

PHILIPS

SERVICE MANUAL

BLU-RAY DISC HOME THEATER

HTS5506/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 advise 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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Precautions on 3D video images

This unit supports Blu-ray 3D. When servicing problems related to 3D image output, the following equipments are needed.

- 3D capable TV
- 3D compatible HDMI cable
- 3D glasses
- Blu-ray 3D disc

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

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 11.1 inches (435 x 60 x 281 mm)
Weight	Total weight: 28.11 lbs. (12.75 kg) Main unit: 8.16 lbs. (3.7 kg)
Operating temperature	41°F (5°C) to 104°F (40°C)
Operating humidity	Less than 80 % (no condensation)

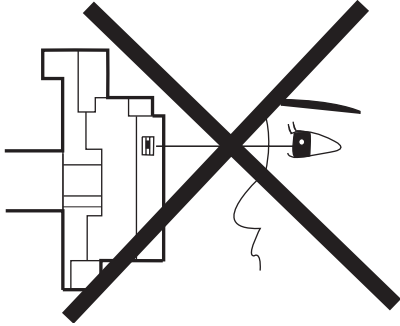
Terminals	
USB input	USB 2.0
TYPE A	Bus power current: MAX. 500mA
Analog audio output	
(SPEAKERS (4Ω))	
Front speakers	System: Full range satellite Impedance: 4Ω Frequency response: 160 Hz ~ 20 kHz Dimensions: 3.7 x 6.3 x 3.4 inches (95 x 160.9 x 87 mm) Speaker cable length: 9.8 feet (3 m) Weight: 1.23 lbs. (0.56 kg)
Rear speakers	System: Full range satellite Impedance: 4Ω Frequency response: 180 Hz ~ 20 kHz Dimensions: 3.7 x 6.3 x 3.4 inches (95 x 160.9 x 87 mm) Speaker cable length: 30 feet (9.15 m) Weight: 1.19 lbs. (0.54 kg)
Center speaker	System: Full range satellite Impedance: 4Ω Frequency response: 160 Hz ~ 20 kHz Dimensions: 6.3 x 3.7 x 3.6 inches (160.9 x 95 x 92 mm) Speaker cable length: 9.8 feet (3 m) Weight: 1.68 lbs. (0.76 kg)
Subwoofer	Impedance: 4Ω Speaker drivers: 6.5 inches (160 mm) woofer Frequency response: 50 Hz ~ 150 Hz Dimensions: 4.8 x 12.2 x 14.5 inches (122.6 x 309.5 x 369 mm) Speaker cable length: 14.1 feet (4.3 m) Weight: 8.2 lbs. (3.72 kg)
Video output	
RCA jack x 1	1 Vp-p (75Ω)
Analog audio input	
AUX1 / AUX2	
RCA jacks(L / R) x 2	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	
RADIO	
FM ANT 75Ω jack x 1	Tuning range: FM 87.5 - 108 MHz (100kHz) Antenna terminal: 75Ω (unbalanced)
Wireless rear audio input	
14-pin jack x 1	

Note

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

LASER BEAM SAFETY PRECAUTIONS

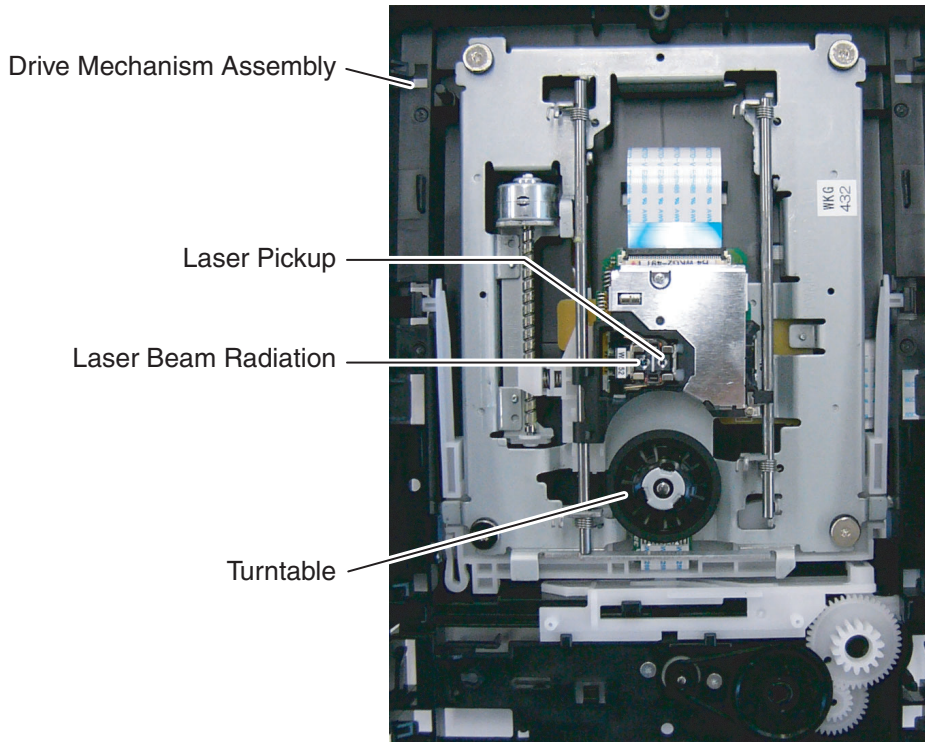
This BD player uses a pickup that emits a laser beam.



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 11.8 inches (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 11~13 lb (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.

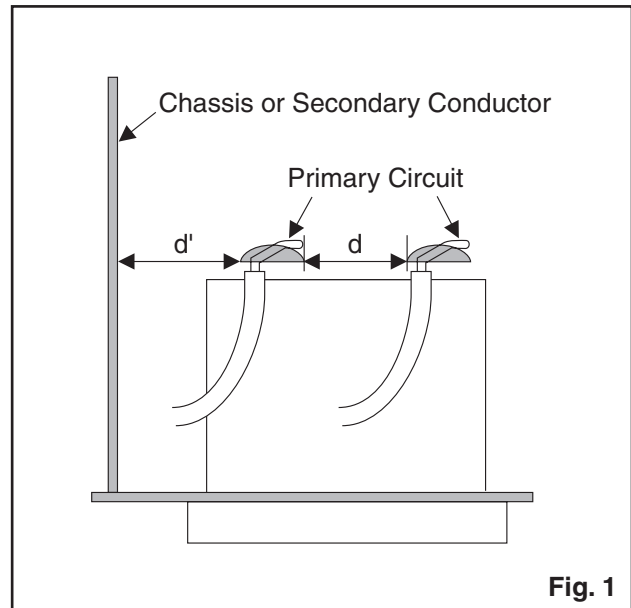


Fig. 1

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.

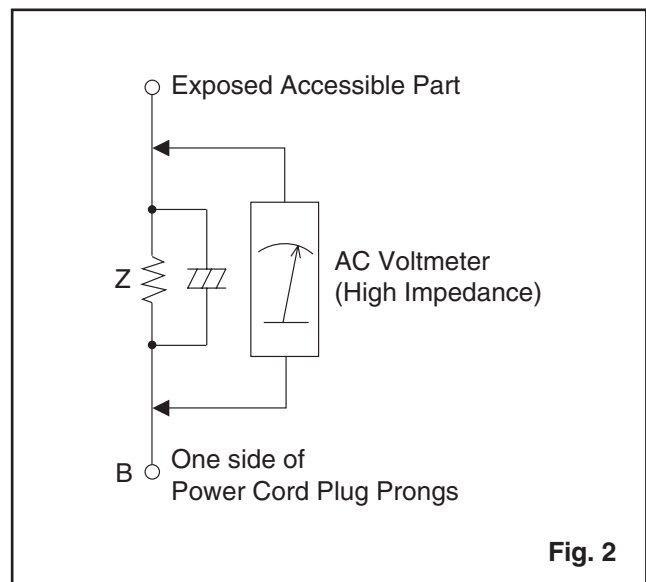


Fig. 2

Table 2: Leakage current ratings for selected areas

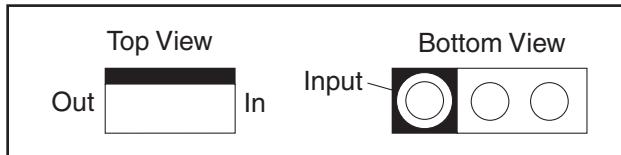
AC Line Voltage	Load Z	Leakage Current (i)	One side of power cord plug prongs (B) to:
120 V	2k Ω RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$	RF or Antenna terminals
	50k Ω RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$	A/V Input, Output

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

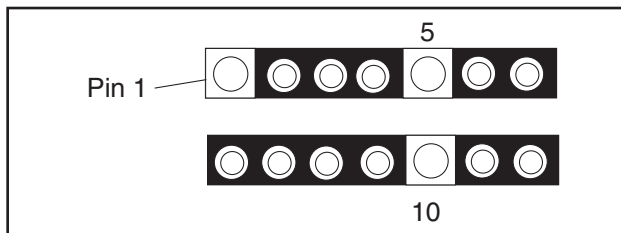
STANDARD NOTES FOR SERVICING

Circuit Board Indications

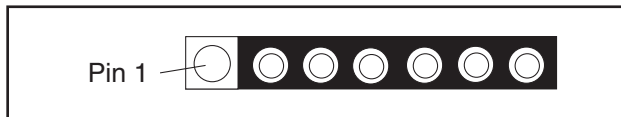
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

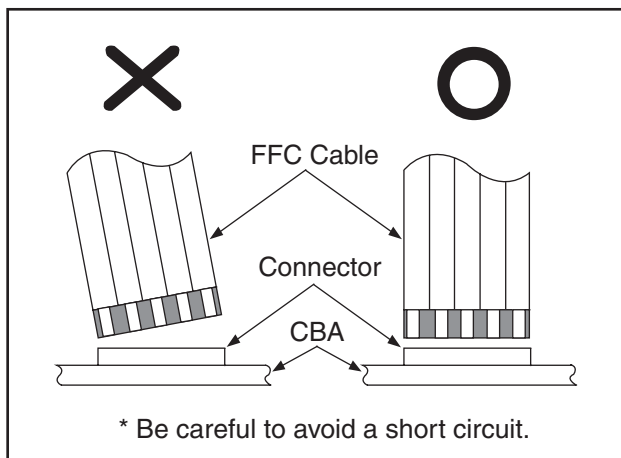


3. The 1st pin of every male connector is indicated as shown.



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)

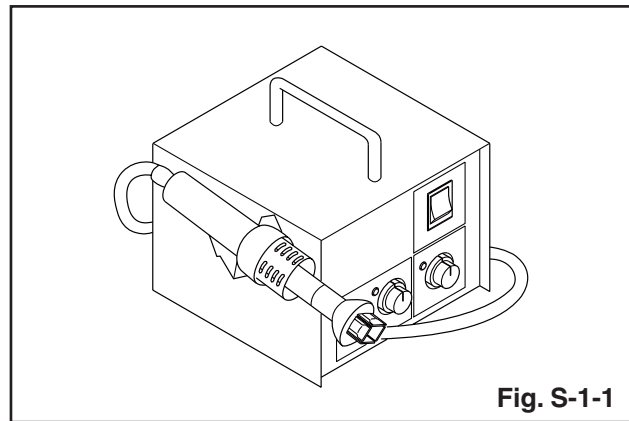


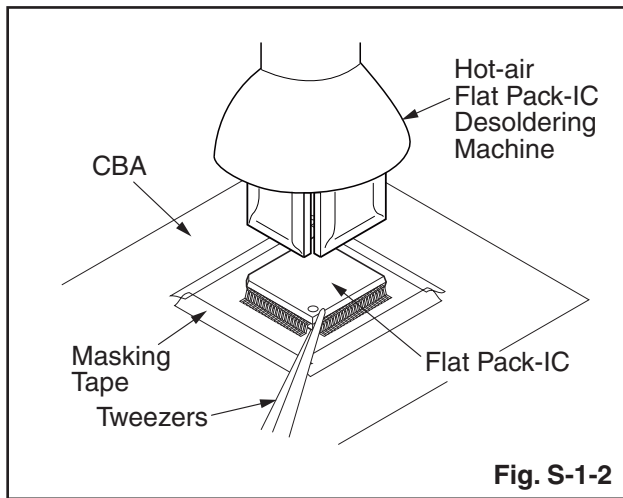
Fig. S-1-1

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:

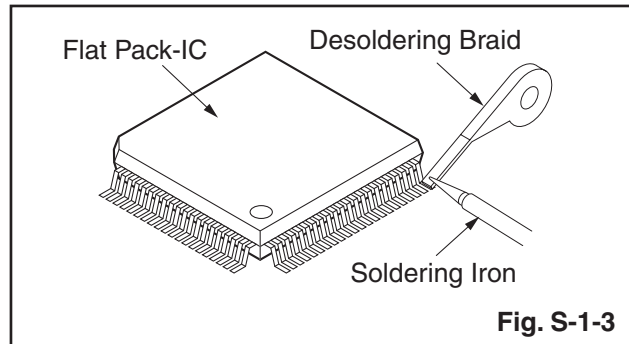
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape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

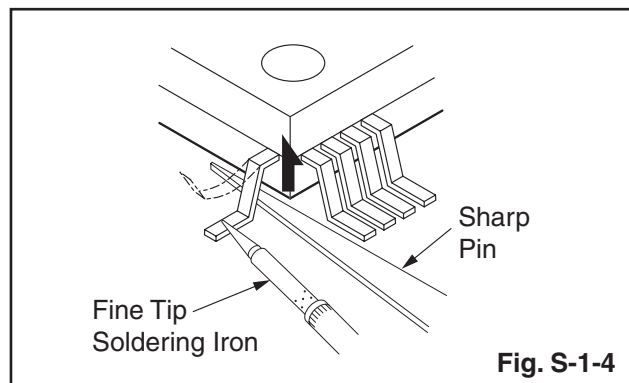


With Soldering Iron:

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)

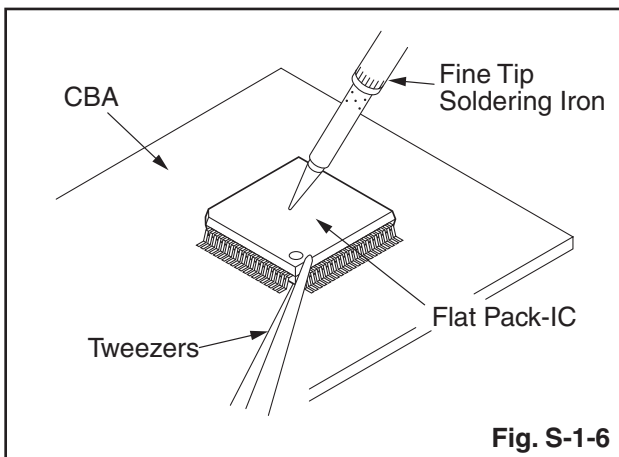
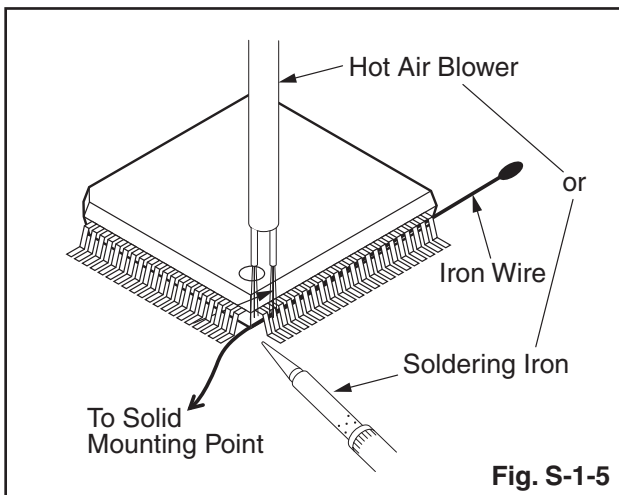


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

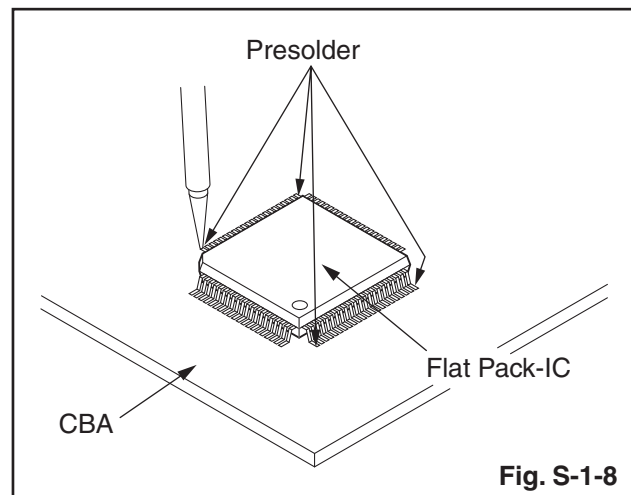
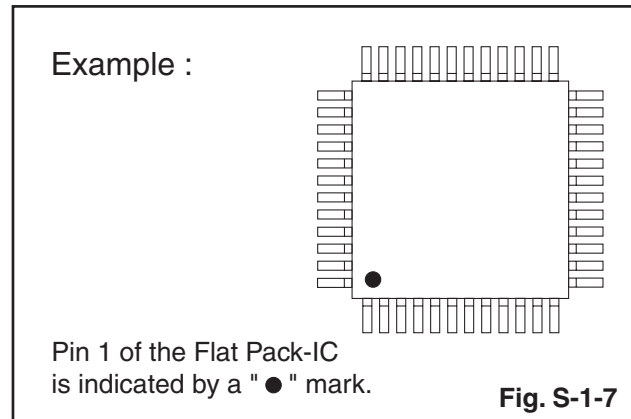
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins 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

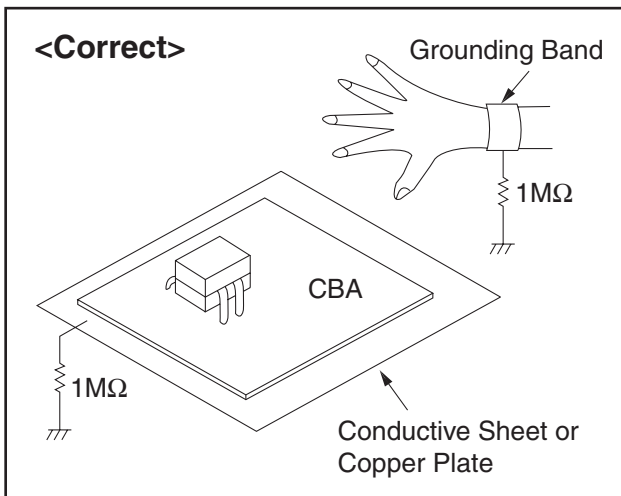
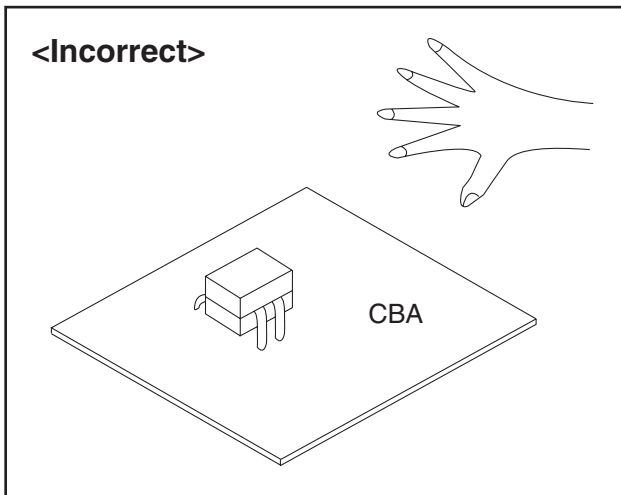
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

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

2. Ground for Workbench

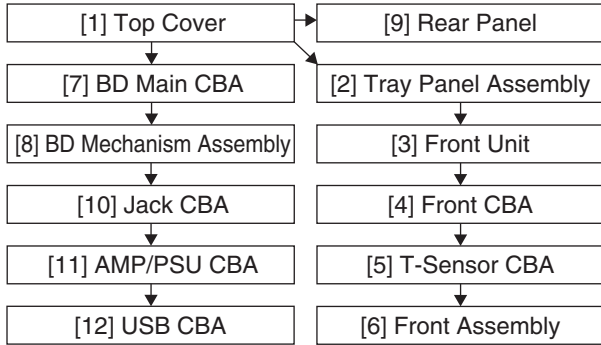
Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors 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	7 (S-1)	---
[2]	Tray Panel Assembly	D2	-----	1
[3]	Front Unit	D2	5(L-1), 3(L-2), CN5001, CN6404	2
[4]	Front CBA	D3	4(S-2), CN2501, Guard Panel, Volume Knob Assembly	---
[5]	T-Sensor CBA	D3	2(S-3), Touch PCB Holder Assembly	---
[6]	Front Assembly	D3	-----	---
[7]	BD Main CBA	D4	(S-4), (S-5), (S-6), CN3001, CN3503, CN4102, CN6101, CN6405, CN7001, CN7002, CN7003, M-PCB Plate Earth, Locking Card Spacer	3
[8]	BD Mechanism Assembly	D4	4(S-7)	3
[9]	Rear Panel	D5	(S-8), (S-9), (S-10), 2(S-11), 2(S-12), CN5001, Motor DC Fan	4
[10]	Jack CBA	D6	2(S-13)	---

ID/ Loc. No.	Part	Fig. No.	Removal	Note
[11]	AMP/PSU CBA	D6	(S-14), 5(S-15), PCB Bracket Front	---
[12]	USB CBA	D6	(S-16)	---

↓ (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. **How to remove Tray Panel Assembly**
 - 1) Press the [▲] button to open the tray.
 - 2) Remove the Tray Panel Assembly.
 - 3) Press the [▲] button to close the tray.
2. **CAUTION 1:** Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.
3. **When replacing the BD Mechanism Assembly or BD Main CBA, refer to "ADJUSTMENT INSTRUCTIONS FOR BD MAIN CBA OR BD MECHANISM ASSEMBLY REPLACEMENT."**
4. **When reassembling, be sure to use the original screws or specified screws listed in the parts list.**

