



SERVICE MANUAL

DVD PLAYER

DVP-2003



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SPECIFICATIONS

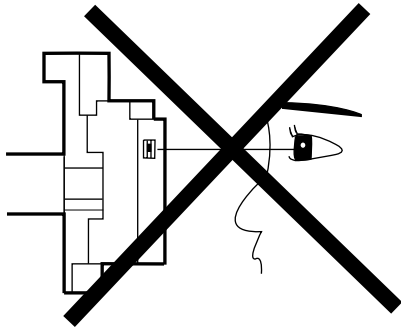
ITEM	CONDITIONS	UNIT	NOMINAL	LIMIT
1. Video Output	75 ohm load	Vpp	1.0	
2. Optical Digital Out		dBm	-18	
3. Audio (PCM)				
3-1. Output Level	1kHz 0dB	Vrms	2.0	
3-2. S/N		dB	110	
3-3. Freq. Response				
DVD	fs=48kHz 20~22kHz	dB	± 2	
CD	fs=44.1kHz 20~20 kHz	dB	± 2	
3-4. THD+N	1 kHz 0dB	%	0.005	

NOTES:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply : AC230 V 60 Hz
3. Load imp. : 100 K ohm
4. Room ambient : +25 °C

LASER BEAM SAFETY PRECAUTIONS

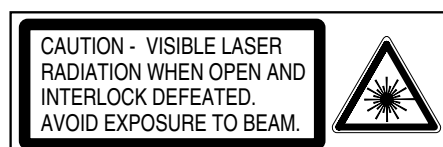
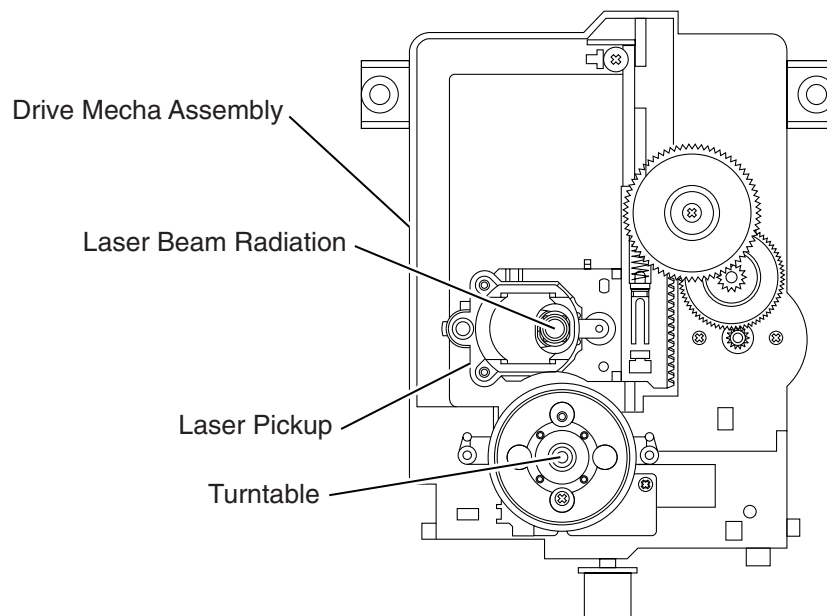
This DVD player uses a pickup that emits a laser beam.



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.



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')
230 V	$\geq 3\text{mm(d)}$ $\geq 6\text{ mm(d')}$

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.

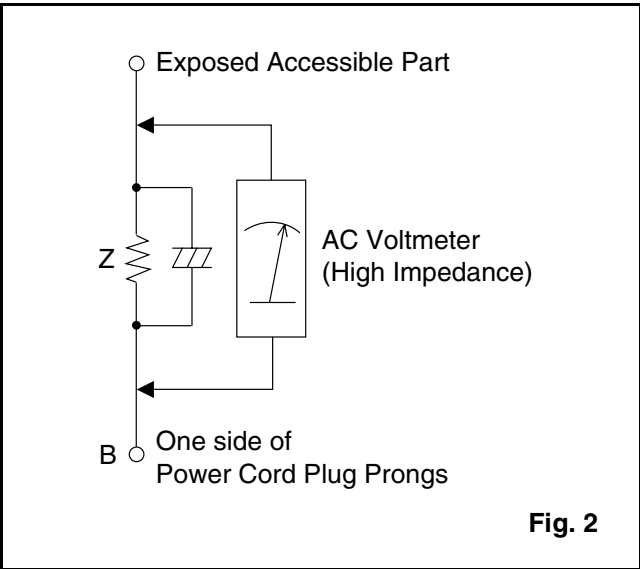
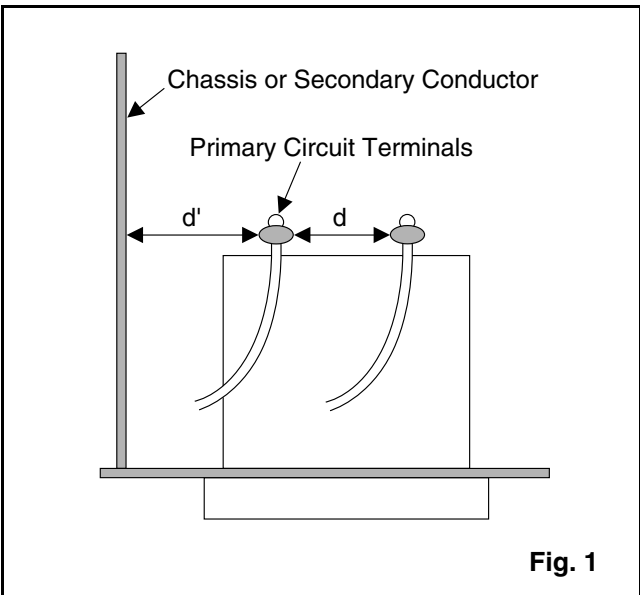


Table 2: Leakage current ratings for selected areas

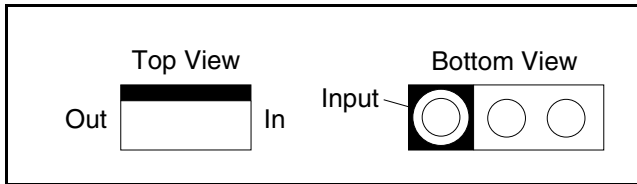
AC Line Voltage	Load Z	Leakage Current (i)	One side of power cord plug prongs (B) to:
230 V	2k Ω RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$	RF or Antenna terminals
	50k Ω RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$	A/V Input, Output

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

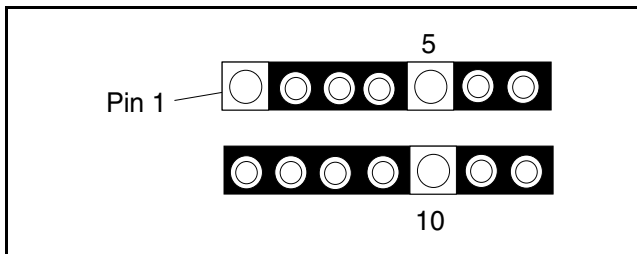
STANDARD NOTES FOR SERVICING

Circuit Board Indications

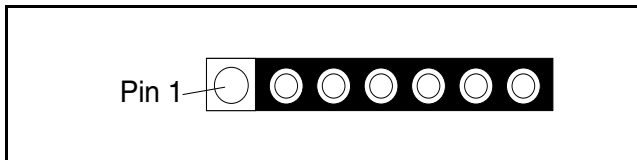
- a. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

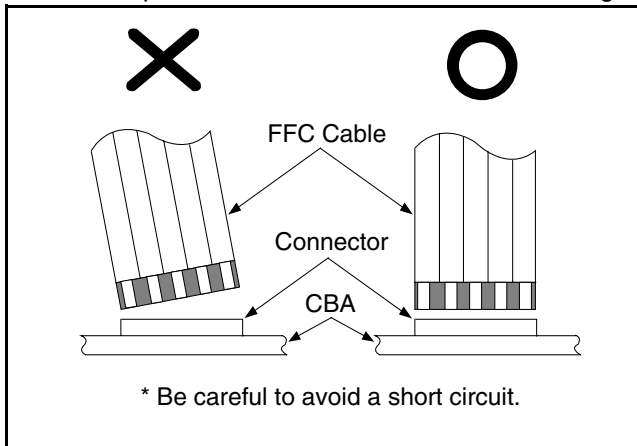


- c. The 1st pin of every male connector is indicated as shown.



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.

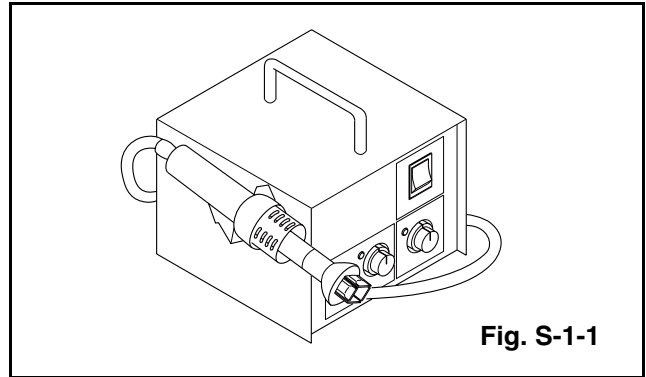


How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

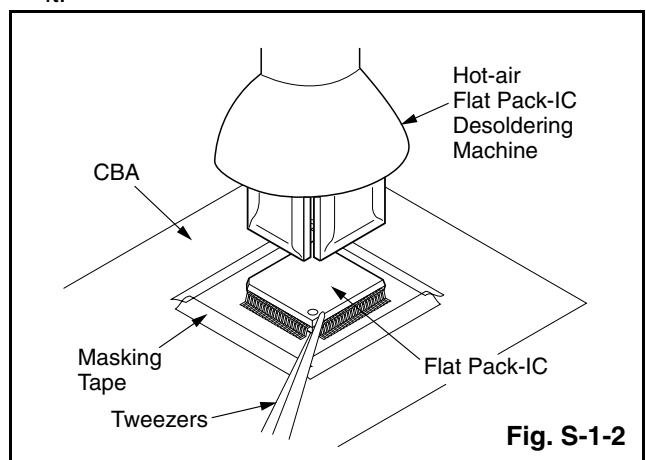
- (1) Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)



- (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)

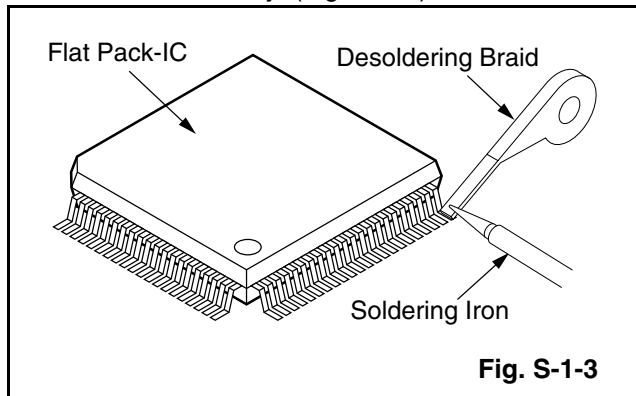
Caution:

- 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.

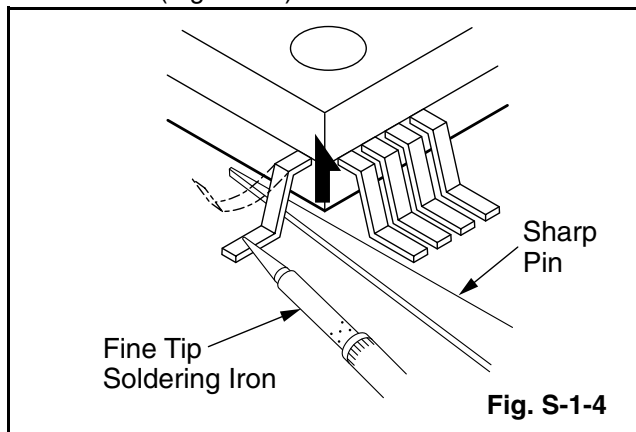


With Soldering Iron:

- (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)

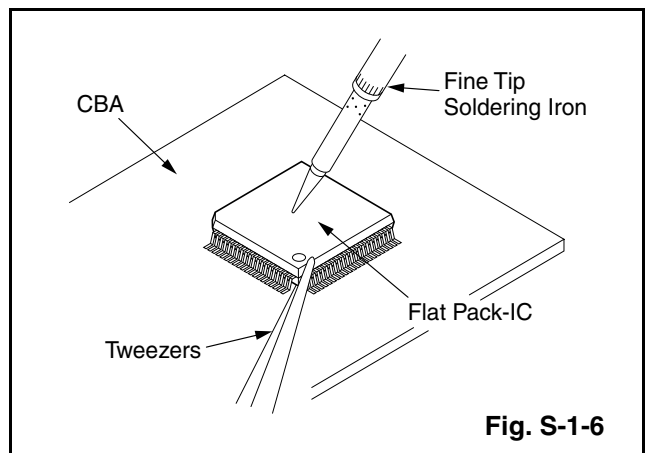
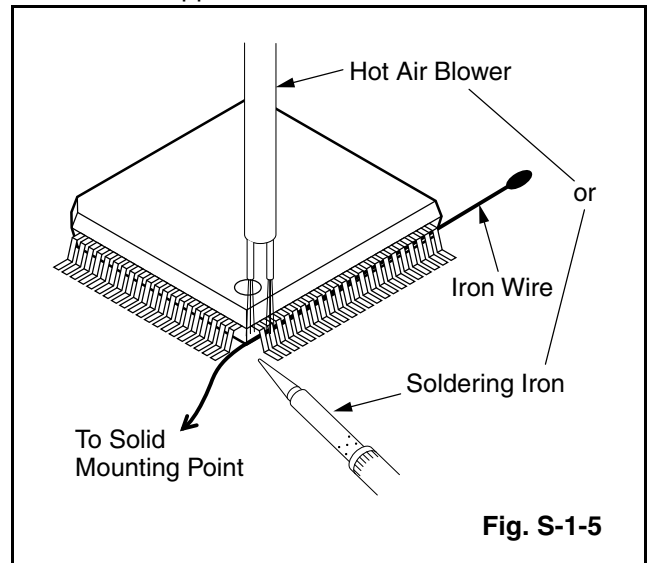
With Iron Wire:

- (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)

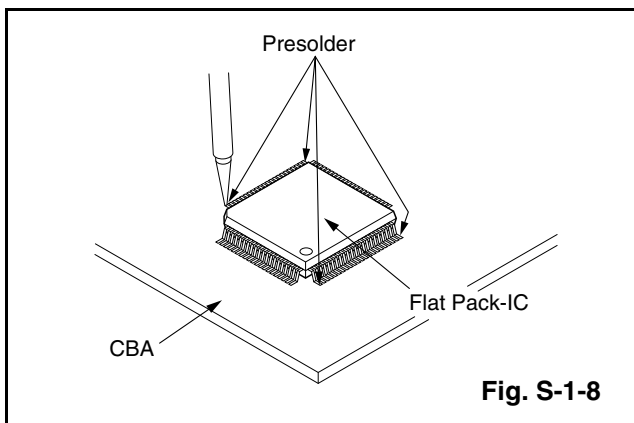
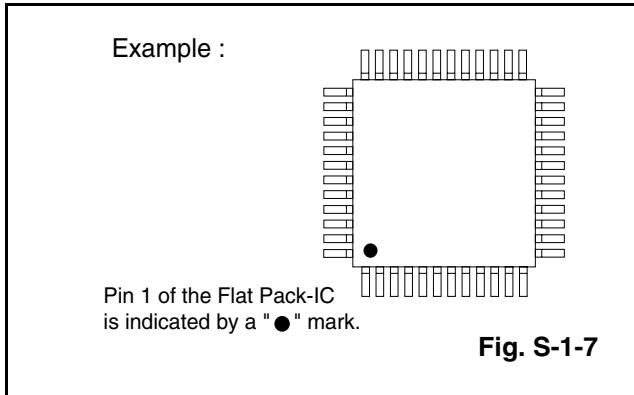
Note:

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 "●" 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

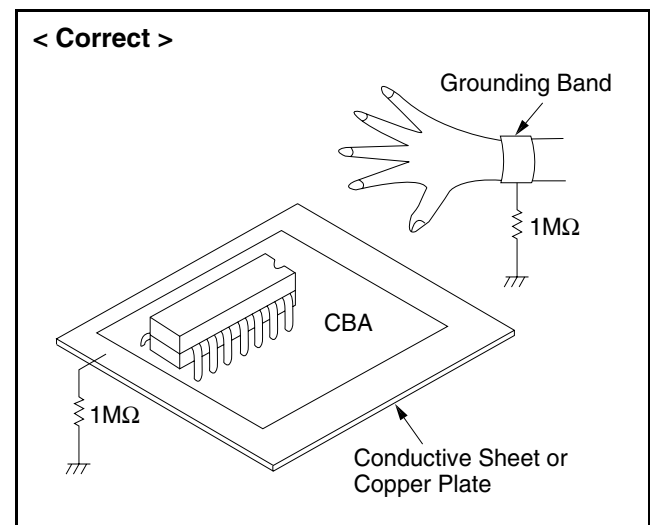
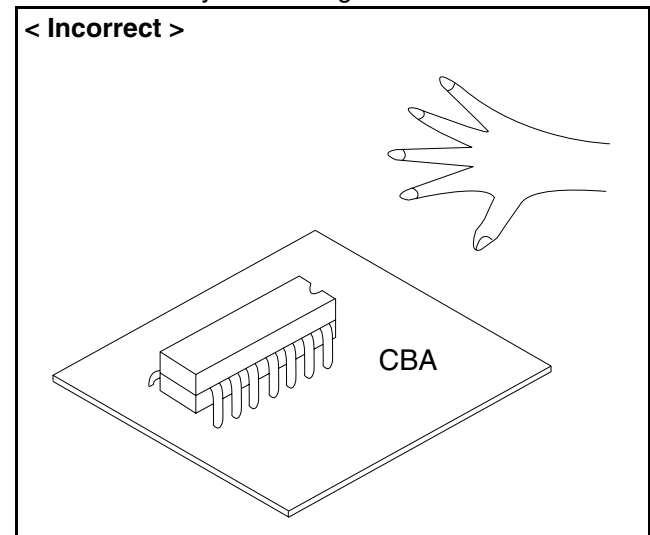
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

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

2. Ground for Workbench

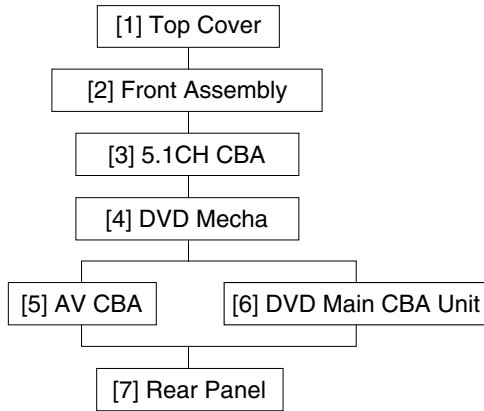
- (4) Be sure to place a conductive sheet or copper plate with proper grounding ($1\text{M}\Omega$) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting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



CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to 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]	5.1CH CBA	2	*CN1201,*CN1202	-
[4]	DVD Mecha	3,4	3(S-2), *CN101, *CN401	2 2-1 2-2 2-3 3
[5]	AV CBA	5	6(S-3), 6(S-4), *CN1001, *CN1601	-
[6]	DVD Main CBA Unit	5	3(S-5)	-
[7]	Rear Panel	6	3(S-6)	-

↓ ↓ ↓ ↓ ↓
(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.

