

PHILIPS

SERVICE MANUAL

BLU-RAY DISC HOME THEATER

HTS3306/F7



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all P&F Equipment. The service procedures recommended by P&F and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. P&F could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, P&F has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by P&F must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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SPECIFICATIONS

General	
Signal system	NTSC Color
Power requirements	120 V AC, 60 Hz
Power consumption	70 W (standby: 0.6 W)
Total output power (Amplifier)	Home theater mode: 1000 W FTC* output power: 700 W * (Main Ch @ 1 kHz within 10 % THD, Sub Ch 60 Hz within 2.5 % THD)
Dimensions (width x height x depth)	17.2 x 2.4 x 11.7 inches (435 x 59 x 295.6 mm)
Weight	Total weight: 27.56 lbs. (12.5 kg) Main unit: 7.94 lbs. (3.6 kg)
Operating temperature	41°F (5°C) to 104°F (40°C)
Operating humidity	Less than 80 % (no condensation)

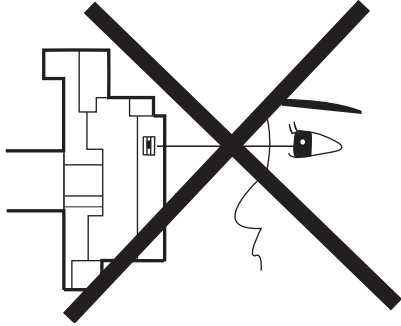
Terminals	
SD card slot	
slot x 1	
MP3 LINK jack	
mini jack x 1	500 mVp-p (75Ω)
Analog audio output	
(SPEAKERS (4Ω))	
Front and rear speakers	System: Full range satellite Impedance: 4Ω Frequency response: 180 Hz ~ 20 kHz Dimensions: 3.9 x 5.1 x 4.0 inches (100 x 130 x 100.5 mm) Speaker cable length: front - 9.8 feet (3 m) rear - 30 feet (9.15 m) Weight: front - 1.19 lbs. (0.54 kg) rear - 1.13 lbs. (0.51 kg)
Center speaker	System: Full range satellite Impedance: 4Ω Frequency response: 180 Hz ~ 20 kHz Dimensions: 3.9 x 5.1 x 4.0 inches (100 x 130 x 100.5 mm) Speaker cable length: 9.8 feet (3 m) Weight: 1.61 lbs. (0.73 kg)
Subwoofer	Impedance: 4Ω Speaker drivers: 6.5 inches (160 mm) woofer Frequency response: 60 Hz ~ 150 Hz Dimensions: 5.9 x 12.2 x 12.1 inches (149.5 x 310.5 x 308 mm) Speaker cable length: 14.1 feet (4.3 m) Weight: 8.29 lbs. (3.76 kg)
Video output	
RCA jack x 1	1 Vp-p (75Ω)
Analog audio input (AUX)	
RCA jacks(L / R) x 1	L/R: 2 Vrms (47kΩ)
Digital audio input (COAXIAL)	
RCA jack x 1	500 mVp-p (75Ω)
HDMI output	
HDMI jack x 1	Video: 480p, 720p, 1080i, 1080p, 1080p24/Audio
LAN terminal	
10BASE-T / 100BASE-TX	
Wireless LAN (Internal)	
IEEE 802.11 b/g/n	

Note

- The specifications and design of this product are subject to change without notice.

LASER BEAM SAFETY PRECAUTIONS

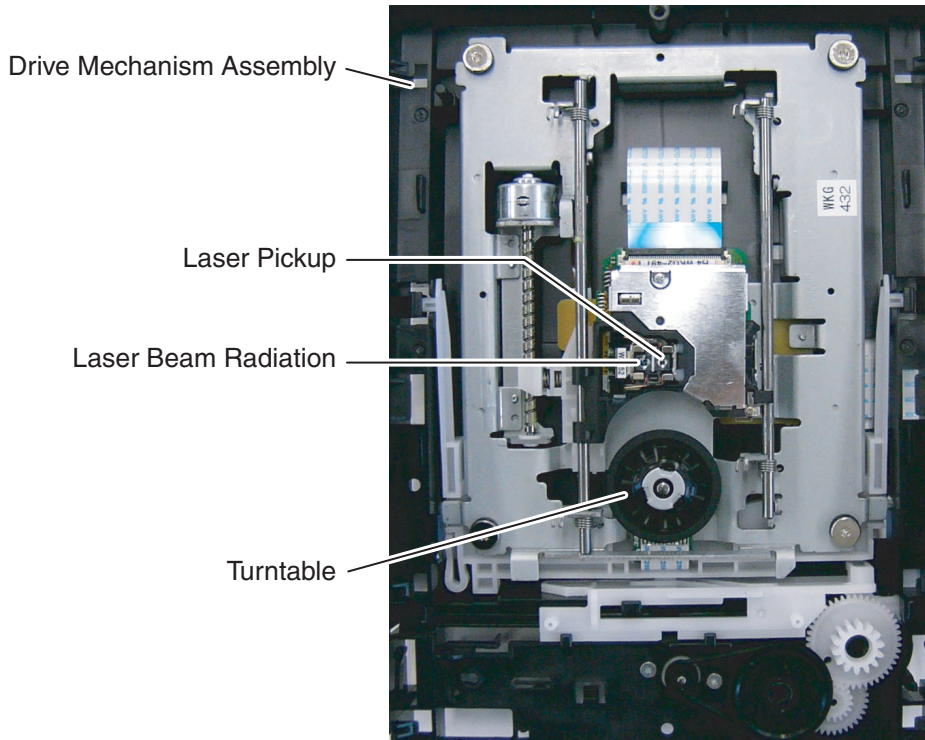
This BD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION LABEL

For N77FBDUM	or	For N77F1DUM
<p>CAUTION - LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. (FDA 21CFR/Class II)</p> <p>CAUTION - CLASS 2M LASER RADIATION WHEN OPEN. DO NOT STARE INTO THE BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. (IEC60825-1/Class 2M)</p> <p>ATTENTION - RAYONNEMENT LASER DE CLASSE 2M EN CAS D'OUVERTURE. NE PAS REGARDER DANS LE FAISCEAU OU PAS OBSERVER DIRECTEMENT A L'AIDE D'INSTRUMENTS D'OPTIQUE.</p> <p>注意 - ここを開くとクラス2Mのレーザー放射が出る。ビームをのぞき込まないこと、また、光学機器で直接ビームを見ないこと。</p>		<p>CAUTION - LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. (FDA 21CFR/Class II)</p> <p>CAUTION - CLASS 2 LASER RADIATION WHEN OPEN. DO NOT STARE INTO THE BEAM (IEC60825-1/Class 2)</p> <p>ATTENTION - RAYONNEMENT LASER DE CLASSE 2 EN CAS D'OUVERTURE. NE PAS REGARDER DANS LE FAISCEAU.</p> <p>注意 - ここを開くとクラス2のレーザー放射が出る。ビームをのぞき込まないこと。</p>

Location: Inside Top of BD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a **▲** on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

- A.** Parts identified by the **▲** symbol are critical for safety. Replace only with part number specified.
- B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C.** Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- D.** Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation tape
 - 2) PVC tubing
 - 3) Spacers
 - 4) Insulators for transistors
- E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F.** Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).
- G.** Check that replaced wires do not contact sharp edges or pointed parts.
- H.** When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.
- I.** Also check areas surrounding repaired locations.
- J.** Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.
- L.** When reassembling, be sure to use the original screws or specified screws listed in the parts list.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
120 V	$\geq 3\text{mm}(d)$ $\geq 4\text{mm}(d')$

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

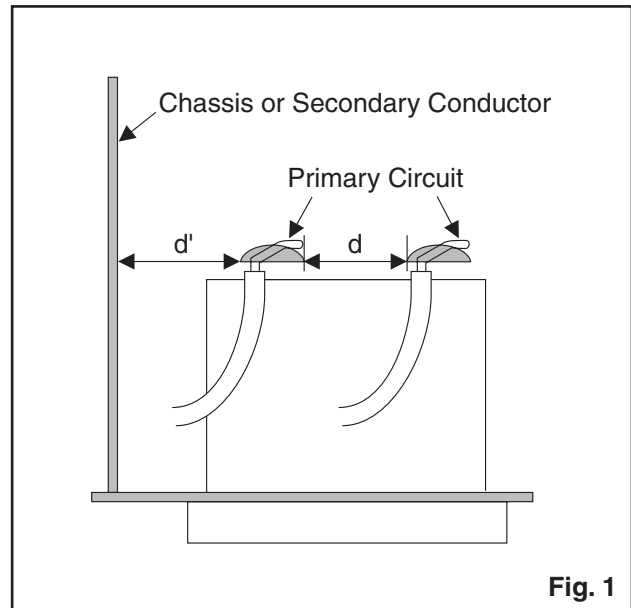


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method (Power ON):

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

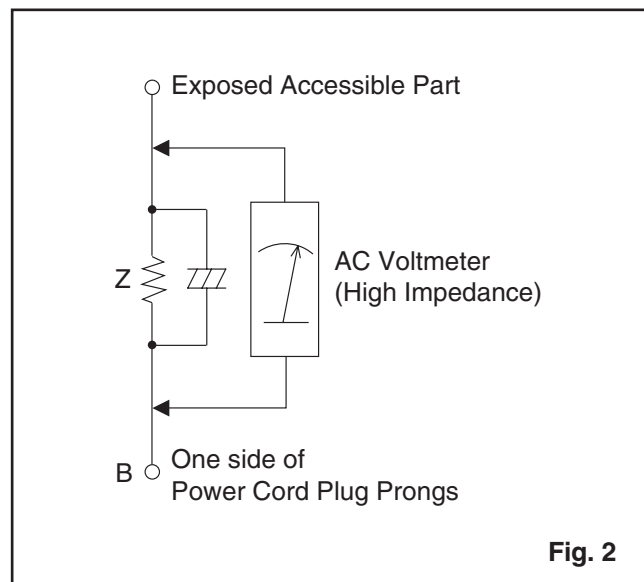


Fig. 2

Table 2: Leakage current ratings for selected areas

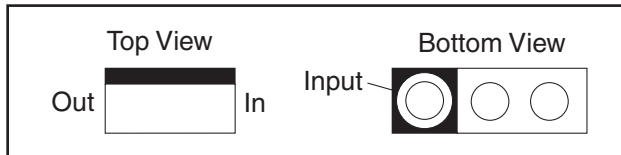
AC Line Voltage	Load Z	Leakage Current (i)	One side of power cord plug prongs (B) to:
120 V	2k Ω RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$	RF or Antenna terminals
	50k Ω RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$	A/V Input, Output

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

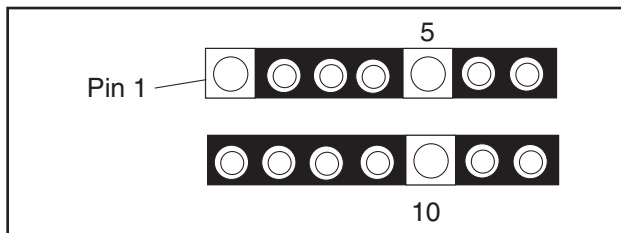
STANDARD NOTES FOR SERVICING

Circuit Board Indications

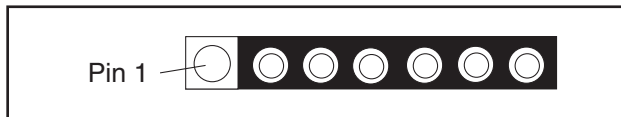
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

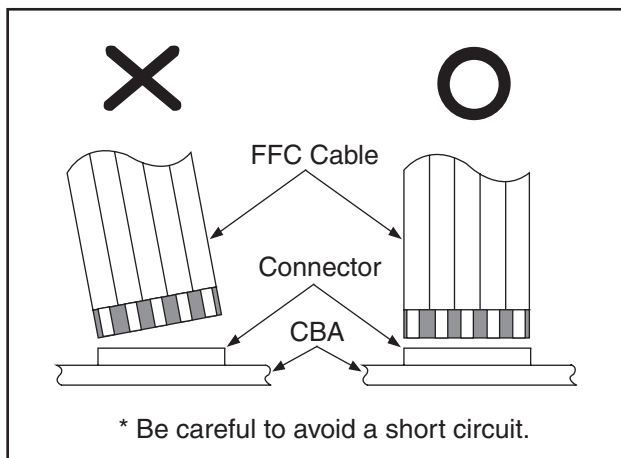


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

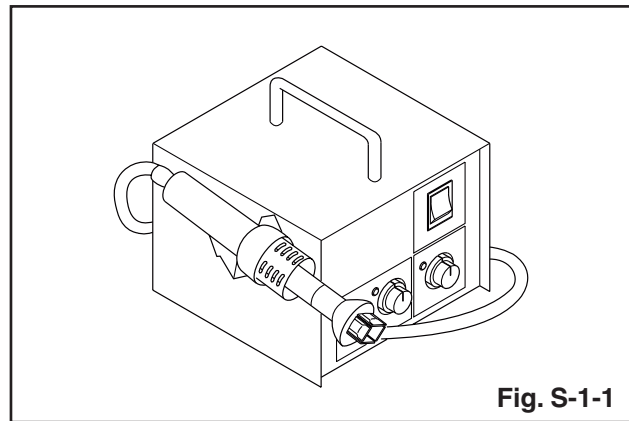


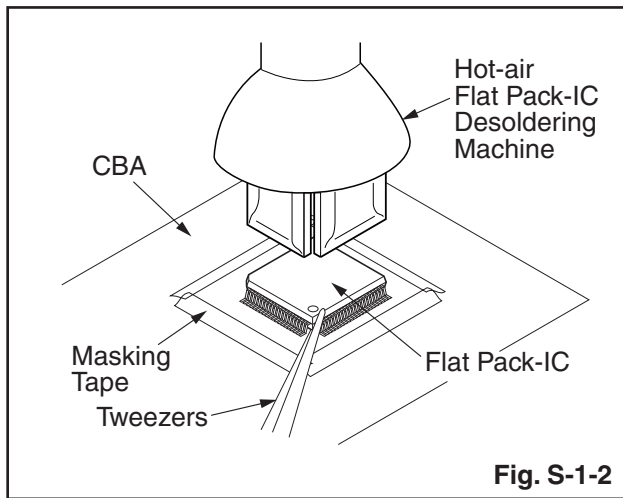
Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

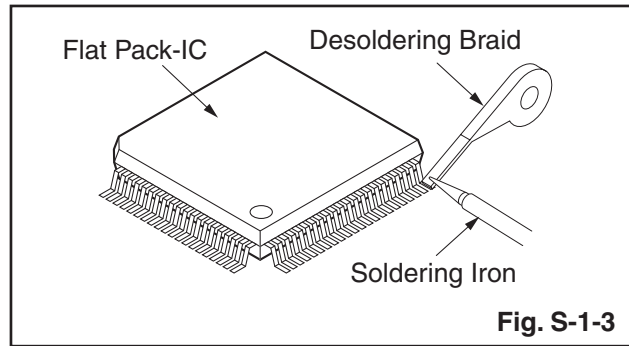
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

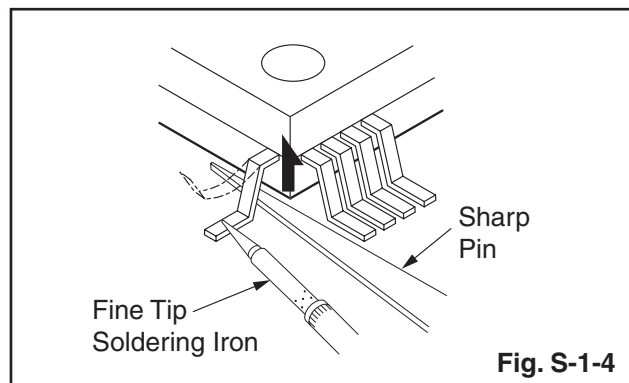


With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)



2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

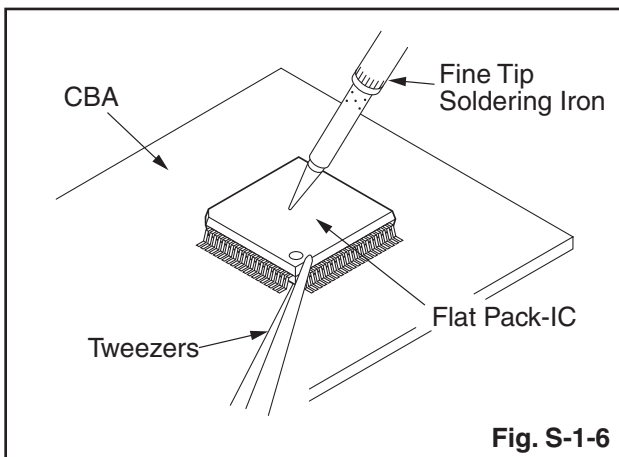
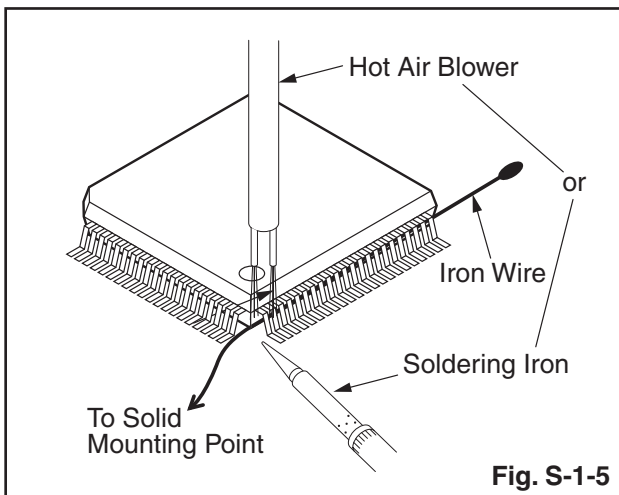


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

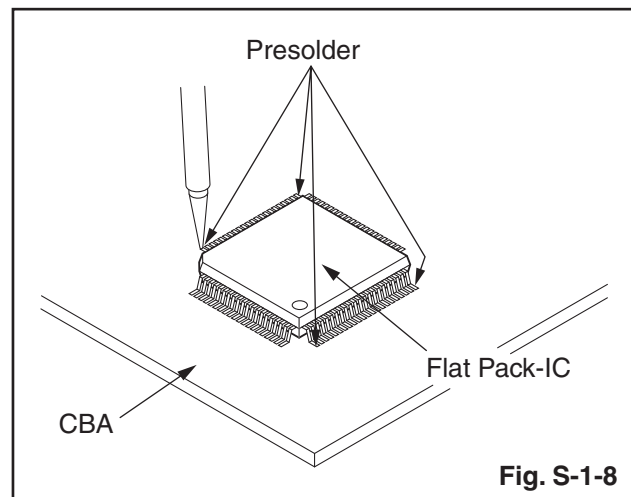
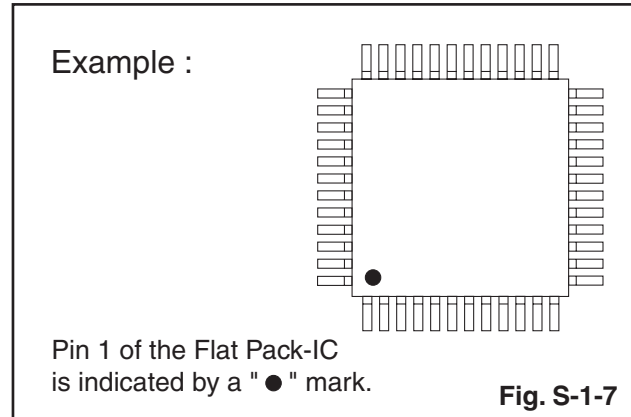
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.



2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the pin 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.



Instructions for Handling Semi-conductors

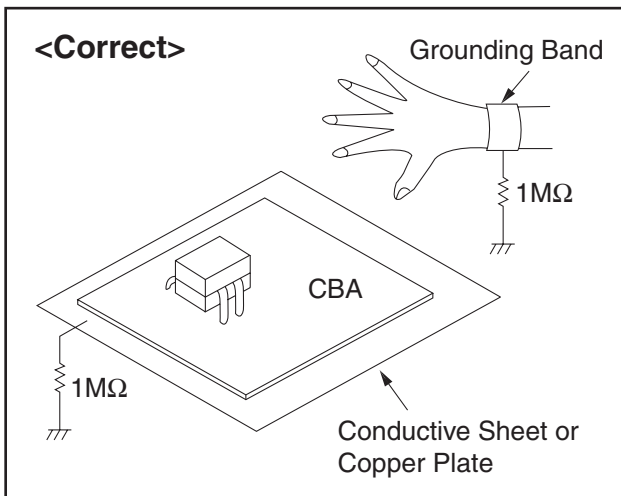
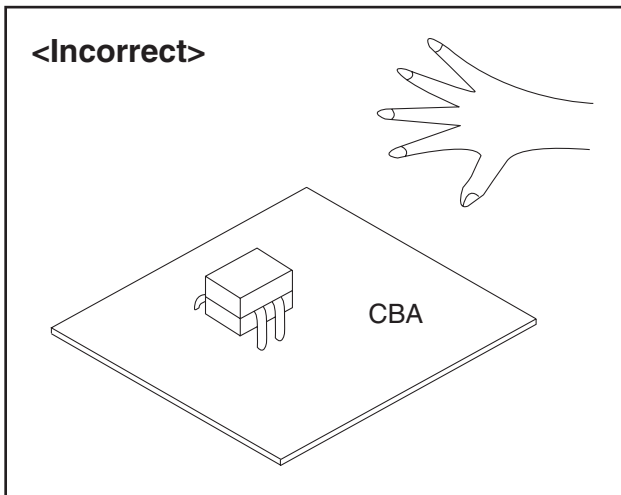
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band (1 M Ω) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

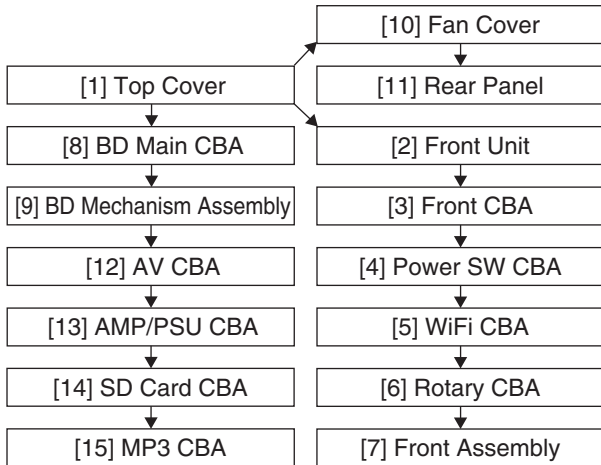
Be sure to place a conductive sheet or copper plate with proper grounding (1 M Ω) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.



CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to items to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



2. Disassembly Method

ID/ Loc. No.	Part	Fig. No.	Removal	Note
[1]	Top Cover	D1	8(S-1)	---
[2]	Front Unit	D2	5(L-1), 3(L-2), 3(L-3), 4(S-2), CN2005, CN2006, CN2007, CN7601	1
[3]	Front CBA	D2	-----	---
[4]	Power SW CBA	D3	2(S-3)	---
[5]	WiFi CBA	D3	-----	---
[6]	Rotary CBA	D4	Volume Knob, Nut, Washer	---
[7]	Front Assembly	D4	-----	---
[8]	BD Main CBA	D5	(S-4), 2(S-5), CN101, CN301, CN302, CN6101, CN7001, CN7101, M-PCB Plate Earth, Locking Card Spacer	2
[9]	BD Mechanism Assembly	D5	4(S-6)	2
[10]	Fan Cover	D6	(S-7), CN5001, Fan Earth Plate	---
[11]	Rear Panel	D6	3(S-8), (S-9), 2(S-10)	3

ID/ Loc. No.	Part	Fig. No.	Removal	Note
[12]	AV CBA	D7	2(S-11), CN402, CN403	---
[13]	AMP/PSU CBA	D7	5(S-12), CN9002, PCB Bracket Front	---
[14]	SD Card CBA	D8	2(S-13)	---
[15]	MP3 CBA	D8	(S-14)	---

↓ ↓ ↓ ↓ ↓
(1) (2) (3) (4) (5)

Note:

- (1) Identification (location) No. of parts in the figures
- (2) Name of the part
- (3) Figure Number for reference
- (4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P = Spring, L = Locking Tab, S = Screw,
CN = Connector
e.g. 2(S-2) = two Screws of (S-2),
2(L-2) = two Locking Tabs of (L-2)
- (5) Refer to "Reference Notes."