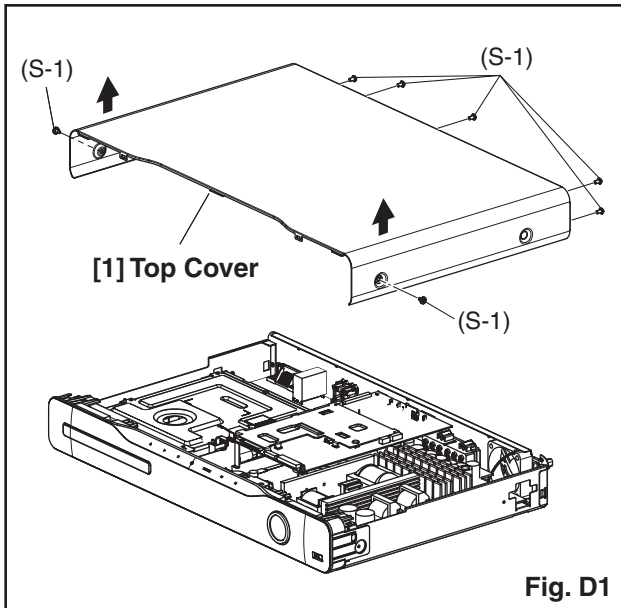


Fig. D1

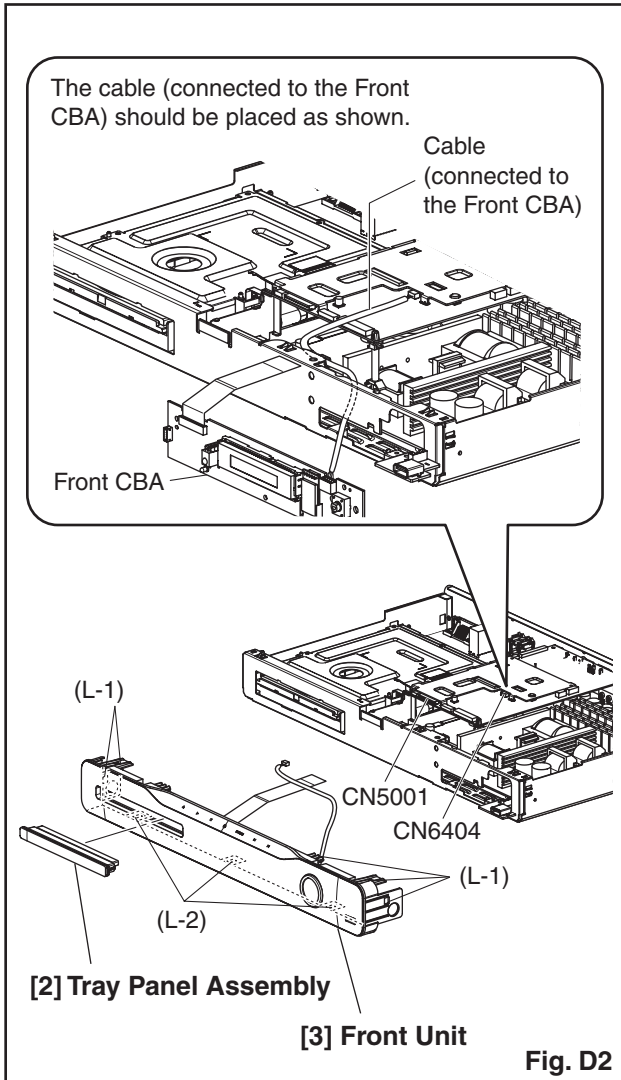


Fig. D2

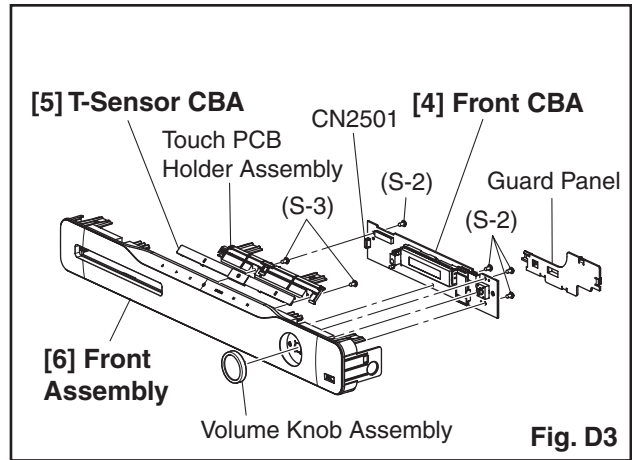


Fig. D3

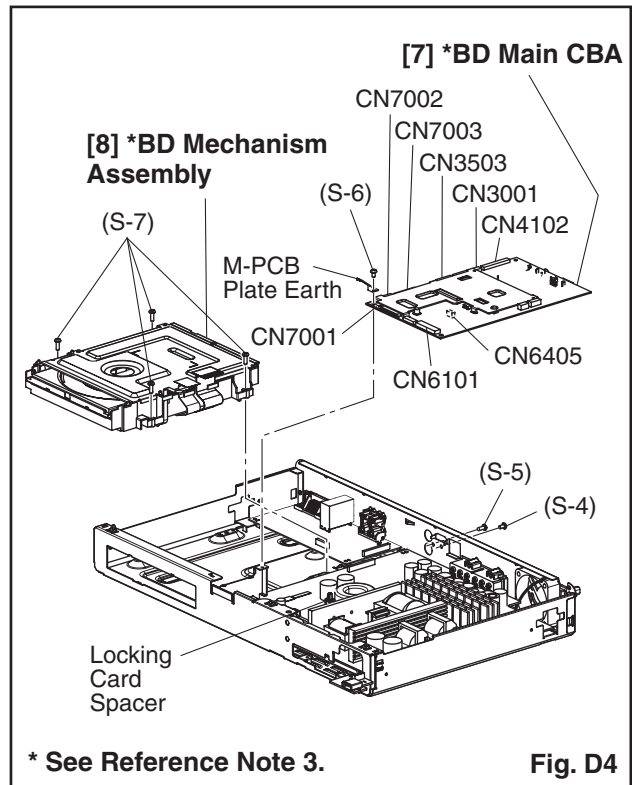
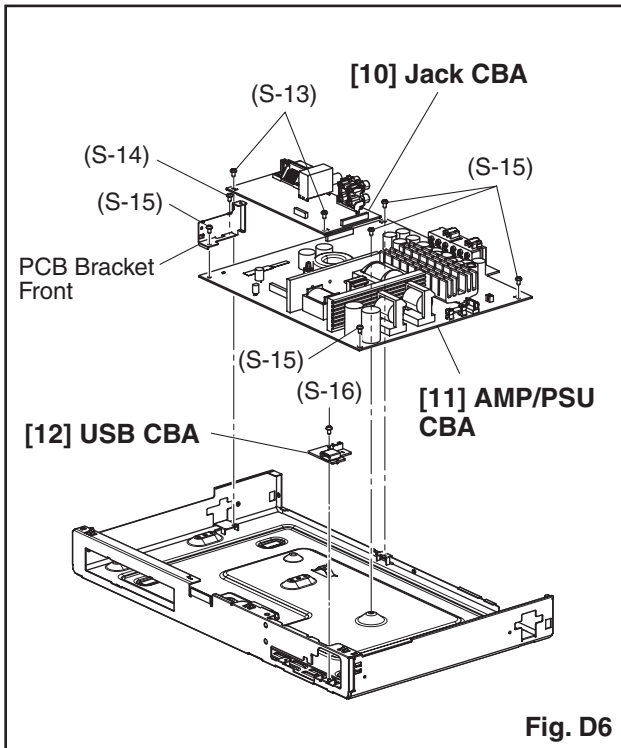
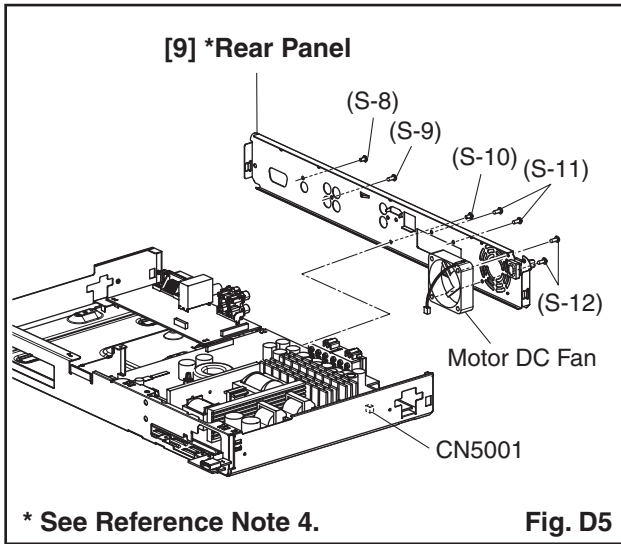


Fig. D4



3. How to Eject a Disc

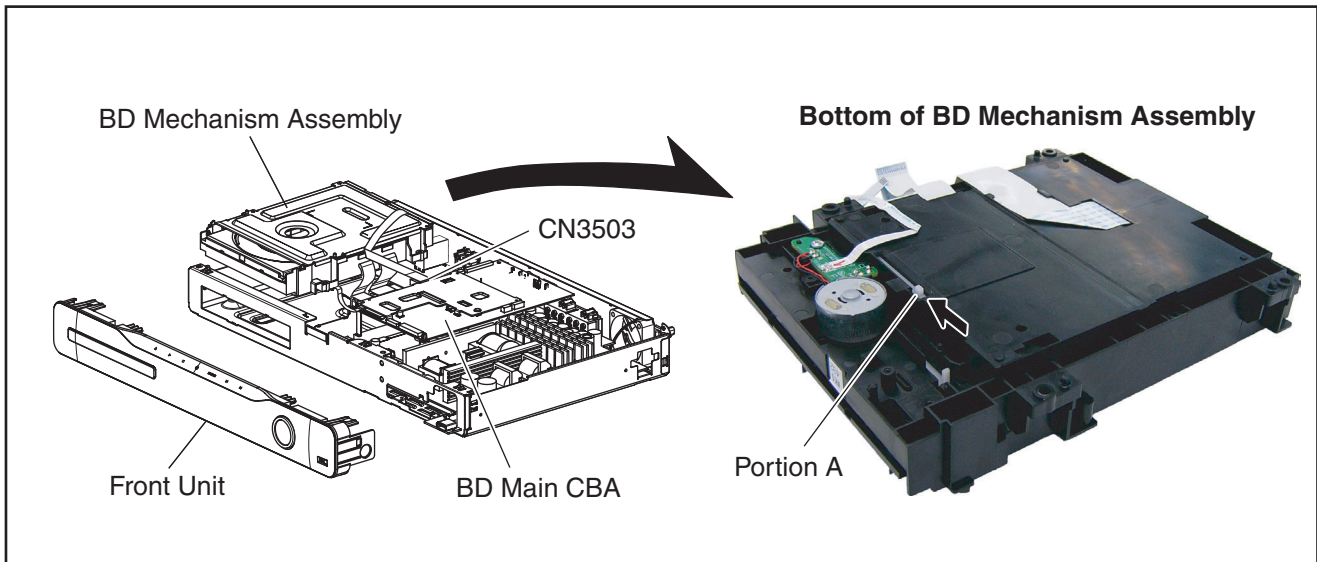
When a disc cannot be removed due to malfunction or when an unplayable disc is inserted, follow the procedure below to remove the disc.

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 (CN3503) 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 HOME THEATER

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 this order.

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

"*" differ depending on the models.

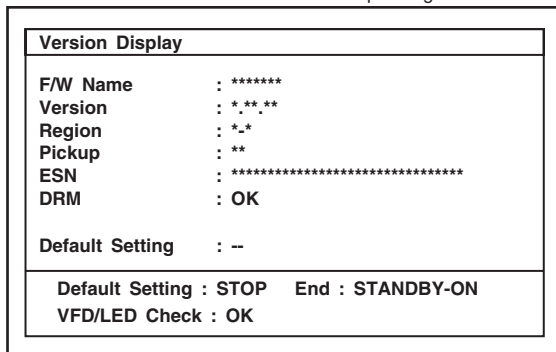


Fig. a

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.

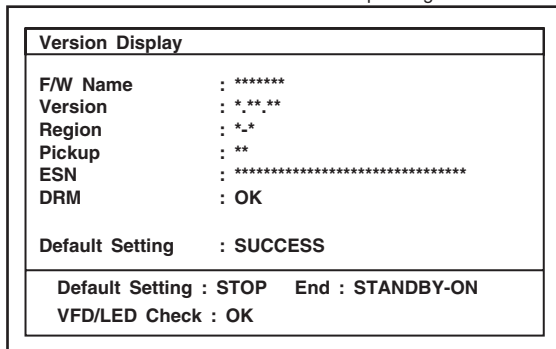


Fig. b



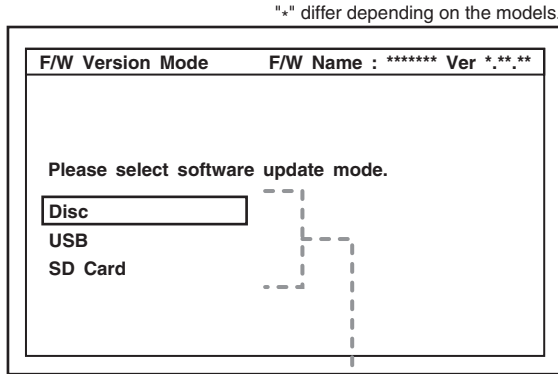
Fig. c

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.

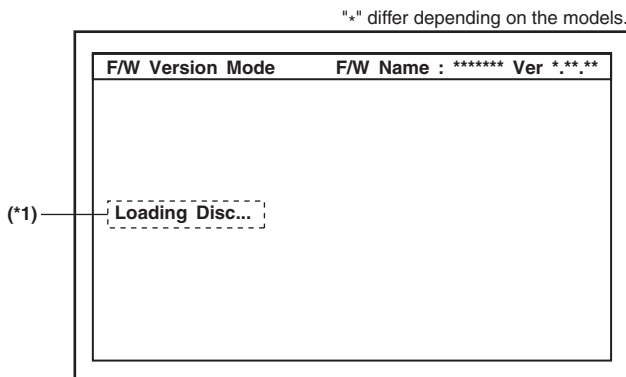


Fig. b Programming Mode Screen (Example)

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.

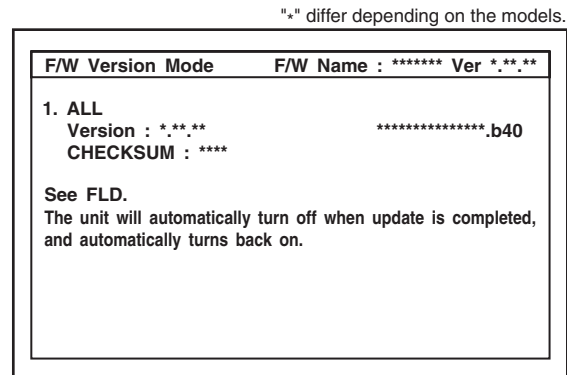


Fig. c Version Up Mode



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)
- Choose "USB" at Fig. a. when using a SD Card that is connected to a Card Reader. Otherwise, the unit will not be updated if "SD Card" is selected.

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.

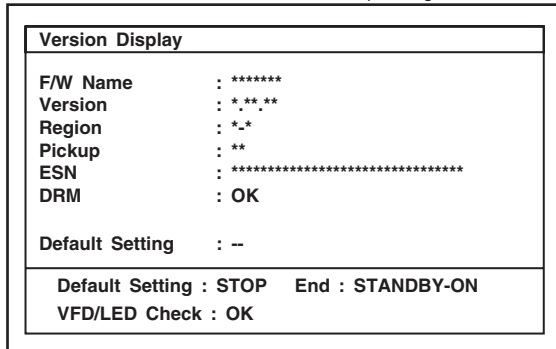



Fig. f

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.

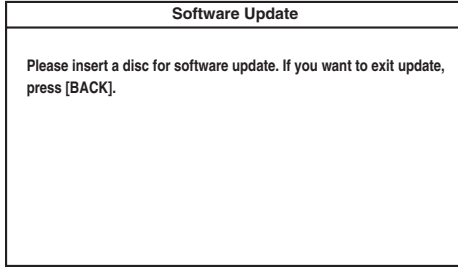


Fig. g (Example of Disc mode)

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

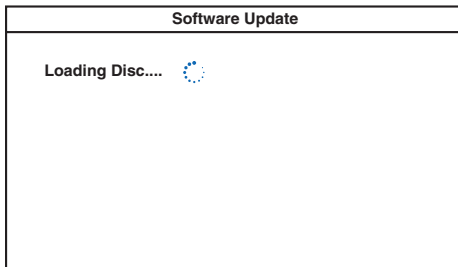


Fig. h (Example of Disc mode)



Fig. i VFD in Update Mode

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

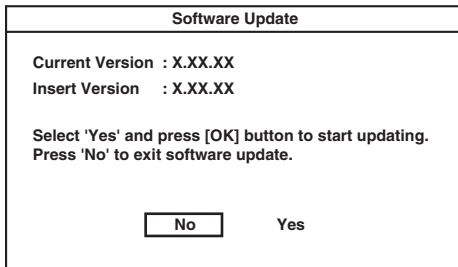


Fig. j



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.

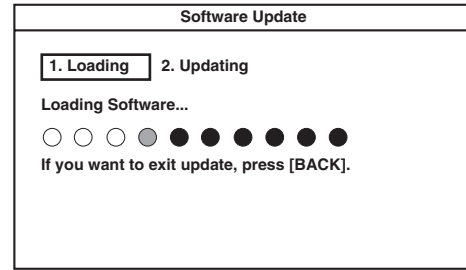


Fig. l



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.

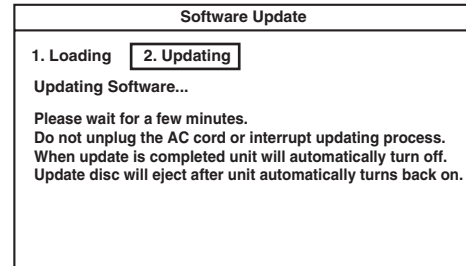


Fig. n (Example of Disc mode)



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.

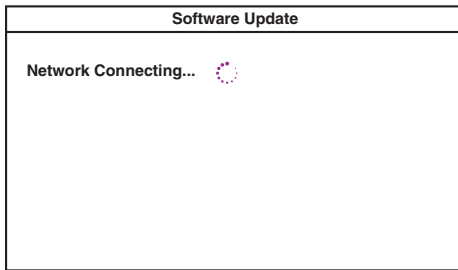


Fig. p

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

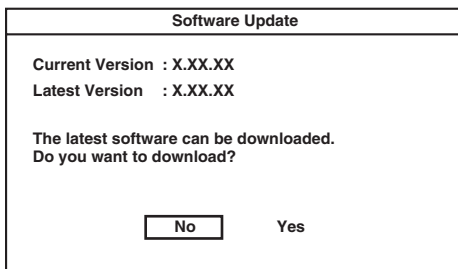


Fig. q

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

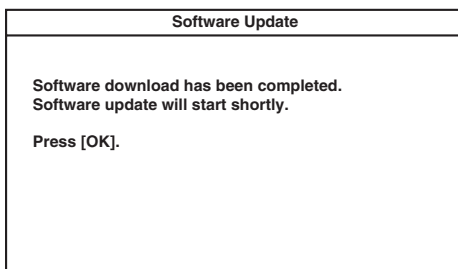


Fig. r

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

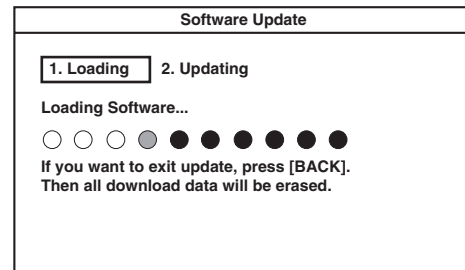


Fig. s



Fig. t

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

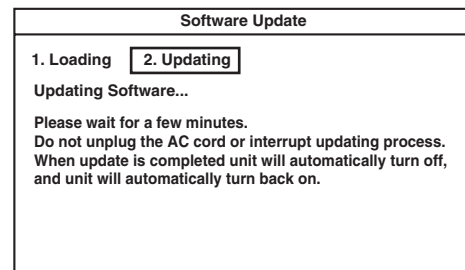


Fig. u



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 connected. Please confirm the connection of the cable.
2	DHCP cannot be acquired. Please confirm connection or set it with the manual operation.
3	Internet Protocol address is not set. Please confirm the 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 to 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 software 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:

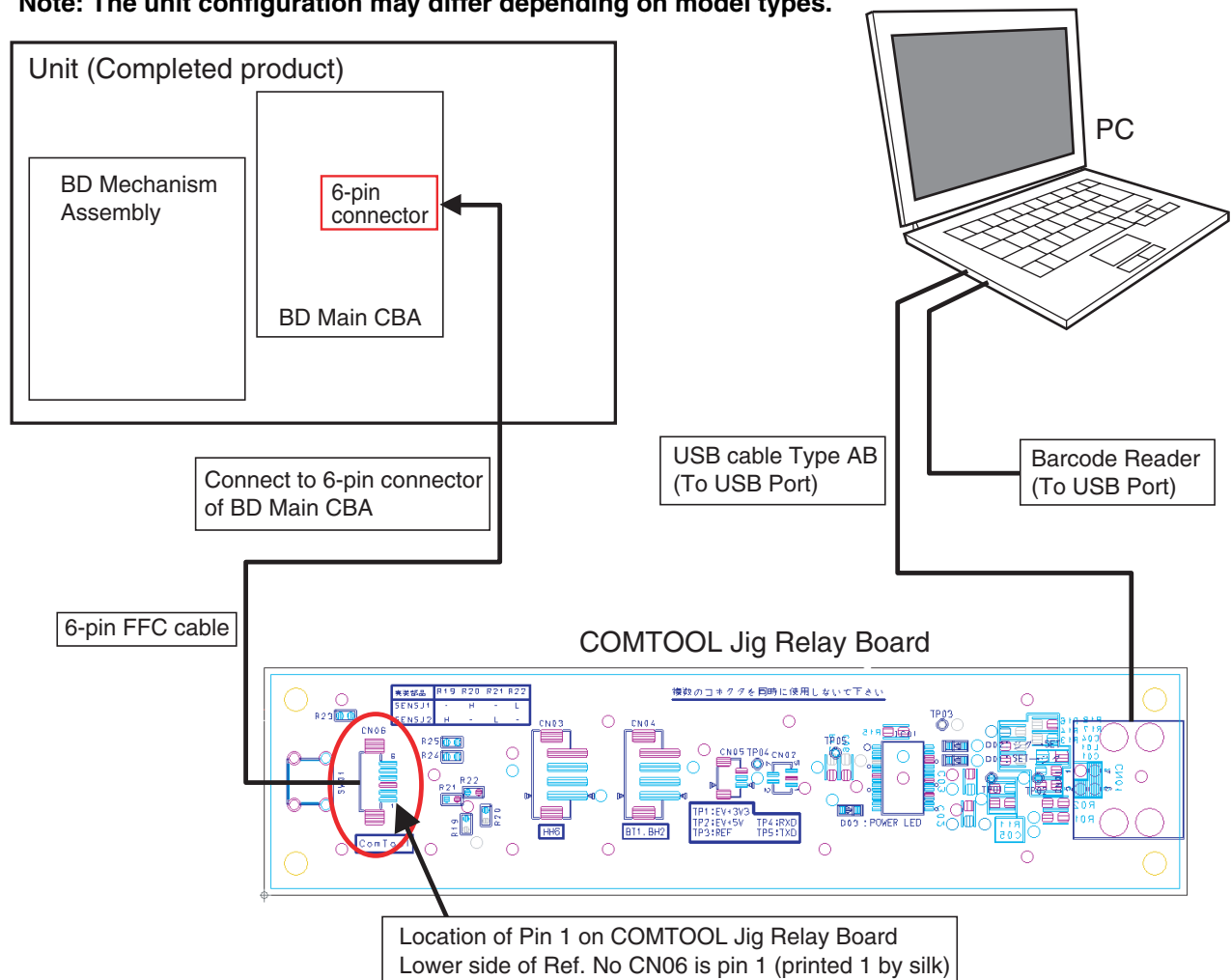
- Always turn the unit power off before connecting the FFC cable or removing the FFC cable from the BD Main CBA.

