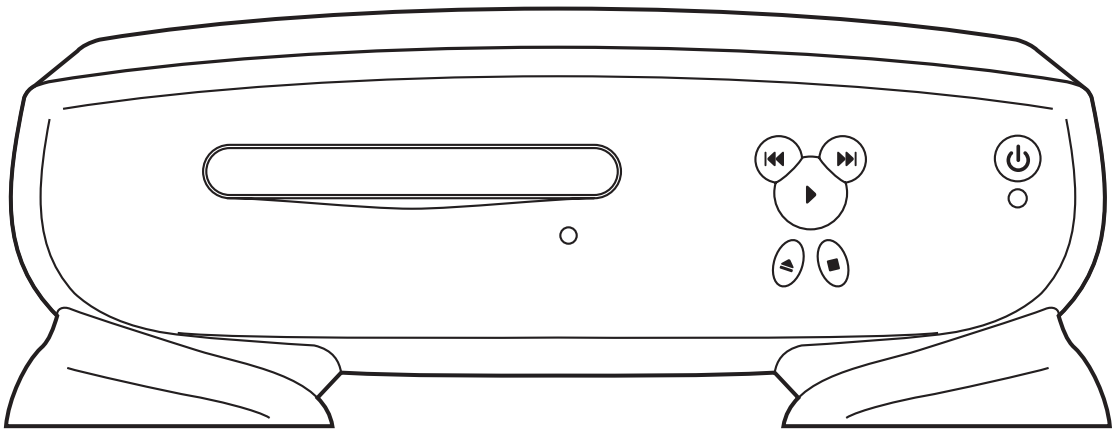
Disney

SERVICE MANUAL

DVD PLAYER

DVD2000-C/DVD2000-P



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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SPECIFICATIONS

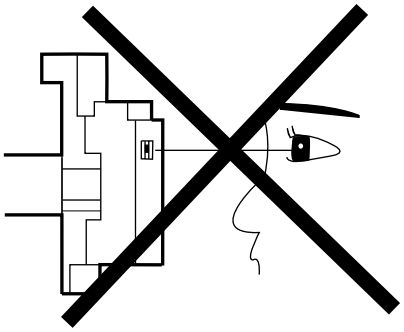
ITEM	CONDITIONS	UNIT	NOMINAL	LIMIT
1. Video Output	75 ohm load	Vpp	1.0	± 0.1
2. Coaxial Digital Out	75 ohm load	mVpp	500	± 100
3. Audio (PCM)				
3-1. Output Level	1kHz 0dB	Vrms	2.0	
3-2. S/N		dB	120	
3-3. Freq. Response				
DVD	fs=48kHz 20~22kHz	dB	± 0.5	
CD	fs=44.1kHz 20~20 kHz	dB	± 0.5	
3-4. THD+N				
DVD	1 kHz 0dB	%	0.0025	
CD	1 kHz 0dB	%	0.003	

NOTES:

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

LASER BEAM SAFETY PRECAUTIONS

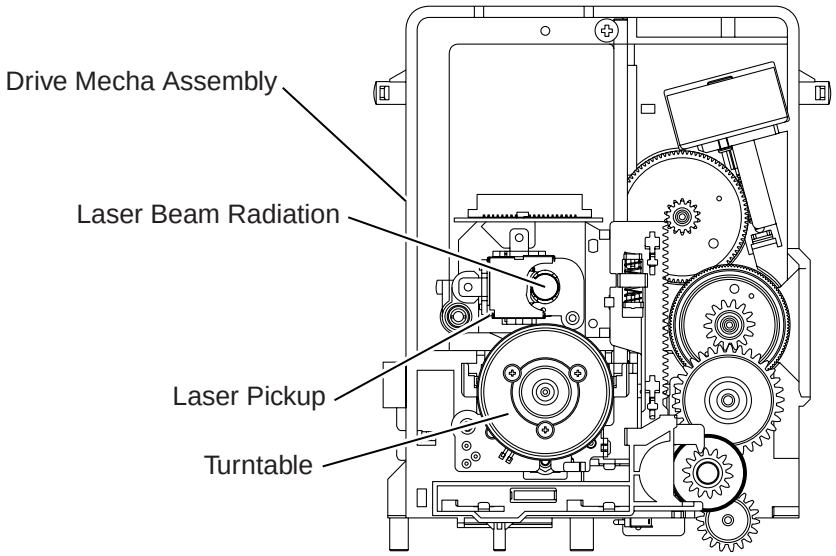
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

Caution: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Inside Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced**.**

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1)Wires covered with PVC tubing

2)Double insulated wires

3)High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1)Insulation tape

2)PVC tubing

3)Spacers

4)Insulators for transistors

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

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

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

I. Also check areas surrounding repaired locations.

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

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

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

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

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

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

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

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

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

AC Line Voltage	Clearance Distance (d) (d')
120 V	≥ 3.2mm (0.126 inches)

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

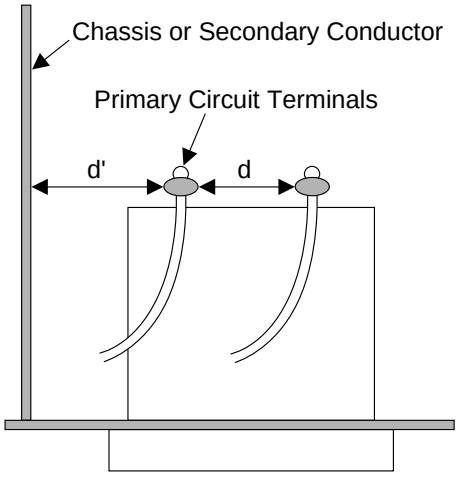


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method (Power ON) :

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

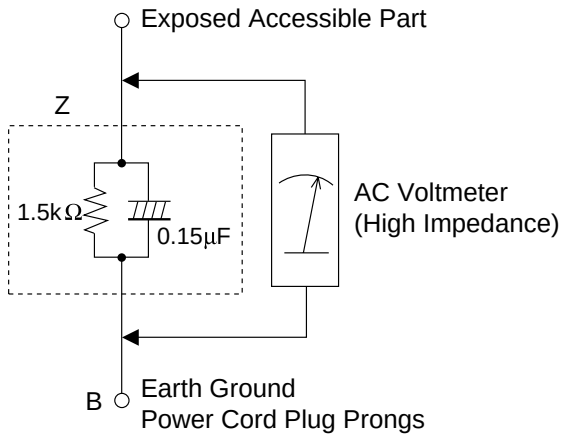


Fig. 2

Table 2: Leakage current ratings for selected areas

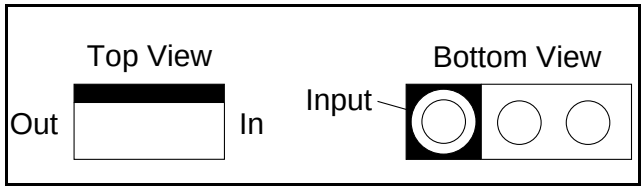
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15μF CAP. & 1.5kΩ RES. Connected in parallel	i≤0.5mA Peak	Exposed accessible parts

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

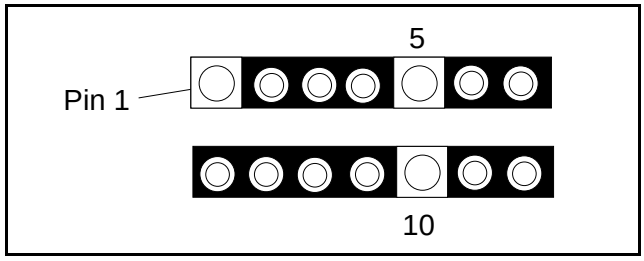
STANDARD NOTES FOR SERVICING

Circuit Board Indications

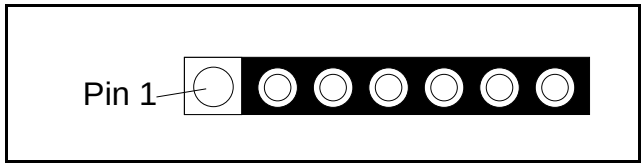
a. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

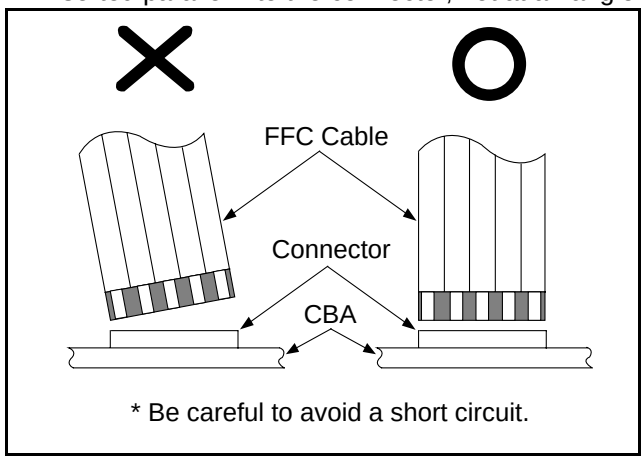


c. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

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



How to Remove / Install Flat Pack-IC

1. Removal

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

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

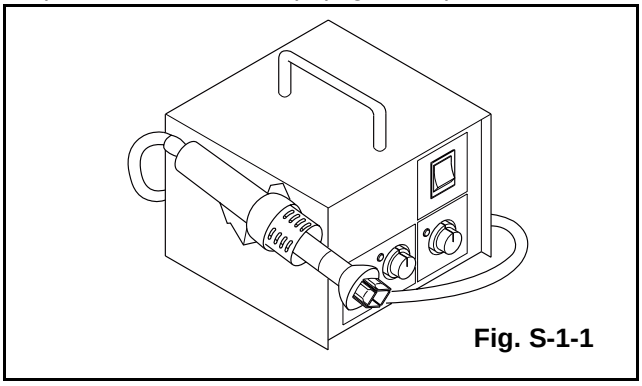


Fig. S-1-1

(2) Remove the flat pack-IC with tweezers while applying the hot air.

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

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

Caution:

1. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)
2. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

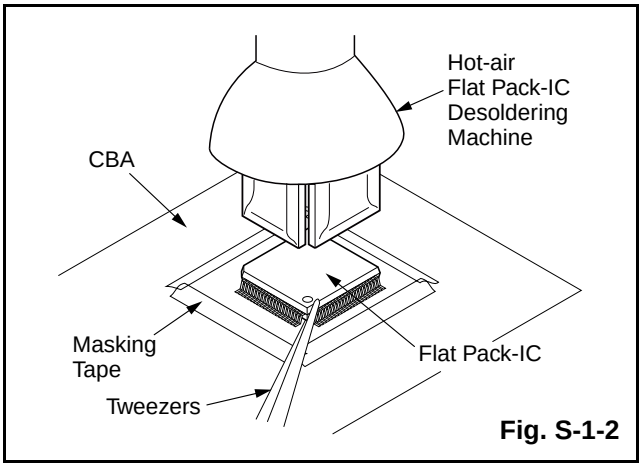


Fig. S-1-2

With Soldering Iron:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

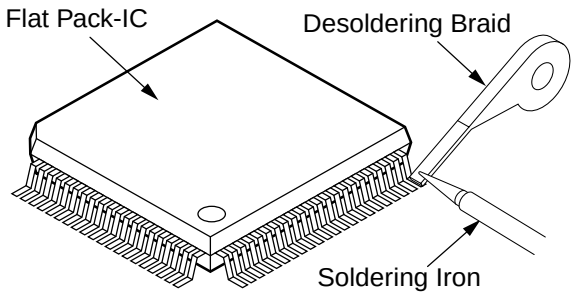


Fig. S-1-3

(2) Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

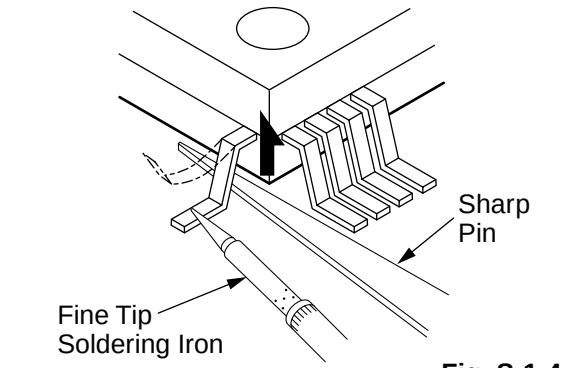


Fig. S-1-4

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

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

With Iron Wire:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

(2) Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

(3) While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5

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

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

Note:

When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

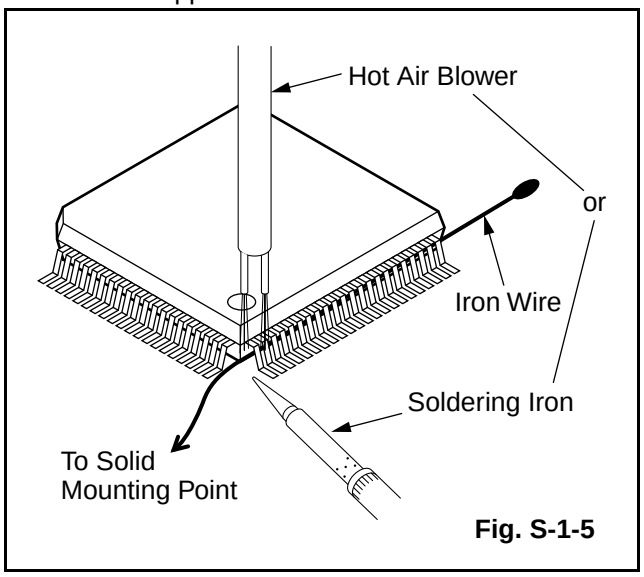


Fig. S-1-5

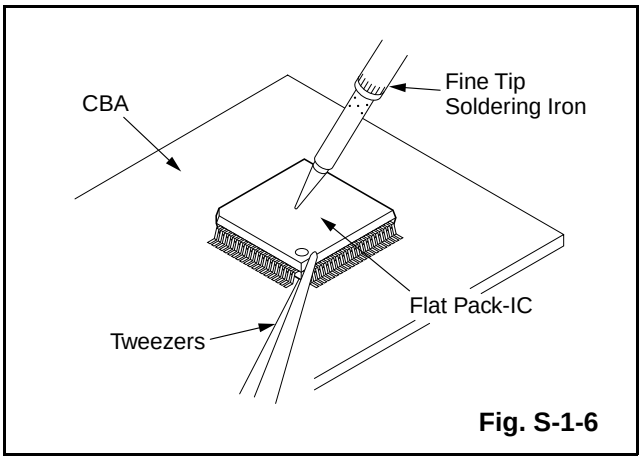


Fig. S-1-6

2. Installation

(1) Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.

(2) The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)

(3) Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

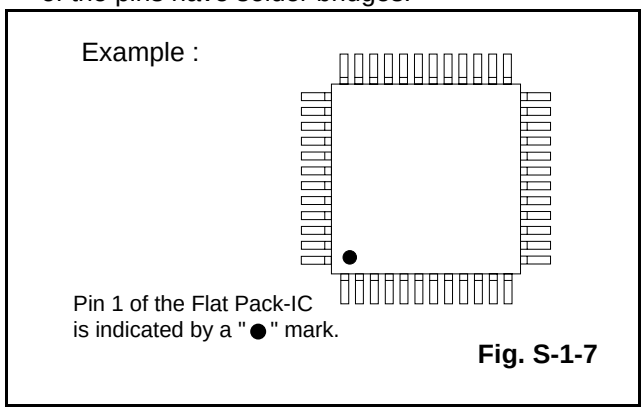


Fig. S-1-7

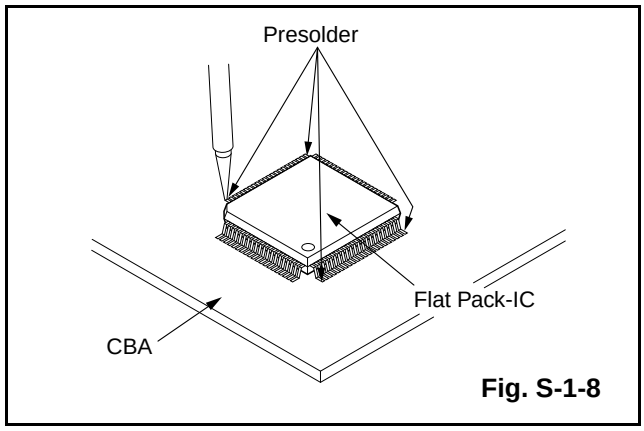


Fig. S-1-8

Instructions for Handling Semi-conductors

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

1. Ground for Human Body

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

2. Ground for Workbench

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

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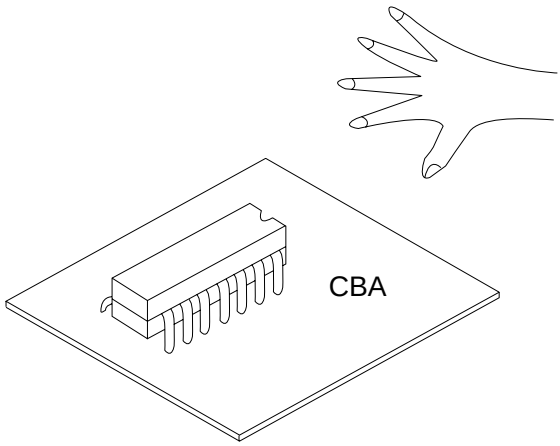

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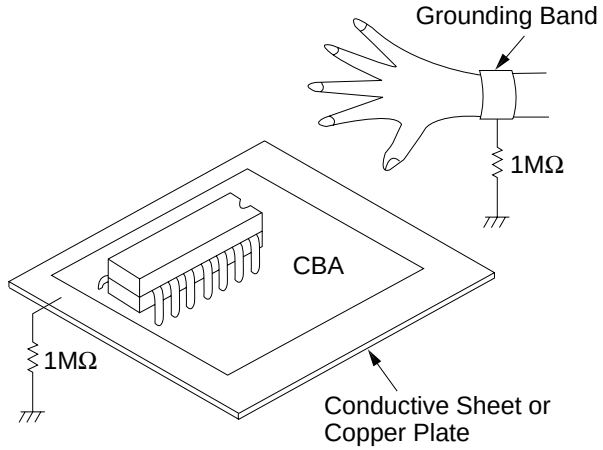
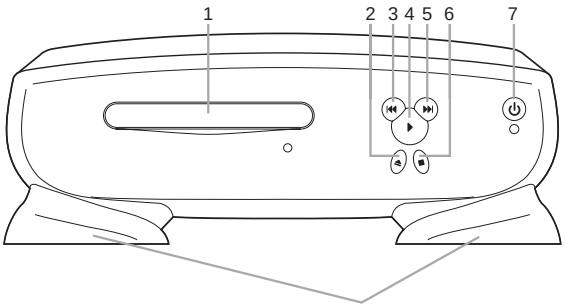


OPERATING CONTROLS AND FUNCTIONS

FRONT PANEL

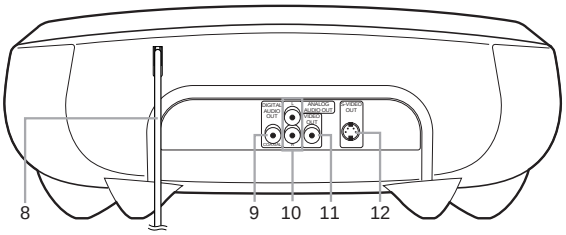


These shoes are removable. Hold the shoes and pull it off from the player.

