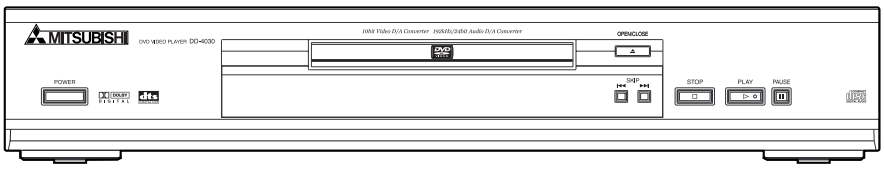
2002

MITSUBISHI

Service Manual

DVD PLAYER



MODEL

DD-4030

TABLE OF CONTENTS

MITSUBISHI ELECTRIC

MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC.

9351 Jeronimo Road, Irvine, CA 92618-1904

SPECIFICATIONS

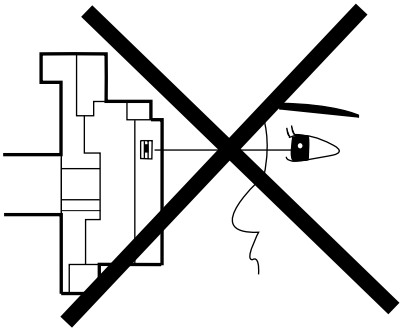
ITEM	CONDITIONS	UNIT	NOMINAL	LIMIT
1. Video Output	75 ohm load	Vpp	1.0	
2. Coaxial Digital Out		mVpp	500	
3. Audio (PCM)				
3-1. Output Level	1kHz 0dB	Vrms	2.0	
3-2. S/N		dB	110	
3-3. Freq. Response				
DVD	fs=48kHz 20~22kHz	dB	± 2	
CD	fs=44.1kHz 20~20 kHz	dB	± 2	
3-4. THD+N	1 kHz 0dB	%	0.005	

NOTES:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply : AC120 V 60 Hz
3. Load imp. : 100 K ohm
4. Room ambient : +25 °C

LASER BEAM SAFETY PRECAUTIONS

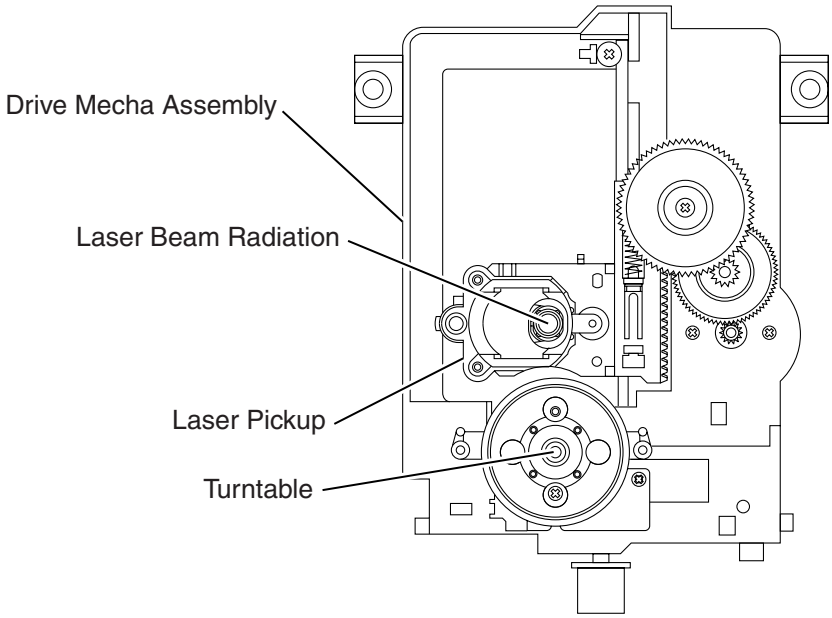
This DVD player uses a pickup that emits a laser beam.



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 30cm 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.

Location: Inside Top of DVD 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 (heatsinks, oxide metal film resistors, fusible resistors, etc.).

G. Check that replaced wires do not contact sharp edges or pointed parts.

H. When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector
The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure

1)Remove the old connector by cutting the wires at a point close to the connector.

Important: Do not re-use a connector. (Discard it.)

2)Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

3)Align the lengths of the wires to be connected. Insert the wires fully into the connector.

4)Use a crimping tool to crimp the metal sleeve at its center. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

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	≥ 3.2mm (0.126 inches)

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

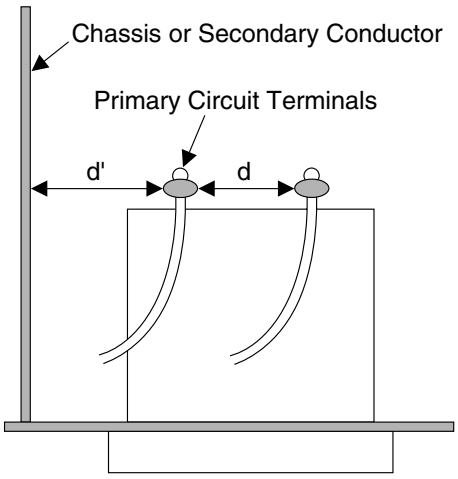


Fig. 1

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.

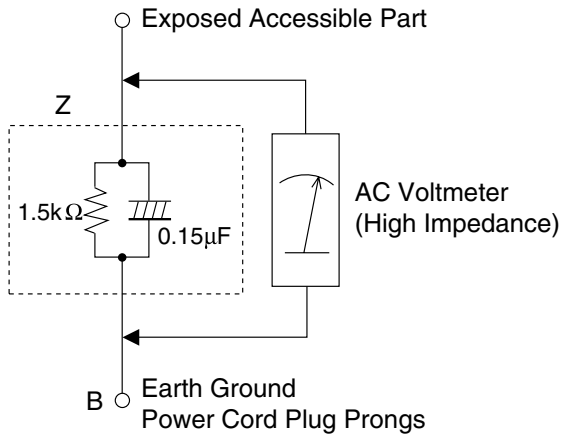


Fig. 2

Table 2: Leakage current ratings for selected areas

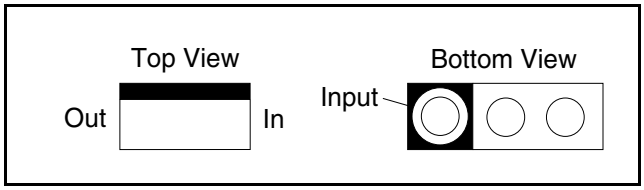
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15μF CAP. & 1.5kΩ RES. Connected in parallel	i≤0.5mA Peak	Exposed accessible parts

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

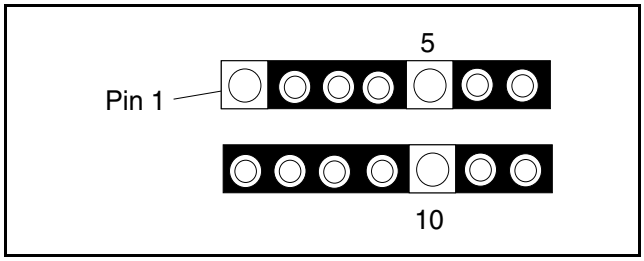
STANDARD NOTES FOR SERVICING

Circuit Board Indications

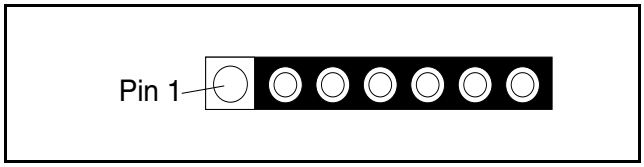
a. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

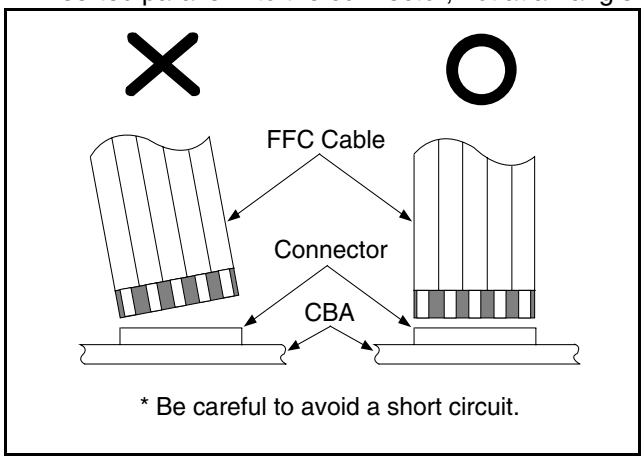


c. The 1st pin of every male connector is indicated as shown.



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.



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)

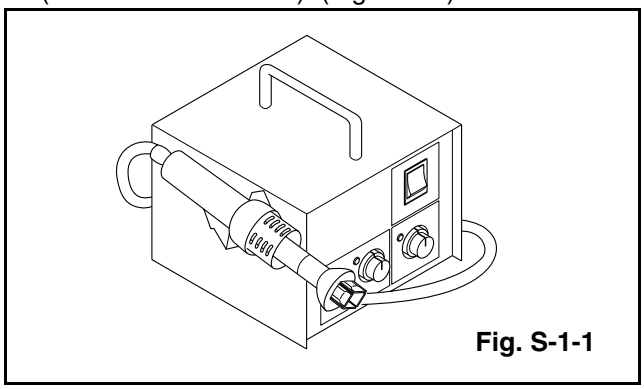


Fig. S-1-1

(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)

(1) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Caution:

1. 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)
2. 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.

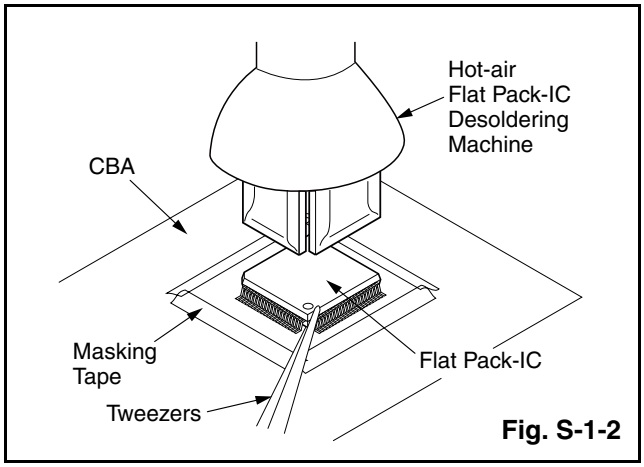


Fig. S-1-2

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)

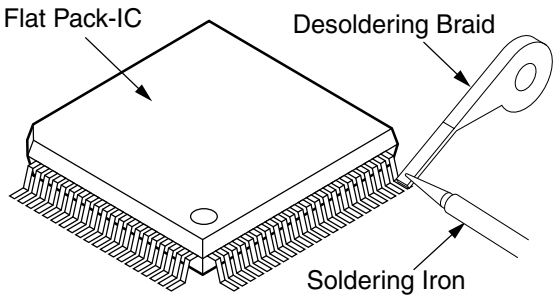


Fig. S-1-3

(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)

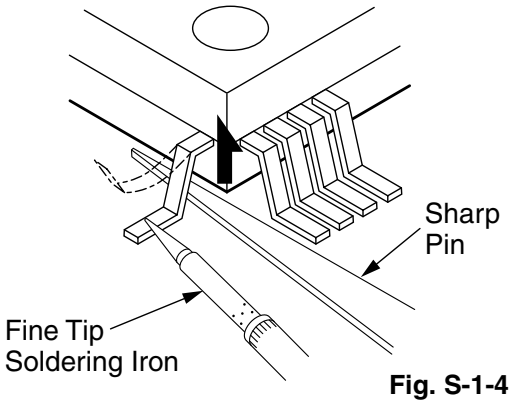


Fig. S-1-4

(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.

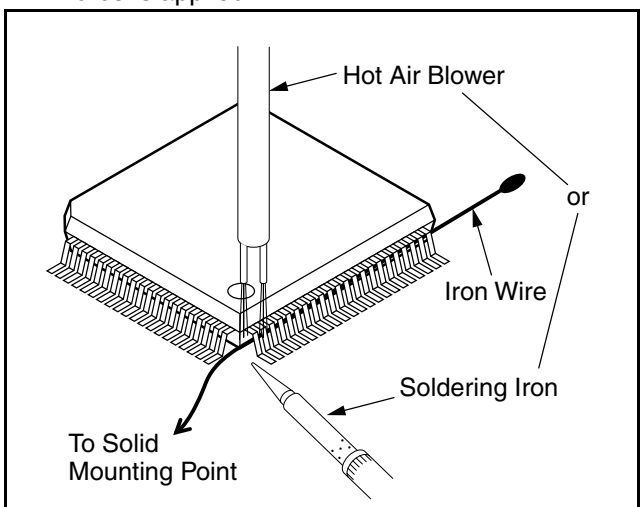


Fig. S-1-5

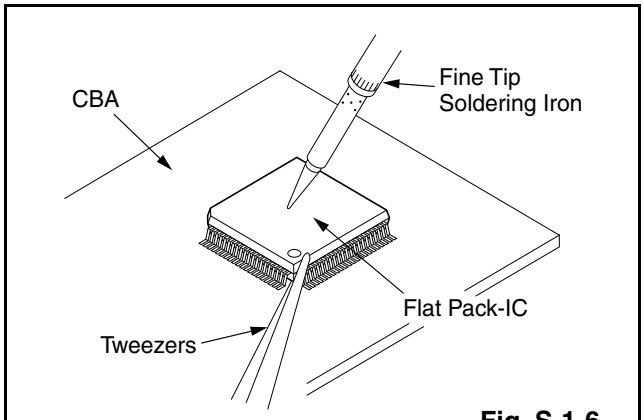


Fig. S-1-6

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 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.

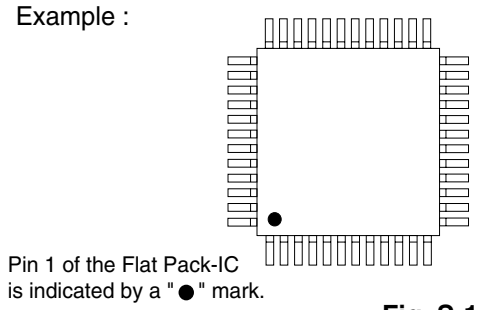


Fig. S-1-7

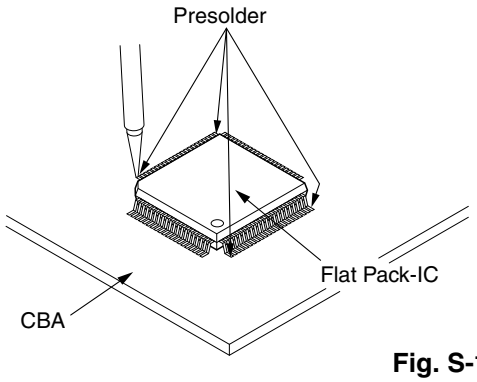


Fig. S-1-8

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.

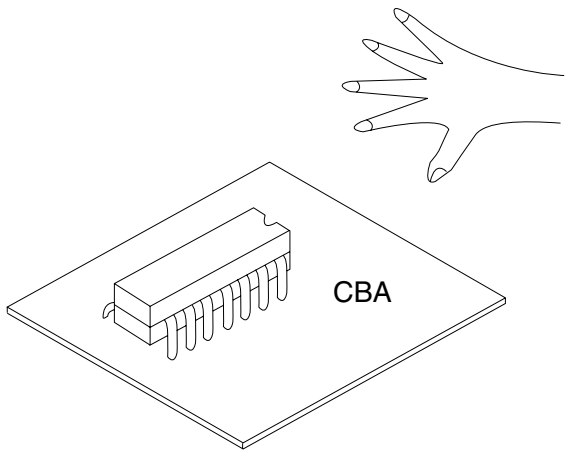
1. Ground for Human Body

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

2. Ground for Workbench

(4) Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) 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.

