

# DENON

For U.S.A. & Canada model

## SERVICE MANUAL

## MODEL DVM725

Ver. 1

DVD VIDEO AUTO CHANGER

### 注 意

サービスをおこなう前に、このサービスマニュアルを必ずお読みください。本機は、火災、感電、けがなどに対する安全性を確保するために、さまざまな配慮をおこなっており、また法的には「電気用品安全法」にもとづき、所定の許可を得て製造されております。従ってサービスをおこなう際は、これらの安全性が維持されるよう、このサービスマニュアルに記載されている注意事項を必ずお守りください。

- For purposes of improvement, specifications and design are subject to change without notice.

- 本機の仕様は性能改良のため、予告なく変更することがあります。
- 補修用性能部品の保有期間は、製造打切後8年です。

- Please use this service manual with referring to the operating instructions without fail.

- 修理の際は、必ず取扱説明書を参照の上、作業を行ってください。

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

- 本文中に使用しているイラストは、説明の都合上現物と多少異なる場合があります。

DENON

TOKYO, JAPAN  
Denon Brand Company, D&M Holdings Inc.

## SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

### LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 millamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

### LASER RADIATION

Do not stare into beam or view directly with optical instruments, class 3A laser product.

### **CAUTION Please heed the points listed below during servicing and inspection.**

#### ◎ Heed the cautions!

Spots requiring particular attention when servicing, such as the cabinet, parts, chassis, etc., have cautions indicated on labels or seals. Be sure to heed these cautions and the cautions indicated in the handling instructions.

#### ◎ Caution concerning electric shock!

- (1) An AC voltage is impressed on this set, so touching internal metal parts when the set is energized could cause electric shock. Take care to avoid electric shock, by for example using an isolating transformer and gloves when servicing while the set is energized, unplugging the power cord when replacing parts, etc.
- (2) There are high voltage parts inside. Handle with extra care when the set is energized.

#### ◎ Caution concerning disassembly and assembly!

Though great care is taken when manufacturing parts from sheet metal, there may in some rare cases be burrs on the edges of parts which could cause injury if fingers are moved across them. Use gloves to protect your hands.

#### ◎ Only use designated parts!

The set's parts have specific safety properties (fire resistance, voltage resistance, etc.). For replacement parts, be sure to use parts which have the same properties. In particular, for the important safety parts that are marked  on wiring diagrams and parts lists, be sure to use the designated parts.

#### ◎ Be sure to mount parts and arrange the wires as they were originally!

For safety reasons, some parts use tape, tubes or other insulating materials, and some parts are mounted away from the surface of printed circuit boards. Care is also taken with the positions of the wires inside and clamps are used to keep wires away from heating and high voltage parts, so be sure to set everything back as it was originally.

#### ◎ Inspect for safety after servicing!

Check that all screws, parts and wires removed or disconnected for servicing have been put back in their original positions, inspect that no parts around the area that has been serviced have been negatively affected, conduct an insulation check on the external metal connectors and between the blades of the power plug, and otherwise check that safety is ensured.

##### (Insulation check procedure)

Unplug the power cord from the power outlet, disconnect the antenna, plugs, etc., and turn the power switch on. Using a 500V insulation resistance tester, check that the insulation resistance between the terminals of the power plug and the externally exposed metal parts (antenna terminal, headphones terminal, microphone terminal, input terminal, etc.) is  $1M\Omega$  or greater. If it is less, the set must be inspected and repaired.

### **CAUTION Concerning important safety parts**

Many of the electric and structural parts used in the set have special safety properties. In most cases these properties are difficult to distinguish by sight, and using replacement parts with higher ratings (rated power and withstand voltage) does not necessarily guarantee that safety performance will be preserved. Parts with safety properties are indicated as shown below on the wiring diagrams and parts lists in this service manual. Be sure to replace them with parts with the designated part number.

(1) Schematic diagrams ... Indicated by the  mark.

(2) Parts lists ... Indicated by the  mark.

Using parts other than the designated parts could result in electric shock, fires or other dangerous situations.

### **注 意 サービス、点検時にはつぎのことご注意願います。**

#### ◎ 注意事項をお守りください！

サービスのとき特に注意を必要とする個所についてはキャビネット、部品、シャーシなどにラベルや捺印で注意事項を表示しています。これらの注意書きおよび取扱説明書などの注意事項を必ずお守りください。

#### ◎ 感電に注意！

- (1) このセットは、交流電圧が印加されていますので通電時に内部金属部に触れると感電することがあります。従って通電サービス時には、絶縁トランクの使用や手袋の着用、部品交換には、電源プラグを抜くなどして感電にご注意ください。
- (2) 内部には高電圧の部分がありますので、通電時の取扱には十分ご注意ください。

#### ◎ 分解、組み立て作業時のご注意！

板金部品の端面の『バリ』は、部品製造時に充分管理をしておりますが、板金端面は鋭利となっている箇所が有りますので、部品端面に触れたまま指を動かすとまれに怪我をする場合がありますので十分注意して作業して下さい。手の保護のために手袋を着用してください。

#### ◎ 指定部品の使用！

セットの部品は難燃性や耐電圧など安全上の特性を持つものとなっています。従って交換部品は、使用されていたものと同じ特性の部品を使用してください。特に配線図、部品表に  印で指定されている安全上重要な部品は必ず指定のものをご使用ください。

#### ◎ 部品の取付けや配線の引きまわしは、元どおりに！

安全上、テープやチューブなどの絶縁材料を使用したり、プリント基板から浮かして取付けた部品があります。また内部配線は引きまわしやクランパーによって発熱部品や高圧部品に接近しないように配慮されていますので、これらは必ず元どおりにしてください。

#### ◎ サービス後は安全点検を！

サービスのために取り外したねじ、部品、配線などが元どおりになっているか、またサービスした個所の周辺を劣化させてしまったところがないなどを点検し、外部金属端子部と、電源プラグの刃の間の絶縁チェックをおこなうなど、安全性が確保されていることを確認してください。

##### (絶縁チェックの方法)

電源コンセントから電源プラグを抜き、アンテナやプラグなどを外し、電源スイッチを入れます。500V 絶縁抵抗計を用いて、電源プラグのそれぞれの端子と外部露出金属部 [アンテナ端子、ヘッドホン端子マイク端子、入力端子など] との間で、絶縁抵抗値が  $1 M\Omega$  以上であること、この値以下のときはセットの点検修理が必要です。

### **注 意 安全上重要な部品について**

本機に使用している多くの電気部品、および機構部品は安全上、特別な特性を持っています。この特性はほとんどの場合、外観では判別つきにくく、またもとの部品より高い定格（定格電力、耐圧）を持ったものを使用しても安全性が維持されるとは、限りません。安全上の特性を持った部品は、このサービスマニュアルの配線図、部品表につきのように表示していますので必ず指定されている部品番号のものを使用願います。

(1) 配線図…マークで表示しています。

(2) 部品表…マークで表示しています。

指定された部品と異なるものを使用した場合には、感電、火災などの危険を生じる恐れがあります。

## SPECIFICATIONS

Item	Conditions	Unit	Nominal	Limit
1. Video Output	75 Ω load	Vpp	1.0	± 0.1
2. Optical Digital Out		dBm	-18	
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, 20 Hz ~ 22 kHz	dB	± 0.5	
CD	fs = 44.1 kHz, 20 Hz ~ 20 kHz	dB	± 0.5	
3-4. THD+N				
DVD	1 kHz, 0 dB	%	0.003	
CD	1 kHz, 0 dB	%	0.003	

**Notes:**

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply: AC 120 V, 60 Hz
3. Load Impedance: 100 kΩ load (Audio Output)
4. Room Ambient: 5 °C - 40 °C

## Safety Check after Servicing

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

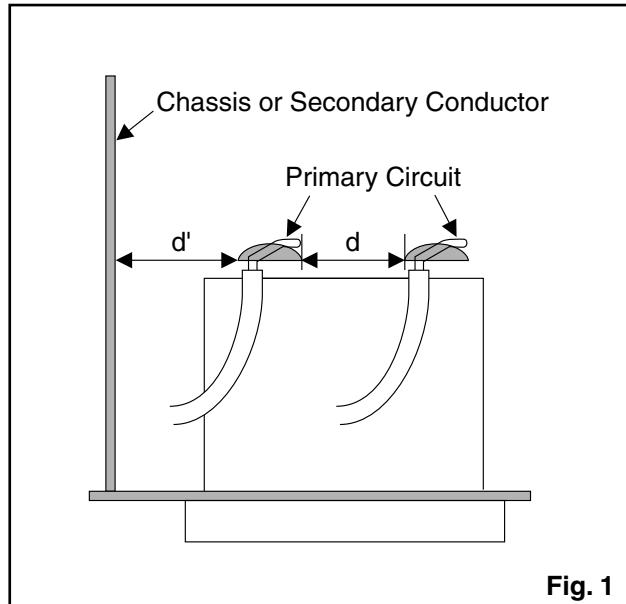
### 1. Clearance Distance

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

**Table 1: Ratings for selected area**

AC Line Voltage	Clearance Distance ( $d$ ), ( $d'$ )
120 V	$\geq 3.2 \text{ mm (0.126 inches)}$

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



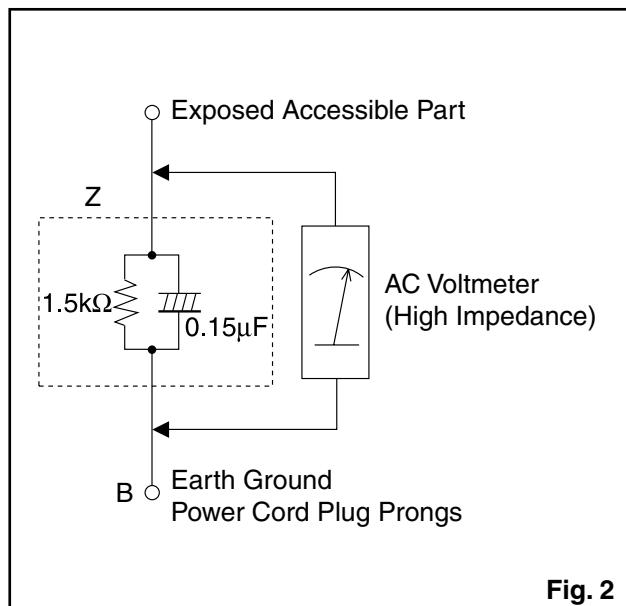
**Fig. 1**

### 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**

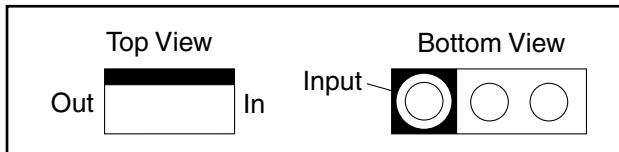
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	$i \leq 0.5 \text{ mA Peak}$	Exposed accessible parts

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

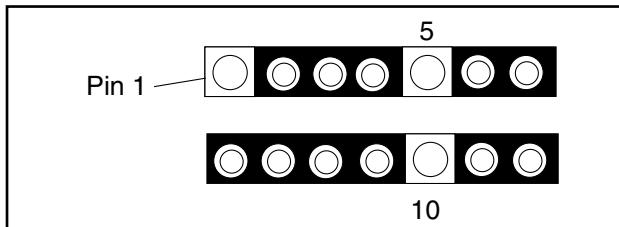
# STANDARD NOTES FOR SERVICING

## Circuit Board Indications

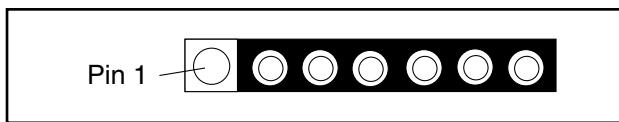
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