Reference Notes

1. **CAUTION 1:** Locking Tabs (L-1), (L-2) and (L-3) are fragile. Be careful not to break them.
2. **When replacing the BD Mechanism Assembly or BD Main CBA, refer to "ADJUSTMENT INSTRUCTIONS FOR BD MAIN CBA OR BD MECHANISM ASSEMBLY REPLACEMENT."**
3. **When reassembling, be sure to use the original screws or specified screws listed in the parts list.**

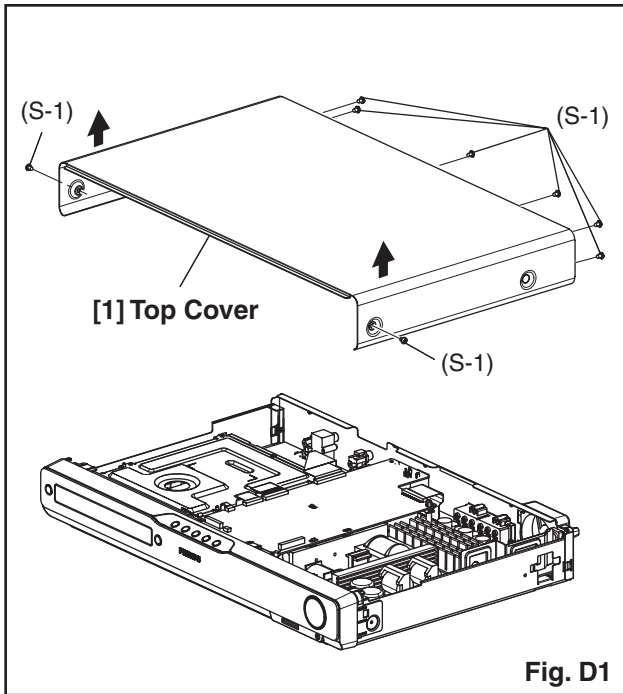


Fig. D1

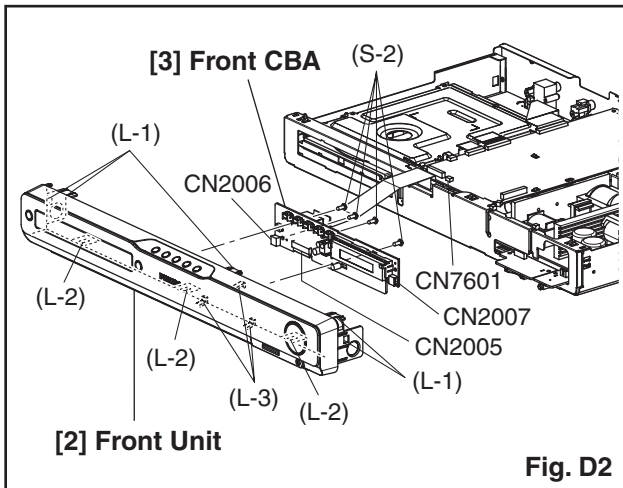


Fig. D2

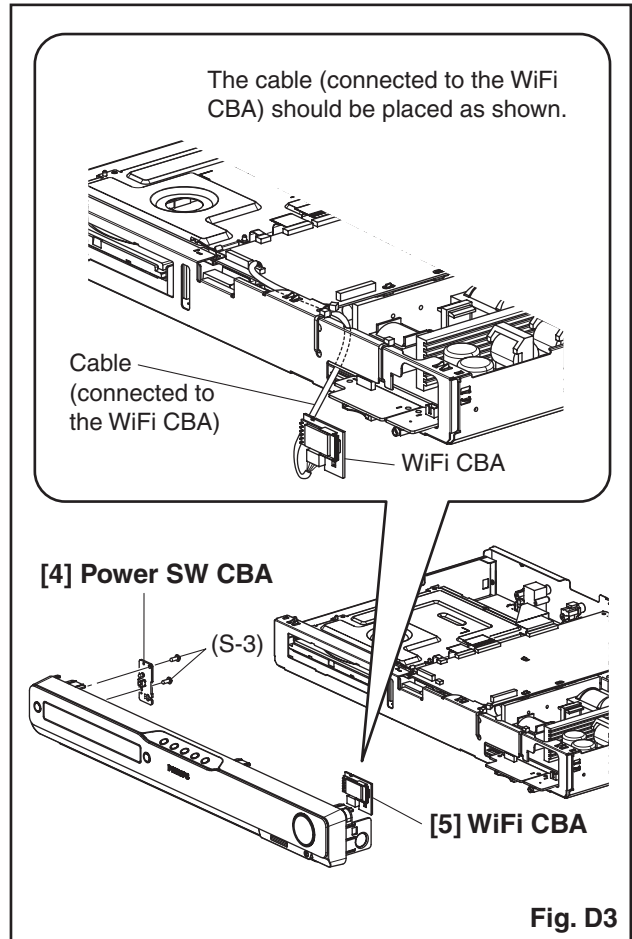


Fig. D3

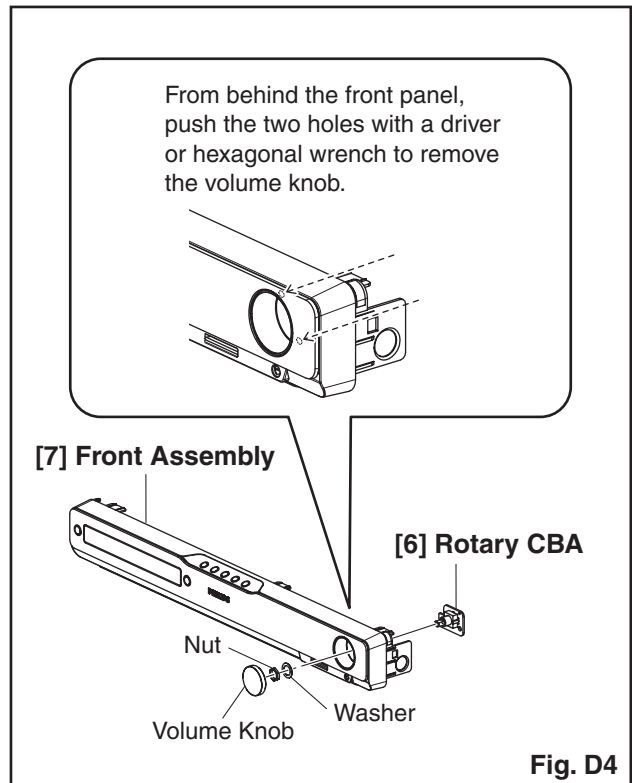
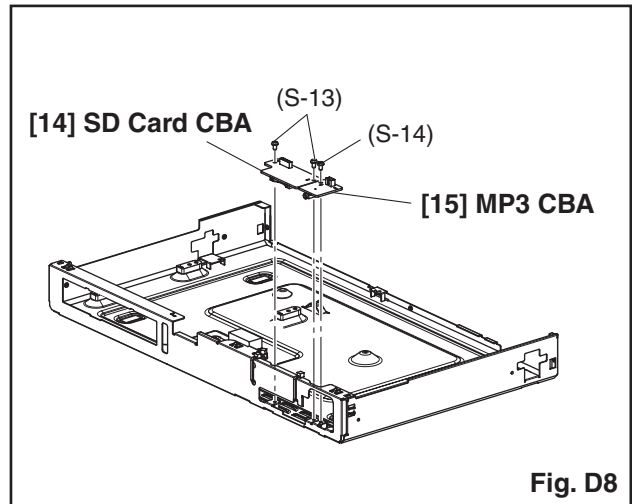
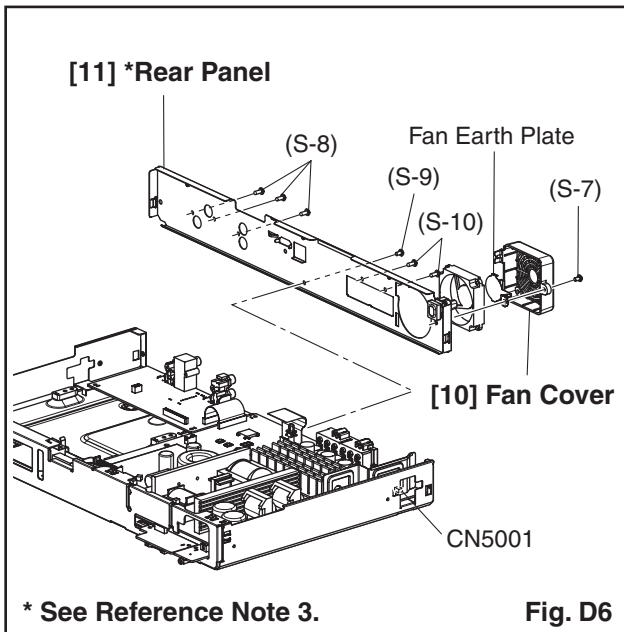
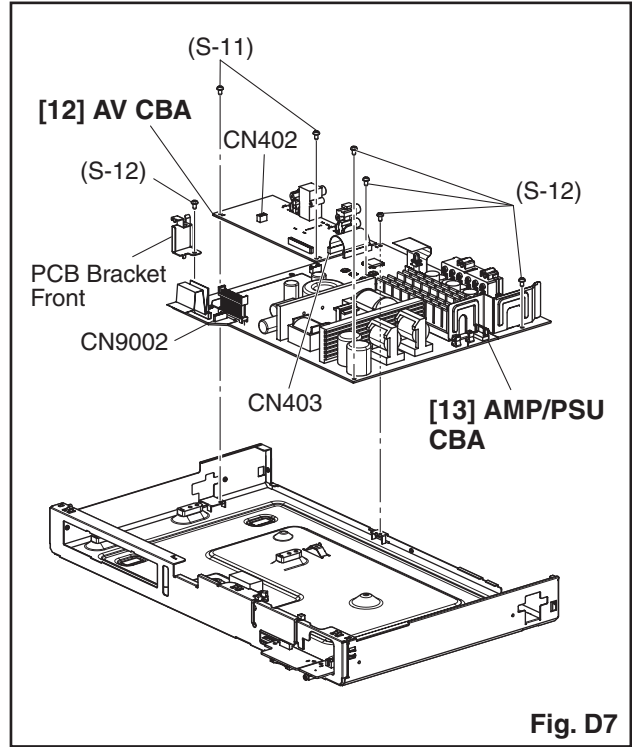
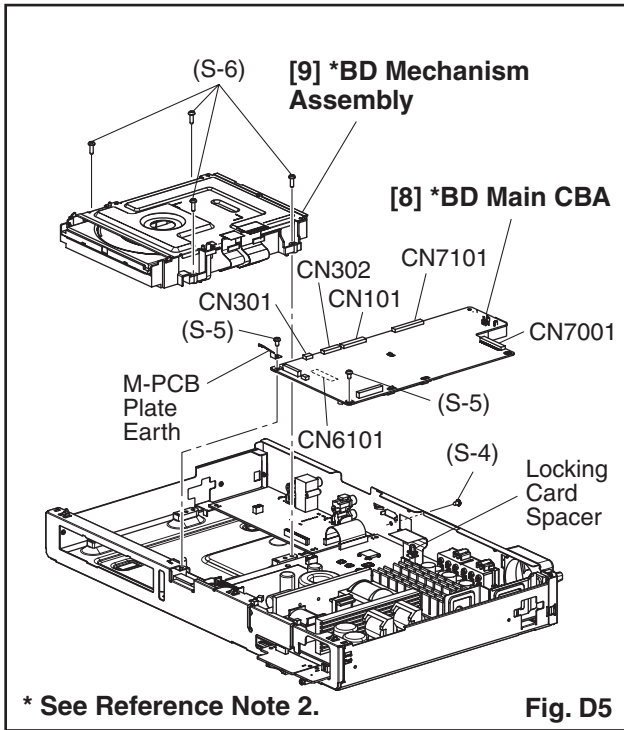


Fig. D4



3. How to Eject a Disc

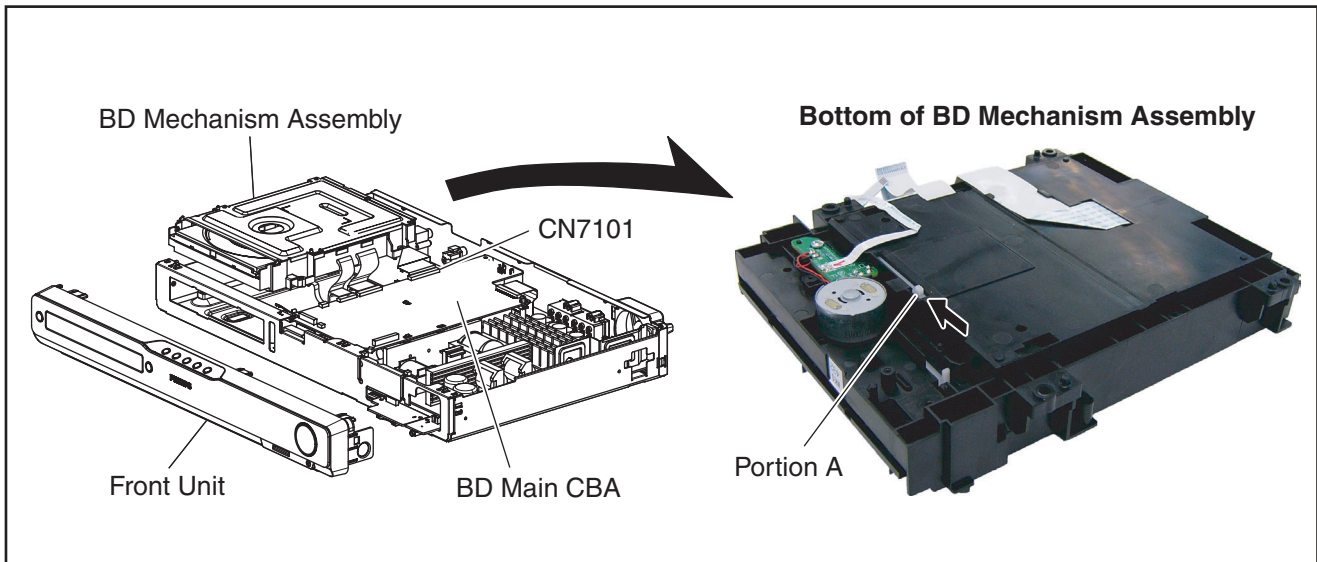
When a disc cannot be removed due to malfunction or when an unplayable disc is inserted, follow the procedure below to remove the disc.

Procedure A

1. Unplug the AC power cord and then plug it in.
2. Turn the power on by pressing the [▲] button and the disc tray will open automatically.

Procedure B

1. Remove the Top Cover and Front Unit.
2. Disconnect connector (CN7101) on the BD Main CBA.
3. Remove the BD Mechanism Assembly.
4. Slide the portion A in the direction of the arrow from bottom side of the BD Mechanism Assembly.
5. Pull the tray out manually and remove the disc.



HOW TO INITIALIZE THE BLU-RAY DISC PLAYER

To put the program back at the factory-default, initialize the BD player as the following procedure.

Note:

- By initializing, network is reset to disconnected state and “Network Service Disclaimer” appears on the screen.
- Once the unit is initialized, the unit starts in Virgin Mode the next time it is turned on. The Virgin Mode allows quick set up of language and network settings. To exit this mode, select “Cancel” on the screen.

1. Turn the power on.
2. Remove the disc on the tray and close the tray.
3. Press [▶] (skip up), [1], [2], and [3] buttons on the remote control unit in that order.

Fig. a appears on the screen. All VFD lights.

"*" differ depending on the models.

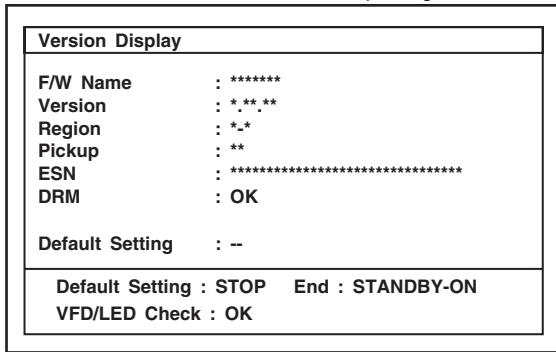


Fig. a

4. Press [■] button on the remote control unit.
Fig. b appears on the screen and Fig. c appears on the VFD.

"*" differ depending on the models.

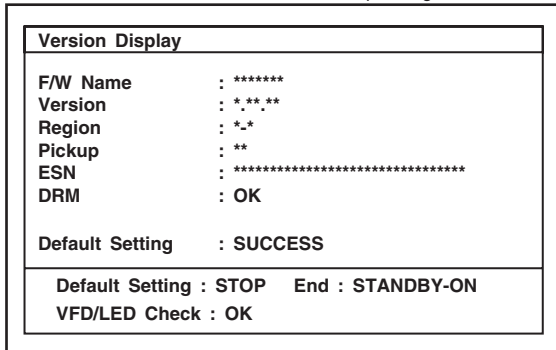


Fig. b



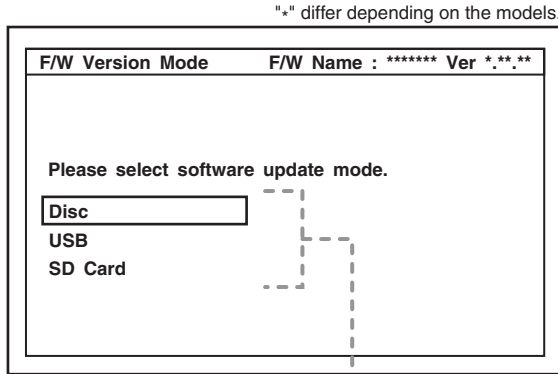
Fig. c

5. After initializing, the power will turn off automatically.

FIRMWARE RENEWAL MODE

Note: The file extension of the available firmware is "b40".

1. Turn the power on and remove the disc on the tray and close the tray.
2. Press [▶] (skip up), [6], [5], and [4] buttons on the remote control unit in that order. Fig. a appears on the screen.



The available software update mode will differ depending on the model type.

Fig. a Version Up Mode Screen (Example)

3. Select "Disc" or "USB" or "SD Card" and press [OK] button on the remote control unit. The tray will open automatically, if "Disc" is selected.
4. Insert the disc or USB Memory Stick or SD Card for version up.
5. The BD player enters the F/W version up mode automatically. Fig. b will appear on the screen. Make sure to insert the proper F/W for the state of this model.

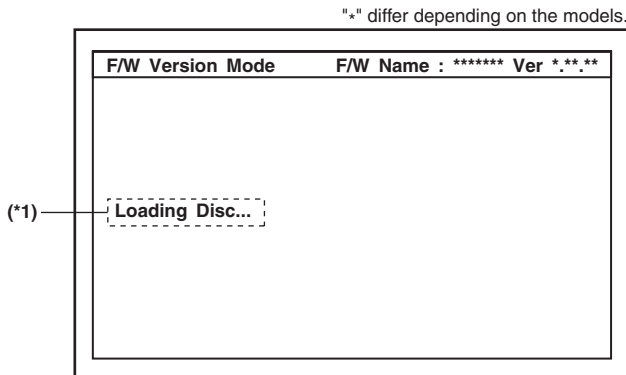


Fig. b Programming Mode Screen (Example)

The appearance shown in (*) of Fig. b is described as follows:

No.	Appearance	State
1	Loading Disc	Loading the disc
2	Reading...	Sending files into the memory.
3	See FLD.	Writing new version data, the progress will be displayed as shown in Fig. d.

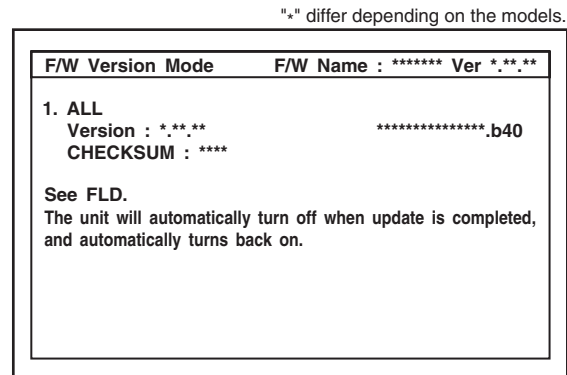


Fig. c Version Up Mode



Fig. d VFD in Version Up Mode

6. After the update, Fig. e will appear on the VFD and the power will turn off automatically.



Fig. e VFD upon Finishing the Programming Mode (Example)

7. The power turns on automatically. If disc mode was selected, the tray will open automatically. Remove the disc or USB Memory Stick or SD Card from the unit.

Note: All the settings will be put back to factory-default.

The following USB Memory Stick/SD Card can be used for software update. Make sure to use a device that has enough space.

- USB Memory Stick (FAT16/FAT32 file system)
- SD/Mini SD/Micro SD Card (FAT12/FAT16 file system)
- SDHC/Mini SDHC/Micro SDHC Card (FAT32 file system)

How to Verify the Firmware Version

1. Turn the power on.
2. Remove the disc on the tray and close the tray.
3. Press [▶|] (skip up), [1], [2], and [3] buttons on the remote control unit in that order.

Fig. f appears on the screen. All VFD lights.

"*" differ depending on the models.

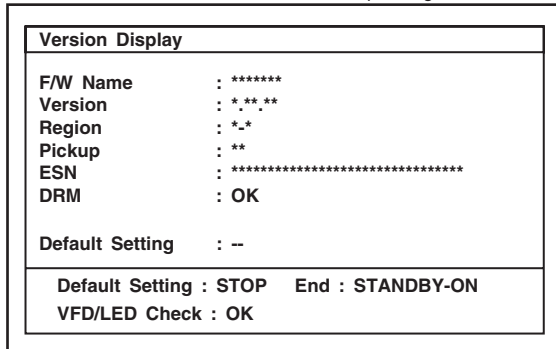



Fig. f

4. To exit this mode, press [⏻] button.

FIRMWARE RENEWAL MODE (for User)

Disc/USB Memory Stick/SD Card Update

1. Press [] button to display Setup menu.
2. Select Setup - Advanced Setup - Software Update.
3. Select the software update mode from "Disc" or "USB" or "SD Card." The available software update mode will differ depending on the model type.
4. The screen appears in Fig. g when "Yes" is chosen. If disc mode was selected, the tray will open automatically. Insert the disc or USB Memory Stick or SD Card for software update.

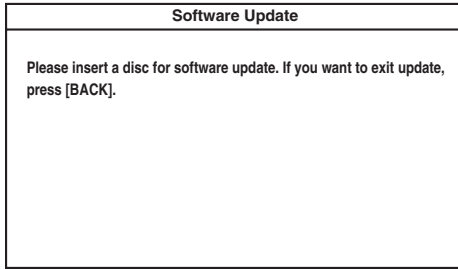


Fig. g (Example of Disc mode)

5. Disc loading starts. Fig. h will appear on the screen and Fig. i will appear on the VFD.

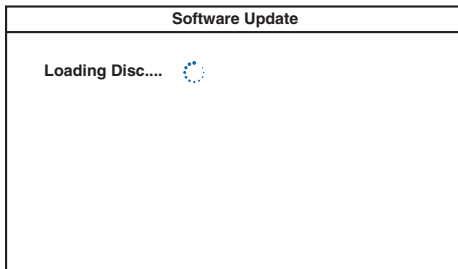


Fig. h (Example of Disc mode)



Fig. i VFD in Update Mode

6. Fig. j will appear on the screen, then select "Yes". Fig. k will appear on the VFD.

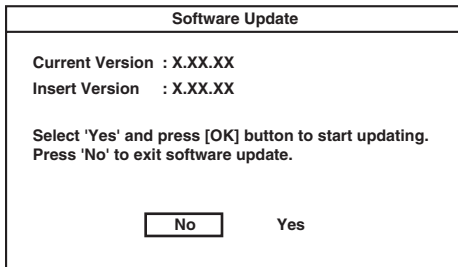


Fig. j



Fig. k VFD in Update Mode

7. Firmware loading starts. Fig. l will appear on the screen and Fig. m will appear on the VFD.

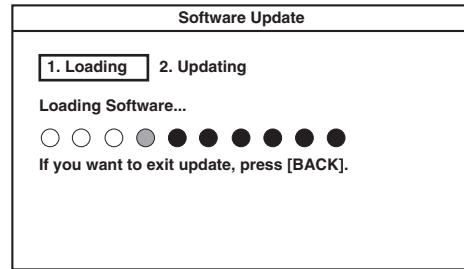


Fig. l



Fig. m VFD in Programming Mode

8. Updating starts automatically. Fig. n will appear on the screen and update progress will be displayed as shown in Fig. o on the VFD.

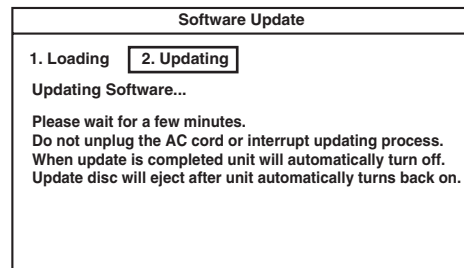


Fig. n (Example of Disc mode)



Fig. o VFD in Update Mode


9. "GOODBYE" on the VFD and the power turns off automatically when it finishes.
10. The power turns on automatically. If disc mode was selected, the tray will open automatically. Remove the disc or USB Memory Stick or SD Card from the unit.

Note: The setup setting configured before the update will be kept.

The following USB Memory Stick/SD Card can be used for software update. Make sure to use a device that has enough space.

- USB Memory Stick (FAT16/FAT32 file system)
- SD/Mini SD/Micro SD Card (FAT12/FAT16 file system)
- SDHC/Mini SDHC/Micro SDHC Card (FAT32 file system)

Network Update

1. Press [] button to display Setup menu.
2. Select Setup - Advanced Setup - Software Update - Network.
3. When “Yes” is chosen, the screen appears in Fig. p and the unit starts connecting to the network.