NOTE: You can put the optional Disney TV on the this DVD Player. Consult your dealer or an Authorized Service Center.

1. **Disc tray**
2. **⏏ (OPEN/CLOSE)**
   to open/close the disc tray
3. **⏮ (SEARCH/SKIP)**
   to view DVD picture in fast reverse motion
   to skip chapter/tracks
4. **▶ (PLAY)**
   to start or resume disc playback
5. **⏭ (SEARCH/SKIP)**
   to view DVD picture in fast forward motion
   to skip chapter/tracks
6. **■ (STOP)**
   to stop playback
7. **⏻ (POWER)**
   to switch the player to ON or OFF

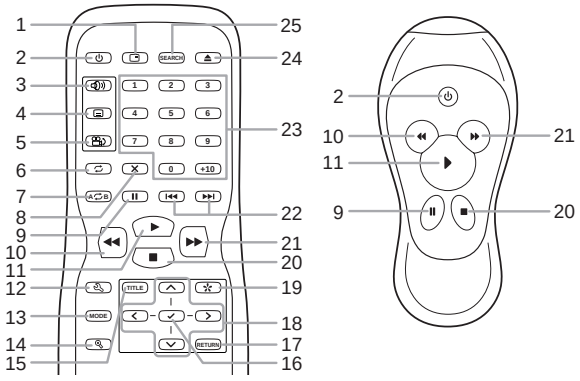
REAR VIEW



8. **MAIN (AC Power Cord)**
   connect to a standard AC outlet
9. **COAXIAL (Digital audio out)**
   connect to AUDIO inputs of a digital (coaxial) audio equipment
10. **AUDIO OUT (Left/Right)**
    connect to AUDIO inputs of an amplifier, receiver or stereo system
11. **VIDEO OUT**
    connect to the Video Input of a TV
12. **S-VIDEO OUT**
    connect to a TV with S-Video inputs

Caution: Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the player.

REMOTE CONTROL

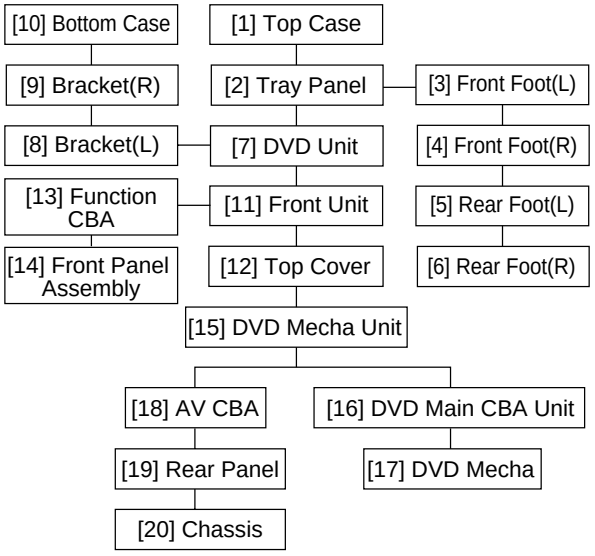


1. **⧉ (DISPLAY)**
   to access or remove the display screen during DVD or Audio CD playback
2. **⏻ (POWER)**
   switch DVD player ON or OFF
3. **🔊 (AUDIO)**
   to choose audio languages or sound modes
4. **💬 (SUBTITLE)**
   subtitle language DVD selector
5. **📷 (ANGLE)**
   select DVD camera angle
6. **🔁 (REPEAT)**
   repeat chapter, track, title, all.
7. **A↻B (REPEAT A-B)**
   repeat a specific segment
8. **✕ (CLEAR)**
   to reset the setting
9. **❚❚ (PAUSE)**
   pause playback temporarily / frame-by-frame playback
10. **◀◀**
    to view DVD picture in fast reverse motion
11. **▶ (PLAY)**
    to start a DVD disc playback
12. **🔧 (SETUP)**
    to access or remove the DVD setup menu
13. **MODE**
    to set up programmed or random playback (Audio CD)
    to set the black level and virtual surround during DVD playback
14. **🔍 (ZOOM)**
    enlarge DVD video image
15. **TITLE**
    to display title menu of a disc
16. **✓ (ENTER)**
    acknowledge menu selection
17. **RETURN**
    to return previous or remove setup menu
18. **Arrow (∨/∧/</>)**
    (down/up/left/right) select an item in the menu
19. **✲ (MENU)**
    to display the menu of the DVD disc
20. **■ (STOP)**
    to stop a DVD disc playback
21. **▶▶**
    to view DVD picture in fast forward motion
22. **⏮,⏭ (SKIP)**
    to skip chapter/tracks
23. **0-9 numerical buttons**
    select numbered items in a menu
    +10
    use this button to enter number 10 and above
24. **⏏ (OPEN/CLOSE)**
    to open/close the disc tray
25. **SEARCH**
    to locate a desired point

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 Case	D1	5(S-1)	-
[2]	Tray Panel	D1	*2(L-1)	-
[3]	Front Foot(L)	D1	2(S-2)	-
[4]	Front Foot(R)	D1	2(S-3)	-
[5]	Rear Foot(L)	D1	(S-4)	-
[6]	Rear Foot(R)	D1	(S-5)	-
[7]	DVD Unit	D2	4(S-6),*4(L-2)	-
[8]	Bracket(L)	D2	2(S-7)	-
[9]	Bracket(R)	D2	2(S-8)	-
[10]	Bottom Case	D2	----------	-
[11]	Front Unit	D3	4(L-3),CN2002	1-1 1-2 1-3 1-4 1-5 1-6
[12]	Top Cover	D3	9(S-9)	-
[13]	Function CBA	D4	5(S-10)	-
[14]	Front Panel Assembly	D4	----------	-
[15]	DVD Mecha Unit	D5	3(S-11), *CN1001, *CN1601	-
[16]	DVD Main CBA Unit	D6	2(S-12), *CN201, *CN301	2 2-1 2-2 2-3 3
[17]	DVD Mecha	D6	----------	-
[18]	AV CBA	D7	3(S-13), 4(S-14)	-
[19]	Rear Panel	D7	2(S-15)	-
[20]	Chassis	D7	----------	-
↓ (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) and (L-2) 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 four Locking Tabs (L-2).

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. D6.

2-3. Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D6)

CAUTION 3: When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D6)

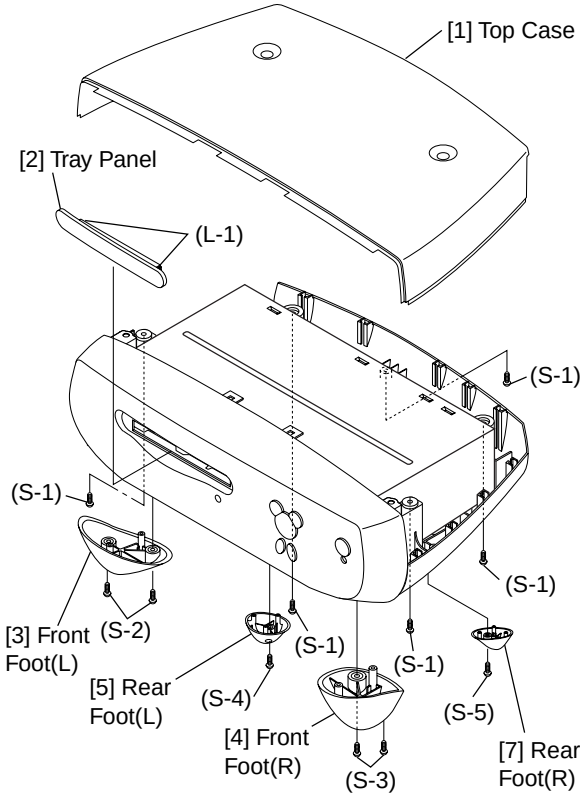


Fig. D1

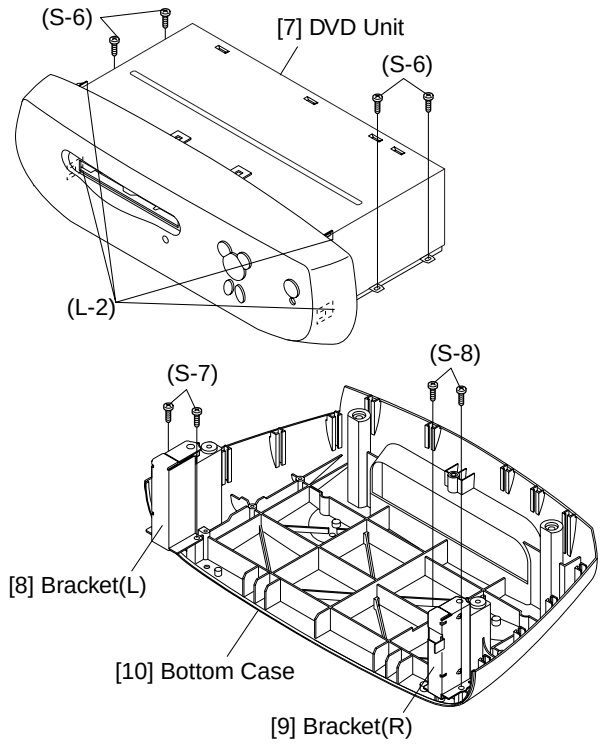


Fig. D2

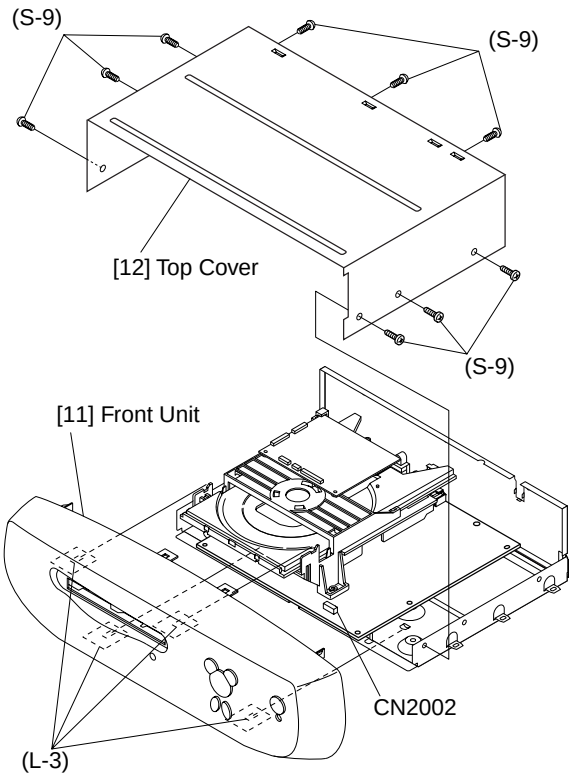


Fig. D3

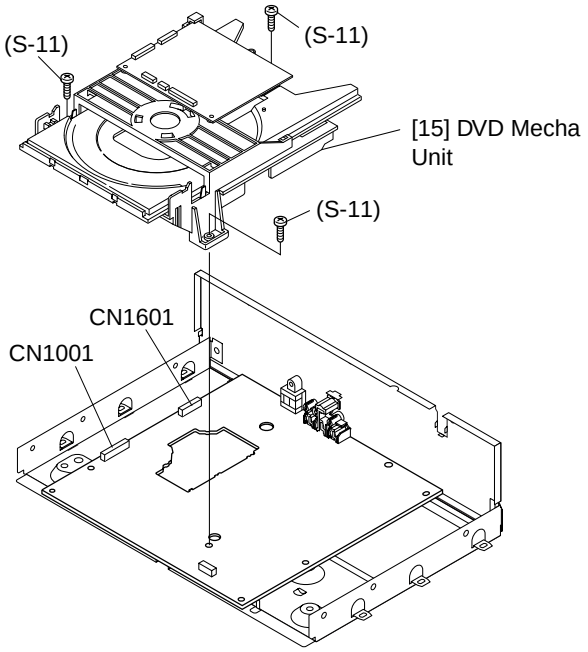


Fig. D5

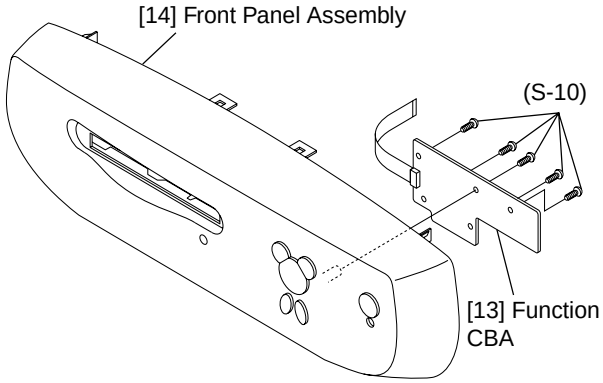


Fig. D4

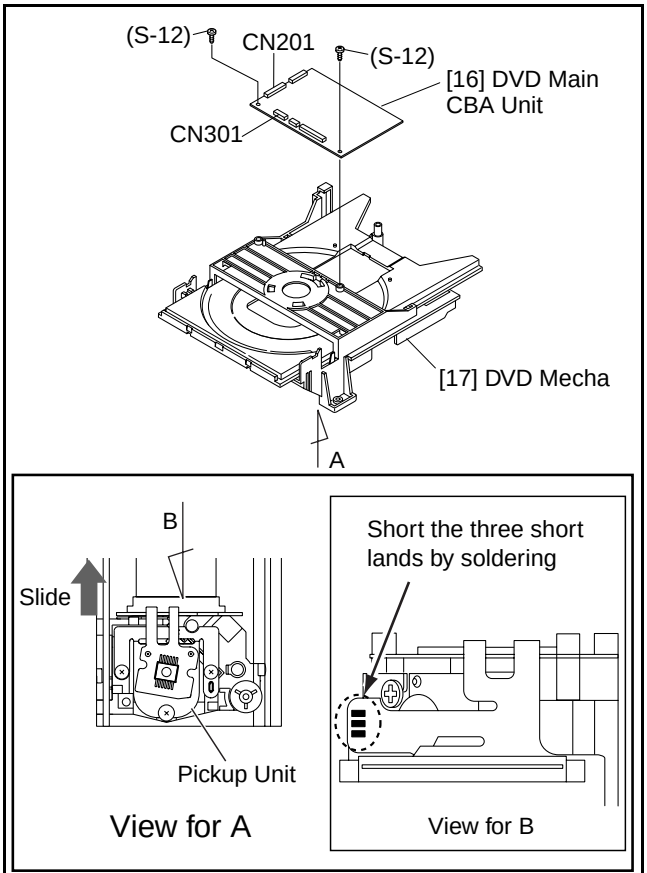


Fig. D6

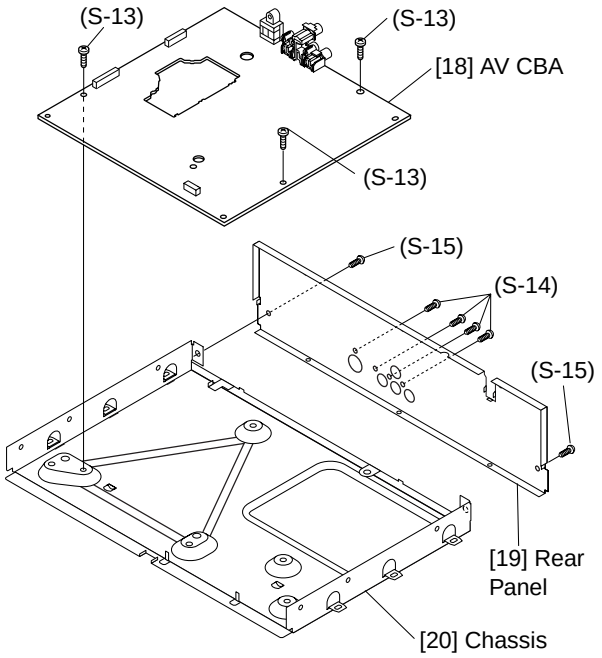
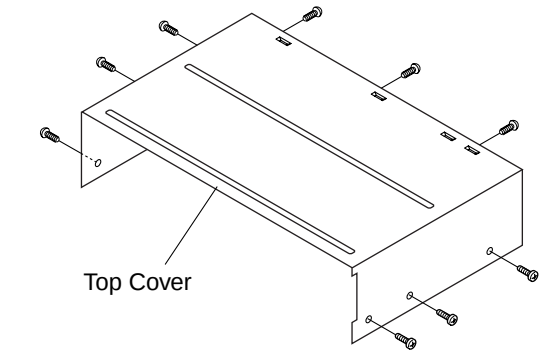
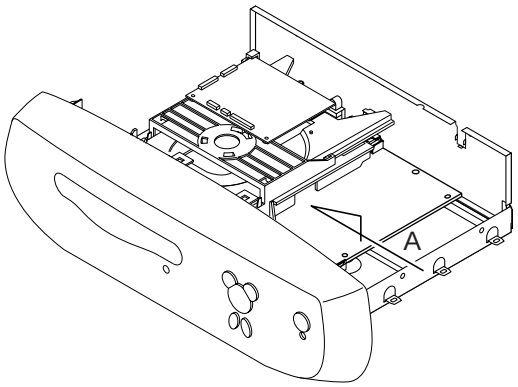