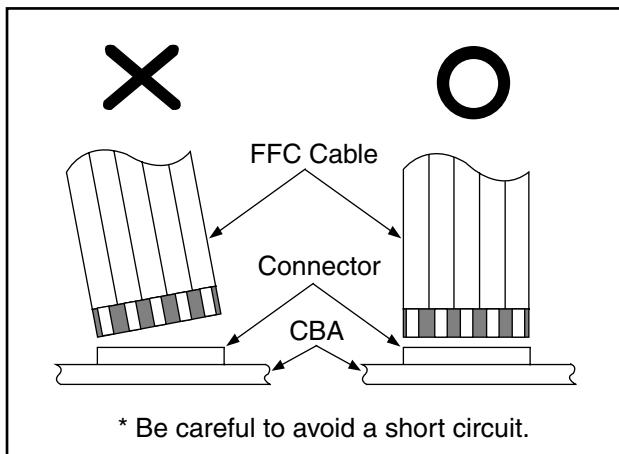


3. The 1st pin of every male connector is indicated as shown.



## 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)

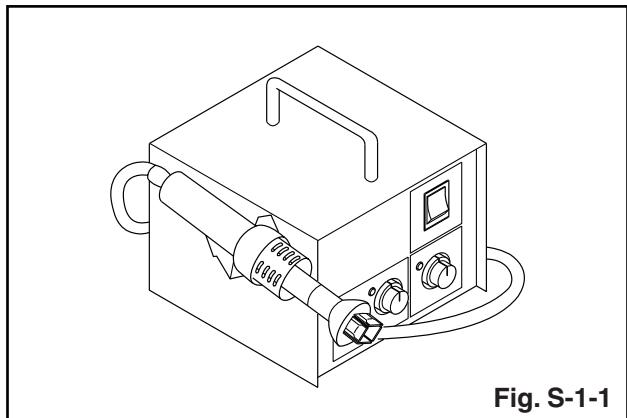


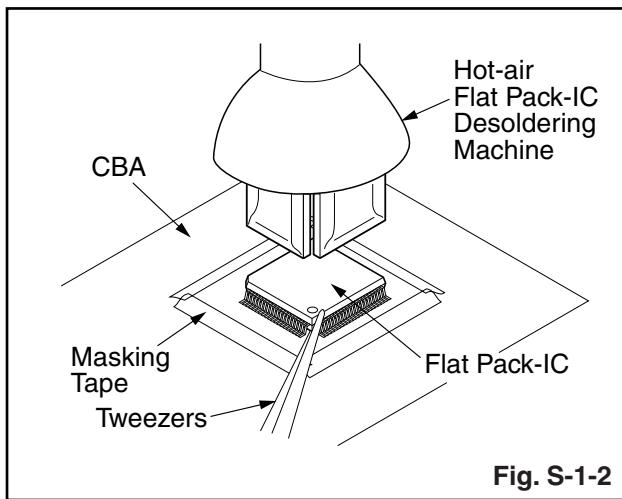
Fig. S-1-1

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:

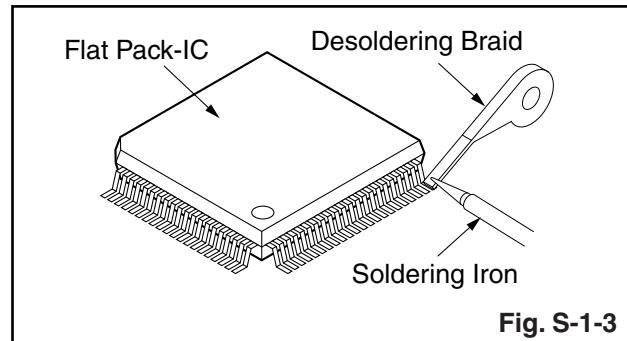
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape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

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

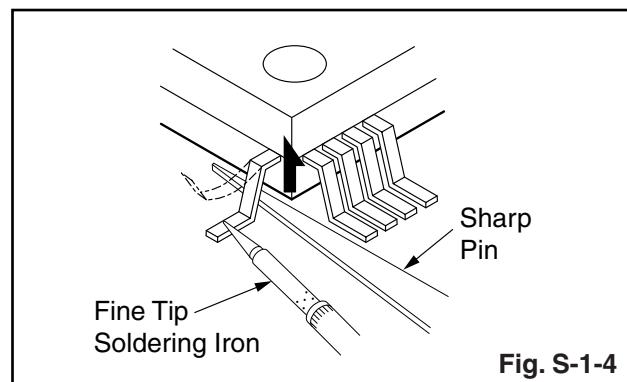


#### With Soldering Iron:

- 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)



- 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)

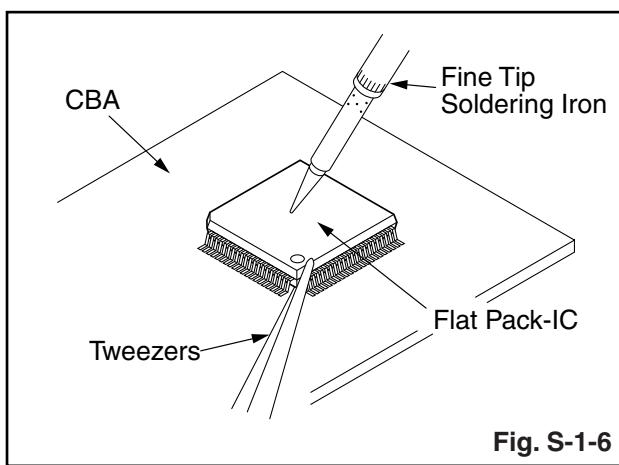
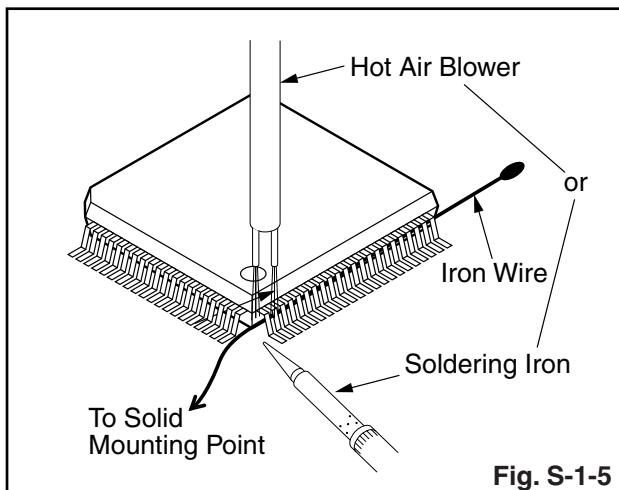


- Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
- Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

**With Iron Wire:**

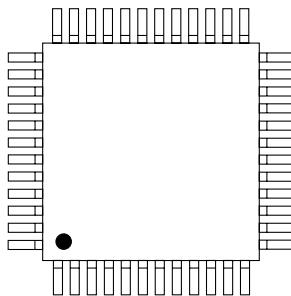
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

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

**2. Installation**

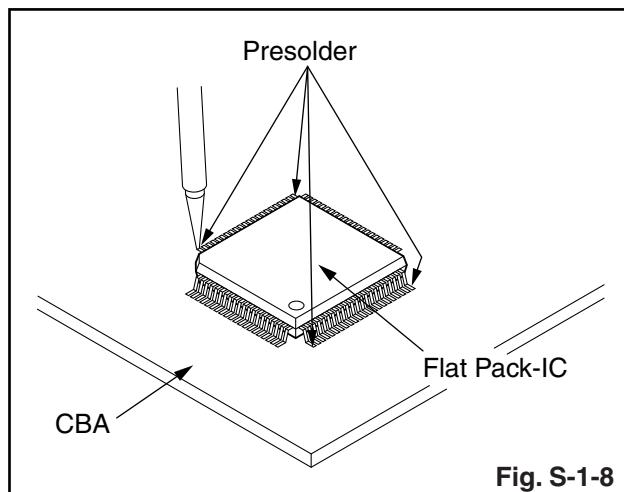
1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The “●” mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

Example :



Pin 1 of the Flat Pack-IC  
is indicated by a "●" mark.

Fig. S-1-7



## Instructions for Handling Semi-conductors

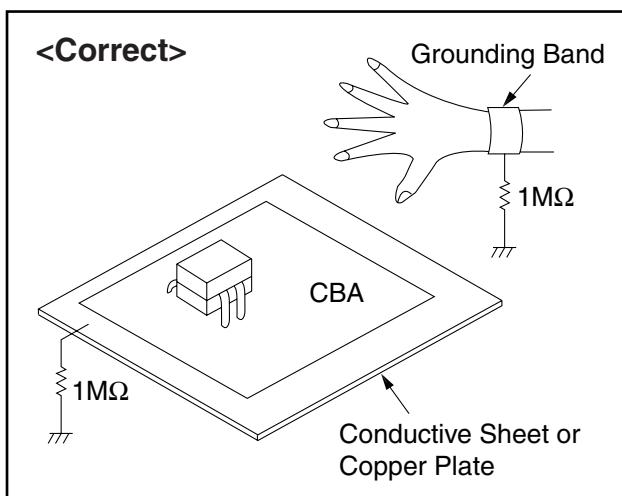
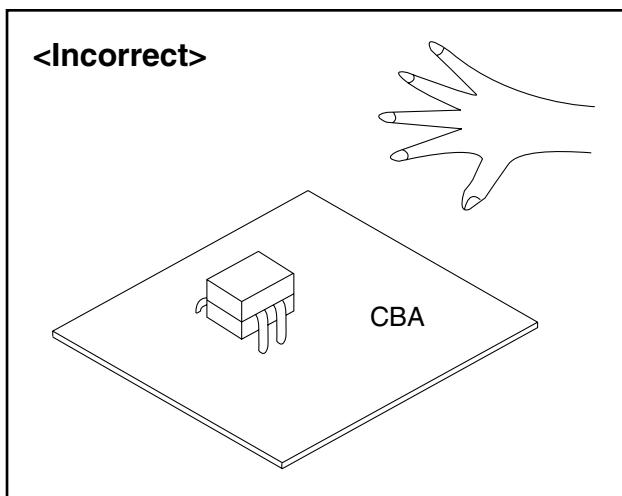
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

### 1. Ground for Human Body

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

### 2. Ground for Workbench

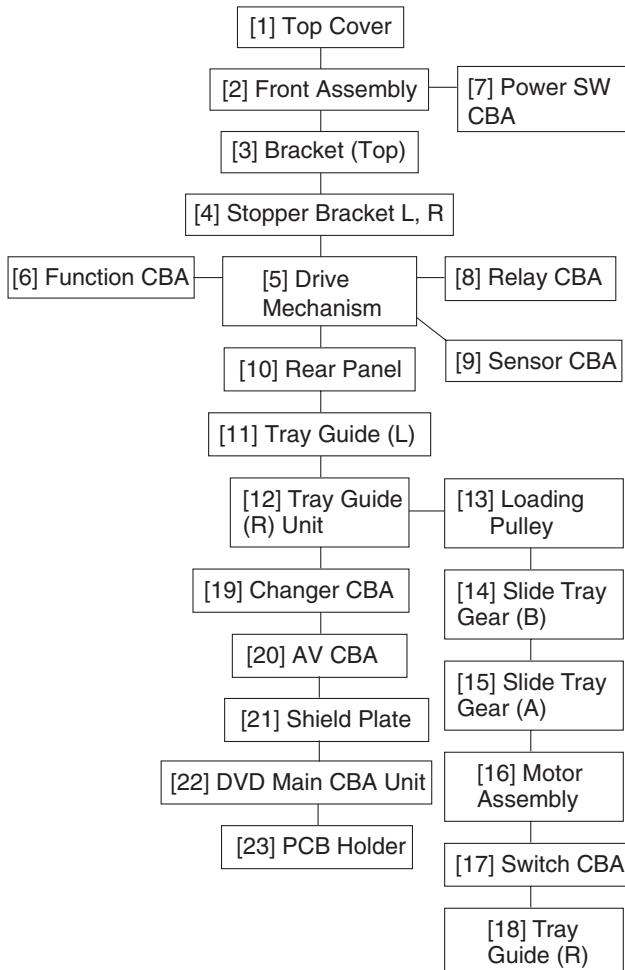
Be sure to place a conductive sheet or copper plate with proper grounding ( $1\text{ M}\Omega$ ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting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



