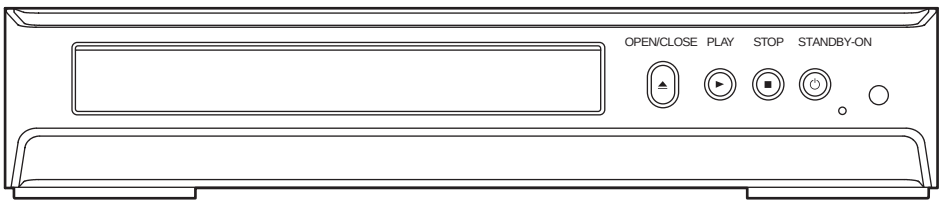
MAGNAVOX

SERVICE MANUAL

DVD PLAYER

MWD200F



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

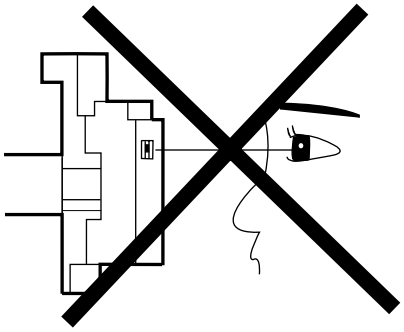
Item	Conditions	Unit	Nominal	Limit
1. Video Output	75 Ω load	Vpp	1.0	± 0.1
2. Coaxial Digital Out	75 Ω load	mVpp	500	± 50
3. Audio (PCM)				
3-1. Output Level	1 kHz, 0 dB	Vrms	2.0	
3-2. S/N		dB	120	
3-3. Freq. Response				
DVD	fs = 48 kHz ± 0.5 dB	Hz	20 ~ 22 k	
CD	fs = 44.1 kHz ± 0.5 dB	Hz	20 ~ 20 k	
3-4. THD+N				
DVD	1 kHz, 0 dB	%	0.0035	
CD	1 kHz, 0 dB	%	0.004	

Notes:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply: AC 120 V, 60 Hz
3. Load imp.: 100 kΩ
4. Ambient Temperature: +25 °C

LASER BEAM SAFETY PRECAUTIONS

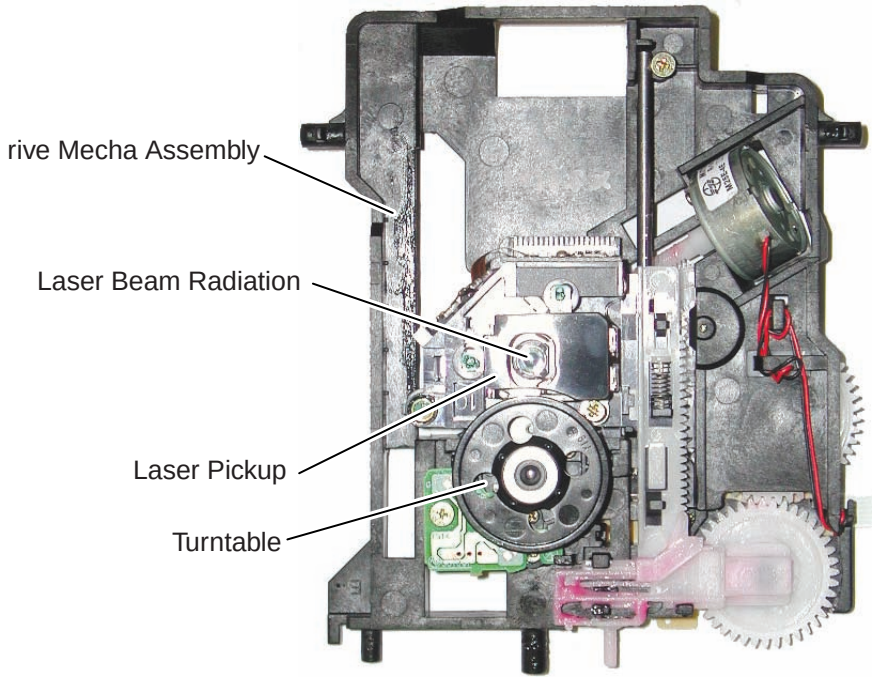
This DVD player uses a pickup that emits a laser beam.



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 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

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



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

Location: 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 (heat sinks, oxide metal film resistors, fusible resistors, etc.).

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

H. When a power cord has been replaced, check that 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	≥ 3.2 mm (0.126 inches)

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

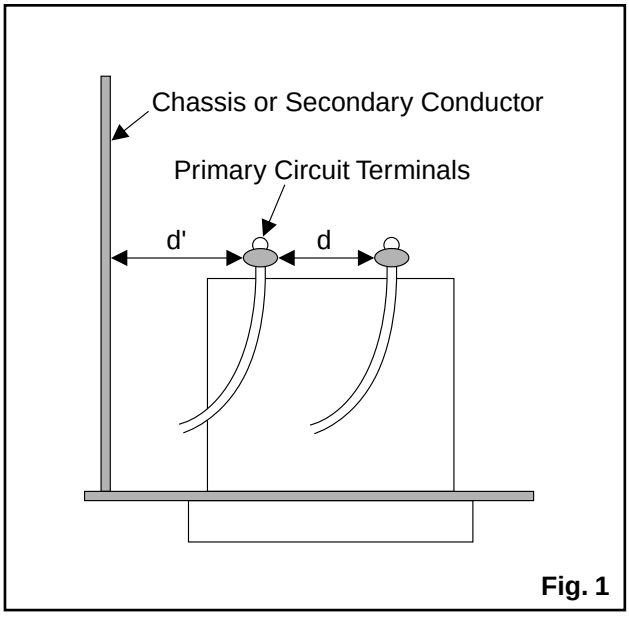


Fig. 1

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.

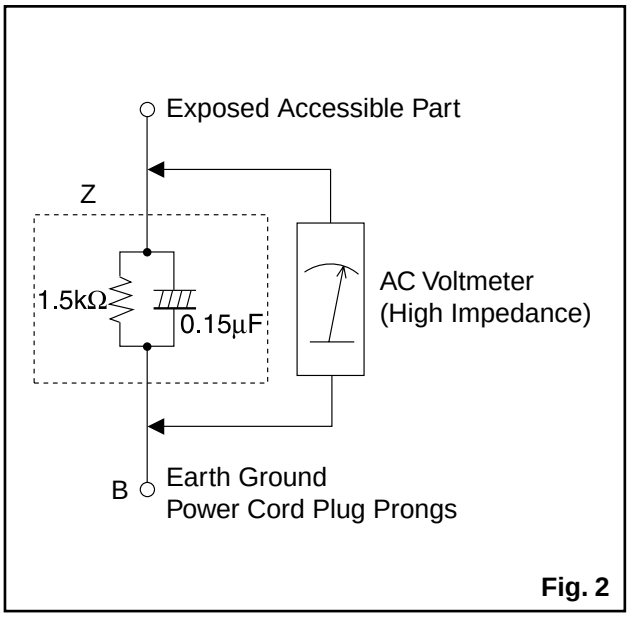


Fig. 2

Table 2: Leakage current ratings for selected areas

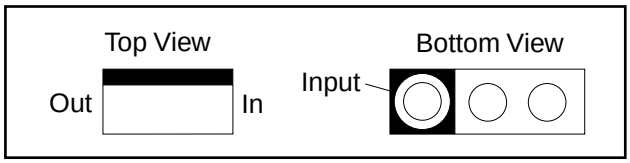
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	i ≤ 0.5 mA Peak	Exposed accessible parts

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

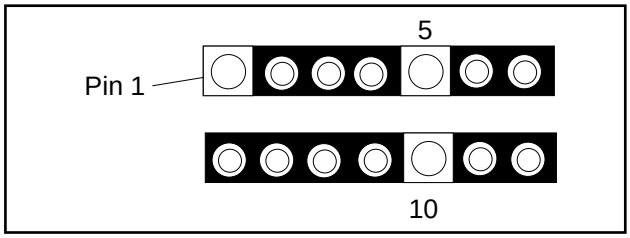
STANDARD NOTES FOR SERVICING

Circuit Board Indications

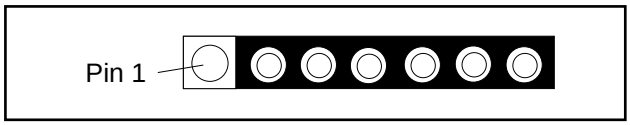
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

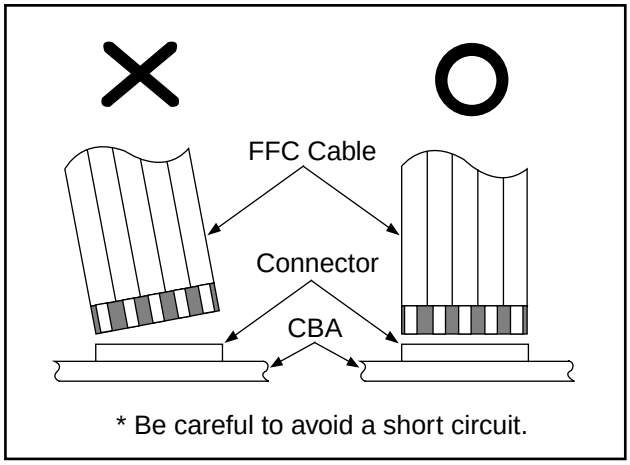


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

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



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

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

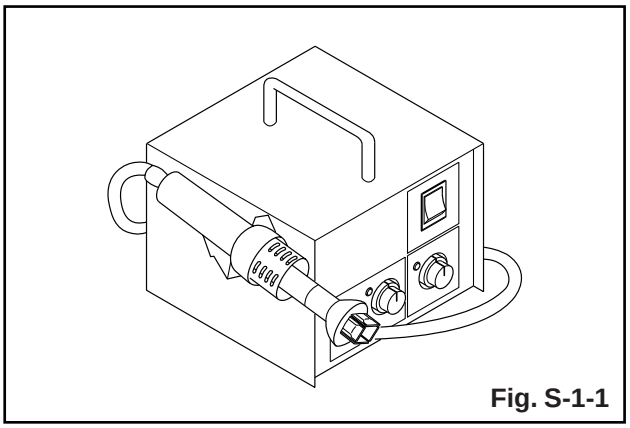


Fig. S-1-1

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

CAUTION:

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

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

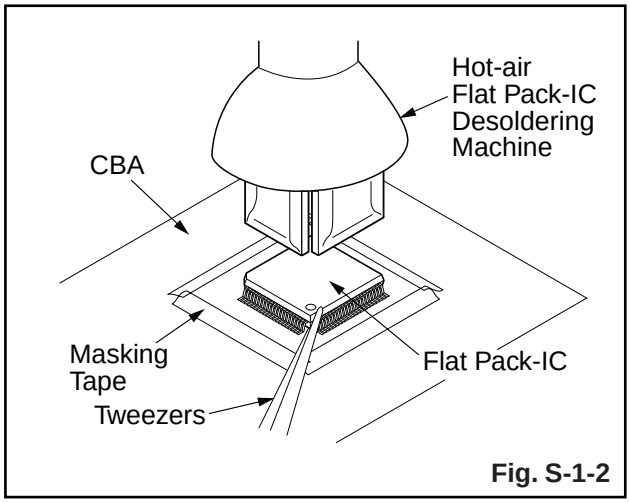


Fig. S-1-2

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)

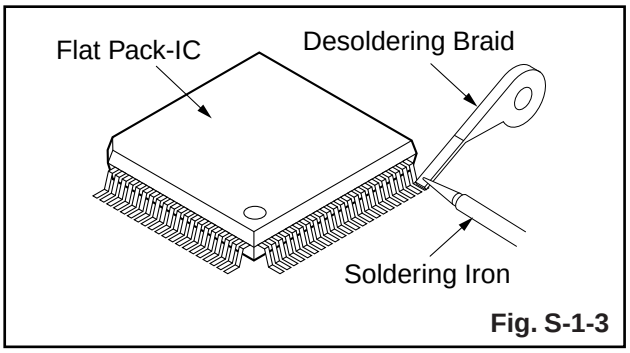


Fig. S-1-3

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)

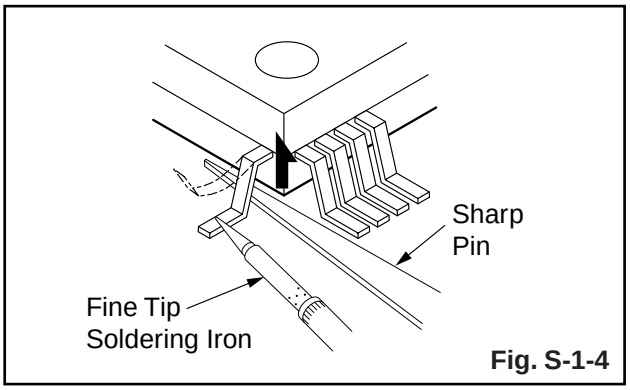


Fig. S-1-4

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.

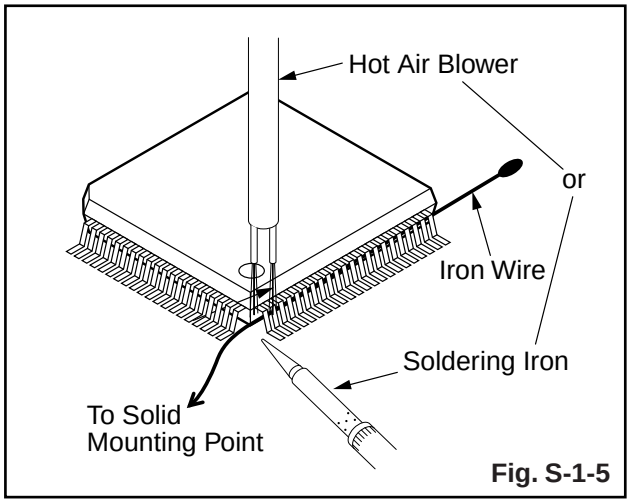


Fig. S-1-5

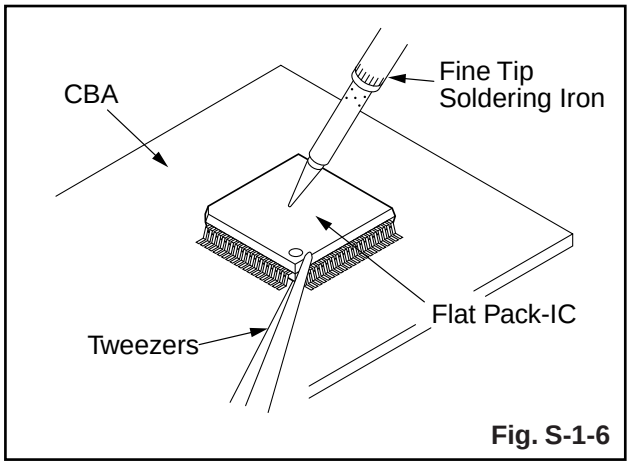


Fig. S-1-6

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.

