make no warranty for the content or the continuity of the services.
- All features of websites or content of the service may not be available.
- Some content may be inappropriate for some viewers.
- Some content may only be available for specific countries and may be presented in specific languages.

## 5.12. Playable discs/Cards

| Type       | Logo examples                                                                      | Type detail                                                                                                                                                                           | Playable contents                                    |
|------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <b>BD</b>  |   | <b>BD-Video</b>                                                                                                                                                                       | Video                                                |
|            |                                                                                    | <b>BD-RE</b>                                                                                                                                                                          | Video<br>JPEG/MPO (3D still picture)                 |
|            |                                                                                    | <b>BD-R</b>                                                                                                                                                                           | Video                                                |
| <b>DVD</b> |   | <b>DVD-Video</b>                                                                                                                                                                      | Video                                                |
|            |   | <b>DVD-R</b>                                                                                                                                                                          | Video<br>AVCHD<br>MP3<br>JPEG/MPO (3D still picture) |
|            |   | <b>DVD-R DL</b>                                                                                                                                                                       |                                                      |
|            |   | <b>DVD-RW</b>                                                                                                                                                                         |                                                      |
|            | —                                                                                  | <b>+R/+RW/+R DL</b>                                                                                                                                                                   | Video<br>AVCHD                                       |
| <b>CD</b>  |   | <b>Music CD</b>                                                                                                                                                                       | Music [CD-DA]                                        |
|            | —                                                                                  | <b>CD-R<br/>CD-RW</b>                                                                                                                                                                 | Music [CD-DA]<br>MP3<br>JPEG/MPO (3D still picture)  |
| <b>SD</b>  |  | <b>SD Memory Card (8 MB to 2 GB)<br/>SDHC Memory Card (4 GB to 32 GB)<br/>SDXC Memory Card (48 GB, 64 GB)</b><br>(Compatible with both mini and micro types)<br>(as of December 2010) | MPEG2<br>AVCHD<br>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",<br>".mp3" | ID3 tags (Only titles and the names of artists)                                                                                                                                  |
| JPEG        | ".JPG",<br>".jpg" | MOTION JPEG and Progressive JPEG is not supported<br>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.

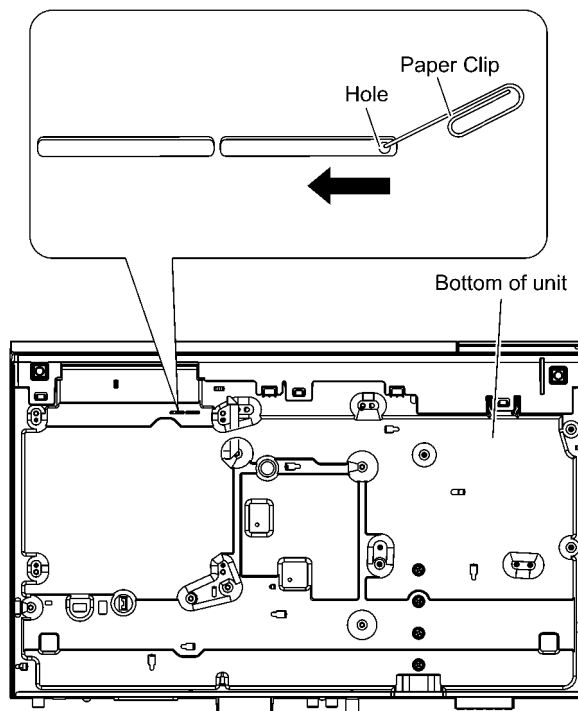
1. Turn off the power and press & hold [OK] button on main unit, and [B] & [Y] button on remote for 5 seconds.

##### 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.

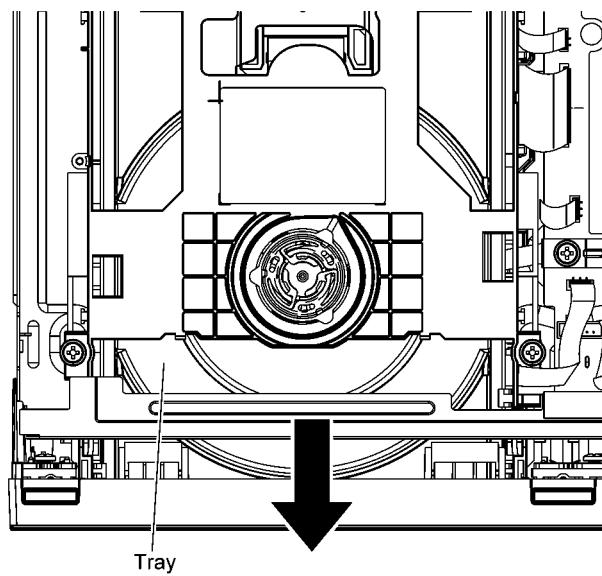
#### 6.1.2. When the Forcible Dics Eject cannot be done.

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.<br>1) Unit power-up<br>2) FL shows "Bye"<br>3) Unit power-down<br>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<br>②<br>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.<br>- "00 RET" is displayed on the unit's display.<br>② Repeatedly press [▶] on the remote control or [POWER] on the unit until "03 VL" is displayed on the unit's display.<br>③ Press [OK] on the remote control or [OPEN/CLOSE] on the unit.                                                                                                                                        |
| Service Mode            | Setting every kind of modes for servicing.<br>*Details are described in 7.3 Service Mode                                                                                                    | ②<br>③<br>④                           | ① Turn the power off.<br>② Press the [5] [9] and [R] button simultaneously for five seconds, then [70 RET] is displayed on FL.<br>③ Press the [◀] or [▶] button to select until [80 SRV] is displayed on FL.<br>④ Press the [OK] button .<br>*The command is transmitted by attached remote control.                                                                                                                                                                                                          |
| BD-ROM history cleaning | < Persistent Storage> of BD-ROM standard is cleaned.<br>Screen display: [The history has been cleared] is displayed for five seconds.                                                       | <br>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.<br>The tray will open and unit will shift to P-off mode.<br>While Demonstration Lock is being set, this Forced disc eject function is not accepted. | ①<br>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.<br>- "00 RET" is displayed on the unit's display.<br>② Repeatedly press [▶] on the remote control or [POWER] on the unit until "06 FTO" is displayed on the unit's display.<br>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<br>Description shown below continually.                                                                                                                | Display following the mode.           | ① Turn the power on.<br>② Press the [5] [9] and [R] button simultaneously for five seconds, then [70 RET] is displayed on FL.<br>③ Press the [◀] or [▶] button to select until [81 AIG] is displayed on FL.<br>④ Press the [OK] button .<br>*The command is transmitted by attached remote control.<br>NOTE1:<br>If the unit has hung-up because of pressing keys for over 10 seconds, once turn off the power, and re-execute this command.<br>*When releasing Aging mode, press [POWER] key over 4 seconds. |

## 7.1.2. Special Mode Table 2

| Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Mode name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| <div><div><div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div><div></div><div><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### 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.<br><div>*****</div>                                                                                                                                                                                                                                   | 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. | <b>FL Display</b><br>(i) <div>M-XXXX</div><br>-> Main Firmware Version<br>(ii) <div>YYYSUB</div><br>-> Sub Firmware Version<br>(iii) <div>BZZZ</div><br>-> Driver Version<br>(iv) <div>B99**</div><br>-> Model Code<br>(v) <div>**</div><br>-> Area<br>(vi) <div>AA/BB/CC</div><br>-> 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      | <div>SET *</div> <p>* is remote controller code of the main unit.<br/>Display for 5 seconds.</p>                                                          |
| U59        | Abnormal inner temperature detected                           | Display appears when the drive temperature exceeds 70°C.<br>The power is turned off forcibly.<br>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.)<br>The event is saved in memory as well.                            | No display      | <div>U59</div> <p>"U59" is displayed for 30 minutes.</p>                                                                                                  |
| 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      | <div>U71</div>                                                                                                                                            |
| 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).<br>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      | <div>U72</div> <p>"U72" display disappears when error has been solved by Power OFF/ON of connecting equipment or by inserting/removing of HDMI cable.</p> |
| 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)<br>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      | <div>U73</div> <p>"U73" display disappears when error has been solved by Power OFF/ON of connecting equipment or by inserting/removing of HDMI cable.</p> |
| 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      | <div>U76</div>                                                                                                                                            |
| U77        | Illegal disc error                                            | This error is displayed when it becomes impossible to reproduce because of copyright illegal information.                                                                                                                                                                                                                                                 | No display      | <div>U77</div>                                                                                                                                            |
| 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      | <div>U88</div> <p>Display for 30 seconds.</p>                                                                                                             |
| 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                                                                                                                                                |

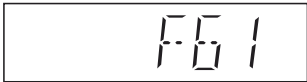
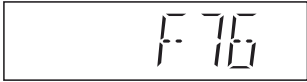
## 7.2.2. Error Code Table 2 (For BD)

| 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<br>"F99" is displayed until the [POWER] key is pressed.                          |
| UNSUPPORT  | Unsupported disc error              | *An unsupported format disc was played, although the drive starts normally.<br>*The data format is not supported, although the media type is supported.<br>*Exceptionally in case of the disc is dirty. | "This disc is incompatible."          | UNSUPPORT<br>It is displayed for 5 seconds. The character indication flows sideways. |
| NO READ    | Disc read error                     | *A disc is flawed or dirty.<br>*A poor quality failed to start.<br>*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<br>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.<br>*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.<br>BYE is displayed and power will be turned off.                                                                                                                                                                             | No display                          | PLEASE WAIT<br>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<br>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.<br>*Details are described in <b>7.2. Self-Diagnostic Functions Error code.</b>                                                                              | <div> </div> <p>* ♣ shows U/H/F.<br/>□ □ shows number.</p> <p>If any error history dose not exist, [F00] is displayed.</p>                                                                                                                                                                    | Press [0] [1] in service mode              |
| ROM Version Display     | The display contents are switched over every 5 seconds.<br>1. Region code<br>2. Main firm version<br>3. Timer firm version<br>4. Drive firm version<br>5. ROM correction version<br>6. BOO2 version<br>7. BOO3 version | <p>1. NO_ \$%</p> <p>\$: Region of DVD<br/>(Example: 1,2.....)<br/>%: Region of BD<br/>(Example: A,B.....)</p> <p>2. ****</p> <p>3. # # O ***</p> <p># #: Timer firm version<br/>O: OEM<br/>***: Product number of microcomputer</p> <p>4. ****</p> <p>5. ***</p> <p>6. ***</p> <p>7. ***</p> | Press [0] [2] in service mode              |
| Drive Application Check | Checking whether the drive is applicable drive or not                                                                                                                                                                  | <p>When the drive is applicable drive.</p> <div>DRV OK</div> <p>When the drive is not applicable drive.</p> <div>DRV NG</div>                                                                                                                                                                 | Press [0][3] in service mode.              |
| Drive check             | Simple quality of BD Mechanism.                                                                                                                                                                                        | <p>When BD Mechanism is OK</p> <div>DRV OK</div> <p>When BD Mechanism is NG</p> <div>DRV NG</div> <p>*If the date of the present or the trouble occurred time is incorrect, it may be not able to judge correctly.</p>                                                                        | 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. | <div>*****</div> <p>(***** ) is the used time display in hour.<br/>Laser used time of BD/DVD/CD in Playback/Recording mode is Counted.</p> <p>1. Blu-ray Playback:</p> <div>BP ****</div> <p>2. Blu-ray Recording:</p> <div>BR ****</div> <p>3. DVD Playback:</p> <div>DP ****</div> <p>4. DVD Recording:</p> <div>DR ****</div> <p>5. CD:</p> <div>CD ****</div> | 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. | <p>1. Error Number is displayed for 5 seconds.</p> <div>NO ****</div> <p>2. Time when the error has occurred is display for 5 seconds.</p> <div>YYMMDD</div> <p>DD : Day<br/>hh : Hour<br/>mm : Minute</p> <p>3. Last drive error (1/2) is displayed for 5 seconds.</p> <div>*****</div> <p>00 : Bad disc<br/>03 : Bad disc<br/>04 : Bad disc or drive malfunction</p> <p>4. Last drive error (2/2) is displayed for five seconds.</p> <div>*****</div> <p>5. Error occurring disc type is displayed for 5 seconds.</p> <p>DVD ROM</p> <div>DVD</div> <p>CD</p> <div>CD</div> <p>DVD-RAM (2.6GB)</p> <div>RAM26</div> <p>DVD-RAM (4.7GB)</p> <div>RAM47</div> <p>DVD-R</p> <div>DVDR</div> <p>DVD-RW</p> <div>DVDRW</div> <p>CD-R</p> <div>CDR</div> | Press [4] [2] in service mode. |

7.3.4. Service Mode Table 4

| Item      |               | FL display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Key operation           |         |    |    |    |               |    |               |    |       |          |        |                                                                   |
|-----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------|----|----|----|---------------|----|---------------|----|-------|----------|--------|-------------------------------------------------------------------|
| Mode name | Description   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (Remote controller key) |         |    |    |    |               |    |               |    |       |          |        |                                                                   |
|           |               | <div>CD-RW</div> <div>CDRW</div> <div>DVD+R</div> <div>DVDPR</div> <div>DVD+RW</div> <div>DVDPRW</div> <div>BD-ROM</div> <div>BDRom</div> <div>BD-RE</div> <div>BDRE</div> <div>BD-R</div> <div>BDR</div> <div>Others</div> <div>MEDIA*</div> <div>* is displayed the respoced value from RTSC.</div> <div>6. Disc maker ID is displayed for 5 seconds.</div> <div>*****</div> <div>7. Factor of drive error (hexadecimal) occurring is left displayed.</div> <div>* * + + &amp; &amp;</div> <div>* * : Error occurring operation code (This is not used)</div> <div>+ + : Error occurring disc type</div> <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)        |        |  |  |  |                  |                           |                       |      |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |  |
|                    |                                                | <div>&amp;&amp; : Error occurring disc situation</div> <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> <div>8. When the last error doesn't exist</div> <div>NO DATA</div> | 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   |  |  |  |                  |                           |                       |      |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |  |
| 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    |  |  |  |                  |                           |                       |      |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |  |
| CEC (H) output     | Check of the CEC terminal high output of HDMI. | <div>When the check is OK</div> <div>CECHOK</div> <div>When the check is NG</div> <div>CECHNG</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Press [5] [5] in service mode. |        |  |  |  |                  |                           |                       |      |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |  |
| CEC (L) output     | Check of the CEC terminal low output of HDMI.  | <div>When the check is OK</div> <div>CECLOK</div> <div>When the check is NG</div> <div>CECLNG</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Press [5] [6] in service mode. |        |  |  |  |                  |                           |                       |      |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |  |
| Manufacturing Date | Read out the manufacturing date of the unit.   | <div>YYMMDD</div> <div>YY: Year<br/>MM: Month<br/>DD: Day</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Press [6] [1] in service mode. |        |  |  |  |                  |                           |                       |      |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |    |    |      |            |      |    |    |      |            |     |    |    |      |        |      |    |    |      |        |     |    |    |         |            |      |    |    |         |            |     |    |    |         |        |      |    |    |         |        |     |  |

### 7.3.6. Service Mode Table 6

| Item                                  |                                                                                                                                          | FL display                                                                                                                                                                                                                                                                                                                                                                                                       | Key operation<br>(Remote controller key)                                                                                                   |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Mode name                             | Description                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                            |
| Drive adjustment value initialization | Initialize the drive going to factory production adjustment values.                                                                      | <div>DP</div> <div>DP * * * *</div> <p>**** : password digits<br/>((4) (5) (3) (6))</p> <p>Initializing:</p> <div>DINI</div> <p>Successful adjustment value initialization and automatic adjustment time :</p> <div>DINIOK</div> <p>Failed at initialization and automatic adjustment adjustment :</p> <div>DINING</div> <p>When you enter the wrong password service mode initially (SERV __ __) to return.</p> | <p>Press[7][1]in service mode.</p> <p>Wirte remote control number key perform the initialization.</p>                                      |
| Tray OPEN/CLOSE Test                  | The tray is opened and closed repeatedly.                                                                                                | <div>*****</div> <p>* is number of open/close cycle times.</p>                                                                                                                                                                                                                                                                                                                                                   | <p>Press [9] [1] in service mode</p> <p>*When releasing this mode, press the [POWER] button of Remote Controller more than 10 seconds.</p> |
| Delete the Laser Used Time            | Laser used time stored in the memory of the unit is deleted.                                                                             | <div>CLR</div>                                                                                                                                                                                                                                                                                                                                                                                                   | Press [9] [5] in service mode.                                                                                                             |
| Delete the Last Drive Error           | Delete the Last Drive Error information stored on the BD Drive.                                                                          | <div>CLR</div>                                                                                                                                                                                                                                                                                                                                                                                                   | Press [9] [6] in service mode.                                                                                                             |
| Delete the Error History              | Delete Error History information stored on the unit.<br>Release Service Mode and turns the Power off                                     | <div>CLR</div>                                                                                                                                                                                                                                                                                                                                                                                                   | 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) | <div>CLR</div>                                                                                                                                                                                                                                                                                                                                                                                                   | 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.                                   | <div>CLR</div>                                                                                                                                                                                                                                                                                                                                                                                                   | Press [9] [9] in service mode.                                                                                                             |
| Release Service mode                  |                                                                                                                                          | <p>Display in STOP (SS) mode.</p> <div>*****</div>                                                                                                                                                                                                                                                                                                                                                               | 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<br>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)<br>1b Faulty IC2901 (no output voltage at pin 10 and 11)<br>1c Faulty Q2902 and Q2903 (regulator)<br>1d L2908 open (No DC +5V)<br>1e R7003 open (No DC +9V) | 1) Refer to Fig. 2. Digital P.C.B.<br>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)<br>3b LB2843 Open (+12V line going to Panel PCB CN2002)                                                                 | 1) Refer to Fig. 2. Digital P.C.B.<br>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<br>1b OTP (thermal) protection trigger prematurely                                                                                               | Refer to Fig. 1. SMPS P.C.B.                                                                                     |

### 8.1.1. SMPS P.C.B.

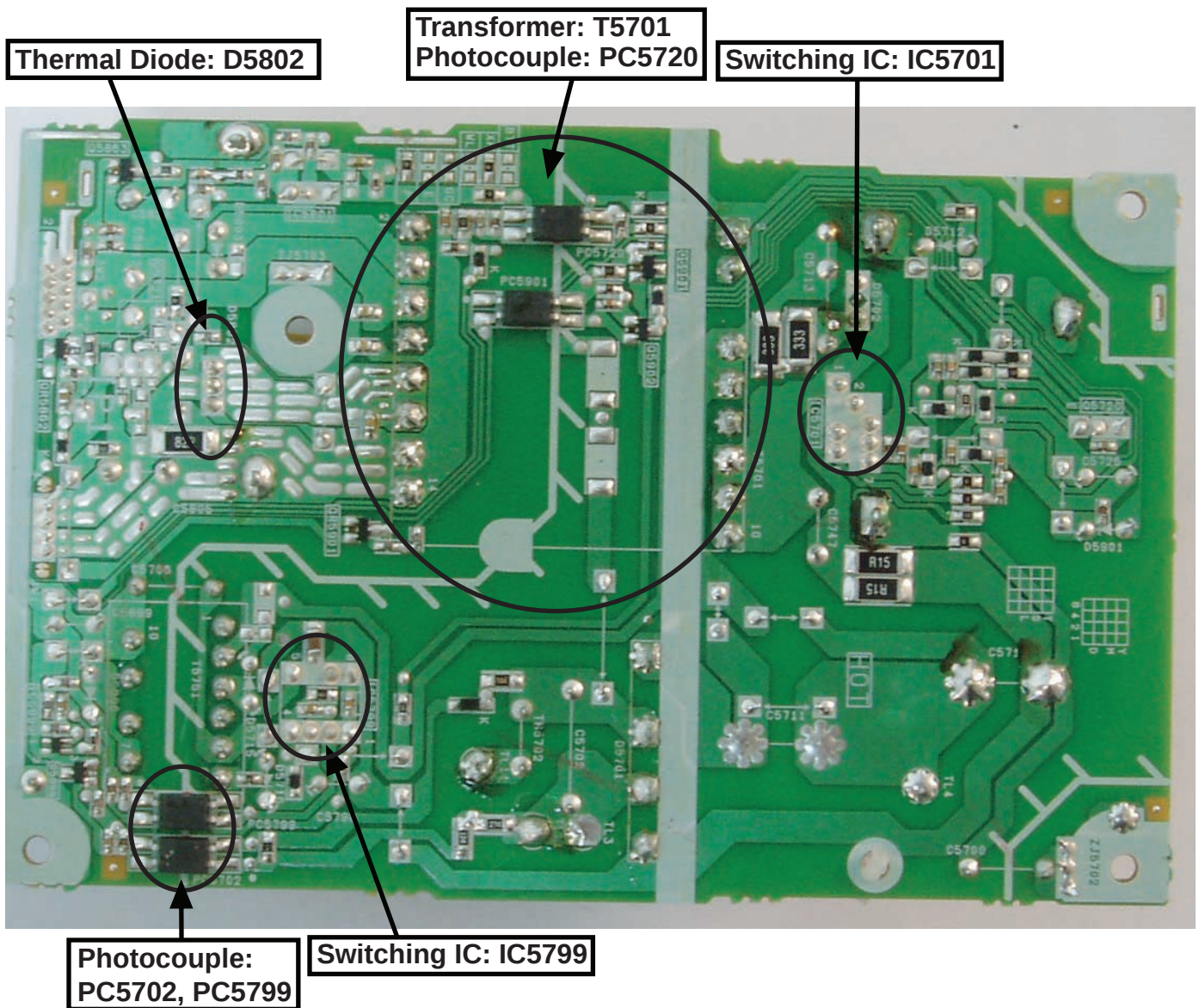
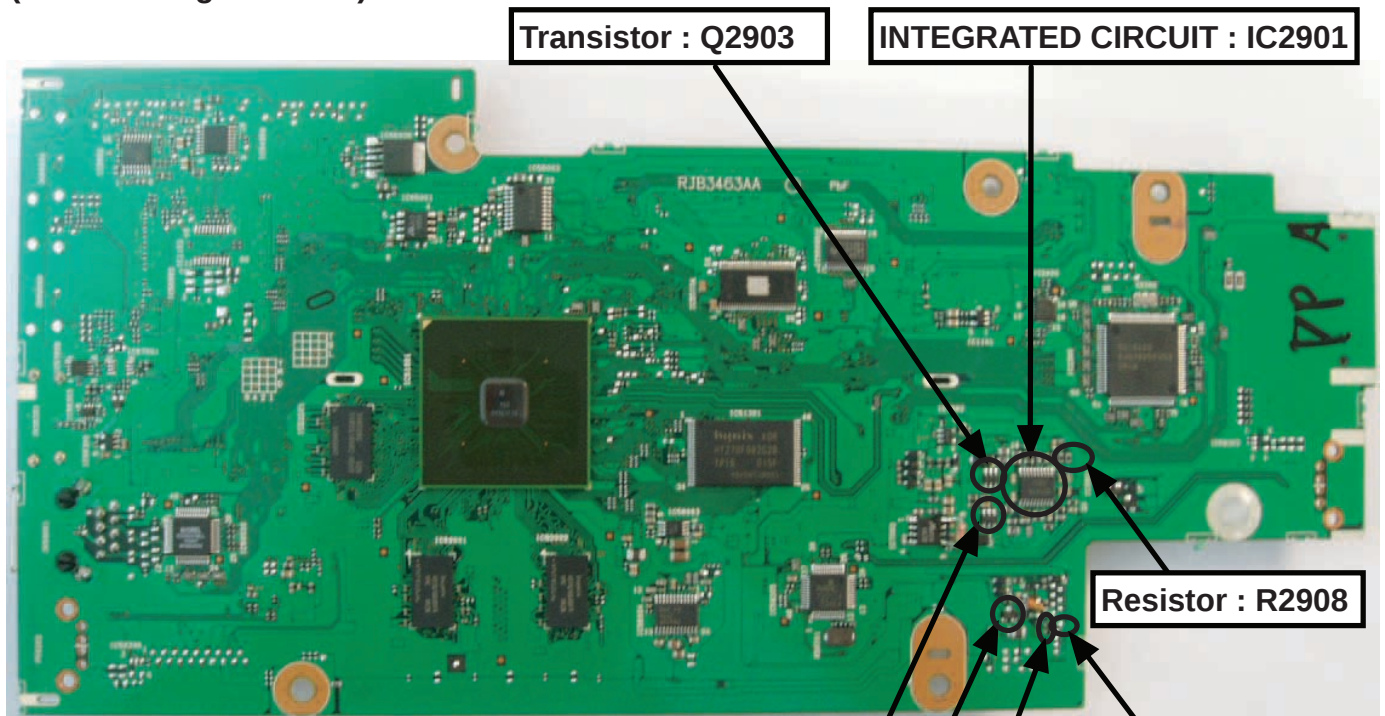


Figure 1. SMPS P.C.B.

### 8.1.2. Digital P.C.B.

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



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

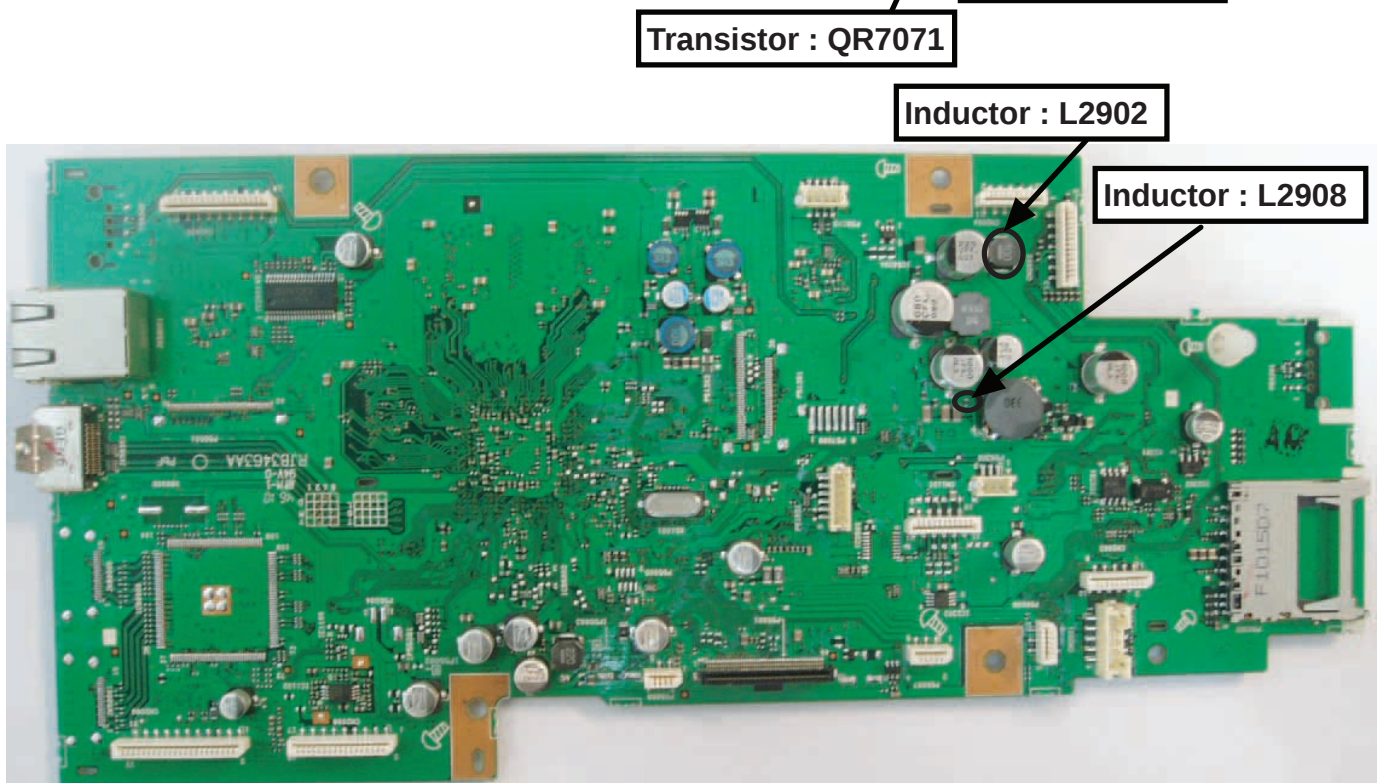


Fig 2. Digital P.C.B.

## 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)

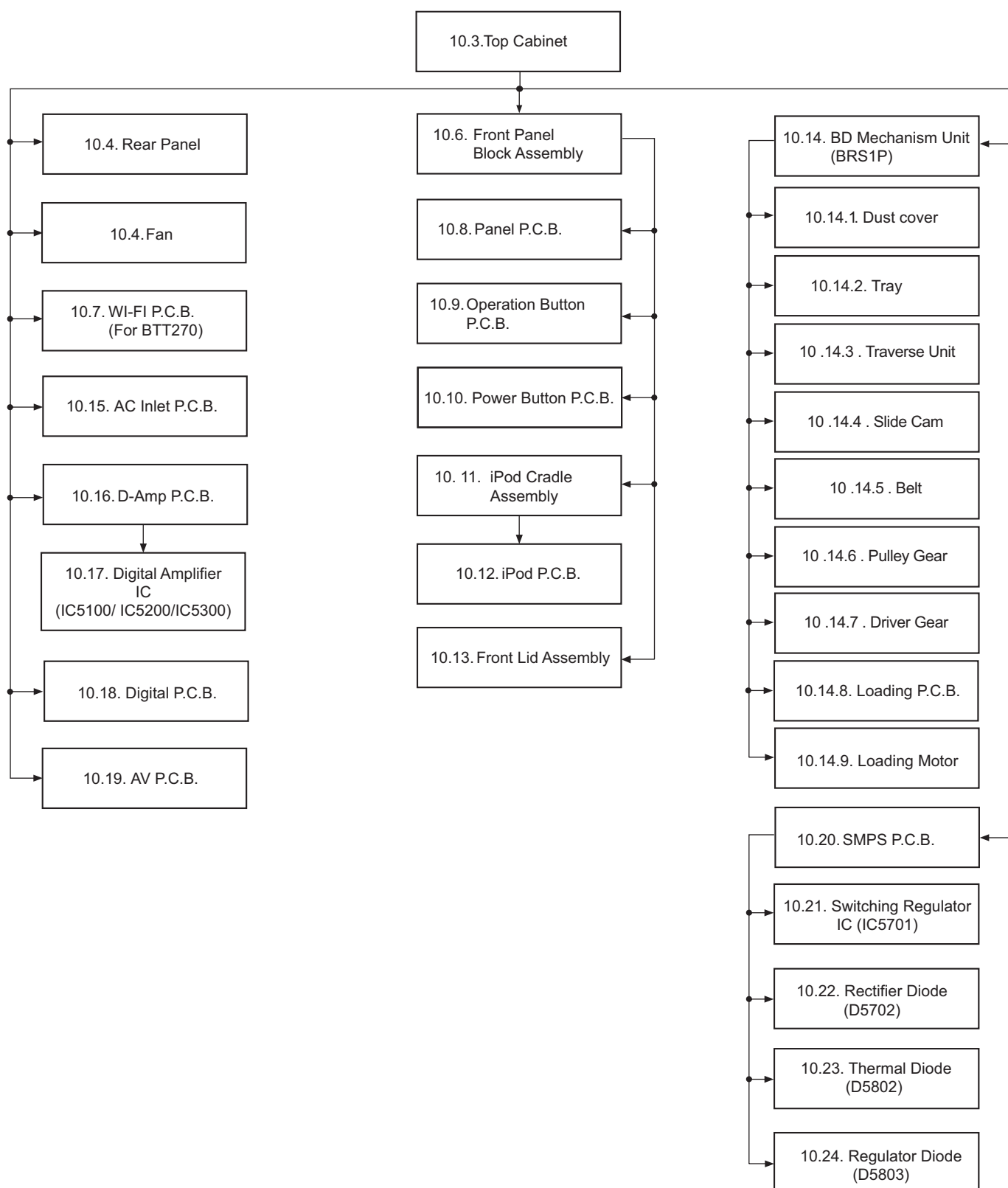
## CAUTION NOTE:

Please use original screw and at correct locations.

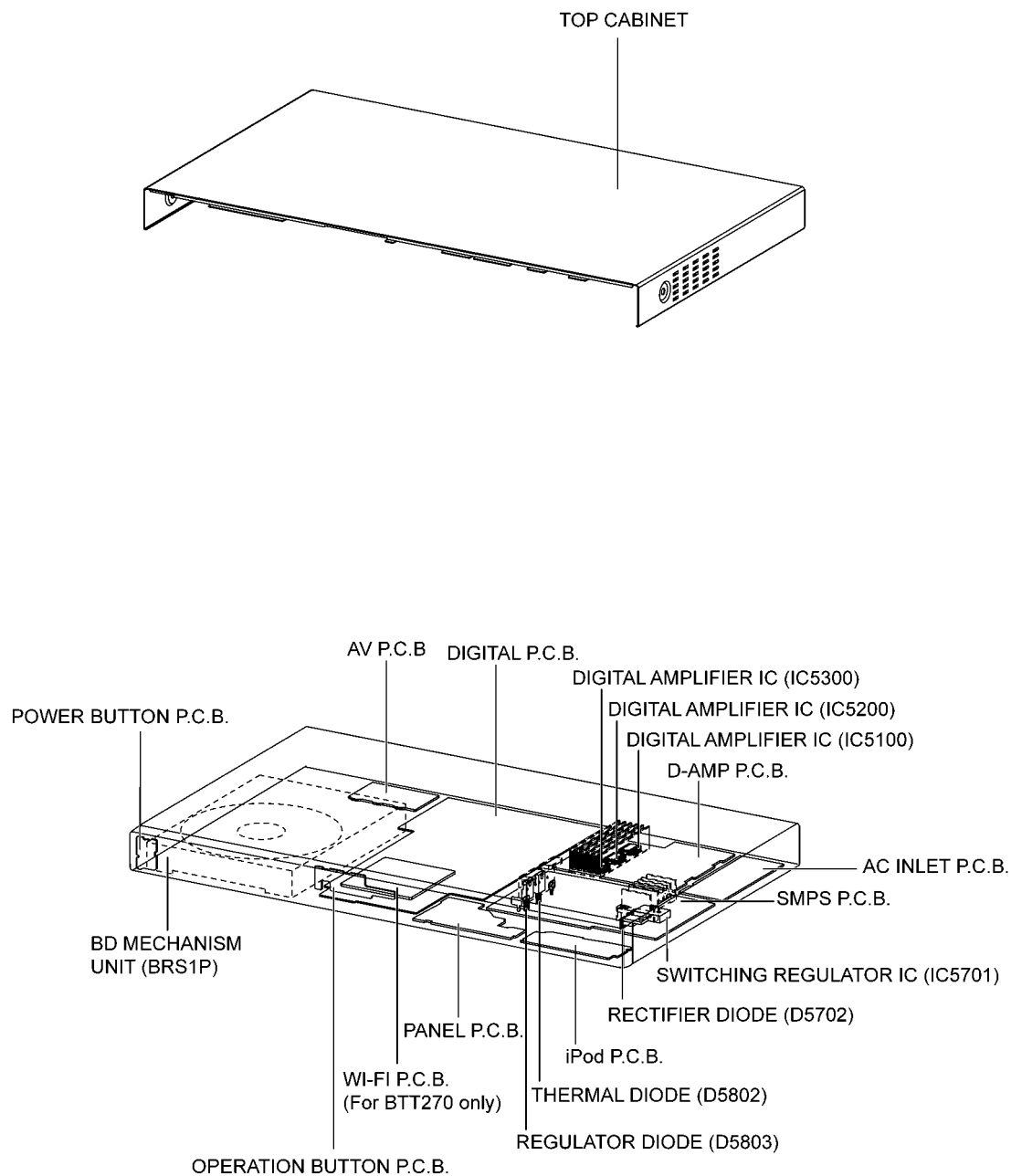
Below shown is part no. of different screw types used:

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

## 10.1. Disassembly Flow Chart

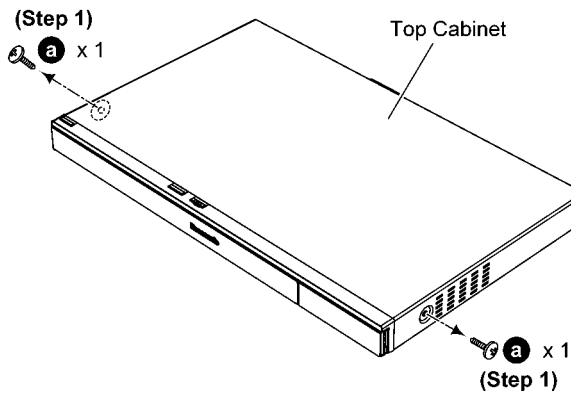


## 10.2. Main Components and P.C.B. Locations

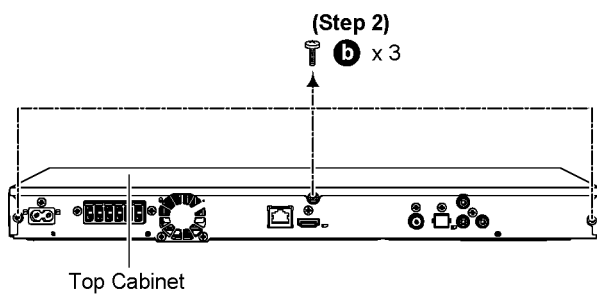


## 10.3. Disassembly of Top Cabinet

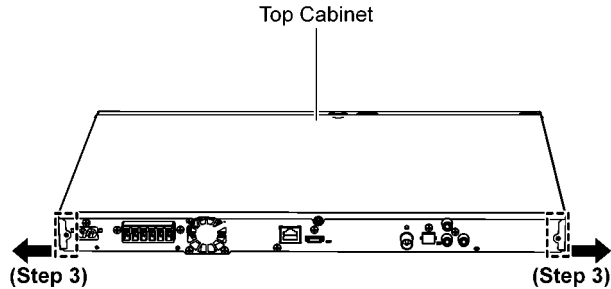
**Step 1** Remove 2 screws.



**Step 2** Remove 3 screws.

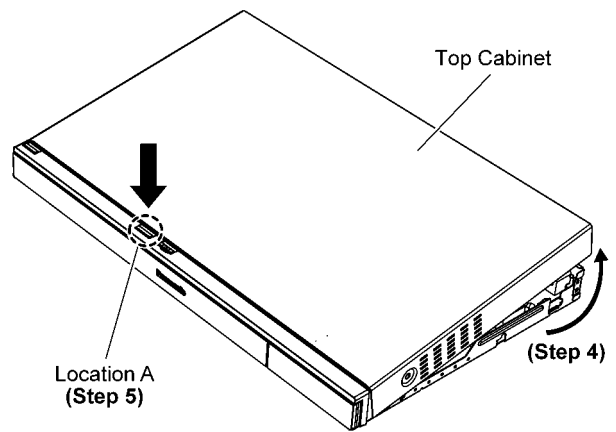


**Step 3** Slightly pull both side of Top Cabinet in outward direction as diagram shown.

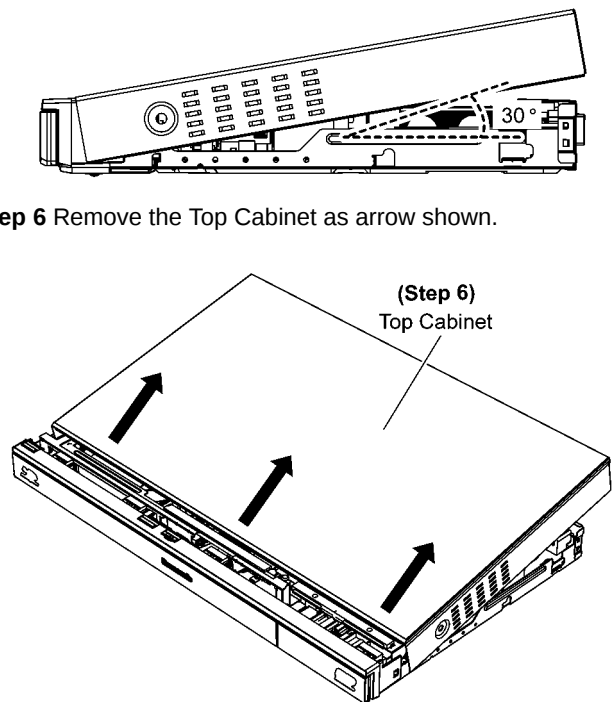


**Step 4** Lift up back of Top Cabinet about 30°.

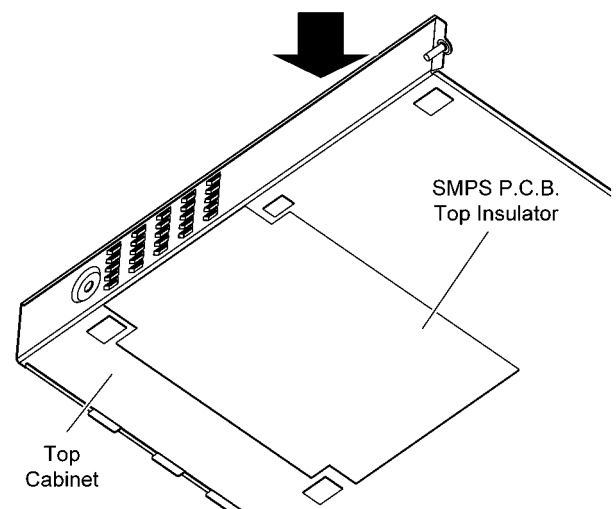
**Step 5** Press location A in downward direction at Front Panel.



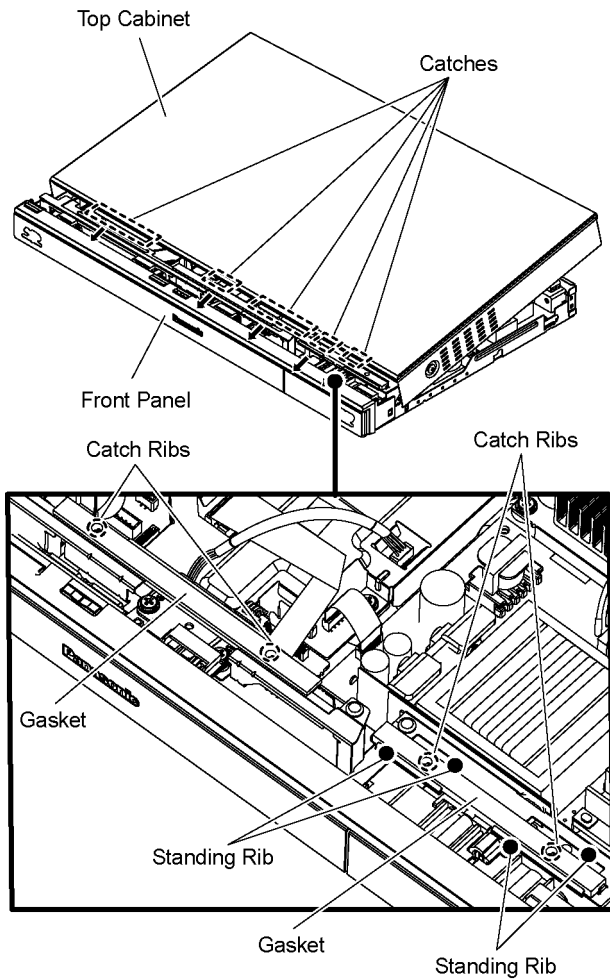
**Step 6** Remove the Top Cabinet as arrow shown.



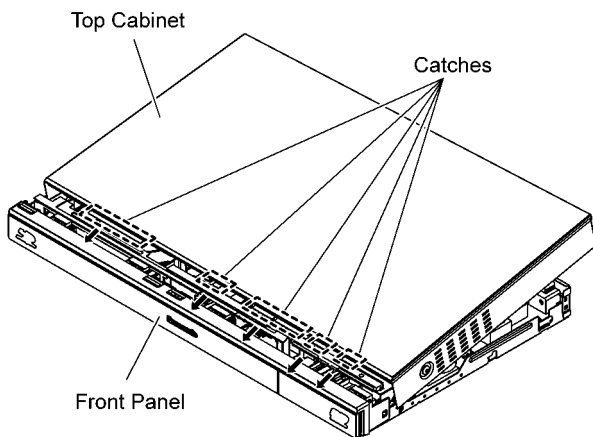
**Caution:** Replace the SMPS P.C.B. Top Insulator if broken. Ensure it is pasted properly on Top Cabinet as diagram shown.



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



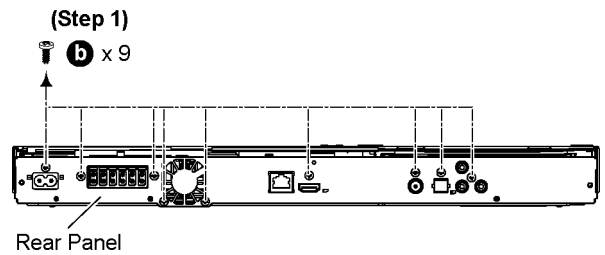
**Caution:** During assembling, ensure that the catches of Top Cabinet is inserted into Front Panel properly.



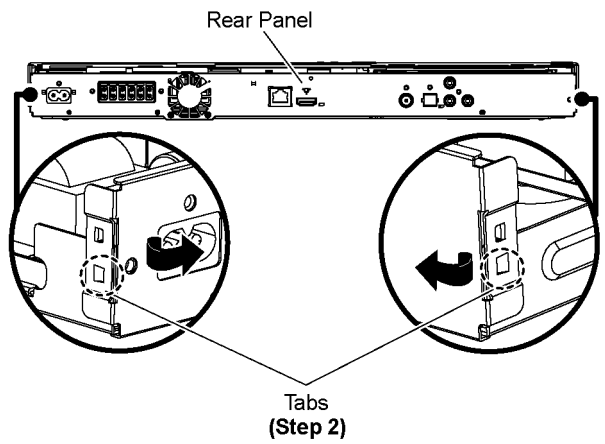
## 10.4. Disassembly of Rear Panel

• Refer to “Disassembly of Top Cabinet”.

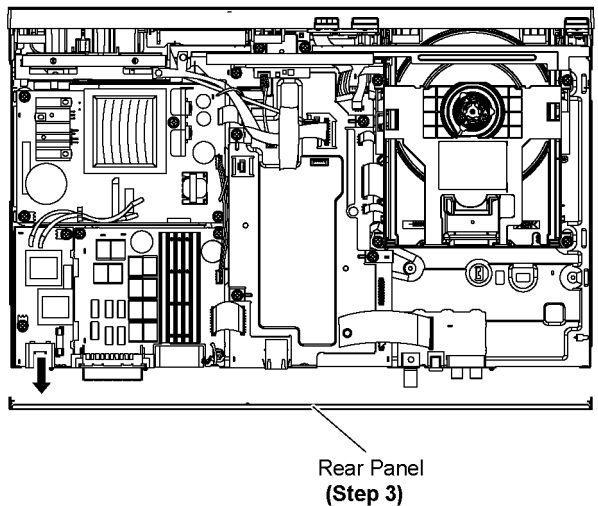
**Step 1** Remove 9 screws.



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



**Step 3** Remove Rear Panel.

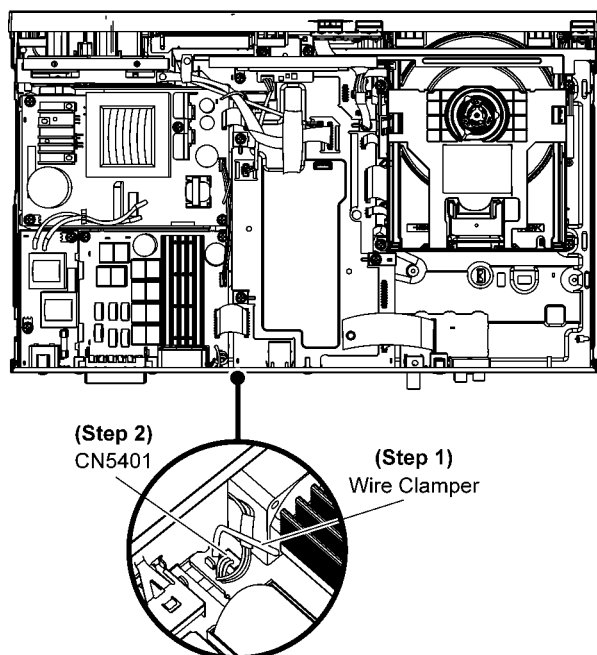


## 10.5. Disassembly of Fan

• Refer to “Disassembly of Top Cabinet”

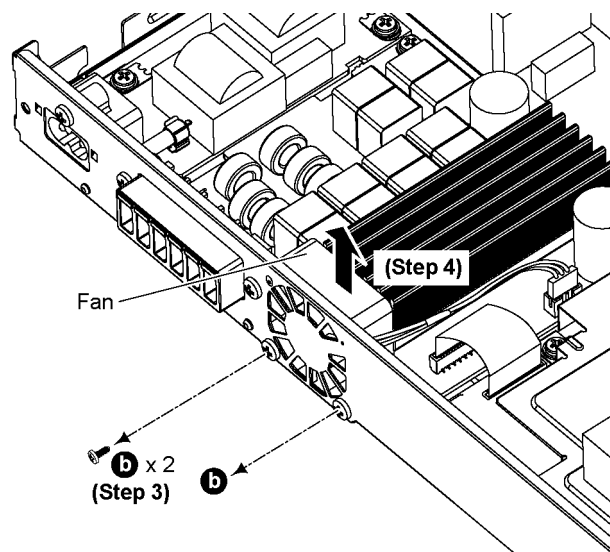
**Step 1** Twist the Wire Clamper.

**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.

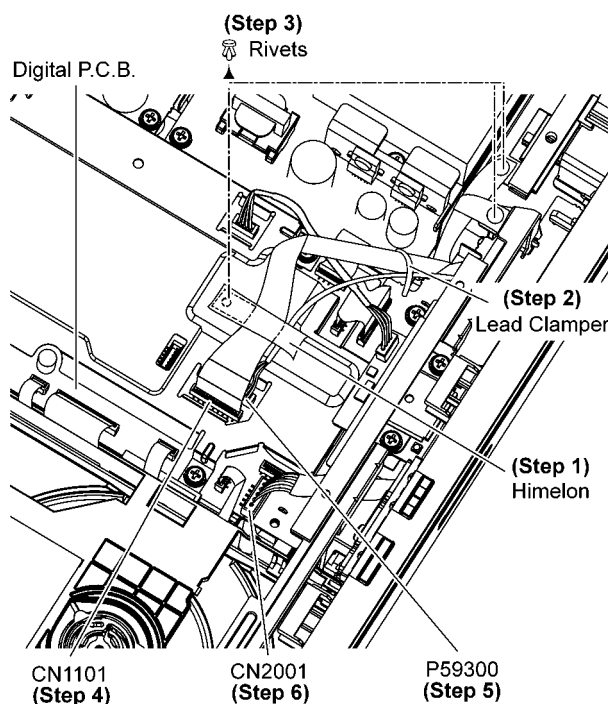
**Step 3** Remove 3 rivets.

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

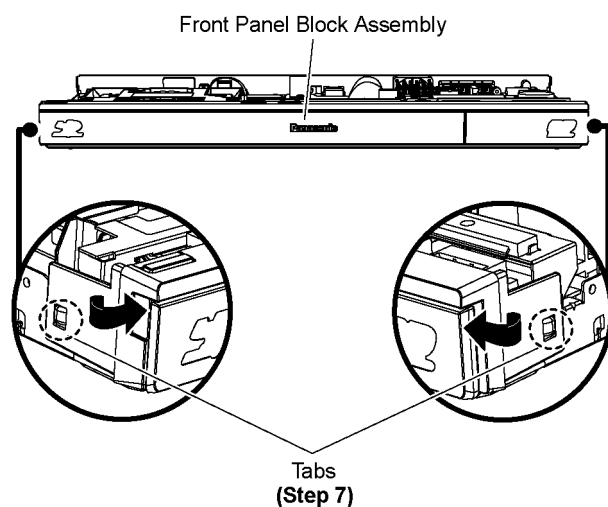
**Step 4** Detach 11P FFC at the connector (CN1101) on Digital P.C.B..