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

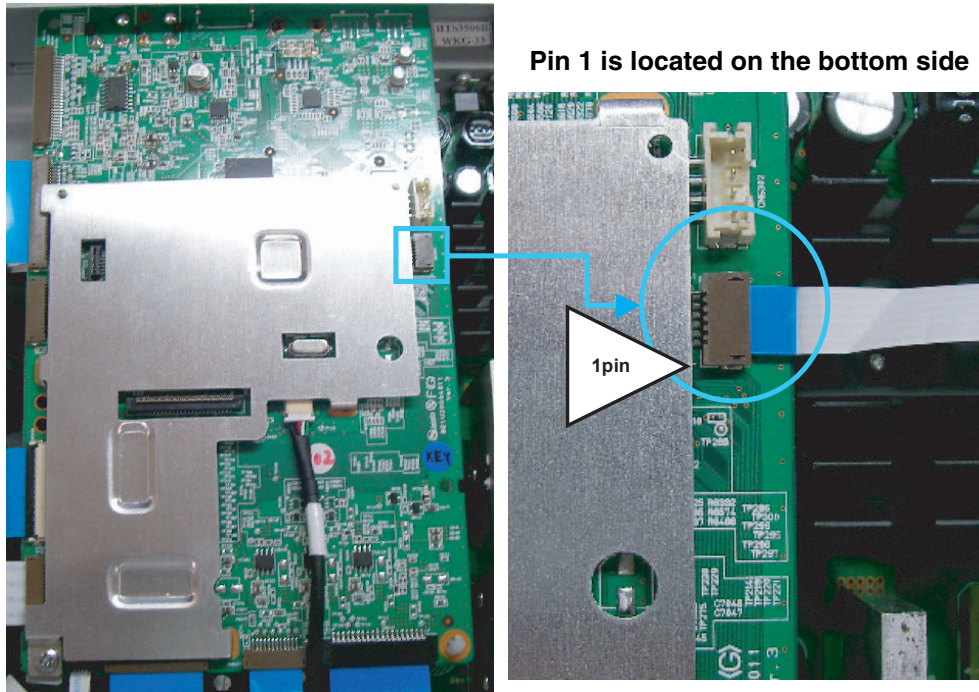
Note: The unit configuration may differ depending on model types.



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



- 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

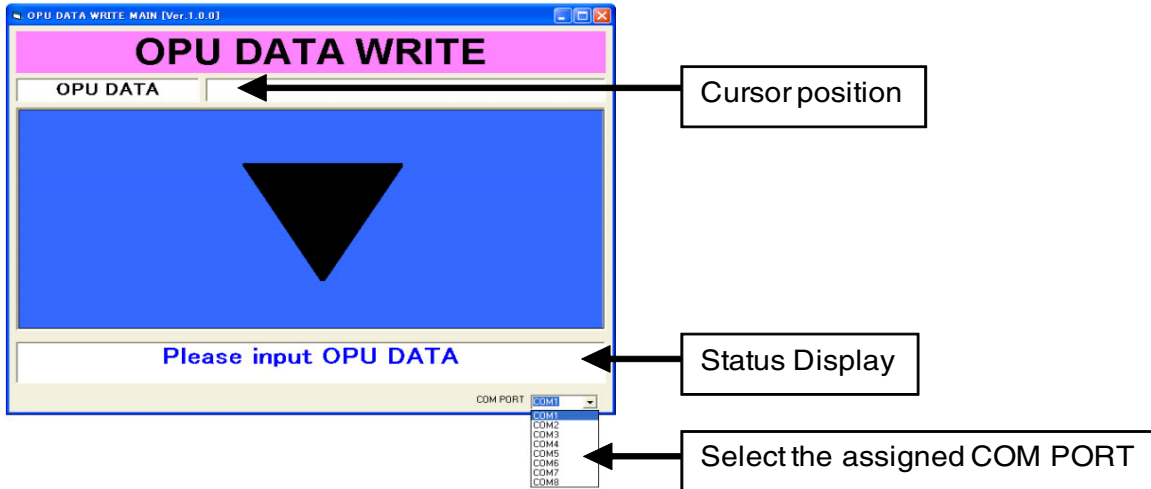
- 2-1. Click on the Windows [Start] button on the PC.
- 2-2. Right click on [My Computer].
- 2-3. Click on [Properties].
- 2-4. Click on [Hardware] tab in System Properties window.
- 2-5. Click on [Device Manager].
- 2-6. Click on [Ports (COM&LPT)].
- 2-7. Check which connection port is assigned for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

3. Application Setup

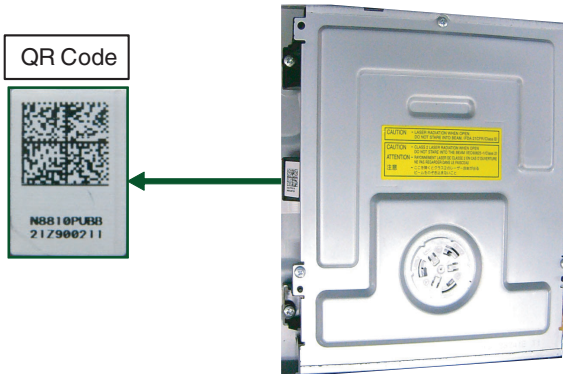
- 3-1. Save the application folder (OpuDataWriter) directly under the C: drive.
- 3-2. Create a shortcut for [OpuDataWriter.exe] which is located inside the folder on the desktop.

4. OPU DATA WRITE

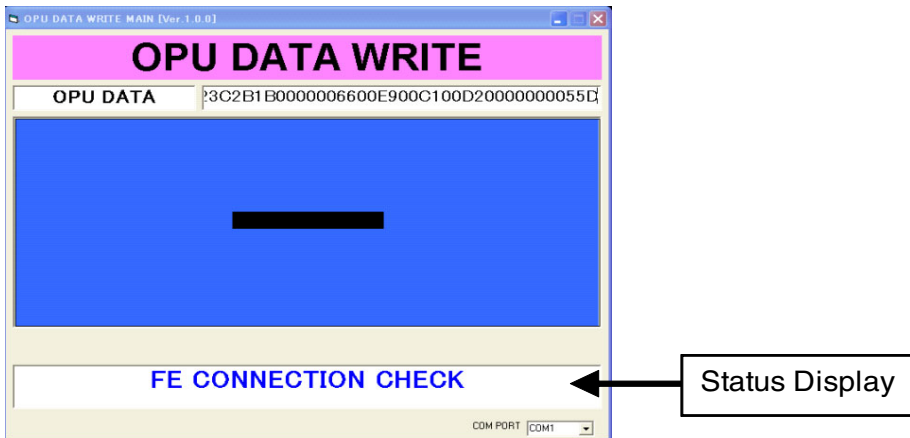
- 4-1. Connect the unit's AC power cord. Wait for about 30 seconds until the unit is in standby mode.
- 4-2. Double click on the [OpuDataWriter.exe] shortcut on the desktop to start the application.
- 4-3. Application start screen appears.
Select the assigned connection port of [USB Serial Port] for 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.



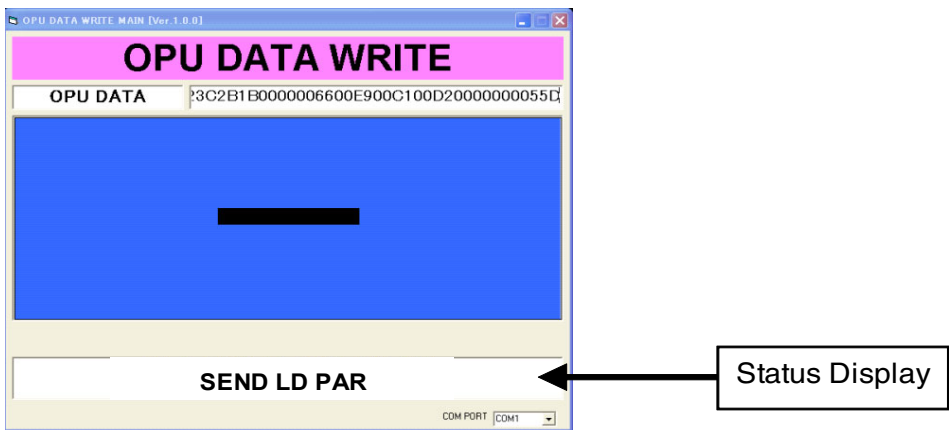
- 4-5. Check that [FE CONNECTION CHECK] message appears on the Status Display then turn the unit power on.



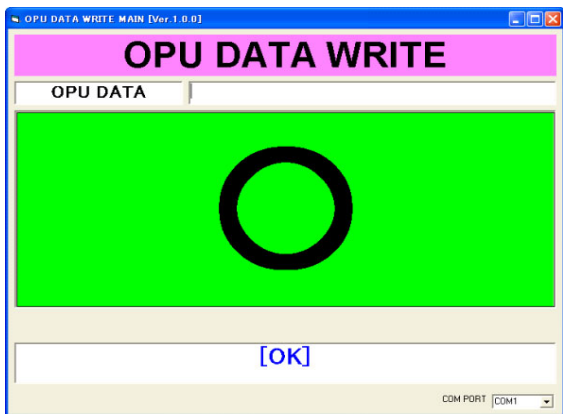
If error occurs:

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.

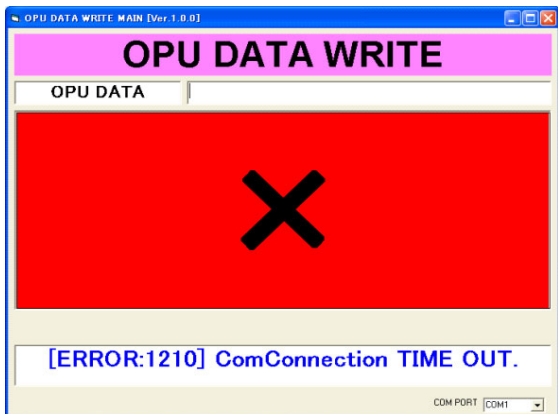


4-7. [OK] appears in the Status Display if data write has been completed successfully.



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.

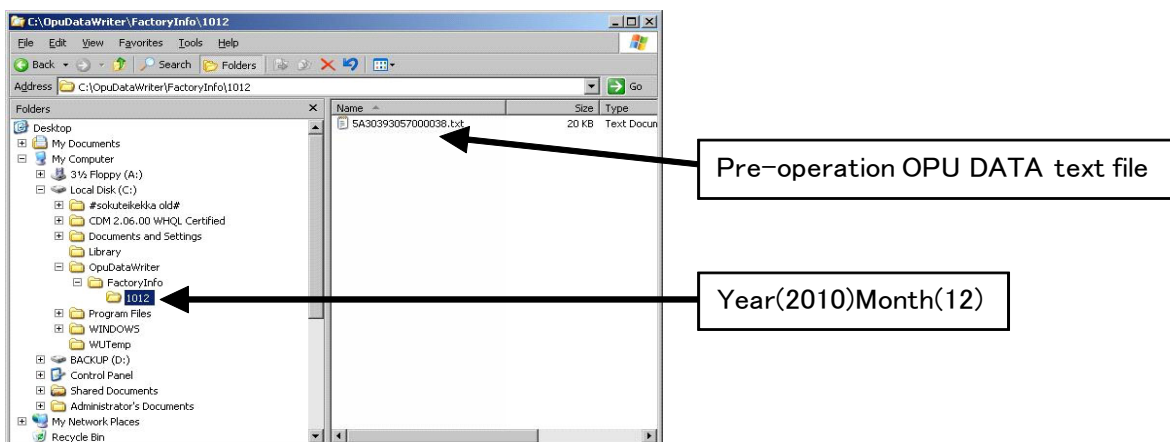
5. Saving The Pre-Operation OPU DATA

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.

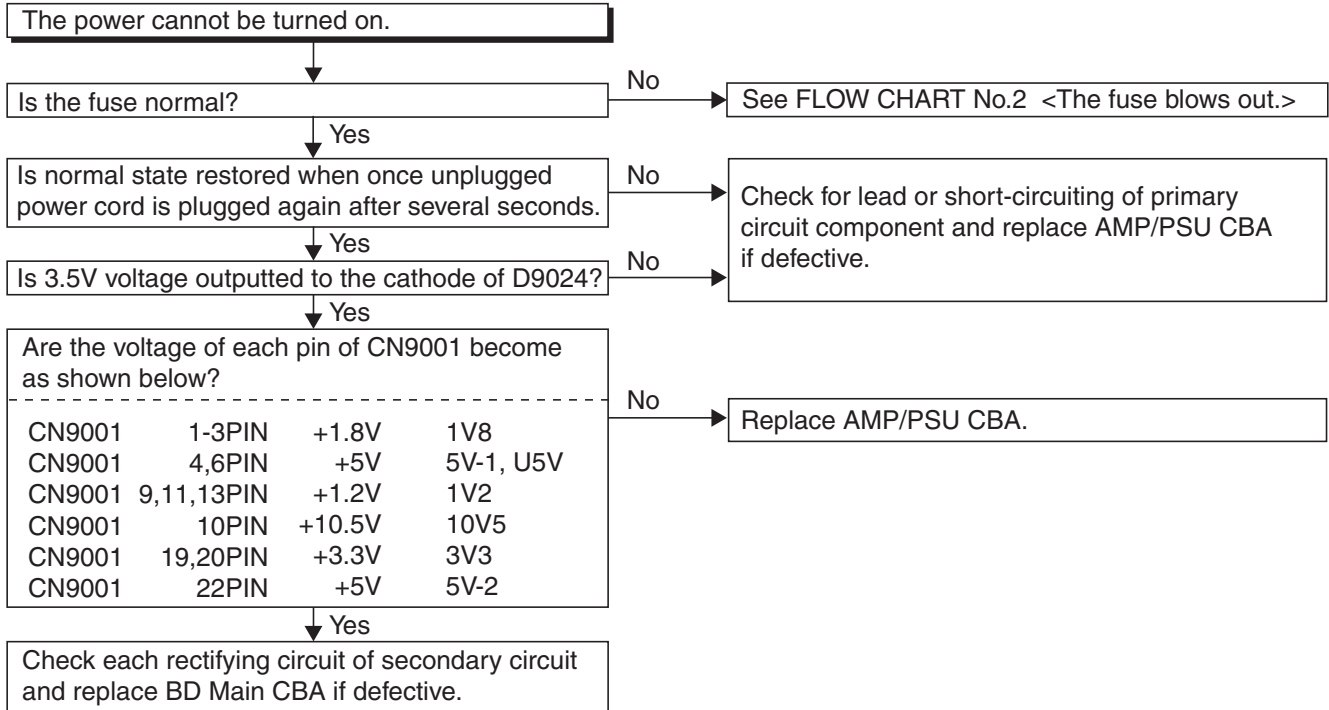
This text file is created with a file name of the OPU serial number and contains the pre-operation OPU DATA.



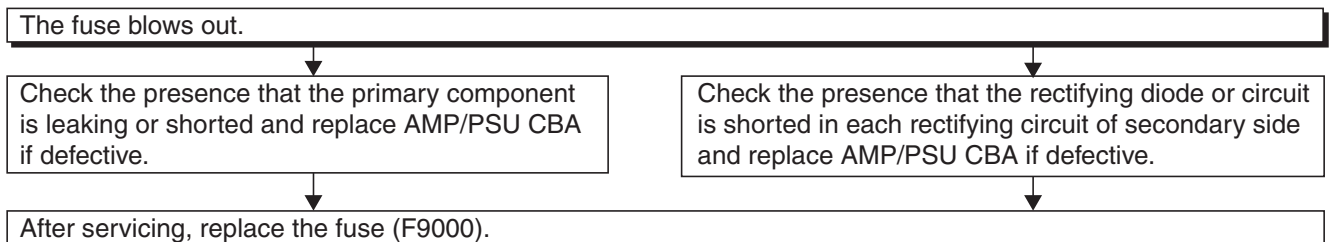
5-3. The text file is necessary for analyzing the defective BD Mechanism. Submit this text file with the defective BD Mechanism as necessary to the appropriate managing Department.

TROUBLESHOOTING

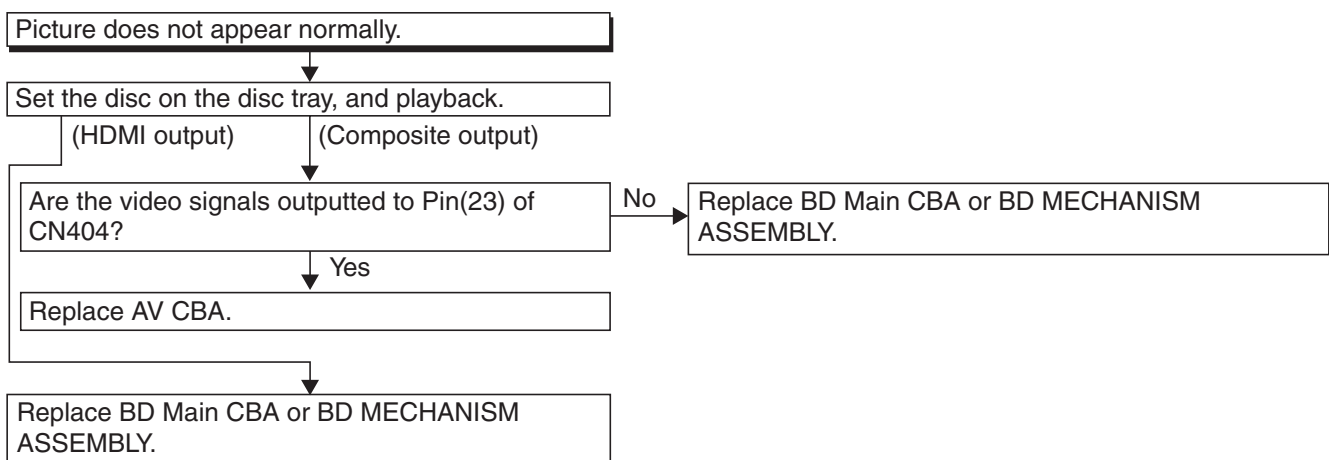
FLOW CHART NO.1



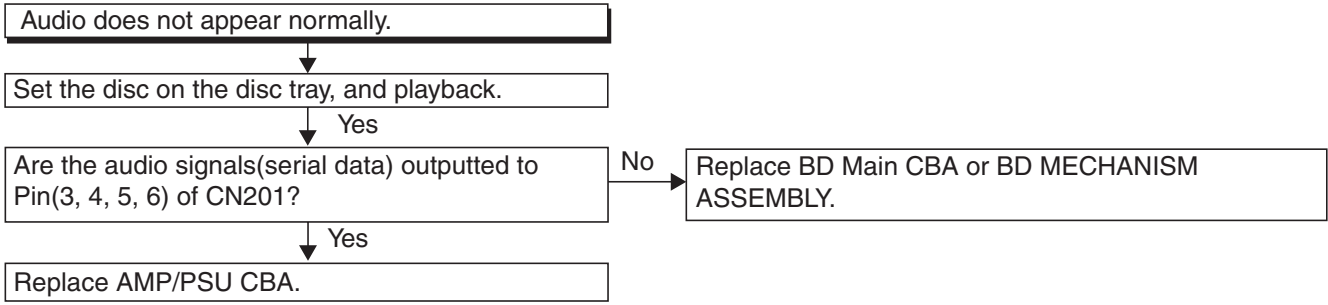
FLOW CHART NO.2



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 connected. Please confirm the connection of the cable.
Cannot Acquire DHCP Server	DHCP cannot be acquired. Please confirm connection or set it with the manual operation.
Cannot Acquire IP Address	Internet Protocol address is not set. Please confirm the 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 to 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 software 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.

HOME NETWORK (DLNA) ERROR CODE

Error Code appears in the error screen when the unit detects an error, as shown below. The code is used to specifically determine the cause of error.

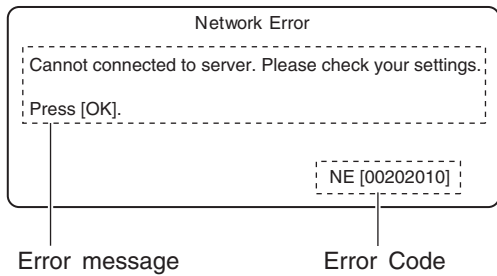


Fig. 1: Error Code (Example)

Error Code are displayed with "NE[*****]" ("*" is error code) as shown above.

Error Code Form

In the Home Network (DLNA), Error Code are used as follows.



Fig. 2

"Summary Error Code" are shown in the list below.

Summary Error Code	Error message
02	Cannot connect to server. Please check your settings.
03	Playback Error
05	No playable files found.
20	System Error
21	Unable to display files from the server. Please check server settings.
22	List Updated.
23	Connection with server lost.
24	Unable to connect to more than 10 servers. Please turn off or stop broadcasting 1 or more servers.

Detailed Error Code table (DLNA – HTTP Status Code)

Status Code	Description
201 Created	A new resource was created by this unit's request.
202 Accepted	This unit's request was accepted but its processing is not completed.
204 No Content	Though the server processed the request, there was no content.
205 Reset Content	No content.
300 Multiple Choices	<ul style="list-style-type: none"> • There are multiple choices. • The server could not determine its response. • Requested information contains multiple representations. This status is handled as Redirection by default and complies with the content of Location HEAD related to this response.
301 Moved Permanently	<ul style="list-style-type: none"> • Moved Permanently. • Requested resource has been assigned to a new permanent URI (Uniform Resource Identifier). Any future references to this source must use one of the returned URIs. • Indicates that requested information is moved to the URI specified by the Location HEAD. When this status is received, the default action is tracking the Location HEAD related to the response. When the original request method is POST, the redirected request will use GET.
302 Found	<ul style="list-style-type: none"> • Found. • Requested resource resides temporarily under a different URI.(Uniform Resource Identifier) • Indicates that requested information exists in the URI specified by the Location HEAD. When this status is received, Location HEAD related to the response will be tracked by default. When the request method is POST the redirected request will use GET.
303 See Other	<ul style="list-style-type: none"> • See other. • The response to the request can be found under a different URI (Uniform Resource Identifier) and to get this response, GET HTTP method will be used. • As a result of POST, client will be automatically redirected to the URI specified by the Location HEAD. GET will be used for requesting to a resource specified by the Location HEAD.
304 Not Modified	This unit caches the latest resource and the requested resource is not modified. (exception protocol error)
305 Use Proxy	<ul style="list-style-type: none"> • Proxy will be used. • The requested resource must be accessed through the proxy specified by the Location field. • Indicates that request must use the URI given by the Location HEAD to use the proxy server.
400 Bad Request	The server could not understand this unit's request.
401 Unauthorized	Indicates that the resource requested by this unit requires authentication.
403 Forbidden	The server received this unit's request, but refused to fulfill it.
404 Not Found	The requested URI was not found.
405 Method Not Allowed	<ul style="list-style-type: none"> • The method is not allowed. • The HTTP behavior used is not allowed. • Indicates that request method (POST or GET) is not allowed by the requested resource.
406 Not Acceptable	<ul style="list-style-type: none"> • The client could not find an acceptable response. • Indicates that the client specifies not to accept arbitrary representation for Accept header which could be used by the resource.