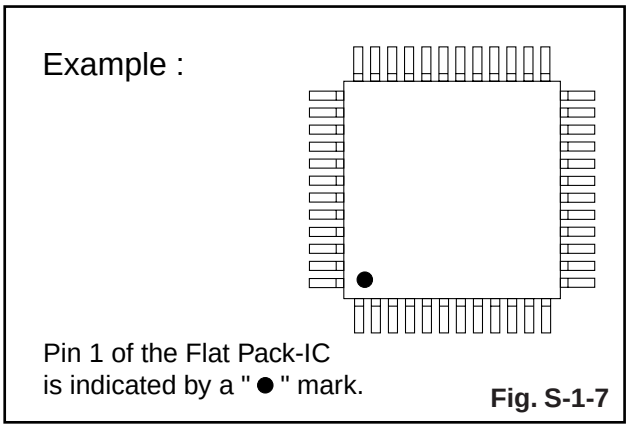


Fig. S-1-7

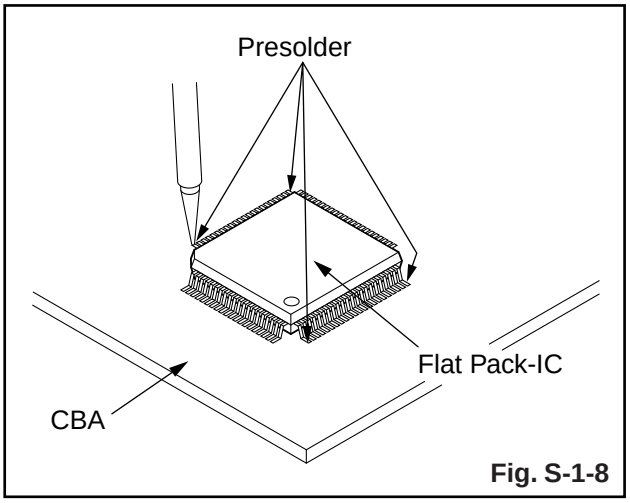


Fig. S-1-8

Instructions for Handling Semi-conductors

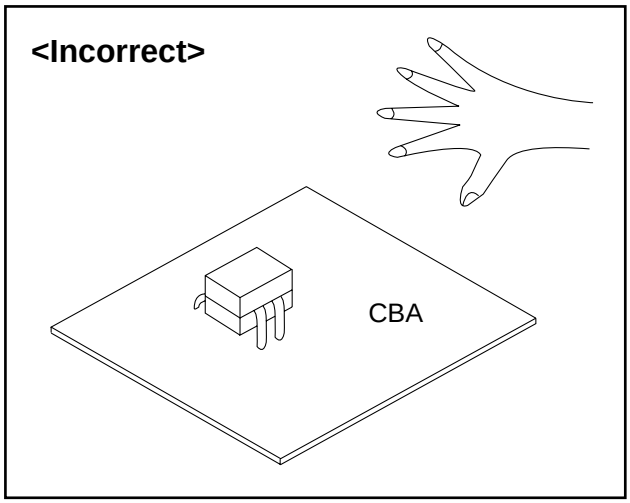
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

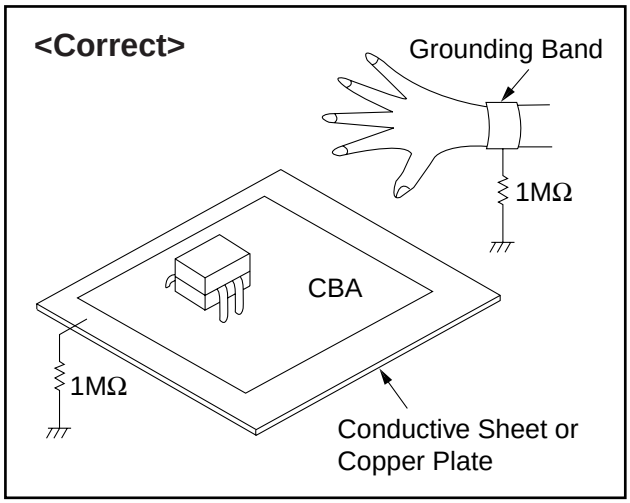
1. Ground for Human Body

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

2. Ground for Workbench

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

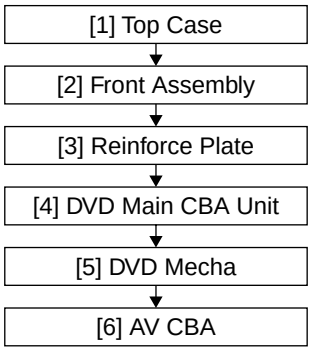




CABINET DISASSEMBLY INSTRUCTIONS

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 Case	D1	2(S-1)	---
[2]	Front Assembly	D2	*3(L-1), *3(L-2)	1
[3]	Reinforce Plate	D3	2(S-2)	---
[4]	DVD Main CBA Unit	D4	(S-3A), (S-3B), *CN201, *CN301, *CN401, *CN601	2
[5]	DVD Mecha	D4 D5	4(S-4)	3
[6]	AV CBA	D6	(S-5), 4(S-6), *3(L-3)	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1) Identification (location) No. of parts in the figures

(2) Name of the part

(3) Figure Number for reference

(4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P = Spring, L = Locking Tab, S = Screw,
CN = Connector
* = 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.”

About tightening screws

When tightening screws, tighten them with the following torque.

Screws	Torque
(S-1), (S-2), (S-3A), (S-4), (S-5), (S-6)	0.45 ± 0.05 N·m
(S-3B)	0.38 ± 0.04 N·m

Reference Notes

1. **CAUTION 1:** Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.
   1) Release three Locking Tabs (L-1). Then, release three Locking Tabs (L-2).
   2) Remove the Front Assembly.
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.
   1) 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. D4)
   2) Disconnect Connectors (CN301), (CN401) and (CN601). Remove two Screws (S-3A) and (S-3B) and lift the DVD Main CBA Unit. (Fig. D4)
3. **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. D4)

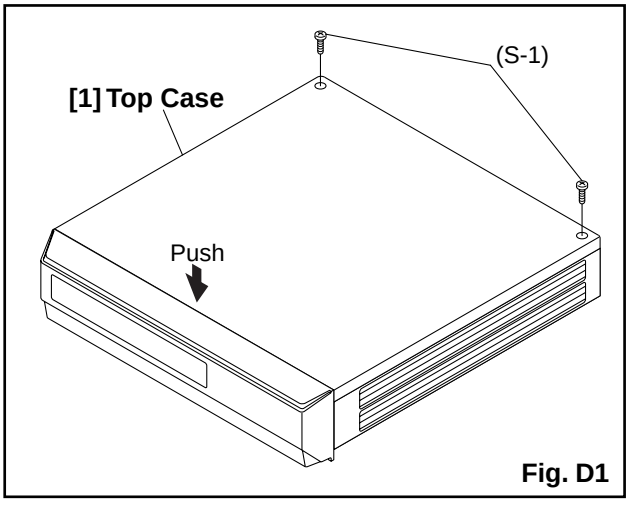
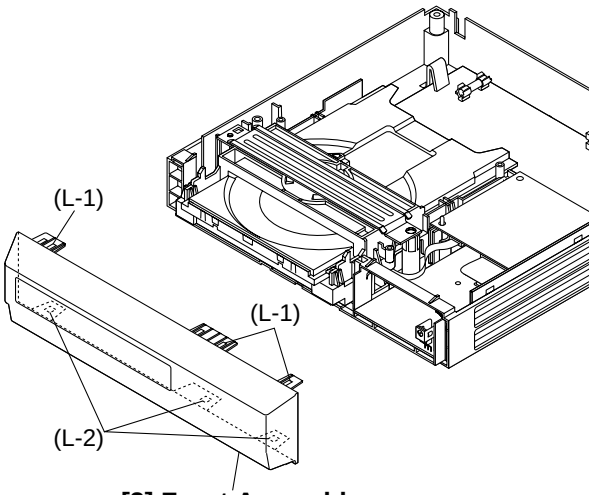
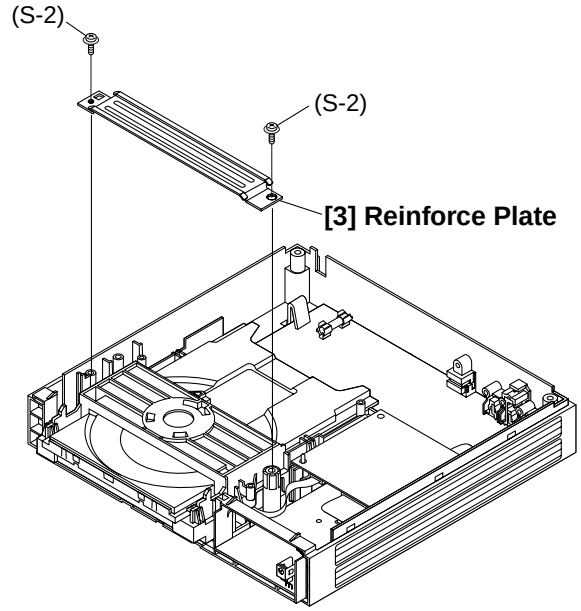


Fig. D1



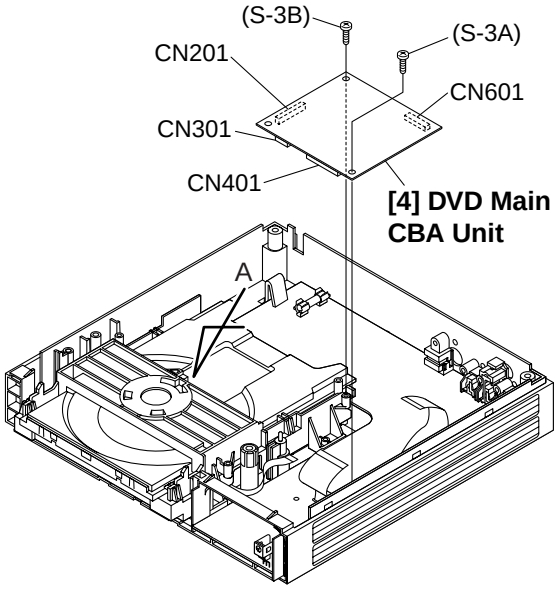
[2] Front Assembly

Fig. D2



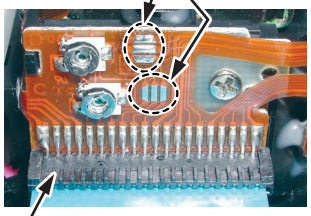
[3] Reinforce Plate

Fig. D3



[4] DVD Main CBA Unit

Short the three short lands by soldering.
(Either of two places.)



Connector View for A

Fig. D4

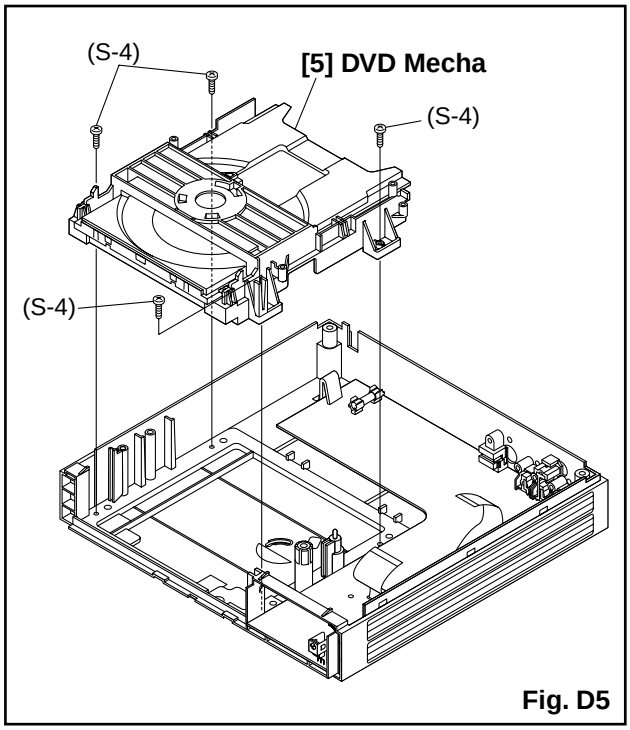


Fig. D5

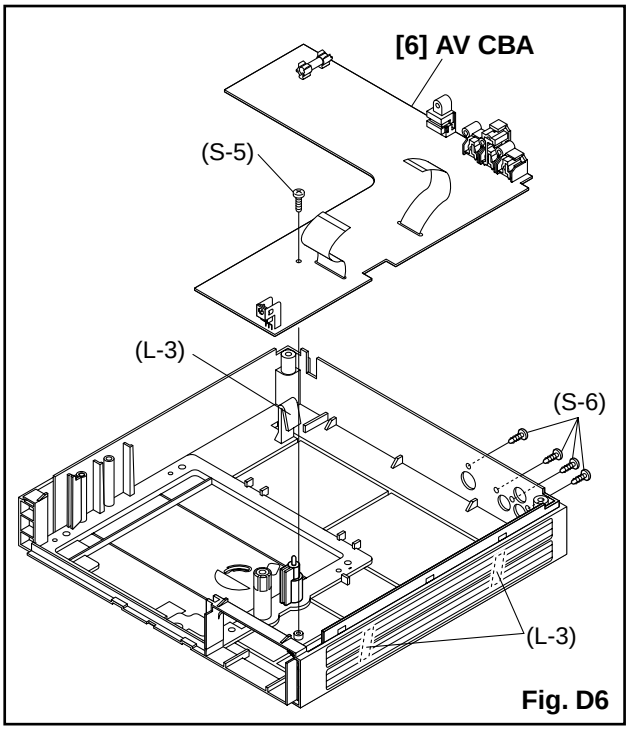
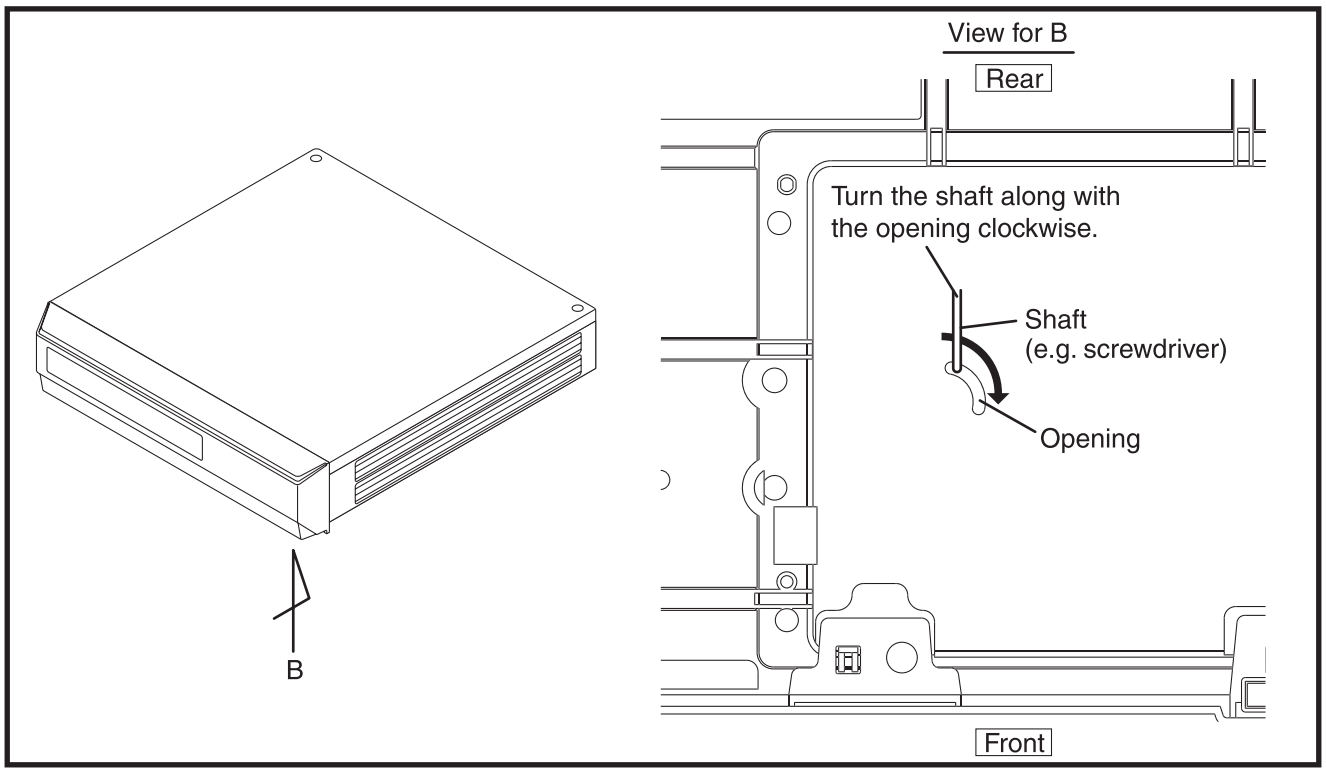


Fig. D6

3. How to Eject Manually

1. Turn the unit over.
2. Insert the shaft less than a diameter of 3 mm (e.g. screwdriver) straightly into the opening as shown.
3. Turn the shaft along with the opening clockwise.
4. Repeat steps 2 and 3 until the tray will open.
5. Pull the tray slowly with a hand.



