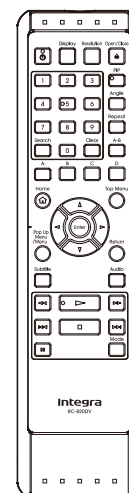
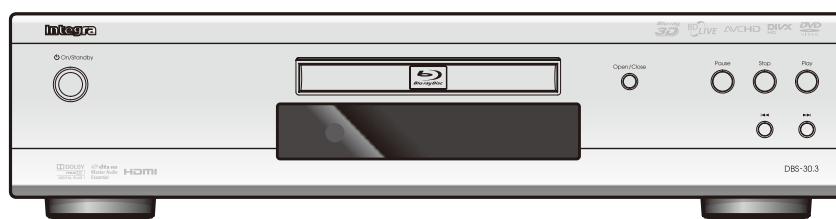


# Integra® SERVICE MANUAL

## BLU-RAY DISC PLAYER MODEL DBS-30.3(B)



RC-820DV

### Black model

B CDD1AN	120V AC, 60Hz
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## SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK # ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

# TABLE OF CONTENTS

Specifications . . . . .	1-1-1
Laser Beam Safety Precautions . . . . .	1-2-1
Important Safety Precautions . . . . .	1-3-1
Standard Notes for Servicing . . . . .	1-4-1
Cabinet Disassembly Instructions . . . . .	1-5-1
How to Initialize the BLU-RAY Disc Player . . . . .	1-6-1
Firmware Renewal Mode . . . . .	1-7-1
Adjustment Instructions for BD Main CBA or BD Mechanism Assembly Replacement . . . . .	1-8-1
Error Message . . . . .	1-9-1
Home Network (DLNA) Error Code . . . . .	1-10-1
Block Diagrams . . . . .	1-11-1
Schematic Diagrams / CBA and Test Points . . . . .	1-12-1
Exploded Views . . . . .	1-13-1
Mechanical Parts List . . . . .	1-14-1
Electrical Parts List . . . . .	1-15-1

## **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	AC120 V, 60 Hz
Power consumption	20 W (standby: 0.5 W)
Dimensions (width x height x depth)	17-1/8 x 4-1/8 x 12-3/16 inches (435 x 104 x 309 mm)
Weight	8.6 lbs (3.9 kg)
Operating temperature	41 F°(5 °C) to 104 F°(40 °C)
Operating humidity	Less than 80 % (no condensation)

Audio	
BD Linear Audio	4 Hz–88 kHz (192 kHz)
DVD Linear Audio	4 Hz–44 kHz (96 kHz), 4 Hz–22 kHz (48 kHz)
Audio CD	4 Hz–20 kHz (44.1 kHz)
Signal to Noise Ratio	100 dB
Audio Dynamic Range	98 dB
THD (Total Harmonic Distortion)	0.005 % (1 kHz)

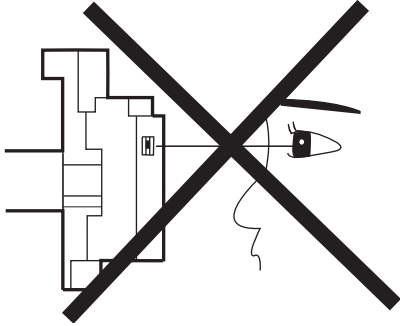
Terminals	
<b>USB input</b>	USB 2.0
TYPE A	Bus power current: MAX. 500 mA
<b>Audio output (Analog)</b>	
RCA jack x 2	L/R: 2 Vrms (output impedance: more than 1 kΩ)
<b>Video output</b>	
RCA jack x 1	1Vp-p (75Ω)
<b>Component video output</b>	Y: 1 Vp-p (75 Ω)
RCA jack x 3	PB: 700 mVp-p (75 Ω) PR: 700 mVp-p (75 Ω)
<b>Audio output (Digital)</b>	
RCA jack x 1	500 mVp-p (75 Ω)
Optical jack x 1	Digital connector
<b>HDMI output</b>	
HDMI jack x 1	Video: 480i, 480p, 720p, 1080i, 1080p, 1080p24 / Audio
<b>ETHERNET terminal</b>	10BASE-T/100BASE-TX

## Note

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

# LASER BEAM SAFETY PRECAUTIONS

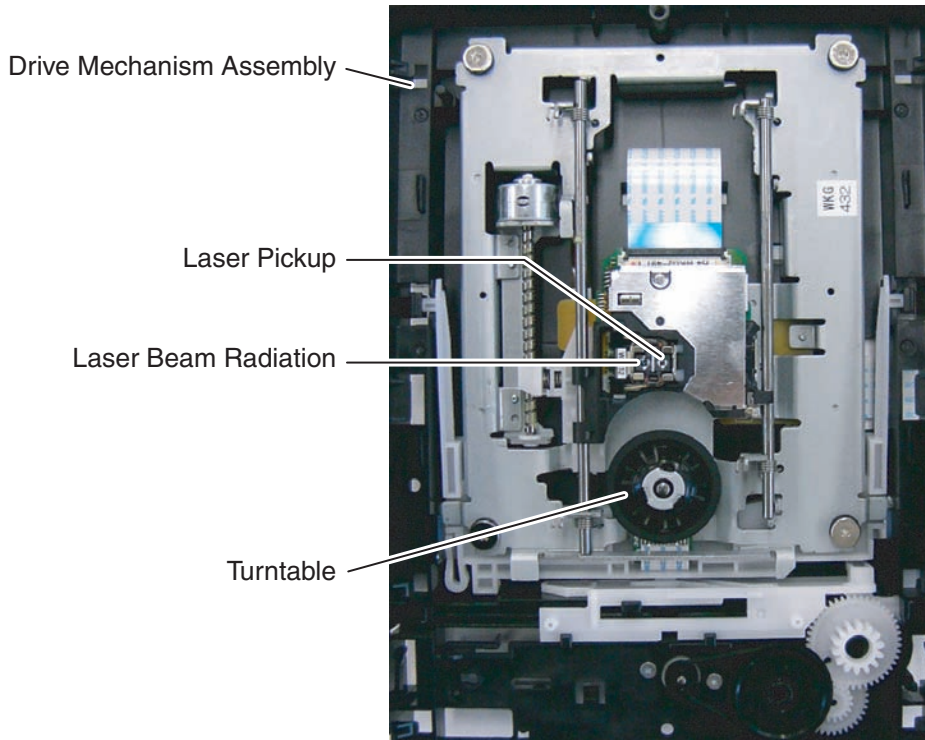
This BD player uses a pickup that emits a laser beam.



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 - LASER RADIATION WHEN OPEN.  
DO NOT STARE INTO BEAM. (FDA 21CFR/Class II)

CAUTION - CLASS 2 LASER RADIATION WHEN OPEN  
DO NOT STARE INTO THE BEAM (IEC60825-1/Class 2)

ATTENTION - RAYONNEMENT LASER DE CLASSE 2 EN CAS D'OUVERTURE  
NE PAS REGARDER DANS LE FAISCEAU

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

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.
- M.** This unit is classified as a CLASS 1 LASER PRODUCT.

## 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.

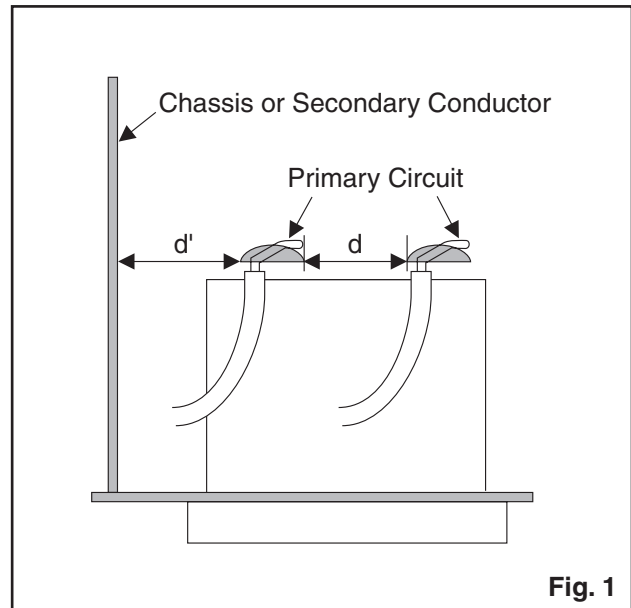
### 1. Clearance Distance

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.



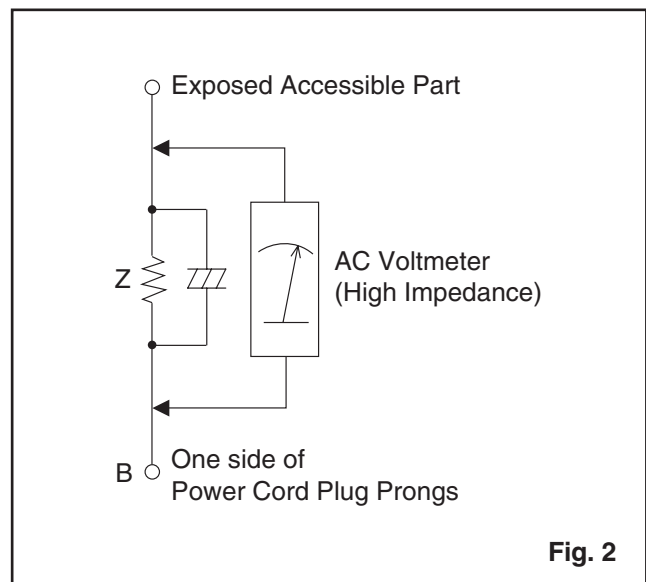
**Fig. 1**

### 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**

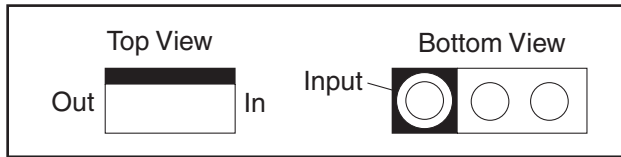
AC Line Voltage	Load Z	Leakage Current (i)	One side of power cord plug prongs (B) to:
120 V	2k $\Omega$ RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$	RF or Antenna terminals
	50k $\Omega$ RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$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

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

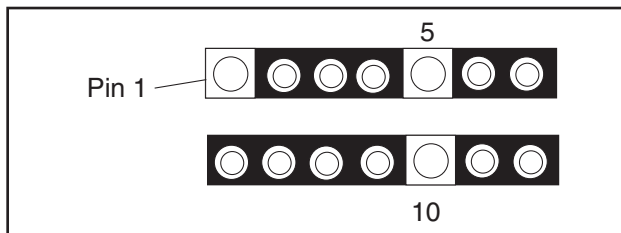
# STANDARD NOTES FOR SERVICING

## Circuit Board Indications

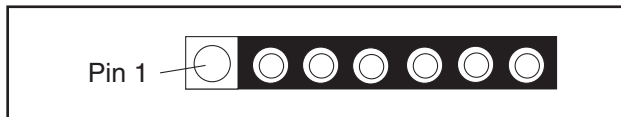
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

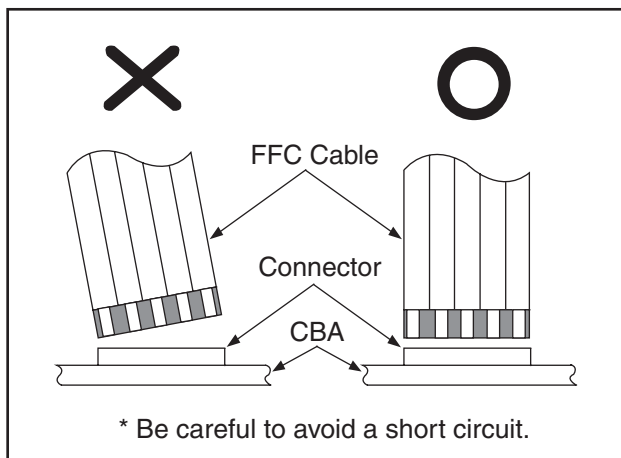


3. The 1st pin of every male connector is indicated as shown.



## 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)

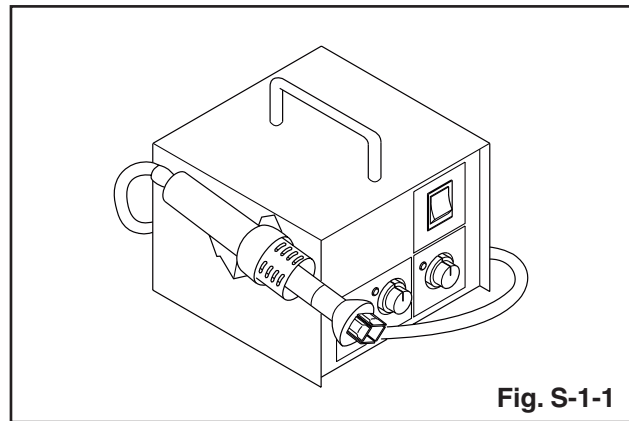


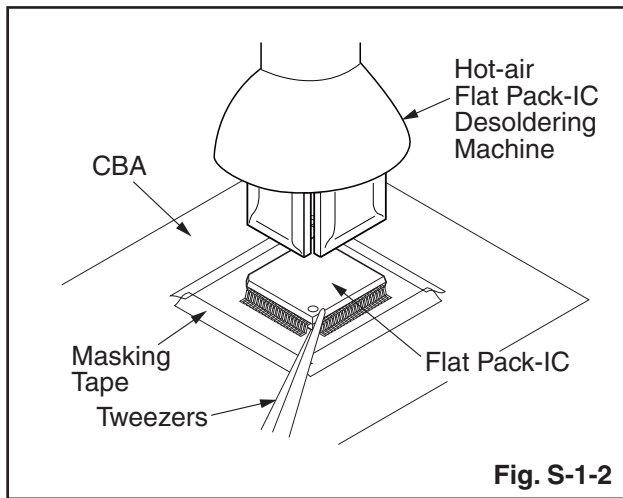
Fig. S-1-1

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:

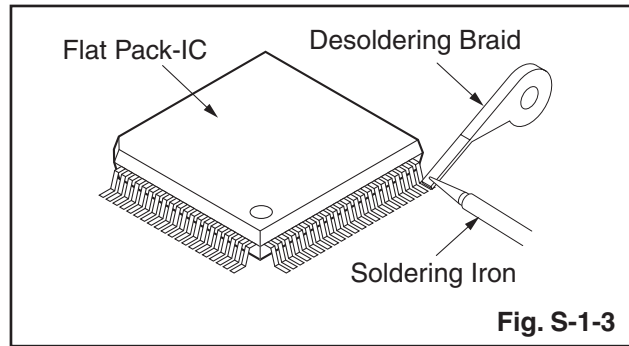
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape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

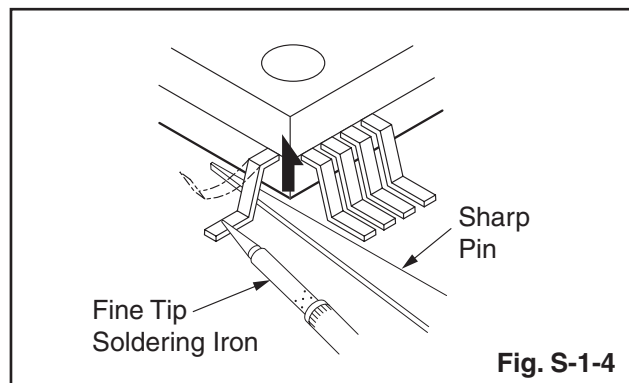


#### With Soldering Iron:

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)



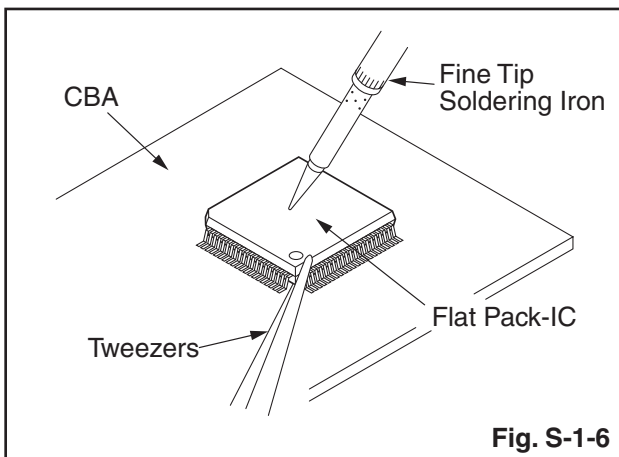
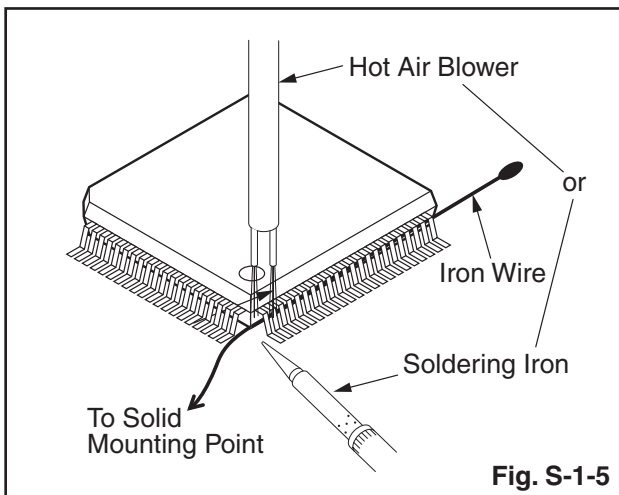
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)



### With Iron Wire:

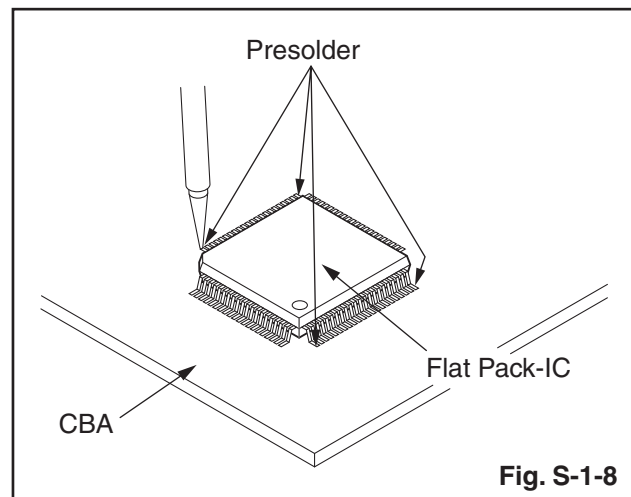
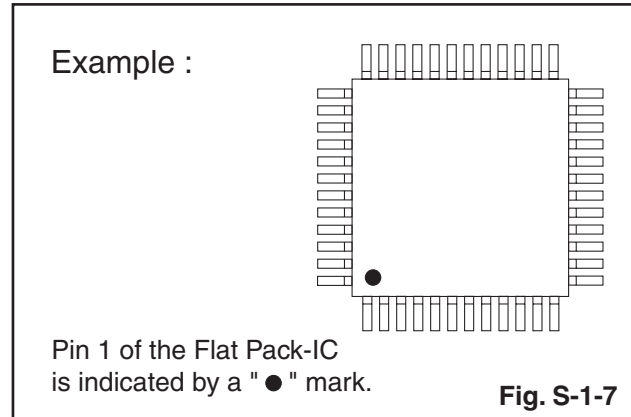
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins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

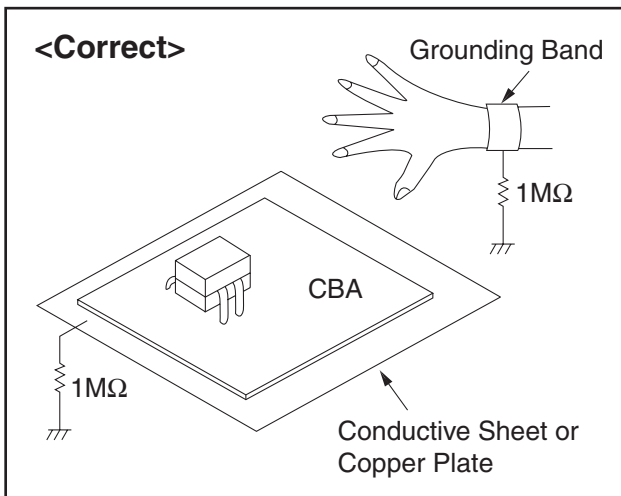
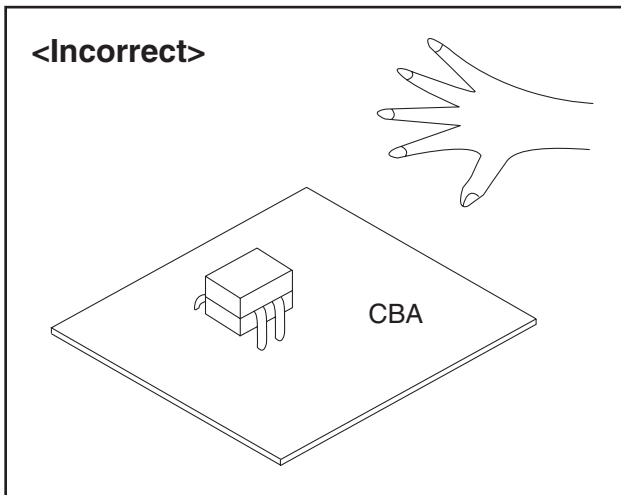
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