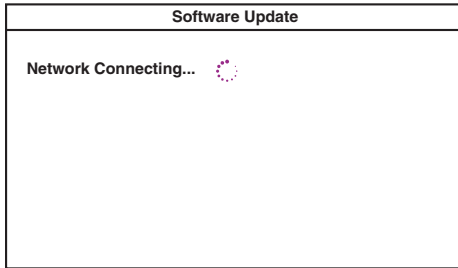


Fig. p

4. The firmware version confirmation screen (Fig. q) will appear on the screen. Select “Yes” and press [OK] button.

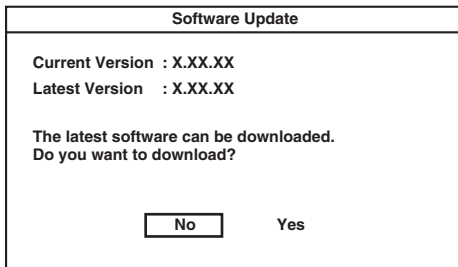


Fig. q

5. Firmware downloading starts.
6. Upon completion of downloading, Fig. r will appear on the screen. Press [OK] button.

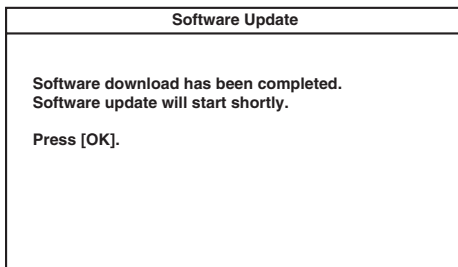


Fig. r

7. The unit starts reading the firmware. Fig. s will appear on the screen and Fig. t will appear on the VFD.

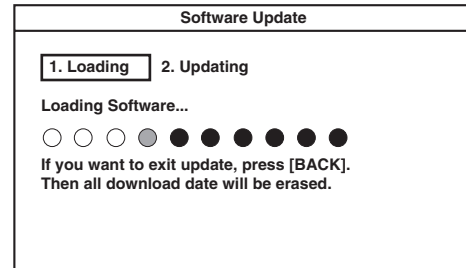


Fig. s



Fig. t

8. Updating starts automatically. Fig. u will appear on the screen and Fig. v will appear on the VFD.

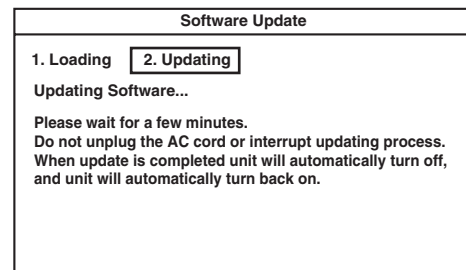


Fig. u



Fig. v

9. “GOODBYE” on the VFD and the power turns off automatically when it finishes.
10. The power turns on again automatically.

Note: The setup setting configured before the update will be kept.

Network Error Message

No.	Error Message
1	The cable is not correctly connected. Please confirm the connection of the cable.
2	DHCP cannot be acquired. Please set whether to confirm the connection with the manual.
3	Internet Protocol address is not set. Please confirm a set content.
4	The equipment with same Internet Protocol address already exists. Please set another Internet Protocol address.
5	There is no response from Default gateway. Please confirm the address of Default gateway.
6	It is not possible to connect it with the DNS server. Please confirm the Internet connection or the DNS address setting.
7	It is not possible to connect to the server. Please contact our support center.
8	It is not possible to confirm the Firmware version. Please contact our support center.
9	Cannot connect to the wireless network. Please confirm the wireless network setting.

ADJUSTMENT INSTRUCTIONS FOR BD MAIN CBA OR BD MECHANISM ASSEMBLY REPLACEMENT

When replacing either BD Main CBA or BD Mechanism Assembly, the unique OPU DATA of the BD Mechanism needs to be written into the BD Main CBA. Follow the procedure below for OPU DATA write operation.

Equipments:

- PC (OS: Windows XP strongly recommended)
- Barcode reader
- COMTOOL jig relay board + 6PIN FFC cable
- USB cable Type AB
- Device driver for COMTOOL jig (CDM 2.06.00 WHQL Certified)
- Specialized application (OpuDataWriter)

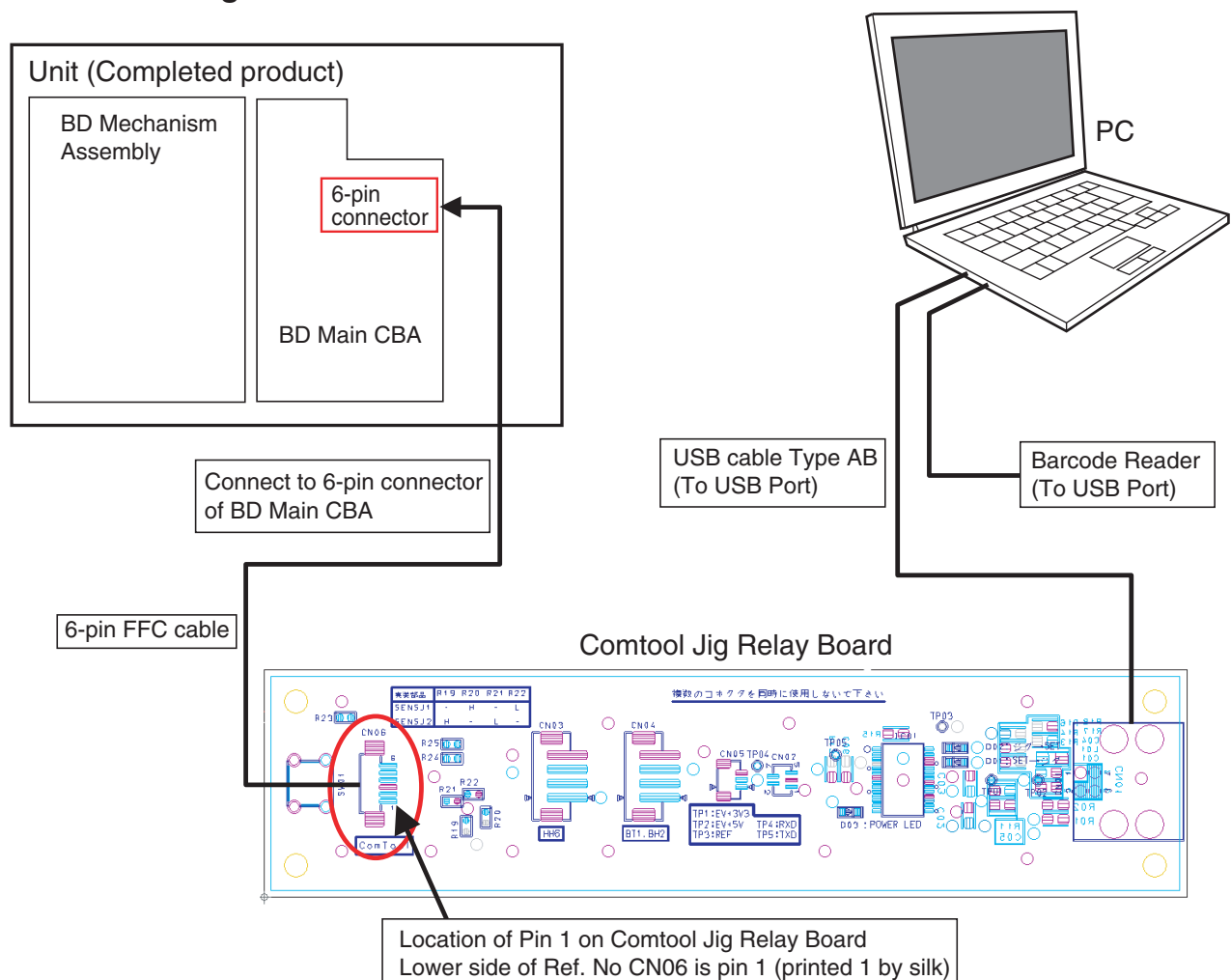
Caution:

- Always turn the unit power off before connecting the FFC cable or removing the FFC cable from the BD Main CBA.

1. Preparation Of Work Environment

1-1. For the OPU DATA write operation, refer to the connection diagram and connect each device as shown below.

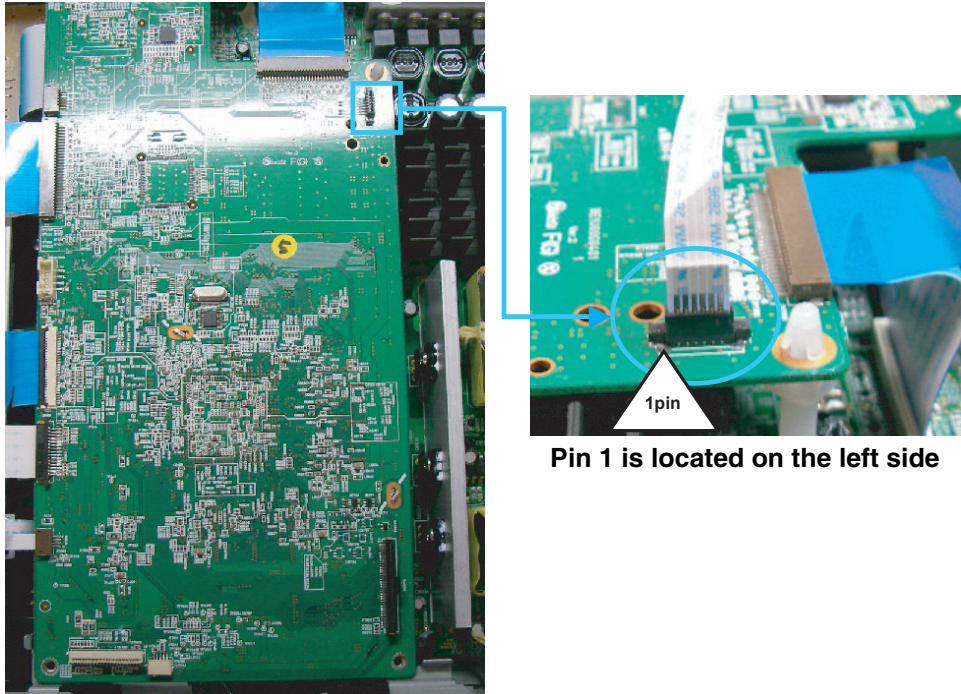
Connection Diagram



Caution:

- Make sure the FFC cable is inserted in the proper direction so the Pin 1 of COMTOOL jig relay board and Pin 1 of BD MAIN CBA connector is connected.

Location of Pin 1 on BD Main CBA



Pin 1 is located on the left side

- If the device driver (CDM 2.06.00 WHQL Certified) of COMTOOL jig relay board is not installed in the PC, install this before connecting COMTOOL jig relay board to the PC.

<How to install the device driver for COMTOOL jig relay board>

- 1) Save the device driver for COMTOOL jig relay board in the C: drive.
- 2) Connect COMTOOL jig relay board to the PC.
- 3) The driver installation screen opens. Select [Install from a list or specific location (Advanced)] then click [Next].
- 4) Select [Search for the best driver in these locations.] then check the box for [Include this location in the search:].
- 5) Click on Browse button then select the device driver (CDM 2.06.00 WHQL Certified) folder in the C: drive. Click [Next].
- 6) Confirm that installation of [USB Serial Converter] device driver has completed and click on [Finish].

2. How To Check Which Port Is Used For COMTOOL Jig Relay Board

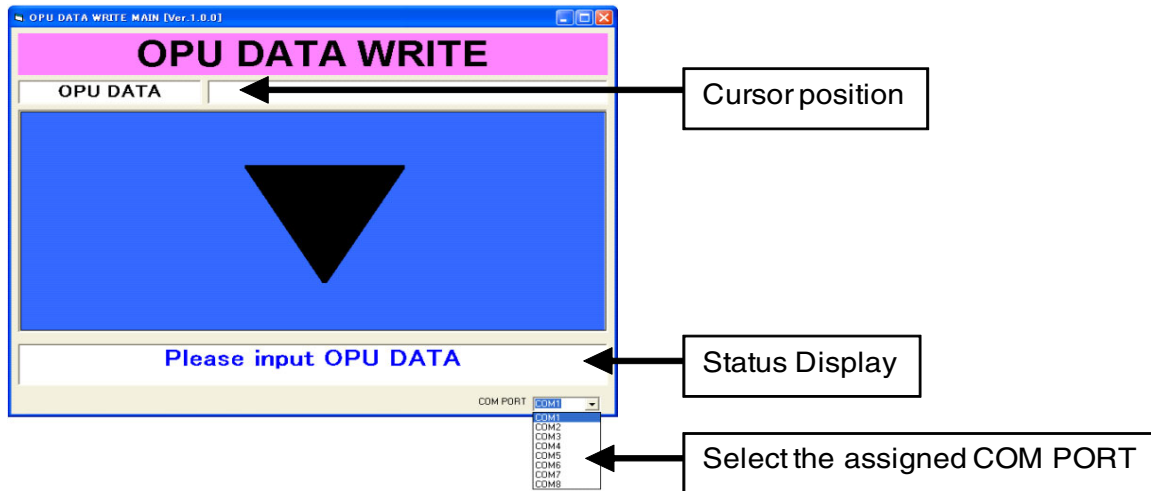
- 2-1. Click on the Windows [Start] button on the PC.
- 2-2. Right click on [My Computer].
- 2-3. Click on [Properties].
- 2-4. Click on [Hardware] tab in System Properties window.
- 2-5. Click on [Device Manager].
- 2-6. Click on [Ports (COM&LPT)].
- 2-7. Check which connection port is assigned for [USB Serial Port] (e.g. COM1).
The connection port number assigned here will be used later during setup of application.

3. Application Setup

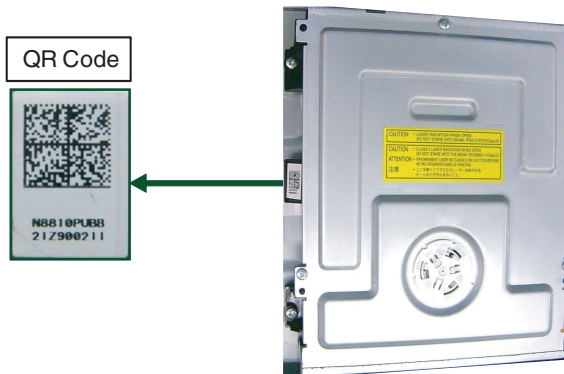
- 3-1. Save the application folder (OpuDataWriter) directly under the C: drive.
- 3-2. Create a shortcut for [OpuDataWriter.exe] which is located inside the folder on the desktop.

4. OPU DATA WRITE

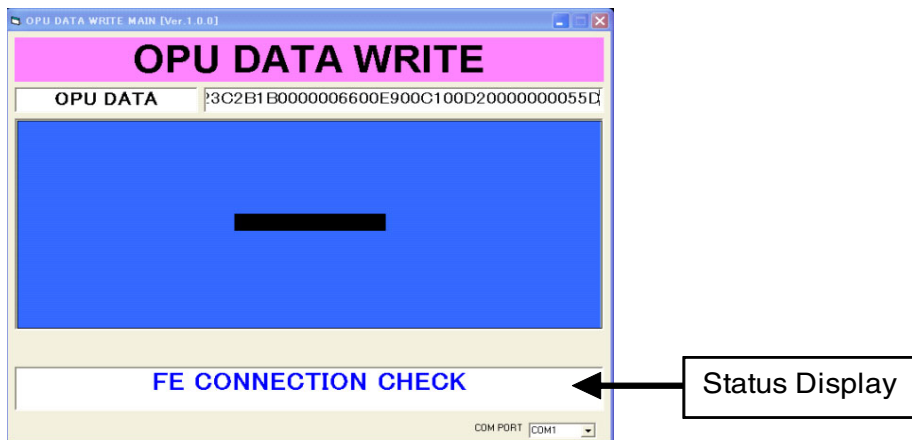
- 4-1. Connect the unit's AC power cord. Wait for about 30 seconds until the unit is in standby mode.
- 4-2. Double click on the [OpuDataWriter.exe] shortcut on the desktop to start the application.
- 4-3. Application start screen appears.
Select the assigned connection port of [USB Serial Port] for the [COM PORT] field located at the right corner of the screen.
Check that [Please input OPU DATA] message is displayed in the Status Display.
Set the cursor position at the blank box next to the [OPU DATA].



- 4-4. Using the Barcode reader, scan the QR code attached to the BD Mechanism Assembly.



- 4-5. Check that [FE CONNECTION CHECK] message appears on the Status Display then turn the unit power on.



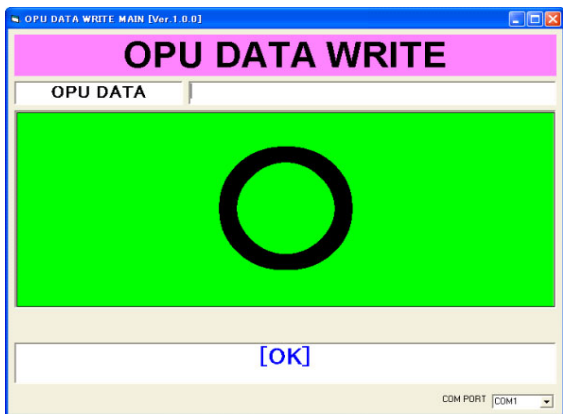
If error occurs:

If an error occurs, the screen changes to a red display. In such case, close the window and then unplug the unit AC power cord. Check if each device is properly connected then repeat from step 1.

4-6. Data write begins. While writing data, the Status Display message will change.

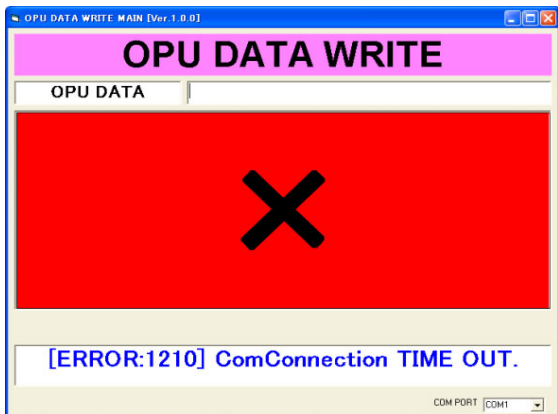


4-7. [OK] appears in the Status Display if data write has been completed successfully.



If error occurs:

- If an error occurs, the screen changes to a red display. In such case, close the window and then unplug the unit AC power cord. Check if each device is properly connected then repeat from step 1.
- If an error other than connection error occurs for more than 3 times, the BD MAIN CBA or BD Mechanism Assembly may be defected. Replace with a new one before performing the OPU DATA write.



4-8. After data write has been completed successfully, unplug the AC power cord.

4-9. Remove the FFC Cable of COMTOOL jig relay board connected to the BD Main CBA. Then disconnect all devices connected to the unit.

Error Code

Error Code	Error	Description
10	Start word error	The first letter entered for [LOADER S/N] does not match.
101	[ReadBackup]Drive Mount error	Cannot mount the drive set for [ReadBackup] folder.
102	[Transfer]Drive Mount error	Cannot mount the drive set for [Transfer] folder.
103	[OpuData]Drive Mount error	Cannot mount the drive set for [OpuData] folder.
104	[Log]Drive Mount error	Cannot mount the drive set for [Log] folder.
210	Start word error	The first letter entered for [OPU DATA] does not match.
300	CheckSum NG	The checksum of the entered OPU DATA(QR code) does not match.
301	QRCheckSum NG	[Process1]CheckSum Test error.
310	CreateHeader NG	[Process2]Error creating Header region.
320	CreateLDD NG	[Process3]Error creating LDD region.
330	CreateFBIAS NG	[Process4]Error creating FBIAS region.
340	CreateExp NG	[Process5]Error creating EXP region.
350	CreateLcd NG	[Process6]Error creating LCD region.
360	CreateCrc NG	[Process7]Error creating CRC region.
370	CreateDDD NG	[Process8]Error creating DDD file.
380	CreateLog NG	[Process9]Error creating LOG file.
390	CreateOpuData NG	[Process10]Error creating OPU DATA file.
1010	Start word error	The first letter entered for [LOADER S/N] does not match.
1130	DDDFile not found	As a result of searching DDD file in the [WriteBackup] folder, the entered DDD file for [LOADER S/N] could not be found.
1140	DDDFile search error	Error occurred while searching DDD file in [WriteBackup] folder.
1151	[WriteBackup]Drive Mount error	Cannot mount the drive set for [WriteBackup] folder.
1152	[Transfer]Drive Mount error	Cannot mount the drive set for [Transfer] folder.
1153	[OpuData]Drive Mount error	Cannot mount the drive set for [OpuData] folder.
1154	[Log]Drive Mount error	Cannot mount the drive set for [Log] folder.
1210	ComConnection TIME OUT	No reply received for NOP commmand (20 times at 500mSec interval).
1211	Tray Close error	Cannot close tray.
1220	TestUnitReady ERROR0	[ERROR0] returned for TestUnitReady command issued.
1221	TestUnitReady ERROR1	[ERROR1] returned for TestUnitReady command issued.
1222	TestUnitReady TIME OUT	No reply received for TestUnitReady command issued.
1230	ReadVirRAM32 NG	[Acquire DRAM head address of DDD data forwarding region]Process Error
1240	WriteReg16 NG	[Send ddd data to DRAM head address region(16BYTE unit)]Process Error
1250	WriteReg1 NG	[Send ddd data to DRAM head address region(1BYTE unit)]Process Error
1260	FlashWrite ERROR0	[ERROR] returned for FlashWrite command issued.
1261	FlashWrite ERROR1	[ERROR] returned for FlashWrite command issued.
1262	FlashWrite TIME OUT	No reply received for FlashWrite command issued.
1310	MoveDDDFile NG	[Move DDD file to written folder]Process Error
1320	CreateLog NG	[Create LOG file]Process Error
1330	CreateComLOG NG	[COM PORT connection LOG file create]Process Error
1400	TIME OUT	System Time Out
2031	LdParamSend NG	LD Parameter Send Error

Error Code	Error	Description
2042	LdParamClear ERROR0	Cannot initialize LD Parameter.
2043	LdParamClear ERROR1	Cannot initialize LD Parameter.
2044	LdParamClear TIME OUT	Cannot initialize LD Parameter (TimeOut).
2051	lopSet NG	lop Set Error
2052	lopSet ERROR0	lop Set Error
2053	lopSet ERROR1	lop Set Error
2054	lopSet TIME OUT	lop Set Error (TimeOut)
2055	lopSet ERROR0	lop Set Error
2056	lopSet ERROR1	lop Set Error
2057	lopSet TIME OUT	lop Set Error (TimeOut)
2058	CD lop LIMIT NG	CD lop exceeds limit value.
2059	DVD lop LIMIT NG	DVD lop exceeds limit value.
2060	BD lop LIMIT NG	BD lop exceeds limit value.
2081	LdParamVerify NG	LD Parameter Verify Error
2091	AtapiComCheck NG	BE start Error.
2101	ID4 OFF NG	Cannot set ID4 OFF.
2111	SET BOR RATE NG	Failed to change Serial Connection Rate.
2200	Generation NG	Generation detect failure.
6001	Factory Info save Error	Failed to create FactoryInfo file.
6002	Factory Info save Error	Failed to create FactoryInfo file.
6100	Factory Info save Error	Failed to create FactoryInfo file.

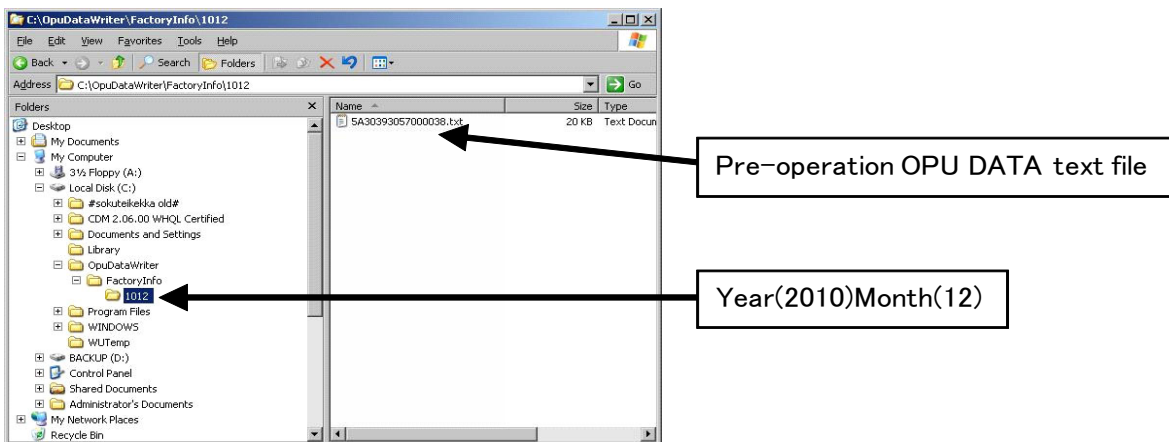
5. Saving The Pre-Operation OPU DATA

OPU DATA before performing the OPU DATA write is saved in a folder automatically.

5-1. When the OPU DATA write operation has been completed successfully, a folder named [FactoryInfo] is created in the application folder (OpuDataWriter).