# CABINET DISASSEMBLY INSTRUCTIONS

## 1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



## 2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[1]	Top Cover	D1	6(S-1)	-
[2]	Front Assembly	D2	2(S-2), *8(L-1)	1-1
[3]	Bracket (Top)	D3	*2(L-2)	-
[4]	Stopper Bracket L, R	D3	4(S-3)	-

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[5]	Drive Mechanism	D4, D5	CN201, CN3001	2 2-1 3 4
[6]	Function CBA	D4	*2(L-3), CN2201	-
[7]	Power SW CBA	D4	CN2103, (S-4)	-
[8]	Relay CBA	D6	2(S-5), CN5002, CN5003, CN5005	-
[9]	Sensor CBA	D6	2(S-6)	-
[10]	Rear Panel	D7	4(S-7), 11(S-8)	-
[11]	Tray Guide (L)	D8	3(S-9)	-
[12]	Tray Guide (R) Unit	D8	4(S-10), CN3003, CN3004	-
[13]	Loading Pulley	D9	(S-11), Belt L	-
[14]	Slide Tray Gear (B)	D9	(S-12), *(P-1)	-
[15]	Slide Tray Gear (A)	D9	-----	-
[16]	Motor Assembly	D9	(S-13)	-
[17]	Switch CBA	D9	*2(L-4)	-
[18]	Tray Guide (R)	D9	-----	-
[19]	Changer CBA	D10	CN3102, 2(S-14), CN3301	-
[20]	AV CBA	D10	6(S-15), CN1601, CN1001, FFC Clamper	-
[21]	Shield Plate	D11	2(S-16), 2(W-1)	-
[22]	DVD Main CBA Unit	D11	2(S-17)	-
[23]	PCB Holder	D11	(S-18)	-

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

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

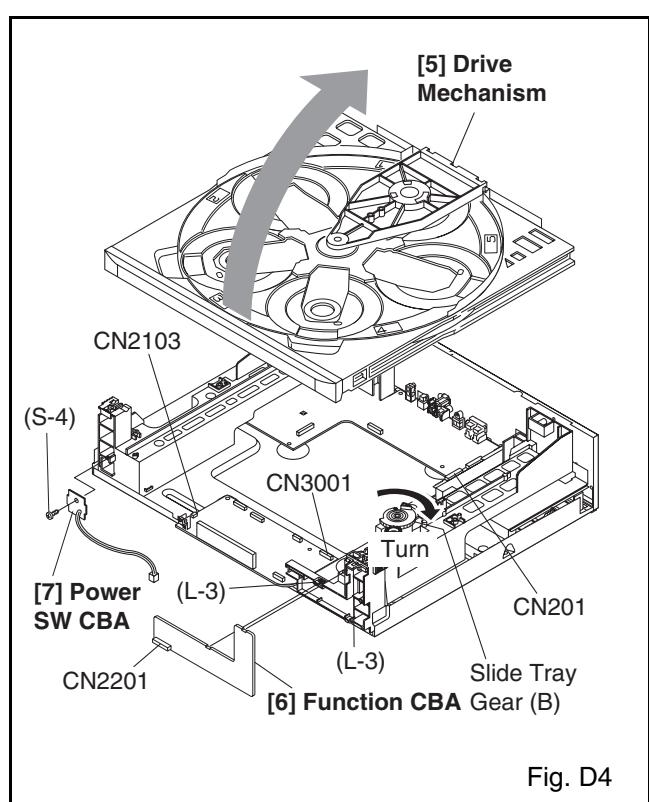
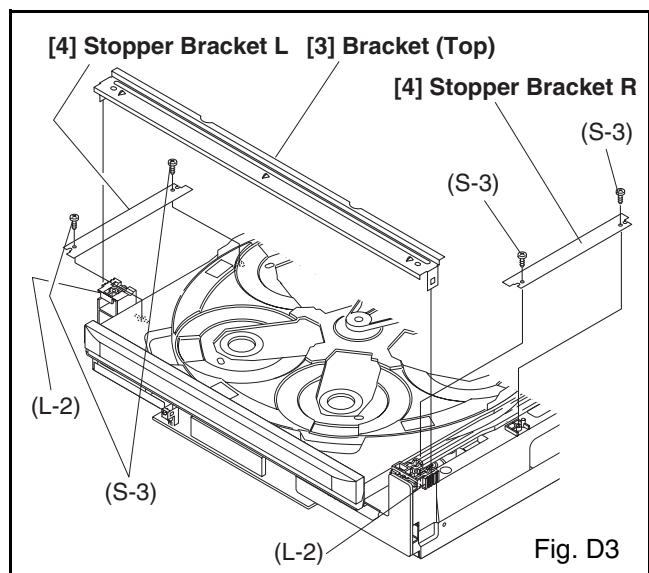
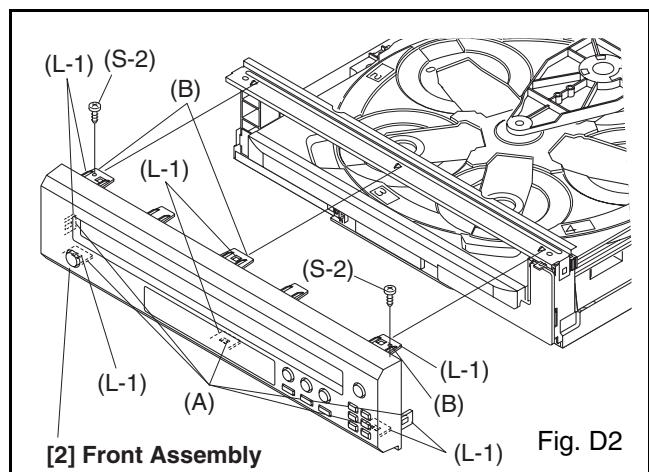
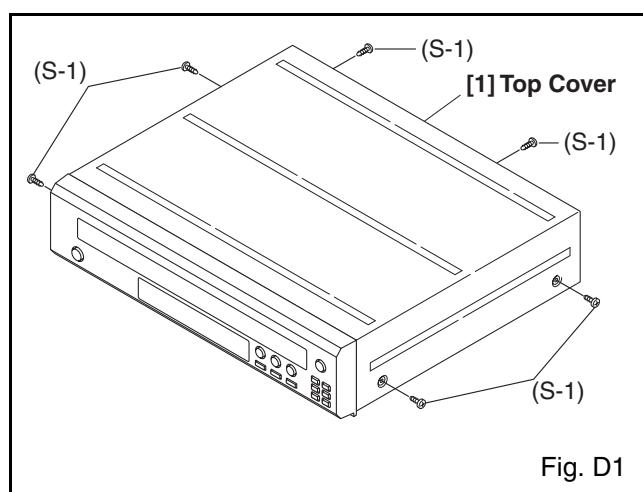
**CAUTION 2:** Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.

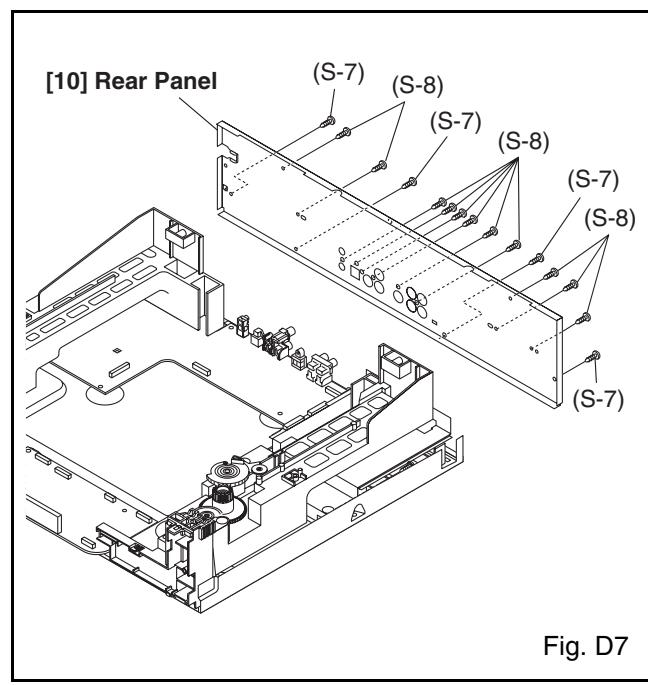
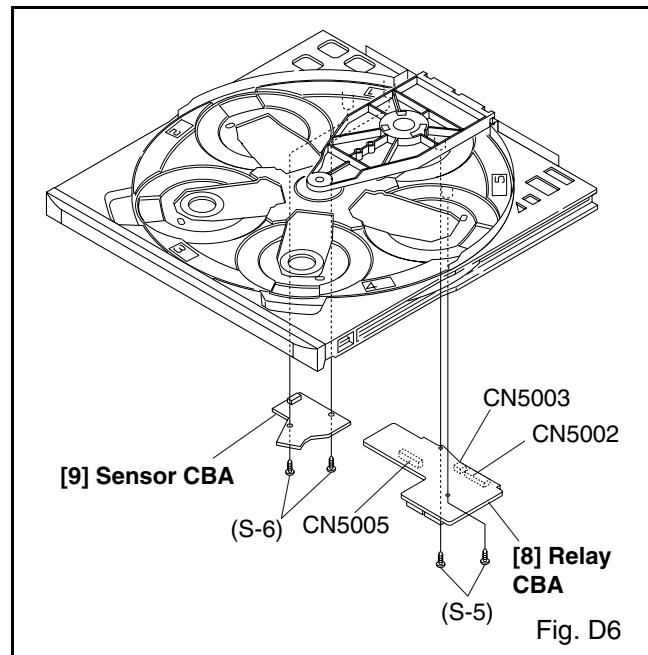
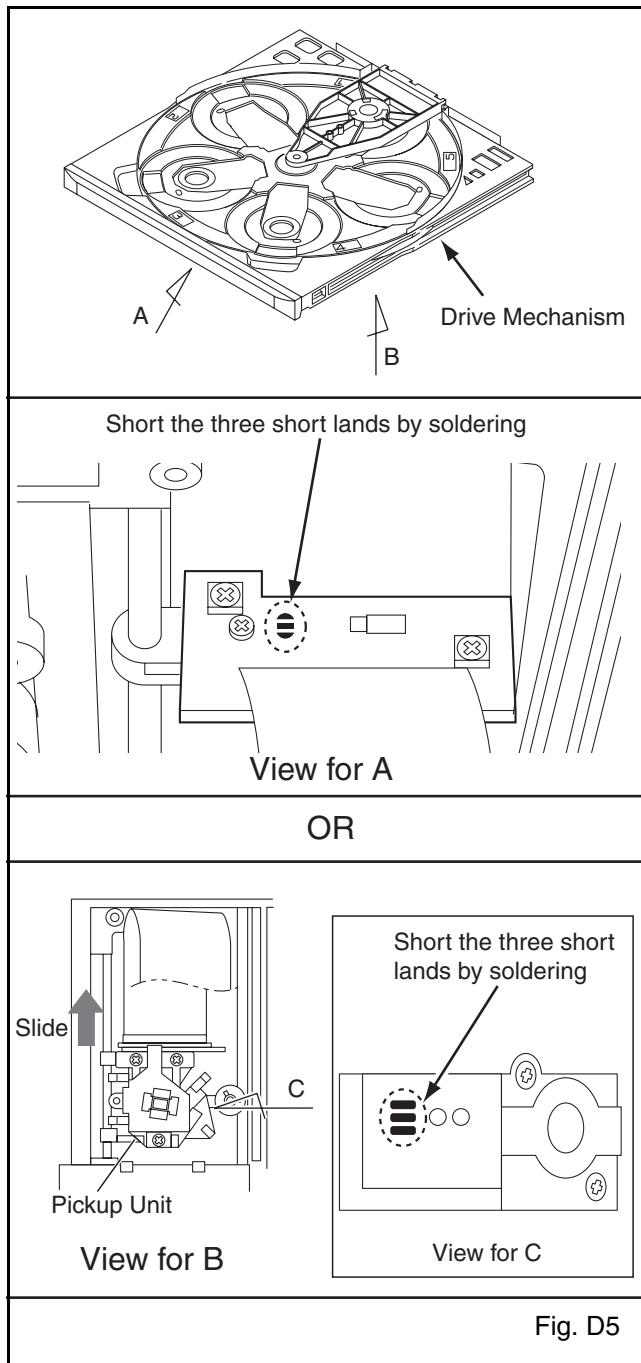
To avoid damage of pickup follow next procedures.