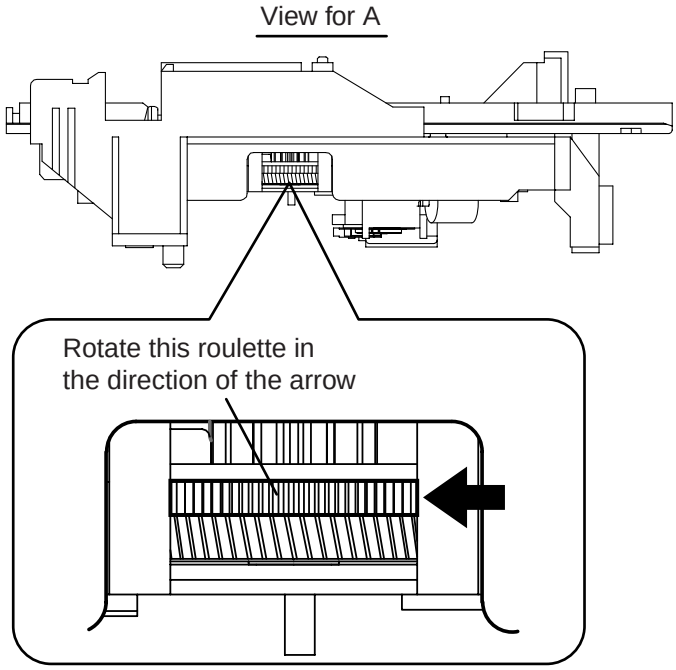
Fig. D7

HOW TO MANUAL EJECT

1. Remove the Top Cover.
2. Rotate the roulette in the direction of the arrow as shown below.

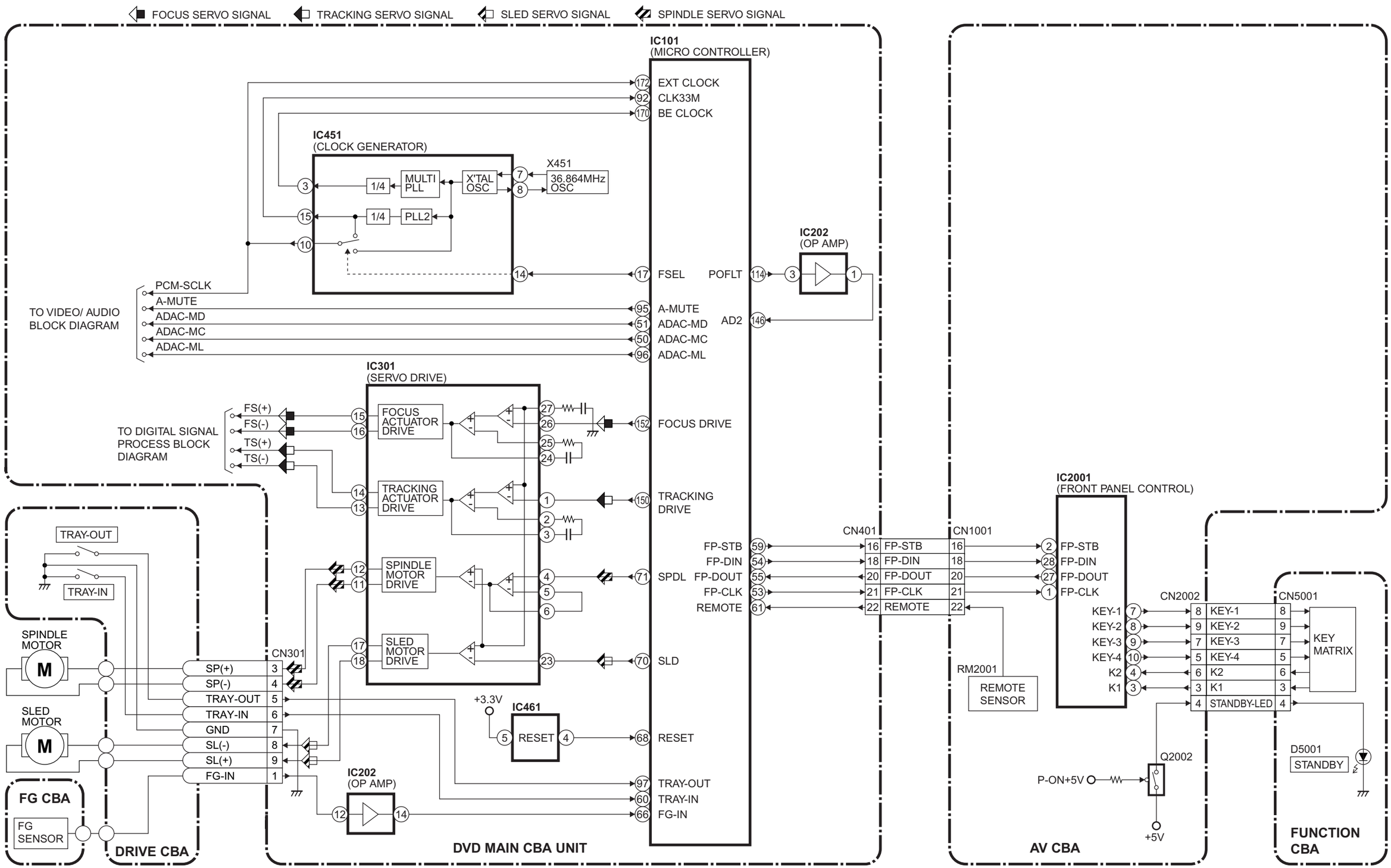




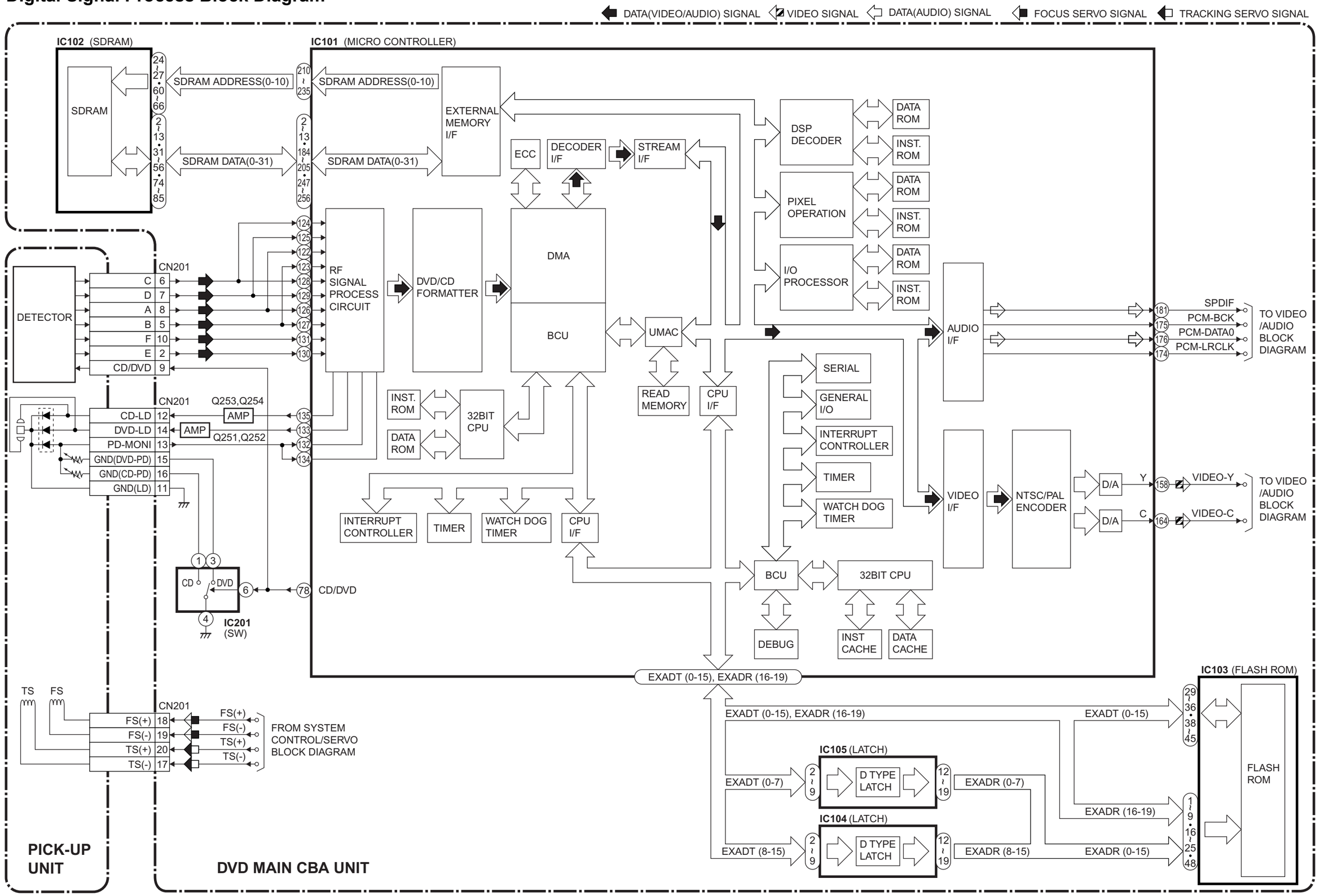


BLOCK DIAGRAMS

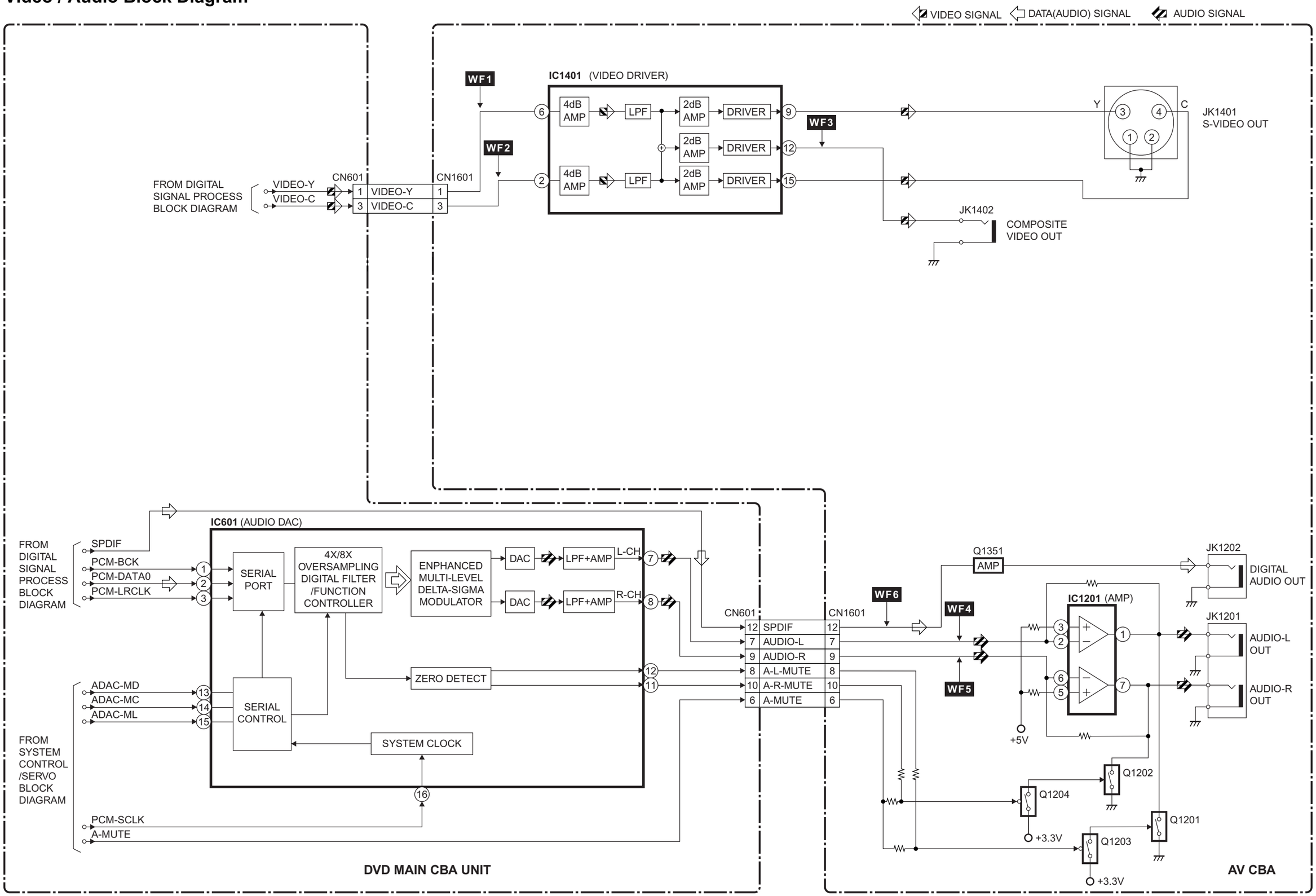
System Control/Servo Block Diagram



Digital Signal Process Block Diagram



Video / Audio Block Diagram

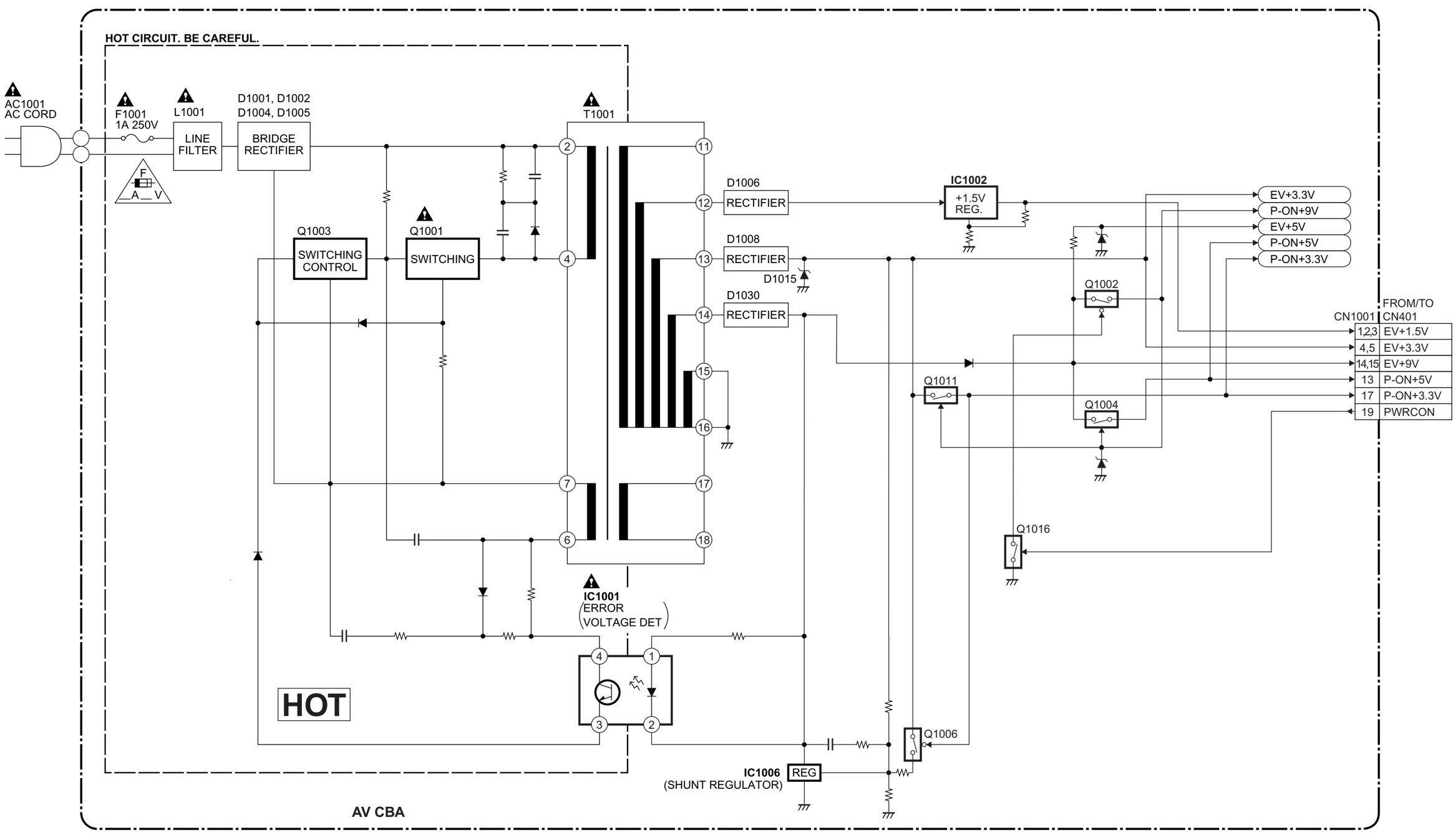


Power Supply Block Diagram

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

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

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



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

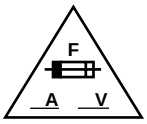
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

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

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

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

2. CAUTION:

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

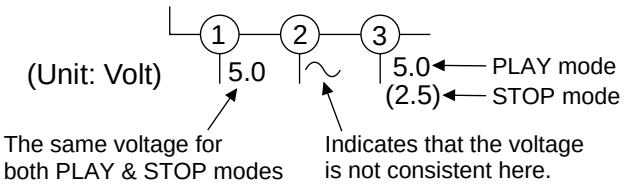
(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
(2) To maintain original function and reliability of repaired units, use only original replacement parts which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

4. Wire Connectors

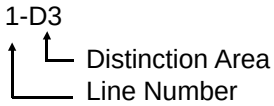
(1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).
(2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. Mode: SP

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

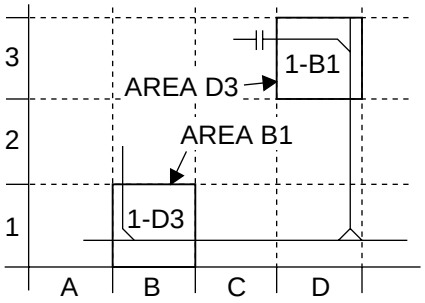


7. How to read converged lines



Examples:

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



8. Test Point Information

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

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

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

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

DVD Main 1/3 Schematic Diagram

DATA(VIDEO+AUDIO)
FOCUS SERVO SIGNAL
TRACKING SERVO SIGNAL
SPINDLE SERVO SIGNAL
SLED SERVO SIGNAL

DVD MAIN CBA UNIT

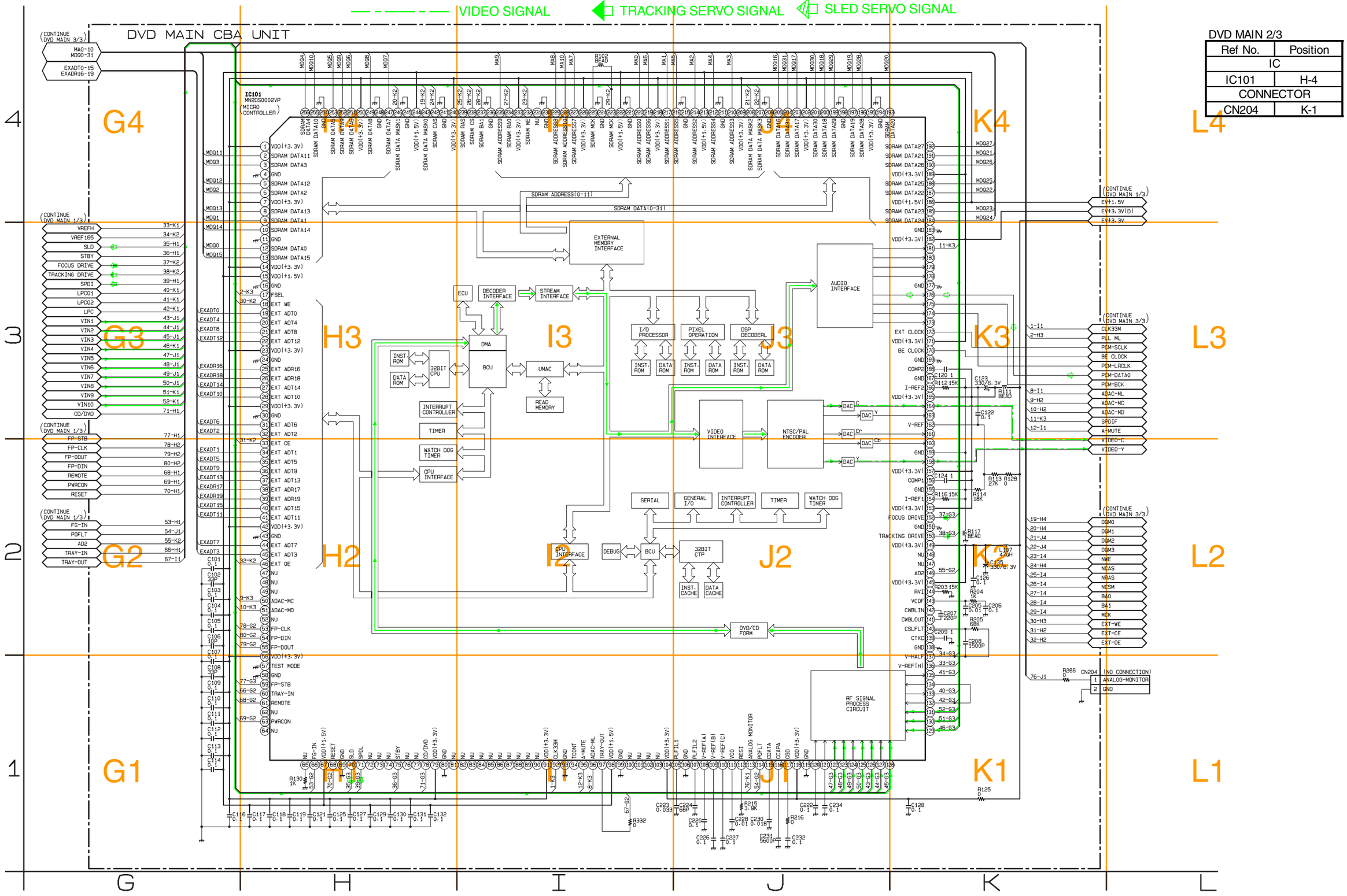
DVD MAIN 1/3	
Ref No.	Position
ICS	
IC201	B-1
IC202	E-4
IC301	D-3
IC461	E-1
TRANSISTORS	
Q251	C-2
Q252	B-2
Q253	C-2
Q254	B-2
CONNECTORS	
CN201	A-3
CN301	A-1
CN401	F-3