## 1. Ground for Human Body

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

## 2. Ground for Workbench

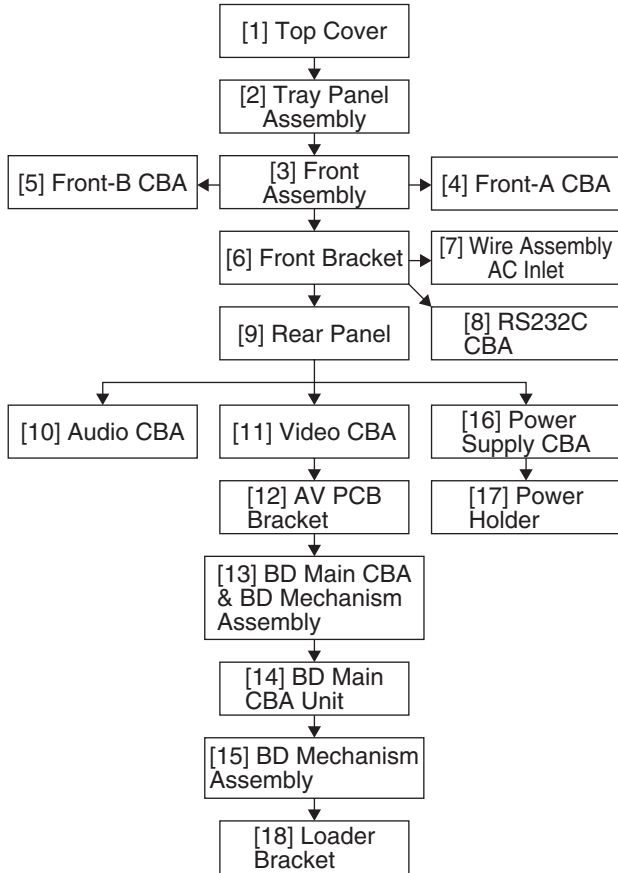
Be sure to place a conductive sheet or copper plate with proper grounding (1 M $\Omega$ ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors 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	9(S-1)	---
[2]	Tray Panel Assembly	D2	-----	1
[3]	Front Assembly	D2	2(L-1), (L-2), 5(S-2), 9(S-3), CN2002	2
[4]	Front-A CBA	D2	CN3001	---
[5]	Front-B CBA	D2	-----	---
[6]	Front Bracket	D3	7(S-4)	---
[7]	Wire Assembly AC Inlet	D4	2(S-5), CN1000	---

ID/ Loc. No.	Part	Fig. No.	Removal	Note
[8]	RS232C CBA	D4	(S-6), 2(S-7), CN5501	---
[9]	Rear Panel	D4	8(S-8), (S-9), 5(S-10)	3
[10]	Audio CBA	D5	4(S-11), CN2001, CN2201	---
[11]	Video CBA	D6	4(S-12), CN6901	---
[12]	AV PCB Bracket	D6	4(S-13)	---
[13]	BD Main CBA & BD Mechanism Assembly	D7	2(S-14), 4(S-15), CN6101	---
[14]	BD Main CBA Unit	D8	CN7001, CN7002, CN7003, Hook	4
[15]	BD Mechanism Assembly	D8	4(S-16), Loader Holder	4
[16]	Power Supply CBA	D9	3(S-17), 2(S-18)	---
[17]	Power Holder	D9	3(S-19)	---
[18]	Loader Bracket	D9	6(S-20)	---

↓ (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

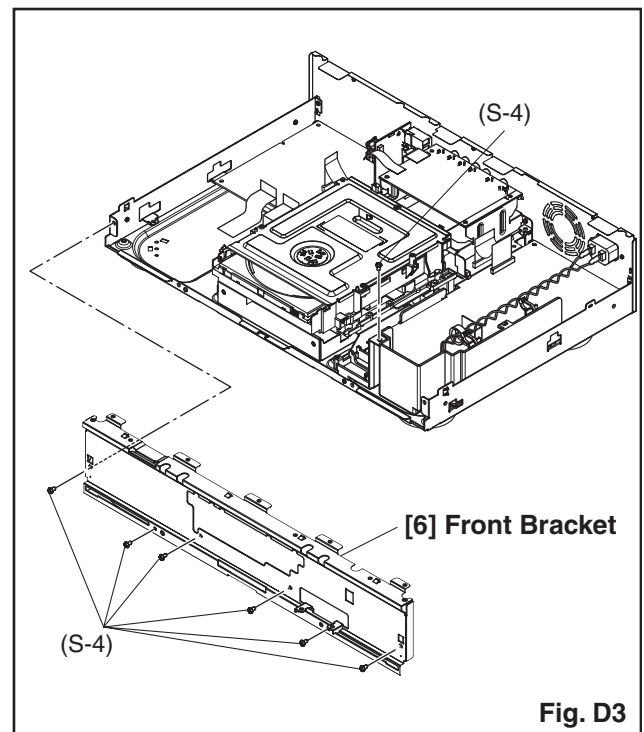
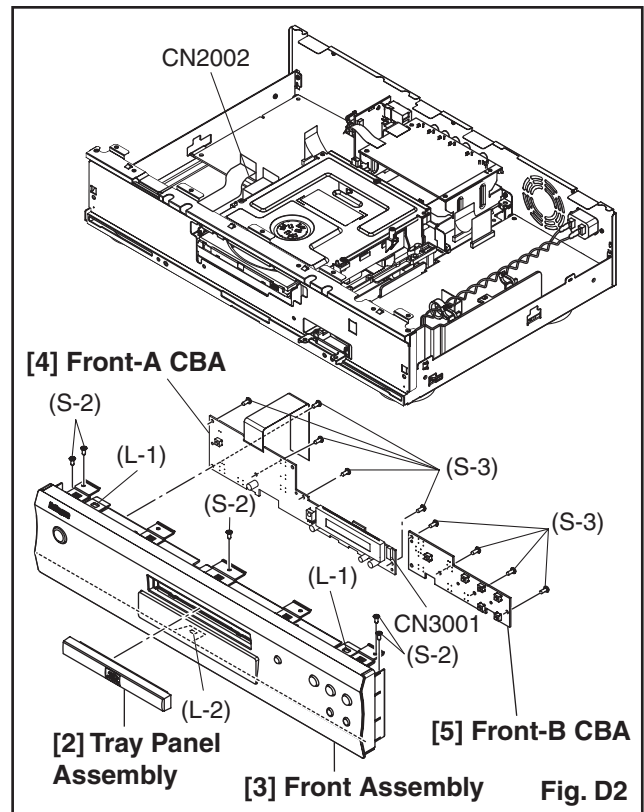
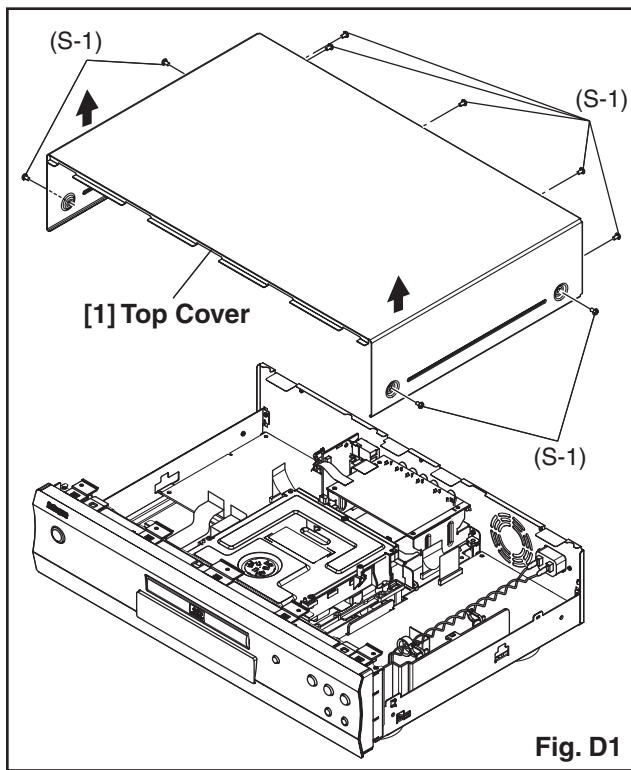
### 1. How to remove Tray Panel Assembly

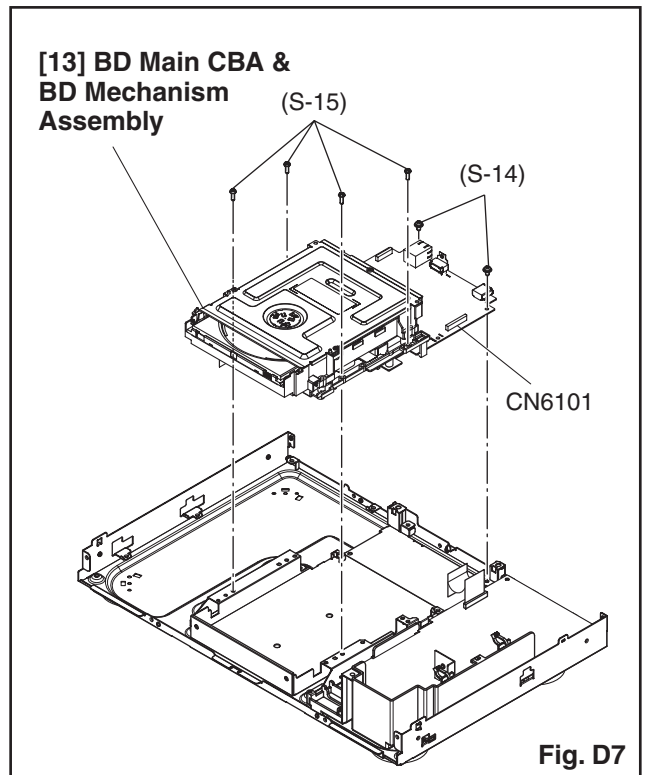
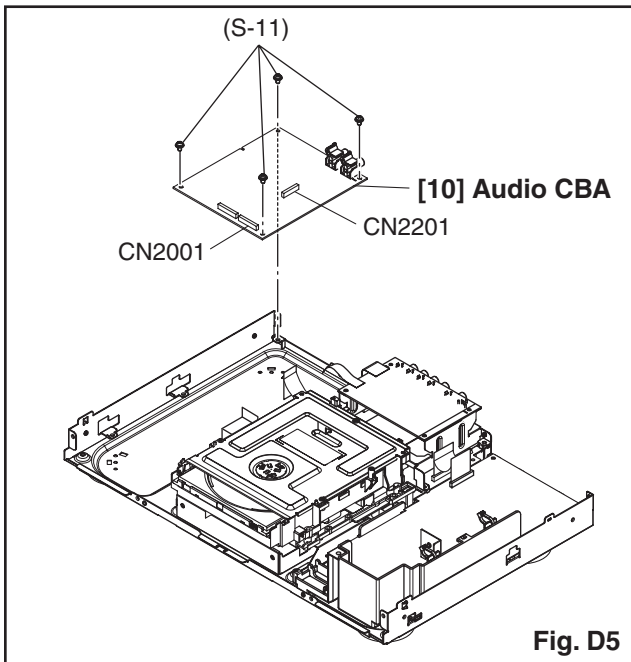
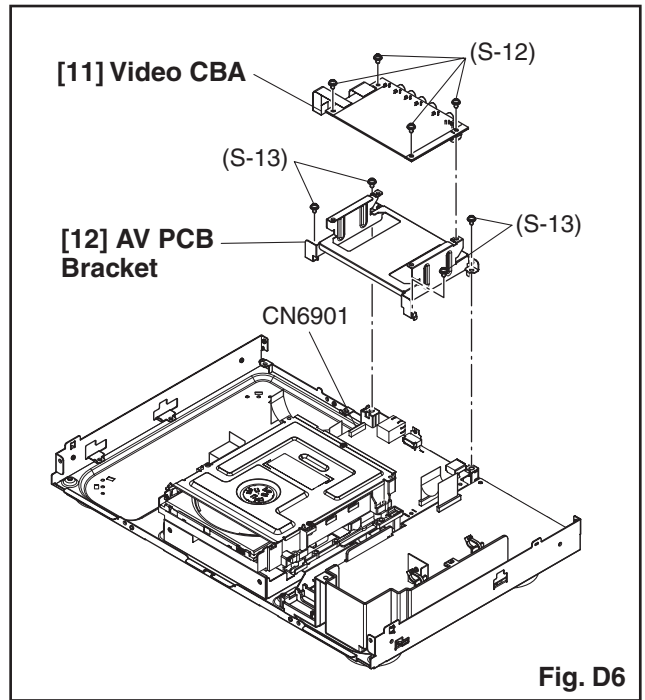
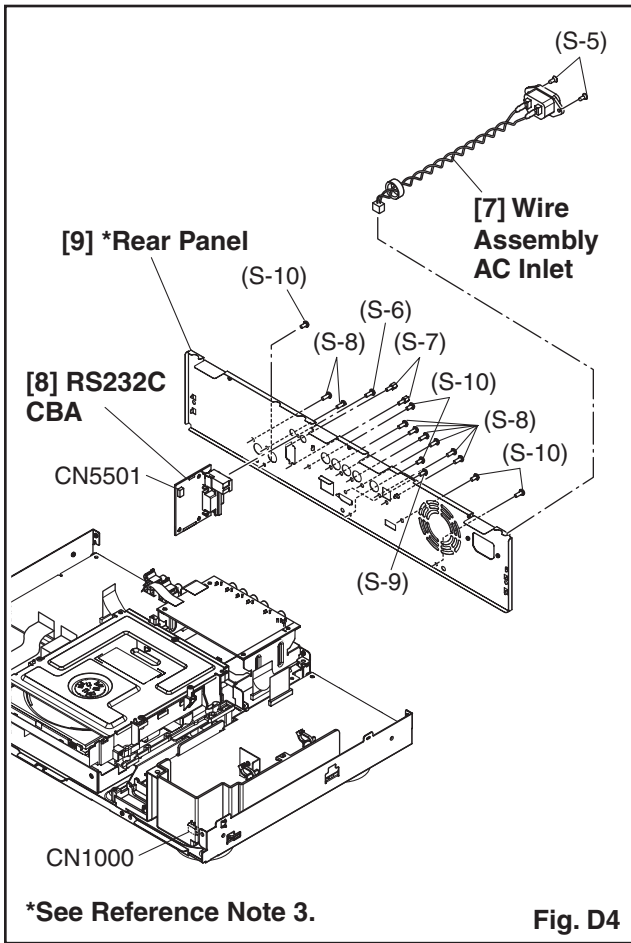
- 1) Press the [Open/Close] button to open the tray.
- 2) Remove the Tray Panel Assembly.
- 3) Press the [Open/Close] button to close the tray.

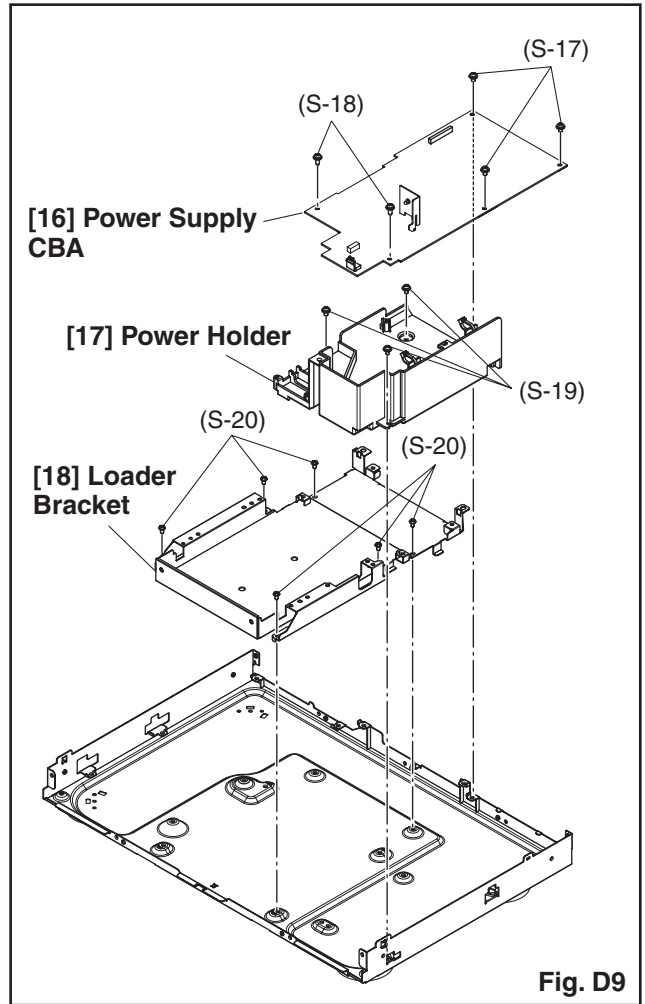
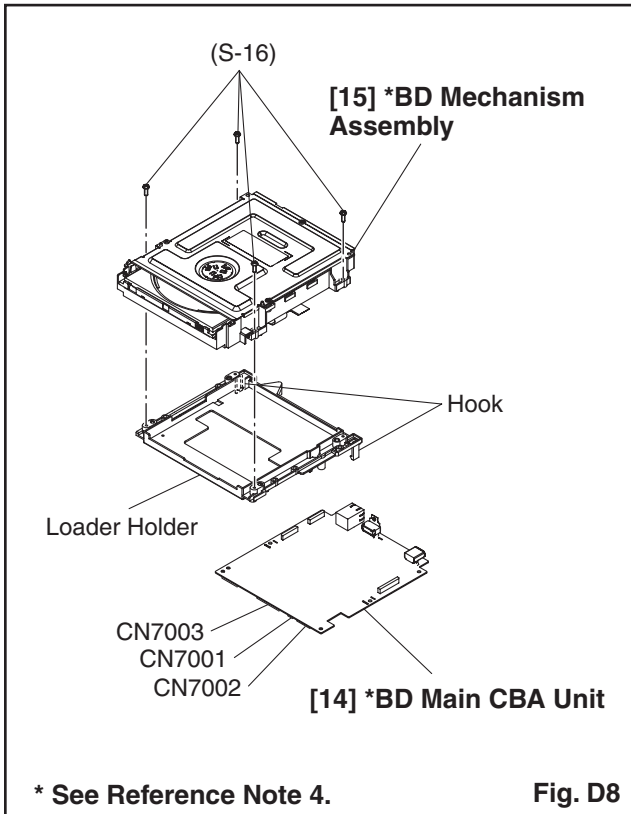
### 2. CAUTION 1: Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.

### 3. When reassembling, be sure to use the original screws or specified screws listed in the parts list.

### 4. When replacing the BD Mechanism Assembly or BD Main CBA Unit, refer to "ADJUSTMENT INSTRUCTIONS FOR BD MAIN CBA OR BD MECHANISM ASSEMBLY REPLACEMENT."







### 3. How to Eject a Disc

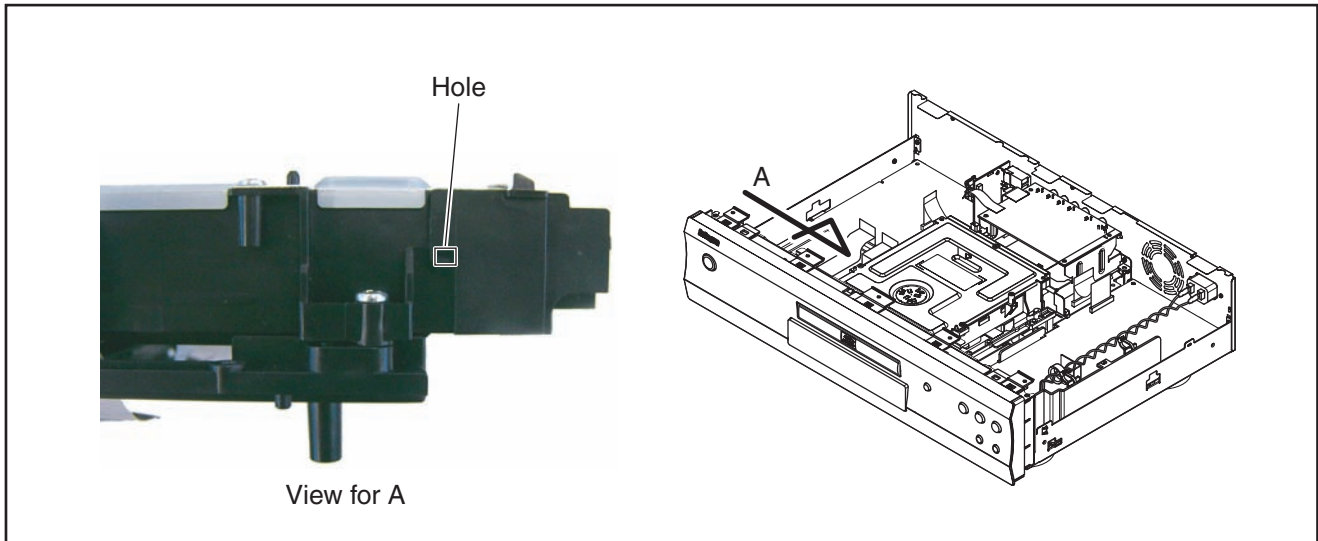
When a disc cannot be removed due to malfunction or when an unplayable disc is inserted, follow the procedure below to remove the disc.

#### Procedure A

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

#### Procedure B

1. Remove the Top Cover.
2. Insert a screwdriver, etc. into the hole (as shown below) straight and gently until the tray is ejected.
3. 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.

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.