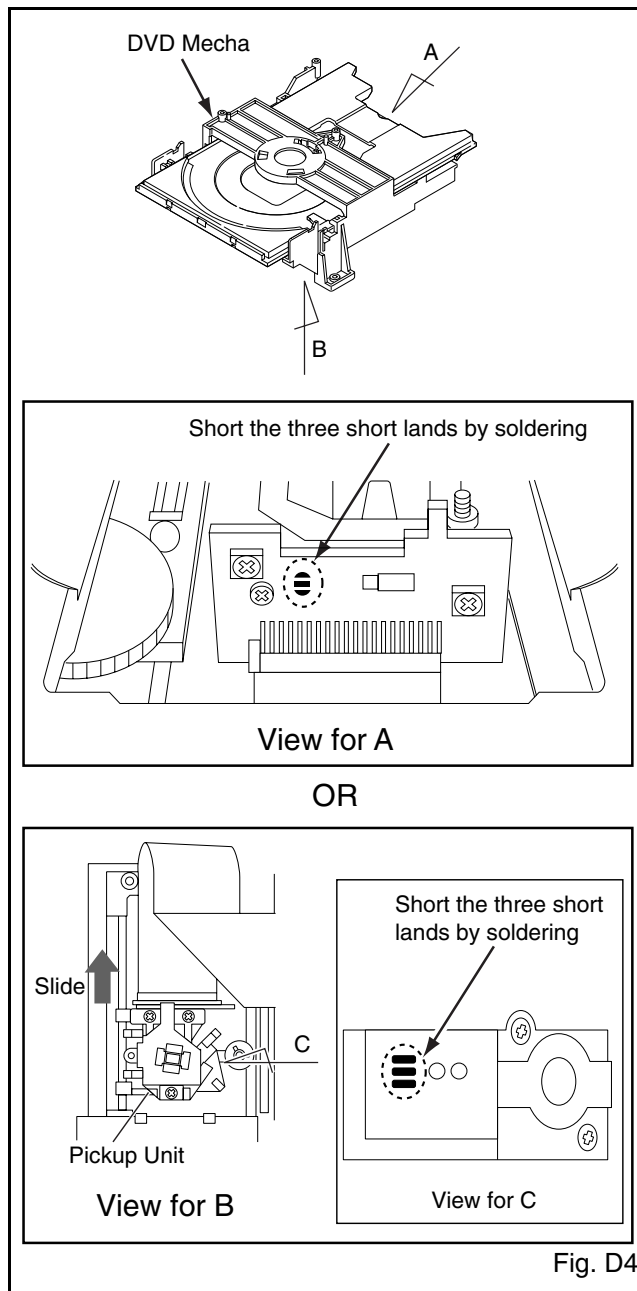
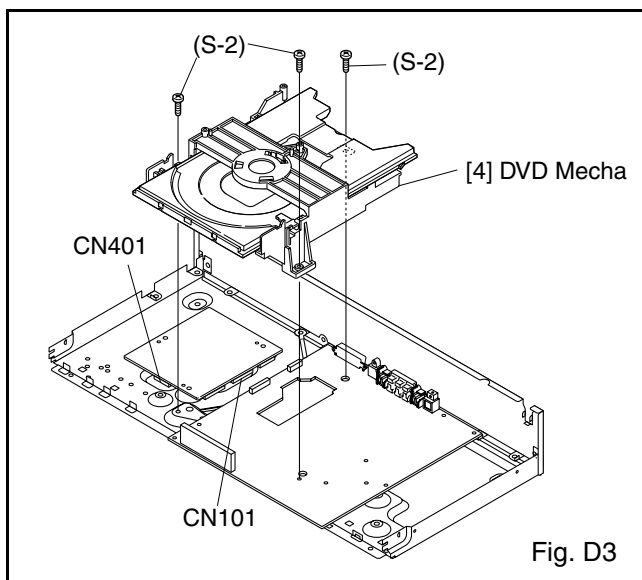
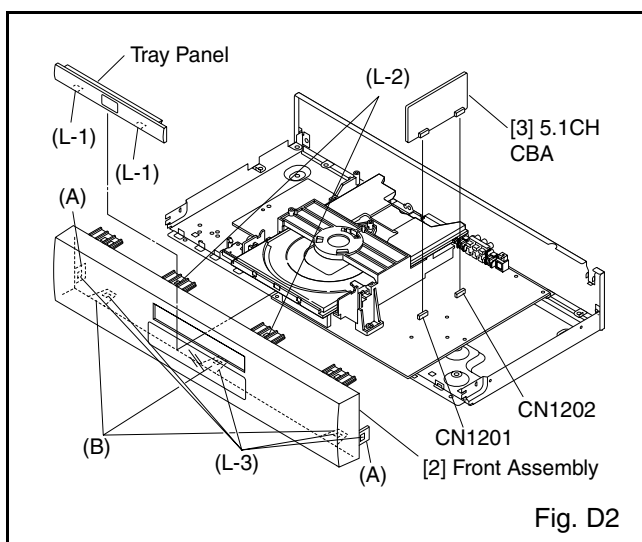
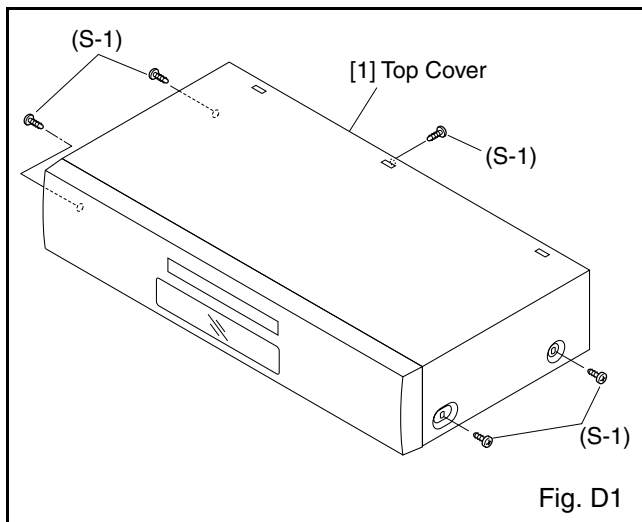
- 1-1. Connect the wall plug to an AC outlet and press the OPEN/CLOSE button to open the Tray.
- 1-2. Remove the Tray Panel by releasing two Locking Tabs (L-1).
- 1-3. Press the OPEN/CLOSE button again to close the Tray.
- 1-4. Press the POWER button to turn the power off.
- 1-5. Unplug an AC cord.
- 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.)

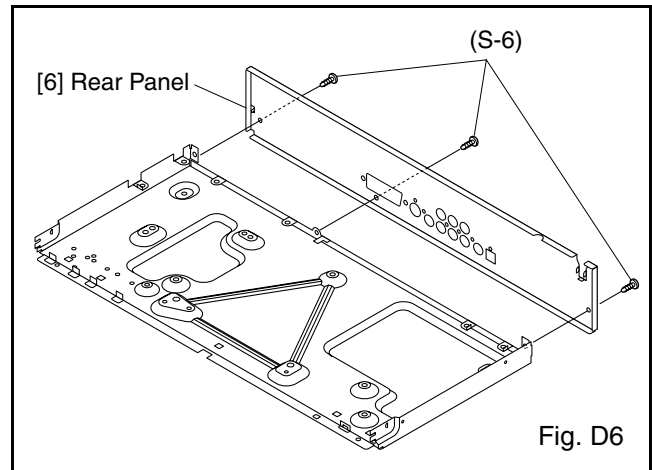
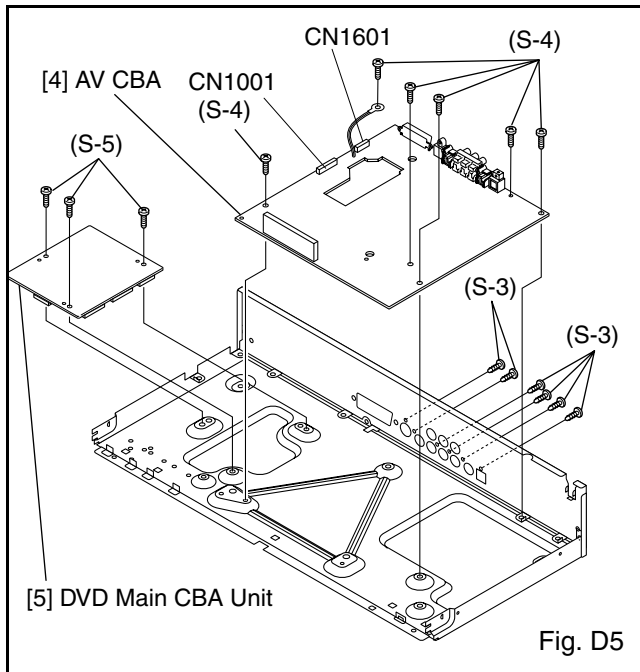
CAUTION 2: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc, during unpacking or repair work.

To avoid damage of pickup follow next procedures.

- 2-1. Slide out the pickup unit as shown in Fig. 4.
- 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. 4)
- 2-3. Disconnect Connector (CN401). Remove three Screws (S-2) and lift the DVD Mecha. (Fig. 3)

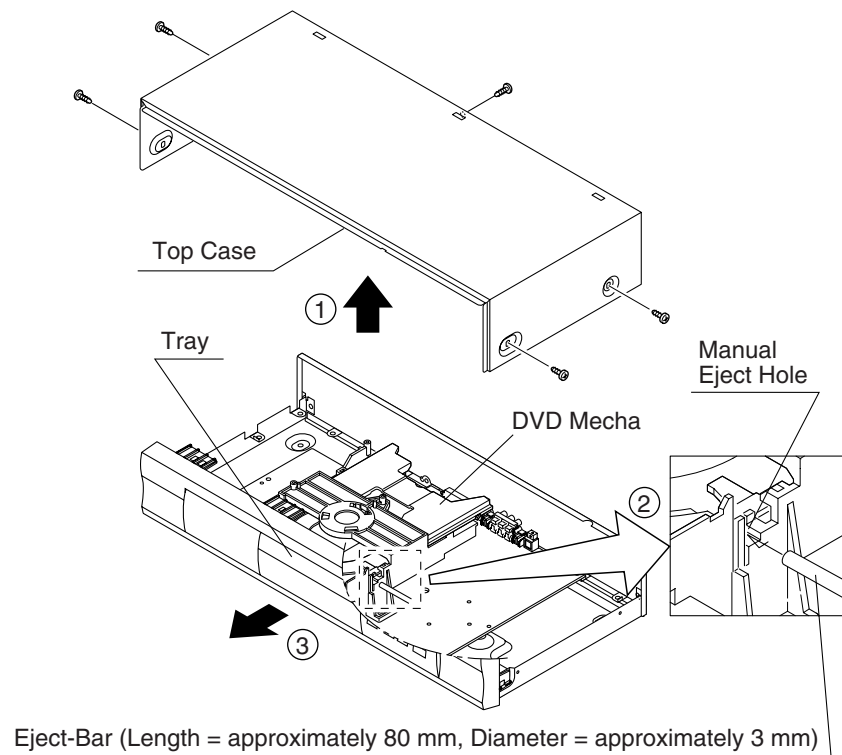
CAUTION 3: When reassembling, confirm the FFC cable (CN101) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. 4)





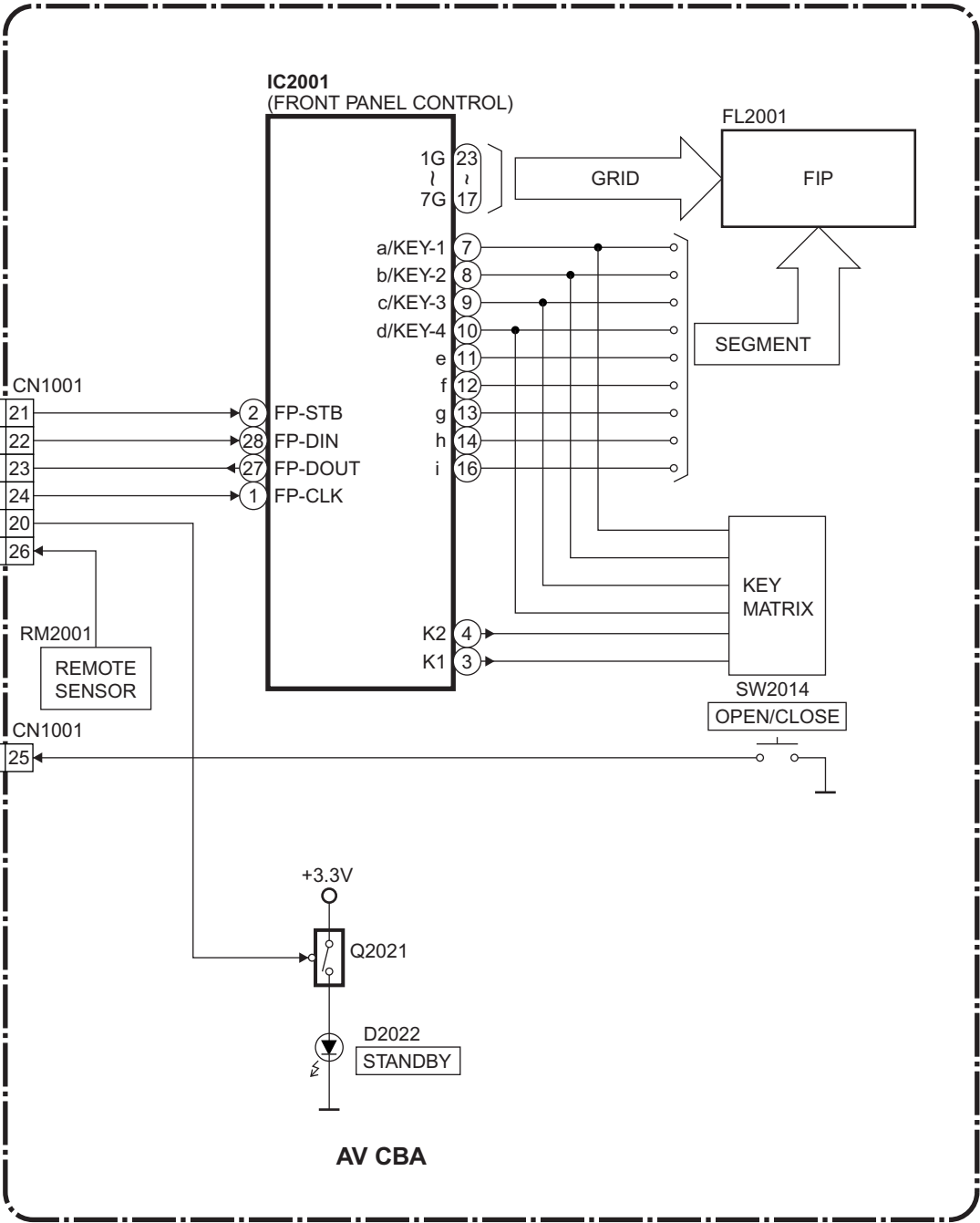
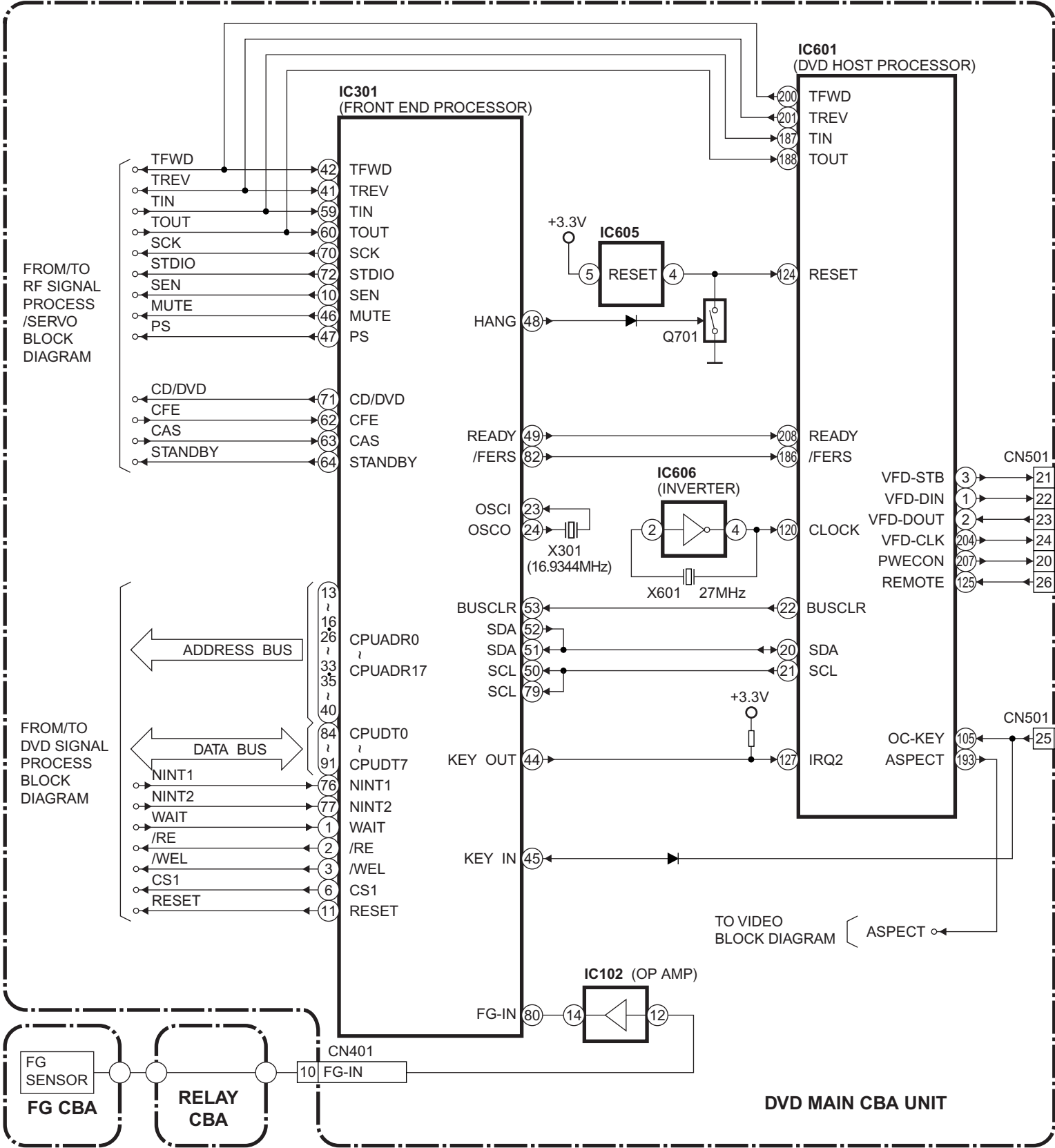
HOW TO MANUAL EJECT

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.