2-1. 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. D5)

**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. D5)

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





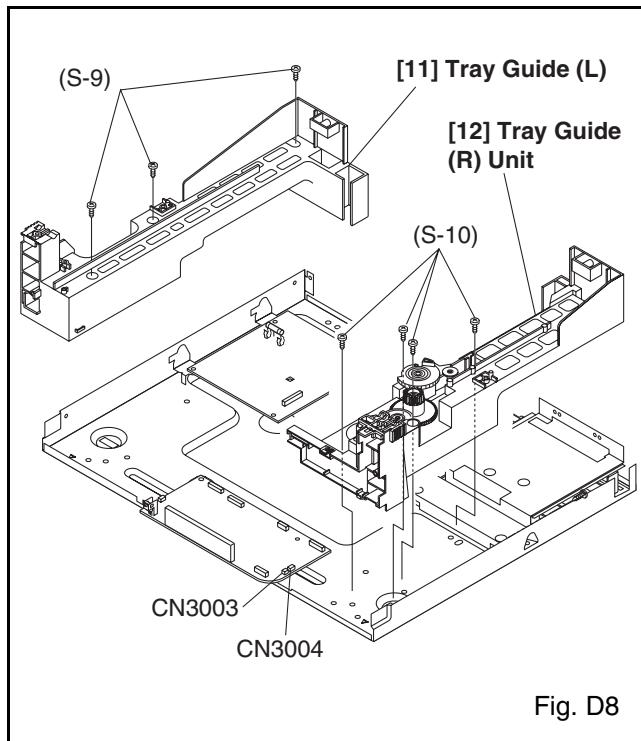


Fig. D8

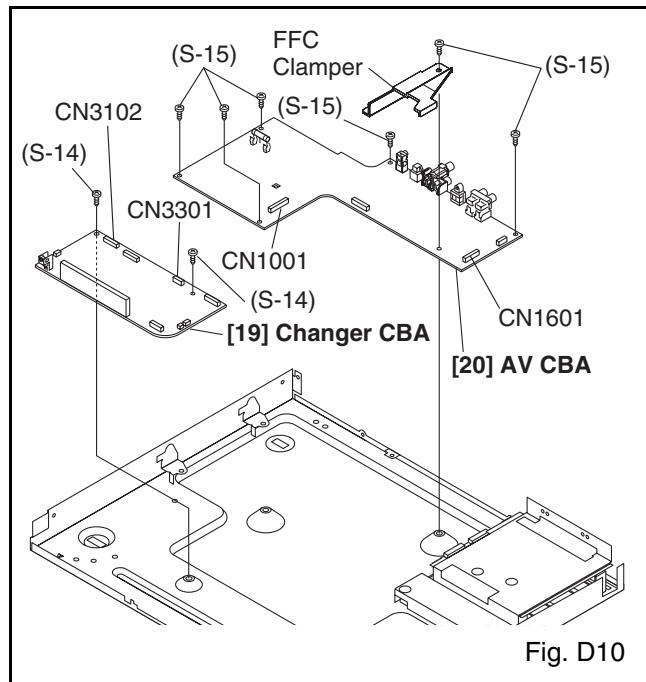


Fig. D10

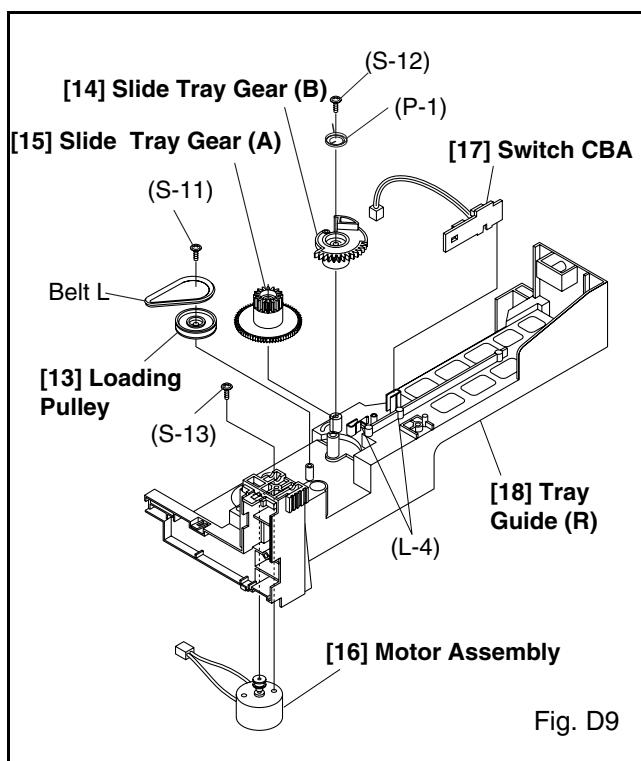


Fig. D9

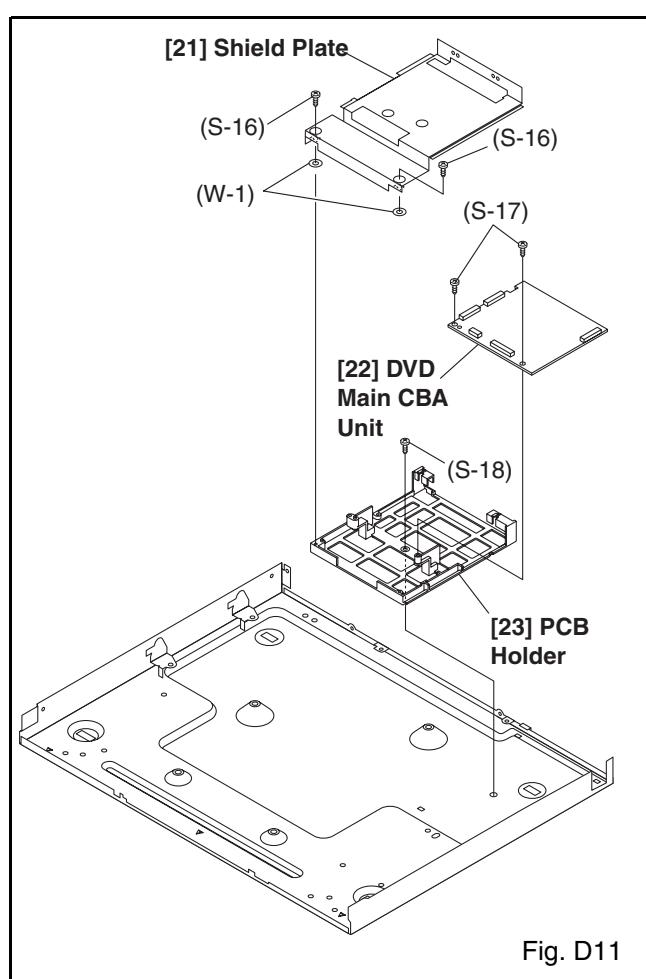
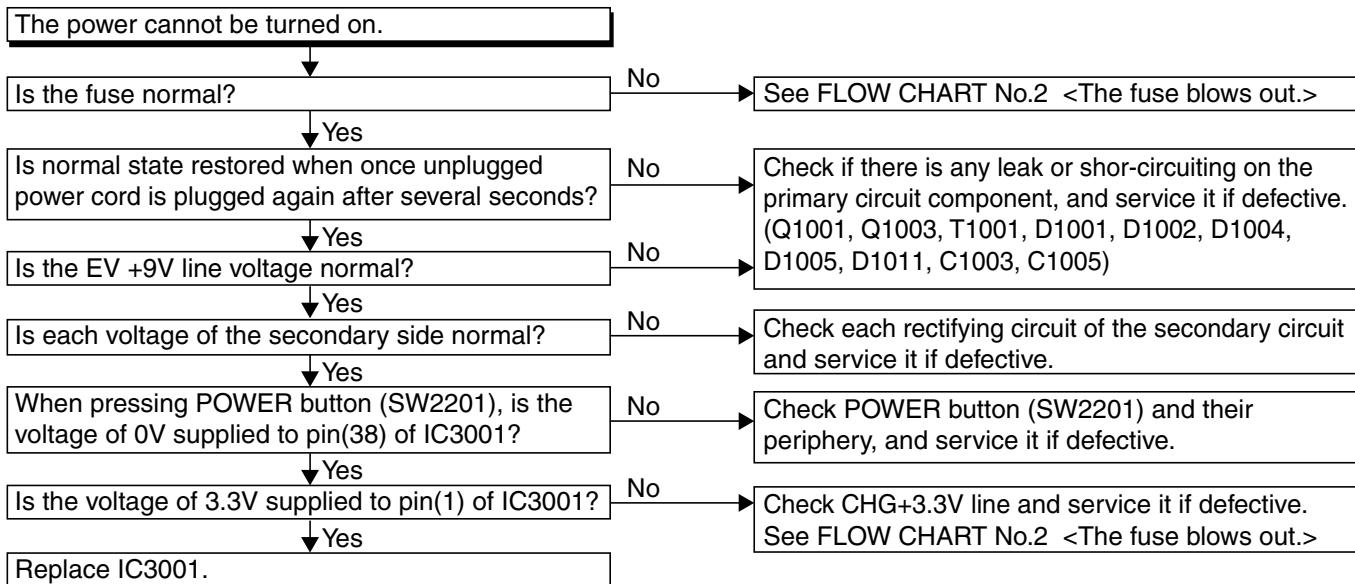


