

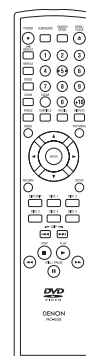
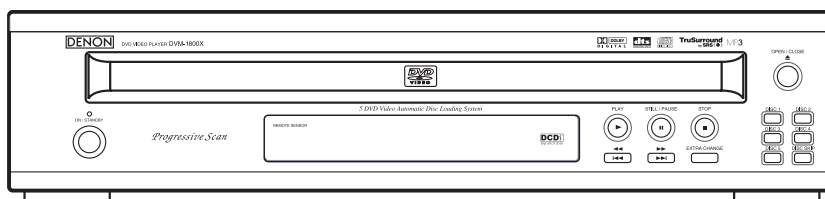
DENON

For U.S.A & Canada model

SERVICE MANUAL

MODEL DVM-1805

DVD VIDEO AUTO CHANGER



● Some illustrations using in this service manual are slightly different from the actual set.

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SPECIFICATIONS

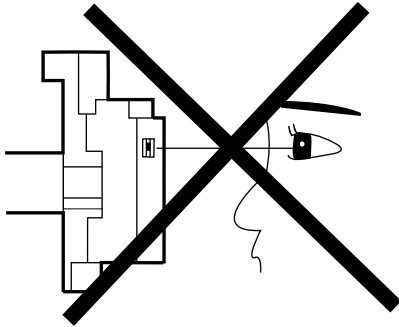
ITEM	CONDITIONS	UNIT	NOMINAL	LIMIT
1. Video Output	75 ohm load	Vpp	1.0	
2. Optical Digital Out		dBm	-18	
3. Audio (PCM)				
3-1. Output Level	1kHz 0dB	Vrms	2.0	
3-2. S/N		dB	110	
3-3. Freq. Response				
DVD	fs=48kHz 20~22kHz	dB	± 2	
CD	fs=44.1kHz 20~20 kHz	dB	± 2	
3-4. THD+N	1 kHz 0dB	%	0.005	

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

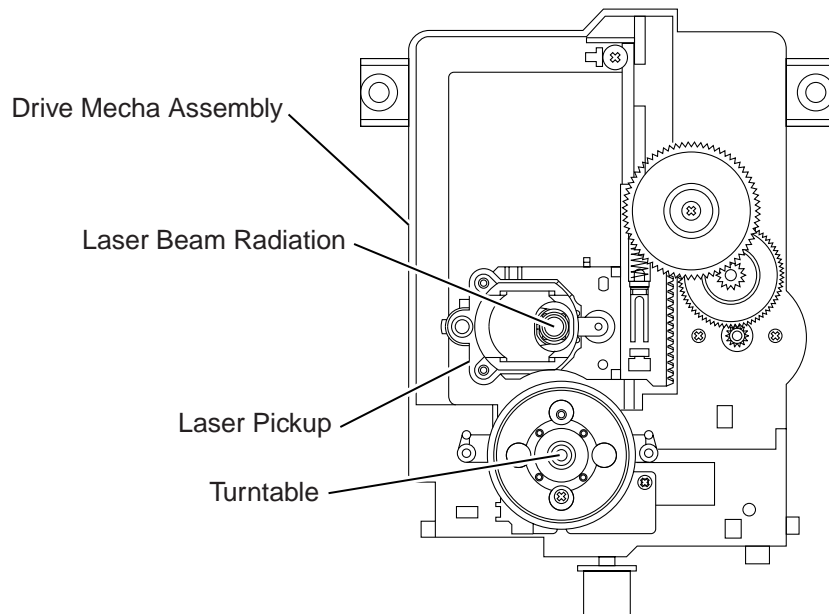
This DVD player uses a pickup that emits a laser beam.



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	$\geq 3.2\text{mm}$ (0.126 inches)

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

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.

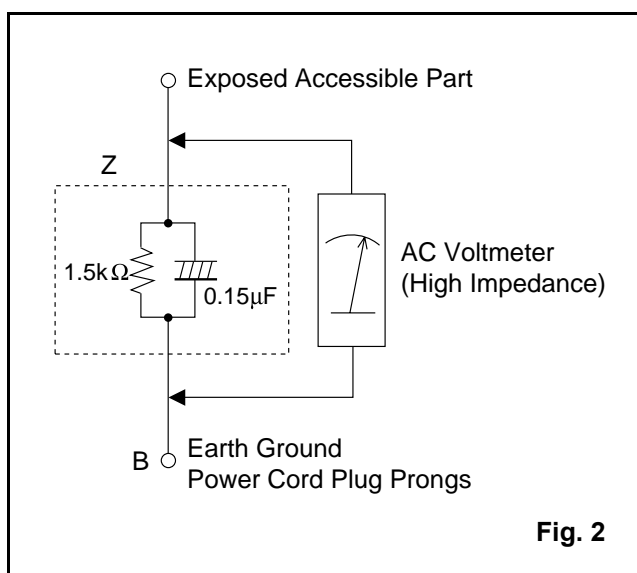
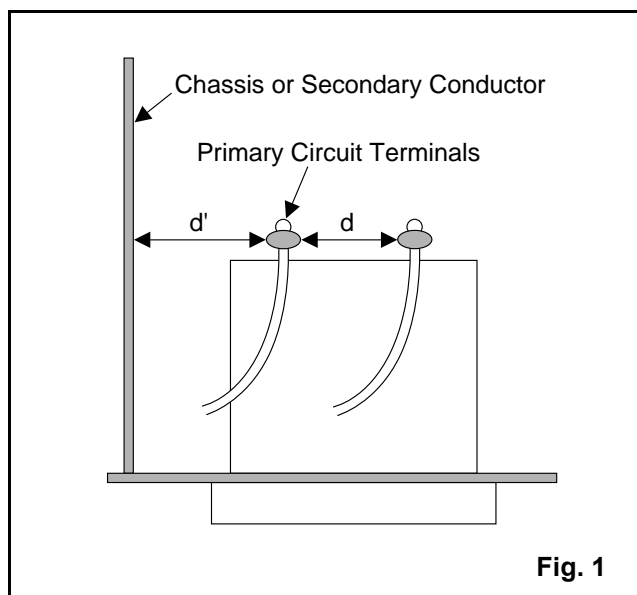


Table 2: Leakage current ratings for selected areas

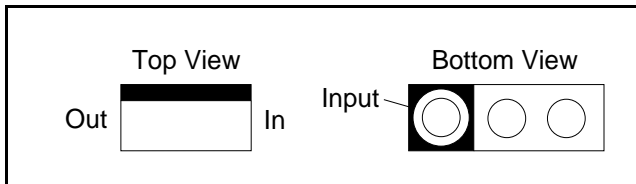
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15μF CAP. & 1.5kΩ RES. Connected in parallel	$i \leq 0.5\text{mA Peak}$	Exposed accessible parts

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

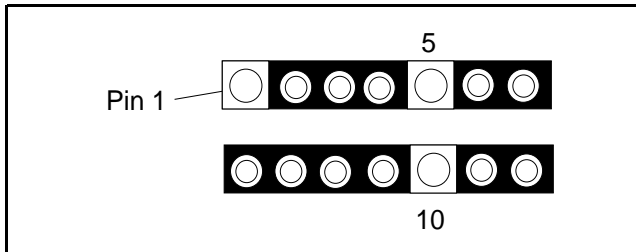
STANDARD NOTES FOR SERVICING

Circuit Board Indications

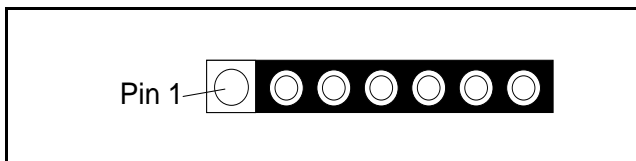
- a. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

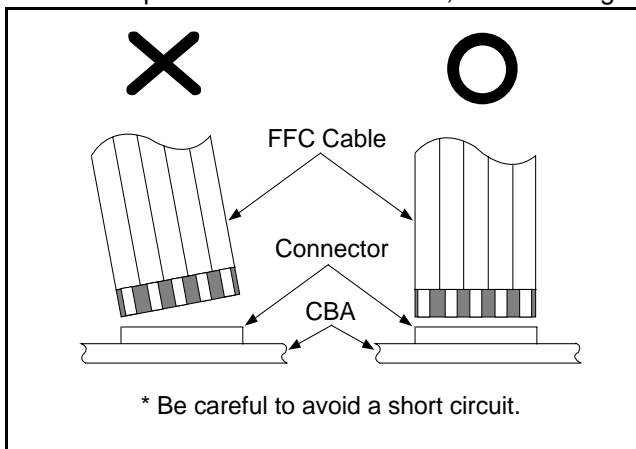


- c. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

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

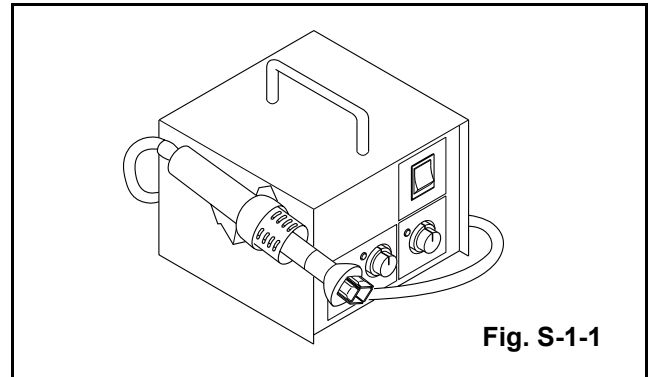


How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:.

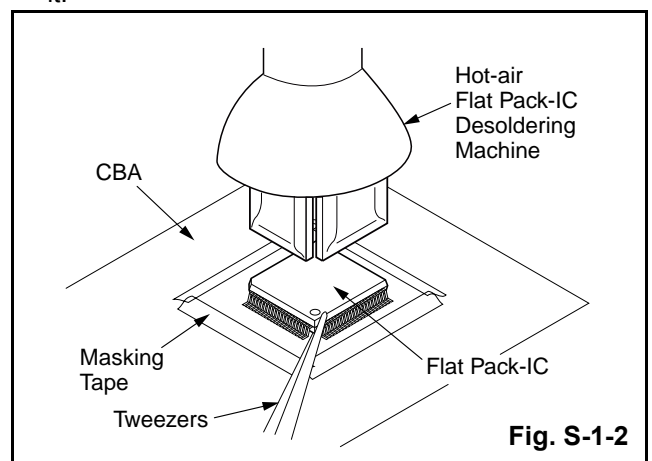
- (1) Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)



- (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)

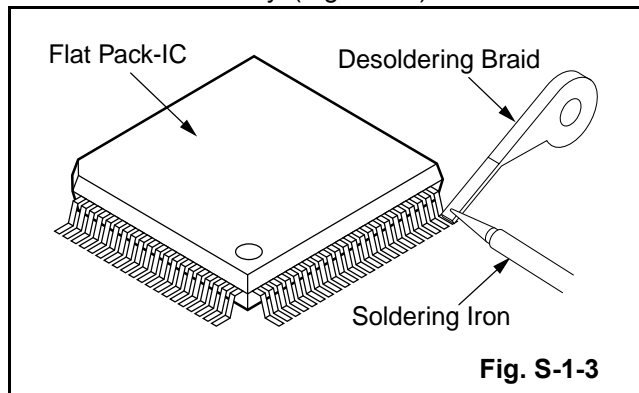
Caution:

- 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)
- 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.

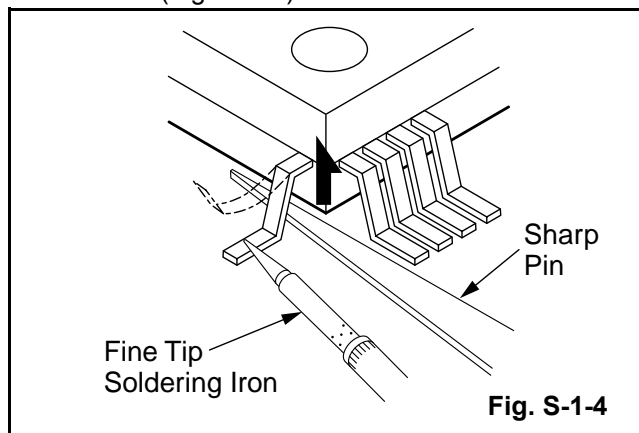


With Soldering Iron:

- (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)

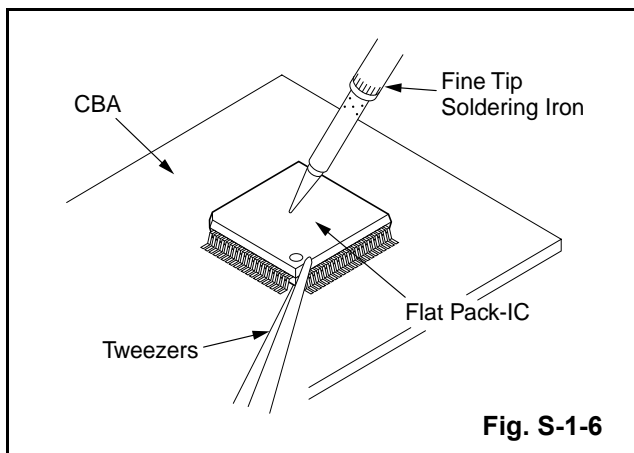
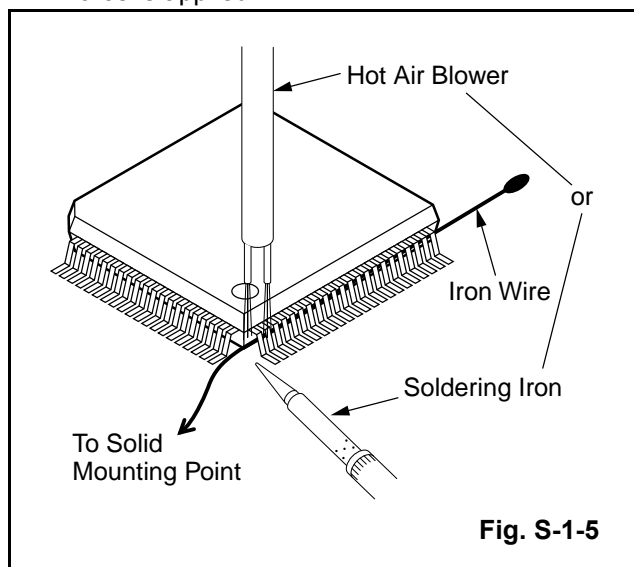
With Iron Wire:

- (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)

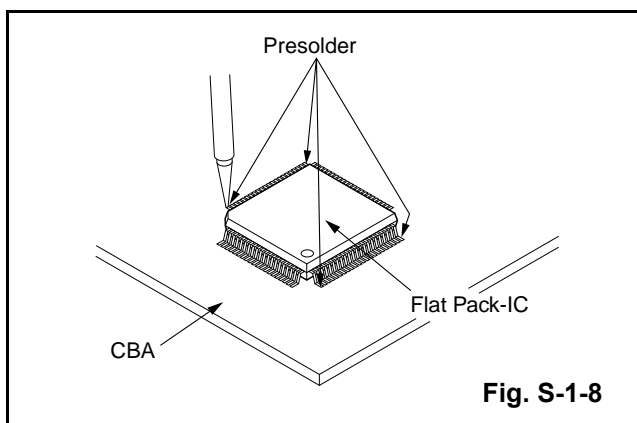
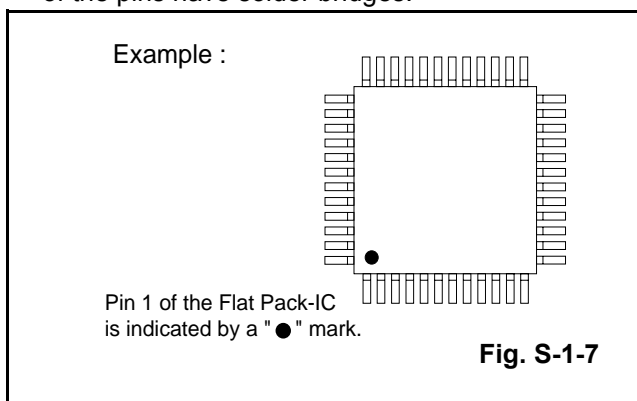
Note:

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 "1" 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.



Instructions for Handling Semi-conductors

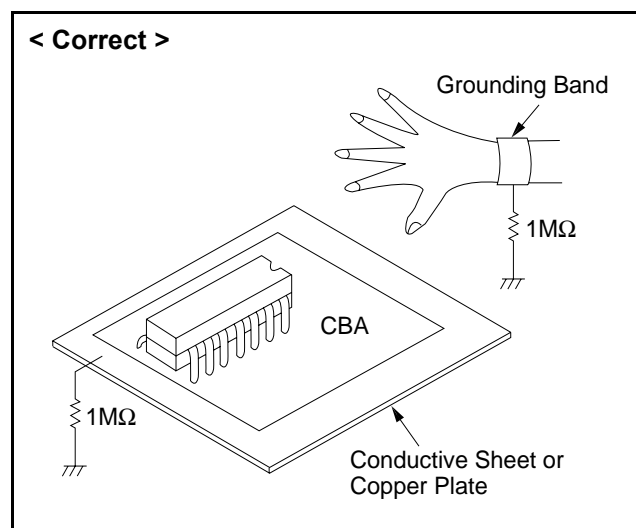
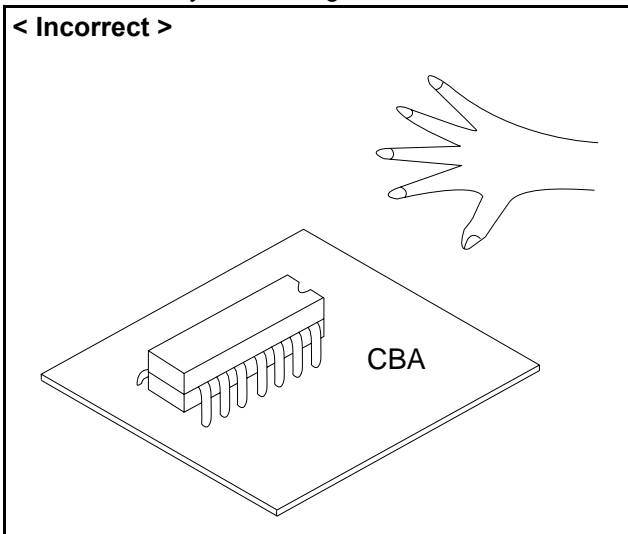
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

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

2. Ground for Workbench

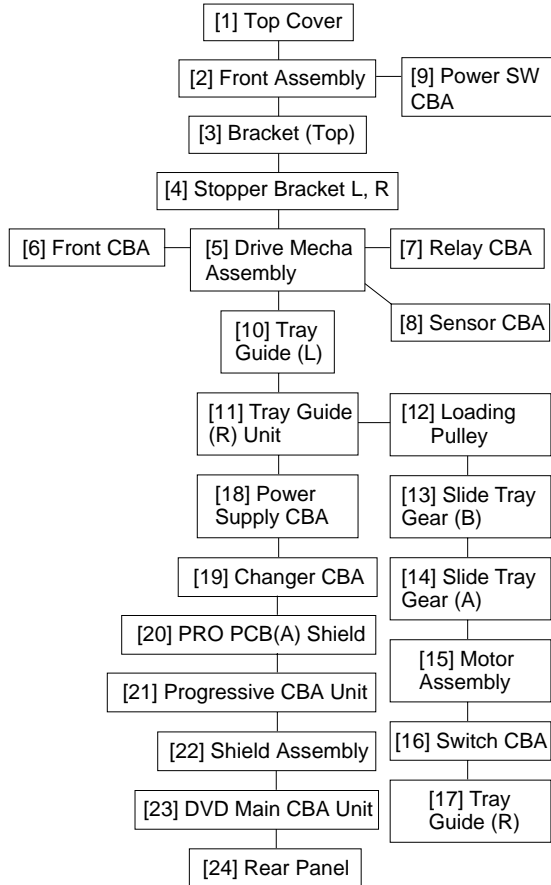
- (4) Be sure to place a conductive sheet or copper plate with proper grounding ($1M\Omega$) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting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



CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to 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	D1	6(S-1)	-
[2]	Front Assembly	D2	2(S-2), *8(L-1)	1-1
[3]	Bracket (Top)	D3	*2(L-2)	-
[4]	Stopper Bracket L, R	D3	4(S-3)	-
[5]	Drive Mecha Assembly	D4, D5	CN101, CN3002	2 2-1 2-2 3 4
[6]	Front CBA	D4	*2(L-3), CN2002	-

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[7]	Relay CBA	D6	2(S-4), CN5002, CN5005	-
[8]	Sensor CBA	D6	CN5101, 2(S-5)	-
[9]	Power SW CBA	D7	CN2103, (S-6)	-
[10]	Tray Guide (L)	D7	6(S-7)	-
[11]	Tray Guide (R) Unit	D7	8(S-8), CN3004, CN3006	-
[12]	Loading Pulley	D8	(S-9), Belt L	-
[13]	Slide Tray Gear (B)	D8	(S-10), *(P-1)	-
[14]	Slide Tray Gear (A)	D8	-----	-
[15]	Motor Assembly	D8	(S-11)	-
[16]	Switch CBA	D8	*2(L-4)	-
[17]	Tray Guide (R)	D8	-----	-
[18]	Power Supply CBA	D9	CN1002, 3(S-12)	-
[19]	Changer CBA	D9	6(S-13), 5(S-14), CN1601, CN1602, CN1001, CN3001	-
[20]	PRO PCB(A) Shield	D10	3(S-15)	-
[21]	Progressive CBA Unit	D10	CN1801	-
[22]	Shield Assembly	D10	-----	-
[23]	DVD Main CBA	D10	-----	-
[24]	Rear Panel	D11	4(S-17)	-

(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) are fragile. Be careful not to break them.