DVD Main 2/3 Schematic Diagram

DATA(VIDEO+AUDIO)
VIDEO SIGNAL
FOCUS SERVO SIGNAL
TRACKING SERVO SIGNAL
SPINDLE SERVO SIGNAL
SLED SERVO SIGNAL
DATA(AUDIO)

DVD MAIN 2/3

Ref No.	Position
IC	
IC101	H-4
CONNECTOR	
CN204	K-1

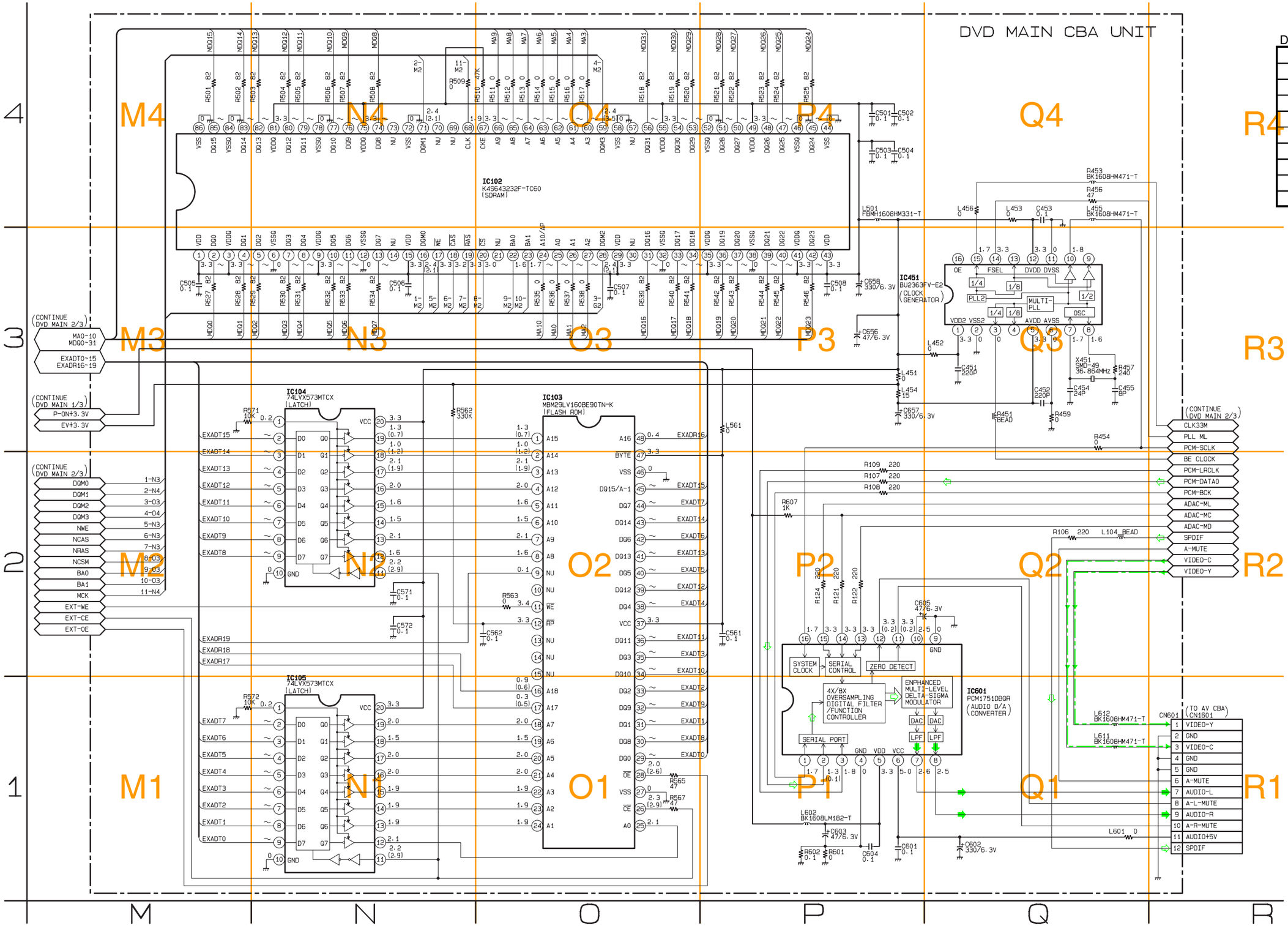


IC101 VOLTAGE CHART

PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP
1	3.3	3.3	33	2.2	2.9	65	0.1	0.1	97	3.4	3.4	129	2.0	2.0	161	-----	-----	193	~	~	225	1.9	1.9
2	~	~	34	~	~	66	1.2	2.5	98	1.6	1.6	130	2.2	2.2	162	1.4	1.4	194	0	0	226	3.3	3.3
3	~	~	35	~	~	67	1.6	1.6	99	0	0	131	2.3	2.3	163	-----	-----	195	3.3	3.3	227	~	~
4	0	0	36	~	~	68	3.4	3.4	100	-----	-----	132	0.4	0.1	164	0.9	0.9	196	~	~	228	~	~
5	~	~	37	~	~	69	0	0	101	-----	-----	133	1.2	0.4	165	3.3	3.3	197	~	~	229	~	~
6	~	~	38	0.3	0.5	70	1.7	1.7	102	-----	-----	134	0.4	0.1	166	1.5	1.5	198	0	0	230	0	0
7	3.3	3.3	39	0.1	0.1	71	2.4	1.7	103	-----	-----	135	0.2	0.2	167	0	0	199	~	~	231	-----	-----
8	~	~	40	~	~	72	-----	-----	104	3.3	3.3	136	2.3	2.3	168	2.1	2.1	200	~	~	232	3.3	3.3
9	~	~	41	~	~	73	-----	-----	105	0.9	0.9	137	1.7	1.7	169	0	0	201	~	~	233	3.3	3.3
10	~	~	42	3.3	3.3	74	-----	-----	106	0	0	138	0	0	170	0.8	0.8	202	3.3	3.3	234	1.6	1.6
11	0	0	43	0	0	75	3.4	3.4	107	0.8	0.8	139	1.7	1.7	171	3.3	3.3	203	~	~	235	~	~
12	~	~	44	~	~	76	-----	-----	108	1.6	1.6	140	1.7	1.7	172	1.6	1.6	204	~	~	236	0	0
13	~	~	45	~	~	77	-----	-----	109	2.1	2.1	141	1.7	1.7	173	-----	-----	205	~	~	237	1.7	1.7
14	3.3	3.3	46	2.0	2.6	78	0.1	0.1	110	2.6	2.6	142	1.7	1.7	174	1.8	1.8	206	0	0	238	3.0	3.0
15	1.5	1.5	47	-----	-----	79	3.3	3.3	111	2.0	2.0	143	0.5	0.5	175	1.7	1.7	207	2.4	3.5	239	3.3	3.3
16	0	0	48	-----	-----	80	0	0	112	0.7	0.9	144	1.6	1.6	176	1.4	0.1	208	2.4	2.1	240	3.3	3.3
17	3.4	3.4	49	-----	-----	81	-----	-----	113	2.1	2.1	145	3.3	3.3	177	0	0	209	3.3	3.3	241	0	0
18	3.4	3.4	50	3.4	3.4	82	-----	-----	114	1.8	1.8	146	1.8	1.8	178	-----	-----	210	~	~	242	3.2	3.2
19	~	~	51	3.4	3.4	83	-----	-----	115	1.4	1.4	147	-----	-----	179	-----	-----	211	0	0	243	2.4	2.1
20	~	~	52	-----	-----	84	2.4	2.4	116	0.3	0.3	148	-----	-----	180	-----	-----	212	~	~	244	1.5	1.5
21	~	~	53	3.4	3.4	85	-----	-----	117	1.6	1.6	149	3.3	3.3	181	1.7	1.7	213	1.5	1.5	245	0	0
22	~	~	54	3.4	3.4	86	-----	-----	118	3.3	3.3	150	1.7	1.7	182	3.3	3.3	214	~	~	246	2.4	2.1
23	3.3	3.3	55	3.3	3.3	87	-----	-----	119	0	0	151	0	0	183	0	0	215	0	0	247	~	~
24	0	0	56	3.3	3.3	88	-----	-----	120	1.9	1.9	152	1.7	1.7	184	~	~	216	~	~	248	0	0
25	0.4	0.4	57	0	0	89	-----	-----	121	1.9	1.9	153	3.3	3.3	185	~	~	217	~	~	249	~	~
26	0.9	0.6	58	0	0	90	-----	-----	122	2.4	2.4	154	1.4	1.4	186	1.5	1.5	218	3.3	3.3	250	3.3	3.3
27	~	~	59	3.3	3.3	91	3.3	3.3	123	2.4	2.4	155	0	0	187	~	~	219	~	~	251	~	~
28	~	~	60	3.4	3.4	92	1.7	1.5	124	2.4	2.4	156	2.2	2.2	188	~	~	220	~	~	252	~	~
29	3.3	3.3	61	3.1	3.1	93	0	0	125	2.4	2.4	157	3.3	3.3	189	3.3	3.3	221	0	0	253	~	~
30	0	0	62	-----	-----	94	-----	-----	126	2.0	2.0	158	0.7	0.7	190	~	~	222	1.5	1.5	254	0	0
31	~	~	63	3.4	3.4	95	3.4	0.1	127	2.0	2.0	159	0	0	191	~	~	223	1.9	1.9	255	~	~
32	~	~	64	0.8	0.8	96	3.4	3.4	128	2.0	2.0	160	-----	-----	192	~	~	224	0	0	256	~	~

DVD Main 3/3 Schematic Diagram

VIDEO SIGNAL　DATA(AUDIO)　AUDIO SIGNAL



DVD MAIN 3/3

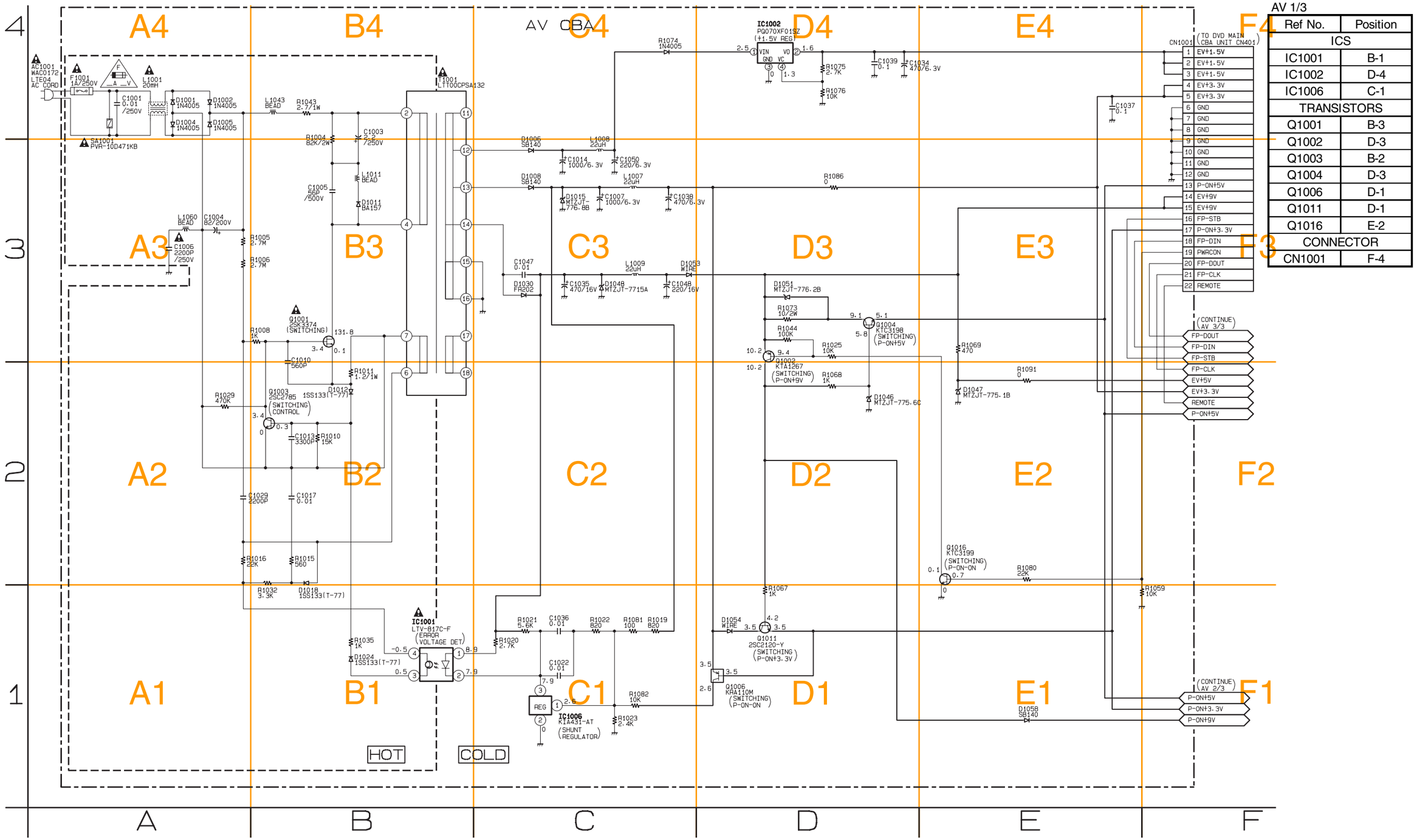
Ref No.	Position
ICS	
IC102	O-4
IC103	O-3
IC104	N-3
IC105	N-1
IC451	P-3
IC601	Q-1
CONNECTOR	
CN601	R-1

AV 1/3 Schematic Diagram

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

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

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

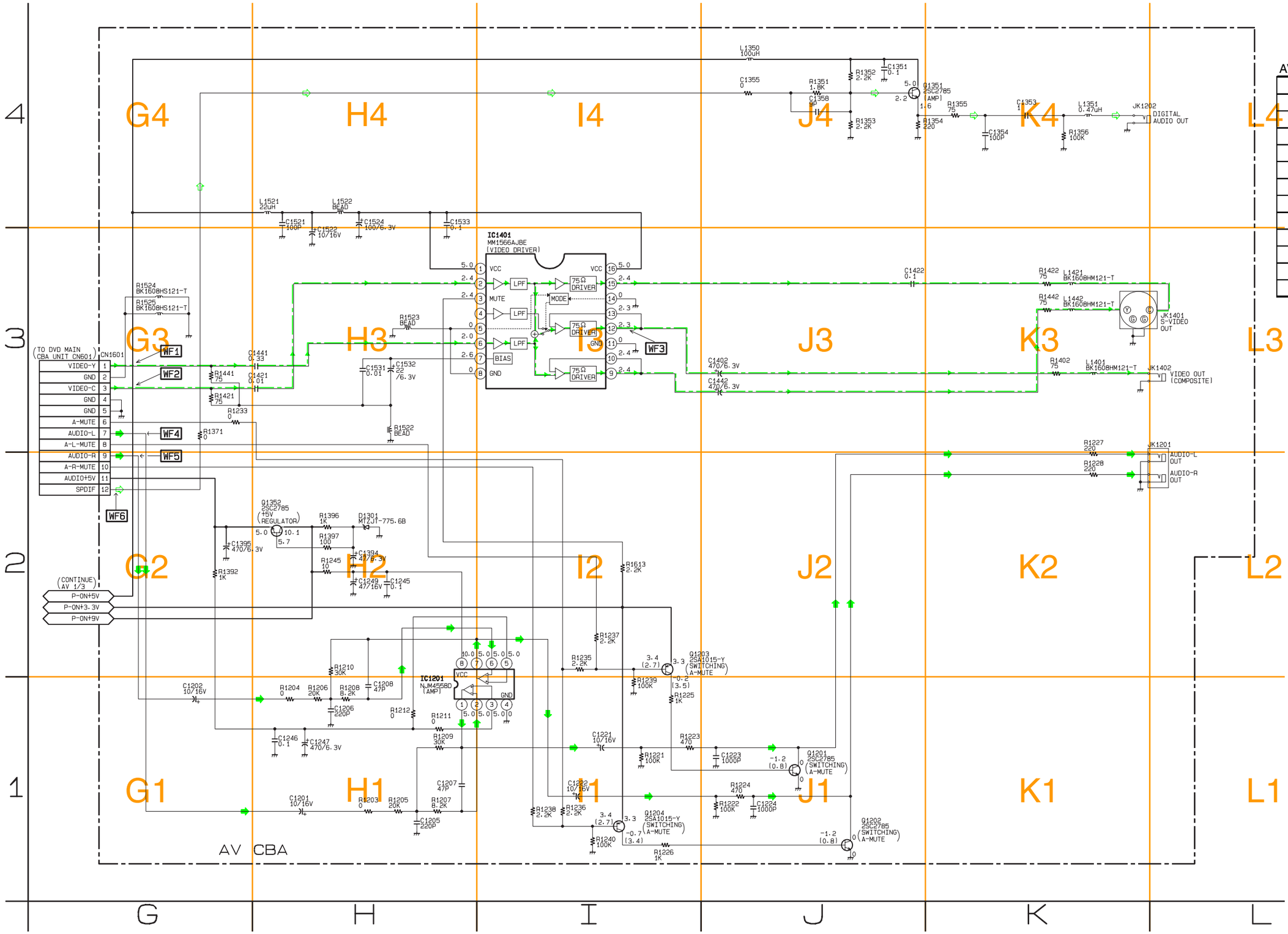


AV 1/3

Ref No.	Position
ICS	
IC1001	B-1
IC1002	D-4
IC1006	C-1
TRANSISTORS	
Q1001	B-3
Q1002	D-3
Q1003	B-2
Q1004	D-3
Q1006	D-1
Q1011	D-1
Q1016	E-2
CONNECTOR	
CN1001	F-4