HOW TO INITIALIZE THE DVD PLAYER

To put the program back at the factory-default, initialize the DVD player as the following procedure.

1. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. a appears on the screen.

"*******" differ depending on the models.

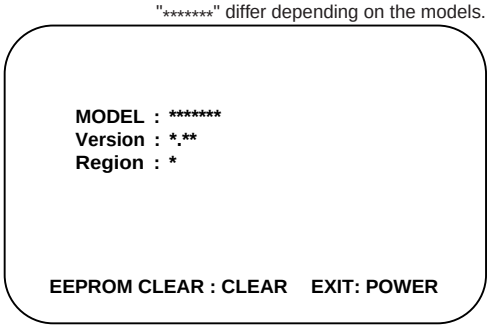


Fig. a

2. Press [CLEAR] button on the remote control unit.
   Fig. b appears on the screen.

"*******" differ depending on the models.

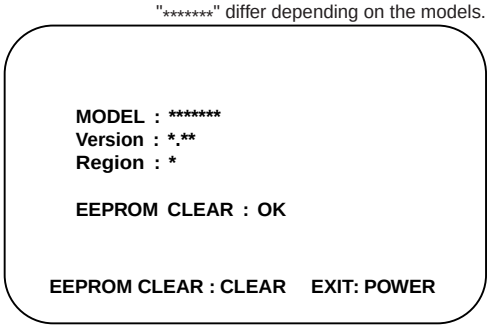


Fig. b

   When “OK” appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

3. To exit this mode, press [STANDBY-ON] button.

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.

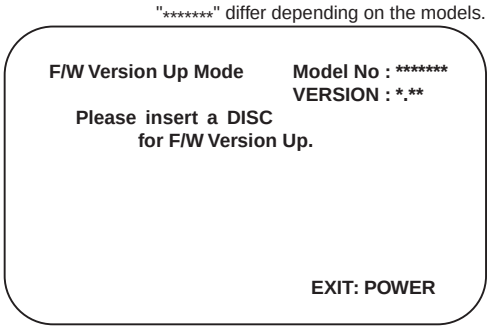


Fig. a Version Up Mode Screen

   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. If you enter the F/W for different models, “Disc Error” will appear on the screen, then the tray will open automatically.

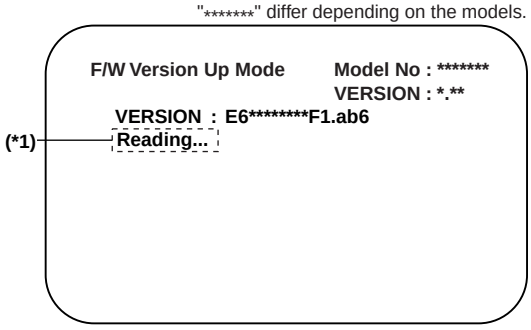


Fig. c Programming Mode Screen

   The appearance shown in (*1) 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 (*2) of Fig. e.

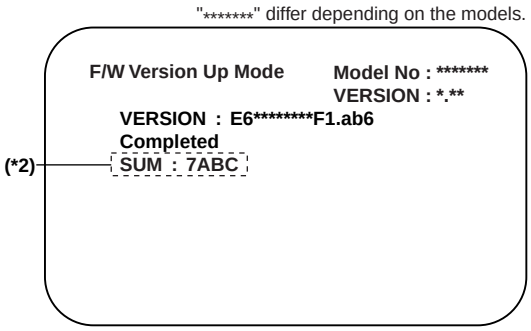


Fig. e Completed Program Mode Screen

   At this time, no buttons are available.