1-1. To release eight Locking Tabs (L-1), first release five Locking Tabs (A), and then three Locking Tabs (B). (Fig. D2)

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. D5.

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. D5)

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. D5)

CAUTION 4: Before reinstalling, turn the Slide Tray Gear (B) fully clockwise. (Fig. D4)

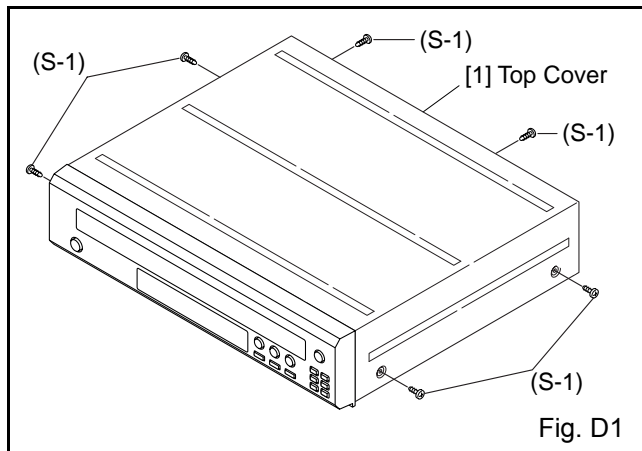


Fig. D1

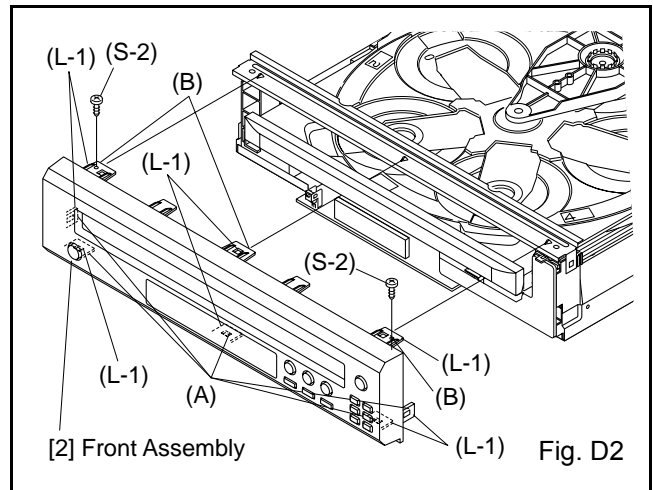


Fig. D2

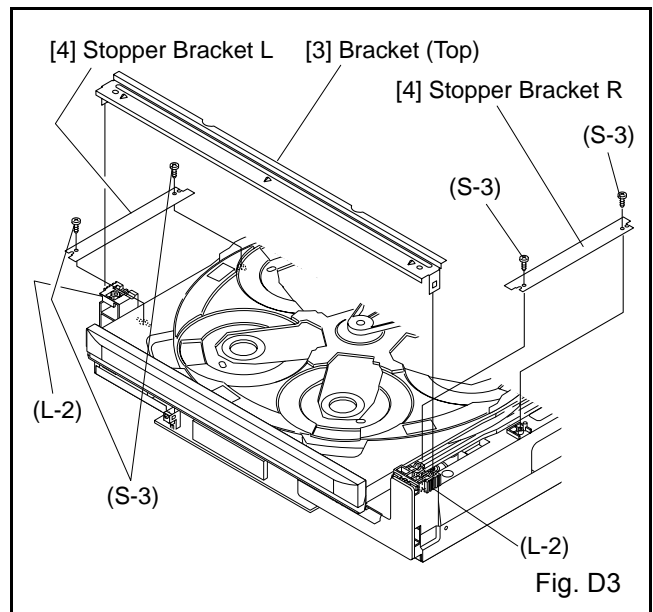


Fig. D3

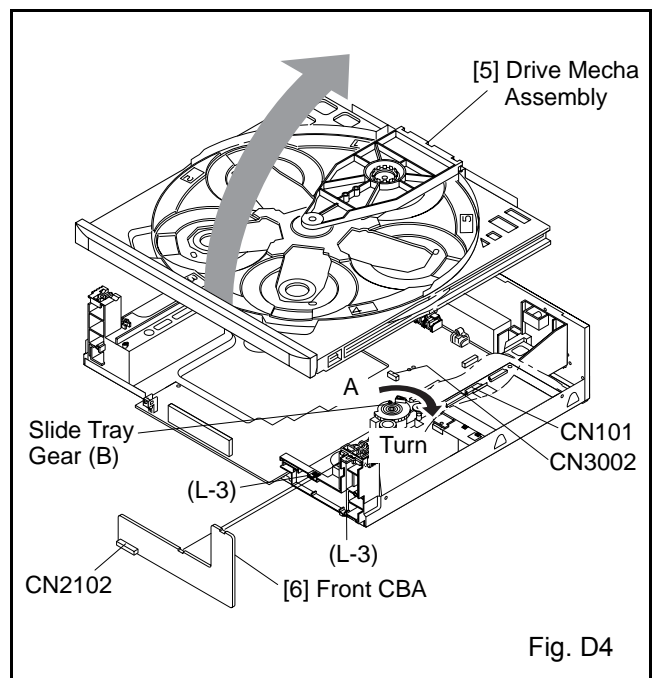
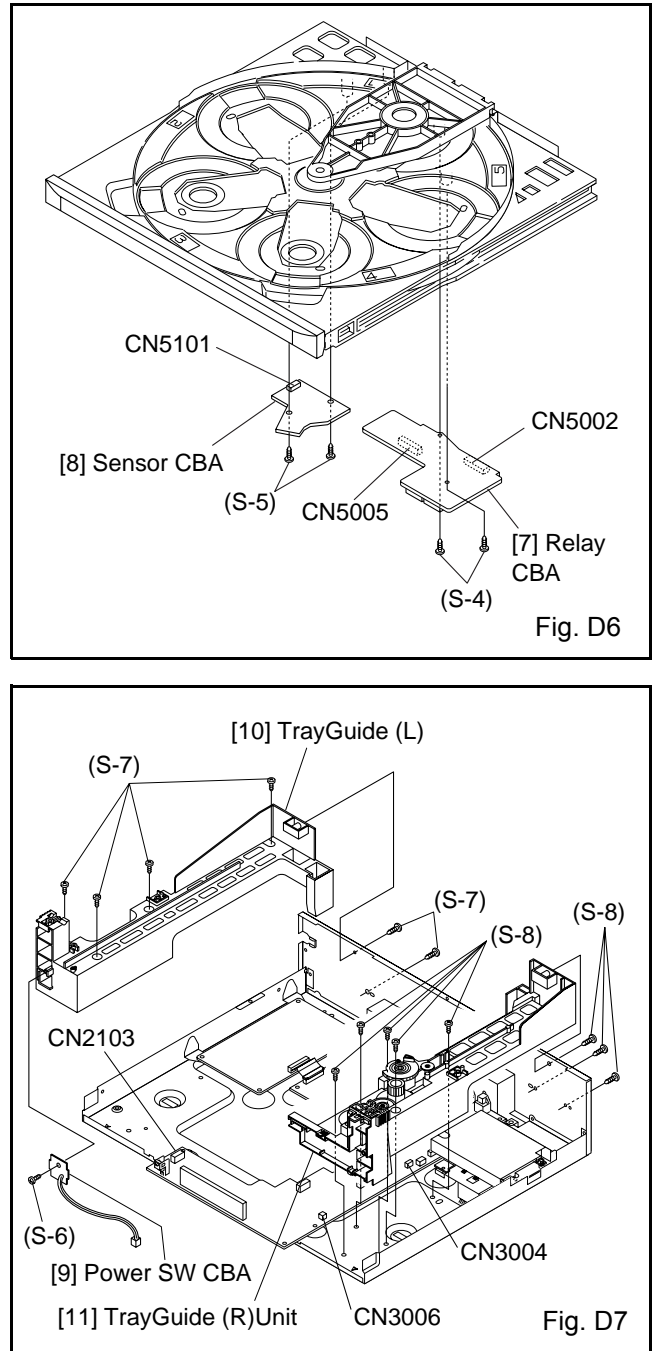
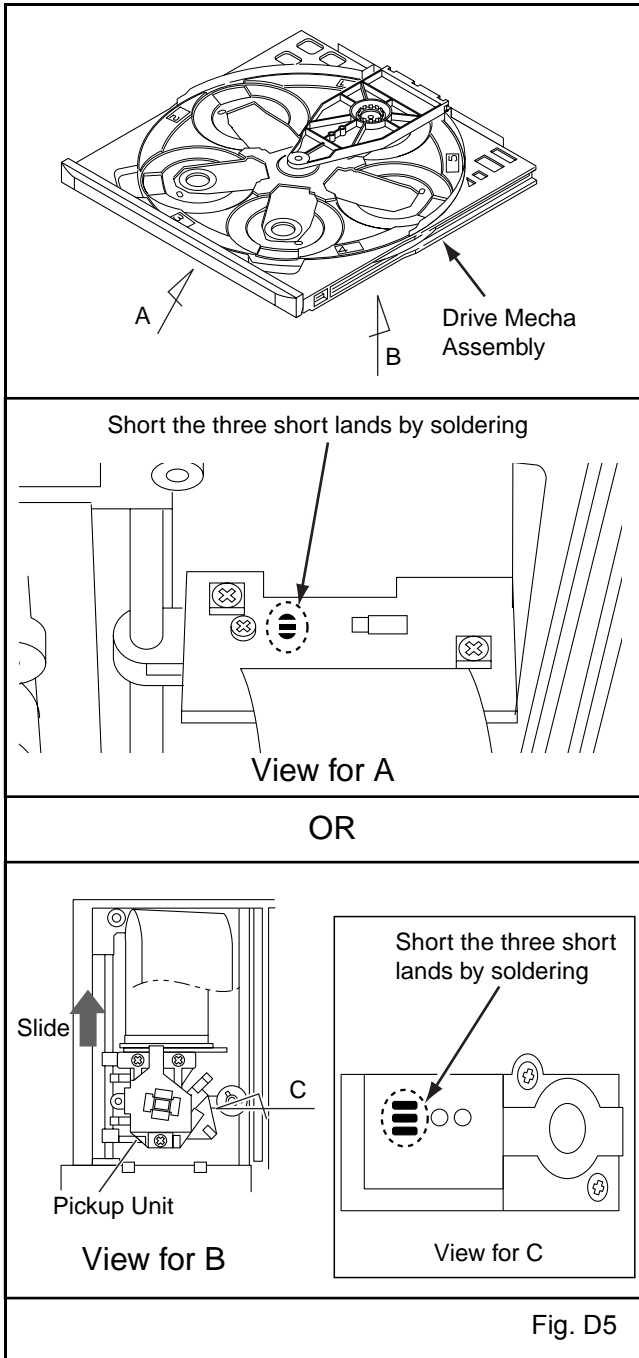
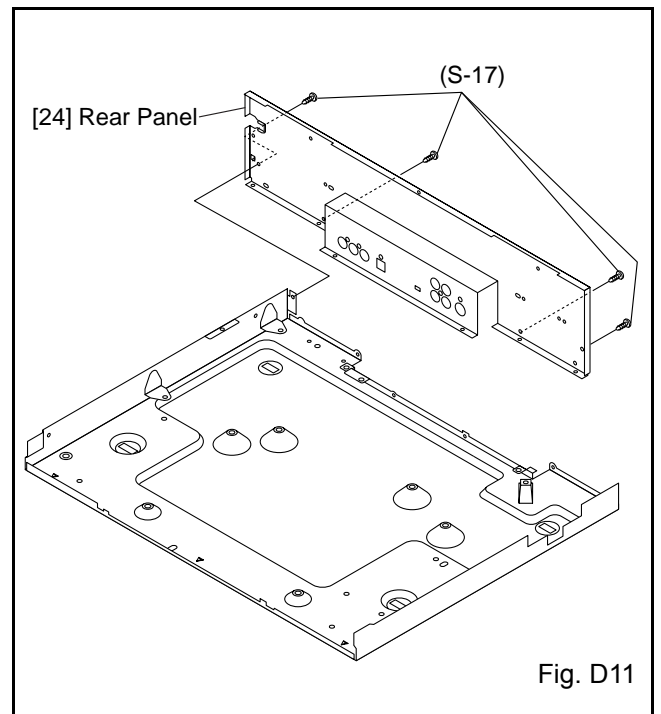
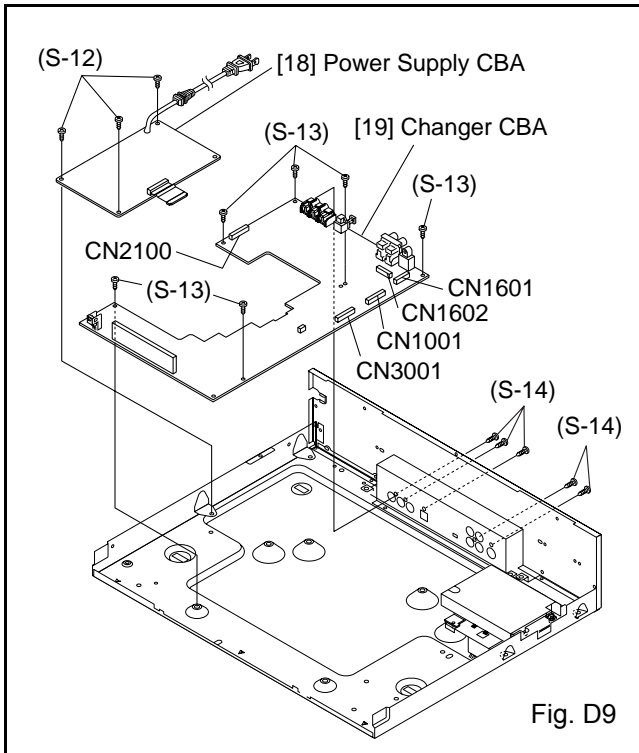
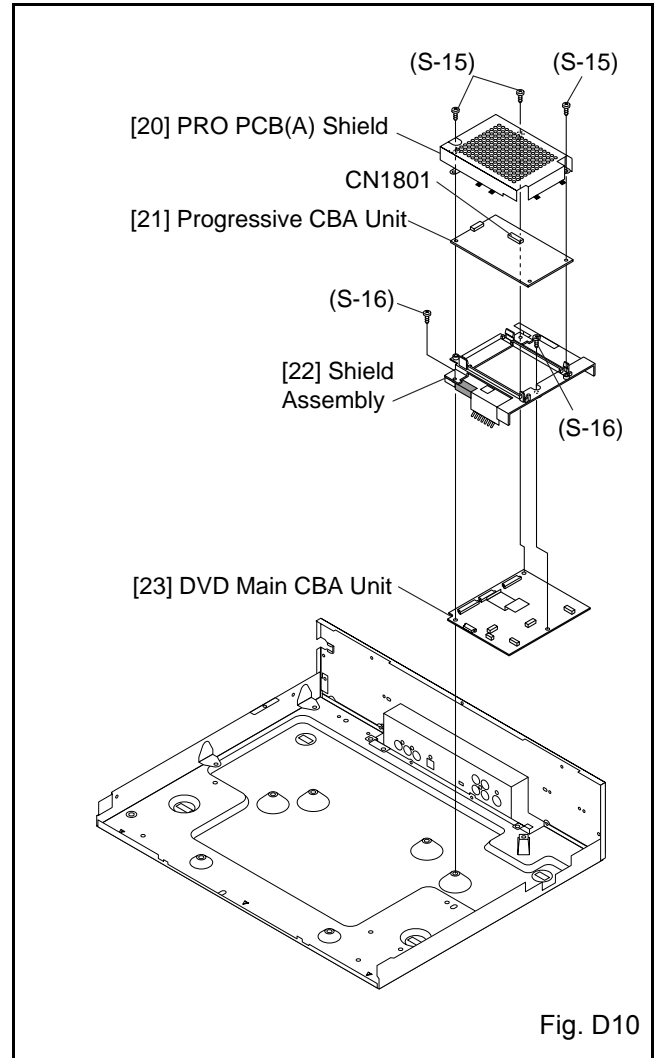
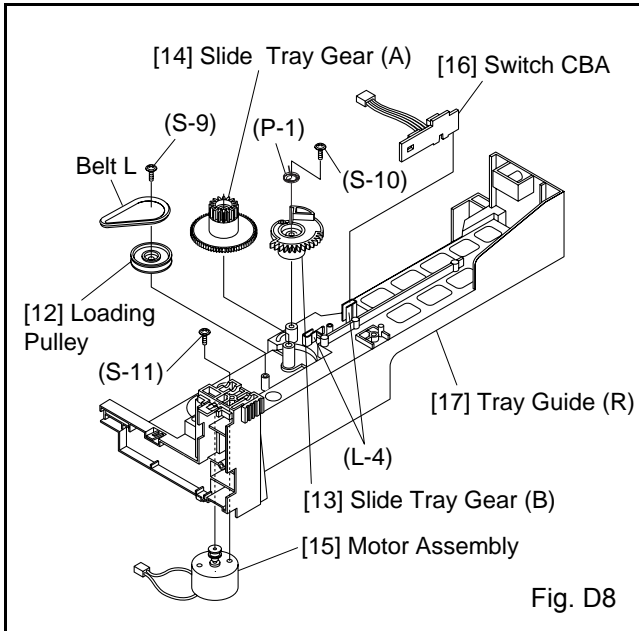