AV 2/3 Schematic Diagram

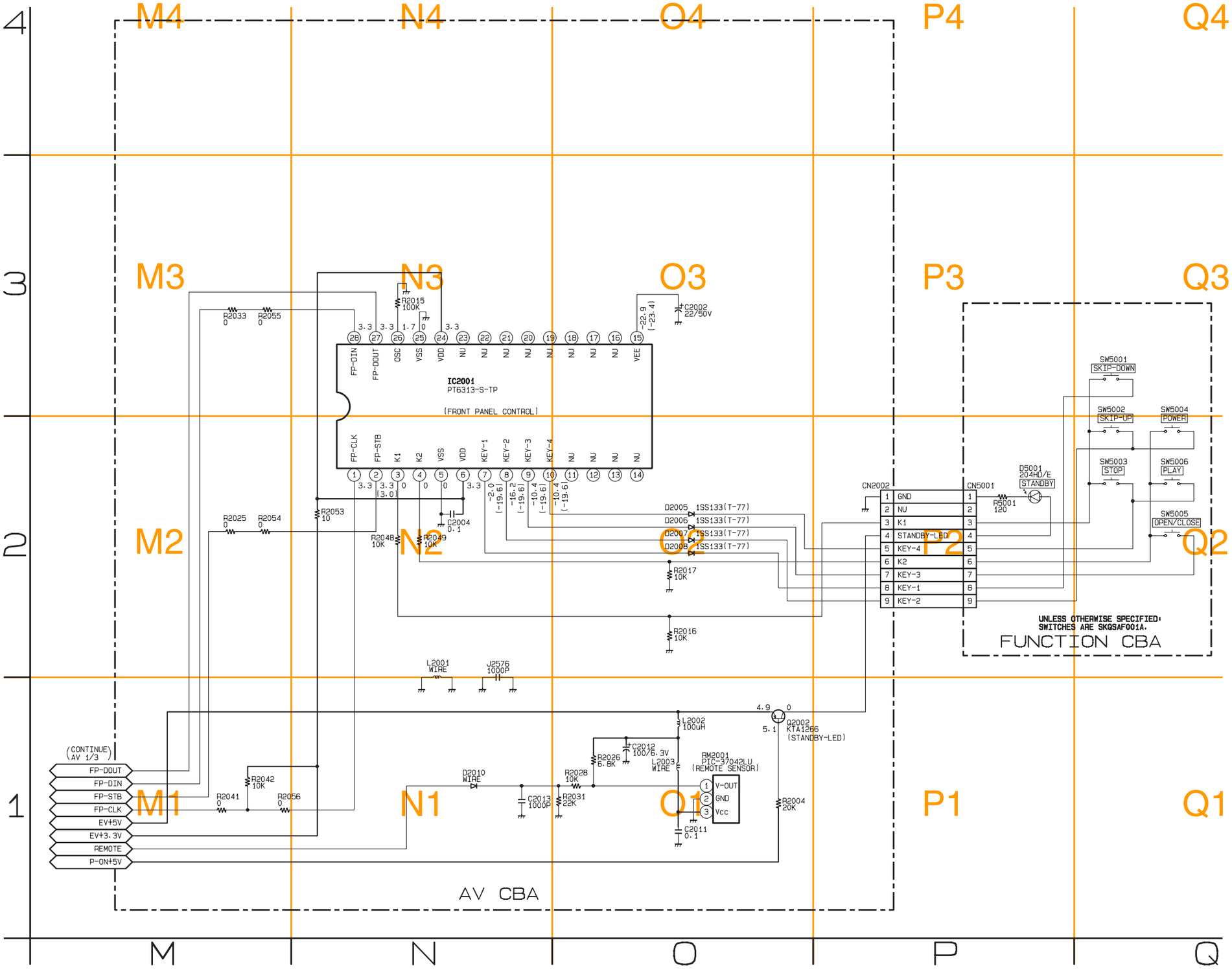
VIDEO SIGNAL DATA(AUDIO) AUDIO SIGNAL



AV 2/3

Ref No.	Position
ICS	
IC1201	H-1
IC1401	I-3
TRANSISTORS	
Q1201	J-1
Q1202	J-1
Q1203	I-2
Q1204	I-1
Q1351	K-4
Q1352	H-2
CONNECTOR	
CN1601	G-3

AV 3/3 & Function Schematic Diagram



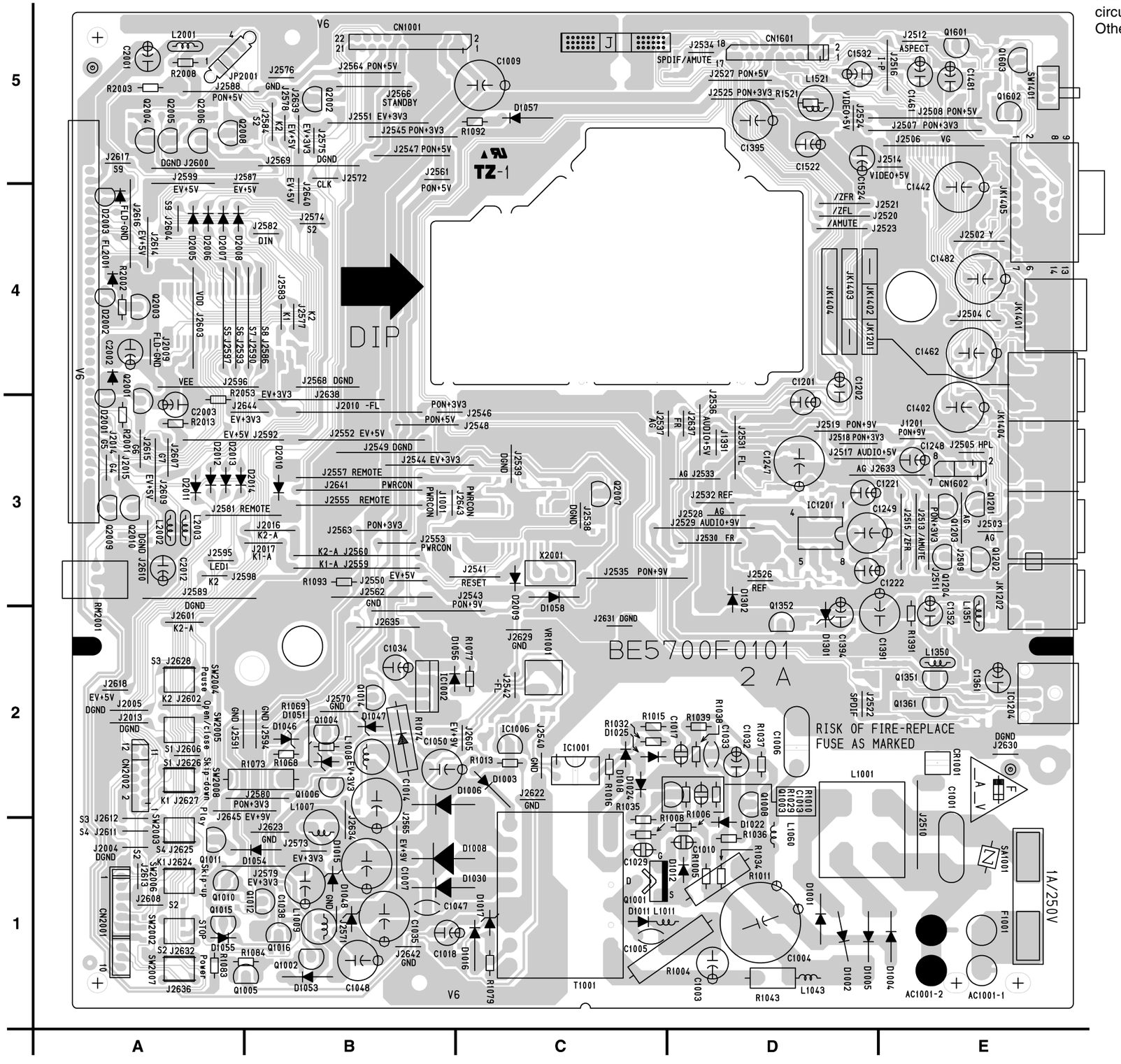
AV 3/3

Ref No.	Position
IC	
IC2001	N-3
TRANSISTOR	
Q2002	O-1
CONNECTOR	
CN2002	P-2

FUNCTION

Ref No.	Position
CONNECTOR	
CN5001	P-2

AV CBA Top View



CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

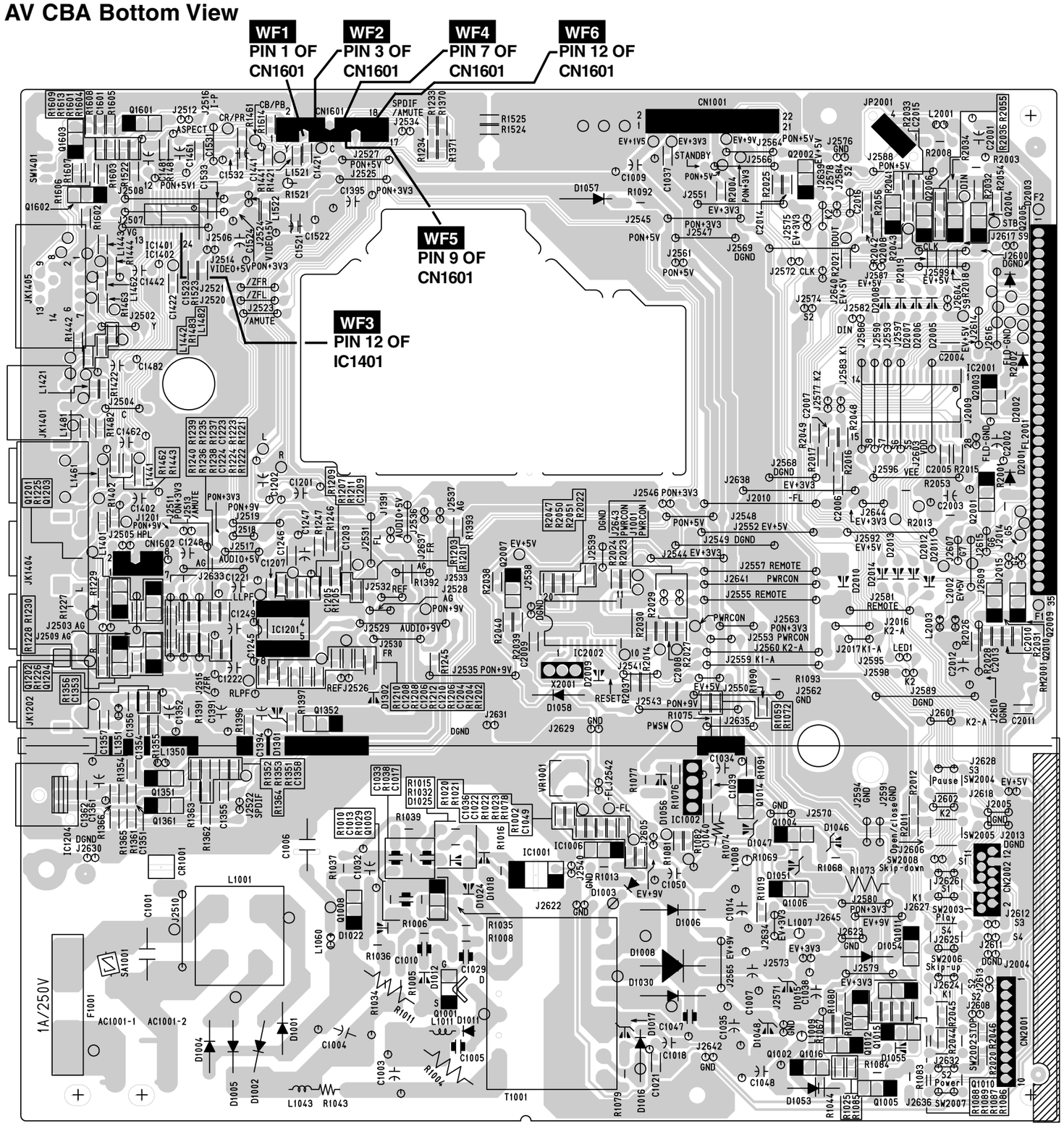
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible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

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

AV CBA

Ref No.	Position
ICS	
IC1001	C-2
IC1002	B-2
IC1006	C-2
IC1201	D-3
IC1401	E-5
IC2001	A-4
TRANSISTORS	
Q1001	C-1
Q1002	B-1
Q1003	D-2
Q1004	B-2
Q1006	B-2
Q1011	A-1
Q1016	B-1
Q1201	E-3
Q1202	E-3
Q1203	E-3
Q1204	E-3
Q1351	E-2
Q1352	D-2
Q2002	B-5
CONNECTORS	
CN1001	B-5
CN1601	D-5
CN2002	A-2

AV CBA Bottom View



CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

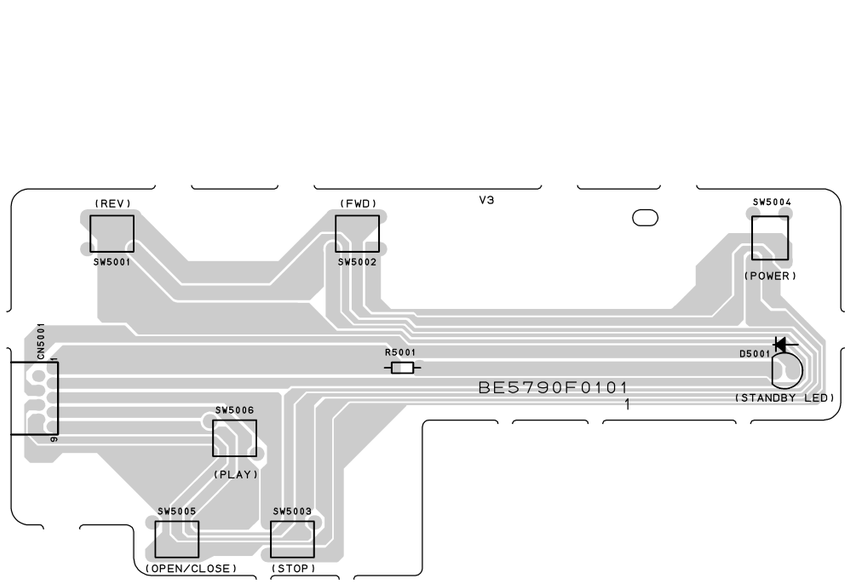
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible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

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

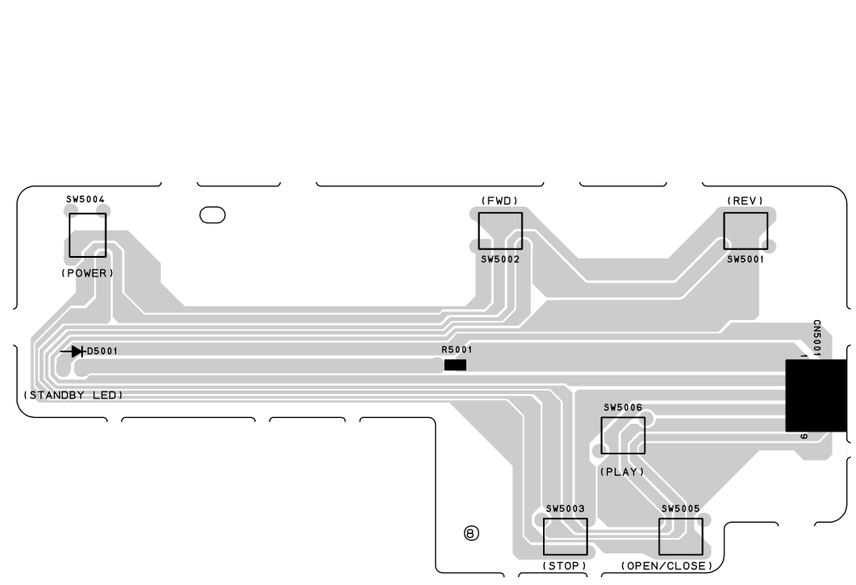
FUNCTION CBA Top View

FUNCTION CBA

Ref No.	Position
CONNECTOR	
CN5001	A-4

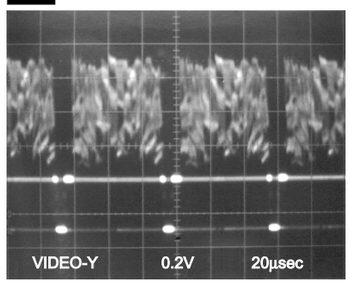


FUNCTION CBA Bottom View

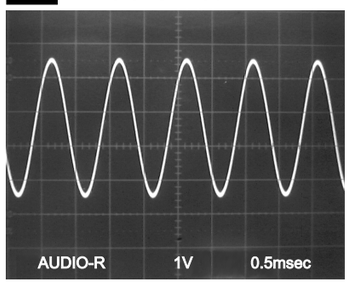


WAVEFORMS

WF1 Pin 1 of CN1601

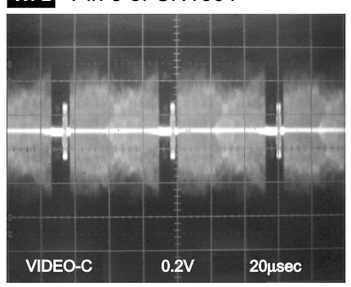


WF5 Pin 9 of CN1601

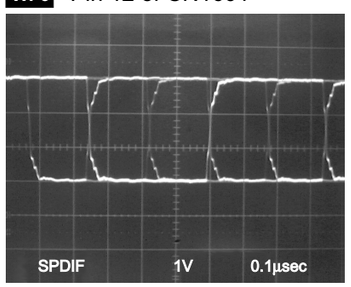


NOTE:
Input
CD: 1kHz PLAY
(WF4~WF6)
DVD: POWER ON (STOP) MODE
(WF1~WF3)