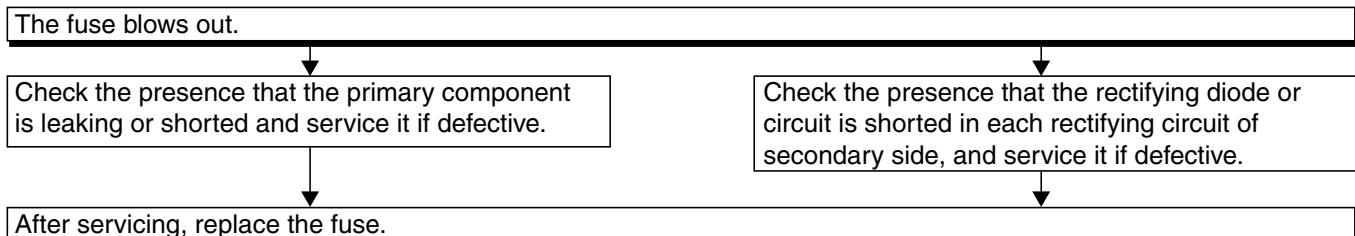
Fig. D11

# TROUBLESHOOTING

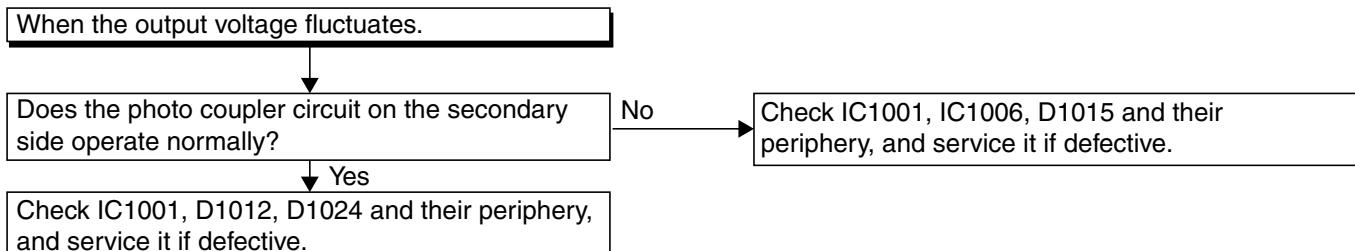
## FLOW CHART NO.1



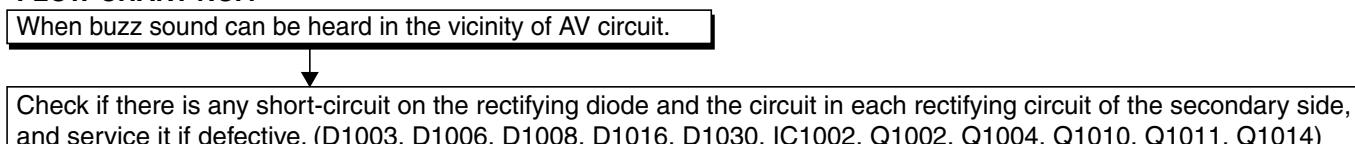
## FLOW CHART NO.2



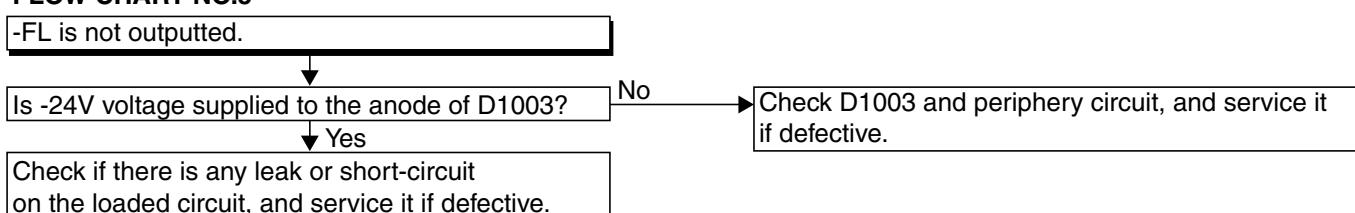
## FLOW CHART NO.3

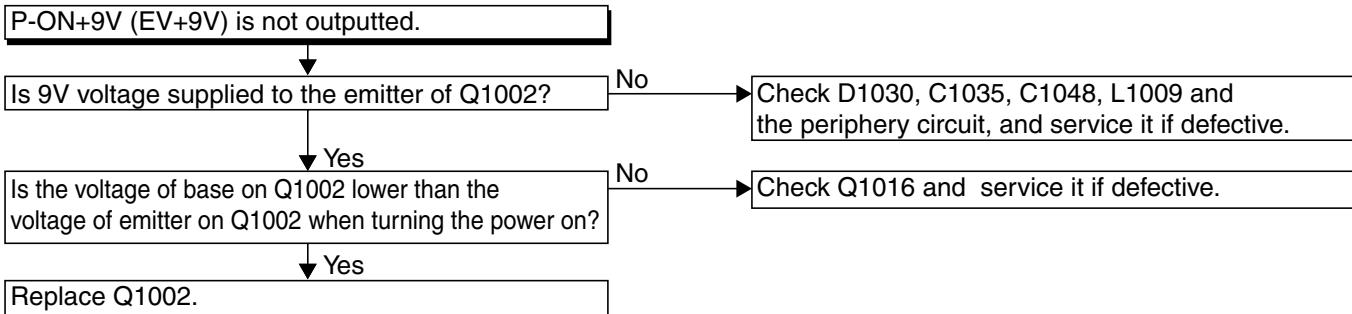
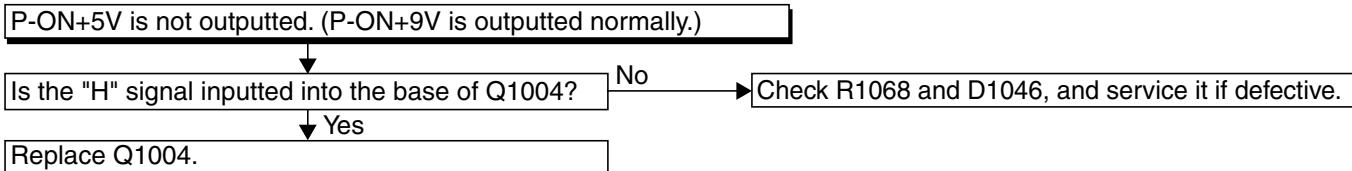
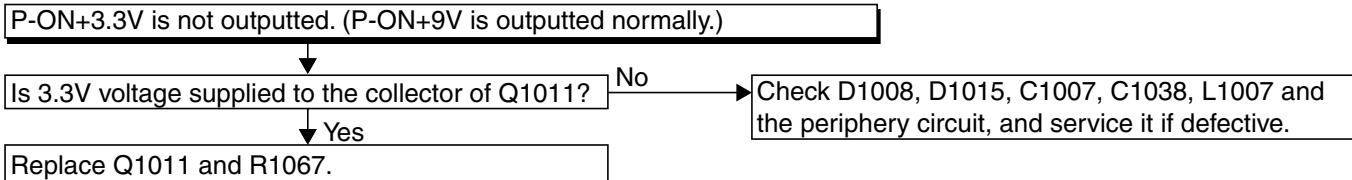
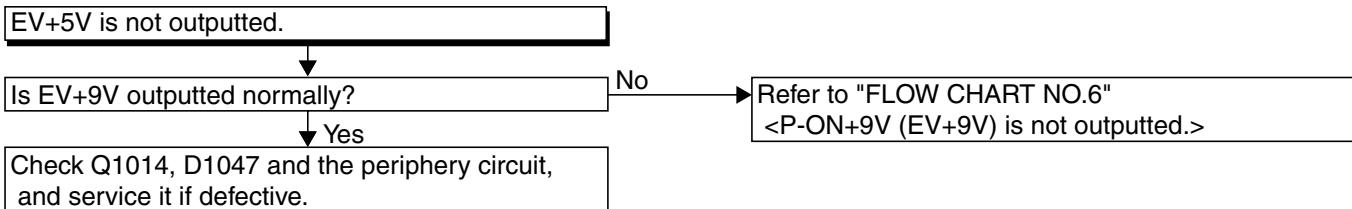
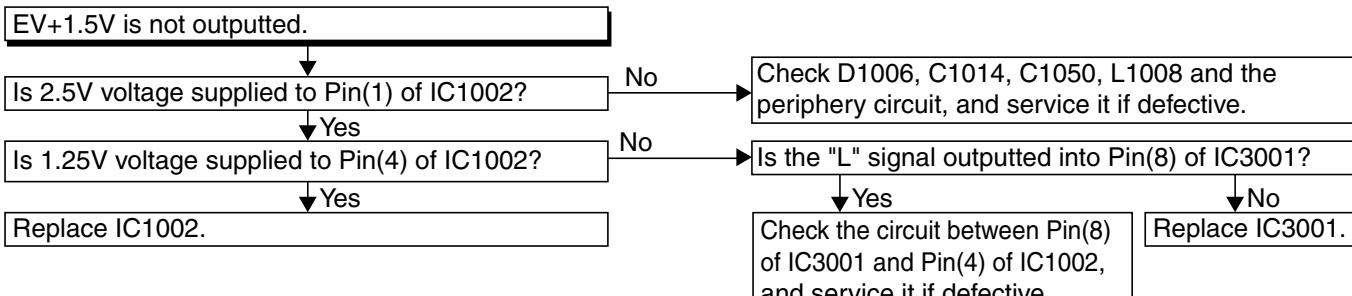
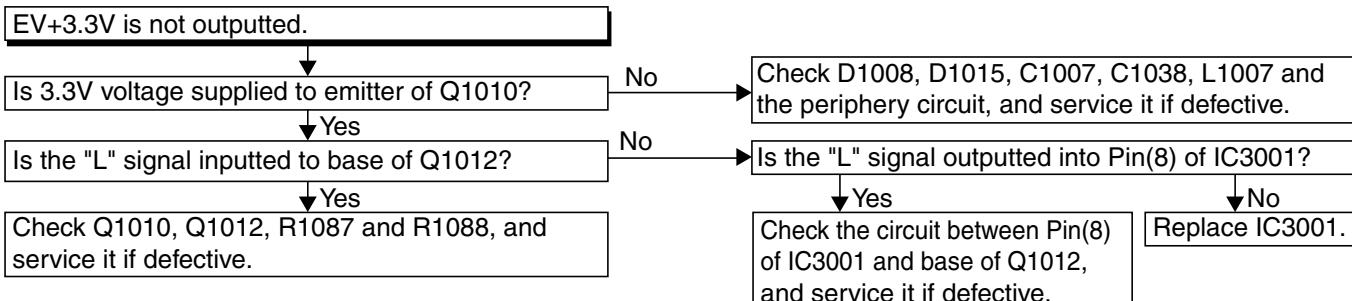