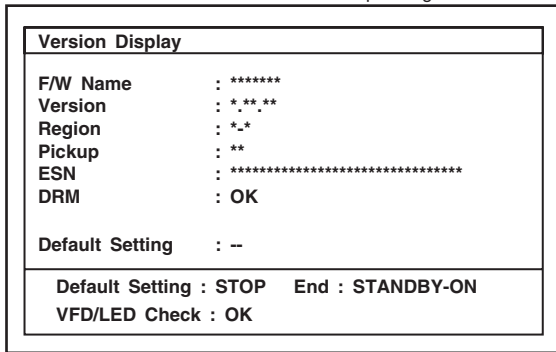


Fig. a

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.

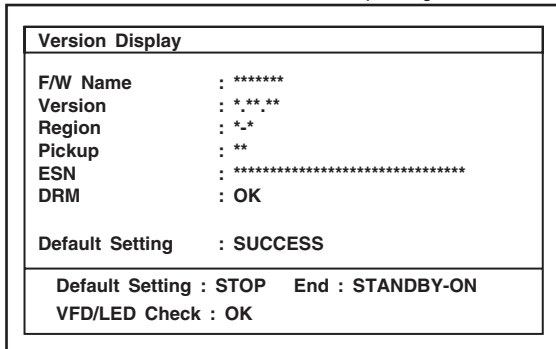


Fig. b



Fig. c

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

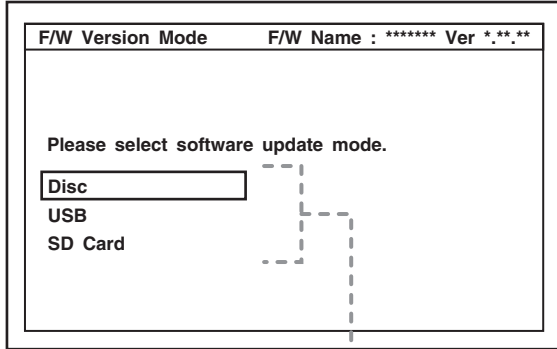


# FIRMWARE RENEWAL MODE

**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.

"\*" differ depending on the models.



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

Fig. a Version Up Mode Screen (Example)

3. Select "Disc" or "USB" and press [ENTER] button on the remote control unit. The tray will open automatically, if "Disc" is selected.
4. Insert the disc or USB Flash Drive 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.

"\*" differ depending on the models.

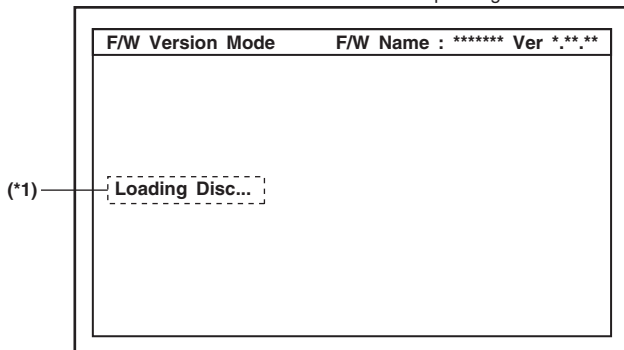


Fig. b Programming Mode Screen (Example)

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.

"\*" differ depending on the models.

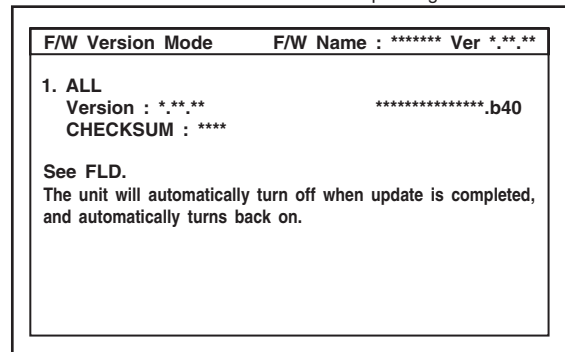


Fig. c Version Up Mode



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 Flash Drive from the unit.

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

The following USB Flash Drive can be used for software update. Make sure to use a device that has enough space.

- USB Flash Drive (FAT16/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.

Version Display	
F/W Name	: *****
Version	: *.*.*
Region	: *.*
Pickup	: **
ESN	: *****
DRM	: OK
Default Setting	: --
Default Setting : STOP    End : STANDBY-ON	
VFD/LED Check : OK	

Fig. f

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

# 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:

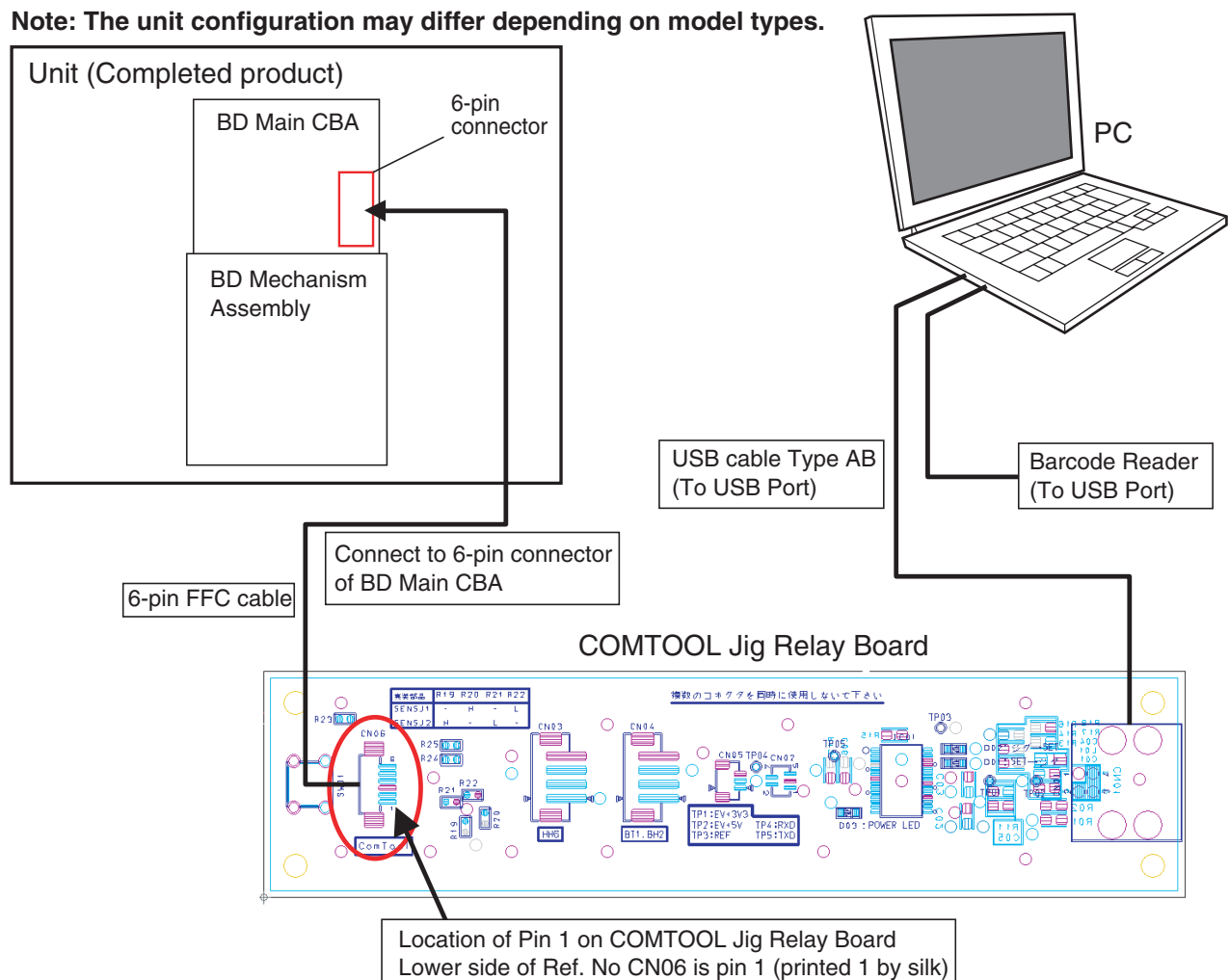
- Always turn the unit power off before connecting the FFC cable or removing the FFC cable from the BD Main CBA.

## 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

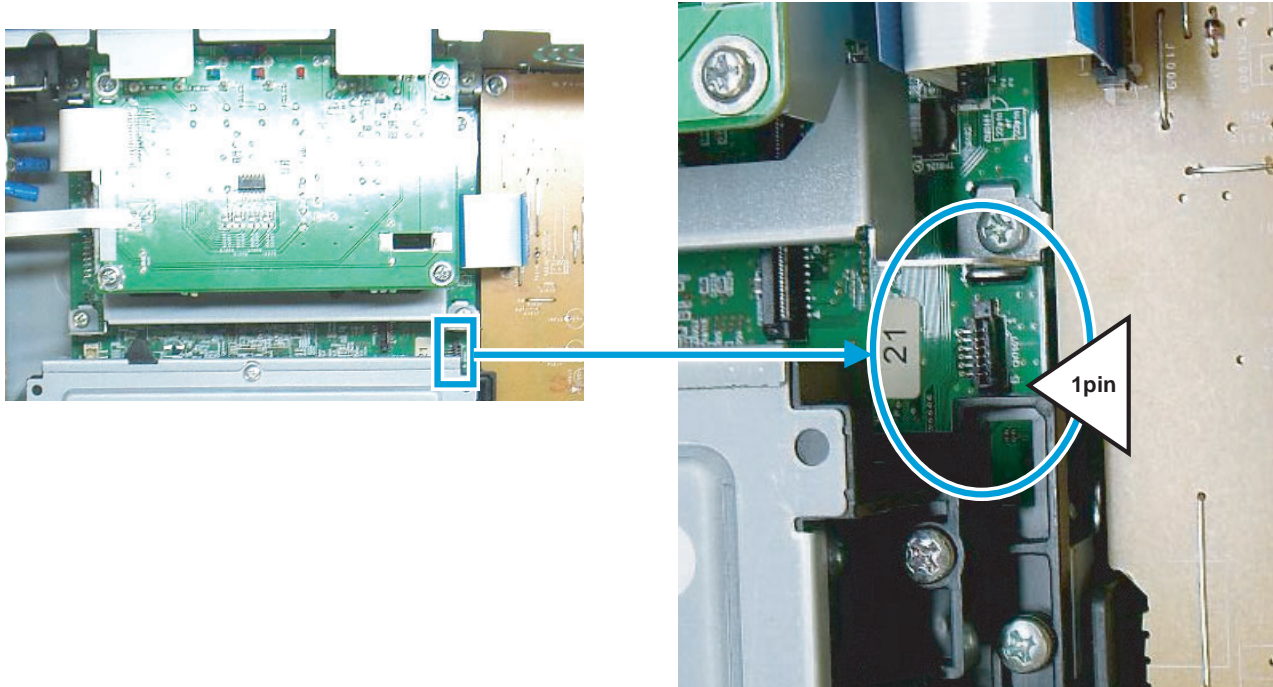
**Note:** The unit configuration may differ depending on model types.



**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**



**Pin 1 is located on the front 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**

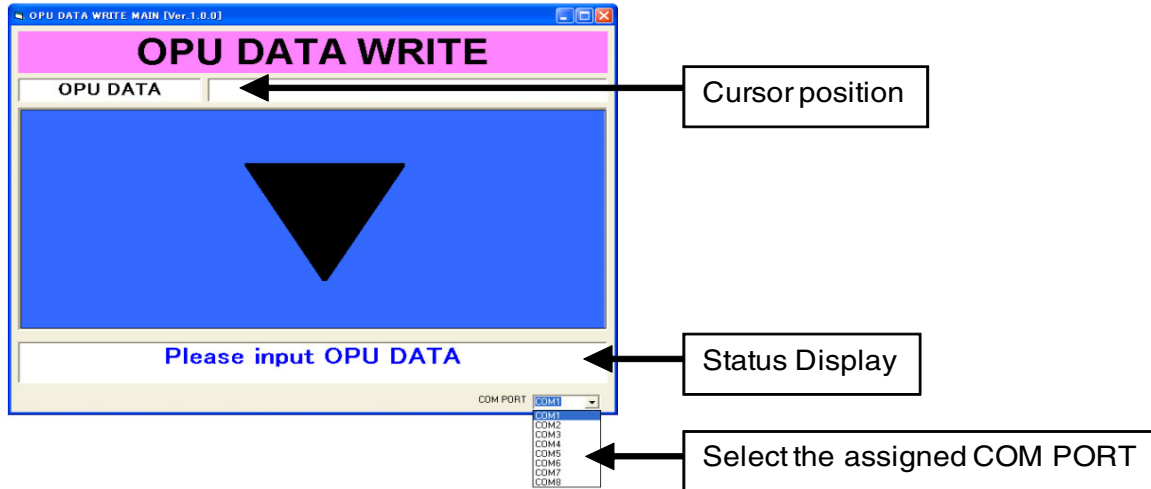
- 2-1. Click on the Windows [Start] button on the PC.
- 2-2. Right click on [My Computer].
- 2-3. Click on [Properties].
- 2-4. Click on [Hardware] tab in System Properties window.
- 2-5. Click on [Device Manager].
- 2-6. Click on [Ports (COM&LPT)].
- 2-7. Check which connection port is assigned for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

## **3. Application Setup**

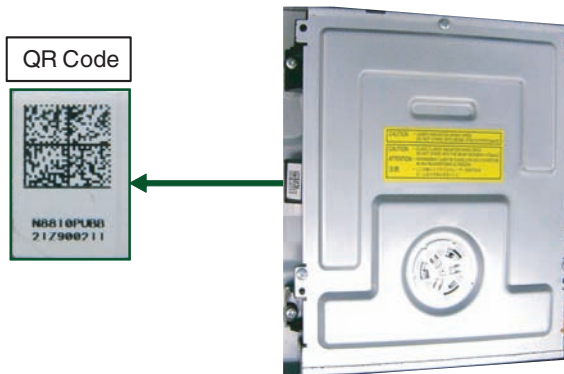
- 3-1. Save the application folder (OpuDataWriter) directly under the C: drive.
- 3-2. Create a shortcut for [OpuDataWriter.exe] which is located inside the folder on the desktop.

## 4. OPU DATA WRITE

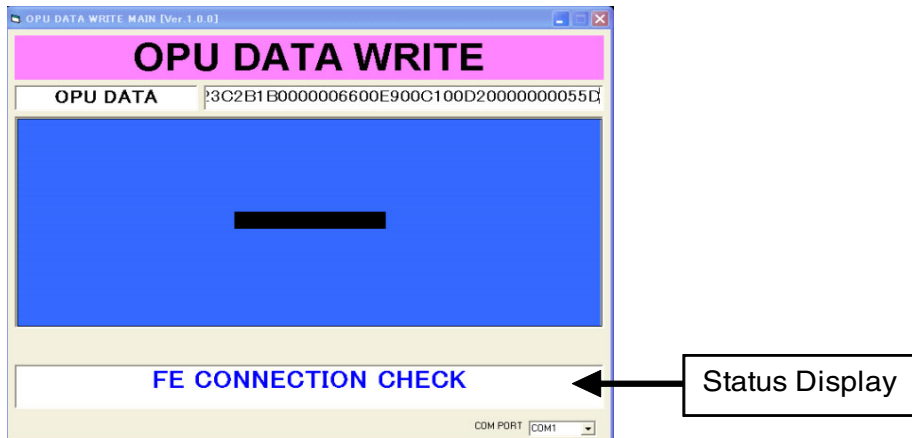
- 4-1. Connect the unit's AC power cord. Wait for about 30 seconds until the unit is in standby mode.
- 4-2. Double click on the [OpuDataWriter.exe] shortcut on the desktop to start the application.
- 4-3. Application start screen appears.  
Select the assigned connection port of [USB Serial Port] for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



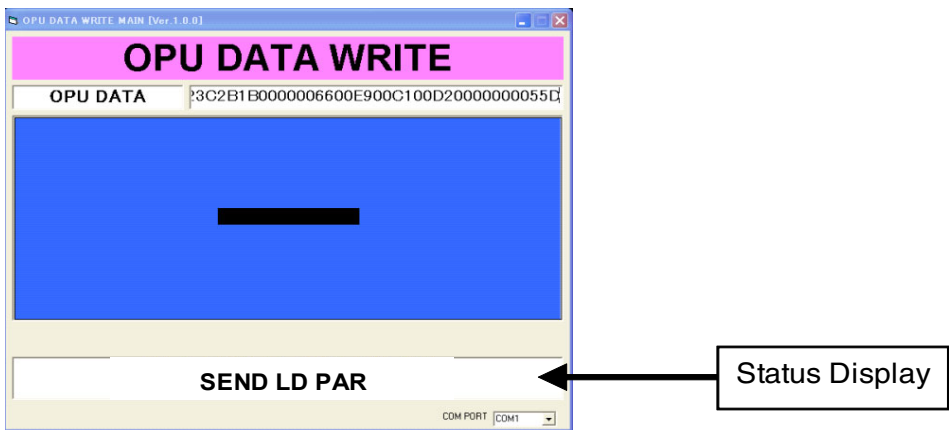
- 4-5. Check that [FE CONNECTION CHECK] message appears on the Status Display then turn the unit power on.



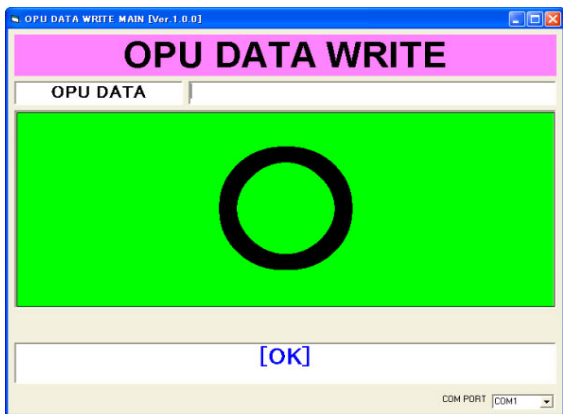
### If error occurs:

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.

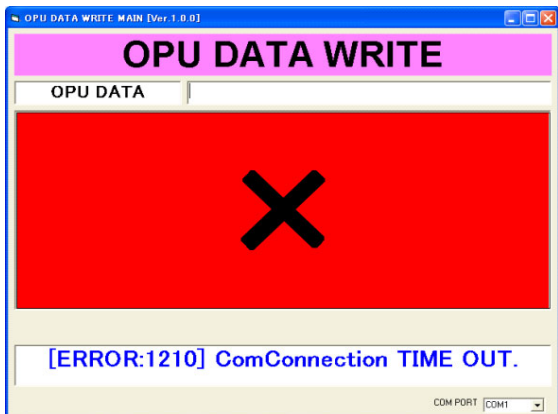


4-7. [OK] appears in the Status Display if data write has been completed successfully.



**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

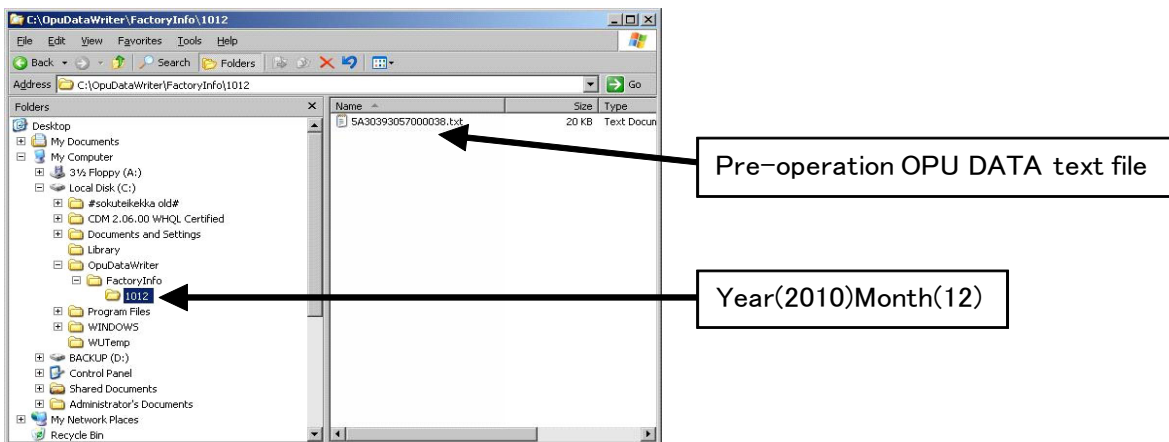
Error Code	Error	Description
10	Start word error	The first letter entered for [LOADER S/N] does not match.
101	[ReadBackup]Drive Mount error	Cannot mount the drive set for [ReadBackup] folder.
102	[Transfer]Drive Mount error	Cannot mount the drive set for [Transfer] folder.
103	[OpuData]Drive Mount error	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.



# 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. <b>HDCP#OK</b>
USB 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.

<b>Error</b>	<b>Message</b>
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 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.
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.