**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..



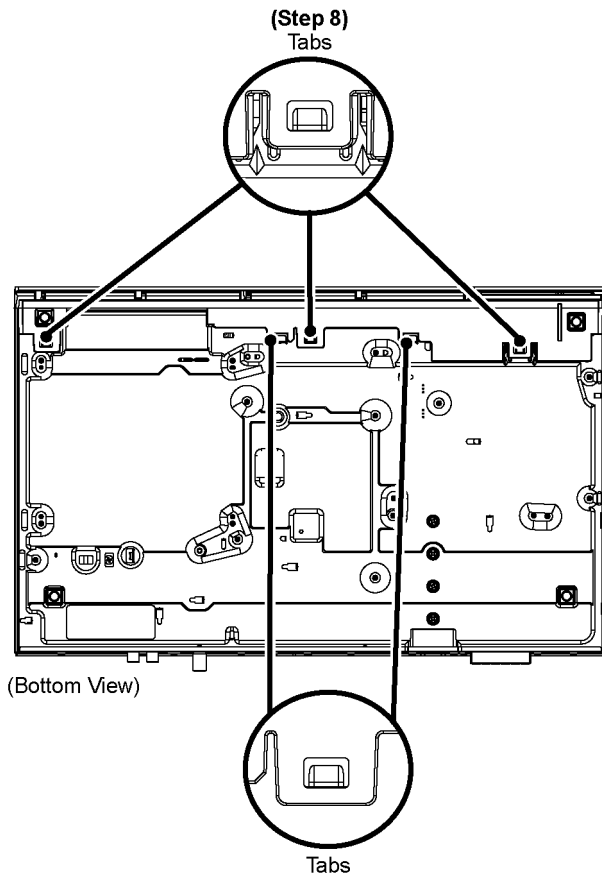
**Step 7** Release tabs at both sides of the Front Panel Block Assembly in the direction of arrow.



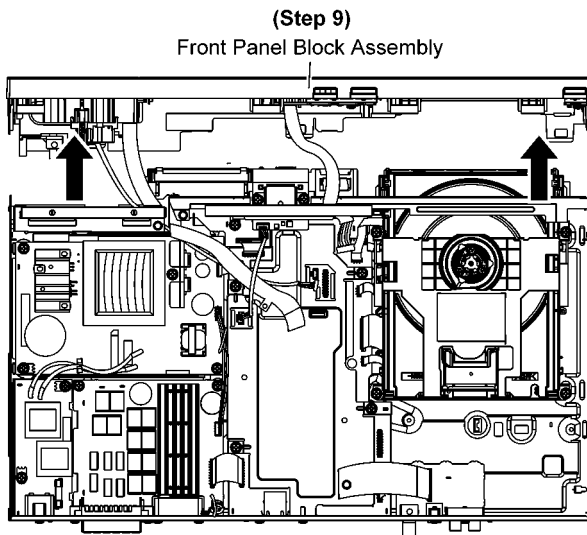
**Caution:** Do not exert strong force when releasing the tabs. During assembling, ensure that Front Panel Block assembly is properly inserted & fully caught onto Bottom Chassis.

**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.

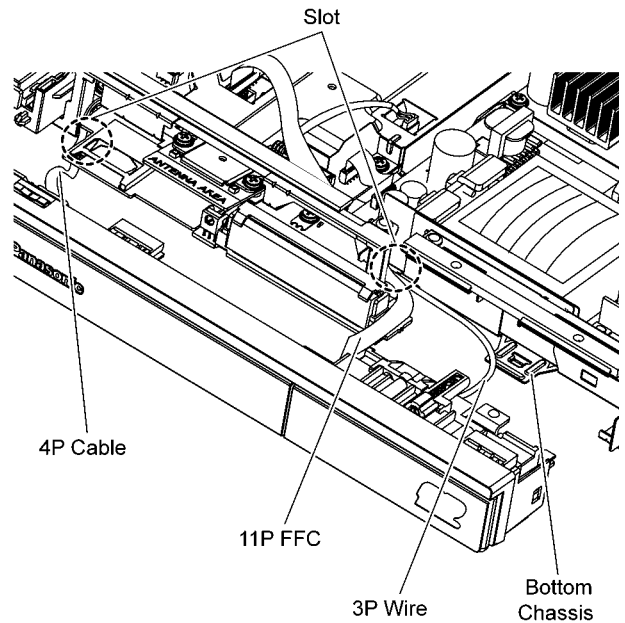


**Step 9** Detach the Front Panel Block Assembly.



**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.

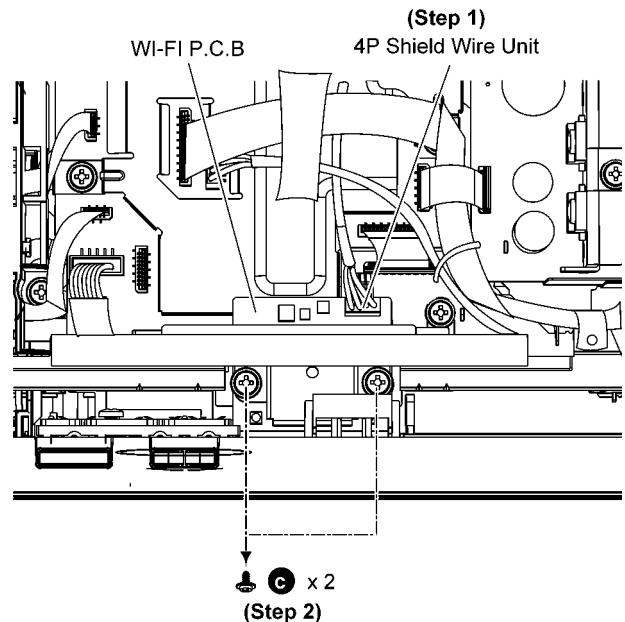


## 10.7. Disassembly of WI-FI P.C.B. (For SA-BTT270 Only)

• Refer to "Disassembly of Top Cabinet".

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

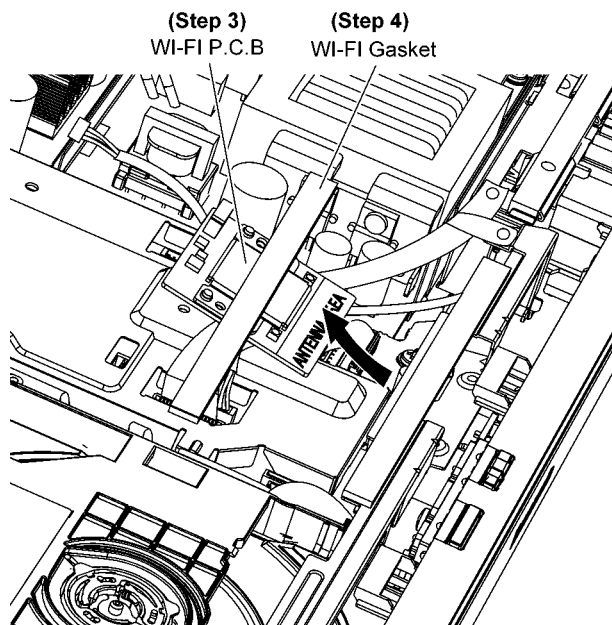
**Step 2** Remove 2 screws.



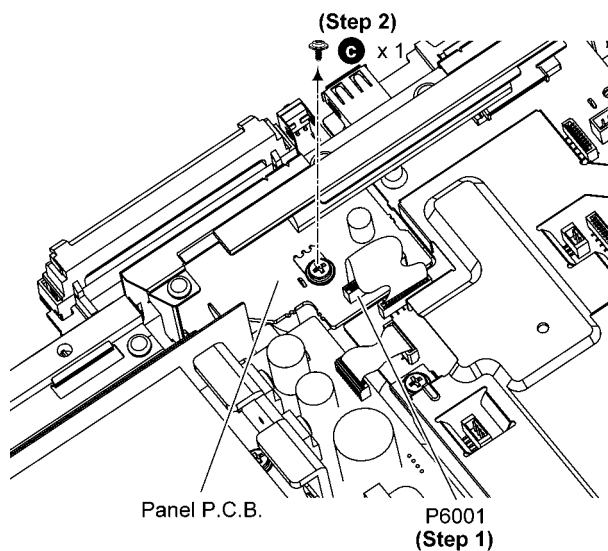
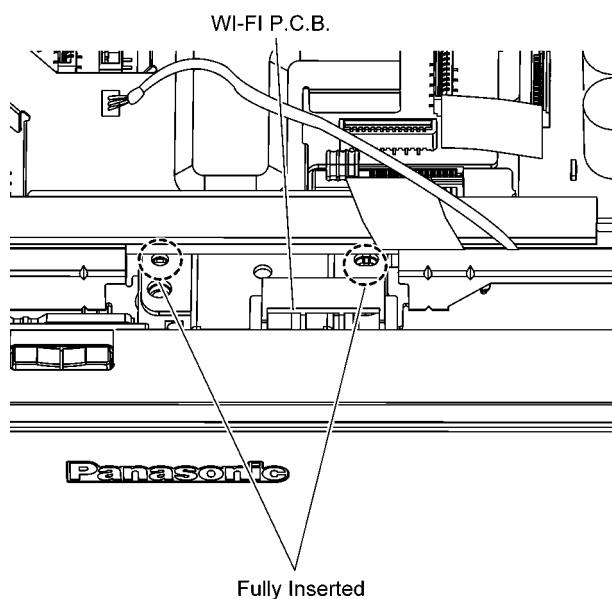
**Step 3** Remove WI-FI P.C.B. according to arrow shown.

**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.

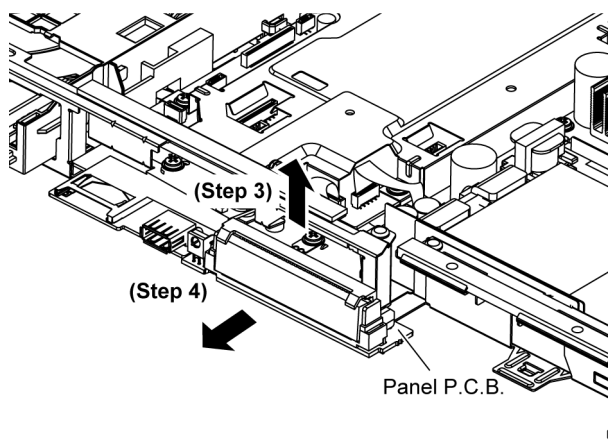


**Caution:** During assembling, ensure that WI-FI P.C.B. is properly located & fully fixed onto Bottom Chassis.



**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.

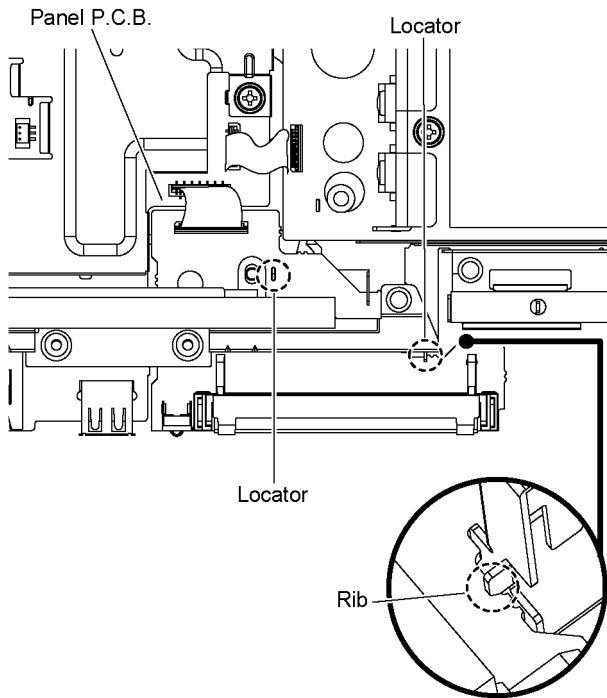
- Refer to "Disassembly of Top Cabinet".
- Refer to "Disassembly of Front Panel Block Assembly".
- Refer to "Disassembly of WI-FI P.C.B." (For SA-BTT270 only).

**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.

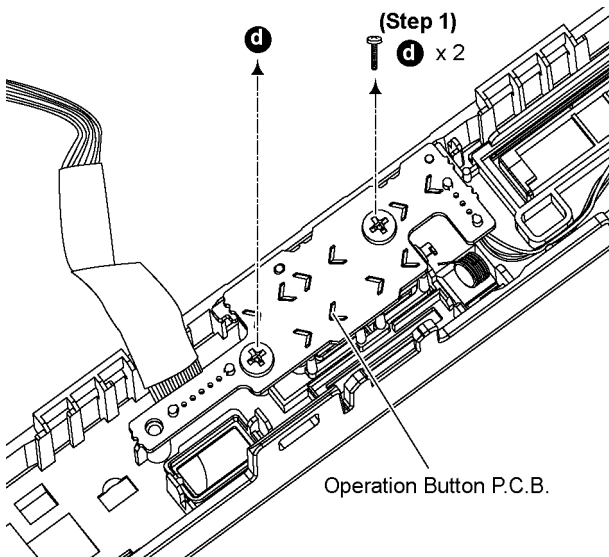
**Caution (2):** During assembling, ensure that Panel P.C.B. is inserted under the rib of Bottom Chassis.



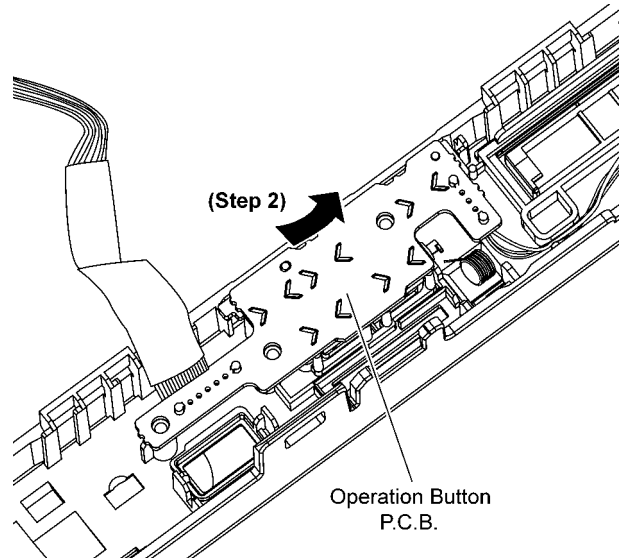
## 10.9. Disassembly of Operation Button P.C.B.

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

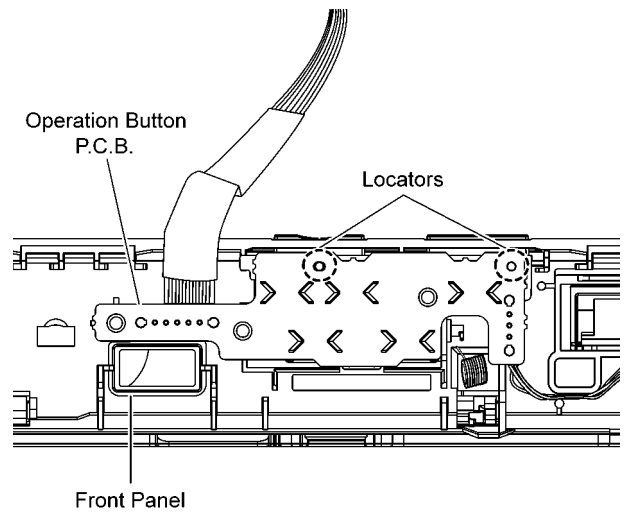
**Step 1** Remove 2 screws.



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

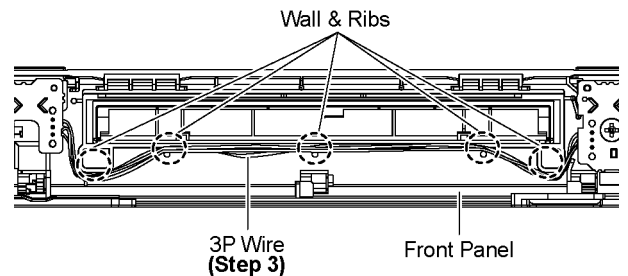


**Caution:** During assembling, ensure that Operation Button P.C.B. is properly located & fully fixed onto Front Panel.



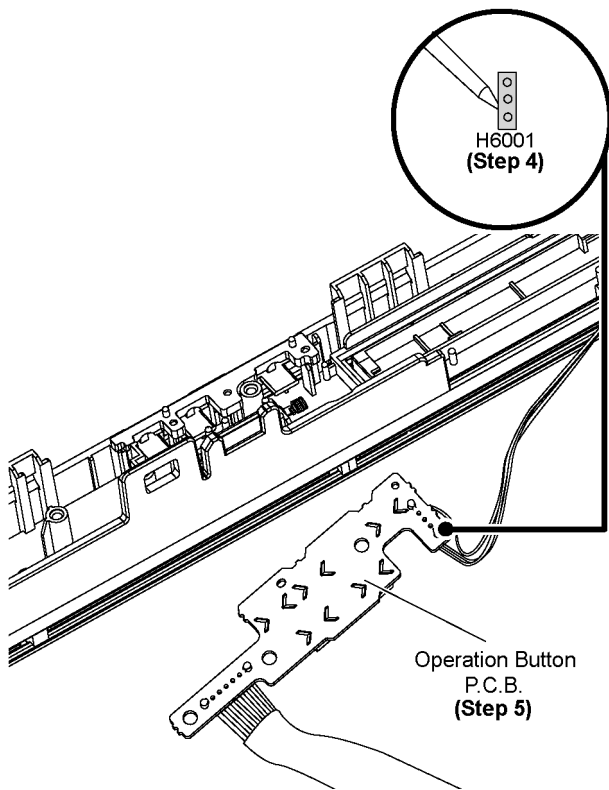
**Step 3** Release 3P Wire from wall & ribs of Front Panel.

**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..

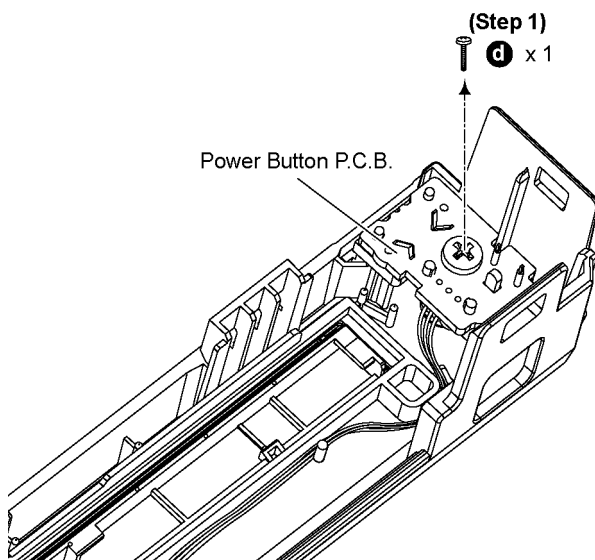
**Step 5** Remove the Operation Button P.C.B..



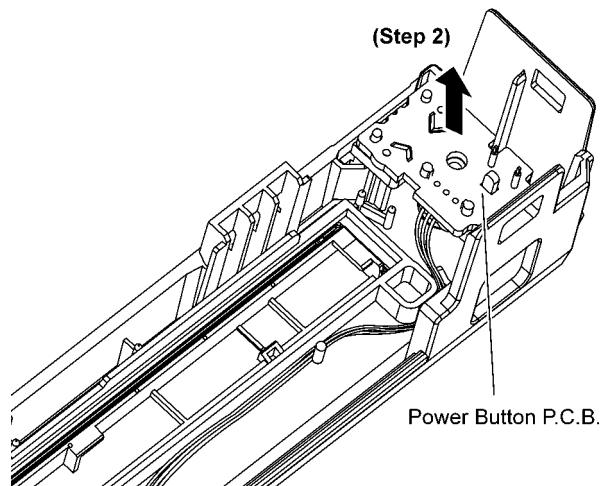
## 10.10. Disassembly of Power Button P.C.B.

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

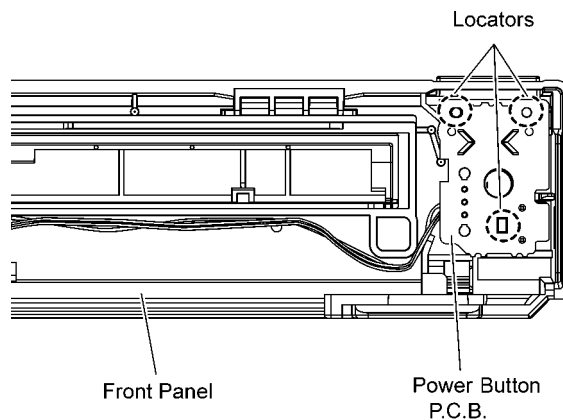
**Step 1** Remove 1 screw.



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

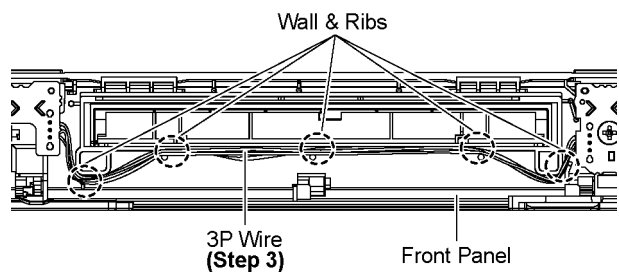


**Caution:** During assembling, ensure that Power Button P.C.B. is inserted & fully fixed onto Front Panel.



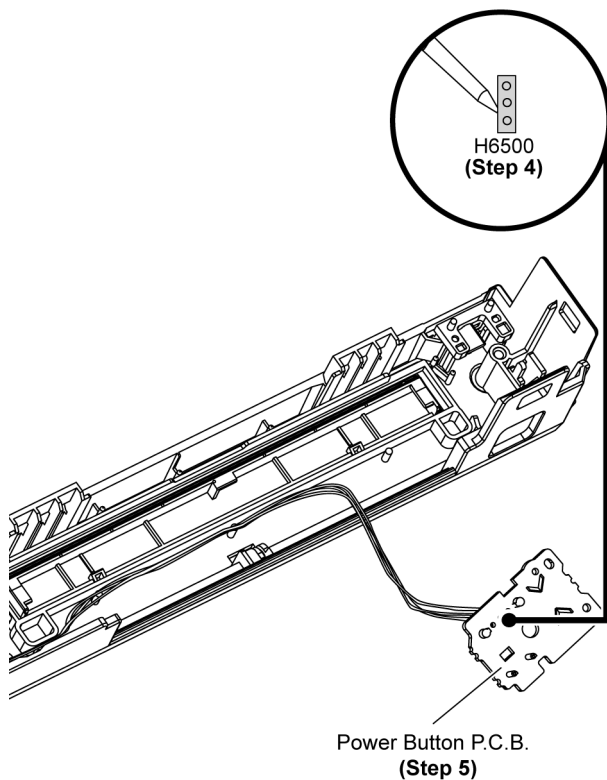
**Step 3** Release 3P Wire from wall & ribs of Front Panel.

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

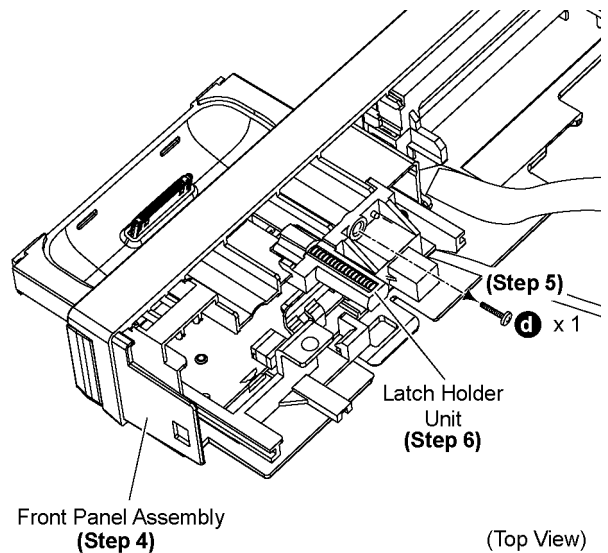


**Step 4** Desolder pins of the connector (H6500) on Power Button P.C.B..

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

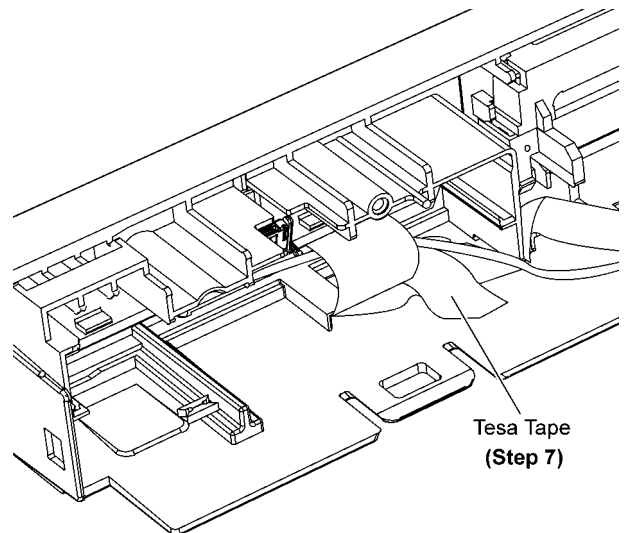


**Caution:** Keep the Latch Holder Unit in safe place, place it back during assembling.



**Step 7** Lift up the tesa tape.

**Caution:** Replace the tesa tape if torn.



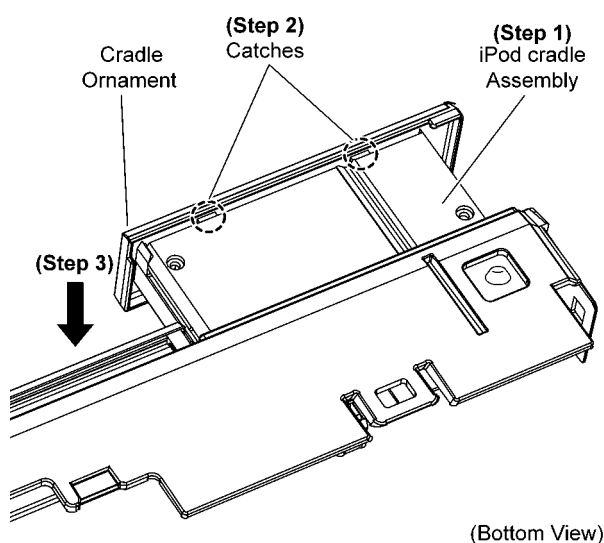
## 10.11. Disassembly of iPod Cradle Assembly

- 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.



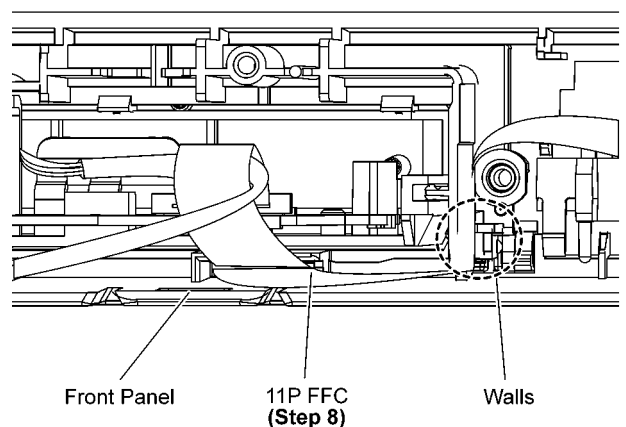
**Step 4** Upset the Front Panel Assembly.

**Step 5** Remove 1 screw.

**Step 6** Remove the Latch Holder Unit.

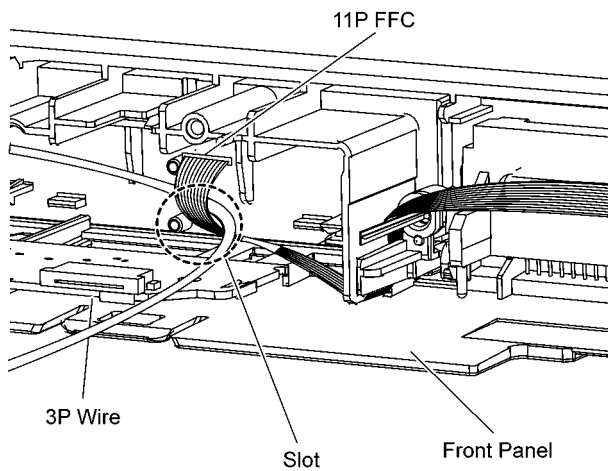
**Step 8** Release 11P FFC from the walls of Front Panel.

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

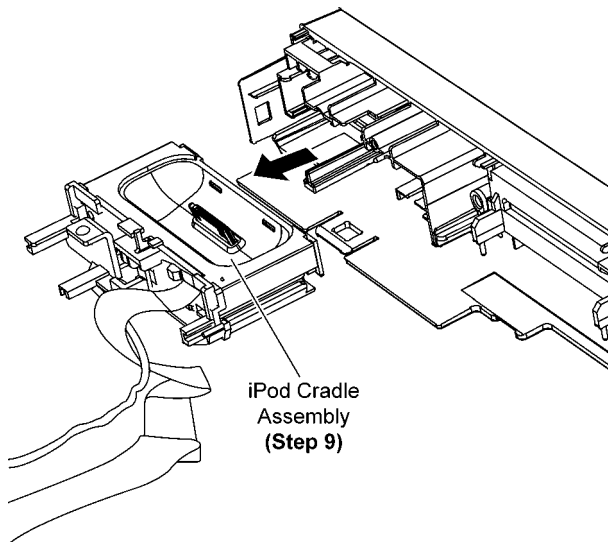


**Caution (1):** During assembling, ensure that 3P Wire is properly dressed through round of 11P FFC as diagram shown.

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



**Step 9** Remove iPod Cradle Assembly.

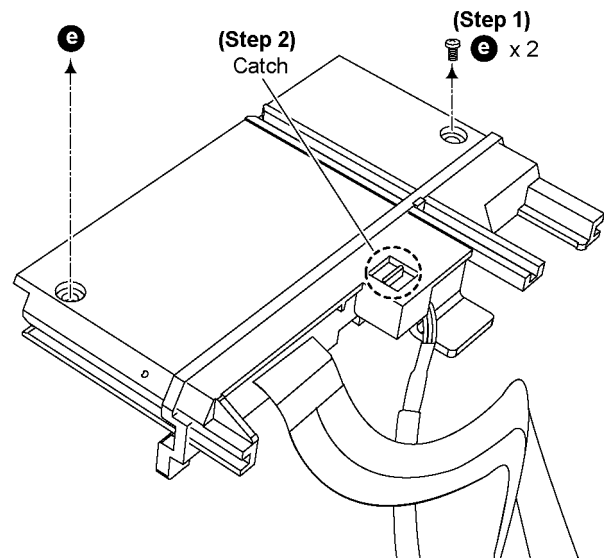


## 10.12. Disassembly of iPod P.C.B.

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

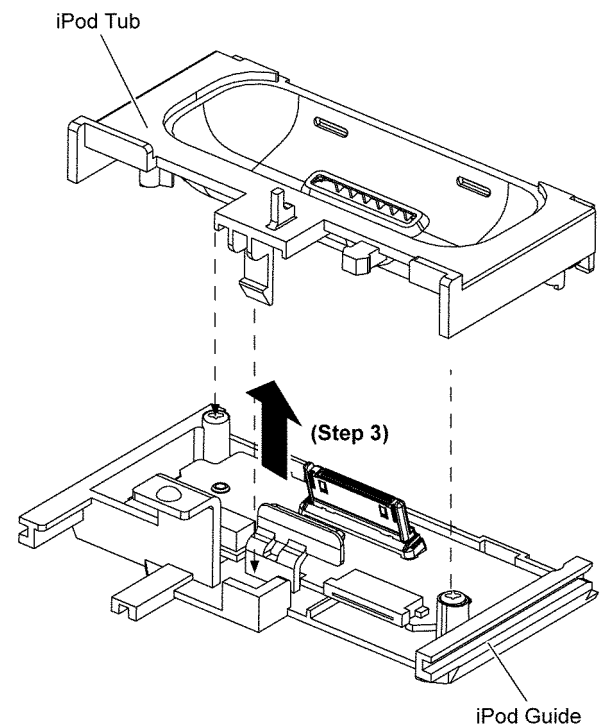
**Step 1** Remove 2 screws.

**Step 2** Release 1 catch.



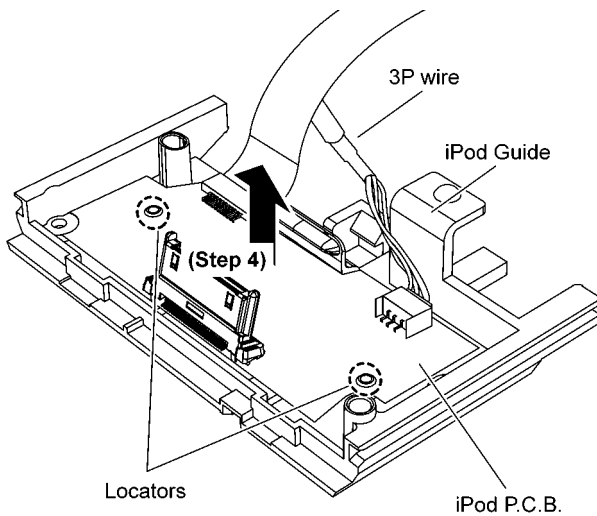
**Step 3** Lift up the iPod Tub.

**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.

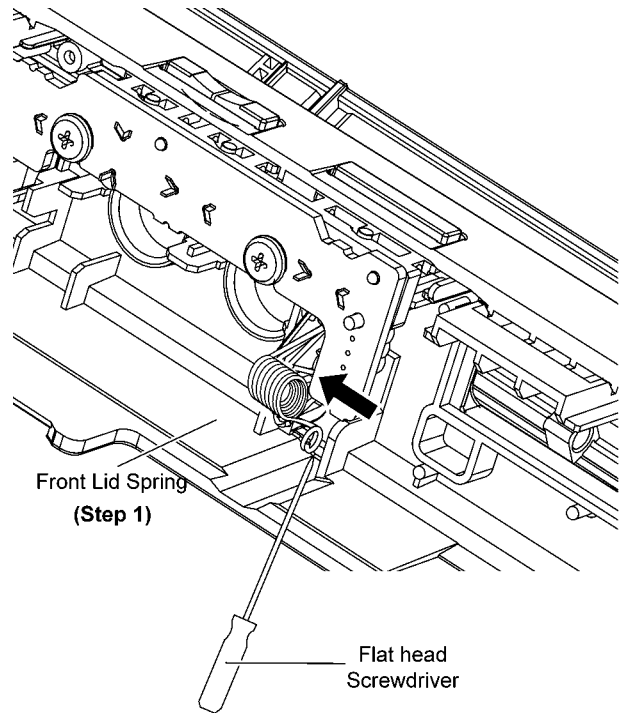
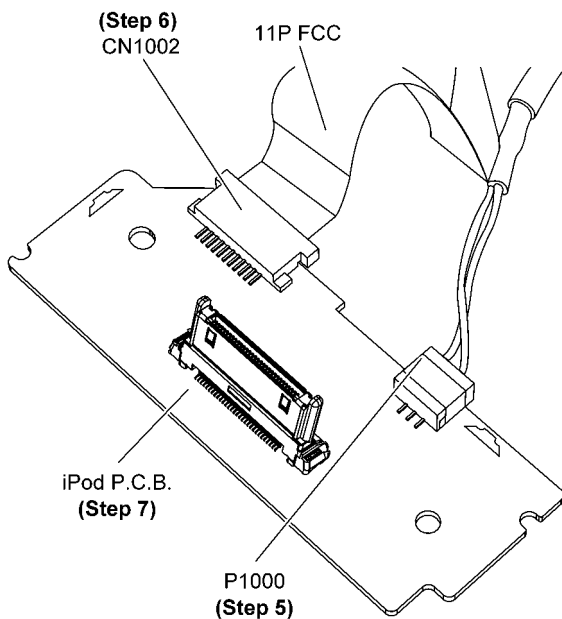


**Step 5** Detach 3P Wire at the connector (P1000) on iPod P.C.B..

**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.

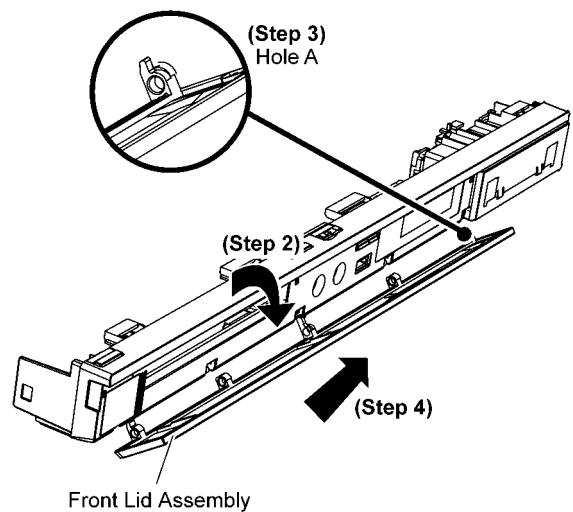
**Step 7** Remove the iPod P.C.B..



**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

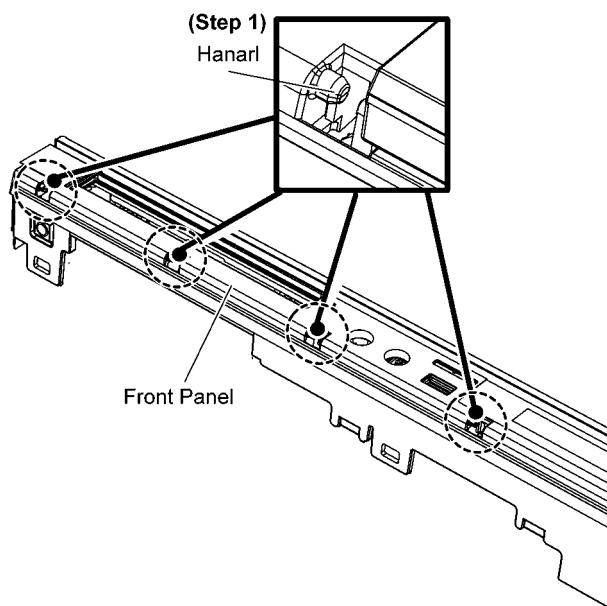
### 10.13.1. Disassembly of Front Lid Assembly

- 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.

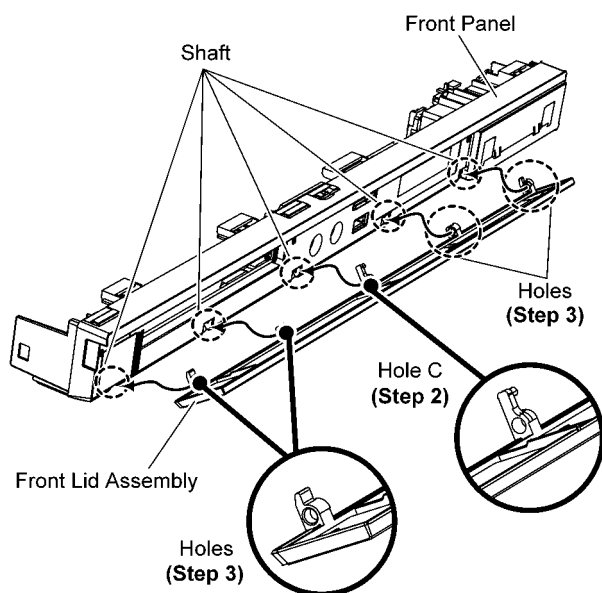
### 10.13.2. Assembly of Front Lid Assembly

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

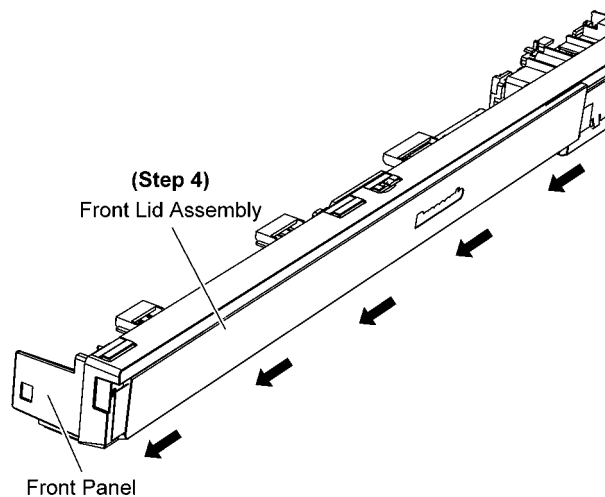


**Step 2** Locate Hole C of Front Lid Assembly into shaft of Front Panel.

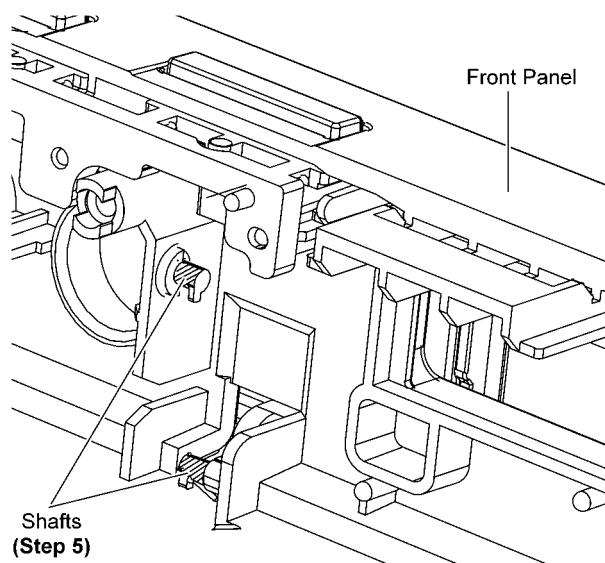
**Step 3** Locate the rest of the holes into shafts of Front Panel.



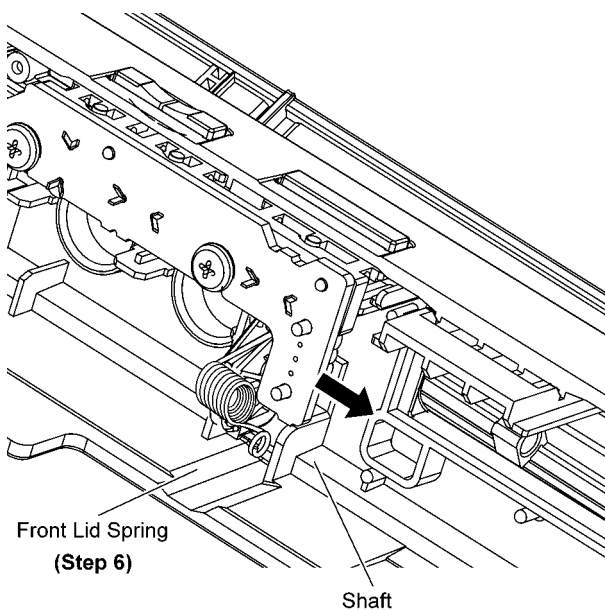
**Step 4** Push Front Lid Assembly to the end according to direction of arrow.



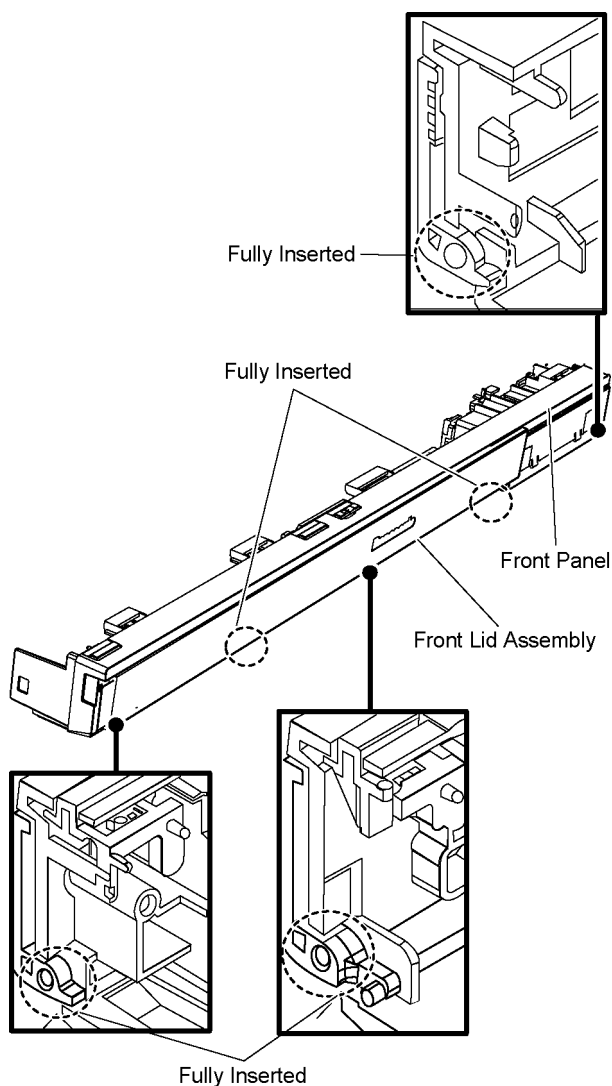
**Step 5** Apply grease around the shafts of Front Panel & Front Lid as diagram shown.



**Step 6** Fix the Front Lid Spring into the shaft.



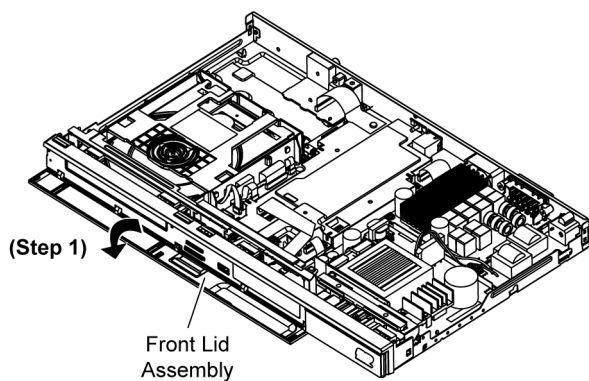
**Caution:** Ensure that the Front Lid Assembly are fully inserted into Front Panel.



## 10.14. Disassembly of BD Mechanism Unit (BRS1P)

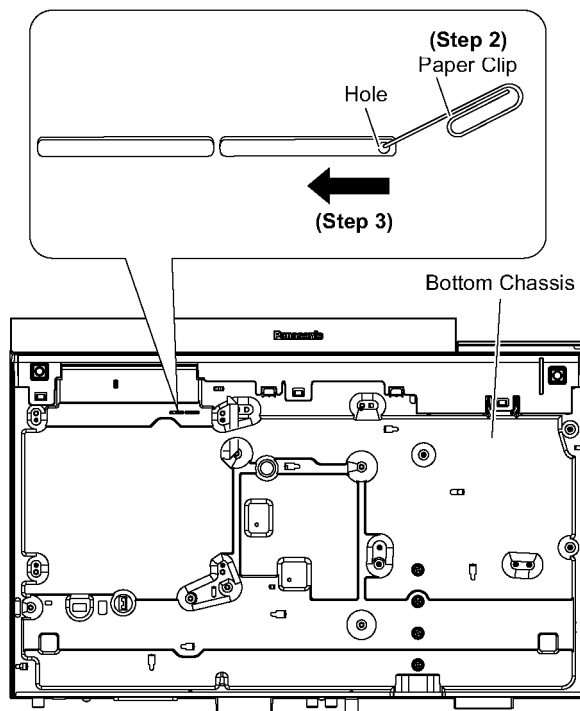
• Refer to “Disassembly of Top Cabinet”.

**Step 1** Open the Front Lid Assembly.

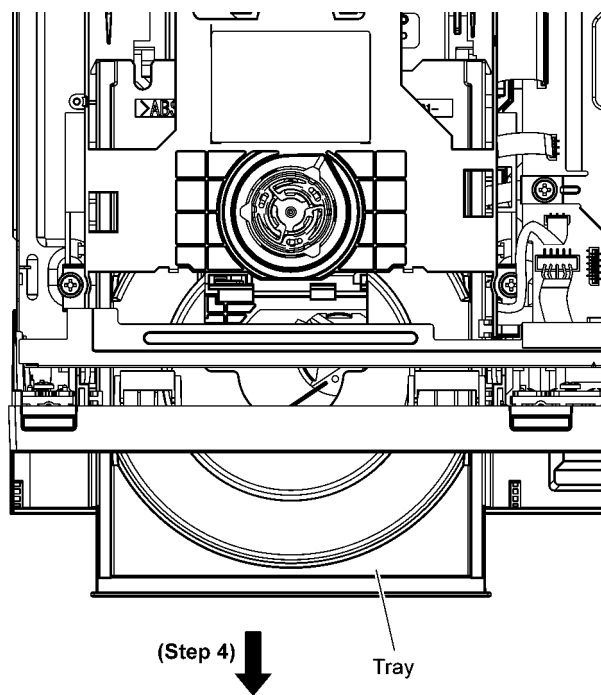


**Step 2** Insert Paper Clip into the bottom of the unit.

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



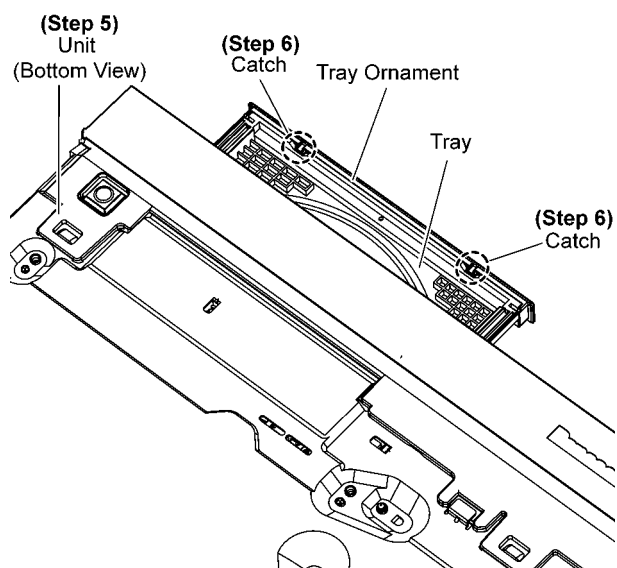
**Step 4** Slide the Tray out fully as direction of arrow.



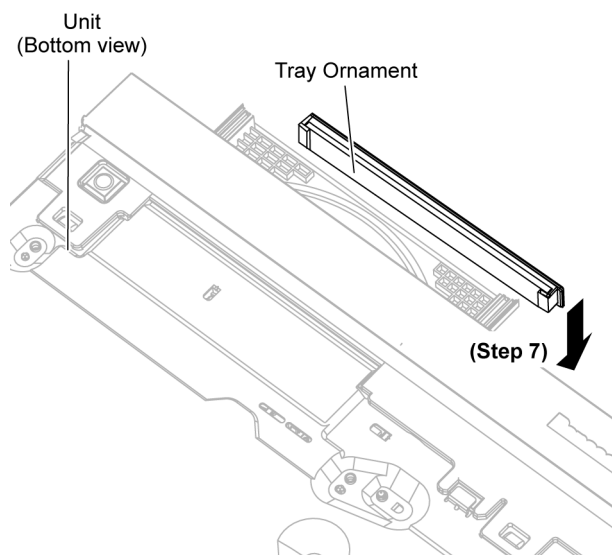
**Step 5** Upset the unit.

**Step 6** Release 2 catches.

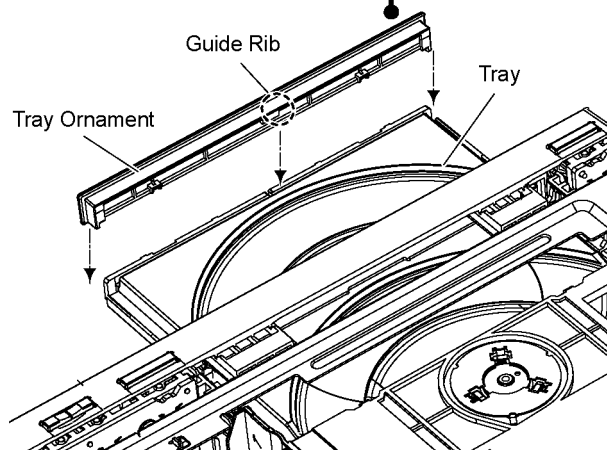
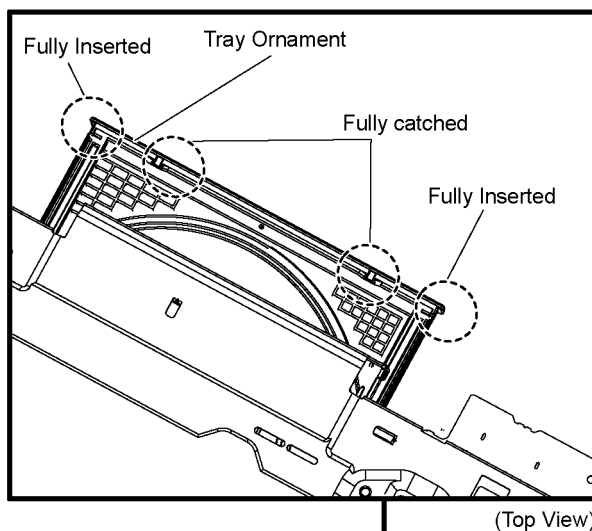
**Caution:** During assembling, ensure that Tray Ornament is properly inserted & fully caught onto Tray.