5-2. In the [FactoryInfo] folder, a folder is created monthly in which text file data are saved.

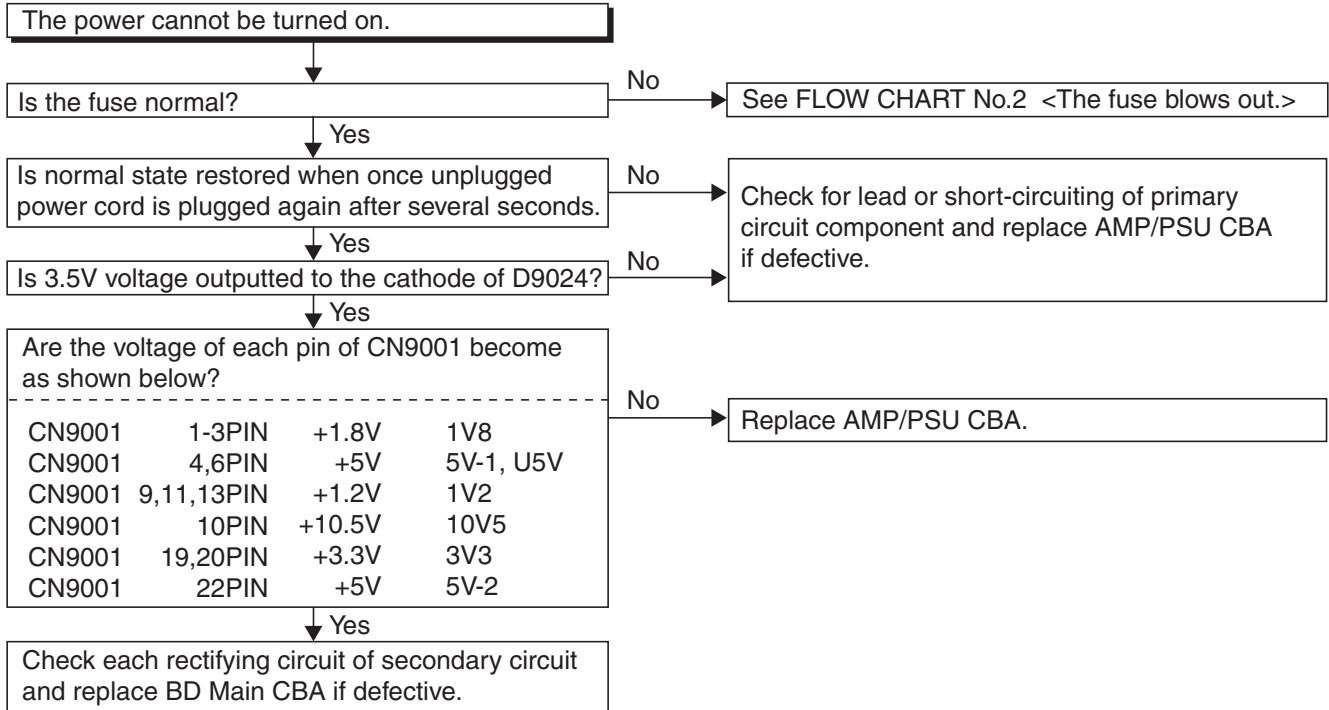
This text file is created with a file name of the OPU serial number and contains the pre-operation OPU DATA.



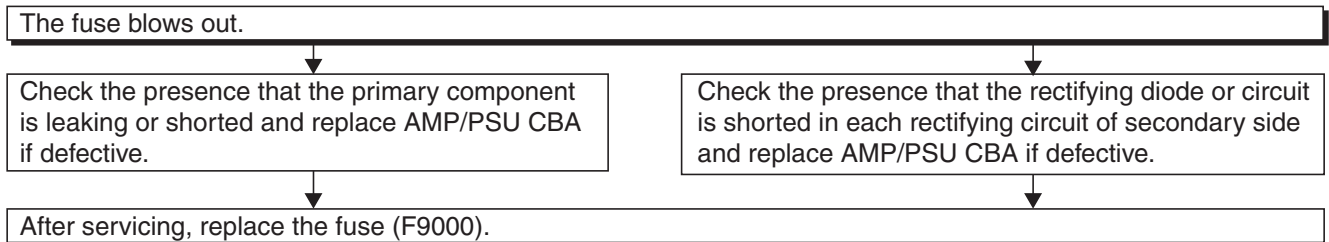
5-3. The text file is necessary for analyzing the defective BD Mechanism. Submit this text file with the defective BD Mechanism as necessary to the appropriate managing Department.

TROUBLESHOOTING

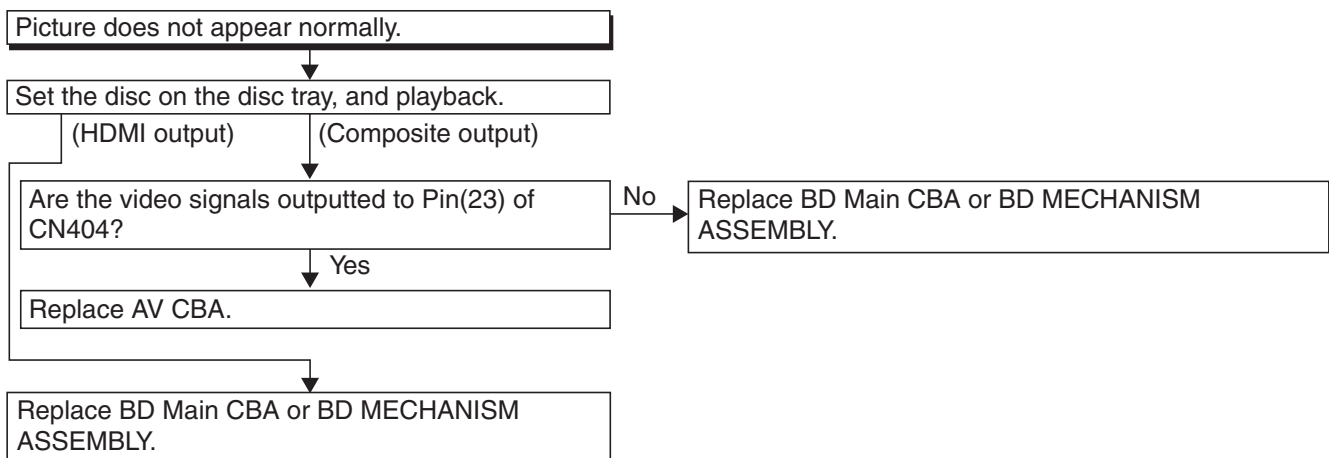
FLOW CHART NO.1



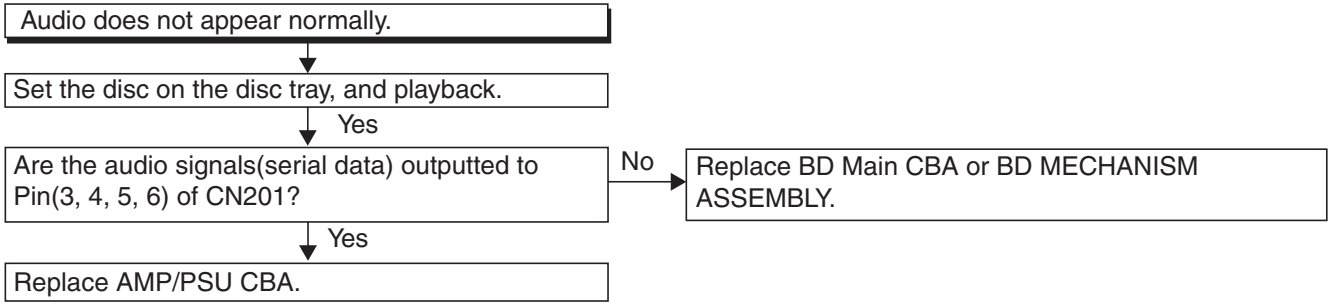
FLOW CHART NO.2



FLOW CHART NO.3

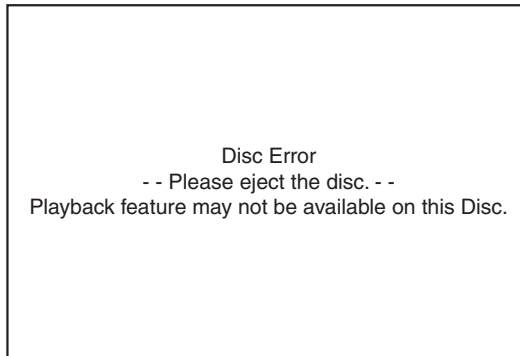



FLOW CHART NO.4



ERROR MESSAGE

Note: Only error messages for the unit's corresponding media will appear.

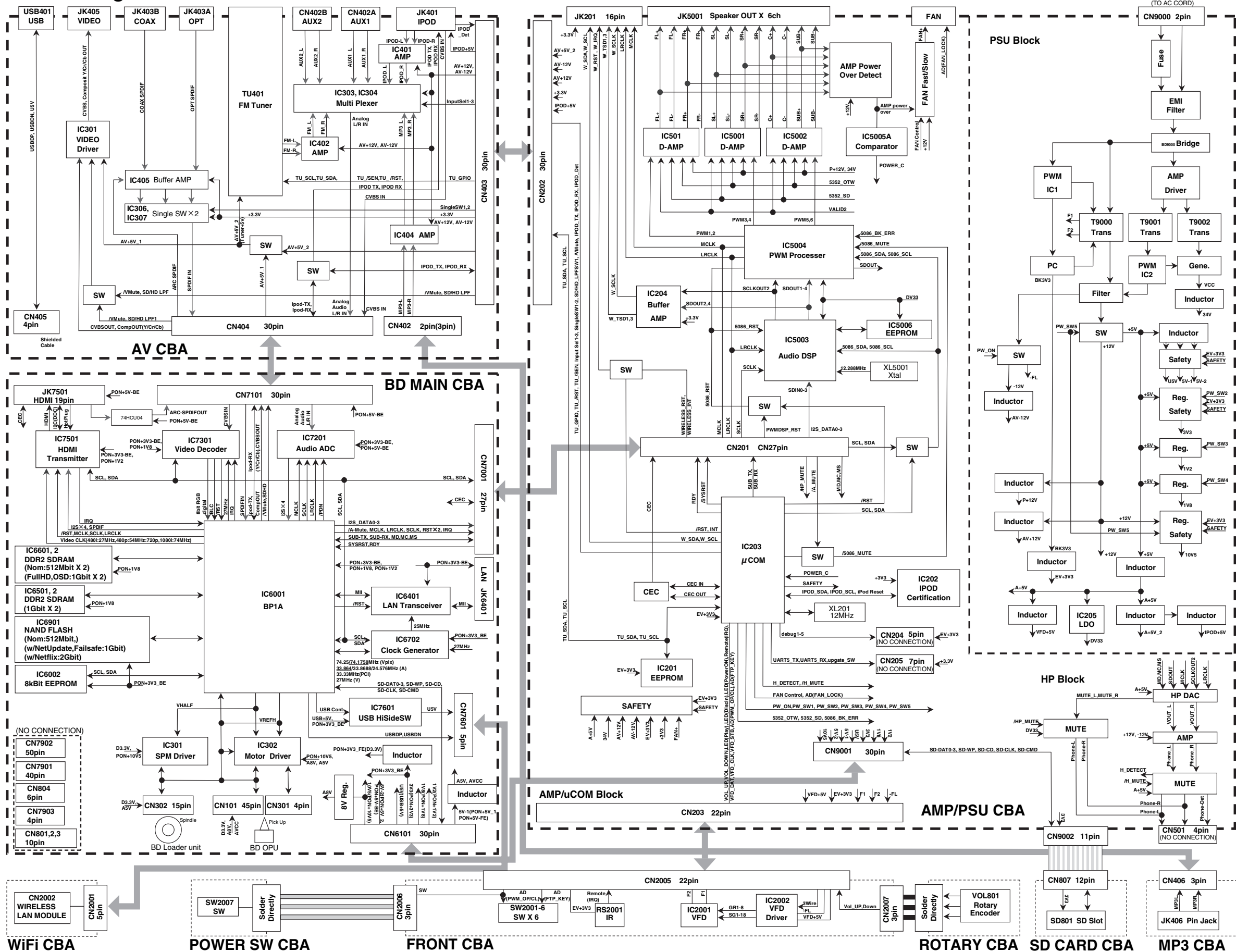


Error	Message
Disc Error	Disc Error - - Please eject the disc. - - Playback feature may not be available on this Disc.
Loader Error	Loader Error The unit stopped automatically due to loader error. Please open the disc tray once and then close it.
Parental Lock Error	Parental Lock On The current selected parental level prohibits playback.
Region Error	Region Error Playback is not authorized in your region. Region code of this disc :
The device connected for HDMI connection does not support HDCP.	(There is no message.) The following error will appear on the VFD. 
USB/SD Card Error	Memory Device Error - - Please check the Memory Device. - - There is no playback file on the Memory Device or Device has incorrect/ no format.
BD-Live Network Connecting Error	BD-Live Setting Error Network connection is interrupted. Please confirm "BD-Live Setting".
LAN Cable Not Connected	The cable is not correctly connected. Please confirm the connection of the cable.
Cannot Acquire DHCP Server	DHCP cannot be acquired. Please set whether to confirm the connection with the manual.
Cannot Acquire IP Address	Internet Protocol address is not set. Please confirm a set content.
Already Existing IP Address	The equipment with same Internet Protocol address already exists. Please set another Internet Protocol address.
No Response From Default Gateway	There is no response from Default gateway. Please confirm the address of Default gateway.
Cannot Connect To DNS Server	It is not possible to connect it with the DNS server. Please confirm the Internet connection or the DNS address setting.

Error	Message
Cannot Connect To Server	It is not possible to connect to the server. Please contact our support center.
Cannot Confirm Firmware Version	It is not possible to confirm the firmware version. Please contact our support center.
Firmware Update Error (Update File Error)	Error detected. File may be corrupted. Please download software again.
	Error detected. Please confirm whether it is SD Memory Card that corresponds to software update.
	Error detected. Please confirm whether it is USB device that corresponds to software update.
Cannot Connect To Download Server	It is not possible to connect to the server. Please contact our support center.
Cannot connect to wireless network.	Cannot connect to the wireless network. Please confirm the wireless network setting.
USB Error	Error in the USB Connection. USB operation has been stopped automatically. Please remove the USB device and restart the unit.

BLOCK DIAGRAM

OVERALL BLOCK Diagram



SCHEMATIC DIAGRAMS AND CBA

Standard Notes

WARNING

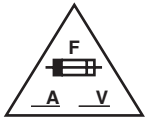
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark “▲” in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P = 10^{-6} \mu F$).
5. All voltages are DC voltages unless otherwise specified.
6. Electrical parts such as capacitors, connectors, diodes, IC's, transistors, resistors, switches, and fuses are identified by four digits. The first two digits are not shown for each component. In each block of the diagram, there is a note such as shown below to indicate these abbreviated two digits.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.



This symbol means fast operating fuse.
Ce symbole représente un fusible à fusion rapide.

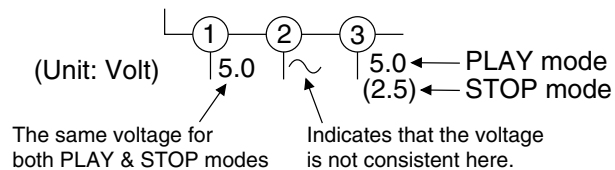
2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F9000) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

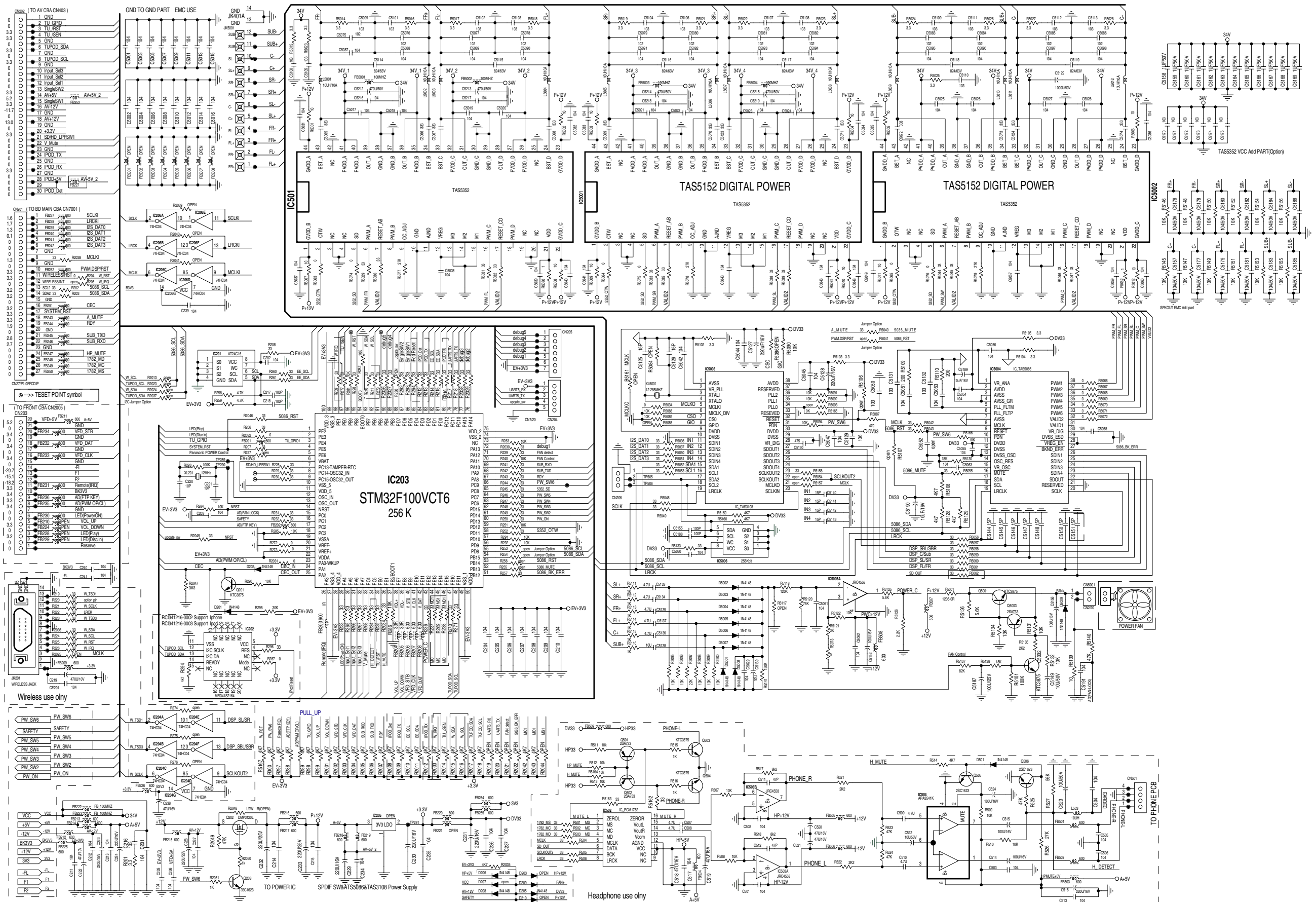
3. Note:

1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Voltage indications for PLAY and STOP mode on the schematics are as shown below:



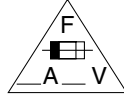
AMP/PSU 1 Schematic Diagram



AMP/PSU 2 Schematic Diagram

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F9000) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



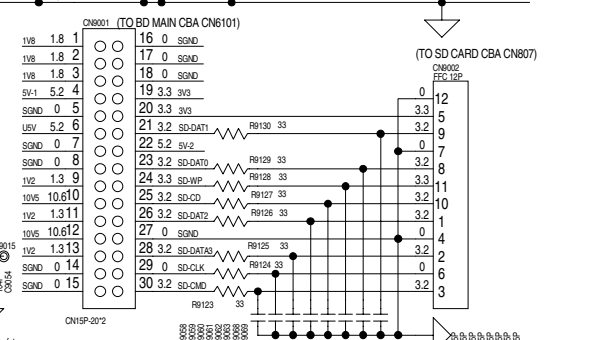
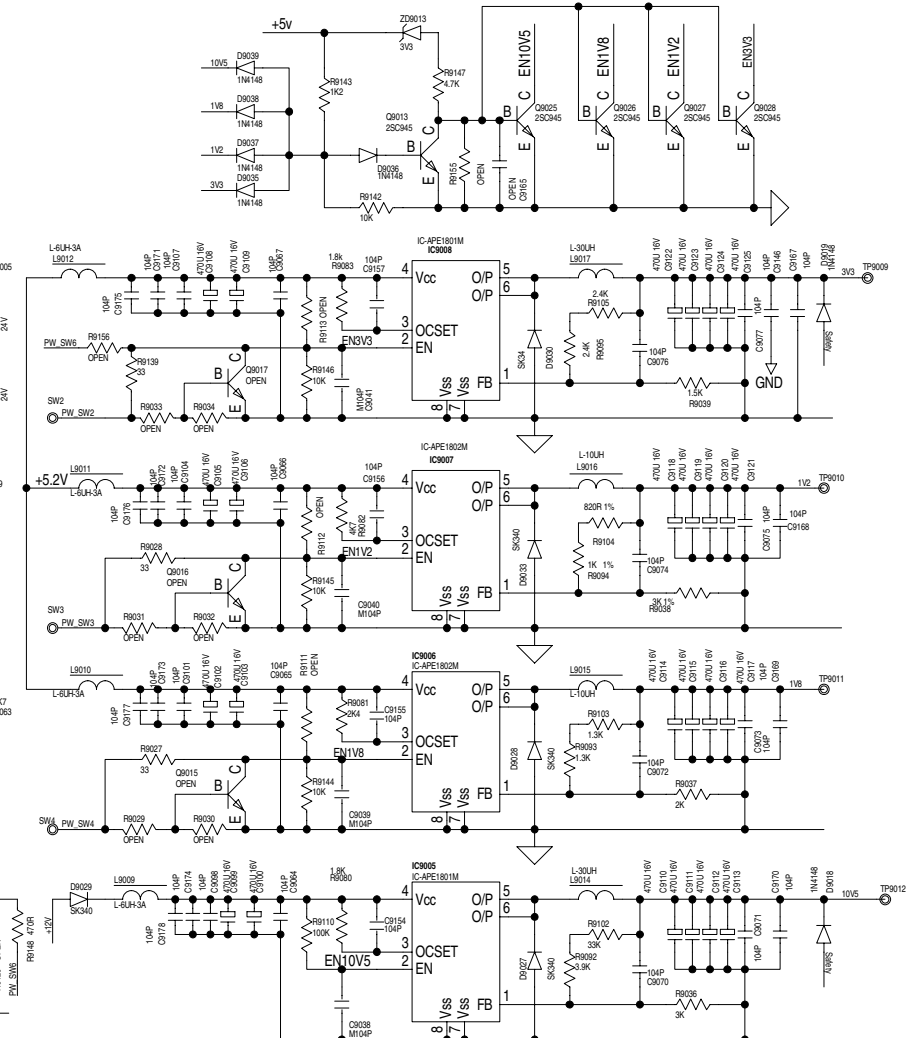
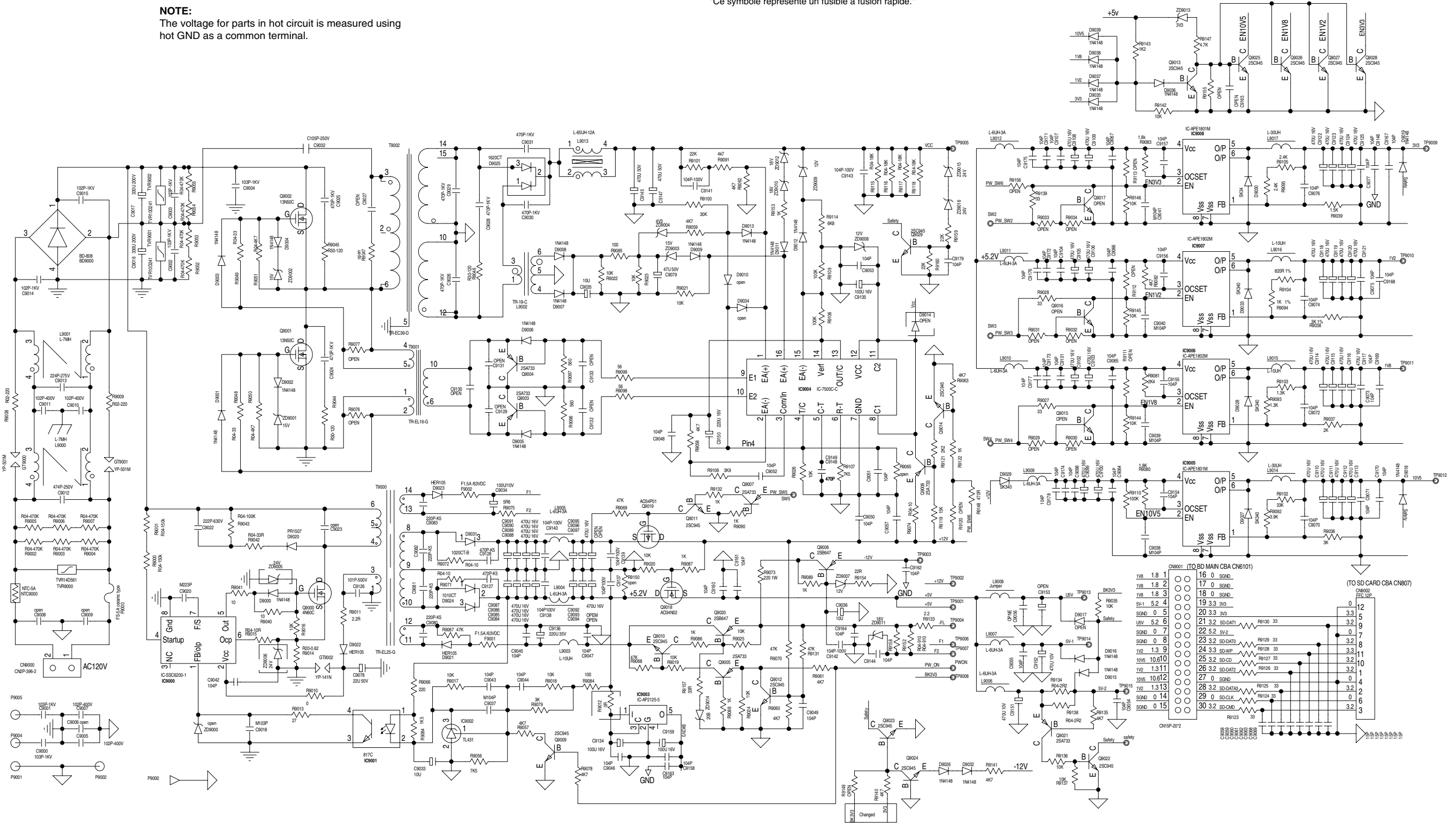
CAUTION !