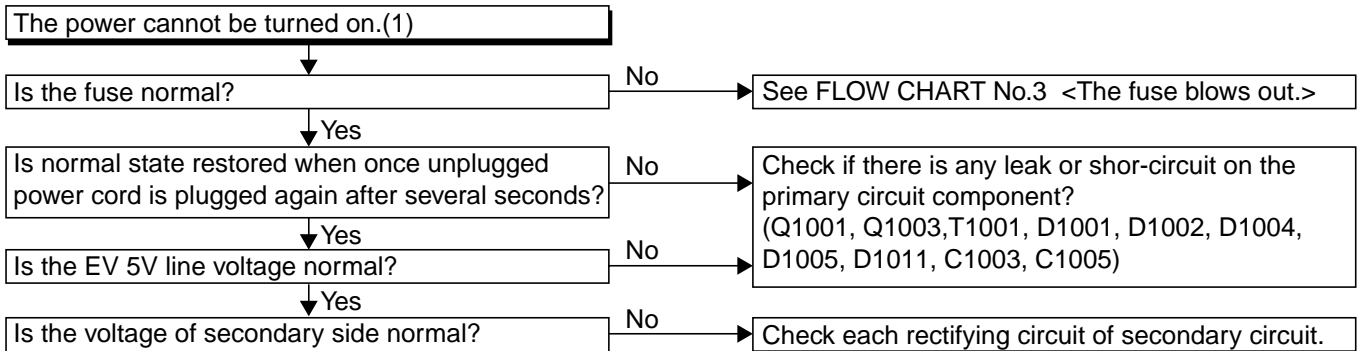
Fig. D4



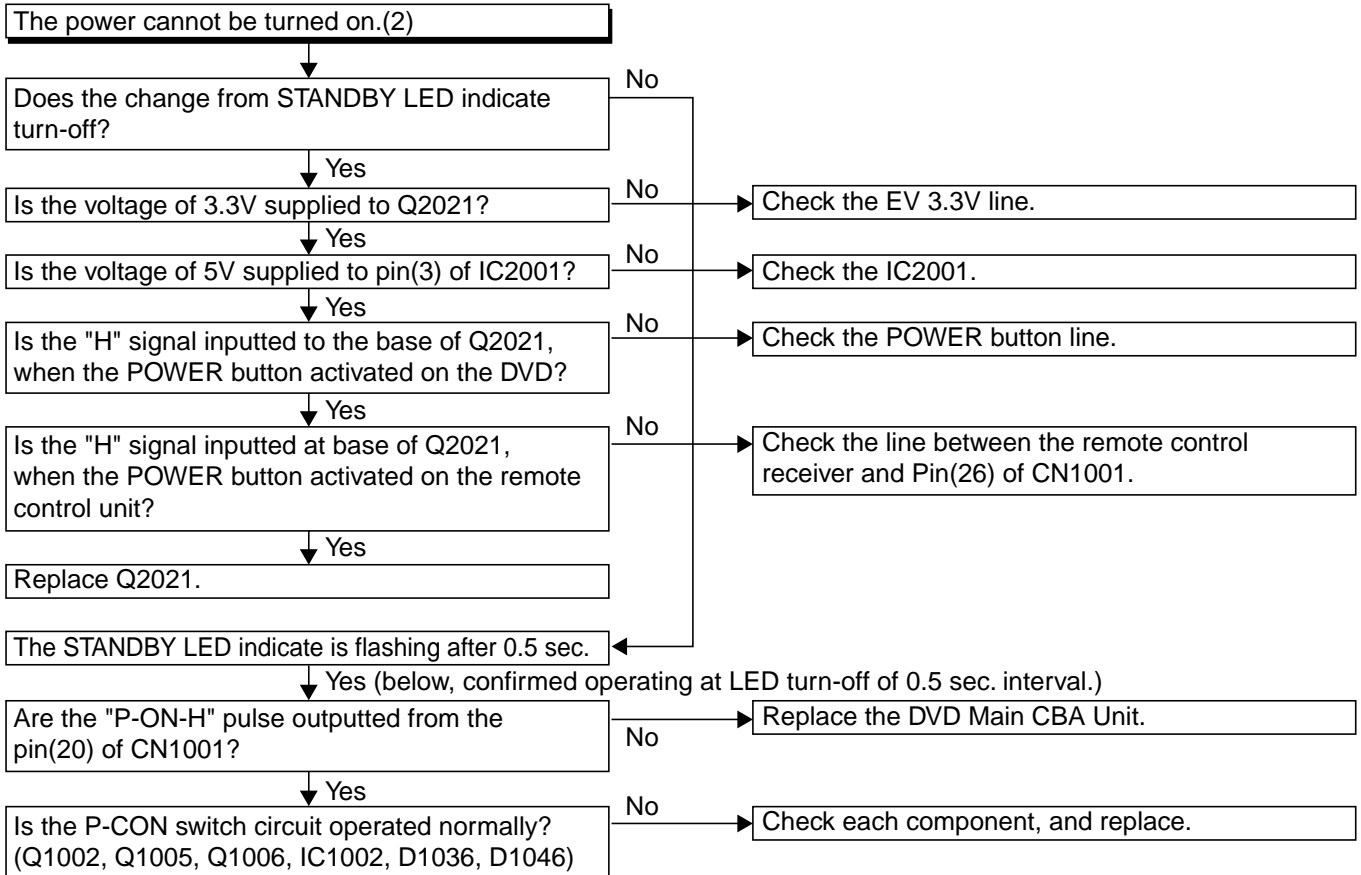


TROUBLESHOOTING

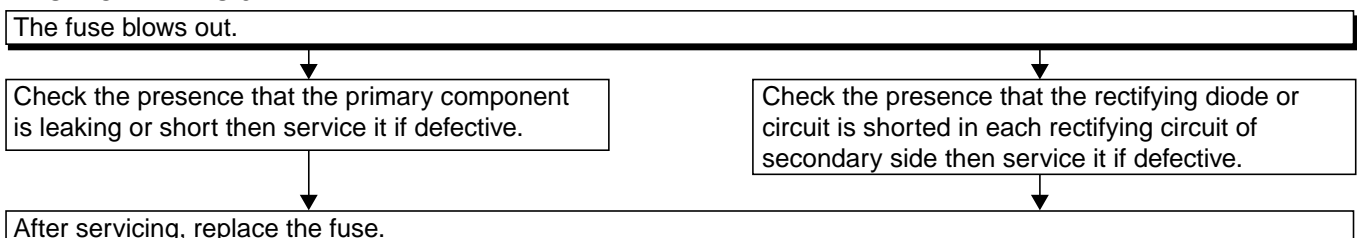
FLOW CHART NO.1



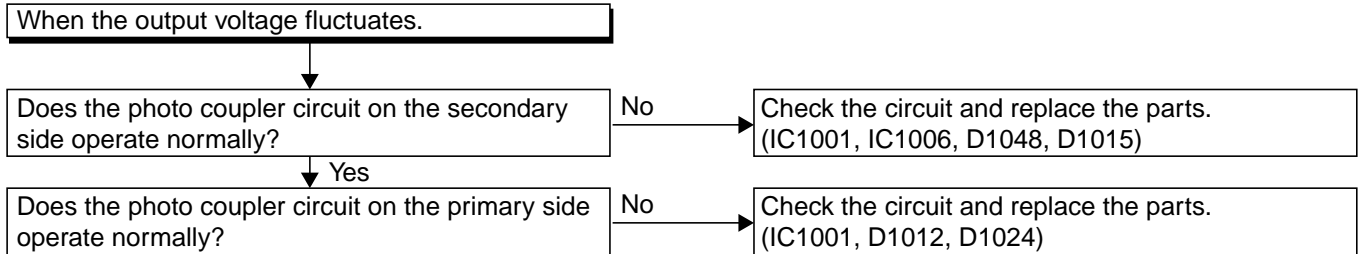
FLOW CHART NO.2



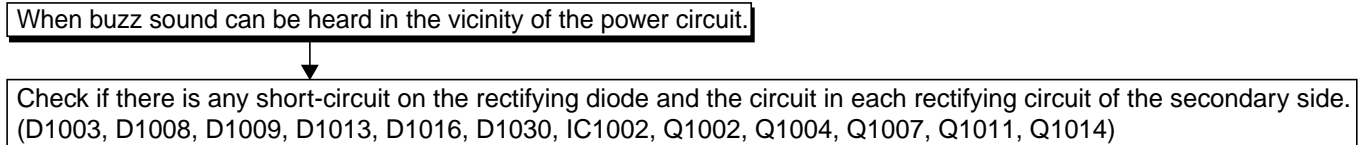
FLOW CHART NO.3



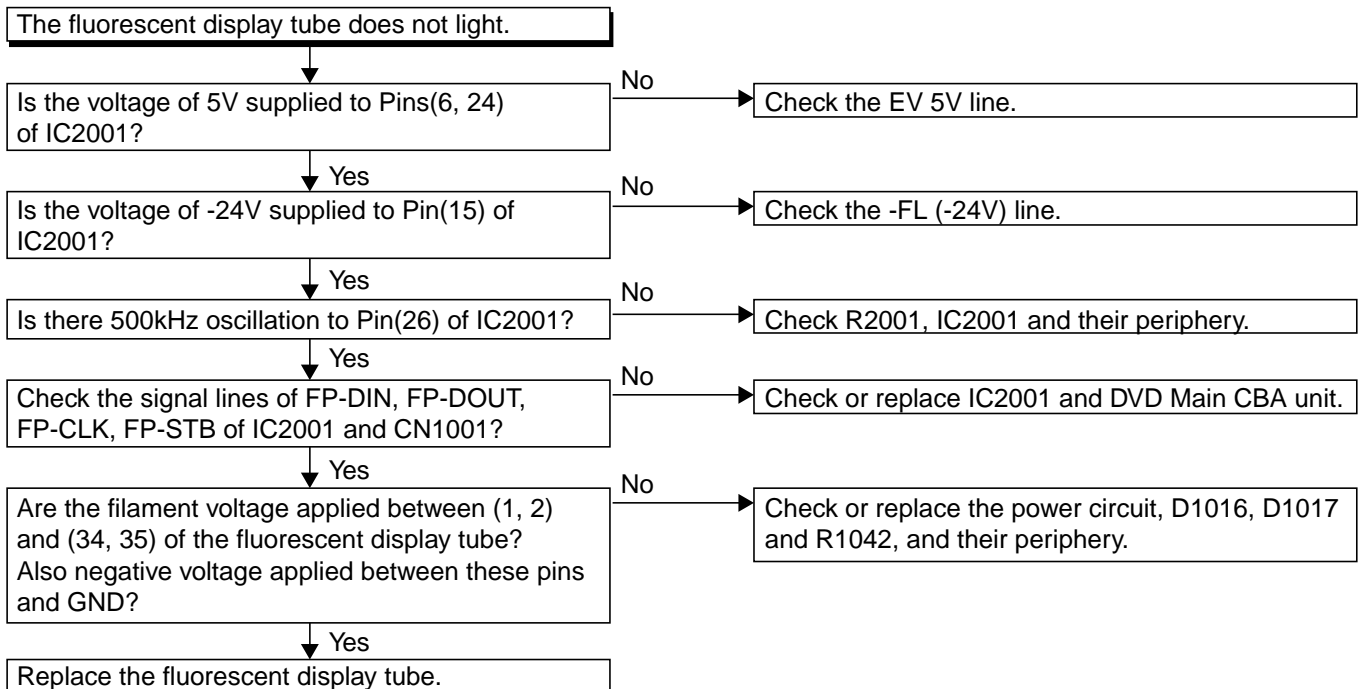
FLOW CHART NO.4



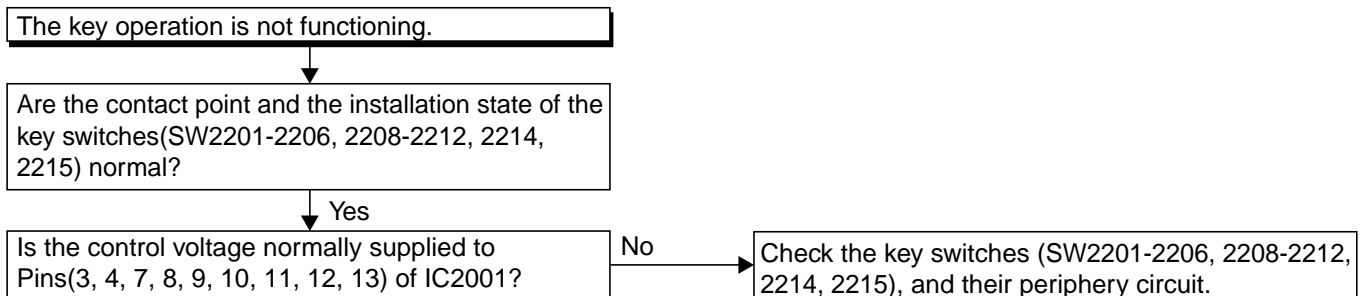
FLOW CHART NO.5



FLOW CHART NO.6



FLOW CHART NO.7



FLOW CHART NO.8

No operation is possible from the remote control unit.

Operation is possible from the DVD, but no operation is possible from the remote control unit.

Yes

Is no operation possible if replacing the remote control unit?

No

Original remote control unit is poor.

Yes

Is 5V voltage supplied to Pin(3) terminal of infrared remote control receiver?

No

Check EV 5V line.

Yes

Is the "L" pulse sent out from Pin(1) terminal of the receiver when the infrared remote control is activated?

No

Replace the infrared remote control receiver.

Yes

Is the "L" pulse signal supplied to Pin(26) of CN1001 from Pin(1) of receiver? (Be operated by SEARCH(-), SEARCH(+), PLAY, STILL/PAUSE, STOP, POWER and OPEN/CLOSE button.)

No

Check the line between the infrared remote control receiver and Pin(26) of CN1001.

Yes

Replace DVD Main CBA unit.

FLOW CHART NO.9

PON 12V is not outputted.

Is PON12V voltage supplied to the collector of Q1002?

No

Check D1009, C1012 and the periphery circuit.

Yes

Does the P-ON switch circuit operate normally? (Q1005, Q1006, D1036, etc.)

No

Check each component, and replace.

Yes

Replace Q1002.

FLOW CHART NO.10

PON 5V is not outputted. (PON 12V is outputted normally.)

Is 5V voltage supplied to the collector of Q1004?

No

Check D1030, D1048, C1035, C1048 and the periphery circuit.

Yes

Is the "H" pulse inputted into the base of Q1004?

No

Check D1046 and the periphery circuit.

Yes

Replace Q1004.

FLOW CHART NO.11

-FL is not outputted.

Is -24V voltage supplied to the anode of D1003?

No

Check D1003 and periphery circuit.

Yes

Check if there is any leak or short-circuit on the loaded circuit.

FLOW CHART NO.12

PON 3.3V is not outputted.

Is 3.3V voltage supplied to the emitter of Q1011?

No

Check D1008, D1015, C1007, C1038 and the periphery circuit.

Yes

Does the P-CON switch circuit operate normally? (Q1005, Q1006, etc.)

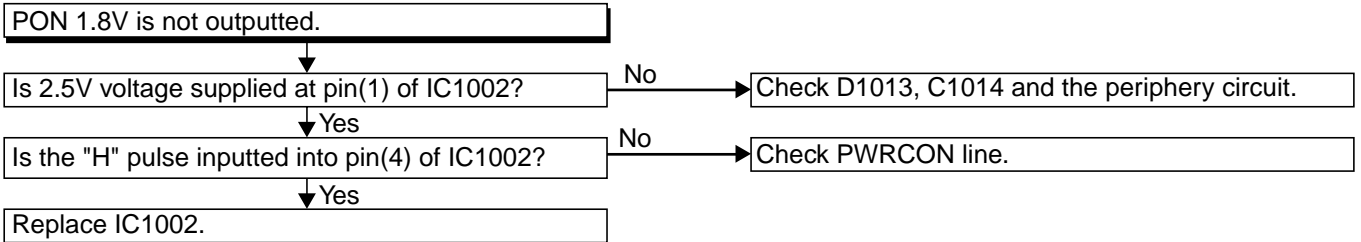
No

Check each component, and replace.

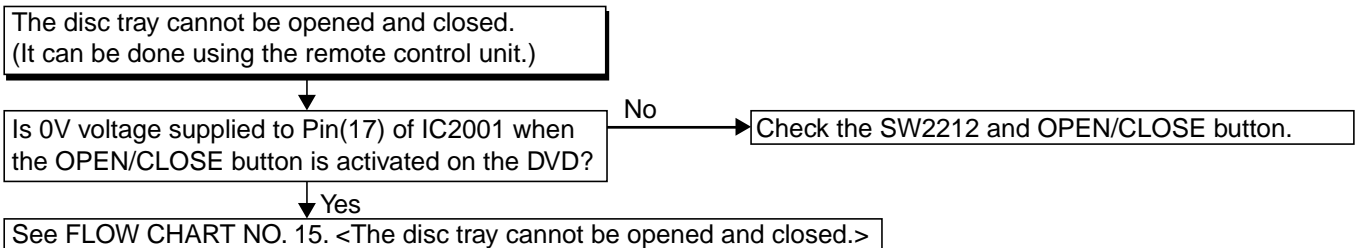
Yes

Replace Q1011.

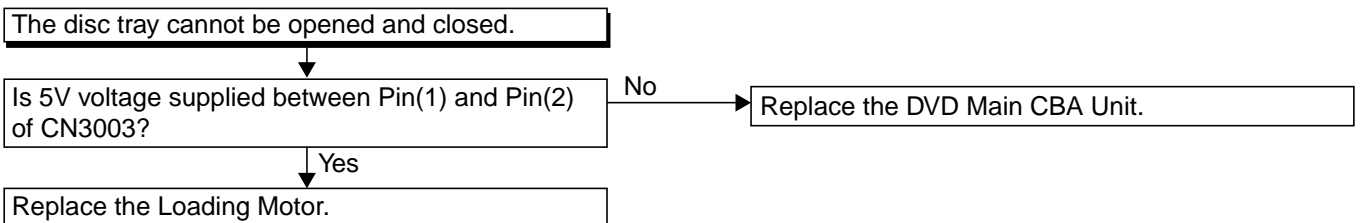
FLOW CHART NO.13



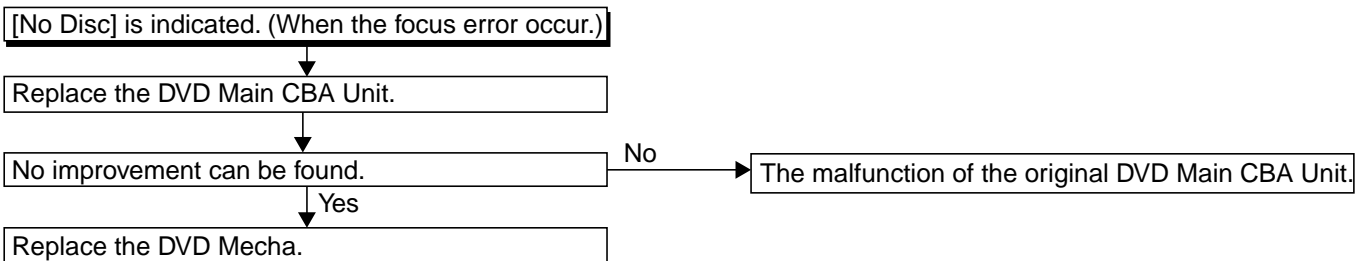
FLOW CHART NO.14



FLOW CHART NO.15



FLOW CHART NO.16



FLOW CHART NO.17

[No Disc] is indicated. (When the focus servo is not functioning.)

Replace the DVD Main CBA Unit.

No improvement can be found.

No

The malfunction of the original DVD Main CBA Unit.

Yes

Replace the DVD Mecha.

FLOW CHART NO.18

[No Disc] is indicated. (When the laser beam does not light up.)

Replace the DVD Main CBA Unit.

No improvement can be found.

No

The malfunction of the original DVD Main CBA Unit.

Yes

Replace the DVD Mecha.

FLOW CHART NO.19

Both functions of picture and sound do not operate normally. (1)

Replace the DVD Main CBA Unit.

No improvement can be found.

No

The malfunction of the original DVD Main CBA Unit.

Yes

Replace the DVD Mecha.

FLOW CHART NO.20

Picture does not appear normally in interlace mode.

Set the disc on the disc tray and playback.

Are the video signals outputted to each pin of CN1601 on the the Changer CBA?

CN1601	7PIN	CVBS
CN1601	5PIN	S-Y
CN1601	9PIN	S-C
CN1601	3PIN	U
CN1601	1PIN	V

No

Replace the DVD Main CBA Unit or DVD Mecha .

Yes

Are the video signals shown above inputted into each pin of IC1402?

IC1402	4PIN	CVBS
IC1402	6PIN & 12PIN	S-Y
IC1402	2PIN	S-C
IC1402	14PIN	U
IC1402	16PIN	V

No

Check the line between each pins of CN1601 and each pins of IC1402 on the Changer CBA.

CN1601 7PIN	→	IC1402 4PIN	CVBS
CN1601 5PIN	→	IC1402 6PIN & 12PIN	S-Y
CN1601 9PIN	→	IC1402 2PIN	S-C
CN1601 3PIN	→	IC1402 14PIN	U
CN1601 1PIN	→	IC1402 16PIN	V

Yes

Are the video signals outputted to each pin of IC1402?

IC1402	30PIN	CVBS
IC1402	27PIN	S-Y
IC1402	33PIN	S-C
IC1402	24PIN	Y
IC1402	21PIN	U
IC1402	18PIN	V

No

Is 5V voltage supplied to the Pins(1, 3, 5, 34) of IC1402?

Yes

Check or replace IC1402?

Yes

Are the video signals outputted to the specific output terminal?

Are the composite video signals and component video signals outputted to the VIDEO OUT terminal (JK1403)?

No

Check the periphery of JK1403 from the Pins(18, 21, 24, 30) of IC1402.

Are the luminance signals outputted to the S-OUT terminal (JK1401)?

No

Check the periphery of JK1401 from the Pin(27) of IC1402.

Are the chroma signals outputted to the S-OUT terminal (JK1401)?

No

Check the periphery of JK1401 from the Pin(33) of IC1402.

FLOW CHART NO.21

Component video signals are not outputted normally in progressive mode.

Set the disc on the disc tray and playback.

Yes

Are the video signals outputted to each pins of CN1602 on the Changer CBA?