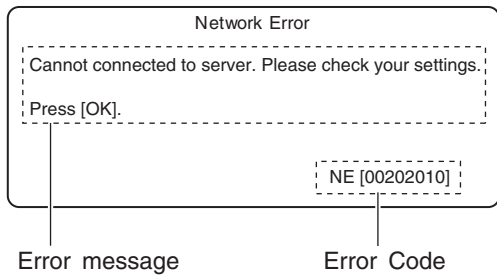


Fig. 1: Error Code (Example)

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"> <li>• There are multiple choices.</li> <li>• The server could not determine its response.</li> <li>• Requested information contains multiple representations.</li> </ul> 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"> <li>• Moved Permanently.</li> <li>• 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.</li> <li>• 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.</li> </ul>
302 Found	<ul style="list-style-type: none"> <li>• Found.</li> <li>• Requested resource resides temporarily under a different URI.(Uniform Resource Identifier)</li> <li>• 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.</li> </ul>
303 See Other	<ul style="list-style-type: none"> <li>• See other.</li> <li>• 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.</li> <li>• 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.</li> </ul>
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"> <li>• Proxy will be used.</li> <li>• The requested resource must be accessed through the proxy specified by the Location field.</li> <li>• Indicates that request must use the URI given by the Location HEAD to use the proxy server.</li> </ul>
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"> <li>• The method is not allowed.</li> <li>• The HTTP behavior used is not allowed.</li> <li>• Indicates that request method (POST or GET) is not allowed by the requested resource.</li> </ul>
406 Not Acceptable	<ul style="list-style-type: none"> <li>• The client could not find an acceptable response.</li> <li>• Indicates that the client specifies not to accept arbitrary representation for Accept header which could be used by the resource.</li> </ul>

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

## 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.

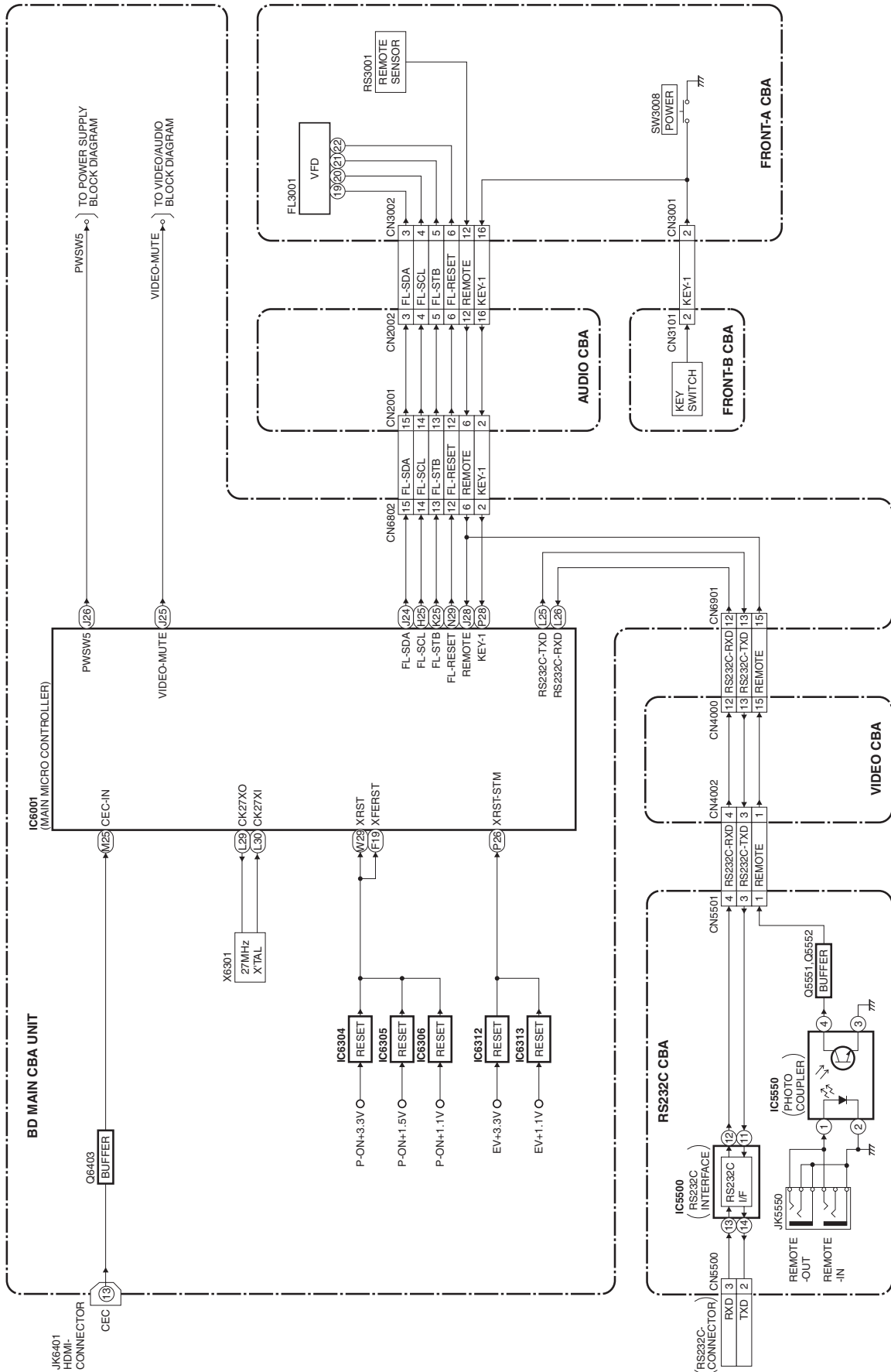
Status Code	Description
664 1sec Offset Get Error	1sec offset get error.
665 Address Search Error	Address search error.
680 RFS_EVENT_SOCKET_ERROR	Socket error.
681 RFS_EVENT_HTTP_RES_SERVER_REFUSED	Server refusal notification.
682 RFS_EVENT_HTTP_RES_NOT_FOUND	The specified contents could not be found.
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.

<b>Status Code</b>	<b>Description</b>
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.

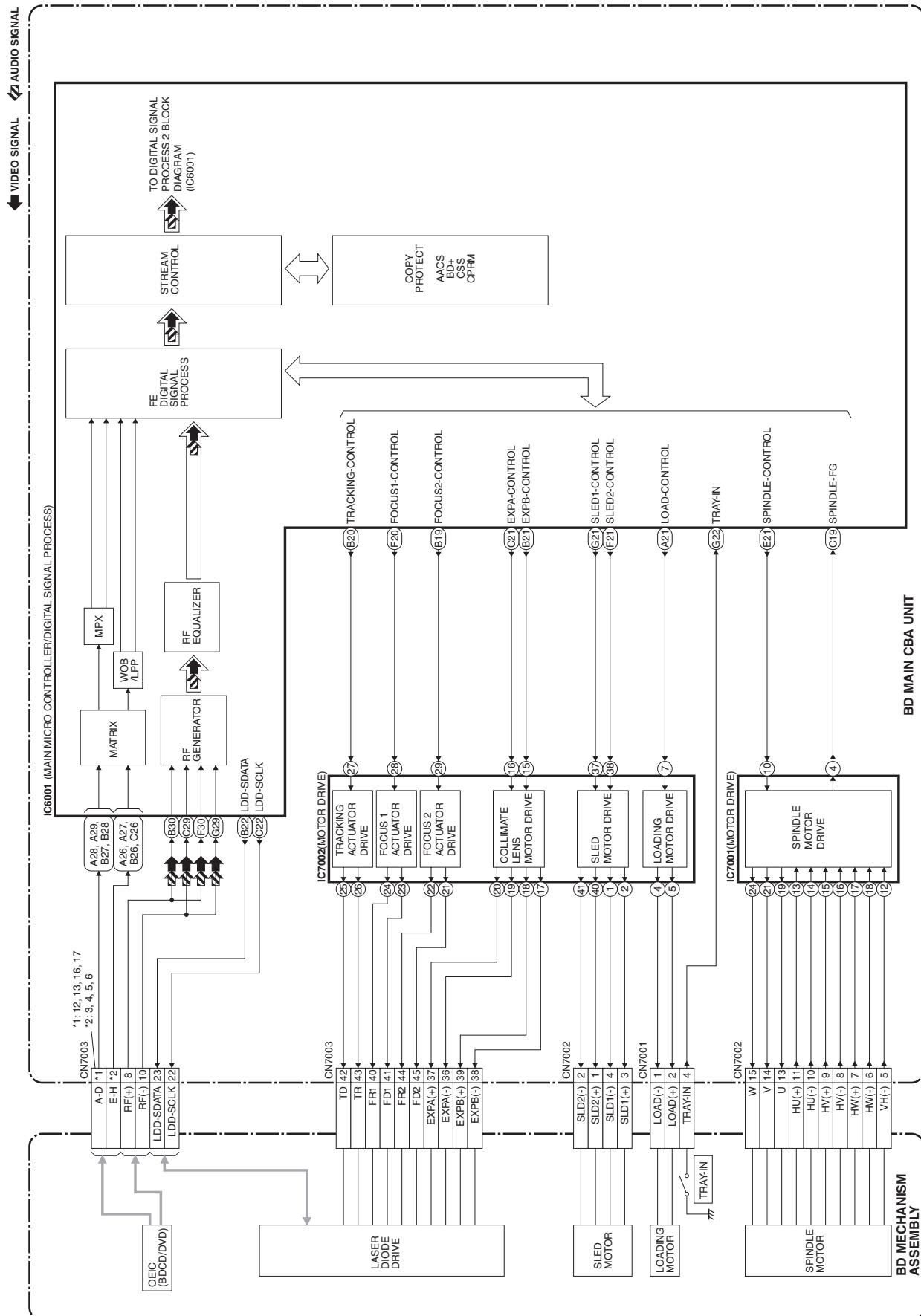


# BLOCK DIAGRAMS

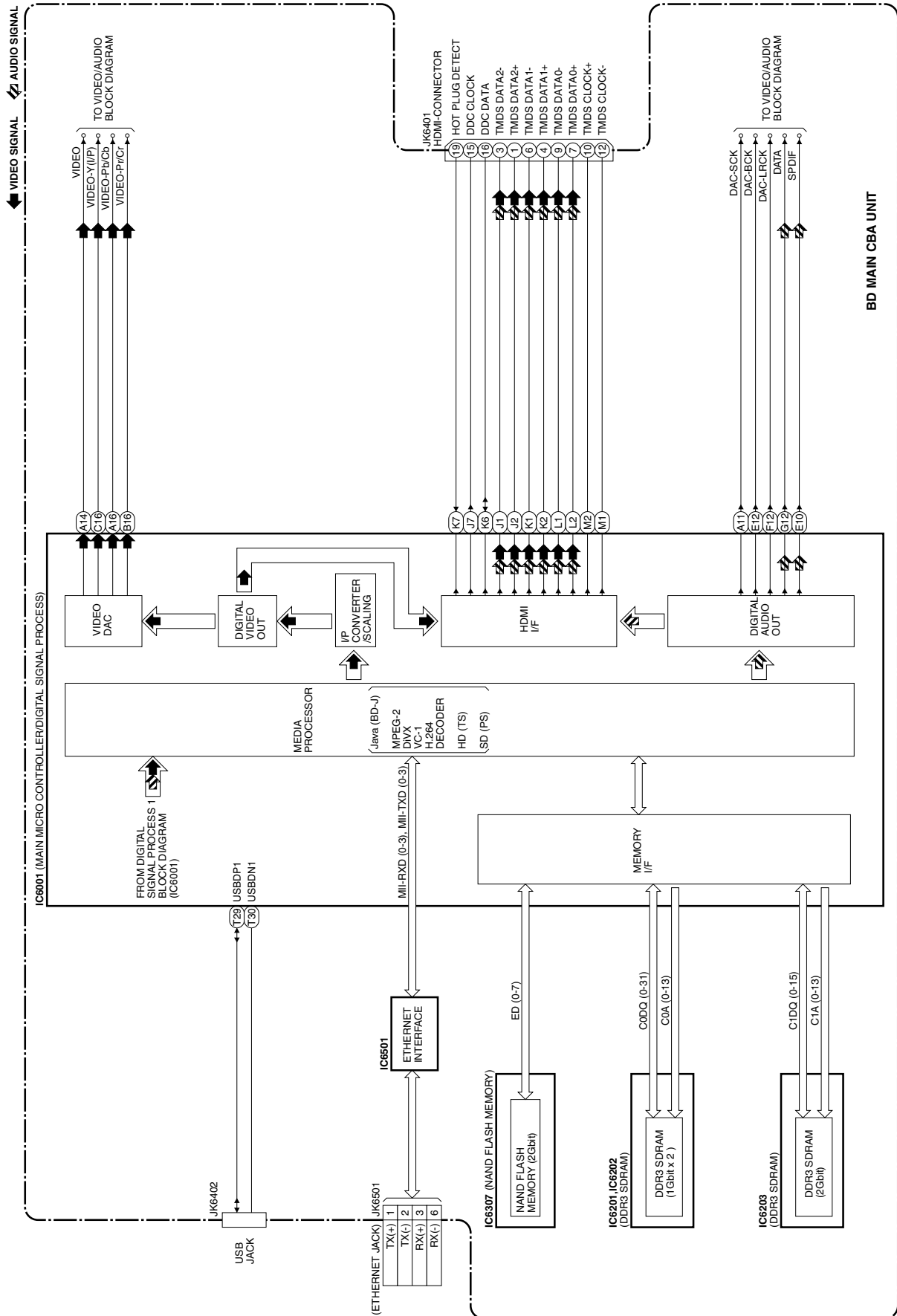
## System Control Block Diagram



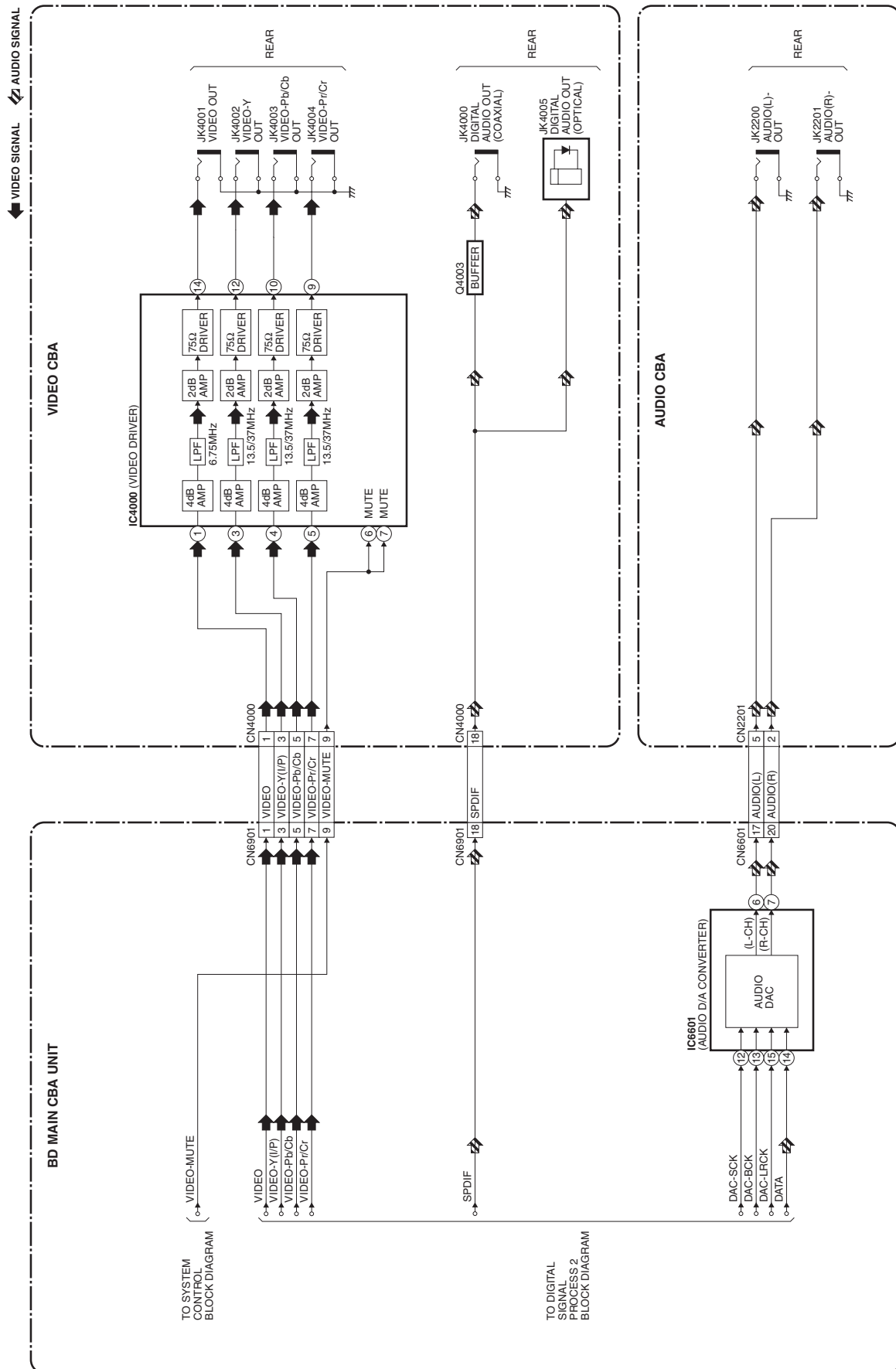
# Digital Signal Process 1 Block Diagram



# Digital Signal Process 2 Block Diagram



# Video/Audio Block Diagram




# Power Supply Block Diagram

## CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F1000) 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.

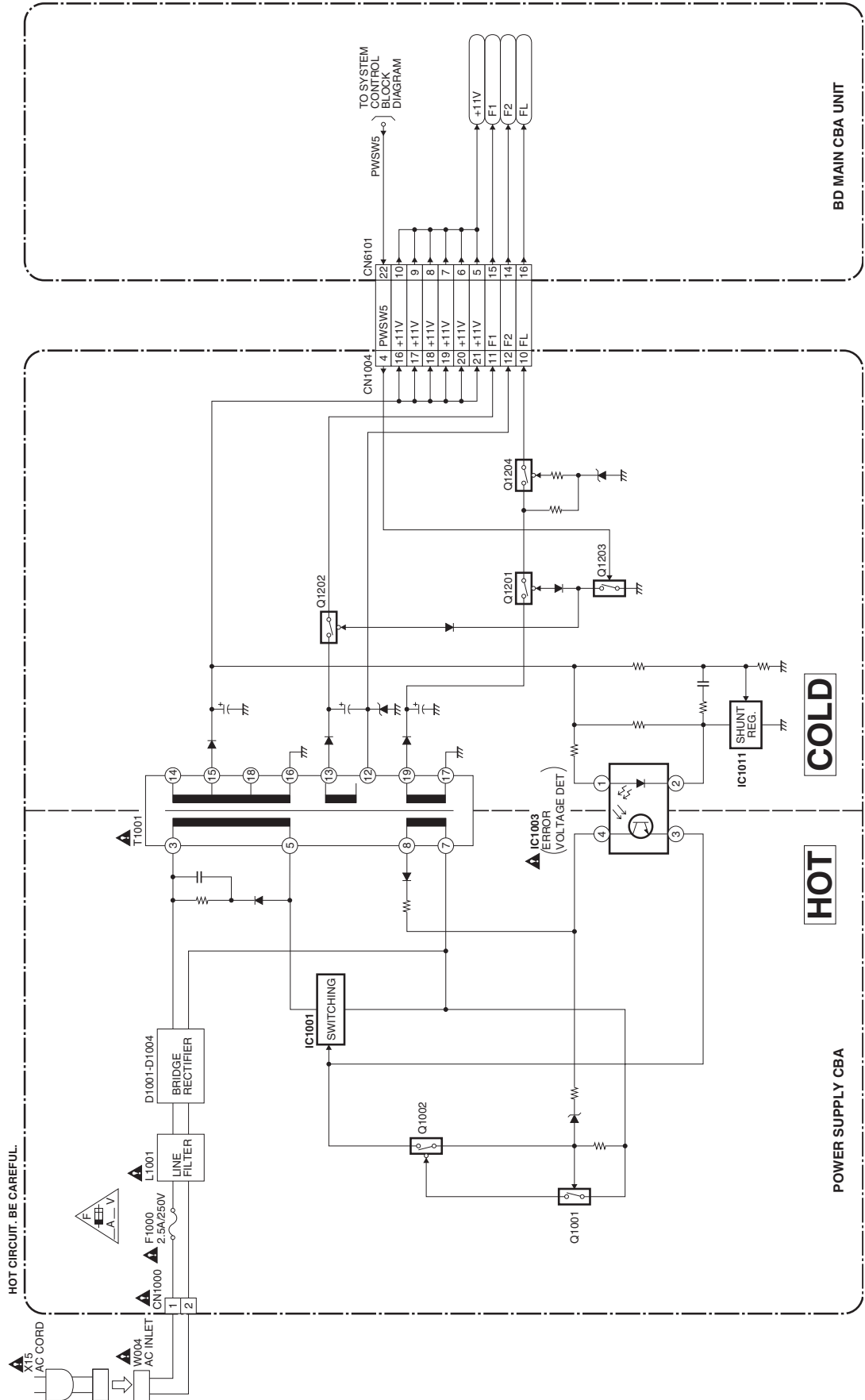
## CAUTION !

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

## NOTE:

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



# SCHEMATIC DIAGRAMS / CBA AND TEST POINTS

## 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:

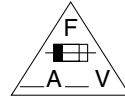
1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ( $K = 10^3$ ,  $M = 10^6$ ).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in  $\mu F$  ( $P = 10^{-6} \mu F$ ).
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.



# Power Supply Schematic Diagram

**CAUTION !**

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F1000) 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.