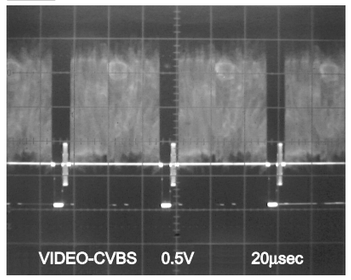
WF2 Pin 3 of CN1601



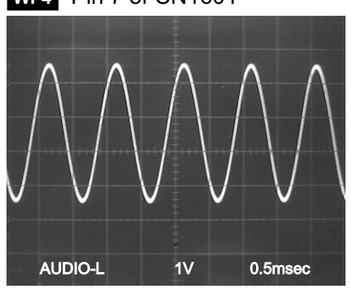
WF6 Pin 12 of CN1601



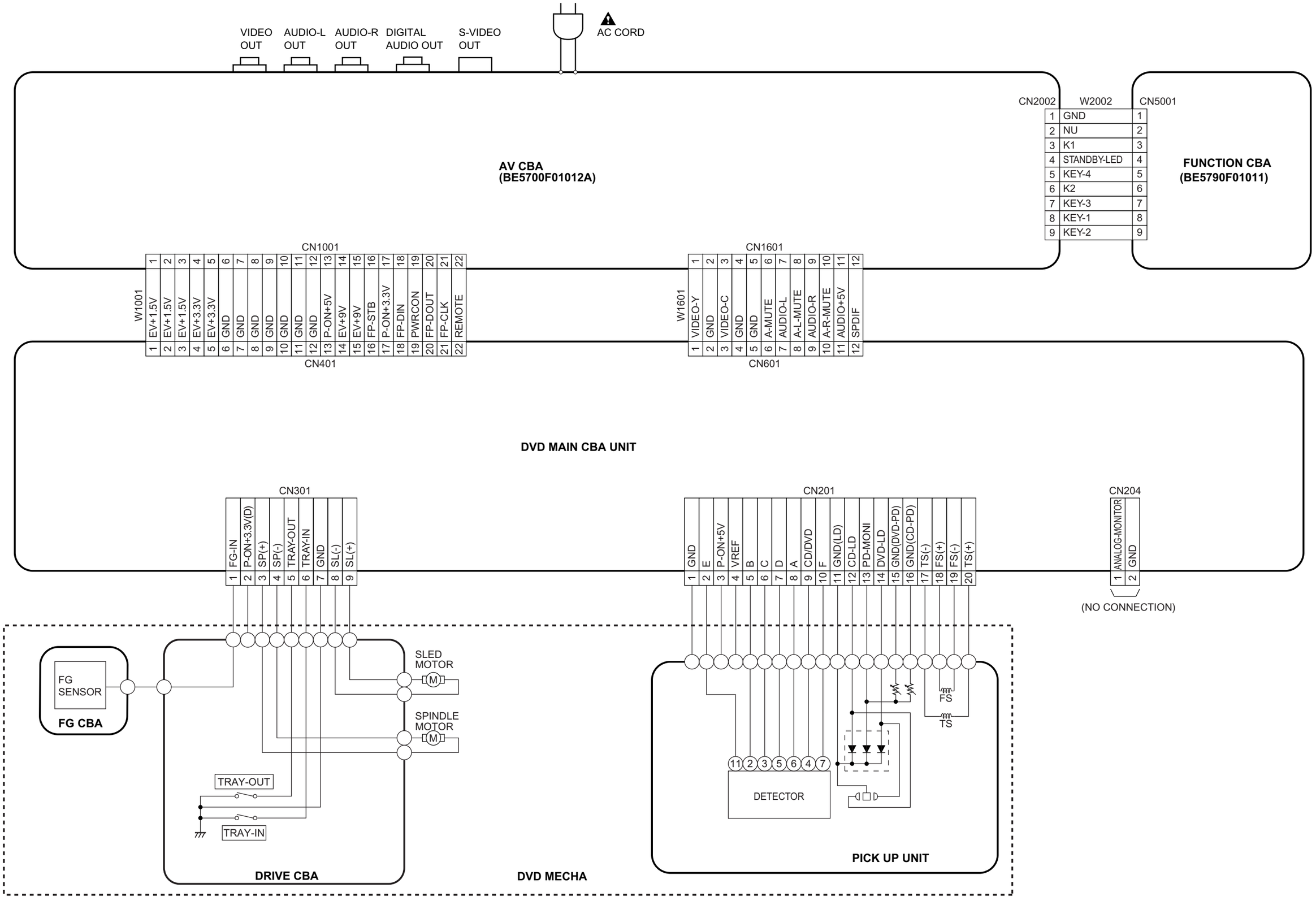
WF3 Pin 12 of IC1401



WF4 Pin 7 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.

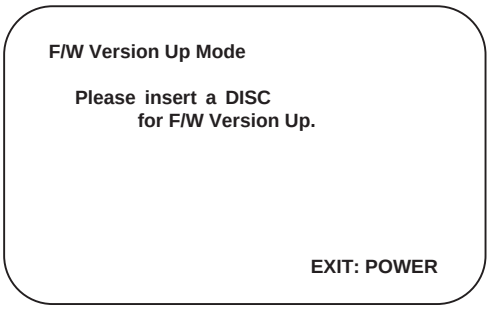


Fig. a Version Up Mode Screen

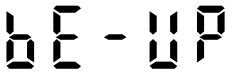


Fig. b VFD in Version Up Mode

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.
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.

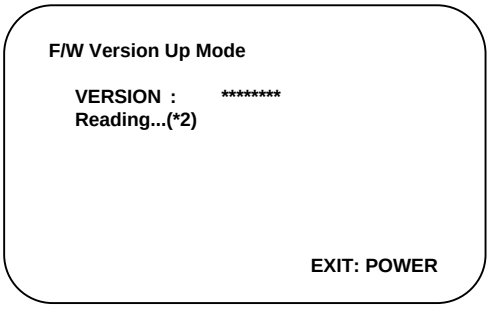


Fig. c Programming Mode Screen

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)

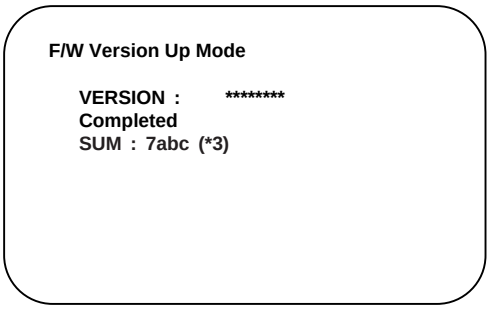


Fig. e Completed Program Mode Screen

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

At this time, no buttons are available.

6. Unplug the AC cord from the AC outlet. Then plug it again.
7. Turn the power on by pressing the power button and the tray will close.
8. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. g appears on the screen.

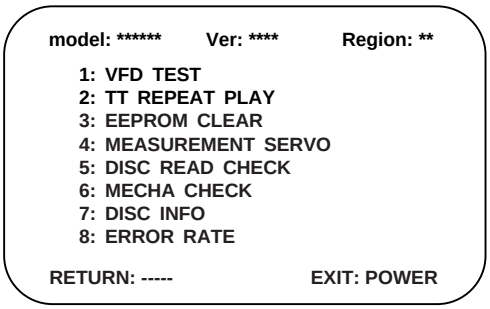


Fig. g

9. Press [3] button on the remote control unit.
   Fig. h appears on the screen.

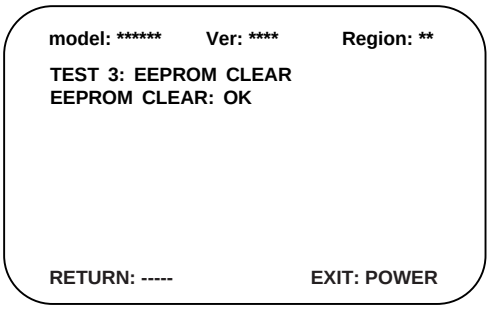
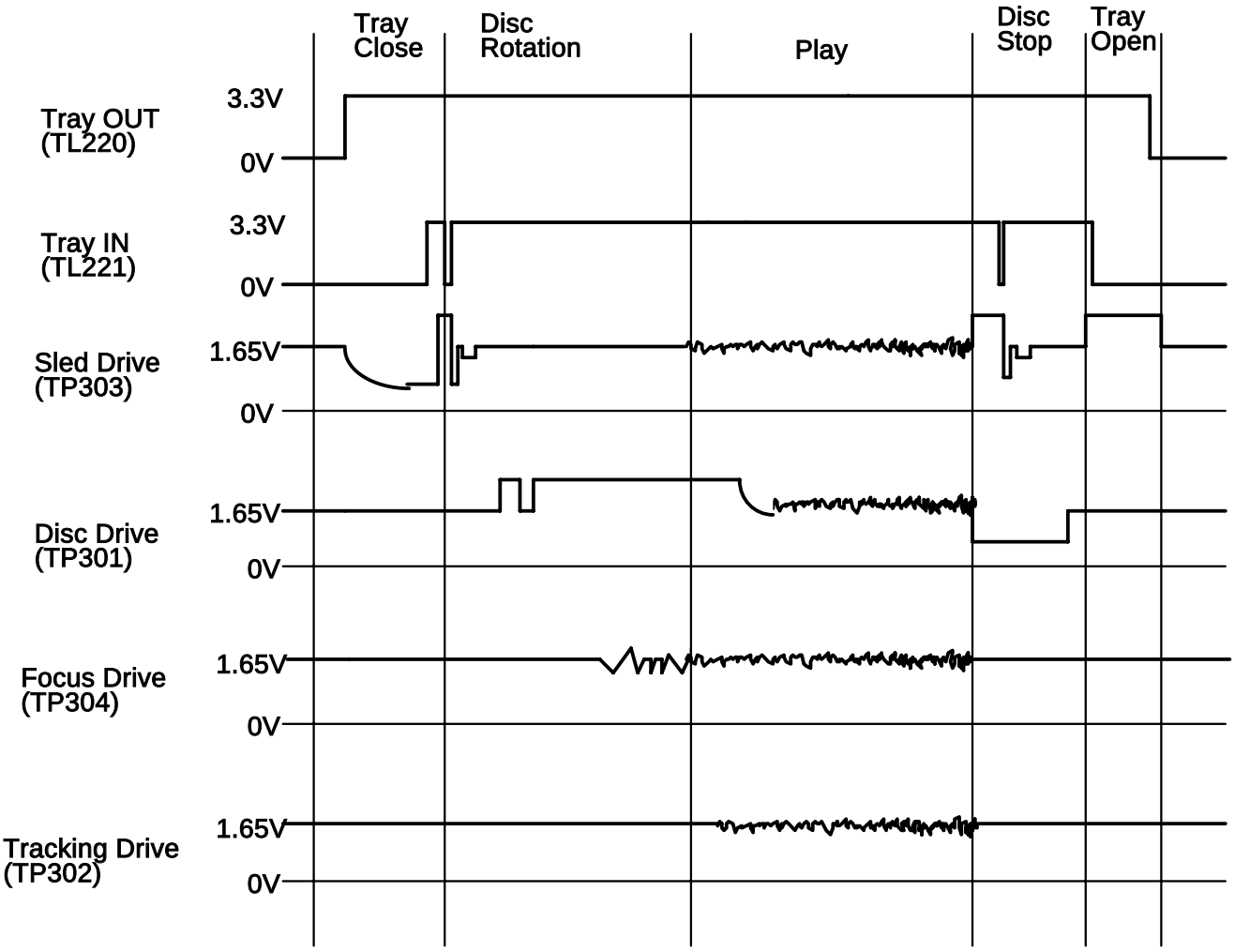


Fig. h

10. To finish this mode, press [POWER] button.

SYSTEM CONTROL TIMING CHARTS

Tray Close ~ Play / Play ~ Tray Open

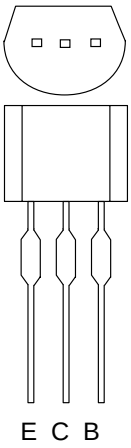


IC PIN FUNCTION DESCRIPTIONS

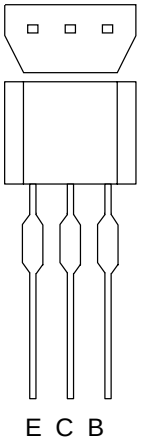
IC2001 [PT6313-S-TP]

Pin No.	In/Out	Signal Name	Name Function
1	In	FP-CLK	Clock Input
2	In	FP-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	FP-DOUT	Serial Data Output
28	In	FP-DIN	Serial Data Input

LEAD IDENTIFICATIONS

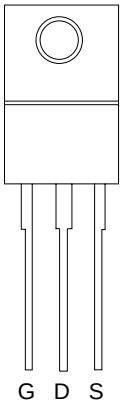


2SA1015-Y (TPE2)
KTA1266 (Y)
KTC3198 (Y)
2SC2120-Y(TPE2)

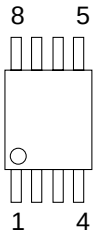


2SC2785 (H)
KTC3199 (GR)
KRA110M
KTA1267 (Y)
BN1L3Z (P)

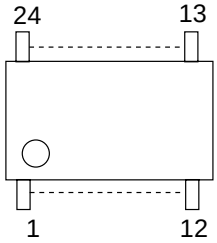
2SK3374



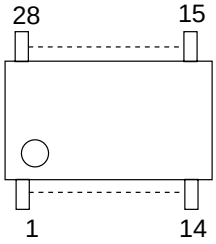
NJM4558D
KIA4558P



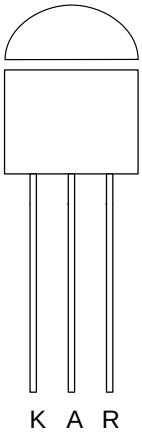
MM1622XJBE



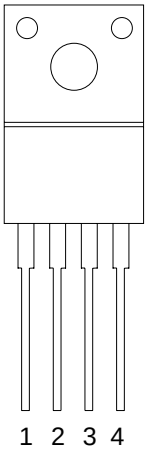
PT6313-S-TP



KIA431-AT

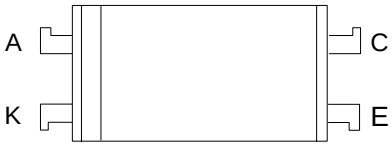


PQ070XF01SZ



1: Vin
2: Vo
3: GND
4: Vc

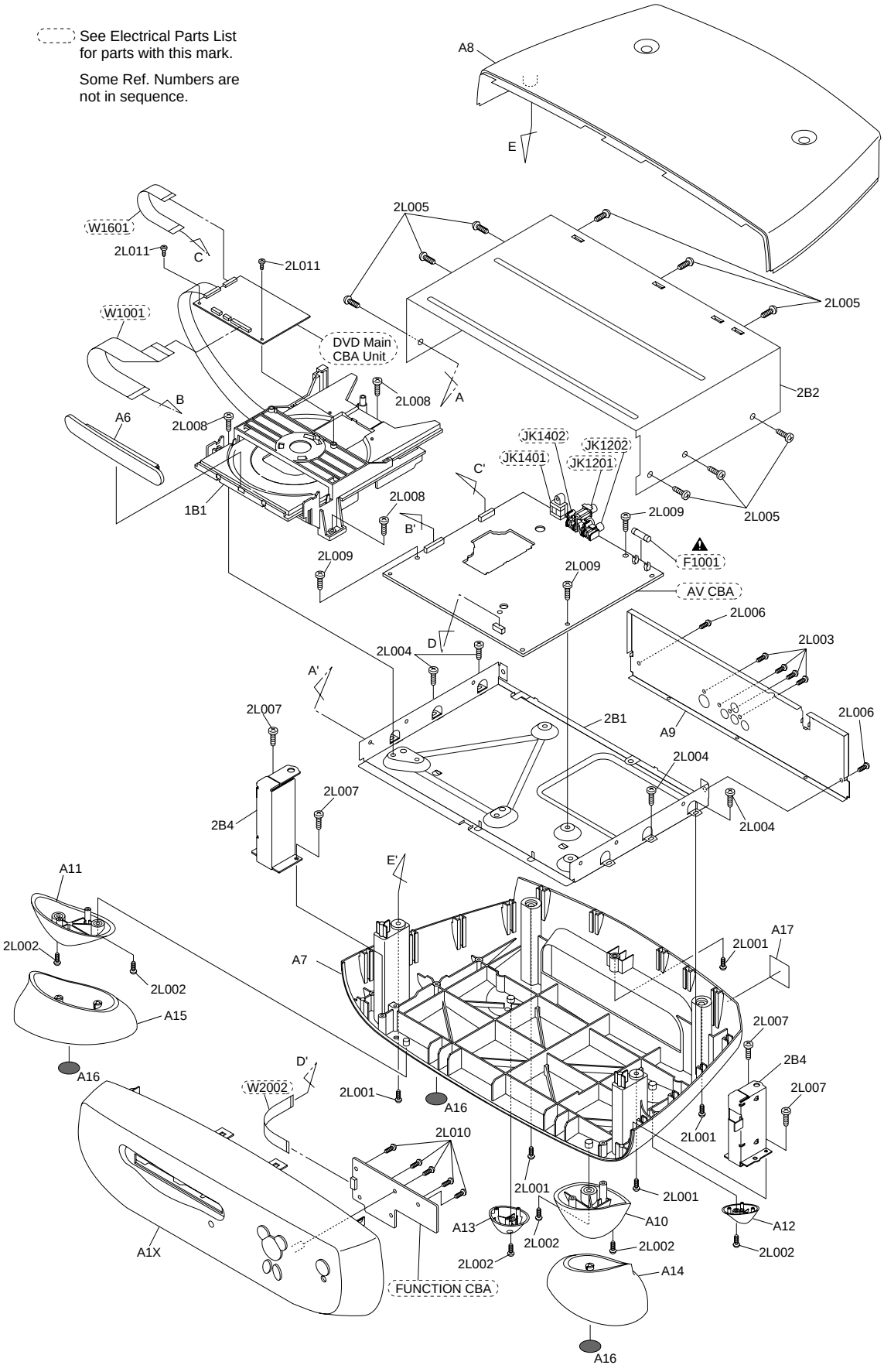
LTV-817(B,C)-F



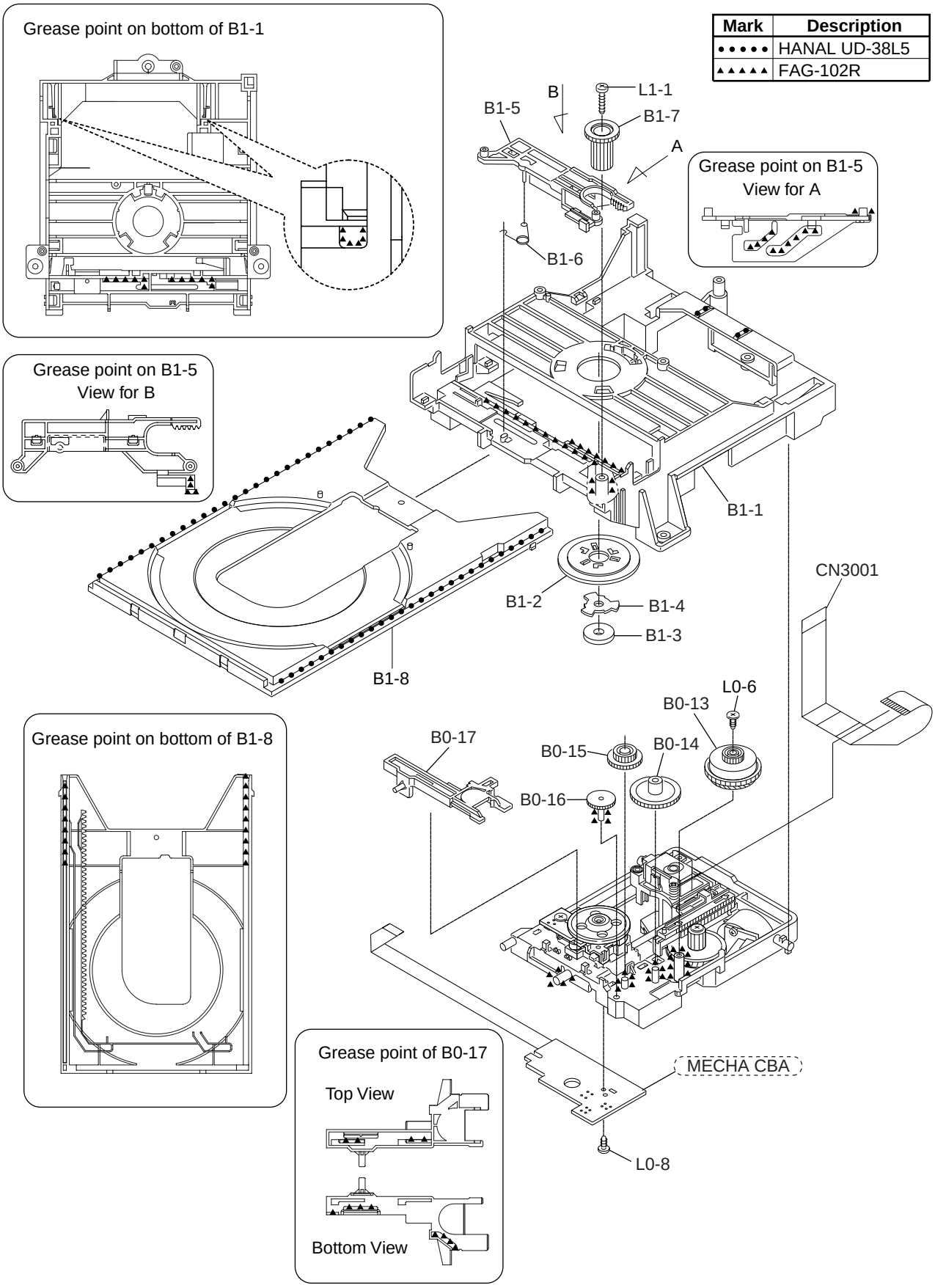
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
G: Gate
D: Drain
S: Source