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

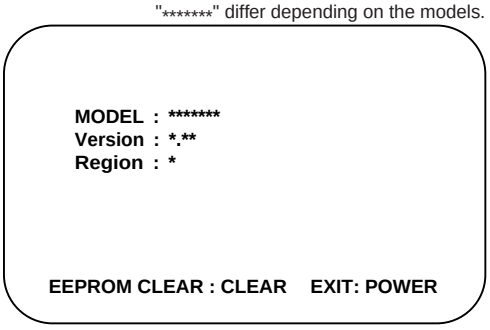


Fig. g

10. Press [CLEAR] button on the remote control unit.
    Fig. h appears on the screen.

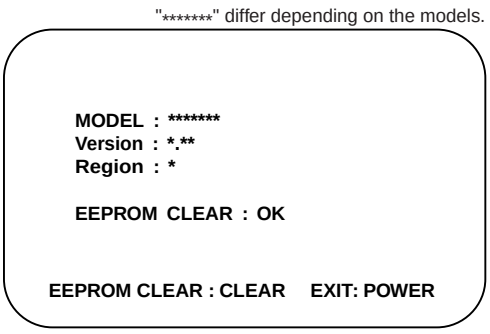


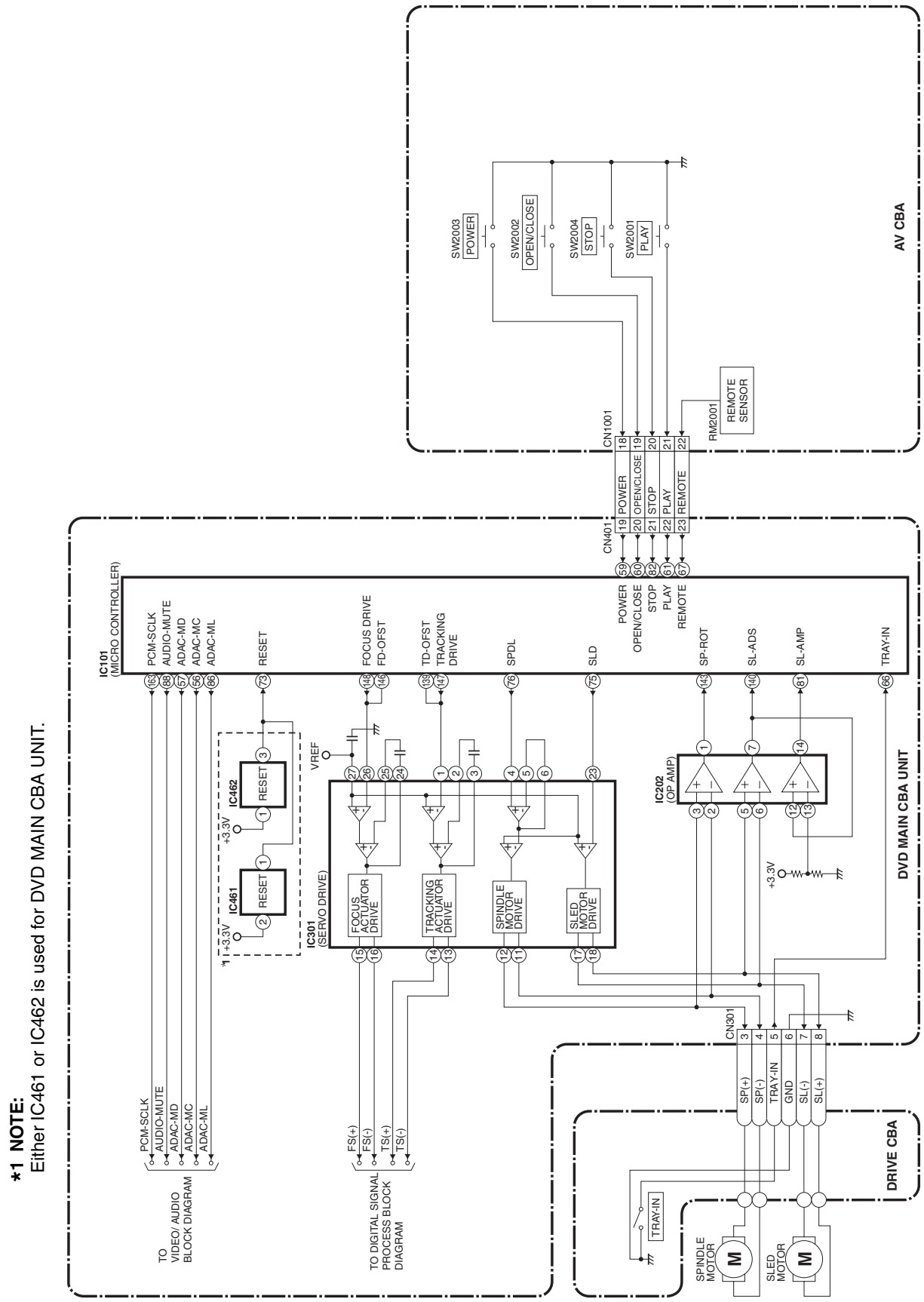
Fig. h

    When “OK” appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

11. To exit this mode, press [STANDBY-ON] button.

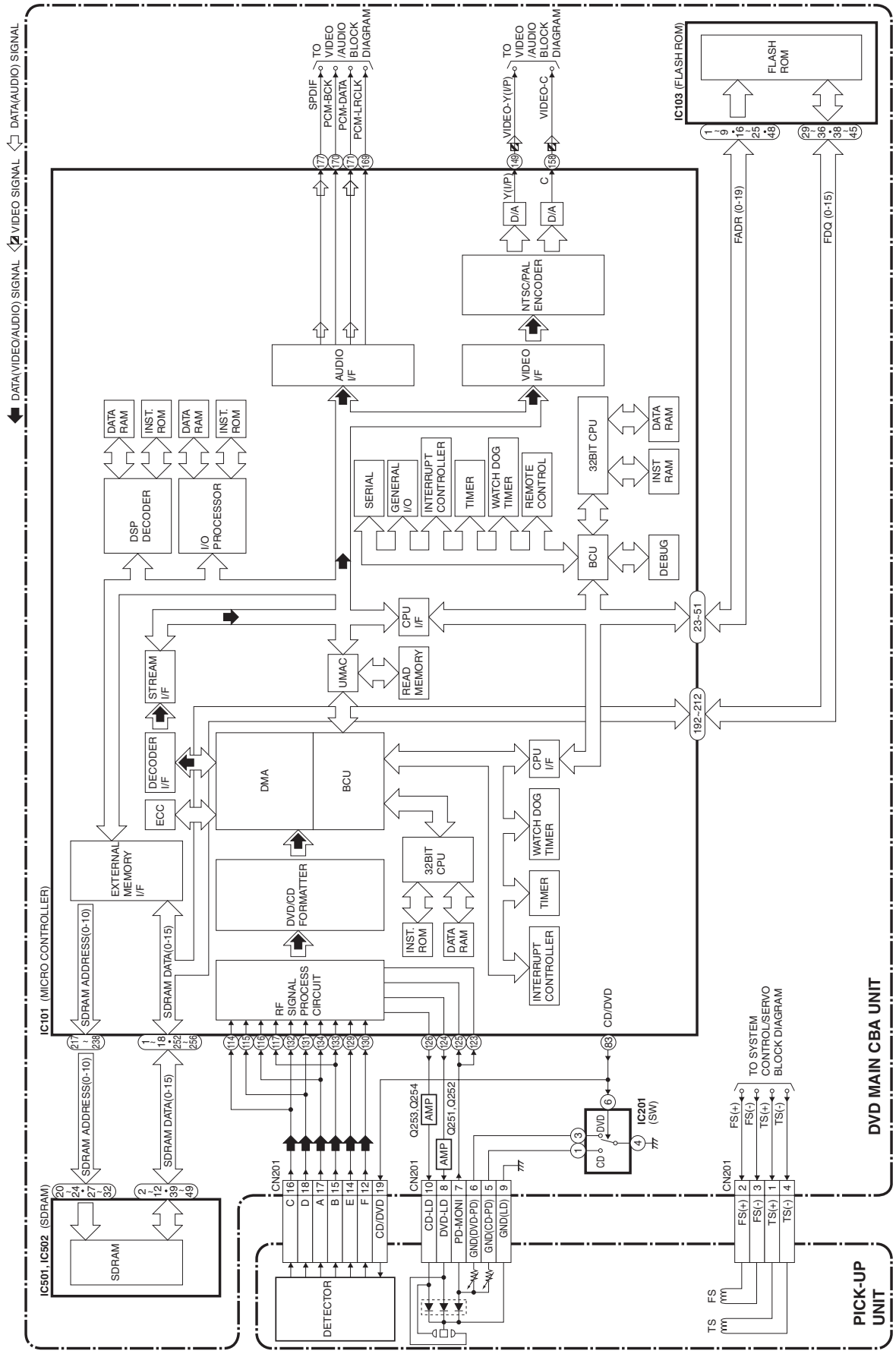
BLOCK DIAGRAMS

System Control / Servo Block Diagram

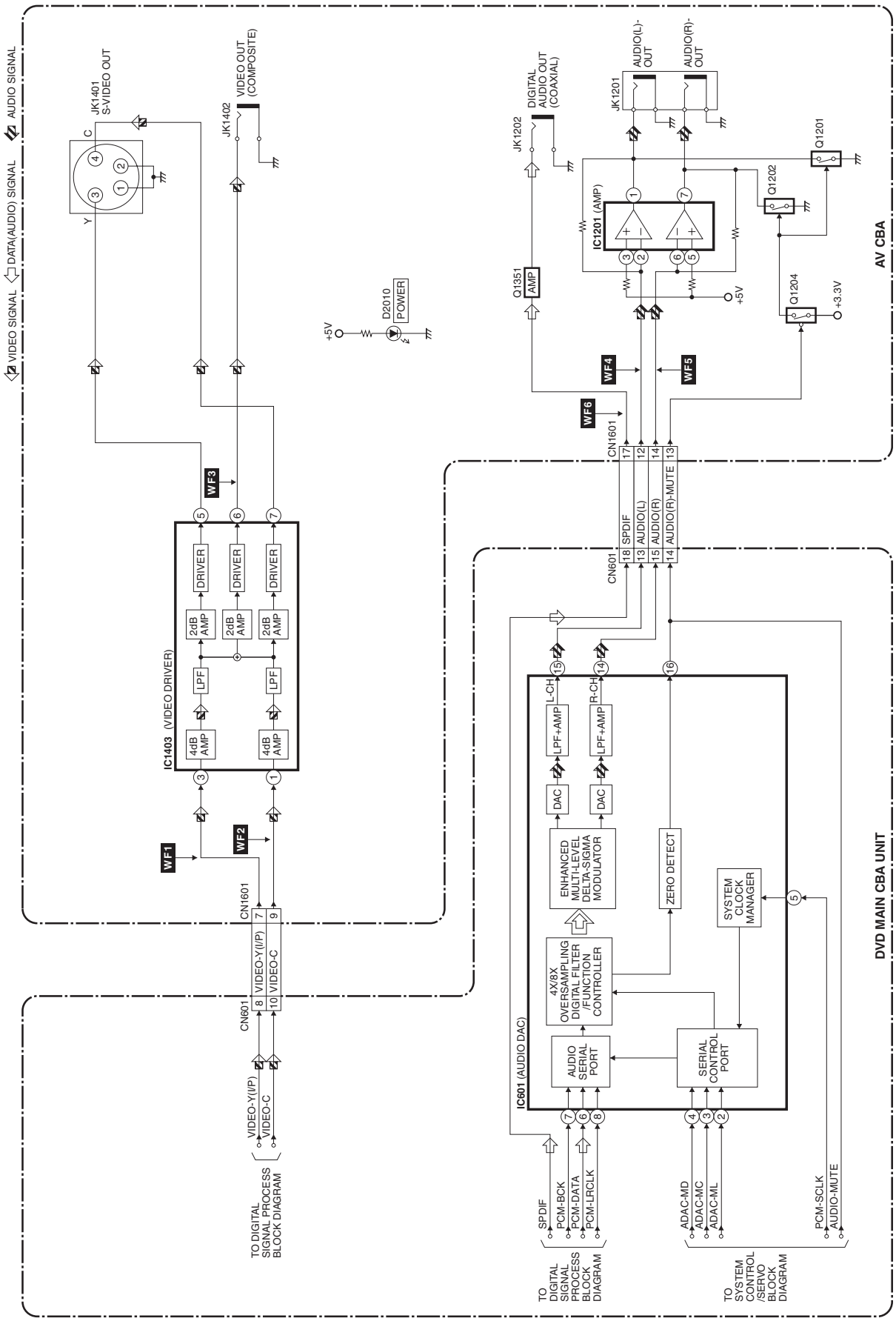


***1 NOTE:**
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.

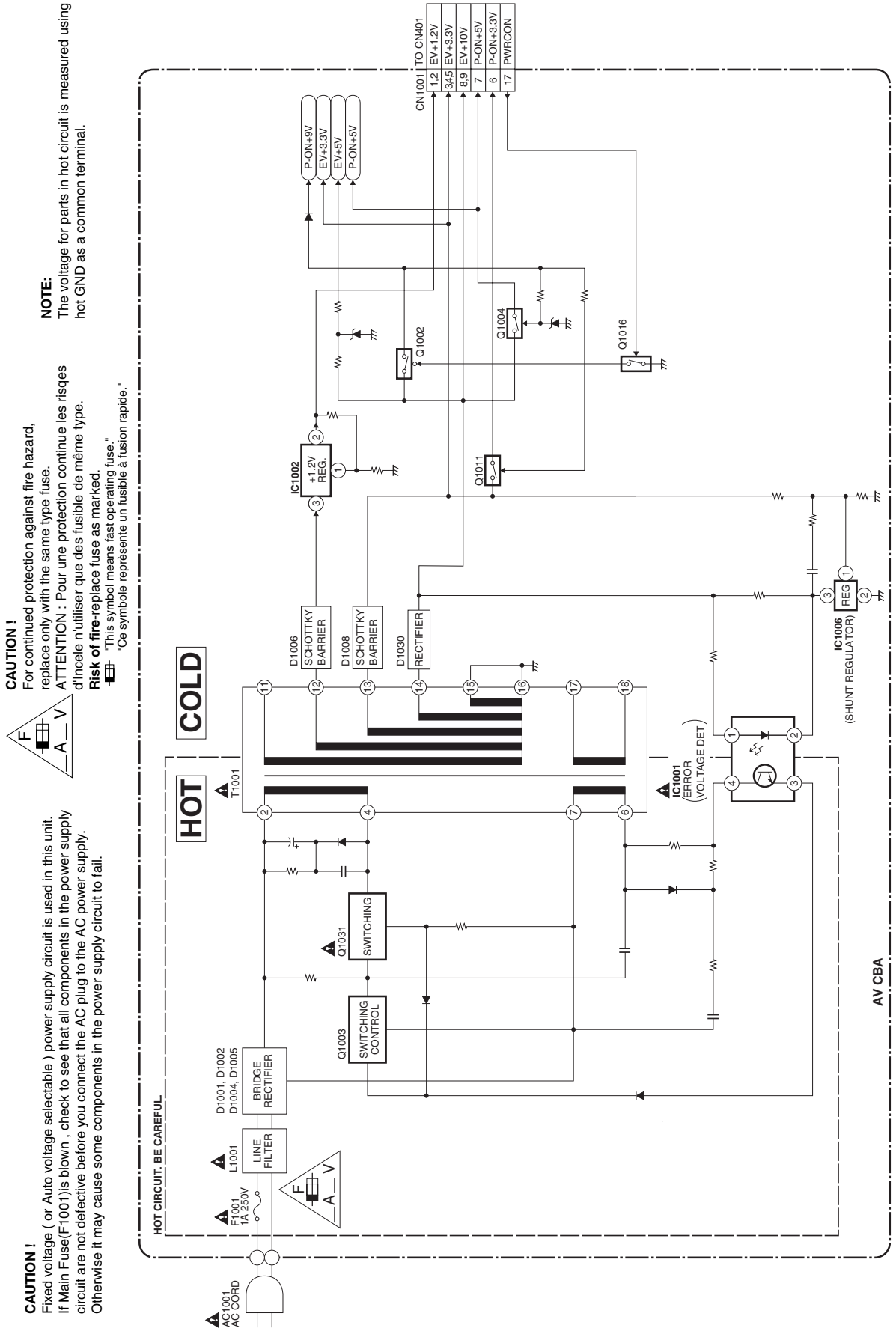
Digital Signal Process Block Diagram



Video / Audio Block Diagram



Power Supply Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

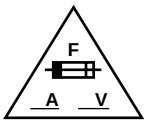
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special 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 reprèsente un fusible à fusion rapide.

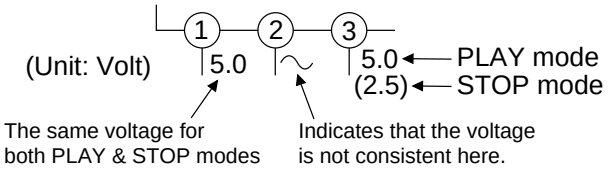
2. CAUTION:

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

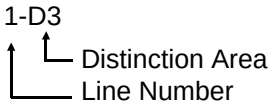
3. Note:

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

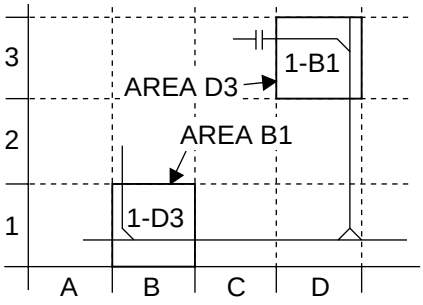
4. Voltage indications for PLAY and STOP mode on the schematics are as shown below:



5. 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".



6. Test Point Information

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

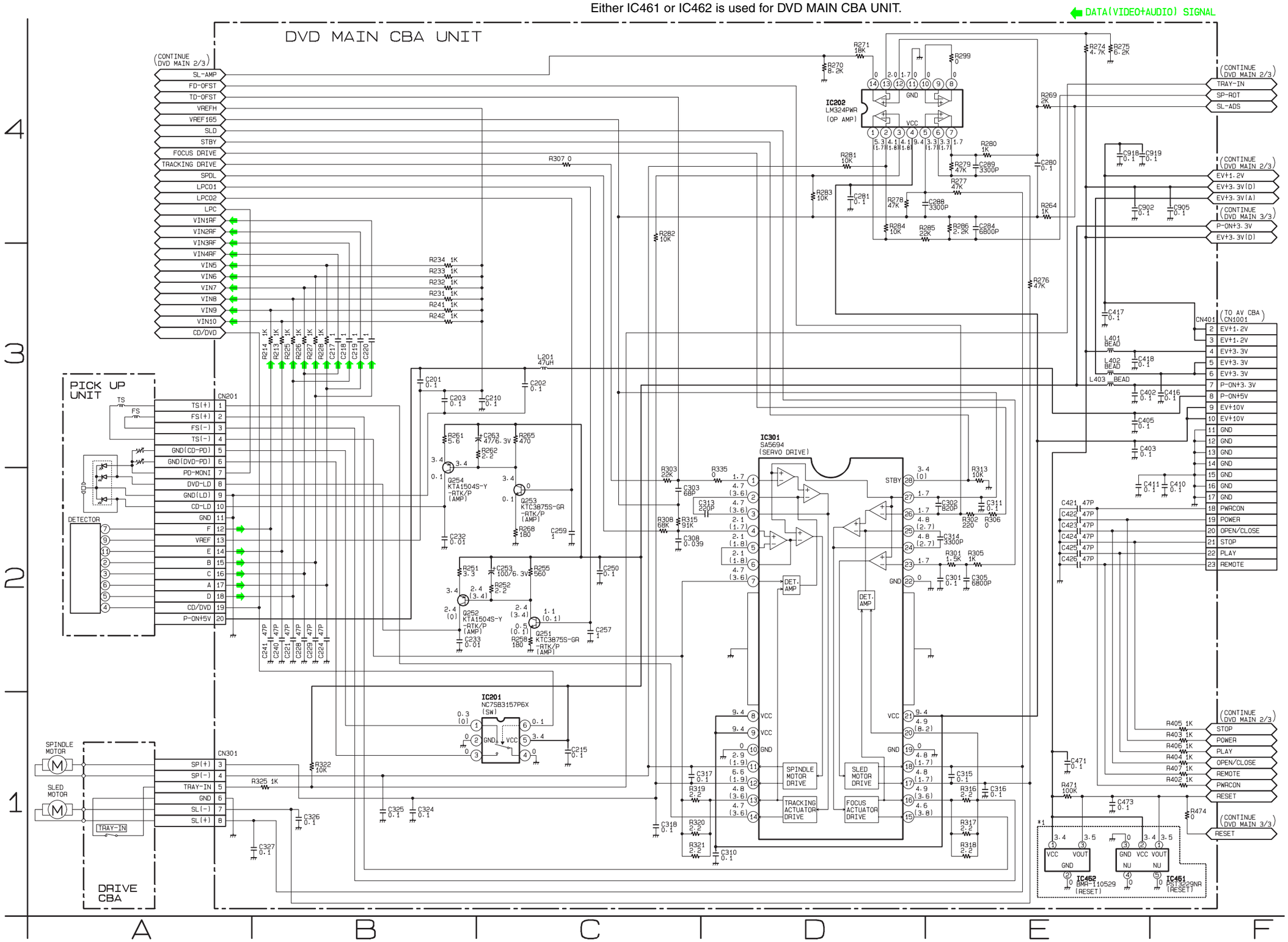
 : Used to indicate a test point with a component lead on foil side.

 : 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

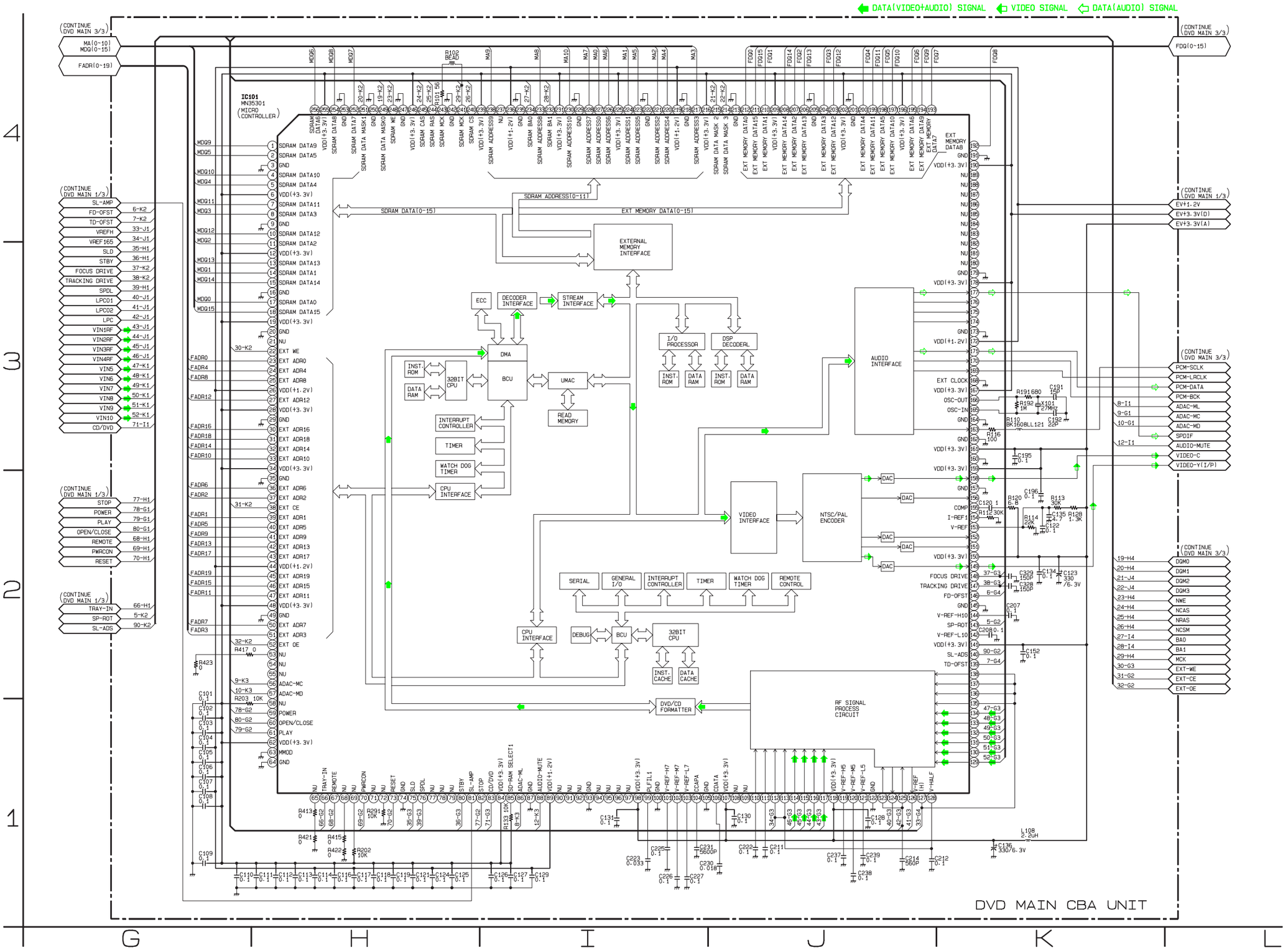
***1 NOTE:**
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.