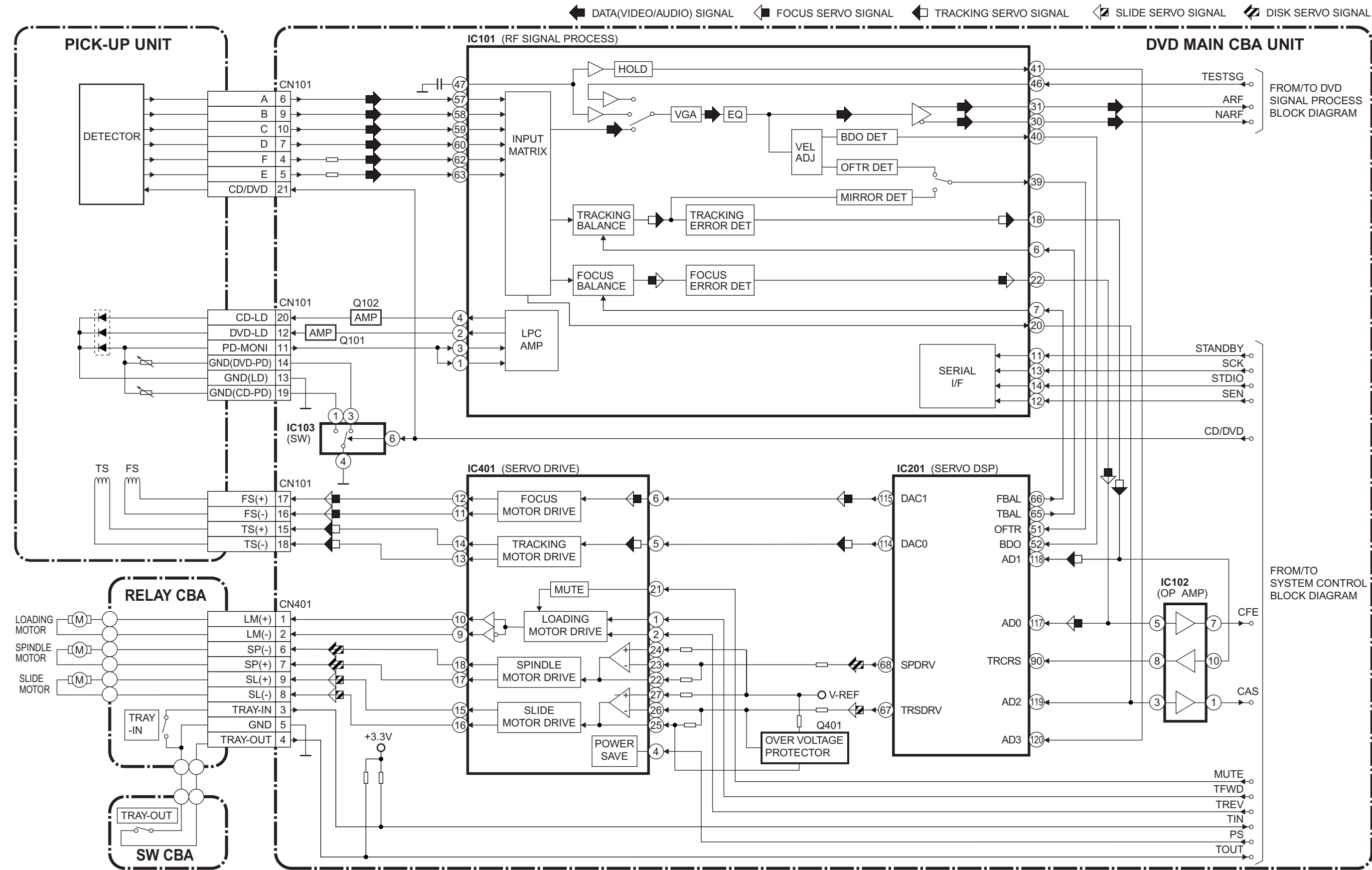


BLOCK DIAGRAMS

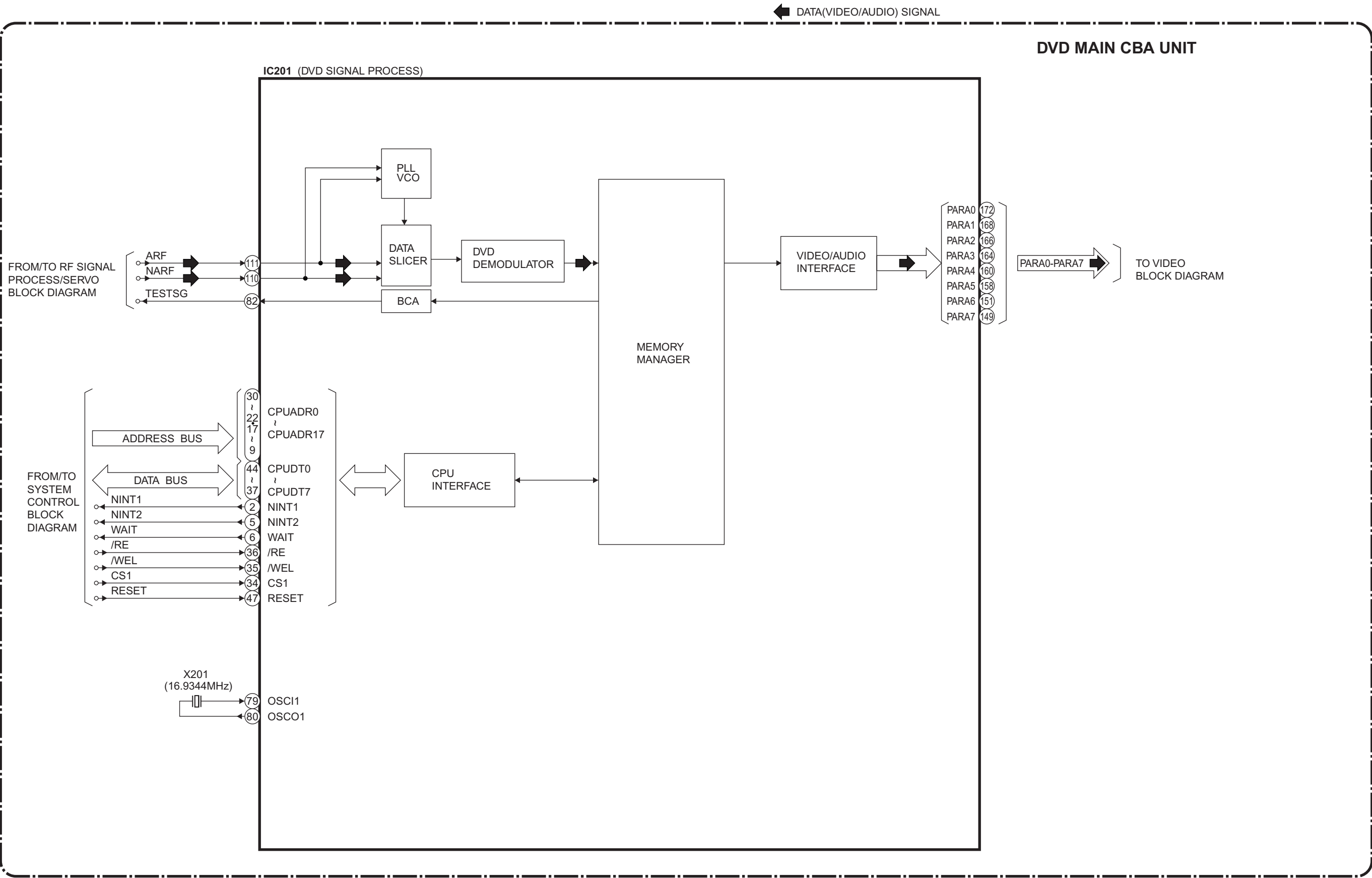
System Control Block Diagram



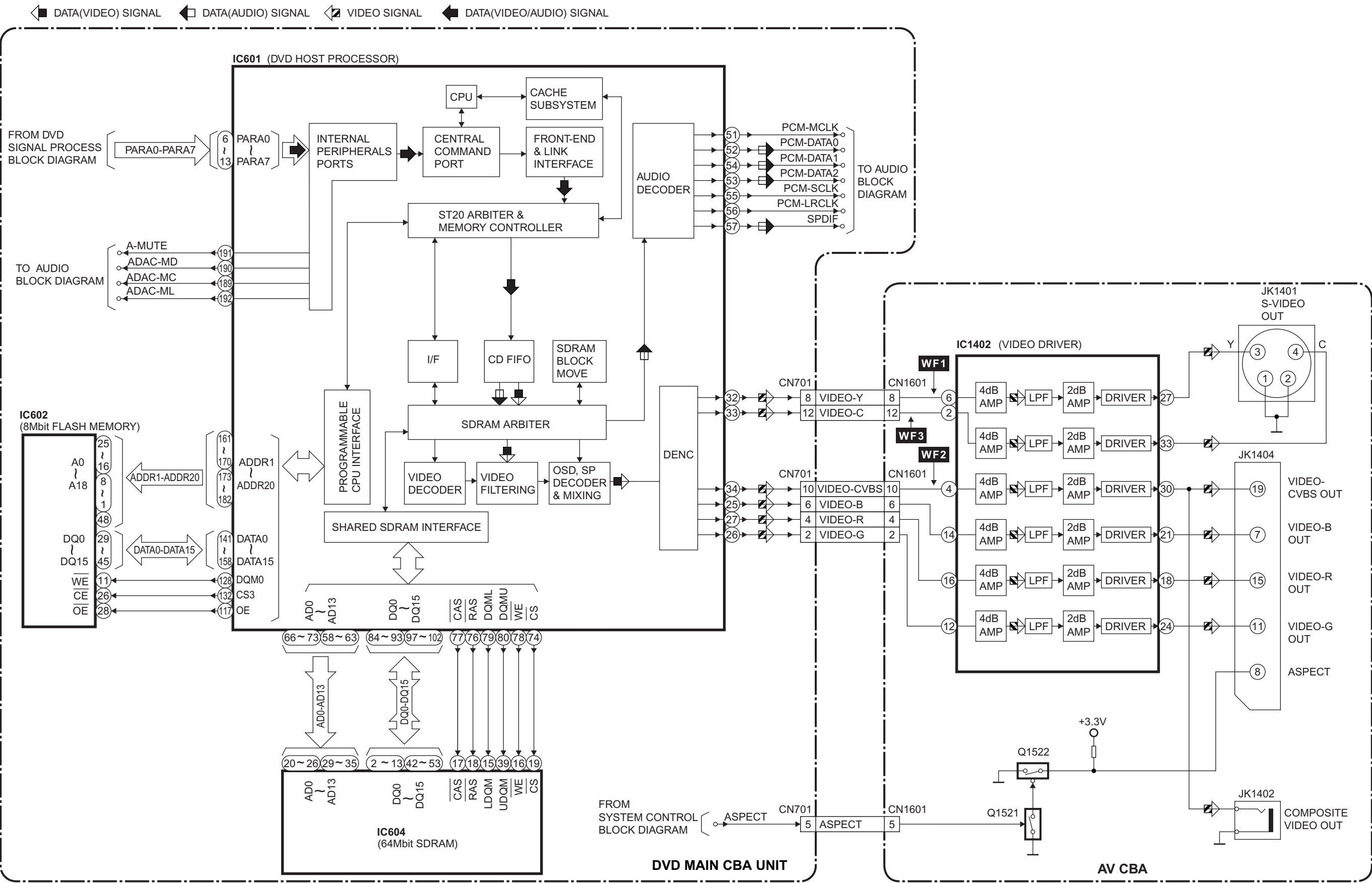
RF Signal Process/Servo Block Diagram



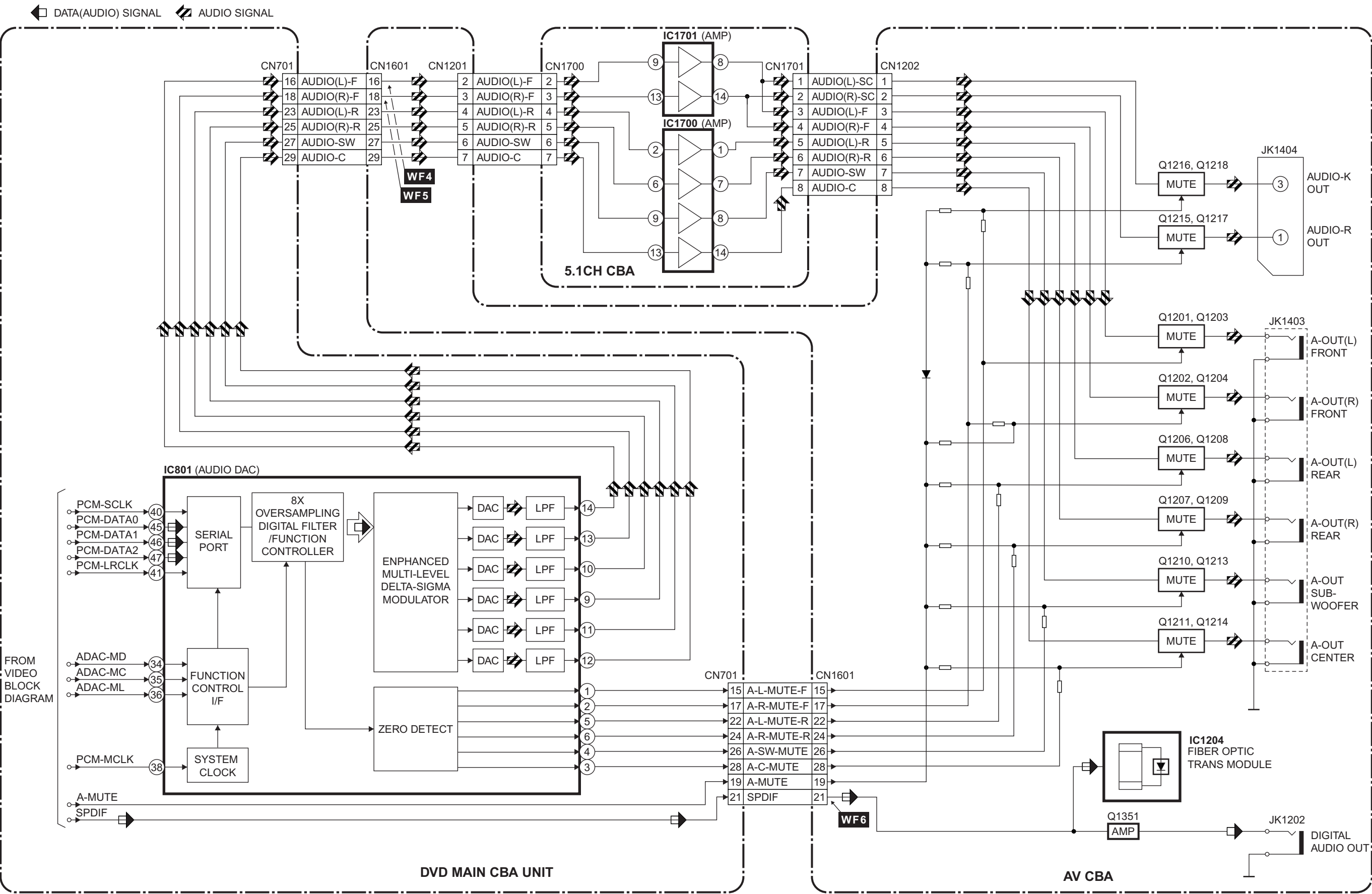
DVD Signal Process Block Diagram



Video Block Diagram



Audio Block Diagram



Power Supply Block Diagram

CAUTION !

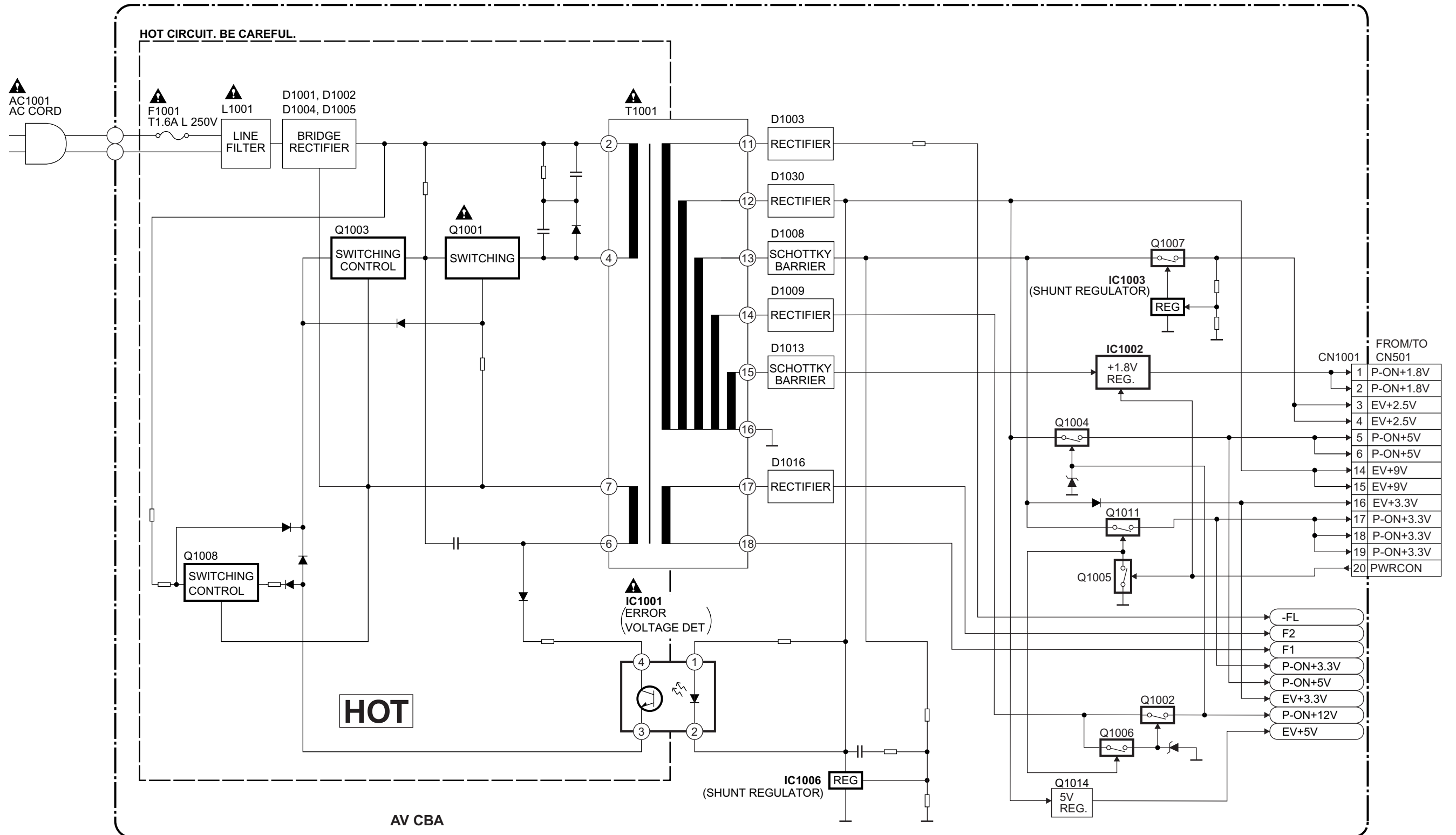
Switching power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

CAUTION

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE T1.6A L 250V FUSE.

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.

Capacitor Temperature Markings

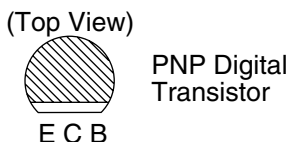
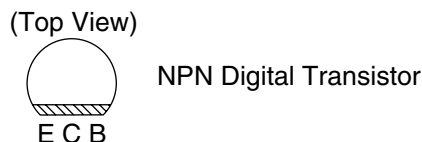
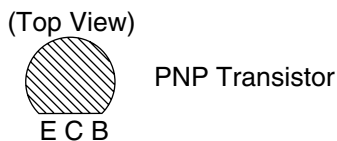
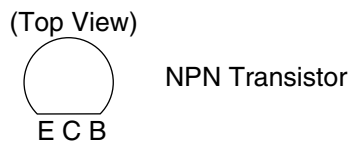
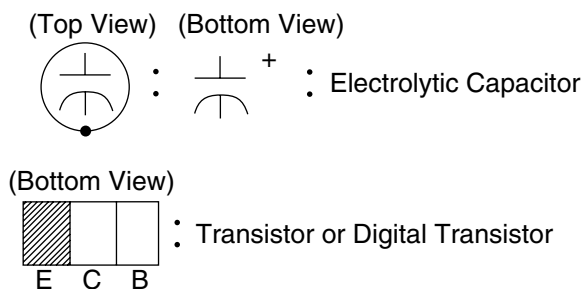
Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 - 80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	+30 - 80%	20°C	-10~+70°C

Notes:

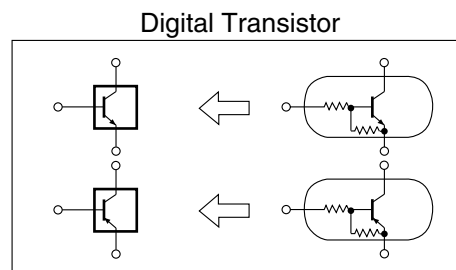
1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W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

Capacitors and transistors are represented by the following symbols.

CBA Symbols



Schematic Diagram Symbols



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.

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.

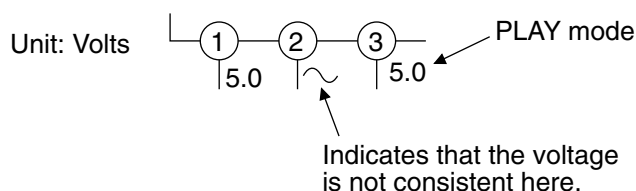
3. Note:

- (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.

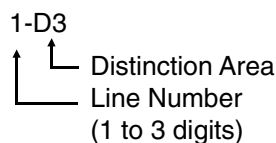
4. Wire Connectors

- (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. Voltage indications for PLAY modes on the schematics are as shown below:

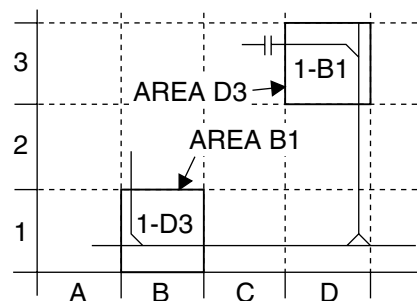


6. How to read converged lines



Examples:

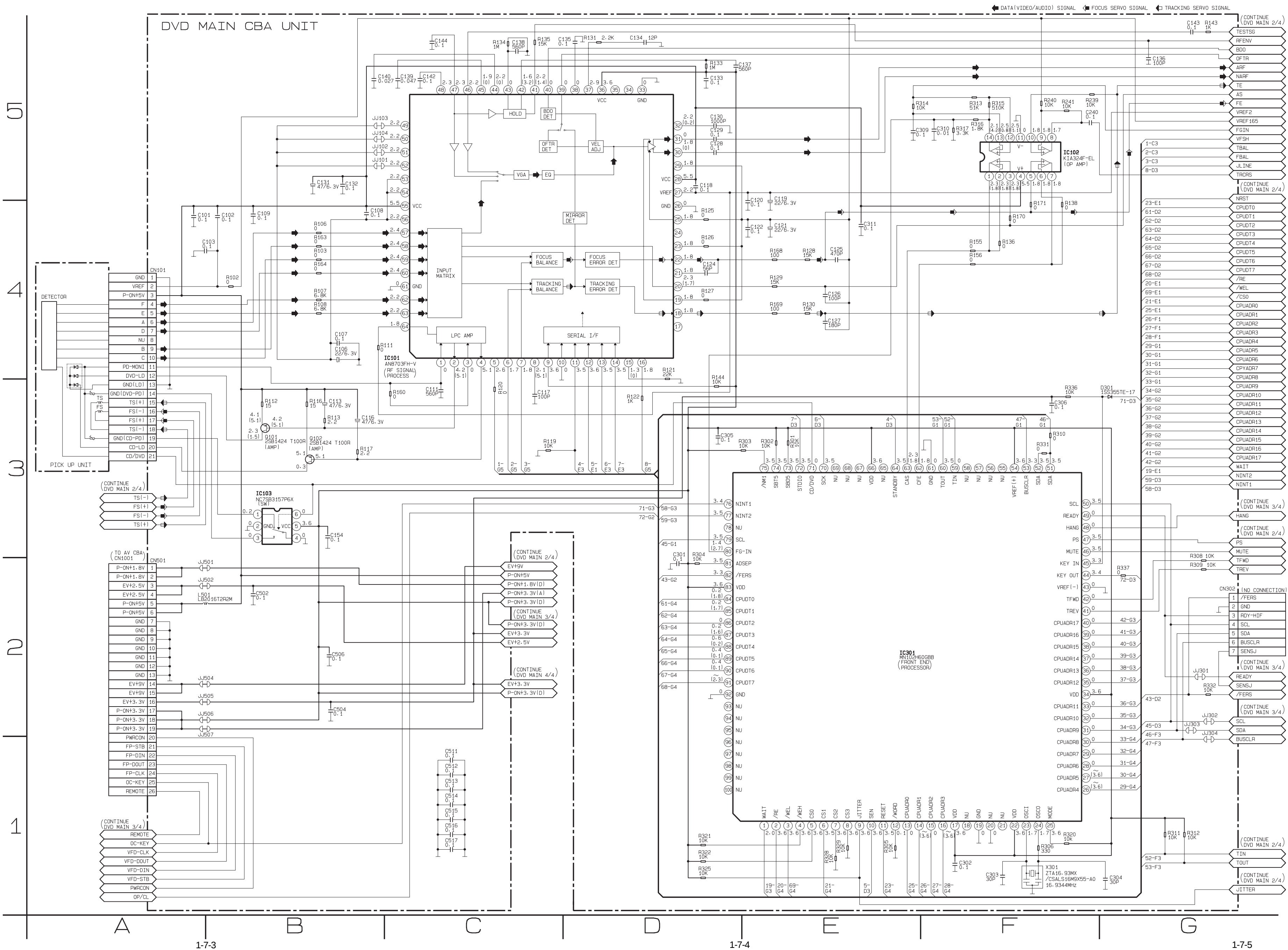
1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