EXPLODED VIEWS

Cabinet



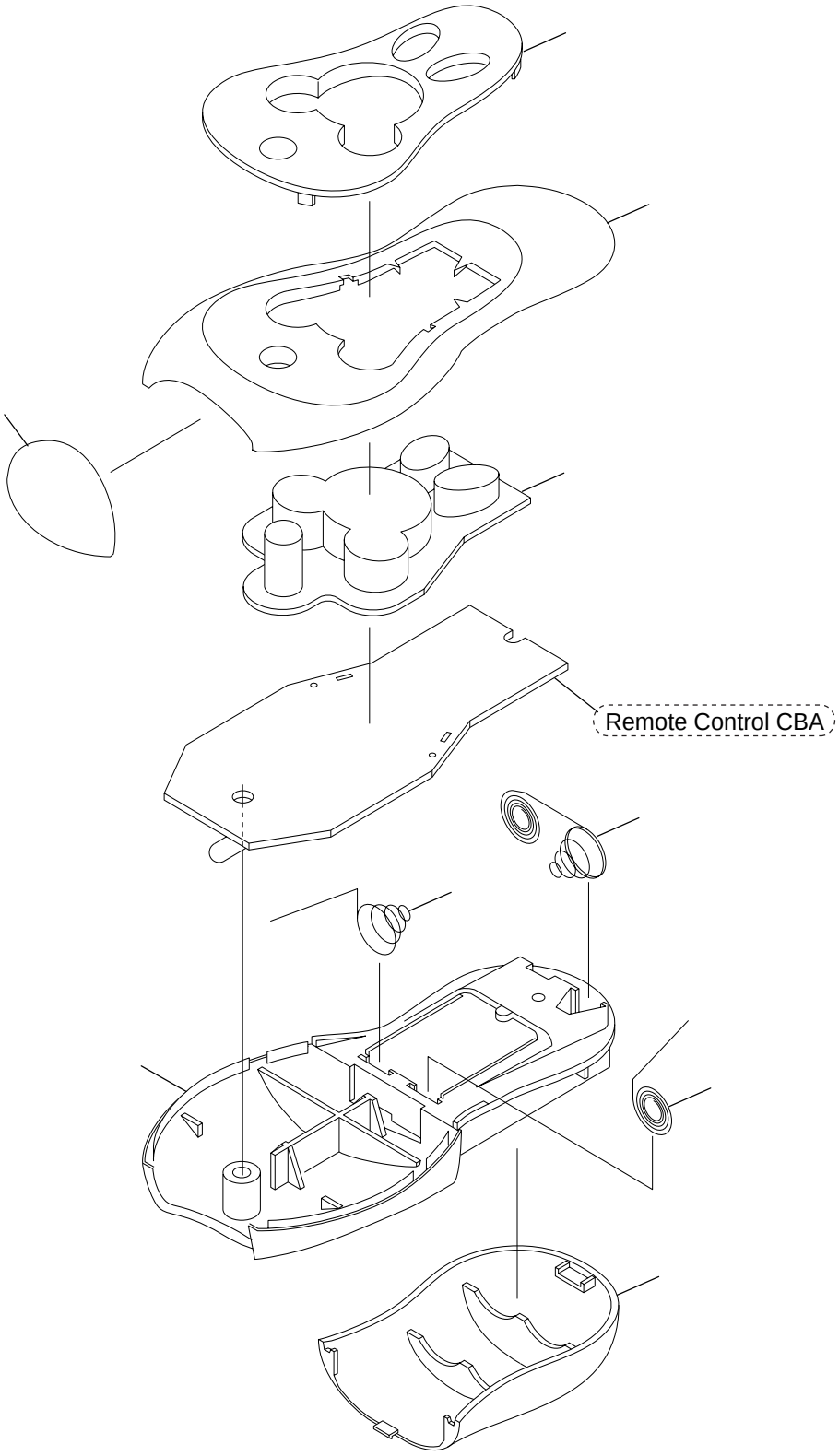
DVD Mechanism



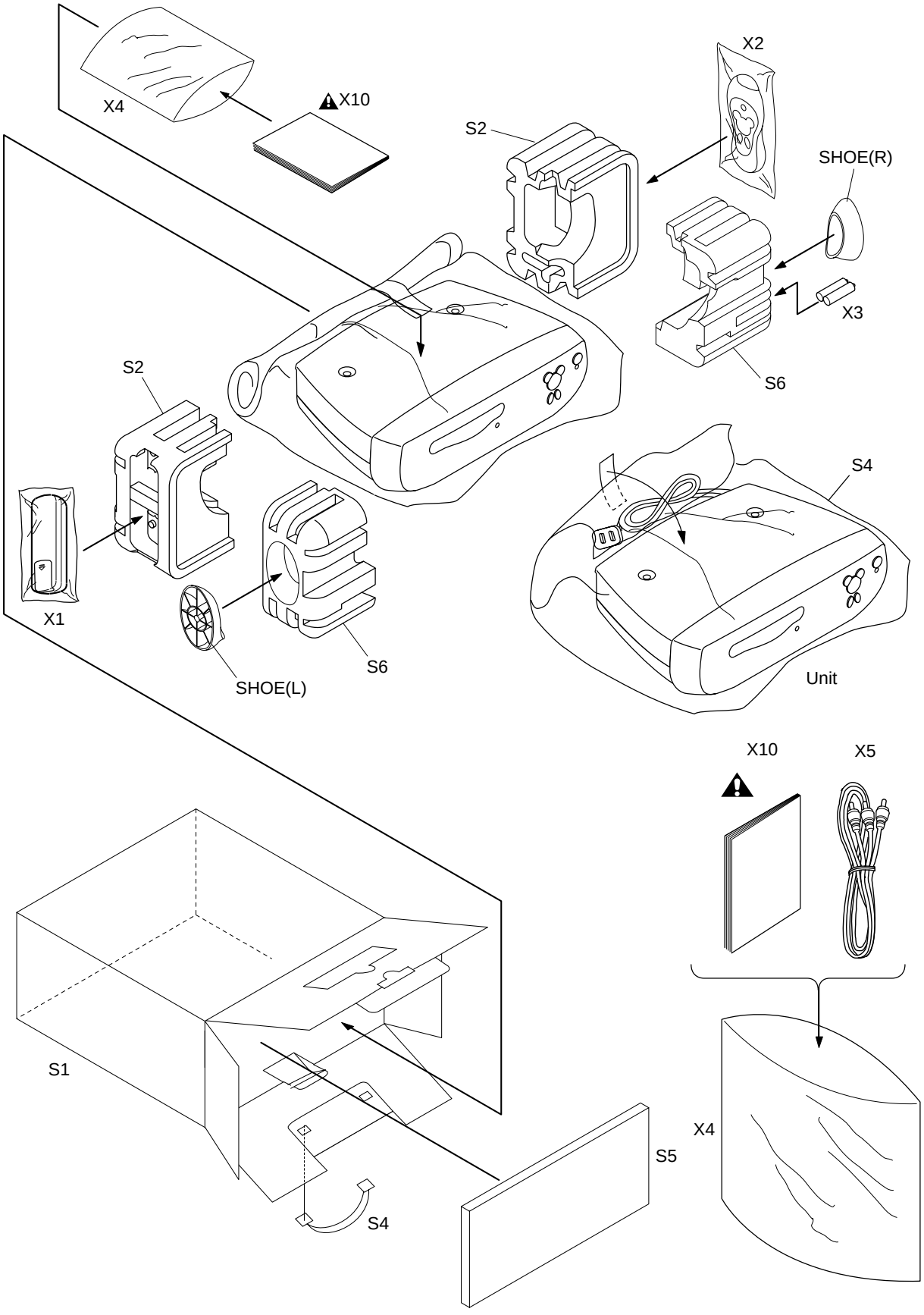
Remote Control Unit

See Electrical Parts List for parts with this mark.

Some Ref. Numbers are not in sequence.



Packing



		20030106	
		DVD2000-C/P (E5790/91UD)	
	A	DVD2000-C (E5790UD)	
	B	DVD2000-P (E5791UD)	
MECHANICAL PARTS LIST			
Ref. No.	Mark	Description	Parts No.
A1X	A	FRONT ASSEMBLY E5790UD	0VM204055
A1X	B	FRONT ASSEMBLY E5791UD	0VM204056
A1	A	PANEL, FRONT E5790UD	0VM000178
A1	B	PANEL, FRONT E5791UD	0VM306037
A2	A	BUTTON, FUNCTION E5790UD	0VM101256
A2	B	BUTTON, FUNCTION E5791UD	0VM414759
A3	A	BUTTON, POWER E5790UD	0VM203942
A3	B	BUTTON, POWER E5791UD	0VM414760
A4		LENS, SENSOR E5790UD	0VM305938
A5		LENS, LED(POWER) E5790UD	0VM305939
A6	A	TRAY PANEL E5790UD	0VM101239
A6	B	TRAY PANEL E5791UD	0VM414761
A7	A	CASE, BOTTOM E5790UD	0VM000179
A7	B	CASE, BOTTOM E5791UD	0VM204008
A8	A	CASE, TOP E5790UD	0VM000180
A8	B	CASE, TOP E5791UD	0VM204009
A9!	A	REAR PANEL E5790UD	0VM203918
A9!	B	REAR PANEL E5791UD	0VM306067
A10	A	FRONT FOOT(R) E5790UD	0VM203923
A10	B	FRONT FOOT(R) E5791UD	0VM414762
A11	A	FRONT FOOT(L) E5790UD	0VM203924
A11	B	FRONT FOOT(L) E5791UD	0VM414763
A12	A	REAR FOOT(R) E5790UD	0VM203925
A12	B	REAR FOOT(R) E5791UD	0VM414764
A13	A	REAR FOOT(L) E5790UD	0VM203926
A13	B	REAR FOOT(L) E5791UD	0VM414765
A14	A	SHOE(R) E5790UD	0VM203927
A14	B	SHOE(R) E5791UD	0VM414766
A15	A	SHOE(L) E5790UD	0VM203928
A15	B	SHOE(L) E5791UD	0VM414767
A16		RUBBER FOOT E5570JD	0VM412503
A17	A	LABEL, SERIAL NO. E5790UD	----------
A17	B	LABEL, SERIAL NO. E5791UD	----------
2B1		CHASSIS E5790UD	0VM101237
2B2		TOP COVER E5790UD	0VM101238
2B3		BRACKET(R) E5790UD	0VM203921
2B4		BRACKET(L) E5790UD	0VM203922
2L001		SCREW, P-TIGHT M3X8 BIND HEAD+ BLK	GBKP3080
2L002		SCREW, P-TIGHT M3X8 BIND HEAD+ BLK	GBKP3080
2L003		SCREW, B-TIGHT M3X8 BIND HEAD +	GBKB3080
2L004		SCREW, P-TIGHT M3X8 WASHER+	GCMP3080
2L005		SCREW, C-TIGHT M3X5 BIND HEAD+	GBMC3050
2L006		SCREW, C-TIGHT M3X6 BIND HEAD	GBMC3060
2L007		P-TIGHT SCREW 3X8 BIND +	GBMP3080
2L008		SCREW, S-TIGHT M3X10 BIND HEAD+	GBMS3100
2L009		SCREW, C-TIGHT M3X6 BIND HEAD	GBMC3060
2L010		P-TIGHT SCREW 3X8 BIND +	GBMP3080
2L011		P-TIGHT SCREW 3X8 BIND +	GBMP3080

S1	A	GIFT BOX CARTON E5790UD	0VM306131
S1	B	GIFT BOX CARTON E5791UD	0VM306132
S2		STYROFOAM E5790UD	0VM000181
S4		HANDLE S4021PD	0VM405251A
S4		UNIT, BAG E5500UD	0VM411683
S5		CARTON PAD E5790UD	0VM414958
S6		SHOE BAG E5790UD	0VM414871
X1	A	REMOTE CONTROL UNIT DVD 0842 VCDVR040	NA618UD
X1	B	REMOTE CONTROL UNIT DVD 0842 VCDVR040	NA619UD
X2	A	REMOTE CONTROL UNIT DVD 0842 VCDVR040	NA045UD
X2	B	REMOTE CONTROL UNIT DVD 0842 VCDVR040	NA046UD
X3		DRY BATTERY R6P/2S	XB0M451T0001
X3		DRY BATTERY ES-GR6M-C	XB0M571GLP01
X4		ACCESSORY BAG E56A0UD	0VM413280
X5		AV CORD TSCKA-Y/RW100	WPZ0102TM015
X5		AV CORD RCA(M*2)TO RCA(M*2)	WPZ0102LTE01
X10!		OWNER'S MANUAL E5790UD	0VMN03455
DVD MECHANISM			
1B1		DVD MECHA 0838 VCDVM040	N79F0GVM
		MECHA CBA	0VSA13365
B0-13		GEAR B2 N79F0GVM	0VM203899
B0-14		GEAR C N79F0GVM	0VM305507
B0-15		GEAR D N79F0GVM	0VM305508
B0-16		GEAR E N79F0GVM	0VM305509
B0-17		PLATE TRIGGER N79F0GVM	0VM203633F
B1-1		MAIN CHASSIS N79F0GVM	0VM101137H
B1-2		CLAMPER N7920DVM	0VM202842
B1-3		MAGNET E5420UD	0VM409759
B1-4		YOKE N7920DVM	0VM411036
B1-5		CAM SLIDER N79F0GVM	0VM203634F
B1-6		SPRING CS N79F0GVM	0VM413534
B1-7		TRAY GEAR N79F0GVM	0VM305511
B1-8		TRAY N79F0GVM	0VM101138H
CN3001		20P FFC PICK UP TO MAIN	WX1N79F0-201
L0-6		SCREW G N79F0GVM	0VM413966
L0-8		SCREW, P-TIGHT 2X8 BIND HEAD +	GBMP2080
L1-1		SCREW, P-TIGHT 2.6X14 BIND HEAD +	GBMP9140
ELECTRICAL PARTS			
		DVD MAIN CBA UNIT	N79Z0GUP
		DVD MAIN CBA UNIT	N79Z1GUP
		DVD MAIN CBA UNIT	N79Z2GUP
		AV CBA	0VSA13733
AC1001!		AC CORD A0A0280-007	WAC0172LTE04
AC1001!		AC CORD PB8K9F9110A-057	WAC0172LW008
C1001!		METALLIZED FILM CAP. 0.01UF/275V K	CT2E103HJE05
C1001!		METALLIZED FILM CAP. 0.01UF/250V M	CT2E103MS037
C1001!		METALLIZED FILM CAP. 0.01UF/250V K	CT2E103DC011
C1003		ELECTROLYTIC CAP. 2.2UF/250V M	CA2E2R2S6009
C1003		ELECTROLYTIC CAP. 2.2UF/250V M(105°C)	CE2EMASTH2R2
C1004		ELECTROLYTIC CAP. 82UF/200V M	CA2D820S6014
C1004		ELECTROLYTIC CAP. 82UF/200V M	CA2D820NC002
C1005		CERAMIC CAP. CH J 56PF/500V	CCD2JJPCH560
C1006!		SAFETY CAP. 2200PF/250V	CCD2EMA0E222