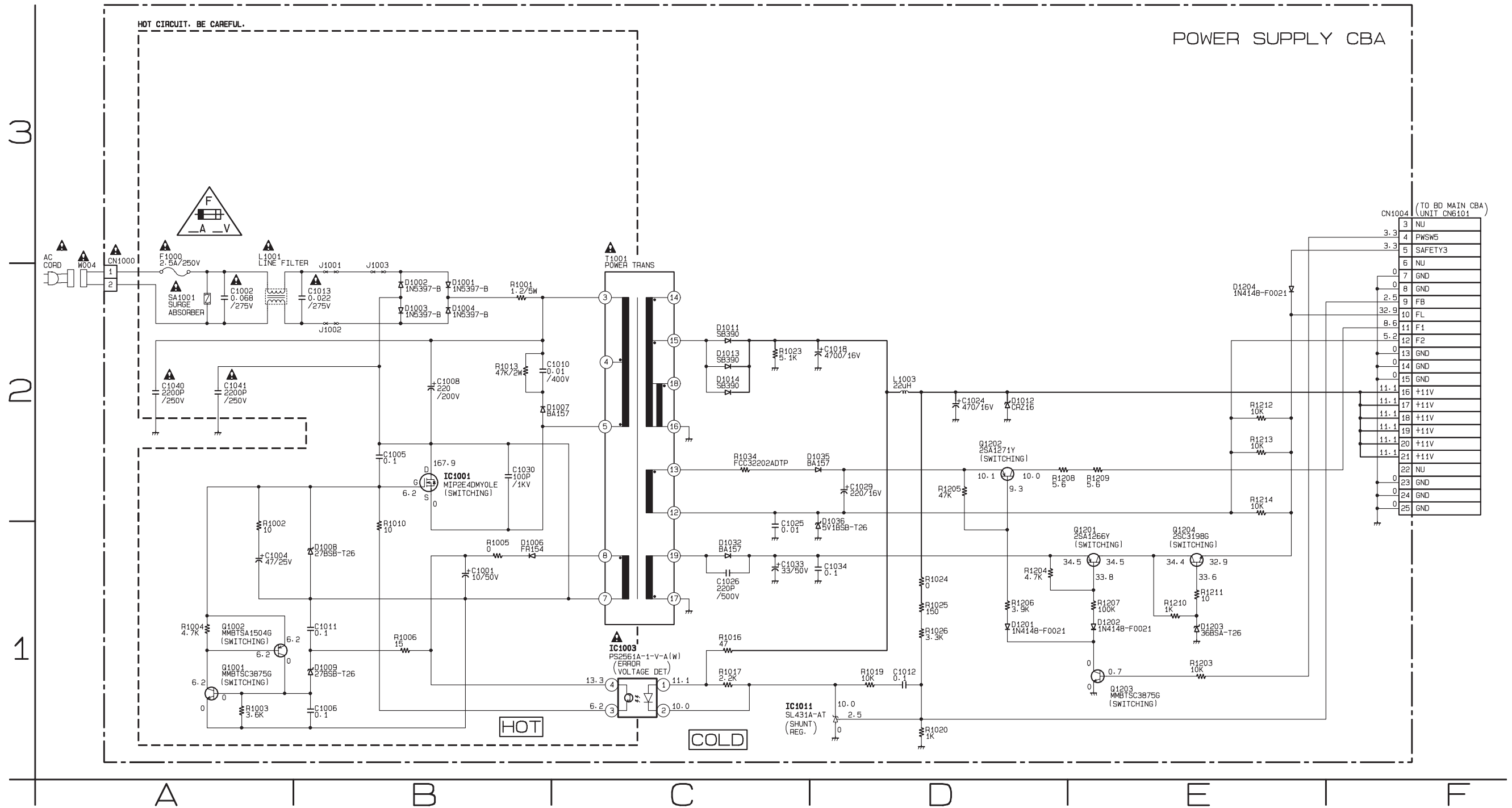


**CAUTION !**

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:**

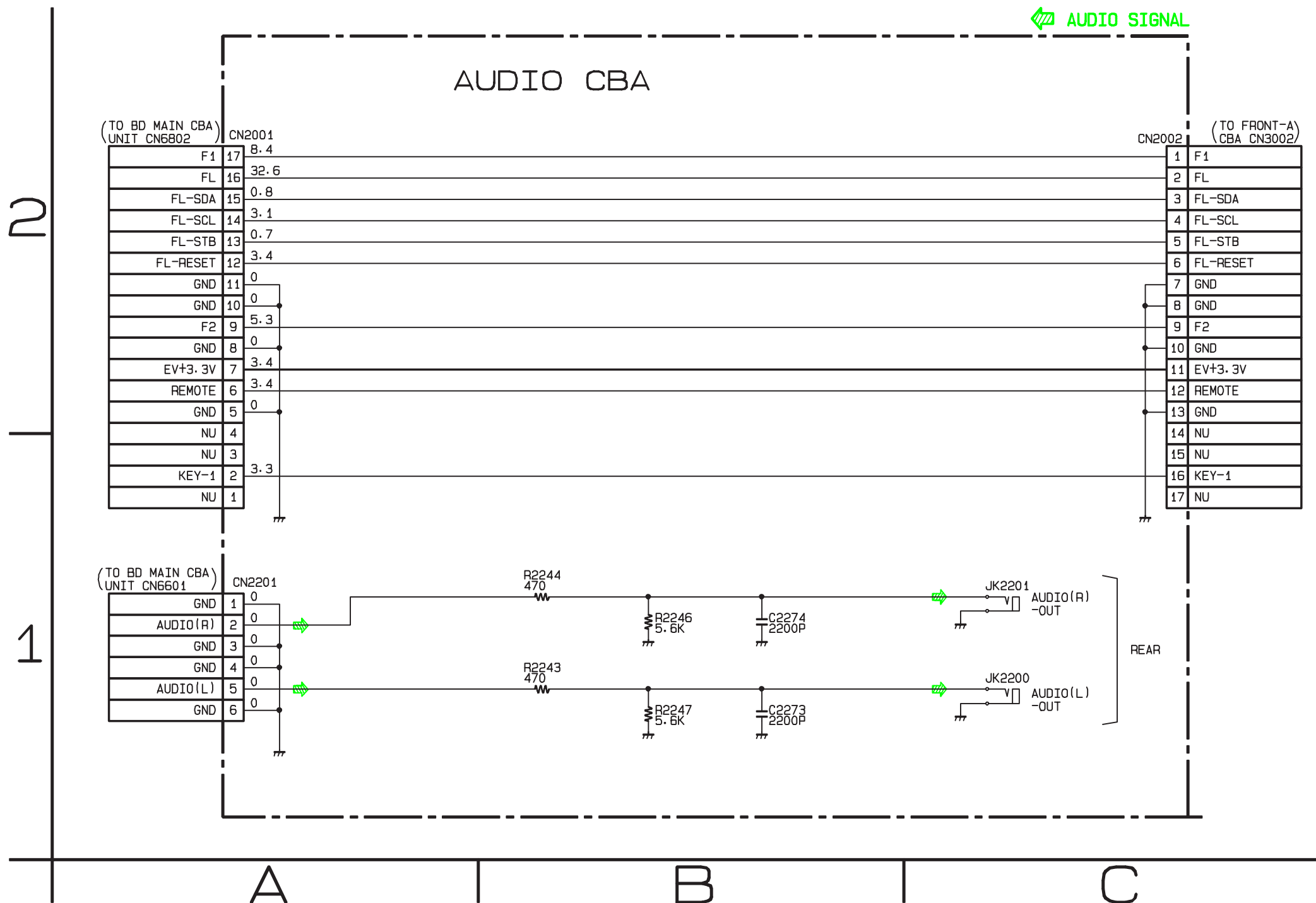
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



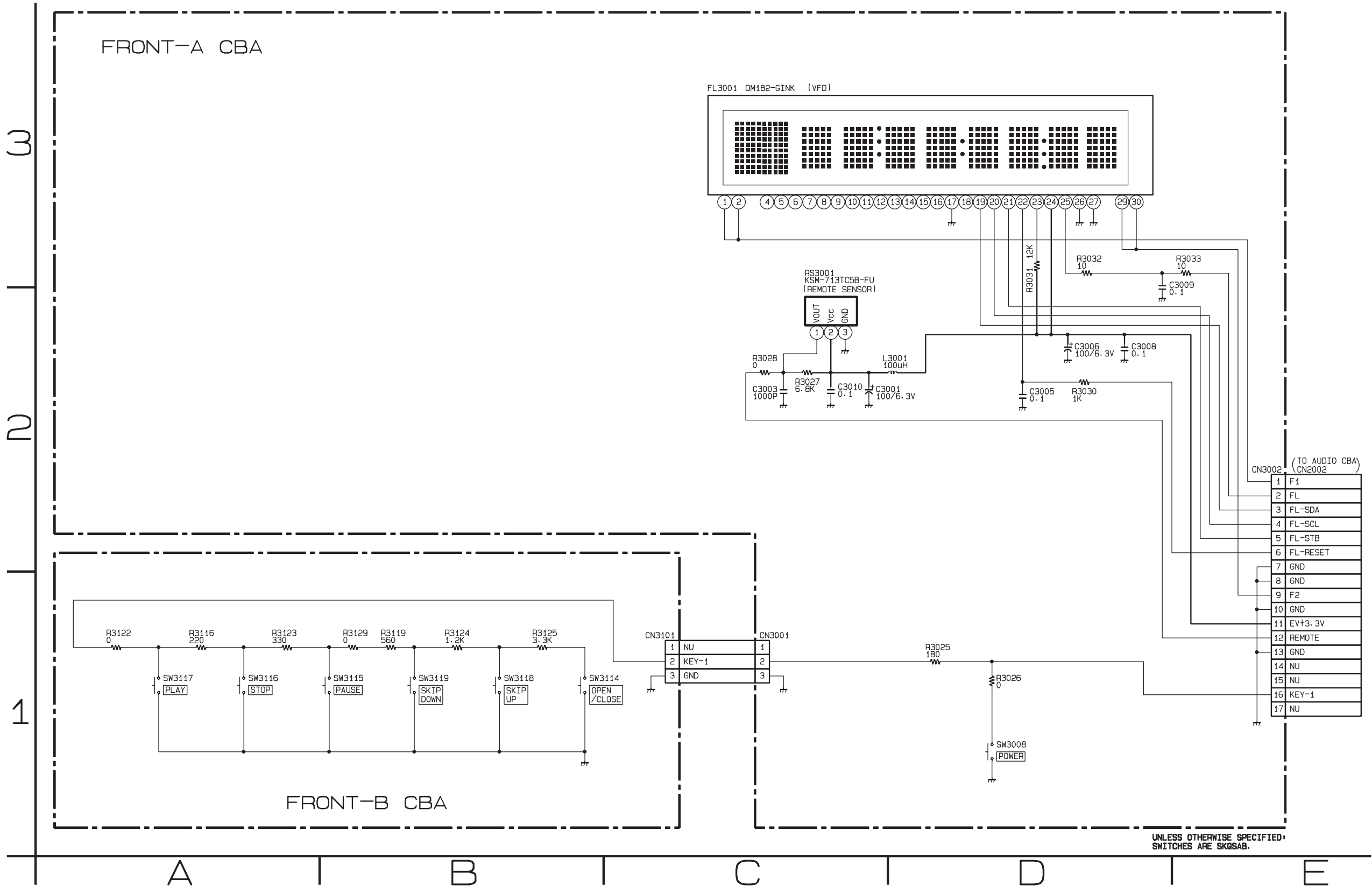




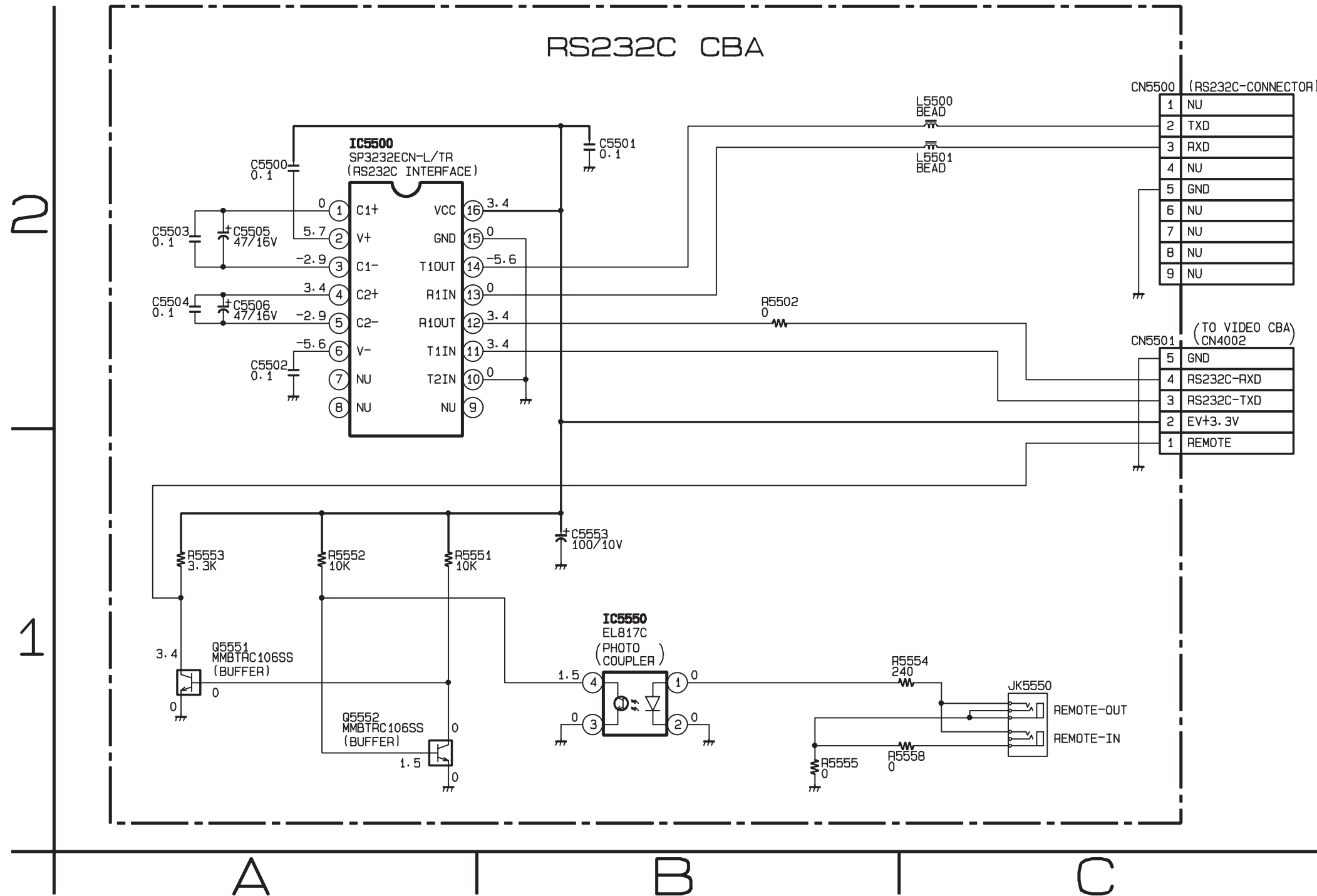
# Audio Schematic Diagram



# Front-A & Front-B Schematic Diagram

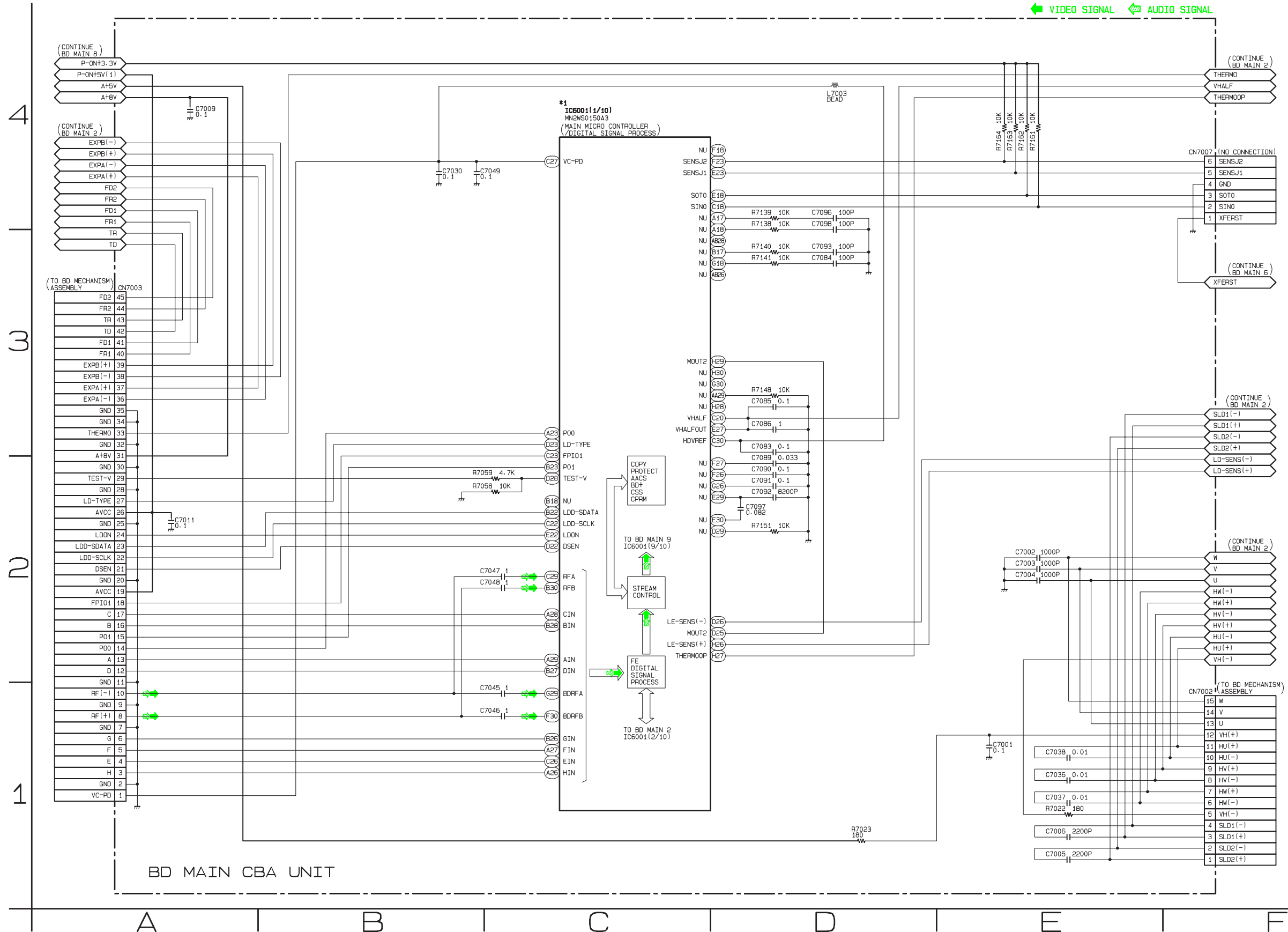


# RS232C Schematic Diagram



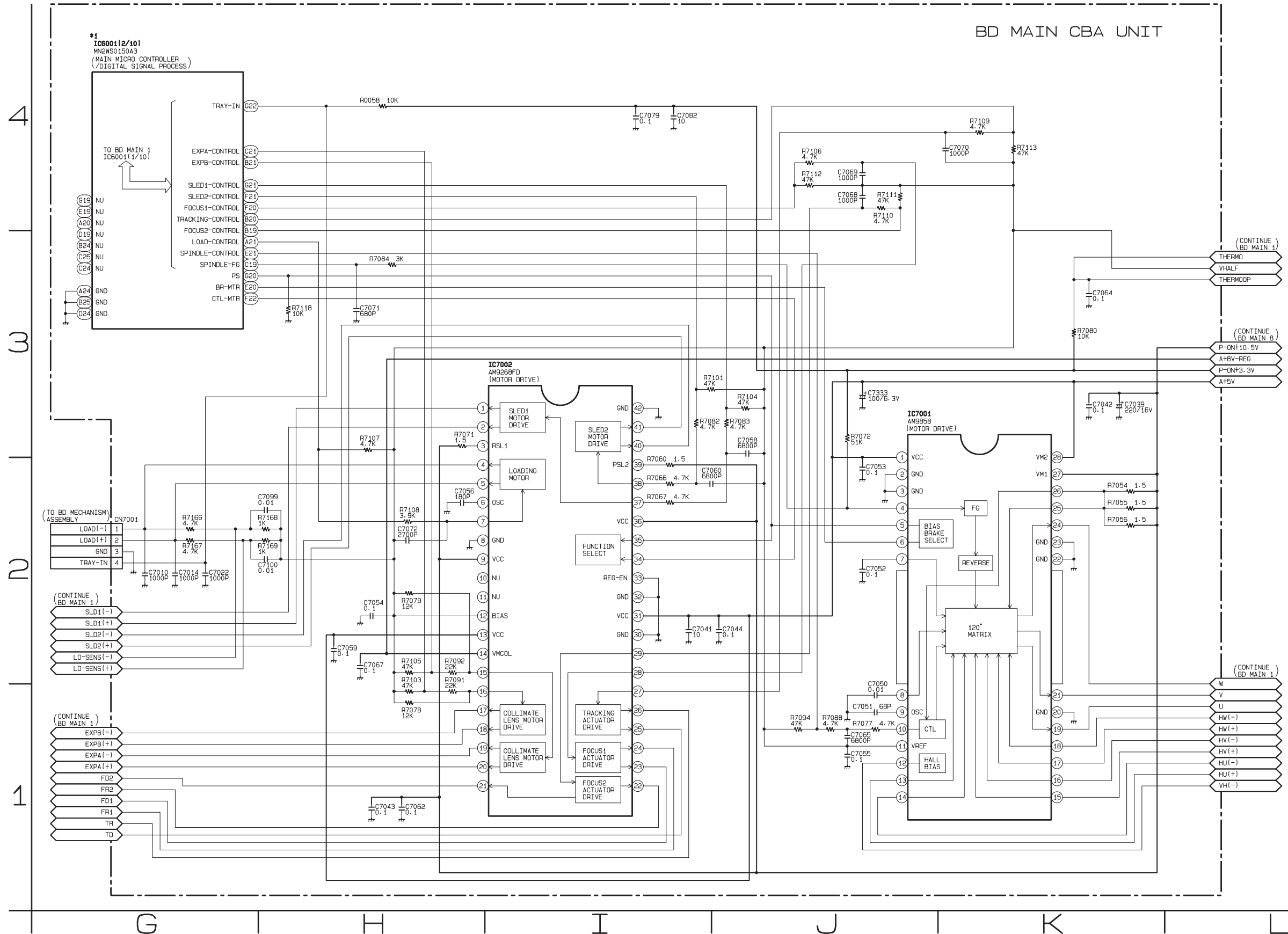
# BD Main 1 Schematic Diagram

\*1 NOTE:  
 The order of pins shown in this diagram is different from that of actual IC6001.  
 IC6001 is divided into ten and shown as IC6001 (1/10) ~ IC6001 (10/10) in this BD Main Schematic Diagram Section.