For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risques
d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.

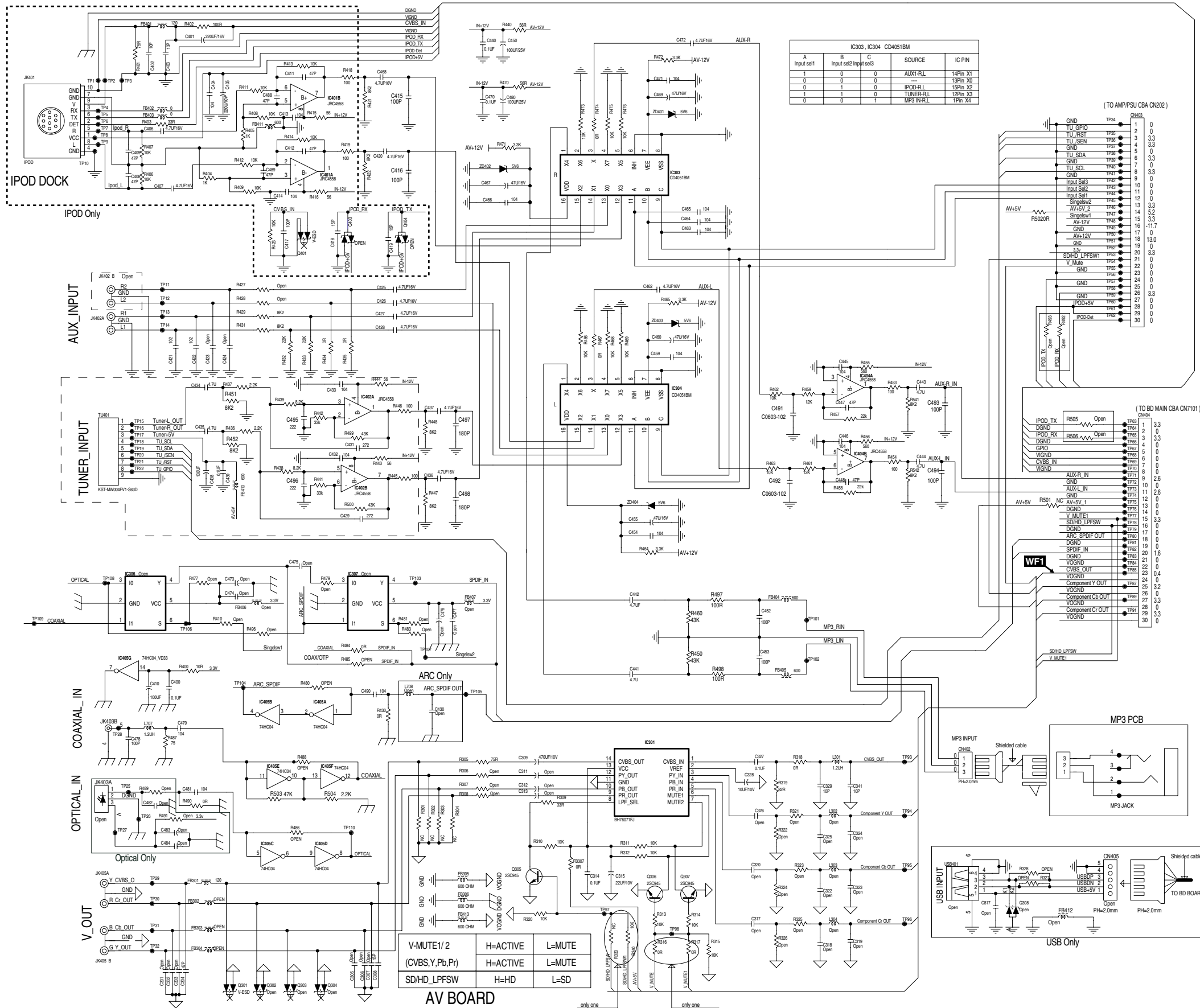
⚡ "This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.



AV & MP3 Schematic Diagram

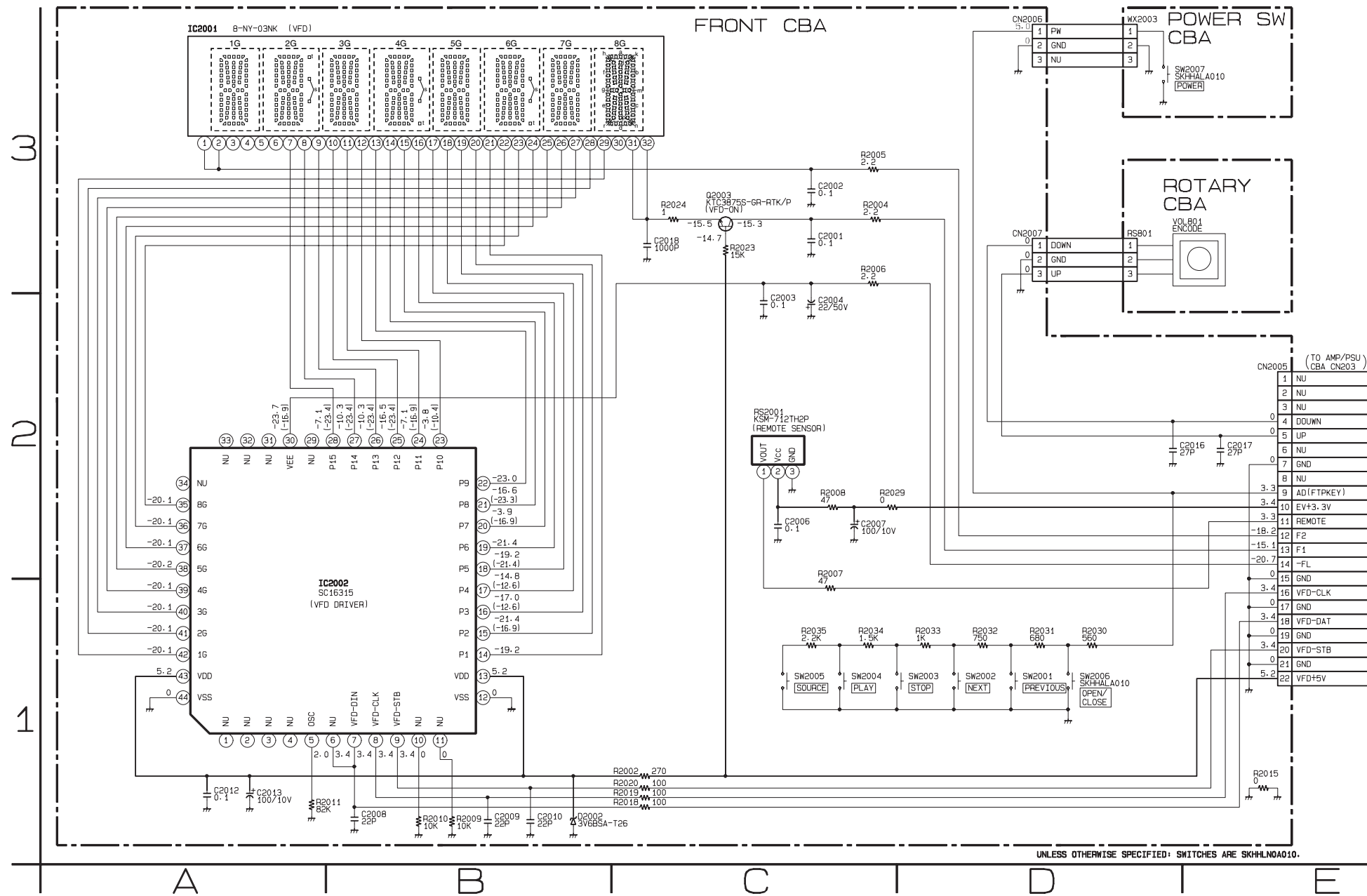
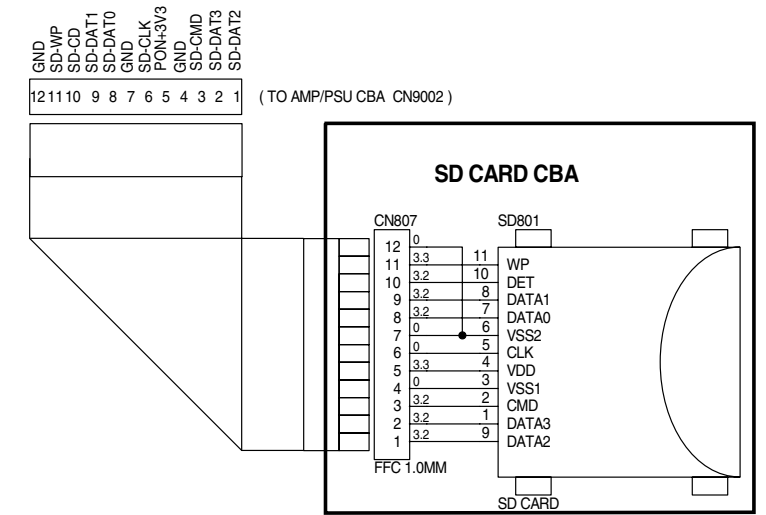


Front, Power SW & Rotary Schematic Diagram

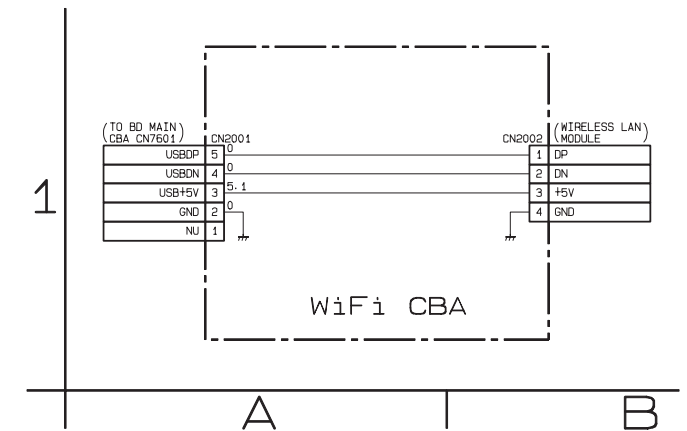
IC2001 MATRIX CHART

	1G	2G	3G	4G	5G	6G	7G	8G
P1	a	a	a	a	a	a	a	a
P2	j, p	j, p	j, p	j, p	j, p	j, p	j, p	j, p
P3	h	h	h	h	h	h	h	h
P4	k	k	k	k	k	k	k	k
P5	b	b	b	b	b	b	b	b
P6	f	f	f	f	f	f	f	f
P7	m	m	m	m	m	m	m	m
P8	g	g	g	g	g	g	g	g
P9	c	c	c	c	c	c	c	c
P10	e	e	e	e	e	e	e	e
P11	r	r	r	r	r	r	r	r
P12	n	n	n	n	n	n	n	n
P13	d	d	d	d	d	d	d	d
P14	—	s	—	s	—	s	—	—
P15	—	t	—	t	—	t	—	—