< Incorrect >



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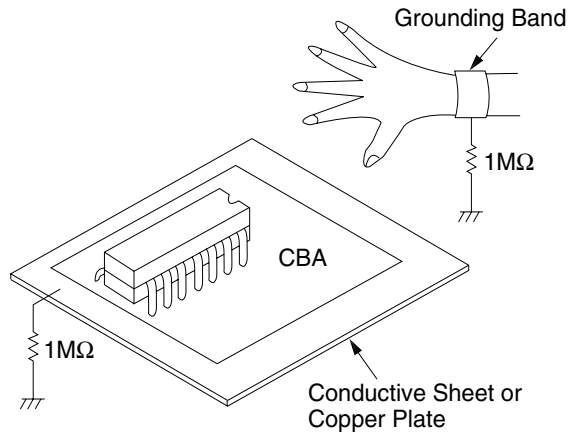
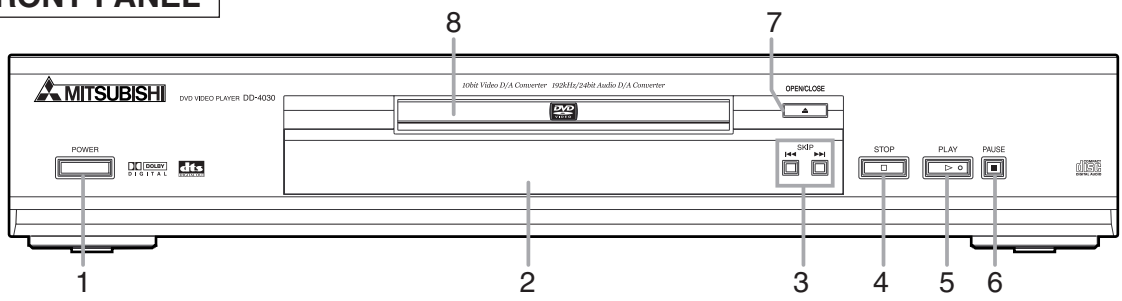
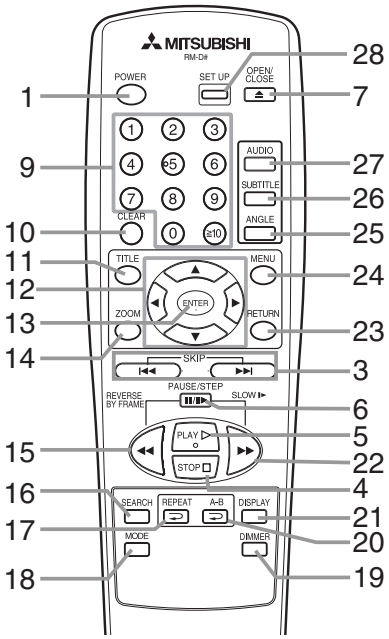


OPERATING CONTROLS AND FUNCTIONS

FRONT PANEL

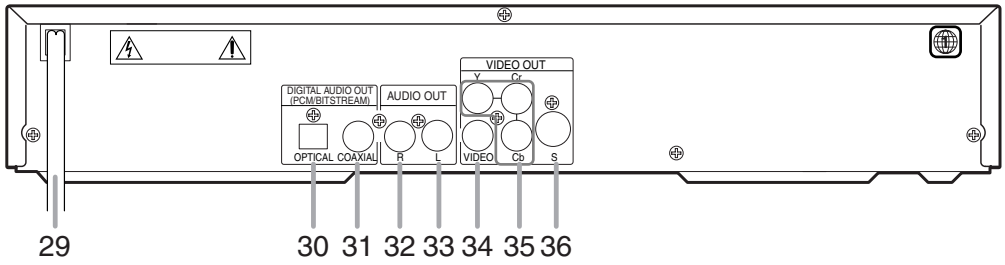


REMOTE CONTROL



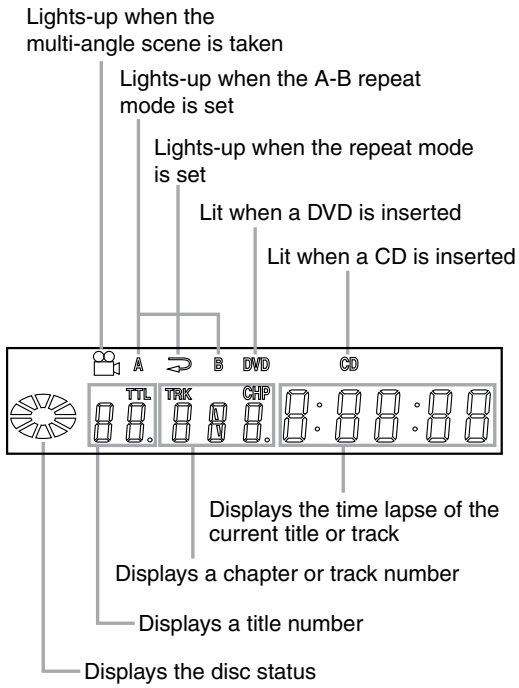
1. **POWER Button**
   Press to turn the power on and off.
2. **Display, Remote Sensor Window**
3. **SKIP Buttons**
   ▶▶|: Plays back from the beginning of the next chapter or track.
   |◀◀: Plays back from the beginning of the current chapter or track.
4. **STOP Button**
   Stops operation of the disc.
5. **PLAY Button**
   Starts playback of the disc contents.
6. **PAUSE Button (main unit)**
   Pauses the current disc operation.
   PAUSE/STEP Button (remote control)
   Pauses the current disc operation. View the still picture frame by frame.
7. **OPEN/CLOSE Button**
   Press to insert or remove discs from the tray.
8. **Disc loading tray**
9. **Numeric Buttons**
10. **CLEAR Button**
    Resets a setting.
11. **TITLE Button** Displays the title menu.
12. **Arrow Buttons**
    Use when making settings while watching the display on a TV screen.
13. **ENTER Button**
    Press to accept a setting.
14. **ZOOM Button**
    Enlarges part of a DVD-reproduced image.
15. **REV Button**
    Fast reverse playback to a desired point.
16. **SEARCH MODE Button**
    Press to locate a desired point.
17. **REPEAT Button**
    Repeats playback of the current disc, title, chapter or track.
18. **MODE Button**
    Activates program playback or random playback mode when playing CDs or MP3. Also Sets Black level.
19. **DIMMER Button**
    Select the display panel brightness.
20. **A-B REPEAT Button**
    Repeats playback of a selected section.
21. **DISPLAY Button**
    Displays the current status on the TV screen for checking purposes.
22. **FWD Button**
    Fast forwards playback to a desired point.
23. **RETURN Button**
    Returns to the previous operation.
24. **MENU Button**
    Displays the disc menus.
25. **ANGLE Button**
    Press to change the camera angle to see the sequence being played back from a different angle.
26. **SUBTITLE Button**
    Press to select a desired subtitle language.
27. **AUDIO Button**
    Press to select a desired audio language or sound mode.
28. **SETUP Button**
    Press to enter the setup mode or to change setup items.

REAR VIEW



29. **Power Cord**
30. **OPTICAL DIGITAL AUDIO OUT Jack**
31. **COAXIAL DIGITAL AUDIO OUT Jack**
32. **Right AUDIO OUT Jack**
33. **Left AUDIO OUT Jack**
34. **VIDEO OUT Jack**
35. **Component Video Out Jacks**
36. **S-VIDEO OUT Jack**

DISPLAY



DISPLAYS DURING OPERATION

ON	("ON" is lit.)	Power on
	("Disc icon" blinks.)	Tray open and closed
	("Disc icon" rotates.)	LOAD
	("Disc icon" rotates.)	During playback
	(A segment on "Disc icon" blinks.)	During pause
	(Two segments on "Disc icon" blink.)	Stop (Resume ON)
	("Disc icon" is lit.)	Stop (Resume OFF)
OFF	("OFF" is lit.)	Power off
		No disc or error
	("ERROR" is lit.) Error	ERROR

LOADING THE BATTERIES

1. Open the battery compartment cover.

2. Insert two AA batteries, with each one oriented correctly.

3. Close the cover.

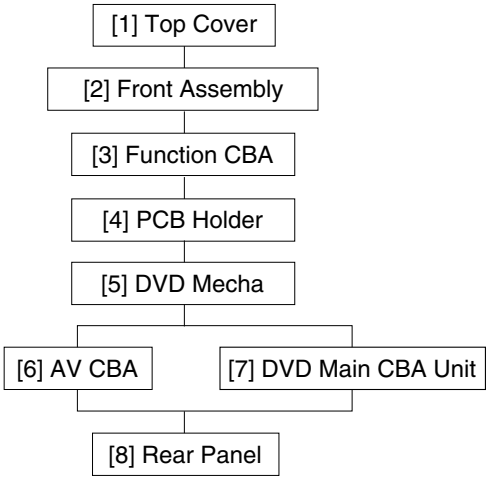
Notes

- Do not mix alkaline and manganese batteries.
- Do not mix old and new batteries.

CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) 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	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[1]	Top Cover	1	5(S-1)	-
[2]	Front Assembly	2	*2(L-1), Tray Panel, *2(L-2), *5(L-3)	1-1 1-2 1-3 1-4 1-5 1-6
[3]	Function CBA	3	*3(L-4), *CN2001	-
[4]	PCB Holder	3	2(S-2)	-
[5]	DVD Mecha	3,4	2(S-3), *CN101, *CN401	2 2-1 2-2 2-3 3
[6]	AV CBA	5	(S-4), 5(S-5), 3(S-6), *CN1001, *CN1601, *2(L-5)	-
[7]	DVD Main CBA Unit	5	3(S-7)	-
[8]	Rear Panel	6	3(S-8)	-
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

(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
*=Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)

(5): Refer to “Reference Notes.”

Reference Notes

CAUTION 1: Locking Tabs (L-1), (L-2) and (L-3) are fragile. Be careful not to break them.

1-1. Connect the wall plug to an AC outlet and press the OPEN/CLOSE button to open the Tray.

1-2. Remove the Tray Panel by releasing two Locking Tabs (L-1).

1-3. Press the OPEN/CLOSE button again to close the Tray.

1-4. Press the POWER button to turn the power off.

1-5. Unplug an AC cord.

1-6. Release two Locking Tabs (L-2). Then, release five Locking Tabs (L-3) (to do this, first release two Locking Tabs (A) at the side, and then three Locking Tabs (B) at the bottom.)

CAUTION 2: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc, during unpacking or repair work.

To avoid damage of pickup follow next procedures.

2-1. Slide out the pickup unit as shown in Fig. D4.

2-2. Short the three short lands of FPC cable with solder before removing the FFC cable (CN101) from it. If you disconnect the FFC cable (CN101), the laser diode of pickup will be destroyed. (Fig. D4)

2-3. Disconnect Connector (CN401). Remove two Screws (S-3) and lift the DVD Mecha. (Fig. D3)

CAUTION 3: When reassembling, confirm the FFC cable (CN101) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D4)

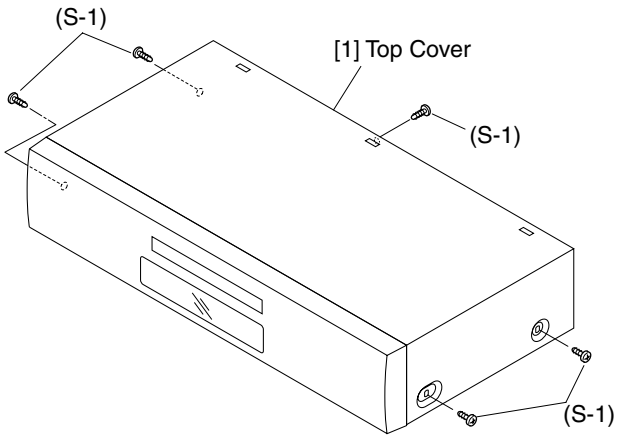


Fig. D1

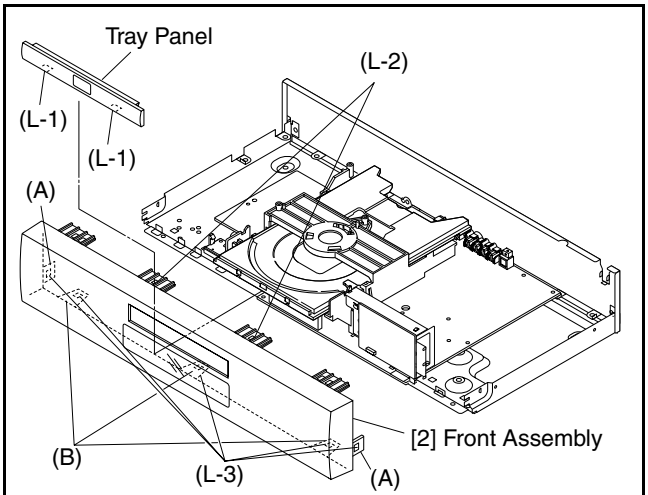


Fig. D2

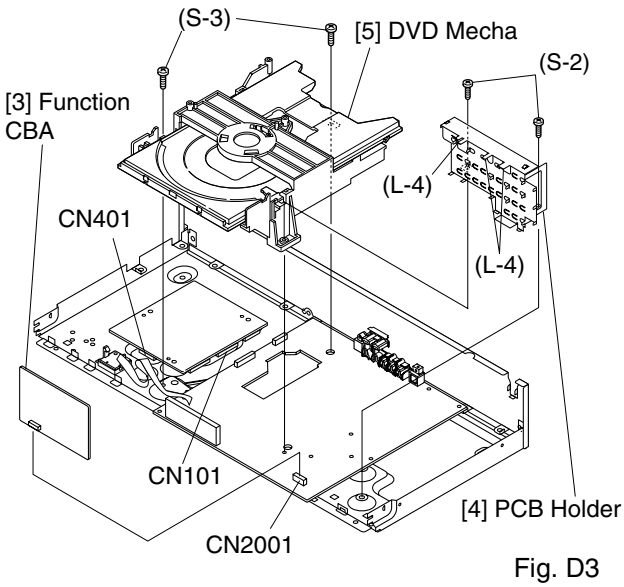
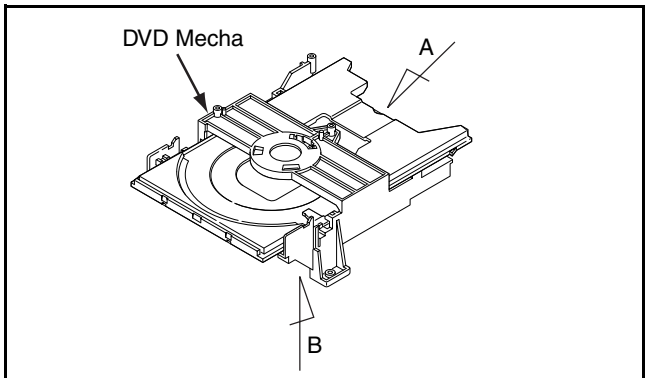
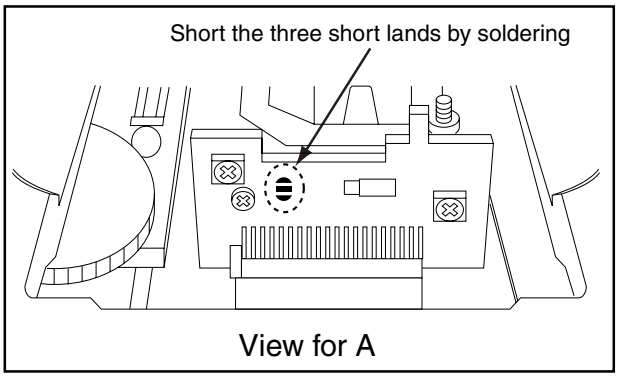