# BD Main 2 Schematic Diagram

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC6001.  
IC6001 is divided into ten and shown as IC6001 (1/10) ~ IC6001 (10/10) in this BD Main Schematic Diagram Section.

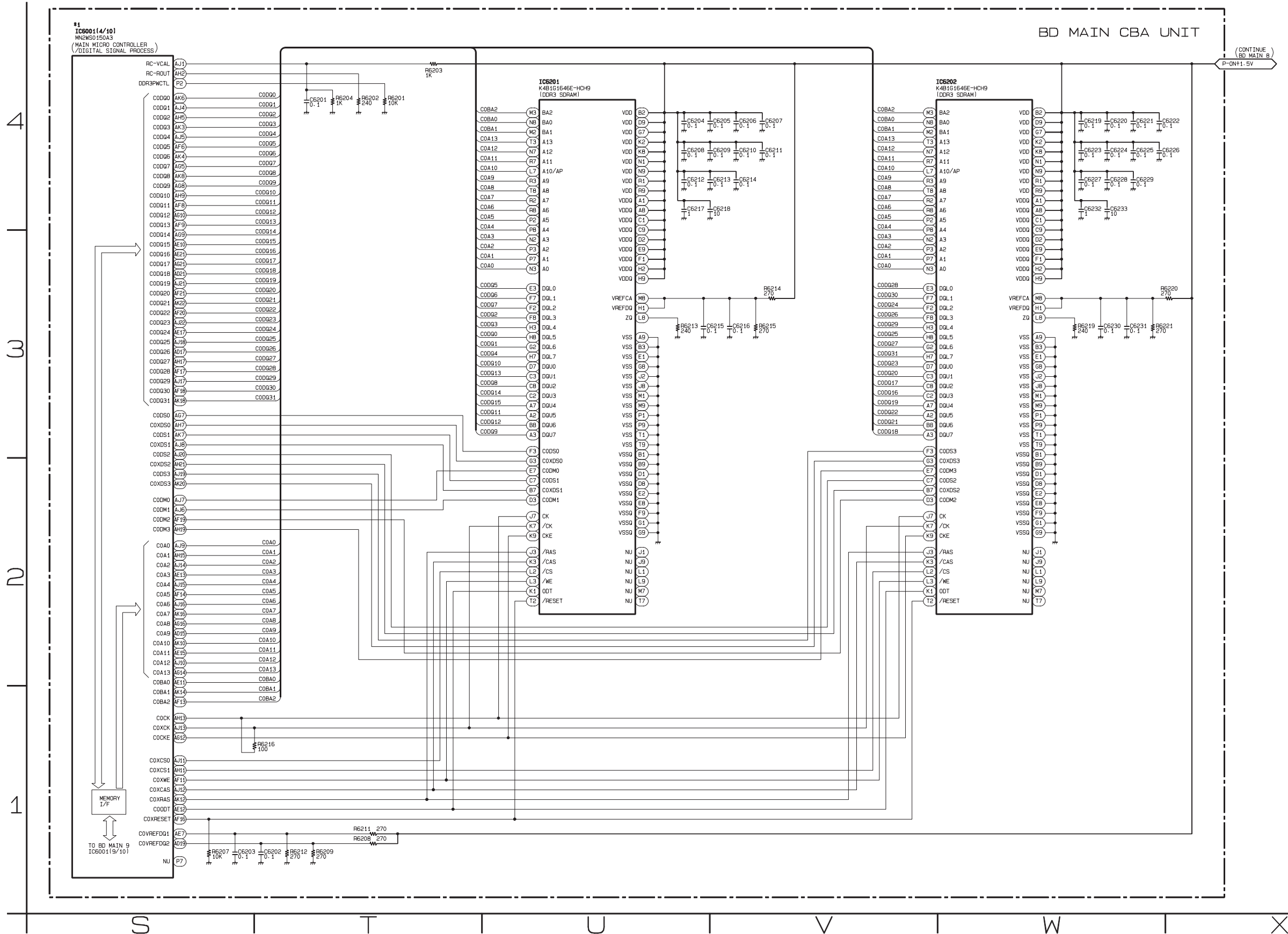




# BD Main 4 Schematic Diagram

\*1 NOTE:

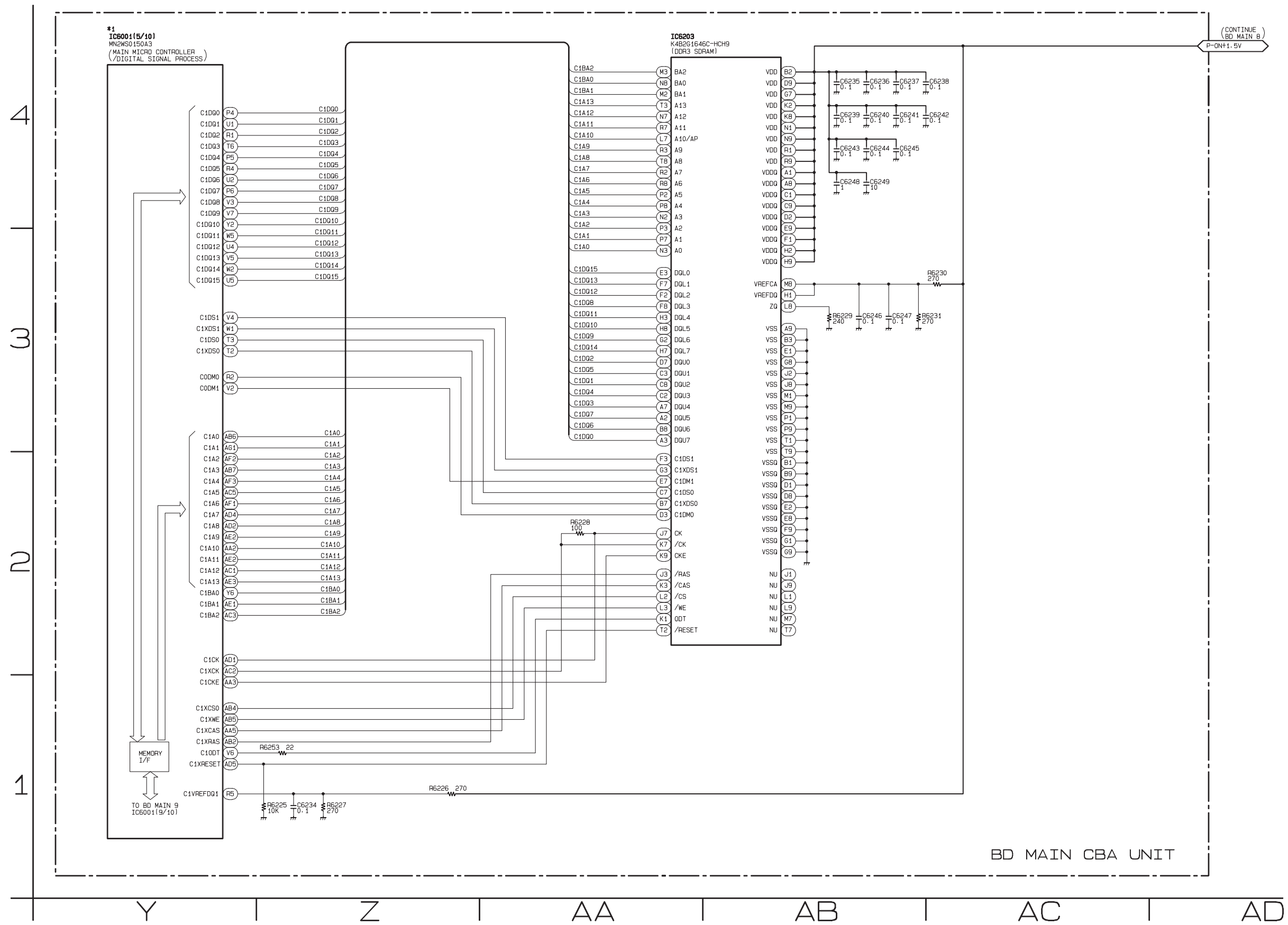
The order of pins shown in this diagram is different from that of actual IC6001.  
IC6001 is divided into ten and shown as IC6001 (1/10) - IC6001 (10/10) in this BD Main Schematic Diagram Section.





# BD Main 5 Schematic Diagram

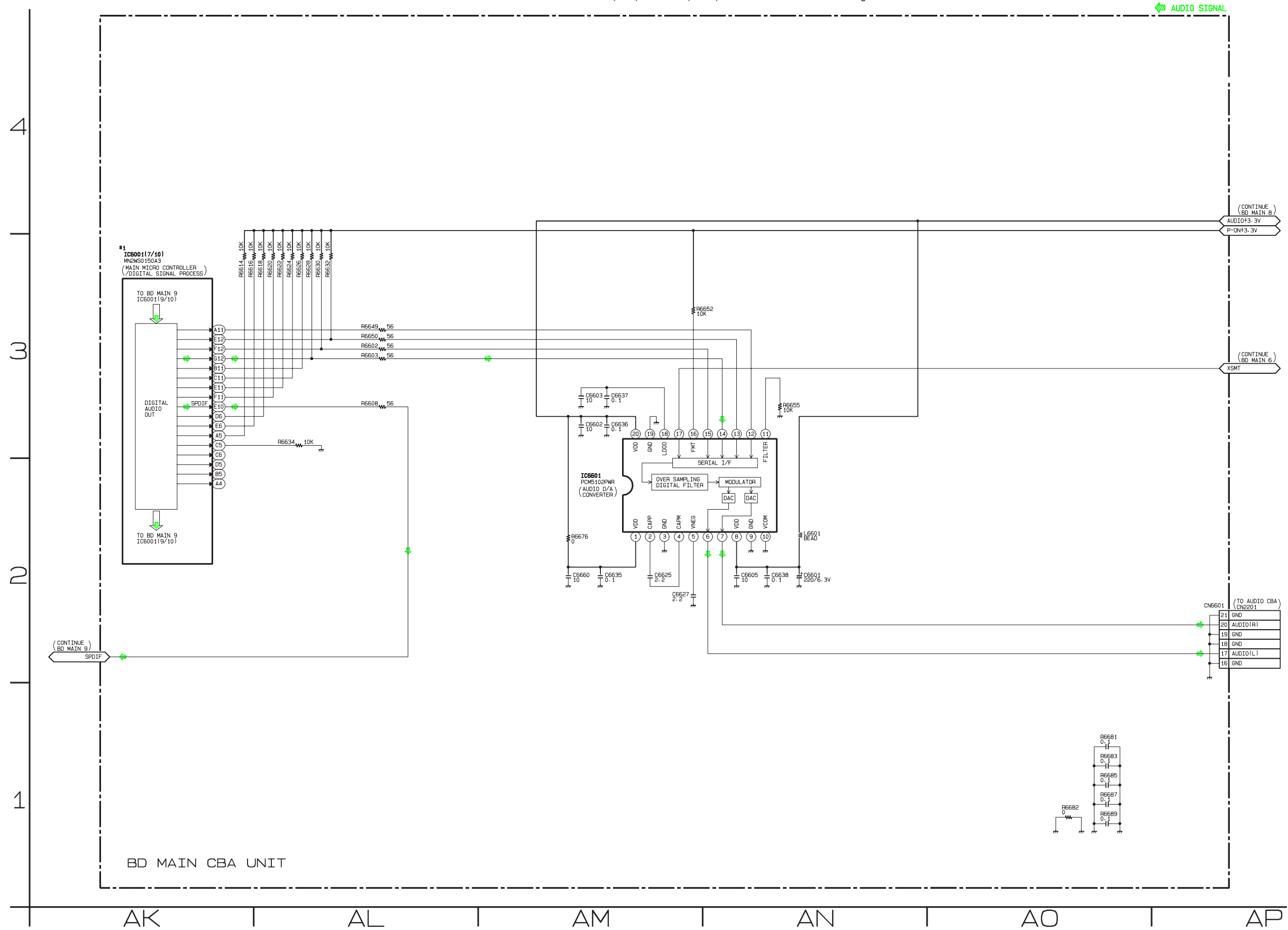
**\*1 NOTE:**  
 The order of pins shown in this diagram is different from that of actual IC6001.  
 IC6001 is divided into ten and shown as IC6001 (1/10) - IC6001 (10/10) in this BD Main Schematic Diagram Section.





# BD Main 7 Schematic Diagram

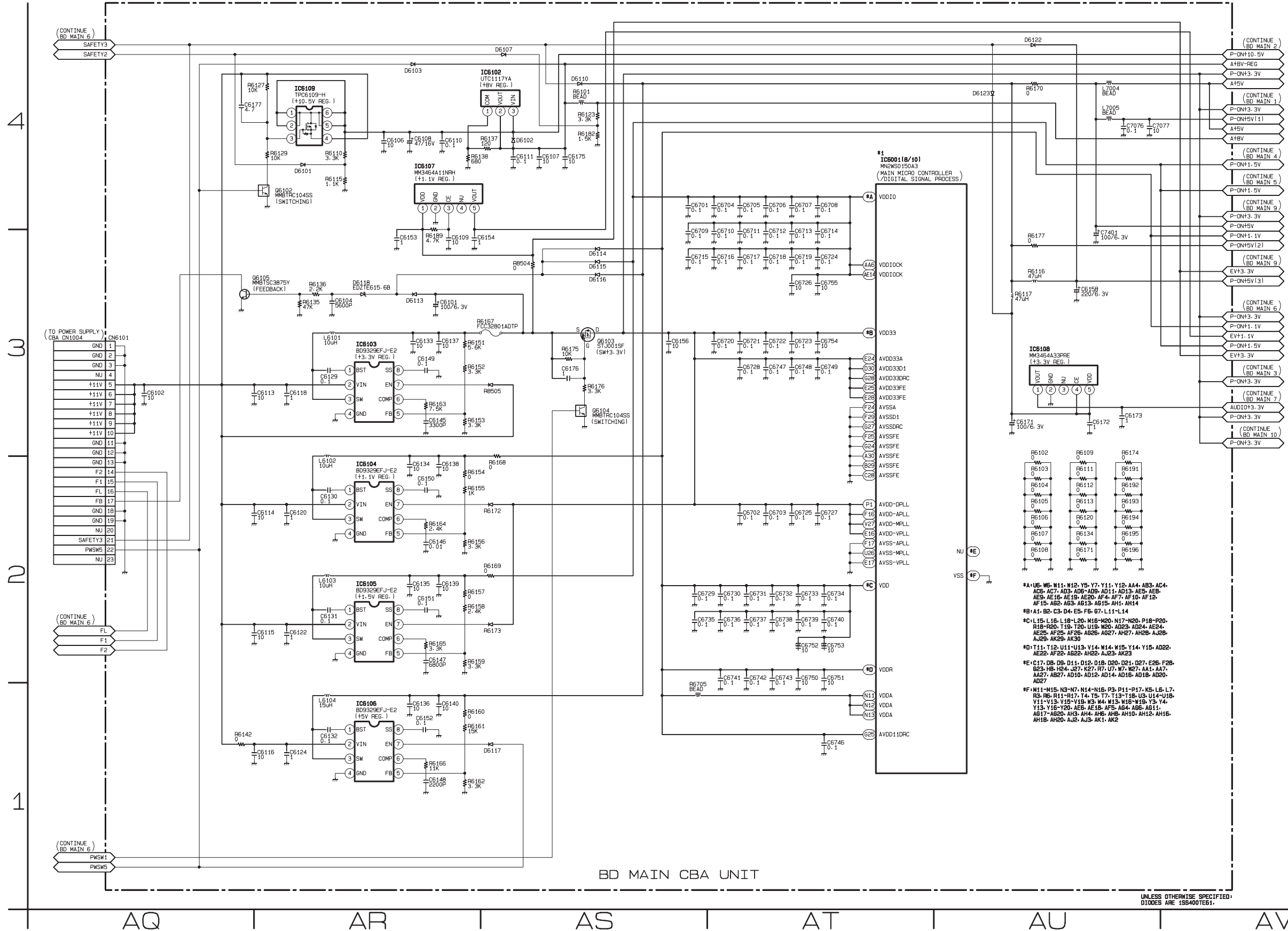
\*1 NOTE:  
 The order of pins shown in this diagram is different from that of actual IC6001.  
 IC6001 is divided into ten and shown as IC6001 (1/10) ~ IC6001 (10/10) in this BD Main Schematic Diagram Section.



# BD Main 8 Schematic Diagram

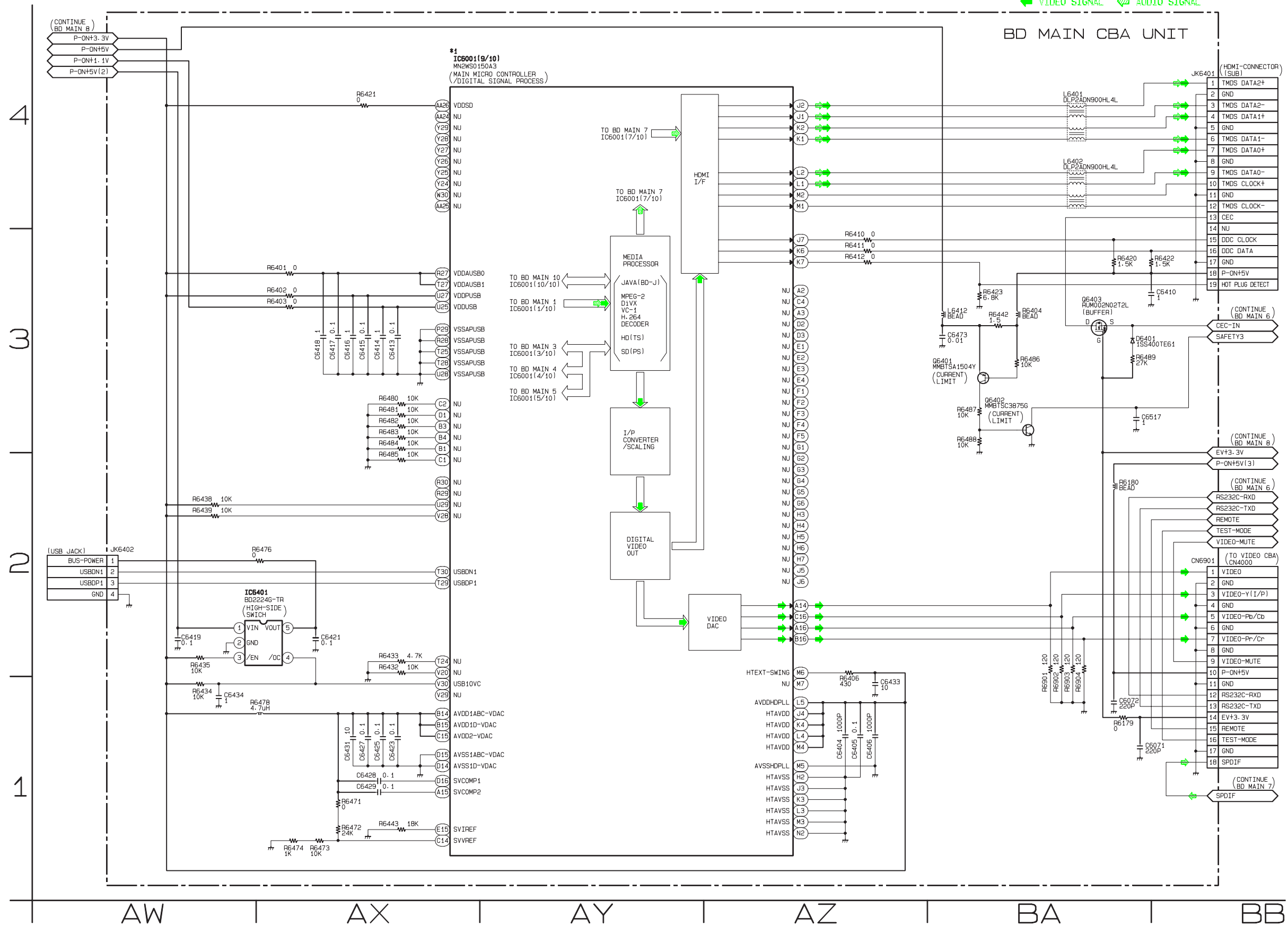
**\*1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC6001.  
IC6001 is divided into ten and shown as IC6001 (1/10) - IC6001 (10/10) in this BD Main Schematic Diagram Section.