SD Card Schematic Diagram



WiFi Schematic Diagram



BD Main 1 Schematic Diagram

DDR2 CH0 1Gbit $\times 2$

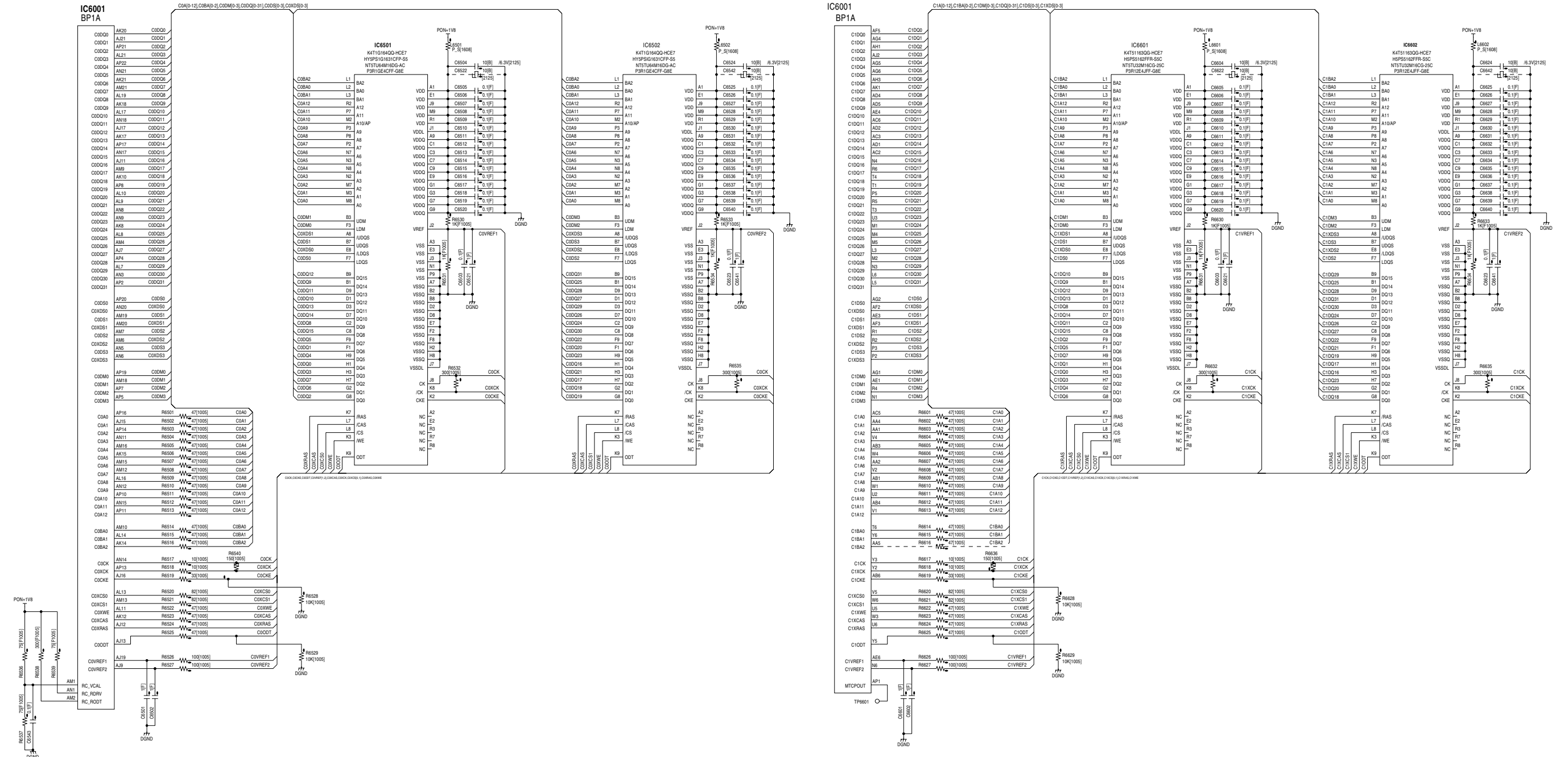
DDR2 CH1 512Mbit $\times 2$

CH0/#1

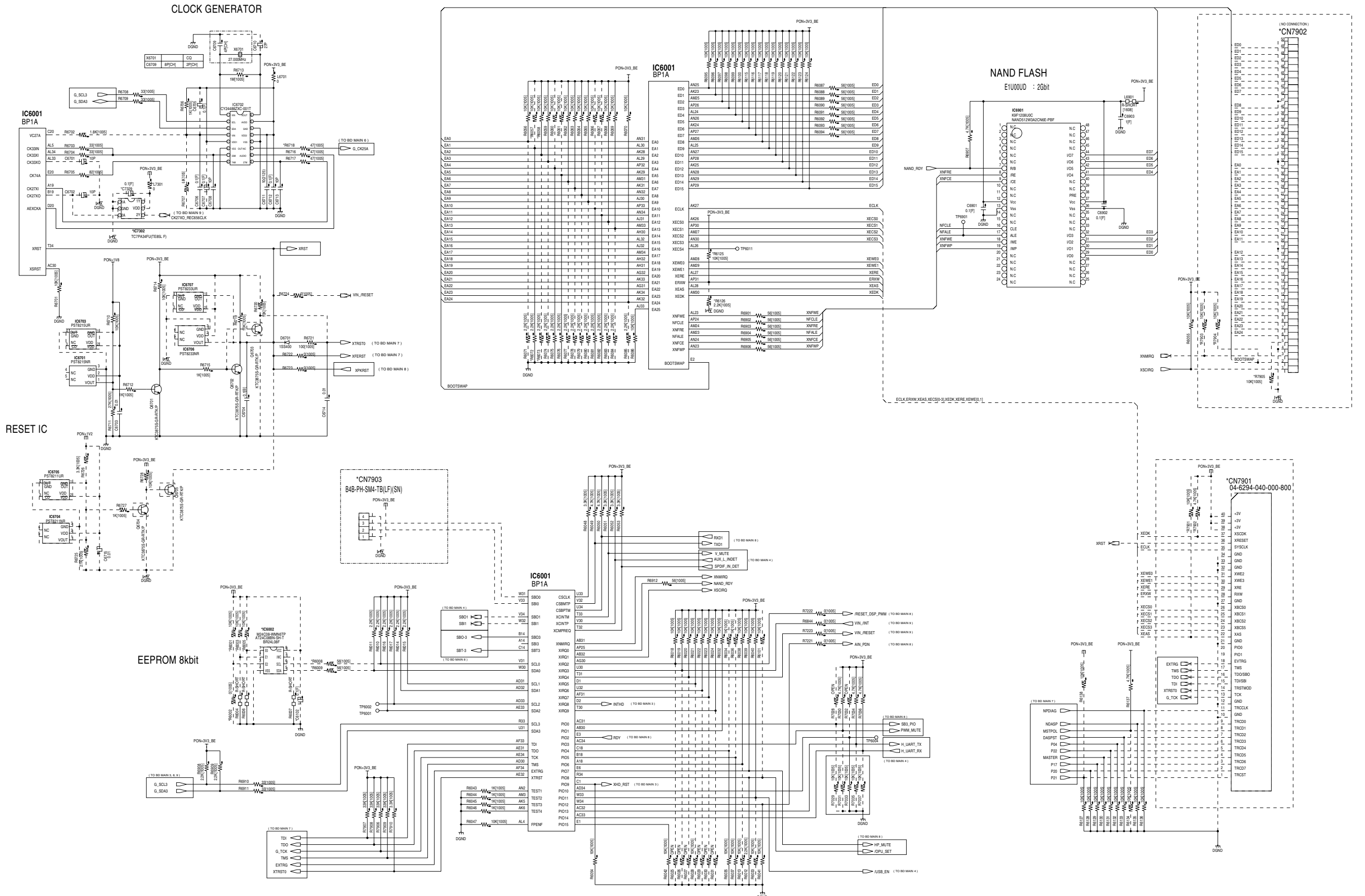
CH0/#2

CH1/#3

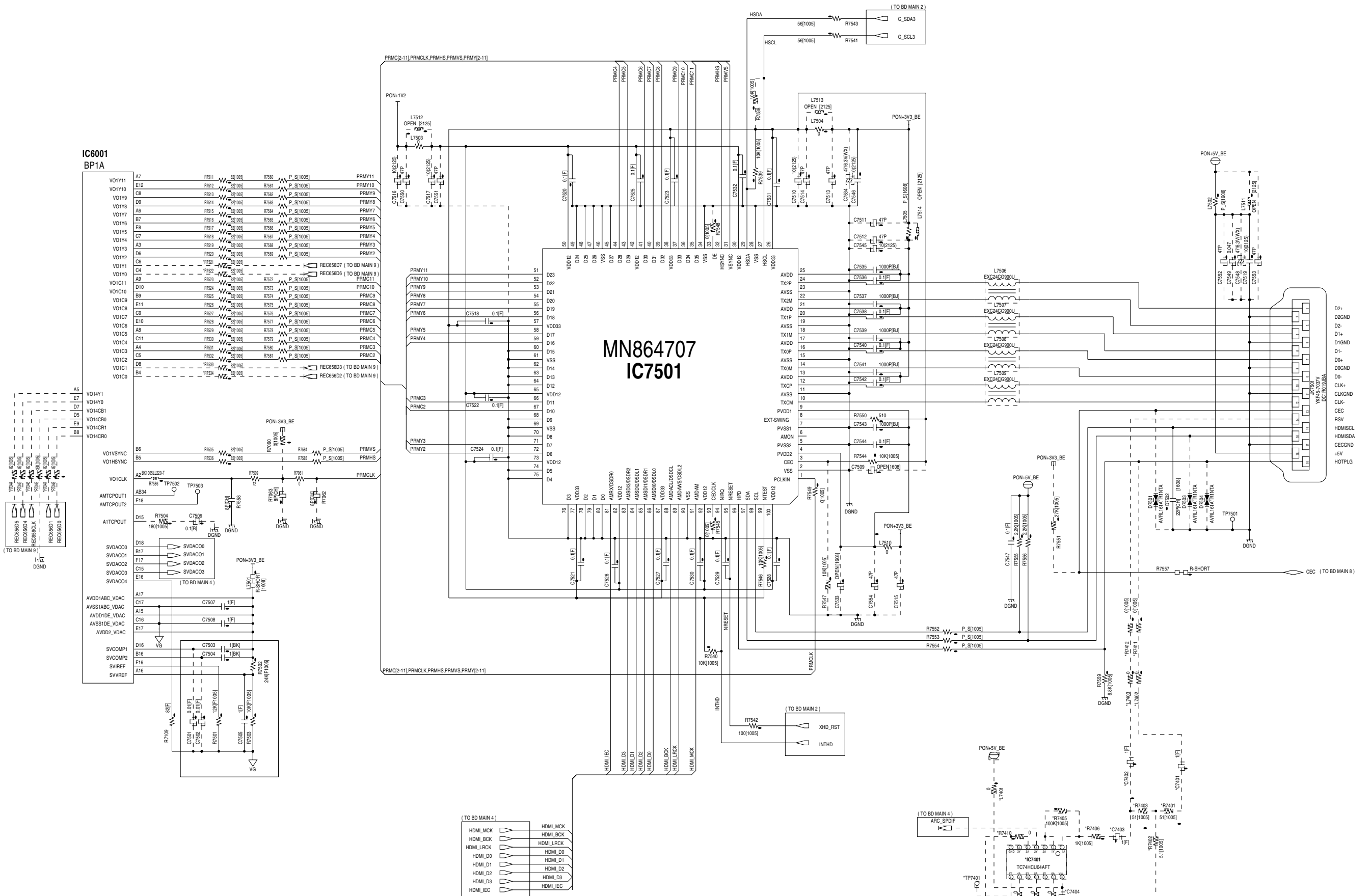
CH1/#4



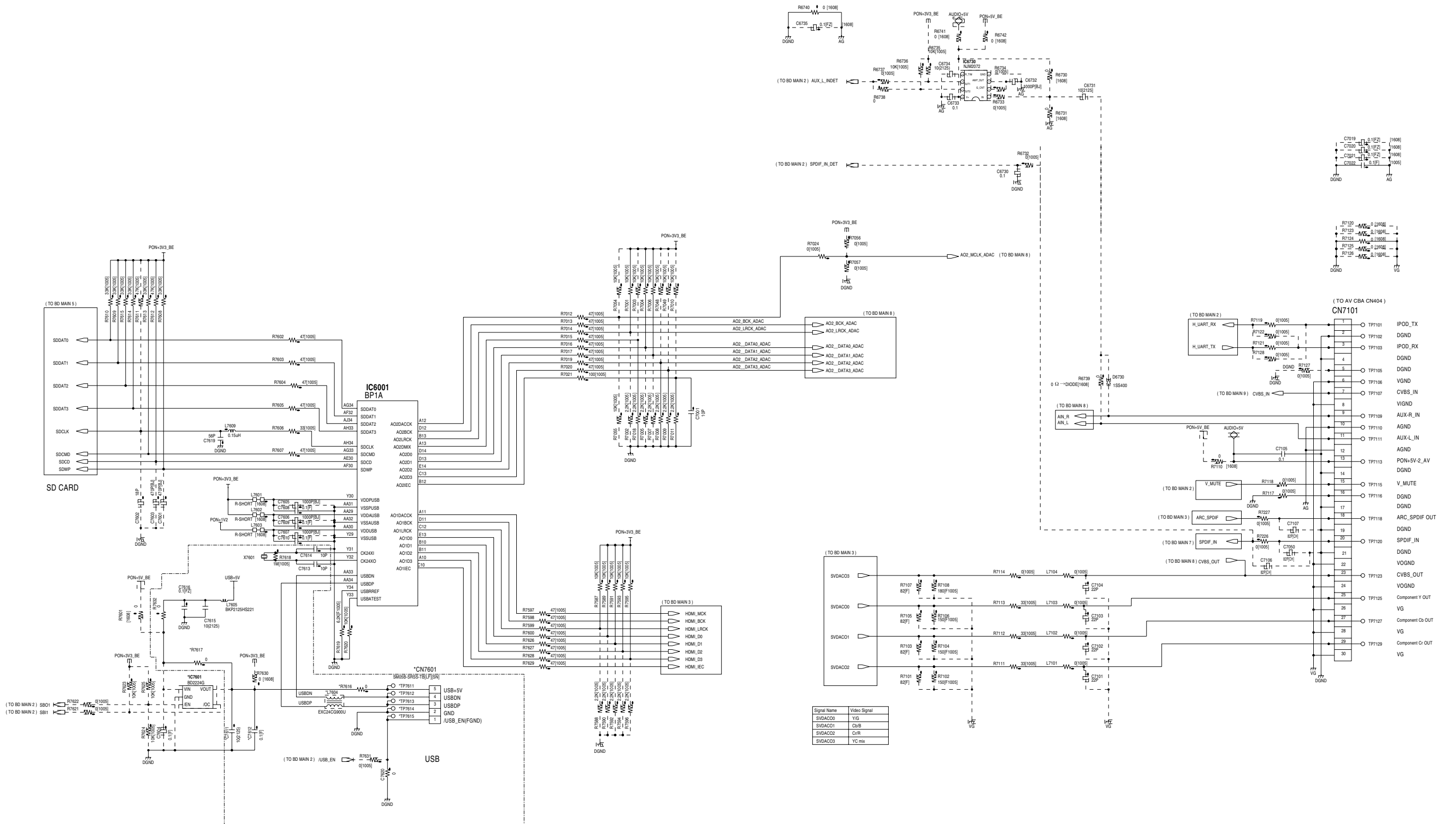
BD Main 2 Schematic Diagram



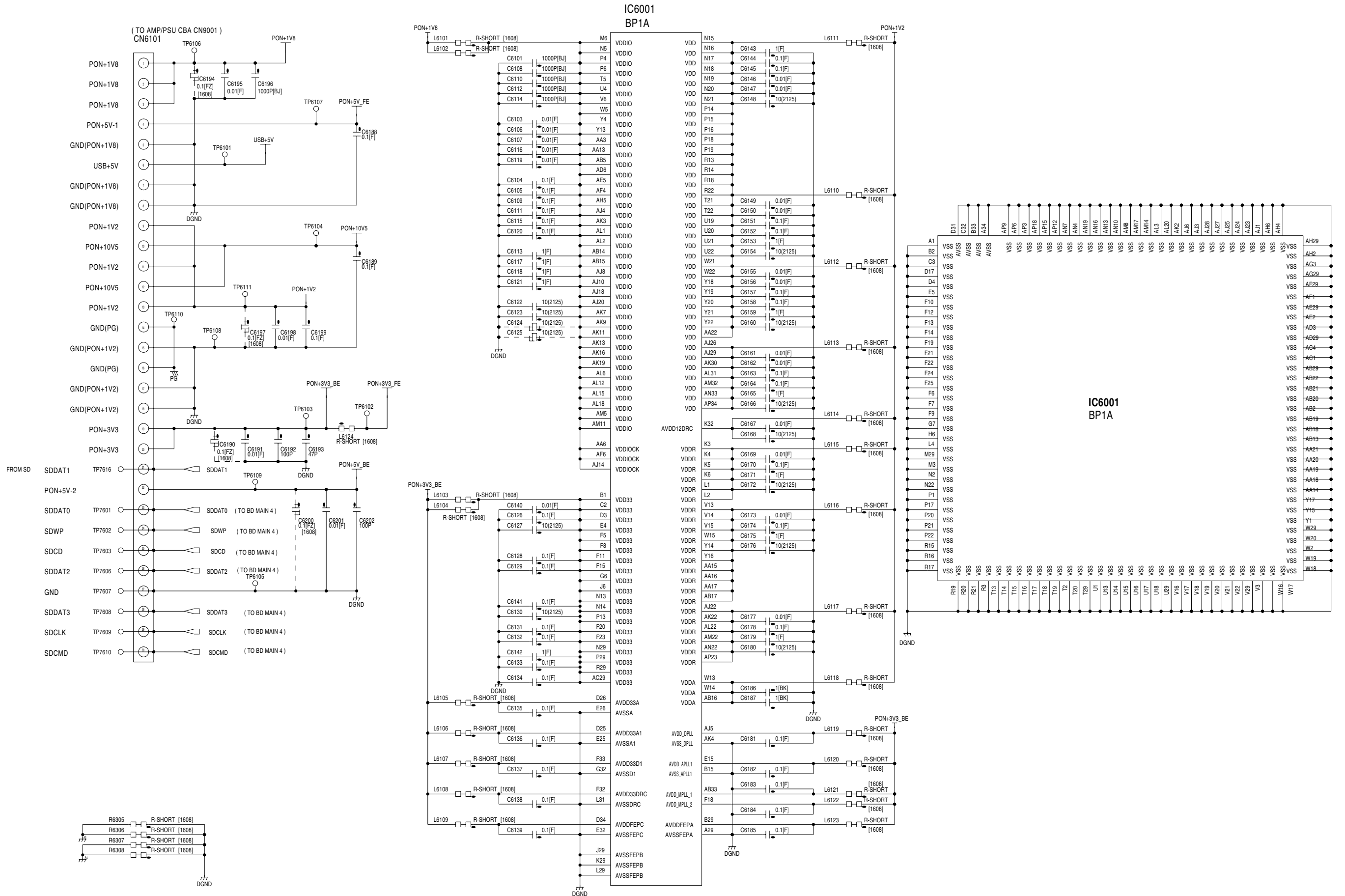
BD Main 3 Schematic Diagram



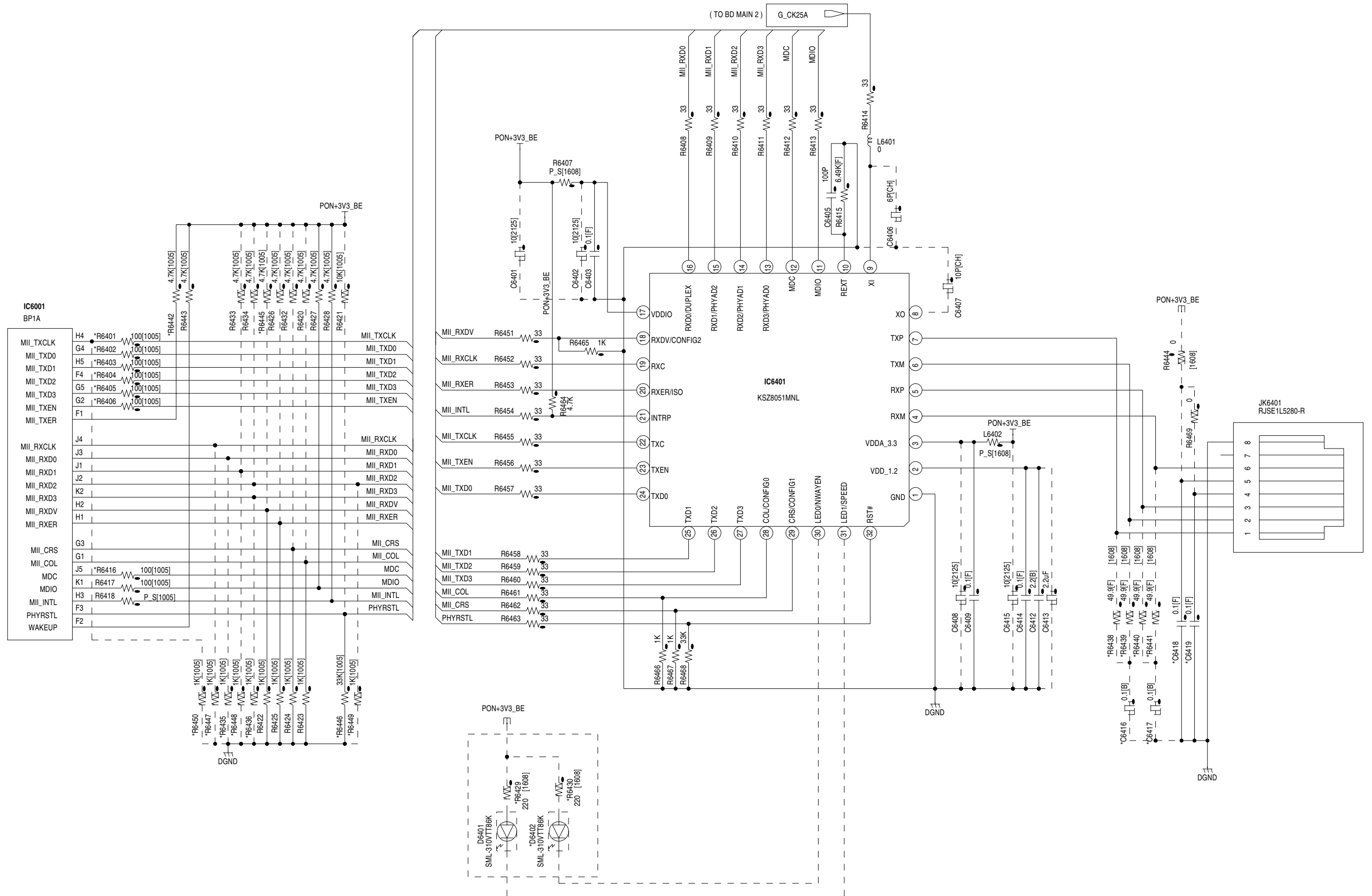
BD Main 4 Schematic Diagram



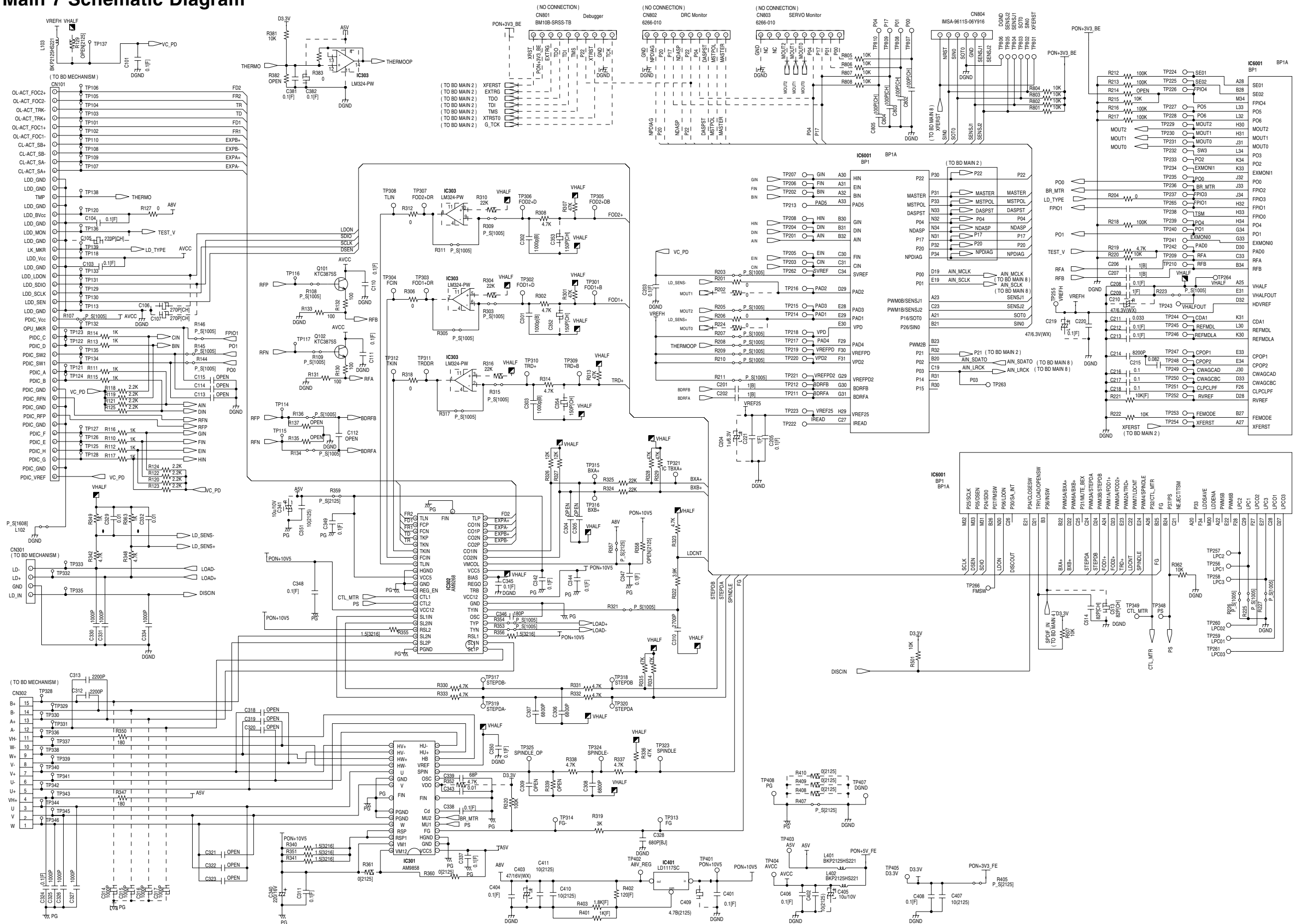
BD Main 5 Schematic Diagram



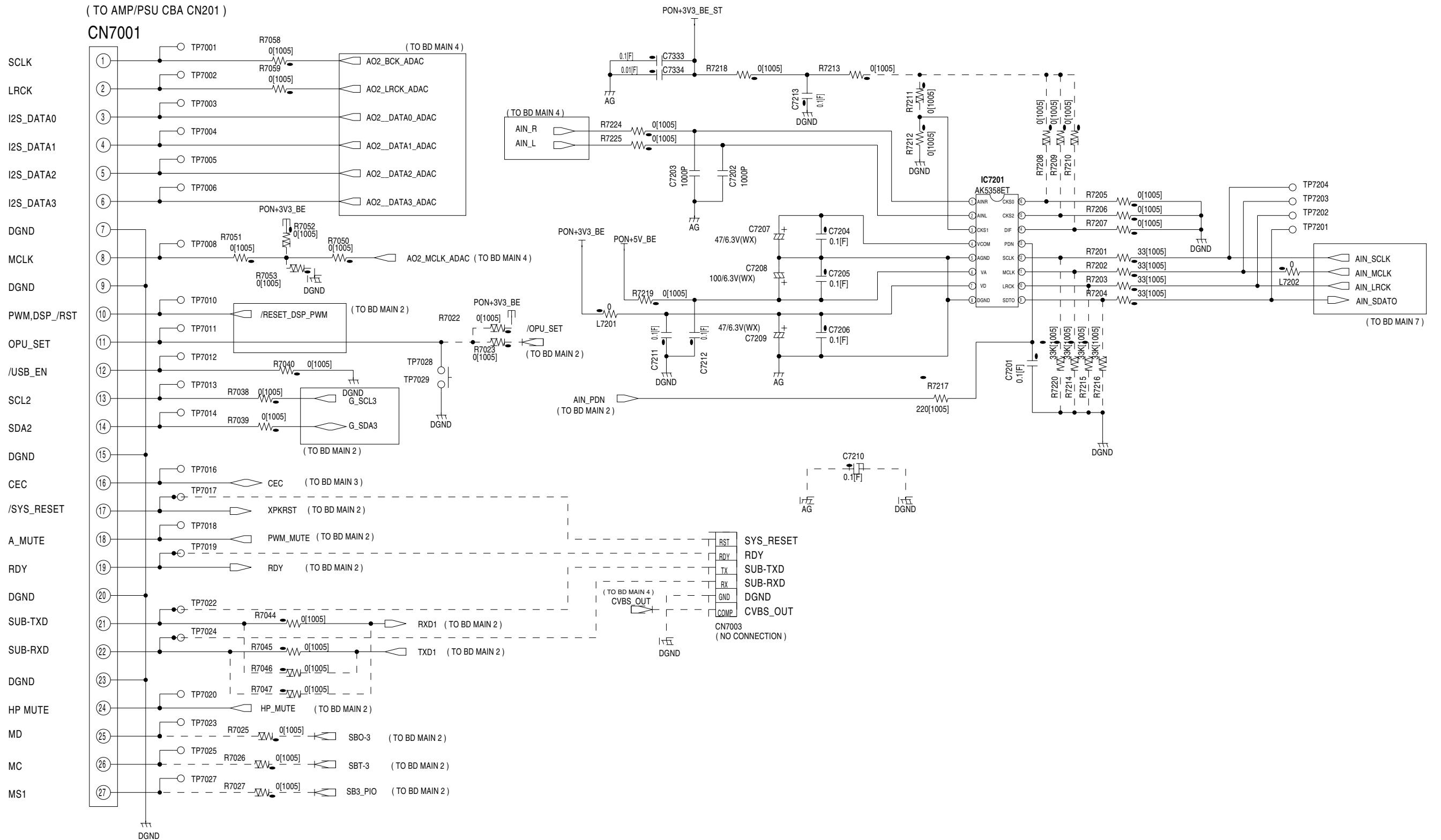
BD Main 6 Schematic Diagram



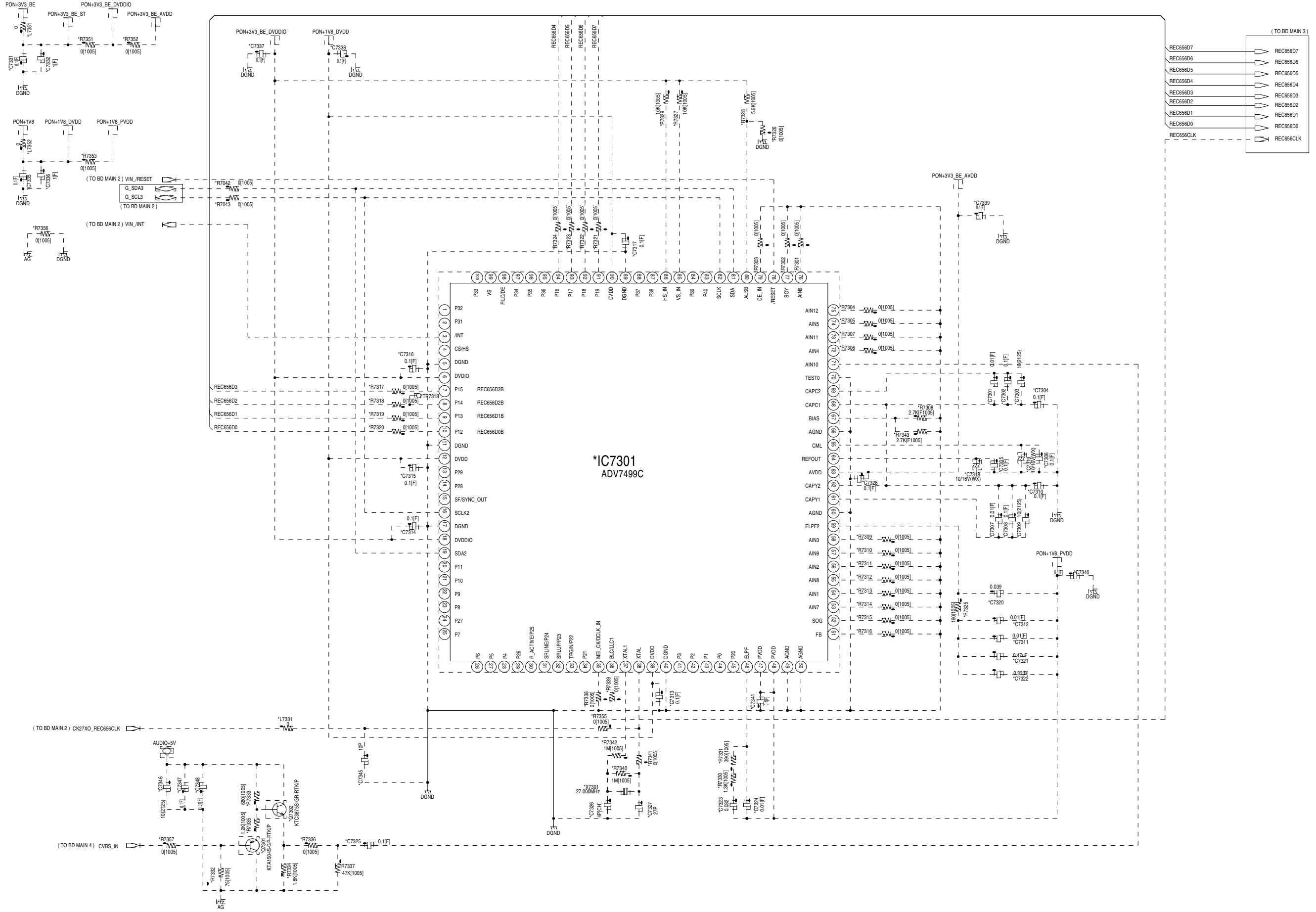
BD Main 7 Schematic Diagram



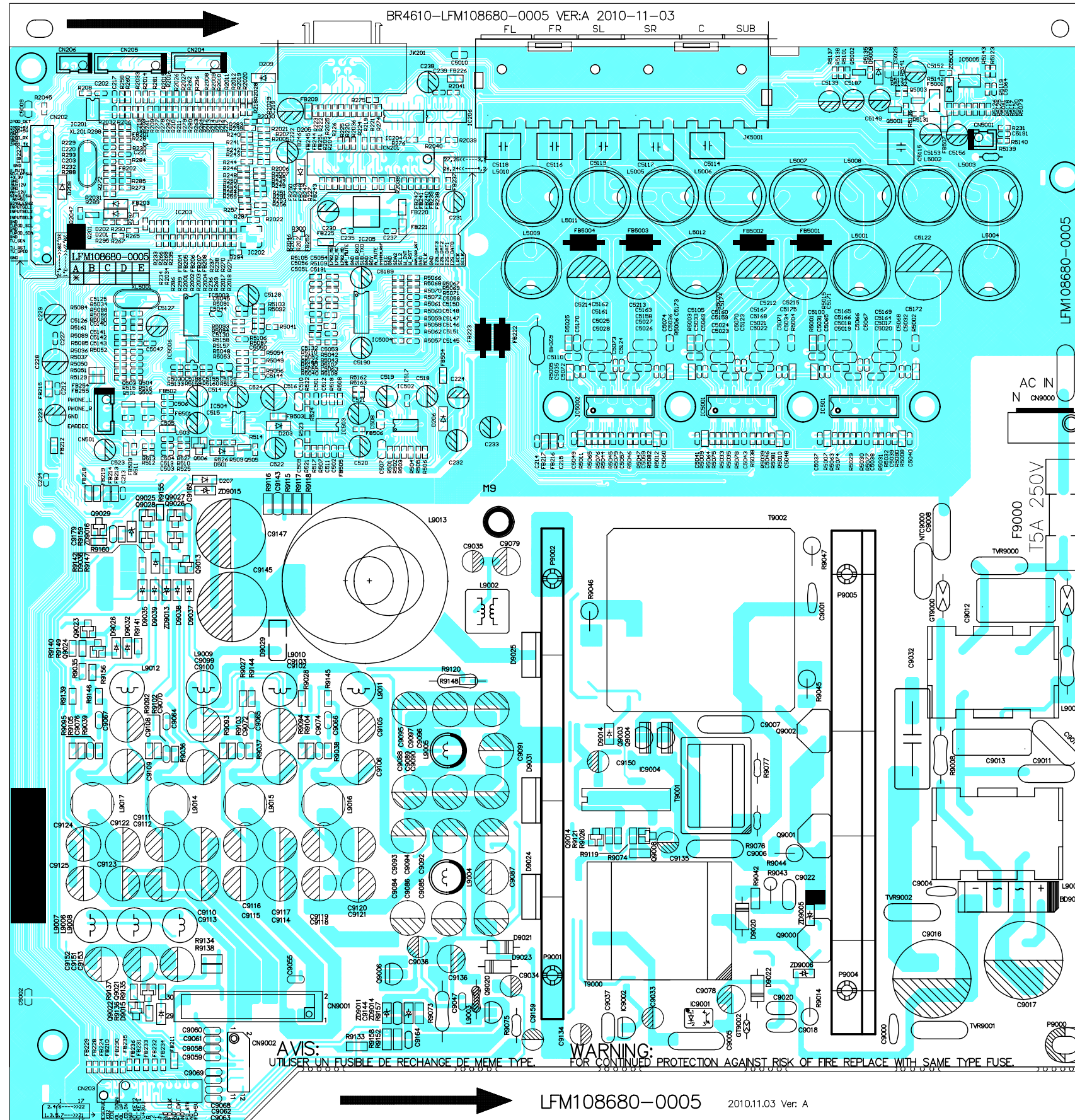
BD Main 8 Schematic Diagram



BD Main 9 Schematic Diagram



AMP/PSU CBA Top View

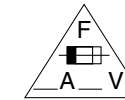


CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F9000) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.