Fig. D3





OR

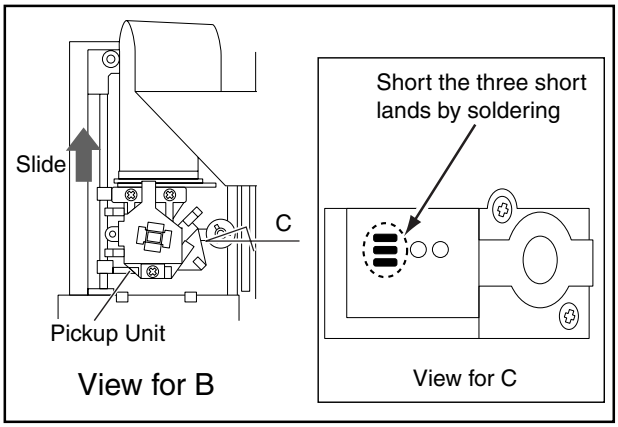


Fig. D4

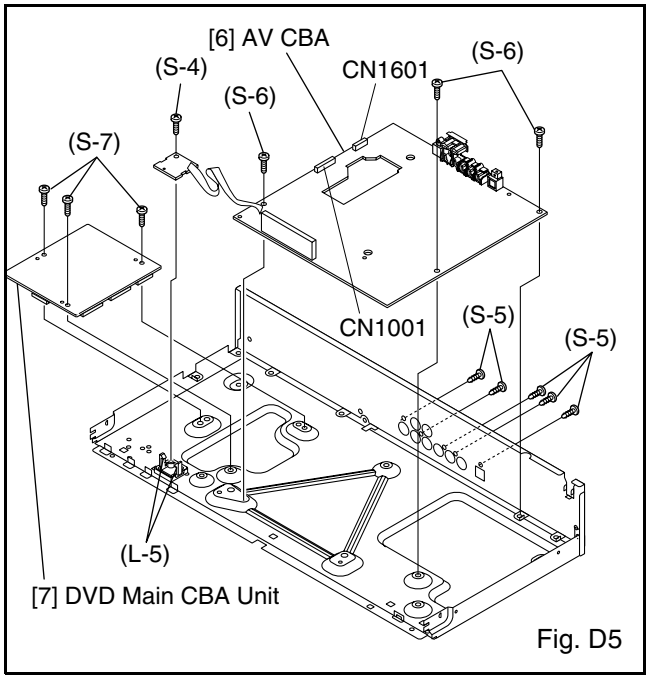


Fig. D5

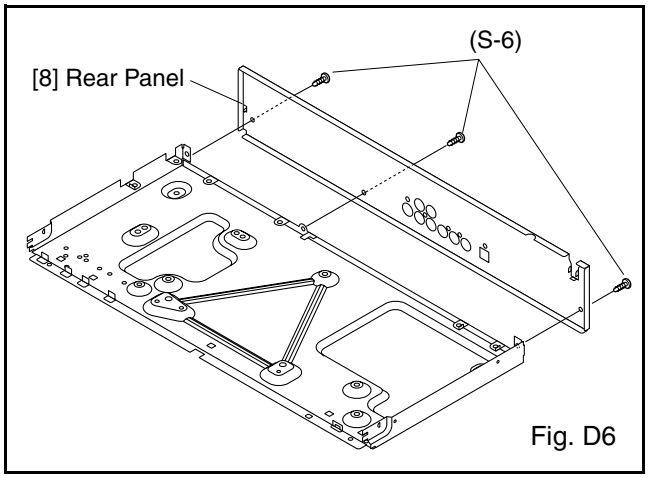
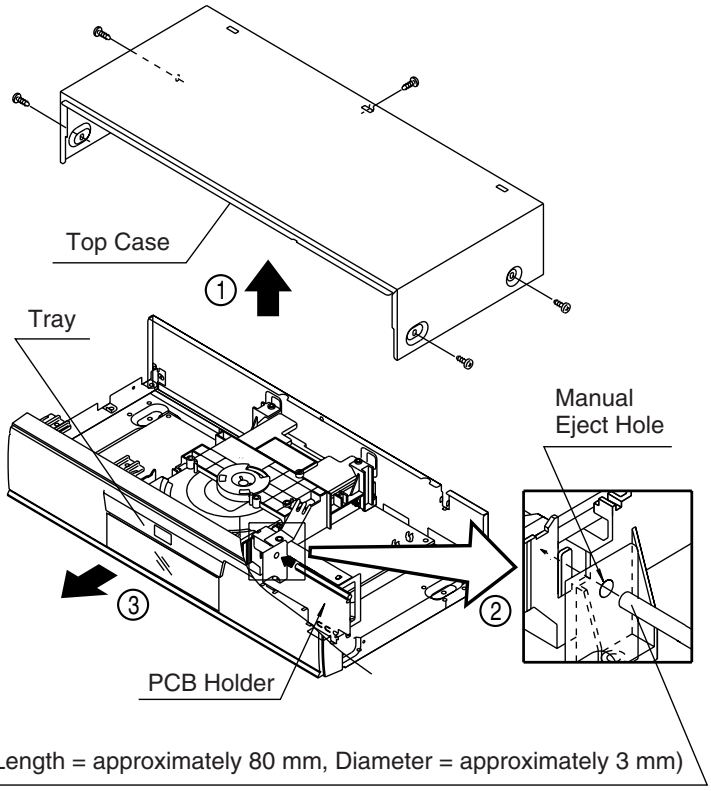


Fig. D6

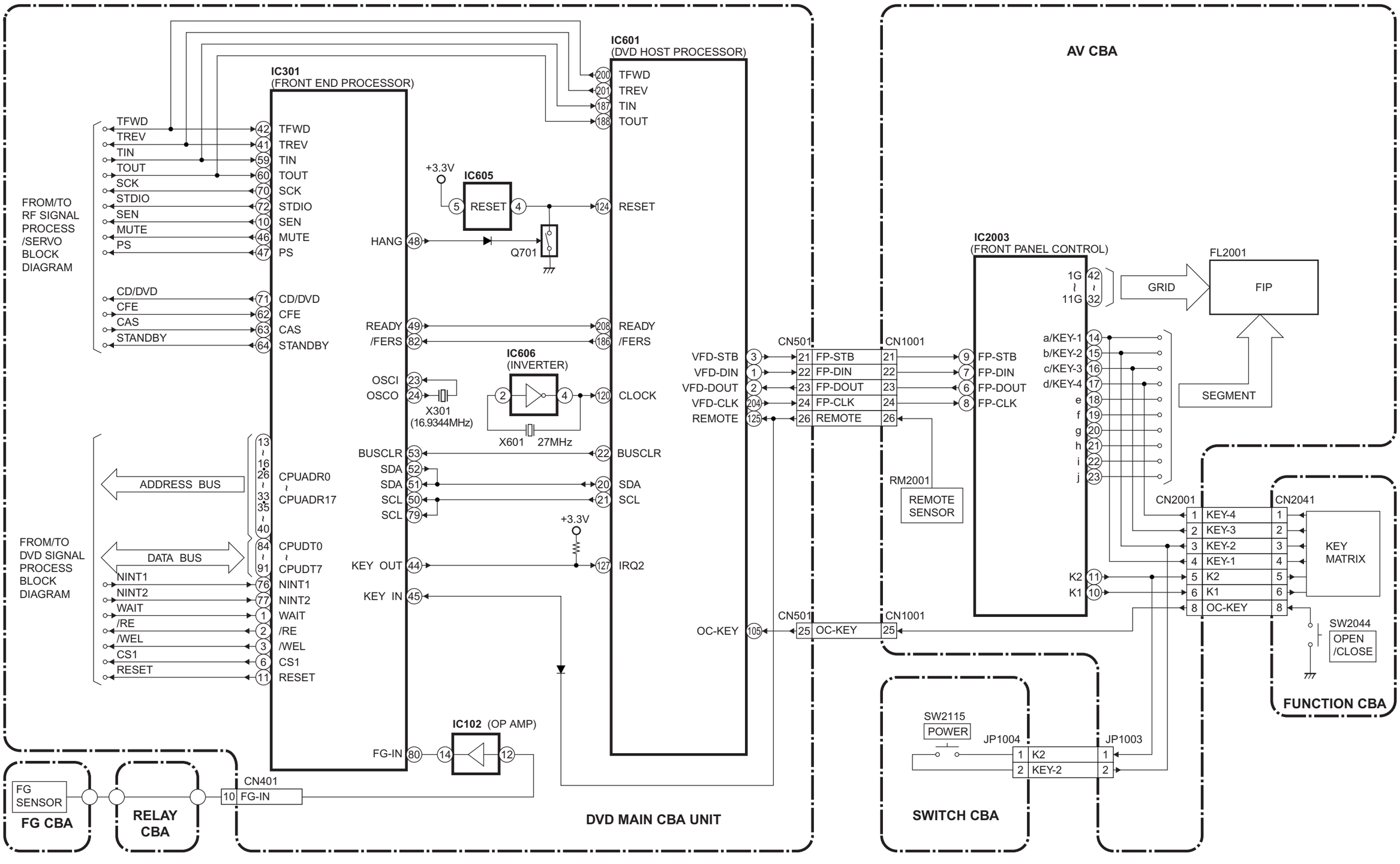
HOW TO MANUAL EJECT

1. Remove the Top Case.
2. Insert the eject-bar (length = approximately 80 mm, diameter = approximately 3 mm) into the manual eject hole on the DVD Mecha. Then, press it until the tray is ejected.