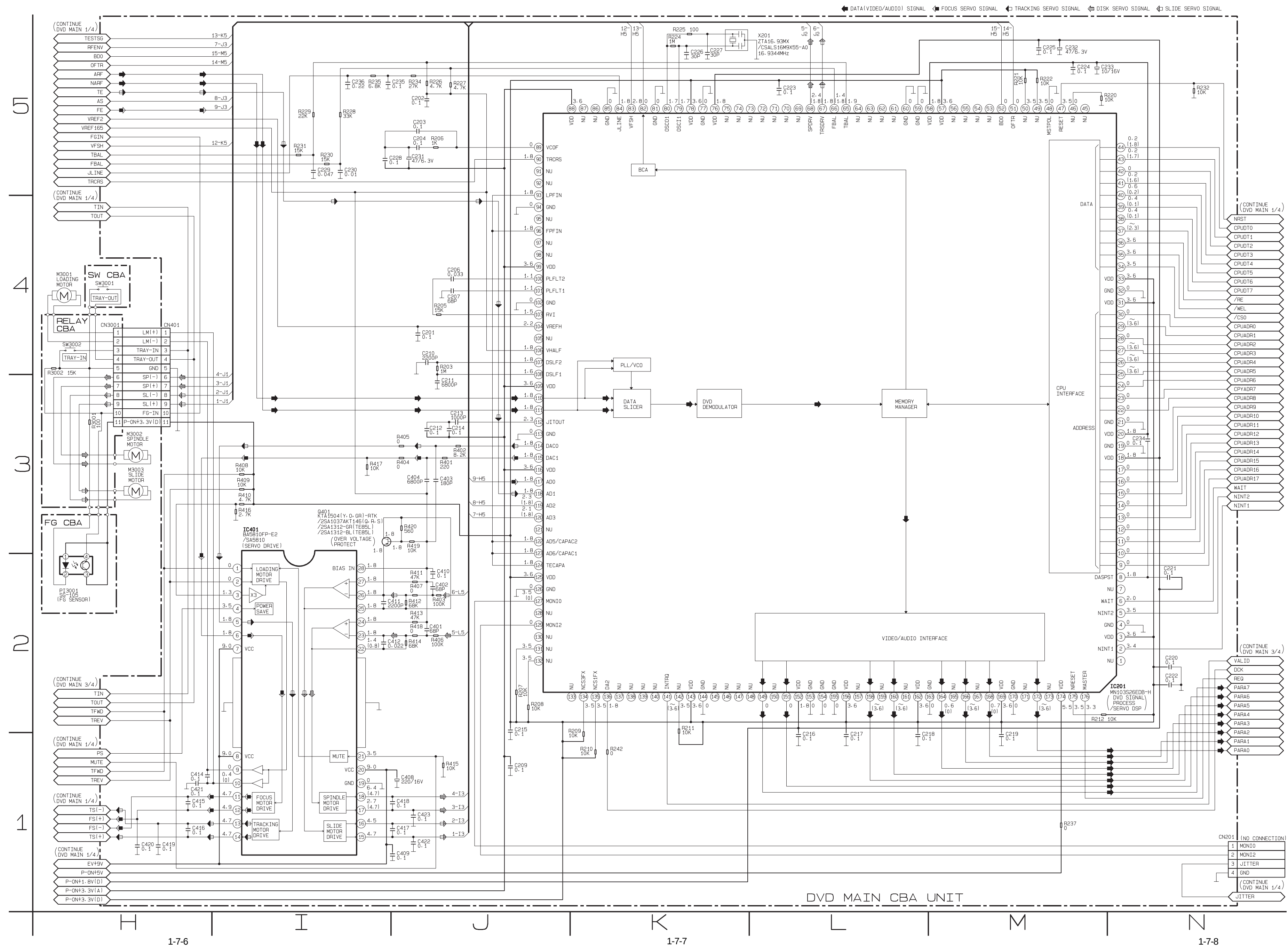
7. Test Point Information

- ⊙ : 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.

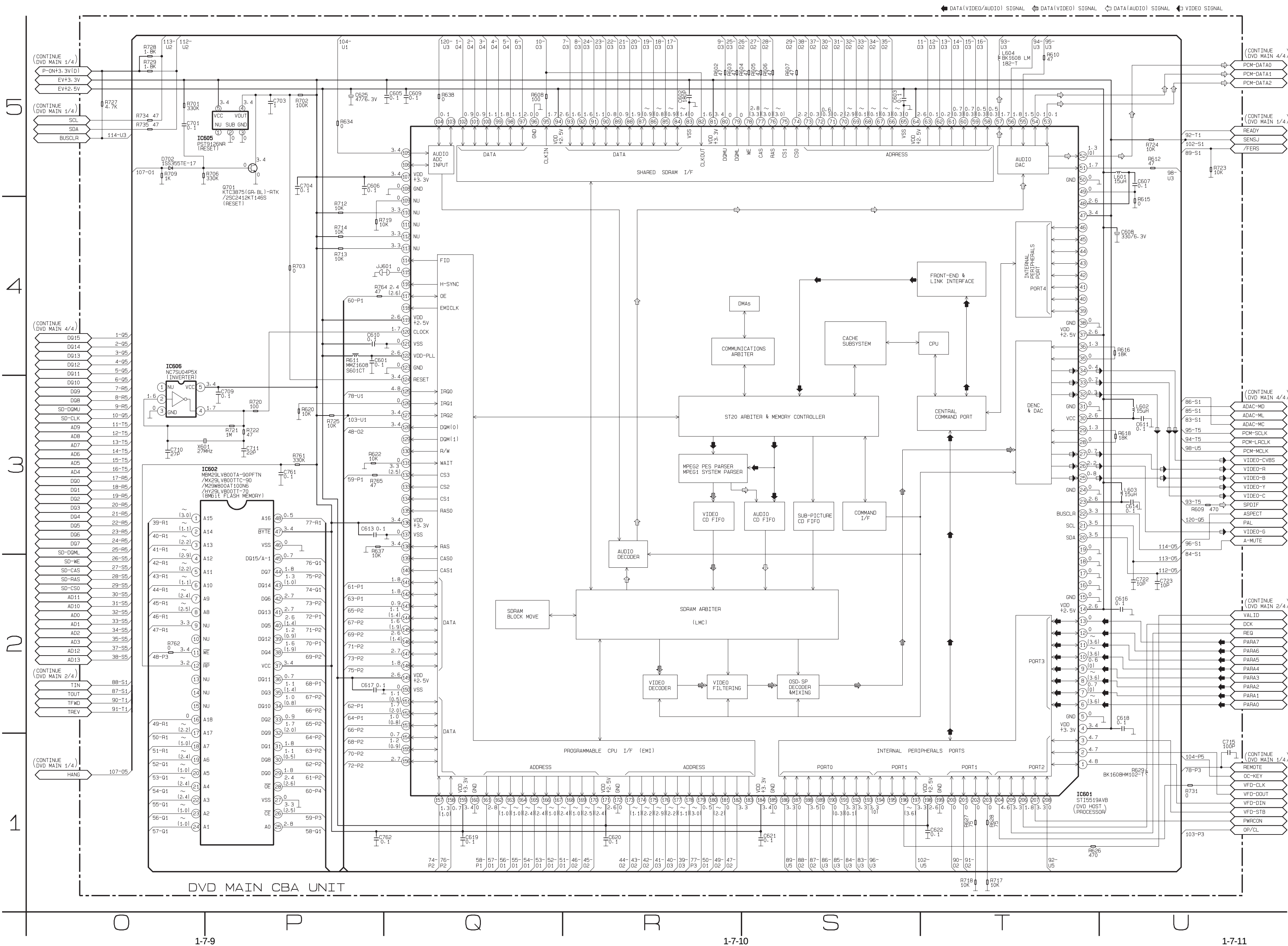
DVD Main 1/4 Schematic Diagram



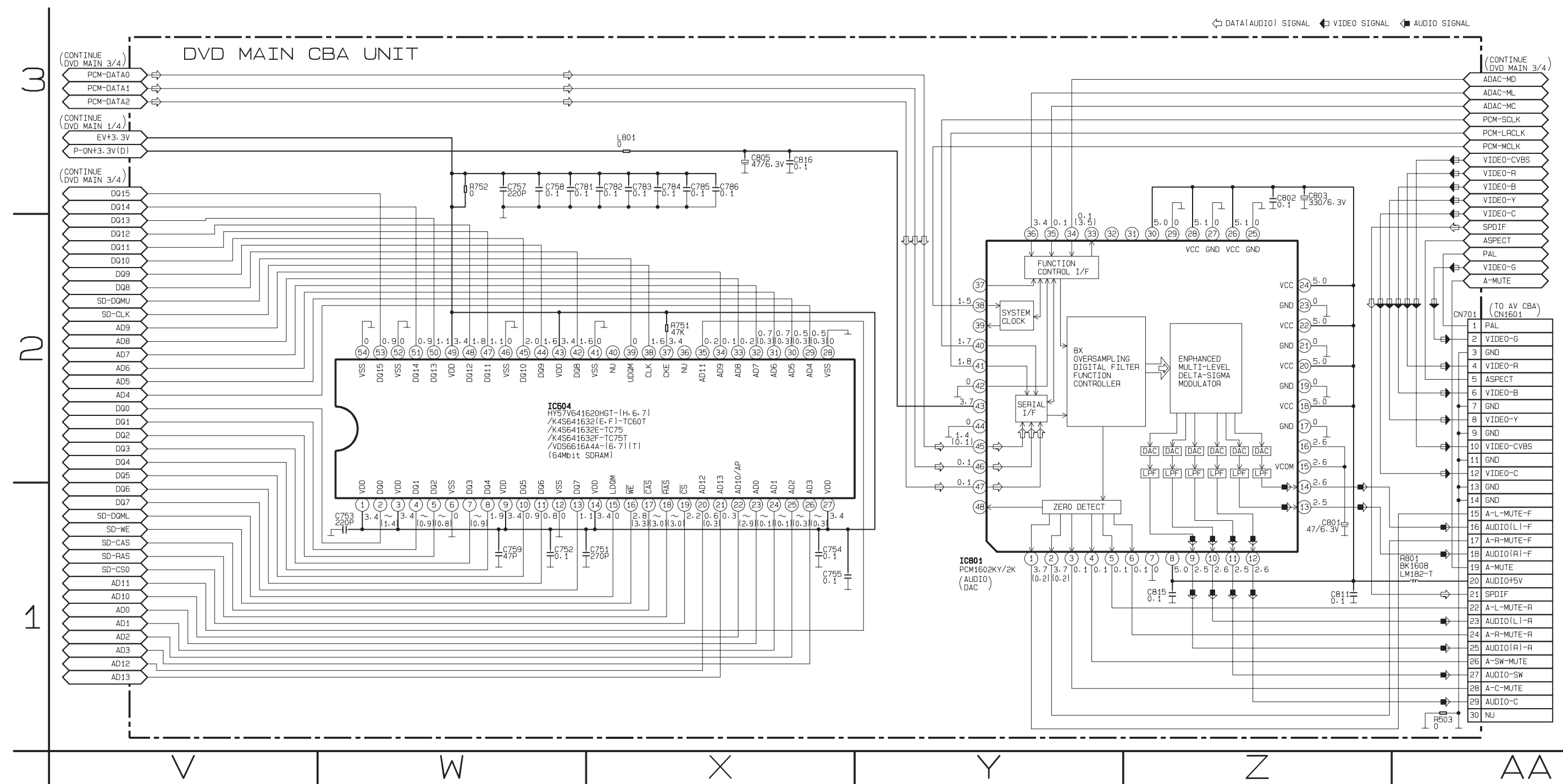
DVD Main 2/4 Schematic Diagram



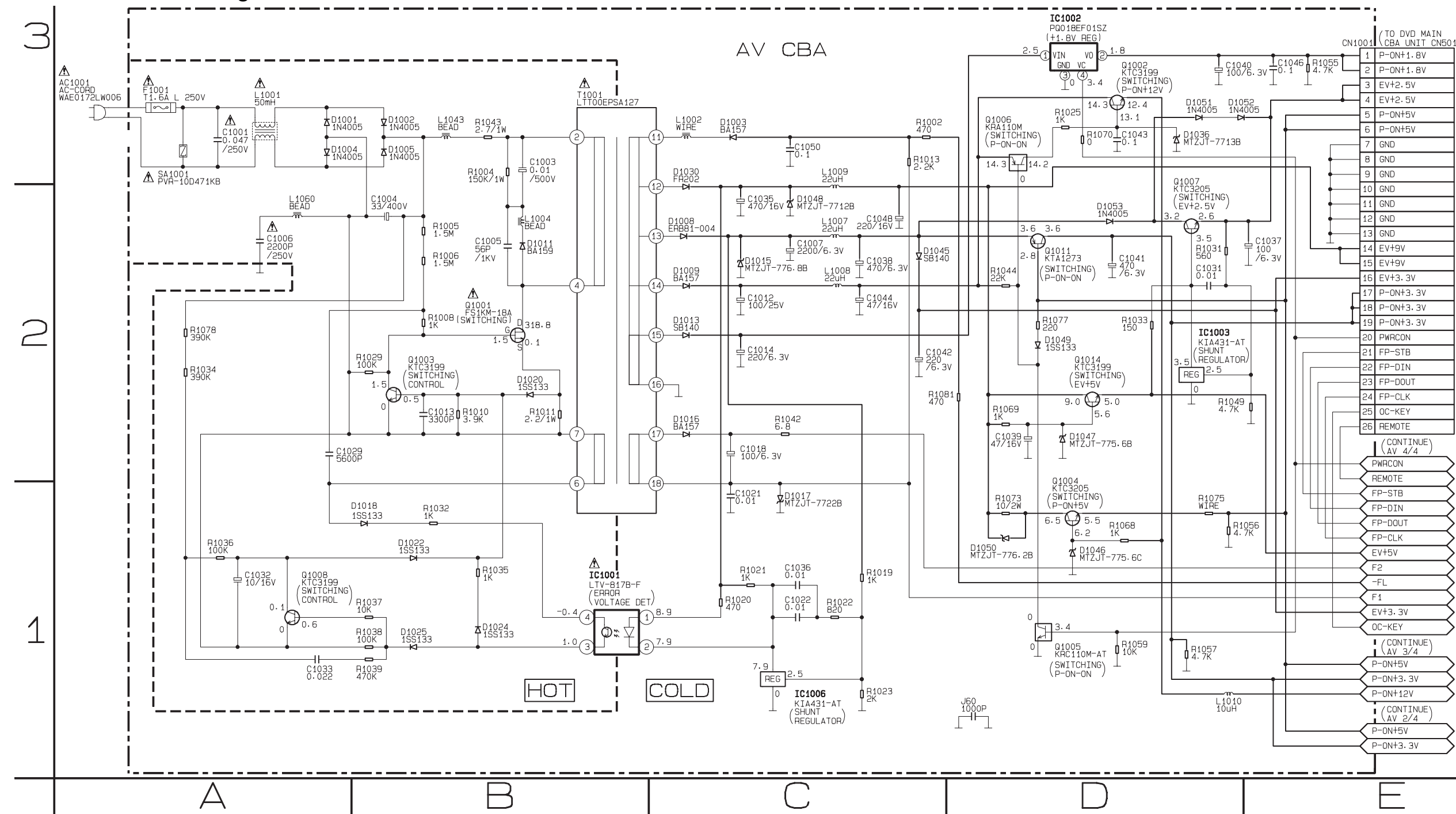
DVD Main 3/4 Schematic Diagram



DVD Main 4/4 Schematic Diagram



AV 1/4 Schematic Diagram



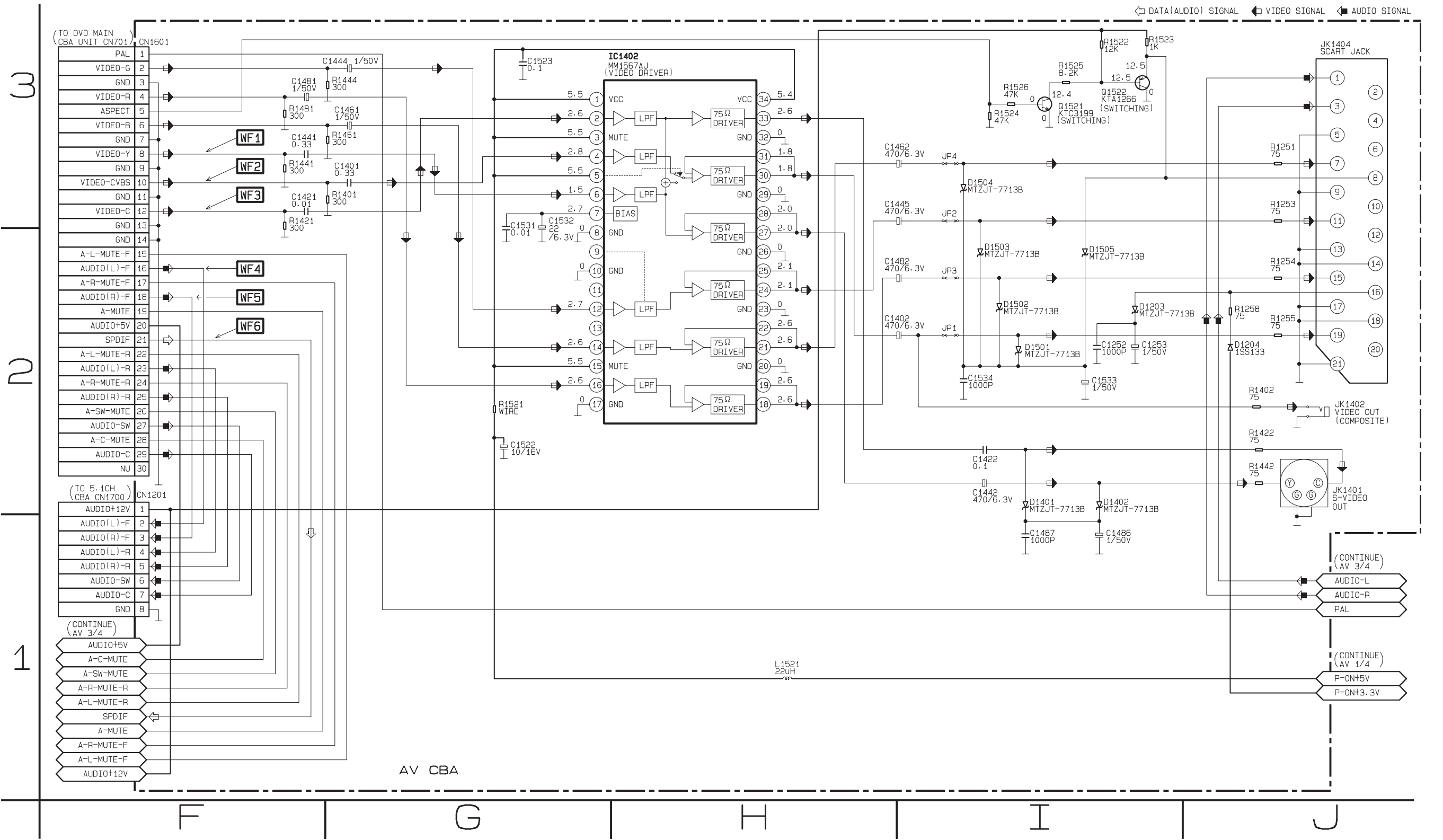
E56G0SCD4

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.