CAUTION !

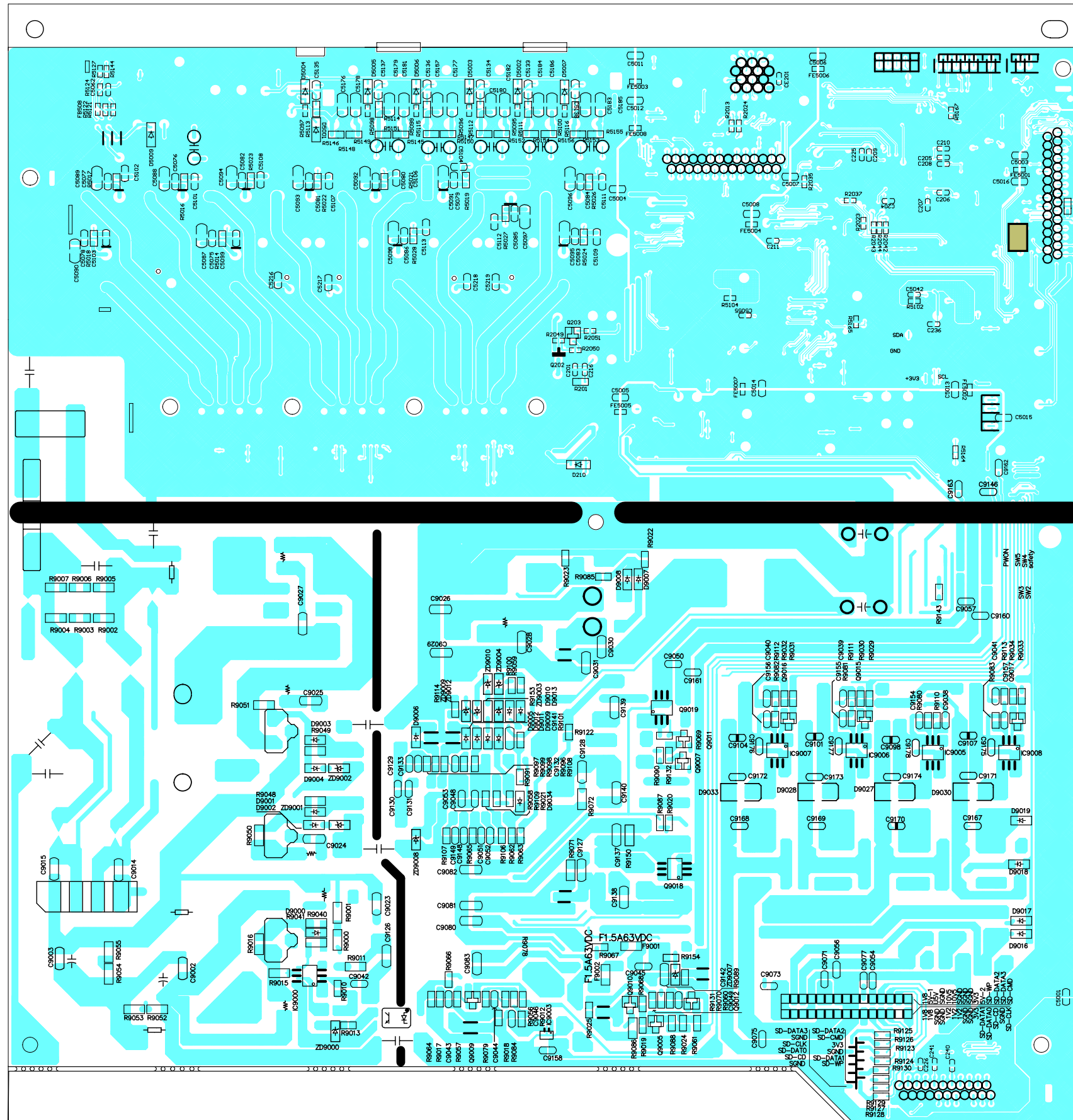
For continued protection against fire hazard, replace only with the same type fuse.

ATTENTION : Pour une protection continue les risques d'Incele n'utiliser que des fusibles de même type.

Risk of fire-replace fuse as marked.

⚡ "This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

AMP/PSU CBA Bottom View

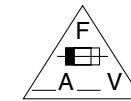


CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F9000) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

NOTE:

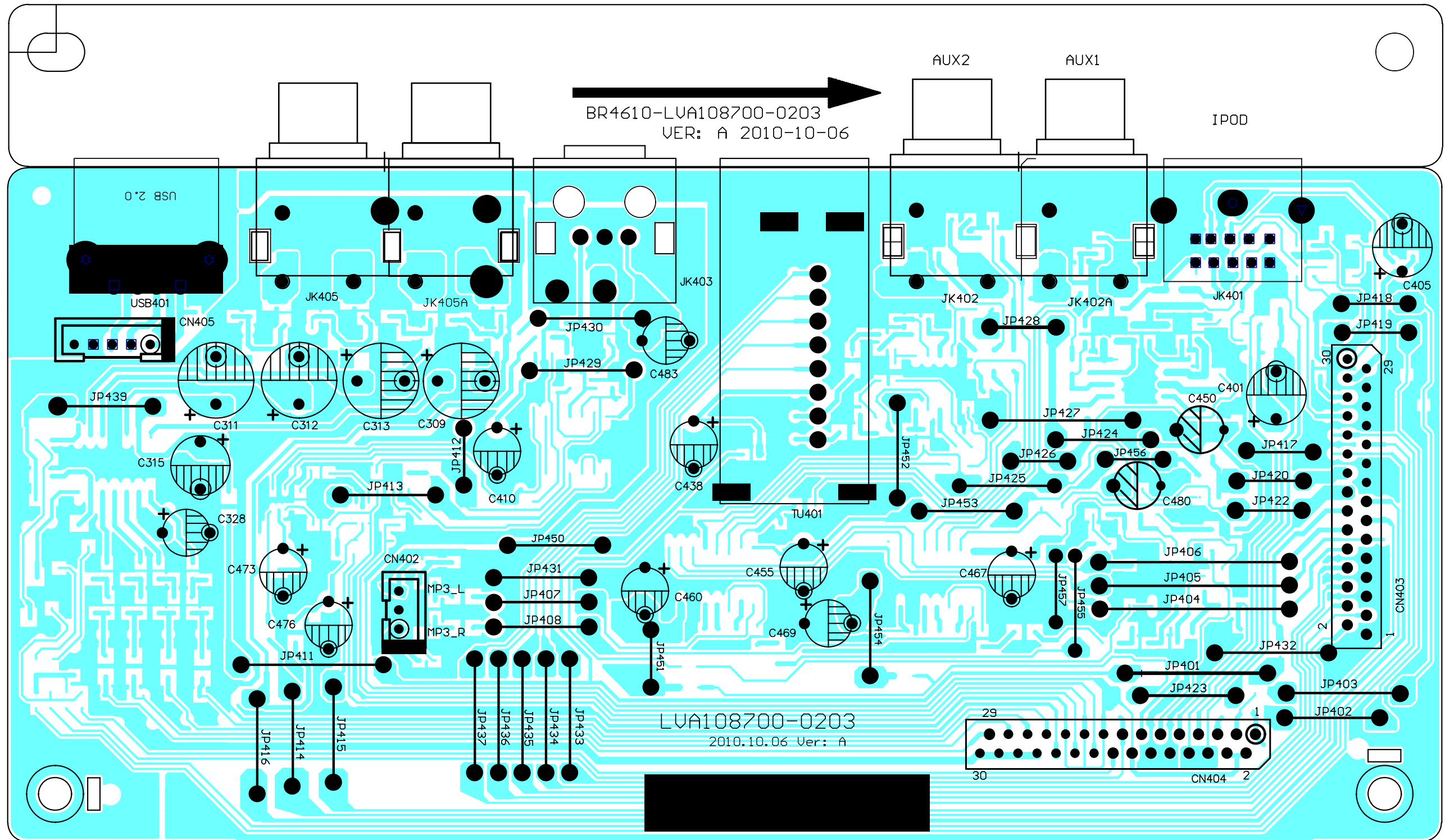
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



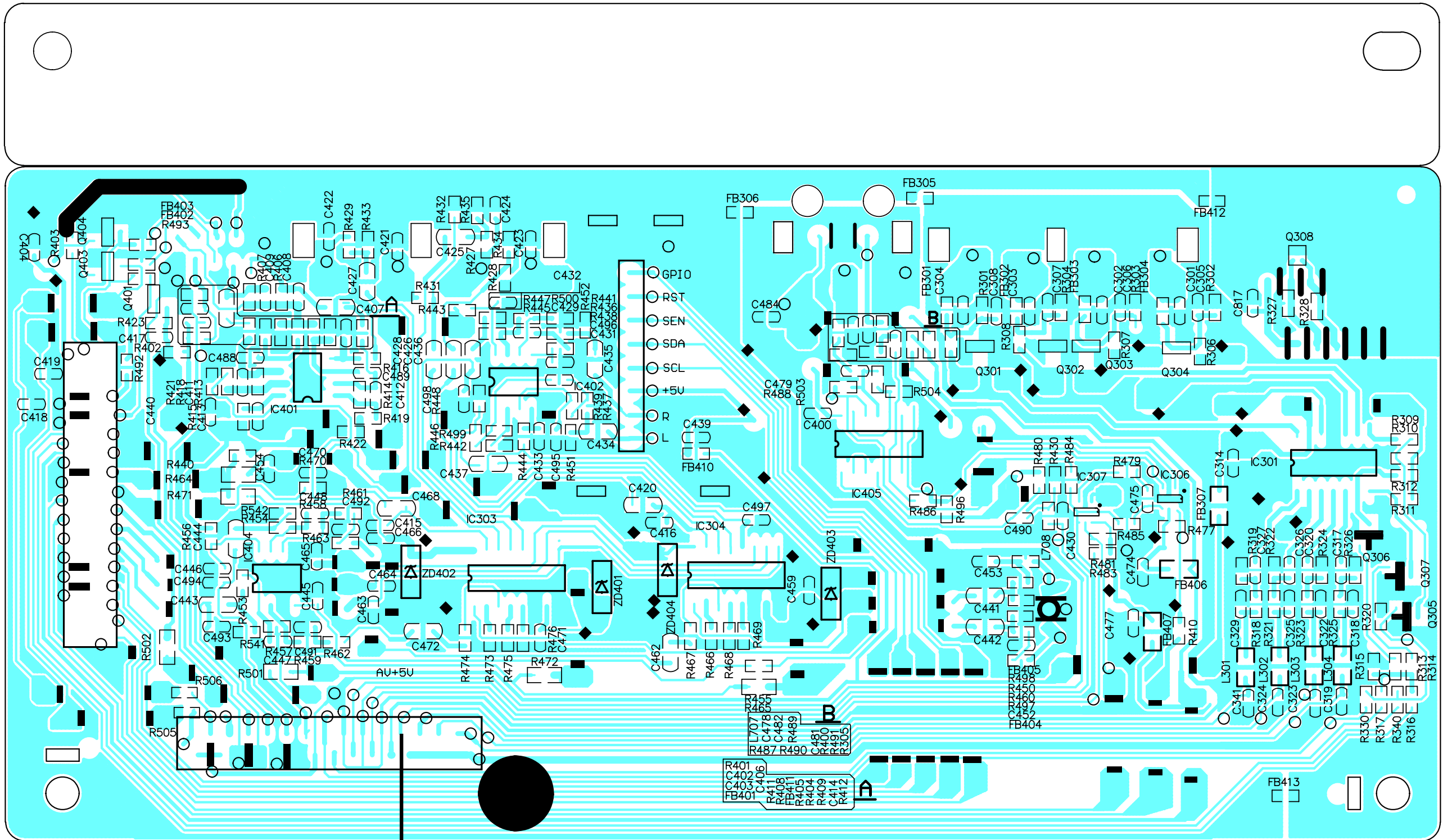
CAUTION !

For continued protection against fire hazard, replace only with the same type fuse.
 ATTENTION : Pour une protection continue les risques d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
 "This symbol means fast operating fuse."
 "Ce symbole représente un fusible à fusion rapide."