Status Code	Description
407 Proxy Authentication Required	<ul style="list-style-type: none"> Proxy authentication is required. Indicates that the requested proxy will request authentication. Proxy-authenticate header contains the detailed method for authentication.
408 Request Timeout	<ul style="list-style-type: none"> While waiting for request, the server timed out. Indicates that the client did not send a request within the expected time by the server.
409 Conflict	<ul style="list-style-type: none"> There is a conflict. The server timed out while waiting for a request. Indicates that the client did not send a request within the expected time by the server.
410 Gone	<ul style="list-style-type: none"> No longer available. The requested resource could not be found at the server and forwarding address is unknown. Indicates that requested resource is no longer available.
411 Length Required	<ul style="list-style-type: none"> Length required. The server refused to accept the request where Content-Length was undefined. Indicates Content-length header is not defined.
412 Precondition Failed	<ul style="list-style-type: none"> Fails to fulfill precondition. The precondition in one or more of the requested header field has been tested false by the server. The precondition given in the request could not be fulfilled and the request failed. Precondition can be set using If-Match, If-None-Match, If-Unmodified-Since request header.
413 Request Entity Too Large	<ul style="list-style-type: none"> The requested entity is too large. The server refused to process the request since the requested entity is larger than the server is willing or able to process. Indicates that the request is too large for the server to process.
414 Request-URI Too Long	<ul style="list-style-type: none"> The Request-URI is too long. The server refused to process the request because the request URI (Uniform Resource Identifier) is too long for the server to interpret. Indicates that the URI is too long.
415 Unsupported Media Type	<ul style="list-style-type: none"> The media type is not supported. The server refused to process the request because the format of request entity is not supported by the requested resource for the requested method. Indicates the requested format is not supported.
500 Internal Server Error	Internal server error occurred.
501 Not Implemented	The server does not support functionalities required to process the request from this unit.
502 Bad Gateway	The proxy server between this unit and the server received an invalid reply from another proxy or the original server.
503 Service Unavailable	<ul style="list-style-type: none"> Service is unavailable. The service is temporarily overloaded. Because of overloading or maintenance, the server is temporarily unavailable.
504 Gateway Timeout	<ul style="list-style-type: none"> Gateway timed out. While waiting for gateway, the request timed out. Indicates that the intermediate proxy server has timed out while waiting for a response from another proxy or original server.
505 Version Not Supported	<ul style="list-style-type: none"> The version is not supported. The server refuses or does not support the version of protocol given in the request message. Indicates that requested version is not supported by the server.

Detailed Error Code table (DLNA – Application Status Code)

Status Code	Description
001 Nothing List	As a result of list creation process, there is no item to be displayed from the received data.
010 LAN Disconnect	This unit's LAN is disconnected.
020 Application Status Error	Error was detected in the DLNA application's internal state.
021 Application Status Error	Error was detected in the DLNA application's internal state.
022 Application System Error	Error was detected in the DLNA application system.
023 Unsupported Audio Format	An unsupported audio format was discovered.
024 Server Number Over Limit	Discovered server numbers over limit.
025 Changed List	The contents list currently displayed has been updated.
026 Disconnected Server	The original server of the displaying contents list has been disconnected.
027 Application System Error	Error was detected upon start of DLNA application.
600 Disconnected Server	The original server of the contents has been disconnected.
601 Not Exist Content	Content does not exist.
602 Critical Error	System error.
603 Changed List	The contents list has been updated at the server.
620 Not Exist Content	Image content does not exist.
621 Get failure	Image data get error. (an error other than HTTP status and under 500s)
622 File Open Error	Image data working file open error.
623 File Read Error	Image data working file read error.
624 File Close Error	Image data working file close error.
625 Decode mode Error	Image data decode mode error.
626 Header Error	Image data header error.
627 Struct Error	Image data header structural error.
628 Decode Error	Image data decode error.
629 Unsupported Format	Unsupported format.
630 Unsupported Size	Unsupported data size.
631 Attach Error	Shared memory attach error.
632 Dettach Error	Shared memory detach error.
633 Server Time Out Error	Server timed out.
640 File Read Error	File read error.
641 Unsupported Format	Unsupported Format.
642 No Change Decode Frame	No updates of decode frame.
643 Stream Get Error	Stream get error.
660 File Read Error	File read error.
661 Unsupported Format	Unsupported format.
662 Video Analyze Error	Video analyze error.
663 Audio Analyze Error	Audio analyze error.

Status Code	Description
664 1sec Offset Get Error	1sec offset get error.
665 Address Search Error	Address search error.
680 RFS_EVENT_SOCKET_ERROR	Socket error.
681 RFS_EVENT_HTTP_RES_SERVER_REFUSED	Server refusal notification.
682 RFS_EVENT_HTTP_RES_NOT_FOUND	The specified contents could not be found.
683 RFS_EVENT_HTTP_RES_SERVER_ERROR	Server error.
684 RFS_EVENT_HTTP_RES_UNEXPECTED_CODE	Unexpected status code.
685 RFS_EVENT_HTTP_RES_RANGE_NOT_SATISFIABLE	The specified range is not satisfiable.
686 RFS_EVENT_RECV_TIMEOUT	Timed out while waiting for response.
687 RFS_EVENT_DTCP_ERROR	RCVC internal error. (DTCP originated)
688 RFS_EVENT_DTCP_CONNECT_ERROR	DTCP connection error.
689 RFS_EVENT_DTCP_KEY_MNG_ERROR	Kx key error.
690 RFS_EVENT_RESPONSE_DATA_ERROR	Received message is invalid.
691 RFS_EVENT_SYSTEM_ERROR	RCVC internal error.
692 RFS_EVENT_TCP_DISCONNECTED	The TCP connection has been disconnected by the server during streaming.
693 RFS_EVENT_CONNECT_TIMEOUT	Time out occurred while establishing TCP connection.
694 RFS_EVENT_RECV_ERROR	Could not receive contents.
700 Refresh Error	Failed to update server list.
701 Disconnected Server	The server has been disconnected while displaying contents list.
702 Server Not Found	The server has been disconnected while getting contents list.
703 Server Info Error	Failed to get server information while getting contents list.
704 Contents List Error	Failed to get contents list.
705 Server Config Error	Failed to configure server.
706 List Not Found	Failed to get contents list.
707 Changed List	Displayed contents list has been updated.
708 Object Not Found	Neither folders or playable contents was found.
709 Object Not Found By Filter	Playable contents was not found by filter.

Status Code	Description
710 Object Count Zero	Nothing was found in the folder.
711 ILLEGAL Server Info	The contents information from the server is invalid.
712 ILLEGAL Total Count	The total counts of contents from the server is invalid.
713 Folder not Exist	The specified folder does not exist. (The current contents list displayed has been updated)
714 Critical Error	An error occurred on the system.

MediaConnect NETWORK ERROR

When the unit detects a MediaConnect Network Error, the error screen is displayed as shown below.

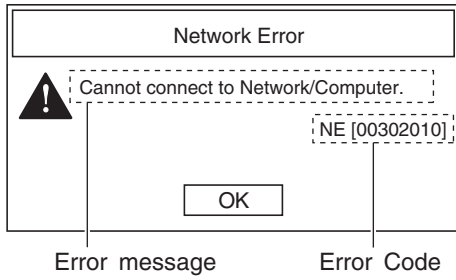


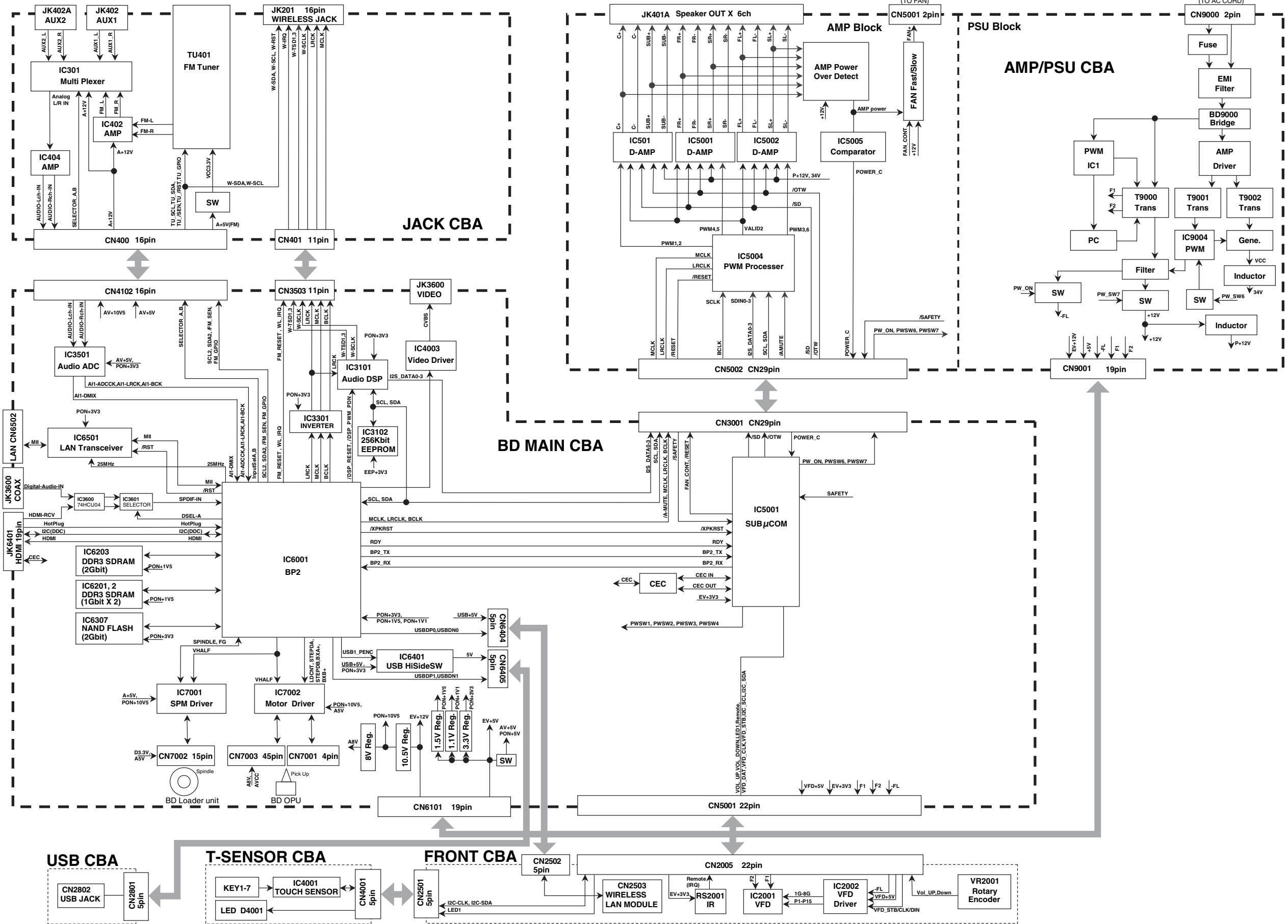
Fig. 3

Description of Error Message

Error Message	Description
Cannot connect to Network/Computer.	Invalid LAN (Wired/Wireless). When the connection with PC is invalid, this message is displayed.

BLOCK DIAGRAM

OVERALL BLOCK Diagram



SCHEMATIC DIAGRAMS AND CBA

Standard Notes

WARNING

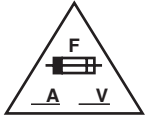
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special 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.

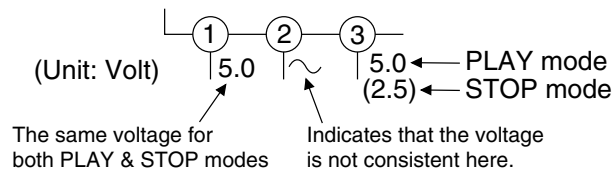
2. CAUTION:

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.

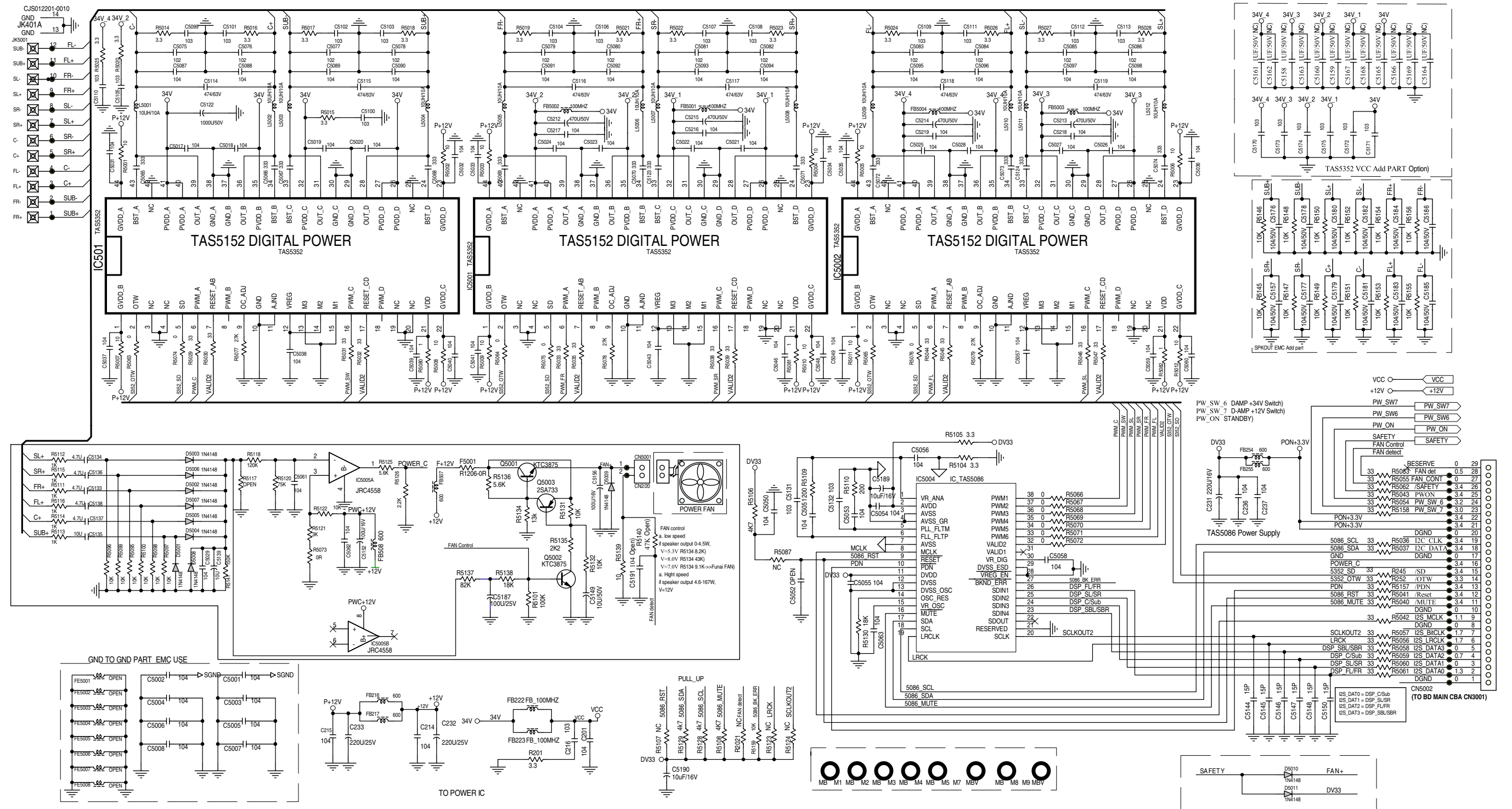
3. Note:

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



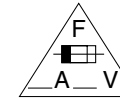
AMP/PSU 2 Schematic Diagram

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.

NOTE:

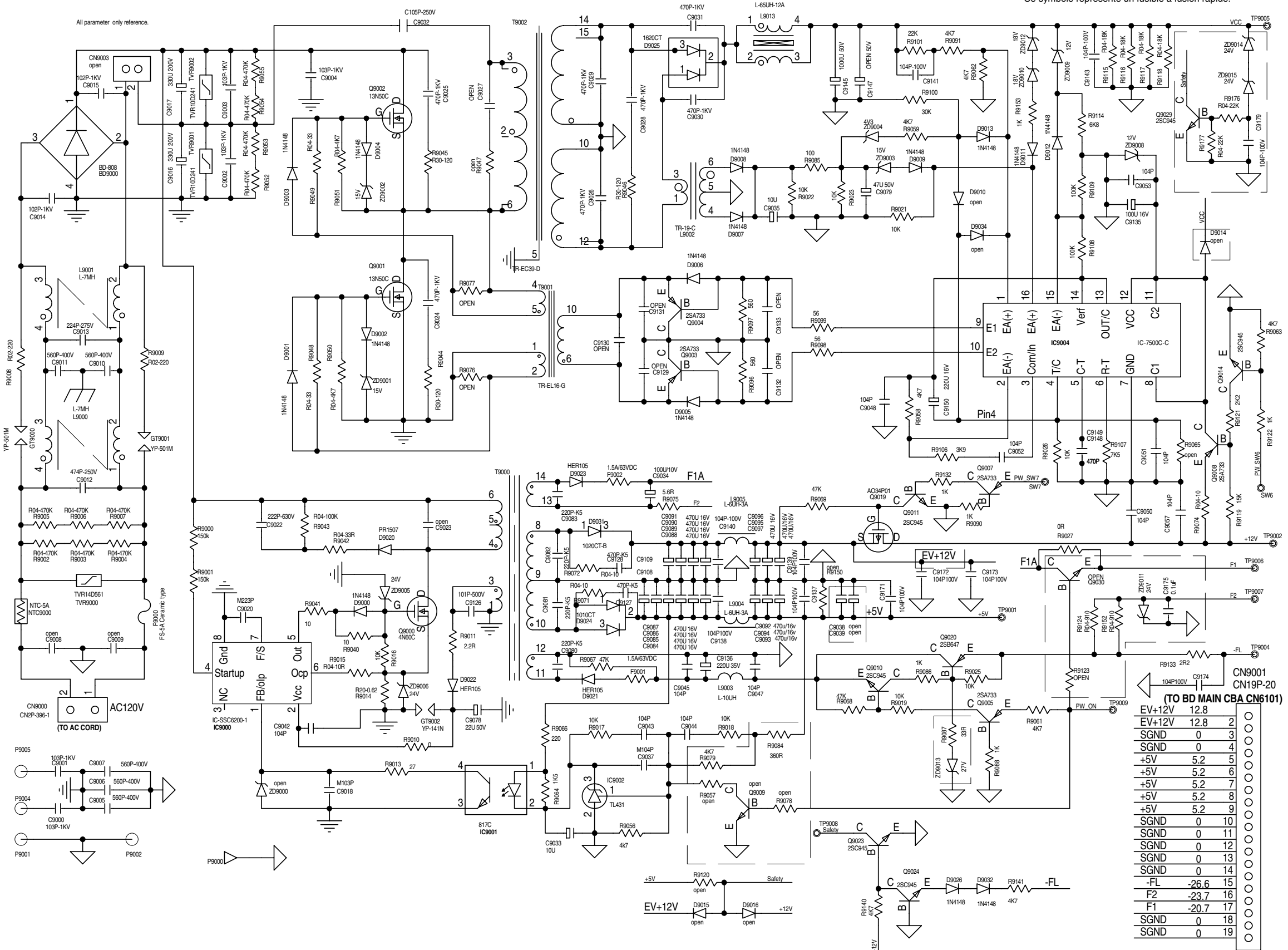
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



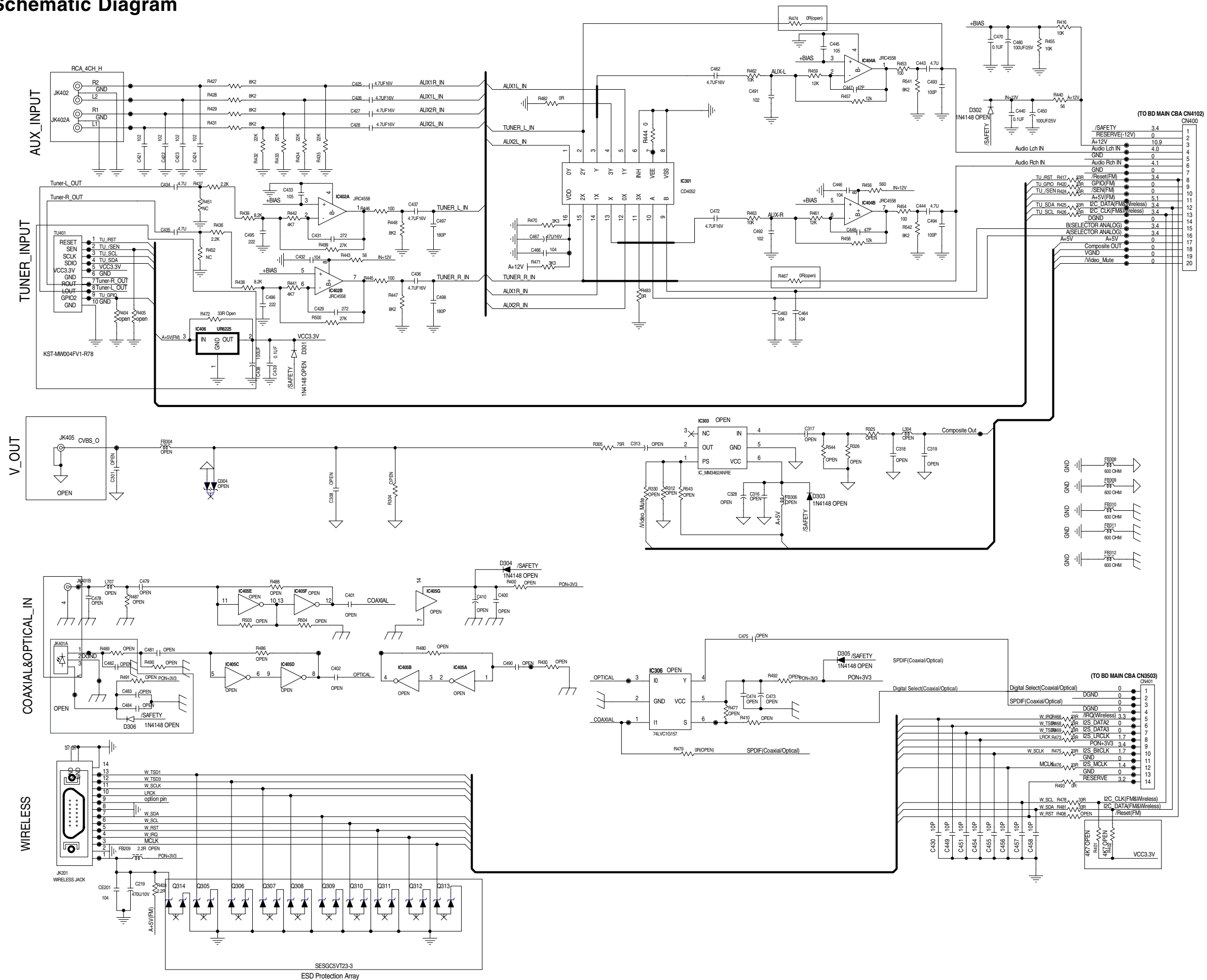
CAUTION !

For continued protection against fire hazard, replace only with the same type fuse.
ATTENTION : Pour une protection continue les risques d'InceI 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."