# BD Main 9 Schematic Diagram

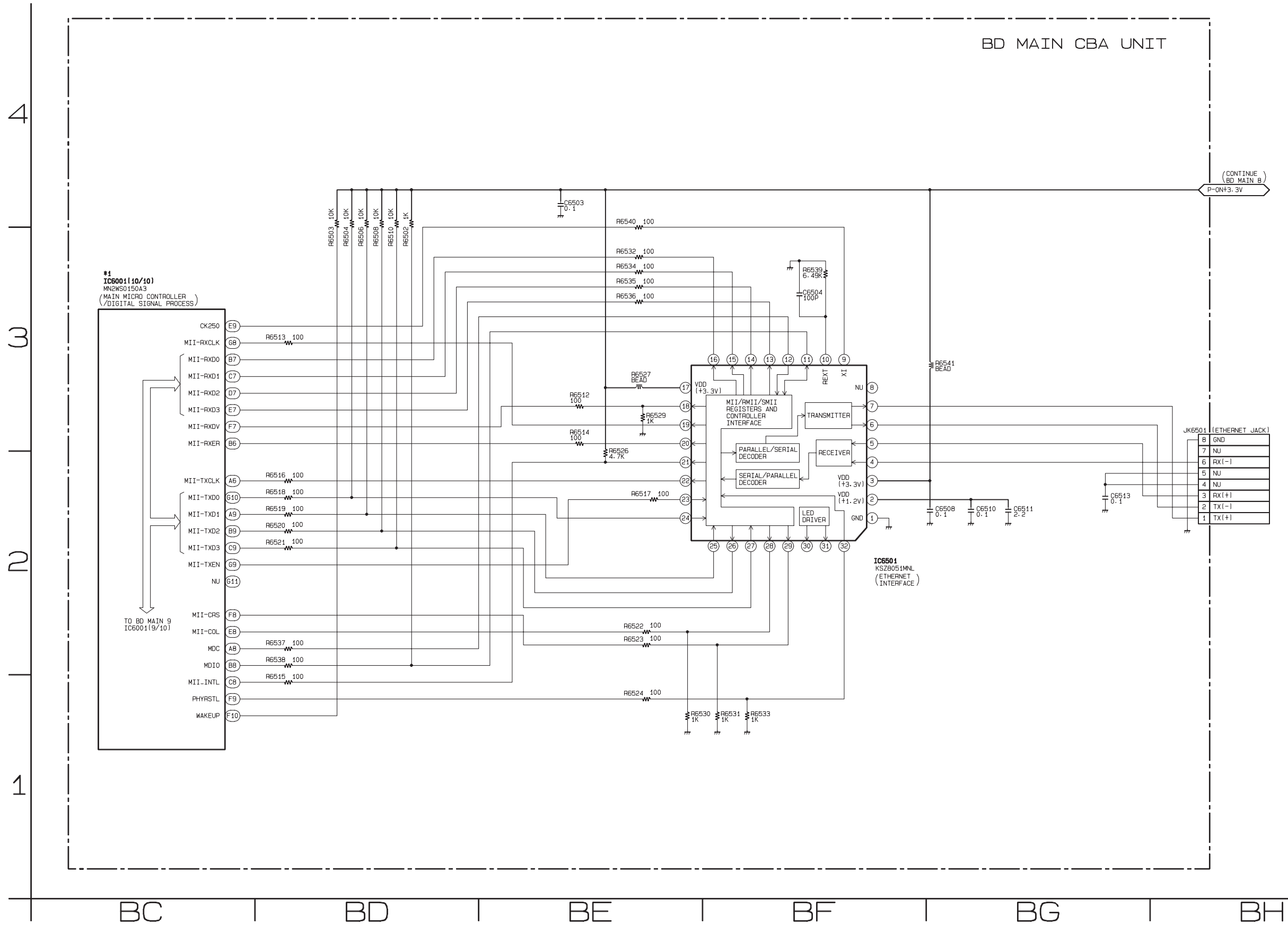
**\*1 NOTE:**  
 The order of pins shown in this diagram is different from that of actual IC6001.  
 IC6001 is divided into ten and shown as IC6001 (1/10) ~ IC6001 (10/10) in this BD Main Schematic Diagram Section.



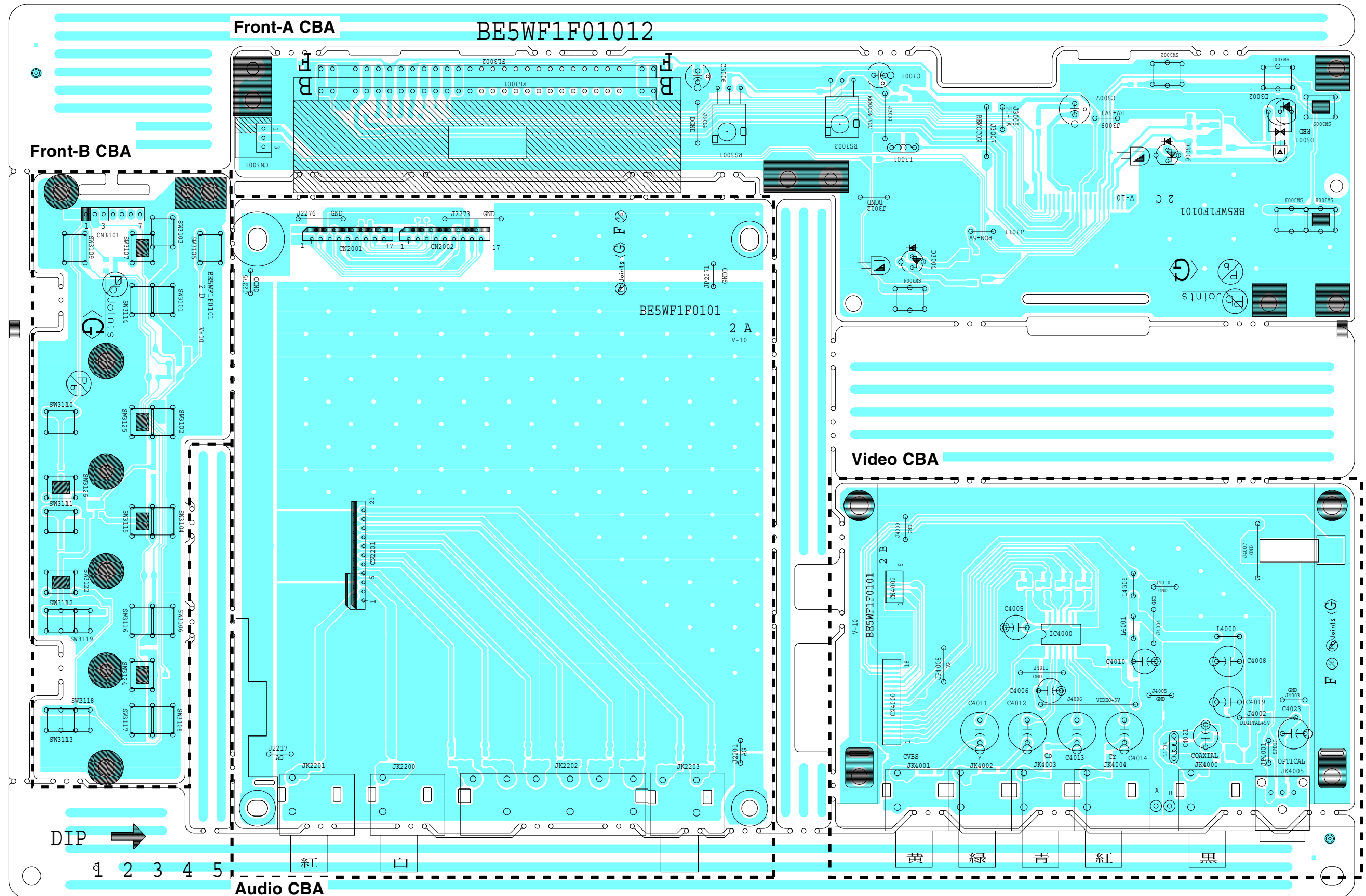
# BD Main 10 Schematic Diagram

**\*1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC6001.  
 IC6001 is divided into ten and shown as IC6001 (1/10) ~ IC6001 (10/10) in this BD Main Schematic Diagram Section.

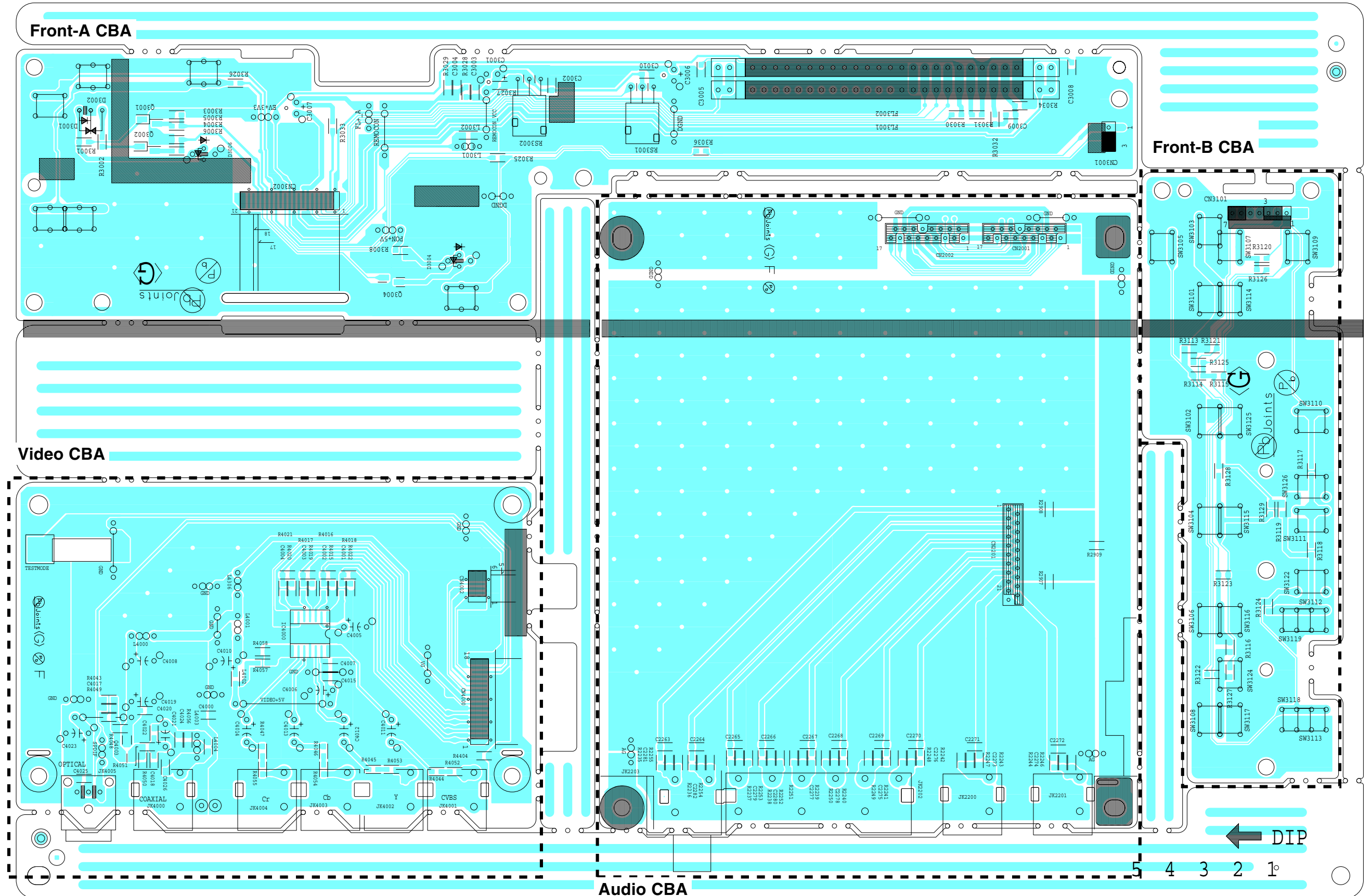


Audio CBA, Video CBA, Front-A CBA & Front-B CBA Top View





Audio CBA, Video CBA, Front-A CBA & Front-B CBA Bottom View



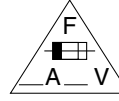




# Power Supply CBA & RS232C CBA Bottom View

**CAUTION !**

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F1000) 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 !**

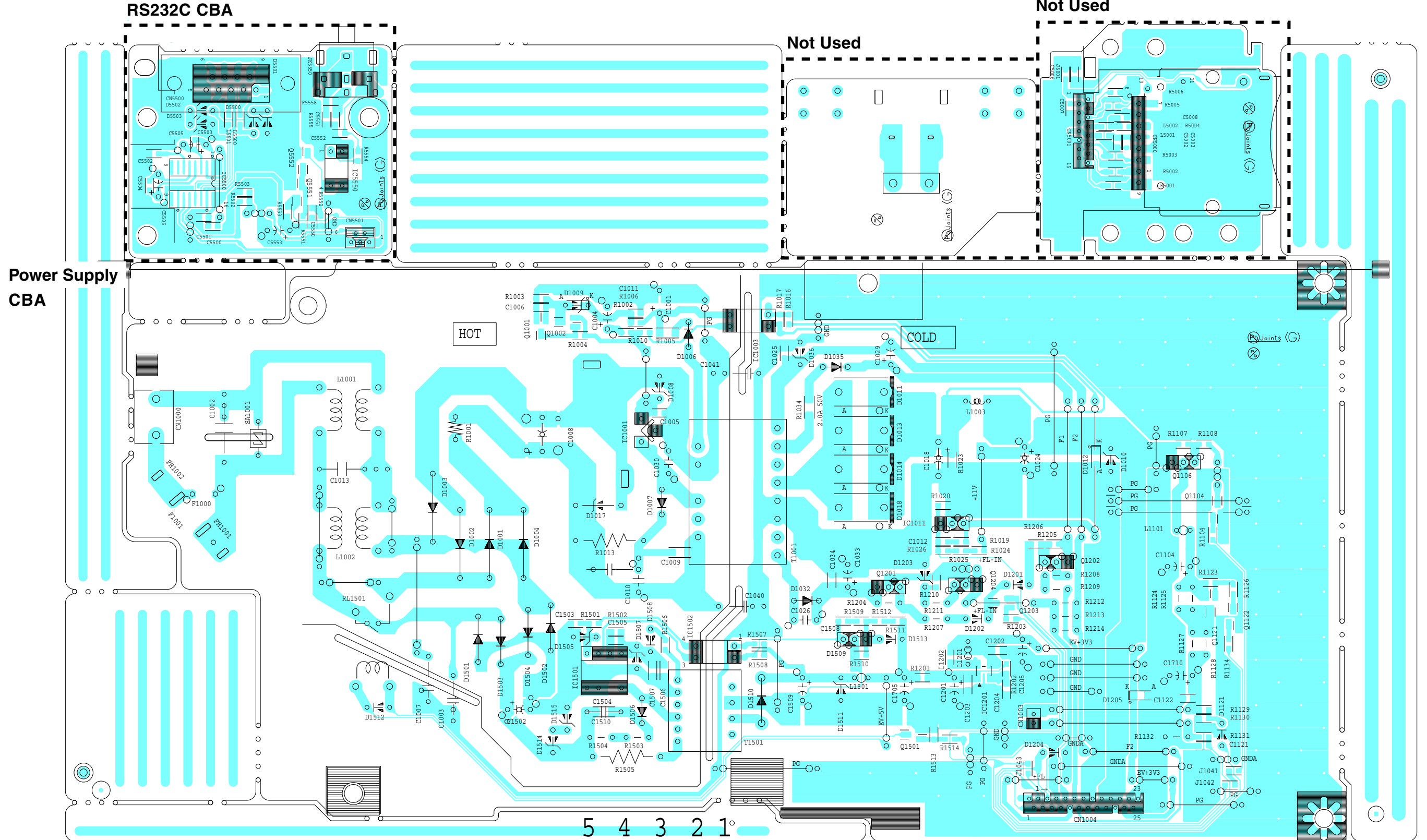
For continued protection against fire hazard, replace only with the same type fuse.  
ATTENTION : Pour une protection continue les risques d'Incele n'utiliser que des fusible de même type.  
**Risk of fire-replace fuse as marked.**

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

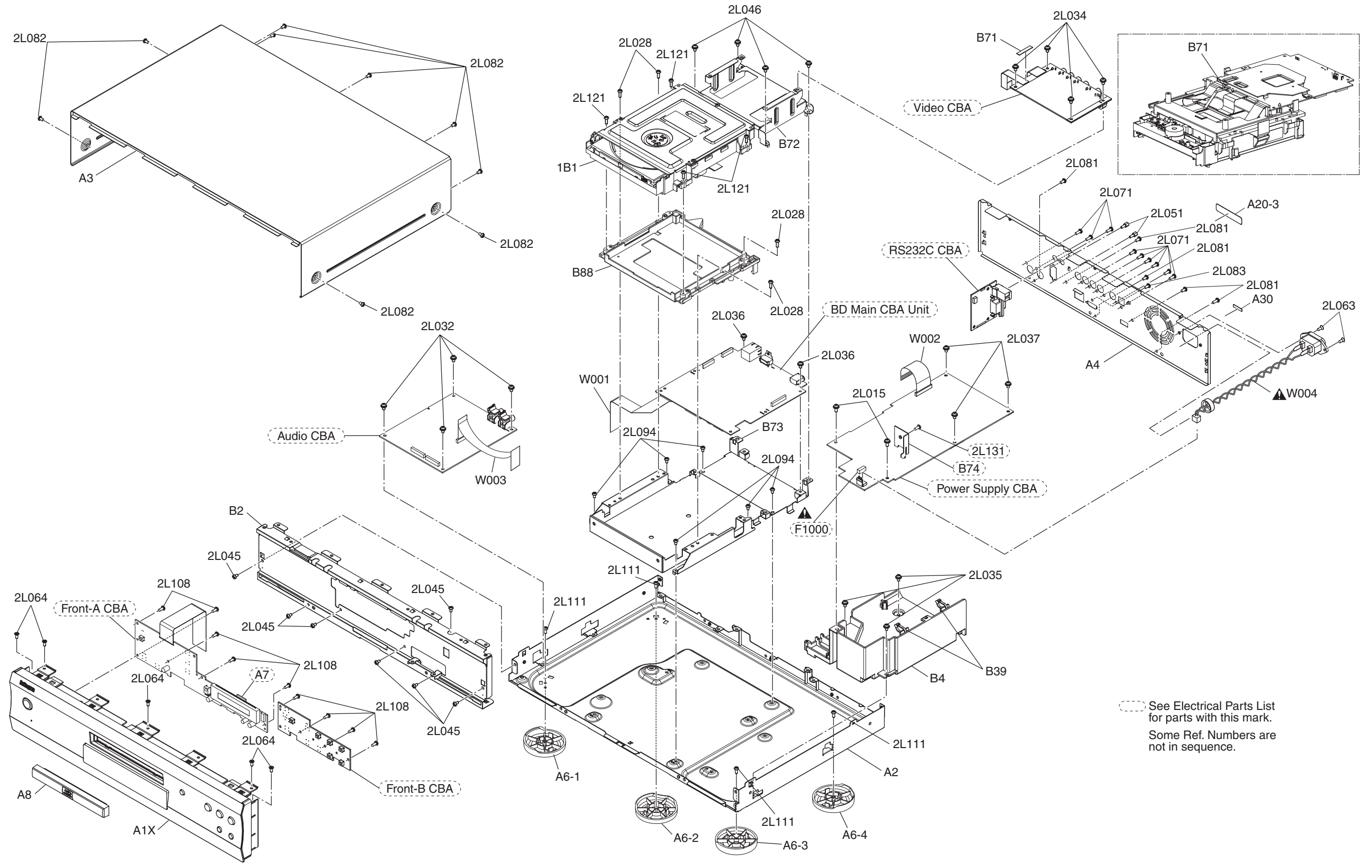
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used when repairing.  
Also, in order to have the ability to increase the input slowly, when troubleshooting this type of power supply circuit, a variable isolation transformer is required.