CN1602	2PIN	Y
CN1602	4PIN	U
CN1602	6PIN	V

Yes

Check the line between each pin of CN1602 and each pin of JK1403 on the Changer CBA, and their periphery.

No

Is FFC cable (W1602) connecting CN1602 on the Changer CBA and Progressive CBA Unit normally?

No

Replace FFC cable.

Yes

Is FFC cable (W1801) connecting CN1801 on the Progressive CBA Unit and DVD Main CBA Unit normally?

No

Replace FFC cable.

Yes

Is component video signals outputted in interlace mode?

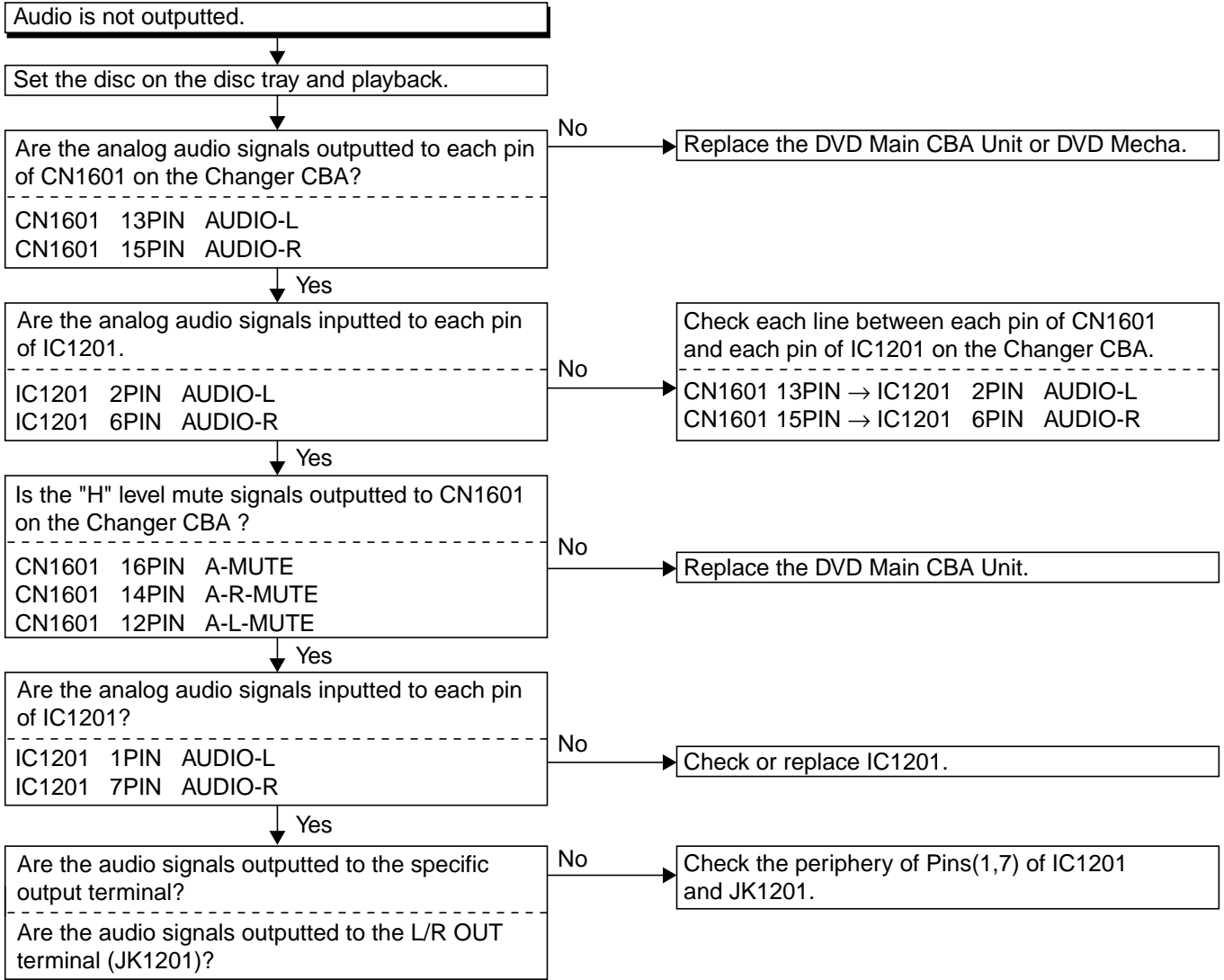
No

Replace the DVD Main CBA Unit or DVD Mecha.

Yes

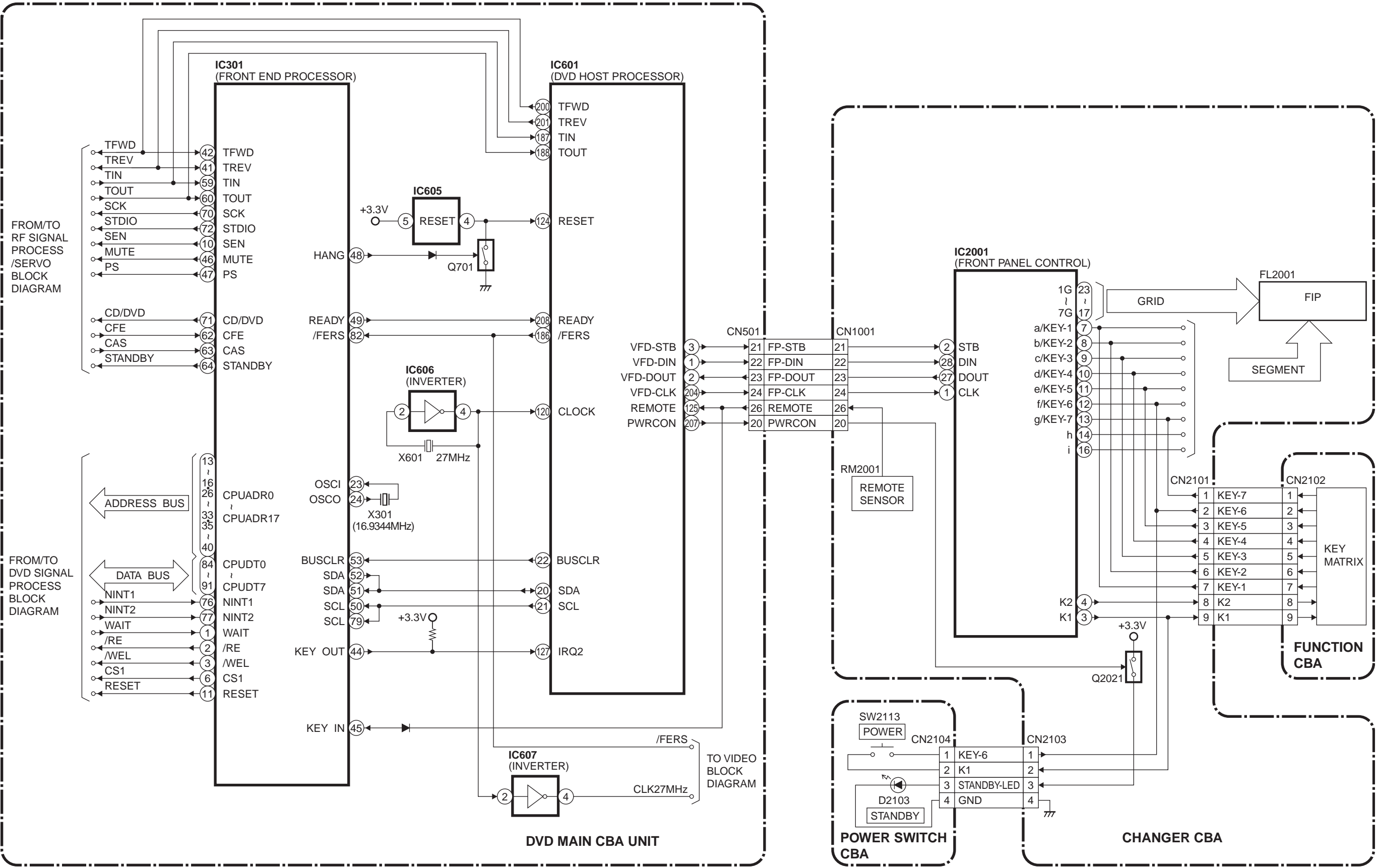
Replace Progressive CBA Unit.