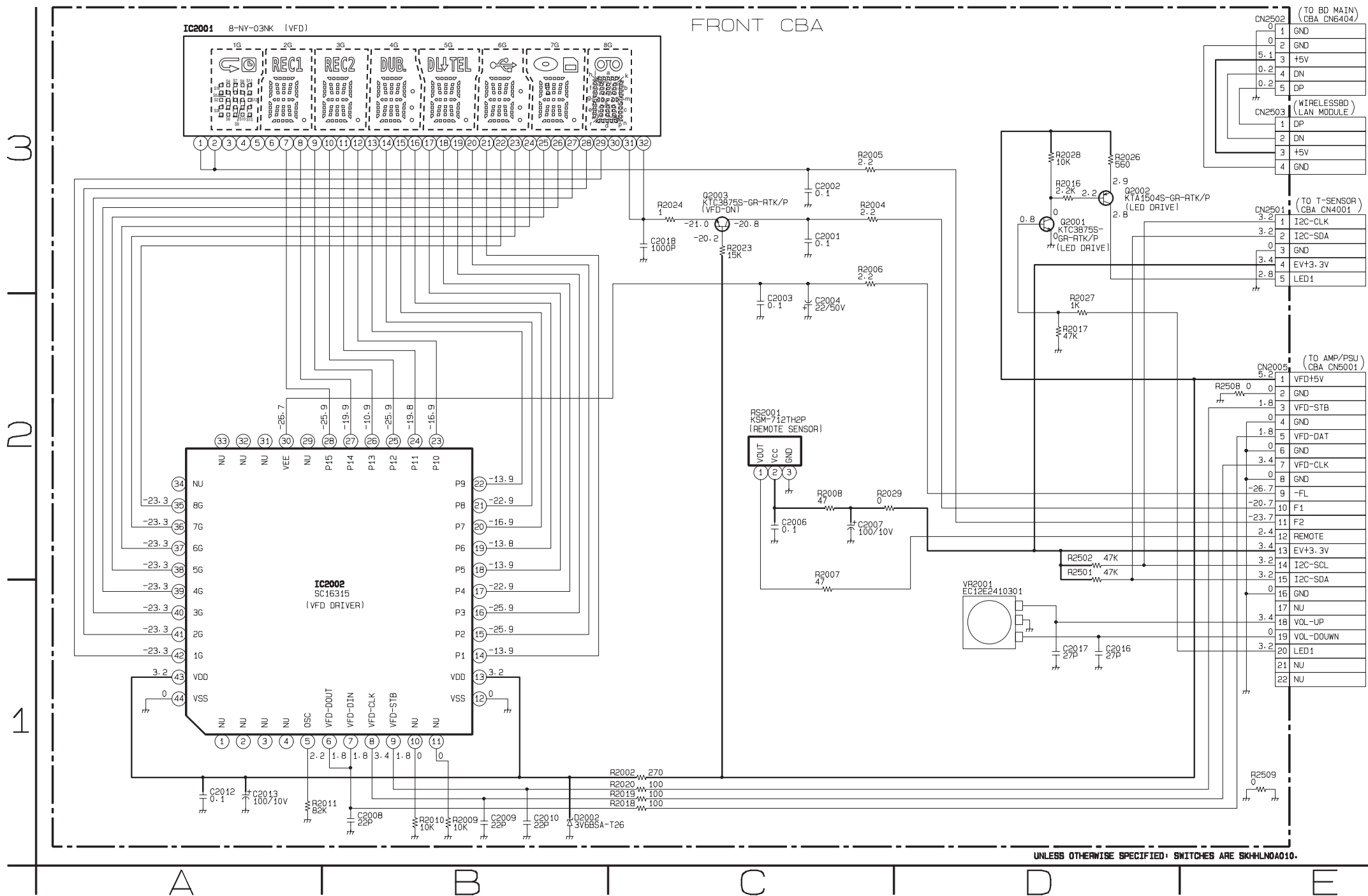
Jack Schematic Diagram



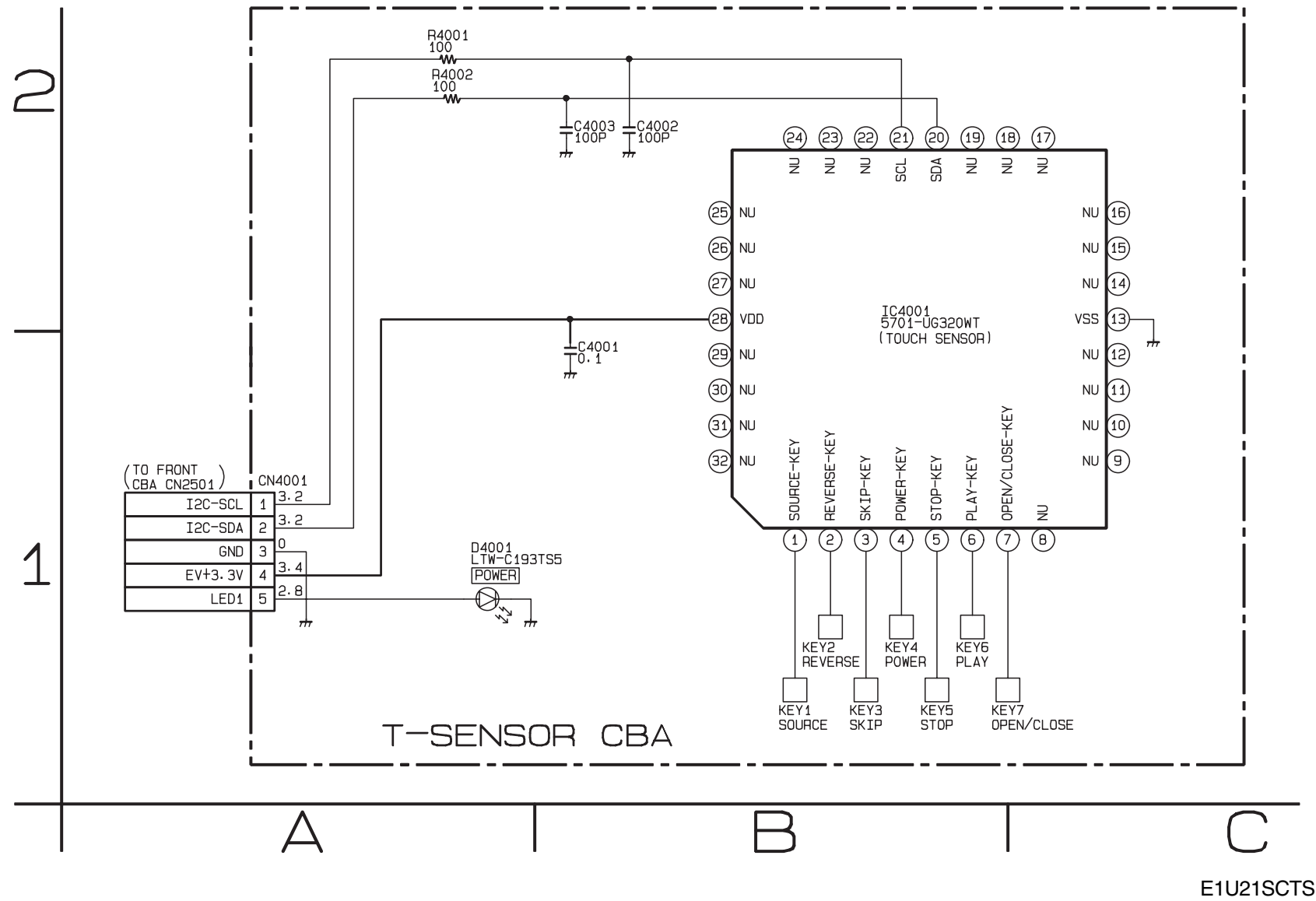
Front Schematic Diagram

IC2001 MATRIX CHART

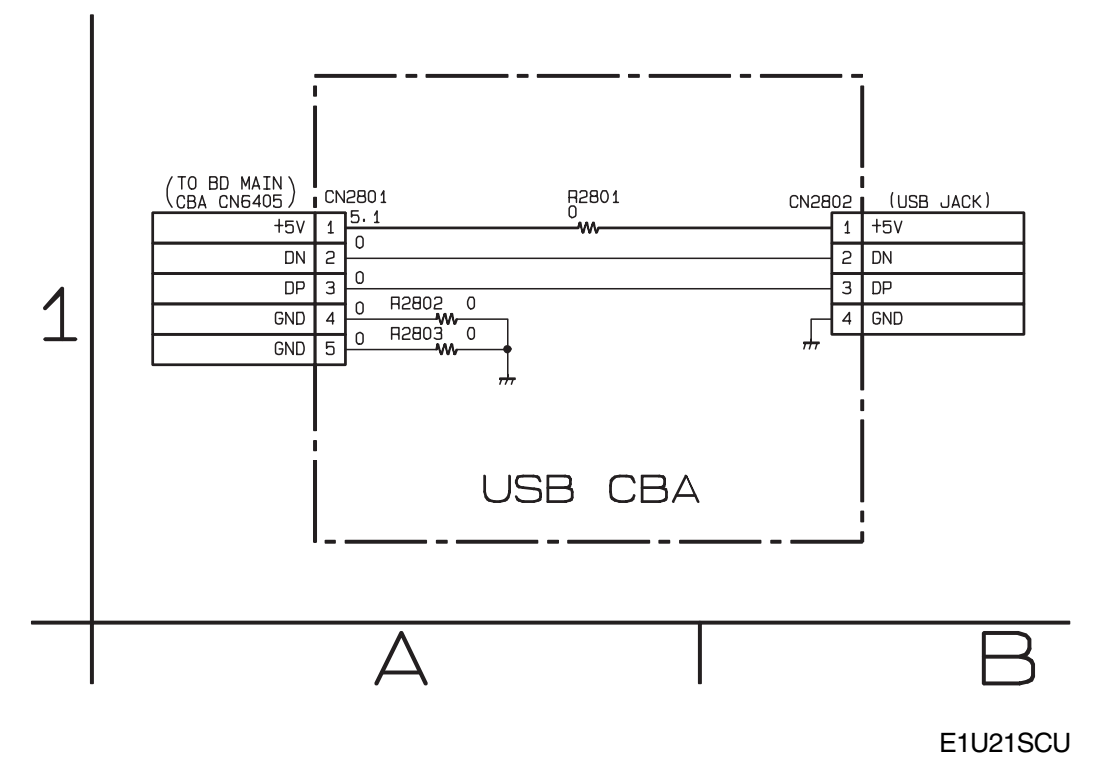
	1G	2G	3G	4G	5G	6G	7G	8G
P1	←	REC	REC2	DUB.	DL↓	↔	○	OTO
P2	⊙	1	—	.	TEL	.	□	—
P3	S1	a	a	a	a	a	a	a
P4	S2	f	f	f	f	f	f	f
P5	S3	h	h	h	h	h	h	h
P6	S4	j	j	j	j	j	j	j
P7	S5	k	k	k	k	k	k	k
P8	S6	b	b	b	b	b	b	b
P9	S7	g	g	g	g	g	g	g
P10	S8	s	s	s	s	s	s	s
P11	S9	m	m	m	m	m	m	m
P12	S10	e	e	e	e	e	e	e
P13	S11	r	r	r	r	r	r	r
P14	S12	p	p	p	p	p	p	p
P15	S13	n	n	n	n	n	n	n
P16	—	c	c	c	c	c	c	c
P17	—	d	d	d	d	d	d	d
P18	—	—



T-Sensor Schematic Diagram

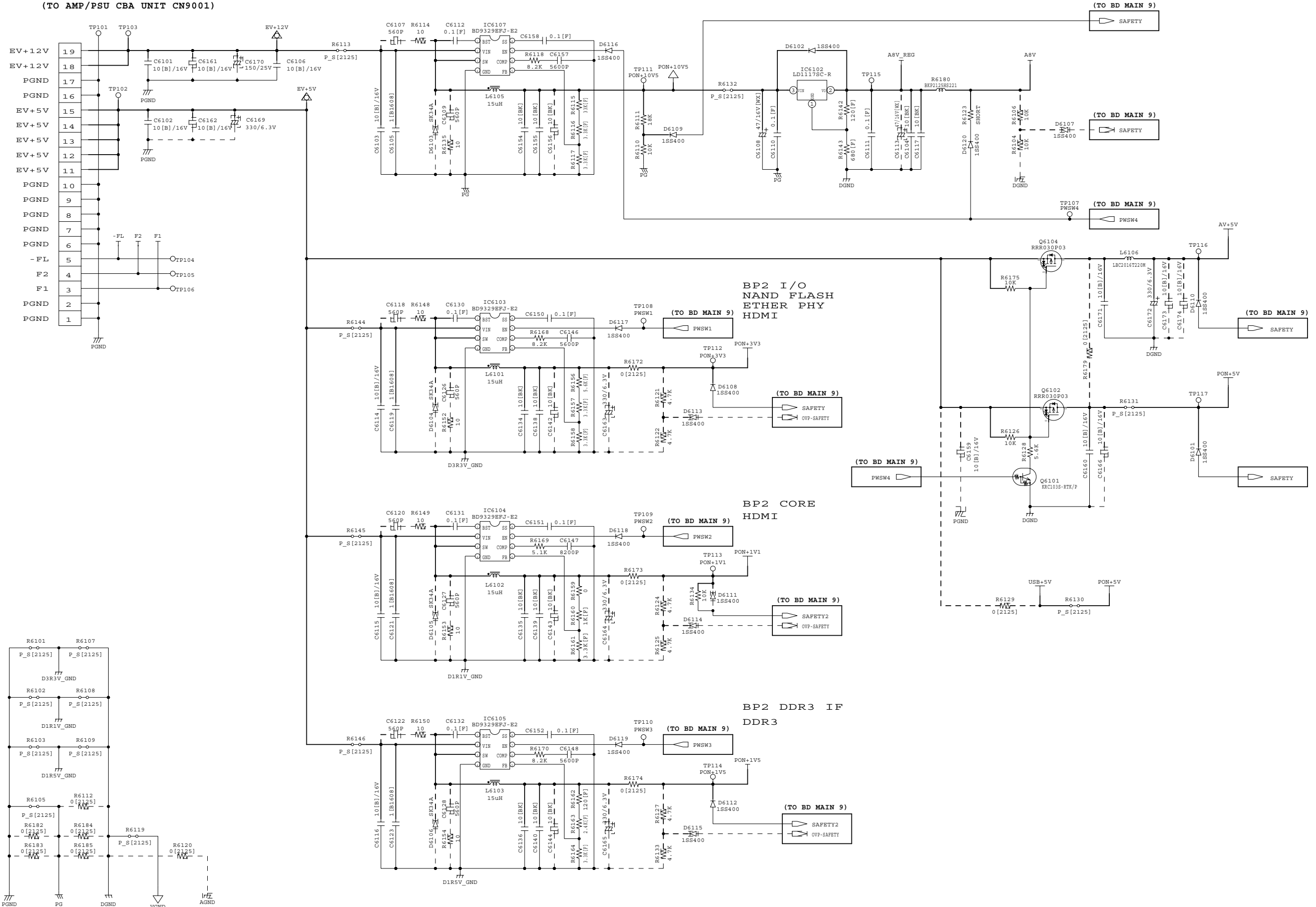


USB Schematic Diagram

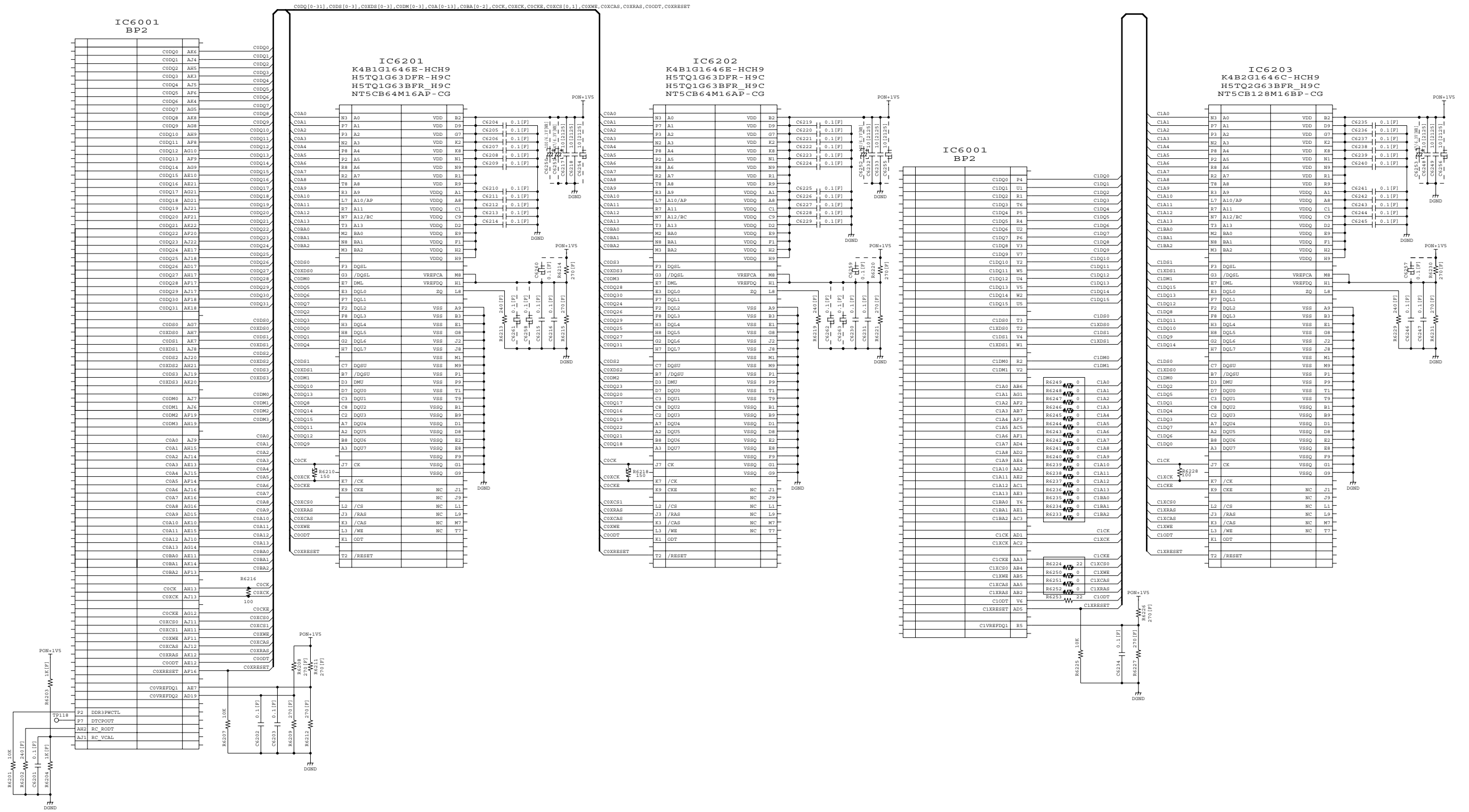


BD Main 1 Schematic Diagram

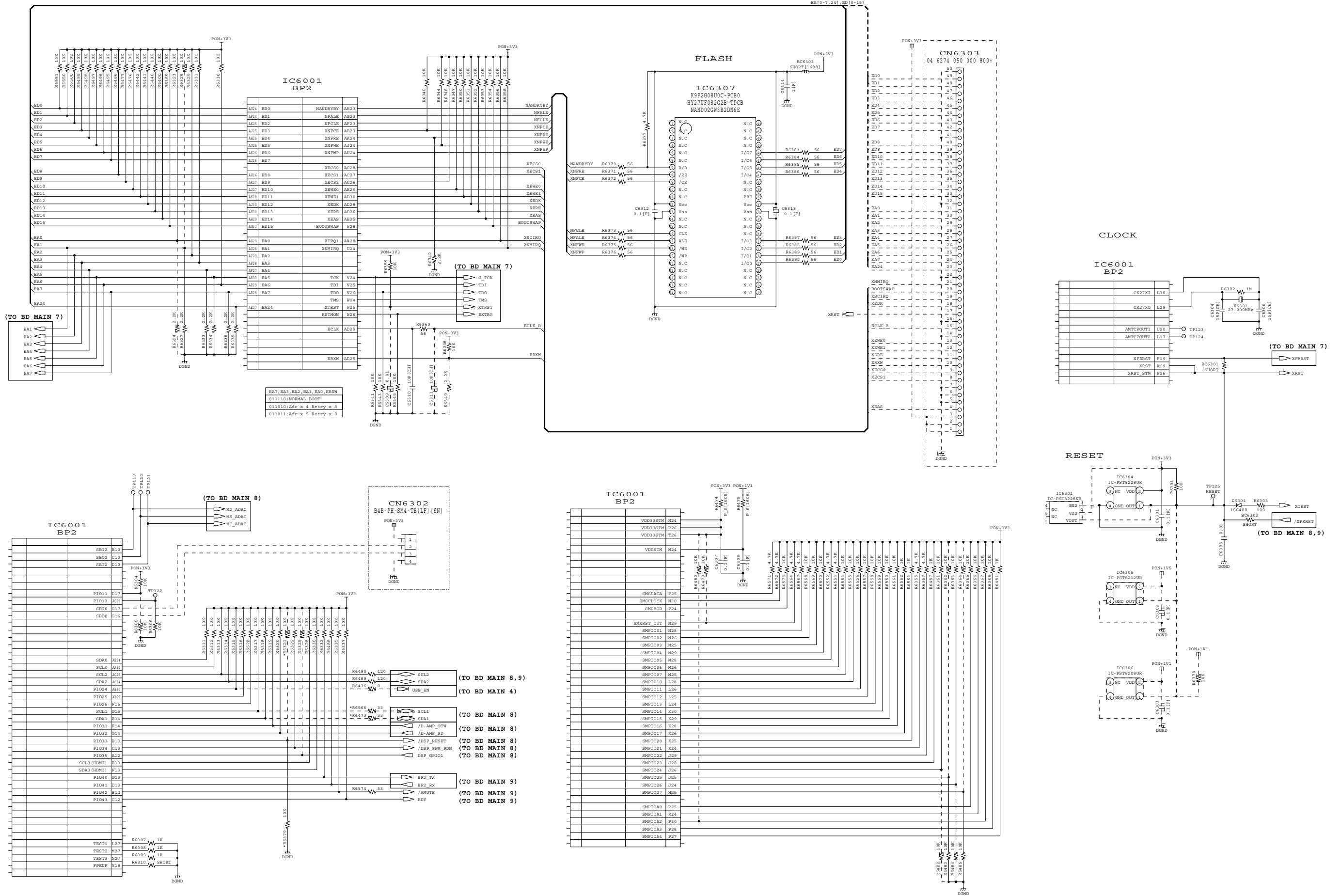
CN6101
(TO AMP/PSU CBA UNIT CN9001)