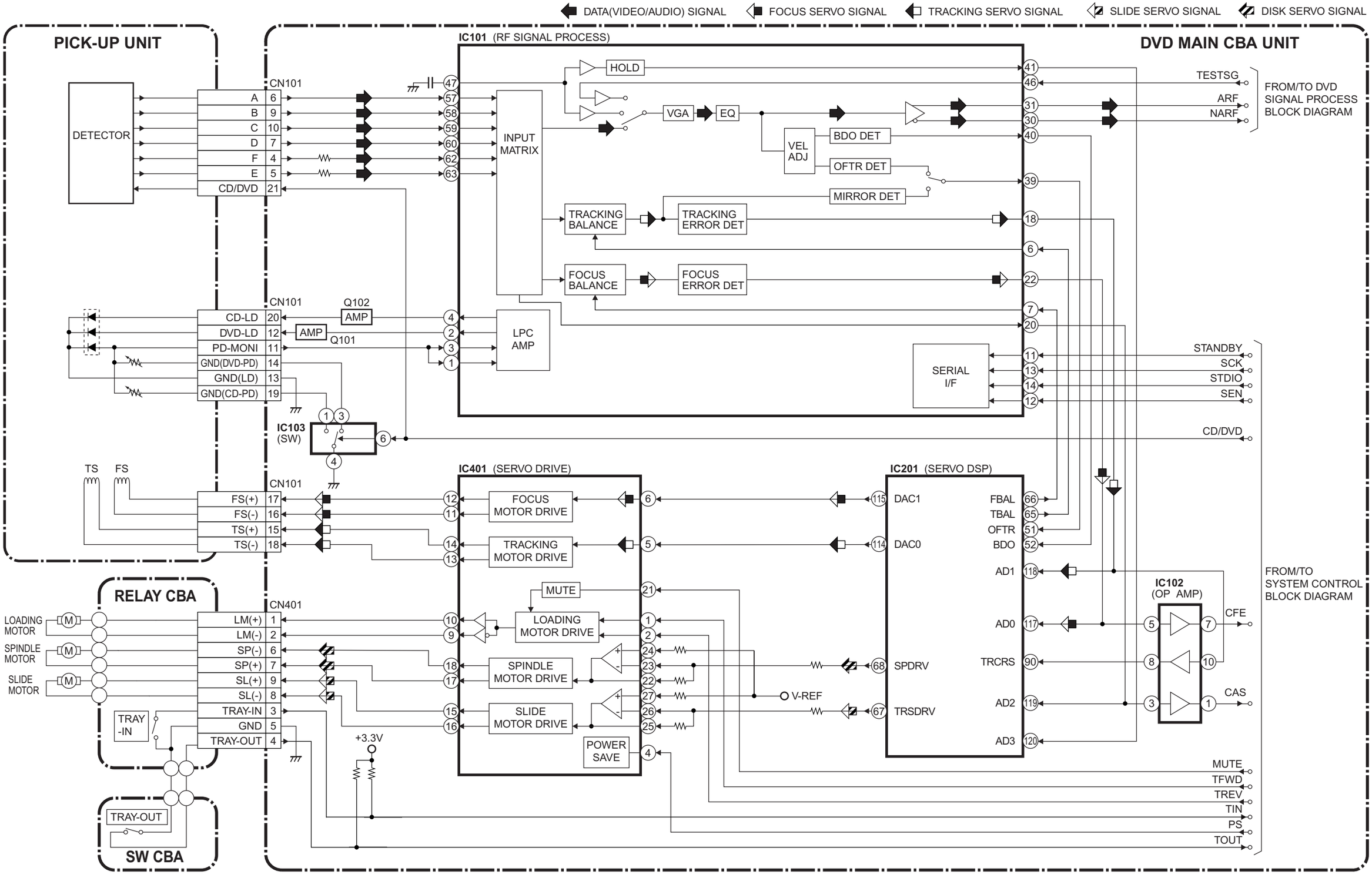


BLOCK DIAGRAMS

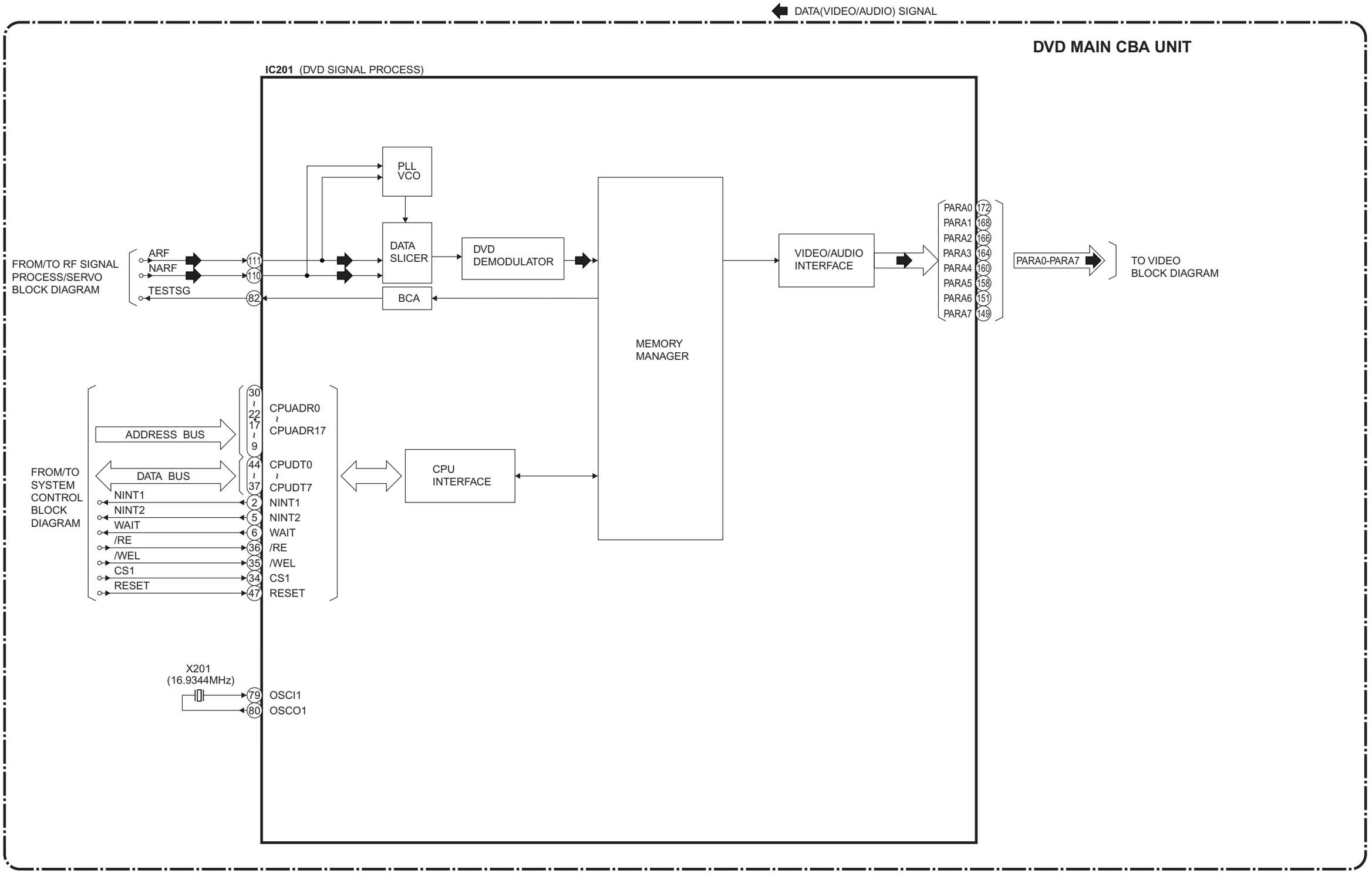
System Control Block Diagram



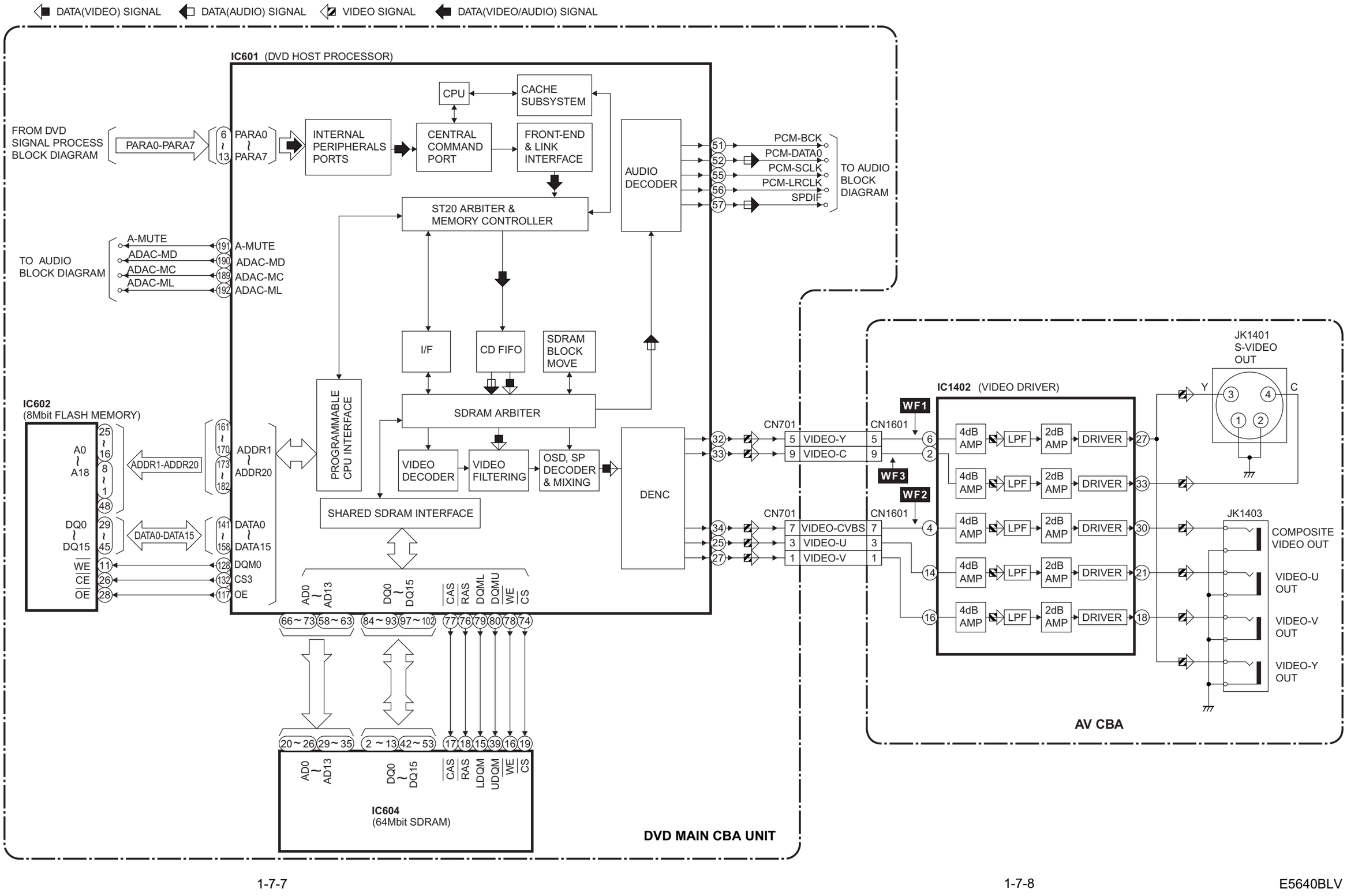
RF Signal Process/Servo Block Diagram



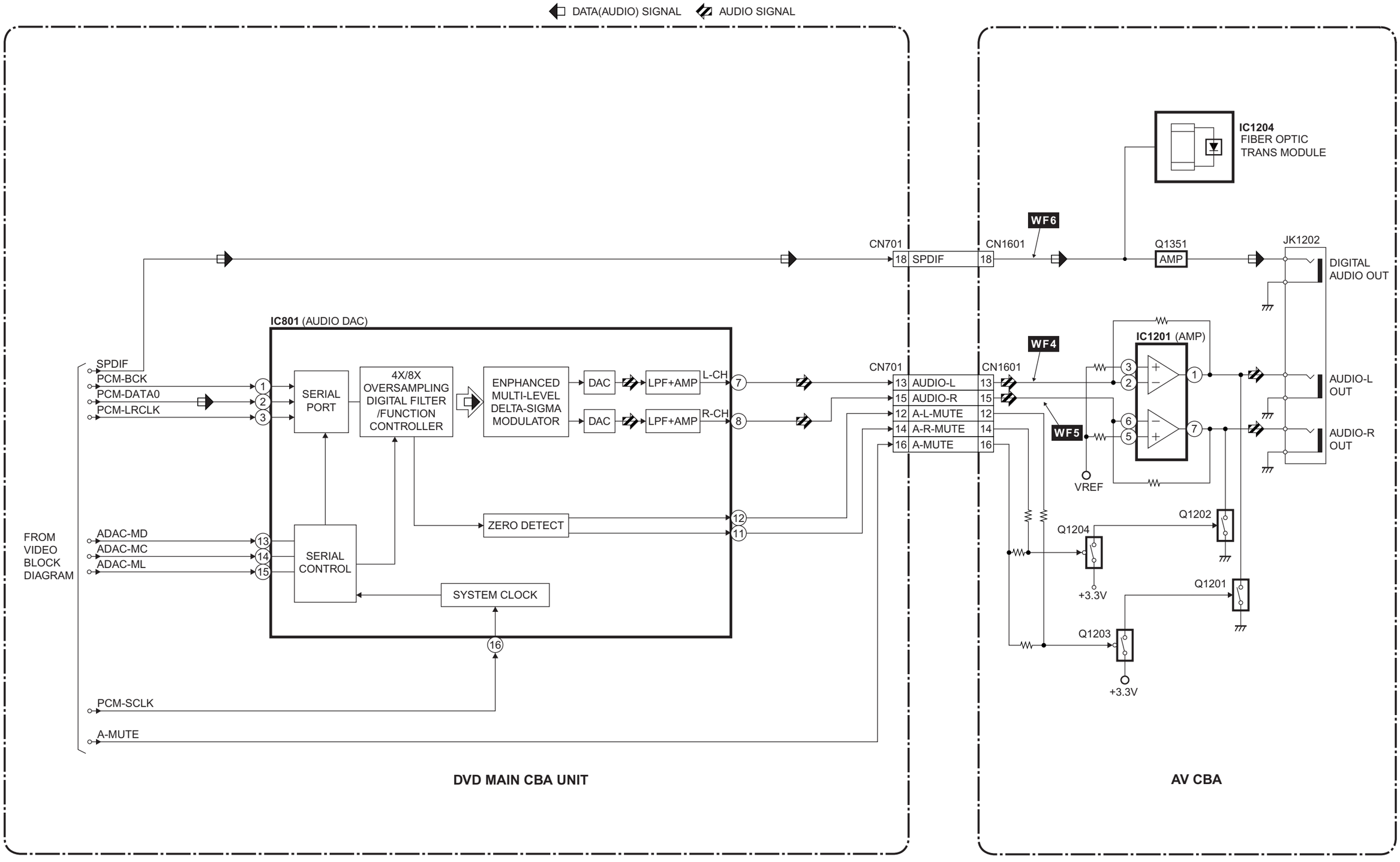
DVD Signal Process Block Diagram



Video Block Diagram



Audio Block Diagram

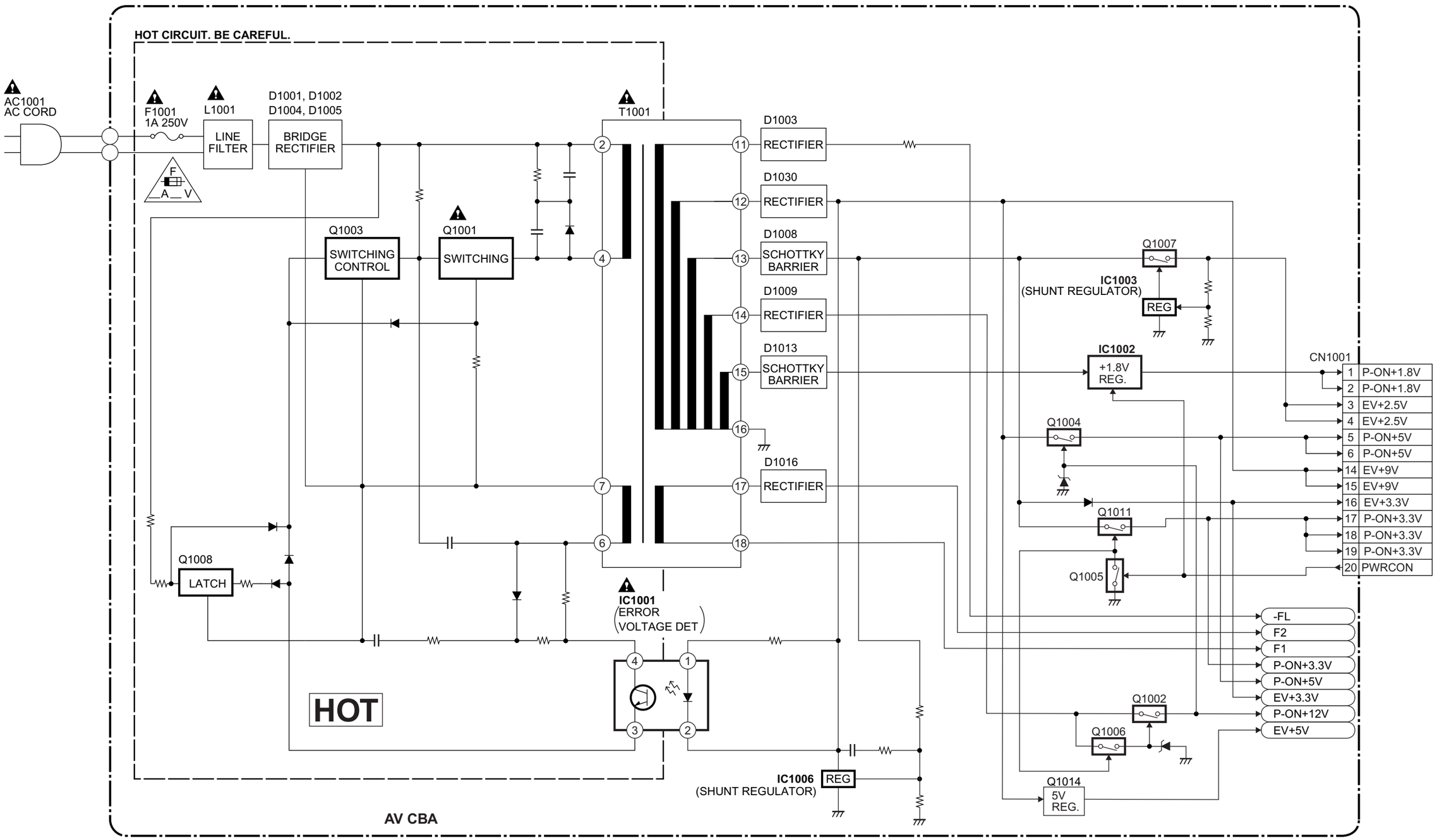


Power Supply Block Diagram

CAUTION !
Switching power supply circuit is used in this unit.
If Main Fuse (F1001) 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 RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE -REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente 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'S 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 μF ($P=10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

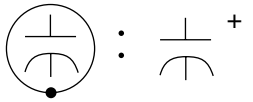
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 - 80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	+30 - 80%	20°C	-10~+70°C

Capacitors and transistors are represented by the following symbols.