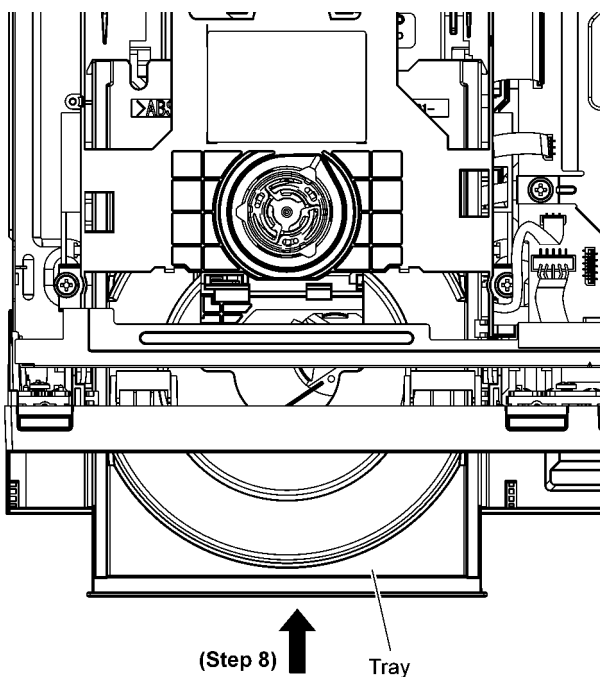
**Step 7** Remove Tray Ornament in the direction of arrow.



**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.

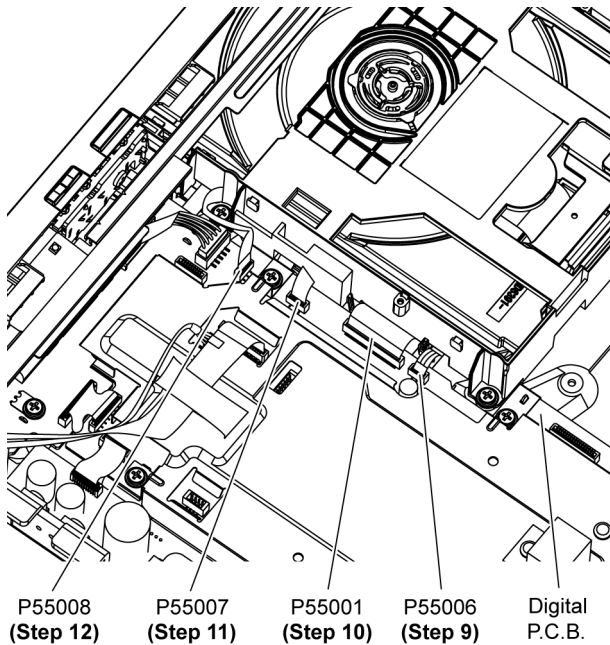


**Step 9** Detach 4P FFC at the connector (P55006) on Digital P.C.B..

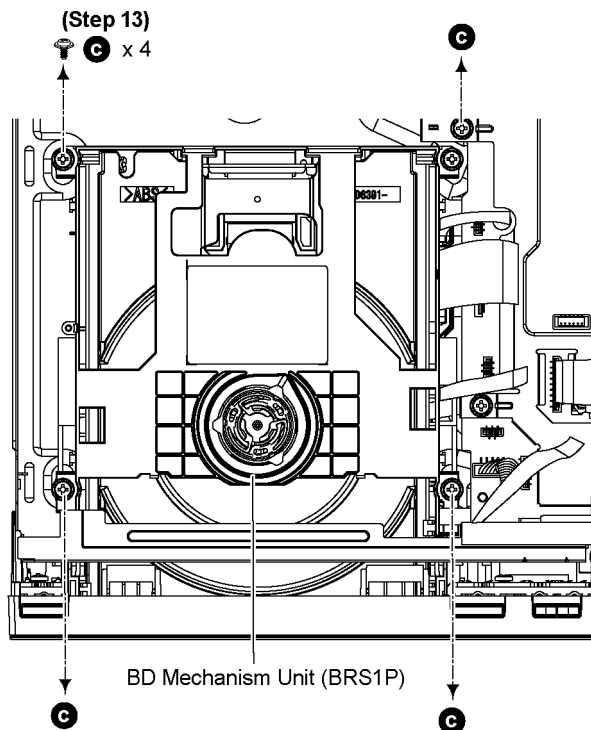
**Step 10** Detach 45P FFC at the connector (P55001) on Digital P.C.B..

**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..

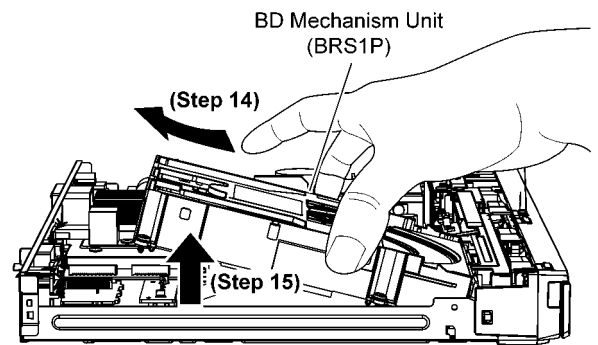


**Step 13** Remove 4 screws.

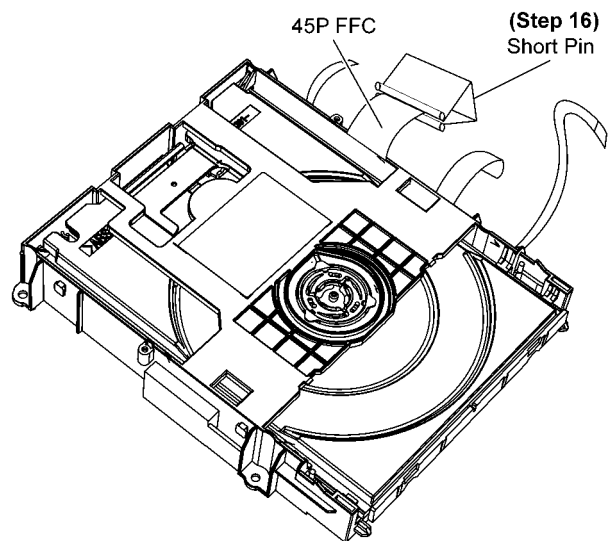


**Step 14** Slightly lift up BD Mechanism Unit (BRS1P).

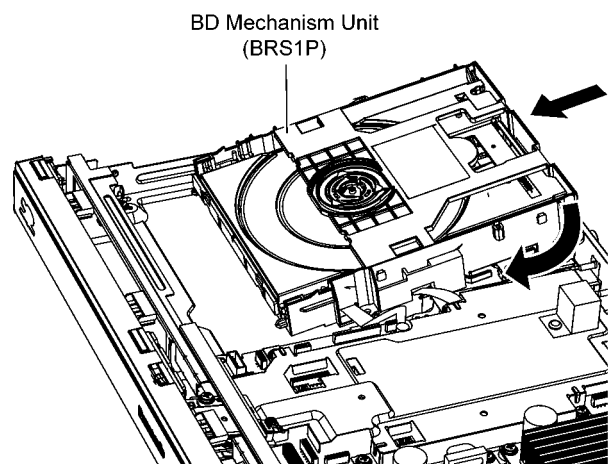
**Step 15** Remove the BD Mechanism Unit (BRS1P).



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

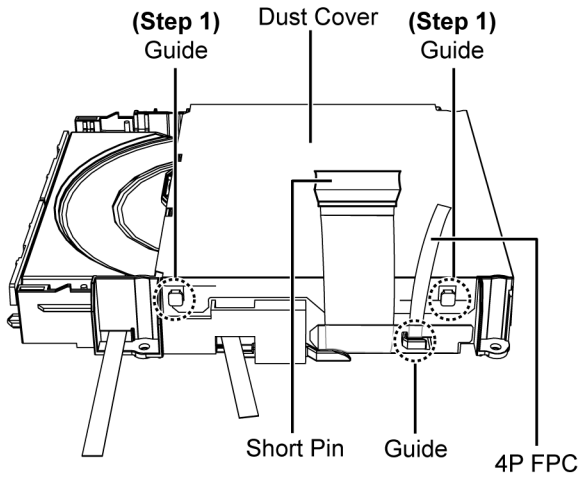


**Caution:** During assembling, ensure that BD Mechanism Unit (BRS1P) is properly inserted & fully seated on Bottom Chassis before screwing.

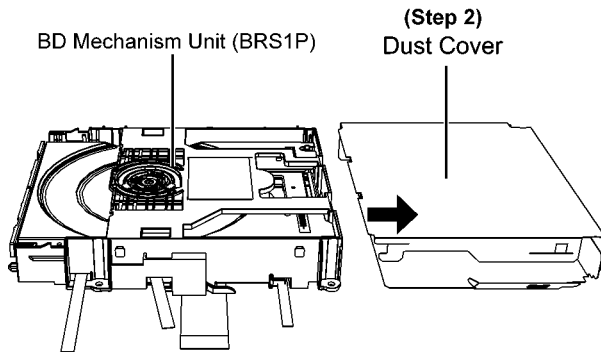


### 10.14.1. Disassembly of Dust Cover

**Step 1:** Release the Dust Cover from the guides.



**Step 2:** Remove the Dust Cover as shown.

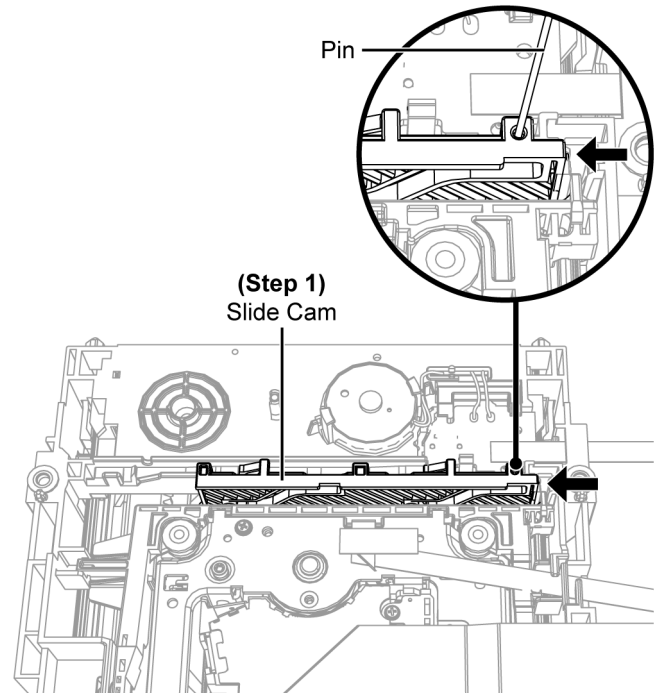


### 10.14.2. Replacement of Tray

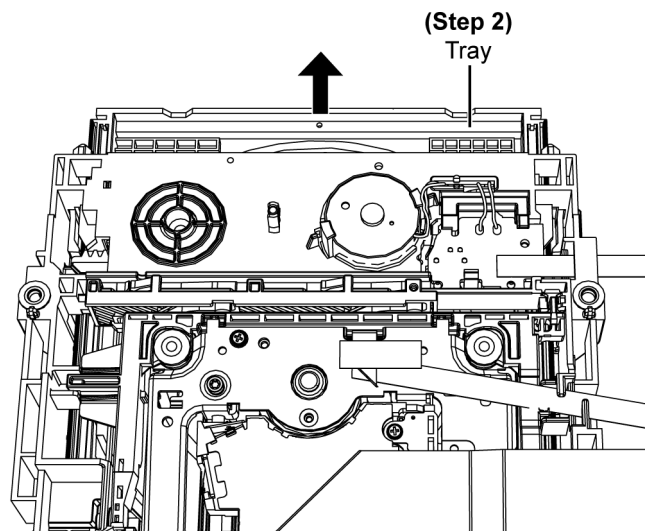
Refer to “Disassembly of Dust Cover”.

#### 10.14.2.1. Disassembly of Tray

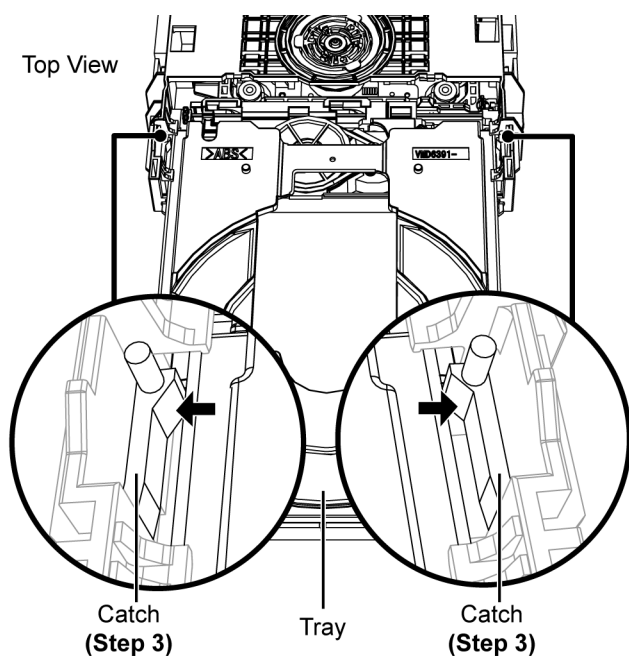
**Step 1:** Use a pin to push the Slide Cam until it come to a stop. The Tray will open automatically.



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

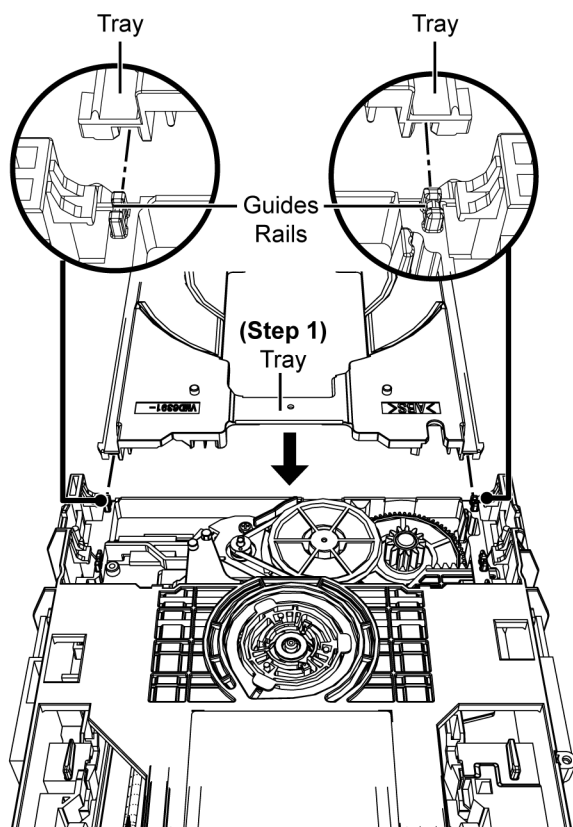


**Step 3:** Push the catches side way & remove the tray.

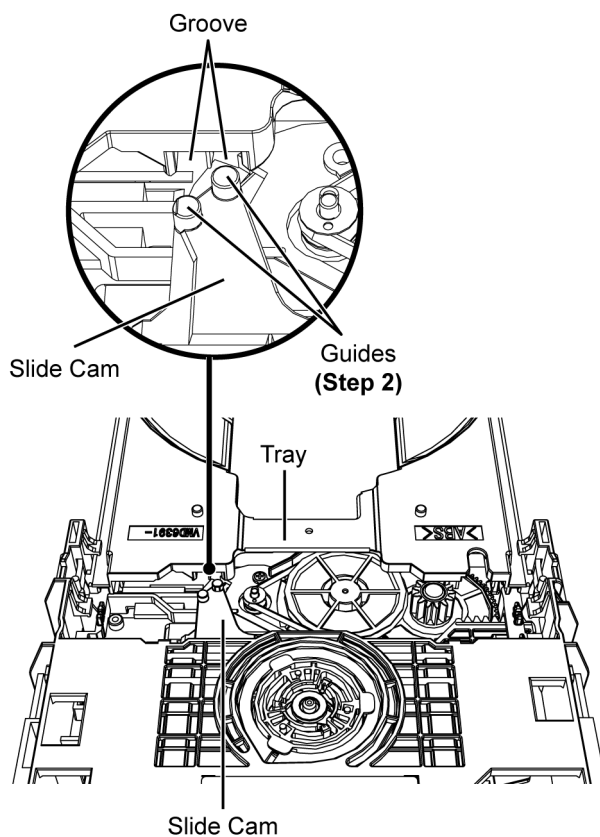


#### 10.14.2.2. Assembly of Tray

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



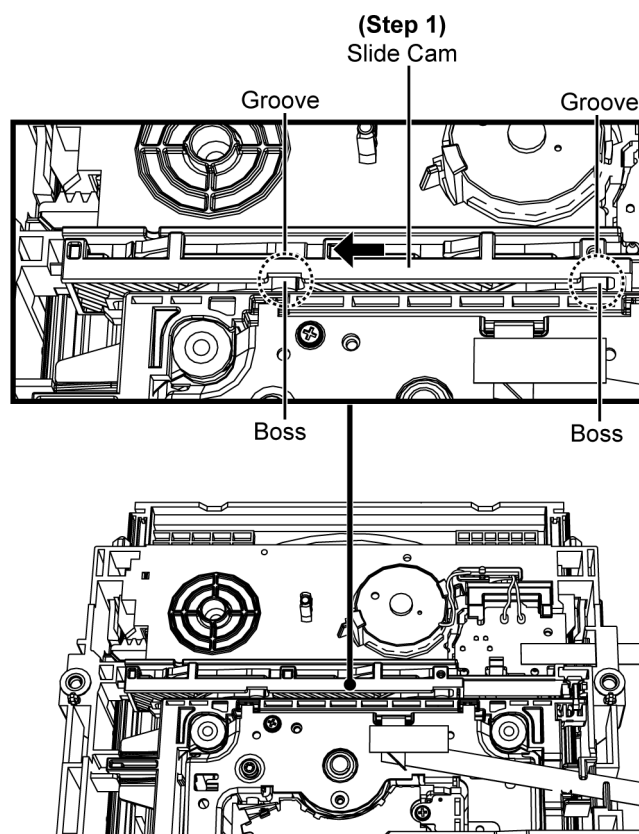
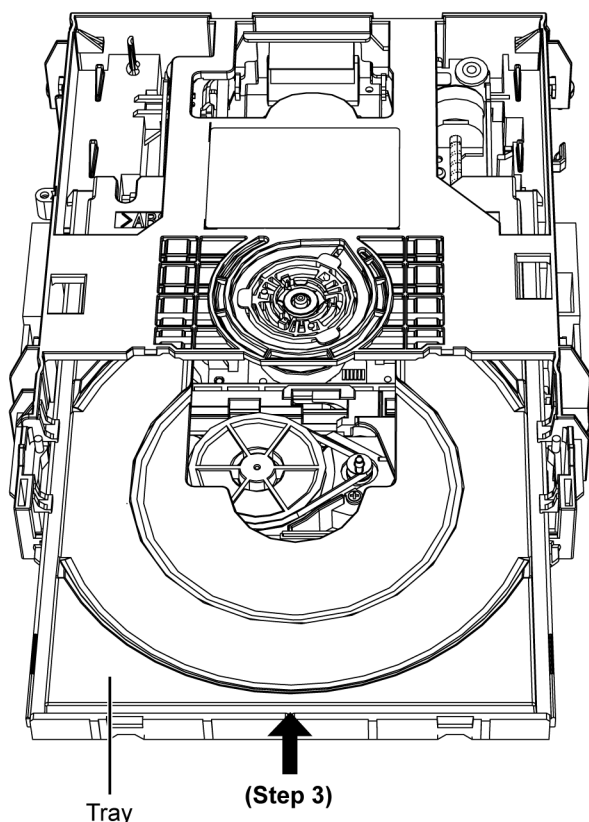
**Step 2:** Align the guides of the Slide Cam with the groove of the tray unit.



**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

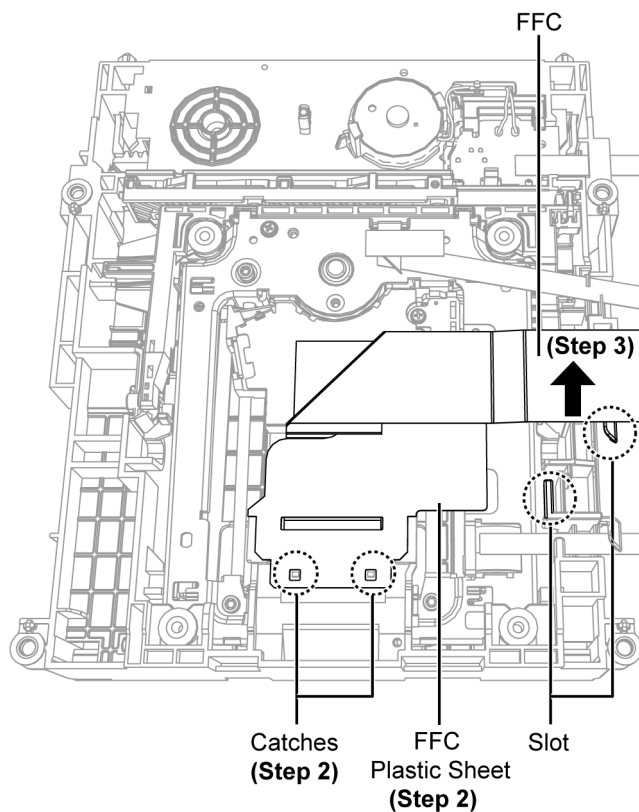
(Note: This section is for reference only)

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

#### 10.14.3.1. Disassembly of BD Traverse Unit

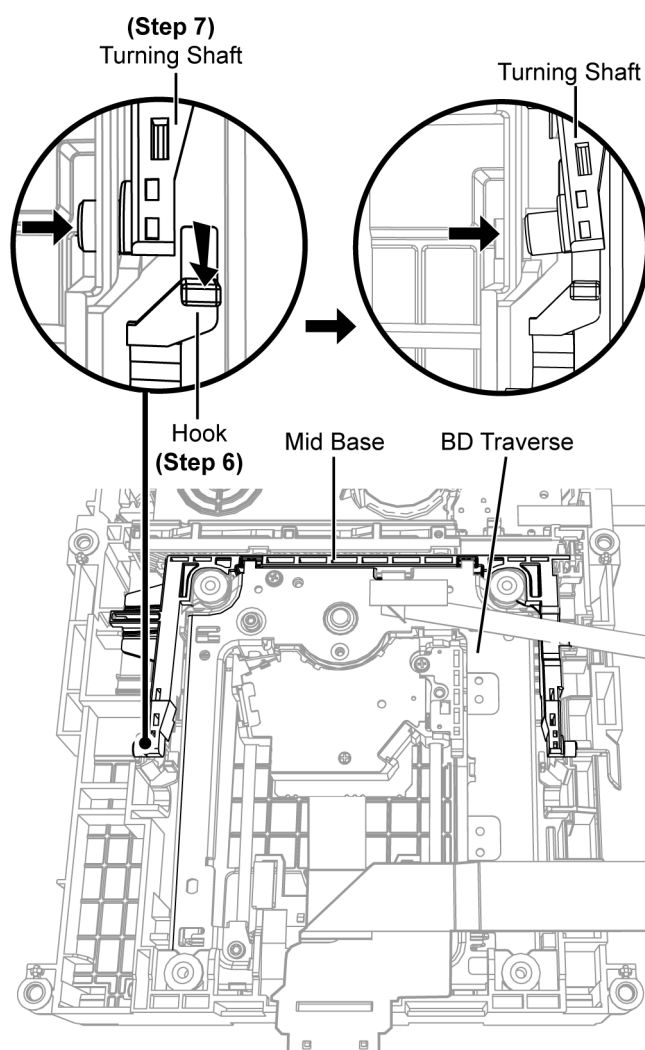
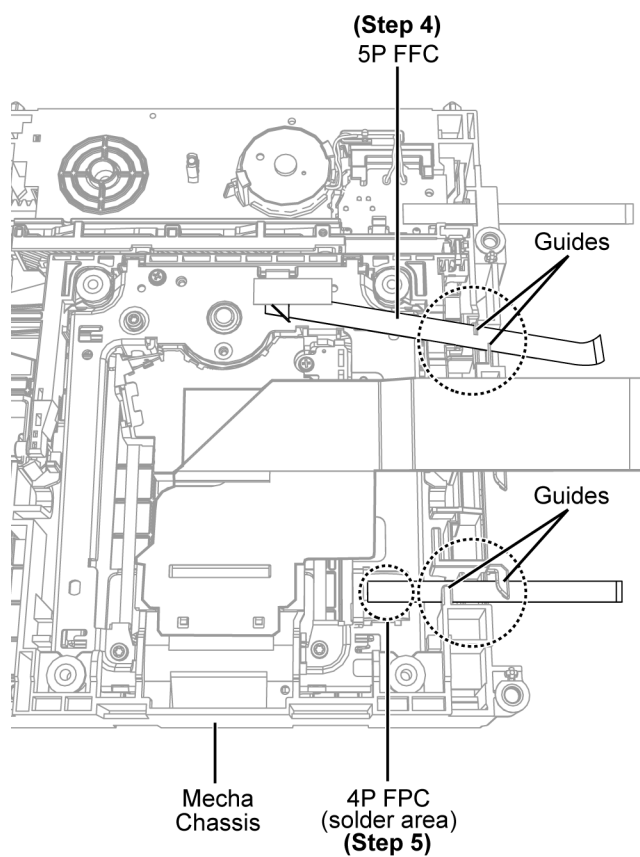
**Step 1:** Slide the Slide Cam until it come to a stop.



**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.

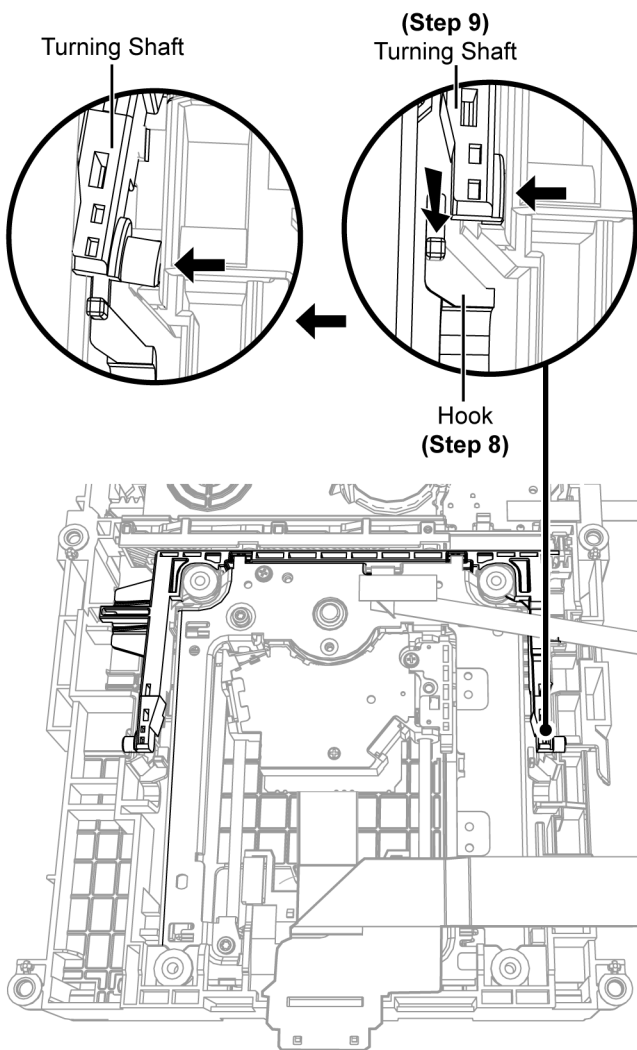


**Step 6:** Press down the hook.

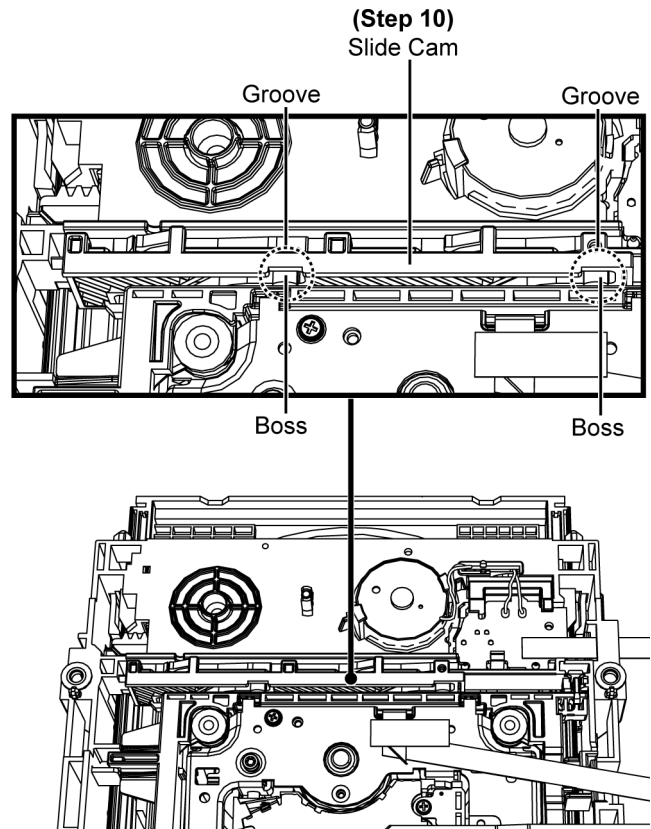
**Step 7:** Lift up the Turning Shaft of the Mid Base Unit as shown.

**Step 8:** Press down the hook.

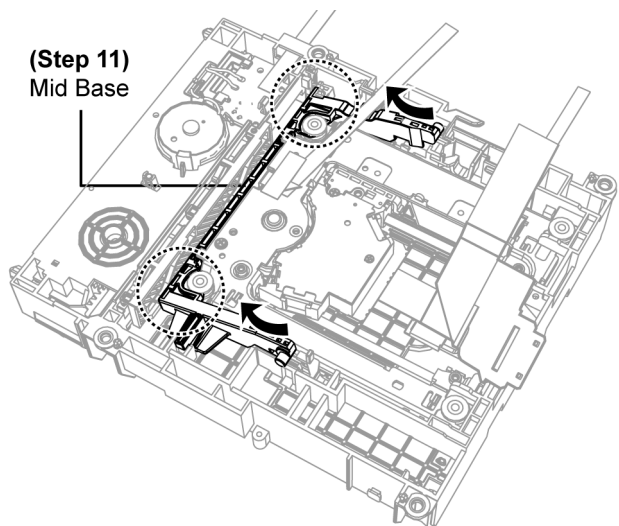
**Step 9:** Release the Turning Shaft of the Mid Base Unit as shown.



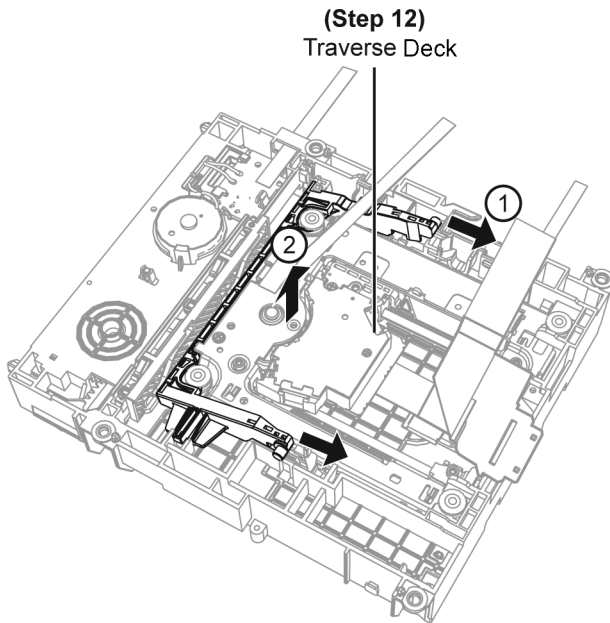
**Step 10:** Align the bosses of the Mid Base Unit with the grooves of the Slide Cam.



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



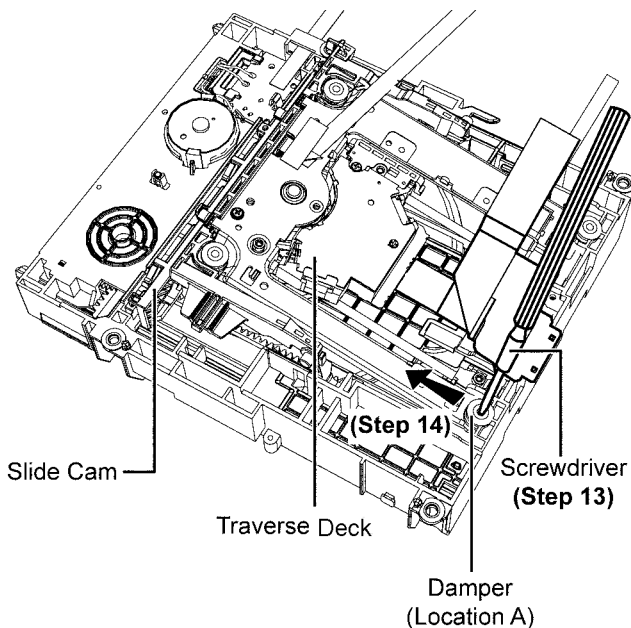
**Step 12:** Hold the arms of Mid Base, slightly pull backward and lift up the Traverse Deck as shown.



**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 disassemble, ensure the Traverse Deck do not hit to the Slide Cam.

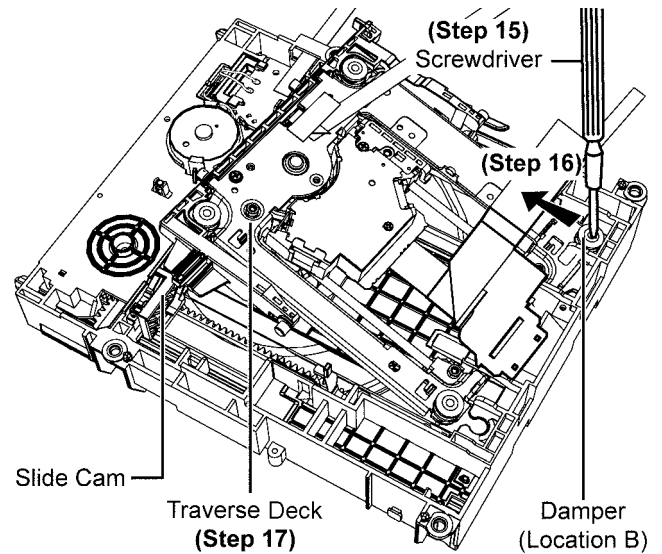


**Step 15:** Insert the Screwdriver at the Damper (Location B).

**Step 16:** Push up the Traverse Deck as shown.

**Step 17:** Remove the Traverse Deck.

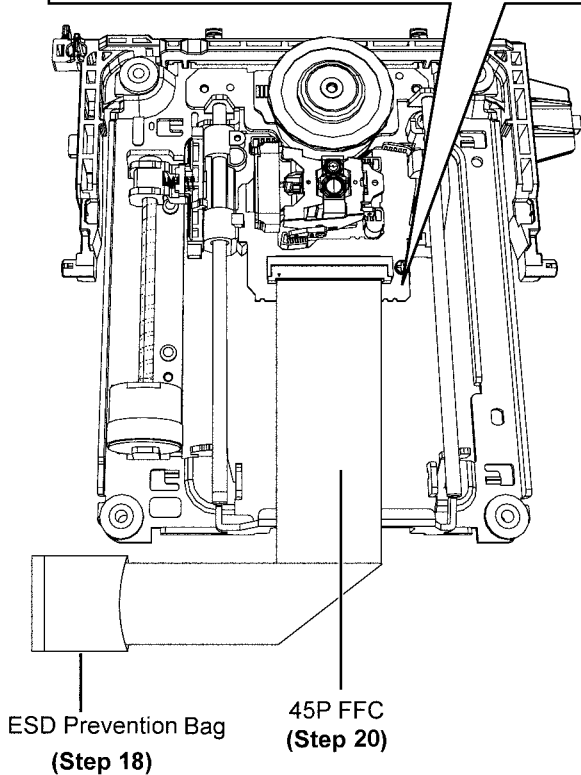
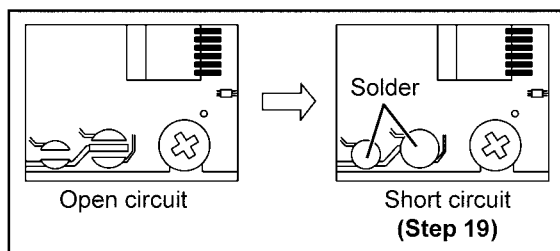
**Caution:** During disassemble, ensure the Traverse Deck do not hit to the Slide Cam.



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

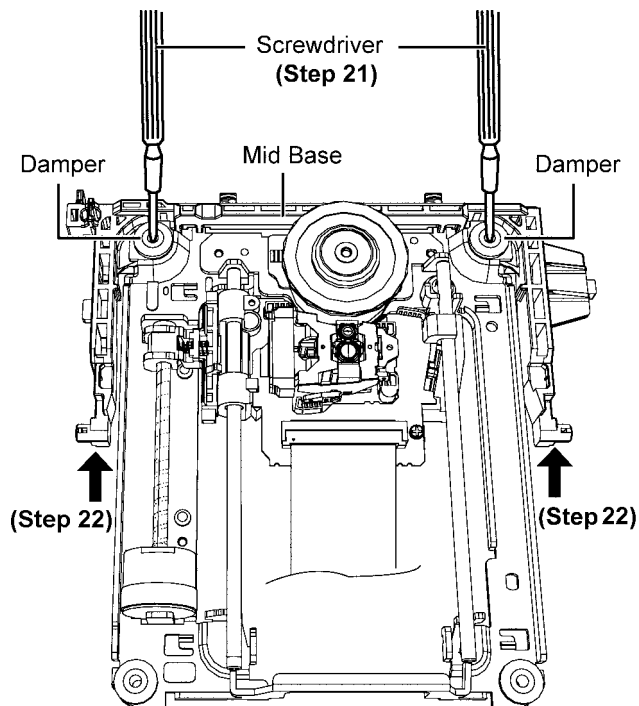
**Step 19:** Weld the short-circuit solder.

**Step 20:** Detach 45P FFC.

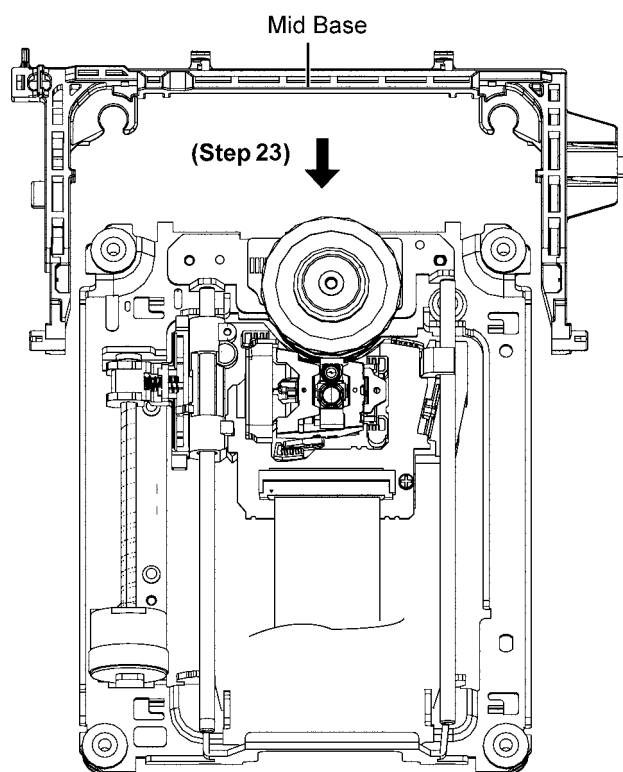


**Step 21:** Insert the Screwdriver to the Damper as shown condition.

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



**Step 23:** Remove BD Traverse Unit as shown.

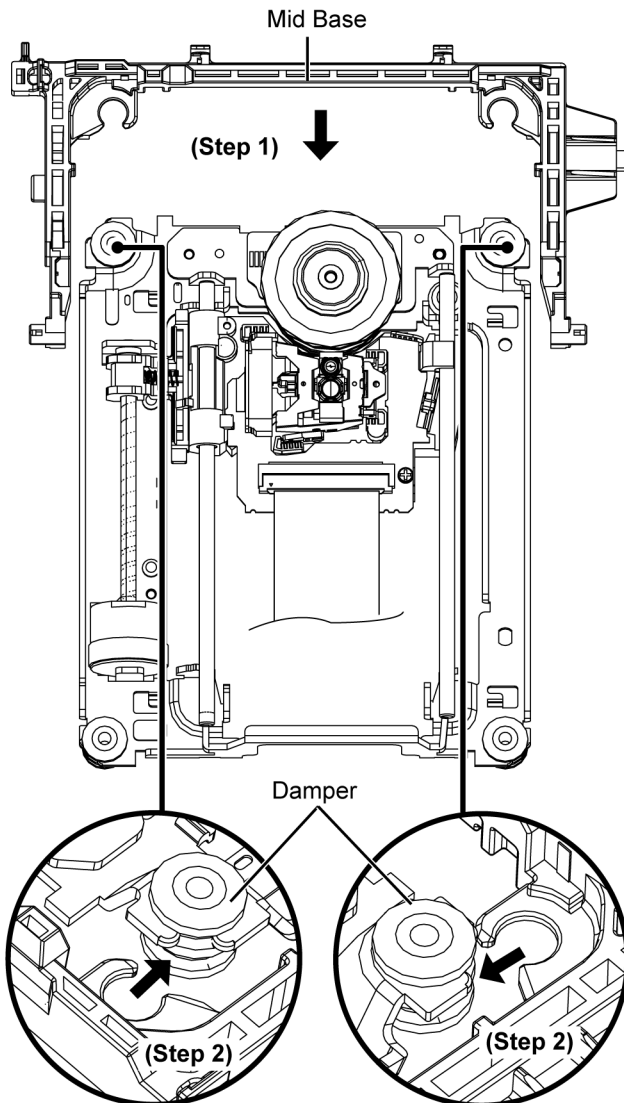


### 10.14.3.2. Assembly of Traverse Unit

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

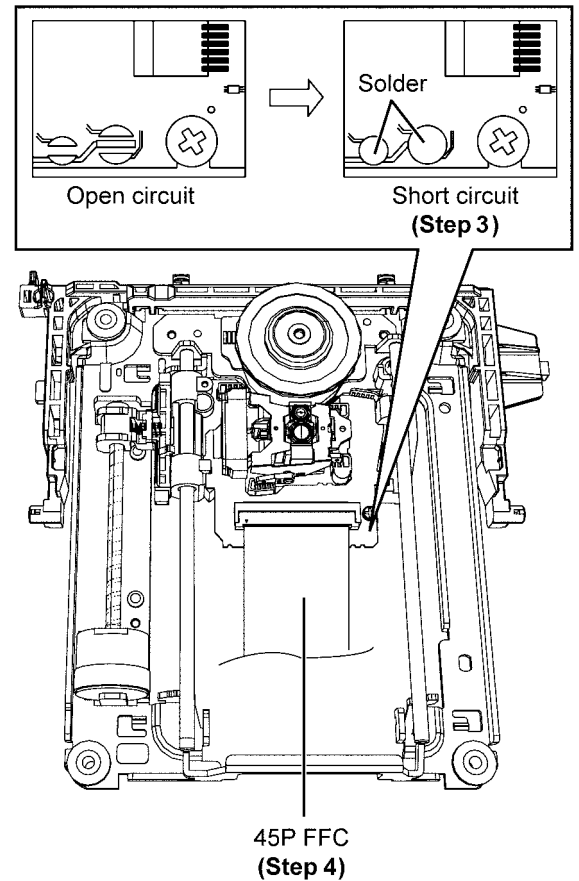
**Step 2:** Push to fix Mid Base into the Damper as shown.

**Caution:** Ensure the Mid Base is seated properly.



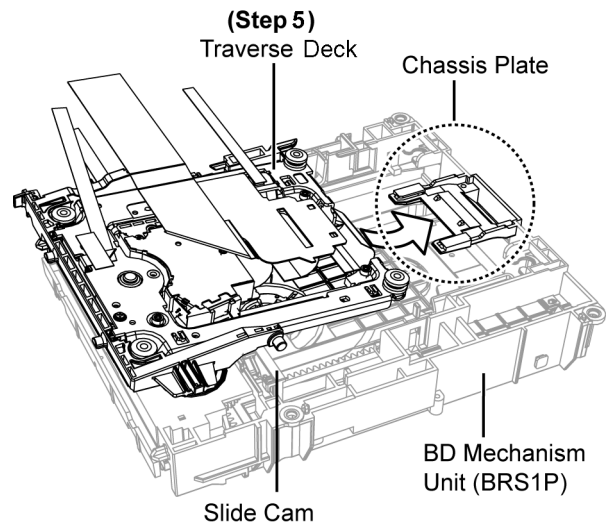
**Step 3:** Desolder the solder point to open circuit.

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



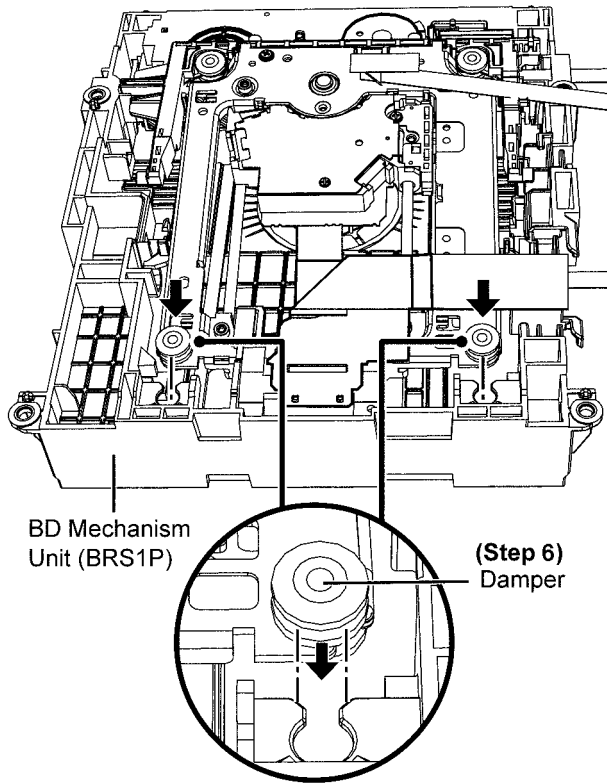
**Step 5:** Insert the Traverse Deck underneath the chassis plate.

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

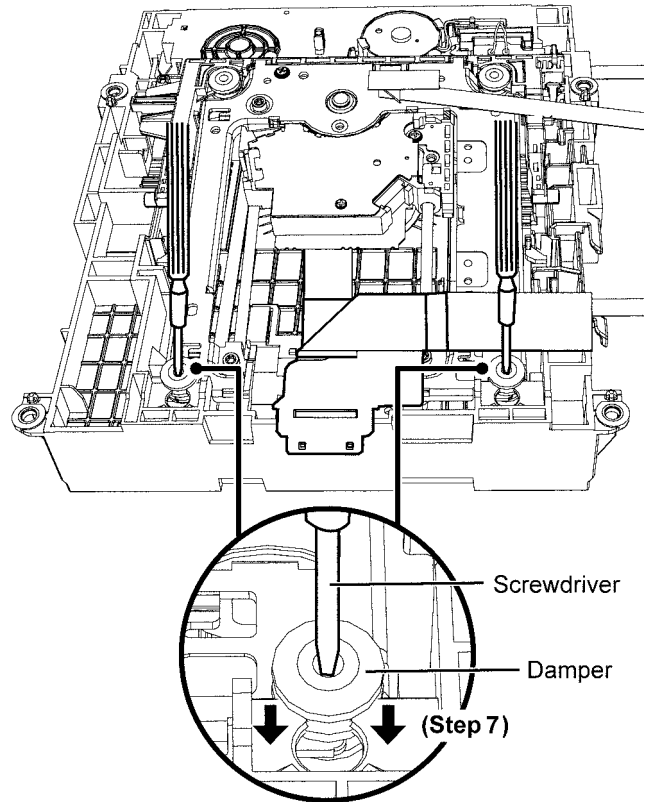


**Step 6:** Align the damper on Traverse Deck with the slot of the chassis of BD Mechanism Unit (BRS1P) as shown.

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

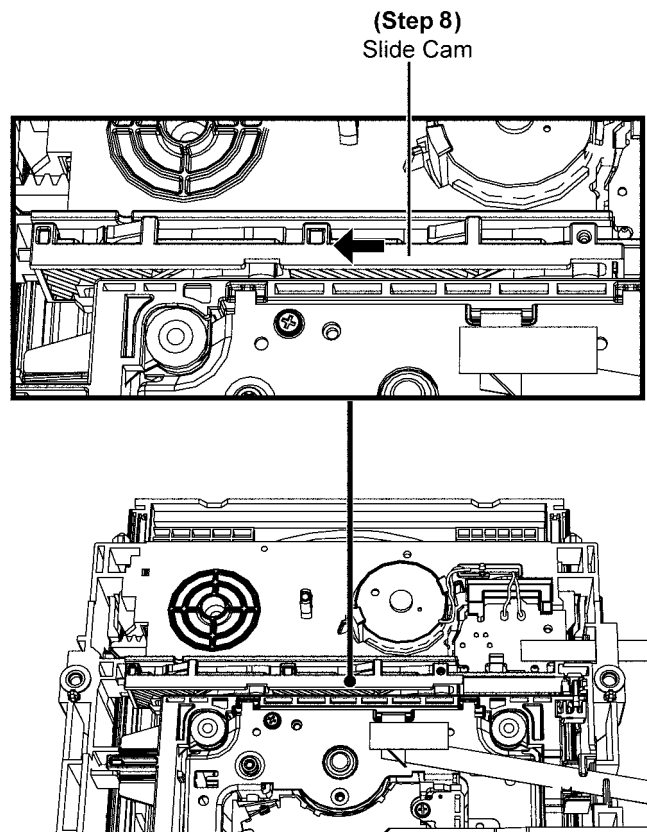


**Caution:** During assembling, ensure the BD Traverse inserted fully.

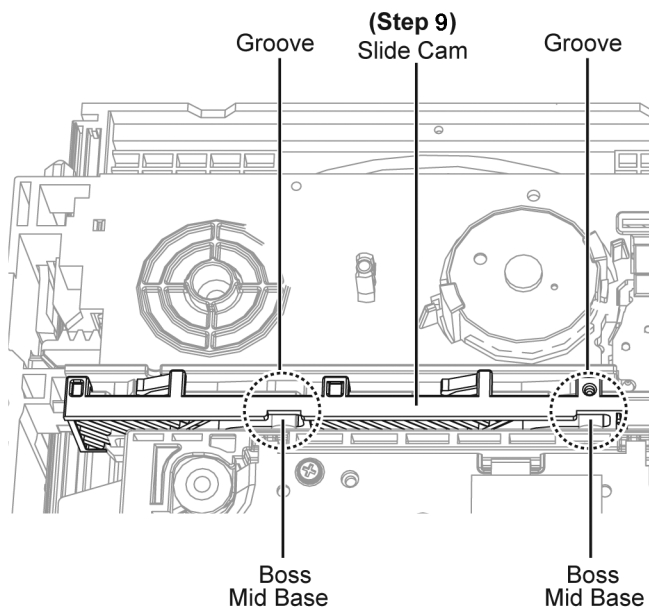


**Step 7:** Insert the Screwdriver and push inwards.

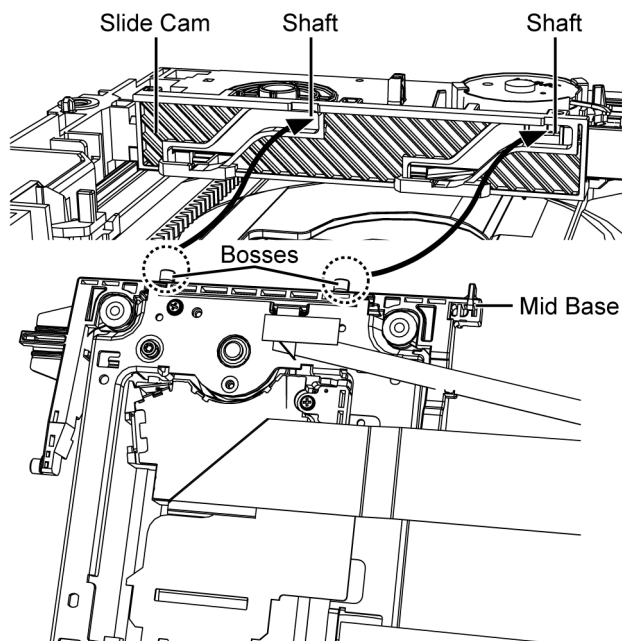
**Step 8:** Push the Slide Cam sideways.