DVD MAIN 1/3

Ref No.	Position
ICS	
IC201	C-1
IC202	D-4
IC301	D-3
IC461	F-1
IC462	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

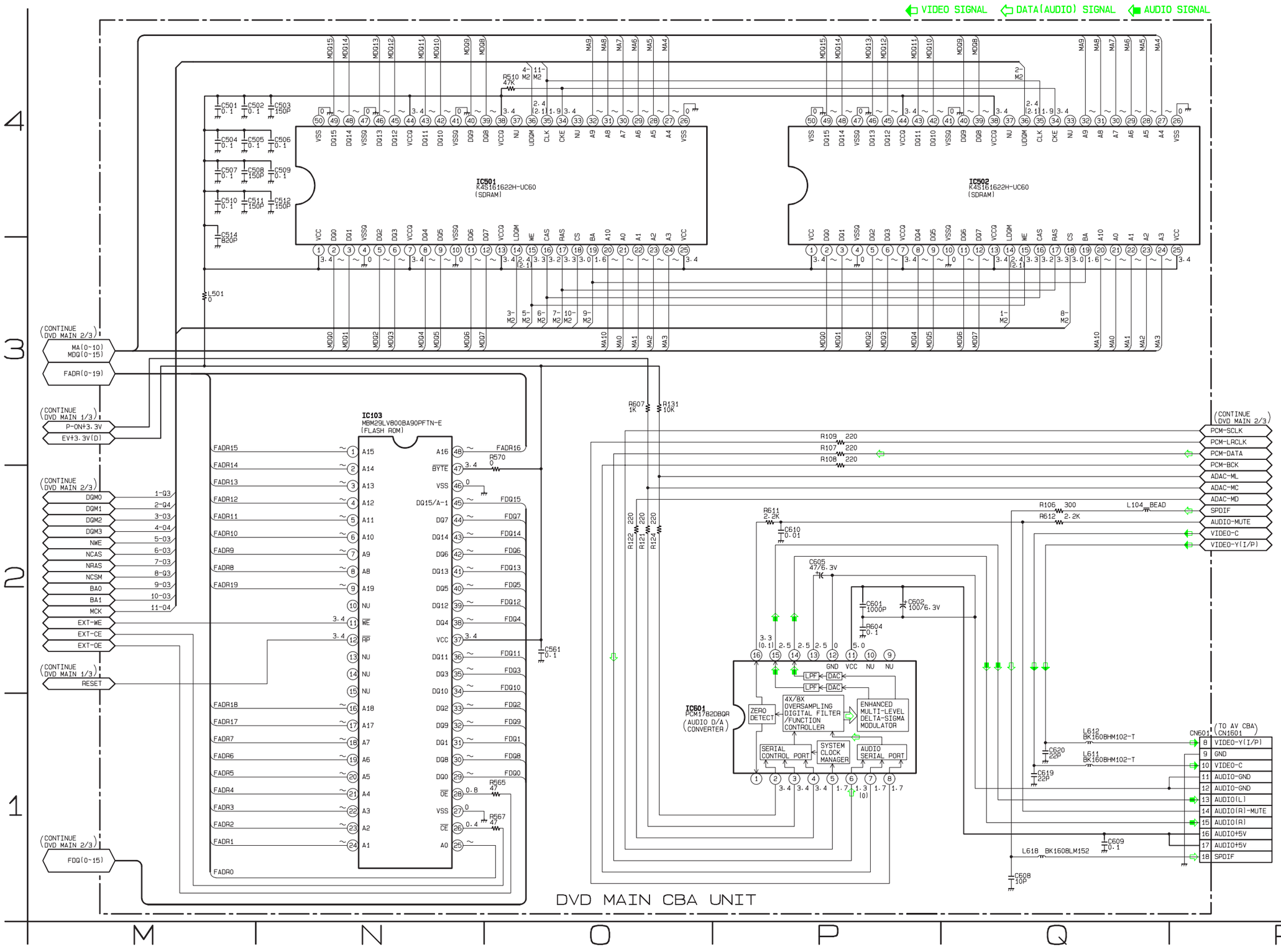


IC101 Voltage Chart

~ : Voltage is not consistent ----- : Not used Unit : Volts

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	~	~	33	~	~	65	0	0	97	-----	-----	129	2.3	2.3	161	3.4	3.4	193	~	~	225	3.4	3.4
2	~	~	34	3.4	3.4	66	3.4	3.5	98	3.4	3.4	130	2.3	2.3	162	0	0	194	~	~	226	~	~
3	0	0	35	0	0	67	3.2	3.2	99	0.9	0.8	131	2.3	2.3	163	1.8	1.8	195	~	~	227	~	~
4	~	~	36	~	~	68	0	0	100	0	0	132	2.4	2.3	164	0	0	196	3.4	3.4	228	~	~
5	~	~	37	~	~	69	3.4	3.4	101	2.4	2.4	133	2.4	2.4	165	1.7	1.8	197	~	~	229	0	0
6	3.4	3.4	38	0.4	0.3	70	3.4	3.4	102	2.2	2.2	134	2.4	2.4	166	1.7	1.7	198	~	~	230	~	~
7	~	~	39	~	~	71	-----	-----	103	1.9	1.9	135	2.3	2.3	167	3.4	3.4	199	~	~	231	3.4	3.4
8	~	~	40	~	~	72	1.4	2.7	104	0.4	0.3	136	2.3	2.3	168	0	0	200	~	~	232	1.3	1.6
9	0	0	41	~	~	73	3.5	3.5	105	0	0	137	2.3	2.3	169	1.8	1.8	201	0	0	233	~	~
10	~	~	42	~	~	74	0	0	106	1.7	1.7	138	2.3	2.3	170	1.7	1.7	202	3.4	3.4	234	1.9	2.3
11	~	~	43	~	~	75	1.7	1.8	107	3.4	3.4	139	1.7	1.7	171	1.3	0.1	203	~	~	235	0	0
12	3.4	3.4	44	1.3	1.3	76	2.3	1.8	108	-----	-----	140	1.7	1.7	172	1.3	1.3	204	~	~	236	1.3	1.3
13	~	~	45	~	~	77	-----	-----	109	-----	-----	141	3.4	3.4	173	0	0	205	0	0	237	-----	-----
14	~	~	46	~	~	78	-----	-----	110	1.9	1.9	142	1.3	1.3	174	-----	-----	206	~	~	238	~	~
15	~	~	47	~	~	79	-----	-----	111	1.9	1.9	143	2.1	1.7	175	-----	-----	207	~	~	239	3.4	3.4
16	0	0	48	3.4	3.4	80	3.4	0	112	1.7	1.7	144	2.2	2.2	176	-----	-----	208	~	~	240	3.4	3.3
17	~	~	49	0	0	81	0.1	0.1	113	1.7	1.7	145	0	0	177	1.8	1.7	209	3.4	3.4	241	1.9	1.9
18	~	~	50	~	~	82	2.8	2.8	114	1.7	1.7	146	1.7	1.7	178	3.4	3.5	210	~	~	242	0	0
19	3.4	3.4	51	~	~	83	0.1	0.1	115	1.7	1.7	147	1.8	1.7	179	0	0	211	~	~	243	1.9	1.9
20	0	0	52	0.8	0.8	84	3.4	3.4	116	1.7	1.7	148	1.7	1.7	180	-----	-----	212	~	~	244	3.4	3.3
21	-----	-----	53	0	0	85	0.1	0.1	117	1.7	1.7	149	0.6	0.5	181	-----	-----	213	0	0	245	3.4	3.4
22	3.4	3.4	54	-----	-----	86	3.6	3.4	118	3.4	3.4	150	3.4	3.4	182	-----	-----	214	-----	-----	246	3.4	3.4
23	~	~	55	-----	-----	87	0	0	119	2.0	2.0	151	-----	-----	183	-----	-----	215	-----	-----	247	0	0
24	~	~	56	3.4	3.4	88	3.5	0.1	120	1.7	1.7	152	-----	-----	184	-----	-----	216	3.4	3.4	248	3.3	3.4
25	~	~	57	3.5	3.5	89	1.3	1.3	121	1.5	1.5	153	1.4	1.3	185	-----	-----	217	~	~	249	3.2	3
26	1.3	1.3	58	3.4	3.4	90	-----	-----	122	0	0	154	1.4	1.3	186	-----	-----	218	0	0	250	0	0
27	~	~	59	3.4	3.4	91	-----	-----	123	0.3	0.1	155	2.4	2.4	187	-----	-----	219	1.3	1.3	251	3.2	3.0
28	3.4	3.4	60	3.4	3.4	92	-----	-----	124	1.1	0.1	156	3.4	3.4	188	-----	-----	220	~	~	252	~	~
29	0	0	61	3.5	3.5	93	0	0	125	0.3	0.1	157	0	0	189	-----	-----	221	~	~	253	0	0
30	~	~	62	3.4	3.4	94	-----	-----	126	0.1	0.1	158	0.9	0.9	190	3.4	3.5	222	0	0	254	~	~
31	~	~	63	0	0	95	-----	-----	127	2.3	2.3	159	3.4	3.4	191	0	0	223	~	~	255	3.4	3.4
32	~	~	64	0	0	96	-----	-----	128	1.7	1.7	160	0	0	192	~	~	224	~	~	256	~	~

DVD Main 3/3 Schematic Diagram



DVD MAIN 3/3

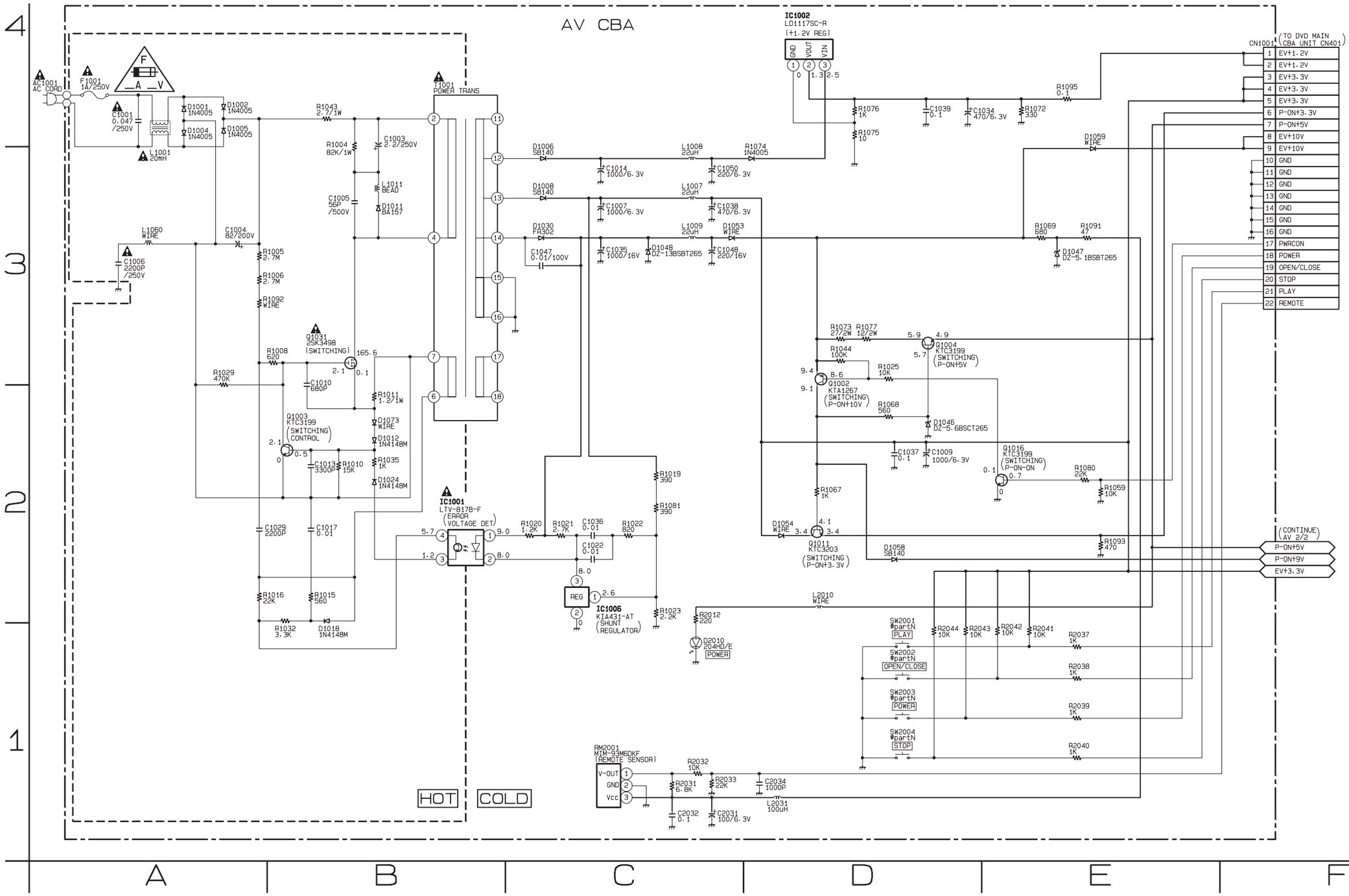
Ref No.	Position
ICS	
IC103	N-3
IC501	O-4
IC502	Q-4
IC601	O-1
CONNECTOR	
CN601	R-1

AV 1/2 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."