FLOW CHART NO.22

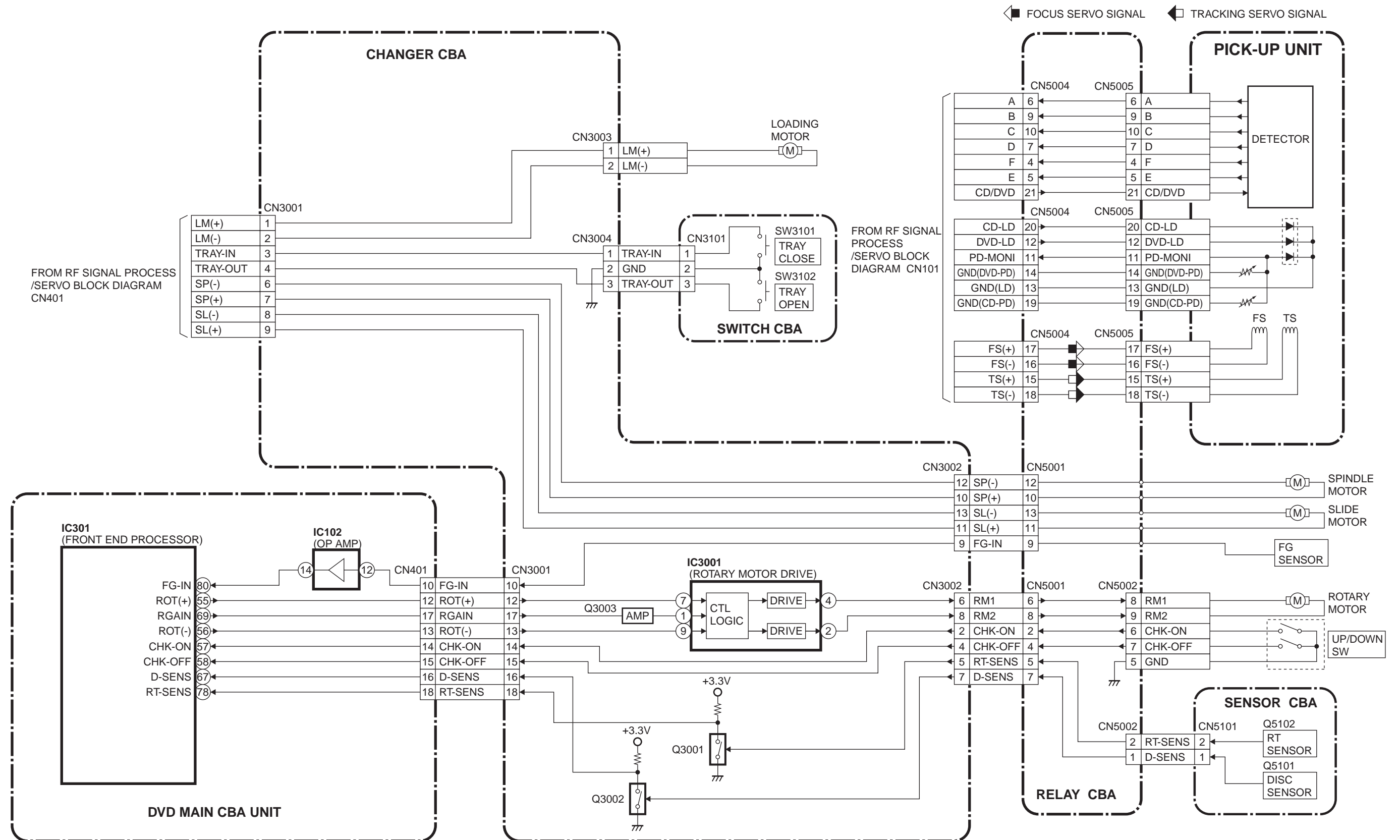


DVD System Control Block Diagram

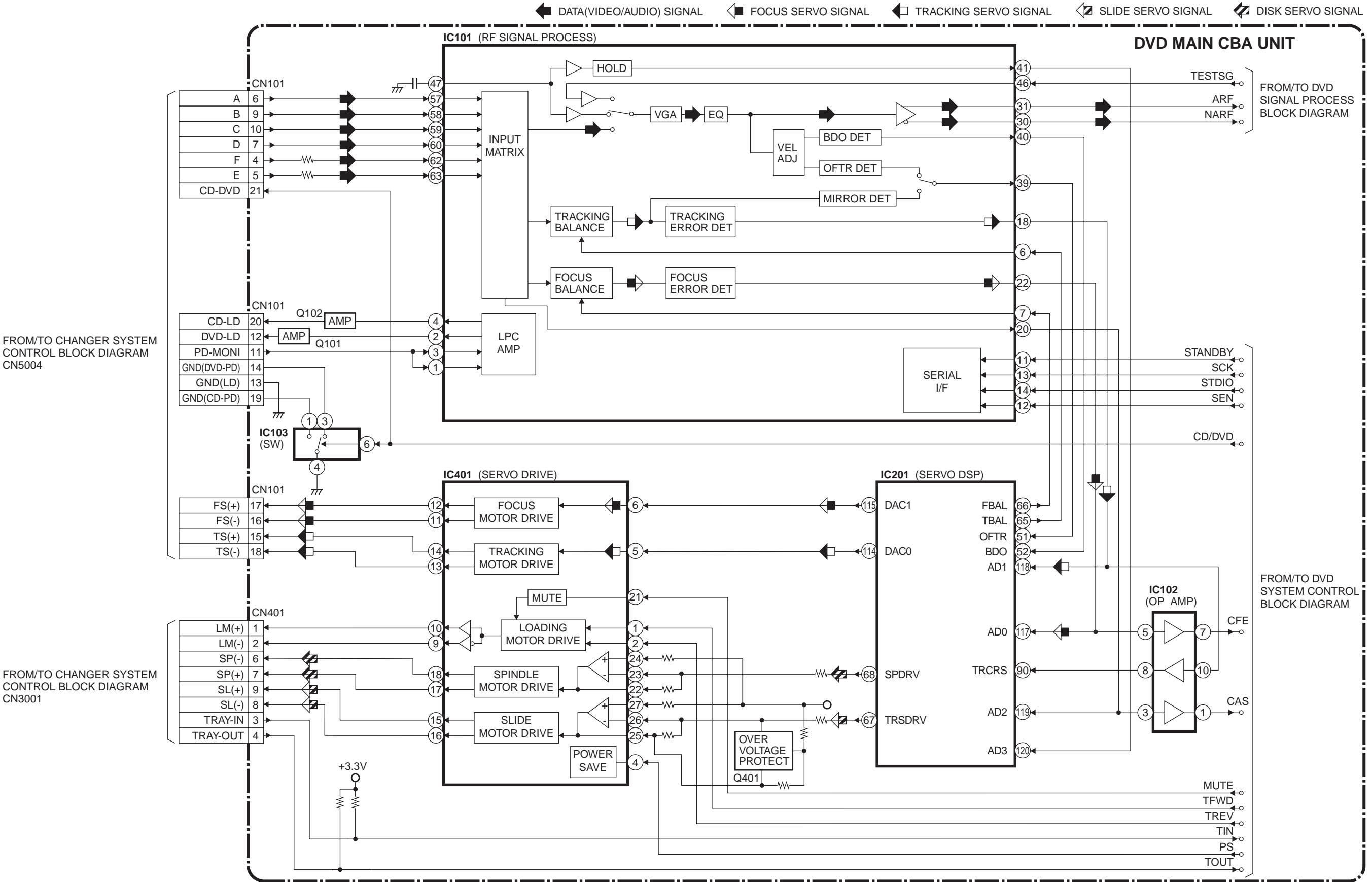
BLOCK DIAGRAMS



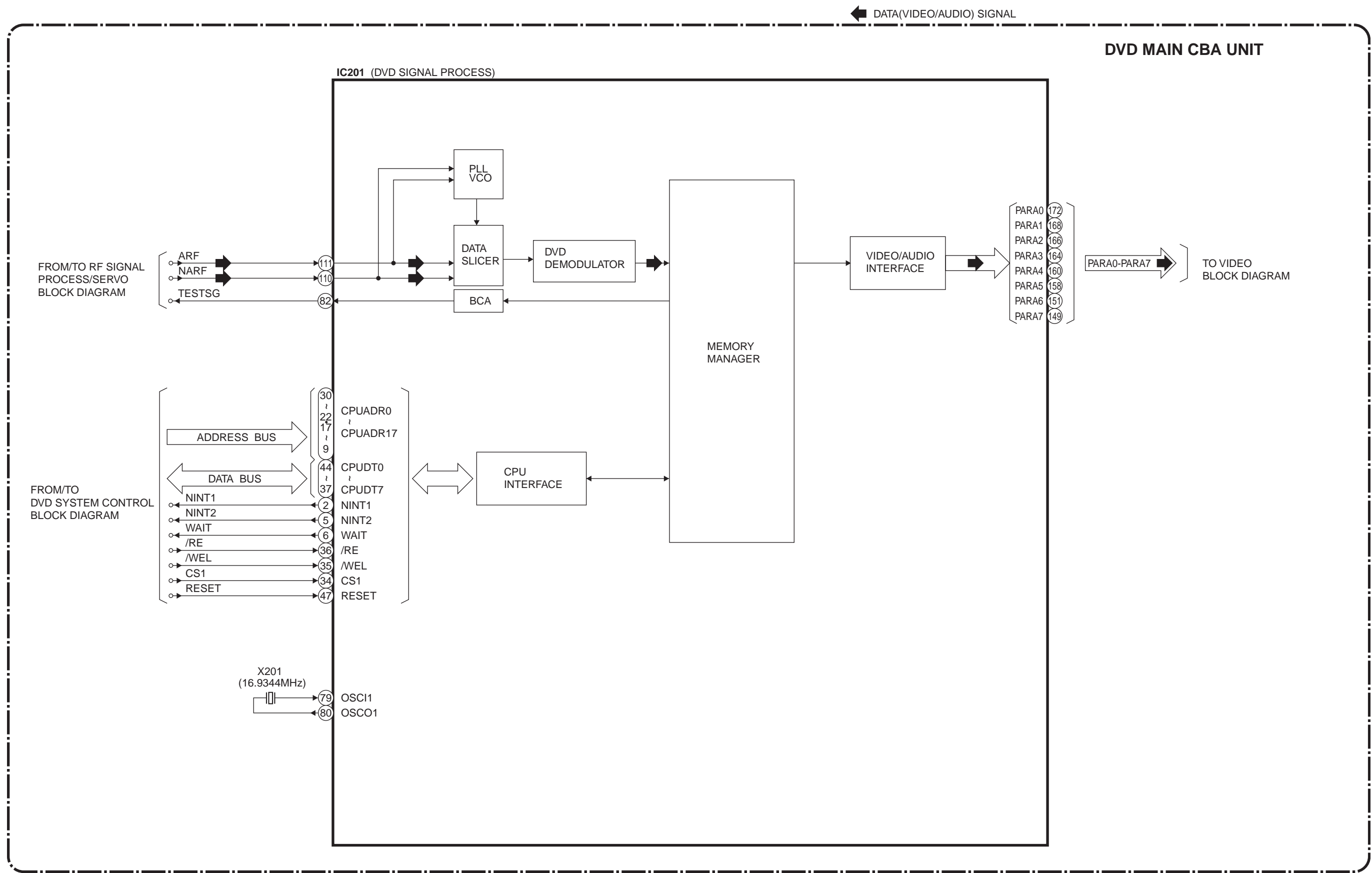
Changer System Control Block Diagram



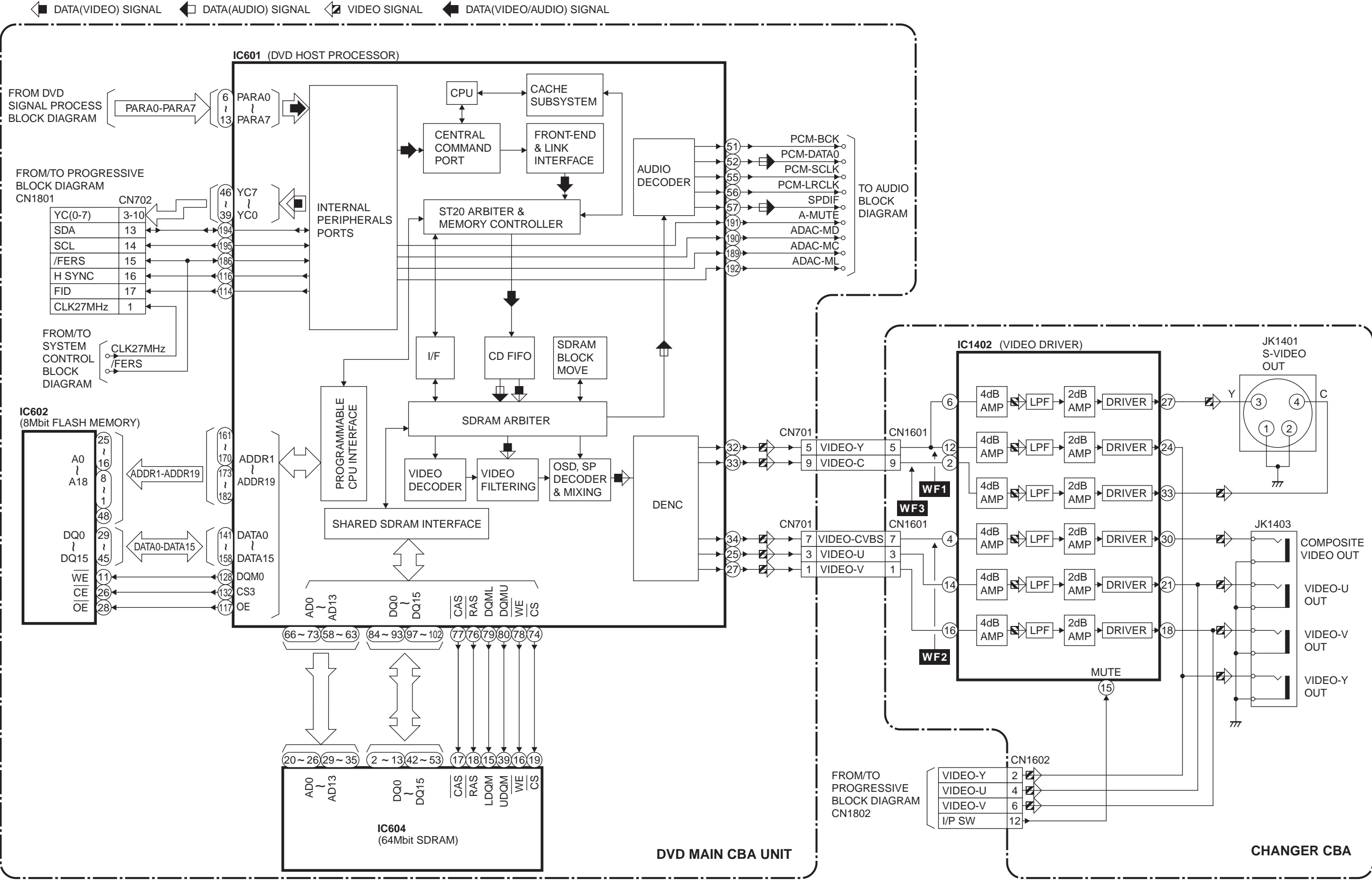
RF Signal Process/Servo Block Diagram



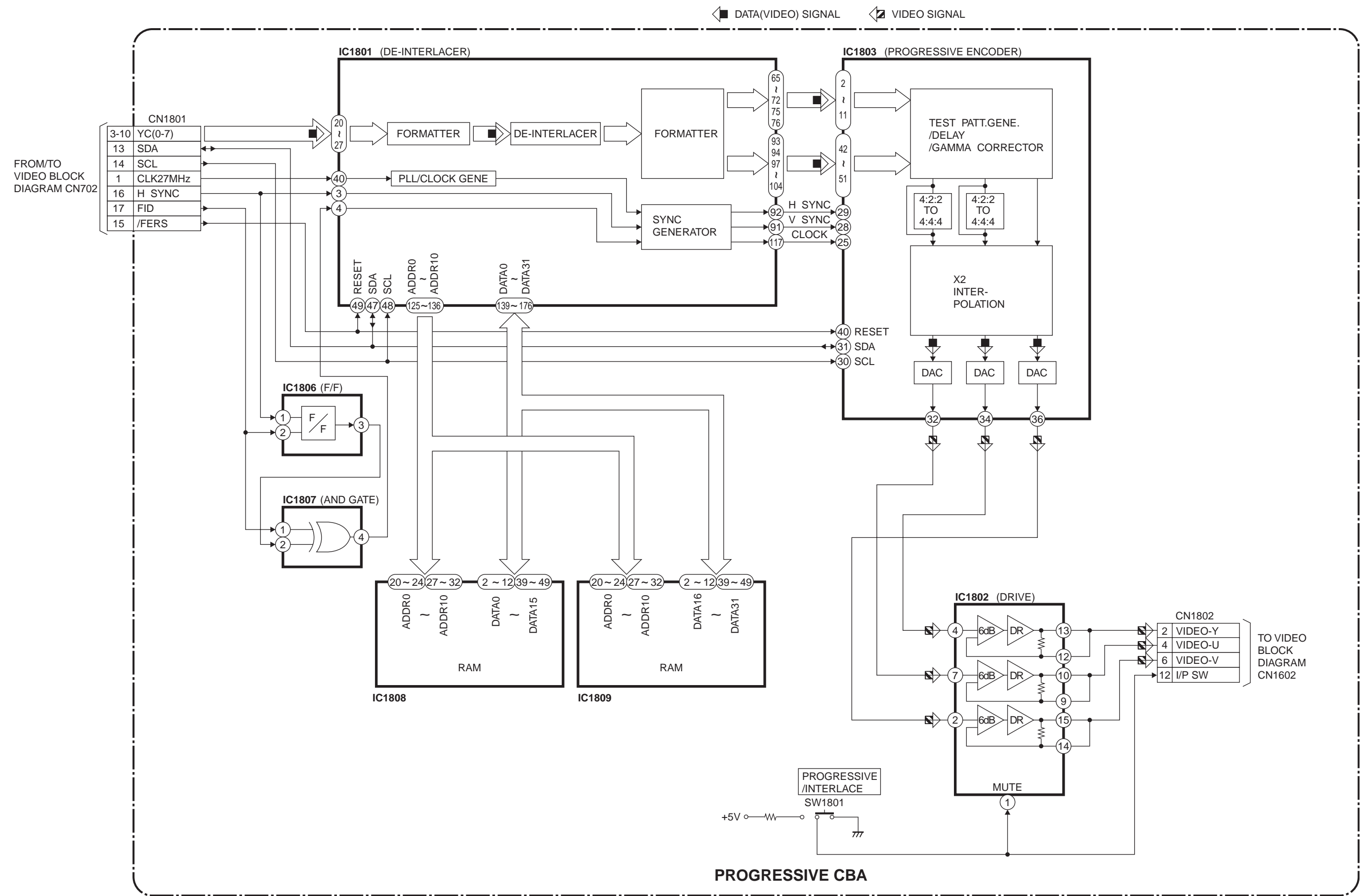
DVD Signal Process Block Diagram



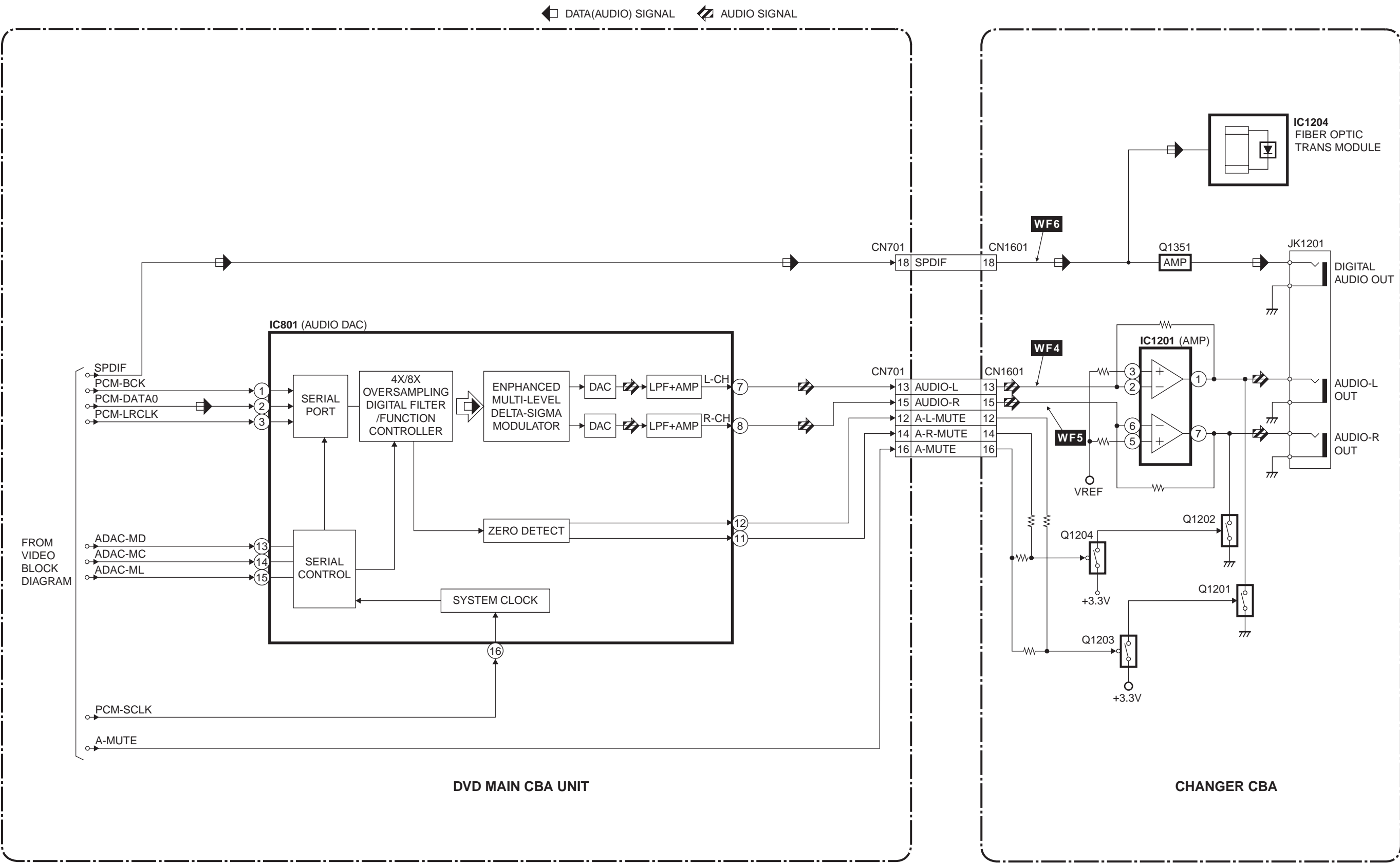
Video Block Diagram



Progressive Block Diagram



Audio Block Diagram

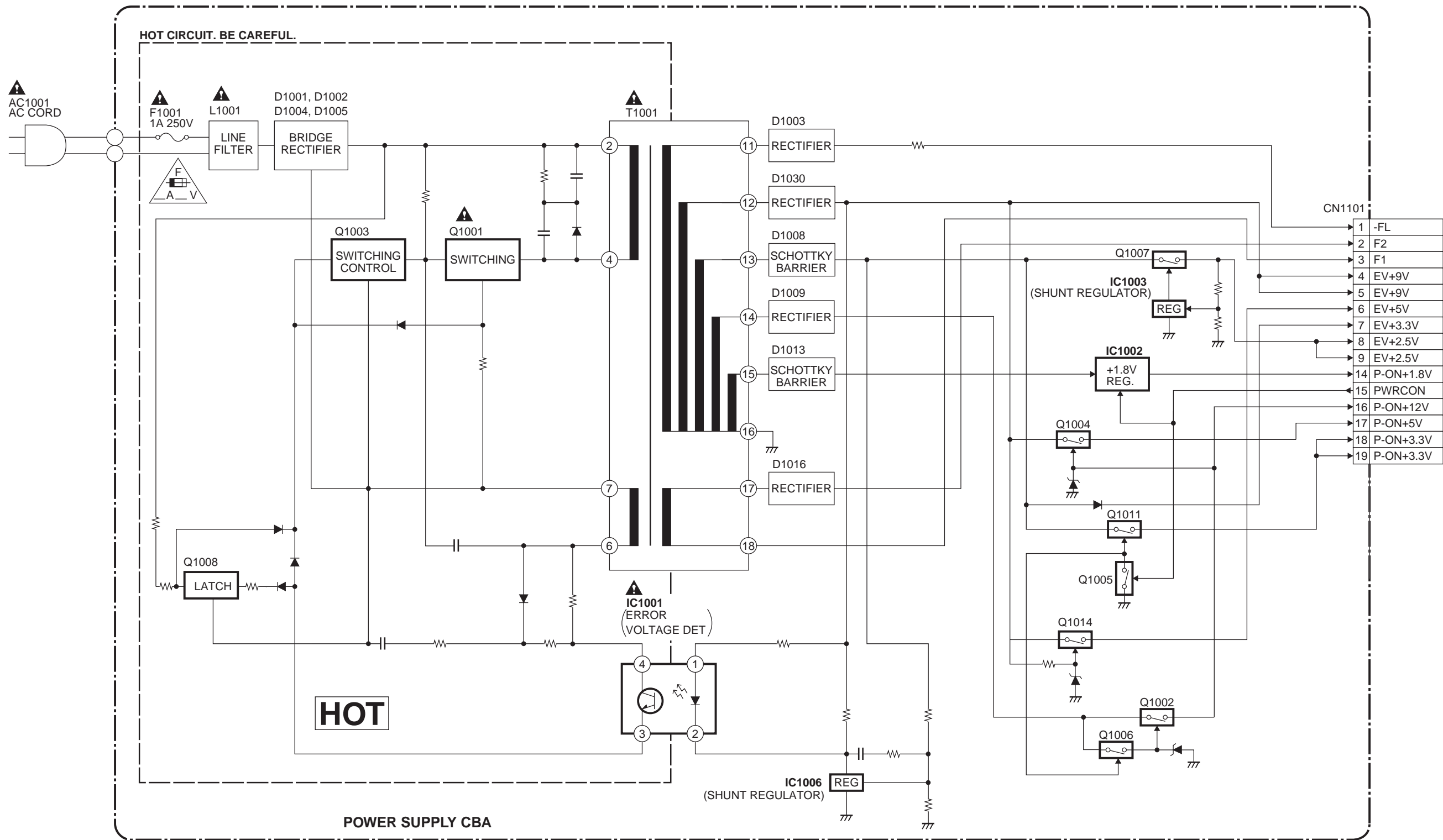


Power Supply Block Diagram

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 RISQUES
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."

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 ($P=10^{-6} \mu F$).
5. All voltages are DC voltages unless otherwise specified.

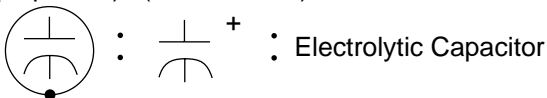
Capacitor Temperature Markings

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

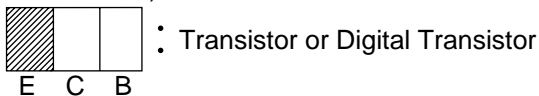
Capacitors and transistors are represented by the following symbols.

CBA Symbols

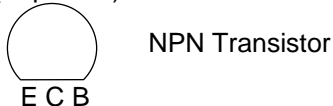
(Top View) (Bottom View)



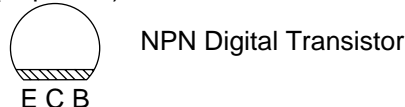
(Bottom View)



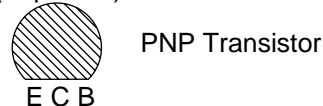
(Top View)



(Top View)



(Top View)

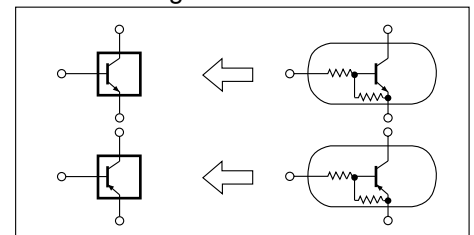


(Top View)



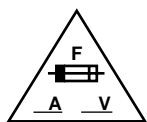
Schematic Diagram Symbols

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 RISQUES 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.

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:

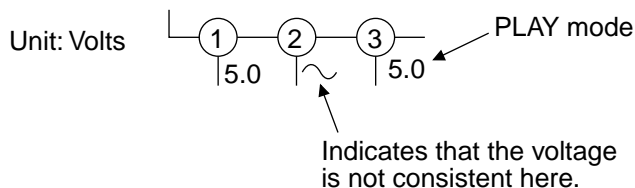
- (1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
- (2) To maintain original function and reliability of repaired units, use only original replacement parts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

4. Wire Connectors

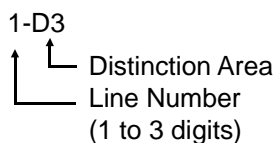
- (1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).
- (2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. Mode: SP

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

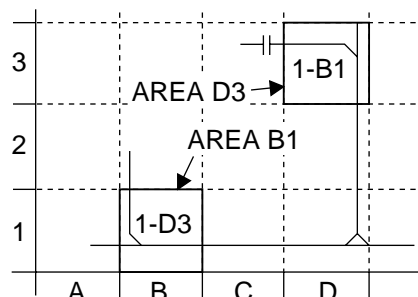


7. How to read converged lines



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.



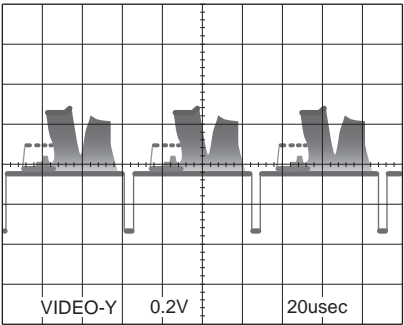
: Used to indicate a test point with no test pin.



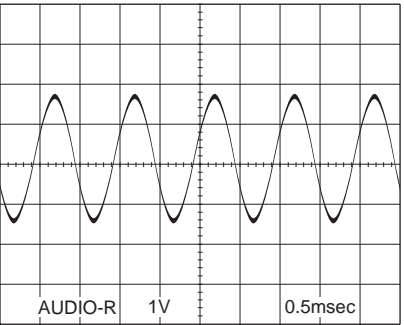
: Used to indicate a test point with a test pin.