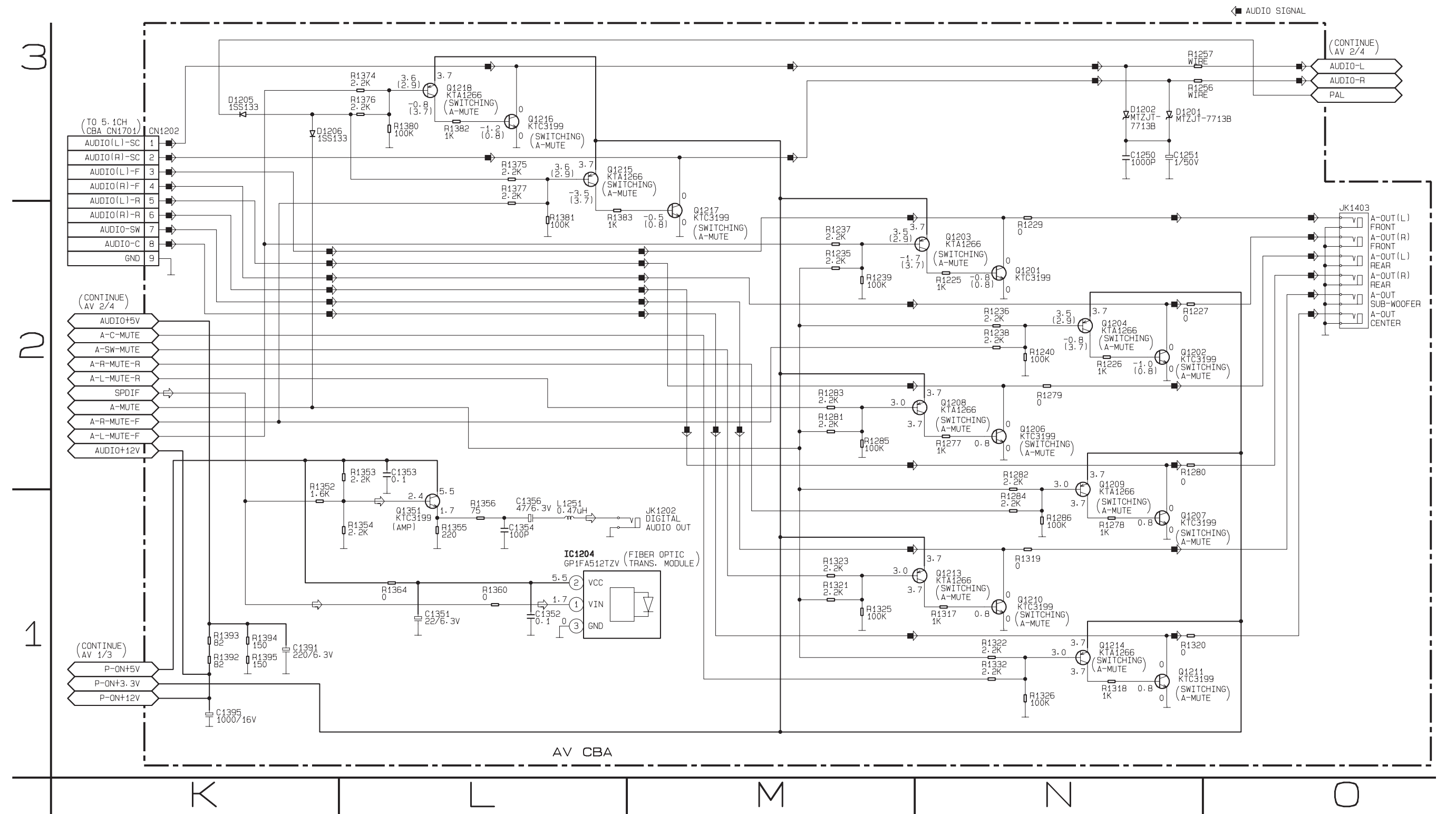
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.

NOTE :
THE VOLTAGE FOR PARTS IN HOT CIRCUIT IS MEASURED USING
HOT GND AS A COMMON TERMINAL.

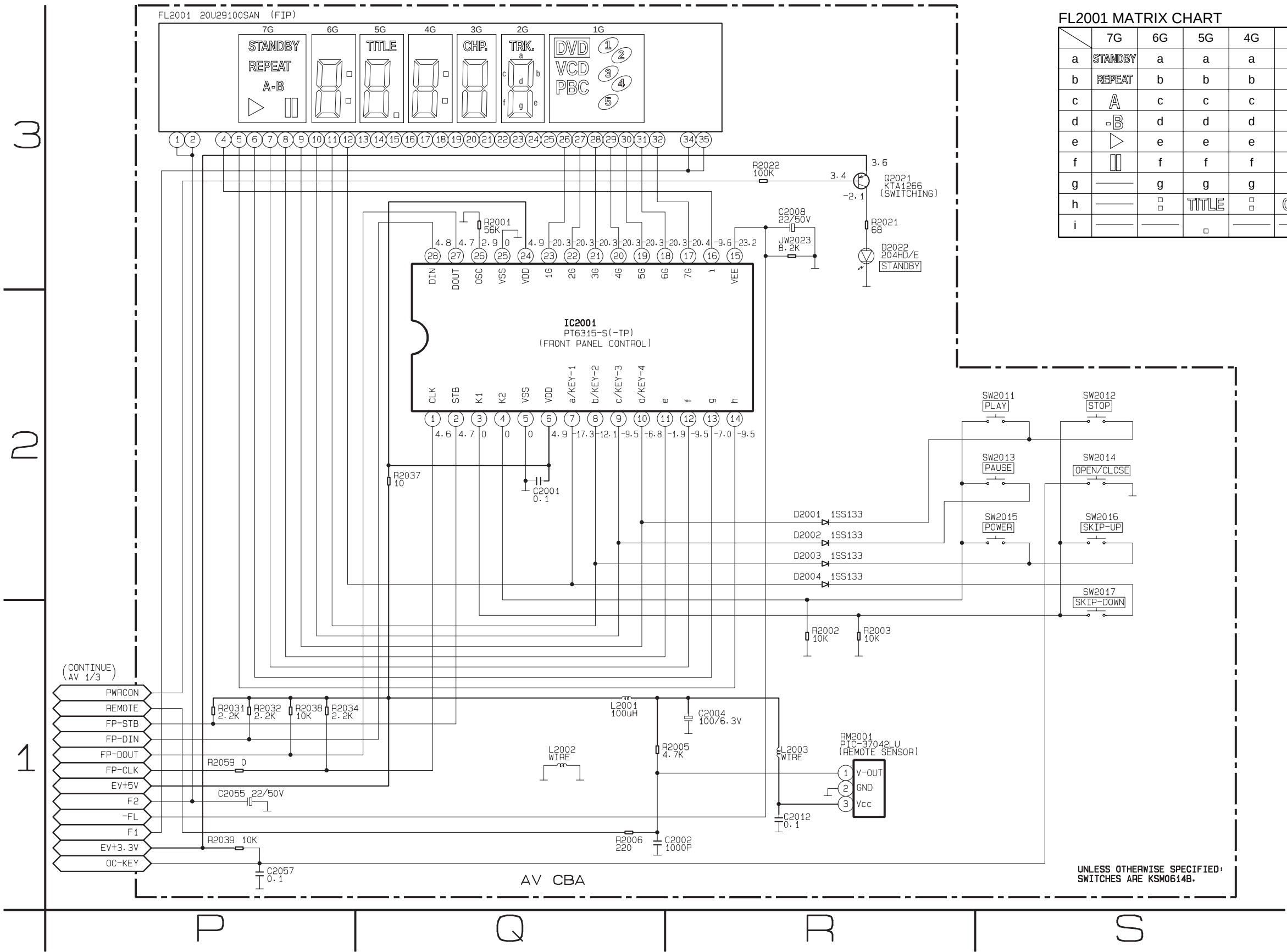
AV 2/4 Schematic Diagram



AV 3/4 Schematic Diagram



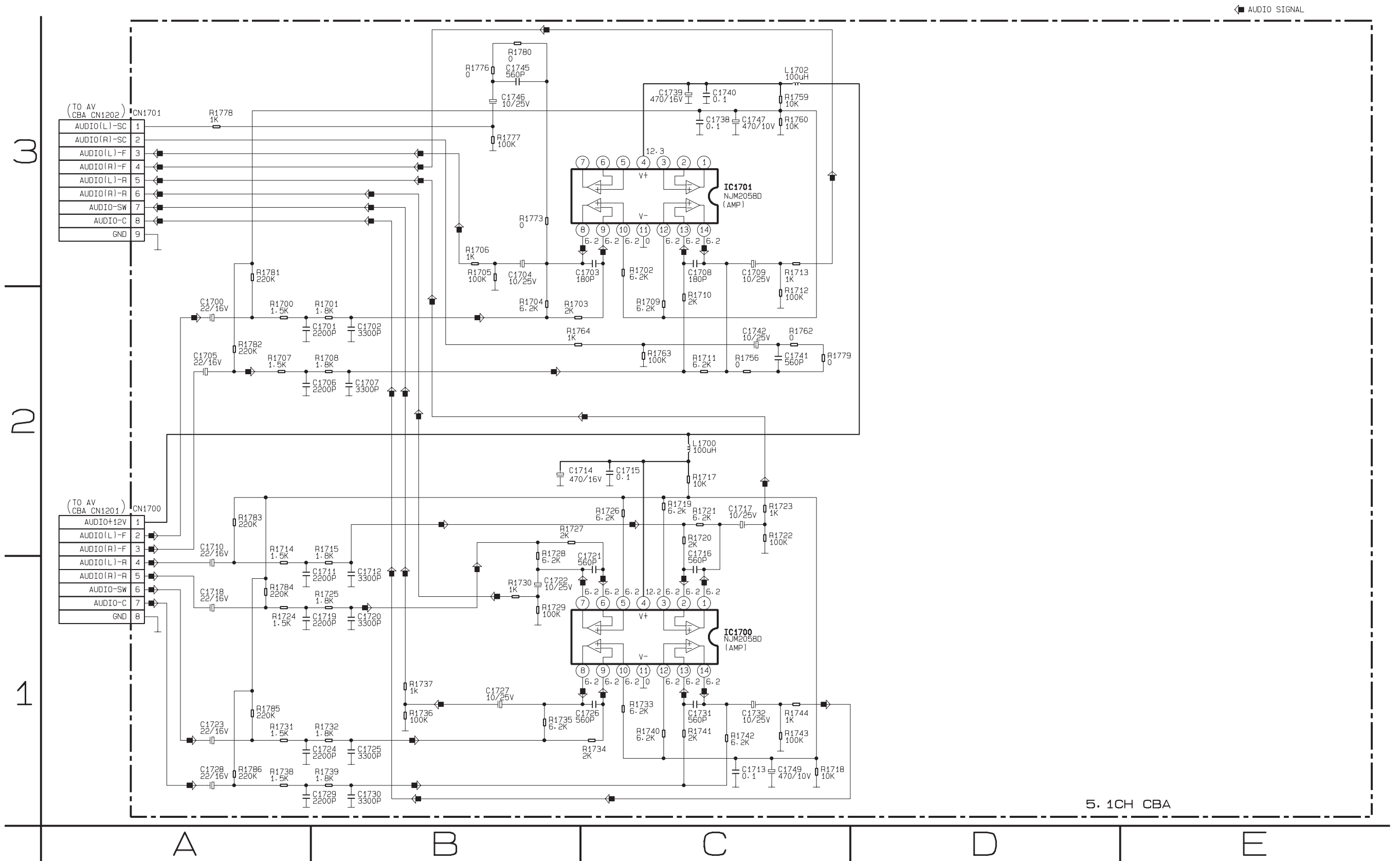
AV 4/4 Schematic Diagram



FL2001 MATRIX CHART

	7G	6G	5G	4G	3G	2G	1G
a	STANDBY	a	a	a	a	a	1
b	REPEAT	b	b	b	b	b	2
c	A	c	c	c	c	c	3
d	-B	d	d	d	d	d	4
e	▶	e	e	e	e	e	5
f	⏸	f	f	f	f	f	DVD
g	—	g	g	g	g	g	PBC
h	—	□	TITLE	□	CHP.	TRK.	CD
i	—	—	□	—	—	—	V

5.1CH Schematic Diagram



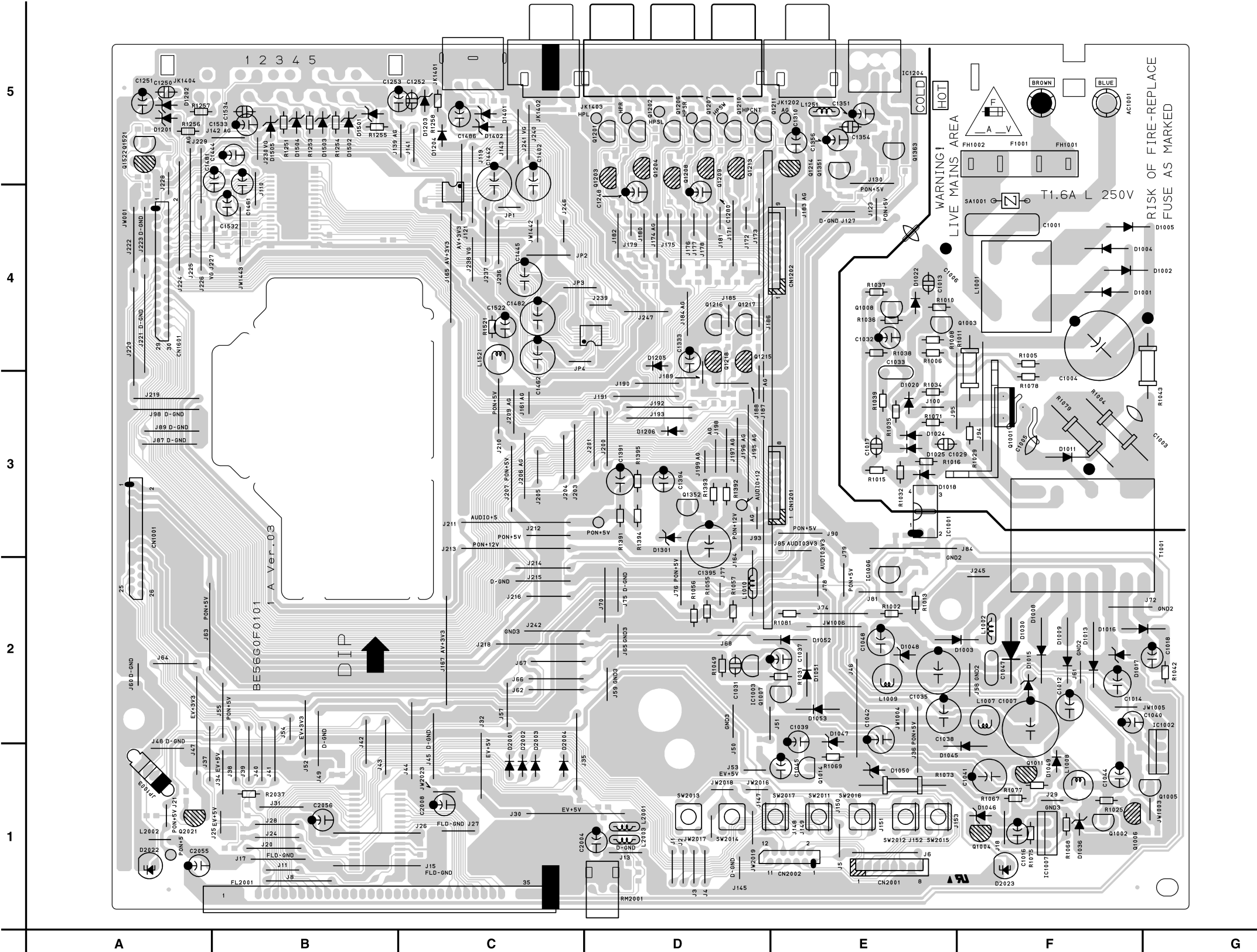
AV CBA Top View

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.

NOTE :
THE VOLTAGE FOR PARTS IN HOT CIRCUIT IS MEASURED USING
HOT GND AS A COMMON TERMINAL.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.

**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.**



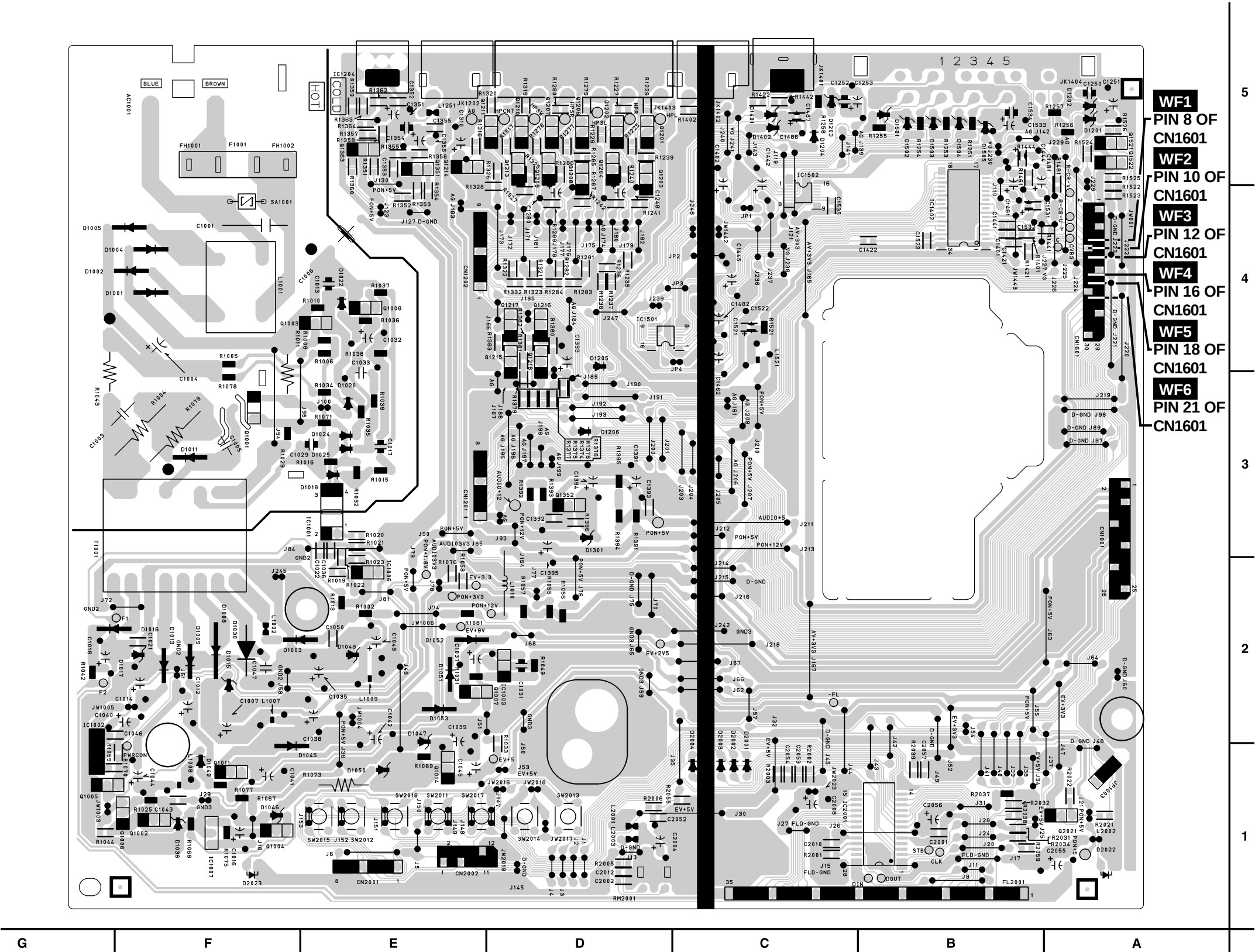
AV CBA Bottom View

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.

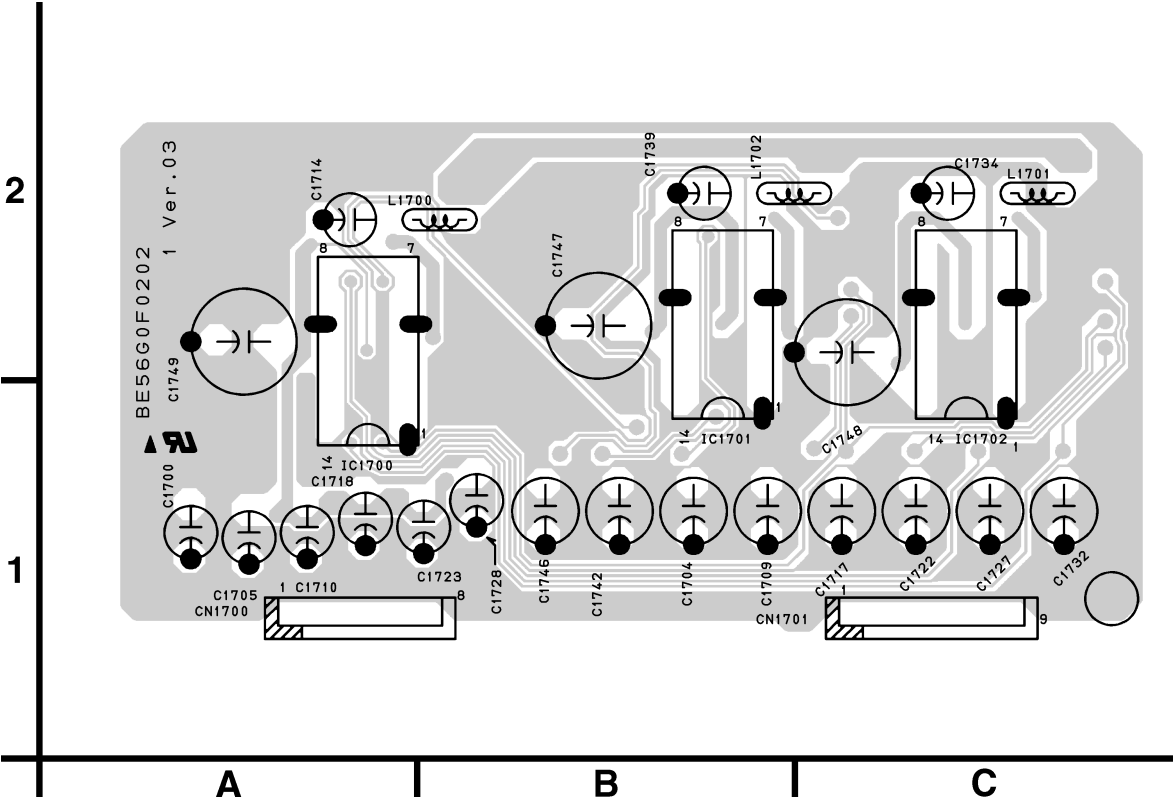
NOTE :
THE VOLTAGE FOR PARTS IN HOT CIRCUIT IS MEASURED USING
HOT GND AS A COMMON TERMINAL.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.