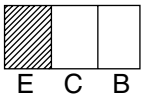
CBA Symbols

(Top View) (Bottom View)



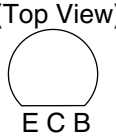
Electrolytic Capacitor

(Bottom View)



Transistor or Digital Transistor

(Top View)



NPN Transistor

(Top View)

PNP Transistor

(Top View)

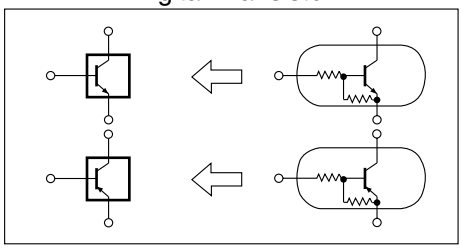
NPN Digital Transistor

(Top View)

PNP Digital Transistor

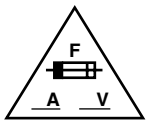
Schematic Diagram Symbols

Digital Transistor



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 RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

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

2. **CAUTION:**

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) 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:**

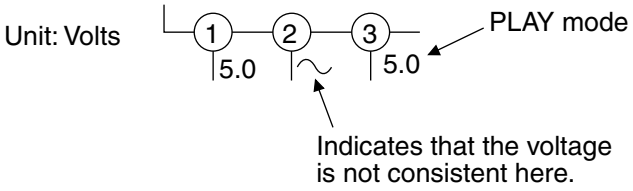
(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
(2) To maintain original function and reliability of repaired units, use only original replacement parts which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

4. Wire Connectors

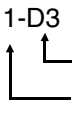
(1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).
(2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. Mode: SP

6. Voltage indications for PLAY mode on the schematics are as shown below:

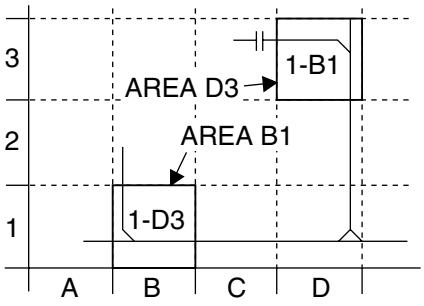


7. How to read converged lines



Examples:

1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



8. Test Point Information

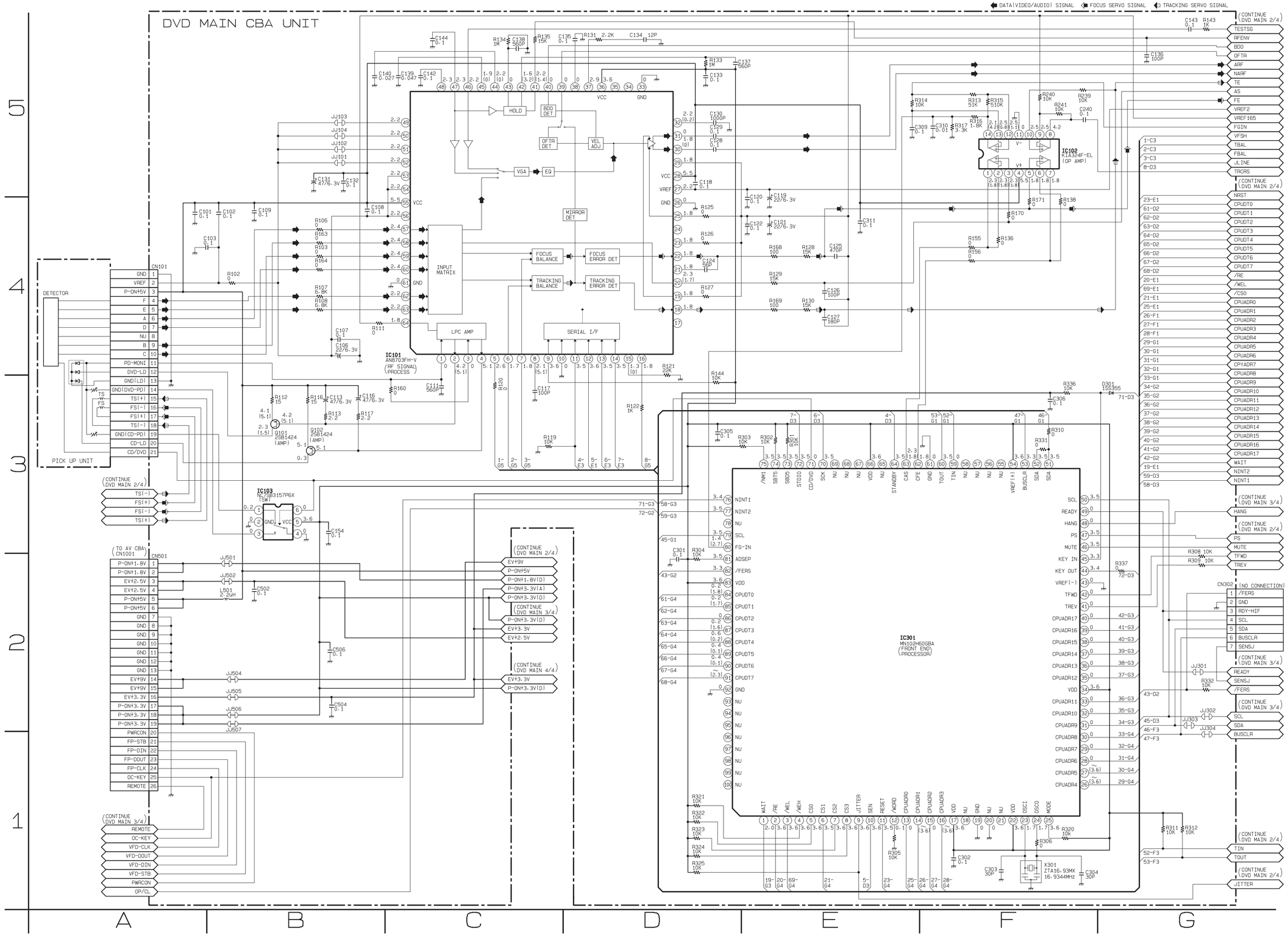
 : Indicates a test point with a jumper wire across a hole in the PCB.

 : Used to indicate a test point with a component lead on foil side.

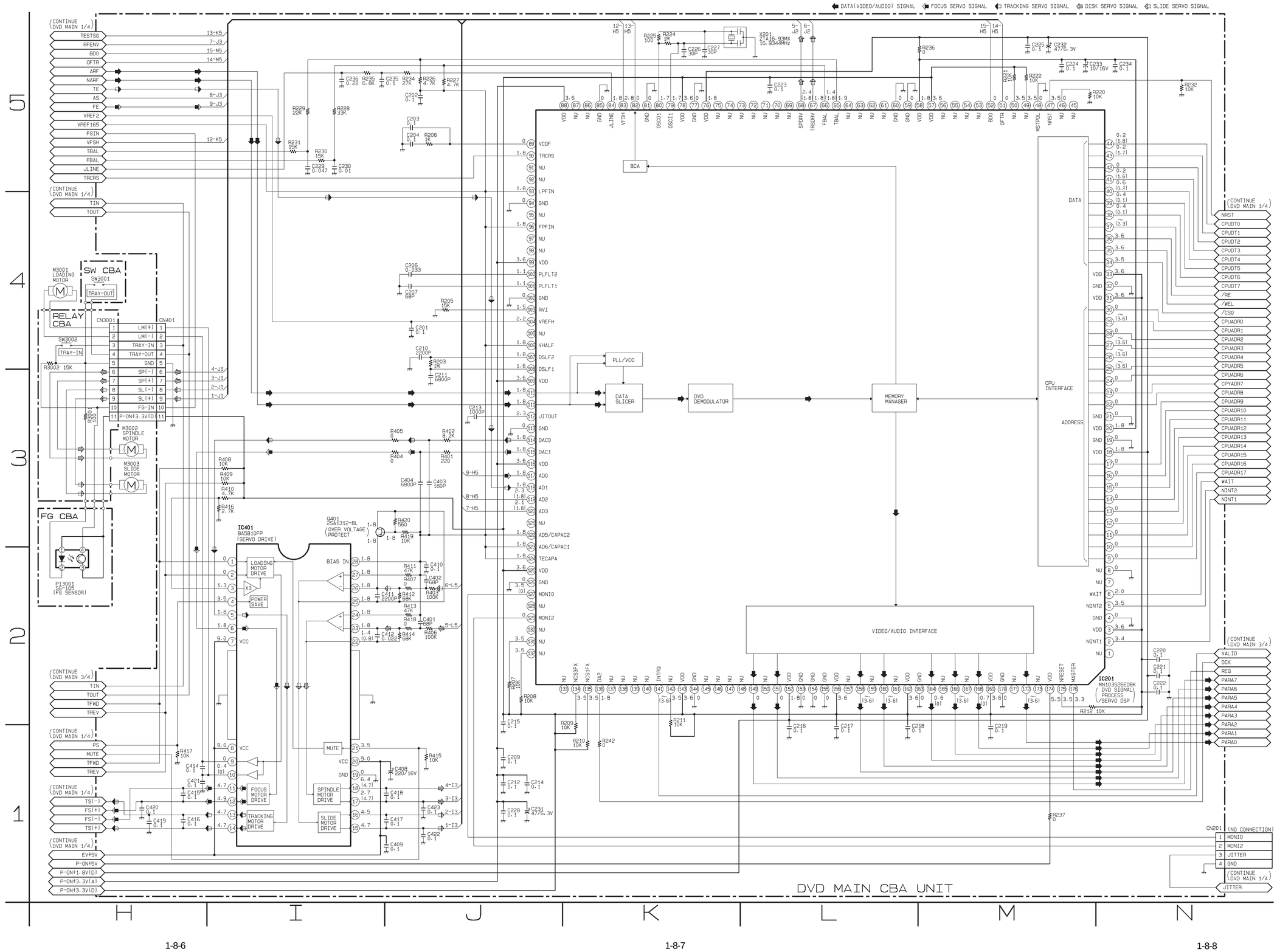
 : Used to indicate a test point with no test pin.

 : Used to indicate a test point with a test pin.