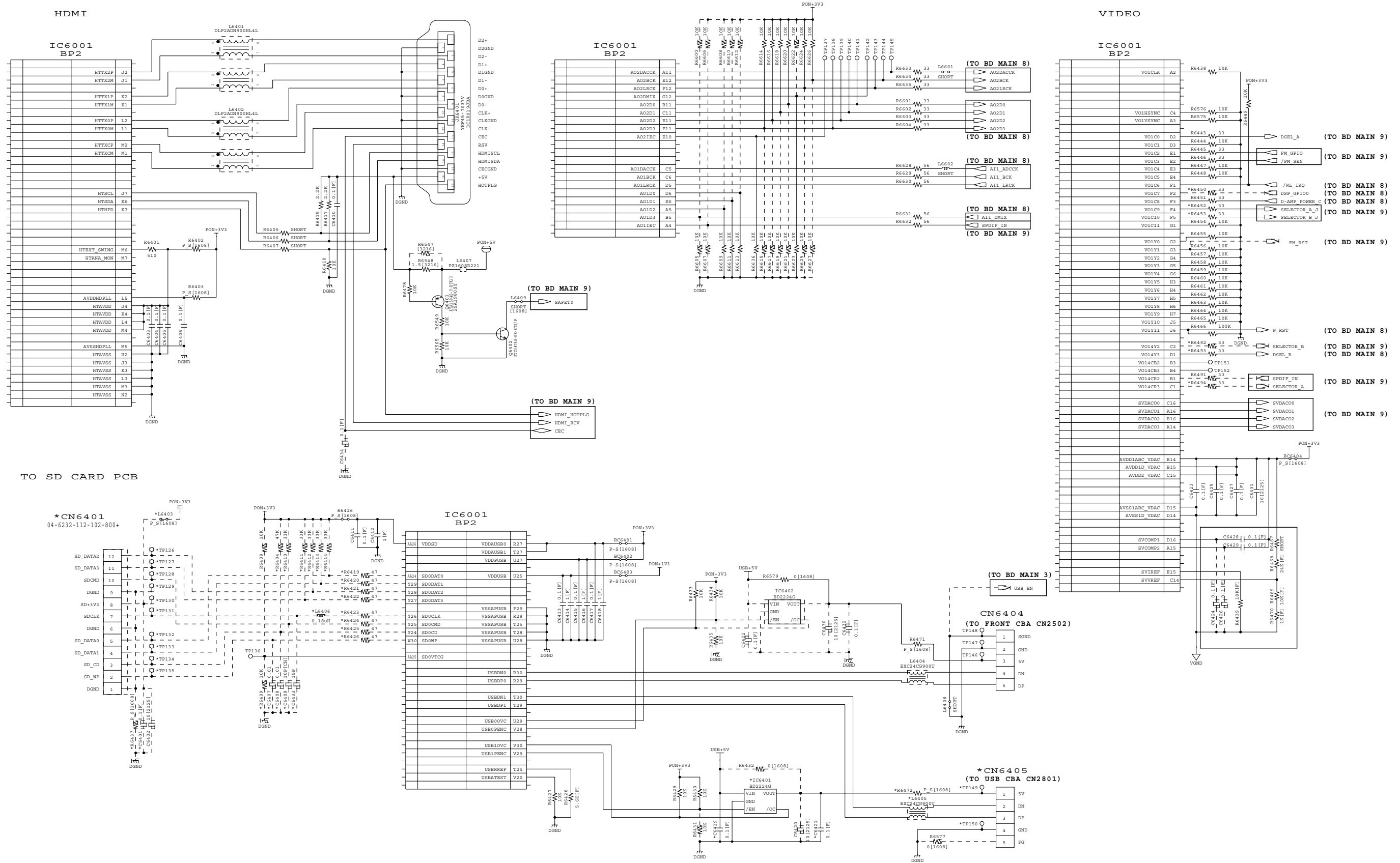
BD Main 2 Schematic Diagram



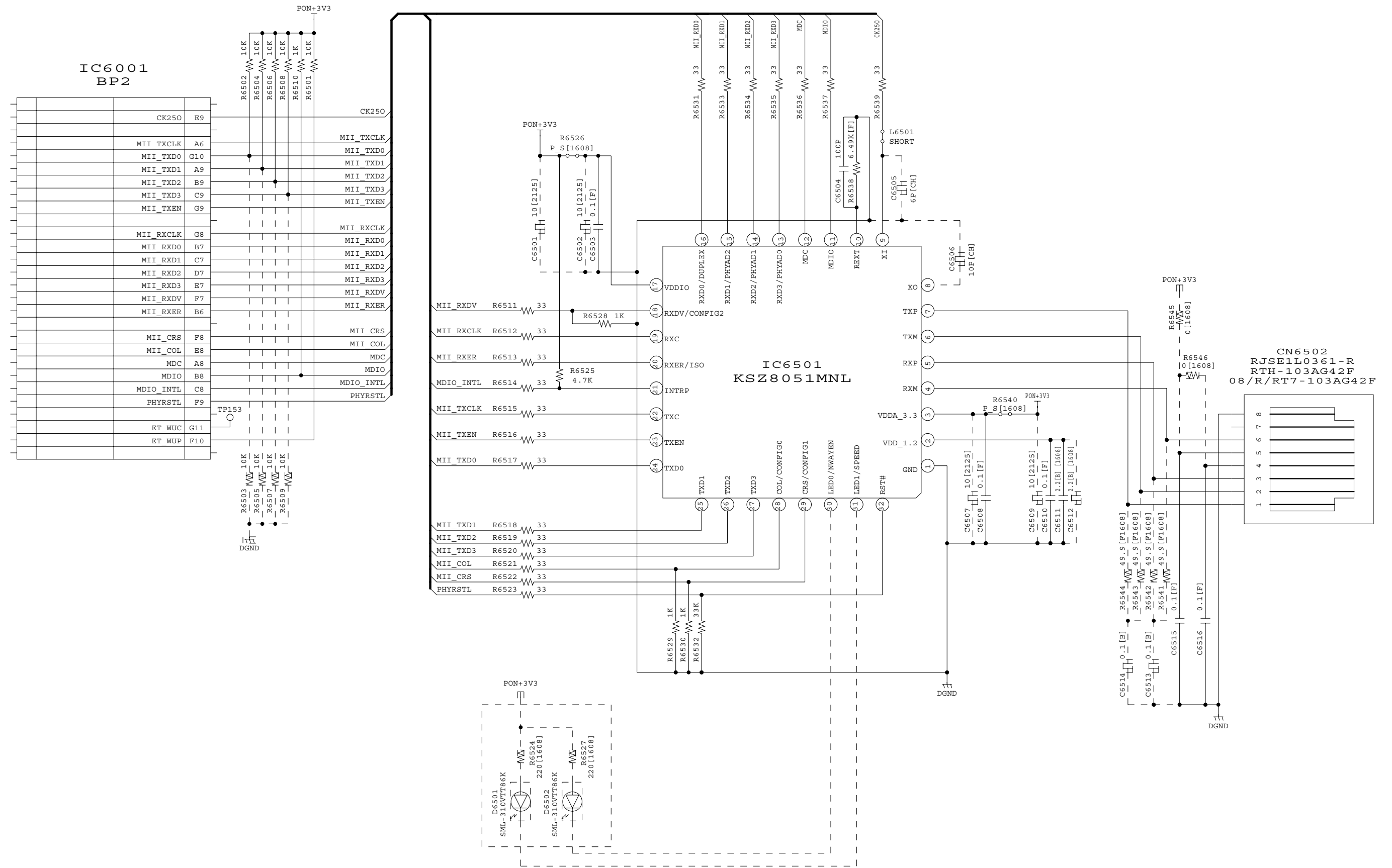
BD Main 3 Schematic Diagram



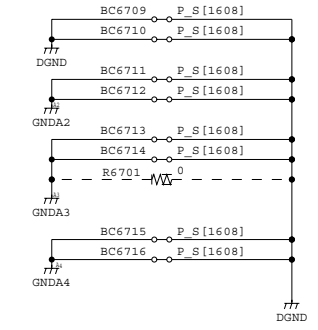
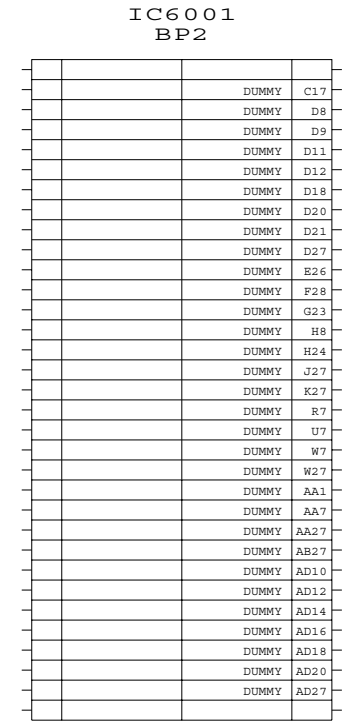
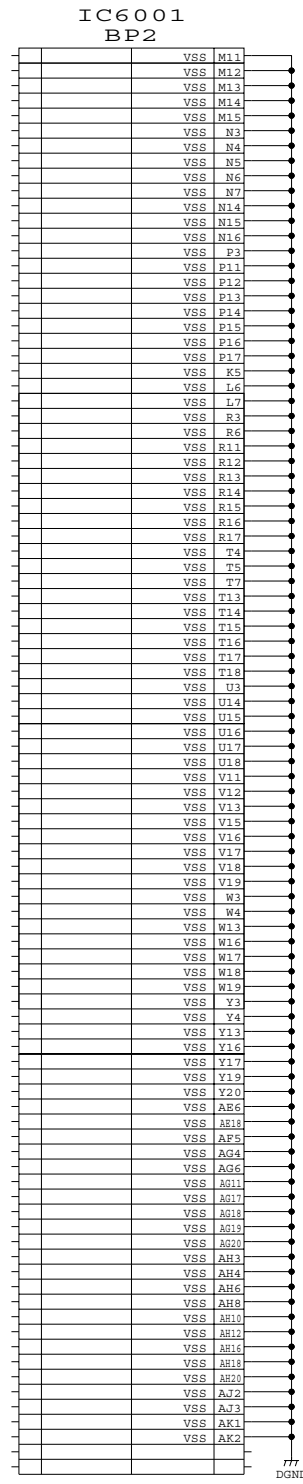
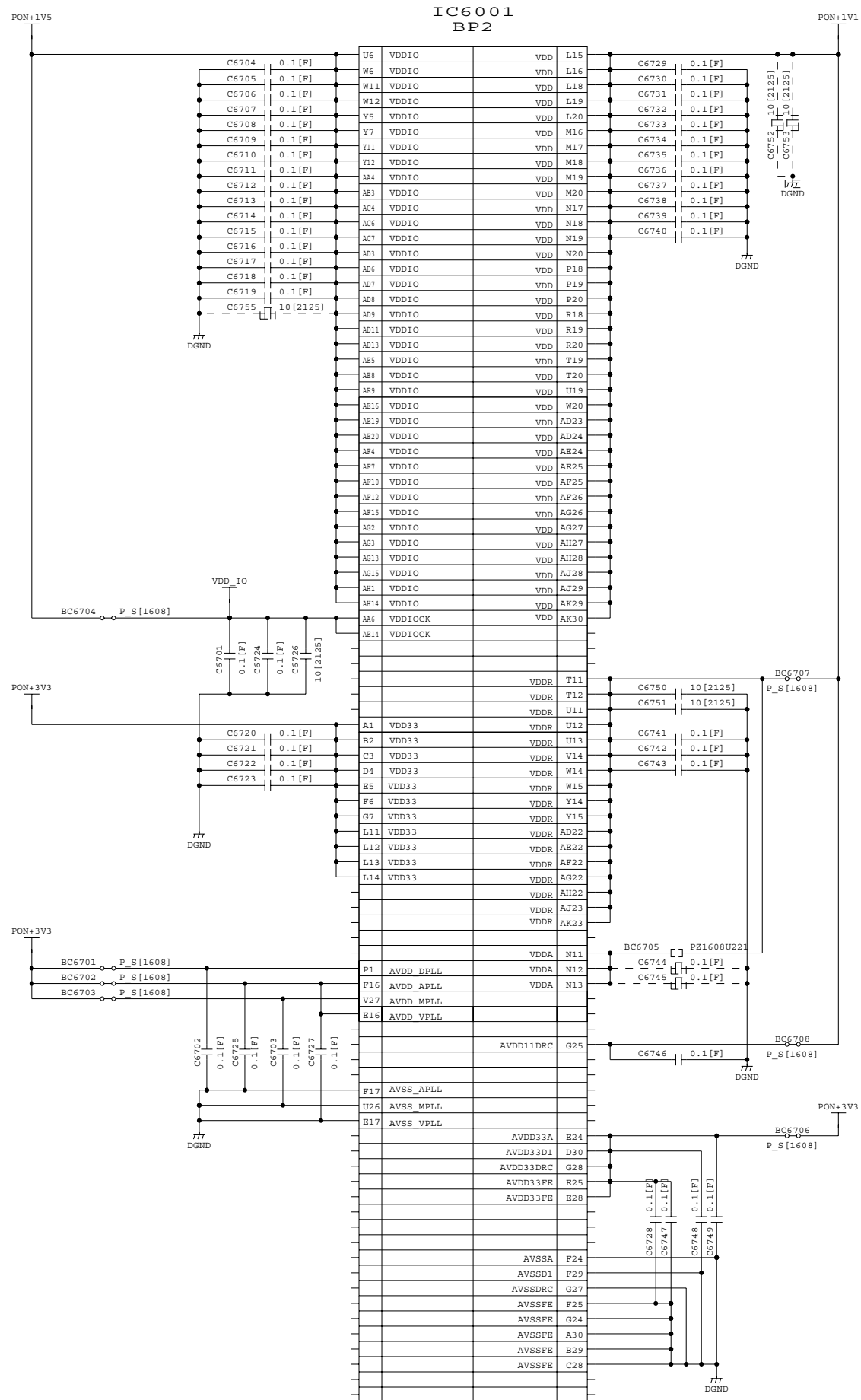
BD Main 4 Schematic Diagram