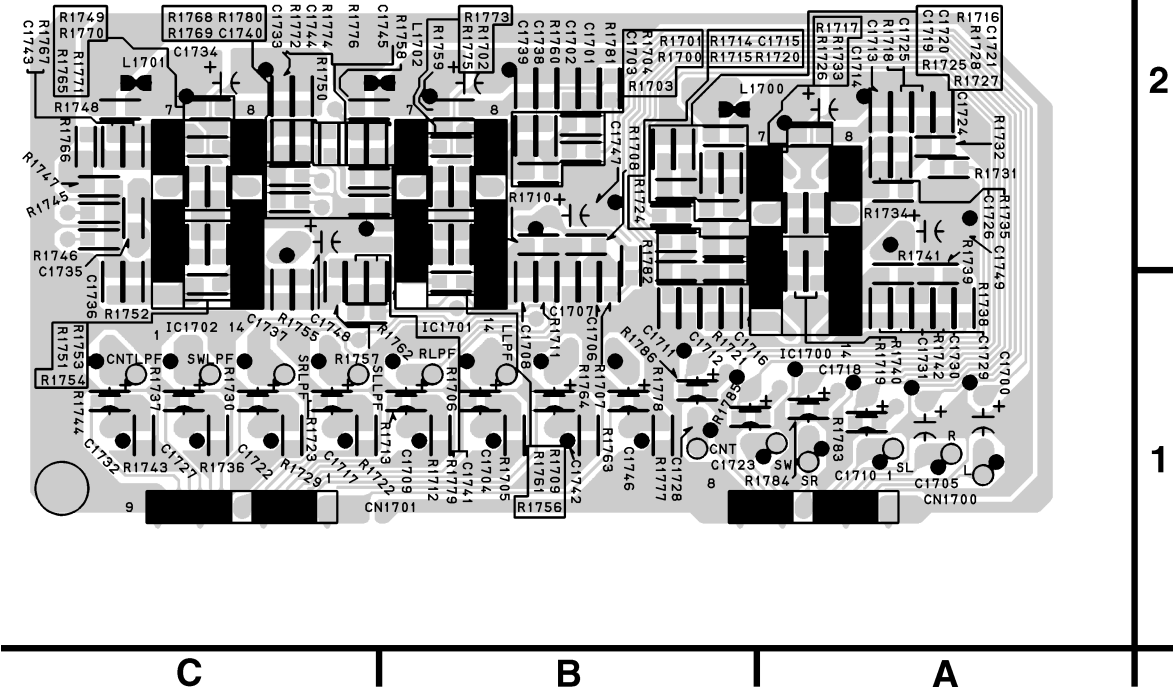
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER
SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED.
ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT
SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY
CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



5.1CH CBA Top View

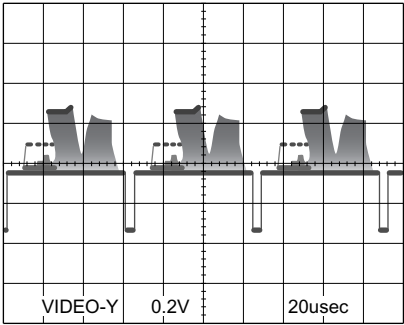


5.1CH CBA Bottom View

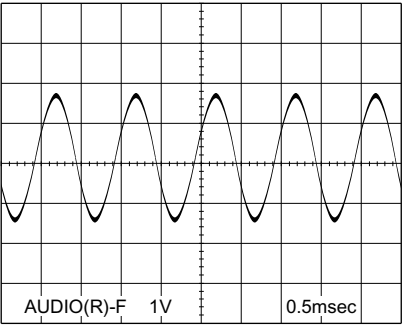


WAVEFORMS

WF1 Pin 8 of CN1601

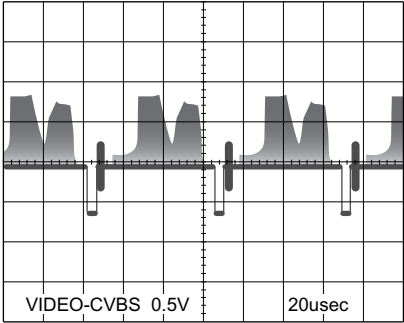


WF5 Pin 18 of CN1601

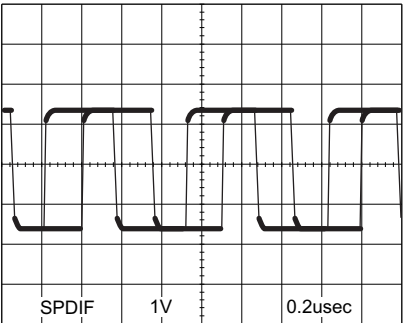


NOTE:
Input
CD: 1kHz PLAY
 (WF4~WF6)
DVD: POWER ON (STOP) MODE
 (WF1~WF3)

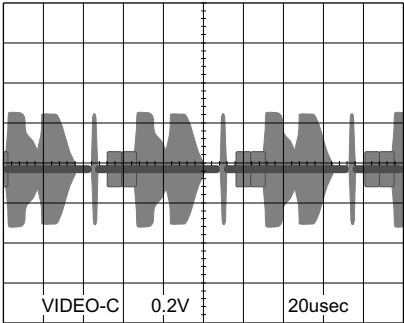
WF2 Pin 10 of CN1601



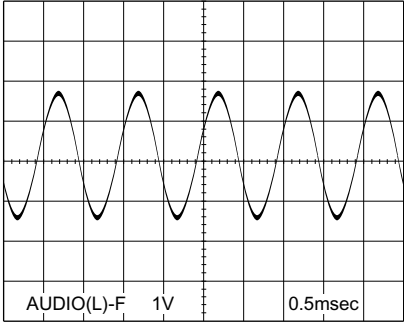
WF6 Pin 21 of CN1601



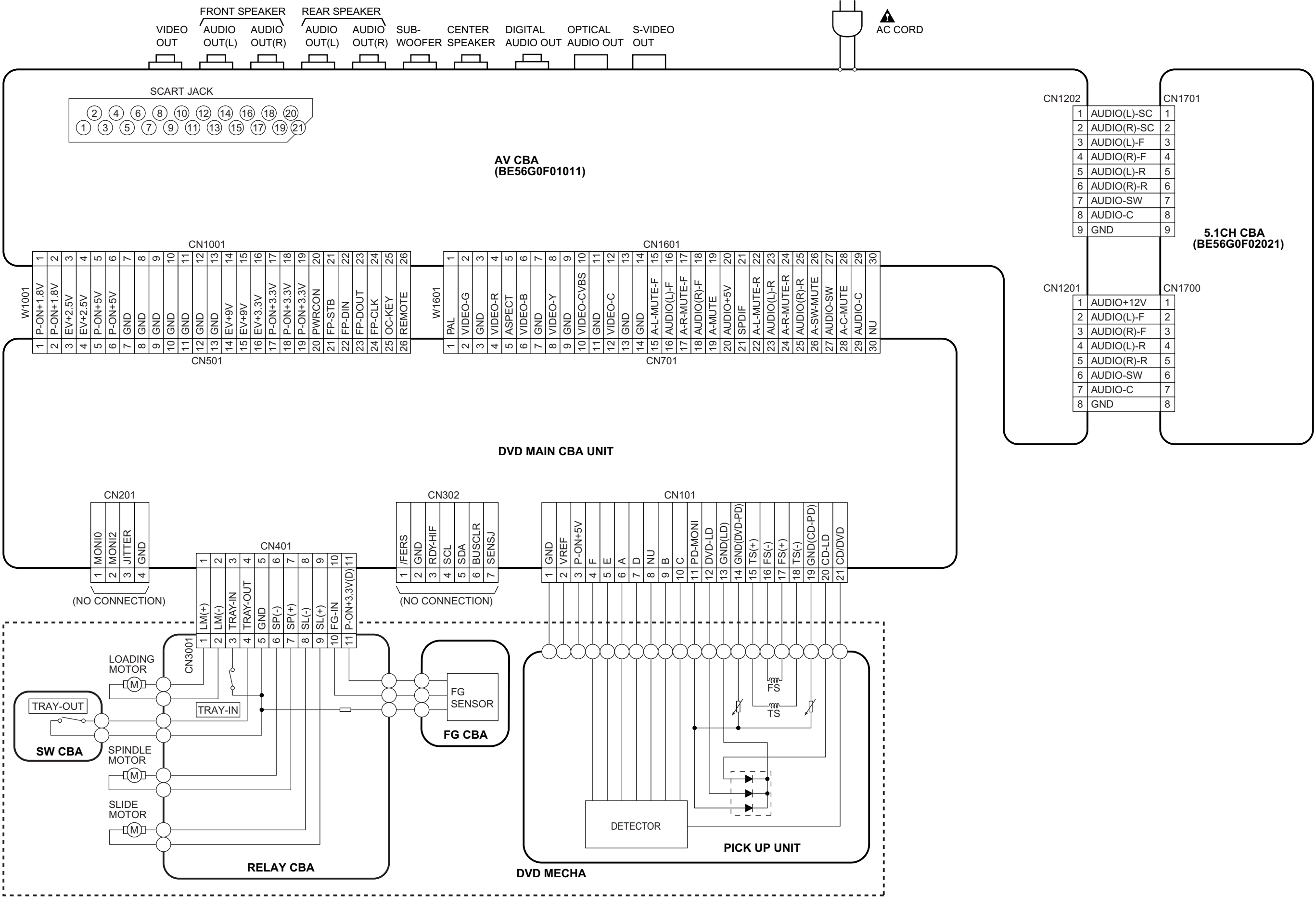
WF3 Pin 12 of CN1601



WF4 Pin 16 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.

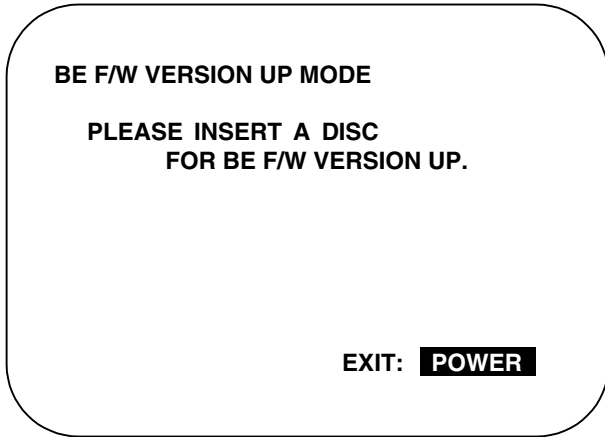


Fig. a Version Up Mode Screen

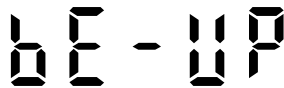


Fig. b VFD in Version Up Mode

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.

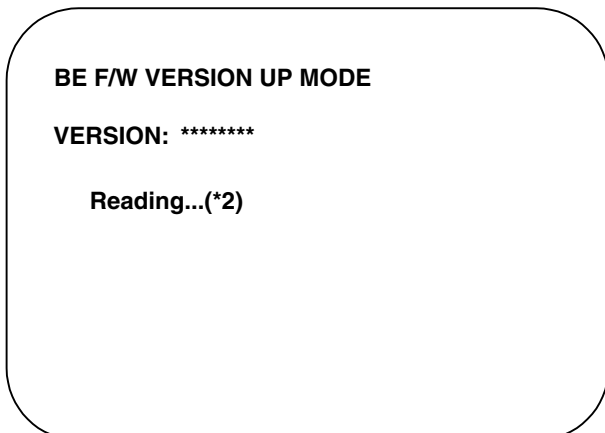


Fig. c Programming Mode Screen



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)

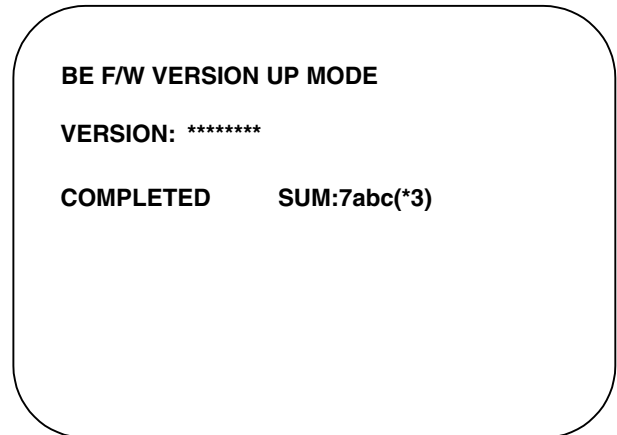


Fig. e Completed Program Mode Screen



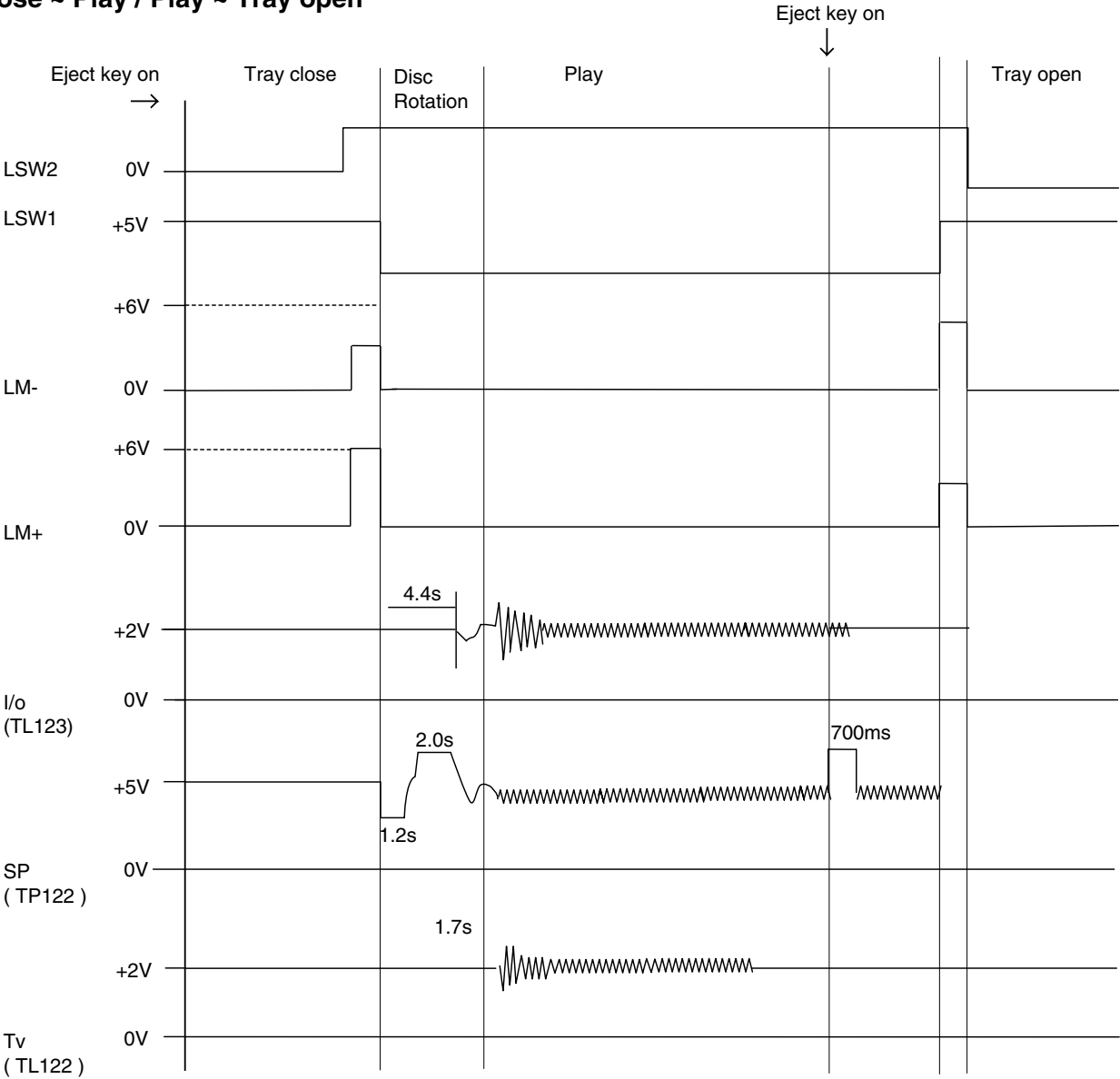
Fig. f VFD upon Finishing the Programming Mode (Example)

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

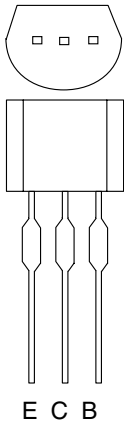


IC PIN FUNCTION DESCRIPTIONS

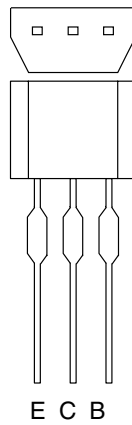
IC2001 [PT6315-S/ PT6315-S(-TP)]

Pin No.	In/Out	Signal Name	Name Function
1	In	CLK	Clock Input
2	In	STB	Serial Interface Strobe
3	In	K1	Key Data 1 Input
4	In	K2	Key Data 2 Input
5	-	VSS	GND
6	-	VDD	Power Supply
7	Out	a / KEY-1	Segment Output / Key Source-1
8	Out	b / Key-2	Segment Output / Key Source-2
9	Out	c / Key-3	Segment Output / Key Source-3
10	Out	d / Key-4	Segment Output/ Key Source-4
11	Out	e	Segment Output
12	In	f	
13	In	g	
14	Out	h	
15	-	VEE	Pull Down Level
16	Out	i	Segment Output
17	Out	7G	Grid Output
18		6G	
19		5G	
20		4G	
21		3G	
22		2G	
23		1G	
24	-	VDD	Power Supply
25	-	VSS	GND
26	In	OSC	Oscillator Input
27	Out	DOUT	Serial Data Output
28	In	DIN	Serial Data Input

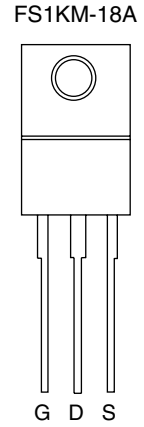
LEAD IDENTIFICATIONS



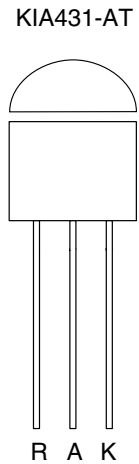
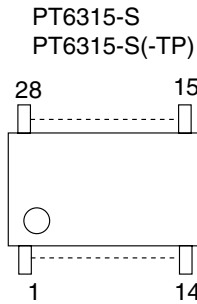
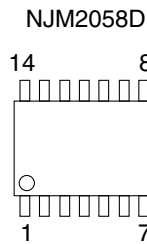
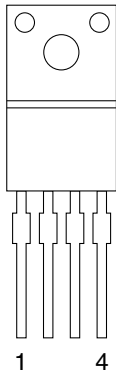
2SA1015-Y (TPE2)
2SC2236-Y-TPE6,C
2SA966(Y)
KTC3205 (Y)



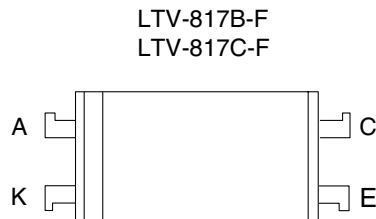
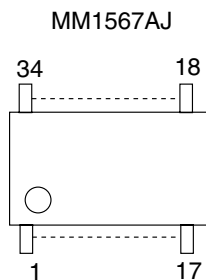
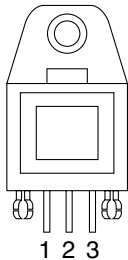
2SC2785 (H)
KTC3199 (GR)
KRA110M
KRC110M-AT
BA1L3Z-T
BN1L3Z (P)
KTA1273(Y)
KTA1266 (GR)