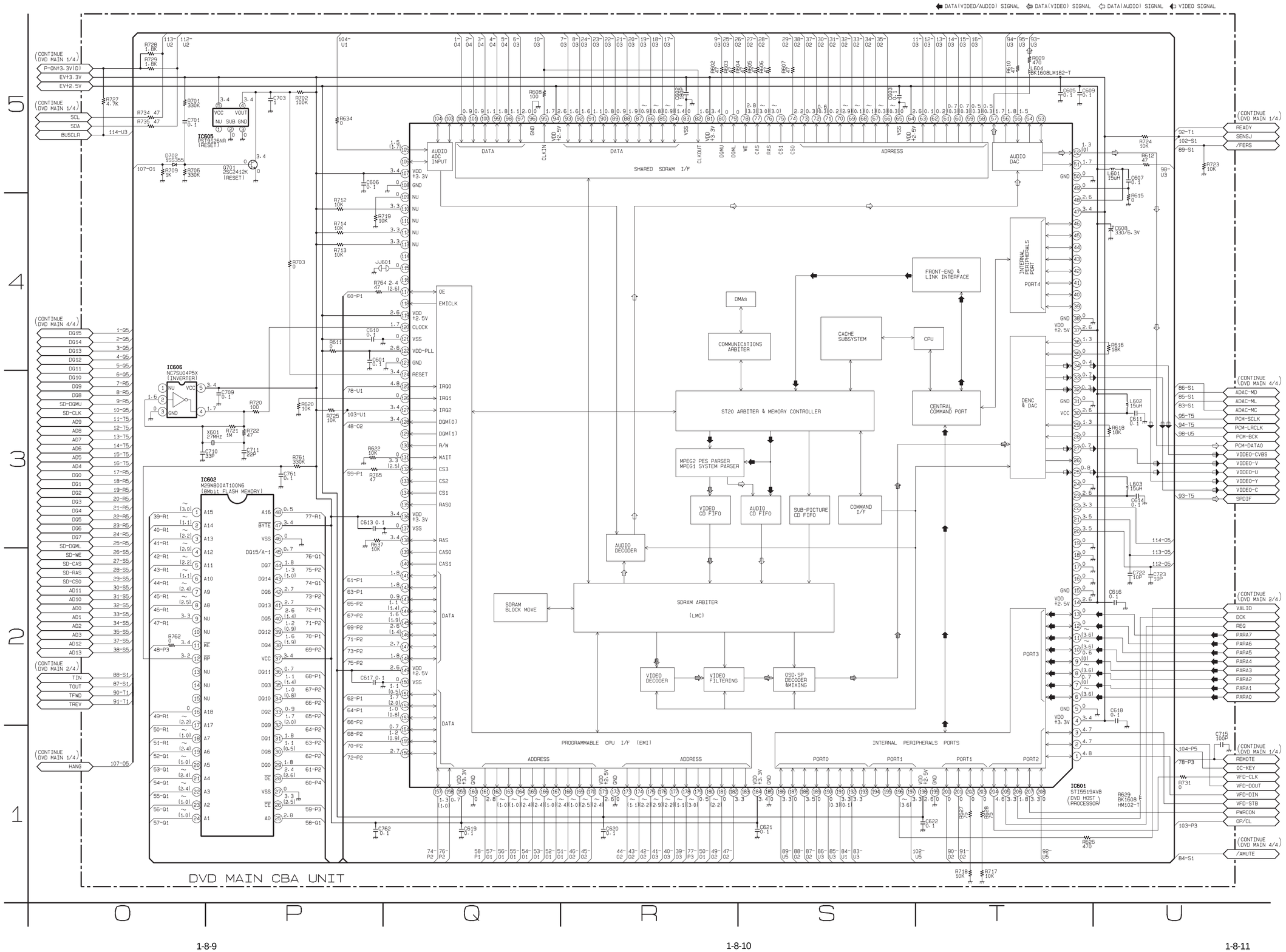
DVD Main 1/4 Schematic Diagram



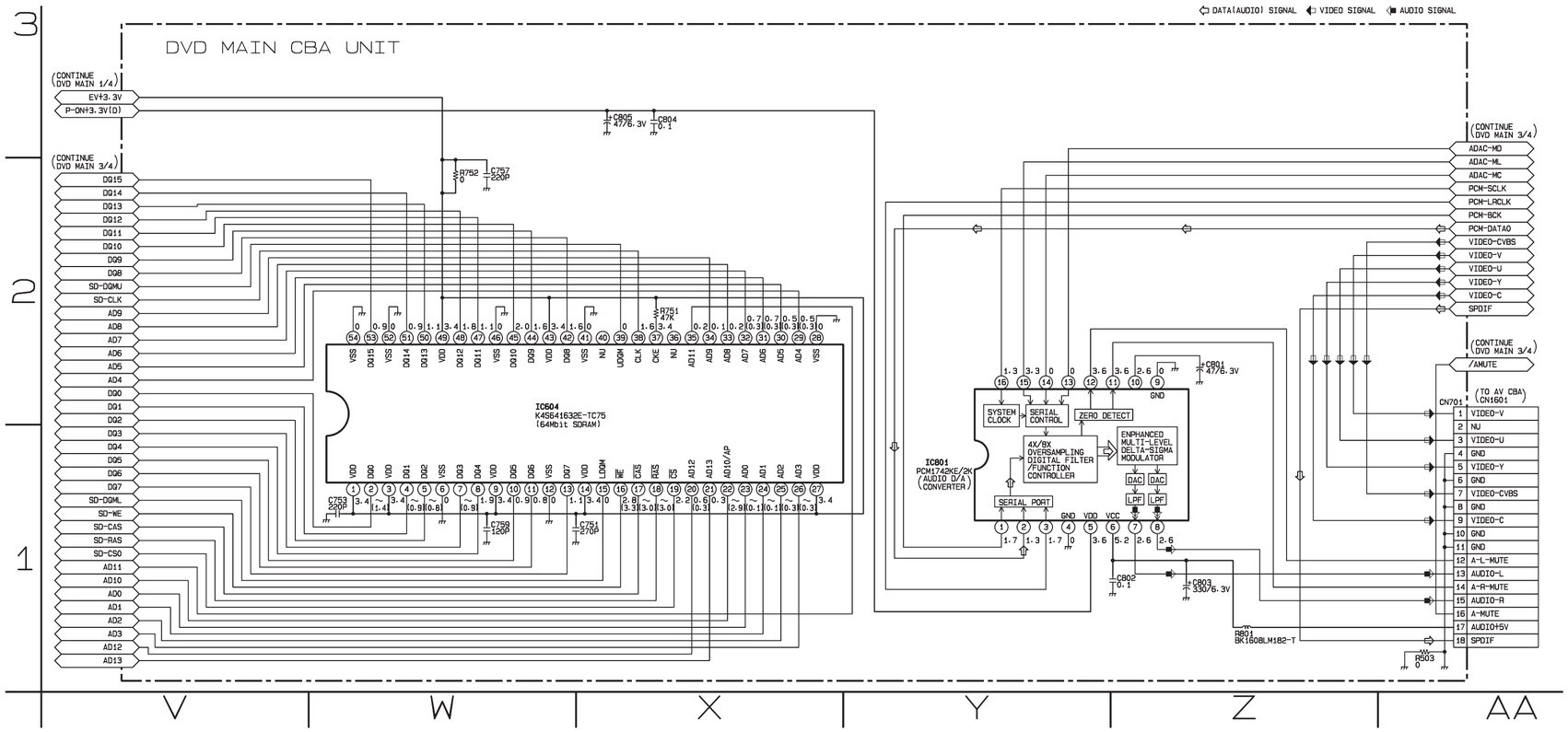
DVD Main 2/4 Schematic Diagram



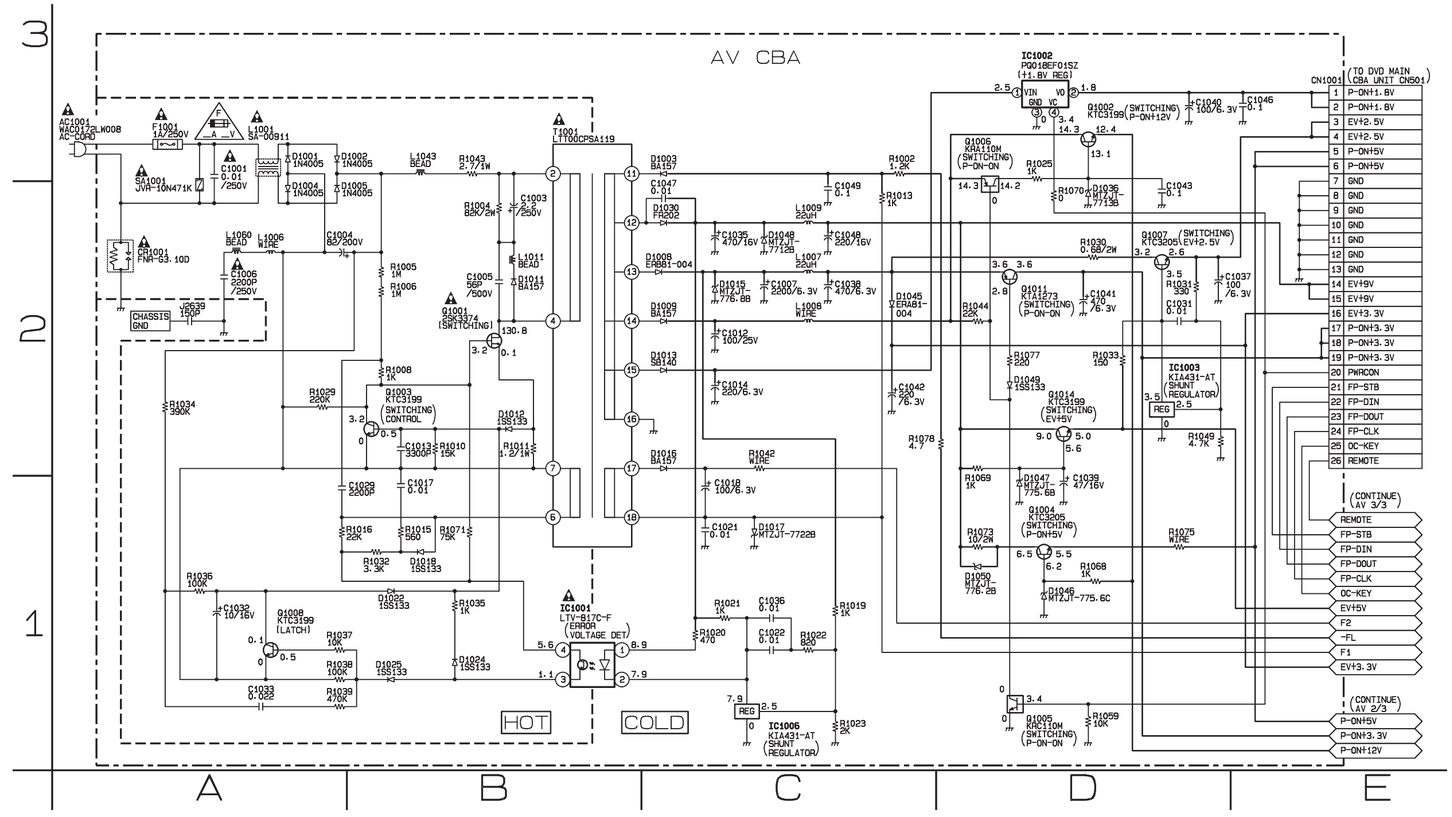
DVD Main 3/4 Schematic Diagram



DVD Main 4/4 Schematic Diagram



AV 1/3 Schematic Diagram



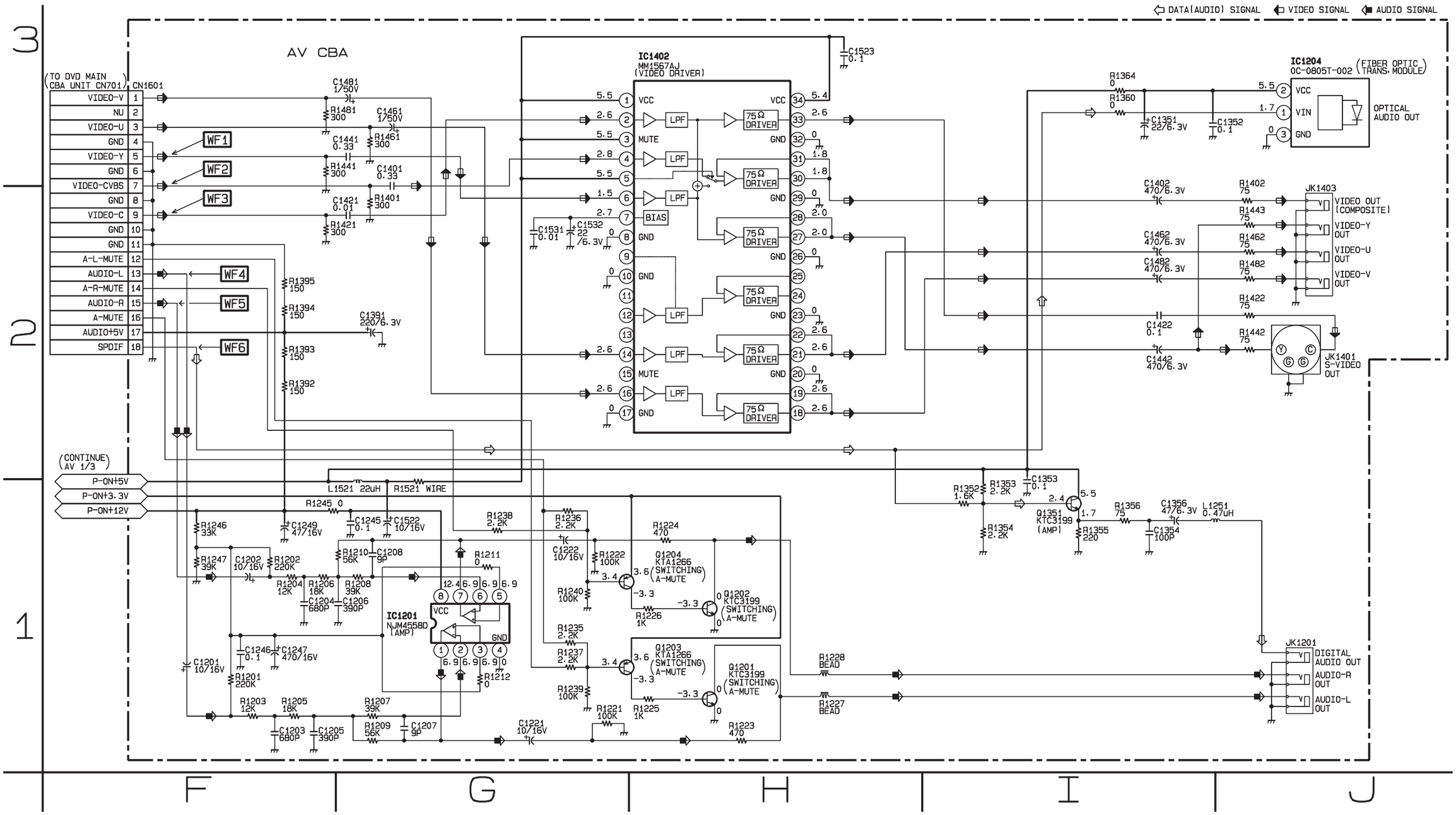
E5640SCD4

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

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F1001) 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 RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible à fusion rapide."

AV 2/3 Schematic Diagram



AV 3/3, Function & Switch Schematic Diagram

FL2001 MATRIX CHART

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	a	a	a	a	a	a	a	a	a	a	a
b	b	b	b	b	b	b	b	b	b	b	b
c	c	c	c	c	c	c	c	c	c	c	c
d	d	d	d	d	d	d	d	d	d	d	d
e	e	e	e	e	e	e	e	e	e	e	e
f	f	f	f	f	f	f	f	f	f	f	f
g	g	g	g	g	g	g	g	g	g	g	g
h	h		A		h	DVD	VIDEO	CD	PBC	—	—
i	i	—	TTL	TRK	i	CHP	○	—	—	○	—
j	j	—	○	—	B	○	—	—	—	—	—

FL2001 20U39133SAN (FIP)

11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G

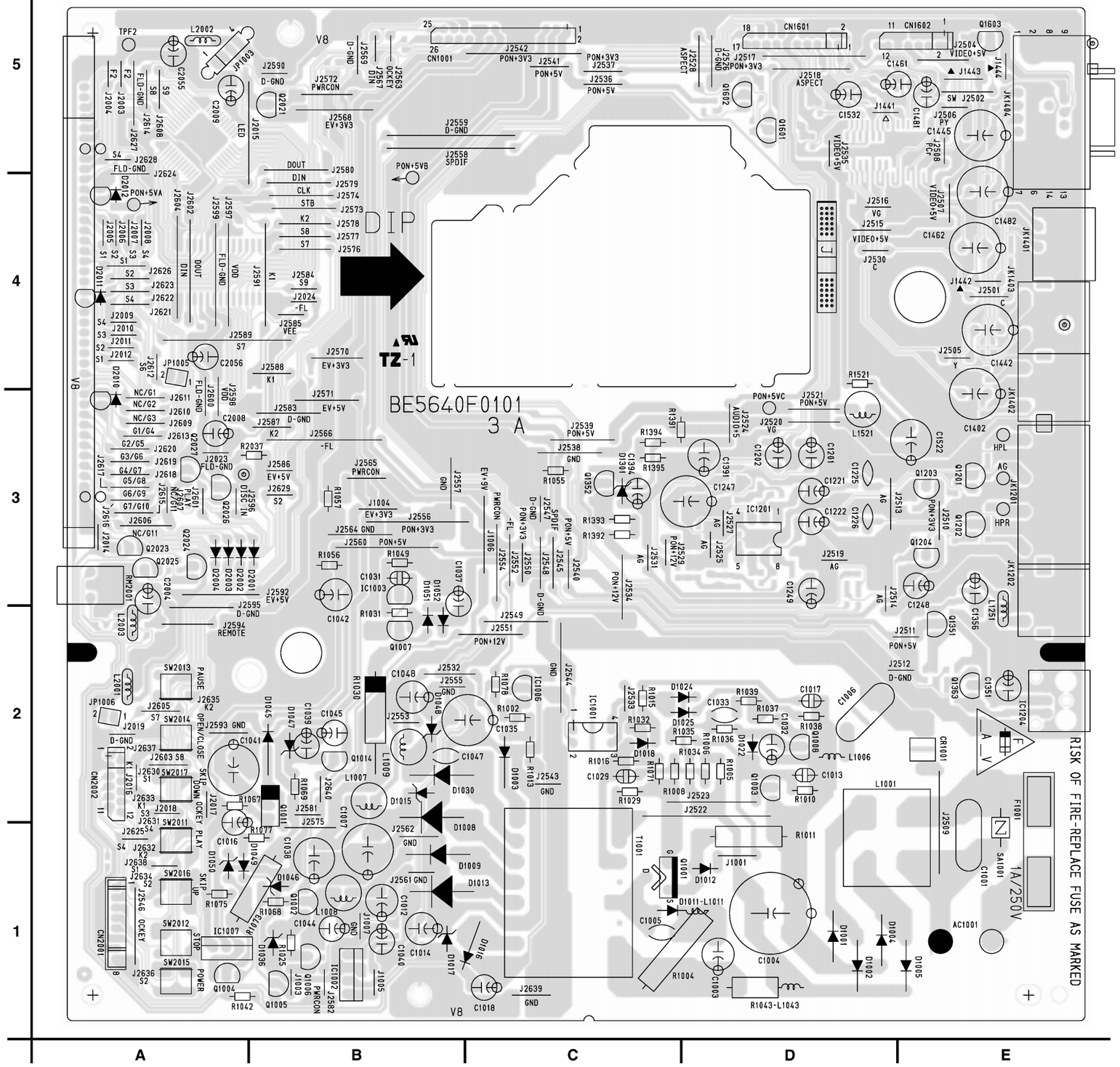
IC2003 PT6315 (FRONT PANEL CONTROL)

SWITCH CBA

FUNCTION CBA

UNLESS OTHERWISE SPECIFIED:
SWITCHES ARE SKQSAF001A.