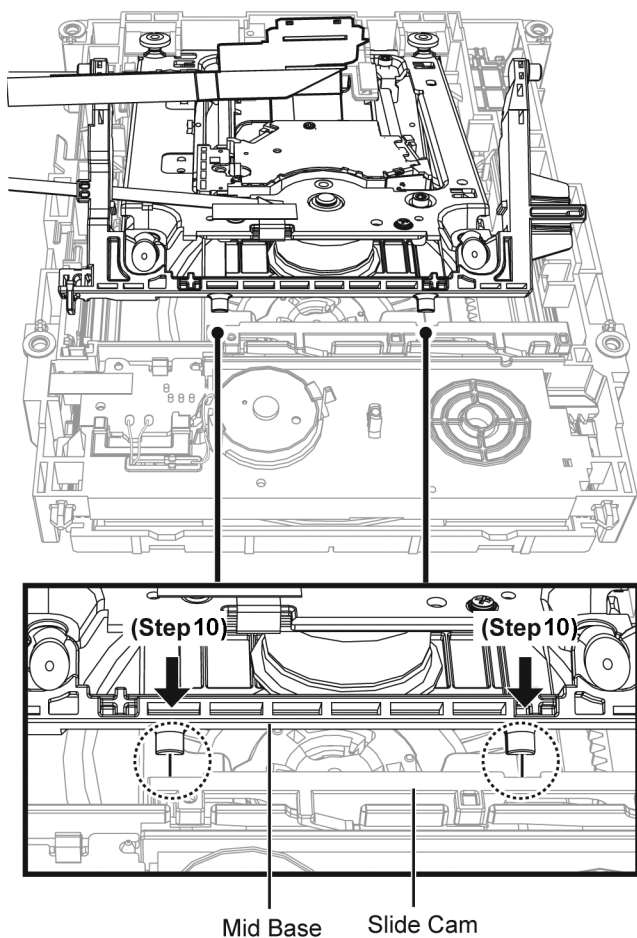
**Step 9:** Align the grooves of the Slide Cam with the bosses of the Mid Base.



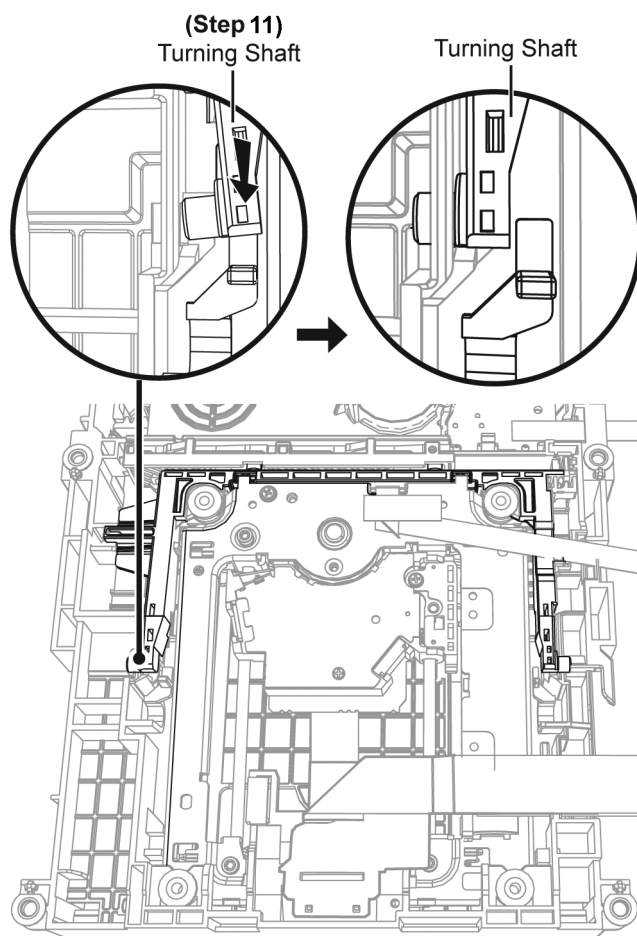
**Caution:** Ensure the bosses on the Mid Base is seated properly into the shaft of the Slide Cam.



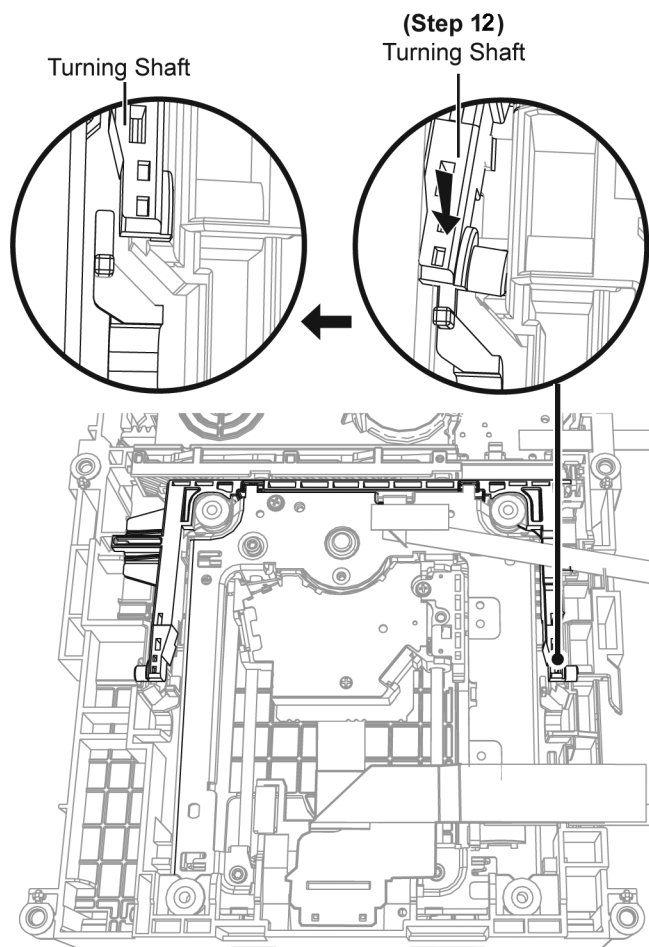
**Step 10:** Hold the Slide Cam, slightly pull backward the Mid Base and insert it into the grooves of the Slide Cam.



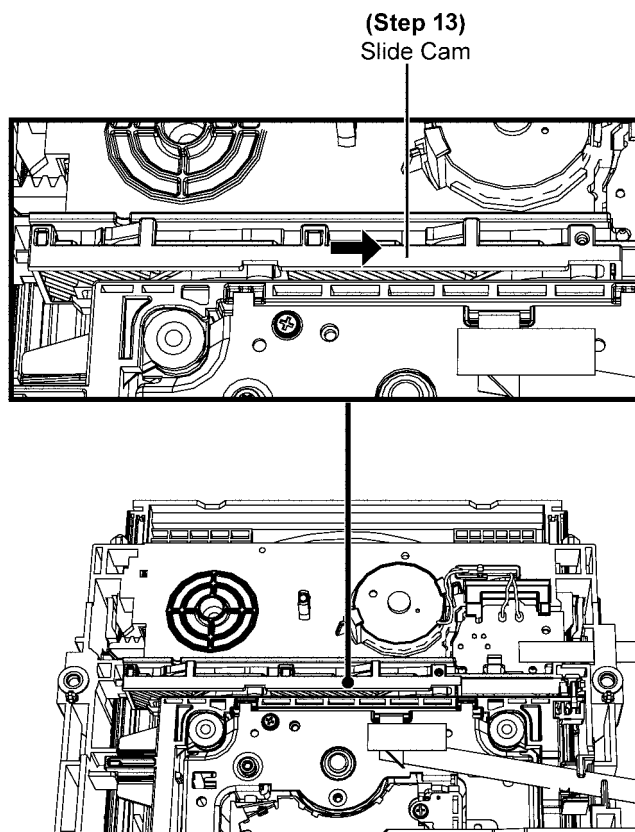
**Step 11:** Push and press the turning shaft of the Mid Base sideways, a "click" sound is heard when is fully insert.



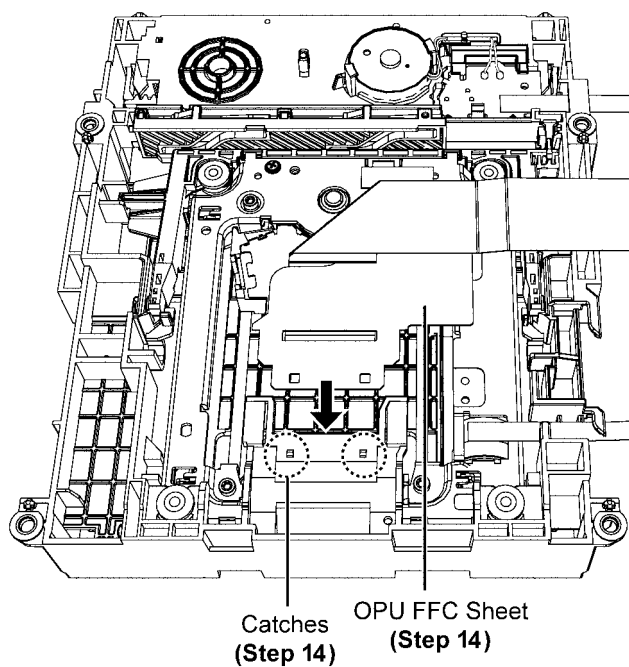
**Step 12:** Push and press the turning shaft of the Mid Base side-way, a “click” sound is heard when is fully insert.



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



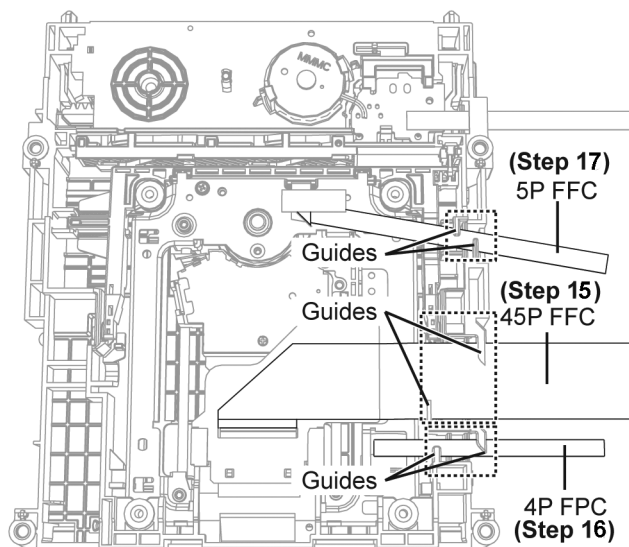
**Step 14:** Insert OPU FFC Sheet as show a “click” sound is heard when the OPU FFC is fully caught.



**Step 15:** Insert 45P FFC into the guides.

**Step 16:** Insert 4P FPC into the guides.

**Step 17:** Insert 5P FFC into the guides.

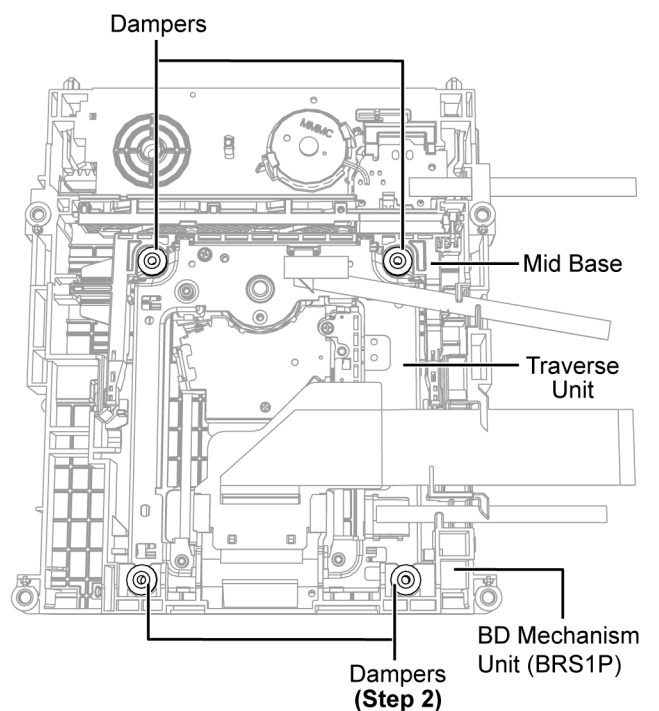
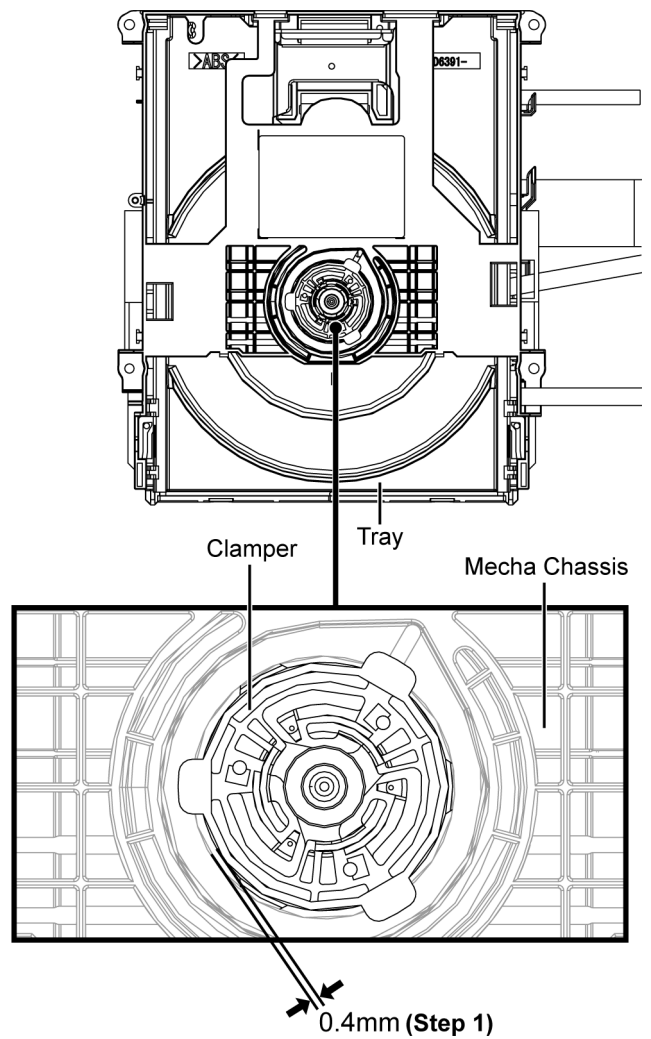


### 10.14.3.3. Checking point after replacement of Traverse Unit

**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”.

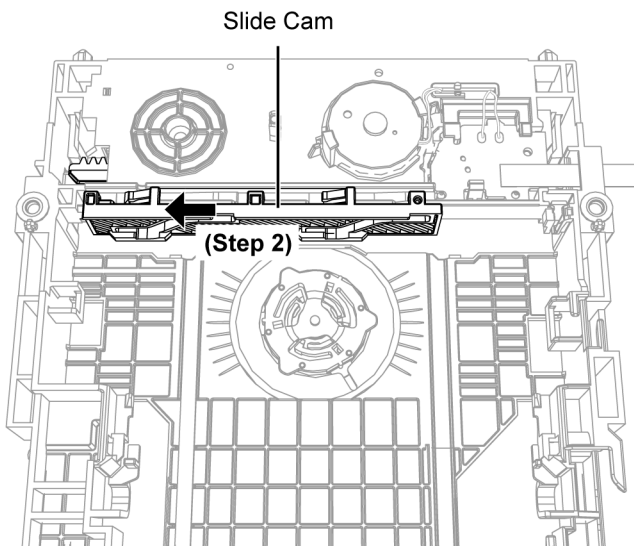
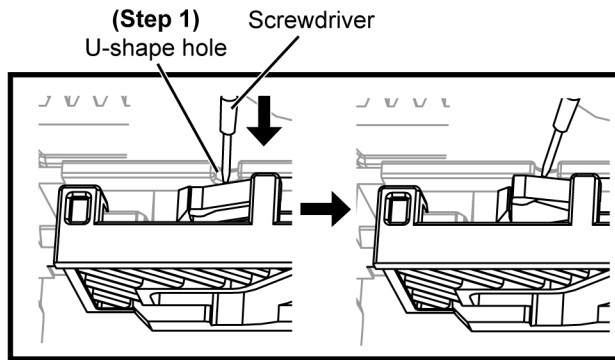
Refer to “Disassembly of Tray”.

Refer to “Disassembly of Traverse Unit”.

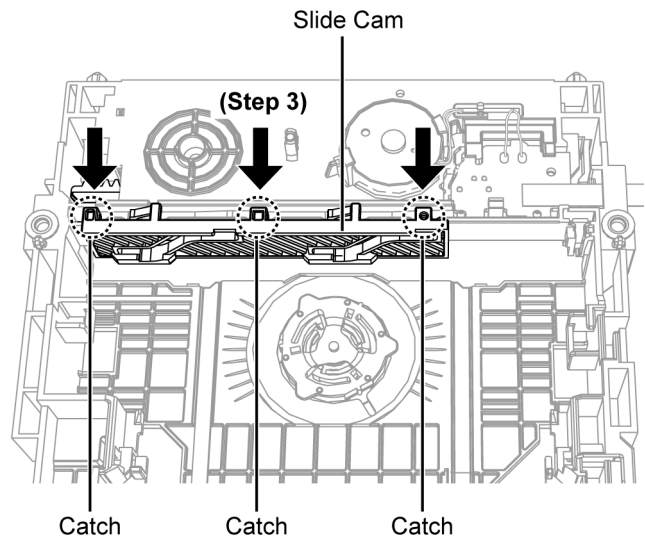
##### 10.14.4.1. Disassembly of Slide Cam

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

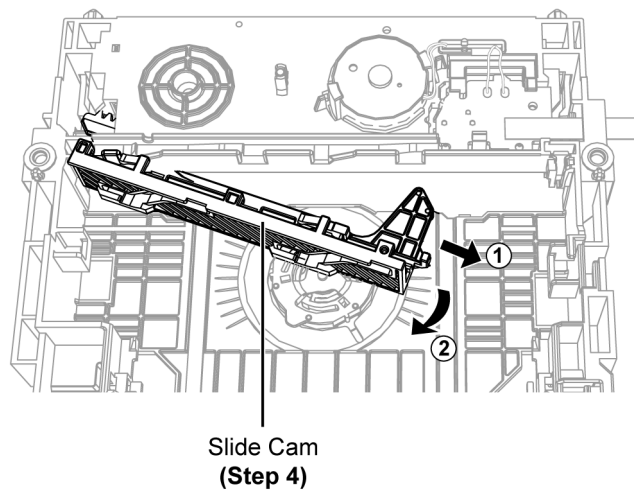
**Step 2:** Slide the Slide Cam to the end.



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

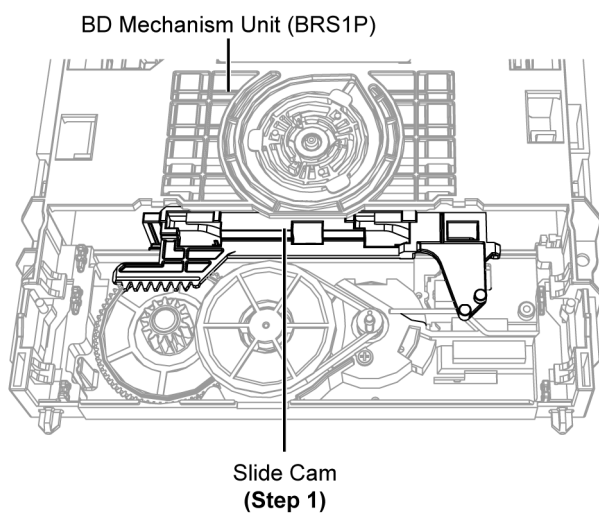


**Step 4:** Remove the Slide Cam in order of sequences (1) to (2) as shown.



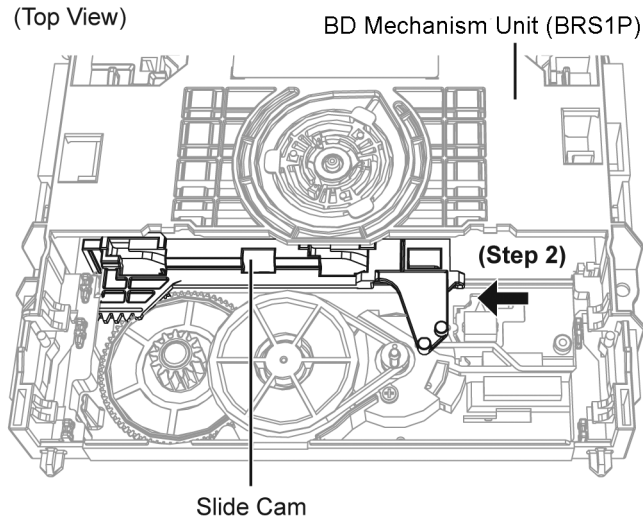
#### 10.14.4.2. Assembly of Slide Cam

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

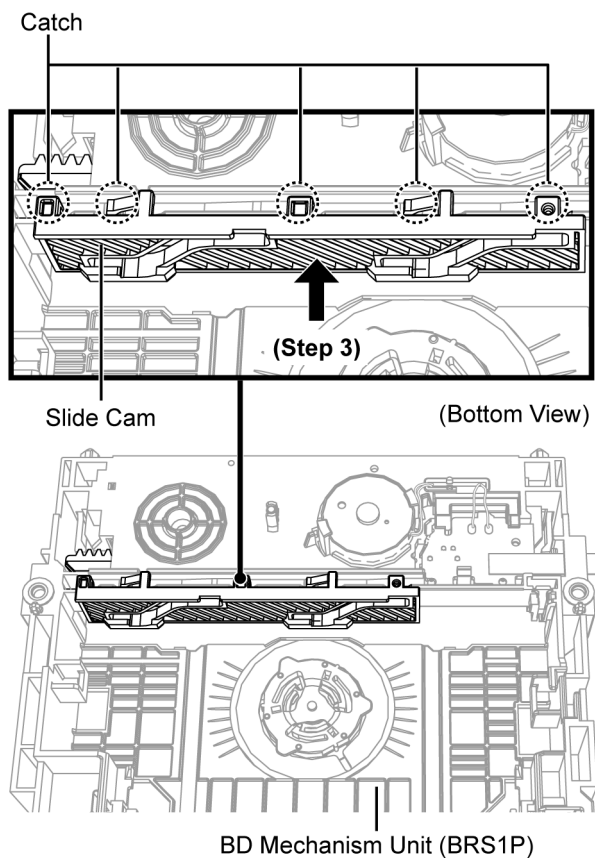


**Step 2:** Slide the Slide Cam to the end as shown & flip over the BD Mechanism Unit (BRS1P).

(Top View)



**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".

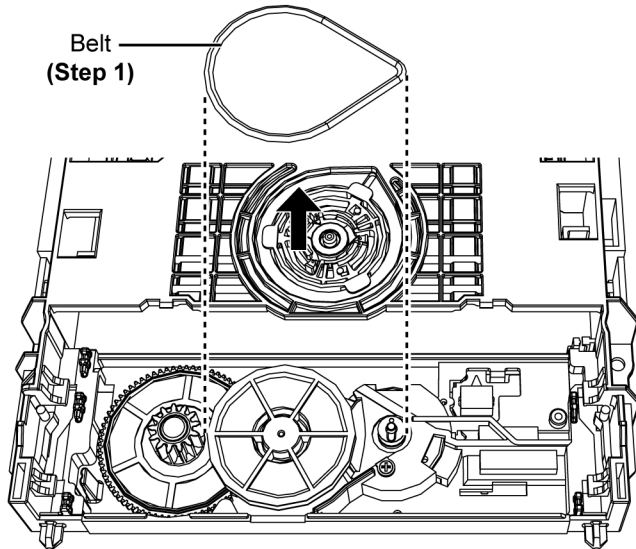
Refer to "Disassembly of Tray".

Refer to "Disassembly of Traverse Unit".

Refer to "Disassembly of Slide Cam".

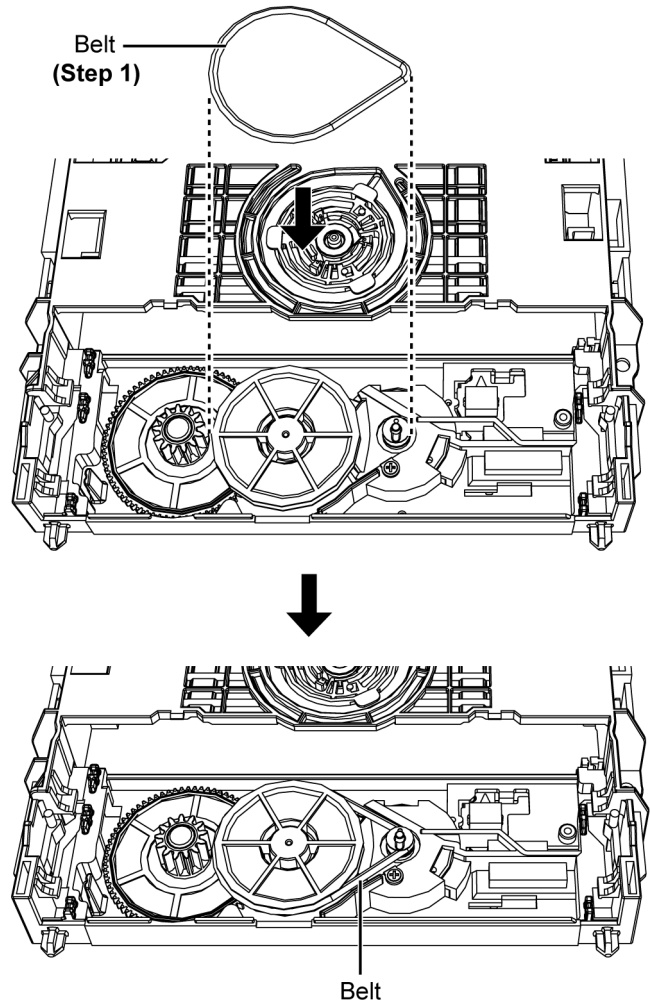
#### 10.14.5.1. Disassembly of Belt

**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”.

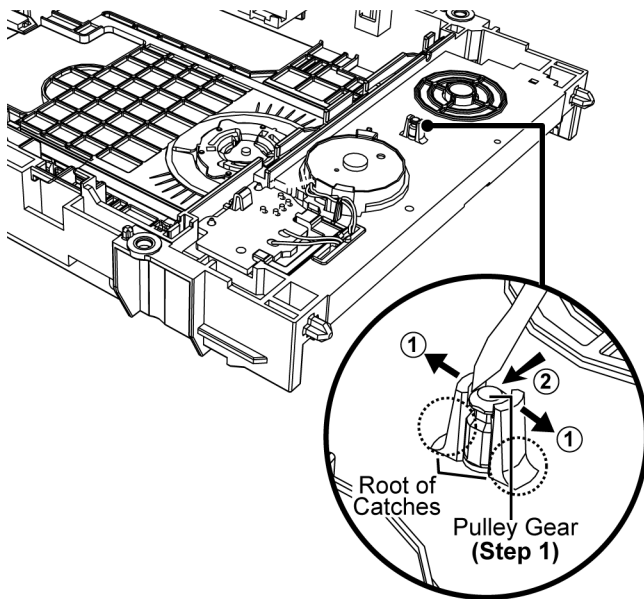
Refer to “Disassembly of Belt”.

#### 10.14.6.1. Disassembly of Pulley Gear

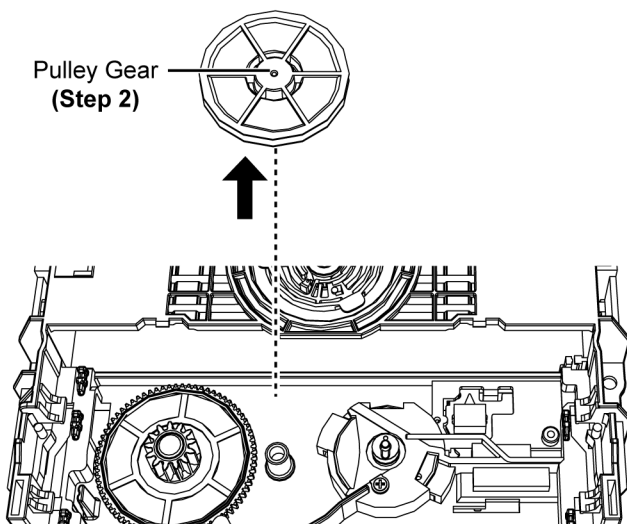
**Step 1:** Use a screwdriver to release the catches and push down the Pulley Gear.

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

(Bottom View)

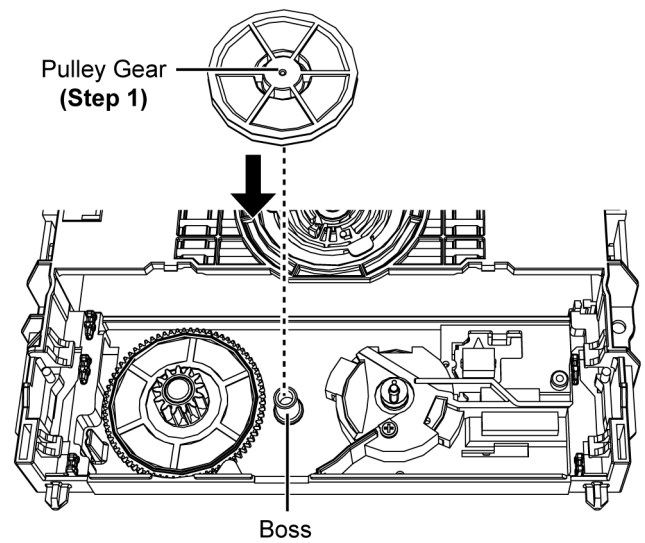


**Step 2:** Remove the Pulley Gear.



#### 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".

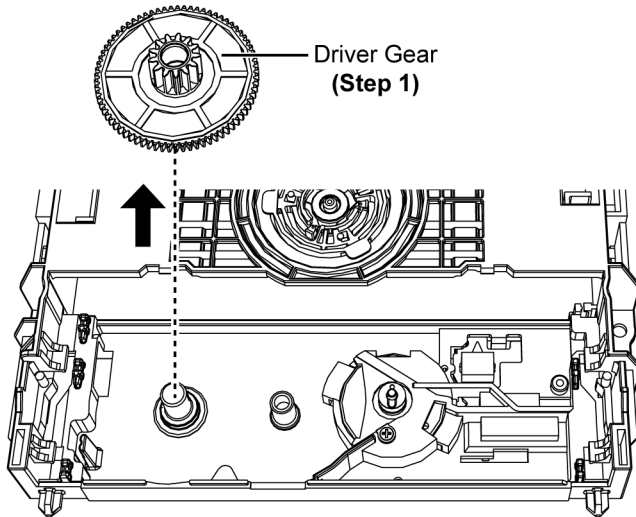
Refer to "Disassembly of Slide Cam".

Refer to "Disassembly of Belt".

Refer to "Disassembly of Pulley Gear".

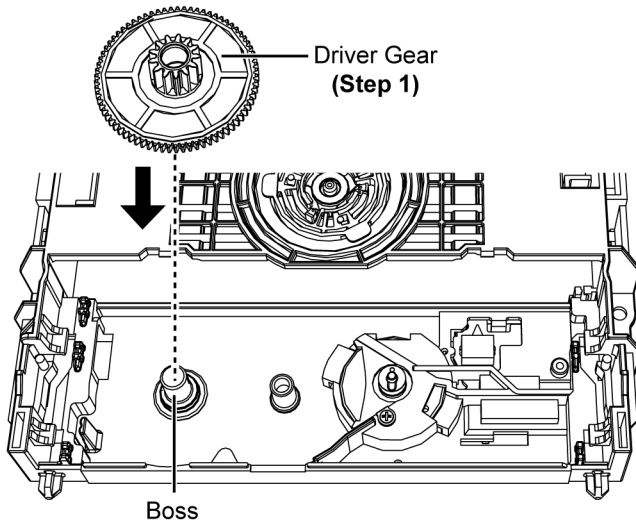
#### 10.14.7.1. Disassembly of Driver Gear

**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".

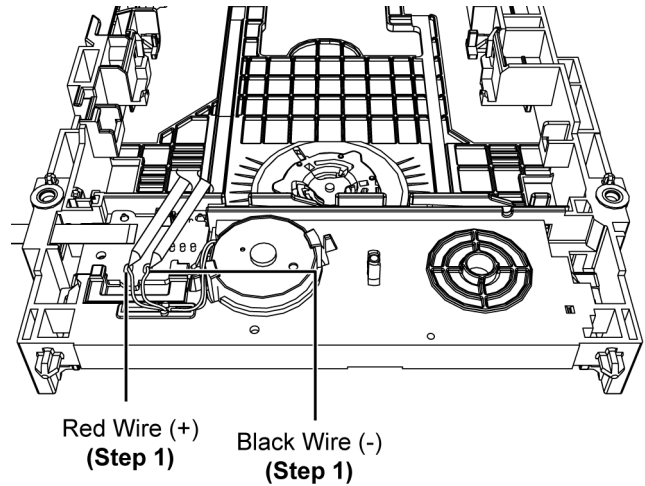
Refer to "Disassembly of Traverse Unit".

Refer to "Disassembly of Slide Cam".

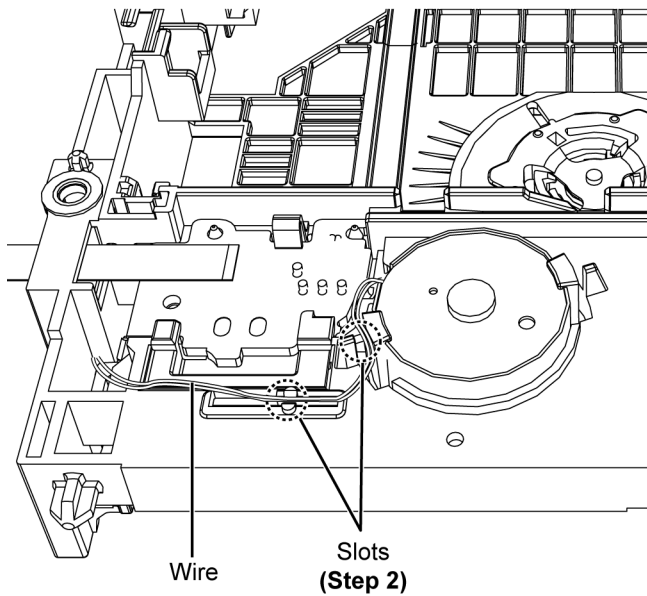
Refer to "Disassembly of Belt".

#### 10.14.8.1. Disassembly of Loading P.C.B.

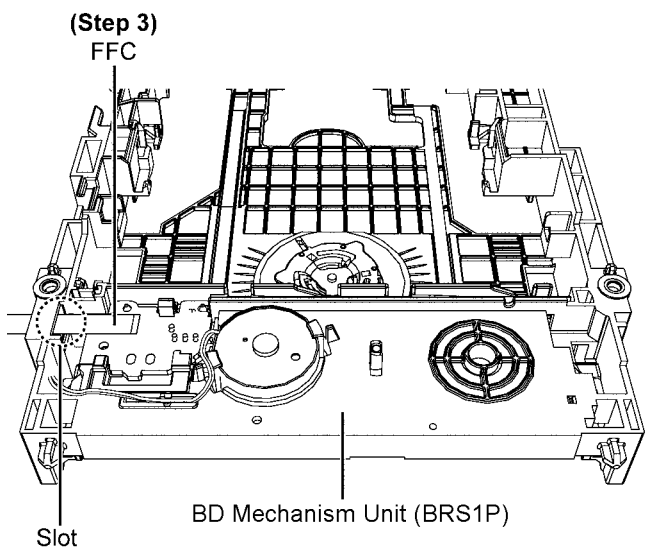
**Step 1:** Desolder pins of the Red Wire (+) & Black Wire (-) on the solder side of Loading P.C.B..



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

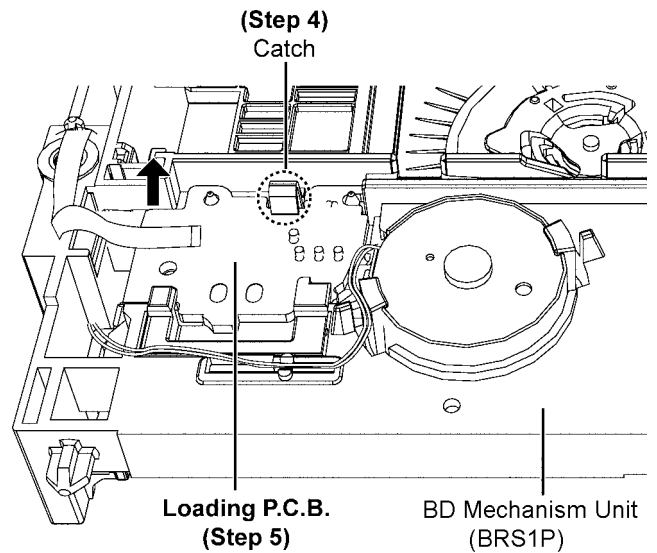


**Step 3:** Release the 5P FFC from the slot of BD Mechanism Unit (BRS1P).



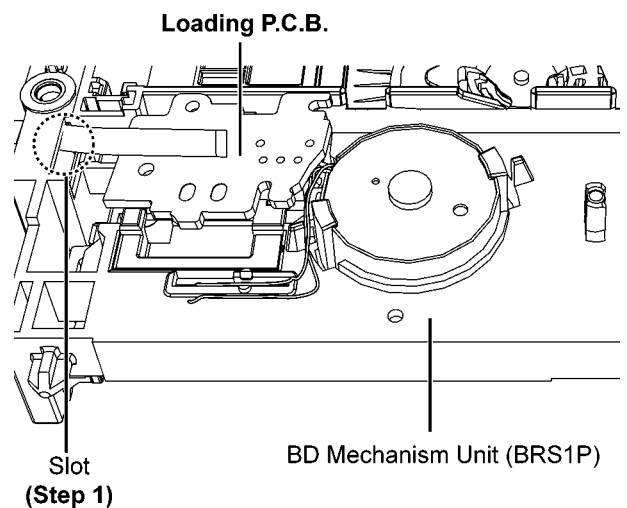
**Step 4:** Release the catch.

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



### 10.14.8.2. Assembly of Loading P.C.B.

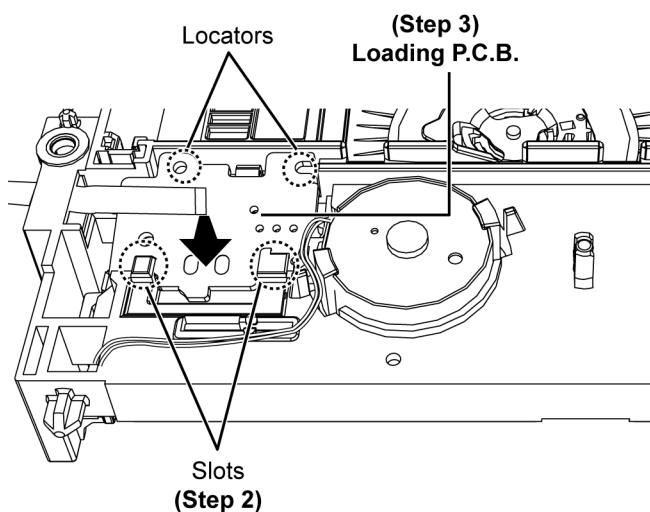
**Step 1:** Insert the FFC through the slot of BD Mechanism Unit (BRS1P).



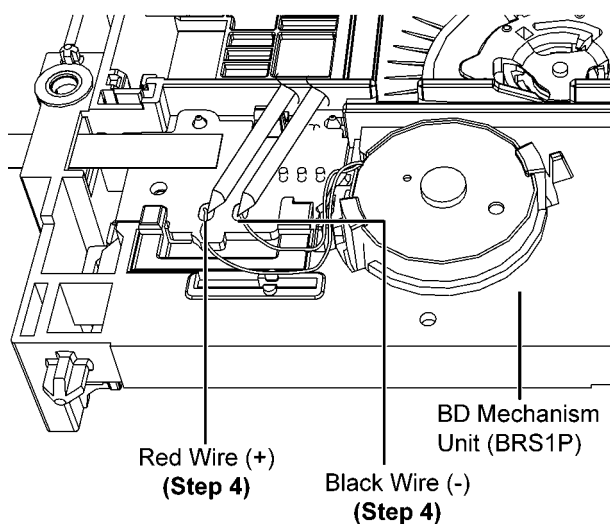
**Step 2:** Insert the Loading P.C.B. into the slots.

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

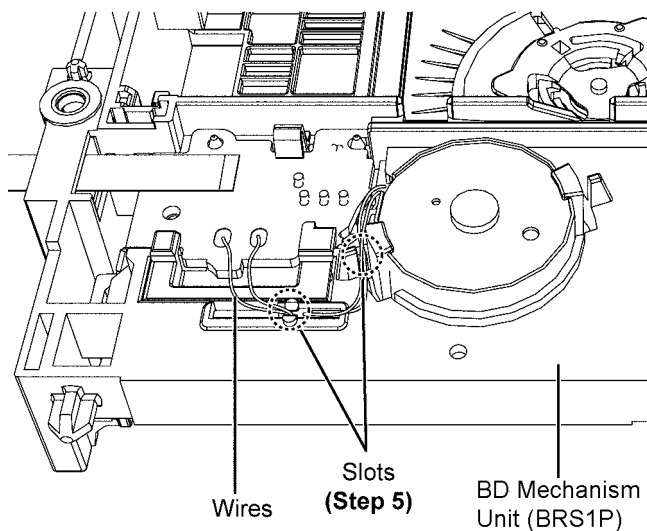
**Caution:** Ensure that the Loading P.C.B. is properly seated onto the 2 locators.



**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".

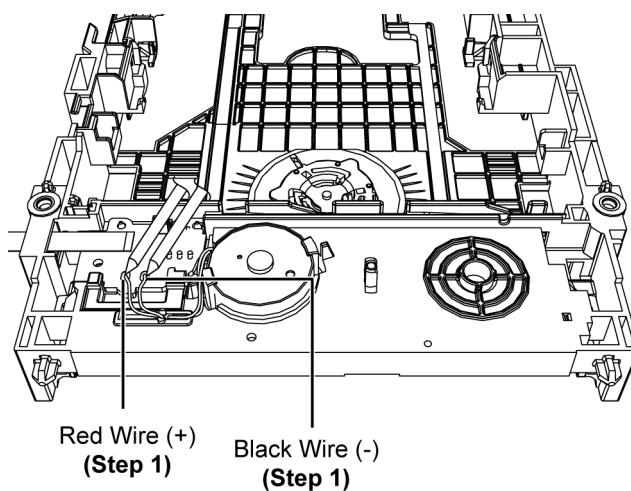
Refer to "Disassembly of Traverse Unit".

Refer to "Disassembly of Slide Cam".

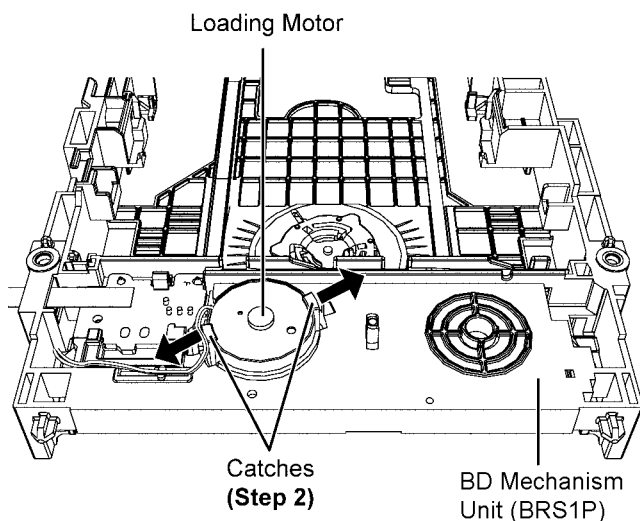
Refer to "Disassembly of Belt".

### 10.14.9.1. Disassembly of Loading Motor

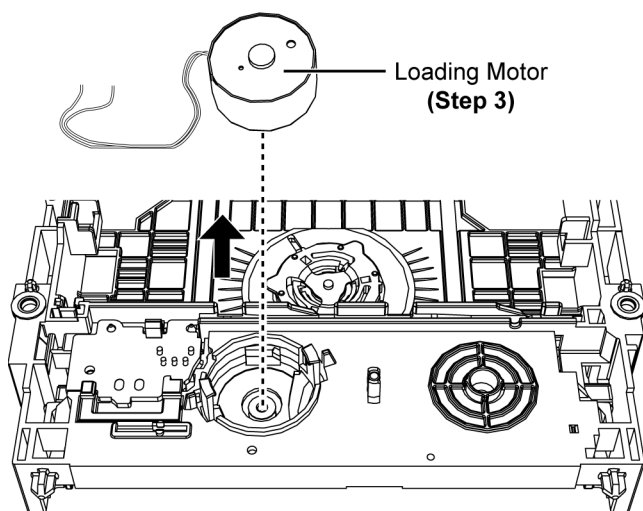
**Step 1:** Desolder pins of the Red Wire (+) & Black Wire (-) on the solder side of Loading P.C.B..



**Step 2:** Release 2 catches.

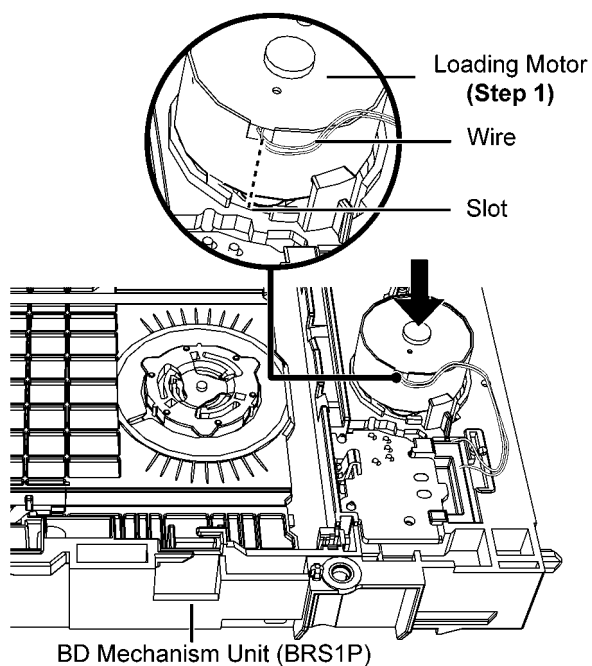


**Step 3:** Remove the Loading Motor as shown.

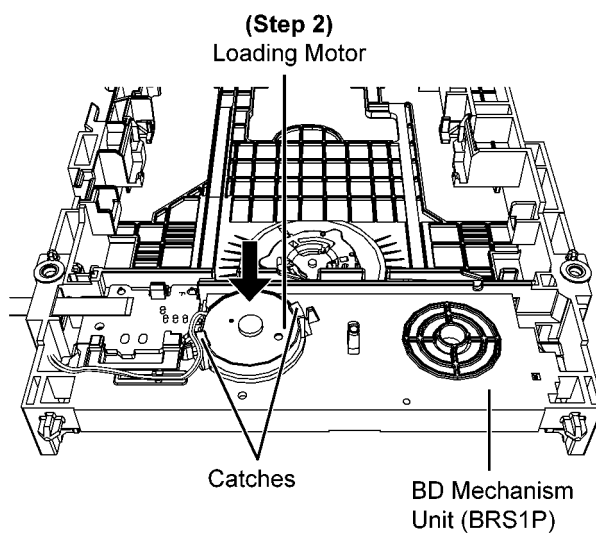


## 10.14.9.2. Assembly of Loading Motor

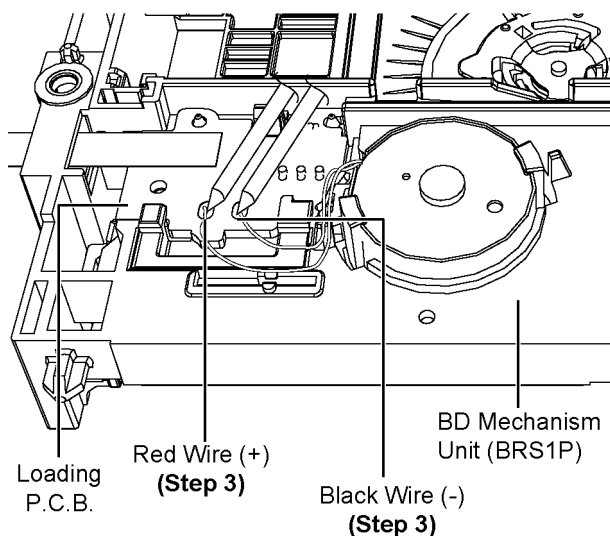
**Step 1:** Align the Loading Motor using the slot.



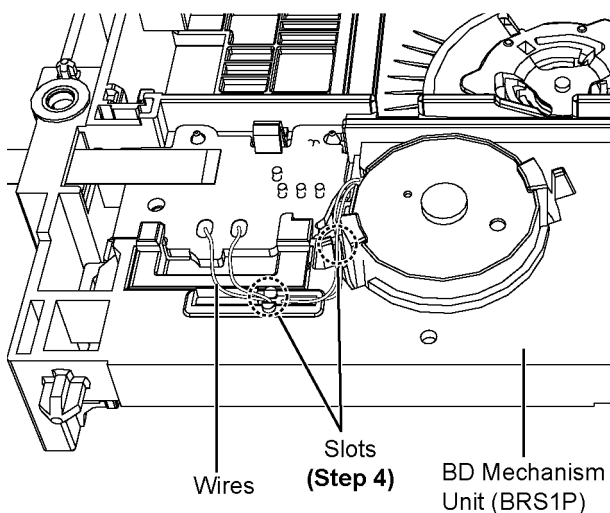
**Step 2:** Press the Loading motor as shown, ensure a “click” sound is heard when the Loading Motor is fully caught.



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



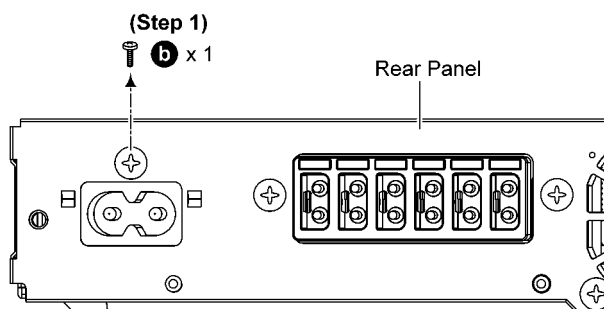
**Step 4:** Dressed the wire into slots as shown.



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

• Refer to "Disassembly of Top Cabinet"

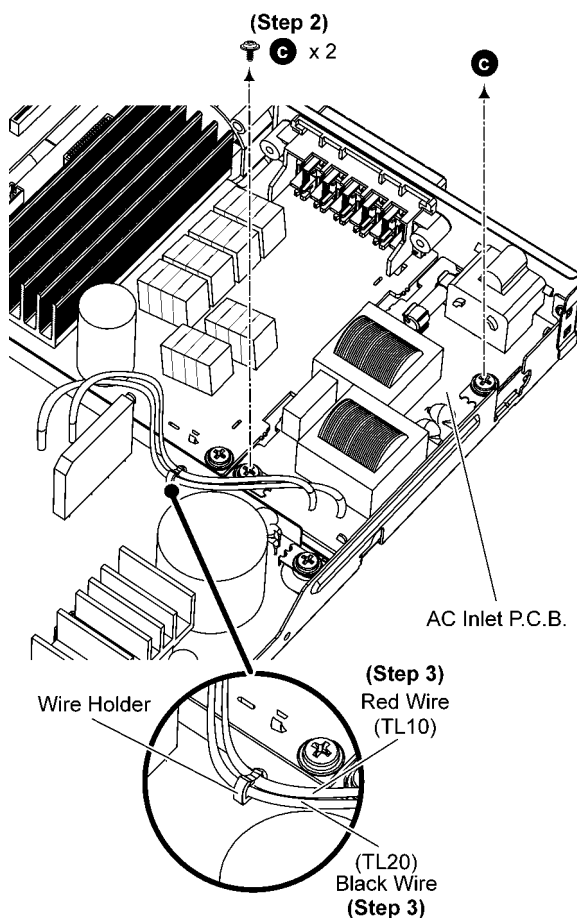
**Step 1** Remove 1 screw.



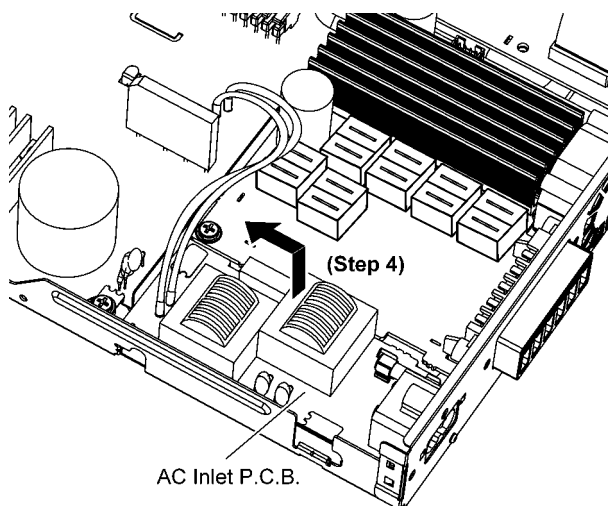
**Step 2** Remove 2 screws.