PQ018EF01SZ



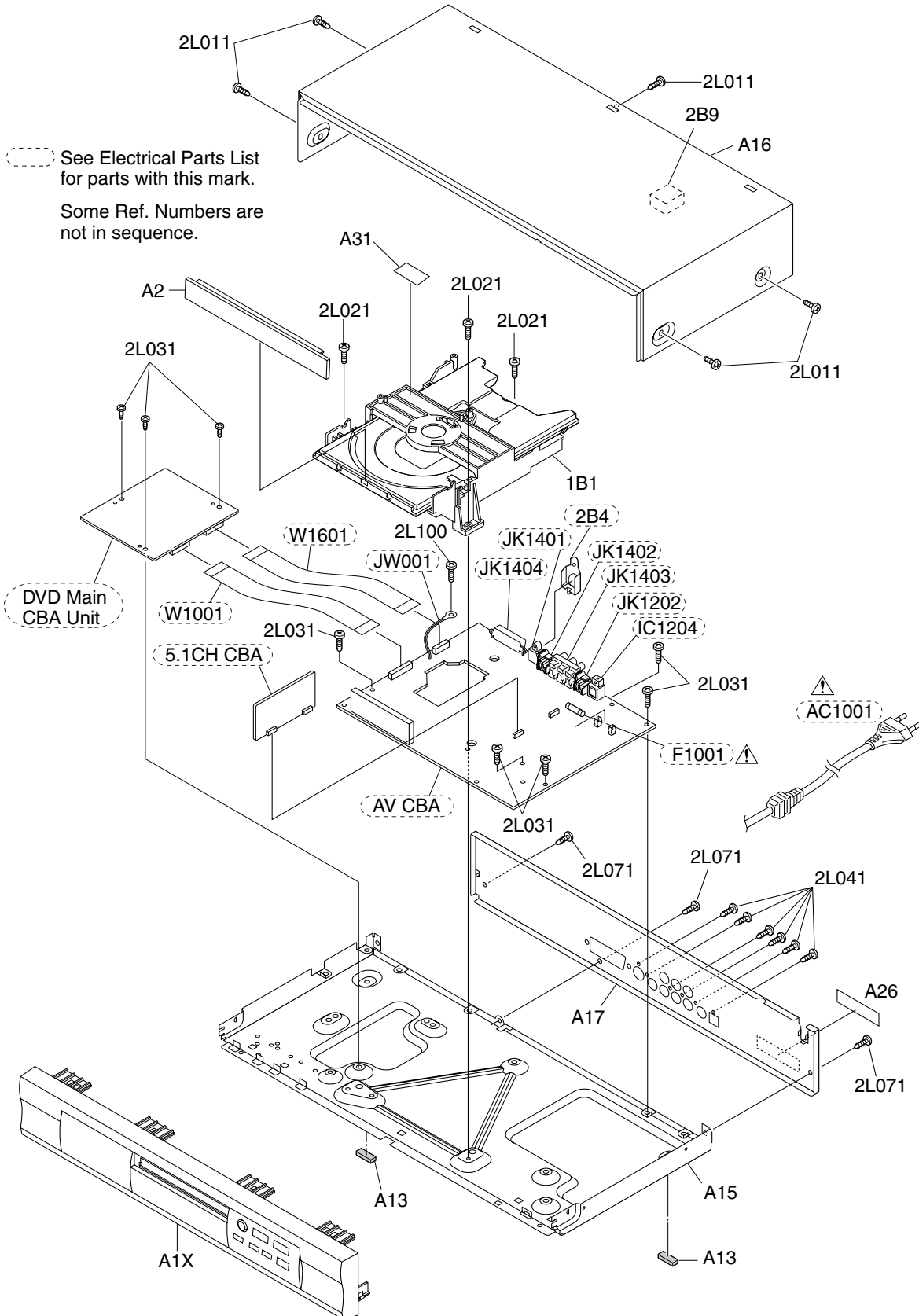
OC-0805T-002
GP1FA512TZV



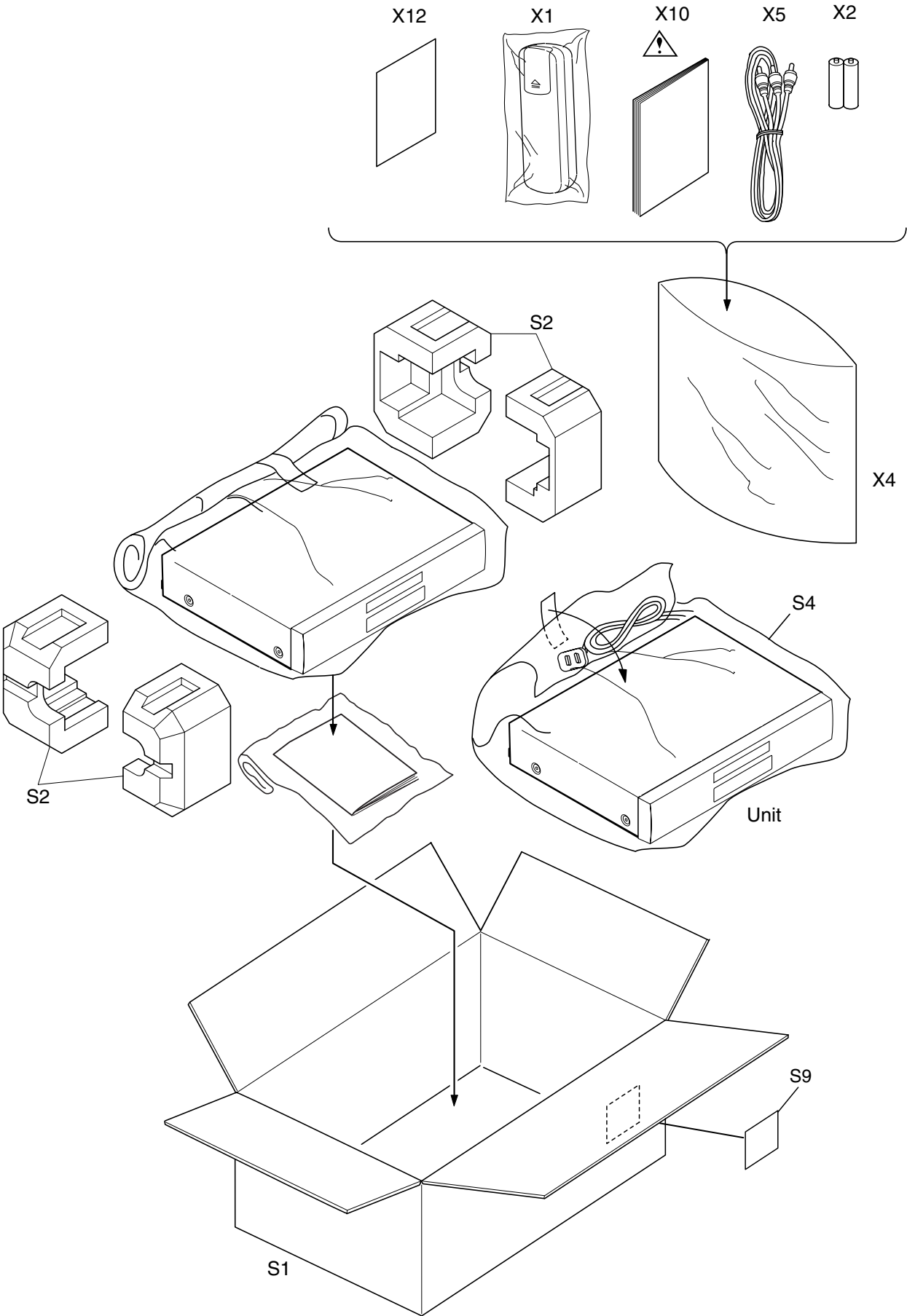
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
1 VCC
2 GND
3 OUT

EXPLODED VIEWS

Cabinet



Packing



MECHANICAL PARTS LIST

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

NOTE:

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

Ref. No.	Description	Part No.
A1X	FRONT ASSEMBLY E56G0ED	0VM203765
A2	TRAY PANEL E5630UD	0VM203395
A13	FOOT E5630UD	0VM414074
A15	MAIN CHASSIS E5600UD	0VM101037
A16	TOP COVER:SILVER E56A0UD	0VM305312
A17	REAR PANEL E56G0ED	0VM203734
A26	LABEL, SERIAL BAR CODE E5550ED	0VM412660
A31	LABEL, LASER CAUTION E5612BD	0VM413744
1B1	DVD MECHA 0838 VCDVM030	N79F1FVM
2B9	CUSHION E56G0ED	0VM414236
2L011	SCREW, C-TIGHT M3X5 BIND HEAD +	GBCC3050
2L021	SCREW, S-TIGHT M3X10 BIND HEAD+	GBMS3100
2L031	SCREW, C-TIGHT M3X6 BIND HEAD	GBMC3060
2L041	SCREW, B-TIGHT M3X8 BIND HEAD +	GBKB3080
2L071	SCREW, C-TIGHT M3X6 BIND HEAD	GBMC3060
2L100	SCREW, C-TIGHT M3X6 BIND HEAD	GBMC3060
PACKING		
S1	GIFT BOX CARTON E56G0ED	0VM305760
S2	STYROFOAM E5600UD	0VM101074
S4	UNIT, BAG E5500UD	0VM411683
S9	LABEL, SERIAL NO. H39H0JD(JPN) or	0VM409906
	LABEL, SERIAL NO. E56G0ED	0VM414130
ACCESSORIES		
X1	REMOTE CONTROL UNIT DVD 0842 VCDVR020	N9448ED
X2	DRY BATTERY R6P UM3 or	XB0M451GH001
	DRY BATTERY R6P/2S or	XB0M451T0001
	DRY BATTERY(SUNRISE) R6SSE/2S	XB0M451MS002
X4	ACCESSORY BAG K8092BA	0VM404632
X5	AV CORD LP-970124 or	WPZ0102LG008
	AV CORD TSCKA-Y/RW100 or	WPZ0102TM015
	AV CORD RCA(M*2)TO RCA(M*2)	WPZ0102LTE01
X10, 	OWNER'S MANUAL E56G0ED	0VMN03246
X12	SERVICE CENTER LIST HC2C0ED	0VMN03071

ELECTRICAL PARTS LIST

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

NOTES:

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

Tolerance of Capacitors and Resistors are noted with the following symbols.

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

DVD MAIN CBA UNIT

Ref. No.	Description	Part No.
	DVD MAIN CBA UNIT	N7TG1FEP

AV CBA

Ref. No.	Description	Part No.
	AV CBA Consists of the following	0VSA13211
CAPACITORS		
C1001 	METALLIZED FILM CAP. 0.047µF/250V K or	CT2E473DC011
	METALLIZED FILM CAP. 0.047µF/250V M	CT2E473MS037
C1003	CERAMIC CAP. B K 0.01µF/500V	CCD2JKP0B103
C1004	ELECTROLYTIC CAP. 33µF/400V M(L•Z) or	CA2H330NC010
	ELECTROLYTIC CAP. 33µF/400V M(L•Z)	CE2HMZNTN330
C1005	CERAMIC CAP. SL K 56pF/1KV or	CCD3AKPSL560
	CERAMIC CAP. SL J 56pF/1KV	CCD3AJPSL560
C1006 	SAFETY CAP. 2200pF/250V or	CCN2EMP0E222
	SAFETY CAP. 2200pF/250V	CA2E222MR049
C1007	ELECTROLYTIC CAP. 2200µF/6.3V M or	CE0KMZPDL222
	ELECTROLYTIC CAP. 2200µF/10V M	CE1AMZPDL222
C1012	ELECTROLYTIC CAP. 100µF/25V M	CE1EMASDL101
C1013	CERAMIC CAP.(AX) B K 3300pF/50V	CA1J332TU011
C1014	ELECTROLYTIC CAP. 220µF/6.3V M	CE0KMASDL221
C1018	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1021	CHIP CERAMIC CAP. B K 0.01µF/50V	CHD1JK30B103
C1022	CHIP CERAMIC CAP. B K 0.01µF/50V	CHD1JK30B103
C1029	CERAMIC CAP.(AX) X K 5600pF/16V	CCA1CKT0X562
C1031	CERAMIC CAP.(AX) B K 0.01µF/50V	CA1J103TU011
C1032	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1033	FILM CAP.(P) 0.022µF/50V J or	CMA1JJS00223
	FILM CAP.(P) 0.022µF/50V J	CA1J223MS029
C1035	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C1036	CHIP CERAMIC CAP. B K 0.01µF/50V	CHD1JK30B103
C1037	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1038	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471

Ref. No.	Description	Part No.
C1039	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C1040	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1041	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1042	ELECTROLYTIC CAP. 220µF/6.3V M	CE0KMASDL221
C1043	CHIP CERAMIC CAP. F Z 0.1µF/50V	CHD1JZ30F104
C1044	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C1046	CHIP CERAMIC CAP. F Z 0.1µF/50V	CHD1JZ30F104
C1048	ELECTROLYTIC CAP. 220µF/16V M	CE1CMASDL221
C1050	CHIP CERAMIC CAP. F Z 0.1µF/50V	CHD1JZ30F104
C1250	CERAMIC CAP.(AX) B K 1000pF/50V or	CCA1JKT0B102
	CERAMIC CAP.(AX) CH J 1000pF/50V	CA1J102TU008
C1251	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C1252	CERAMIC CAP.(AX) B K 1000pF/50V or	CCA1JKT0B102
	CERAMIC CAP.(AX) CH J 1000pF/50V	CA1J102TU008
C1253	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C1351	ELECTROLYTIC CAP. 22µF/6.3V M H7	CE0KMASSL220
C1352	CHIP CERAMIC CAP. F Z 0.1µF/50V	CHD1JZ30F104
C1353	CHIP CERAMIC CAP. B K 0.1µF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP. B K 0.1µF/16V	CHD1CK30B104
C1354	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C1356	ELECTROLYTIC CAP. 47µF/6.3V M	CE0KMASDL470
C1391	ELECTROLYTIC CAP. 220µF/6.3V M	CE0KMASDL221
C1395	ELECTROLYTIC CAP. 1000µF/16V M	CE1CMASDL102
C1401	CHIP CERAMIC CAP. B K 0.33µF/10V	CHD1AK30B334
C1402	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1421	CHIP CERAMIC CAP. B K 0.01µF/50V	CHD1JK30B103
C1422	CHIP CERAMIC CAP. B K 0.1µF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP. B K 0.1µF/16V	CHD1CK30B104
C1441	CHIP CERAMIC CAP. B K 0.33µF/10V	CHD1AK30B334
C1442	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1444	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C1445	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1461	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C1462	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1481	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C1482	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1486	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C1487	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102
C1522	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1523	CHIP CERAMIC CAP. F Z 0.1µF/50V	CHD1JZ30F104
C1531	CHIP CERAMIC CAP. B K 0.01µF/50V	CHD1JK30B103
C1532	ELECTROLYTIC CAP. 22µF/6.3V M H7	CE0KMASSL220
C1533	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL010
C1534	CERAMIC CAP.(AX) B K 1000pF/50V or	CCA1JKT0B102
	CERAMIC CAP.(AX) CH J 1000pF/50V	CA1J102TU008
C2001	CHIP CERAMIC CAP. F Z 0.1µF/50V	CHD1JZ30F104
C2002	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102
C2004	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C2008	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASDL220
C2012	CHIP CERAMIC CAP. F Z 0.1µF/50V	CHD1JZ30F104
C2055	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASDL220
C2057	CHIP CERAMIC CAP. B K 0.1µF/25V or	CHD1EK30B104

Ref. No.	Description	Part No.
	CHIP CERAMIC CAP. B K 0.1µF/16V	CHD1CK30B104
CONNECTORS		
CN1001	FMN CONNECTOR, TOP 26P 26FMN-BTRK	JCFNG26JG002
CN1201	CONNECTOR BASE, 8P TUC-P08P-B1	J3TUA08TG001
CN1202	CONNECTOR BASE, 9P TUC-P09P-B1	J3TUA09TG001
CN1601	FMN CONNECTOR, TOP 30P 30FMN-BTRK	JCFNG30JG002
DIODES		
D1001	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	ND8Z001N4005
D1002	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	ND8Z001N4005
D1003	RECTIFIER DIODE BA157 or	NDQZ000BA157
	FAST RECOVERY DIODE ERA18-04	QDPZ0ERA1804
D1004	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	ND8Z001N4005
D1005	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	ND8Z001N4005
D1008	SCHOTTKY BARRIER DIODE ERB81-004 or	AERB81004***
	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D1009	RECTIFIER DIODE BA157 or	NDQZ000BA157
	FAST RECOVERY DIODE ERA18-04	QDPZ0ERA1804
D1011	RECTIFIER DIODE BA159 or	NDQZ000BA159
	RECTIFIER DIODE ERA22-10	QDPZ0ERA2210
D1013	SCHOTTKY BARRIER DIODE SB140 or	NDQZ000SB140
	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D1015	ZENER DIODE DZ-6.8BSBT265 or	NDTB0DZ6R8BS
	ZENER DIODE MTZJT-776.8B	QDTB00MTZJ6R8
D1016	RECTIFIER DIODE BA157 or	NDQZ000BA157
	FAST RECOVERY DIODE ERA18-04	QDPZ0ERA1804
D1017	ZENER DIODE DZ-22BSBT265 or	NDTB00DZ22BS
	ZENER DIODE MTZJT-7722B	QDTB00MTZJ22
D1018	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1020	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1022	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1024	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1025	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1030	RECTIFIER DIODE FR202 or	NDQZ000FR202
	FAST RECOVERY DIODE ERB32-01L3	QDQZ0ERB3201
D1036	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1045	SCHOTTKY BARRIER DIODE SB140 or	NDQZ000SB140
	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D1046	ZENER DIODE DZ-5.6BSCT265 or	NDTC0DZ5R6BS
	ZENER DIODE MTZJT-775.6C	QDTC0MTZJ5R6
D1047	ZENER DIODE DZ-5.6BSBT265 or	NDTB0DZ5R6BS
	ZENER DIODE MTZJT-775.6B	QDTB00MTZJ5R6
D1048	ZENER DIODE DZ-12BSBT265 or	NDTB00DZ12BS
	ZENER DIODE MTZJT-7712B	QDTB00MTZJ12
D1049	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133

Ref. No.	Description	Part No.
D1050	ZENER DIODE DZ-6.2BSBT265 or	NDTB0DZ6R2BS
	ZENER DIODE MTZJT-776.2B	QDTB00MTZJ6R2
D1051	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	ND8Z001N4005
D1052	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	ND8Z001N4005
D1053	RECTIFIER DIODE 1N4005 or	NDQZ001N4005
	RECTIFIER DIODE 1N4005	ND8Z001N4005
D1201	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1202	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1203	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1204	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1205	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1206	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1401	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1402	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1501	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1502	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1503	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1504	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1505	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D2001	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2002	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2003	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2004	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2022	LED(RED) 204HD/E	NPQZ00204HDE
ICS		
IC1001 	PHOTOCOUPLER LTV-817B-F or	NPEB0LTV817F
	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC1002 	1.8V REGULATOR PQ018EF01SZ	QSZBA0SSH012
IC1003	IC KIA431-AT	NSZLA0TJY001
IC1006	IC KIA431-AT	NSZLA0TJY001
IC1204	FIBER OPTIC TRANS.MODULE 0C-0805T-002 or	JWHHA00JD002
	FIBER OPTIC TRANS.MODULE GP1FA512TZV	JWHHA00SH003
IC1402	DRIVER FOR DVD(6CH) MM1567AJ	QSZBA0SMM084
IC2001	FL DRIVER IC PT6315-S(-TP) or	NSZBA0TG2002
	FL DRIVER IC PT6315-S	NSZBA0SG2002
COILS		

Ref. No.	Description	Part No.
L1001 	LINE FILTER 50MH LF-4Z-E503 or	LLBG00ZKQ008
	LINE FILTER 50MH LF-4D-E503 or	LLBG00ZKQ009
	LINE FILTER 58MH ELF15N902AN	LLBG00ZMS035
L1002	PCB JUMPER D0.6-P5.0	JW5.0T
L1004	BEAD CORE B16 RH 3.5X3X1.3	XL03003XM002
L1007	CHOKE COIL 22μH-K	LLBD00PKV006
L1008	CHOKE COIL 22μH-K	LLBD00PKV006
L1009	CHOKE COIL 22μH-K	LLBD00PKV006
L1010	INDUCTOR 10μH-K-26T	LLAXKATTU100
L1043	BEAD CORE B16 RH 4X3X2	XL03003XM001
L1060	BEAD CORE B16 RH 3.5X3X1.3	XL03003XM002
L1251	INDUCTOR 0.47μH-K-26T	LLAXKATTUR47
L1521	CHOKE COIL 22μH-K	LLBD00PKV006
L2001	INDUCTOR 100μH-K-26T	LLAXKATTU101
L2002	PCB JUMPER D0.6-P5.0	JW5.0T
L2003	PCB JUMPER D0.6-P5.0	JW5.0T
TRANSISTORS		
Q1001	FET FS1KM-18A	QFZZFS1KM18A
Q1002	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1003	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1004	TRANSISTOR KTC3205(Y) or	NQSY0KTC3205
	TRANSISTOR 2SC2236-Y-TPE6,C	QQSY02SC2236
Q1005	RES. BUILT-IN TRANSISTOR KRC110M-AT or	NQSZ0KRC110M
	RES. BUILT-IN TRANSISTOR BA1L3Z-T	QQSZ00BA1L3Z
Q1006	RES. BUILT-IN TRANSISTOR KRA110M or	NQSZ0KRA110M
	RES. BUILT-IN TRANSISTOR BN1L3Z(P)	QQSP00BN1L3Z
Q1007	TRANSISTOR KTC3205(Y) or	NQSY0KTC3205
	TRANSISTOR 2SC2236-Y-TPE6,C	QQSY02SC2236
Q1008	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1011	TRANSISTOR KTA1273(Y) or	NQSY0KTA1273
	TRANSISTOR 2SA966(Y)	QQSY002SA966
Q1014	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1201	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1202	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1203	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1204	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1206	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1207	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1208	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1209	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1210	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1211	TRANSISTOR KTC3199(GR) or	NQS10KTC3199