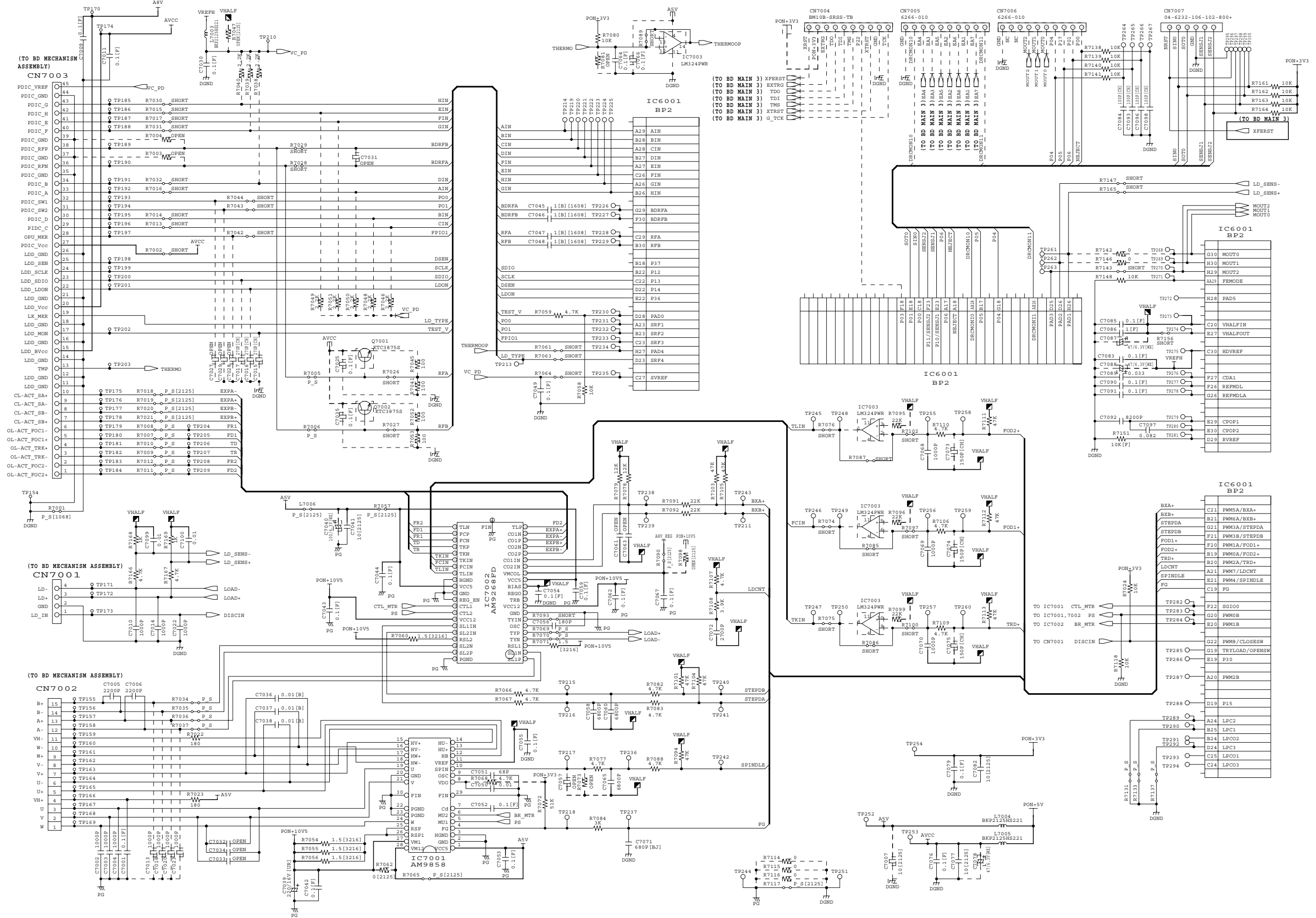
BD Main 5 Schematic Diagram



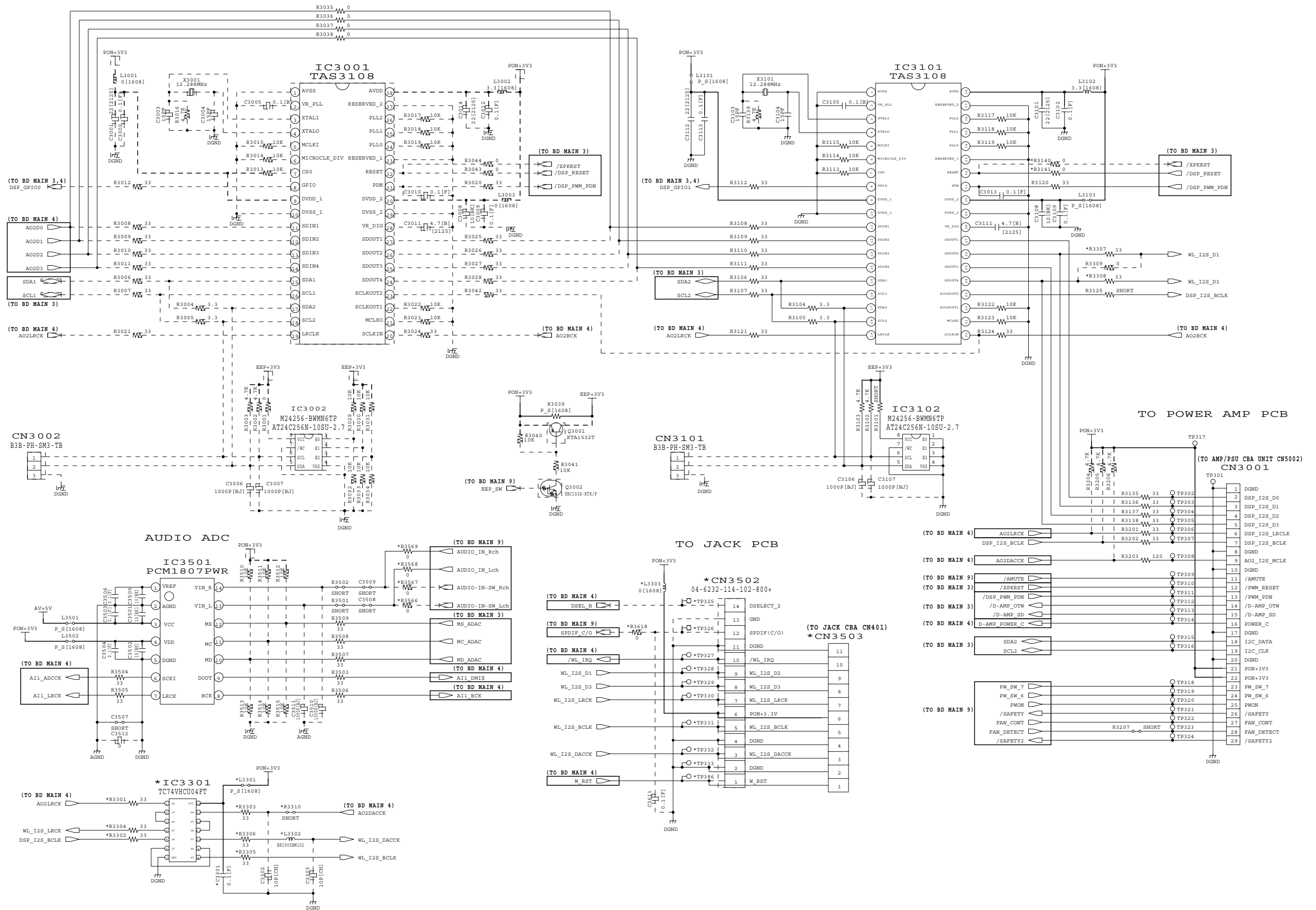
BD Main 6 Schematic Diagram



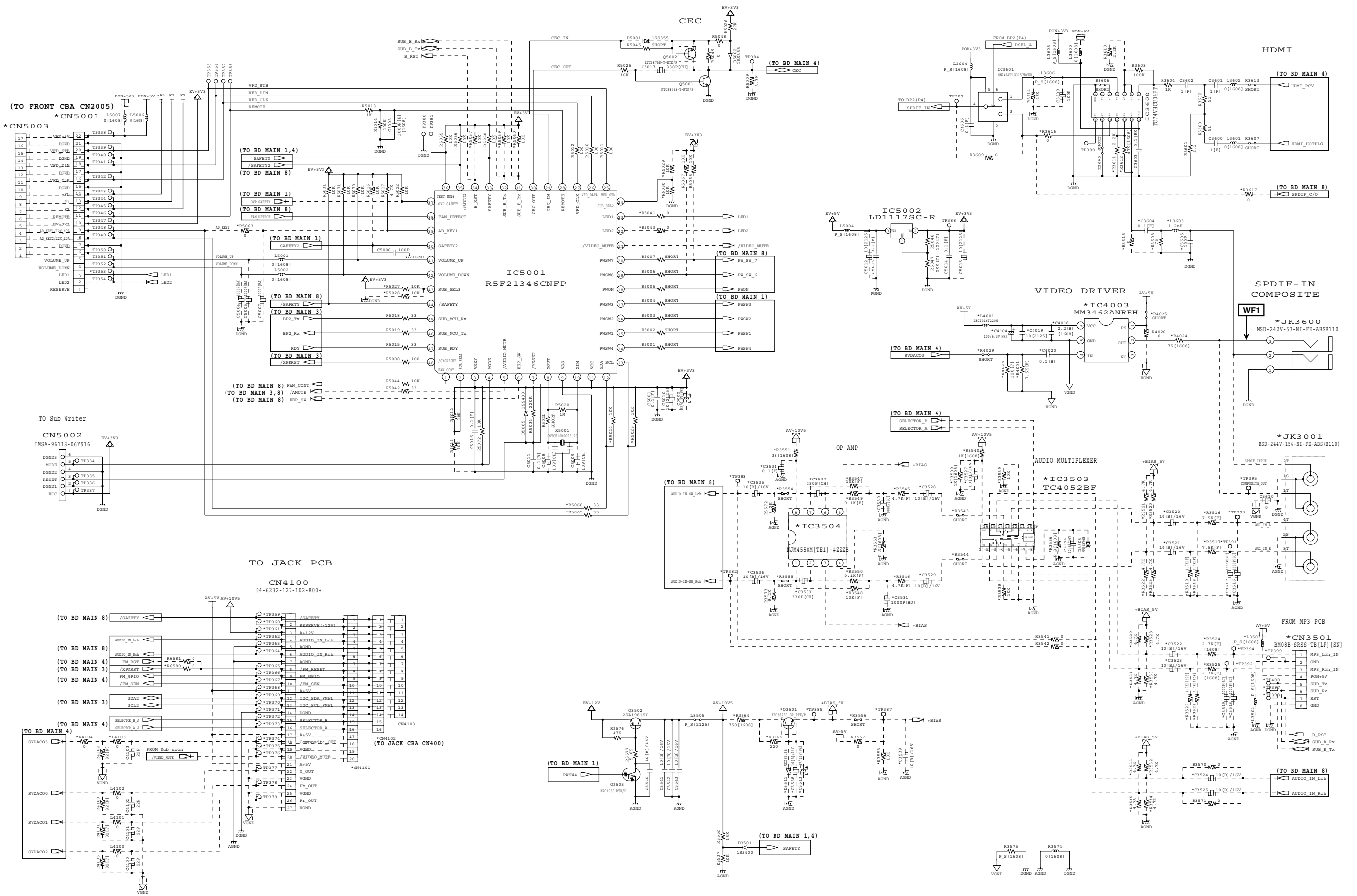
BD Main 7 Schematic Diagram



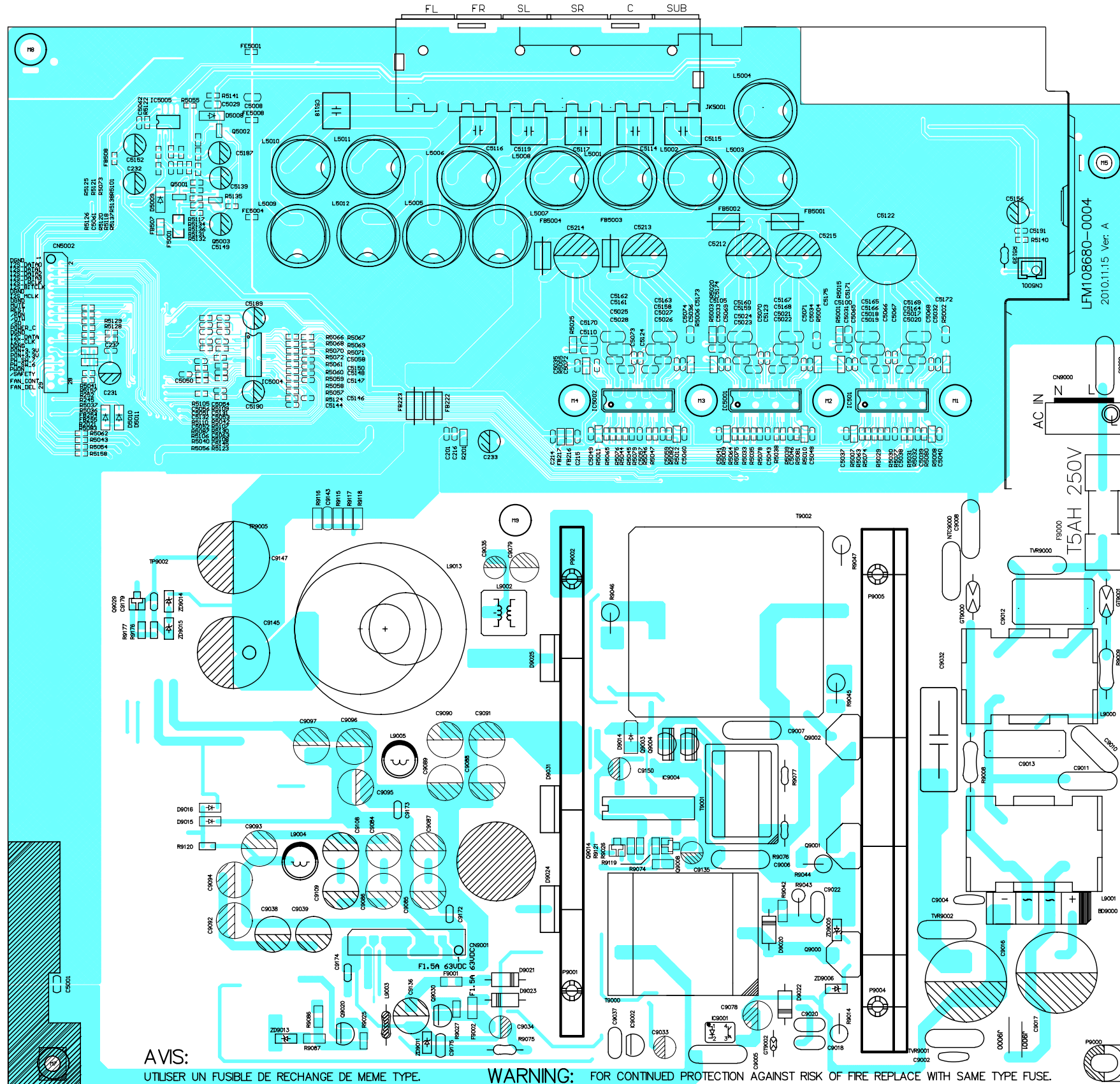
BD Main 8 Schematic Diagram



BD Main 9 Schematic Diagram



AMP/PSU CBA Top View

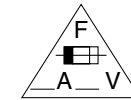


CAUTION !

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 !

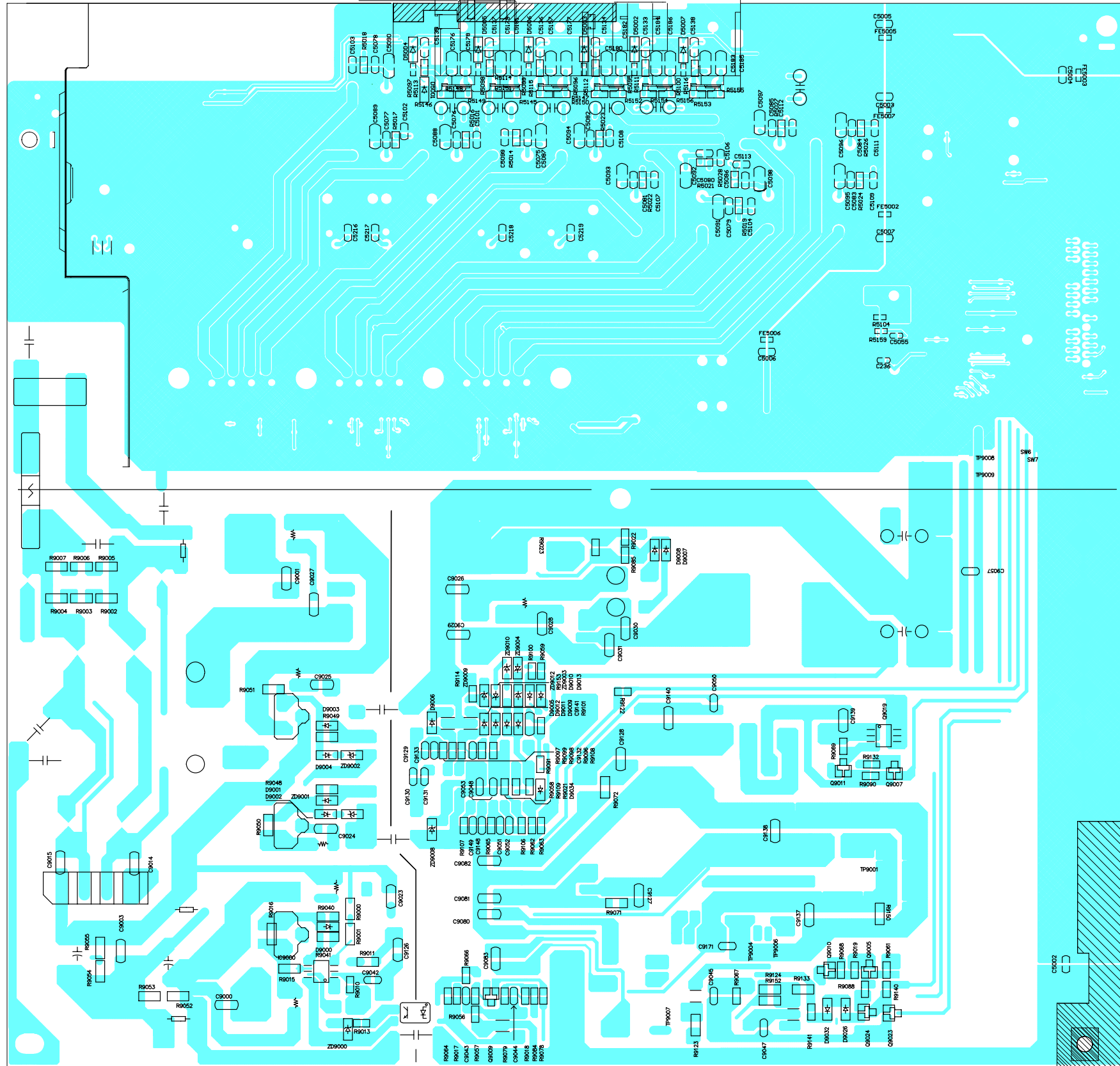
For continued protection against fire hazard, replace only with the same type fuse.

ATTENTION : Pour une protection continue les risques d'Inceie 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."

AMP/PSU CBA Bottom View

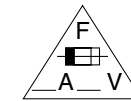


CAUTION !

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.



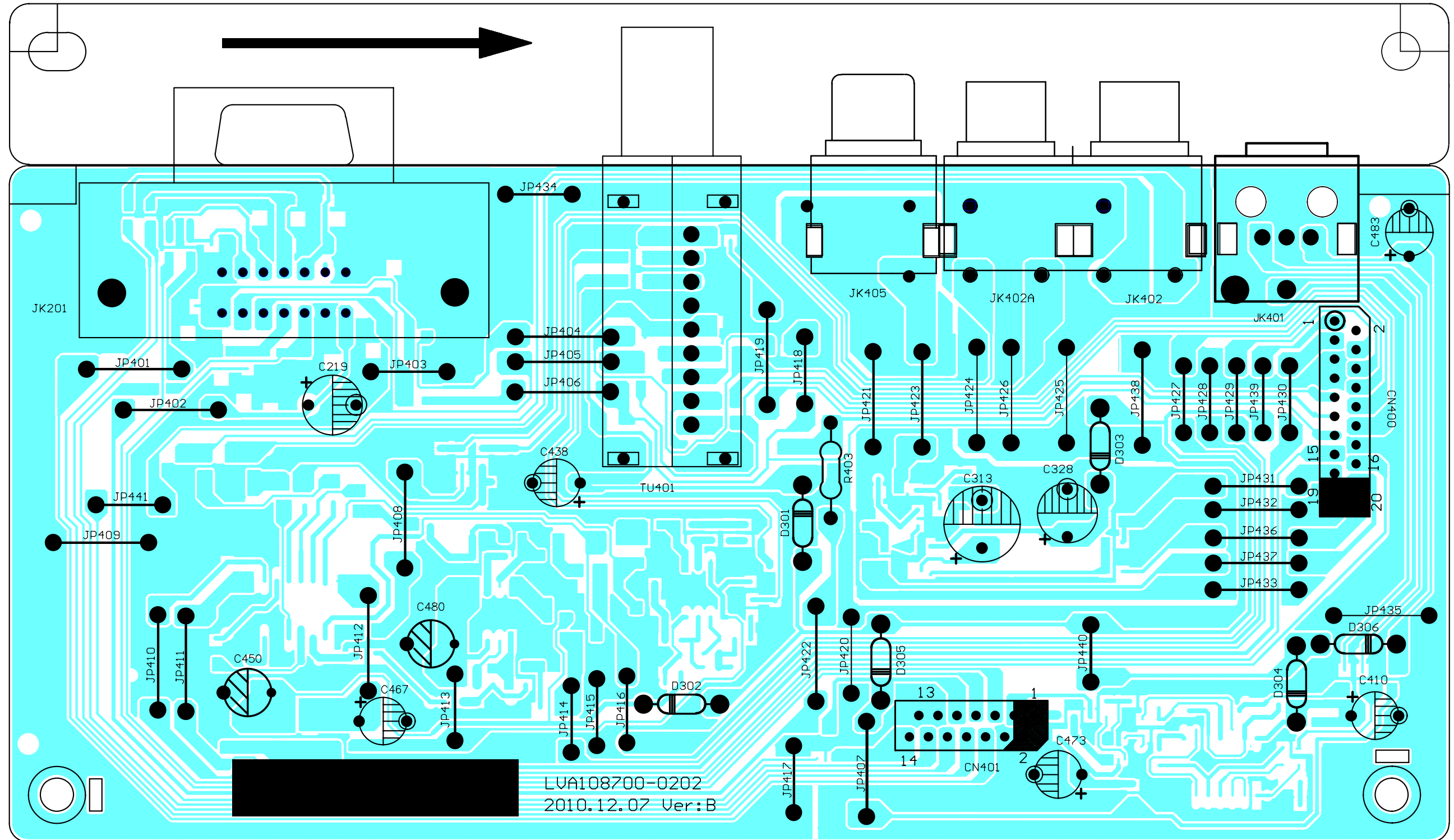
CAUTION !

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.

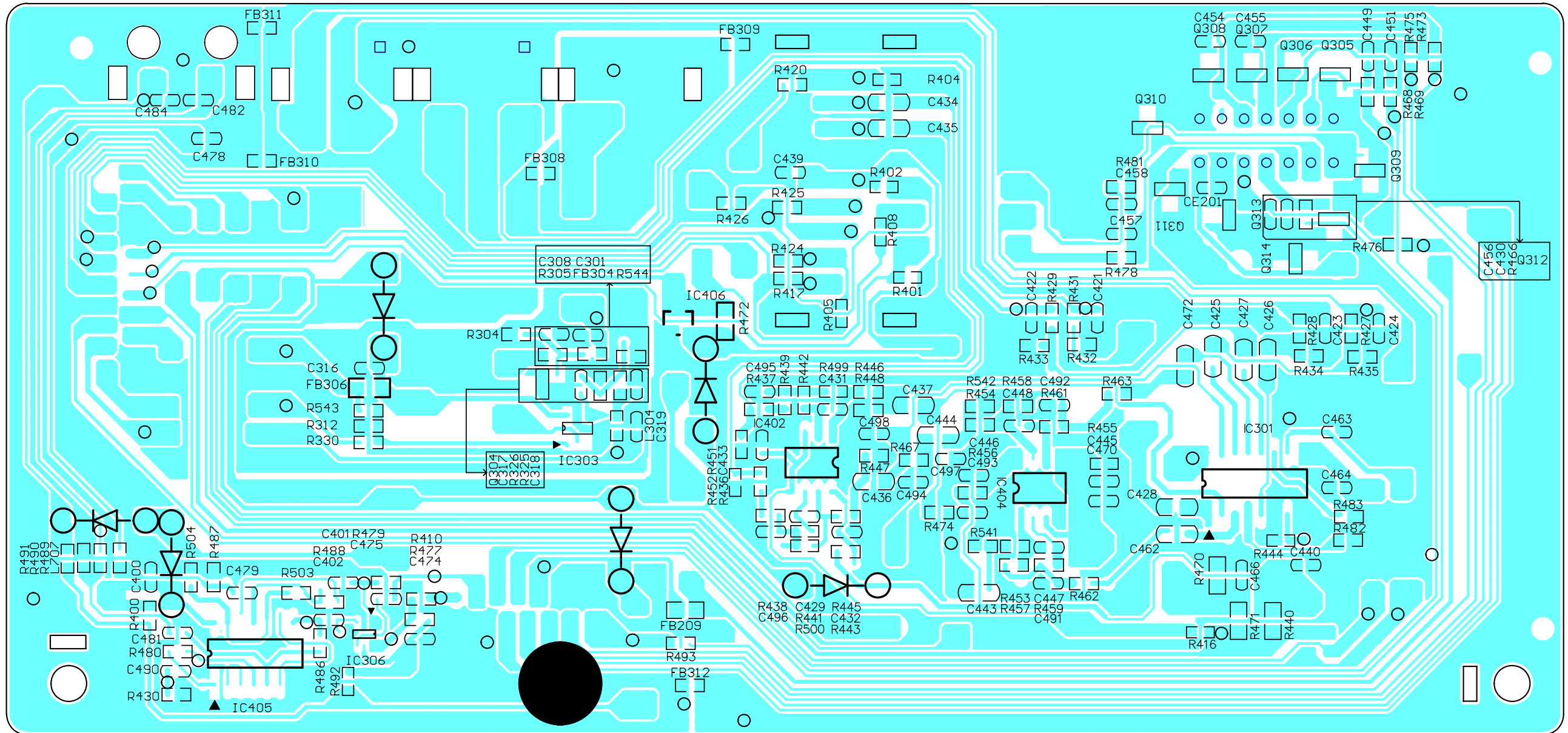
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