AV CBA Top View

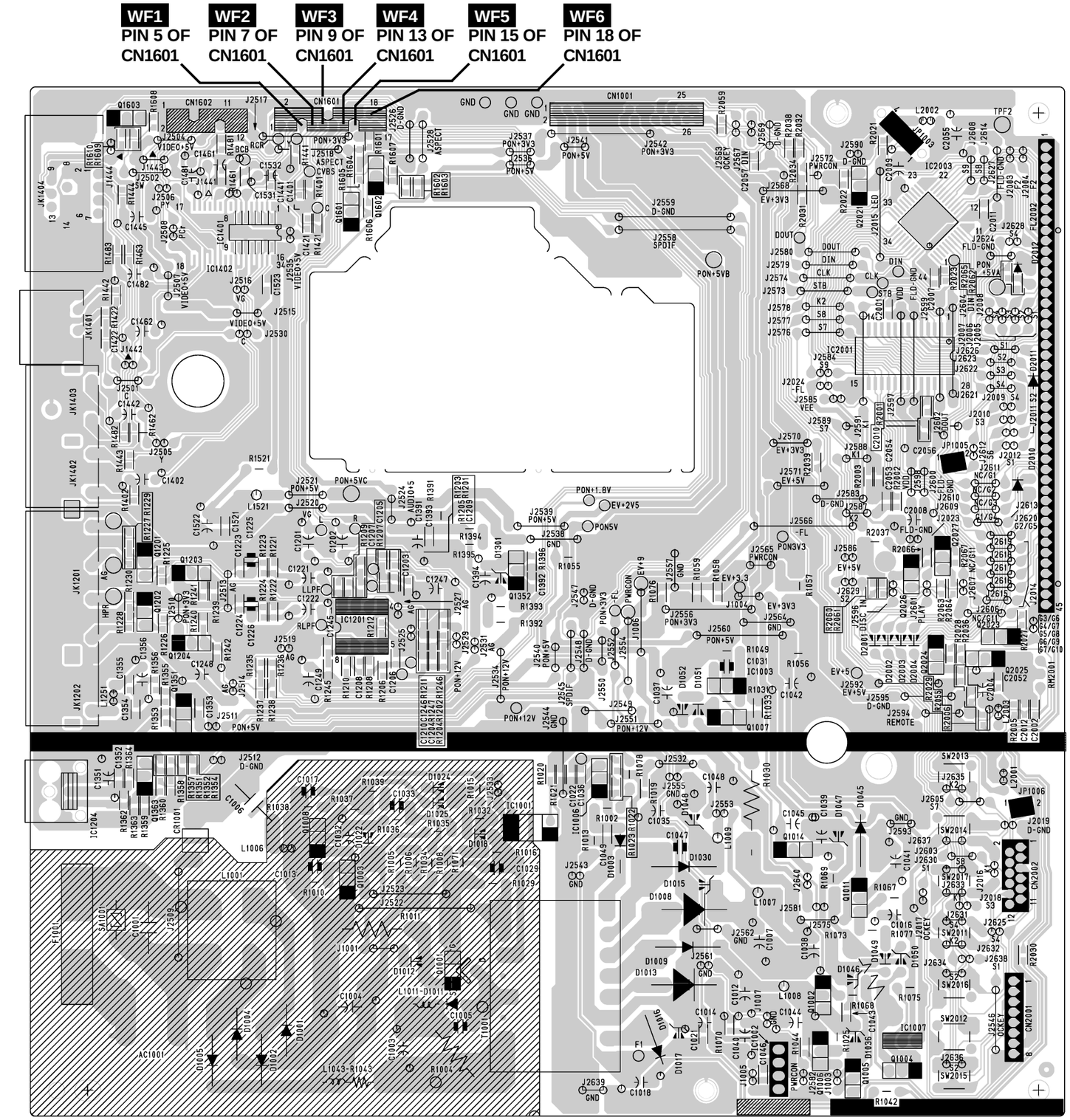


CAUTION !
Switching power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

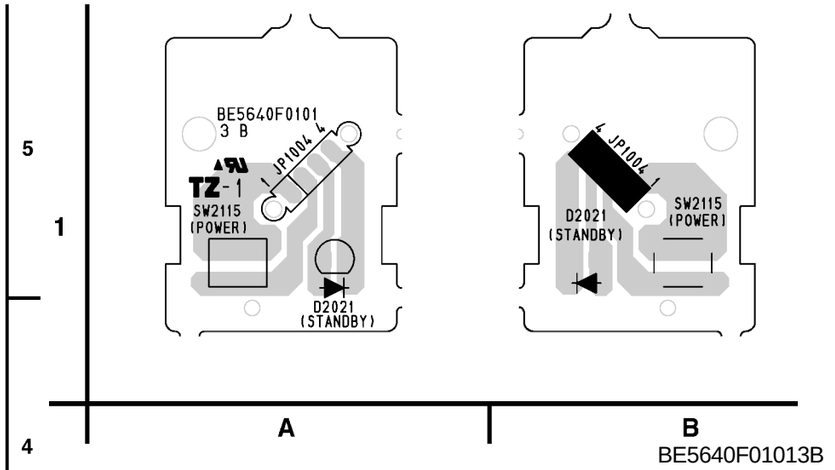
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

AV CBA Bottom View



Switch CBA Top View Switch CBA Bottom View



CAUTION !
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If Main Fuse (F1001) 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.

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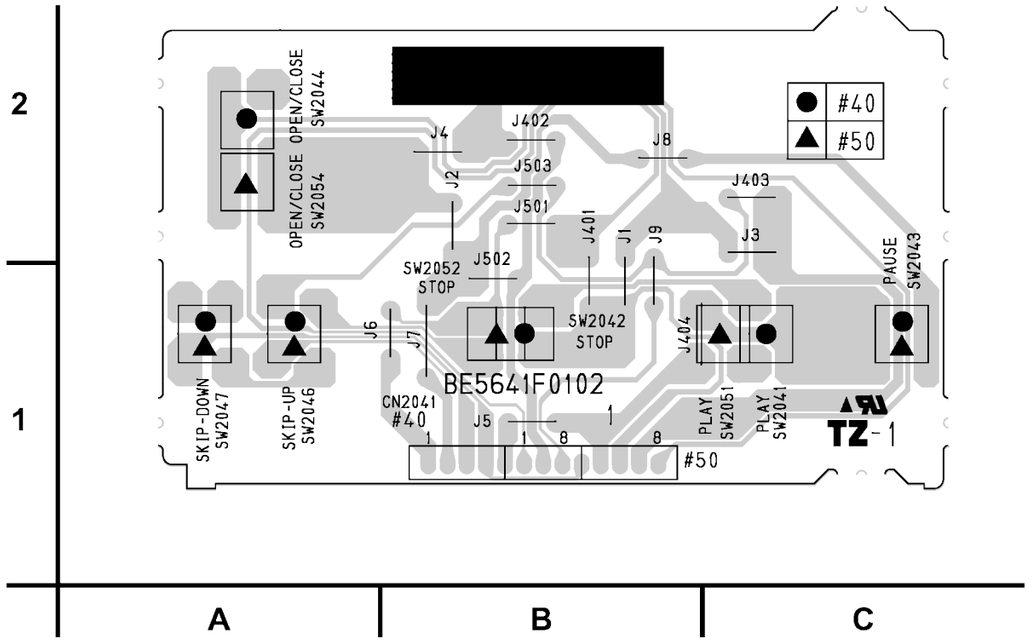
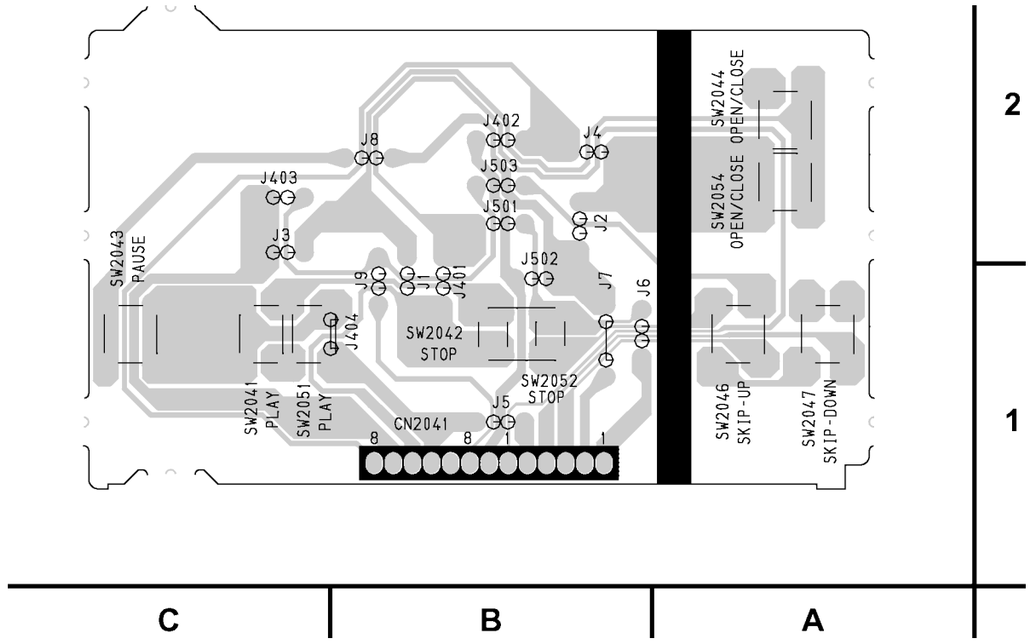
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

Function CBA Top View

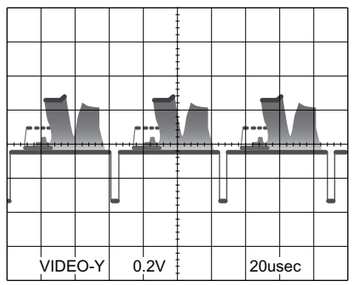


Function CBA Bottom View

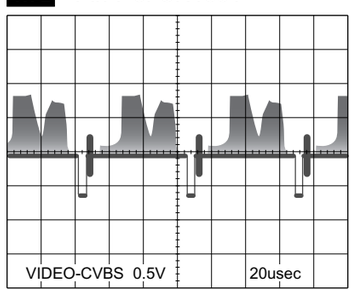


WAVEFORMS

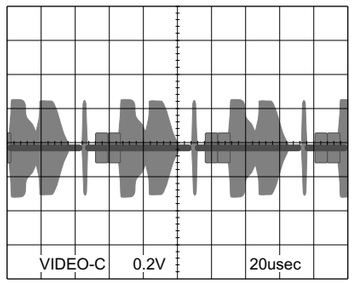
WF1 Pin 5 of CN1601



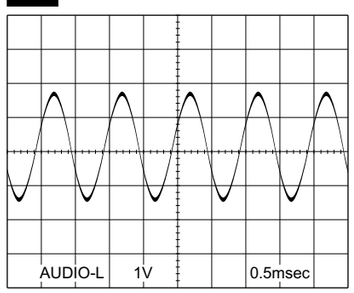
WF2 Pin 7 of CN1601



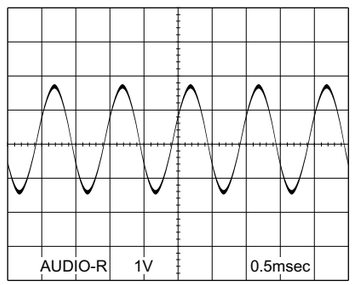
WF3 Pin 9 of CN1601



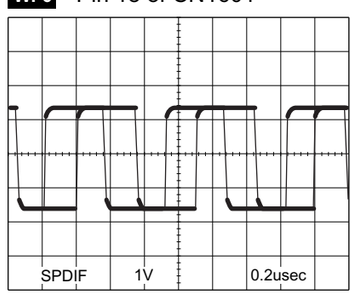
WF4 Pin 13 of CN1601



WF5 Pin 15 of CN1601

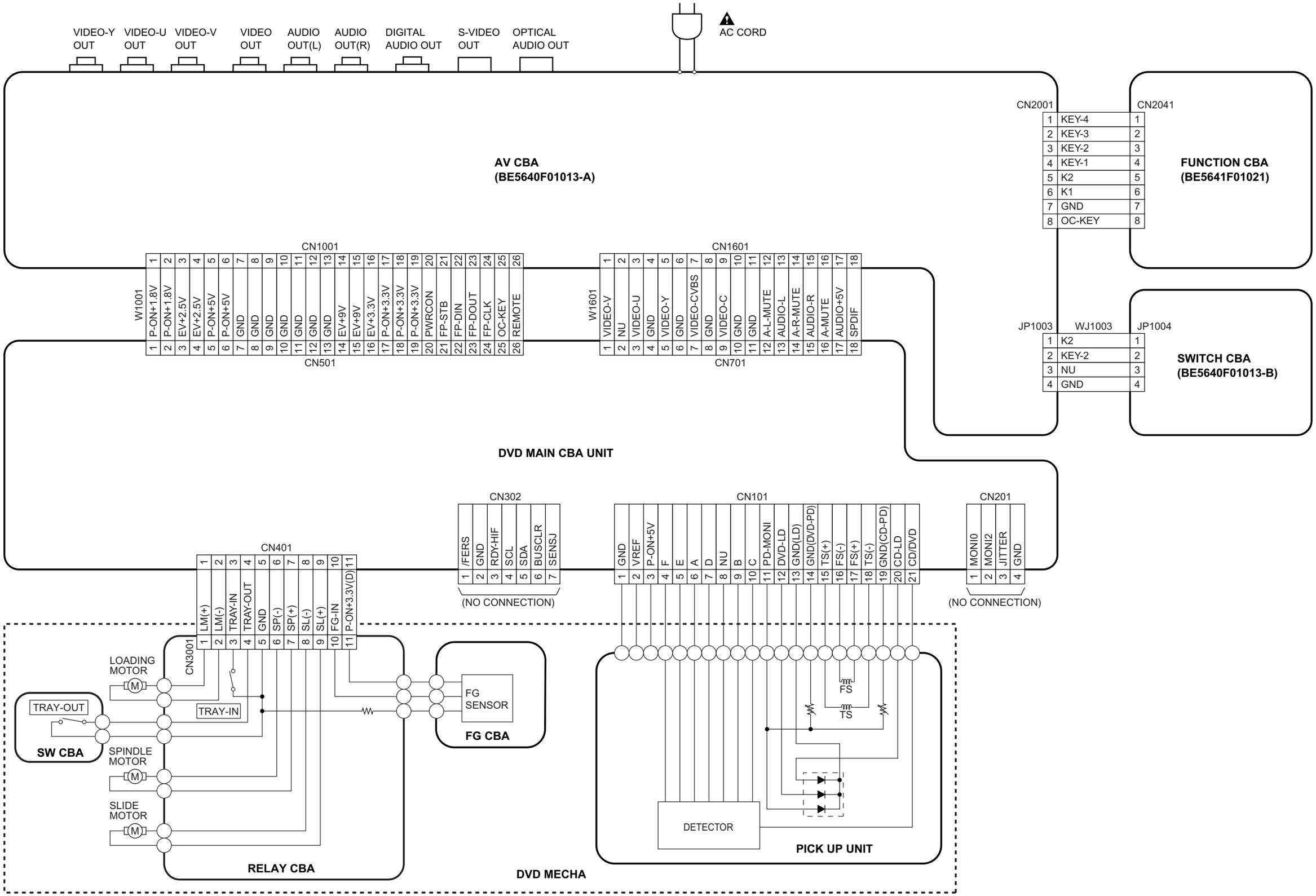


WF6 Pin 18 of CN1601



NOTE:
Input
CD: 1kHz PLAY
(WF4~WF6)
DVD: POWER ON (STOP) MODE
(WF1~WF3)

WIRING DIAGRAM



FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD player into version up mode, press [9], [8], [7], [6], and [SEARCH MODE] buttons on the remote control unit in that order. The tray will open automatically.
   Fig. a appears on the screen and Fig. b appears on the VFD.

BE F/W VERSION UP MODE

PLEASE INSERT A DISC
FOR BE F/W VERSION UP.

EXIT: POWER

Fig. a Version Up Mode Screen

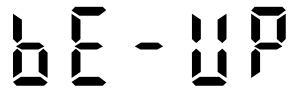


Fig. b VFD in Version Up Mode

The DVD player can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up. (For closing the tray, only the "OPEN/CLOSE" button is available.)
4. The DVD player enters the F/W version up mode automatically. Fig. c appears on the screen and Fig. d appears on the VFD.