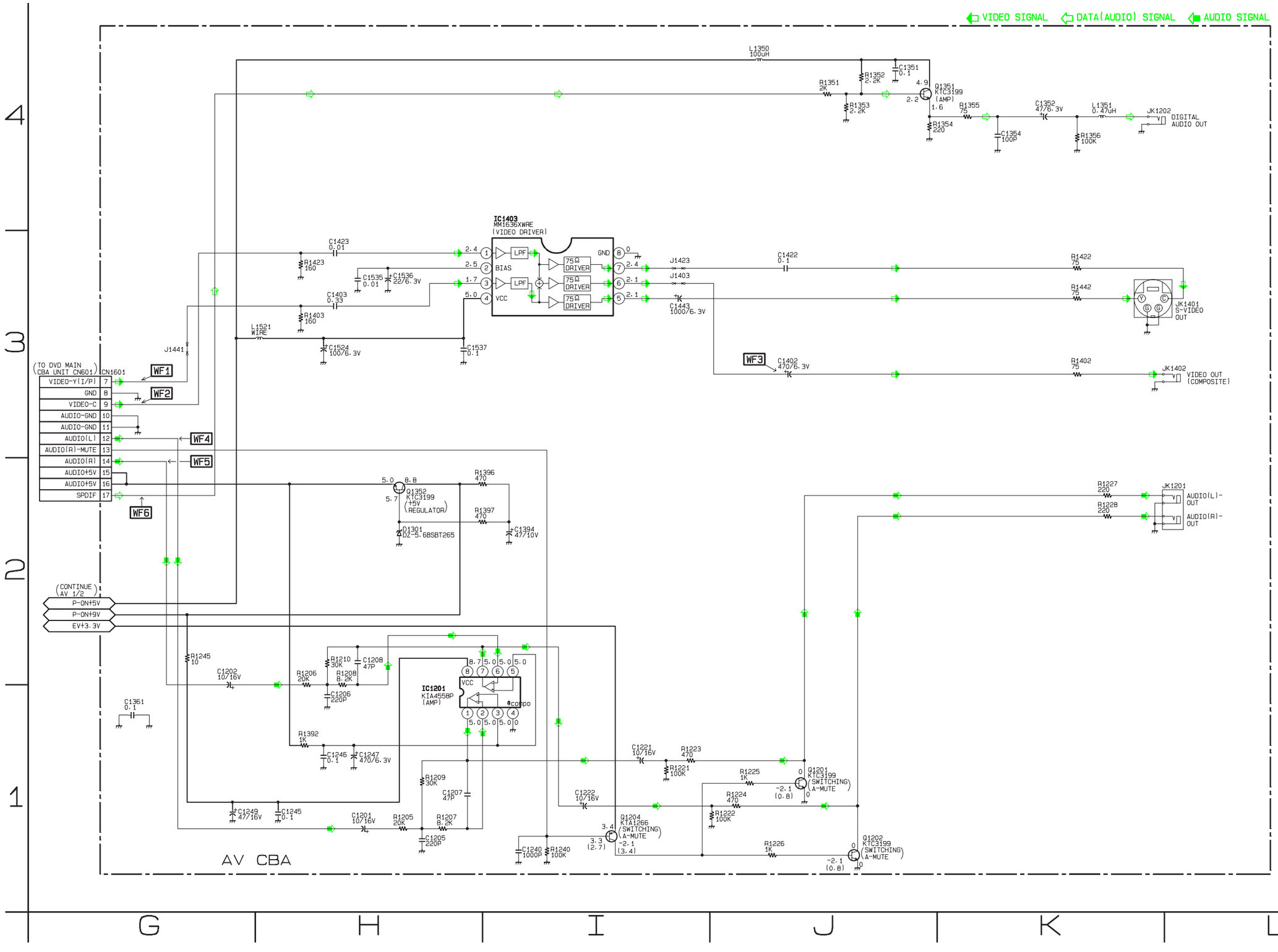
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



AV 1/2

Ref No.	Position
ICS	
IC1001	B-2
IC1002	C-2
IC1006	D-4
TRANSISTORS	
Q1002	D-2
Q1003	B-2
Q1004	D-3
Q1011	D-2
Q1016	E-2
Q1031	B-3
CONNECTOR	
CN1001	F-4

AV 2/2 Schematic Diagram



AV 2/2

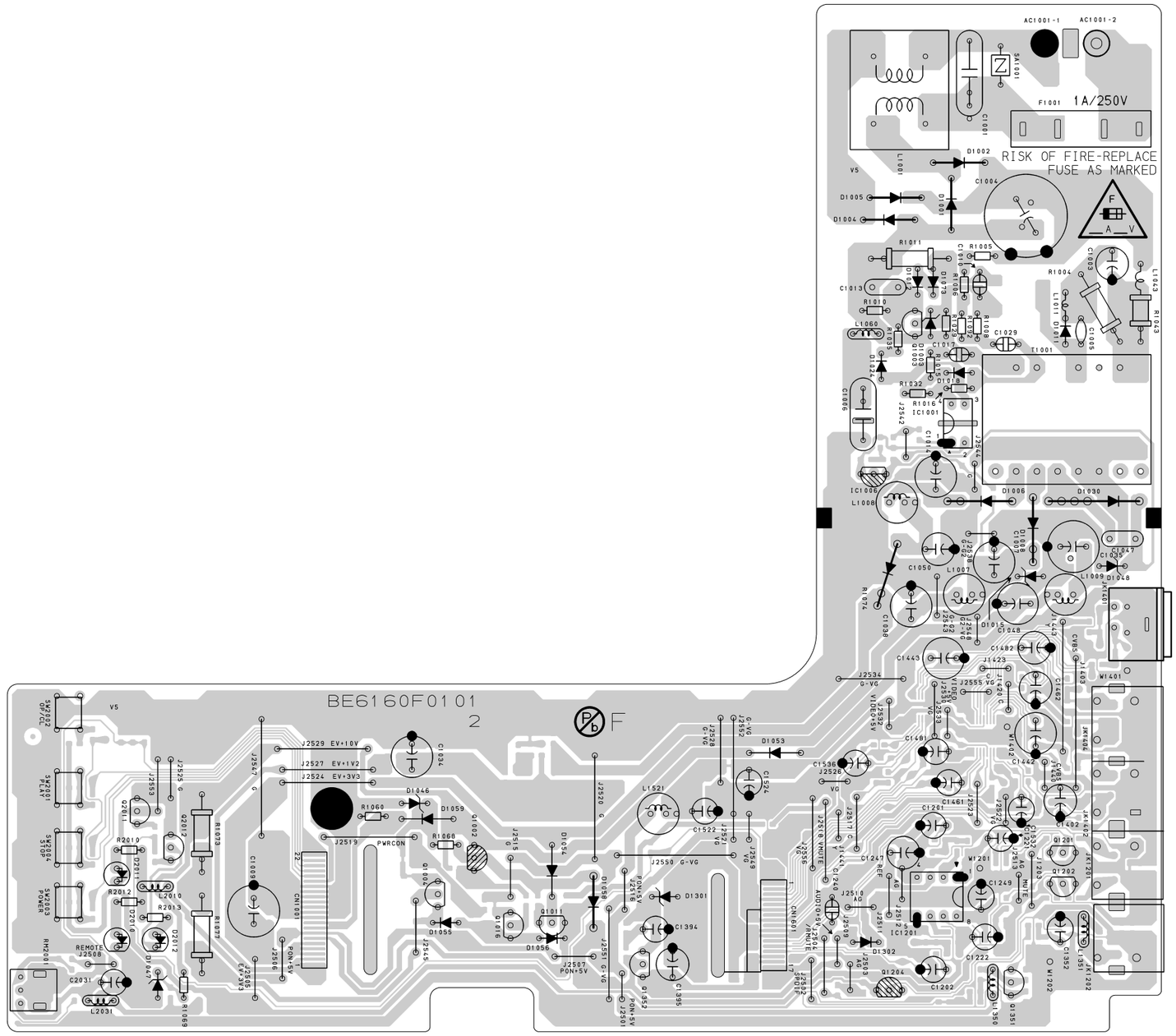
Ref No.	Position
ICS	
IC1201	H-1
IC1403	I-4
TRANSISTORS	
Q1201	J-1
Q1202	J-1
Q1204	I-1
Q1351	K-4
Q1352	H-2
CONNECTOR	
CN1601	G-3

AV CBA Top View

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.

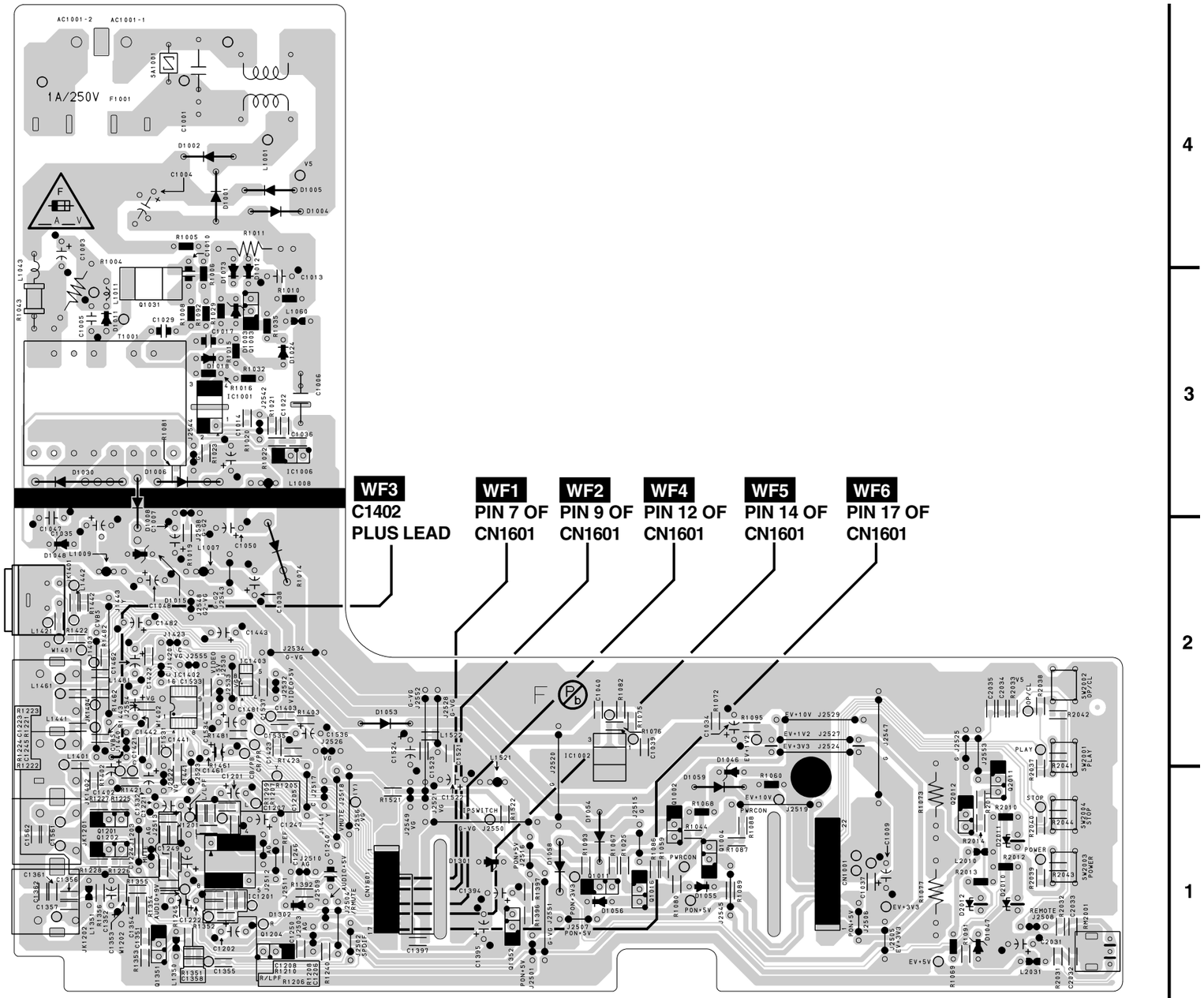


AV CBA Bottom View

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.

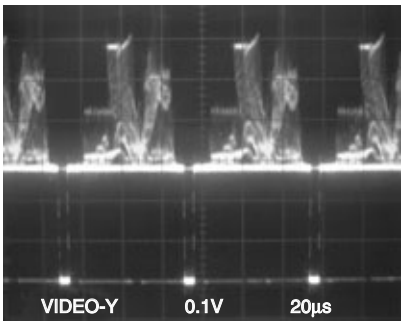


AV CBA

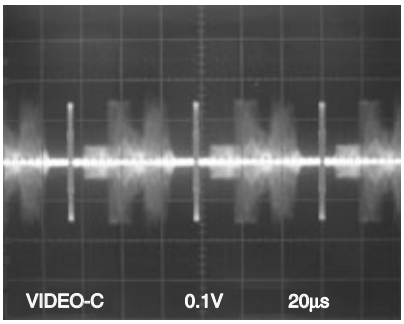
Ref No.	Position
ICS	
IC1001	D-3
IC1002	C-2
IC1006	D-3
IC1201	D-1
IC1403	D-2
TRANSISTORS	
Q1002	B-1
Q1003	D-3
Q1004	B-1
Q1011	C-1
Q1016	C-1
Q1031	E-3
Q1201	E-1
Q1202	E-1
Q1204	D-1
Q1351	E-1
Q1352	C-1
CONNECTORS	
CN1001	B-1
CN1601	D-1