**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.



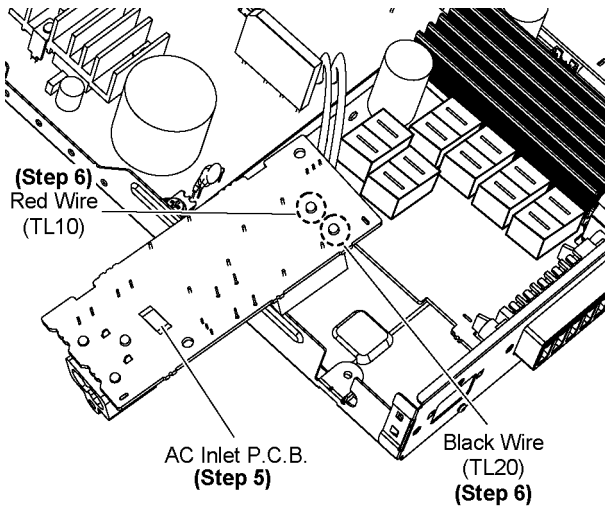
**Step 4** Lift up the AC Inlet P.C.B. according to arrow shown.



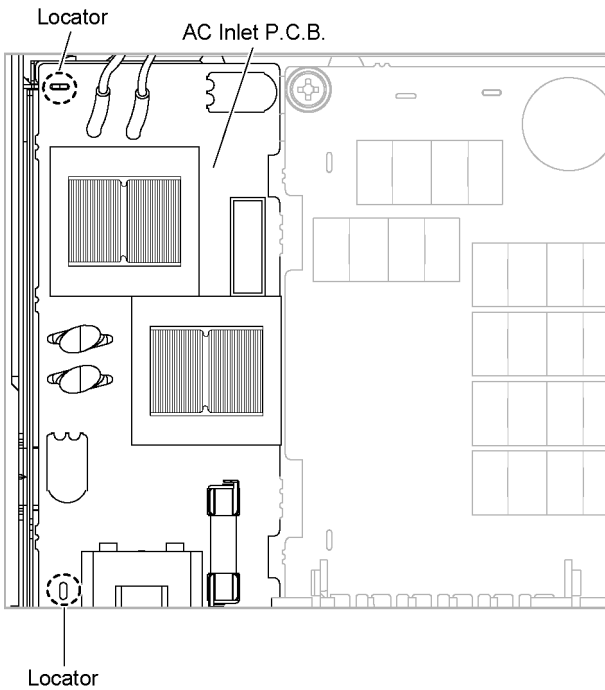
**Step 5** Flip the AC Inlet P.C.B..

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

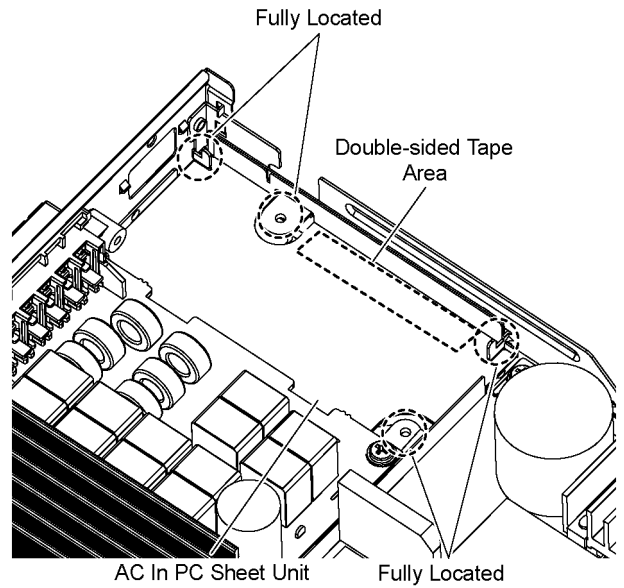
**Step 7** Remove the AC Inlet P.C.B..



**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.

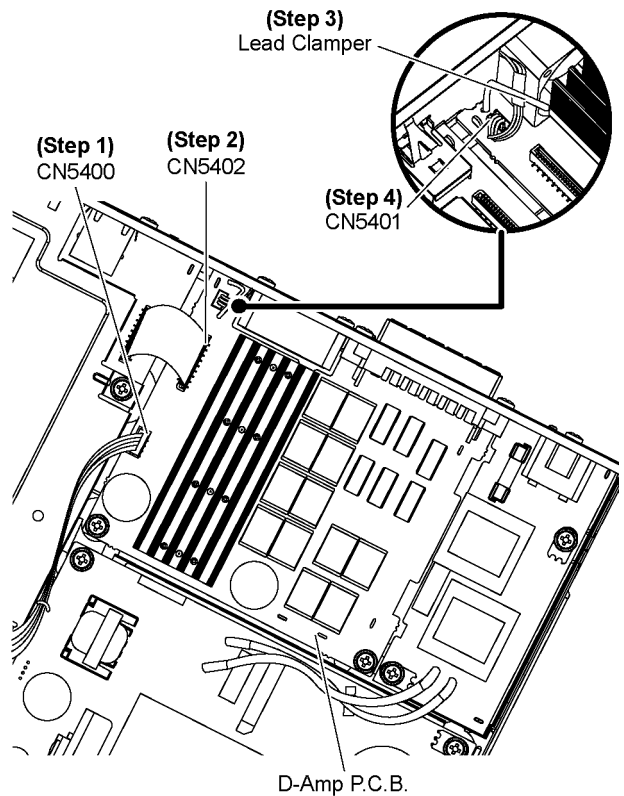
• Refer to “Disassembly of Top Cabinet”.

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

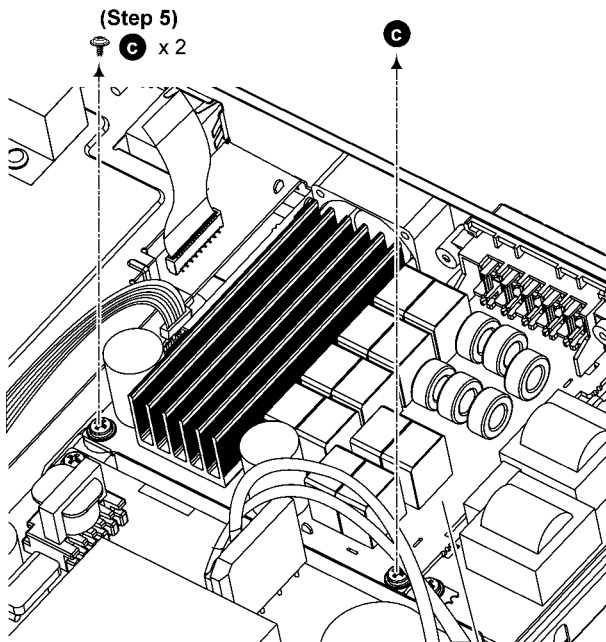
**Step 2** Detach 18P FFC at the connector (CN5402) on D-Amp P.C.B..

**Step 3** Lift Up the Lead Clamper.

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



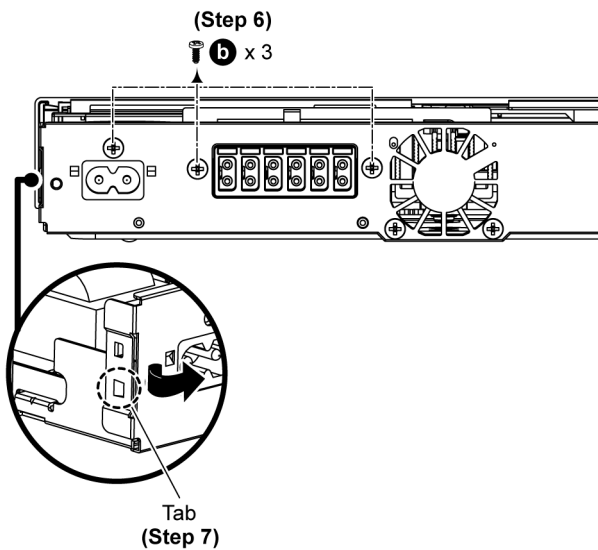
**Step 5** Remove 2 screws.



D-Amp P.C.B.

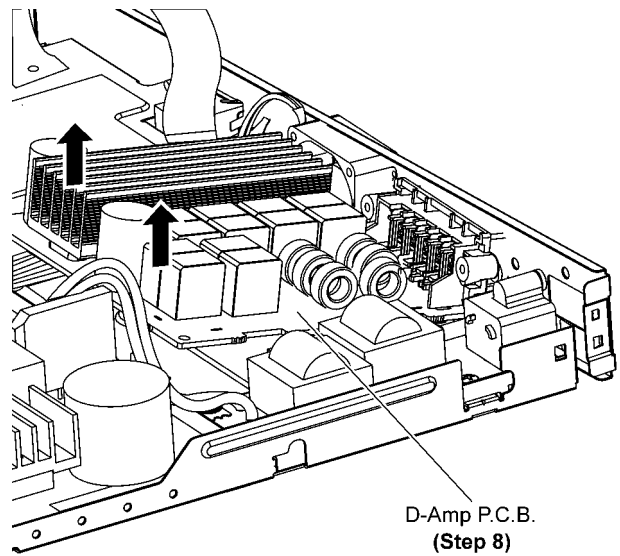
**Step 6** Remove 3 screws.

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



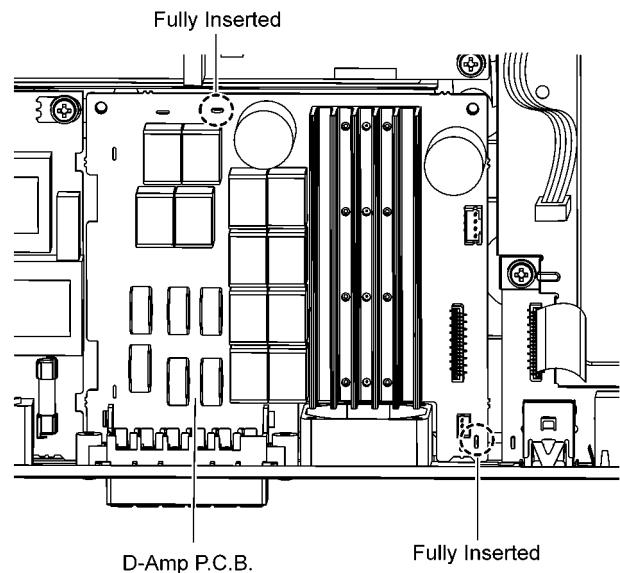
Tab  
(Step 7)

**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)

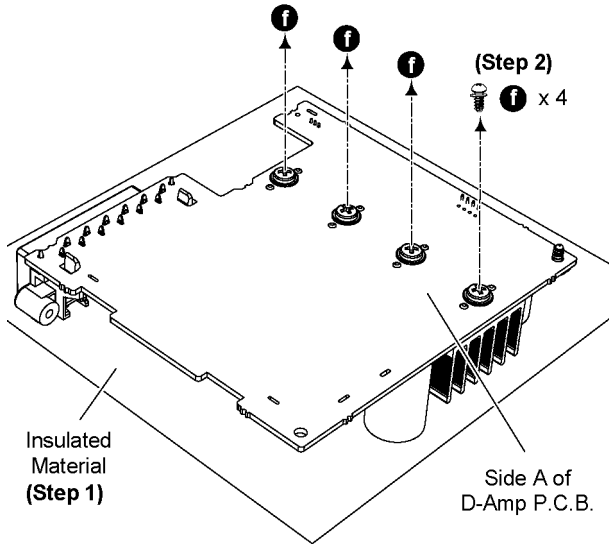
- Refer to “Disassembly of Top Cabinet”.
- Refer to “Disassembly of D-Amp P.C.B.”.

### 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.

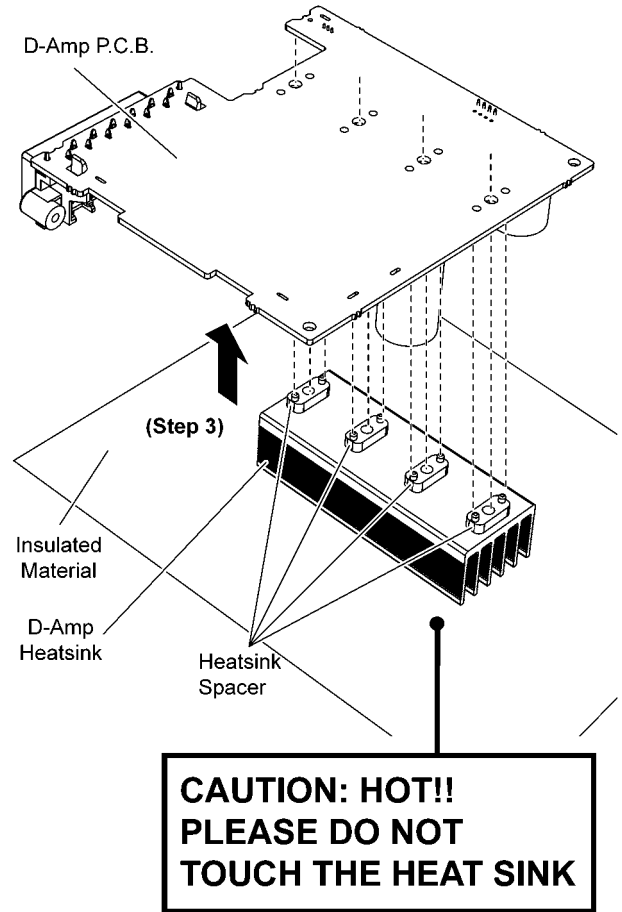
**Step 1** Place D-Amp P.C.B. on an insulated material.

**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.

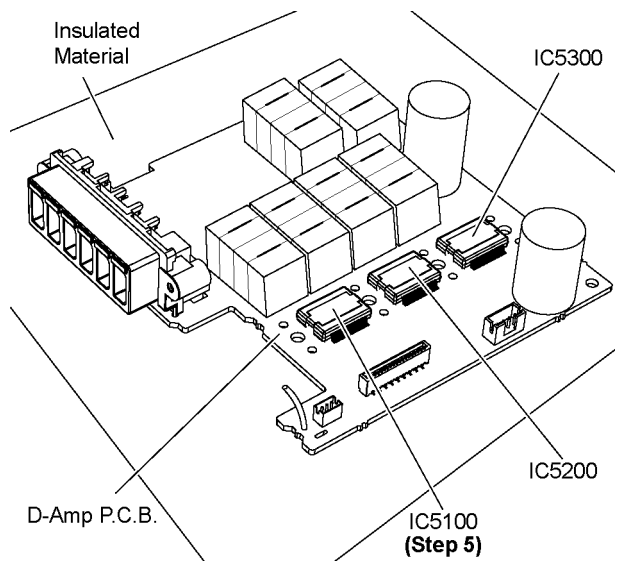


**Step 4** Desolder the pins of Digital Amplifier IC (IC5100).

**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.



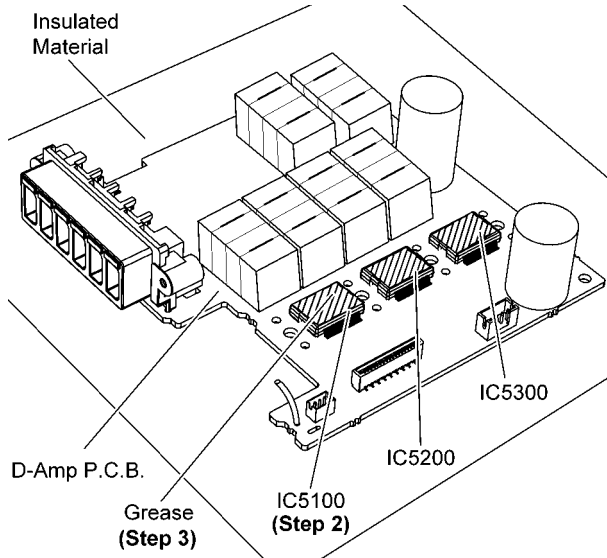
### 10.17.2. Assembly of Digital Amplifier IC (IC5100/IC5200/IC5300)

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

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

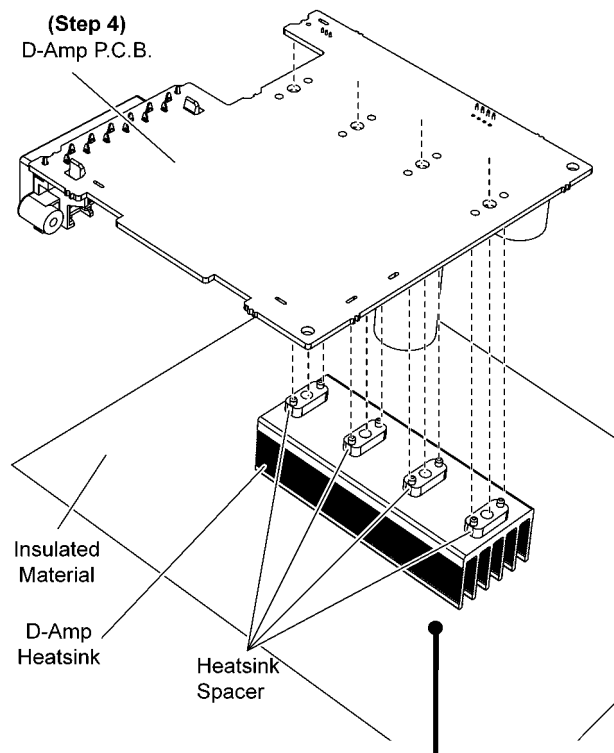
**Caution:** Ensure that the pins of Digital Amplifier IC (IC5100) is positioned correctly on D-Amp P.C.B. before soldering.

**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**

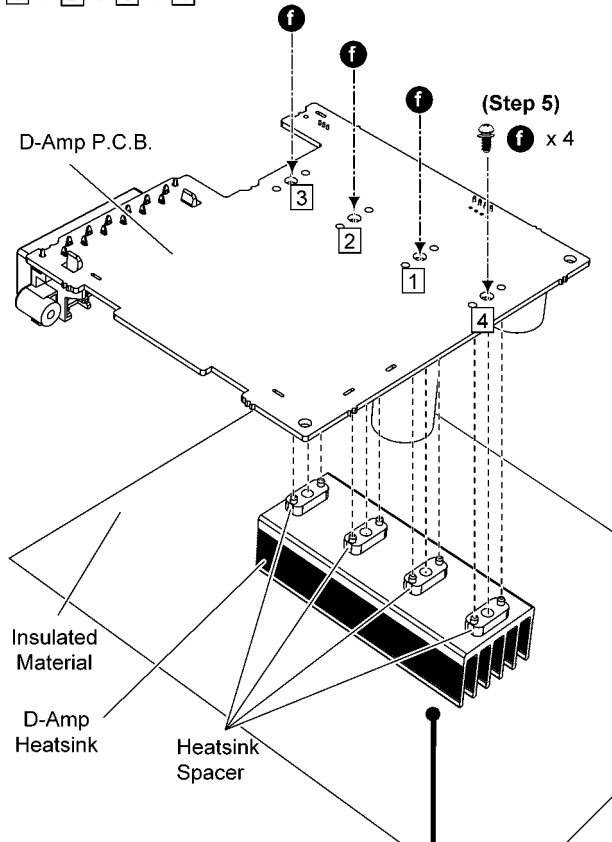
**Step 5** Fix 4 screws.

**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..

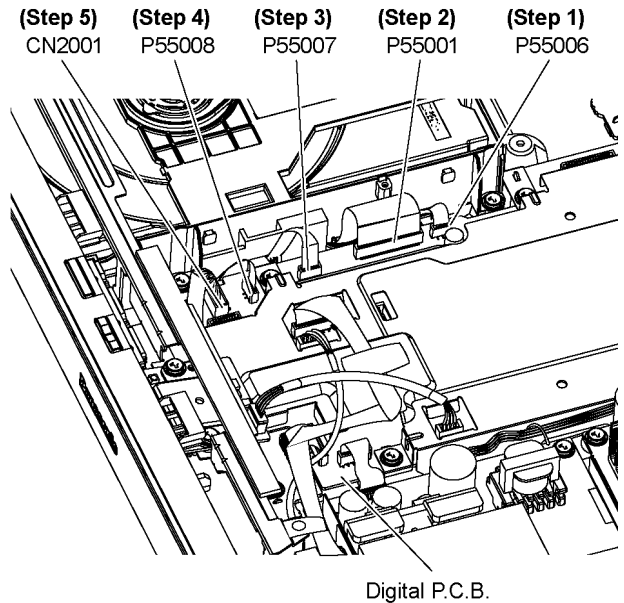
**Step 2** Detach 45P FFC at the connector (P55001) on Digital P.C.B..

**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.

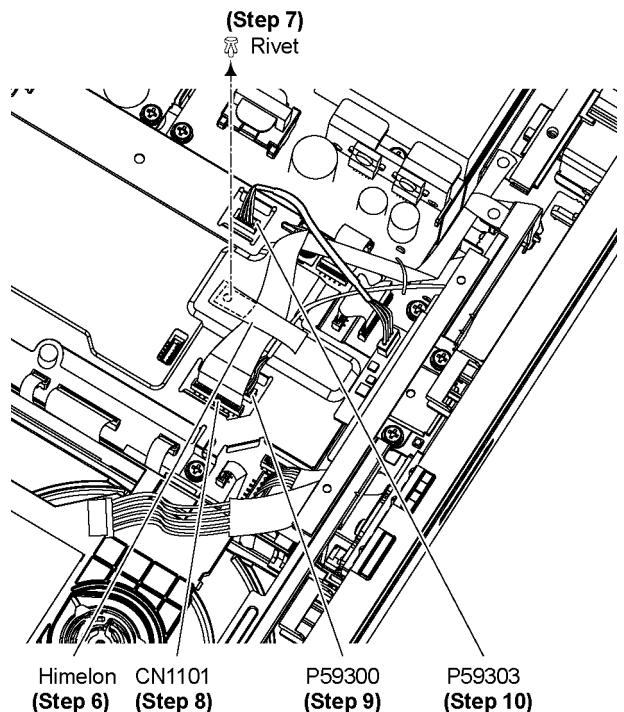
**Step 7** Remove 1 Rivet.

**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..

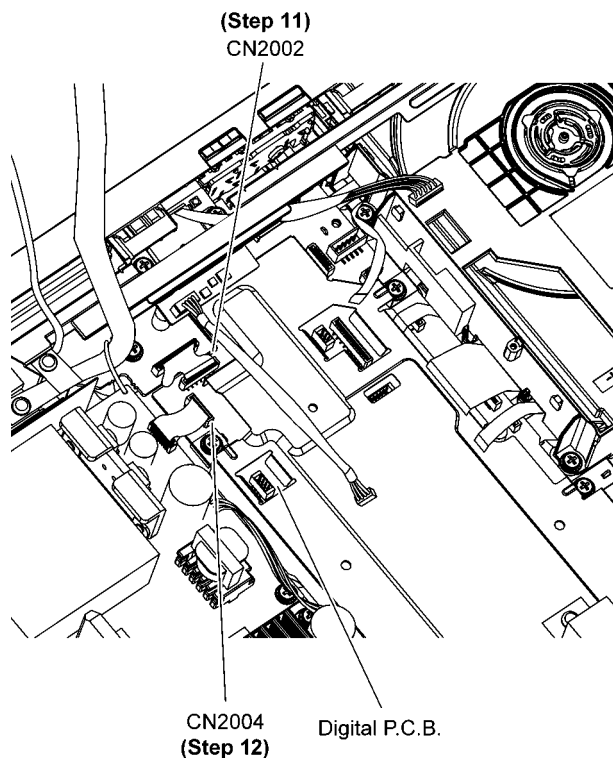
**Step 9** Detach 3P Wire at the connector (P59300) on Digital P.C.B..

**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..

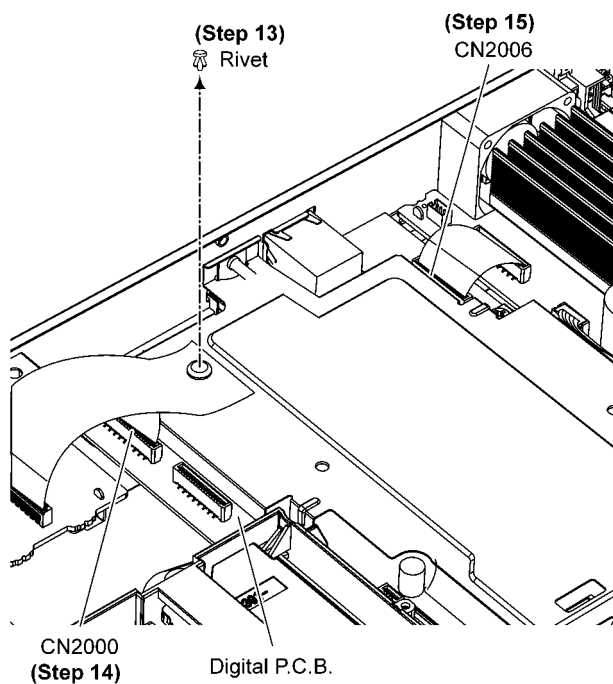


**Step 13** Remove 1 rivet.

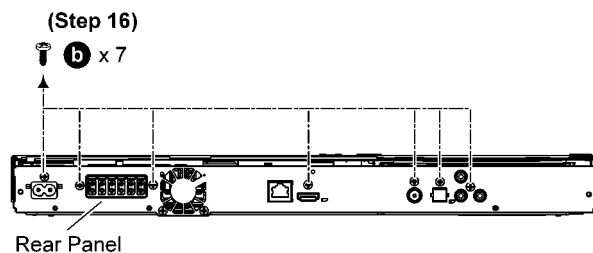
**Caution: Keep the Rivet in safe place, place it back during assembling.**

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

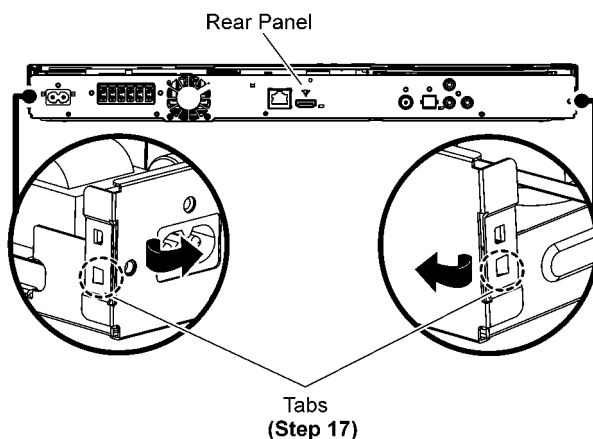
**Step 15** Detach 18P FFC at the connector (CN2006) on Digital P.C.B..



**Step 16** Remove 7 screws.

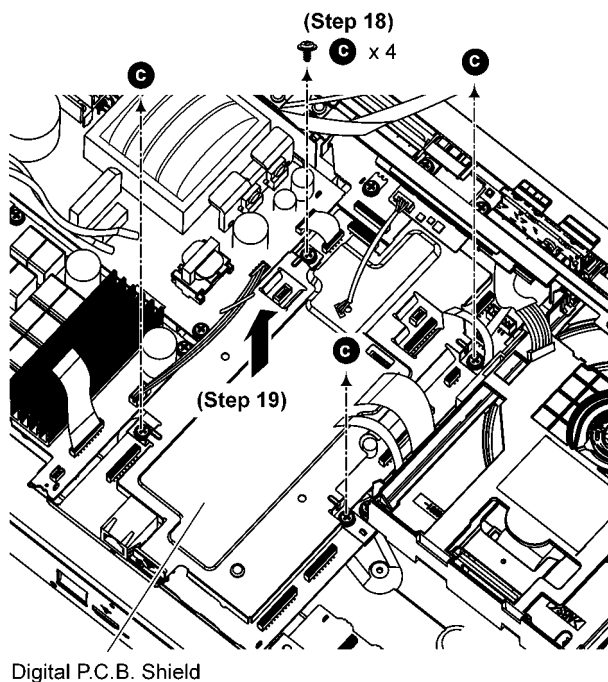


**Step 17** Release the tabs at both side of the Rear Panel in the direction of arrow.

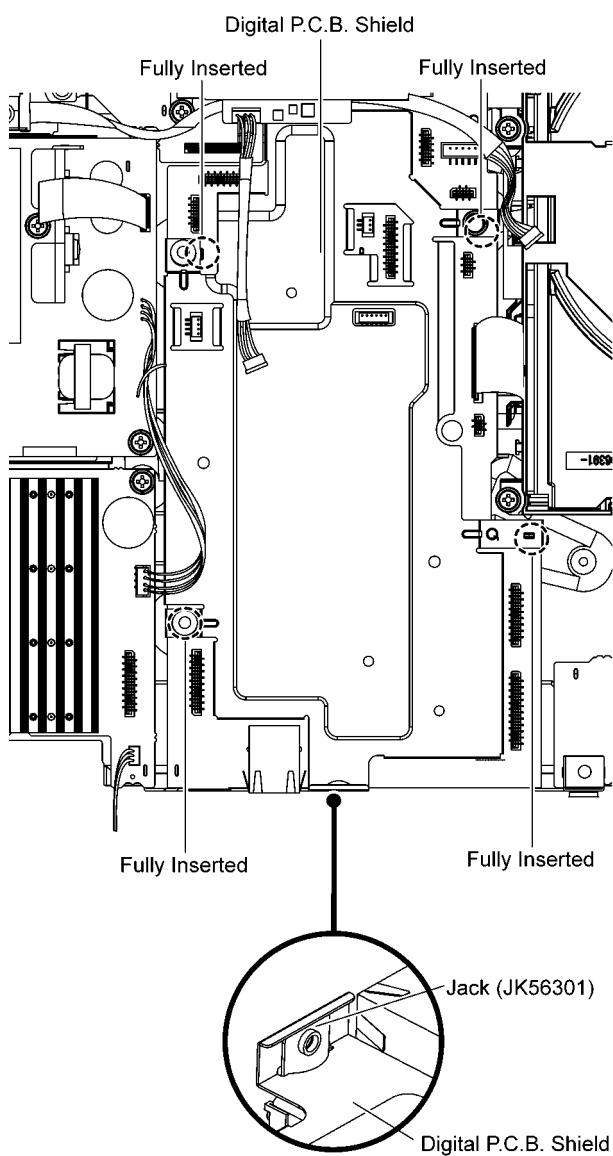


**Step 18** Remove 4 screws.

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

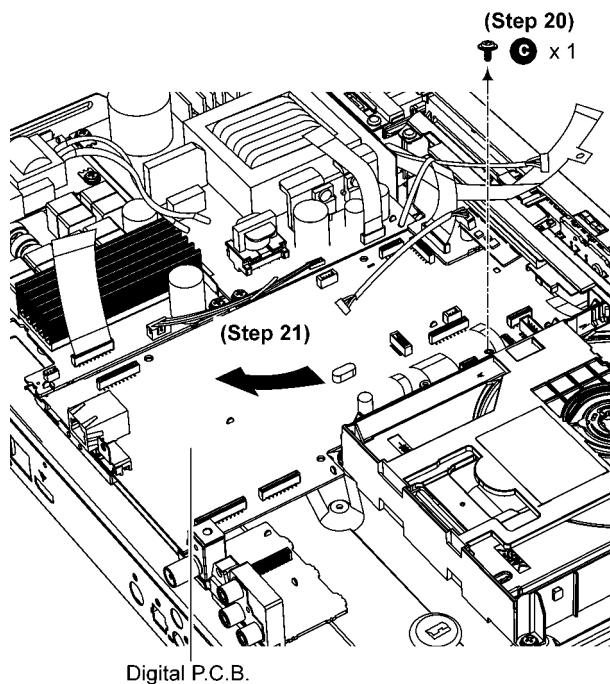


**Caution:** Keep the Digital P.C.B. Shield in safe place. During assembling, ensure that Digital P.C.B. Shield is properly inserted & fully seated onto Digital P.C.B..

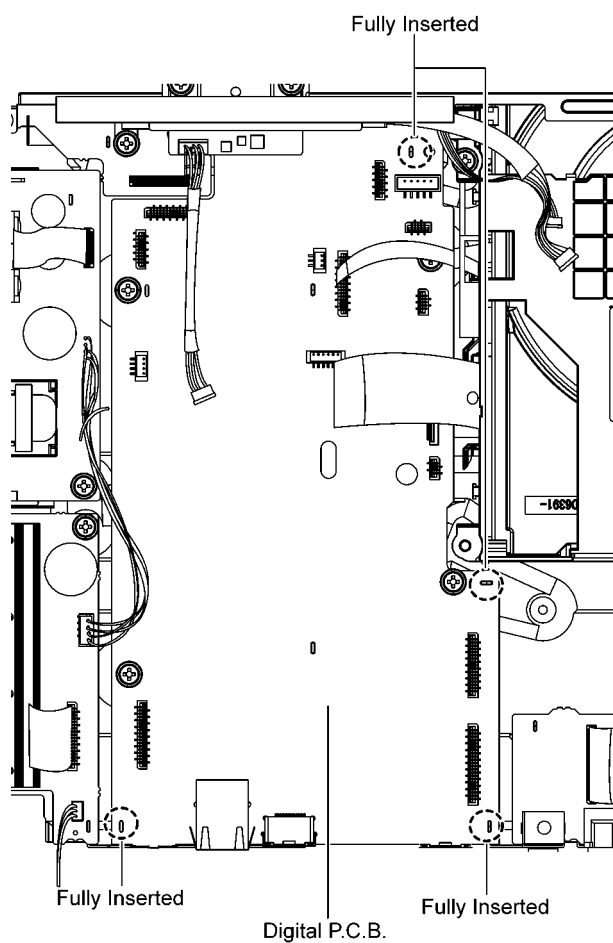


**Step 20** Remove 1 screw.

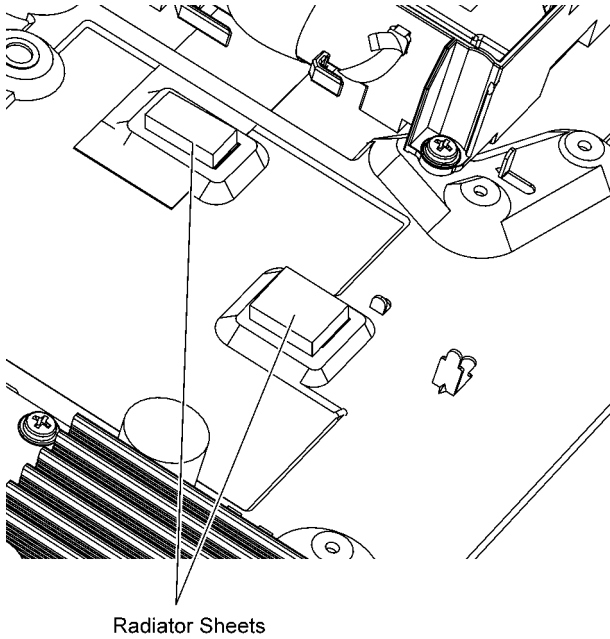
**Step 21** Remove Digital P.C.B..



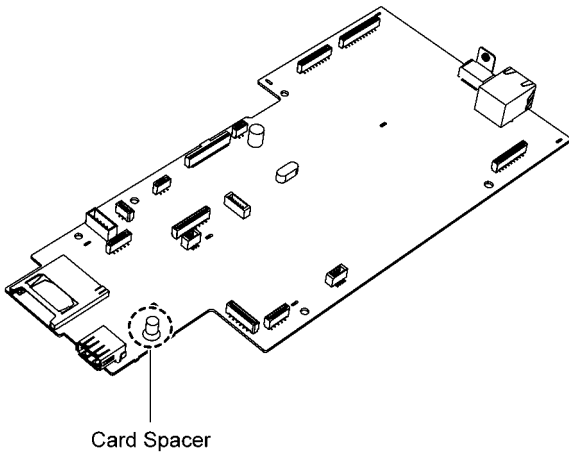
**Caution:** During assembling, ensure that Digital P.C.B. is properly located & fully seated onto Bottom Chassis.



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



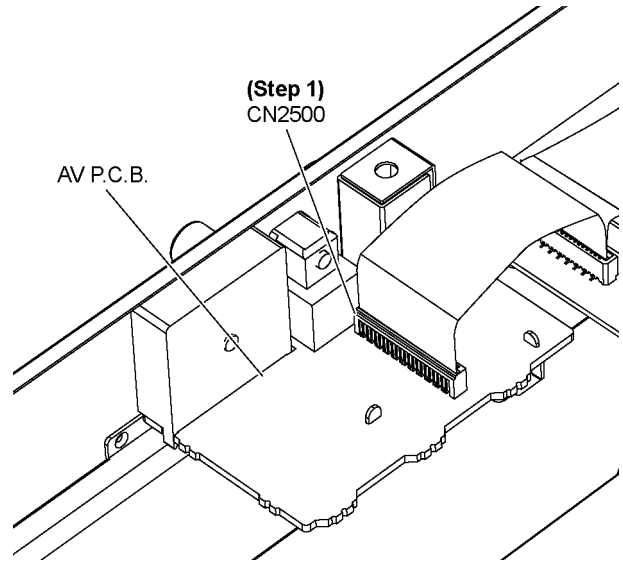
**Caution:** Replace the Card Spacer if broken.



## 10.19. Disassembly of AV P.C.B.

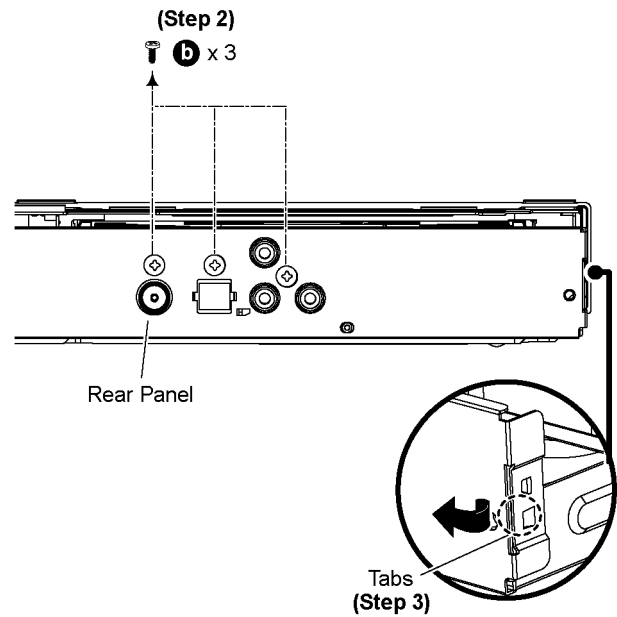
• Refer to "Disassembly of Top Cabinet".

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

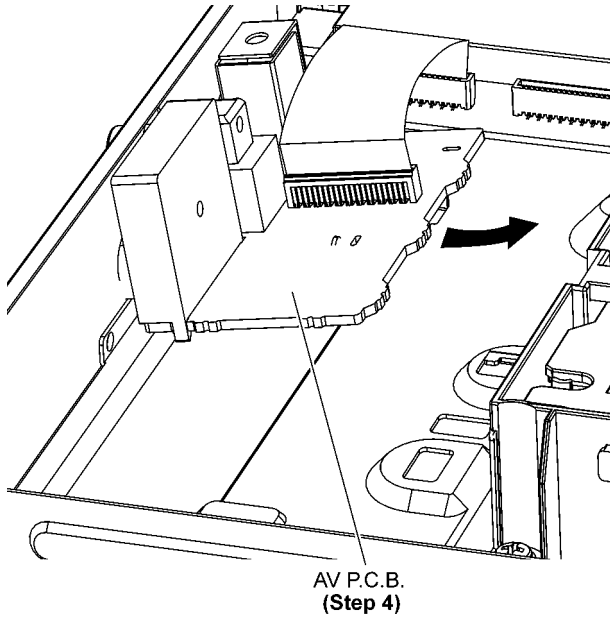


**Step 2** Remove 3 screws.

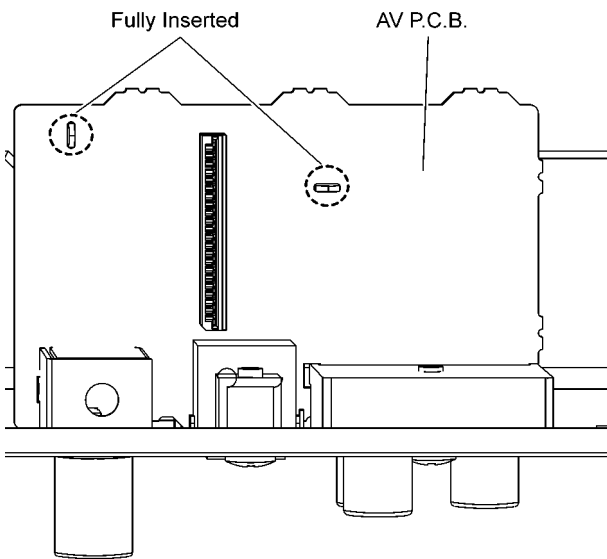
**Step 3** Release the tabs of the right side of the Rear Panel in the direction of arrow.



**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.

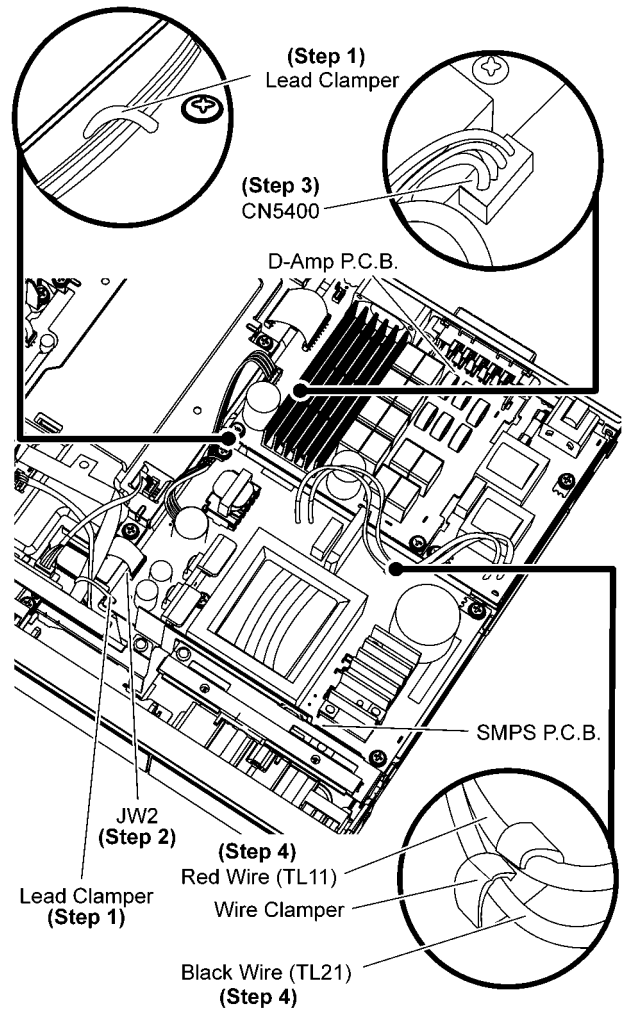
• Refer to "Disassembly of Top Cabinet".

**Step 1** Lift up the Lead Clampers.

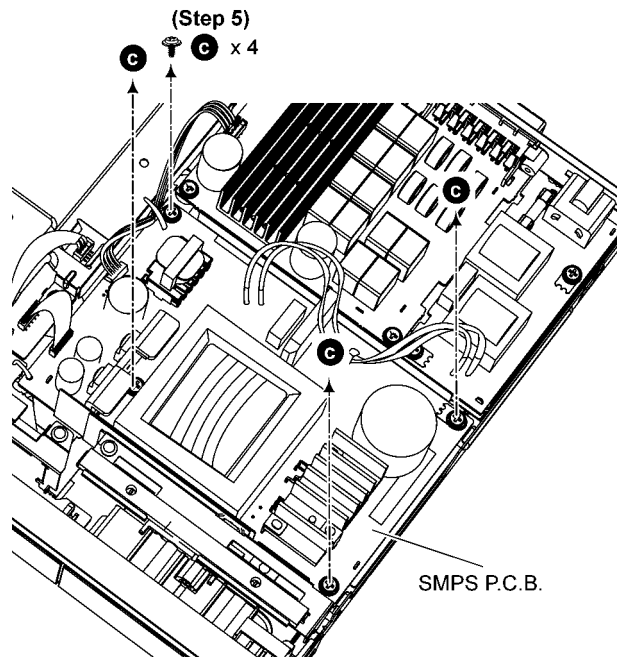
**Step 2** Detach 10P FFC at the connector (JW2) on SMPS P.C.B..

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

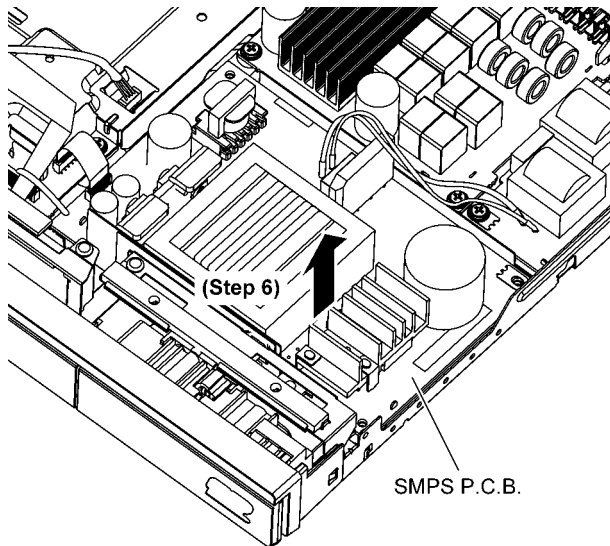
**Step 4** Release Red Wire (TL11) & Black Wire (TL21) from the Wire Clamper.



**Step 5** Remove 4 screws.



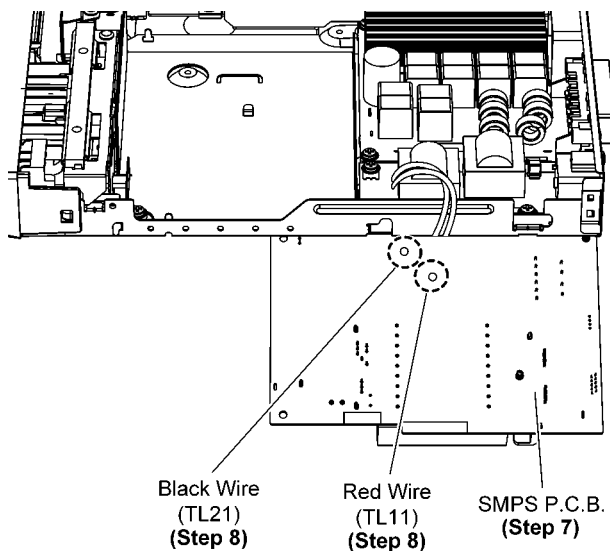
**Step 6** Lift up the SMPS P.C.B..



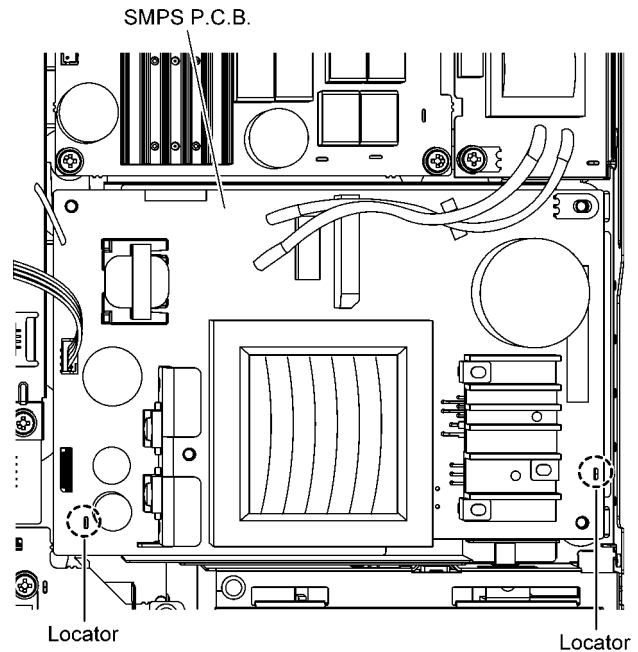
**Step 7** Position the SMPS P.C.B. according to diagram shown.

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

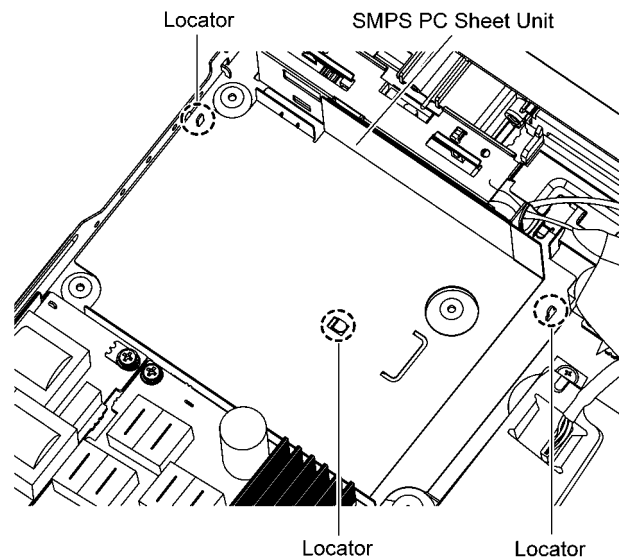
**Step 9** Remove the SMPS P.C.B..



**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.”.

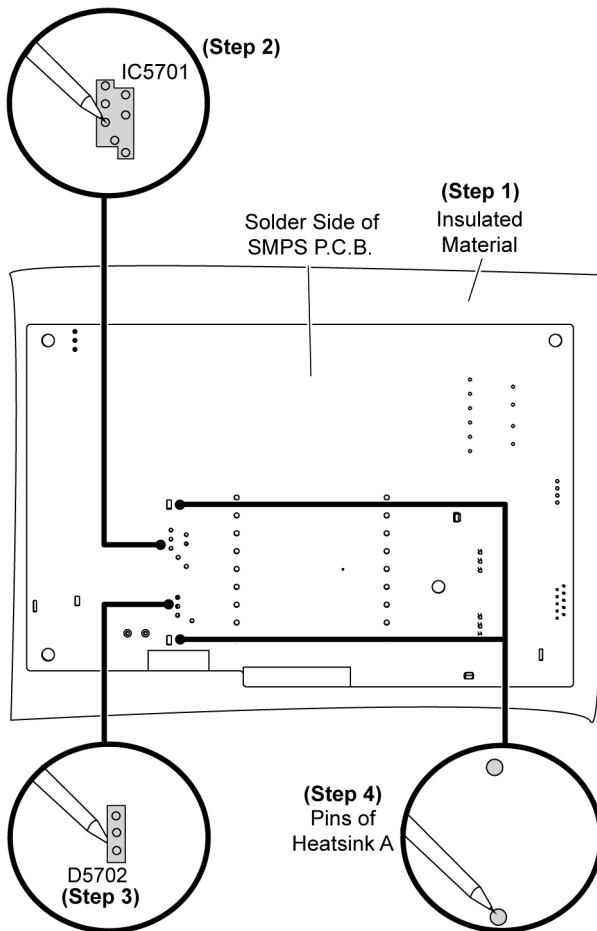
### 10.21.1. Disassembly of Switching Regulator IC (IC5701)

**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..

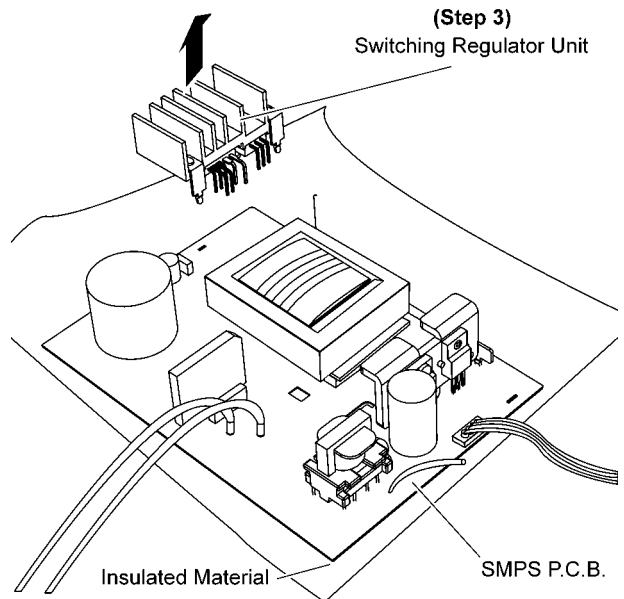
**Step 3** Desolder pins of the Rectifier Diode (D5702) on the solder side of SMPS P.C.B..