Ref. No.	Description	Part No.
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1213	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1214	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1215	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1216	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1217	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1218	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1351	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1521	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1522	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q2021	TRANSISTOR KTA1266(Y) or	NQSY0KTA1266
	TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
RESISTORS		
R1002	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1004	METAL OXIDE FILM RES. 1W J 150k Ω or	RN01154ZU001
	METAL OXIDE FILM RES. 1W J 150k Ω	RN01154KE009
R1005	CARBON RES. 1/4W J 1.5M Ω	RCX4JATZ0155
R1006	CARBON RES. 1/4W J 1.5M Ω	RCX4JATZ0155
R1008	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1010	CARBON RES. 1/6W J 3.9k Ω or	RCX6JATZ0392
	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R1011	METAL OXIDE FILM RES. 1W J 2.2 Ω or	RN012R2ZU001
	METAL OXIDE FILM RES. 1W J 2.2 Ω	RN012R2KE009
R1013	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1019	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1020	CHIP RES.(1608) 1/10W J 470 Ω or	RRXAJR5Z0471
	CHIP RES.(1608) 1/16W J 470 Ω	RRXGJR5Z0471
R1021	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1022	CHIP RES.(1608) 1/10W J 820 Ω or	RRXAJR5Z0821
	CHIP RES.(1608) 1/16W J 820 Ω	RRXGJR5Z0821
R1023	CHIP RES.(1608) 1/10W J 2k Ω or	RRXAJR5Z0202
	CHIP RES.(1608) 1/16W J 2k Ω	RRXGJR5Z0202
R1025	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1029	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1031	CARBON RES. 1/6W G 560 Ω or	RCX6GATZ0561
	CARBON RES. 1/4W G 560 Ω	RCX4GATZ0561
R1032	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1033	CHIP RES.(1608) 1/10W J 150 Ω or	RRXAJR5Z0151
	CHIP RES.(1608) 1/16W J 150 Ω	RRXGJR5Z0151
R1034	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R1035	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102

Ref. No.	Description	Part No.
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1036	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1037	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1038	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1039	CARBON RES. 1/6W J 470k Ω or	RCX6JATZ0474
	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R1042	CARBON RES. 1/4W J 6.8 Ω	RCX4JATZ06R8
R1043	METAL OXIDE FILM RES. 1W J 2.7 Ω or	RN012R7ZU001
	METAL OXIDE FILM RES. 1W J 2.7 Ω	RN012R7KE009
R1044	CHIP RES.(1608) 1/10W J 22k Ω or	RRXAJR5Z0223
	CHIP RES.(1608) 1/16W J 22k Ω	RRXGJR5Z0223
R1049	CARBON RES. 1/6W G 4.7k Ω or	RCX6GATZ0472
	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R1055	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1056	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1057	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1059	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJR5Z0103
	CHIP RES.(1608) 1/16W J 10k Ω	RRXGJR5Z0103
R1068	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1069	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1070	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
R1073	METAL OXIDE FILM RES. 2W J 10 Ω or	RN02100ZU001
	METAL OXIDE FILM RES. 2W J 10 Ω	RN02100KE009
R1075	PCB JUMPER D0.6-P5.0	JW5.0T
R1077	CARBON RES. 1/6W J 220 Ω or	RCX6JATZ0221
	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1078	CARBON RES. 1/6W J 390k Ω or	RCX6JATZ0394
	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R1081	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1225	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1226	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1227	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
R1229	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
R1235	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1236	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1237	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1238	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1239	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJR5Z0104

Ref. No.	Description	Part No.
	CHIP RES.(1608) 1/16W J 100k Ω	RRXGJR5Z0104
R1240	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJR5Z0104
	CHIP RES.(1608) 1/16W J 100k Ω	RRXGJR5Z0104
R1251	CARBON RES. 1/6W J 75 Ω or	RCX6JATZ0750
	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R1253	CARBON RES. 1/6W J 75 Ω or	RCX6JATZ0750
	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R1254	CARBON RES. 1/6W J 75 Ω or	RCX6JATZ0750
	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R1255	CARBON RES. 1/6W J 75 Ω or	RCX6JATZ0750
R1256	PCB JUMPER D0.6-P5.0	JW5.0T
R1257	PCB JUMPER D0.6-P5.0	JW5.0T
R1258	CARBON RES. 1/6W J 75 Ω or	RCX6JATZ0750
	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R1277	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1278	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1279	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
R1280	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
R1281	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1282	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1283	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1284	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1285	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJR5Z0104
	CHIP RES.(1608) 1/16W J 100k Ω	RRXGJR5Z0104
R1286	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJR5Z0104
	CHIP RES.(1608) 1/16W J 100k Ω	RRXGJR5Z0104
R1317	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1318	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1319	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
R1320	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
R1321	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1322	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1323	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1325	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJR5Z0104
	CHIP RES.(1608) 1/16W J 100k Ω	RRXGJR5Z0104
R1326	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJR5Z0104
	CHIP RES.(1608) 1/16W J 100k Ω	RRXGJR5Z0104
R1332	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1352	CHIP RES.(1608) 1/10W J 1.6k Ω or	RRXAJR5Z0162

Ref. No.	Description	Part No.
	CHIP RES.(1608) 1/16W J 1.6k Ω	RRXGJR5Z0162
R1353	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1354	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1355	CHIP RES.(1608) 1/10W J 220 Ω or	RRXAJR5Z0221
	CHIP RES.(1608) 1/16W J 220 Ω	RRXGJR5Z0221
R1356	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJR5Z0750
	CHIP RES.(1608) 1/16W J 75 Ω	RRXGJR5Z0750
R1360	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
R1364	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
R1374	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1375	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1376	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1377	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R1380	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJR5Z0104
	CHIP RES.(1608) 1/16W J 100k Ω	RRXGJR5Z0104
R1381	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJR5Z0104
	CHIP RES.(1608) 1/16W J 100k Ω	RRXGJR5Z0104
R1382	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1383	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1392	CARBON RES. 1/4W G 82 Ω	RCX4GATZ0820
R1393	CARBON RES. 1/4W G 82 Ω	RCX4GATZ0820
R1394	CARBON RES. 1/6W G 150 Ω or	RCX6GATZ0151
	CARBON RES. 1/4W G 150 Ω	RCX4GATZ0151
R1395	CARBON RES. 1/6W G 150 Ω or	RCX6GATZ0151
	CARBON RES. 1/4W G 150 Ω	RCX4GATZ0151
R1401	CHIP RES. 1/16W F 300 Ω	RRXGFR5Z3000
R1402	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJR5Z0750
	CHIP RES.(1608) 1/16W J 75 Ω	RRXGJR5Z0750
R1421	CHIP RES. 1/16W F 300 Ω	RRXGFR5Z3000
R1422	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJR5Z0750
	CHIP RES.(1608) 1/16W J 75 Ω	RRXGJR5Z0750
R1441	CHIP RES. 1/16W F 300 Ω	RRXGFR5Z3000
R1442	CHIP RES.(1608) 1/10W J 75 Ω or	RRXAJR5Z0750
	CHIP RES.(1608) 1/16W J 75 Ω	RRXGJR5Z0750
R1444	CHIP RES. 1/16W F 300 Ω	RRXGFR5Z3000
R1461	CHIP RES. 1/16W F 300 Ω	RRXGFR5Z3000
R1481	CHIP RES. 1/16W F 300 Ω	RRXGFR5Z3000
R1521	PCB JUMPER D0.6-P5.0	JW5.0T
R1522	CHIP RES.(1608) 1/10W J 12k Ω or	RRXAJR5Z0123
	CHIP RES.(1608) 1/16W J 12k Ω	RRXGJR5Z0123
R1523	CHIP RES.(1608) 1/10W J 1k Ω or	RRXAJR5Z0102
	CHIP RES.(1608) 1/16W J 1k Ω	RRXGJR5Z0102
R1524	CHIP RES.(1608) 1/10W J 47k Ω or	RRXAJR5Z0473
	CHIP RES.(1608) 1/16W J 47k Ω	RRXGJR5Z0473
R1525	CHIP RES.(1608) 1/10W J 8.2k Ω or	RRXAJR5Z0822

Ref. No.	Description	Part No.
	CHIP RES.(1608) 1/16W J 8.2k Ω	RRXGJR5Z0822
R1526	CHIP RES.(1608) 1/10W J 47k Ω or	RRXAJR5Z0473
	CHIP RES.(1608) 1/16W J 47k Ω	RRXGJR5Z0473
R2001	CHIP RES.(1608) 1/10W J 56k Ω or	RRXAJR5Z0563
	CHIP RES.(1608) 1/16W J 56k Ω	RRXGJR5Z0563
R2002	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJR5Z0103
	CHIP RES.(1608) 1/16W J 10k Ω	RRXGJR5Z0103
R2003	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJR5Z0103
	CHIP RES.(1608) 1/16W J 10k Ω	RRXGJR5Z0103
R2005	CHIP RES.(1608) 1/10W J 4.7k Ω or	RRXAJR5Z0472
	CHIP RES.(1608) 1/16W J 4.7k Ω	RRXGJR5Z0472
R2006	CHIP RES.(1608) 1/10W J 220 Ω or	RRXAJR5Z0221
	CHIP RES.(1608) 1/16W J 220 Ω	RRXGJR5Z0221
R2021	CHIP RES.(1608) 1/10W J 68 Ω	RRXAJR5Z0680
R2022	CHIP RES.(1608) 1/10W J 100k Ω or	RRXAJR5Z0104
	CHIP RES.(1608) 1/16W J 100k Ω	RRXGJR5Z0104
R2031	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R2032	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R2034	CHIP RES.(1608) 1/10W J 2.2k Ω or	RRXAJR5Z0222
	CHIP RES.(1608) 1/16W J 2.2k Ω	RRXGJR5Z0222
R2037	CARBON RES. 1/6W J 10 Ω or	RCX6JATZ0100
	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R2038	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJR5Z0103
	CHIP RES.(1608) 1/16W J 10k Ω	RRXGJR5Z0103
R2039	CHIP RES.(1608) 1/10W J 10k Ω or	RRXAJR5Z0103
	CHIP RES.(1608) 1/16W J 10k Ω	RRXGJR5Z0103
R2059	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	CHIP RES.(1608) 1/16W 0 Ω	RRXGZR5Z0000
SWITCHES		
SW2011	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW2012	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW2013	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW2014	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW2015	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW2016	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW2017	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
MISCELLANEOUS		
2B4	EARTH PLATE S H9000UD	0VM411284
AC1001 	AC CORD PE8B2CB980A-057	WAE0172LW006
F005	WIRE 06S/BLA/AWG26#1007	WX1E56G0-003
F1001 	FUSE T1.6AL/250V or	PAGC20BW3162
	FUSE T1.6AL/250V or	1790994
	FUSE 50T016H 1.6A/250V	PAGH20BHV162
FH1001	FUSE HOLDER MSF-015	XH01Z00LY001
FH1002	FUSE HOLDER MSF-015	XH01Z00LY001
FL2001	V.F.D. 20U29100SAN	TVFD150FT007

Ref. No.	Description	Part No.
J60	CERAMIC CAP.(AX) B K 1000pF/50V or	CCA1JKT0B102
	CERAMIC CAP.(AX) CH J 1000pF/50V	CA1J102TU008
JK1202	RCA JACK(BLACK) MSP-251V-01 PBSN	JXRL010LY059
JK1401	S TYPE JACK MDC-050V-2.4	JXEL040LY001
JK1402	RCA JACK(YELLOW) MSP-251V-02 PBSN	JXRL010LY017
JK1403	6PIN JACK MSD-246V-50 NI	JXRL060LY066
JK1404	SKIRT JACK 21P HRC-21V-02P or	JXGL210RP001
	SKIRT JACK 21P MRC-021-02	JXGL210LY001
JP1	PCB JUMPER D0.6-P5.0	JW5.0T
JP2	PCB JUMPER D0.6-P7.5	JW7.5T
JP3	PCB JUMPER D0.6-P7.5	JW7.5T
JP4	PCB JUMPER D0.6-P5.0	JW5.0T
JW001	WIRE	WX1E56G0-002
JW1003	PCB JUMPER D0.6-P5.0	JW5.0T
JW1004	PCB JUMPER D0.6-P5.0	JW5.0T
JW1005	PCB JUMPER D0.6-P5.0	JW5.0T
JW1006	PCB JUMPER D0.6-P12.5	JW12.5T
JW1443	PCB JUMPER D0.6-P12.5	JW12.5T
JW2017	PCB JUMPER D0.6-P5.0	JW5.0T
JW2019	PCB JUMPER D0.6-P7.5	JW7.5T
JW2023	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
RM2001	REMOTE RECEIVER PIC-37042LU	USESJRSKK033
SA1001 	SURGE ABSORBER PVR-10D471KB or	NVQZ10D471KB
	SURGE ABSORBER CNR-10D471K or	NVQZR10D471K
	SURGE ABSORBER JVR-10N471K	NVQZR10N471K
T1001 	PULSE TRANS CSA-SW0087	LTT00EPSA127
W1001	26P FFC AV PCB TO MAIN	WX1E5600-001
W1601	30P FFC AV PCB TO MAIN	WX1E56G0-001

5.1CH CBA

Ref. No.	Description	Part No.
	5.1CH CBA Consists of the following	0VSA13214
CAPACITORS		
C1700	ELECTROLYTIC CAP. 22 μ F/16V M	CE1CMASDL220
C1701	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1702	CHIP CERAMIC CAP. B K 3300pF/50V	CHD1JK30B332
C1703	CHIP CERAMIC CAP. CH J 180pF/50V	CHD1JJ3CH181
C1704	ELECTROLYTIC CAP. 10 μ F/25V M	CE1EMASDL100
C1705	ELECTROLYTIC CAP. 22 μ F/16V M	CE1CMASDL220
C1706	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1707	CHIP CERAMIC CAP. B K 3300pF/50V	CHD1JK30B332
C1708	CHIP CERAMIC CAP. CH J 180pF/50V	CHD1JJ3CH181
C1709	ELECTROLYTIC CAP. 10 μ F/25V M	CE1EMASDL100
C1710	ELECTROLYTIC CAP. 22 μ F/16V M	CE1CMASDL220
C1711	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1712	CHIP CERAMIC CAP. B K 3300pF/50V	CHD1JK30B332
C1713	CHIP CERAMIC CAP. F Z 0.1 μ F/50V	CHD1JZ30F104
C1714	ELECTROLYTIC CAP. 470 μ F/16V M	CE1CMASDL471
C1715	CHIP CERAMIC CAP. F Z 0.1 μ F/50V	CHD1JZ30F104
C1716	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1717	ELECTROLYTIC CAP. 10 μ F/25V M	CE1EMASDL100
C1718	ELECTROLYTIC CAP. 22 μ F/16V M	CE1CMASDL220
C1719	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1720	CHIP CERAMIC CAP. B K 3300pF/50V	CHD1JK30B332

Ref. No.	Description	Part No.
C1721	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1722	ELECTROLYTIC CAP. 10 μ F/25V M	CE1EMASDL100
C1723	ELECTROLYTIC CAP. 22 μ F/16V M	CE1CMASDL220
C1724	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1725	CHIP CERAMIC CAP. B K 3300pF/50V	CHD1JK30B332
C1726	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1727	ELECTROLYTIC CAP. 10 μ F/25V M	CE1EMASDL100
C1728	ELECTROLYTIC CAP. 22 μ F/16V M	CE1CMASDL220
C1729	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1730	CHIP CERAMIC CAP. B K 3300pF/50V	CHD1JK30B332
C1731	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1732	ELECTROLYTIC CAP. 10 μ F/25V M	CE1EMASDL100
C1738	CHIP CERAMIC CAP. F Z 0.1 μ F/50V	CHD1JZ30F104
C1739	ELECTROLYTIC CAP. 470 μ F/16V M	CE1CMASDL471
C1740	CHIP CERAMIC CAP. F Z 0.1 μ F/50V	CHD1JZ30F104
C1741	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1742	ELECTROLYTIC CAP. 10 μ F/25V M	CE1EMASDL100
C1745	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1746	ELECTROLYTIC CAP. 10 μ F/25V M	CE1EMASDL100
C1747	ELECTROLYTIC CAP. 470 μ F/10V M	CE1AMASDL471
C1749	ELECTROLYTIC CAP. 470 μ F/10V M	CE1AMASDL471
CONNECTORS		
CN1700	CONNECTOR, 8P TUC-P08X-B1	JCTUS08TG001
CN1701	CONNECTOR, 9P TUC-P09X-B1	JCTUS09TG001
ICS		
IC1700	OP AMP NJM2058D	14L0558
IC1701	OP AMP NJM2058D	14L0558
COILS		
L1700	INDUCTOR 100 μ H-K-26T	LLAXKATTU101
L1702	INDUCTOR 100 μ H-K-26T	LLAXKATTU101
RESISTORS		
R1700	CHIP RES.(1608) 1/16W F 1.5k Ω or	RRXGFR5Z0152
	CHIP RES.(1608) 1/10W F 1.5k Ω	RRXAFR5Z1501
R1701	CHIP RES.(1608) 1/16W F 1.8k Ω or	RRXGFR5Z0182
	CHIP RES. 1/10W F 1.8k Ω	RRXAFR5Z1801
R1702	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1703	CHIP RES.(1608) 1/16W F 2.0k Ω or	RRXGFR5Z0202
	CHIP RES.(1608) 1/10W F 2k Ω	RRXAFR5Z2001
R1704	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1705	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1706	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1707	CHIP RES.(1608) 1/16W F 1.5k Ω or	RRXGFR5Z0152
	CHIP RES.(1608) 1/10W F 1.5k Ω	RRXAFR5Z1501
R1708	CHIP RES.(1608) 1/16W F 1.8k Ω or	RRXGFR5Z0182
	CHIP RES. 1/10W F 1.8k Ω	RRXAFR5Z1801
R1709	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1710	CHIP RES.(1608) 1/16W F 2.0k Ω or	RRXGFR5Z0202
	CHIP RES.(1608) 1/10W F 2k Ω	RRXAFR5Z2001
R1711	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1712	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1713	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102

Ref. No.	Description	Part No.
R1714	CHIP RES.(1608) 1/16W F 1.5k Ω or	RRXGFR5Z0152
	CHIP RES.(1608) 1/10W F 1.5k Ω	RRXAFR5Z1501
R1715	CHIP RES.(1608) 1/16W F 1.8k Ω or	RRXGFR5Z0182
	CHIP RES. 1/10W F 1.8k Ω	RRXAFR5Z1801
R1717	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1718	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1719	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1720	CHIP RES.(1608) 1/16W F 2.0k Ω or	RRXGFR5Z0202
	CHIP RES.(1608) 1/10W F 2k Ω	RRXAFR5Z2001
R1721	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1722	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1723	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1724	CHIP RES.(1608) 1/16W F 1.5k Ω or	RRXGFR5Z0152
	CHIP RES.(1608) 1/10W F 1.5k Ω	RRXAFR5Z1501
R1725	CHIP RES.(1608) 1/16W F 1.8k Ω or	RRXGFR5Z0182
	CHIP RES. 1/10W F 1.8k Ω	RRXAFR5Z1801
R1726	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1727	CHIP RES.(1608) 1/16W F 2.0k Ω or	RRXGFR5Z0202
	CHIP RES.(1608) 1/10W F 2k Ω	RRXAFR5Z2001
R1728	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1729	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1730	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1731	CHIP RES.(1608) 1/16W F 1.5k Ω or	RRXGFR5Z0152
	CHIP RES.(1608) 1/10W F 1.5k Ω	RRXAFR5Z1501
R1732	CHIP RES.(1608) 1/16W F 1.8k Ω or	RRXGFR5Z0182
	CHIP RES. 1/10W F 1.8k Ω	RRXAFR5Z1801
R1733	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1734	CHIP RES.(1608) 1/16W F 2.0k Ω or	RRXGFR5Z0202
	CHIP RES.(1608) 1/10W F 2k Ω	RRXAFR5Z2001
R1735	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1736	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1737	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1738	CHIP RES.(1608) 1/16W F 1.5k Ω or	RRXGFR5Z0152
	CHIP RES.(1608) 1/10W F 1.5k Ω	RRXAFR5Z1501
R1739	CHIP RES.(1608) 1/16W F 1.8k Ω or	RRXGFR5Z0182
	CHIP RES. 1/10W F 1.8k Ω	RRXAFR5Z1801
R1740	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1741	CHIP RES.(1608) 1/16W F 2.0k Ω or	RRXGFR5Z0202
	CHIP RES.(1608) 1/10W F 2k Ω	RRXAFR5Z2001
R1742	CHIP RES.(1608) 1/16W F 6.2k Ω or	RRXGFR5Z0622
	CHIP RES.(1608) 1/10W F 6.2k Ω	RRXAFR5Z6201
R1743	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1744	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1756	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1759	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1760	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1762	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1763	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104

Ref. No.	Description	Part No.
R1764	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1773	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1776	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1777	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1778	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1779	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1780	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1781	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R1782	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R1783	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R1784	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R1785	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R1786	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224