WAVEFORMS

WF1 Pin 5 of CN1601

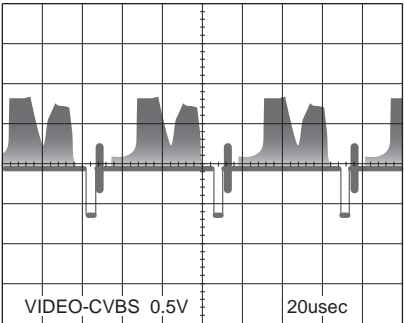


WF5 Pin 15 of CN1601

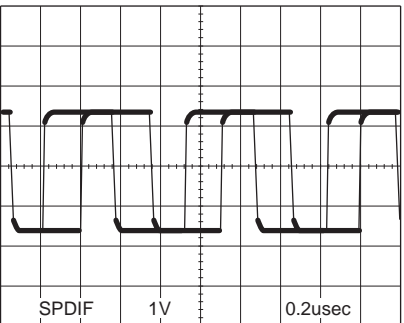


NOTE:
Input
CD: 1kHz PLAY
 (WF4~WF6)
DVD: POWER ON (STOP) MODE
 (WF1~WF3)

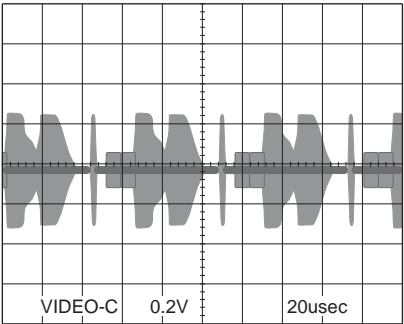
WF2 Pin 7 of CN1601



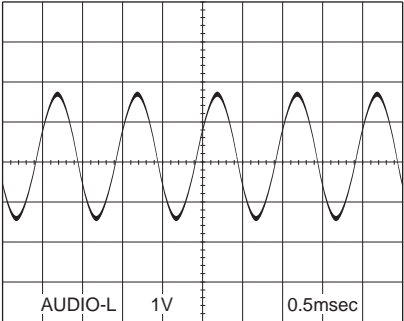
WF6 Pin 18 of CN1601



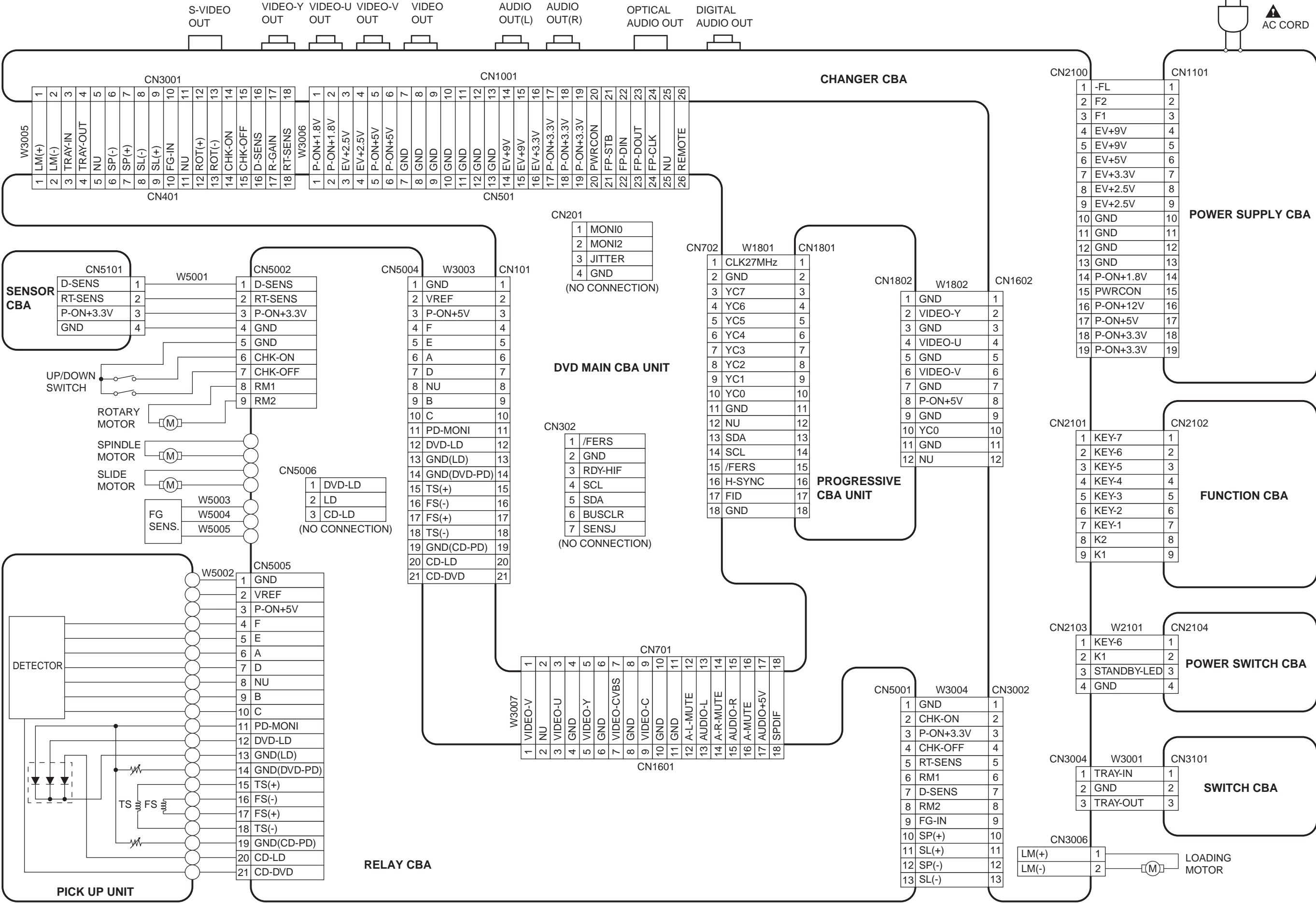
WF3 Pin 9 of CN1601



WF4 Pin 13 of CN1601



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.

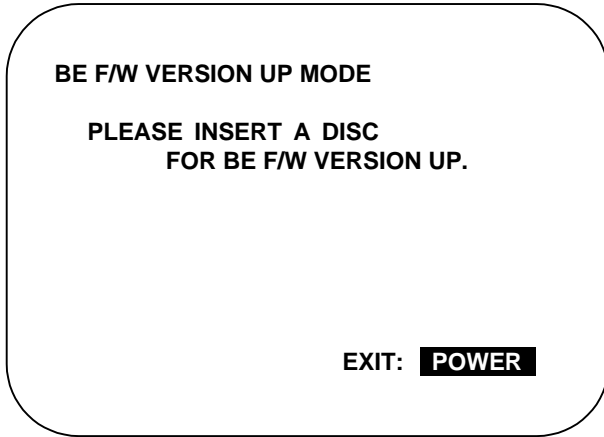


Fig. a Version Up Mode Screen

BE-UP

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.

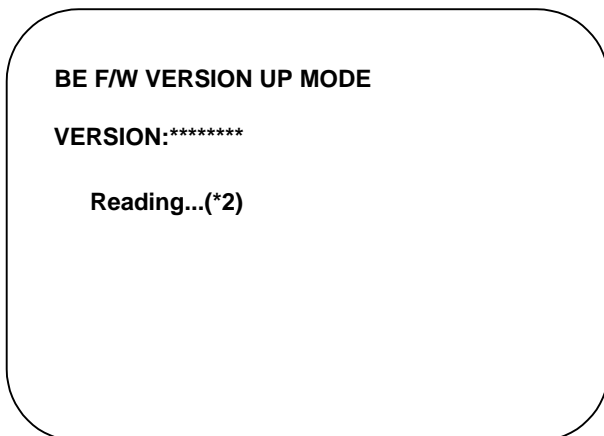


Fig. c Programming Mode Screen

1.223

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)

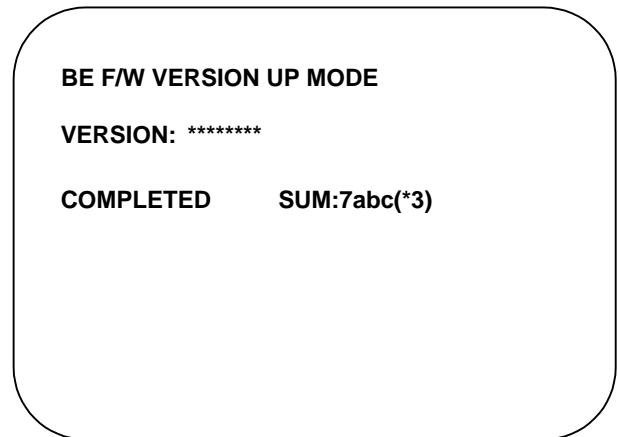


Fig. e Completed Program Mode Screen

786C

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.

8. Disconnect and connect the AC Plug to the AC Outlet again during opening the Tray.
9. The Tray closes when the POWER Button (*1) is pressed to turn on the Power of the unit.
(*1: The operation differs depending on models.)

After the above, a series of the Back-End F/W updating procedures completes.

The following indication appears when the buttons on the remote control are pressed in the following order.

Buttons: 1 → 2 → 3 → 4 → DISPLAY

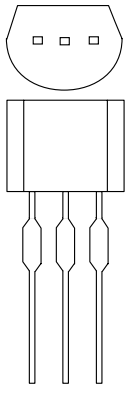
The Version to be confirmed.

D45))))) E D))))) AD))))) @ UC @/
@TC^UDQ 91/@ TC^HCD 9@B Q DFHM9 0
CDM^BHC 97/E DHQDU9 30 UHC^QDU 900

0-S DRS0,UEC
1-S DRS1,QDOD@S OK@X
2-S DRS2,DDOQN L LDL NQXB KD@Q
3-S DRS3,LD @RTQDL D MS L N CD
4-S DRS4,SDRS CHR B

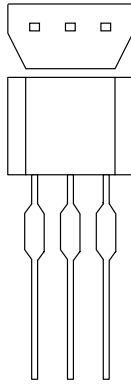
DWHS9 ONV DQ

LEAD IDENTIFICATIONS



2SC2120-Y(TPE2)
KTC3203(Y)
2SC2236-Y-TPE6,C
KTC3205 (Y)

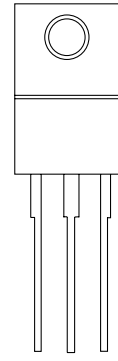
E C B



2SC2785 (H)
KTC3199 (GR)
KRA110M
KRC110M-AT
BA1L3Z-T
BN1L3Z (P)
2SA1015-Y (TPE2)
KTA1266 (Y)
DTC114ESA TP

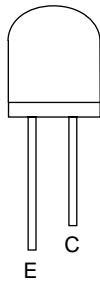
E C B

2SK3374



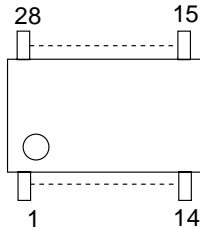
G D S

PT204-6B-12



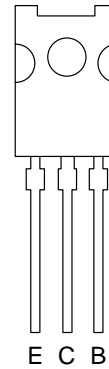
E C

PT6315-S
PT6315-S(-TP)



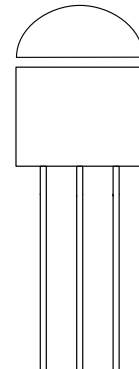
1 14 15 28

2SA1359-Y



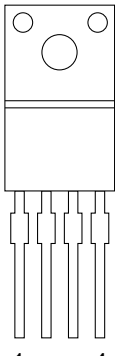
E C B

KIA431-AT



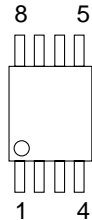
R A K

PQ018EF01SZ



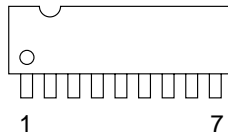
1 4

NJM4558D
KIA4558P



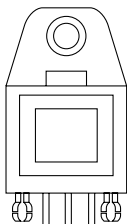
1 4 5 8

BA6956AN



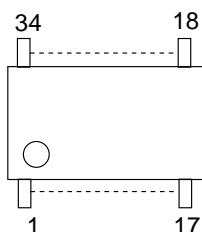
1 7

0C-0805T-002
GP1FA512TZV



1 2 3

MM1567AJ



1 17 18 34

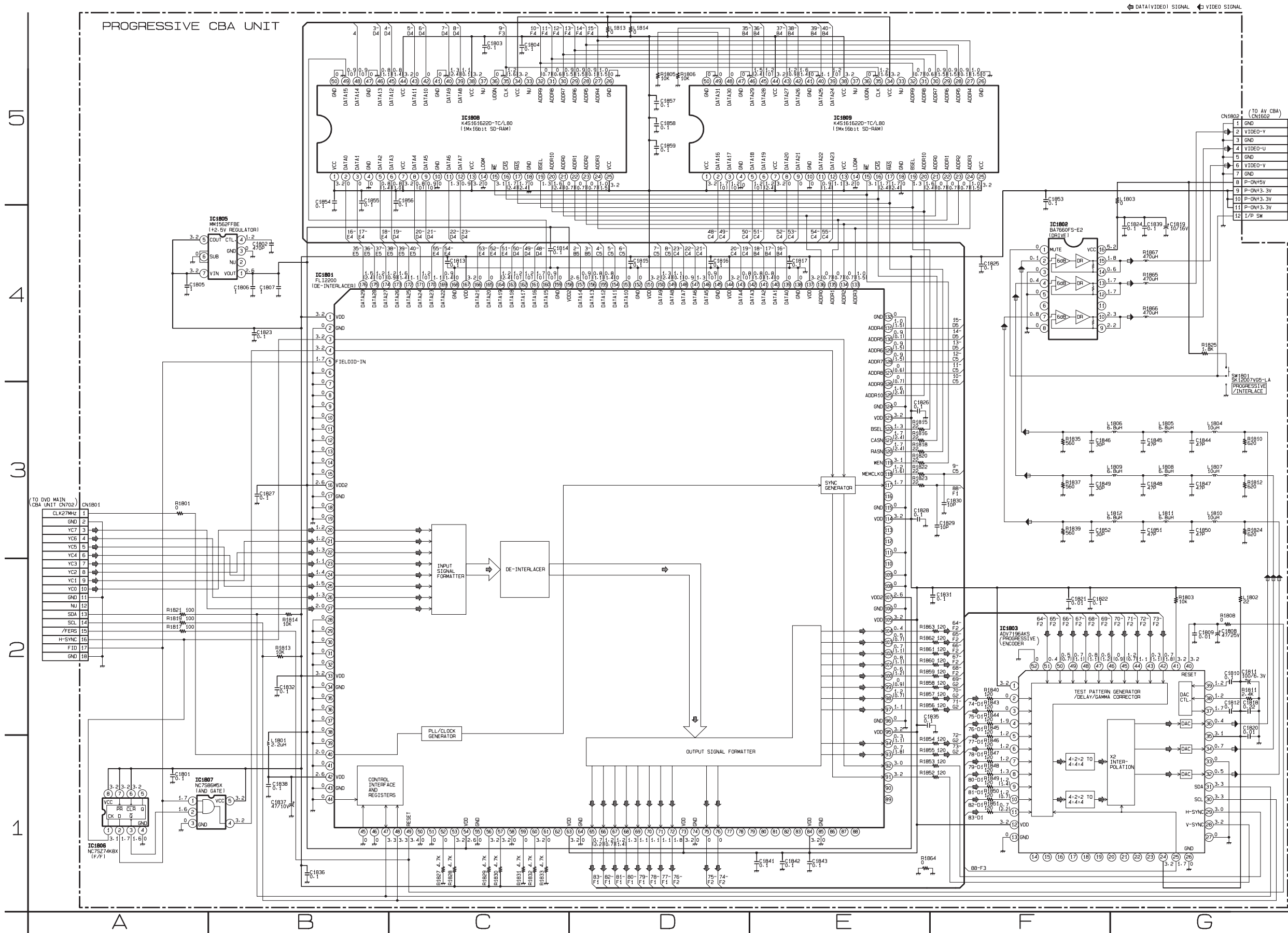
LTV-817B-F
LTV-817C-F



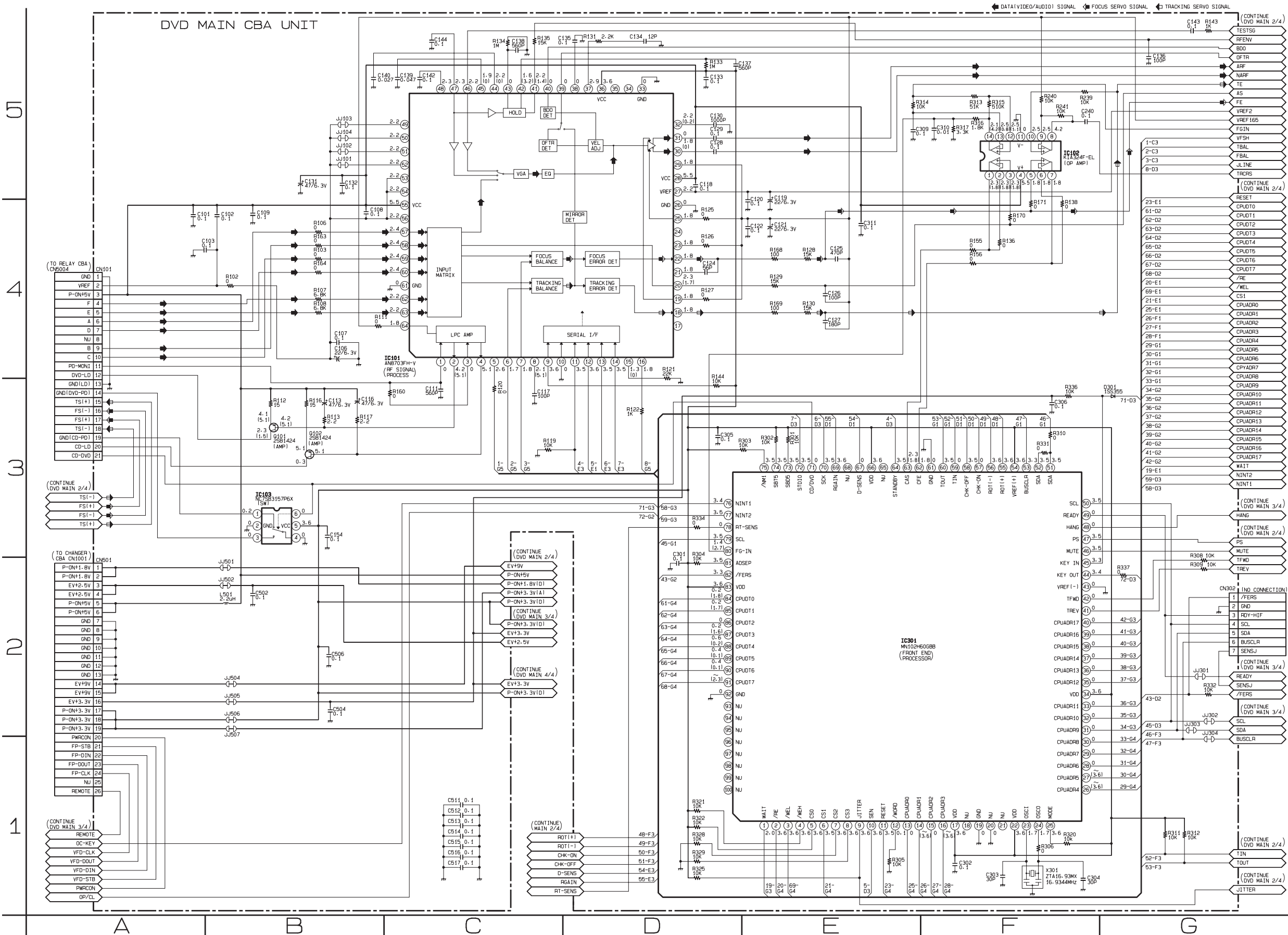
Note:

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

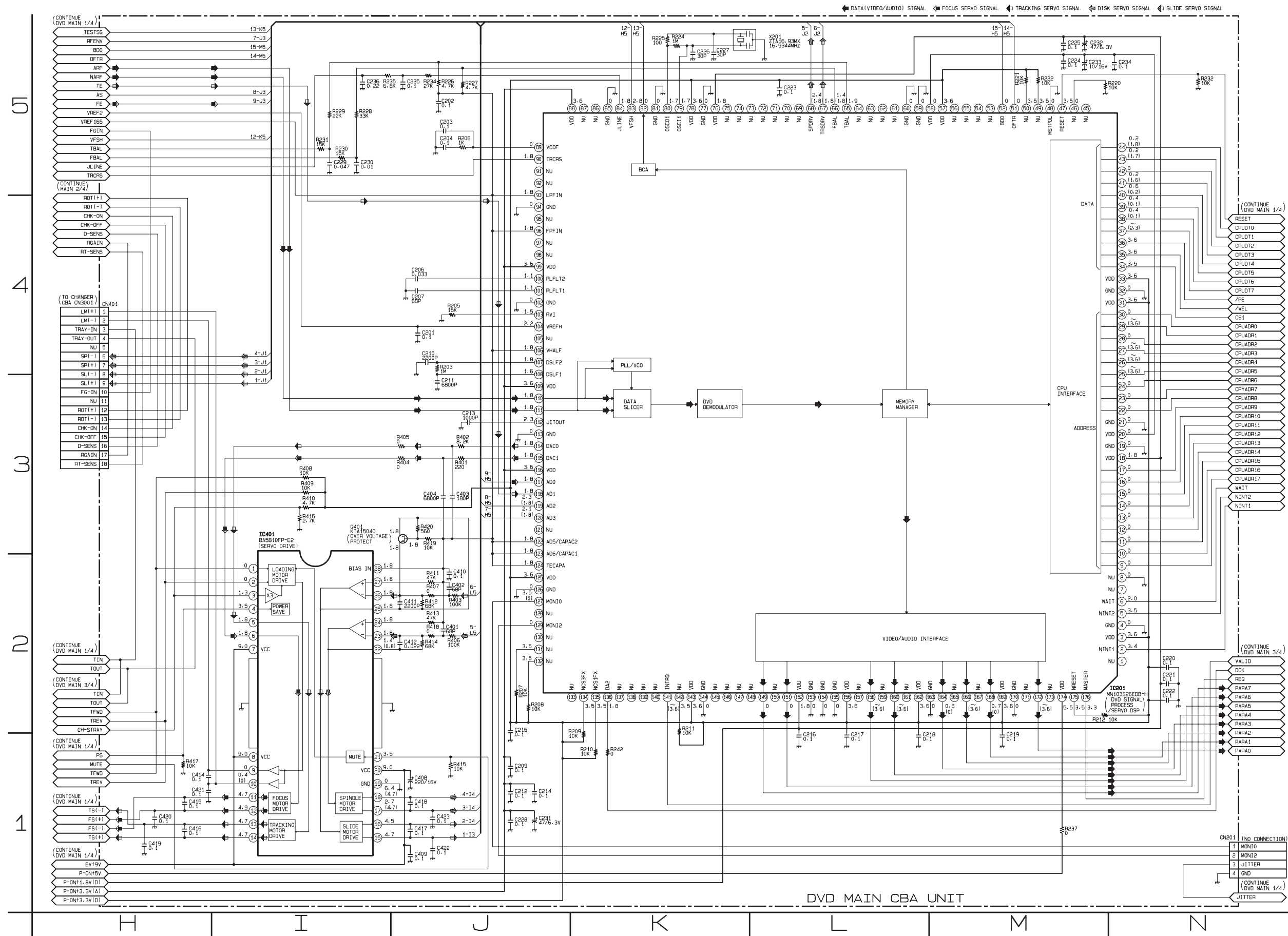
Progressive Schematic Diagram



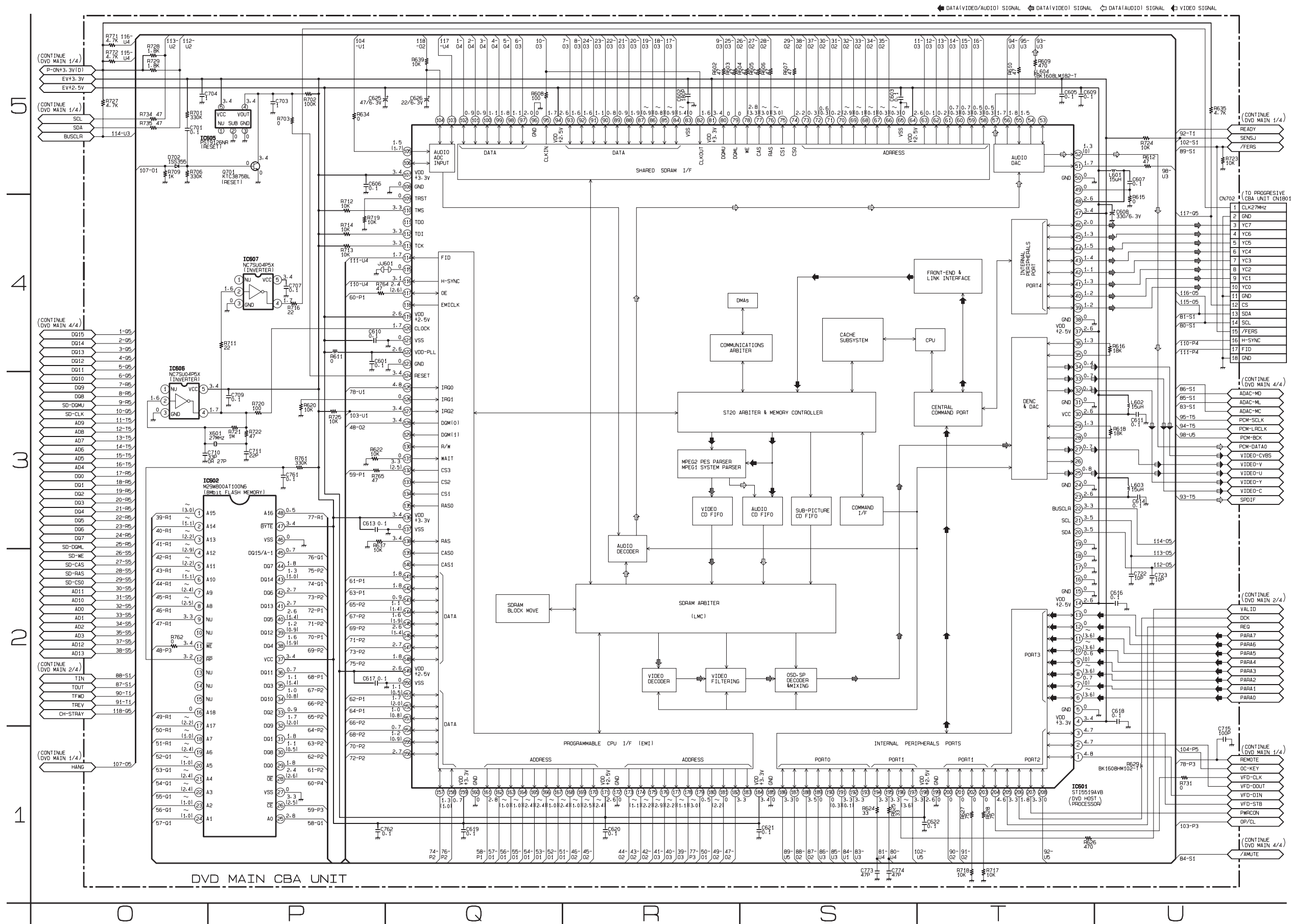
DVD Main 1/4 Schematic Diagram



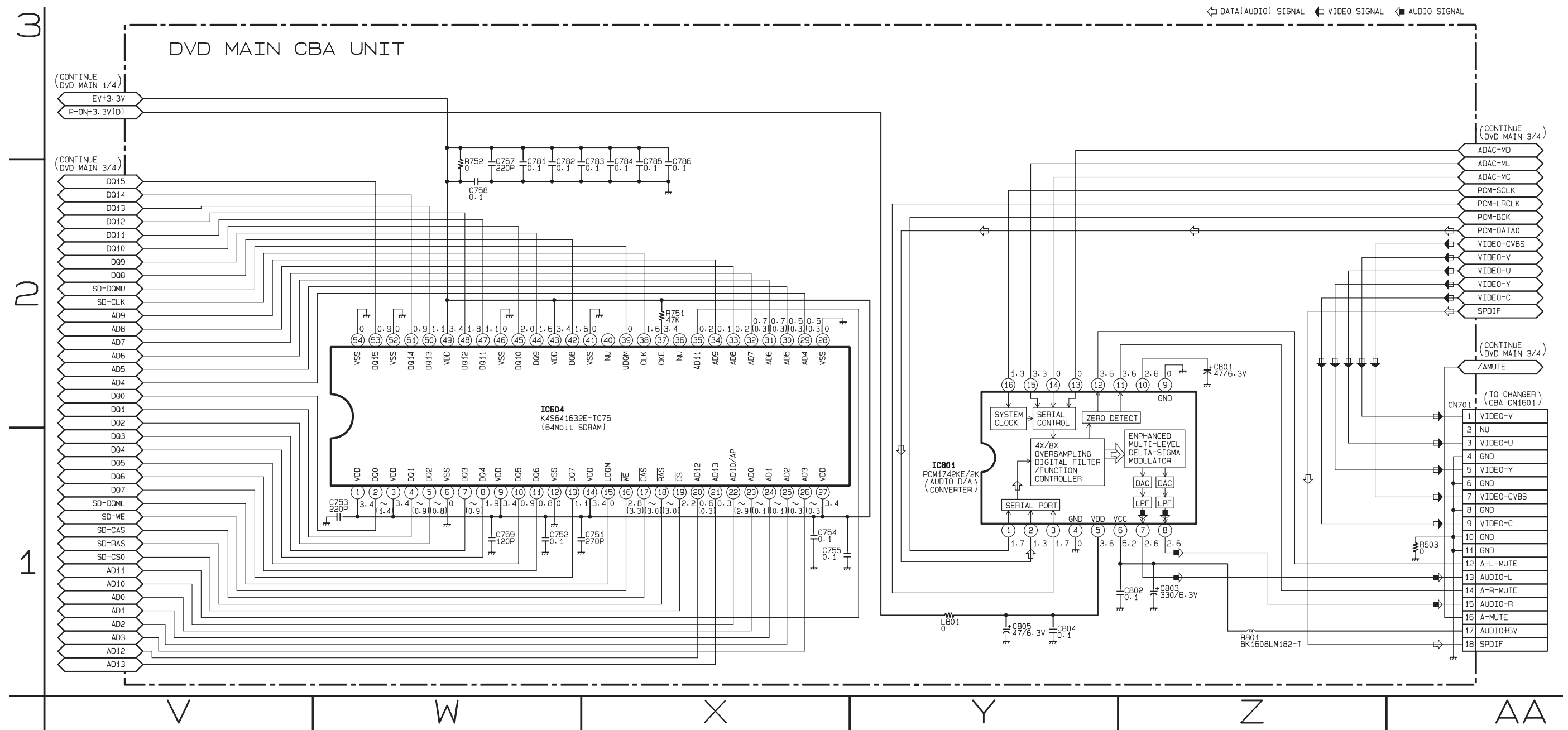
DVD Main 2/4 Schematic Diagram



DVD Main 3/4 Schematic Diagram

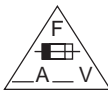


DVD Main 4/4 Schematic Diagram



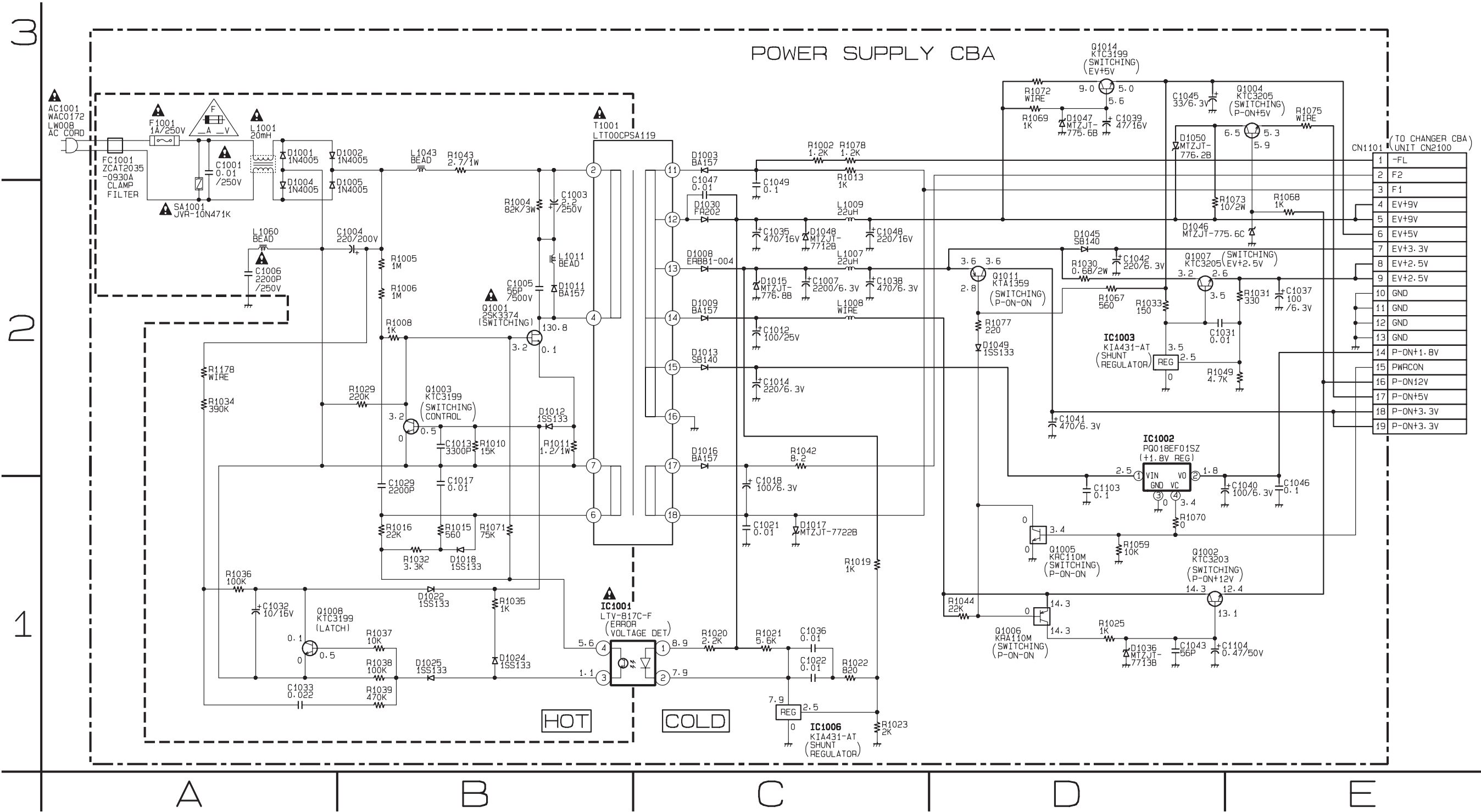
Power Supply Schematic Diagram

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.

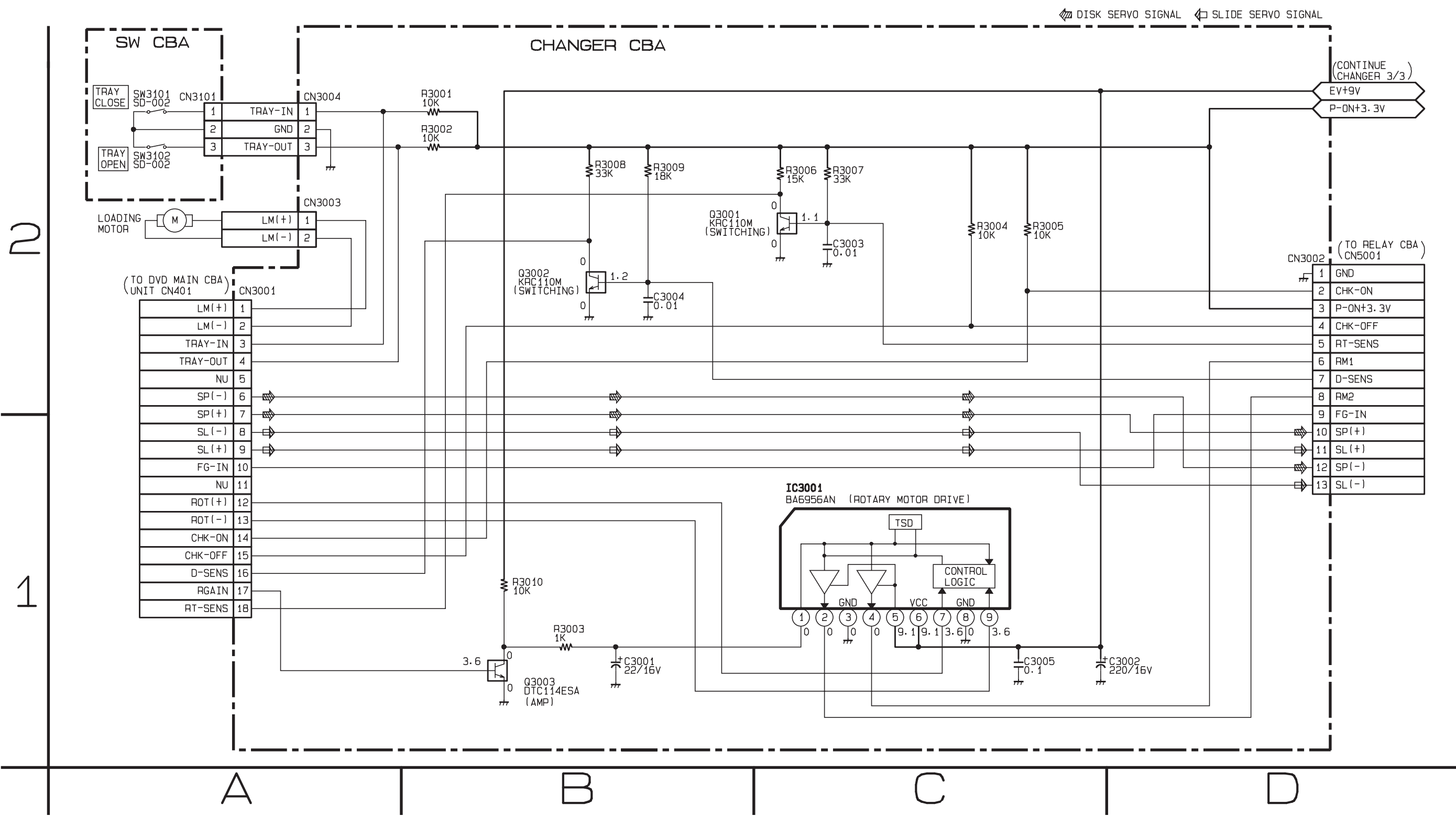


CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE -REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible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

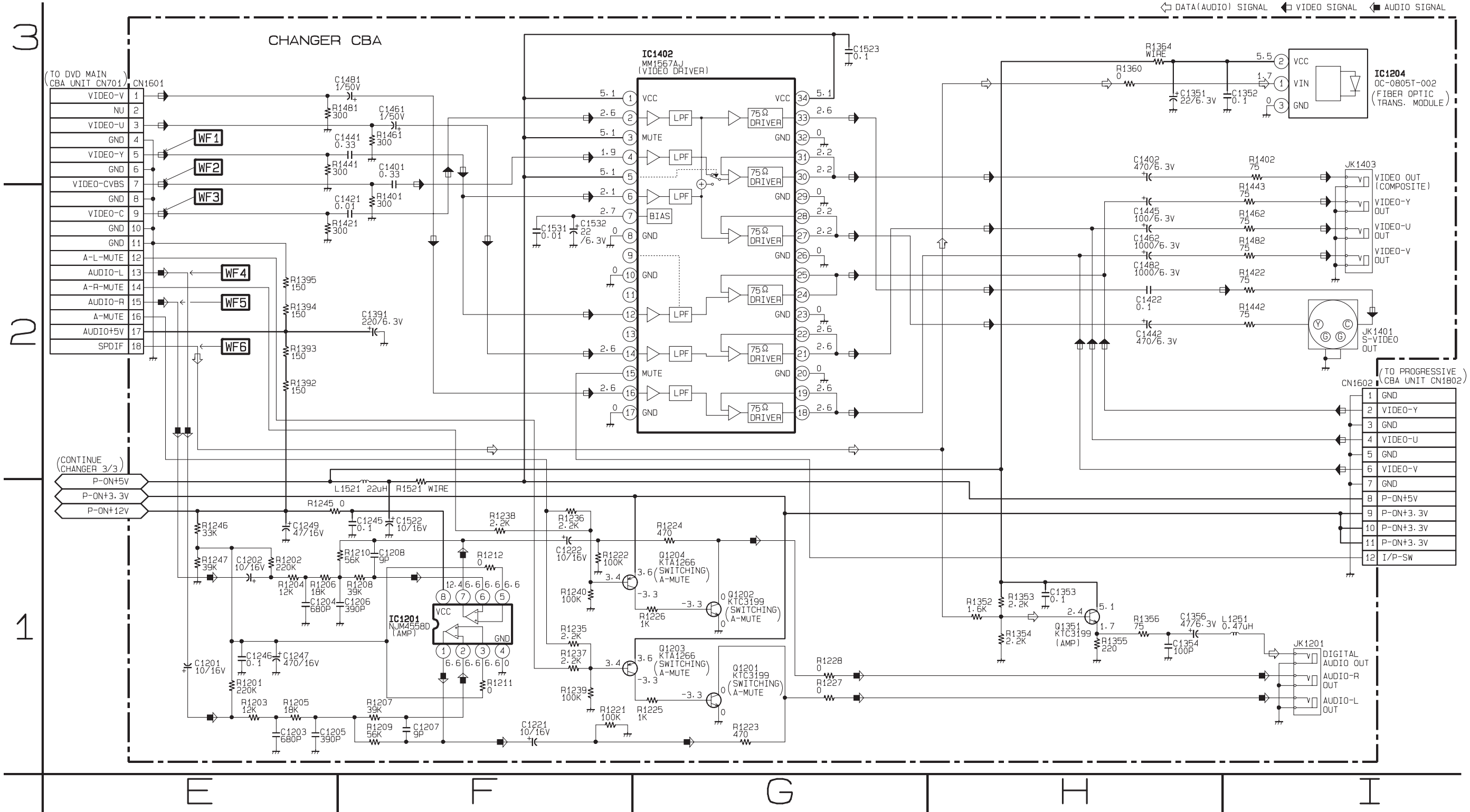
NOTE :
The voltage for parts in hot circuit is measured using
hot GND as a common terminal.