**Step 4** Desolder pins of the Heatsink A.



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

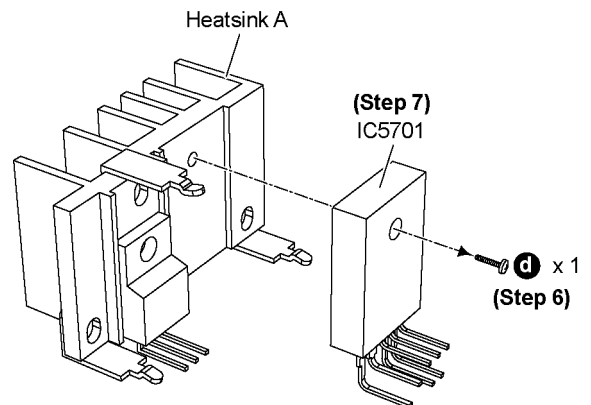
**Caution:** Avoid touching the Switching Regulator Unit due to its high temperature after prolonged use. Touching it may lead to injuries.



**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.

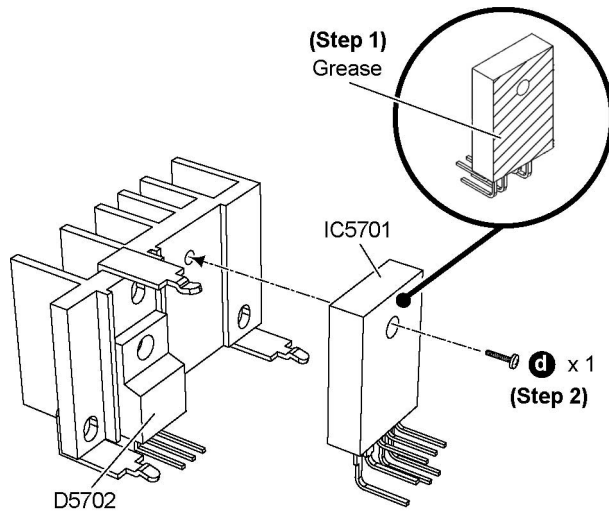


### 10.21.2. Assembly of Switching Regulator IC (IC5701)

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

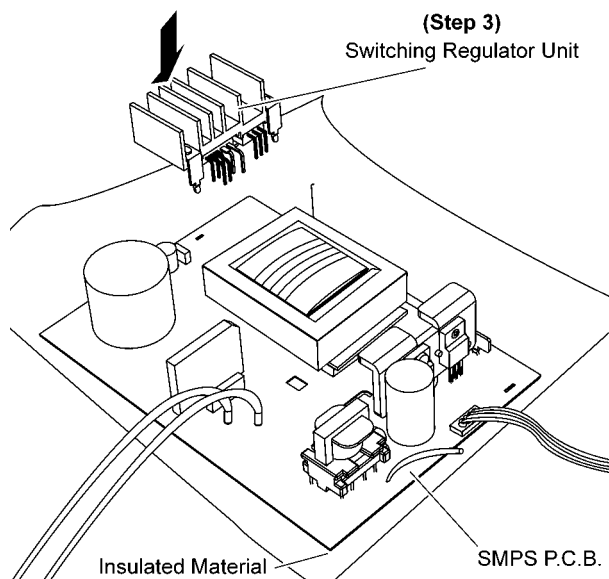
**Step 2** Fix & screw the Switching Regulator IC (IC5701) to the Switching Regulator Unit.

**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..

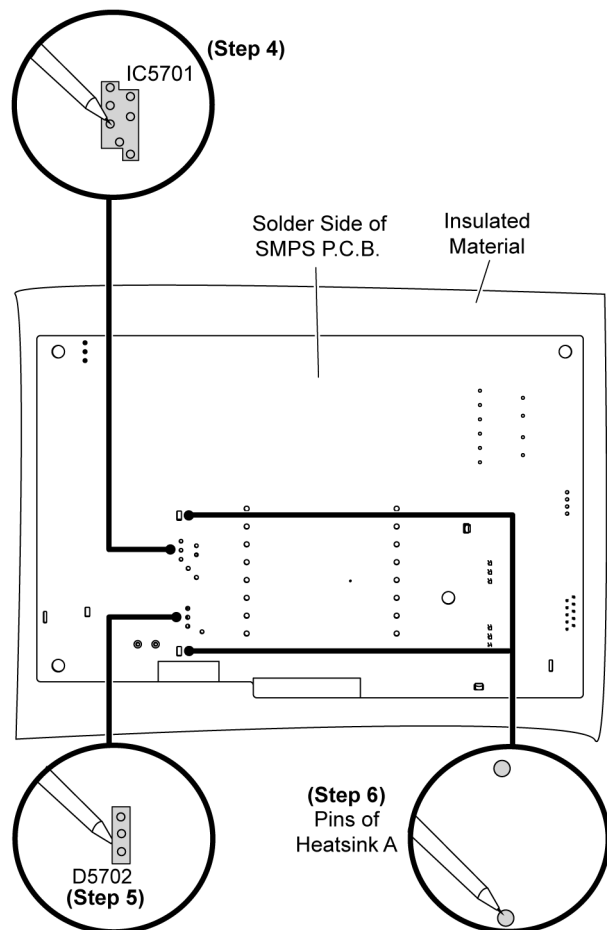
**Caution:** Ensure that Switching Regulator Unit is properly seated on SMPS P.C.B..



**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.”.

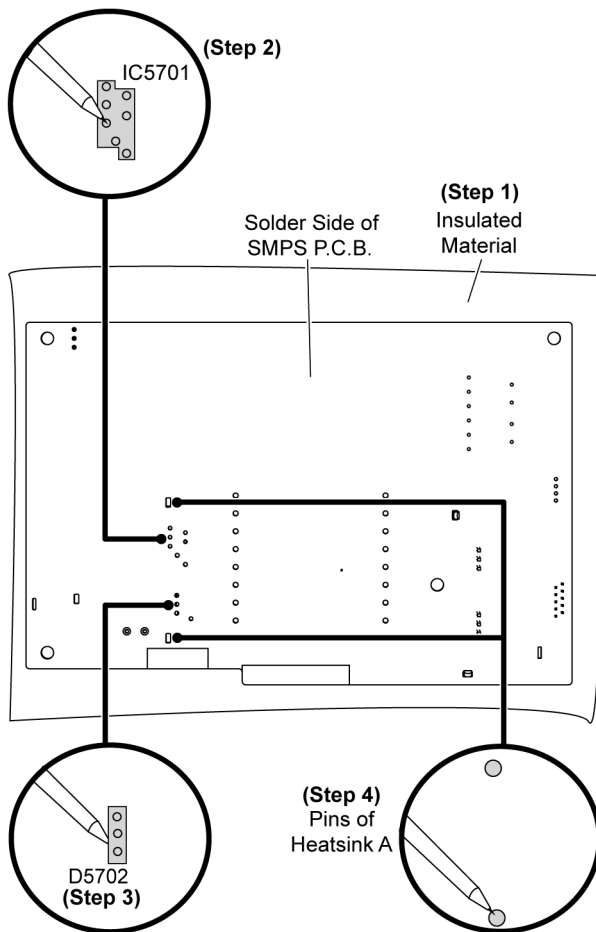
### 10.22.1. Disassembly of Rectifier Diode (D5702)

**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..

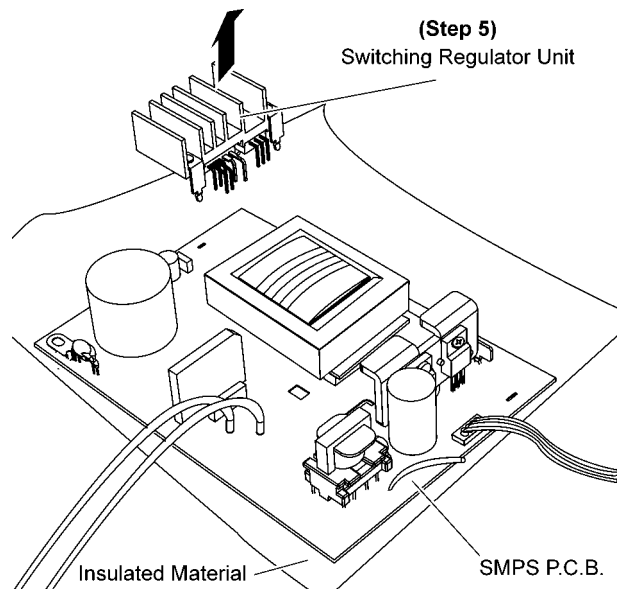
**Step 3** Desolder pins of the Rectifier Diode (D5702) on the solder side of SMPS P.C.B..

**Step 4** Desolder pins of the Heatsink A.



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

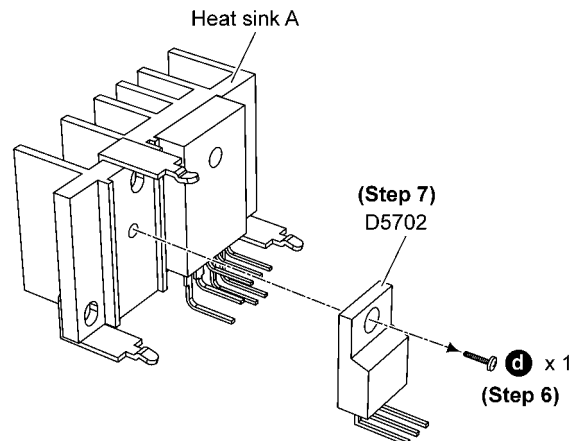
**Caution:** Avoid touching the Switching Regulator Unit due to its high temperature after prolonged use. Touching it may lead to injuries.



**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.

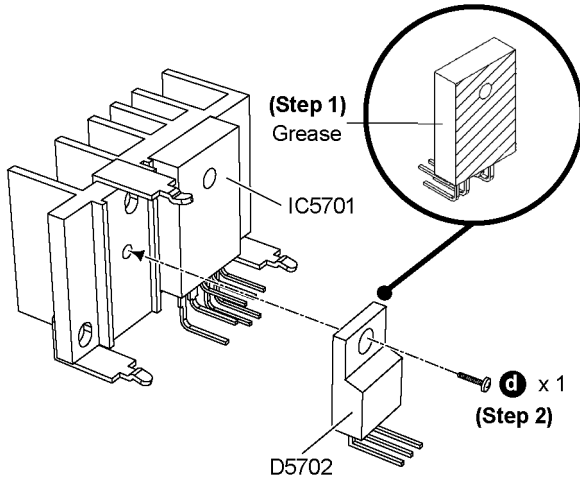


## 10.22.2. Assembly of Rectifier Diode (D5702)

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

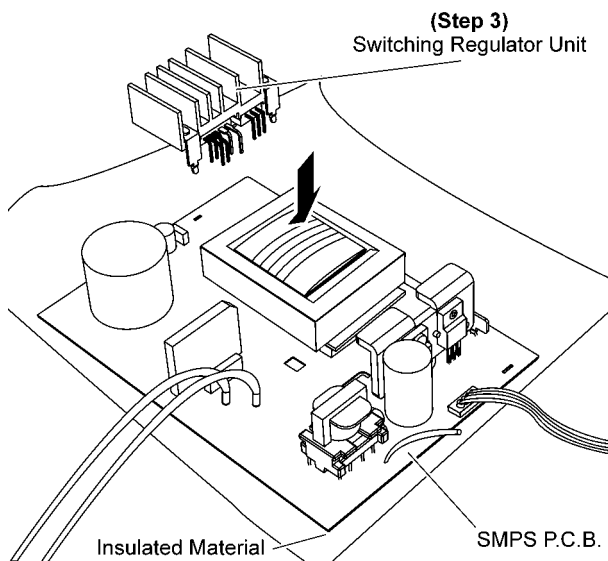
**Step 2** Fix & screw the Rectifier Diode (D5702) to the Heatsink A.

**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..

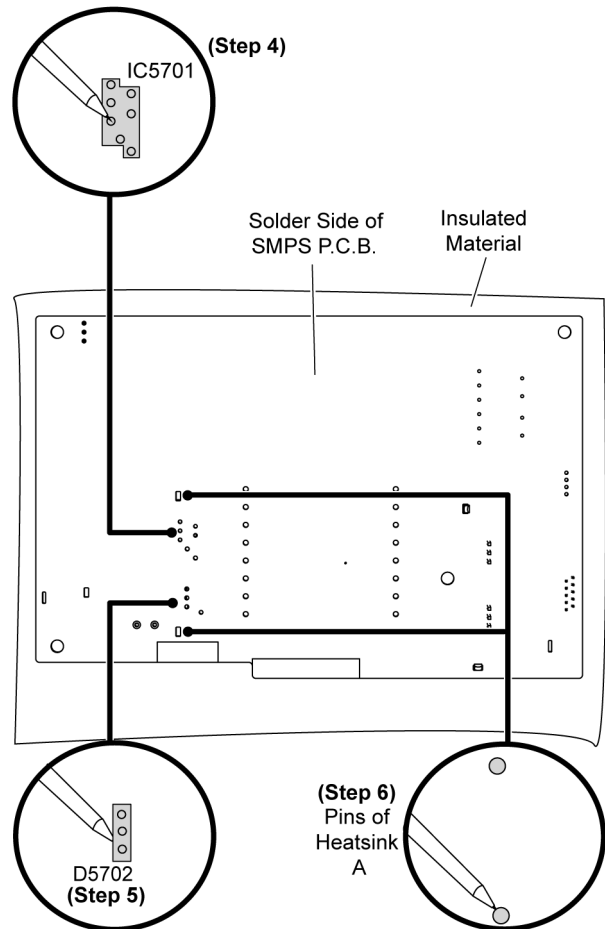
**Caution:** Ensure that Switching Regulator Unit is properly seated on SMPS P.C.B..



**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.



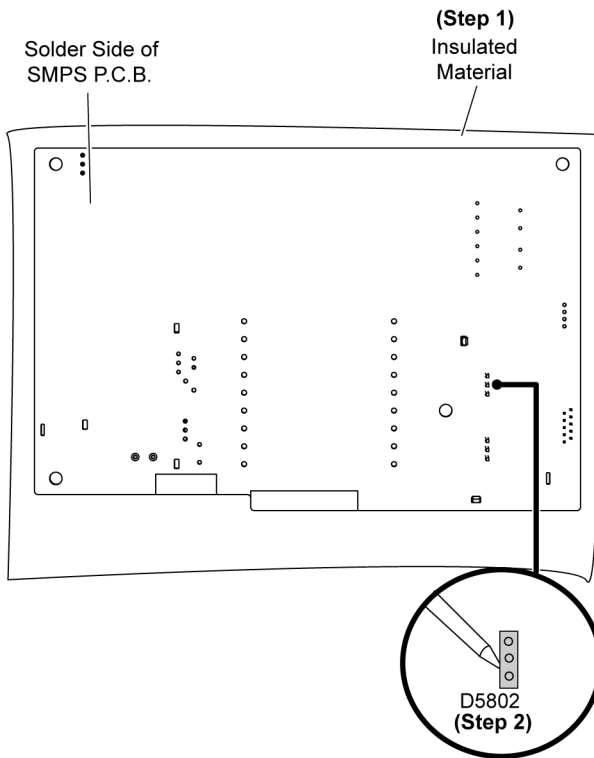
## 10.23. Replacement of Thermal Diode (D5802)

- 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..

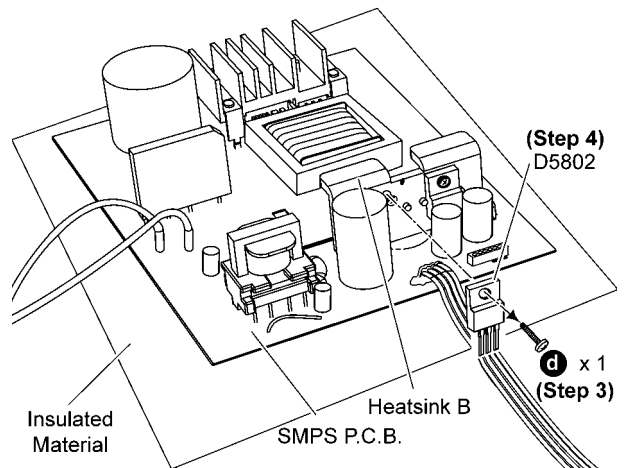


**Step 3** Remove 1 screw from the Thermal Diode (D5802).

**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.

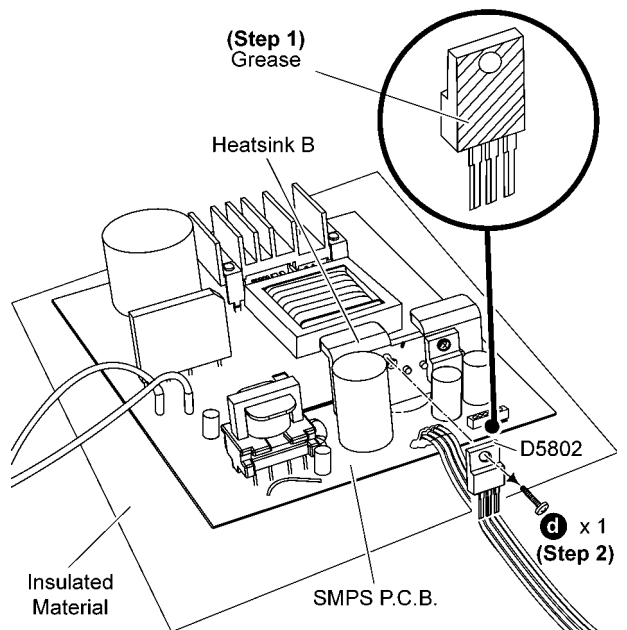


### 10.23.2. Assembly of Thermal Diode (D5802)

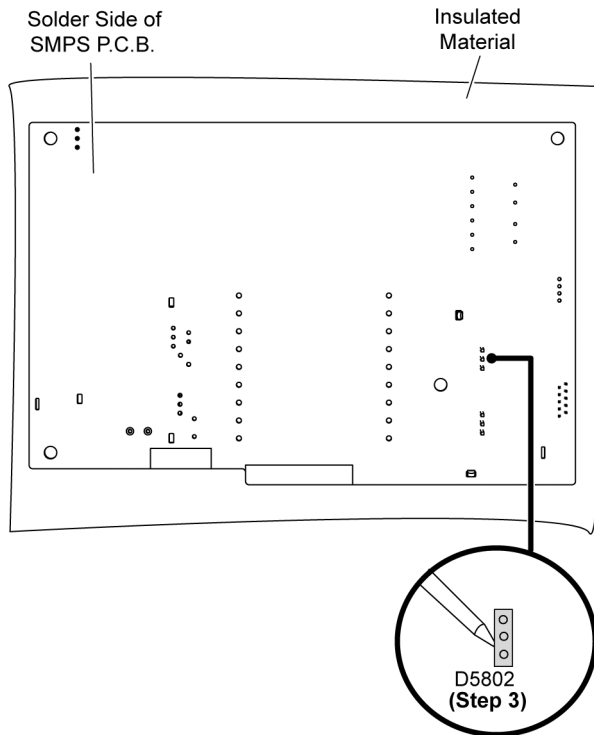
**Step 1** Apply Grease to the back of Thermal Diode (D5802).

**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..



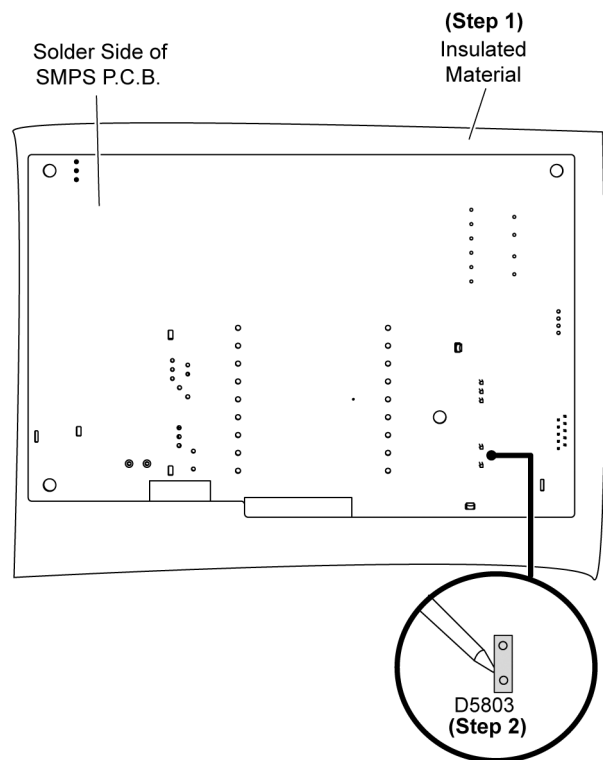
## 10.24. Replacement of Regulator Diode (D5803)

- 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..

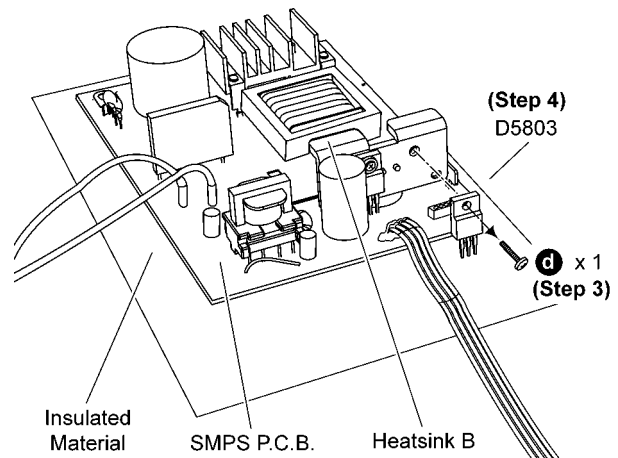


**Step 3** Remove 1 screw from the Regulator Diode (D5803).

**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.

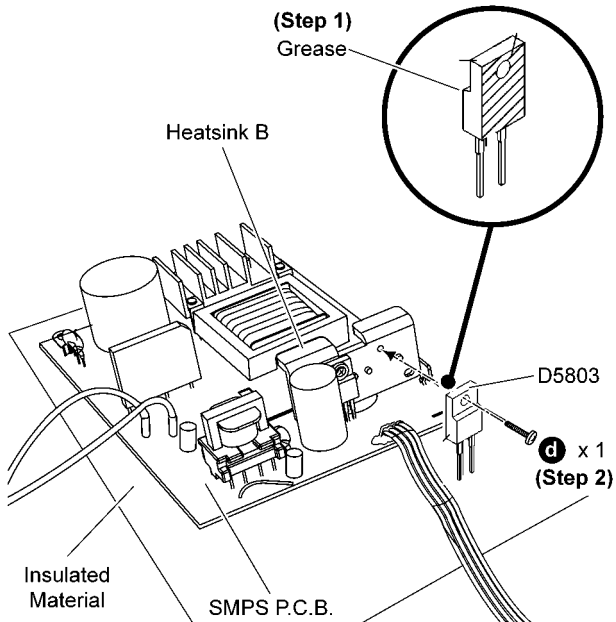


### 10.24.2. Assembly of Regulator Diode (D5803)

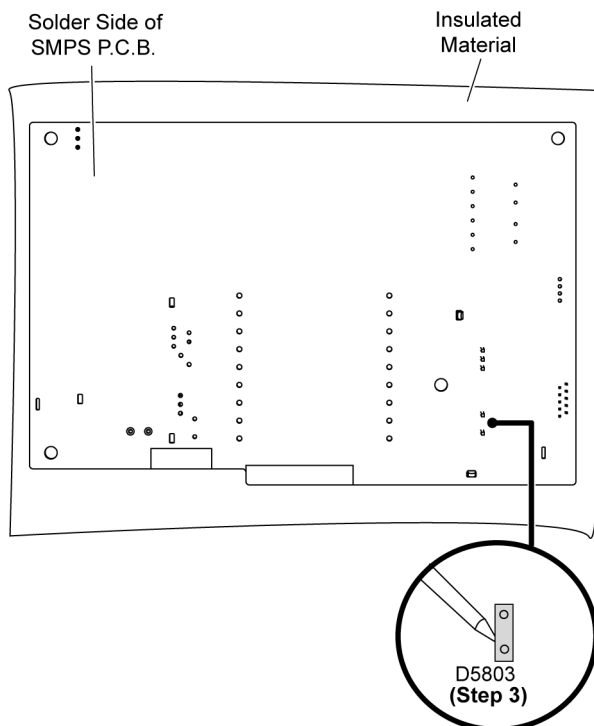
**Step 1** Apply Grease to the back of Regulator Diode (D5803).

**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.

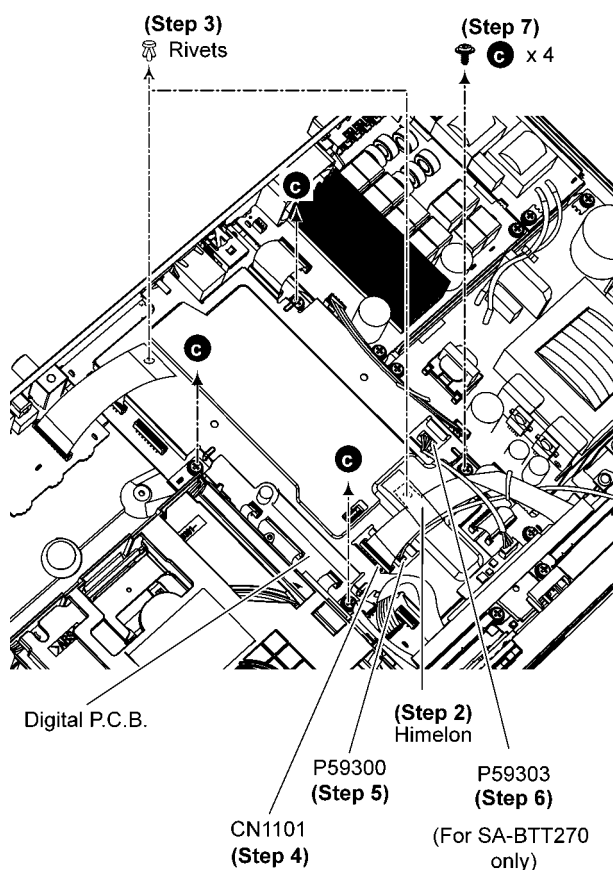
**Step 3** Remove 2 Rivets.

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

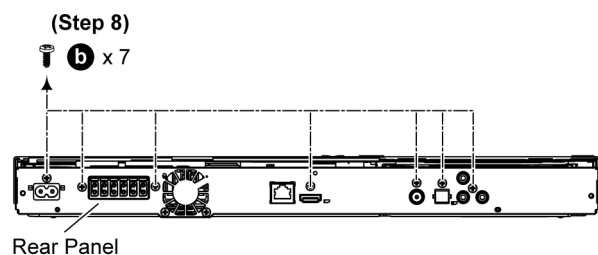
**Step 5** Detach 3P Wire at the connector (P59300) on Digital P.C.B..

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

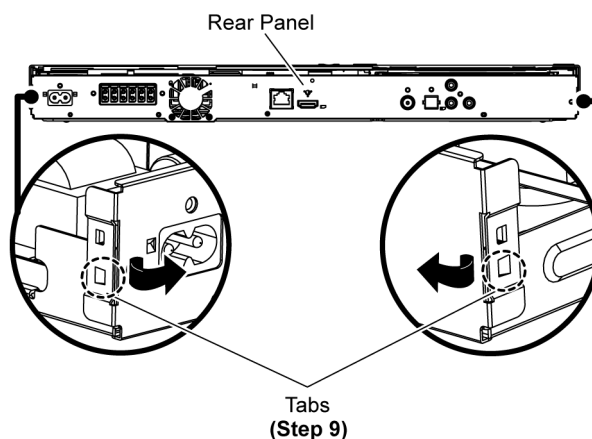
**Step 7** Remove 4 screws.



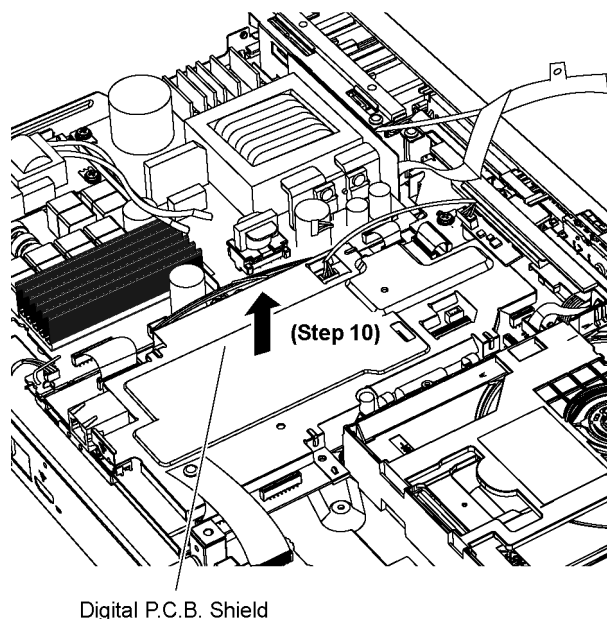
**Step 8** Remove 7 screws.



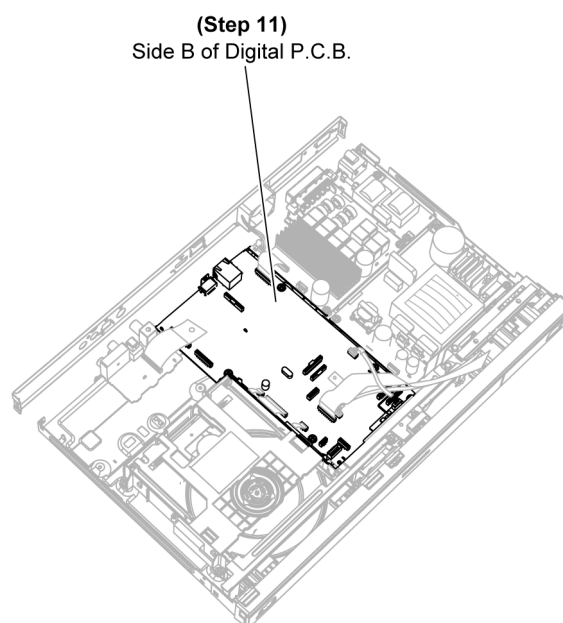
**Step 9** Release the tabs at both side of the Rear Panel in the direction of arrow.



**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..

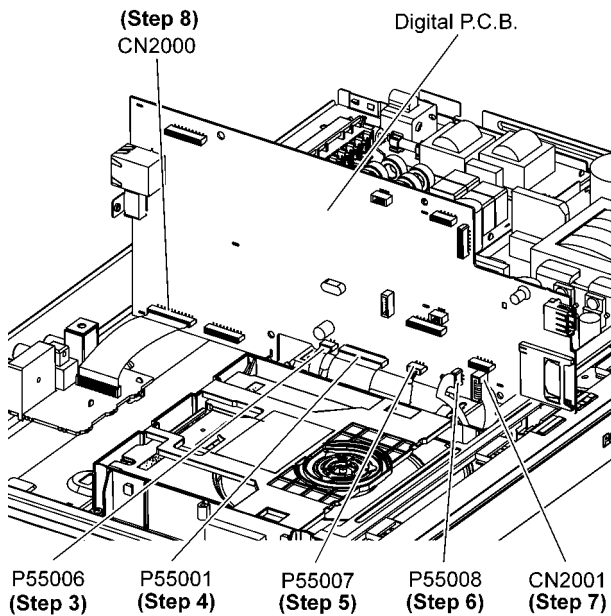
**Step 4** Connect 45P FFC at the connector (P55001) on Digital P.C.B..

**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..



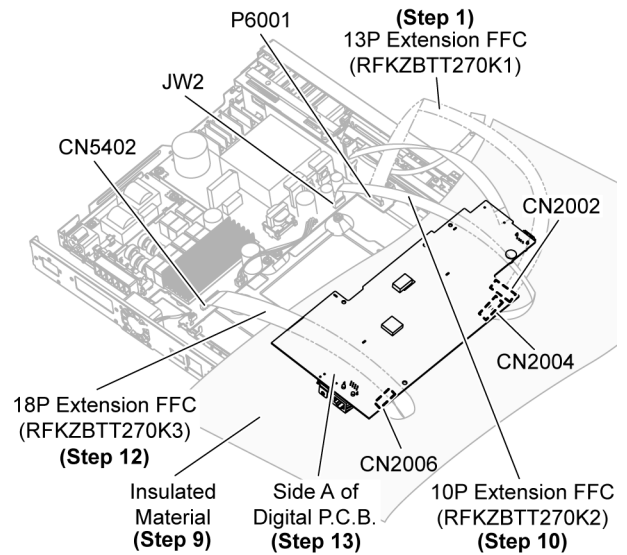
**Step 9** Place Digital P.C.B. under an insulated material.

**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.

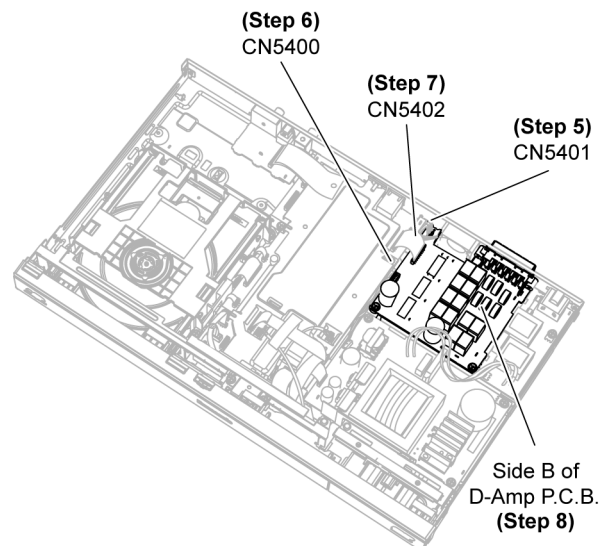
**Step 4** Place D-Amp P.C.B. onto Bottom Chassis.

**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..

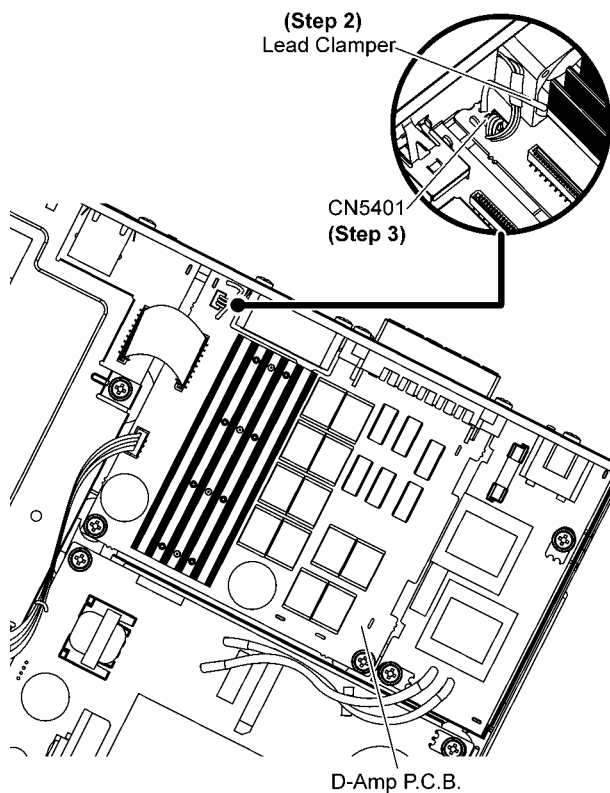


### 11.2.2. Checking & Repairing of D-Amp P.C.B. (Side A)

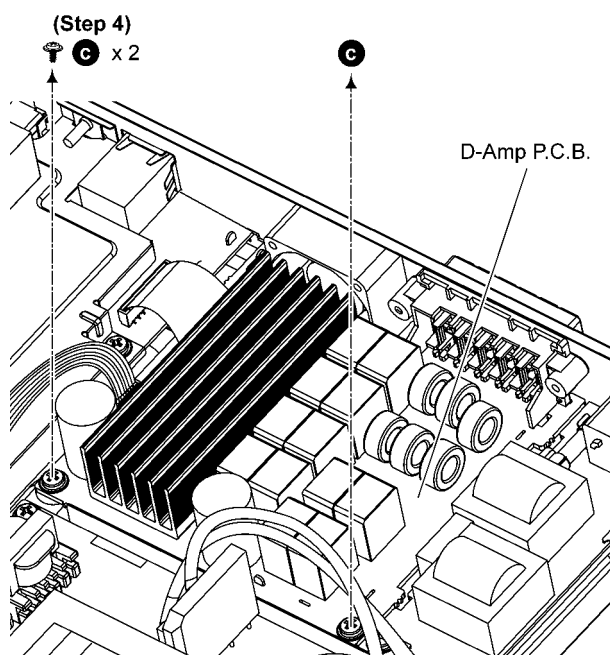
**Step 1** Remove Top Cabinet.

**Step 2** Lift up the Lead Clamper.

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

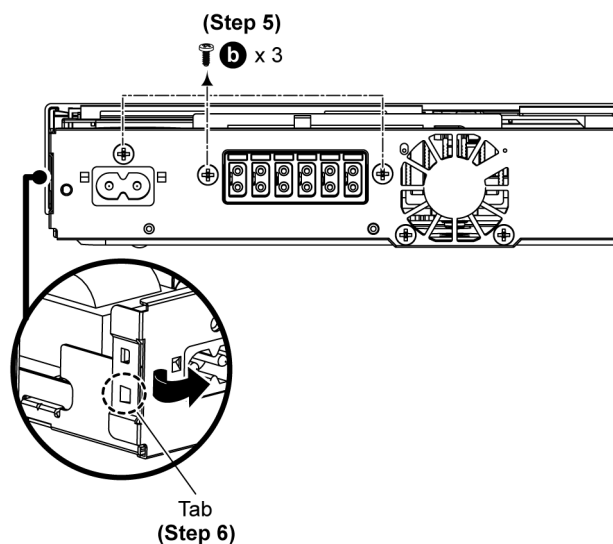


**Step 4** Remove 2 screws.

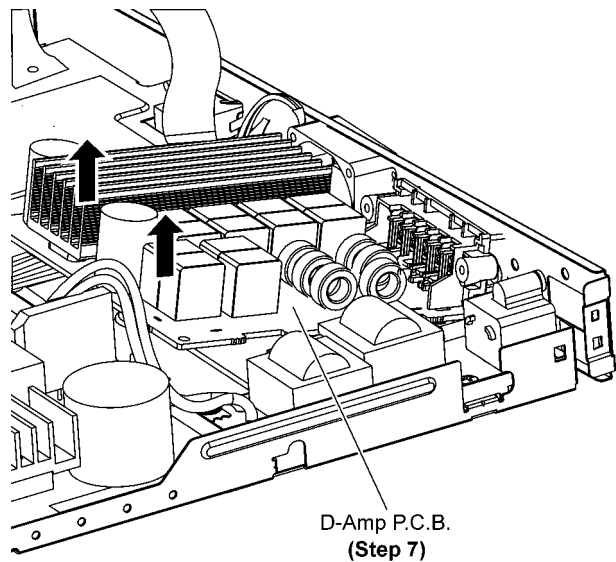


**Step 5** Remove 3 screws.

**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..

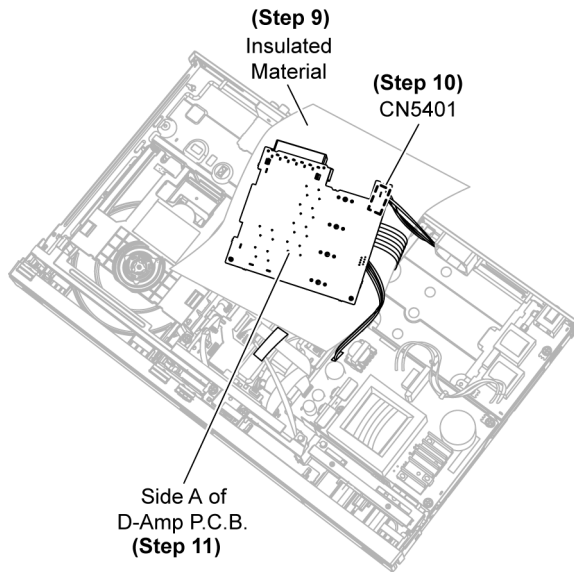


**Step 8** Flip the D-Amp P.C.B. and position it according to diagram shown.

**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..

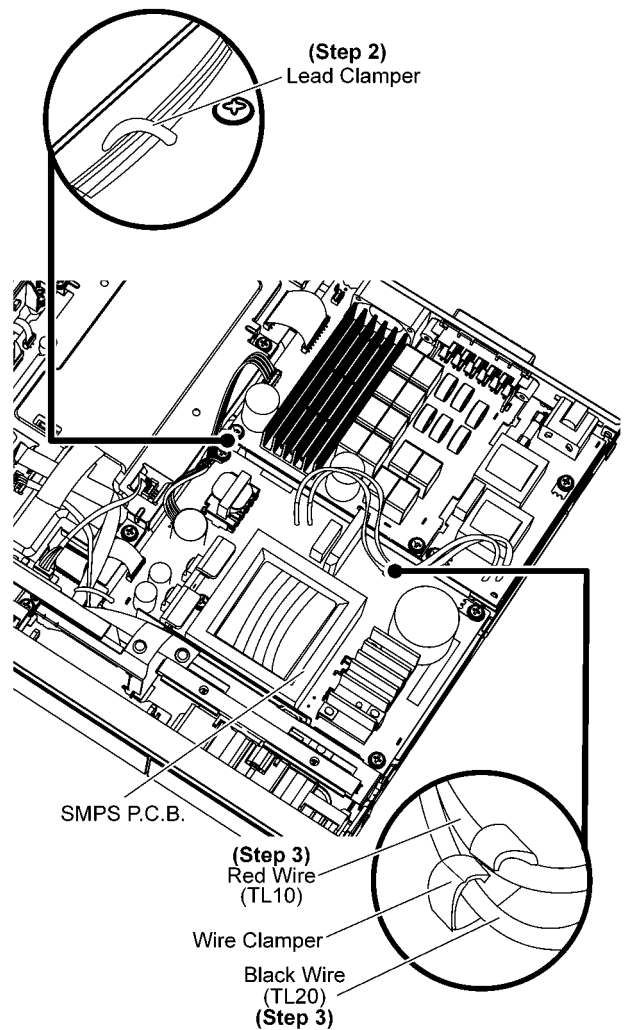


### 11.3. Checking & Repairing SMPS P.C.B.

**Step 1** Remove Top Cabinet.

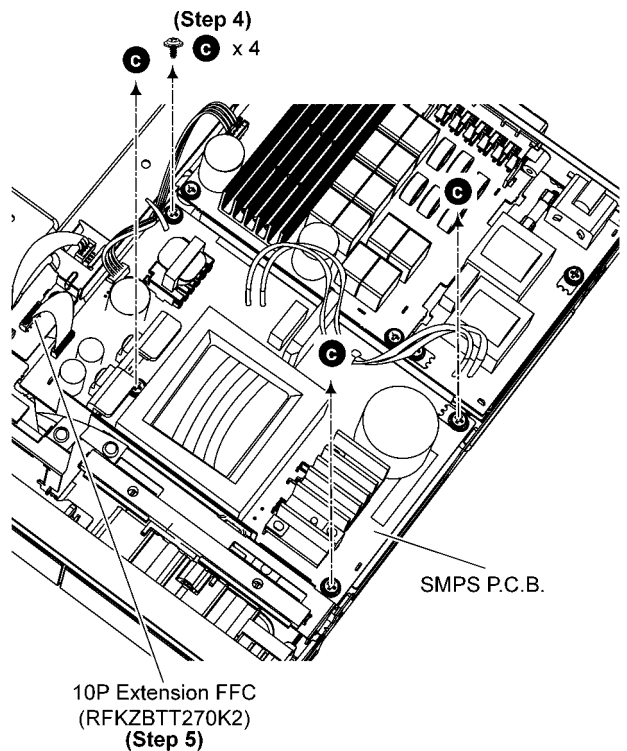
**Step 2** Lift up the Lead Clamper.

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

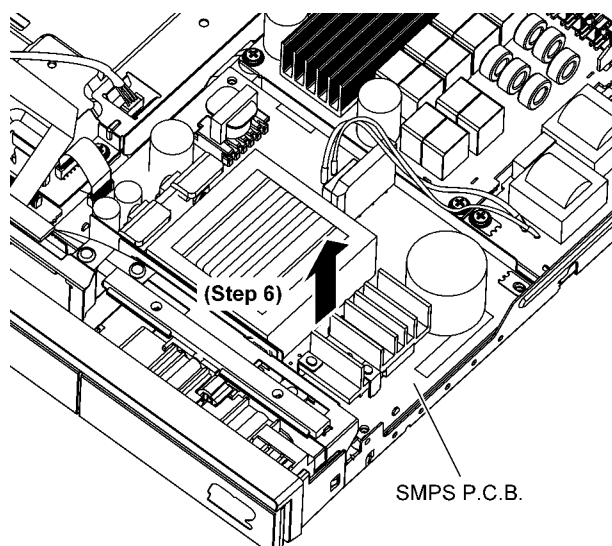


**Step 4** Remove 4 screws.

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



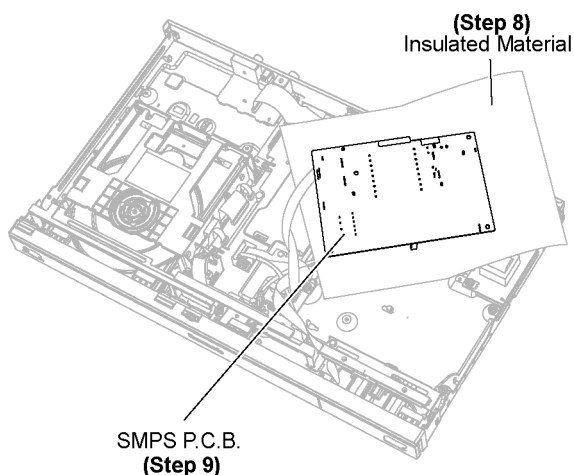
**Step 6** Lift up the SMPS P.C.B..



**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).

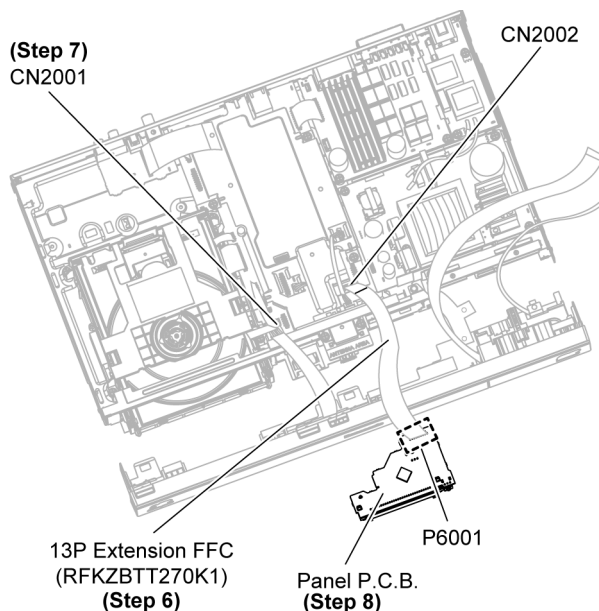
**Step 4** Remove the Panel P.C.B..

**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..

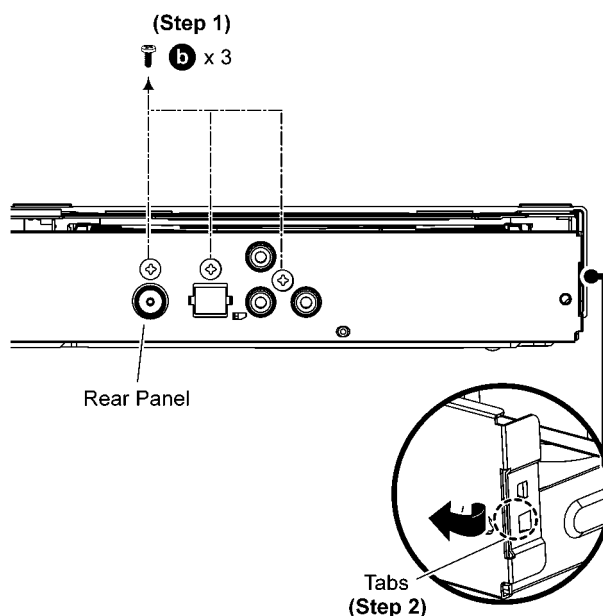
**Step 8** Proceed to check & repair Panel P.C.B..



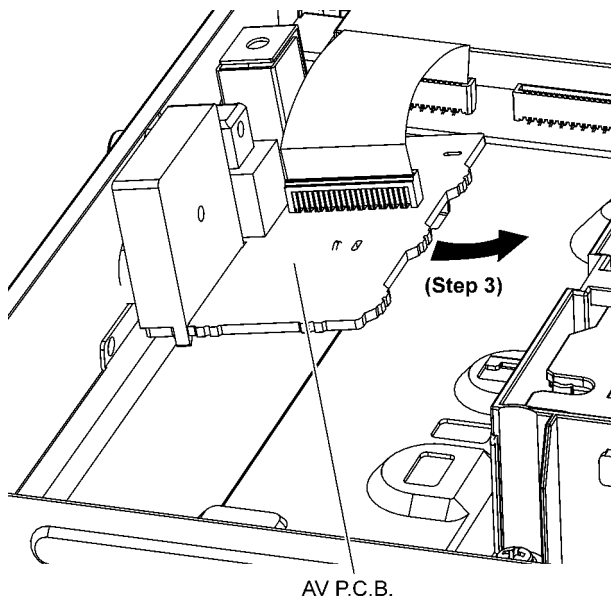
## 11.5. Checking & Repairing of AV P.C.B.

**Step 1** Remove 3 screws.

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



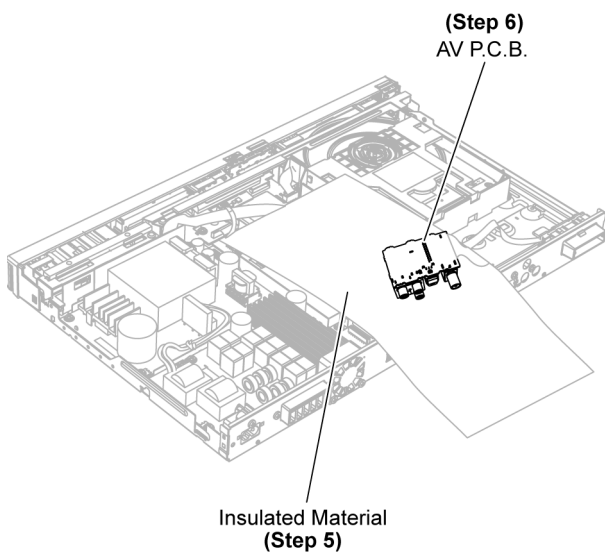
**Step 3** Remove the AV P.C.B according to direction of arrow shown.