WAVEFORMS

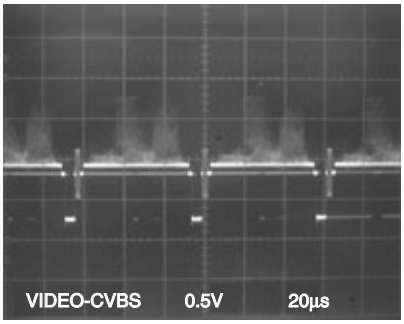
WF1 Pin 7 of CN1601



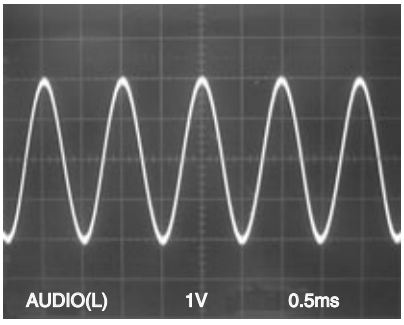
WF2 Pin 9 of CN1601



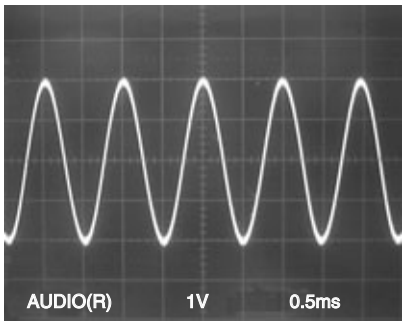
WF3 C1402 PLUS LEAD



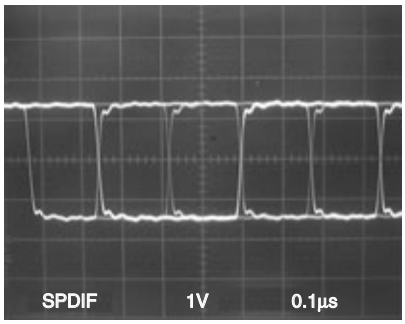
WF4 Pin 12 of CN1601



WF5 Pin 14 of CN1601



WF6 Pin 17 of CN1601



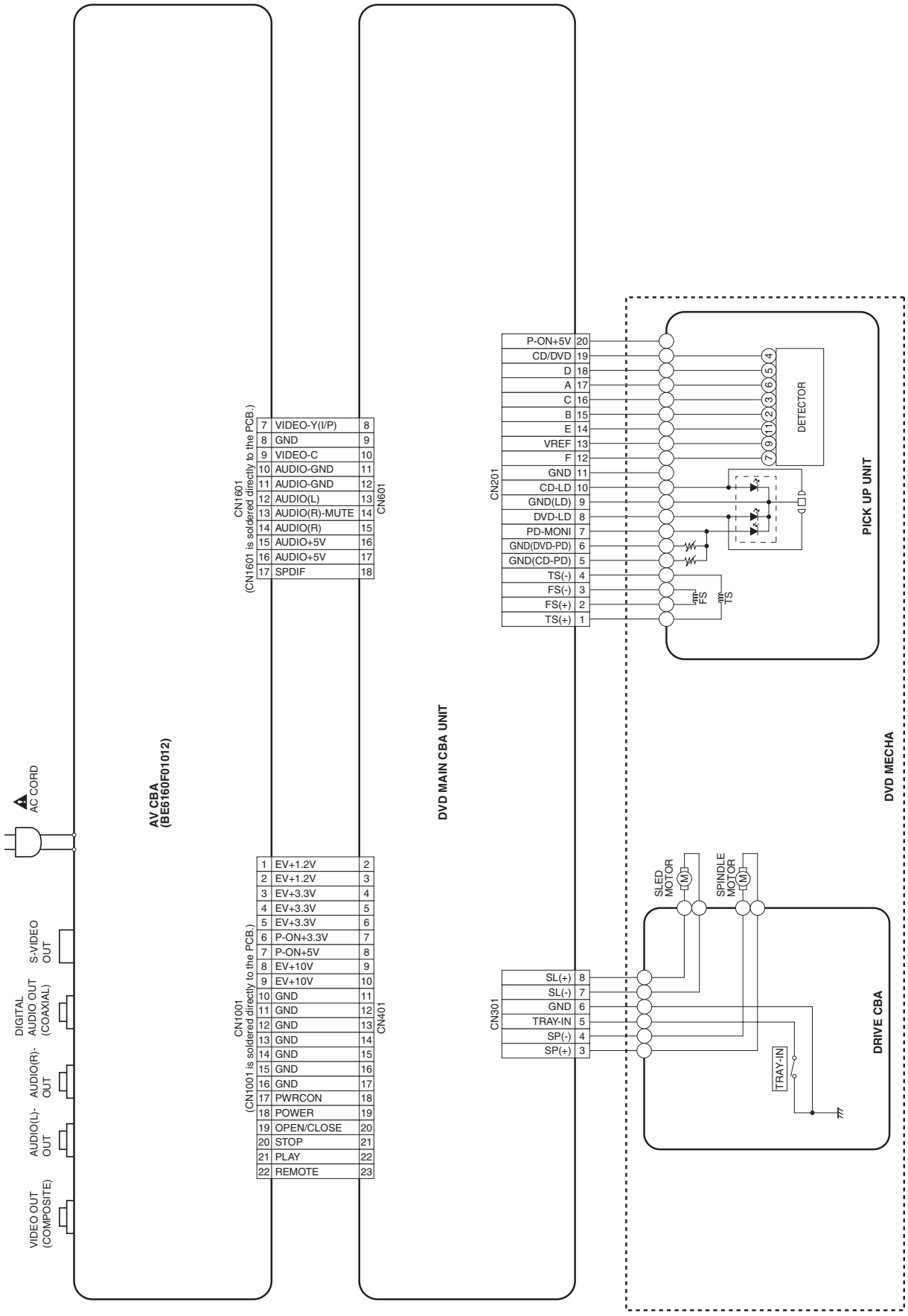
NOTE:

Input

CD: 1kHz PLAY
(WF4~WF6)

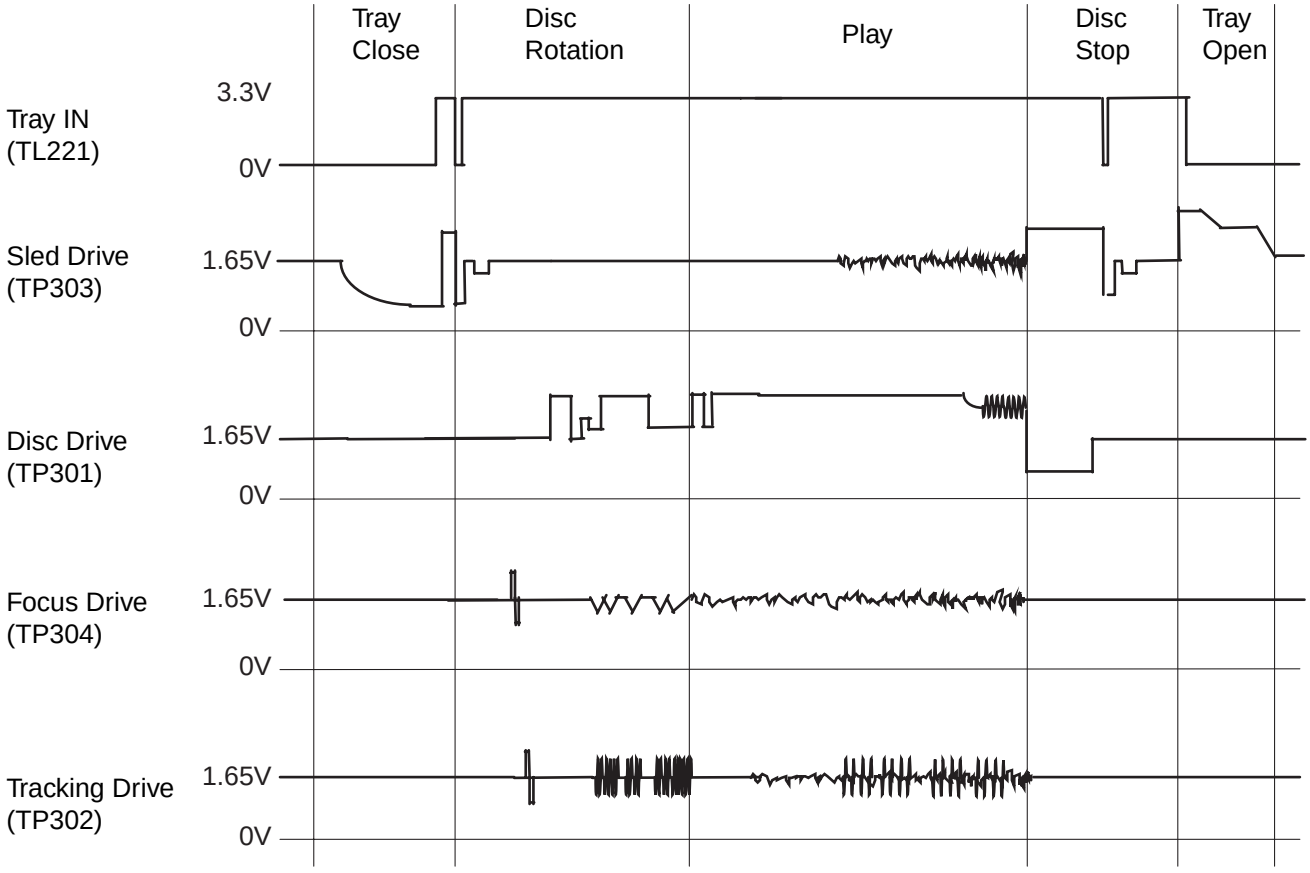
DVD: POWER ON (STOP) MODE
(WF1~WF3)

WIRING DIAGRAM

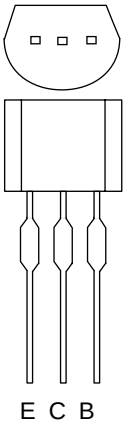


SYSTEM CONTROL TIMING CHARTS

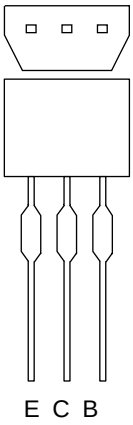
Tray Close ~ Play / Play ~ Tray Open



LEAD IDENTIFICATIONS

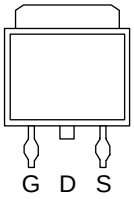


KTA1266(Y)
KTC3203(Y)

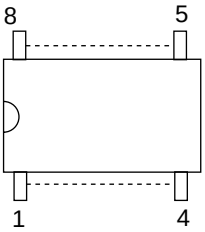


KTA1267(Y)
KTC3199(GR,Y)

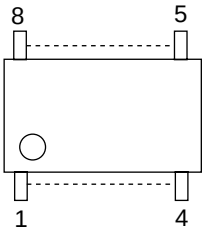
2SK3498



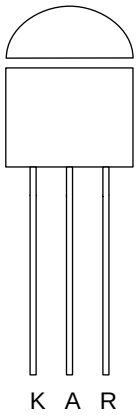
KIA4558P



MM1636XWRE

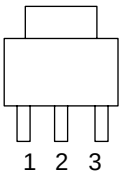


KIA431-AT



LTV-817B-F

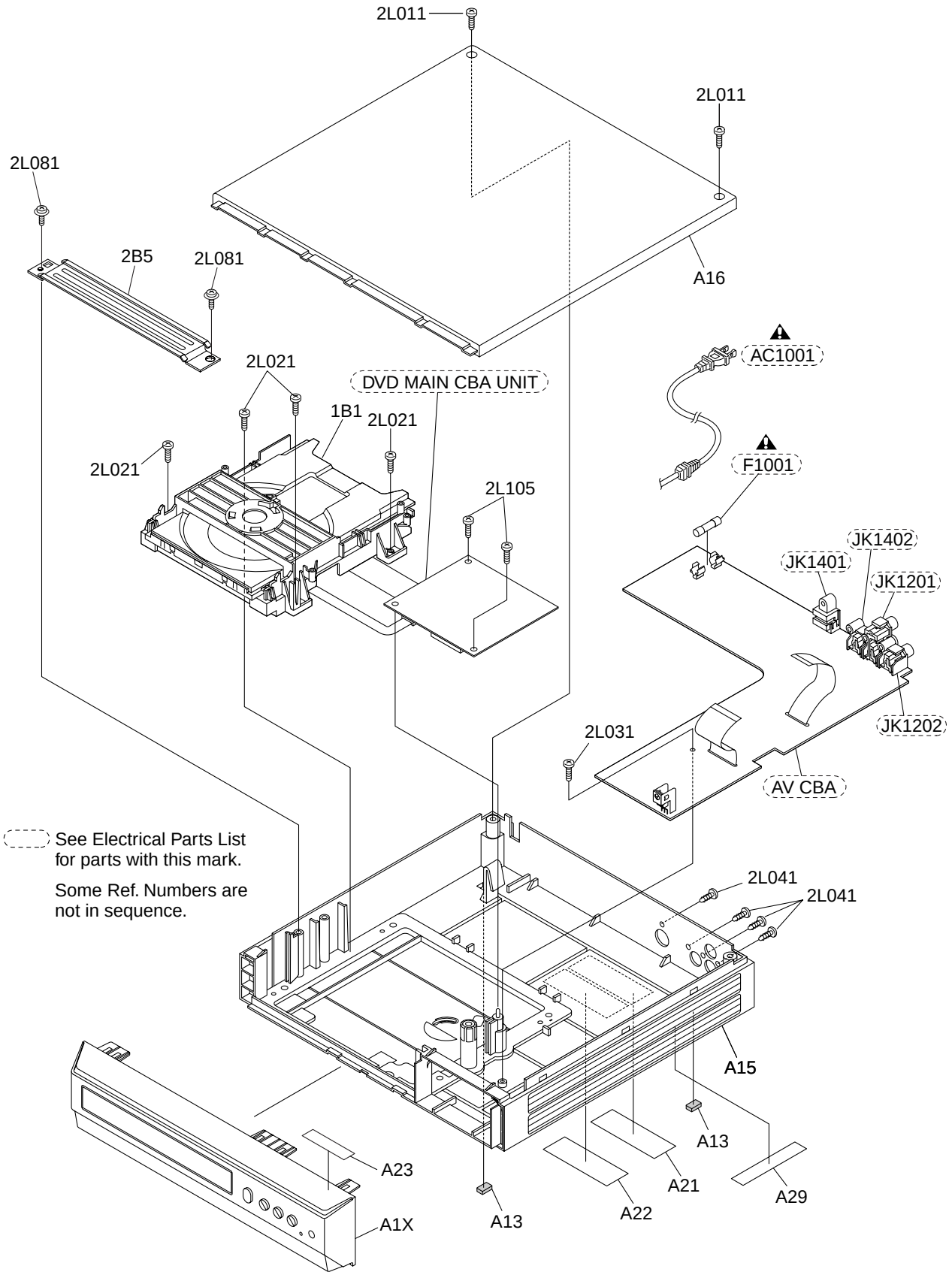
LD1117SC-R



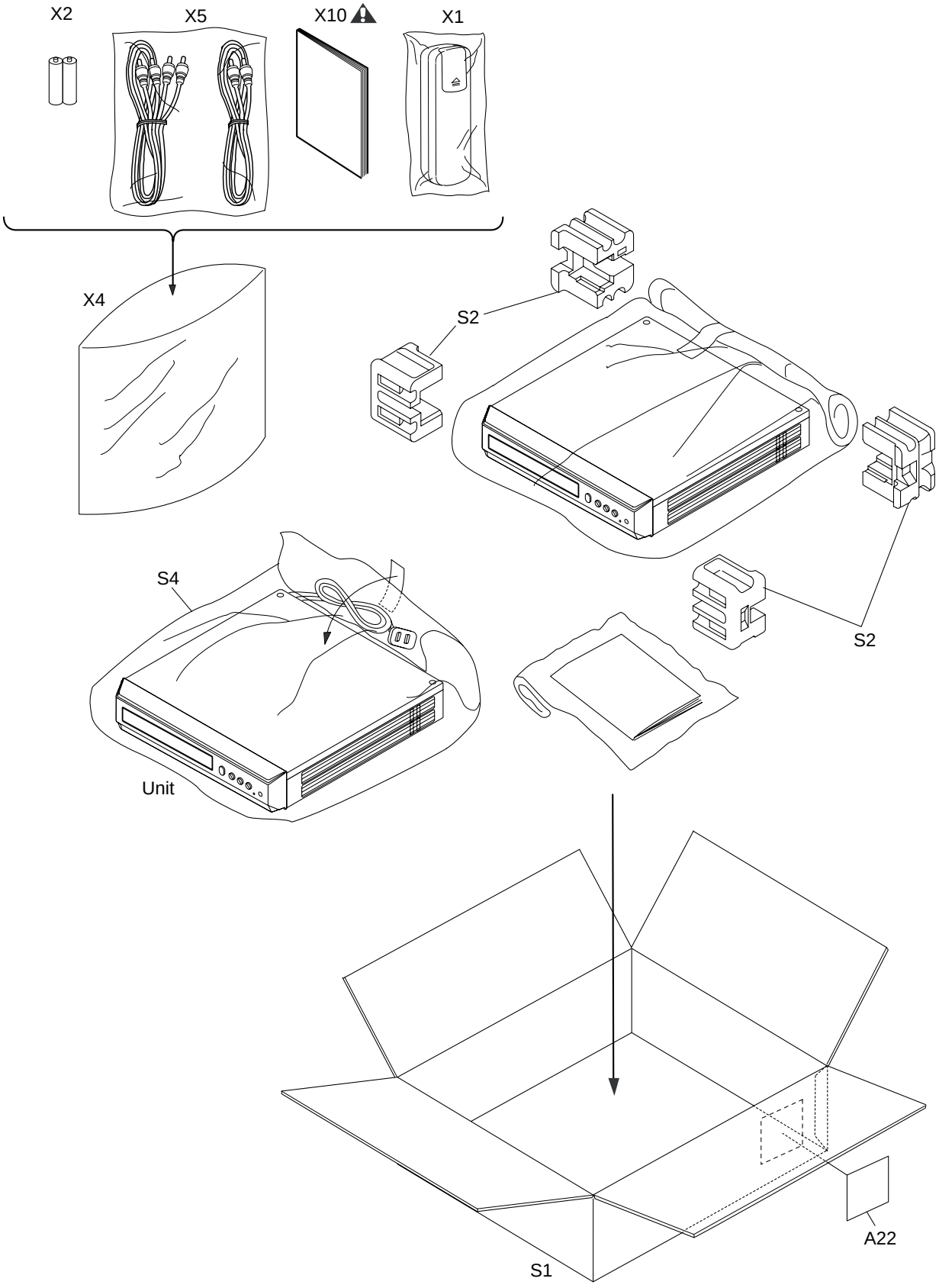
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
G: Gate
D: Drain
S: Source