Jack CBA Top View

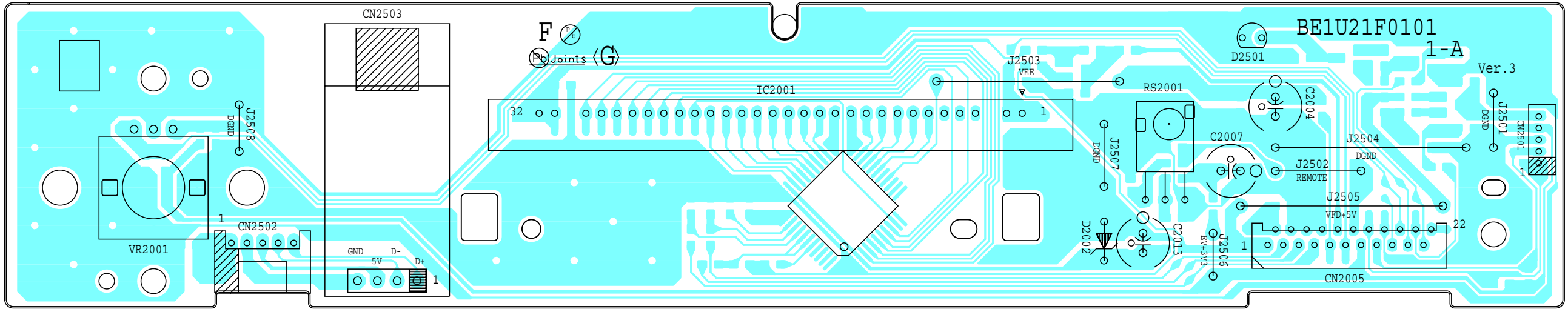


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2010.12.07 Ver: B

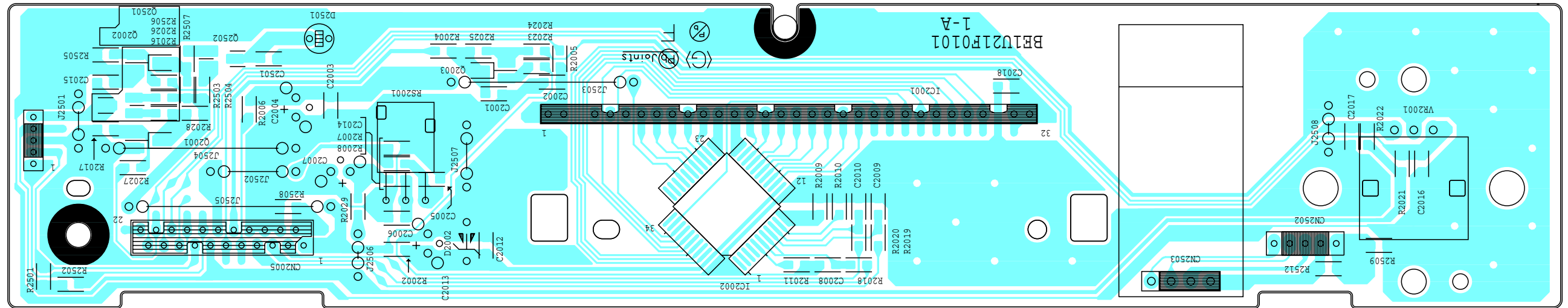
Jack CBA Bottom View



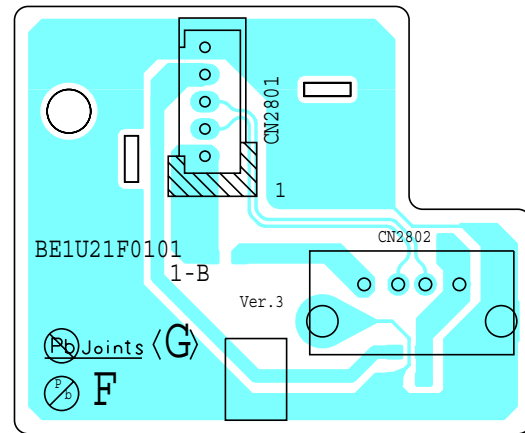
Front CBA Top View



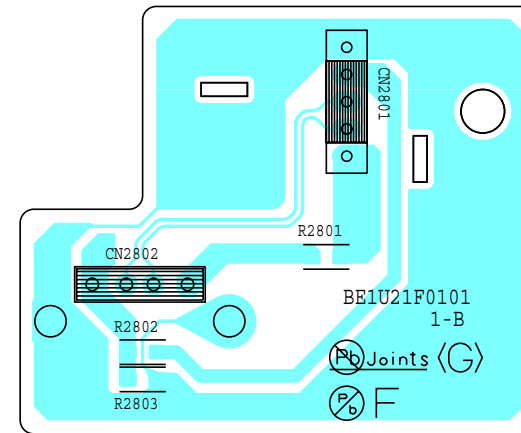
Front CBA Bottom View



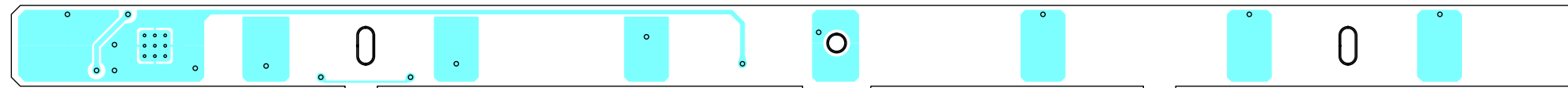
USB CBA Top View



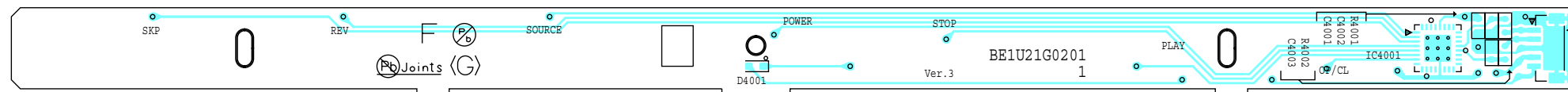
USB CBA Bottom View



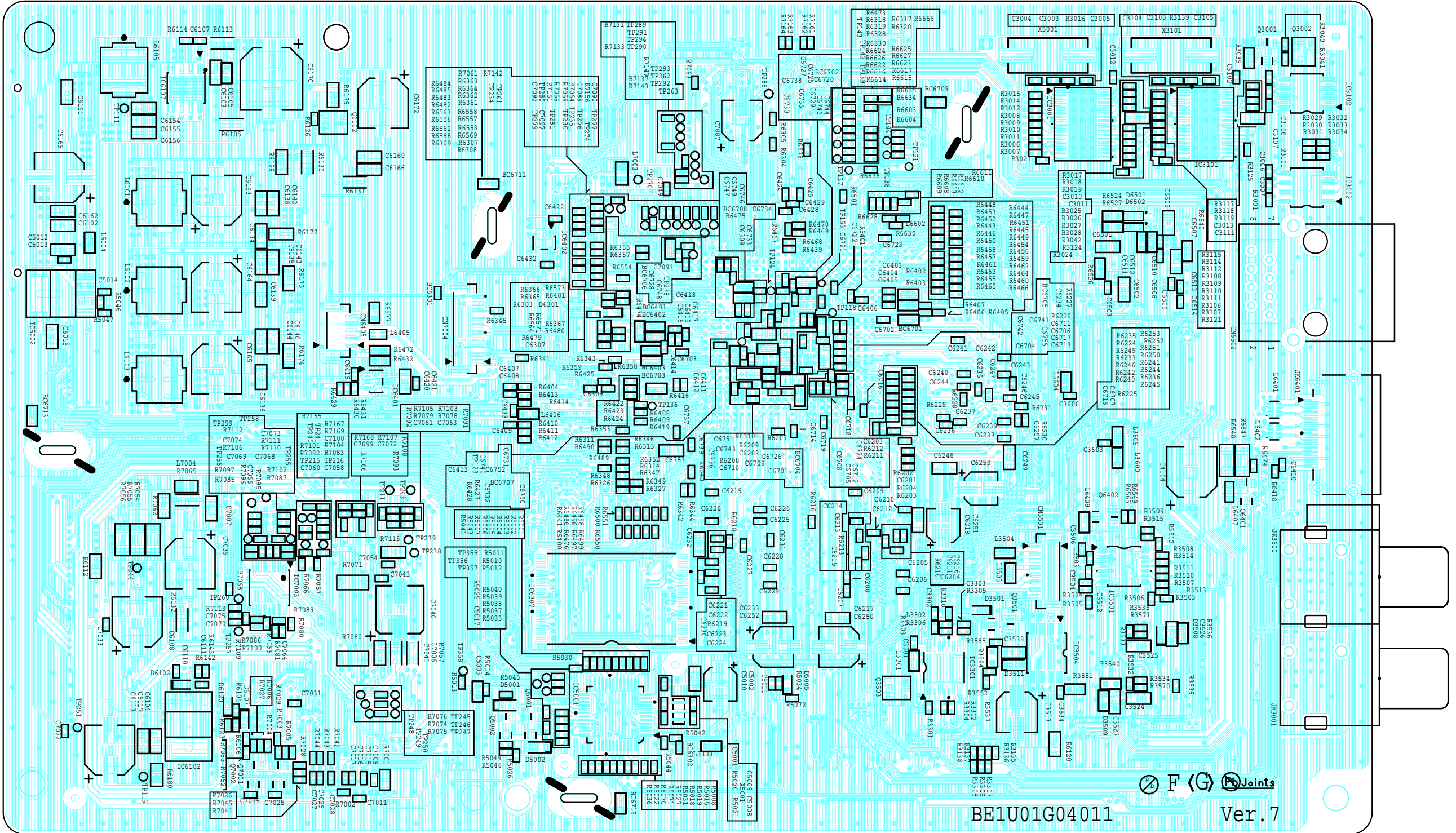
T-Sensor CBA Top View



T-Sensor CBA Bottom View

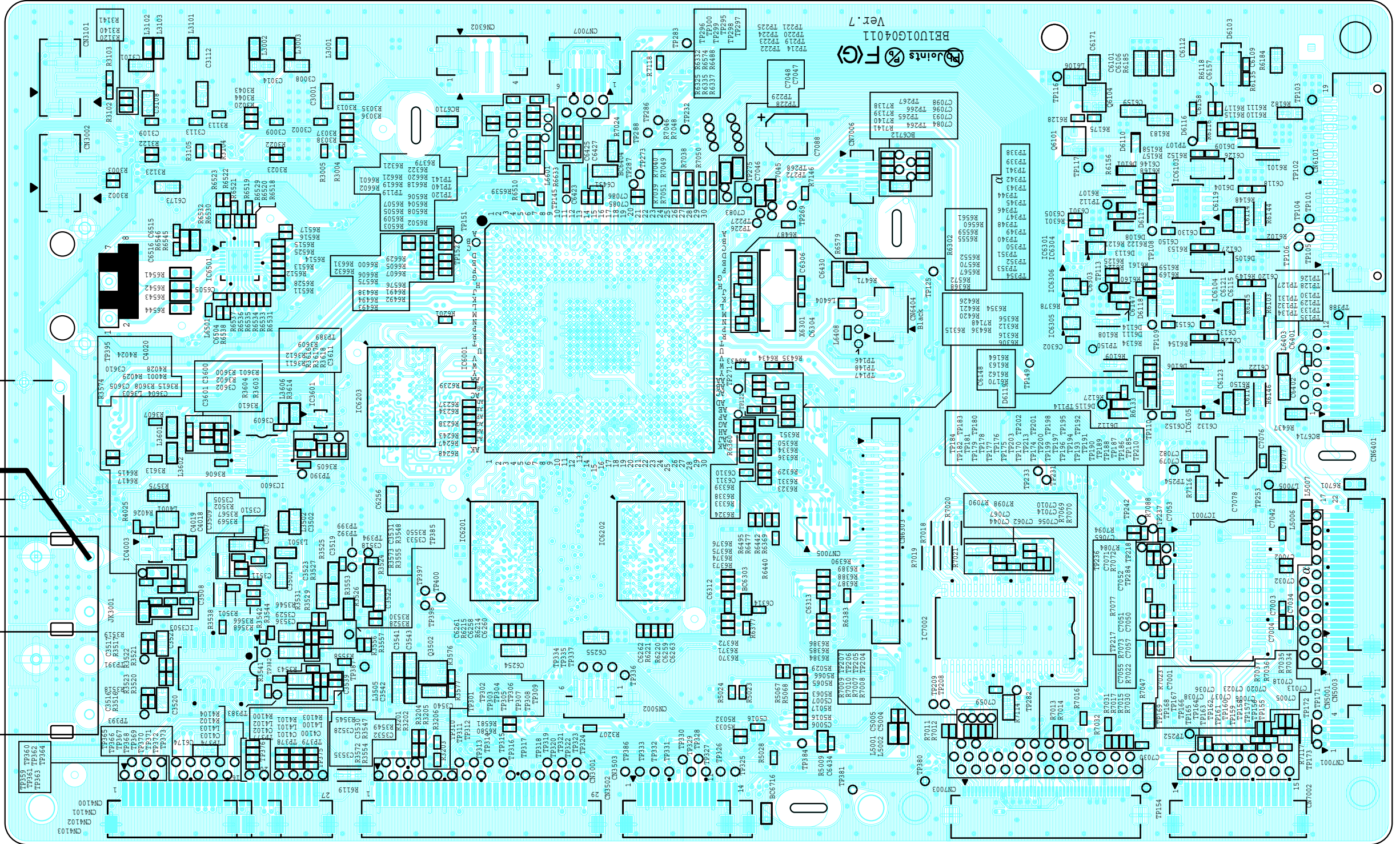


BD Main CBA Top View



BD Main CBA Bottom View

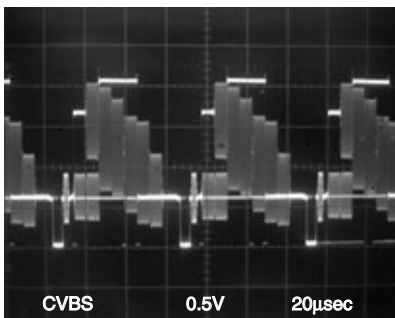
WF1
JK3006
(VIDEO OUT)



Points % F(G)
BR101G4011
Ver.7

WAVEFORM

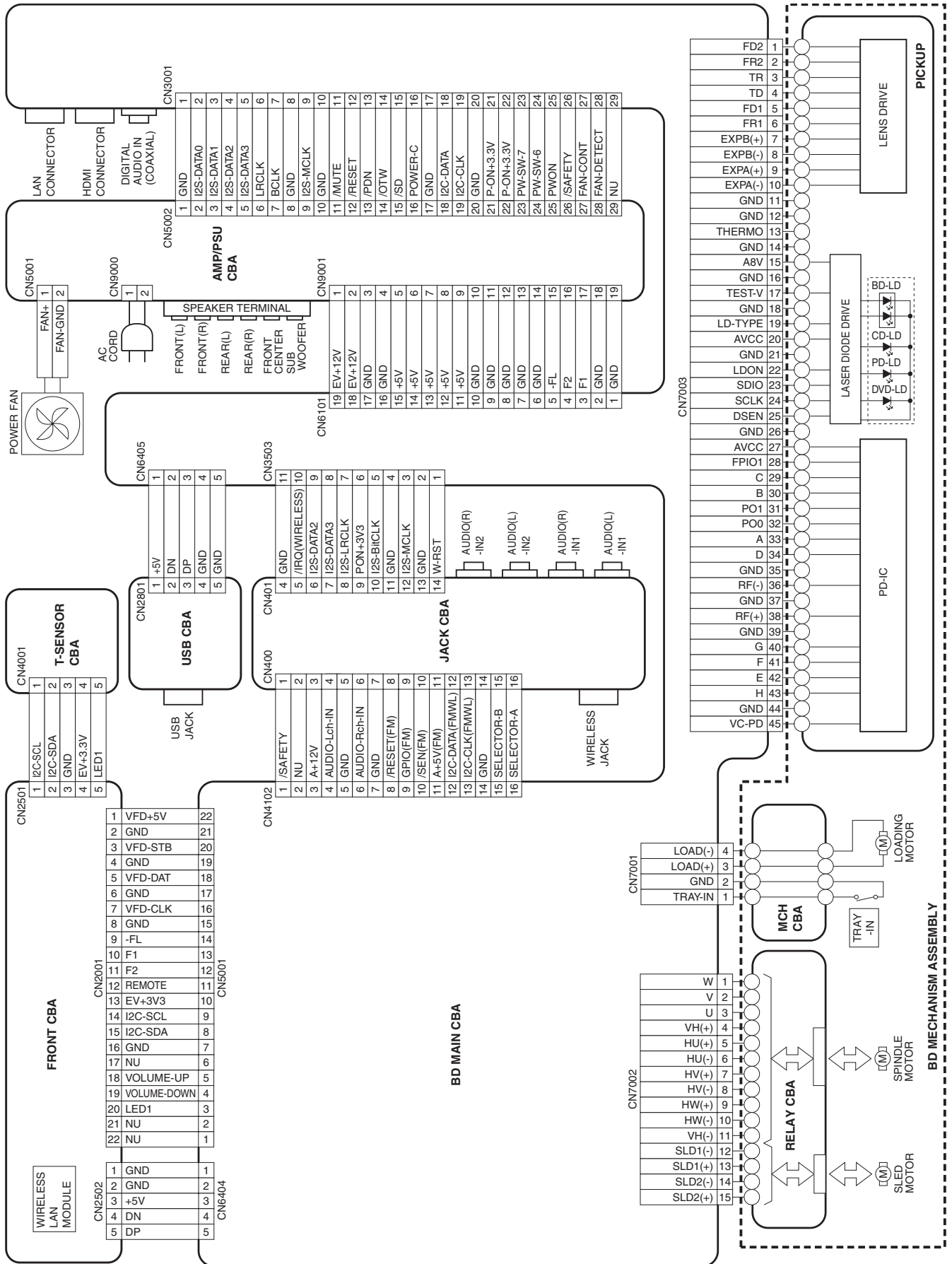
WF1 JK3600 (VIDEO OUT)



NOTE:

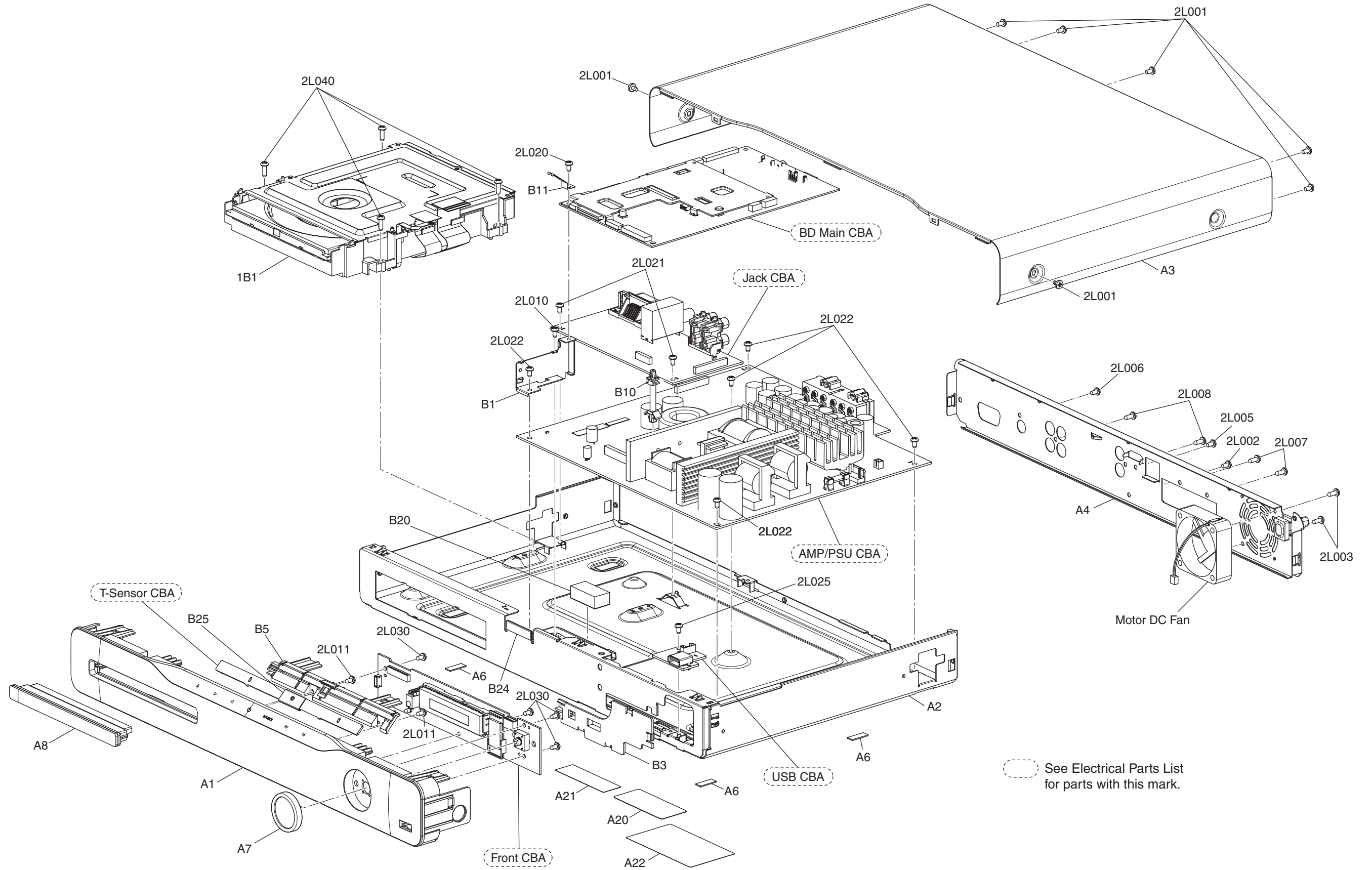
Input: COLOR BAR SIGNAL
(WITH 1KHz AUDIO SIGNAL)

WIRING DIAGRAM

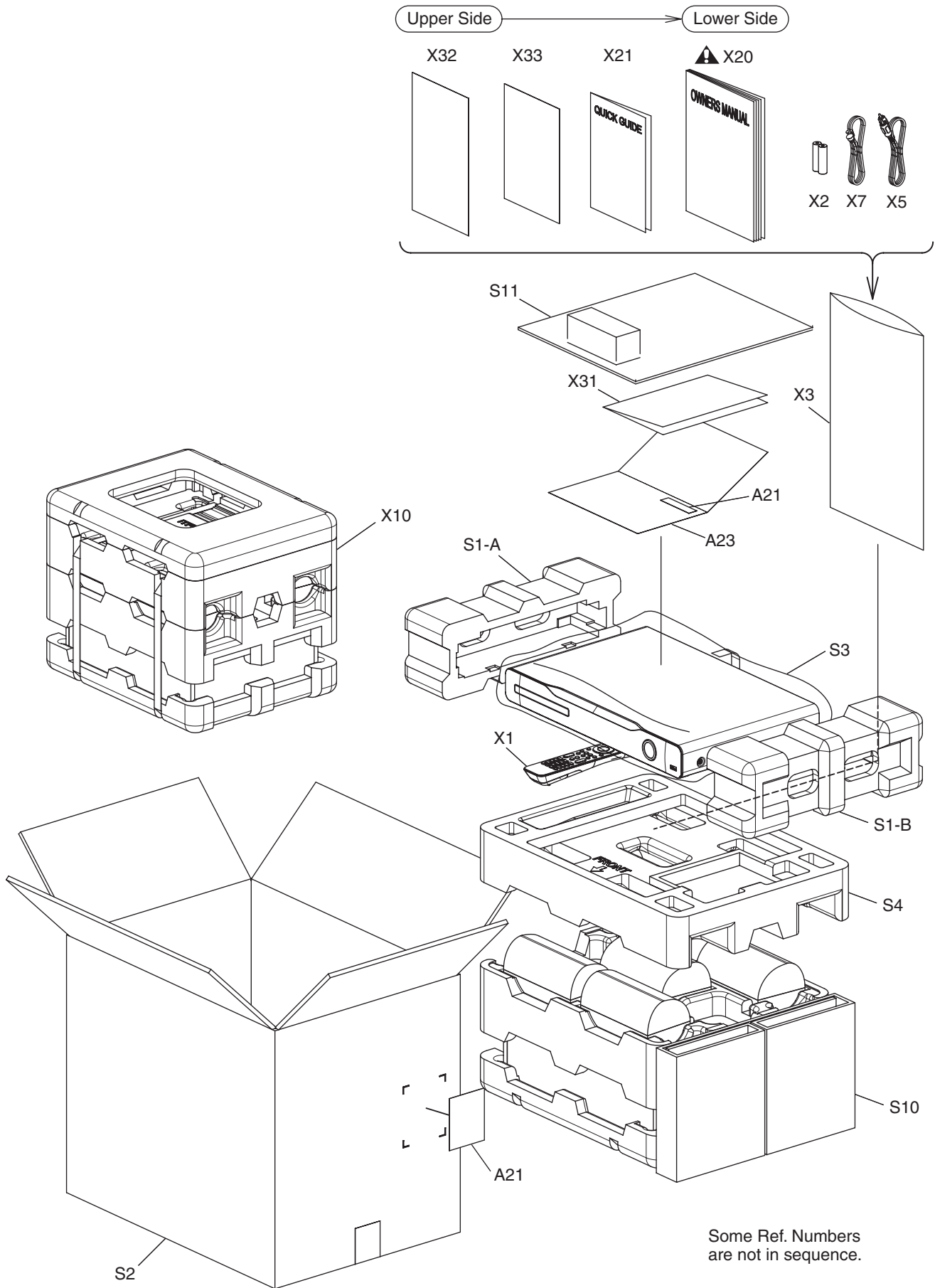


EXPLODED VIEWS


Cabinet




Packing



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.
X3	ACCESSORY BAG E4U10JD	1VM436763
X5	AV CORD WPZ1520TM002	WPZ1520TM002
X7	FM ANTENNA CABLE	WX1E9000-081
X10	5.1CH SPEAKER UNIT AND503251-BW03	USPSPKHYE005
X20 	OWNERS MANUAL E1U21UD	1VMN30773
X21	QUICK GUIDE E1U21UD	1VMN30774
X31	BROCHURE (PHILIPS) A01N2UH	1EMN26419
X32	VUDU SHEET E5S20UD	1VMN30133
X33	NETFLIX GUIDE E5PG0UD	1VMN28453A

Ref. No.	Description	Part No.
A1	FRONT ASSEMBLY E1U21UD	1VM231756
A2	CHASSIS E1U21UD	1VM231396
A3	TOP COVER E1U21UD	1VM125739
A4	REAR PANEL E1U21UD	1VM336397
A6	FOOT E5PG6JD	1VM437359
A7	VOLUME KNOB ASSEMBLY E1U21UD	1VM336518
A8	TRAY PANEL ASSEMBLY E1U21UD	1VM336517
A20	MODEL NO. LABEL E1U21UD	-----
A21	BARCODE LABEL E1U21UD	-----
A22	LICENSE LABEL E1U21UD	-----
A23	REGISTRATION CARD(PHILIPS) E1U00UD	1VMN30775
1B1	BD MECHANISM ASSEMBLY	N77FBDUM
1B1	BD MECHANISM ASSEMBLY	N77F1DUM
2L001	SCREW C-TIGHT(6.6X5) M4+OTHER GAHC3050	1VM436459
2L002	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI	GBHC3050
2L003	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
2L005	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI	GBHC3050
2L006	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
2L010	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L011	SCREW P-TIGHT M3X6 BIND HEAD+	GBJP3060
2L020	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L021	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L022	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L025	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L030	SCREW P-TIGHT M3X6 BIND HEAD+	GBJP3060
2L040	SCREW S-TIGHT M3X11 E1U21UD	1VM438420
B1	PCB BRACKET FRONT E1U01UD	1VM335637
B3	GUARD PANEL E1U21UD	1VM336220
B5	TOUCH PCB HOLDER ASSEMBLY E1U21UD	1VM337378
B10	LOCKING CARD SPACER KGLS18S	XP0U033WD001
B11	M-PCB PLATE EARTH E7A00UD	1VM423358
B20	RUBBER E1S00UD	1VM434380
B24	HIMELON TAPE(30X15) E1U21UD	1VM439222
B25	HIMELON TAPE E1U21UD	1VM439199
	MOTOR DC FAN AUB0512LB-AV34	MMEL12DEL002
PACKING		
S1-A	SIDE PAD L E1S00UD	1VM124759A
S1-B	SIDE PAD R E1S00UD	1VM124760A
S2	GIFT BOX CARTON E1U21UD	1VM336678
S3	SET BAG E1S00UD	1VM435780
S4	SPEAKER TOP PAD E1S00UD	1VM124779
S10	SIDE CARTON E1S00UD	1VM435519
S11	TOP PAD E1U21UD	1VM337417
ACCESSORIES		
X1	REMOTE CONTROL UNIT NC200UD	NC200UD
X2	BATTERY GR03M	XB0M371GLP01

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	1VSA27168

JACK CBA

Ref. No.	Description	Part No.
	JACK CBA	UPB000ESC102

AMP/PSU CBA

Ref. No.	Description	Part No.
	AMP/PSU CBA	UPBAMPESC111

FRONT ASSEMBLY

Ref. No.	Description	Part No.
	FRONT ASSEMBLY Consists of the following:	1VSA27170
	FRONT CBA	-----
	USB 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

Ref. No.	Description	Part No.
C2018	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
CONNECTORS		
CN2005	FFC CONNECTOR 22P IMSA-9615S-22C-PP-A	JC96J22ER009
CN2501	ZRZH CONNECTOR B5B-ZR-3.4(LF)(SN)	J3ZHC05JG010
CN2502	PH CONNECTOR SIDE 5P S5B-PH-K-S(LF)(SN)	J3PHC05JG030
CN2503	WIRELESS LAN MODULE WM5502	UWLMDLACM001
DIODE		
D2002	DIODE ZENER 3V6BSA-T26	NDTA3R6BST26
ICS		
IC2001	VACUUM FLUORESCENT DISPLAY 8-MY-03NK	TVFD1C0FT060
IC2002	VFD DRIVER IC SC16315	NSZBA0TQ0010
TRANSISTORS		
Q2001	NPN TRANSISTOR SMD 2SC5343SFG	NQ1G2SC5343S
Q2002	PNP TRANSISTOR SMD 2SA1980SFG	NQ1G2SA1980S
Q2003	NPN TRANSISTOR SMD 2SC5343SFG	NQ1G2SC5343S
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
R2016	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R2017	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
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
R2026	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R2027	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2028	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2029	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2501	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2502	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R2508	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2509	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
MISCELLANEOUS		
B30	FL HOLDER E5WA0UD	1VM335302E
B31	CUSHION E5W00UD	1VM437739
RS2001	SENSOR REMOTE RECEIVER KSM-712TH2P	USESJR5KK060
VR2001	SWITCH ROTALY ENCODER EC12E2410301	SSRR220AL001

USB CBA

Ref. No.	Description	Part No.
	USB CBA Consists of the following:	-----
CONNECTORS		
CN2801	CONNECTOR PRINT OSU B5B-PH-K-S (LF)(SN)	J3PHC05JG029
CN2802	USB CONNECTOR UB1NA046-01-03-01	JBUS04DNU002
RESISTORS		
R2801	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2802	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2803	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000


T-SENSOR CBA

Ref. No.	Description	Part No.
	T-SENSOR CBA Consists of the following:	1VSA27173
CAPACITORS		
C2901	CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/25V	CHD1EZ30F104
C2902	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2903	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
CONNECTOR		
CN2901	CONNECTOR PRINT OSU BM05B-SRSS-TB(LF)(SN	J3SHD05JG005
DIODE		
D2901	LED WHITE SMD LTW-C193TS5	NP1ZLTWC193T
IC		
IC2901	IC FOR TOUCH SENSOR WT5701-JG320WT	NSCA0TWLT005
RESISTORS		
R2901	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2902	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101

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