AV CBA Top View

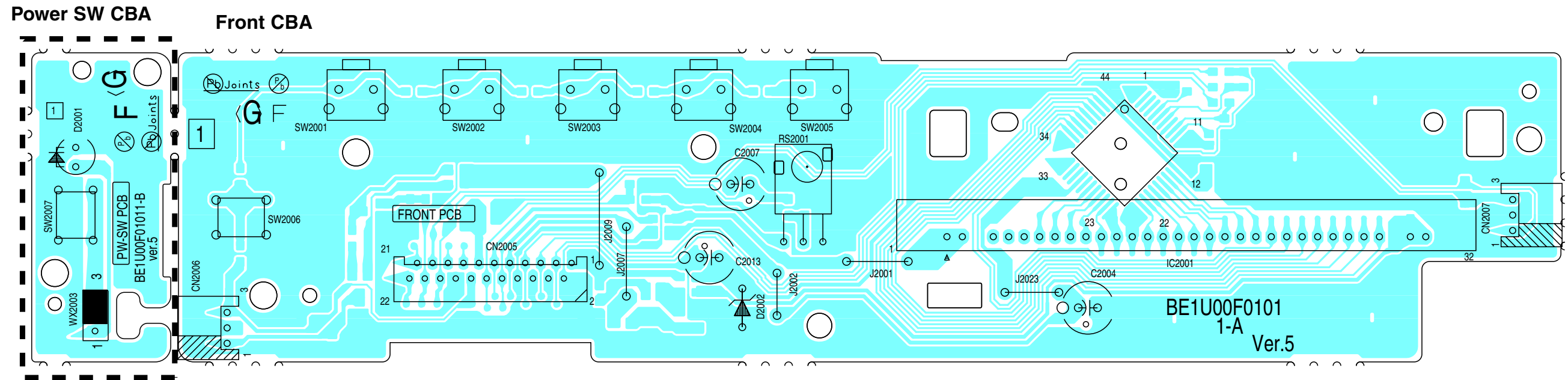


AV CBA Bottom View

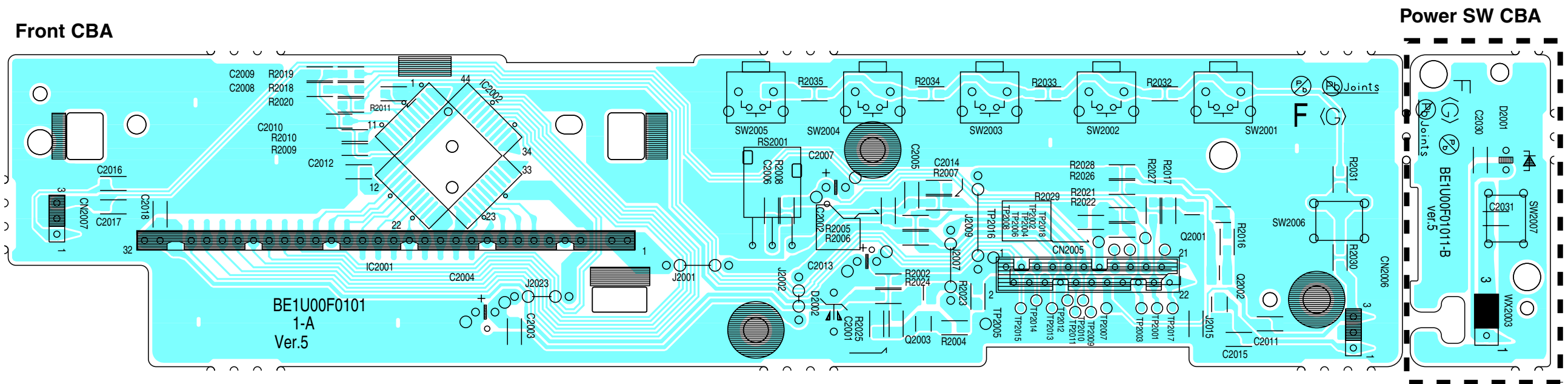


WF1
PIN 23 OF
CN404

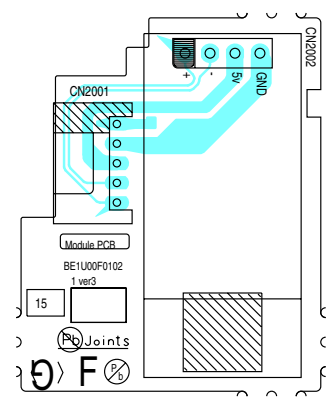
Front CBA & Power SW CBA Top View



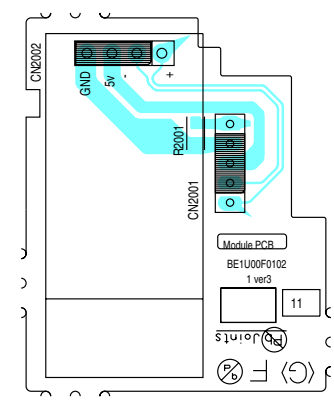
Front CBA & Power SW CBA Bottom View



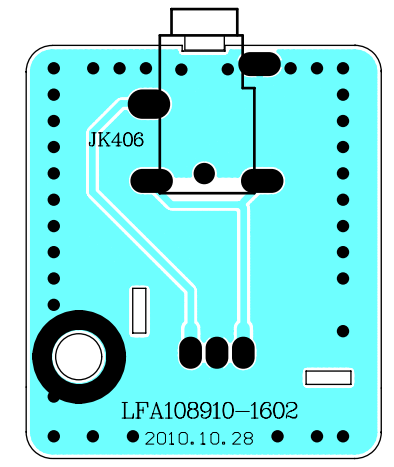
WiFi CBA Top View



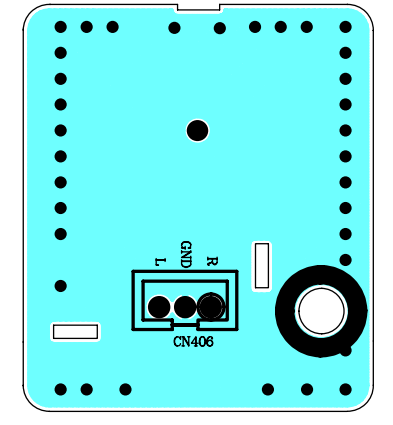
WiFi CBA Bottom View



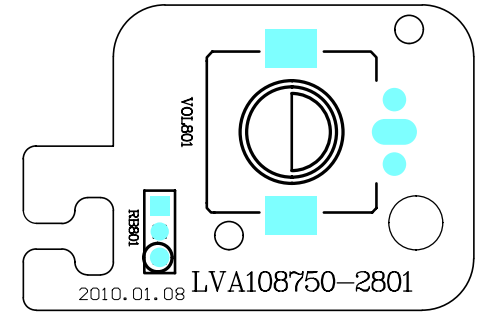
MP3 CBA Top View



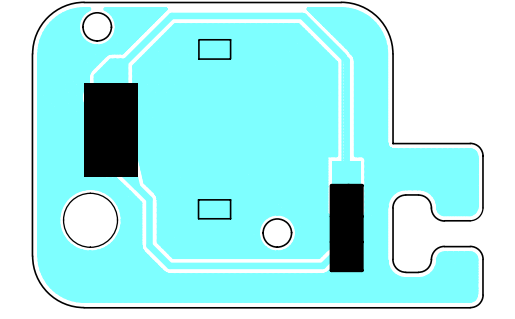
MP3 CBA Bottom View



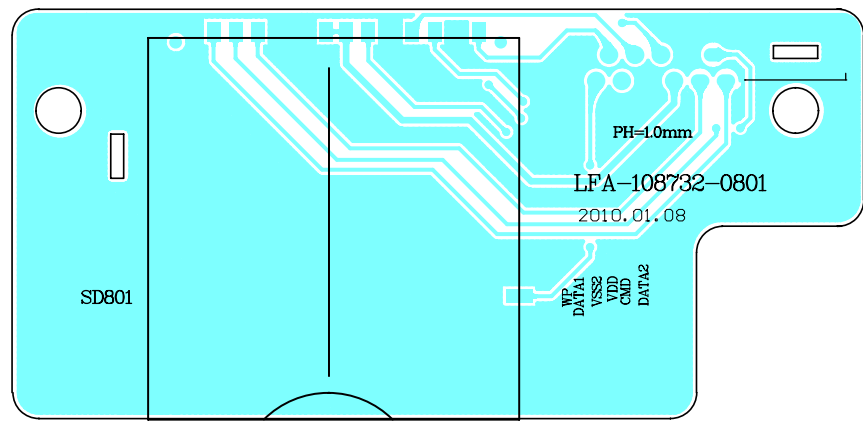
Rotary CBA Top View



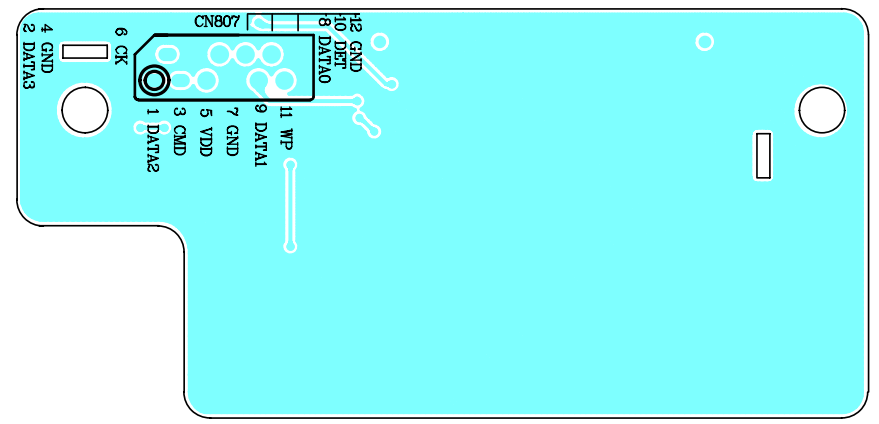
Rotary CBA Bottom View



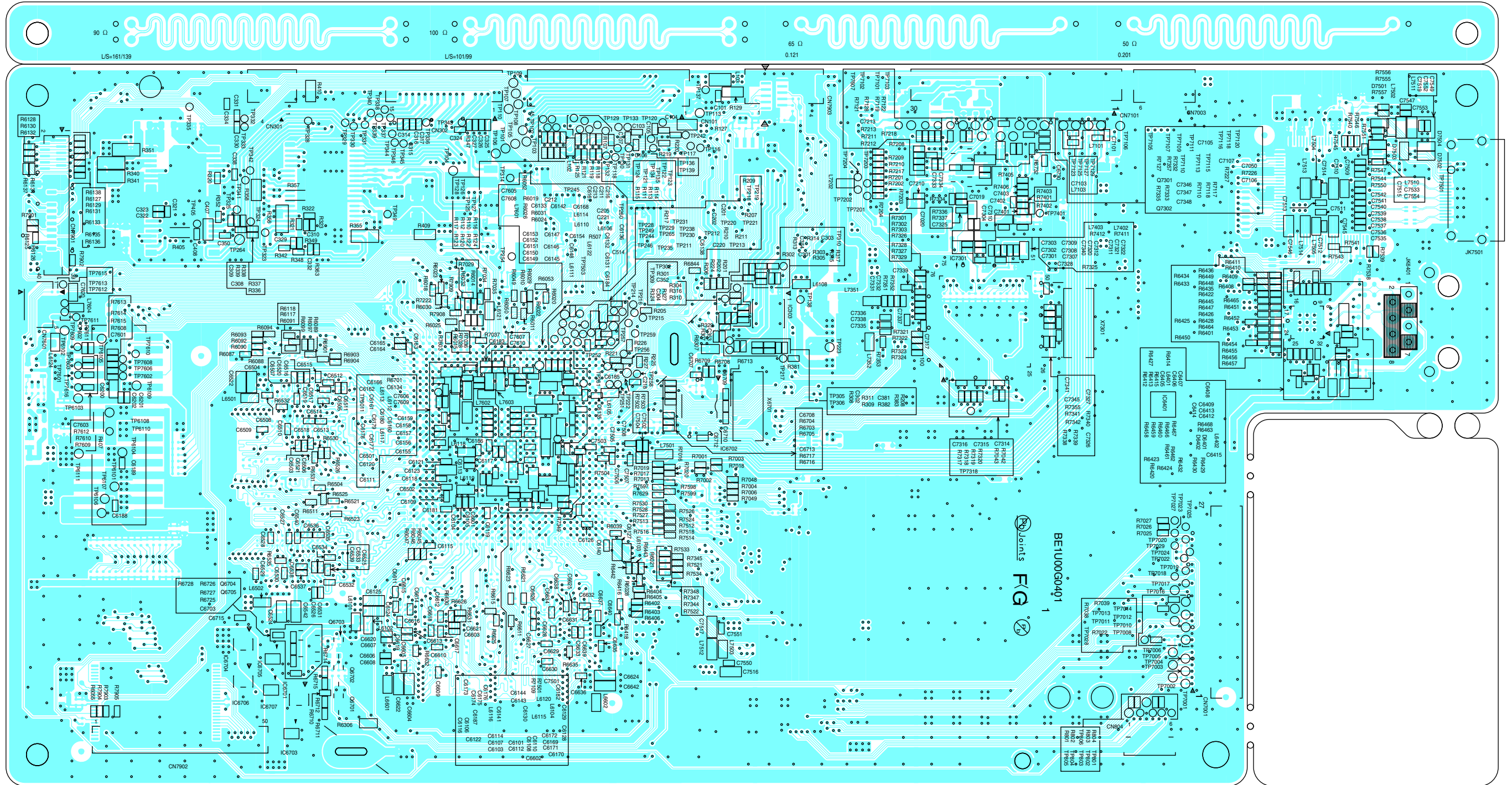
SD Card CBA Top View



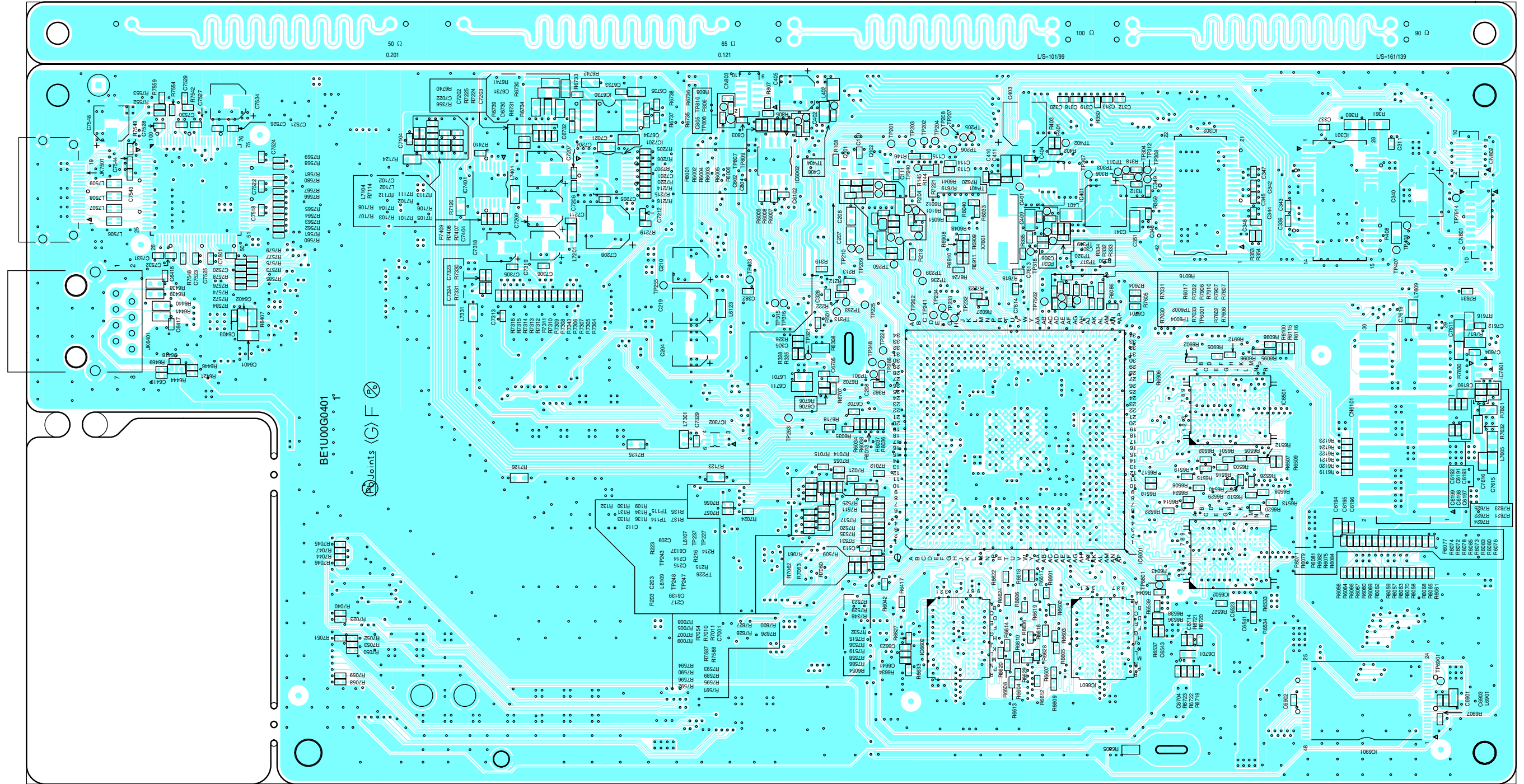
SD Card CBA Bottom View



BD Main CBA Top View

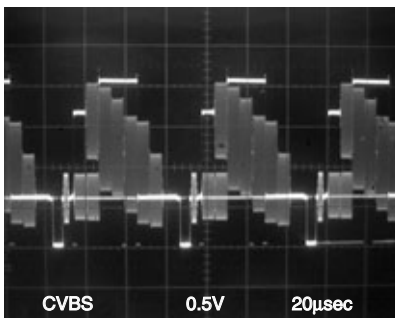


BD Main CBA Bottom View



WAVEFORMS

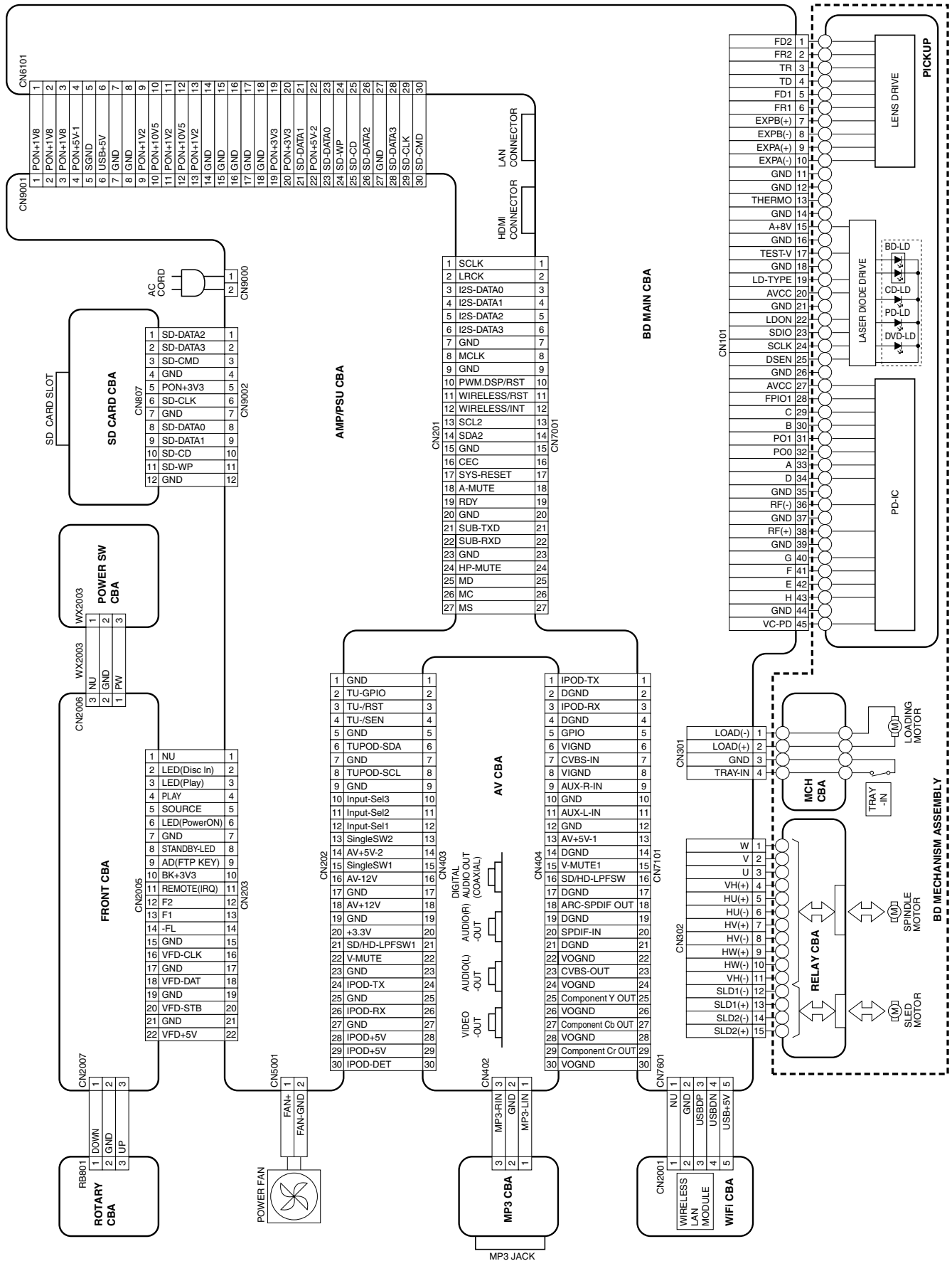
WF1 Pin 23 of CN404



NOTE:

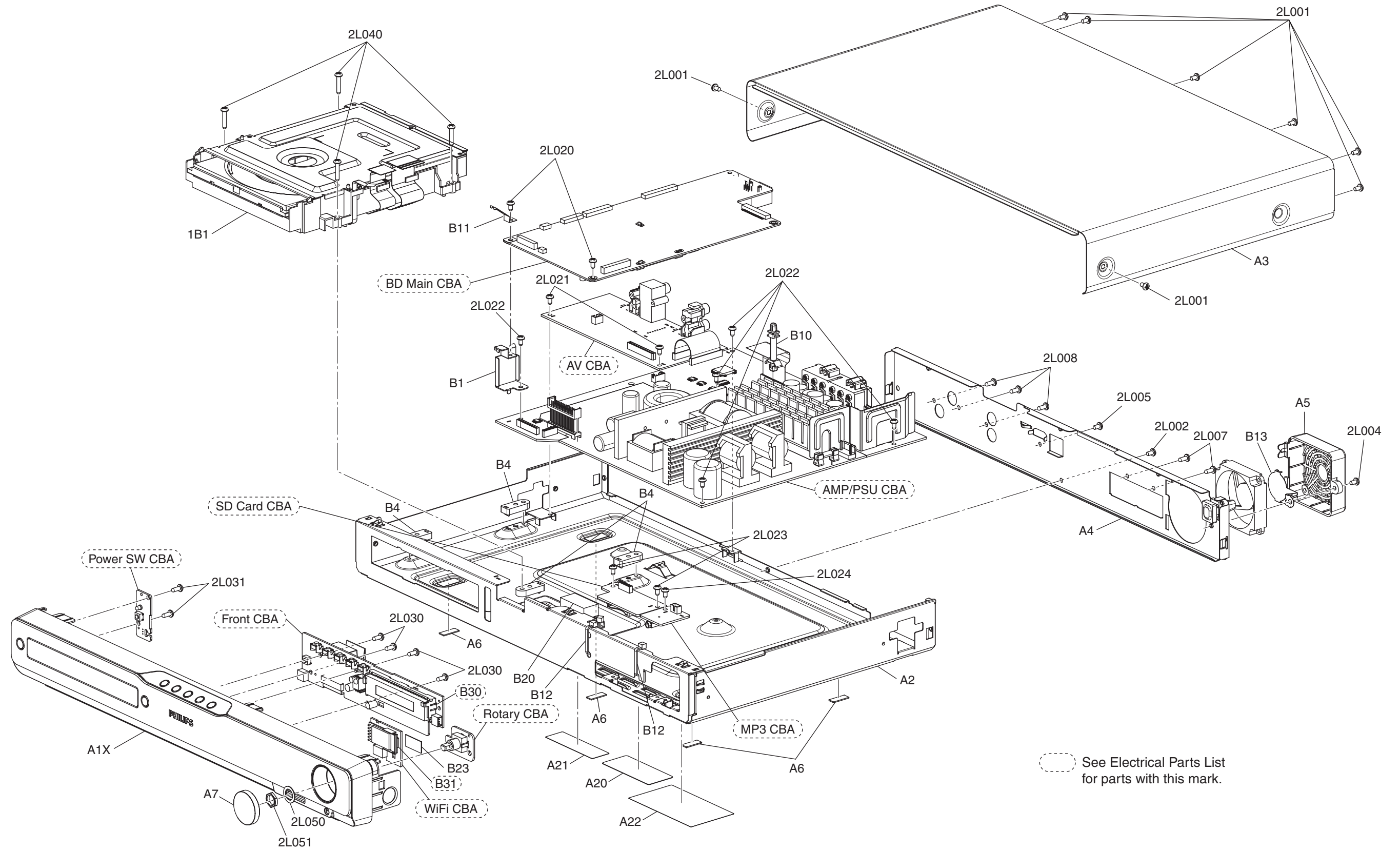
Input: COLOR BAR SIGNAL
(WITH 1KHz AUDIO SIGNAL)

WIRING DIAGRAM

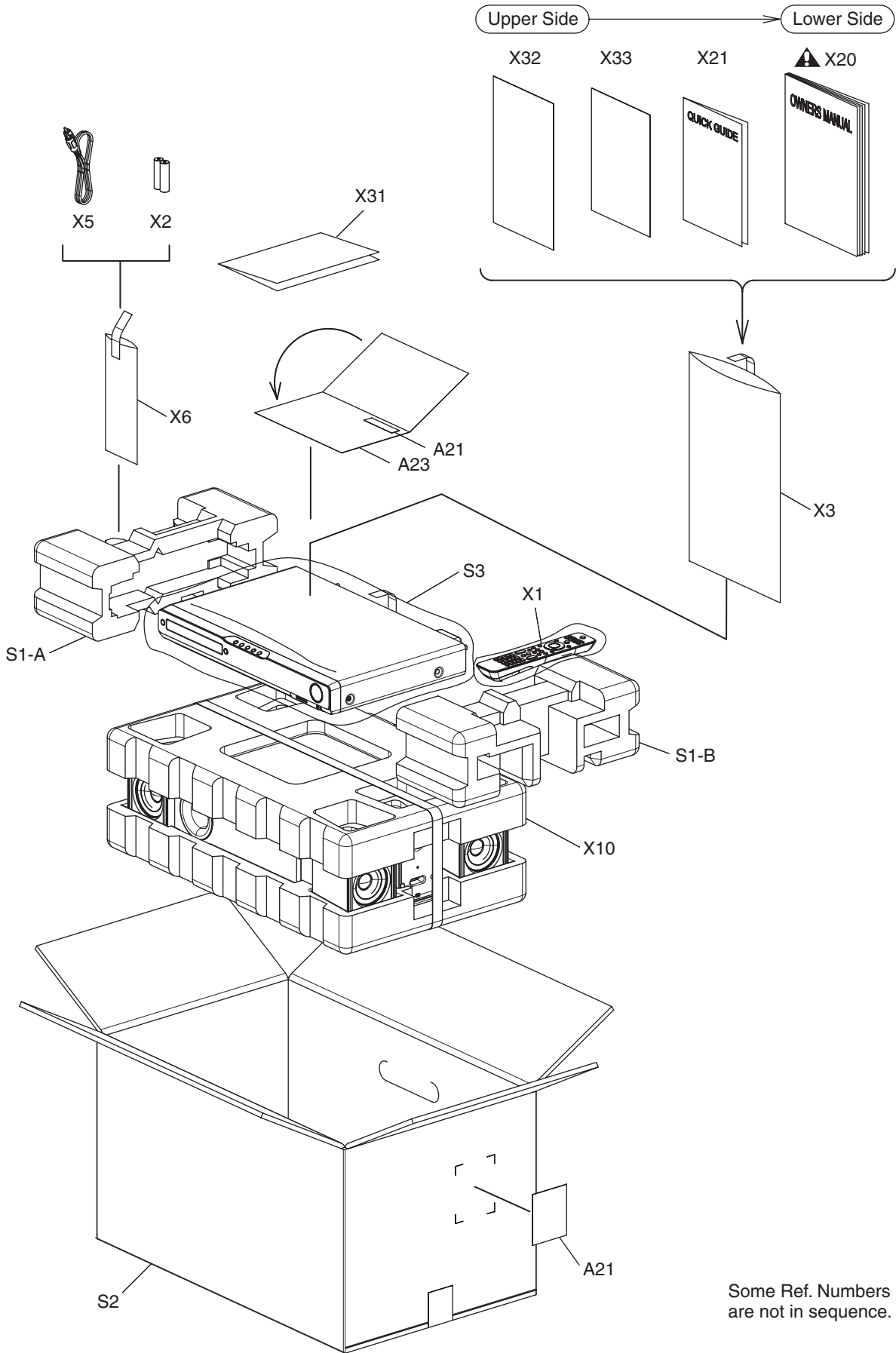


EXPLODED VIEWS

Cabinet




Packing




Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST


PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (-----) are not available.

Ref. No.	Description	Part No.
X10	5.1CH SPEAKER UNIT AND50410B-FA03	USPSPKHYE003
X20 	OWNERS MANUAL E1U00UD	1VMN30653A
X21	QUICK GUIDE E1U00UD	1VMN30654A
X31	BROCHURE (PHILIPS) A01N2UH	1EMN26419
X32	VUDU SHEET E5S20UD	1VMN30133
X33	NETFLIX GUIDE E5PG0UD	1VMN28453A

Ref. No.	Description	Part No.
A1X	FRONT ASSEMBLY E1S00UD	1VM124299K
A2	CHASSIS E1U00UD	1VM125699
A3	TOP COVER E1U00UD	1VM335837C
A4	REAR PANEL E1U00UD	1VM336597
A5	FAN COVER E1S00UD	1VM332438
A6	FOOT E5730JD	0VM415425
A7	VOLUME KNOB E1S00UD	1VM332231C
A20	MODEL NO LABEL E1U00UD	-----
A21	BARCODE LABEL E1U00UD	-----
A22	LICENSE LABEL E1U00UD	-----
A23	REGISTRATION CARD(PHILIPS) E1U00UD	1VMN30775
1B1	BD MECHANISM ASSEMBLY or BD MECHANISM ASSEMBLY	N77FBDUM N77F1DUM
2L001	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI	GBHC3050
2L002	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI	GBHC3050
2L004	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI	GBHC3050
2L005	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI	GBHC3050
2L007	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
2L008	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
2L020	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L021	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L022	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L023	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L024	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L030	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L031	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L040	SCREW S-TIGHT M3X15 E1U00UD	1VM437459
2L050	WASHER E1S00UD	1VM435260
2L051	NUT E1S00UD	1VM435259
B1	PCB BRACKET FRONT E1S00UD	1VM332224
B4	LOADER SPACER E1U00UD	1VM335643
B10	LOCKING CARD SPACER KGLS-16S	XP00300WD001
B11	M-PCB PLATE EARTH E7A00UD	1VM423358
B12	LEAD CLAMPER 100MM	1790356
B13	FAN EARTH PLATE E1S00UD	1VM333557
B20	RUBBER E1S00UD	1VM434380
B23	HIMELON TAPE(10X20) E1U00UD	1VM438439
ACCESSORIES		
S1-A	SIDE PAD L E1S10UD	1VM021772
S1-B	SIDE PAD R E1S10UD	1VM021773B
S2	GIFT BOX CARTON E1U00UD	1VM336337B
S3	SET BAG E1S00UD	1VM435780
PACKING		
X1	REMOTE CONTROL UNIT NC200UD	NC200UD
X2	BATTERY GR03M	XB0M371GLP01
X3	ACCESSORY BAG E4U10JD	1VM436763
X5	AV CORD WPZ1520TM002	WPZ1520TM002
X6	BAG REMOCON STD REMOCON	0VM406766

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

- Parts that are not assigned part numbers (-----) are not available.
- Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%
 G.....±2% J.....±5% K.....±10%
 M.....±20% N.....±30% Z.....+80/-20%

BD MAIN CBA

Ref. No.	Description	Part No.
	BD MAIN CBA	1VSA27006

AV CBA

Ref. No.	Description	Part No.
	AV CBA	UPB000ESC021

SD CARD CBA

Ref. No.	Description	Part No.
	SD CARD CBA	UPB000ESC009

MP3 CBA

Ref. No.	Description	Part No.
	MP3 CBA	UPB000ESC014

AMP/PSU CBA

Ref. No.	Description	Part No.
	AMP/PSU CBA	UPBAMPESC013

ROTARY CBA

Ref. No.	Description	Part No.
	ROTARY CBA	UPB000ESC005

FRONT ASSEMBLY

Ref. No.	Description	Part No.
	FRONT ASSEMBLY Consists of the following:	1VSA26776
	FRONT CBA	-----
	POWER SW CBA	-----

FRONT CBA

Ref. No.	Description	Part No.
	FRONT CBA Consists of the following:	-----
CAPACITORS		
C2001	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C2002	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C2003	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C2004	ELECTROLYTIC CAP. 22µF/50V/MH7	CEF22RENW025
C2006	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C2007	ELECTROLYTIC CAP. 100µF/10V/MH7	CEB101ENW025
C2008	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C2009	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C2010	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C2012	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C2013	ELECTROLYTIC CAP. 100µF/10V/MH7	CEB101ENW025
C2016	CHIP CERAMIC CAP. CH J 27pF/50V	CHD1JJ3CH270
C2017	CHIP CERAMIC CAP. CH J 27pF/50V	CHD1JJ3CH270
C2018	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
CONNECTORS		
CN2005	FFC CONNECTOR 22P IMSA-9615S-22C-PP-A	JC96J22ER009
CN2006	CONNECTOR PRINT OSU S3B-PH-K-S(LF)(SN)	J3PHC03JG030
CN2007	CONNECTOR PRINT OSU S3B-PH-K-S(LF)(SN)	J3PHC03JG030
DIODE		
D2002	DIODE ZENER 3V6BSA-T26	NDTA3R6BST26
ICS		
IC2001	VACUUM FLUORESCENT DISPLAY 8-MY-03NK	TVFD1C0FT060
IC2002	VFD DRIVER IC SC16315	NSZBA0TQ0010
TRANSISTOR		
Q2003	CHIP TRANSISTOR KTC3875S-GR-RTK/P	NQ14KTC3875S
RESISTORS		
R2002	CHIP RES. 1/10W J 270 Ω	RRXAJR5Z0271
R2004	CHIP RES. 1/10W J 2.2 Ω	RRXAJR5Z02R2
R2005	CHIP RES. 1/10W J 2.2 Ω	RRXAJR5Z02R2
R2006	CHIP RES. 1/10W J 2.2 Ω	RRXAJR5Z02R2
R2007	CHIP RES. 1/10W J 47 Ω	RRXAJR5Z0470
R2008	CHIP RES. 1/10W J 47 Ω	RRXAJR5Z0470
R2009	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2010	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2011	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R2018	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2019	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2020	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2023	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R2024	CHIP RES. 1/10W J 1 Ω	RRXAJR5Z01R0
R2029	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2030	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R2031	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R2032	CHIP RES. 1/10W J 750 Ω	RRXAJR5Z0751
R2033	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2034	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R2035	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
SWITCHES		
SW2001	TACT SWITCH SKHHLNA010	SST0110AL003
SW2002	TACT SWITCH SKHHLNA010	SST0110AL003
SW2003	TACT SWITCH SKHHLNA010	SST0110AL003
SW2004	TACT SWITCH SKHHLNA010	SST0110AL003
SW2005	TACT SWITCH SKHHLNA010	SST0110AL003

Ref. No.	Description	Part No.
SW2006	TACT SWITCH SKHHALA010	SST0110AL005
MISCELLANEOUS		
B30	FL HOLDER E5WA0UD	1VM335302
RS2001	SENSOR REMOTE RECEIVER KSM-712TH2P	USESJRSKK060

POWER SW CBA

Ref. No.	Description	Part No.
	POWER SW CBA Consists of the following:	-----
SWITCH		
SW2007	TACT SWITCH SKHHALA010	SST0110AL005
MISCELLANEOUS		
WX2003	WIRE ASSEMBLY FRONT-PWSW 3P WX1E1U00-002	WX1E1U00-002


WiFi CBA

Ref. No.	Description	Part No.
	WiFi CBA Consists of the following:	1VSA26844
CONNECTORS		
CN2001	PH CONNECTOR SIDE 5P S5B-PH-K-S(LF)(SN)	J3PHC05JG030
CN2002	WIRELESS LAN MODULE WM5502	UWLMDLACM001
MISCELLANEOUS		
B31	CUSHION E5W00UD	1VM437739

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