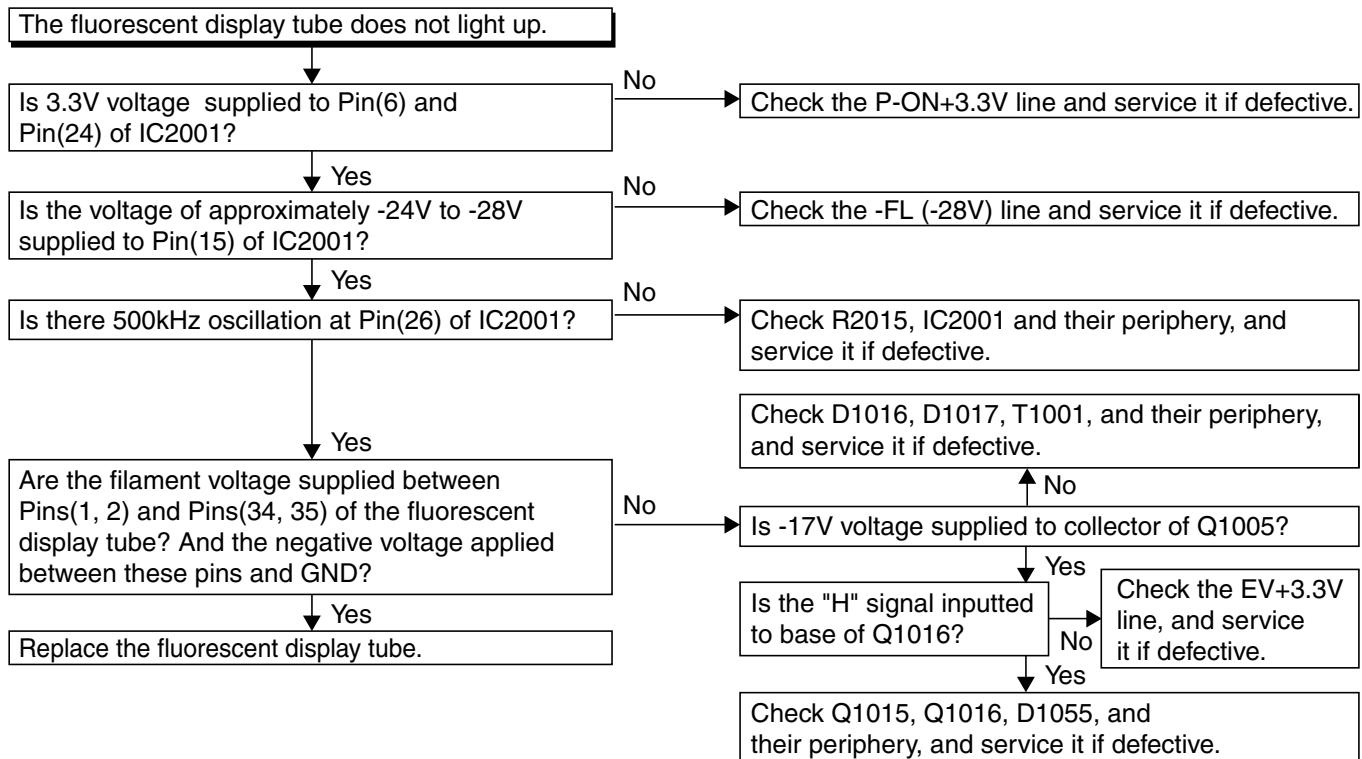
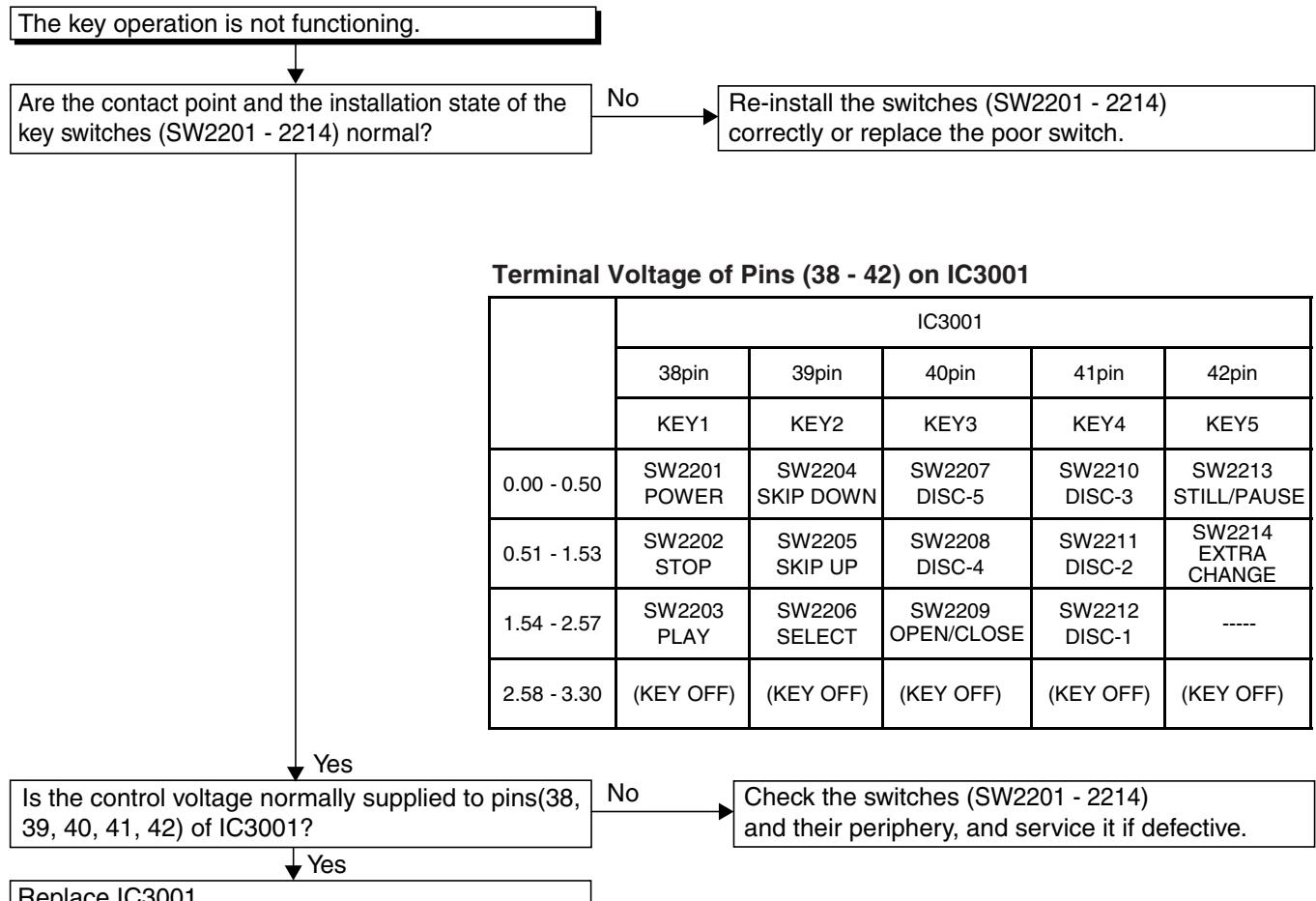
## FLOW CHART NO.4

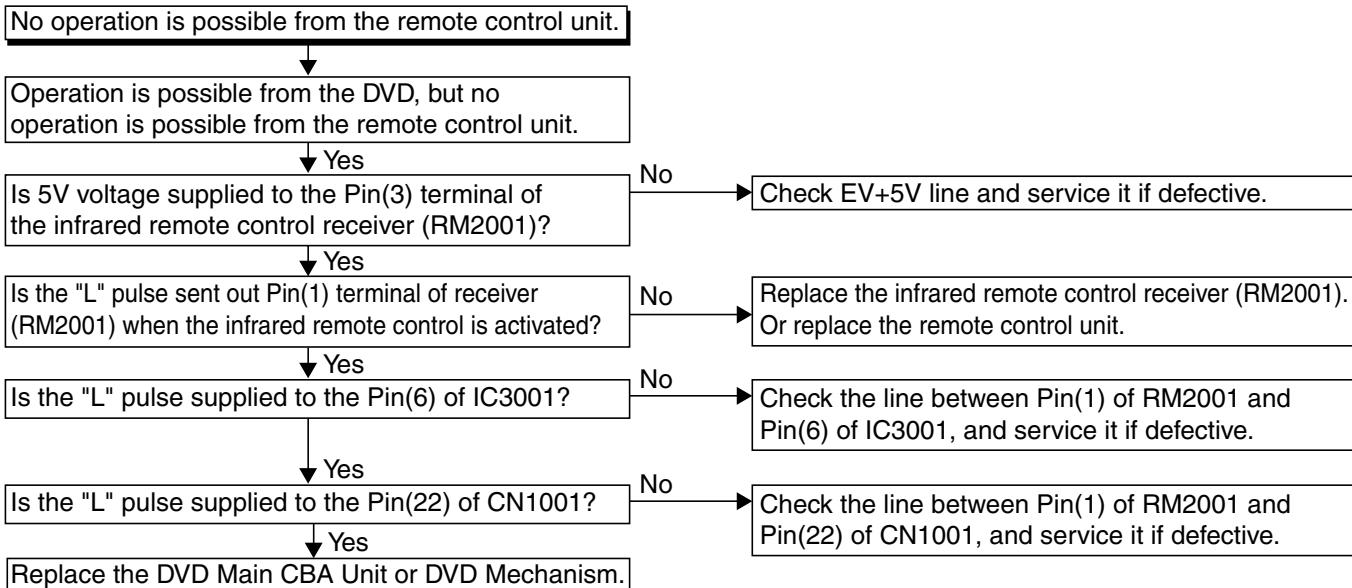
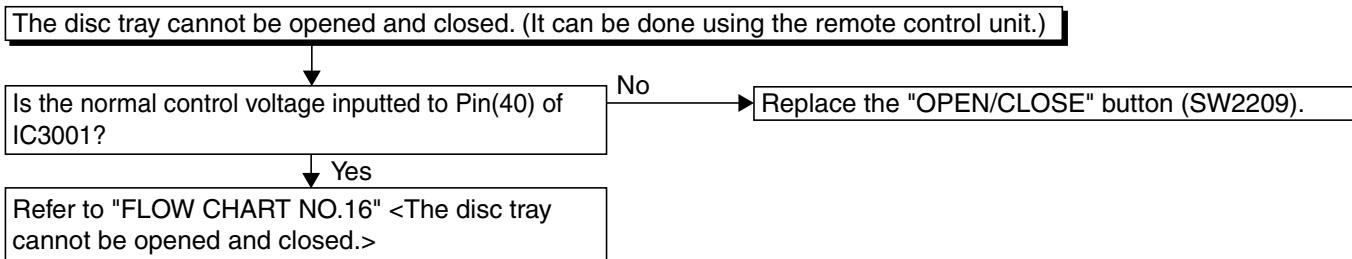
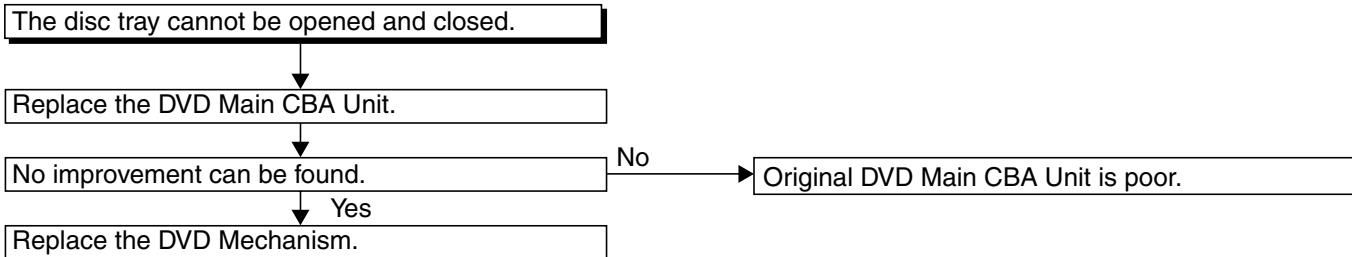
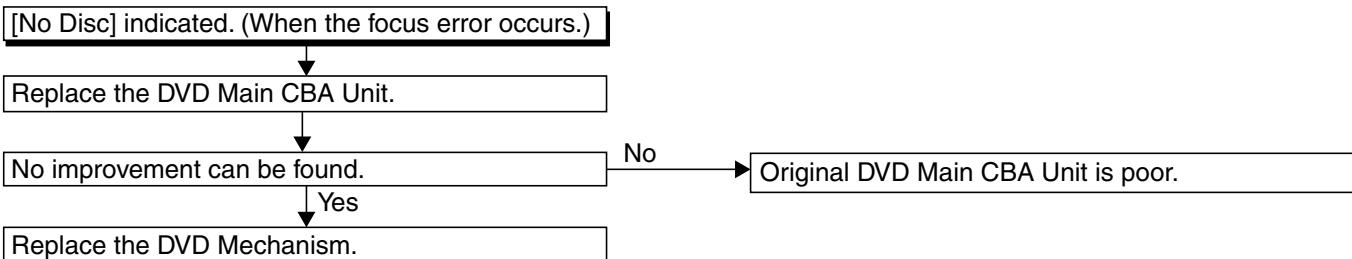


## FLOW CHART NO.5



**FLOW CHART NO.6****FLOW CHART NO.7****FLOW CHART NO.8****FLOW CHART NO.9****FLOW CHART NO.10****FLOW CHART NO.11**

**FLOW CHART NO.12****FLOW CHART NO.13**

**FLOW CHART NO.14****FLOW CHART NO.15****FLOW CHART NO.16****FLOW CHART NO.17**

**FLOW CHART NO.18**

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

Replace the DVD Main CBA Unit.