BE F/W VERSION UP MODE

VERSION: ********

Reading...(*2)

Fig. c Programming Mode Screen

Fig. d VFD in Programming Mode (Example)

The appearance shown in (*2) of Fig. c is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. e appears on the screen and the checksum in (*3) of Fig. e appears on the VFD. (Fig. f)

BE F/W VERSION UP MODE

VERSION: ********

COMPLETED SUM:7abc(*3)

Fig. e Completed Program Mode Screen

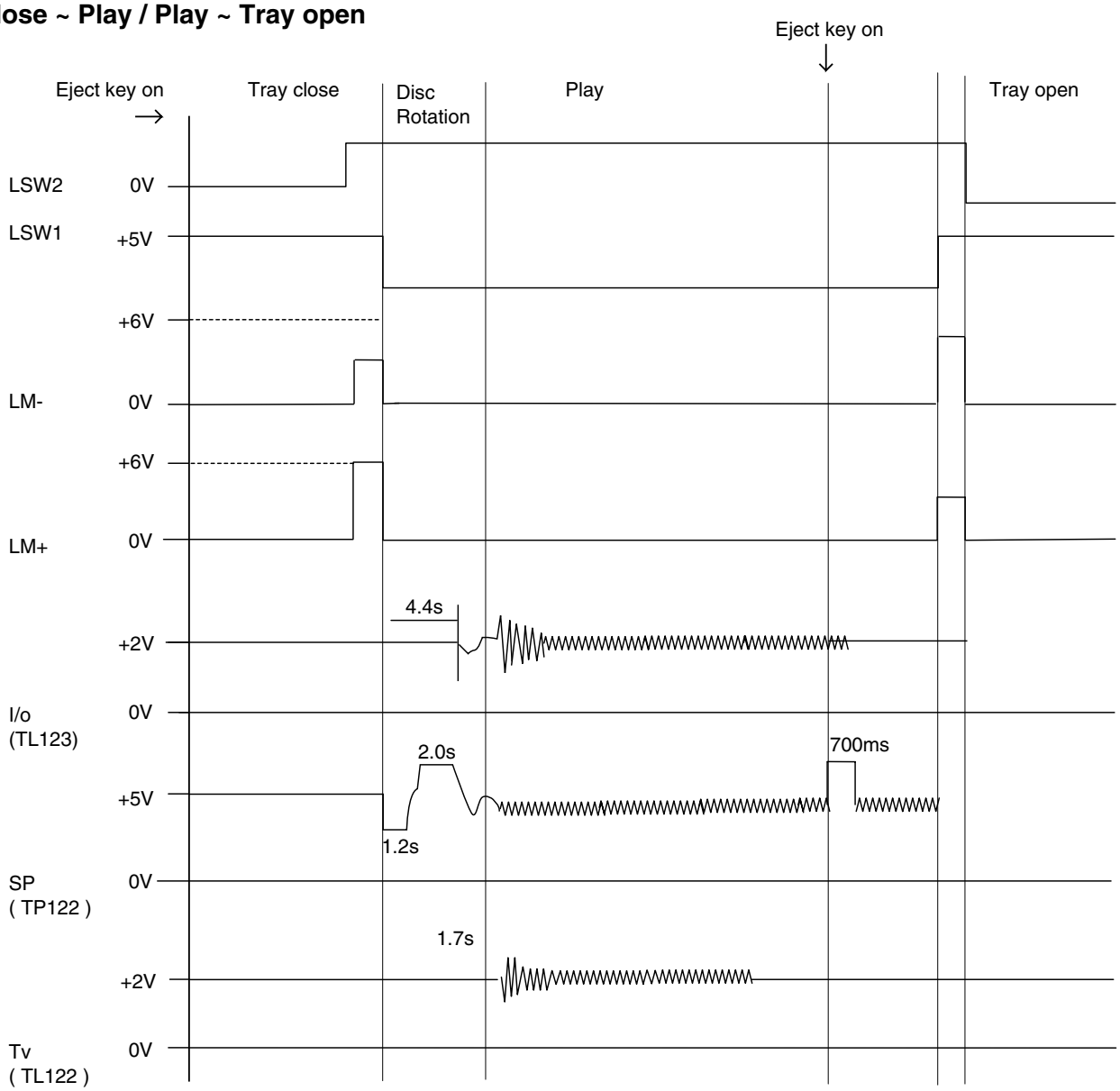
Fig. f VFD upon Finishing the Programing Mode (Example)

At this time, no buttons are available.

6. For tray opening, plug the AC cord into the AC outlet.
7. Turn the power on by pressing the power button and the tray will close.

SYSTEM CONTROL TIMING CHARTS

Tray close ~ Play / Play ~ Tray open

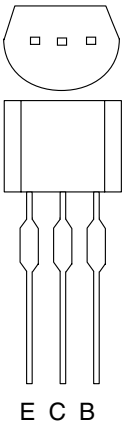


IC PIN FUNCTION DESCRIPTIONS

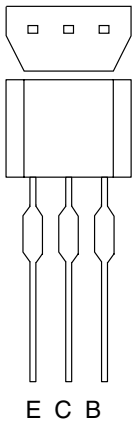
IC2001 [PT6315]

Pin No.	In/Out	Signal Name	Name Function
1	-	N.U.	Not Used
2	-	N.U.	Not Used
3	-	N.U.	Not Used
4	-	N.U.	Not Used
5	In	OSC	Oscillator Input
6	Out	DOUT	Serial Data Output
7	In	DIN	Serial Data Input
8	In	CLK	Clock Input
9	In	STB	Serial Interface Strobe
10	In	K1	Key Data 1 Input
11	In	K2	Key Data 2 Input
12	-	VSS	GND
13	-	VDD	Power Supply
14	Out	a / KEY-1	Segment Output / Key Souce-1
15	Out	b / Key-2	Segment Output / Key Souce-2
16	Out	c / Key-3	Segment Output / Key Souce-3
17	Out	d / Key-4	Segment Output / Key Souce-4
18	OUT	e	Display Segment
19	OUT	f	Display Segment
20	OUT	g	Display Segment
21	OUT	h	Display Segment
22	OUT	i	Display Segment
23	OUT	j	Display Segment
24	-	N.U.	Not Used
25	-	N.U.	Not Used
26	-	N.U.	Not Used
27	-	N.U.	Not Used
28	-	N.U.	Not Used
29	-	N.U.	Not Used
30	-	VEE	Pull Down Level
31	-	N.U.	Not Used
32	OUT	11G	Grid Output
33		10G	
34		9G	
35		8G	
36		7G	
37		6G	
38		5G	
39		4G	
40		3G	
41		2G	
42		1G	
43	-	VDD	Power Supply
44	-	VSS	GND

LEAD IDENTIFICATIONS

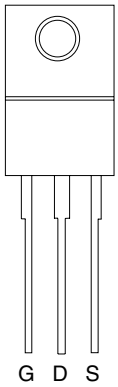


2SA1015-Y (TPE2)
KTA1266 (Y)
2SA966 (Y)
2SC2236-Y-TPE6,C

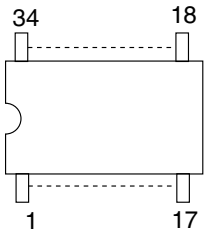


2SC2785 (H)
KTC3199 (GR)
KRA110M
KTA1273 (Y)
KRC110M-AT
BA1L3Z-T
BN1L3Z (P)
KTC3205 (Y)

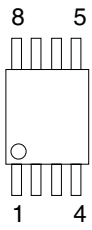
2SK3374



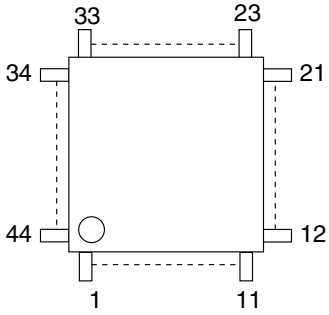
MM1567AJ
MM1566AF



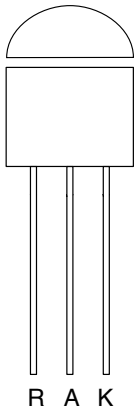
NJM4558D
KIA4558P



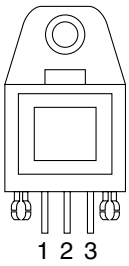
PT6315



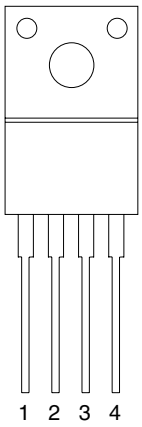
KIA431-AT



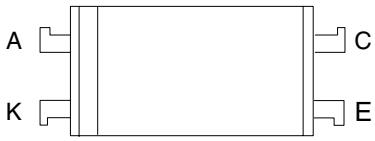
GP1FA512TZV
0C-0805T-002



PQ018EF01SZ



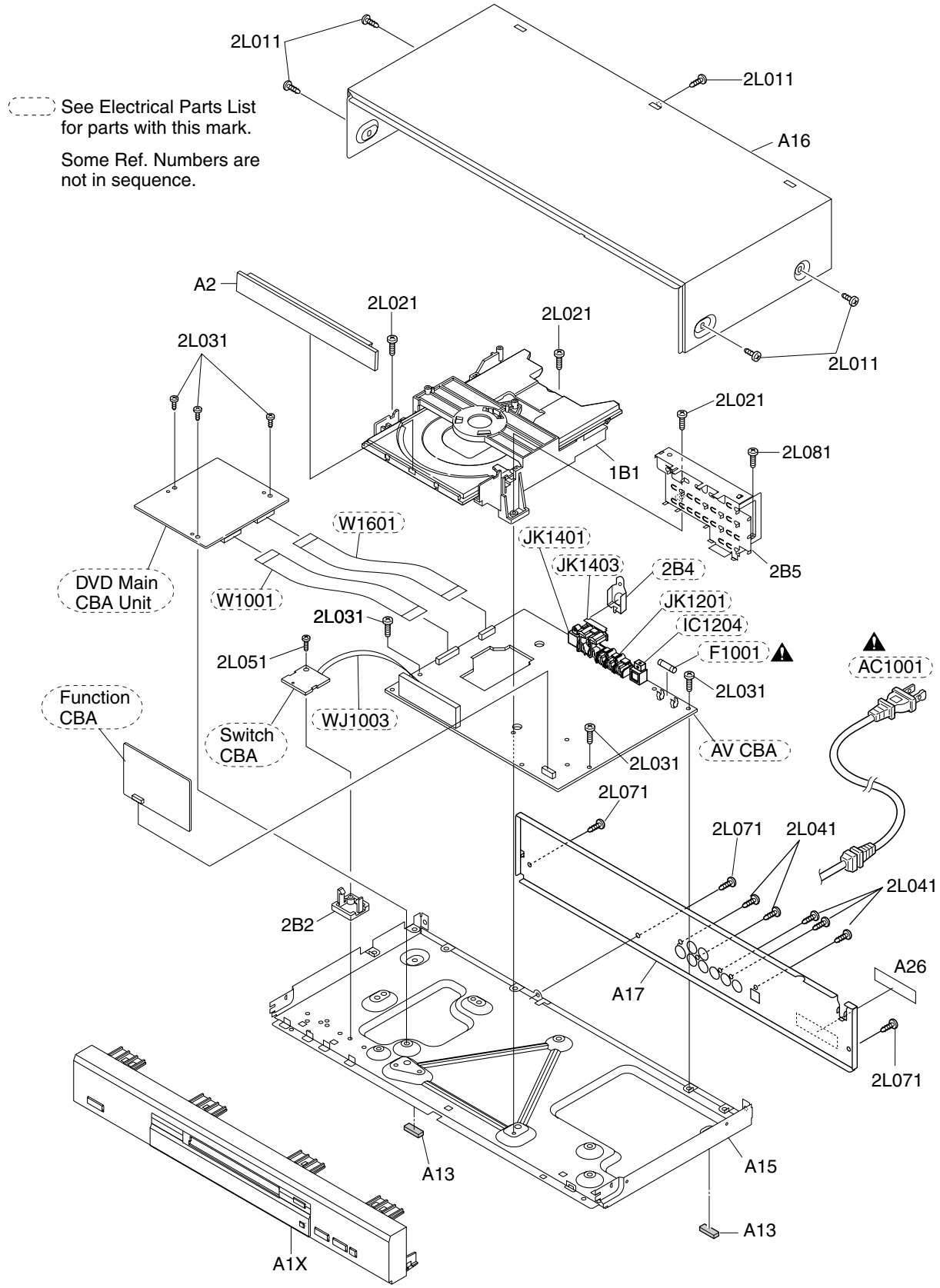
LTV-817(B,C)-F



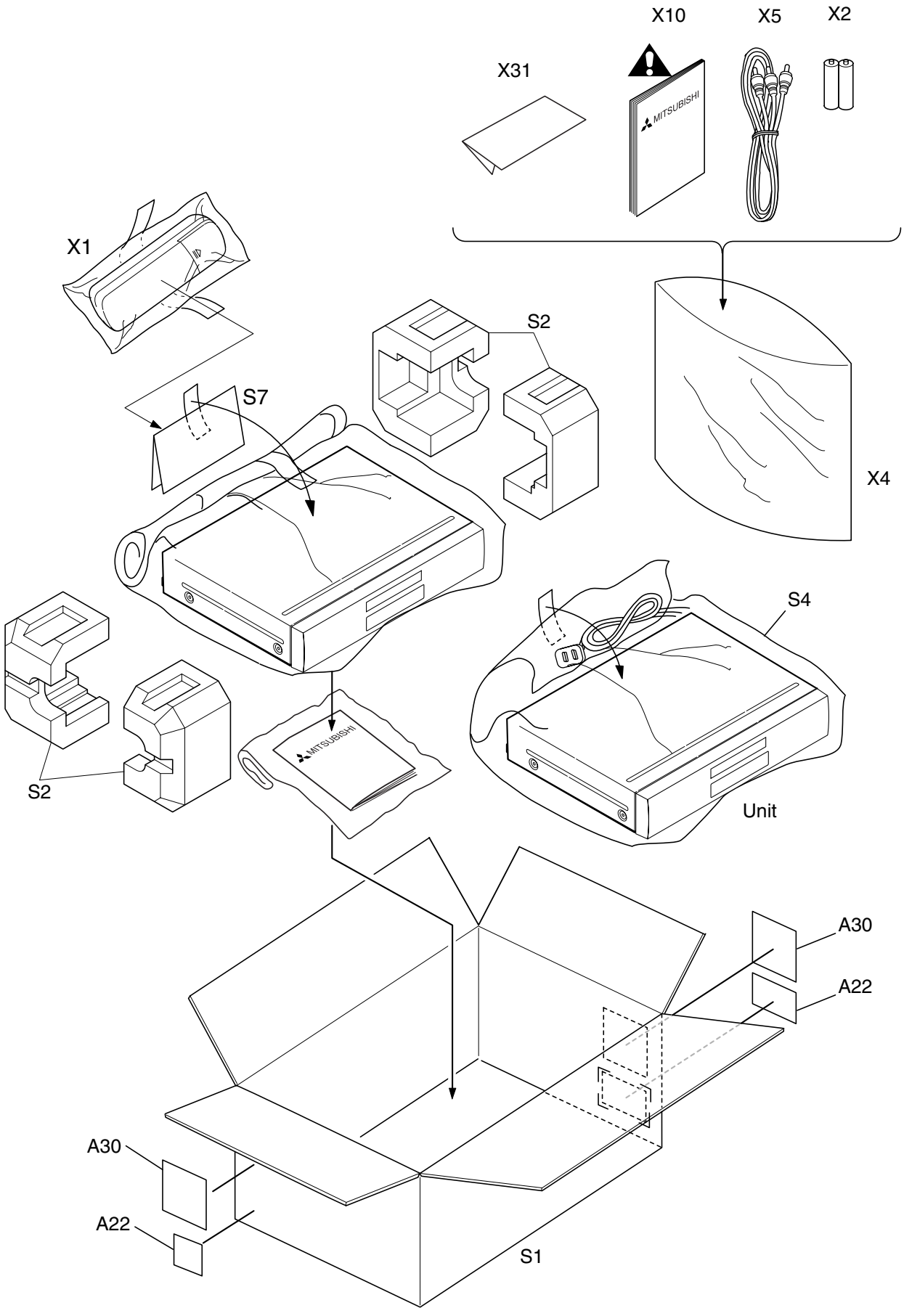
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
1 VCC
2 GND
3 OUT

EXPLODED VIEWS

Cabinet



Packing


X10
X5
X2
X31
MITSUBISHI
X1
S2
S7
X4
S4
S2
MITSUBISHI
Unit
A30
A22
A30
A22
S1

Parts List

DD-4030 Parts List

Description	Part Number
OWNERS GUIDE	I/B DD4030
REMOTE	NA010UD
PCB-AV	OVSA12864
PCB-FUNCTION	OVSA12867
PCB-MAIN	N79MOFUP
I/R RECEIVER	USESJRSKK037
MECHA-PU	N79F1FVM
FRONT ASSY	OVM203663
COVER-TOP	OVM101038