C1006!		SAFETY CAP. 2200PF/250V	CCG2EMA0F222
C1006!		SAFETY CAP. 2200PF/125V	CCG2BMA0E222
C1007		ELECTROLYTIC CAP. 1000UF/6.3V M	CE0KMASDL102
C1010		CERAMIC CAP.(AX) CH J 560PF/50V	CA1J561TU008
C1013		CERAMIC CAP.(AX) B K 3300PF/50V	CA1J332TU011
C1014		ELECTOLYTIC CAP. 1000UF/6.3V M(105˚C)	CE0KMASDH102
C1017		CERAMIC CAP.(AX) Y M 0.01UF/16V	CCA1CMT0Y103
C1022		CHIP CERAMIC CAP. B K 0.01UF/50V	CHD1JK30B103
C1029		CERAMIC CAP.(AX) X K 2200PF/16V	CCA1CKT0X222
C1034		ELECTROLYTIC CAP. 470UF/6.3V M	CE0KMASDL471
C1035		ELECTROLYTIC CAP. 470UF/16V M	CE1CMASDL471
C1036		CHIP CERAMIC CAP. B K 0.01UF/50V	CHD1JK30B103
C1037		CHIP CERAMIC CAP. F Z 0.1UF/50V	CHD1JZ30F104
C1038		ELECTROLYTIC CAP. 470UF/6.3V M	CE0KMASDL471
C1039		CHIP CERAMIC CAP. F Z 0.1UF/50V	CHD1JZ30F104
C1047		FILM CAP.(P) 0.01UF/50V J	CMA1JJS00103
C1047		FILM CAP.(P) 0.01UF/50V J	CA1J103MS029
C1048		ELECTROLYTIC CAP. 220UF/16V M	CE1CMASDL221
C1050		ELECTROLYTIC CAP. 220UF/6.3V M	CE0KMASDL221
C1201		ELECTROLYTIC CAP. 10UF/16V M	CE1CMASDL100
C1202		ELECTROLYTIC CAP. 10UF/16V M	CE1CMASDL100
C1205		CHIP CERAMIC CAP. CH J 220PF/50V	CHD1JJ3CH221
C1206		CHIP CERAMIC CAP. CH J 220PF/50V	CHD1JJ3CH221
C1207		CHIP CERAMIC CAP. CH J 47PF/50V	CHD1JJ3CH470
C1208		CHIP CERAMIC CAP. CH J 47PF/50V	CHD1JJ3CH470
C1221		ELECTROLYTIC CAP. 10UF/16V M	CE1CMASDL100
C1222		ELECTROLYTIC CAP. 10UF/16V M	CE1CMASDL100
C1223		CHIP CERAMIC CAP. CH J 1000PF/50V	CHD1JJ3CH102
C1224		CHIP CERAMIC CAP. CH J 1000PF/50V	CHD1JJ3CH102
C1245		CHIP CERAMIC CAP. F Z 0.1UF/50V	CHD1JZ30F104
C1246		CHIP CERAMIC CAP. F Z 0.1UF/50V	CHD1JZ30F104
C1247		ELECTROLYTIC CAP. 470UF/6.3V M	CE0KMASDL471
C1249		ELECTROLYTIC CAP. 47UF/16V M	CE1CMASDL470
C1351		CHIP CERAMIC CAP. B K 0.1UF/25V	CHD1EK30B104
C1353		CHIP CERAMIC CAP. B K 1UF/10V	CHD1AK30B105
C1354		CHIP CERAMIC CAP. CH J 100PF/50V	CHD1JJ3CH101
C1355		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
C1358		CHIP CERAMIC CAP. CH D 9PF/50V	CHD1JD3CH9R0
C1394		ELECTROLYTIC CAP. 47UF/6.3V M	CE0KMASDL470
C1395		ELECTROLYTIC CAP. 470UF/6.3V M	CE0KMASDL471
C1402		ELECTROLYTIC CAP. 470UF/6.3V M	CE0KMASDL471
C1421		CHIP CERAMIC CAP. B K 0.01UF/50V	CHD1JK30B103
C1422		CHIP CERAMIC CAP. B K 0.1UF/25V	CHD1EK30B104
C1441		CHIP CERAMIC CAP. B K 0.33UF/10V	CHD1AK30B334
C1442		ELECTROLYTIC CAP. 470UF/6.3V M	CE0KMASDL471
C1521		CHIP CERAMIC CAP. CH J 100PF/50V	CHD1JJ3CH101
C1522		ELECTROLYTIC CAP. 10UF/16V M	CE1CMASDL100
C1524		ELECTROLYTIC CAP. 100UF/6.3V M	CE0KMASDL101
C1531		CHIP CERAMIC CAP. B K 0.01UF/50V	CHD1JK30B103
C1532		ELECTROLYTIC CAP. 22UF/6.3V M	CE0KMASDL220
C1533		CHIP CERAMIC CAP. F Z 0.1UF/50V	CHD1JZ30F104
C2002		ELECTROLYTIC CAP. 22UF/50V M	CE1JMASDL220
C2004		CHIP CERAMIC CAP. F Z 0.1UF/50V	CHD1JZ30F104
C2011		CHIP CERAMIC CAP. F Z 0.1UF/50V	CHD1JZ30F104
C2012		ELECTROLYTIC CAP. 100UF/6.3V M	CE0KMASDL101
C2013		CHIP CERAMIC CAP. CH J 1000PF/50V	CHD1JJ3CH102

CN1001		FMN CONNECTOR, TOP 22P 22FMN-BTK	JCFNG22JG001
CN1001		FFC/FPC CONNECTOR 22P 00 6232 022 000 800	JC62G22TM009
CN1601		FMN CONNECTOR, TOP 12P 12FMN-BTK	JCFNG12JG001
CN1601		FFC/FPC CONNECTOR 12P 00 6232 012 000 800	JC62G12TM009
CN2002		FMN CONNECTOR, TOP 9P 09FMN-BTRK	JCFNG09JG002
D1001		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1002		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1004		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1005		RECTIFIER DIODE 1N4005	NDQZ001N4005
D1006		SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1006		SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D1008		SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1008		SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D1011		RECTIFIER DIODE BA157	NDQZ000BA157
D1011		FAST RECOVERY DIODE ERA18-04	QDPZ0ERA1804
D1012		SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1012		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1015		ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D1015		ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D1018		SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1018		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1024		SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1024		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1030		RECTIFIER DIODE FR202	NDQZ000FR202
D1030		FAST RECOVERY DIODE ERB32-01L3	QDQZ0ERB3201
D1046		ZENER DIODE DZ-5.6BSCT265	NDTC0DZ5R6BS
D1046		ZENER DIODE MTZJT-775.6C	QDTC0MTZJ5R6
D1047		ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D1047		ZENER DIODE MTZJT-775.1B	QDTB0MTZJ5R1
D1048		ZENER DIODE DZ-15BSAT265	NDTA00DZ15BS
D1048		ZENER DIODE MTZJT-7715A	QDTA00MTZJ15
D1051		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1051		ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D1053		PCB JUMPER D0.6-P10.0	JW10.0T
D1054		PCB JUMPER D0.6-P10.0	JW10.0T
D1058		SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1058		SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D1301		ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D1301		ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D2005		SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2005		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2006		SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2006		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2007		SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2007		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2008		SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2008		SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2010		PCB JUMPER D0.6-P5.0	JW5.0T
F1001!		FUSE 1A/250V	PAGA20CW3102
F1001!		FUSE 1A/250V	PAGG20CAG102
FH1001		FUSE HOLDER MSF-015	XH01Z00LY001
FH1002		FUSE HOLDER MSF-015	XH01Z00LY001
IC1001!		PHOTOCOUPLER LTV-817B-F	NPEB0LTV817F
IC1001!		PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC1002		VOLTAGE REGULATOR PQ070XF01SZ	QSZBA0SSH026
IC1006		IC KIA431-AT	NSZLA0TJY001

IC1201		IC:OP AMP KIA4558P	NSZBA0SJY004
IC1201		IC:OP AMP NJM4558D	QSZBA0SJR006
IC1401		DRIVER FOR DVD(3CH) MM1566AJBE	QSZBA0TMM086
IC2001		FL DRIVER IC PT6313-S-TP	NSZBA0TG2006
J2576		CERAMIC CAP.(AX) B K 1000PF/50V	CCA1JKT0B102
JK1201		2PIN JACK MSD-242V-01 NI	JXRL020LY067
JK1202		RCA JACK(BLACK) MSP-251V-01 NI	JXRL010LY070
JK1401		S TYPE JACK MDC-050V-2.4	JXEL040LY001
JK1402		RCA JACK(YELLOW) MSP-251V-02 PBSN	JXRL010LY017
L1001!		LINE FILTER 20MH SA-00911	LLBG00ZSA003
L1007		CHOKE COIL 22UH-K	LLBD00PKV006
L1008		CHOKE COIL 22UH-K	LLBD00PKV006
L1009		CHOKE COIL 22UH-K	LLBD00PKV006
L1011		BEAD CORE B16 RH 3.5X3X1.3	XL03003XM002
L1043		BEAD CORE B16 RH 4X3X2	XL03003XM001
L1060		BEAD CORE B16 RH 3.5X3X1.3	XL03003XM002
L1350		INDUCTOR 100UH-K-26T	LLAXKATTU101
L1351		INDUCTOR 0.47UH-K-26T	LLAXKATTUR47
L1401		CHIP INDUCTOR BK1608HM121-T	LLBC003TU051
L1421		CHIP INDUCTOR BK1608HM121-T	LLBC003TU051
L1442		CHIP INDUCTOR BK1608HM121-T	LLBC003TU051
L1521		CHOKE COIL 22UH-K	LLBD00PKV006
L1522		CHIP BEAD MMZ1608R102CT	XL06001TE002
L2001		PCB JUMPER D0.6-P5.0	JW5.0T
L2002		INDUCTOR 100UH-K-26T	LLAXKATTU101
L2003		PCB JUMPER D0.6-P5.0	JW5.0T
Q1001		FET 2SK3374	QFWZ02SK3374
Q1002		TRANSISTOR KTA1267(Y)	NQSY0KTA1267
Q1003		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1003		TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1004		TRANSISTOR KTC3198(Y)	NQSY0KTC3198
Q1006		RES. BUILT-IN TRANSISTOR KRA110M	NQSZ0KRA110M
Q1006		RES. BUILT-IN TRANSISTOR BN1L3Z(P)	QQSP00BN1L3Z
Q1011		TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1016		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1016		TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1201		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1201		TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1202		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1202		TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1203		TRANSISTOR KTA1266(Y)	NQSY0KTA1266
Q1203		TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1204		TRANSISTOR KTA1266(Y)	NQSY0KTA1266
Q1204		TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
Q1351		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1351		TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q1352		TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1352		TRANSISTOR 2SC2785(H)	QQSH02SC2785
Q2002		TRANSISTOR KTA1266(Y)	NQSY0KTA1266
Q2002		TRANSISTOR 2SA1015-Y(TPE2)	QQSY02SA1015
R1004		METAL OXIDE FILM RES. 2W J 82K OHM	RN02823ZU001
R1004		METAL OXIDE FILM RES. 2W J 82K OHM	RN02823KE009
R1005		CARBON RES. 1/4W J 2.7M OHM	RCX4JATZ0275
R1006		CARBON RES. 1/4W J 2.7M OHM	RCX4JATZ0275
R1008		CARBON RES. 1/4W J 1K OHM	RCX4JATZ0102
R1010		CARBON RES. 1/6W J 15K OHM	RCX6JATZ0153

R1010		CARBON RES. 1/4W J 15K OHM	RCX4JATZ0153
R1011		METAL OXIDE FILM RES. 1W J 1.2 OHM	RN011R2ZU001
R1011		METAL OXIDE FILM RES. 1W J 1.2 OHM	RN011R2KE009
R1015		CARBON RES. 1/4W J 560 OHM	RCX4JATZ0561
R1016		CARBON RES. 1/6W J 22K OHM	RCX6JATZ0223
R1016		CARBON RES. 1/4W J 22K OHM	RCX4JATZ0223
R1019		CHIP RES.(1608) 1/16W F 820 OHM	RRXGFR5Z0821
R1019		CHIP RES. 1/10W F 820 OHM	RRXAFR5Z8200
R1020		CHIP RES.(1608) 1/10W J 2.7K OHM	RRXAJR5Z0272
R1021		CHIP RES.(1608) 1/10W J 5.6K OHM	RRXAJR5Z0562
R1022		CHIP RES.(1608) 1/10W J 820 OHM	RRXAJR5Z0821
R1023		CHIP RES.(1608) 1/16W F 2.4K OHM	RRXGFR5Z0242
R1023		CHIP RES.(1608) 1/10W F 2.4K OHM	RRXAFR5Z2401
R1025		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R1029		CARBON RES. 1/6W J 470K OHM	RCX6JATZ0474
R1029		CARBON RES. 1/4W J 470K OHM	RCX4JATZ0474
R1032		CARBON RES. 1/6W J 3.3K OHM	RCX6JATZ0332
R1032		CARBON RES. 1/4W J 3.3K OHM	RCX4JATZ0332
R1035		CARBON RES. 1/4W J 1K OHM	RCX4JATZ0102
R1043		METAL OXIDE FILM RES. 1W J 2.7 OHM	RN012R7ZU001
R1043		METAL OXIDE FILM RES. 1W J 2.7 OHM	RN012R7KE009
R1044		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R1059		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R1067		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R1068		CARBON RES. 1/4W J 1K OHM	RCX4JATZ0102
R1069		CARBON RES. 1/6W J 470 OHM	RCX6JATZ0471
R1069		CARBON RES. 1/4W J 470 OHM	RCX4JATZ0471
R1073		METAL OXIDE FILM RES. 2W J 10 OHM	RN02100ZU001
R1073		METAL OXIDE FILM RES. 2W J 10 OHM	RN02100KE009
R1074		RECTIFIER DIODE 1N4005	NDQZ001N4005
R1075		CHIP RES.(1608) 1/10W J 2.7K OHM	RRXAJR5Z0272
R1076		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R1080		CHIP RES.(1608) 1/10W J 22K OHM	RRXAJR5Z0223
R1081		CHIP REG. 1/16W F 100 OHM	RRXGFR5Z0101
R1081		CHIP RES. 1/10W F 100 OHM	RRXAFR5Z1000
R1082		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R1086		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R1091		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R1203		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R1204		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R1205		CHIP RES.(1608) 1/16W F 20K OHM	RRXGFR5Z0203
R1205		CHIP RES.(1608) 1/10W F 20K OHM	RRXAFR5Z2002
R1206		CHIP RES.(1608) 1/16W F 20K OHM	RRXGFR5Z0203
R1206		CHIP RES.(1608) 1/10W F 20K OHM	RRXAFR5Z2002
R1207		CHIP RES.(1608) 1/10W J 8.2K OHM	RRXAJR5Z0822
R1208		CHIP RES.(1608) 1/10W J 8.2K OHM	RRXAJR5Z0822
R1209		CHIP RES. 1/16W F 30K OHM	RRXGFR5Z0303
R1209		CHIP RES.(1608) 1/10W F 30K OHM	RRXAFR5Z3002
R1210		CHIP RES. 1/16W F 30K OHM	RRXGFR5Z0303
R1210		CHIP RES.(1608) 1/10W F 30K OHM	RRXAFR5Z3002
R1211		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R1212		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R1221		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R1222		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R1223		CHIP RES.(1608) 1/10W J 470 OHM	RRXAJR5Z0471
R1224		CHIP RES.(1608) 1/10W J 470 OHM	RRXAJR5Z0471

R1225		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R1226		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R1227		CHIP RES.(1608) 1/10W J 220 OHM	RRXAJR5Z0221
R1228		CHIP RES.(1608) 1/10W J 220 OHM	RRXAJR5Z0221
R1233		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R1235		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R1236		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R1237		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R1238		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R1239		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R1240		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R1245		CHIP RES.(1608) 1/10W J 10 OHM	RRXAJR5Z0100
R1351		CHIP RES.(1608) 1/10W J 1.8K OHM	RRXAJR5Z0182
R1352		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R1353		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R1354		CHIP RES.(1608) 1/10W J 220 OHM	RRXAJR5Z0221
R1355		CHIP RES.(1608) 1/10W J 75 OHM	RRXAJR5Z0750
R1356		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R1371		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R1392		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R1396		CHIP RES.(1608) 1/10W J 1K OHM	RRXAJR5Z0102
R1397		CHIP RES.(1608) 1/10W J 100 OHM	RRXAJR5Z0101
R1402		CHIP RES.(1608) 1/10W J 75 OHM	RRXAJR5Z0750
R1421		CHIP RES. 1/16W F 75 OHM	RRXGFR5Z0750
R1421		CHIP RES.(1608) 1/10W F 75 OHM	RRXAFR5Z75R0
R1422		CHIP RES.(1608) 1/10W J 75 OHM	RRXAJR5Z0750
R1441		CHIP RES. 1/16W F 75 OHM	RRXGFR5Z0750
R1441		CHIP RES.(1608) 1/10W F 75 OHM	RRXAFR5Z75R0
R1442		CHIP RES.(1608) 1/10W J 75 OHM	RRXAJR5Z0750
R1522		CHIP BEAD MMZ1608Y121CT	XL06001TE004
R1523		CHIP BEAD MMZ1608Y121CT	XL06001TE004
R1524		CHIP INDUCTOR BK1608HS121-T	LLC121NTU017
R1525		CHIP INDUCTOR BK1608HS121-T	LLC121NTU017
R1613		CHIP RES.(1608) 1/10W J 2.2K OHM	RRXAJR5Z0222
R2004		CHIP RES.(1608) 1/10W J 20K OHM	RRXAJR5Z0203
R2008		CARBON RES. 1/4W J 120 OHM	RCX4JATZ0121
R2011		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R2012		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R2015		CHIP RES.(1608) 1/10W J 100K OHM	RRXAJR5Z0104
R2016		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R2017		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R2025		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R2026		CHIP RES.(1608) 1/10W J 6.8K OHM	RRXAJR5Z0682
R2028		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R2031		CHIP RES.(1608) 1/10W J 22K OHM	RRXAJR5Z0223
R2033		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R2041		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R2042		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R2044		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R2045		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R2046		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R2048		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R2049		CHIP RES.(1608) 1/10W J 10K OHM	RRXAJR5Z0103
R2053		CARBON RES. 1/6W J 10 OHM	RCX6JATZ0100
R2053		CARBON RES. 1/4W J 10 OHM	RCX4JATZ0100
R2054		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000

R2055		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
R2056		CHIP RES.(1608) 1/10W 0 OHM	RRXAZR5Z0000
RM2001		REMOTE RECEIVER PIC-37042LU	USESJRSKK033
SA1001!		SURGE ABSORBER PVR-10D471KB	NVQZ10D471KB
SA1001!		SURGE ABSORBER CNR-10D471K	NVQZR10D471K
T1001!		PULSE TRANS CSA-SW0215B	LTT00CPSA132
W1001		22P FFC AV PCB TO MAIN	WX1E5700-003
W1601		12P FFC	WX1E5700-004
W2002		9P FFC	WX1E5790-002
	A	FUNCTION CBA	0VSA13736
CN5001	A	FMN CONNECTOR, SIDE 9P 09FMN-STRK	JCFNG09JG004
D5001	A	LED(RED) 204HD/E	NPQZ00204HDE
J5001	A	CARBON RES. 1/4W J 120 OHM	RCX4JATZ0121
SW5001	A	TACT SWITCH KSM0614B	SST0101HH013
SW5001	A	TACT SWITCH SKQSAF001A	SST0101AL041
SW5002	A	TACT SWITCH KSM0614B	SST0101HH013
SW5002	A	TACT SWITCH SKQSAF001A	SST0101AL041
SW5003	A	TACT SWITCH KSM0614B	SST0101HH013
SW5003	A	TACT SWITCH SKQSAF001A	SST0101AL041
SW5004	A	TACT SWITCH KSM0614B	SST0101HH013
SW5004	A	TACT SWITCH SKQSAF001A	SST0101AL041
SW5005	A	TACT SWITCH KSM0614B	SST0101HH013
SW5005	A	TACT SWITCH SKQSAF001A	SST0101AL041
SW5006	A	TACT SWITCH KSM0614B	SST0101HH013
SW5006	A	TACT SWITCH SKQSAF001A	SST0101AL041

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