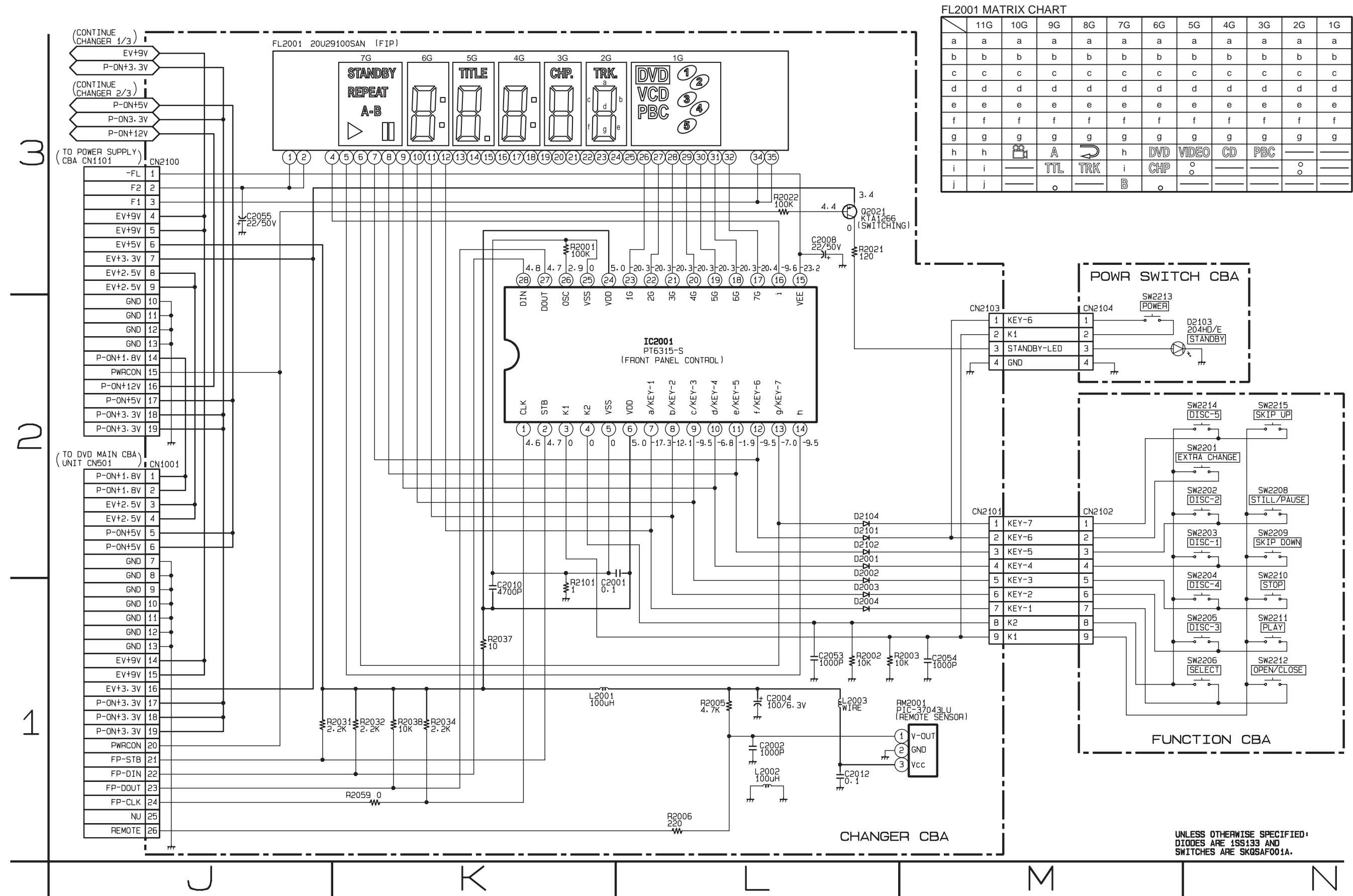
Changer 1/3 Schematic Diagram



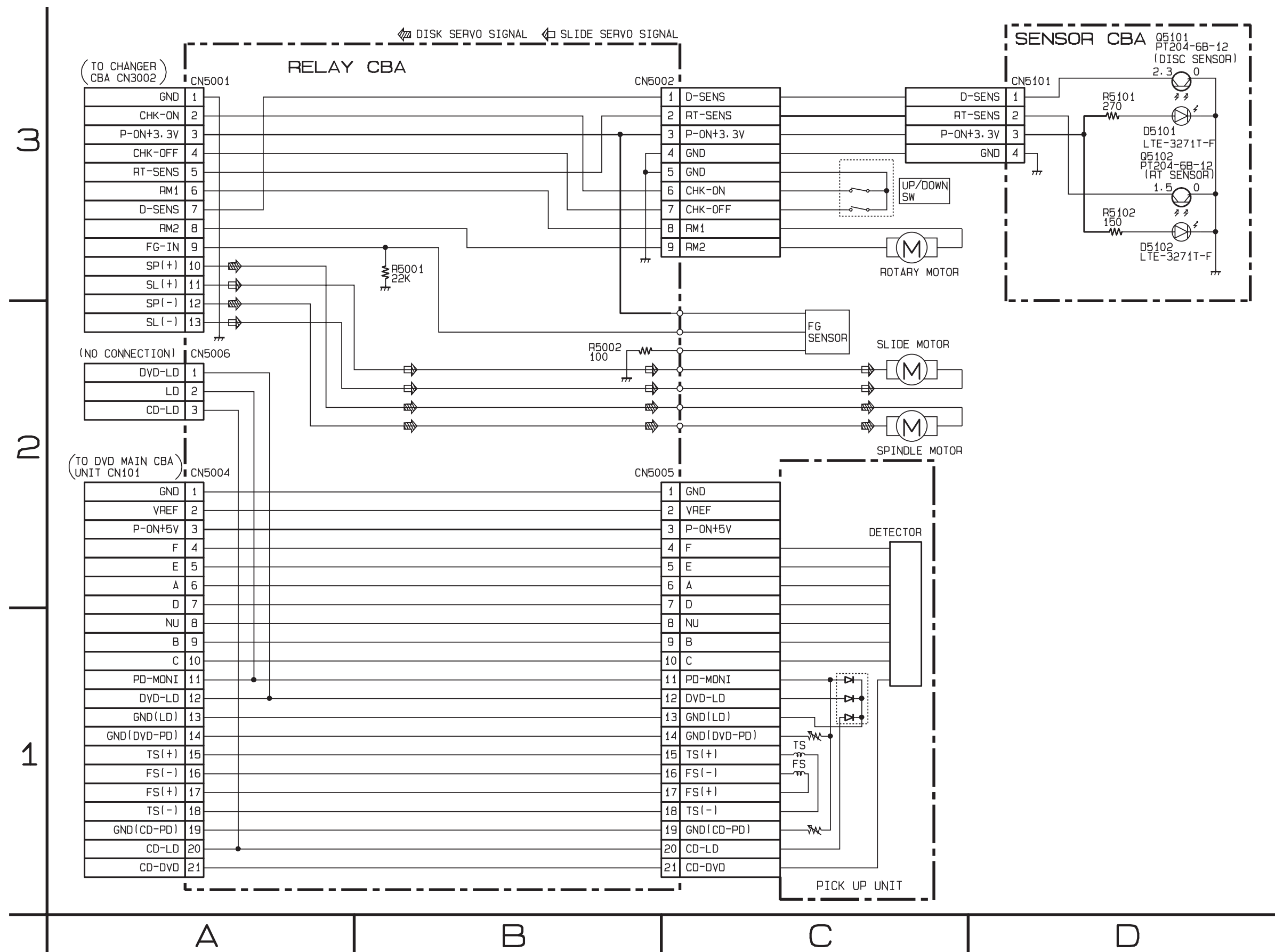
Changer 2/3 Schematic Diagram



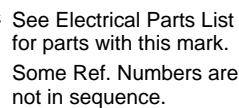
Changer 3/3 Schematic Diagram



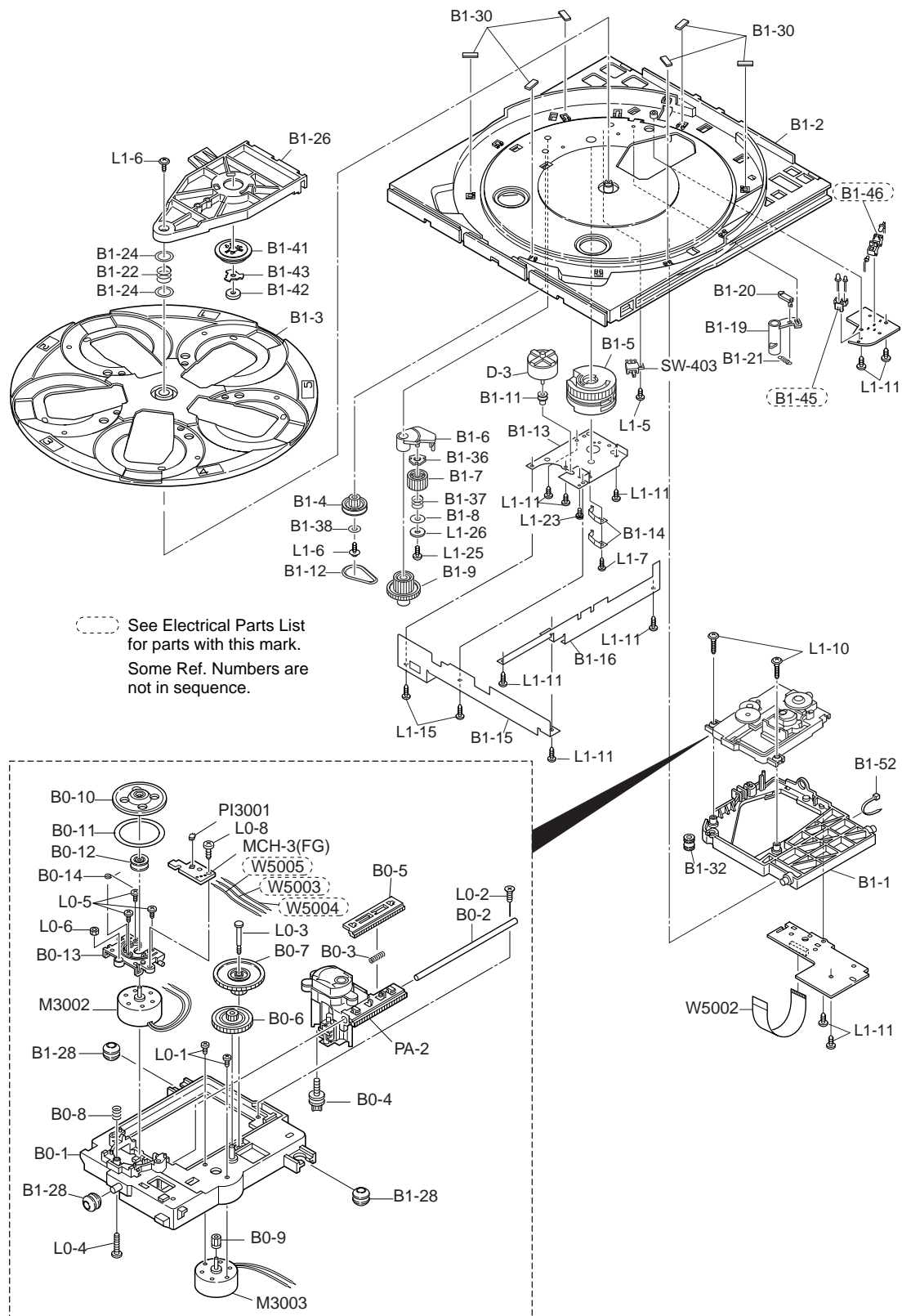
Relay Schematic Diagram



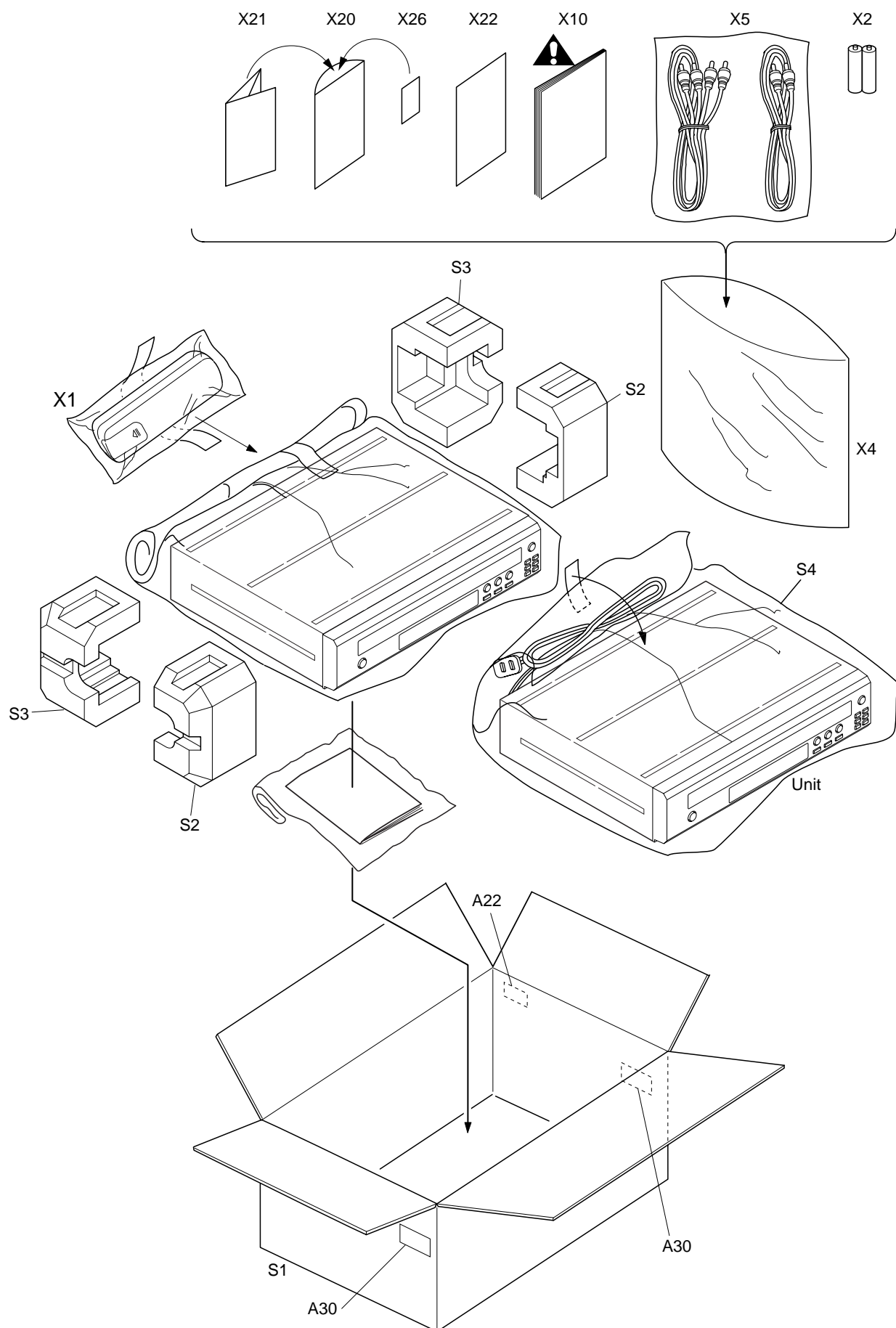
Cabinet View 1



Cabinet View 2



Packing



PARTS LIST

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

NOTE:

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

Ref. No.	Mark	Description	Parts No.	(DE) Part No.	Q'ty
A1X		FRONT ASSEMBLY	0VM203760	9H2 6000 321	1
A2		TRAY PANEL ASSEMBLY	0VM414121	9H2 6000 322	1
A3		FOOT	0VM406940A	9H2 6000 323	4
A15		CHASSIS	0VM203703	9H2 6000 324	1
A16		TOP COVER	0VM203048	9H2 6000 325	1
A17		REAR PANEL	0VM203759	9H2 6000 326	1
A21		LABEL, SERIAL NO.	0VM414014	-----	1
A22		LABEL, BAR CODE	0VM414122	-----	1
A30		LABEL, CONTROL	0VM414123	-----	2
1B1		SLIDE TRAY ASSEMBLY	N79F0FVC	9H2 6000 327	1
1B4		LOADING PULLEY	0VM304636	9H2 6000 328	1
1B11		MOTOR PULLEY	21P7048	9H2 6000 329	1
1B12		BELT L	0RM400160	9H2 6000 330	1
1B31		SLIDE TRAY GEAR(B)	0VM304632	9H2 6000 331	1
1B32		SLIDE TRAY GEAR(A)	0VM304631	9H2 6000 332	1
1B33		TRAY GUIDE SPRING	0VM412360	9H2 6000 333	1
1L016		SCREW, P-TIGHT M3X8 WASHER+	GCMP3080	9H2 6000 351	1
1L017		SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120	9H2 6000 352	2
1L023		SCREW, SEMS M2.6X4 PAN HEAD+	CPM39040	9H2 6000 353	1
2B1		TRAY GUIDE(L)	0VM000136	9H2 6000 334	1
2B2		TRAY GUIDE(R)	0VM000137	9H2 6000 335	1
2B3		BRACKET(TOP)	0VM203160	9H2 6000 336	1
2B6		STOPPER BRACKET	0VM411941	9H2 6000 337	2
2B9		TAPE, HIMELON(13X55)	0VM413973	9H2 6000 282	1
2B10		NON WOVEN FABRICS	0VM407519	-----	1
2B11		PCB HOLDER	0VM305689	9H2 6000 338	1
2B12		SHIELD, MAIN PCB(A)	0VM414072	9H2 6000 339	1
2B13		SHIELD, PRO PCB(B)	0VM305802	9H2 6000 340	1
2B15		WASHER(D8)	0VM408931	-----	6
2L011		SCREW, C-TIGHT M3X6 BIND HEAD	GBMC3060	9H2 6000 303	9
2L012		SCREW, C-TIGHT M3X5 BIND HEAD +	GBKC3050	9H2 6000 301	4
2L021		SCREW, C-TIGHT M3X5 BIND HEAD +	GBKC3050	9H2 6000 301	6
2L031		P-TIGHT SCREW 3X8 BIND +	GBMP3080	9H2 6000 240	2
2L032		P-TIGHT SCREW 3X8 BIND +	GBMP3080	9H2 6000 240	4
2L033		SCREW, A-TIGHT M3X8 BIND HEAD+	DBK13080	9H2 6000 354	10
2L041		SCREW, S-TIGHT M3X10 BIND HEAD+	GBMS3100	9H2 6000 302	3
2L051		S-TIGHT SCREW 3X8 BIND + CHROME	GBMS3080	9H2 6000 355	9
2L061		P-TIGHT SCREW 3X8 BIND +	GBMP3080	9H2 6000 240	2
2L103		P-TIGHT SCREW 3X8 BIND +	GBMP3080	9H2 6000 240	1
S1		GIFT BOX CARTON	0VM305692	9H2 6000 313	1
S2		FRONT PAD	0VM101008A	9H2 6000 317	1
S3		REAR PAD	0VM101007	9H2 6000 318	1
S4		SET BAG	0DM400731	9H2 6000 316	1
X1		REMOTE CONTROL UNIT	NA029UD	9H2 6000 314	1
X2		DRY BATTERY R6P/2S	XB0M451T0001	-----	1
X2		DRY BATTERY(SUNRISE) R6SSE/2S	XB0M451MS002	-----	

Ref. No.	Mark	Description	Parts No.	(DE) Part No.	Q'ty
X4		I/B BAG	0DM400757	9H2 6000 319	1
X5		AV CORD LP-970124	WPZ0102LG008	9H2 6000 225	1
X5		AV CORD TSCKA-Y/RW100	WPZ0102TM015	9H2 6000 226	
X5		AV CORD RCA(M*2)TO RCA(M*2)	WPZ0102LTE01	9H2 6000 243	
X10!		OWNER'S MANUAL	0VMN03241	9H2 6000 315	1
X20		ENVELOPE	0VM413953	-----	1
X21		WARRANTY SHEET	0VM305665	-----	1
X22		SERVICE CENTER SHEET	0VM413951A	-----	1
X26		POST CARD	0VM413954	-----	1
		DVD MAIN CBA UNIT	N7TD8FUP	9H2 6000 310	1
		PROGRESSIVE CBA UNIT	0VSA13104	9H2 6000 311	1
		CHG-MAIN PCB ASSEMBLY	0VSA13101	9H2 6000 312	1
		Consists of the following:			
		CHANGER CBA	-----		
		FUNCTION CBA	-----		
		POWER SUPPLY CBA	-----		
		POWER SW CBA	-----		
		SWITCH CBA	-----		