**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 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

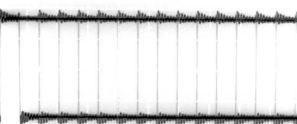
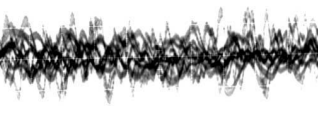
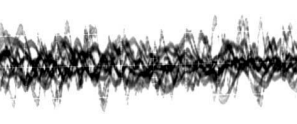
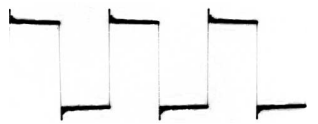
| REF NO. | Q5720 |     |     |  | Q5898 |     |     |  | Q5901 |     |     |  | Q5902 |     |      |  | QR5901 |   |   |
|---------|-------|-----|-----|--|-------|-----|-----|--|-------|-----|-----|--|-------|-----|------|--|--------|---|---|
| MODE    | E     | C   | B   |  | E     | C   | B   |  | 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 |

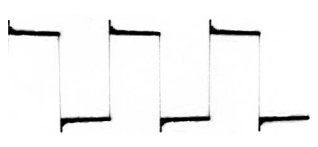
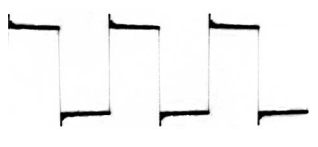
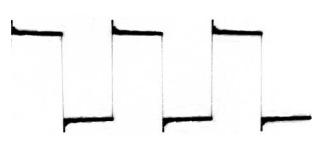
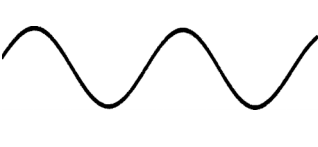
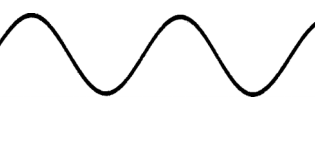
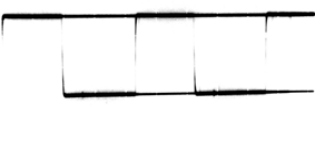
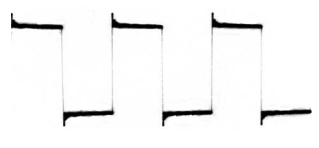
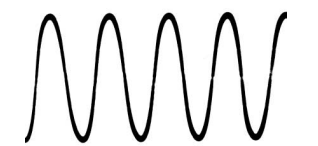
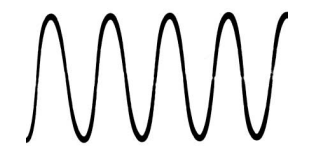
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|---------|--------|-----|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| MODE    | E      | C   | B |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CD PLAY | 0      | 4.8 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STANDBY | 0      | 4.8 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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

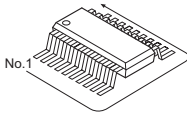
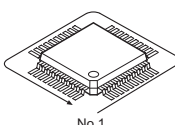
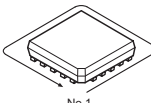
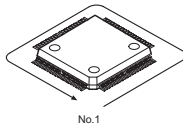
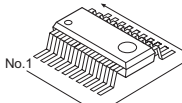
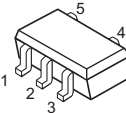
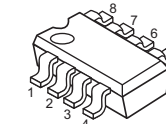
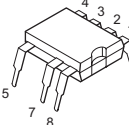
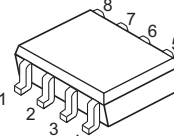
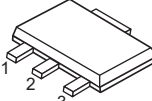
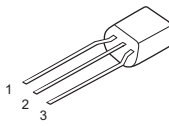
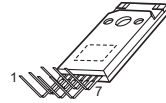
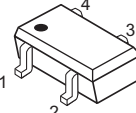
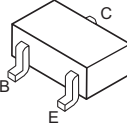
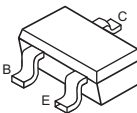
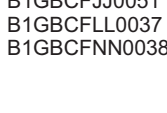
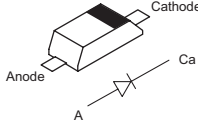
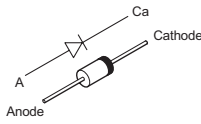
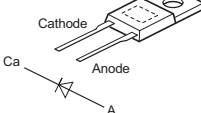
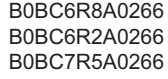
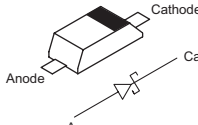
## 12.8. Waveform Table (1/2)

|                                                                                                                                                     |                                                                                                                                                     |                                                                                                                                                       |                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>WF No. IC1101-1,4 (PLAY)</p>  <p>1Vp-p(50usec/div)</p>          | <p>WF No. IC1102-1,2,6,7 (PLAY)</p>  <p>0.1Vp-p(2usec/div)</p>     | <p>WF No. IC2001-3,4 (PLAY)</p>  <p>4.5Vp-p(1usec/div)</p>          | <p>WF No. IC2001-5,6,33 (PLAY)</p>  <p>0.08Vp-p(2usec/div)</p>     |
| <p>WF No. IC2001-35,38 (PLAY)</p>  <p>5Vp-p(500nsec/div)</p>       | <p>WF No. IC2300-8 (PLAY)</p>  <p>1.25Vp-p(10usec/div)</p>         | <p>WF No. IC2300-9 (PLAY)</p>  <p>2.5Vp-p(10usec/div)</p>           | <p>WF No. IC2300-11 (PLAY)</p>  <p>4Vp-p(100nsec/div)</p>          |
| <p>WF No. IC2300-13 (PLAY)</p>  <p>2.5Vp-p(50nsec/div)</p>         | <p>WF No. IC2501-6 (PLAY)</p>  <p>1Vp-p(50usec/div)</p>           | <p>WF No. IC2501-30 (PLAY)</p>  <p>2Vp-p(50usec/div)</p>           | <p>WF No. IC2800-1,12 (PLAY)</p>  <p>0.4Vp-p(200usec/div)</p>     |
| <p>WF No. IC2800-2 (PLAY)</p>  <p>0.06Vp-p(2usec/div)</p>        | <p>WF No. IC2800-3 (PLAY)</p>  <p>1.25Vp-p(2usec/div)</p>        | <p>WF No. IC2800-13 (PLAY)</p>  <p>0.15Vp-p(2usec/div)</p>        | <p>WF No. IC2800-15 (PLAY)</p>  <p>0.05Vp-p(2usec/div)</p>       |
| <p>WF No. IC2952-2,13,14 (PLAY)</p>  <p>0.4Vp-p(200usec/div)</p> | <p>WF No. IC5100-6,7,12,13 (PLAY)</p>  <p>4.8Vp-p(1usec/div)</p> | <p>WF No. IC5100-27,31,36,39 (PLAY)</p>  <p>68Vp-p(1usec/div)</p> | <p>WF No. IC5200-6,7,12,13 (PLAY)</p>  <p>4.8Vp-p(1usec/div)</p> |

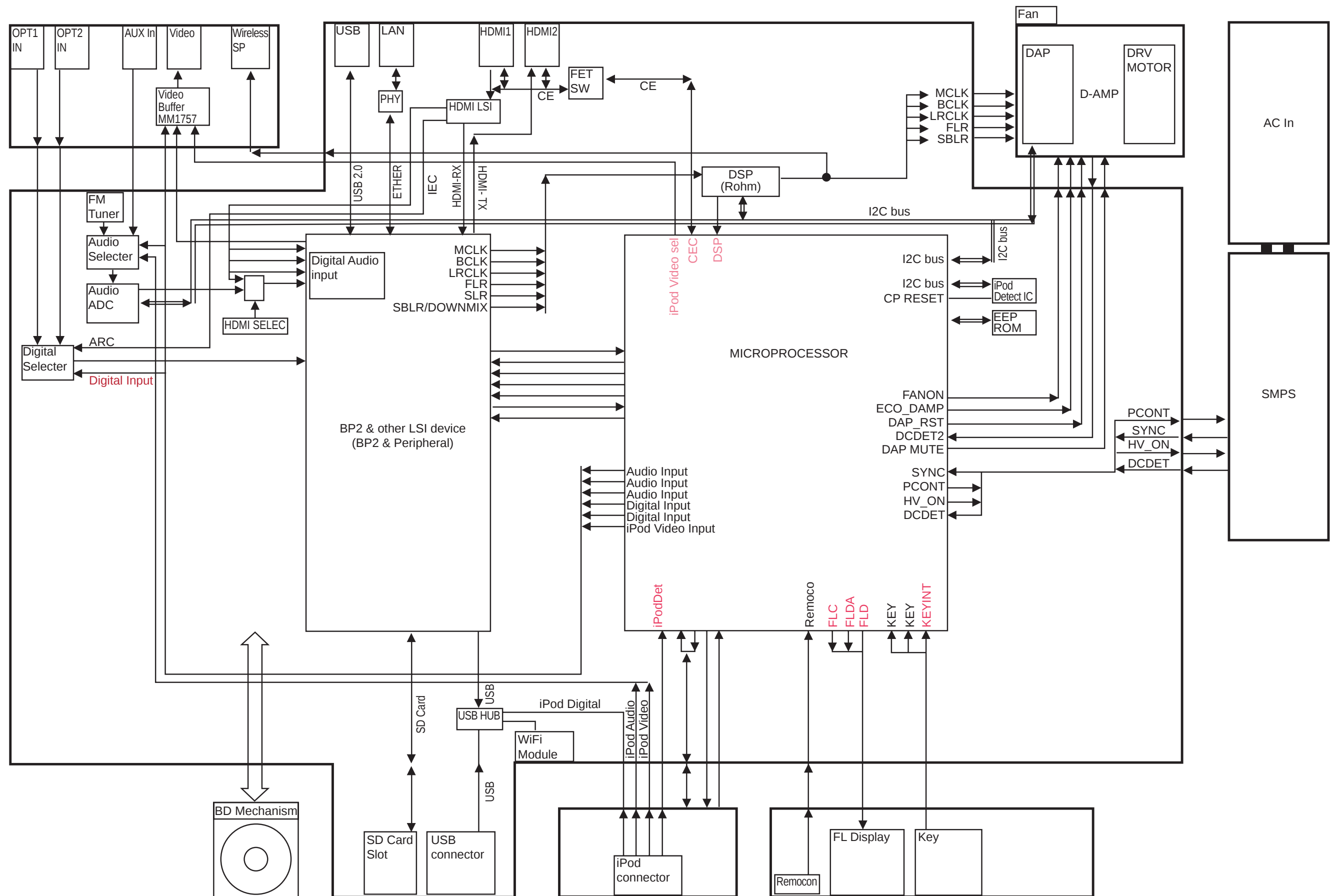
## 12.9. Waveform Table (2/2)

|                                                                                                                                                    |                                                                                                                                                   |                                                                                                                                                                            |                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <p>WF No. IC5200-27,31,36,39 (PLAY)</p>  <p>68Vp-p(1usec/div)</p> | <p>WF No. IC5300-6,7,12,13 (PLAY)</p>  <p>4.8Vp-p(1usec/div)</p> | <p>WF No. IC5300-27,31,36,39 (PLAY)</p>  <p>76Vp-p(1usec/div)</p>                        | <p>WF No. IC5301-19 (PLAY)</p>  <p>2Vp-p(20nsec/div)</p>  |
| <p>WF No. IC5301-20 (PLAY)</p>  <p>1Vp-p(20nsec/div)</p>          | <p>WF No. IC5301-29,31 (PLAY)</p>  <p>3.2Vp-p(5usec/div)</p>     | <p>WF No. IC5301-40,41,42,43,44,45,46,47,49,50,51,52 (PLAY)</p>  <p>6Vp-p(1usec/div)</p> | <p>WF No. IC6001-5 (PLAY)</p>  <p>1.25Vp-p(2usec/div)</p> |
| <p>WF No. IC54900-1,2 (PLAY)</p>  <p>0.25Vp-p(5usec/div)</p>     | <p>WF No. IC54900-9 (PLAY)</p>  <p>0.35Vp-p(10usec/div)</p>     | <p>WF No. IC57000-1,2,5 (PLAY)</p>  <p>0.35Vp-p(2usec/div)</p>                          |                                                                                                                                              |

13 Illustration of ICs, Transistor and Diode

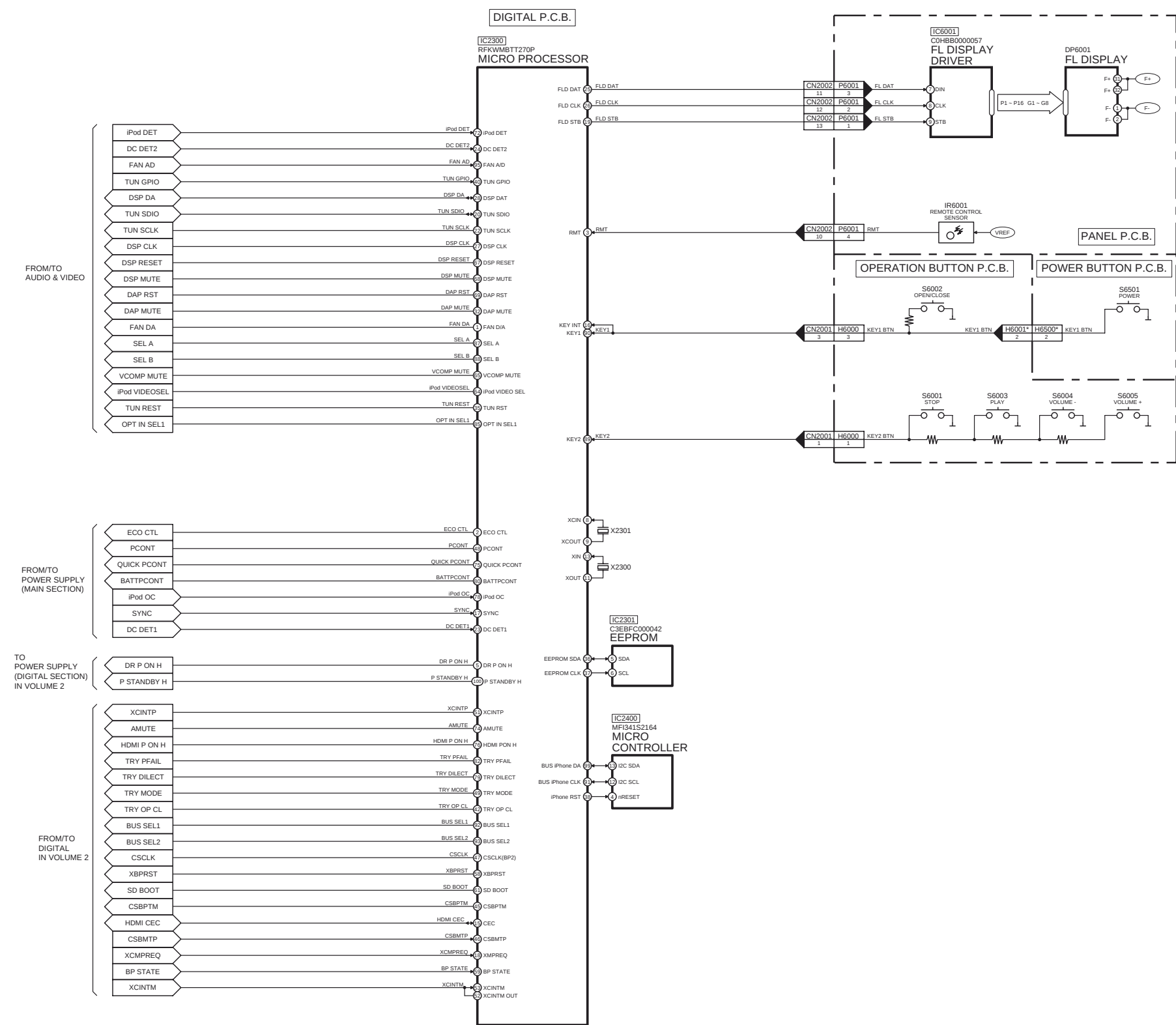
|                                                                                                                                                                                                                                                                                     |                                                                                                                               |                                                                                                                                                                                                    |                                                                                                                                       |                                                                                                                     |                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <br>C0ABBA000168 (8p)<br>C0ABBB000189 (8p)<br>C0DBZYY00018 (8p)<br>C0DBZYY00417 (8p)<br>C0FBAK000026 (16p)<br>C0JBAR000540 (16p)<br>C0DBAYY00729 (20p)<br>C2HBCY000088 (40p)<br>C1AB00003582 (44p) | <br>C0HBB0000057 (44p)<br>C1AB00003610 (64p) | <br>MFI341S2164 (20p)                                                                                             | <br>RFKWMBTT270P (100p)                            | <br>C9ZB00000461 (32p)           |                                                                                                                     |
| C0ABZA000080                                                                                                                                                                                                                                                                        | C3EBFC000042 (8p)                                                                                                             | MIP2F20MSSCF                                                                                                                                                                                       | C0JBAR000434                                                                                                                          | C0CBABC00117                                                                                                        | VUEALLPT040 (20P)                                                                                                   |
| <br>C0DABFC00002                                                                                                                                                                                   | <br>C5HACYY00007 (7p)                        | <br>C0DBZMC00006                                                                                                  | <br>B1ABCF000011<br>B1ADCF000001                     | <br>B1ABMF000020<br>B1ABCF000176 | B1ADCE000012<br>B1ADNB000003<br>B1GBCFGG0030<br>B1GBCFJJ0051<br>B1GBCFLL0037<br>B1GBCFNN0038                        |
| <br>B1BABK000001<br>B1BAAJ000003                                                                                                                                                                   | <br>B1DGDC000002                             | <br>B0EAKM000157<br>B0EAKM000117<br>B0EAMM000057                                                                  | <br>B0HFRJ000012                                     | <br>B0FBAR000043                 | <br>B0HBSM000056<br>B0ZAZ0000052 |
| <br>B0JCDD000002<br>B0ACCK000005<br>B0ECET000002<br>B0ECFR000003                                                                                                                                 | <br>B0BC035A0007<br>B0BC9R000008            | <br>B0BC010A0269<br>B0BC013A0269<br>B0BC020A0267<br>B0BC030A0264<br>B0BC024A0267<br>B0BC2R4A0263<br>B0BC3R0A0262 | <br>B0BC6R8A0266<br>B0BC6R2A0266<br>B0BC7R5A0266 |                                                                                                                     |                                                                                                                     |
| <br>B0JCMD000010<br>B0JCPG000030                                                                                                                                                                  |                                                                                                                               |                                                                                                                                                                                                    |                                                                                                                                       |                                                                                                                     |                                                                                                                     |

## 14 Simplified Block Diagram



15 Block Diagram

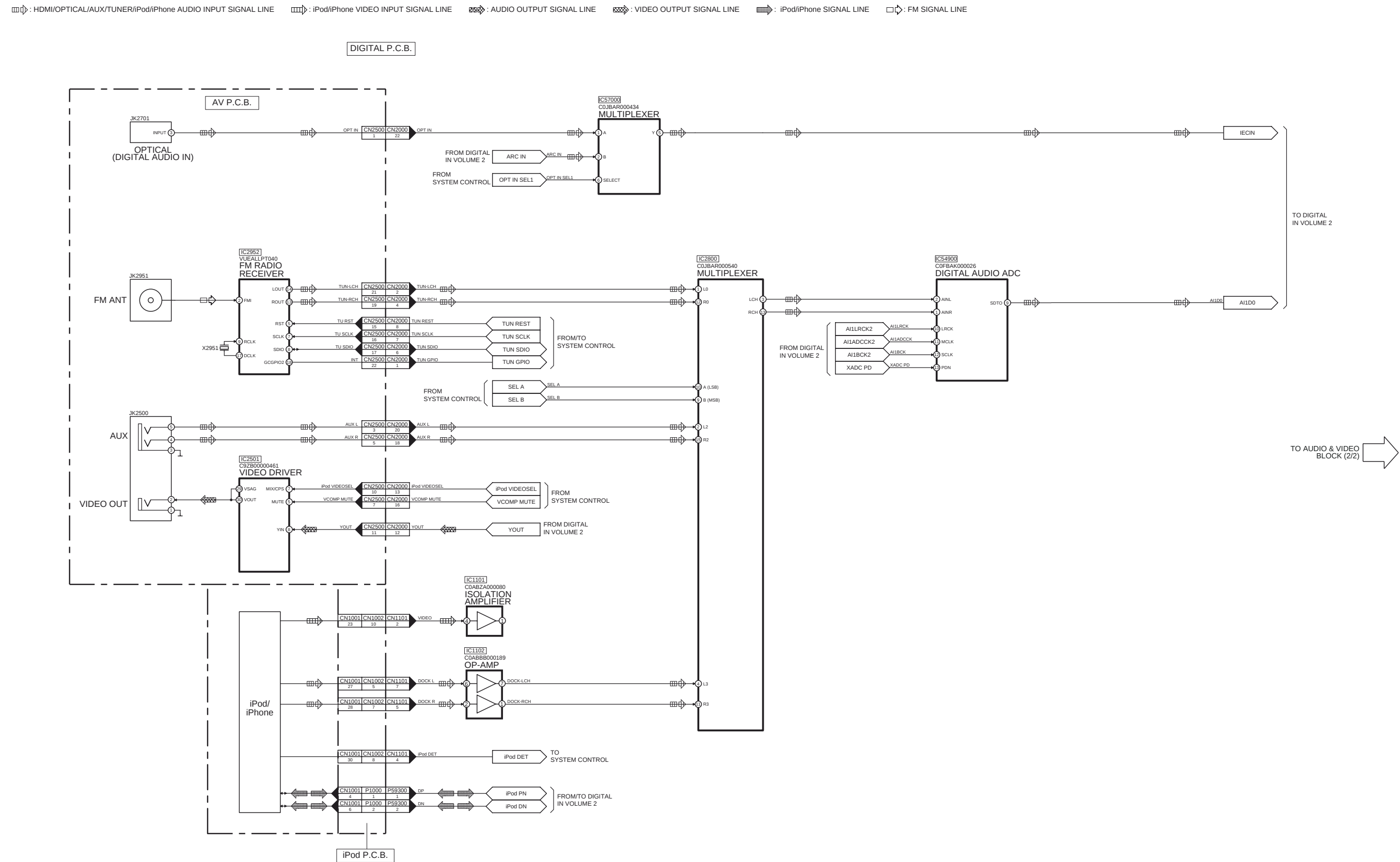
15.1. System Control



NOTE: “ \* ” REF IS FOR INDICATION ONLY

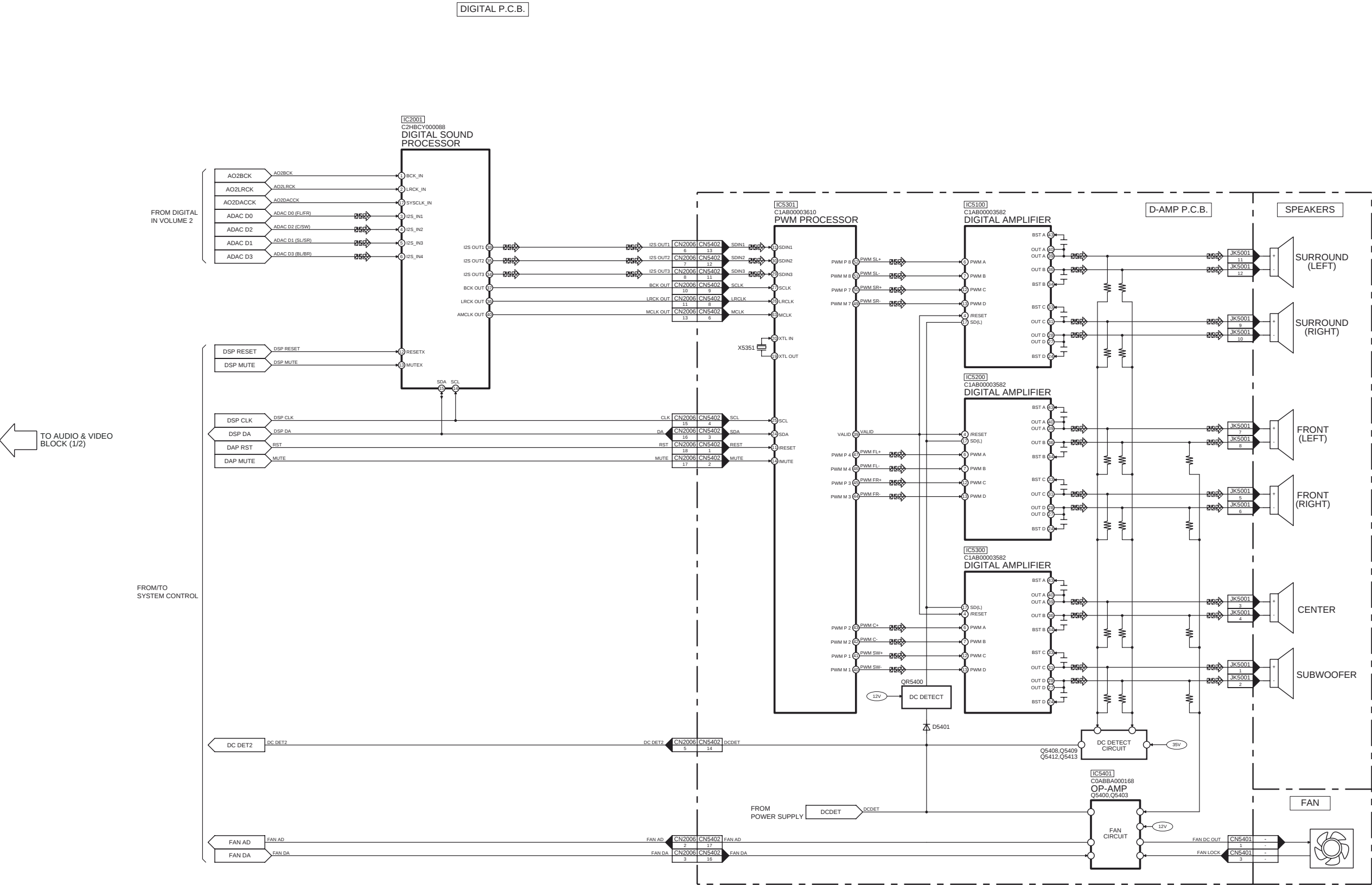
SA-BTT268P,SA-BTT270P/PC SYSTEM CONTROL BLOCK DIAGRAM

# 15.2. Audio & Video



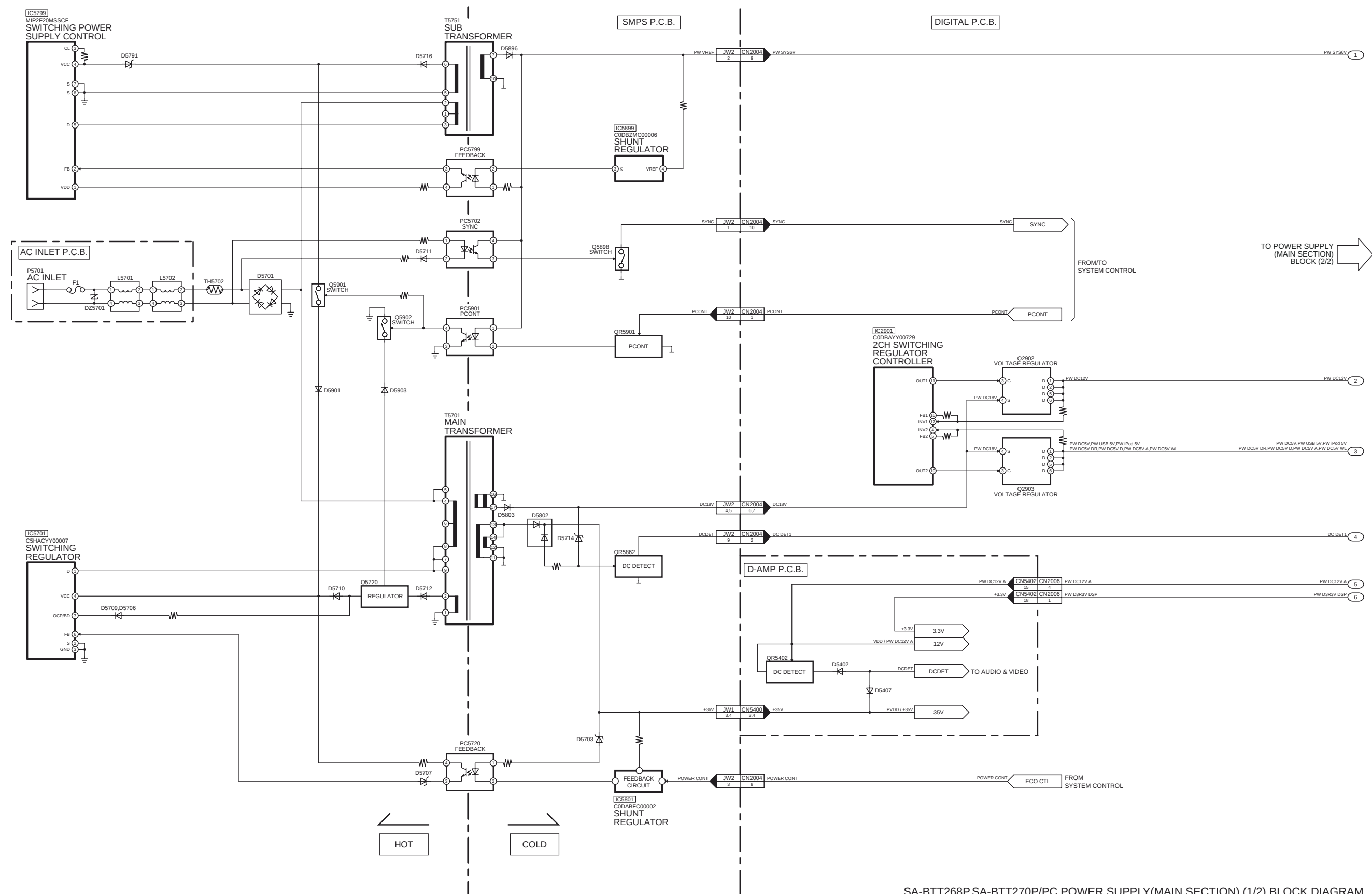
SA-BTT268P,SA-BTT270P/PC AUDIO & VIDEO (1/2) BLOCK DIAGRAM

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



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

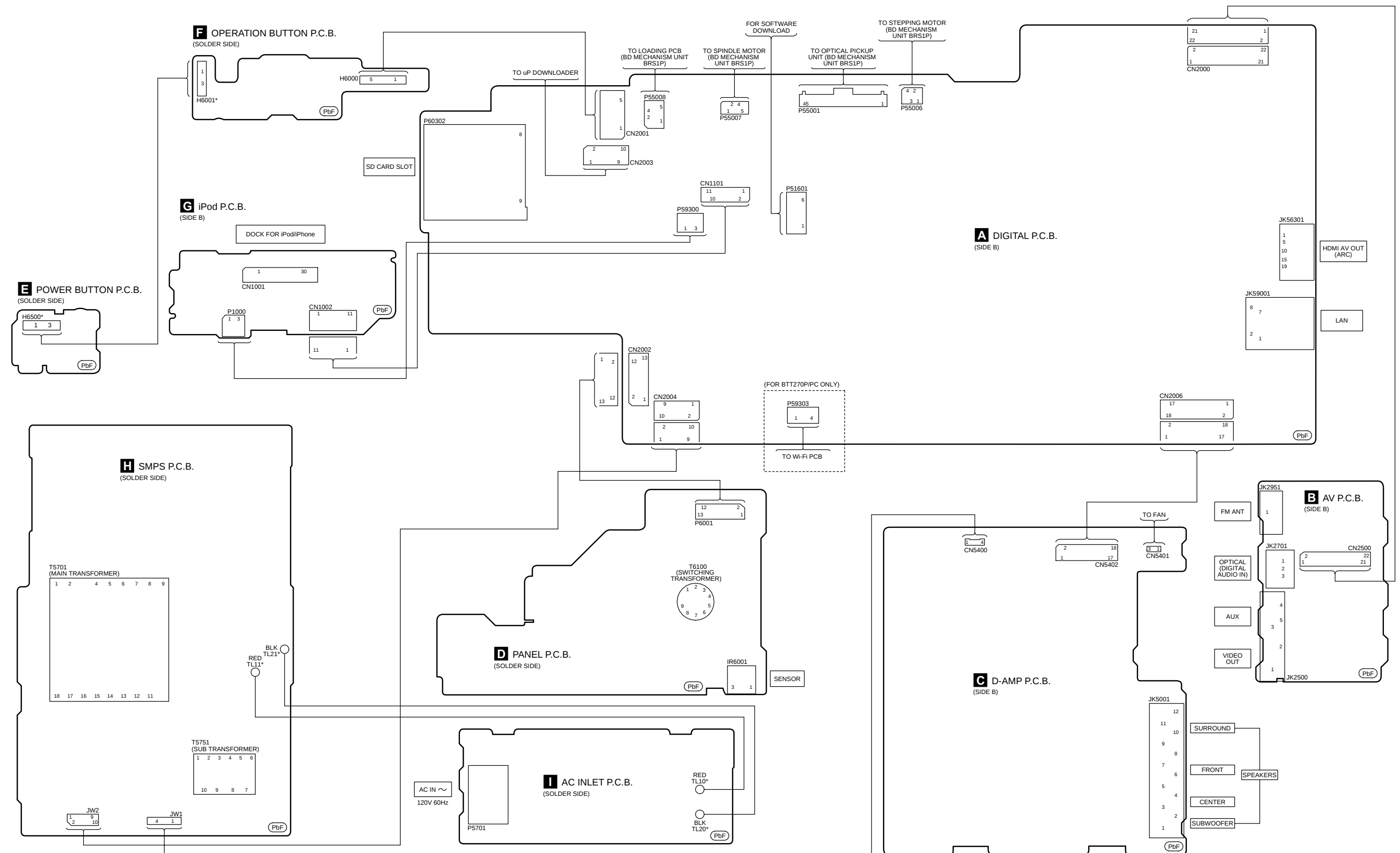
### 15.3. Power Supply(Main Section)



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

|               |                        |
|---------------|------------------------|
| <b>S6001:</b> | Stop switch (■).       |
| <b>S6002:</b> | Open/Close switch (▲). |
| <b>S6003:</b> | Play switch (▶).       |
| <b>S6004:</b> | Vol Down (-).          |
| <b>S6005:</b> | Vol Up (+).            |
| <b>S6501:</b> | 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 [ $\Omega$ ] (K=1,000, M=1,000,000).

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

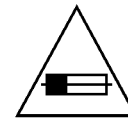
- **Coil**  
Unit of inductance is H, unless otherwise noted.

- **\***  
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



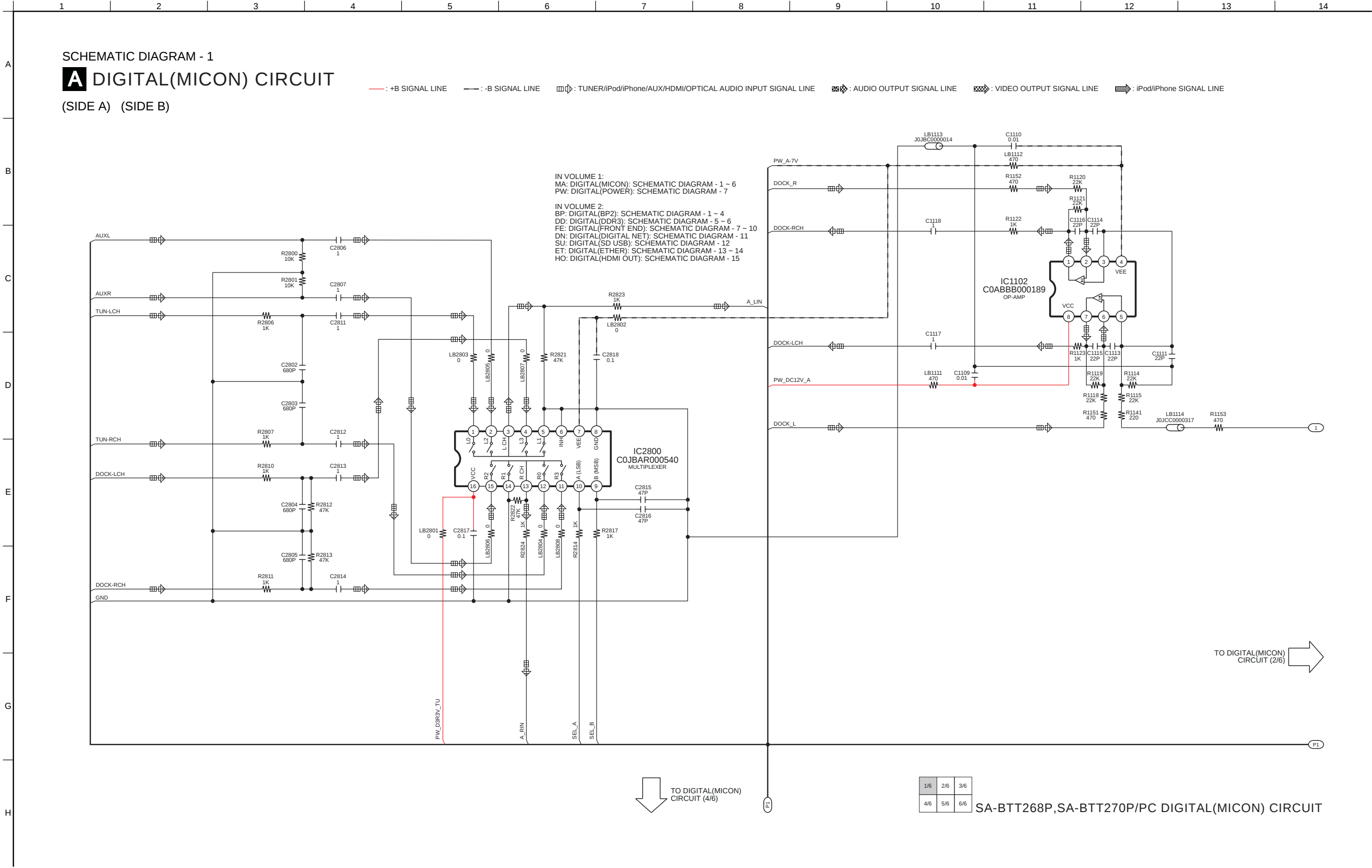
These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire hazard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.



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

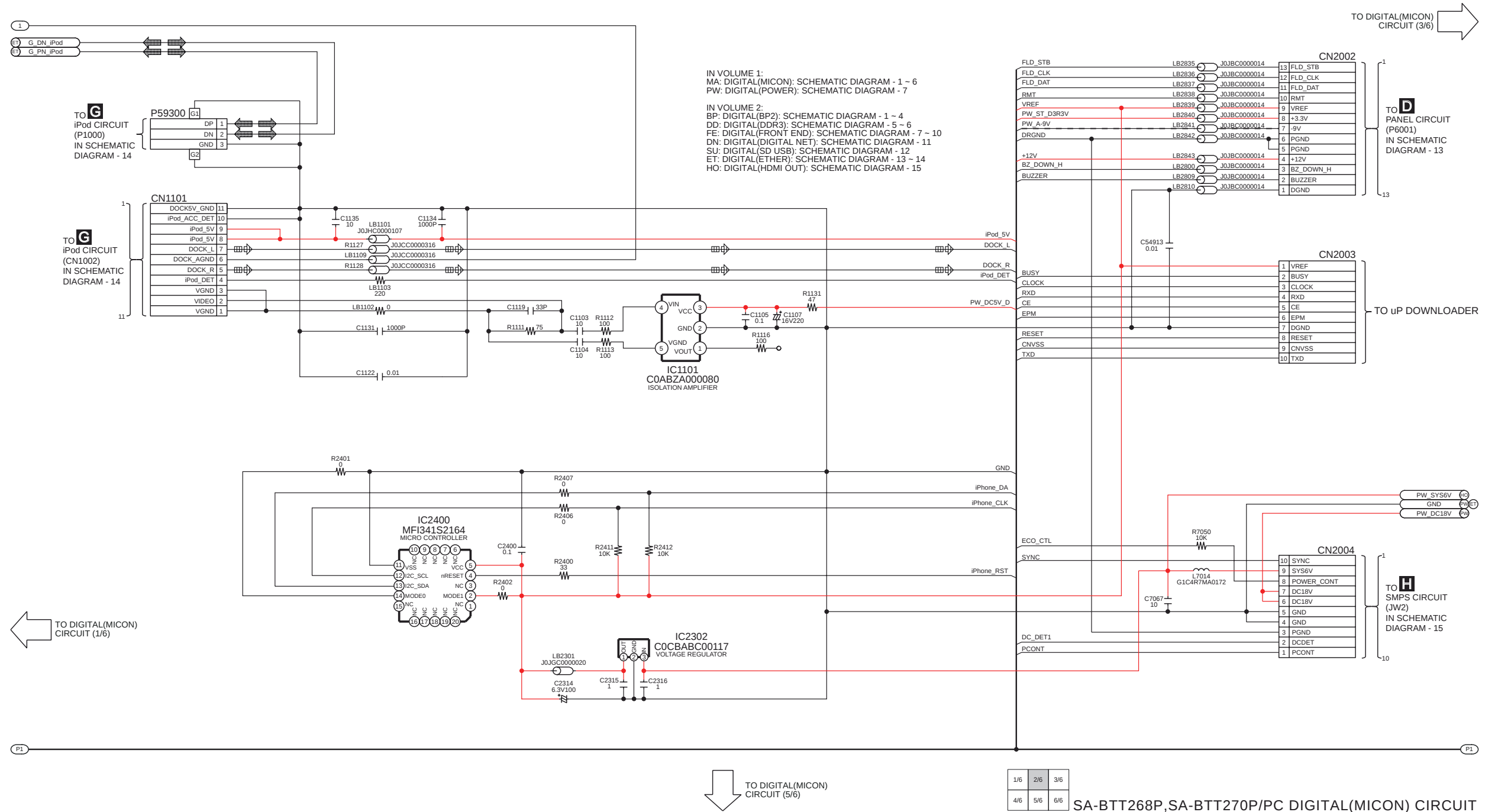


# SCHEMATIC DIAGRAM - 2

## **A** DIGITAL(MICON) CIRCUIT

(SIDE A) (SIDE B)

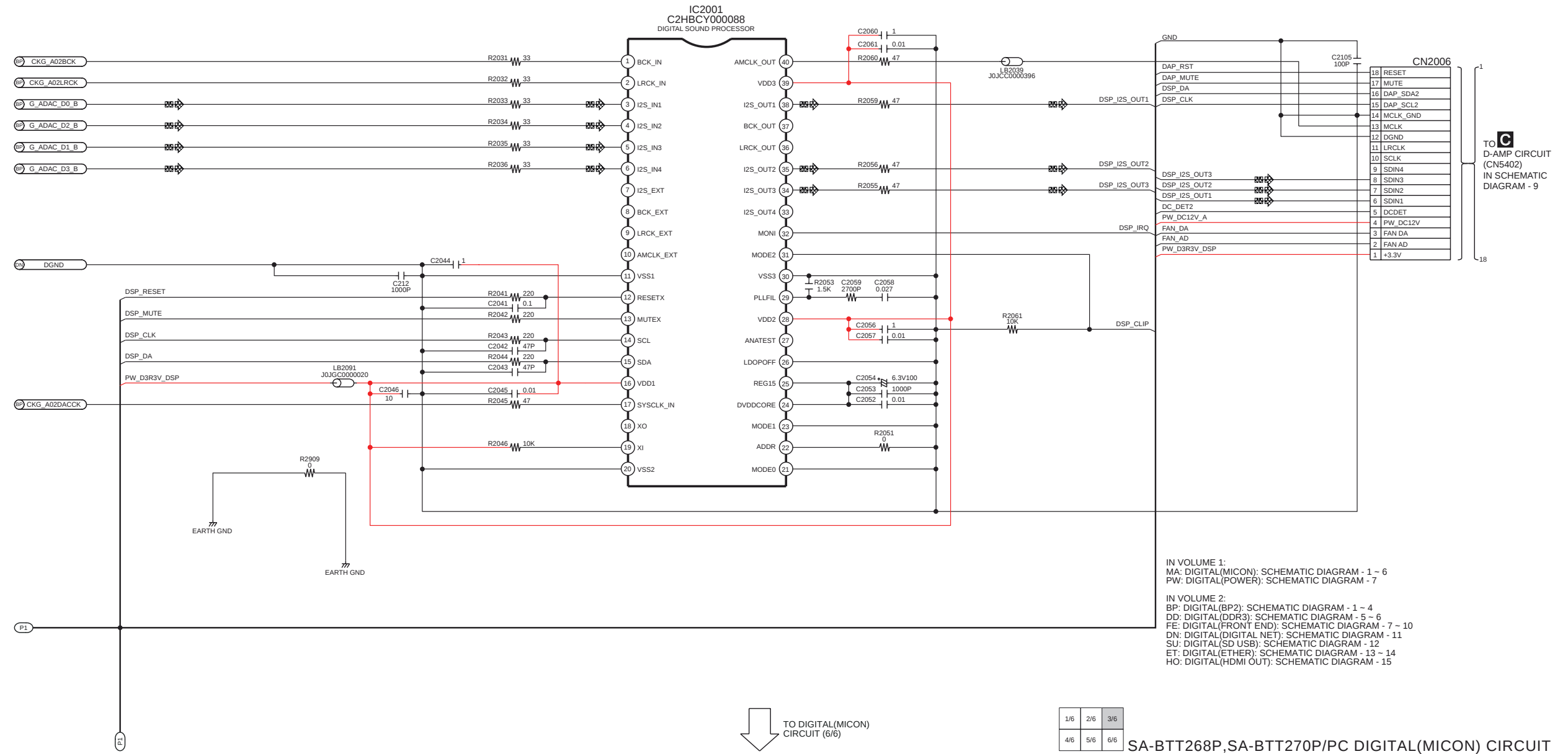
— : +B SIGNAL LINE — : -B SIGNAL LINE : TUNER/Ipod/iPhone/AUX/HDMI/OPTICAL AUDIO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : VIDEO OUTPUT SIGNAL LINE : Ipod/iPhone SIGNAL LINE



SCHEMATIC DIAGRAM - 3

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

TO DIGITAL(MICON)  
CIRCUIT (2/6)



## 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

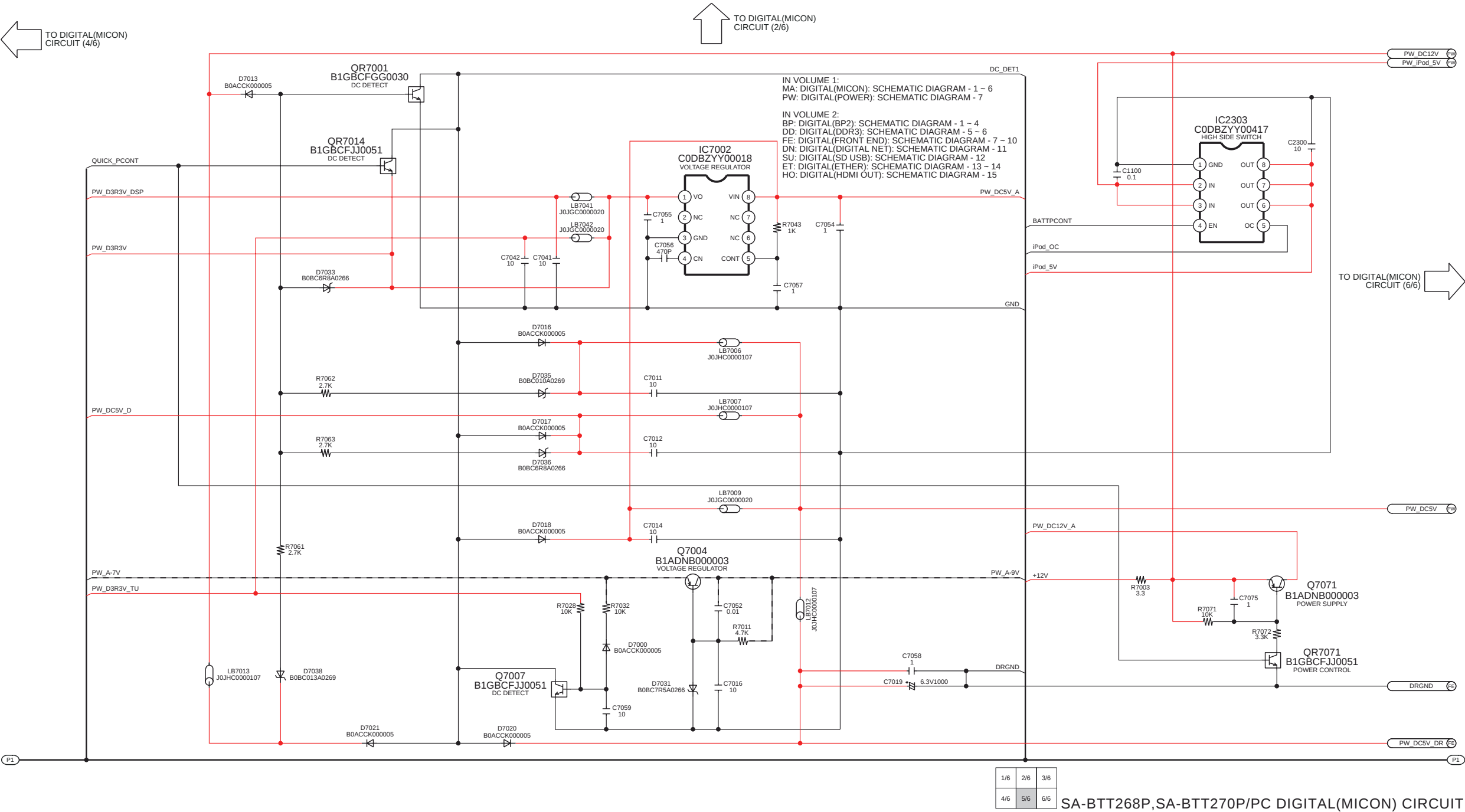


SCHEMATIC DIAGRAM - 5

**A** DIGITAL(MICON) CIRCUIT

(SIDE A) (SIDE B)

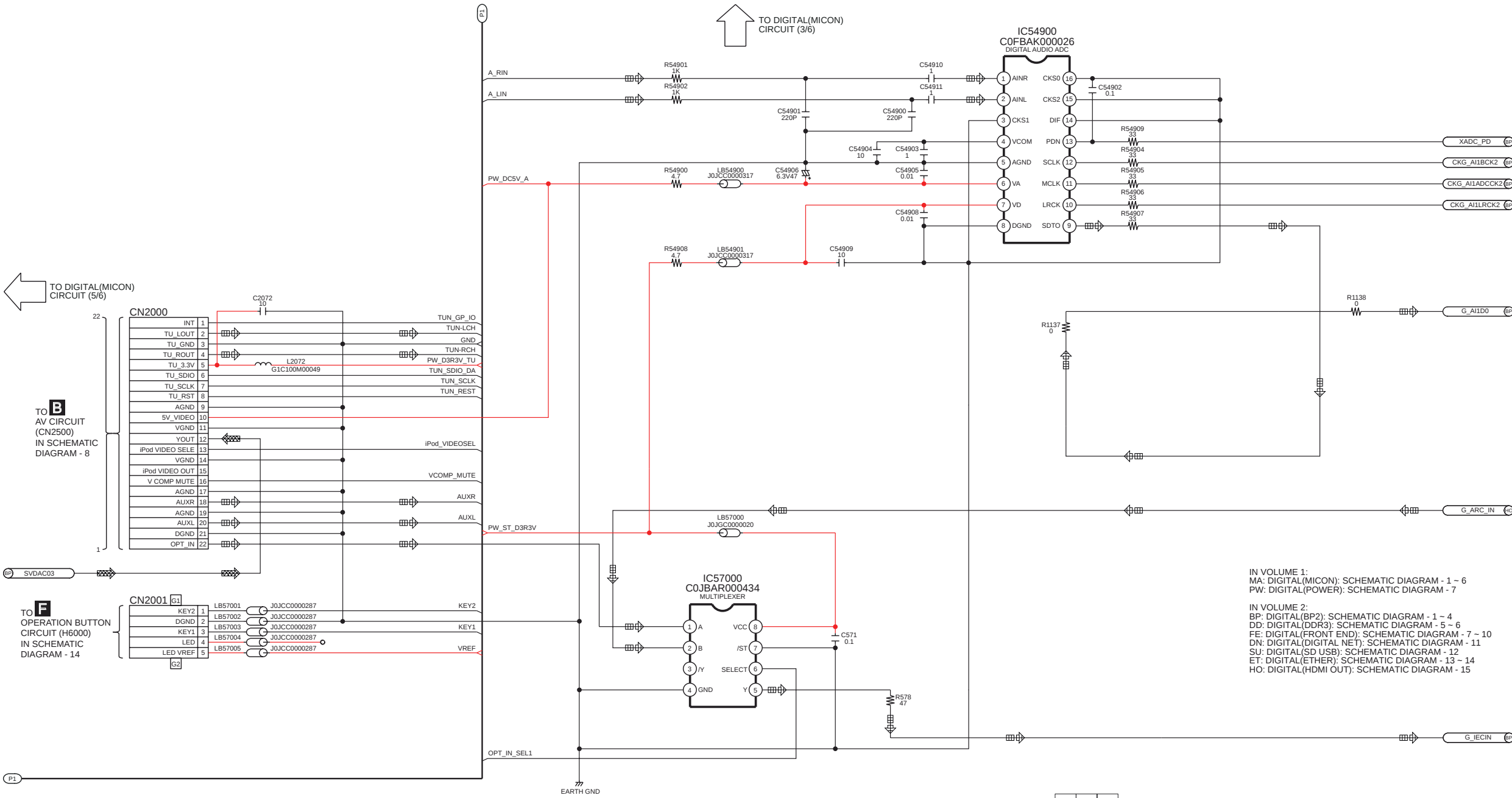
— : +B SIGNAL LINE    — : -B SIGNAL LINE    : TUNER/iPod/iPhone/AUX/HDMI/OPTICAL AUDIO INPUT SIGNAL LINE    : AUDIO OUTPUT SIGNAL LINE    : VIDEO OUTPUT SIGNAL LINE    : iPod/iPhone SIGNAL LINE



SCHEMATIC DIAGRAM - 6

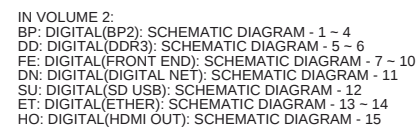
**A** DIGITAL(MICON) CIRCUIT

(SIDE A) (SIDE B)



(SIDE A) (SIDE B)