No improvement can be found.

No

Original DVD Main CBA Unit is poor.

Yes

Replace the DVD Mechanism.

**FLOW CHART NO.19**

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

Replace the DVD Main CBA Unit.

No improvement can be found.

No

Original DVD Main CBA Unit is poor.

Yes

Replace the DVD Mechanism.

**FLOW CHART NO.20**

Both functions of picture and sound do not operate normally.

Replace the DVD Main CBA Unit.

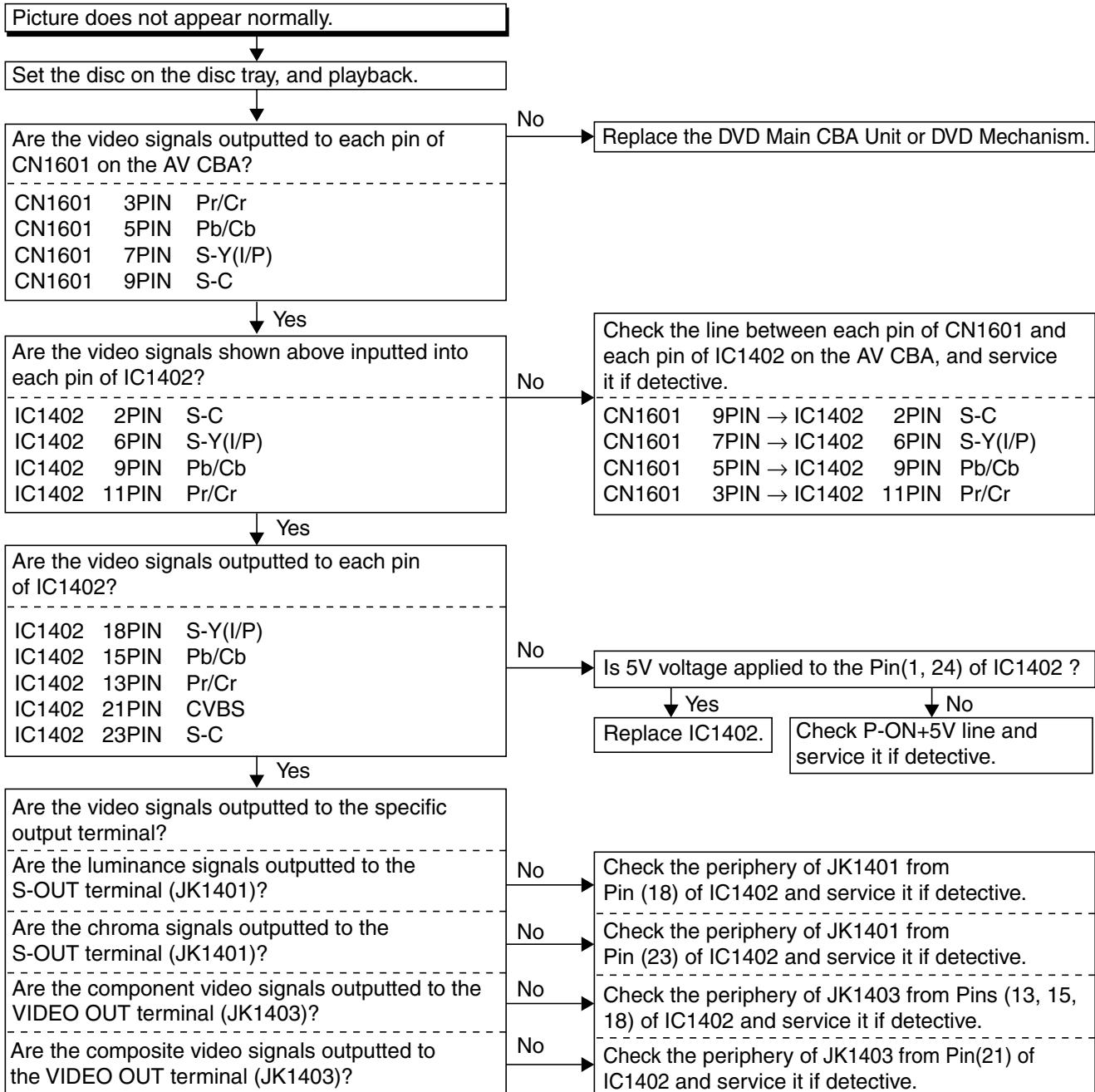
No improvement can be found.

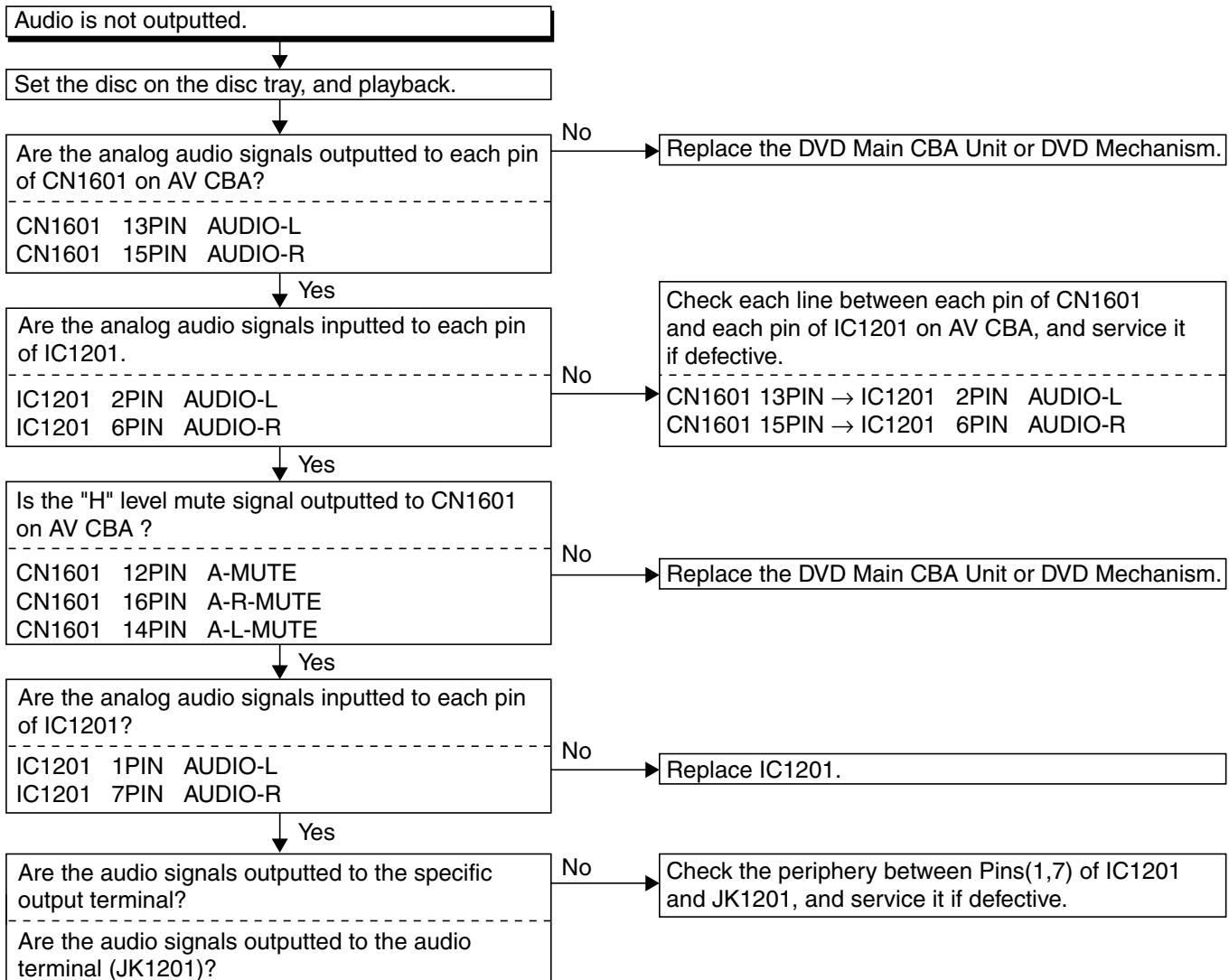
No

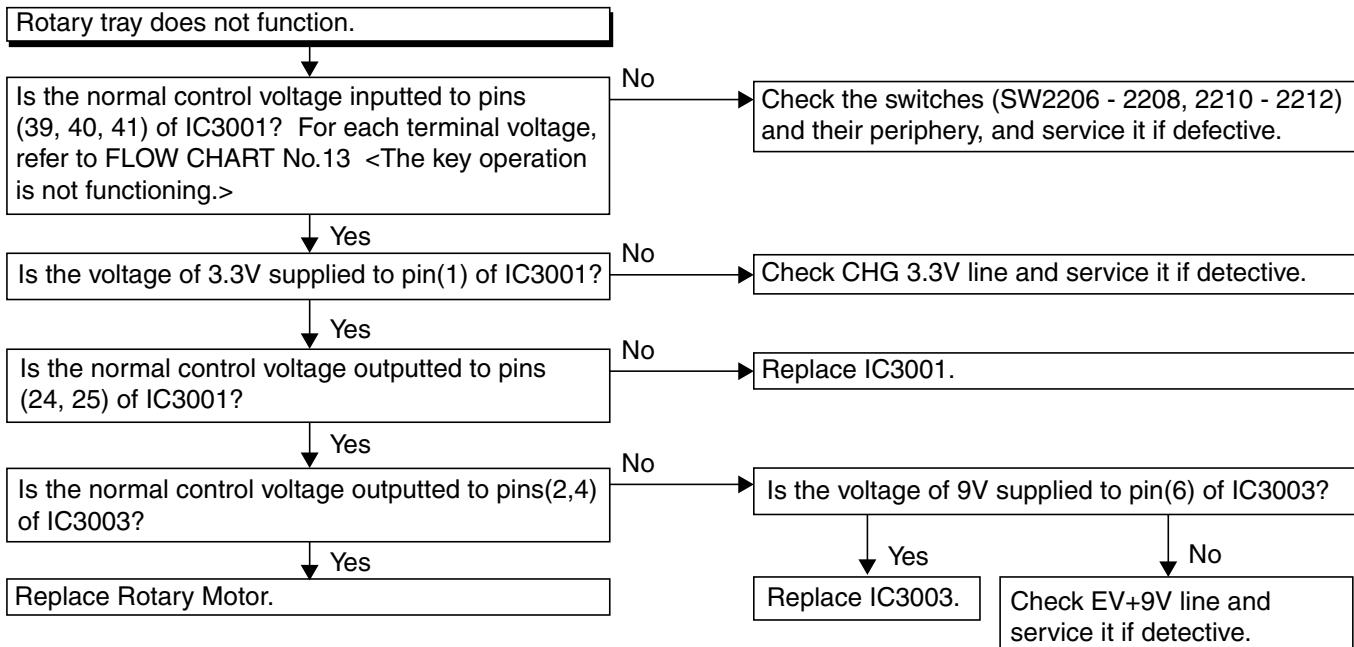
Original DVD Main CBA Unit is poor.

Yes

Replace the DVD Mechanism.