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 E6161UD	1VM320598
A13	FOOT(REAR) E5710UD	0VM415007
A15	CHASSIS E6160UD	1VM020018
A16	TOP CASE E6160UD	1VM120047
A21	LABEL,MODEL NO. E6161UD	----------
A22	LABEL, BAR CODE E5900UD	----------
A23	TELEPHONE NO. LABEL H9670UD	----------
A29	LABEL, EAS L0951UB	----------
1B1	DVD MECHA E6160(FG LESS) N79F0JVM	N79F0JVM
2B5	REINFORCE PLATE E6160UD	1VM421017
2L011	SCREW, P-TIGHT 3X10 BIND HEAD+	GBEP3100
2L021	SCREW, P-TIGHT 3X11 BIND HEAD+	GBMP3110
2L031	P-TIGHT SCREW 3X8 BIND +	GBMP3080
2L041	SCREW, B-TIGHT M3X8 BIND HEAD +	GBKB3080
2L081	SCREW, P-TIGHT M3X8 WASHER+	GCMP3080
2L105	P-TIGHT SCREW 3X8 BIND +	GBMP3080
PACKING		
S1	GIFT BOX CARTON E6161UD	1VM320600
S2	SIDE PAD E6160UD	1VM220264
S4	SET BAG E5960UD	1VM420147
ACCESSORIES		
X1	REMOTE CONTROL UNIT NB062UD	NB062UD
X2	DRY BATTERY R6P/2S	XB0M451T0001
X4	ACCESSORY BAG E5700UD	0VM415576
X5	AV CORD TSCKA-Y/RW100	WPZ0102TM015
X10⚠	OWNER'S MANUAL E6161UD	1VMN20372

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:

1. Parts that are not assigned part numbers (---------) are not available.
2. 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	N79F1JUP

AV CBA

Ref. No.	Description	Part No.
	AV CBA Consists of the following:	1VSA10581
	CAPACITORS	
C1001⚠	METALLIZED FILM CAP. 0.047µF/ 250V M	CT2E473MS037
C1003	ELECTROLYTIC CAP. 2.2µF/ 250V M	CA2E2R2S6009
C1004	ELECTROLYTIC CAPACITOR ZR200TA820M12BB	CA2D820DYG01
C1005	CERAMIC CAP. CH J 56pF/500V	CCD2JJPCH560
C1006⚠	SAFETY CAP. 2200pF/250V	CCD2EMA0E222
C1007	ELECTROLYTIC CAP. 1000µF/ 6.3V M	CE0KMASDL102
C1009	ELECTROLYTIC CAP. 1000µF/ 6.3V M	CE0KMASDL102
C1010	CERAMIC CAP.(AX) CH J 680pF/50V	CA1J681TU008
C1013	FILM CAP.(P) 0.0033µF/ 50V J	CA1J332MS029
C1014	ELECTROLYTIC CAP. 1000µF/ 6.3V M	CE0KMASDL102
C1017	CERAMIC CAP.(AX) Y M 0.01µF/ 16V	CCA1CMT0Y103
C1022	CHIP CERAMIC CAP.(1608) B K 0.01µF/ 50V	CHD1JK30B103
C1029	CERAMIC CAP.(AX) X K 2200pF/16V	CCA1CKT0X222
C1034	ELECTROLYTIC CAP. 470µF/ 6.3V M	CE0KMASDL471
C1035	ELECTROLYTIC CAP. 1000µF/ 16V M	CE1CMASDL102
C1036	CHIP CERAMIC CAP.(1608) B K 0.01µF/ 50V	CHD1JK30B103
C1037	CHIP CERAMIC CAP.(1608) F Z 0.1µF/ 50V	CHD1JZ30F104
C1038	ELECTROLYTIC CAP. 470µF/ 6.3V M	CE0KMASDL471
C1039	CHIP CERAMIC CAP.(1608) F Z 0.1µF/ 50V	CHD1JZ30F104
C1047	FILM CAP.(P) 0.01µF/ 100V J	CA2A103MS029
C1048	ELECTROLYTIC CAP. 220µF/ 16V M	CE1CMASDL221
C1050	ELECTROLYTIC CAP. 220µF/ 6.3V M	CE0KMASDL221
C1201	ELECTROLYTIC CAP. 10µF/ 16V M	CE1CMASDL100
C1202	ELECTROLYTIC CAP. 10µF/ 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.(1608) CH J 47pF/50V	CHD1JJ3CH470
C1208	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C1221	ELECTROLYTIC CAP. 10µF/ 16V M	CE1CMASDL100
C1222	ELECTROLYTIC CAP. 10µF/ 16V M	CE1CMASDL100
C1240	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1245	CHIP CERAMIC CAP.(1608) F Z 0.1µF/ 50V	CHD1JZ30F104
C1246	CHIP CERAMIC CAP.(1608) F Z 0.1µF/ 50V	CHD1JZ30F104
C1247	ELECTROLYTIC CAP. 470µF/ 6.3V M	CE0KMASDL471
C1249	ELECTROLYTIC CAP. 47µF/ 16V M	CE1CMASDL470
C1351	CHIP CERAMIC CAP.(1608) B K 0.1µF/ 25V	CHD1EK30B104
C1352	ELECTROLYTIC CAP. 47µF/ 6.3V M H7	CE0KMASSL470
C1354	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C1361	CHIP CERAMIC CAP.(1608) F Z 0.1µF/ 50V	CHD1JZ30F104
C1394	ELECTROLYTIC CAP. 47µF/ 10V M	CE1AMASDL470
C1402	ELECTROLYTIC CAP. 470µF/ 6.3V M	CE0KMASDL471
C1403	CHIP CERAMIC CAP.(1608) B K 0.33µF/ 10V	CHD1AK30B334
C1422	CHIP CERAMIC CAP.(1608) B K 0.1µF/ 25V	CHD1EK30B104
C1423	CHIP CERAMIC CAP.(1608) B K 0.01µF/ 50V	CHD1JK30B103
C1443	ELECTROLYTIC CAP. 1000µF/ 6.3V M	CE0KMASDL102
C1524	ELECTROLYTIC CAP. 100µF/ 6.3V M	CE0KMASDL101
C1535	CHIP CERAMIC CAP.(1608) B K 0.01µF/ 50V	CHD1JK30B103
C1536	ELECTROLYTIC CAP. 22µF/ 6.3V M H7	CE0KMASSL220
C1537	CHIP CERAMIC CAP.(1608) F Z 0.1µF/ 50V	CHD1JZ30F104
C2031	ELECTROLYTIC CAP. 100µF/ 6.3V M	CE0KMASDL101
C2032	CHIP CERAMIC CAP.(1608) F Z 0.1µF/ 50V	CHD1JZ30F104
C2034	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
	CONNECTORS	
CN1001	22P FFC AV PCB TO MAIN	WX1E5900-001
CN1601	11P FFC AV PCB TO MAIN PCB	WX1E6160-001
	DIODES	
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
D1008	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1011	RECTIFIER DIODE BA157	NDQZ000BA157
D1012	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1018	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1024	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1030	RECTIFIER DIODE FR302	NDWZ000FR302
D1046	ZENER DIODE DZ-5.6BSCT265	NDTC0DZ5R6BS
D1047	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D1048	ZENER DIODE DZ-13BSBT265	NDTB00DZ13BS
D1053	PCB JUMPER D0.6-P10.0	JW10.0T
D1054	PCB JUMPER D0.6-P10.0	JW10.0T
D1058	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1059	PCB JUMPER D0.6-P10.0	JW10.0T
D1073	PCB JUMPER D0.6-P5.0	JW5.0T
D1301	ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D2010	LED(RED) 204HD/E	NPQZ00204HDE
	ICS	
IC1001⚠	PHOTOCOUPLER LTV-817B-F	NPEB0LTV817F
IC1002	VOLTAGE REGULATOR LD1117SC-R	NSZBA0TSS229
IC1006	IC:SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
IC1201	IC:OP AMP KIA4558P	NSZBA0SJY004
IC1403	DRIVER FOR DVD MM1636XWRE	QSZBA0TMM108
	COILS	
L1001⚠	LINE FILTER 20MH SA-00911	LLBG00ZSA003
L1007	CHOKE COIL 22µH-K	LLBD00PKV006
L1008	CHOKE COIL 22µH-K	LLBD00PKV006
L1009	CHOKE COIL 22µH-K	LLBD00PKV006
L1011	BEAD CORE B16 RH 3.5X3X1.3	XL03003XM002

Ref. No.	Description	Part No.
L1060	PCB JUMPER D0.6-P5.0	JW5.0T
L1350	INDUCTOR(100µHK) LAP02TA101K	LLAXKATTU101
L1351	INDUCTOR(0.47µHK) LAP02TAR47K	LLAXKATTUR47
L1521	PCB JUMPER D0.6-P5.0	JW5.0T
L2010	PCB JUMPER D0.6-P5.0	JW5.0T
L2031	INDUCTOR(100µHK) LAP02TA101K	LLAXKATTU101
TRANSISTORS		
Q1002	TRANSISTOR KTA1267(Y)	NQSY0KTA1267
Q1003	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1004	TRANSISTOR KTC3199(Y)	NQSY0KTC3199
Q1011	TRANSISTOR KTC3203(Y)	NQSY0KTC3203
Q1016	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1031⚠	FET 2SK3498(T6L1FUNANQ)	QF1Z02SK3498
Q1201	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1202	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1204	TRANSISTOR KTA1266(Y)	NQSY0KTA1266
Q1351	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1352	TRANSISTOR KTC3199(GR)	NQS10KTC3199
RESISTORS		
R1004	METAL OXIDE FILM RES. 1W J 82k Ω	RN01823ZU001
R1005	CARBON RES. 1/4W J 2.7M Ω	RCX4JATZ0275
R1006	CARBON RES. 1/4W J 2.7M Ω	RCX4JATZ0275
R1008	CARBON RES. 1/4W J 620 Ω	RCX4JATZ0621
R1010	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R1011	METAL OXIDE FILM RES. 1W J 1.2 Ω	RN011R2ZU001
R1015	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R1016	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R1019	CHIP RES. 1/16W F 390 Ω	RRXGFR5Z0391
R1020	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJR5Z0122
R1021	CHIP RES.(1608) 1/10W J 2.7k Ω	RRXAJR5Z0272
R1022	CHIP RES.(1608) 1/10W J 820 Ω	RRXAJR5Z0821
R1023	CHIP RES.(1608) 1/10W F 2.2k Ω	RRXAFR5Z0222
R1025	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1029	CARBON RES. 1/6W J 470k Ω	RCX6JATZ0474
R1032	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R1035	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1043	METAL OXIDE FILM RES. 1W J 2.7 Ω	RN012R7ZU001
R1044	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1059	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1067	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1068	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R1069	CARBON RES. 1/6W J 680 Ω	RCX6JATZ0681
R1072	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R1073	METAL RES. 2W J 27 Ω	RN02270ZU001
R1074	RECTIFIER DIODE 1N4005	NDQZ001N4005
R1075	CHIP RES. 1/16W F 10 Ω	RRXGFR5Z0100
R1076	CHIP RES.(1608) 1/16W F 1k Ω	RRXAFR5Z0102
R1077	METAL OXIDE FILM RES. 2W J 12 Ω	RN02120ZU001
R1080	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R1081	CHIP RES. 1/16W F 390 Ω	RRXGFR5Z0391
R1091	CHIP RES.(1608) 1/10W J 47 Ω	RRXAJR5Z0470
R1092	PCB JUMPER D0.6-P5.0	JW5.0T
R1093	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R1095	CHIP RES.(2125) 1/8W J 0.1 Ω	RRX8R10HH005
R1205	CHIP RES.(1608) 1/16W F 20k Ω	RRXGFR5Z0203
R1206	CHIP RES.(1608) 1/16W F 20k Ω	RRXGFR5Z0203
R1207	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R1208	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R1209	CHIP RES. 1/16W F 30k Ω	RRXGFR5Z0303
R1210	CHIP RES. 1/16W F 30k Ω	RRXGFR5Z0303
R1221	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1222	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104

Ref. No.	Description	Part No.
R1223	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R1224	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R1225	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1226	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1227	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R1228	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R1240	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1245	CHIP RES.(1608) 1/10W J 10 Ω	RRXAJR5Z0100
R1351	CHIP RES.(1608) 1/10W J 2k Ω	RRXAJR5Z0202
R1352	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1353	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1354	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R1355	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1356	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1392	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1396	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R1397	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R1402	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1403	CHIP RES. 1/10W F 160 Ω	RRXAFR5Z0161
R1422	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1423	CHIP RES. 1/10W F 160 Ω	RRXAFR5Z0161
R1442	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R2012	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R2031	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R2032	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2033	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R2037	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R2038	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R2039	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R2040	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R2041	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2042	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2043	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2044	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
SWITCHES		
SW2001	TACT SWITCH KSM0614B	SST0101HH013
SW2002	TACT SWITCH KSM0614B	SST0101HH013
SW2003	TACT SWITCH KSM0614B	SST0101HH013
SW2004	TACT SWITCH KSM0614B	SST0101HH013
MISCELLANEOUS		
AC1001⚠	AC CORD PB8B2F9110A-055	WAC0162LW004
F1001⚠	FUSE SIC 1A 250V U/C T	PAGG20CW3102
FH1001	FUSE HOLDER MSF-015	XH01Z00LY001
FH1002	FUSE HOLDER MSF-015	XH01Z00LY001
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	1PIN JACK(YELLOW) MSP-251V-02 NI	JXRL010LY117
RM2001	REMOTE RECEIVER MIM-93M6DKF	USESJRSUNT01
T1001⚠	PULSE TRANS CGS-SW0078A	LTT00CPSA175