—: +B SIGNAL LINE



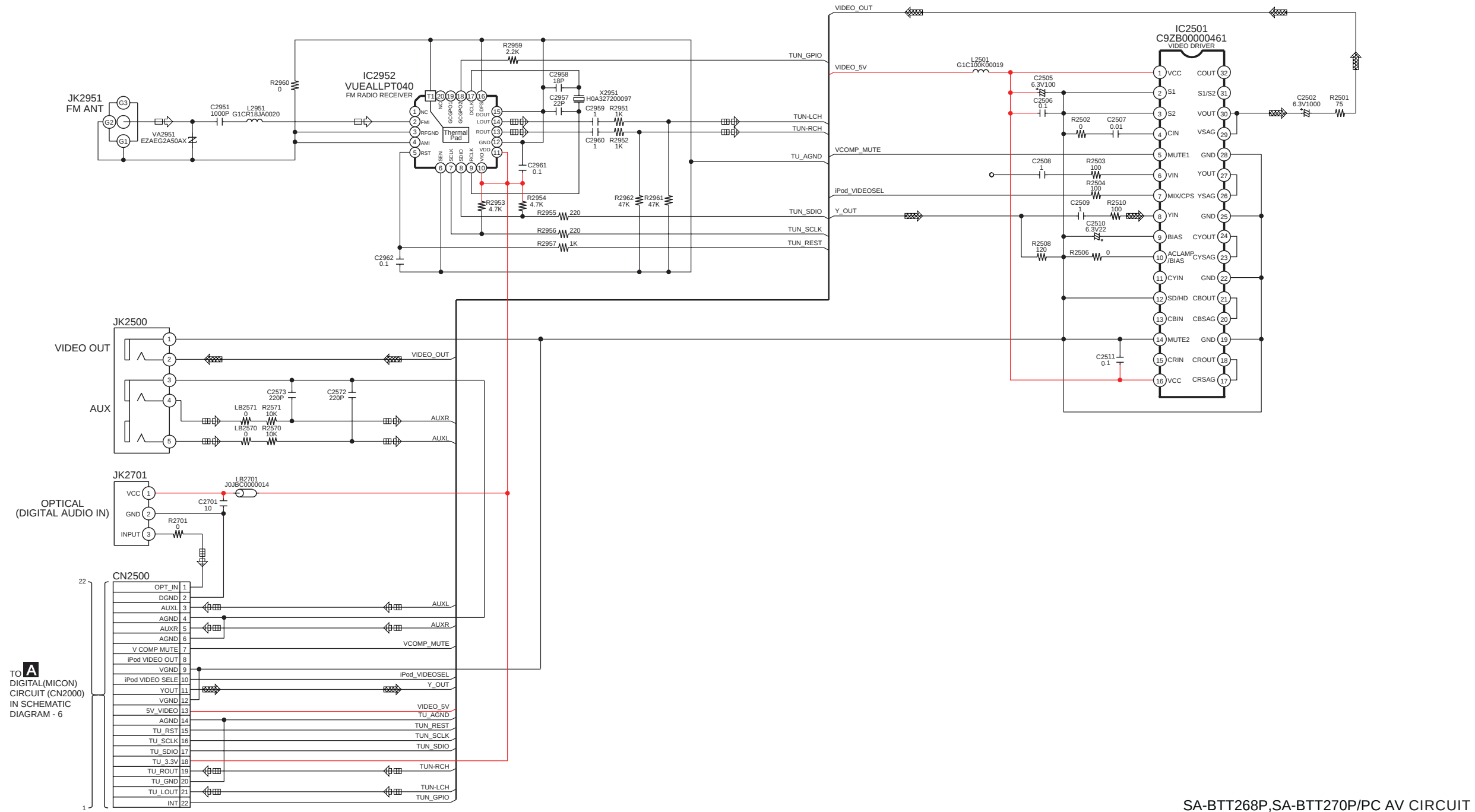
135

### 17.3. AV Circuit

SCHEMATIC DIAGRAM - 8

## ■ AV CIRCUIT

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



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 |

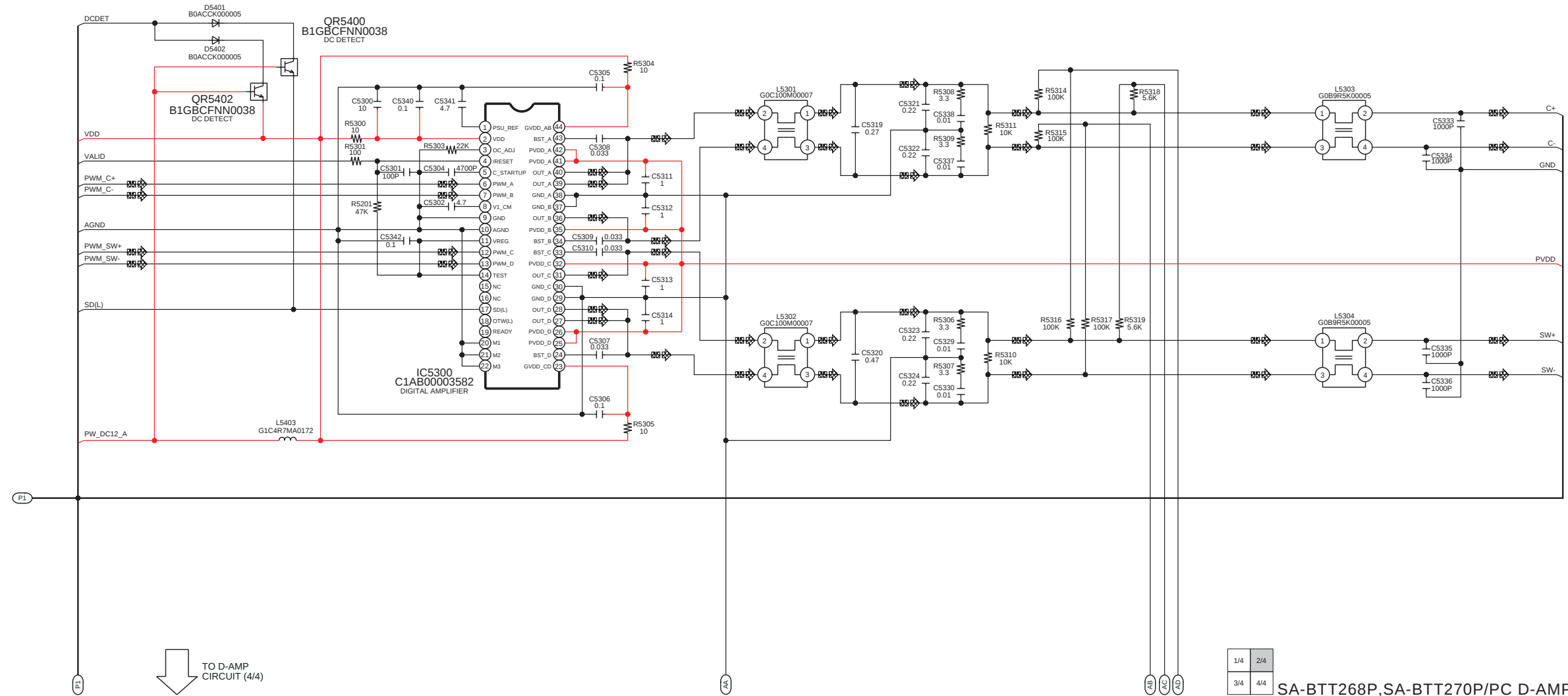
SA-BTT268P,SA-BTT270P/PC D-AMP CIRCUIT

SCHEMATIC DIAGRAM - 10

**C** D-AMP CIRCUIT

— : +B SIGNAL LINE     : AUDIO OUTPUT SIGNAL LINE

← TO D-AMP  
CIRCUIT (1/4)



↓ TO D-AMP  
CIRCUIT (4/4)

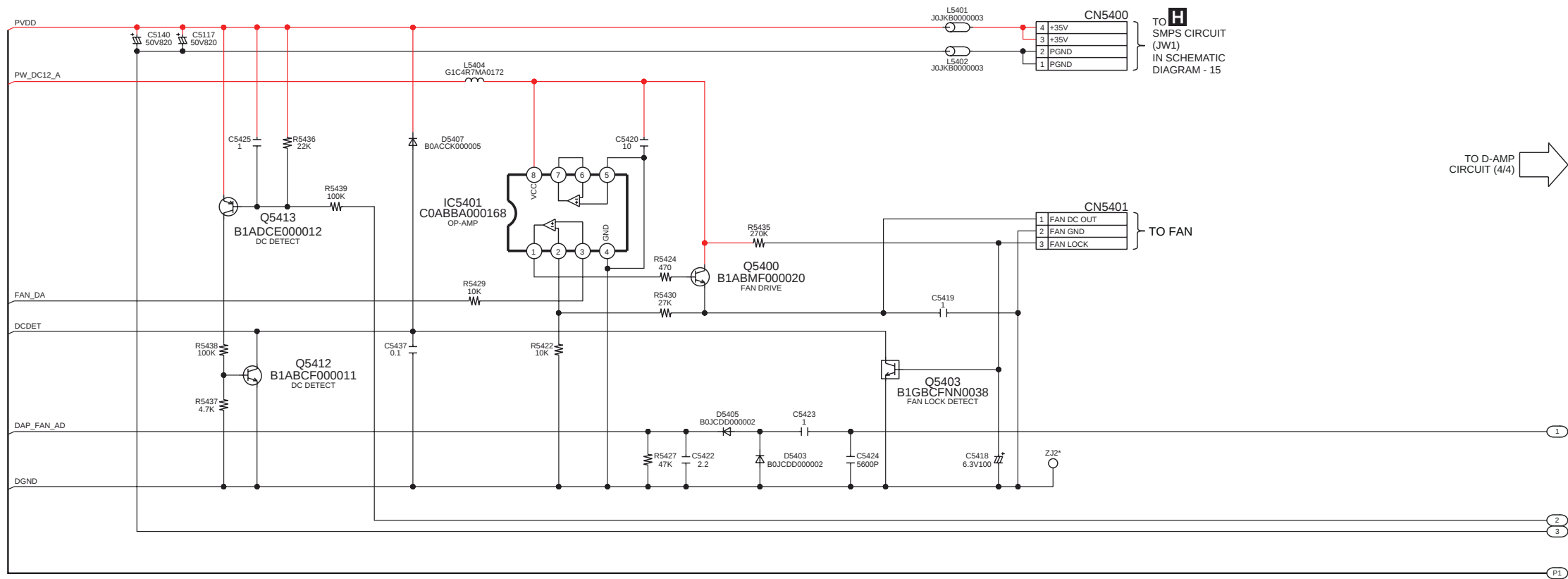
|     |     |
|-----|-----|
| 1/4 | 2/4 |
| 3/4 | 4/4 |

SA-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)



→  
TO D-AMP  
CIRCUIT (4/4)

NOTE: “ \* ” REF IS FOR INDICATION ONLY

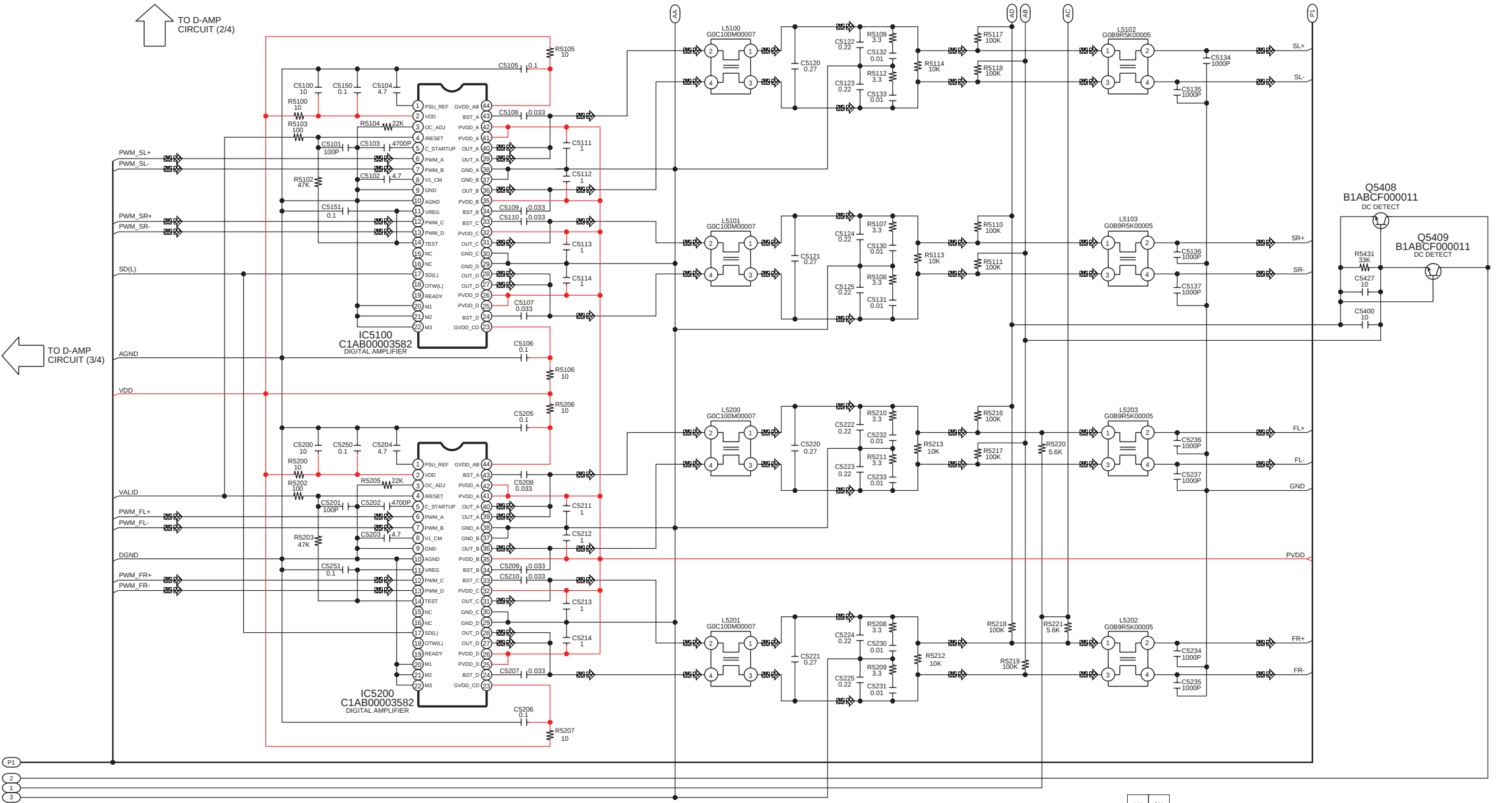
|     |     |
|-----|-----|
| 1/4 | 2/4 |
| 3/4 | 4/4 |

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

SCHEMATIC DIAGRAM - 12

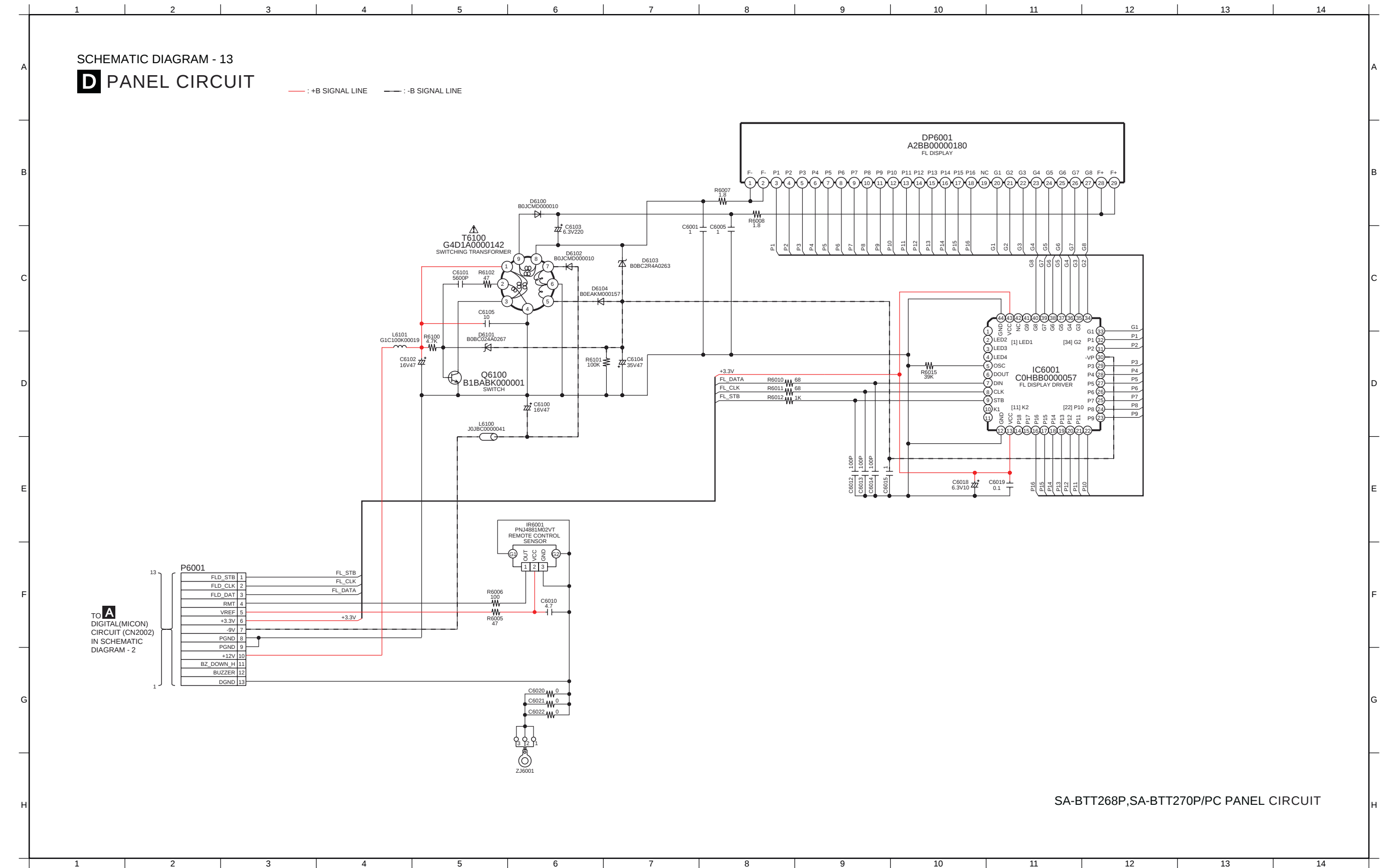
**C** D-AMP CIRCUIT

— : +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

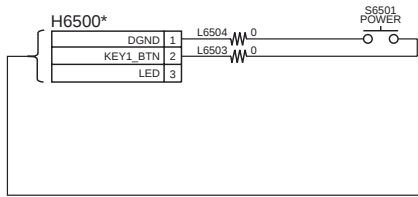


17.6. Power Button, Operation Button & iPod Circuit

SCHEMATIC DIAGRAM - 14

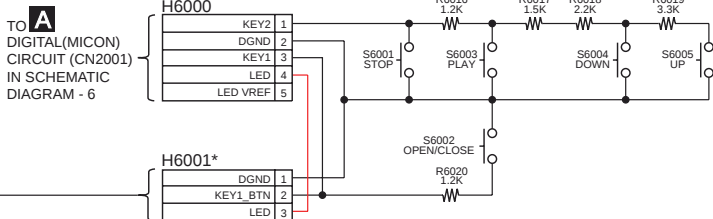
**E** POWER BUTTON CIRCUIT

—: +B SIGNAL LINE



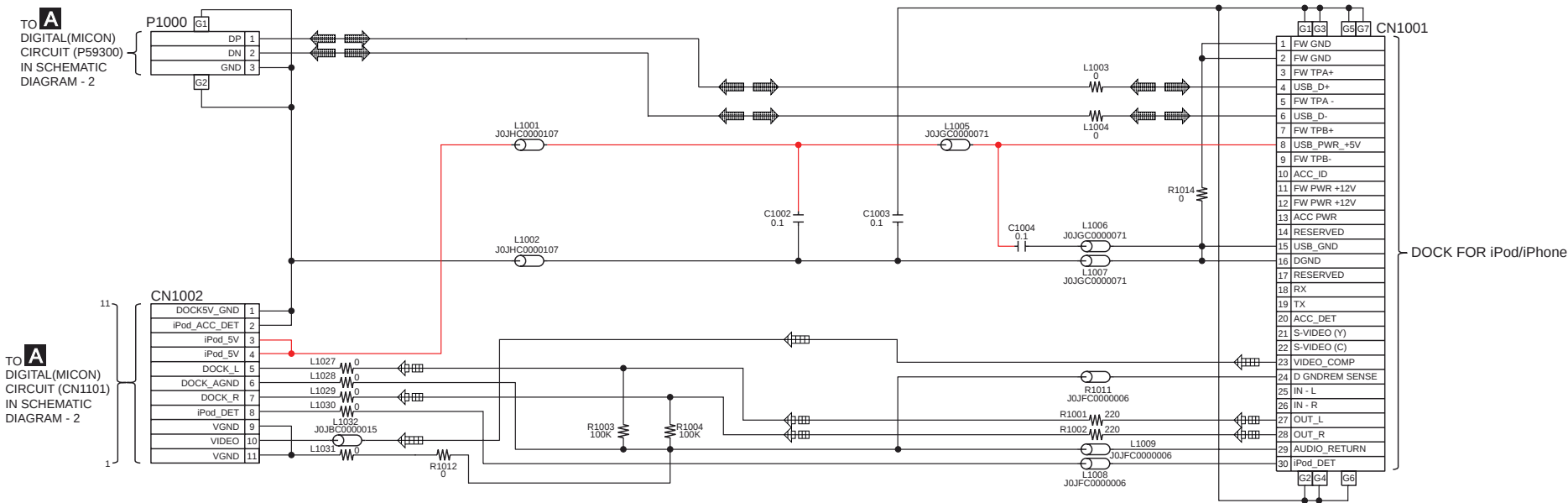
**F** OPERATION BUTTON CIRCUIT

—: +B SIGNAL LINE



**G** iPod CIRCUIT

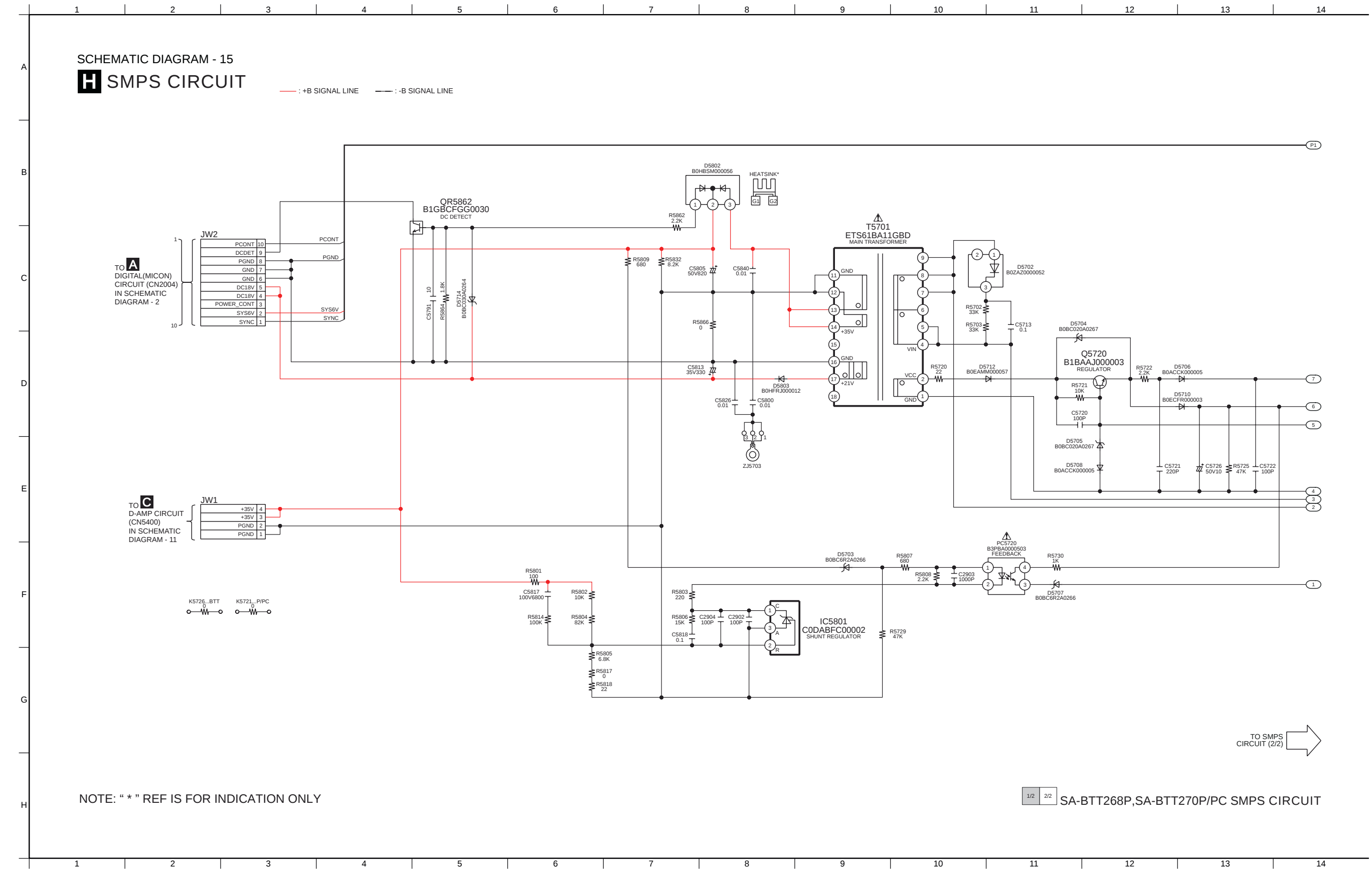
—: +B SIGNAL LINE    : iPod/iPhone AUDIO INPUT SIGNAL LINE    : iPod/iPhone VIDEO INPUT SIGNAL LINE    : USB SIGNAL LINE



NOTE: " \* " REF IS FOR INDICATION ONLY

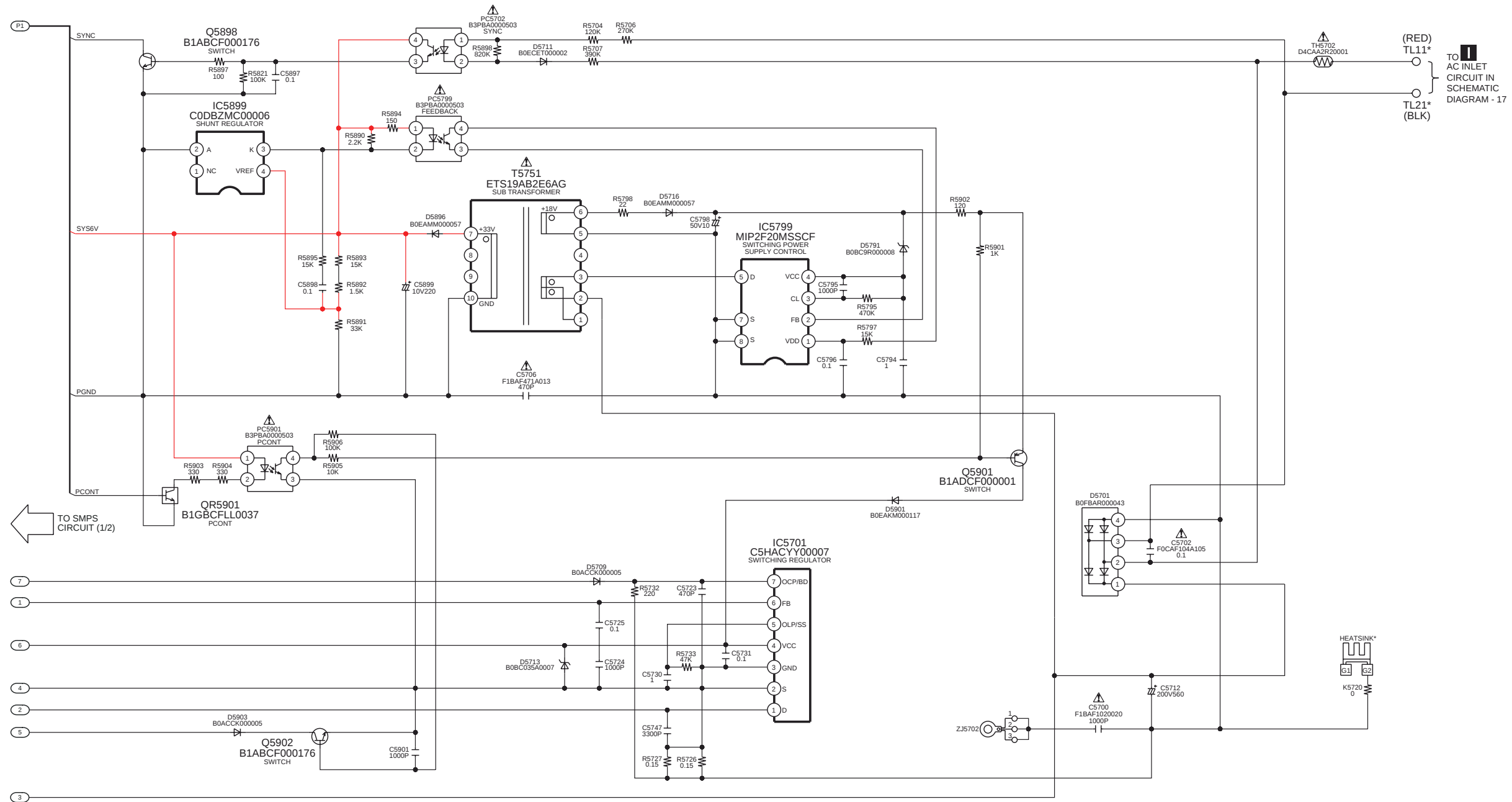
SA-BTT268P,SA-BTT270P/PC POWER BUTTON / OPERATION BUTTON / iPod CIRCUIT

17.7. SMPS Circuit



## H SMPS CIRCUIT

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

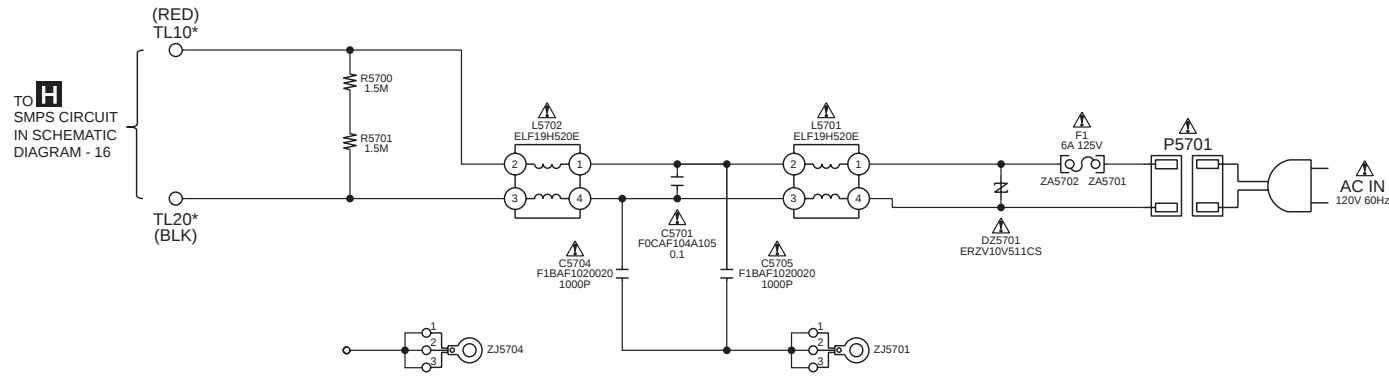


NOTE: " \* " REF IS FOR INDICATION ONLY

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

17.8. AC Inlet Circuit

SCHEMATIC DIAGRAM - 17  
**I** AC INLET CIRCUIT



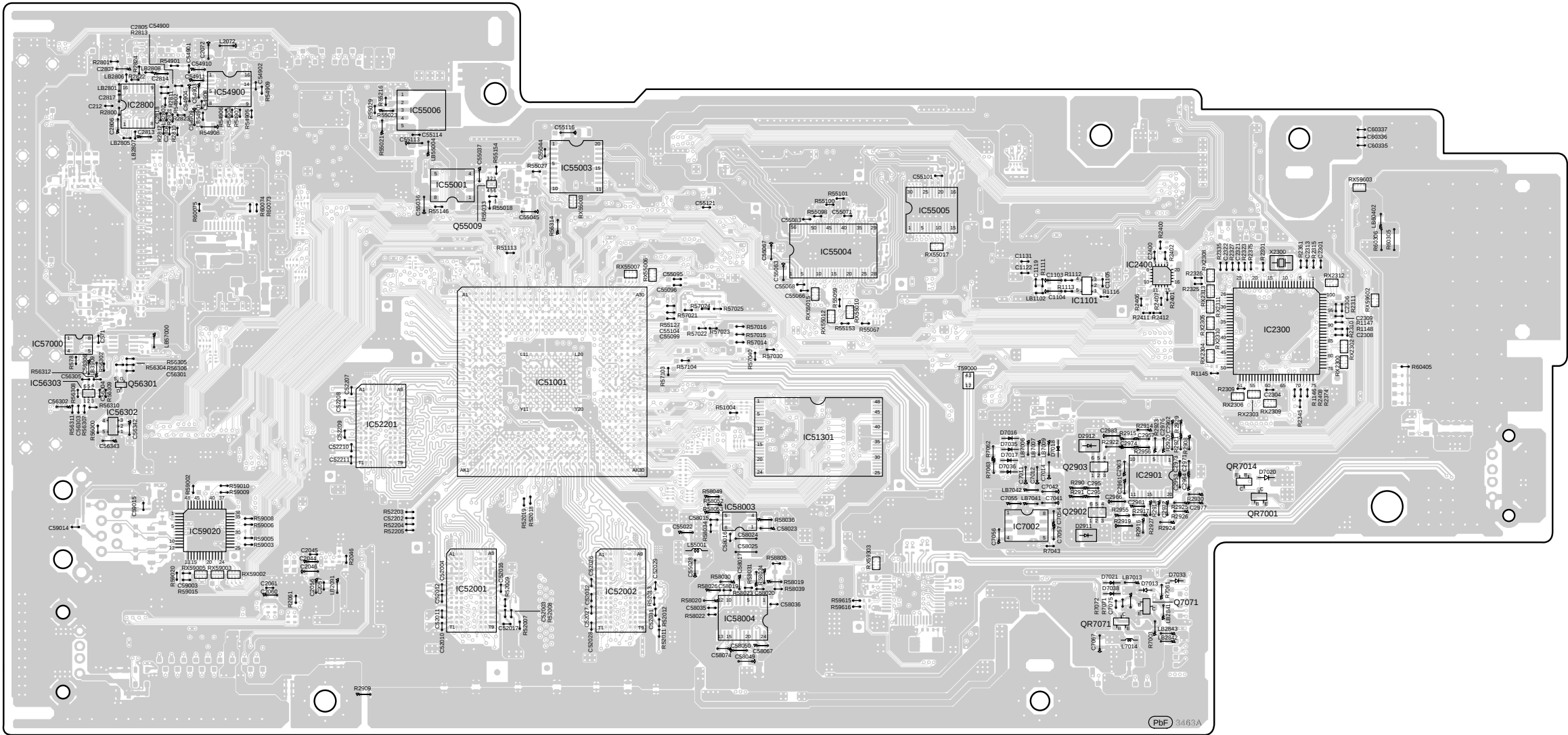
NOTE: " \* " REF IS FOR INDICATION ONLY

SA-BTT268P,SA-BTT270P/PC 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)

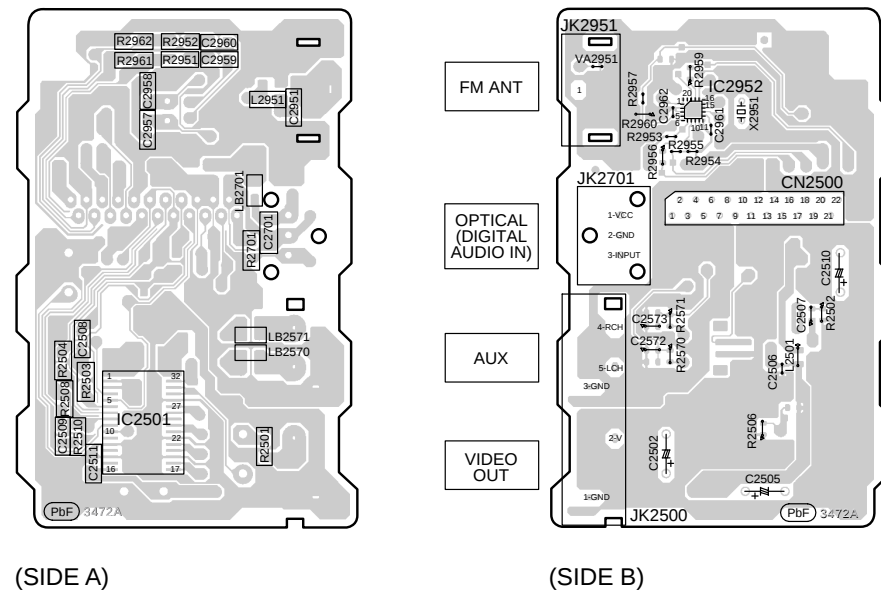
LAN

(SIDE B)

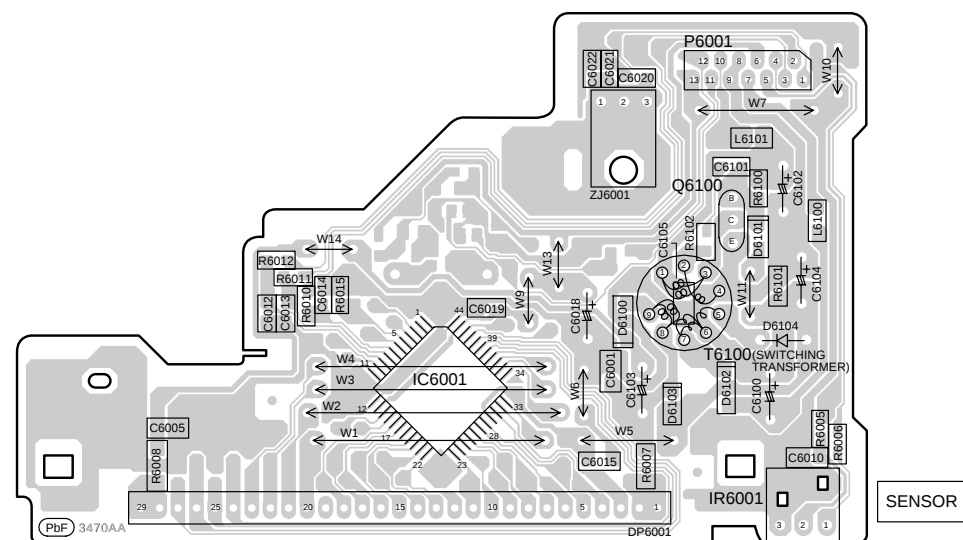
SA-BTT268P, SA-BTT270P/PC  
DIGITAL P.C.B.

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

**B** AV P.C.B. (REP4693A)

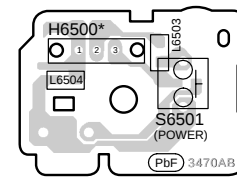


**D** PANEL P.C.B. (REP4690AA)

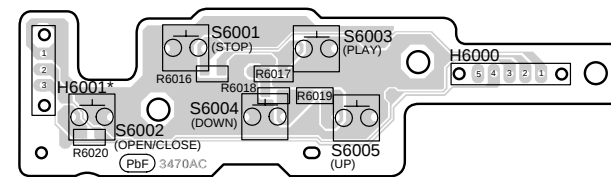


NOTE: " \* " REF IS FOR INDICATION ONLY.

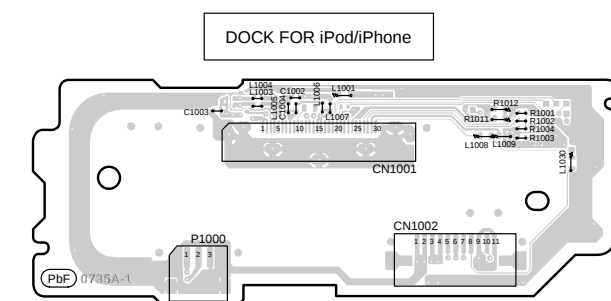
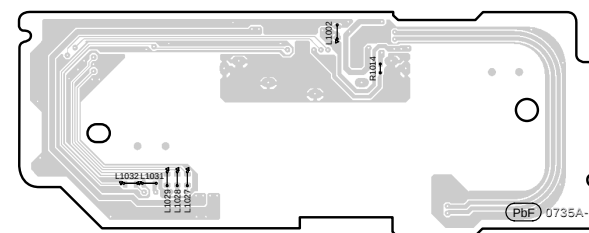
**E** POWER BUTTON P.C.B. (REP4690AB)



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



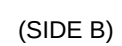
**G** iPod P.C.B. (REPX0895A)



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

1

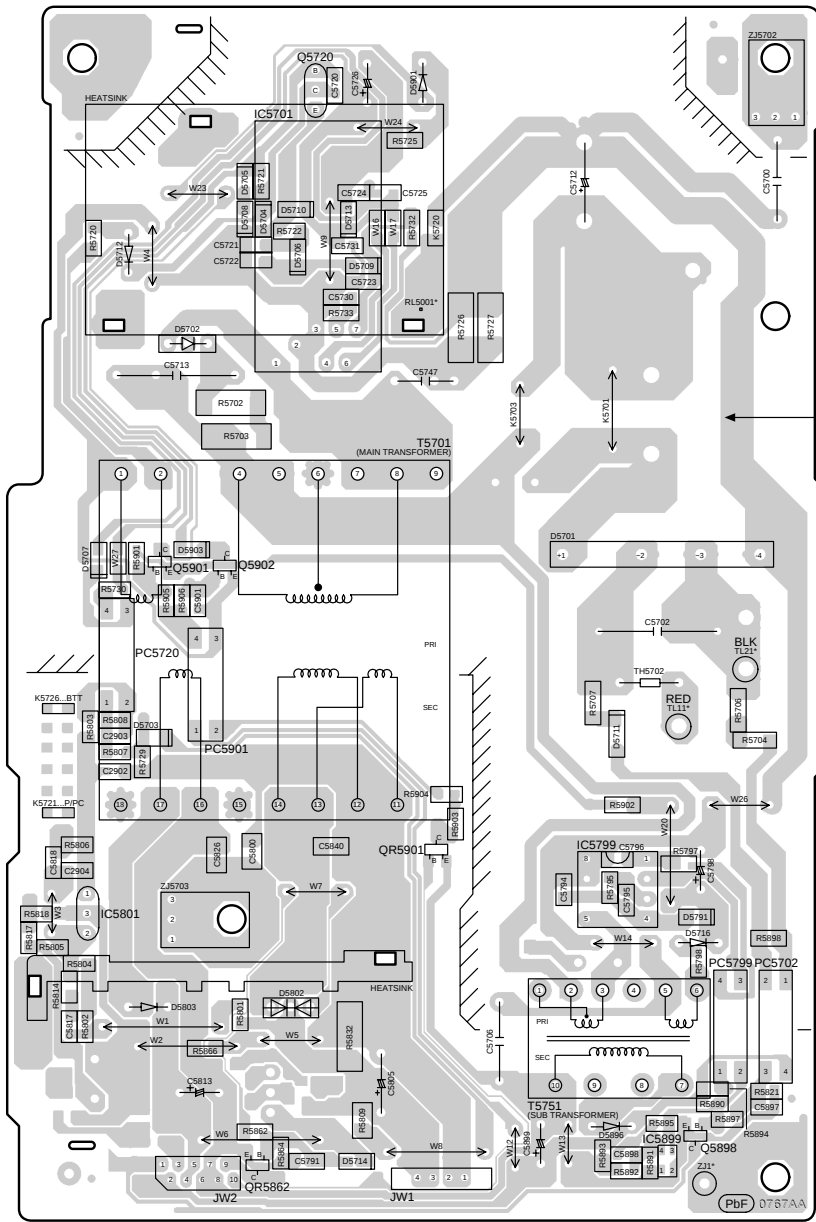
(SIDE A)



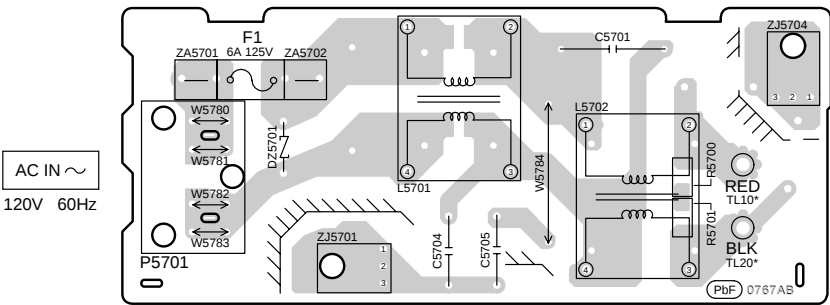
SA-BTT268P, SA-BTT270P/PC  
D-AMP P.C.B.

18.4. SMPS & AC Inlet P.C.B.

**H** SMPS P.C.B. (REP4699E)



**I** AC INLET P.C.B. (REP4699E)



NOTE: " \* " REF IS FOR INDICATION ONLY.

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

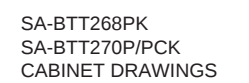
# 19 Terminal Function of ICs

## 19.1. IC6001(C0HBB0000057): IC FL Driver

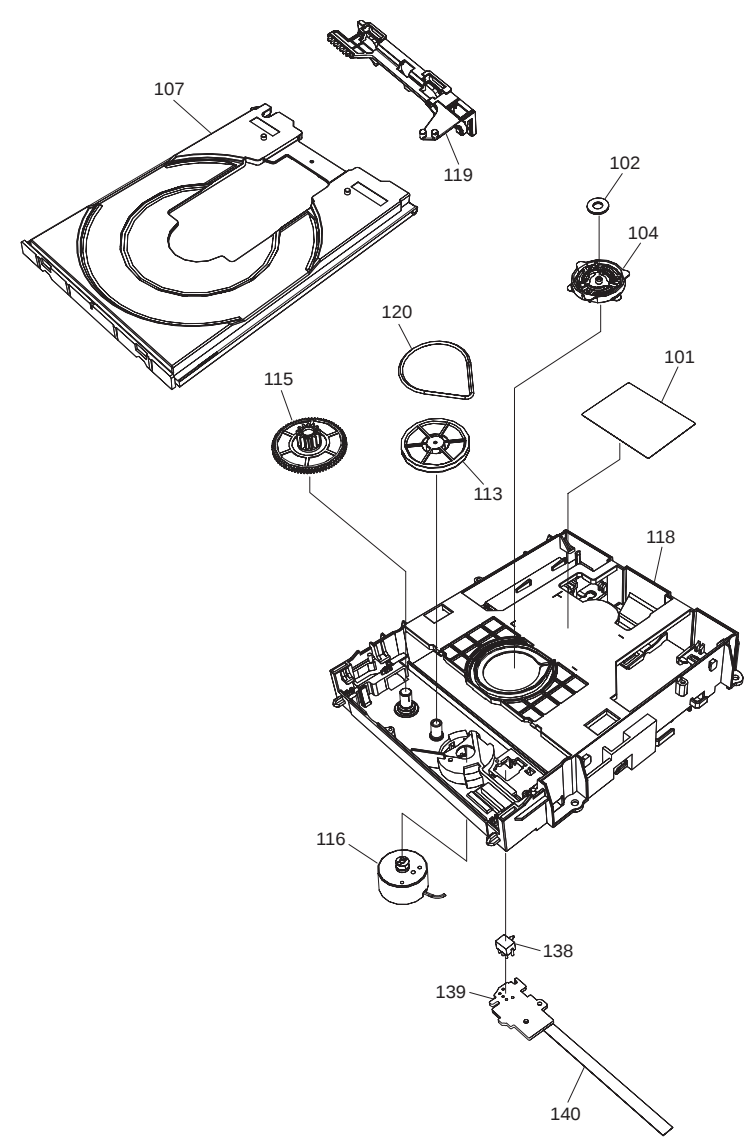
| Pin No. | Terminal Name | I/O | Function                |
|---------|---------------|-----|-------------------------|
| 1       | LED1          | O   | No Connection           |
| 2       | LED2          | -   | No Connection           |
| 3       | LED3          | -   | No Connection           |
| 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                     |



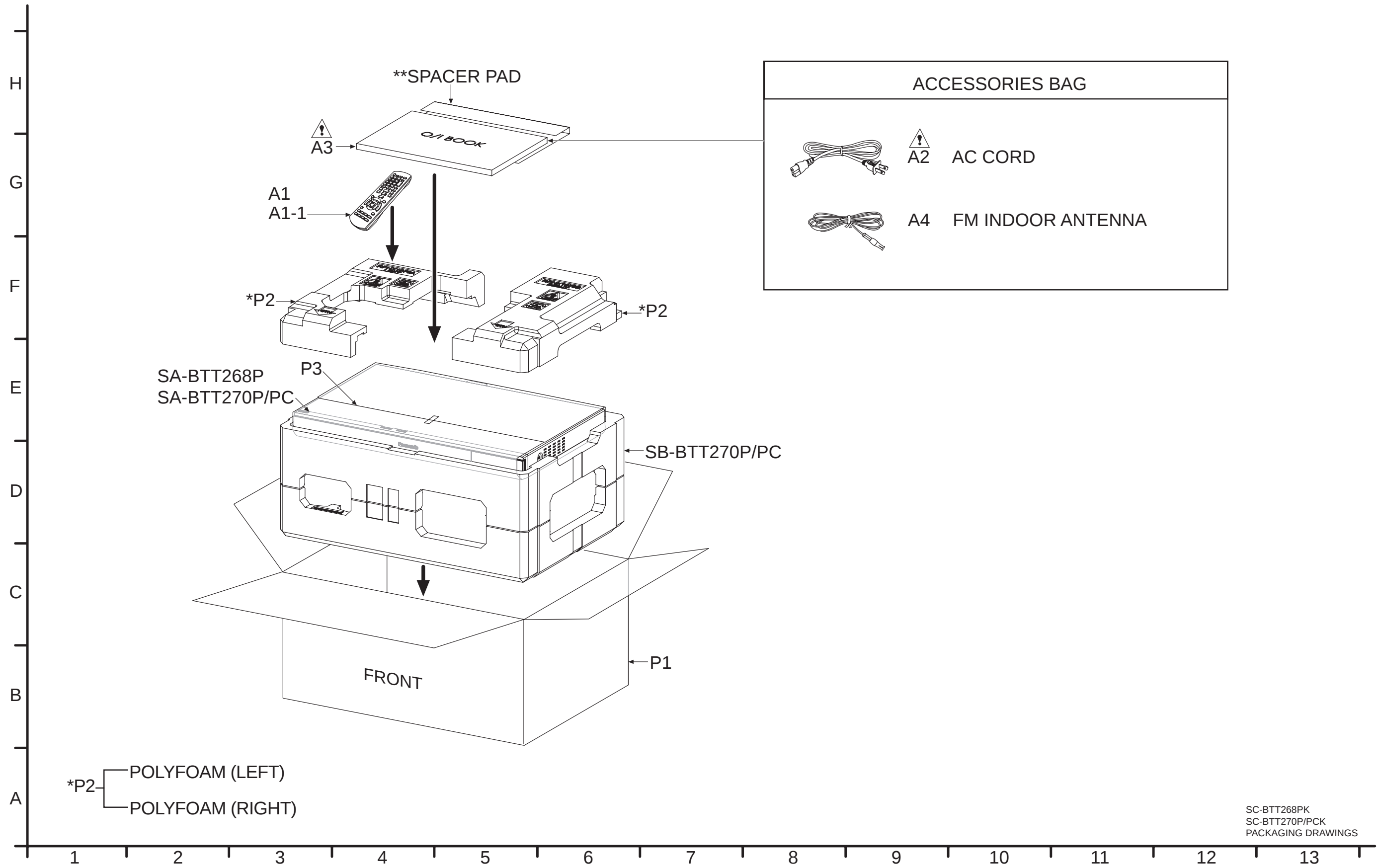
### 20.1.1. Cabinet Parts Location



20.1.2. BD Mechanism



20.1.3. Packaging



SC-BTT268PK  
SC-BTT270P/PCK  
PACKAGING DRAWINGS



## 20.1.4. Mechanical Replacement Part List

### Important Safety Notice

Components identified by  $\Delta$  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   |             |
| $\Delta$ | 10       | REXX1186     | 1P RED WIRE (AC INLET-SMPS)              | 1   |             |
| $\Delta$ | 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     |
| $\Delta$ | 19       | RGRX1006E-B1 | REAR PANEL              | 1   | BTT270P     |
| $\Delta$ | 19       | RGRX1006E-C2 | REAR PANEL              | 1   | BTT270P C   |
| $\Delta$ | 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       | RHD261002    | SCREW                   | 4   |             |
|          | 27       | RHD30168     | SCREW                   | 20  | BTT270P /PC |
|          | 27       | RHD30168     | SCREW                   | 18  | BTT268P     |
|          | 28       | RHQ0094-K    | LATCH                   | 1   |             |
| $\Delta$ | 29       | RKMX1010-K   | TOP CABINET             | 1   |             |
| $\Delta$ | 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 ( $\mu$ 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   | C0DBZY000417  | 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   | C0DBZY000018 | 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    | B1BABK000001 | 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-<br>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   |         |