**NOTE:**

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

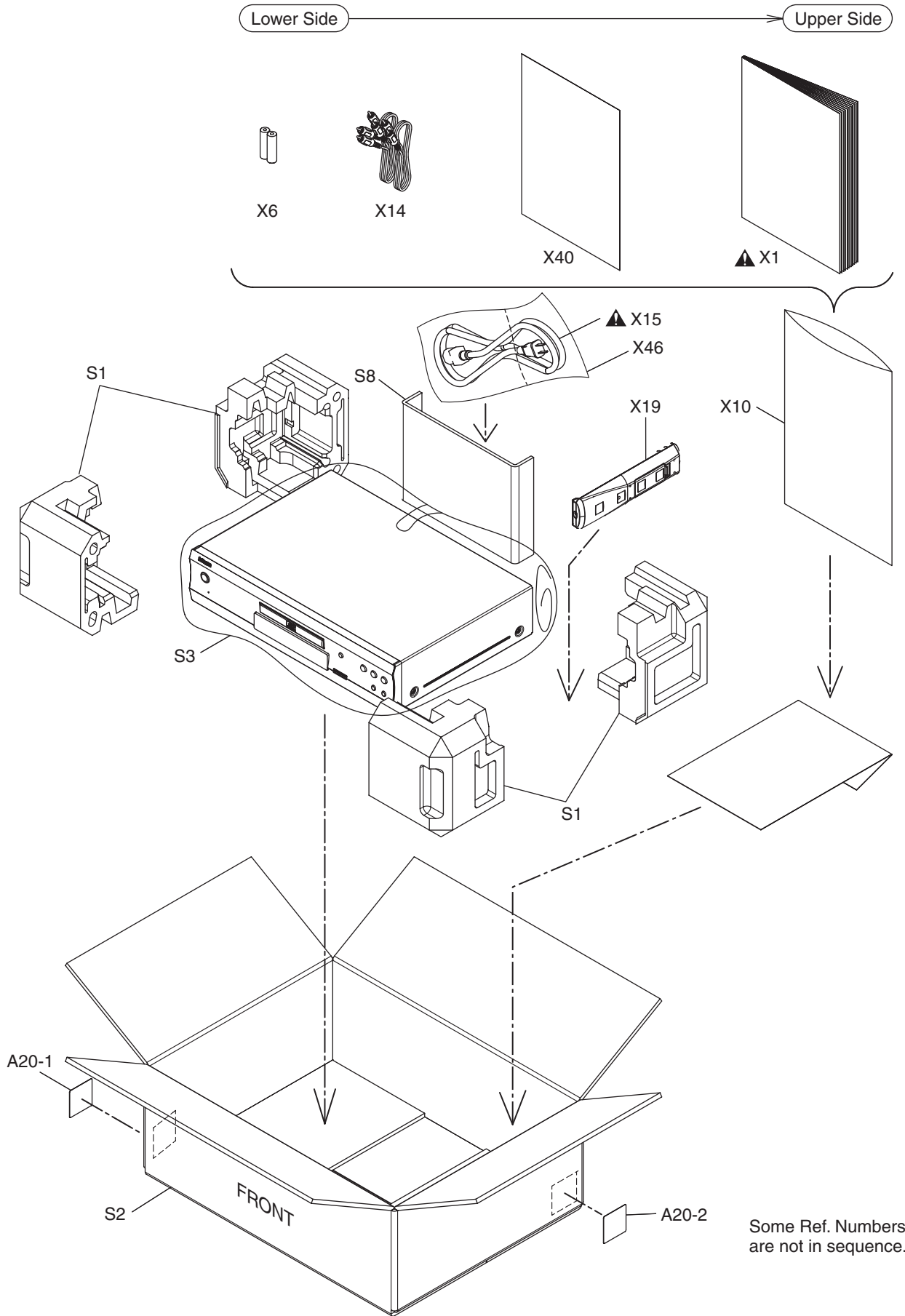


# EXPLODED VIEW



See Electrical Parts List for parts with this mark. Some Ref. Numbers are not in sequence.

# PACKING VIEW



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.

## EXPLODED VIEW PARTS LIST

Ref. No.	Description	Part No.
A1X	FRONT ASSEMBLY E5WF1UD	1VM022412
A2	CHASSIS E5XB0ED	1VM231477
A3	TOP COVER E5KA0UD	1VM021193
A4	REAR PANEL E5WF1UD	1VM232436
A6-1	FOOT ASSEMBLY(FRONT-L) E5XB0ED	1VM439043
A6-2	FOOT ASSEMBLY(REAR-L) E5XB0ED	1VM439044
A6-3	FOOT ASSEMBLY(FRONT-R) E5XB0ED	1VM439499
A6-4	FOOT ASSEMBLY(REAR-R) E5XB0ED	1VM439500
A8	TRAY PANEL ASSEMBLY E5XF1ED	1VM337497
A20-3	BAR CODE LABEL E5WF1UD	-----
A30	MODEL NO.LABEL E5WF0UD	-----
1B1	MECHA ASSEMBLY N77F0DUM	N77F2DUM
2L015	SCREW TAP TIGHT WASHER+ P-TIGHT	GCJP3080
2L028	SCREW S-TIGHT M3X10 BIND HEAD+	GBJS3100
2L032	SCREW S-TIGHT M3X6 E5E10UD	1VM429667
2L034	SCREW S-TIGHT M3X6 E5E10UD	1VM429667
2L035	SCREW S-TIGHT M3X6 E5E10UD	1VM429667
2L036	SCREW S-TIGHT M3X6 E5E10UD	1VM429667
2L037	SCREW S-TIGHT M3X8 WASHER HEAD+	GCJS3080
2L045	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
2L046	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
2L051	HEXAGON SPACER E6AE0UD	1VM424730
2L063	SCREW S-TIGHT M3X8 DISH HEAD+	GDHS3080
2L064	SCREW S-TIGHT M3X8 DISH HEAD+	GDHS3080
2L071	B-TIGHT SCREW M3X8 E5E00UD	1VM428563
2L081	S-TIGHT SCREW M3X6 E5E00UD	1VM428564
2L082	S-TIGHT SCREW M3X6 E5E00UD	1VM428564
2L083	S-TIGHT SCREW M3X6 E5E00UD	1VM428564
2L094	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L108	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L111	SCREW P-TIGHT M3X6 BIND HEAD+	GBJP3060
2L121	SCREW P-TIGHT 3X14 BIND HEAD +	GBJP3140
B2	FRONT BRACKET E5SE0UD	1VM332919B
B4	POWER HOLDER E5KA0UD	1VM122880G
B39	LEAD CLAMPER	1790256
B71	HIMELON TAPE(5X25) E5KA0UD	1VM431688
B72	AV PCB BRACKET E5SE0UD	1VM229337
B73	LOADER BRACKET E5SE0UD	1VM124559
B88	LOADER HOLDER E5XB0ED	1VM125980
W001	WIRE ASSEMBLY FFC 17/250/1.0	WX1E5XF1-009
W002	WIRE ASSEMBLY FFC 23/60/1.0	WX1E5XF1-002
W003	WIRE ASSEMBLY FFC 5/95/1.0	WX1E5WF1-003
W004#	WIRE ASSEMBLY AC INLET 2/300/AWG20	WX1E5XF1-008

## PACKING VIEW PARTS LIST

Ref. No.	Description	Part No.
A20-1	BAR CODE LABEL E5WF1UD	-----
A20-2	BAR CODE LABEL E5WF1UD	-----
S1	SIDE PAD E5XF1ED	1VM126240
S2	GIFT BOX CARTON E5WF1UD	1VM338558
S3	SET BAG E5KB0UD	1VM433842C
S8	PARTITION PAD E5SE0UD	1VM435619
X1#	OWNERS MANUAL E5WF1UD	1VMN31613
X6	MANGANESE DRY BATTERY R6UWC/2STA	XB0M311MS003
X10	ACCESSORY BAG E4U10JD	1VM436763
X14	AV CORD 1000/BLACK	WPZ0102TM018
X15#	AC CORD WITH A GND WIRE CSA/202/NO/BLACK	WAV2020LW001
X19	REMOTE CONTROL UNIT NC123UD	NC123UD
X40	WARRANTY CARD E5H55UD	1VMN26326
X46	ACCESSORY BAG E4U10JD	1VM436763

# 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 UNIT

Ref. No.	Description	Part No.
	BD MAIN CBA UNIT	1VSA28364

## AV ASSEMBLY

Ref. No.	Description	Part No.
	AV ASSEMBLY Consists of the following:	1VSA29029
	FRONT-A CBA	-----
	FRONT-B CBA	-----
	VIDEO CBA	-----
	AUDIO CBA	-----

## FRONT-A CBA

Ref. No.	Description	Part No.
	FRONT-A CBA Consists of the following:	-----
<b>CAPACITORS</b>		
C3001	ELECTROLYTIC CAP. 100µF/6.3V/M/H7	CEA101ENW025
C3003	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C3005	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C3006	ELECTROLYTIC CAP. 100µF/6.3V/M/H7	CEA101ENW025
C3008	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C3009	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C3010	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
<b>CONNECTORS</b>		
CN3001	CONNECTOR PRINT OSU S3B-PH-K-S(LF)(SN)	J3PHC03JG030
CN3002	WIRE ASSEMBLY FFC DIRECT 17/300/1.0	WX1E5XF1-004
<b>COIL</b>		
L3001	INDUCTOR(100µH K) LAP02TA101K	LLAXKATTU101
<b>RESISTORS</b>		
R3025	CHIP RES. 1/10W J 180 Ω	RRXAJR5Z0181
R3026	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R3027	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R3028	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R3030	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R3031	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R3032	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
R3033	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100

Ref. No.	Description	Part No.
<b>SWITCHI</b>		
SW3008	TACT SWITCH SKQSAB	SST0101AL038
<b>MISCELLANEOUS</b>		
A7	FOOT H5100UD	0VM406940A
FL3001	FL DM182-GINK	TVFD150FT018
RS3001	SENSOR REMOTE RECEIVER KSM-713TC5B-FU	USEJRS0KK007

## FRONT-B CBA

Ref. No.	Description	Part No.
	FRONT-B CBA Consists of the following:	-----
<b>CONNECTOR</b>		
CN3101	WIRE ASSEMBLY PH DIRECT 3/35/AWG26	WX1E5KA0-002
<b>RESISTORS</b>		
R3116	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R3119	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R3122	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R3123	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R3124	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R3125	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R3129	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
<b>SWITCHES</b>		
SW3114	TACT SWITCH SKQSAB	SST0101AL038
SW3115	TACT SWITCH SKQSAB	SST0101AL038
SW3116	TACT SWITCH SKQSAB	SST0101AL038
SW3117	TACT SWITCH SKQSAB	SST0101AL038
SW3118	TACT SWITCH SKQSAB	SST0101AL038
SW3119	TACT SWITCH SKQSAB	SST0101AL038

## VIDEO CBA

Ref. No.	Description	Part No.
	VIDEO CBA Consists of the following:	-----
<b>CAPACITORS</b>		
C4001	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C4002	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C4003	CHIP CERAMIC CAP.(1608) B K 1µF/10V	CHD1AK30B105
C4004	CHIP CERAMIC CAP.(1608) B K 1µF/10V	CHD1AK30B105
C4005	ELECTROLYTIC CAP. 10µF/16V/M	CEC10RENW016
C4006	ELECTROLYTIC CAP. 100µF/6.3V/M	CEA101ENW016
C4007	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C4011	ELECTROLYTIC CAP. 1000µF/6.3V/M	CEA102ENW016
C4012	ELECTROLYTIC CAP. 1000µF/6.3V/M	CEA102ENW016
C4013	ELECTROLYTIC CAP. 1000µF/6.3V/M	CEA102ENW016
C4014	ELECTROLYTIC CAP. 1000µF/6.3V/M	CEA102ENW016
C4019	ELECTROLYTIC CAP. 220µF/6.3V/M	CEA221ENW016
C4020	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C4021	ELECTROLYTIC CAP. 47µF/6.3V/M	CEA47RENW016
C4025	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
<b>CONNECTORS</b>		
CN4000	WIRE ASSEMBLY FFC DIRECT 18/113/1.0	WX1E5SF1-001
CN4002	WIRE ASSEMBLY FFC DIRECT 5/80/1.0	WX1E5XF1-005
<b>IC</b>		
IC4000	IC VIDEO DRIVER BH76071FJ-E2	QSCA0T0RM103
<b>COILS</b>		
L4000	WIRE CP STP-S-0.60	XZ40F0REN002
L4001	WIRE CP STP-S-0.60	XZ40F0REN002

Ref. No.	Description	Part No.
L4002	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
L4003	INDUCTOR(0.47μH K) LAP02TAR47K	LLAXKATTUR47
L4306	WIRE CP STP-S-0.60	XZ40FOREN002
<b>TRANSISTOR</b>		
Q4003	NPN TRANSISTOR SMD MMBTSC3875G	NQ1GBTSC3875
<b>RESISTORS</b>		
R4043	CHIP RES. 1/10W J 2k Ω	RRXAJR5Z0202
R4044	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5Z0750
R4045	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5Z0750
R4046	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5Z0750
R4047	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5Z0750
R4048	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4049	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4050	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R4051	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R4052	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R4053	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R4054	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R4055	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R4056	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R4057	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
<b>MISCELLANEOUS</b>		
JK4000	RCA JACK(BLACK) MSP-251V-01 NI FE LFF	JXRL010LY125
JK4001	RCA JACK(YELLOW) MSP-251V-02 NI	JXRL010LY117
JK4002	RCA JACK 1PIN(GREEN) MSP-251V-07 NI FE LF	JXRL010LY171
JK4003	RCA JACK 1PIN(BLUE) MSP-251V-19 NI FE LF	JXRL010LY179
JK4004	RCA JACK 1PIN(RED) MSP-251V-03 NI FE LF	JXRL010LY173
JK4005	FIBER OPTIC TRANS.MODULE 0C-0805T*002	JWHHA00JD002
JP4001	WIRE CP STP-S-0.60	XZ40FOREN002

## AUDIO CBA

Ref. No.	Description	Part No.
	AUDIO CBA Consists of the following:	-----
<b>CAPACITORS</b>		
C2273	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C2274	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C2275	Not used	
C2276	Not used	
C2277	Not used	
C2278	Not used	
C2279	Not used	
C2280	Not used	
C2281	Not used	
C2282	Not used	
<b>CONNECTORS</b>		
CN2001	FFC CONNECTOR IMSA-9615S-17A-PP-A	JC96J17ER007
CN2002	FFC CONNECTOR IMSA-9615S-17A-PP-A	JC96J17ER007
CN2201	FPC/FFC CONNECTOR IMSA-9615S-05A-PP-A	JC96J05ER007
<b>RESISTORS</b>		
R2235	No used	
R2236	No used	
R2237	No used	
R2238	No used	
R2239	No used	
R2240	No used	
R2241	No used	
R2242	No used	
R2243	CHIP RES. 1/10W F 470 Ω	RRXAFR5H4700
R2244	CHIP RES. 1/10W F 470 Ω	RRXAFR5H4700

Ref. No.	Description	Part No.
R2246	CHIP RES. 1/10W F 5.6k Ω	RRXAFR5H5601
R2247	CHIP RES. 1/10W F 5.6k Ω	RRXAFR5H5601
R2248	No used	
R2249	No used	
R2250	No used	
R2251	No used	
R2252	No used	
R2253	No used	
R2254	No used	
R2255	No used	
<b>MISCELLANEOUS</b>		
JK2200	RCA JACK(WHITE) MSP-251V-04 NI FE LF	JXRL010LY172
JK2201	RCA JACK 1PIN(RED) MSP-251V-03 NI FE LF	JXRL010LY173
JK2202	No used	
JK2203	No used	

## POWER ASSEMBLY

Ref. No.	Description	Part No.
	POWER ASSEMBLY Consists of the following:	1VSA28208
	POWER SUPPLY CBA RS232C CBA	----- -----

## POWER SUPPLY CBA

Ref. No.	Description	Part No.
	POWER SUPPLY CBA Consists of the following:	-----
<b>CAPACITORS</b>		
C1001	ELECTROLYTIC CAP. 10μF/50V M(105C)	CE1JMASTH100
C1002#	CAP METALIZED FILM 0.068μF/275V/K/MPX	CTA683SER002
C1004	ELECTROLYTIC CAP. 47μF/25V/M	CED47RENW016
C1005	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1006	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1008	CAP ELE STD-105 220μF/200V/M/105	CE2DMZPTH221
C1010	METALIZED FILM CAP. 0.010μF/400V K	CMK103EUR002
C1011	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1012	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1013#	CAP METALIZED FILM 0.022μF/275V/K/MPX	CTA223SER002
C1018	ALUMINUM ELECTROLYTIC_CAP 4700μF/16V/M(105C)	CE1CMZPTH472
C1024	ELECTROLYTIC CAP. 470μF/16V/M	CEC471ENW016
C1025	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1026	CERAMIC CAP. B K 220pF/500V	CCD2JKS0B221
C1029	ELECTROLYTIC CAP. 220μF/16V M(105C)	CE1CMASTH221
C1030	CERAMIC CAP. SL J 100pF/1KV	CCD3AJPSL101
C1033	ELECTROLYTIC CAP. 33μF/50V/M(105C)	CE1JMASTH330
C1034	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1040#	SAFETY CAP. 2200pF/250V	CCG2EMA0E222
C1041#	SAFETY CAP. 2200pF/250V	CCG2EMA0E222
<b>CONNECTORS</b>		
CN1000#	CONNECTOR PRINT OSU B2P3-VH-B (LF)(SN)	J3VH030JG014
CN1004	FFC CONNECTOR IMSA-9615S-23A-PP-A	JC96J23ER007
<b>DIODES</b>		
D1001	DIODE 1N5397-B	NDLZ001N5397
D1002	DIODE 1N5397-B	NDLZ001N5397
D1003	DIODE 1N5397-B	NDLZ001N5397
D1004	DIODE 1N5397-B	NDLZ001N5397
D1006	DIODE FR154	NDLZ000FR154
D1007	RECTIFIER DIODE BA157	NDQZ000BA157
D1008	DIODE ZENER 27BSB-T26	NDTB027BST26

Ref. No.	Description	Part No.
D1009	DIODE ZENER 27BSB-T26	NDTB027BST26
D1011	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D1012	CHIP ZENER DIODE CRZ16(T85L Q	QD1Z00CRZ16Q
D1013	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D1014	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D1032	RECTIFIER DIODE BA157	NDQZ000BA157
D1035	RECTIFIER DIODE BA157	NDQZ000BA157
D1036	DIODE ZENER 5V1BSB-T26	NDTB5R1BST26
D1201	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1202	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1203	DIODE ZENER 36BSA-T26	NDTA036BST26
D1204	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
<b>ICS</b>		
IC1001	IC IPD MIP2E4DMY0LE	QSCA0S0MS027
IC1003▲	PHOTOCOUPLER PS2561A-1-V-A(W)	QPEWPS2561A1
IC1011	IC SHUNT REGULATOR SL431A-AT	NSZBA0TAUK01
<b>COILS</b>		
L1001▲	COIL LINE FILTER ST0603FT20-009 0.027	LLEB0Z0Y2001
L1003	POWER COIL 22μH-K	LLF2200KV015
<b>TRANSISTORS</b>		
Q1001	NPN TRANSISTOR SMD MMBTSC3875G	NQ1GBTSC3875
Q1002	PNP TRANSISTOR SMD MMBTSA1504G	NQ1GBTSA1504
Q1201	PNP TRANSISTOR ST 2SA1266Y	NQSYT2SA1266
Q1202	PNP TRANSISTOR ST 2SA1271Y	NQSY02SA1271
Q1203	NPN TRANSISTOR SMD MMBTSC3875G	NQ1GBTSC3875
Q1204	NPN TRANSISTOR ST 2SC3198G	NQSGT2SC3198
<b>RESISTORS</b>		
R1001	RES CEMENT 5W K 1.2 Ω	RWK1R2PAK003
R1002	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
R1003	CHIP RES. 1/10W J 3.6k Ω	RRXAJR5Z0362
R1004	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1005	RES CHIP 3216 1/4W 0 Ω	RRX4000HH044
R1006	CHIP RES. 1/10W J 15 Ω	RRXAJR5Z0150
R1010	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
R1013	METAL OXIDE FILM RES. 2W J 47k Ω	RN02JZLZ0473
R1016	CHIP RES. 1/10W J 47 Ω	RRXAJR5Z0470
R1017	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1019	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1020	CHIP RES. 1/10W F 1.0k Ω	RRXAFR5H1001
R1023	CHIP RES. 1/10W J 5.1k Ω	RRXAJR5Z0512
R1024	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1025	CHIP RES. 1/10W F 150 Ω	RRXAFR5H1500
R1026	CHIP RES. 1/10W F 3.3k Ω	RRXAFR5H3301
R1034	CHIP FUSE FCC32202ADTP	PDDFTCOKE202
R1203	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1204	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1205	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1206	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R1207	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1208	CARBON RES. 1/4W J 5.6 Ω	RCX4JATZ05R6
R1209	CARBON RES. 1/4W J 5.6 Ω	RCX4JATZ05R6
R1210	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1211	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R1212	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1213	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1214	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
<b>MISCELLANEOUS</b>		
2L131	SCREW C-TIGHT M3X6 BIND HEAD+	GBJC3060
B74	HEAT SINK E2A00JD	1VM424636E
F1000▲	FUSE TIME RAG SCT2.5A	PDGACB08S252
SA1001▲	SILICON SURGE ABSORBER SR221K10DS	NVQZSR221K10
T1001▲	TRANS POWER BCK-28-9872	LIT2PE0XB073

Ref. No.	Description	Part No.
W1001	SUMI TUBE F2(Z) 9X0.25 BLACK	XF40000TM001

## RS232C CBA

Ref. No.	Description	Part No.
	RS232C CBA Consists of the following:	-----
<b>CAPACITORS</b>		
C5500	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C5501	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C5502	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C5503	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C5504	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C5505	ELECTROLYTIC CAP. 47μF/16V/M	CEC47RENW016
C5506	ELECTROLYTIC CAP. 47μF/16V/M	CEC47RENW016
C5553	ELECTROLYTIC CAP. 100μF/10V/M	CEB101ENW016
<b>CONNECTORS</b>		
CN5500	CONNECTOR KAKU MES J 09 R DBR40-091F200	JBDB090JD001
CN5501	FPC/FFC CONNECTOR 5P IMSA-9615S-05C-PP-A	JC96J05ER009
<b>ICS</b>		
IC5500	IC RS232C DRIVER SP3232ECN-L/TR	NSCA0T00D001
IC5550	PHOTOCOUPLER EL817C	NPEC000EL817
<b>COILS</b>		
L5500	CHIP BEAD GZ1608D121T(F)	XL06001SSN04
L5501	CHIP BEAD GZ1608D121T(F)	XL06001SSN04
<b>TRANSISTORS</b>		
Q5551	NPN TRANSISTOR SMD MMBTRC106SS	NQ1ZTRC106SS
Q5552	NPN TRANSISTOR SMD MMBTRC106SS	NQ1ZTRC106SS
<b>RESISTORS</b>		
R5502	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R5551	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R5552	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R5553	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R5554	CHIP RES. 1/10W J 240 Ω	RRXAJR5Z0241
R5555	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R5558	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
<b>MISCELLANEOUS</b>		
JK5550	PHONE JACK MSJ-035-39D-B-PPO	JYSL020LY011



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