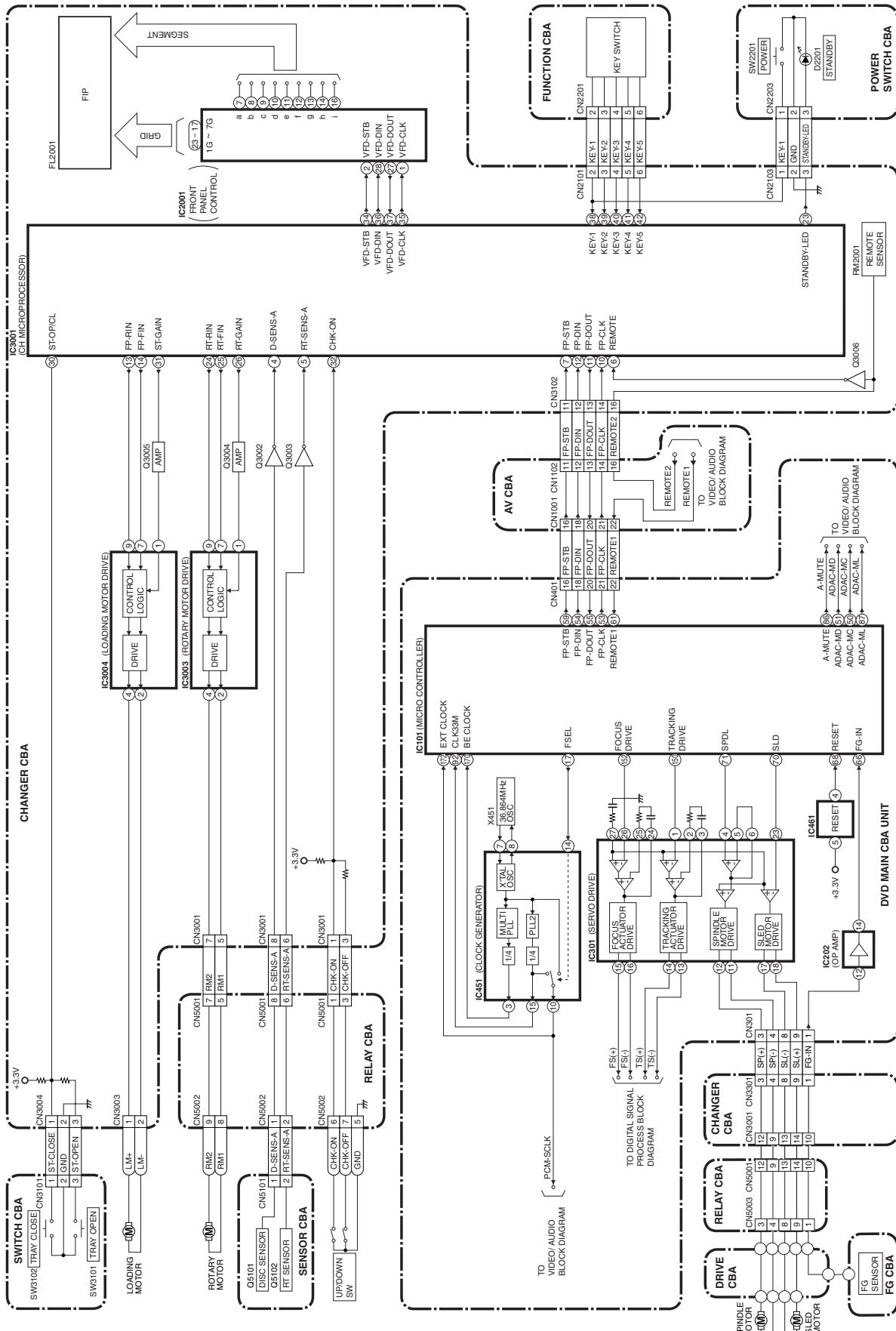
**FLOW CHART NO.21**

**FLOW CHART NO.22**

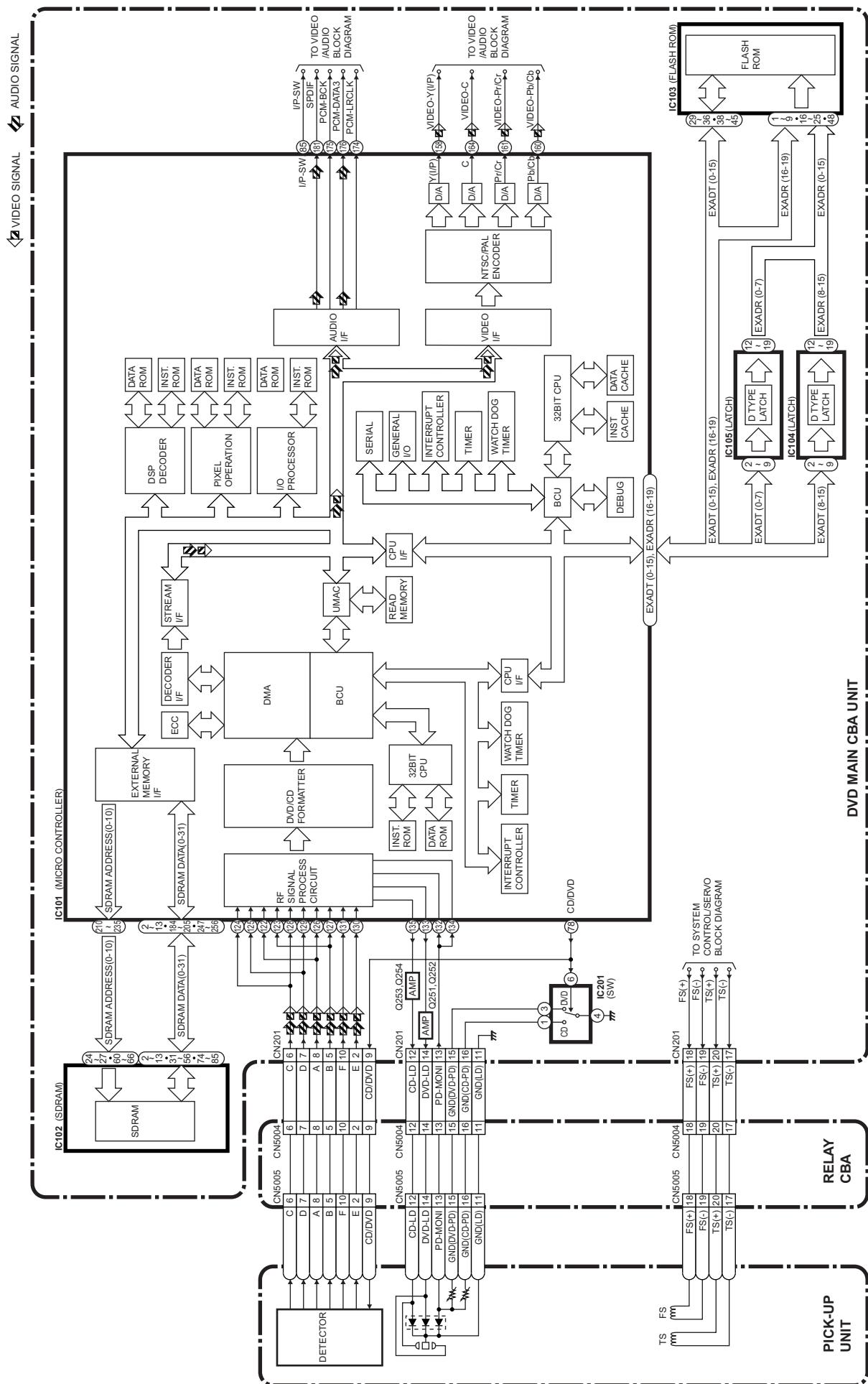
**FLOW CHART NO.23**

# BLOCK DIAGRAMS

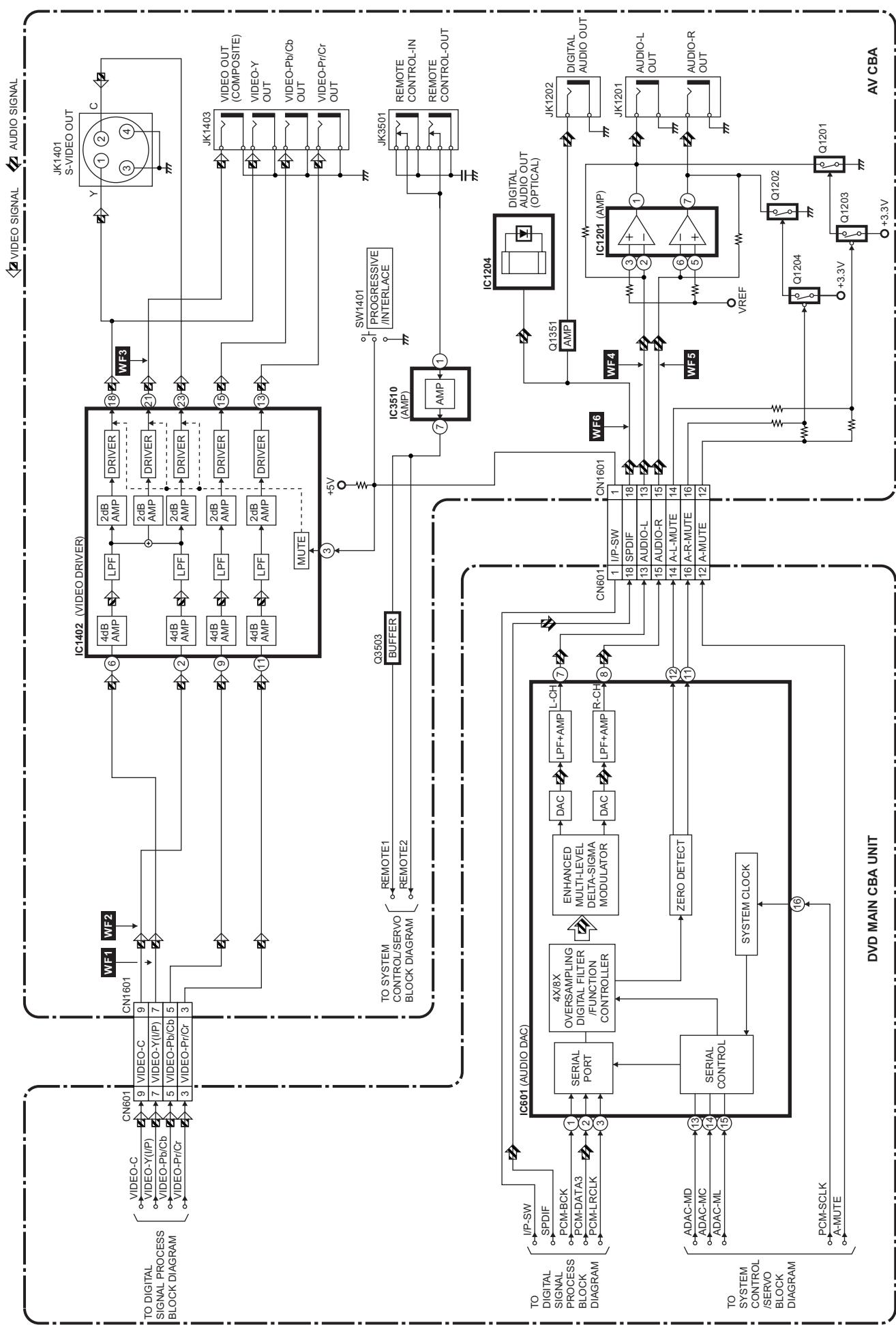
## System Control / Servo Block Diagram



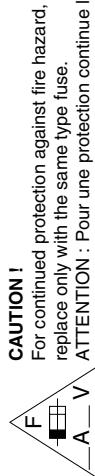
## Digital Signal Process Block Diagram



## Video / Audio Block Diagram



## Power Supply Block Diagram



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.

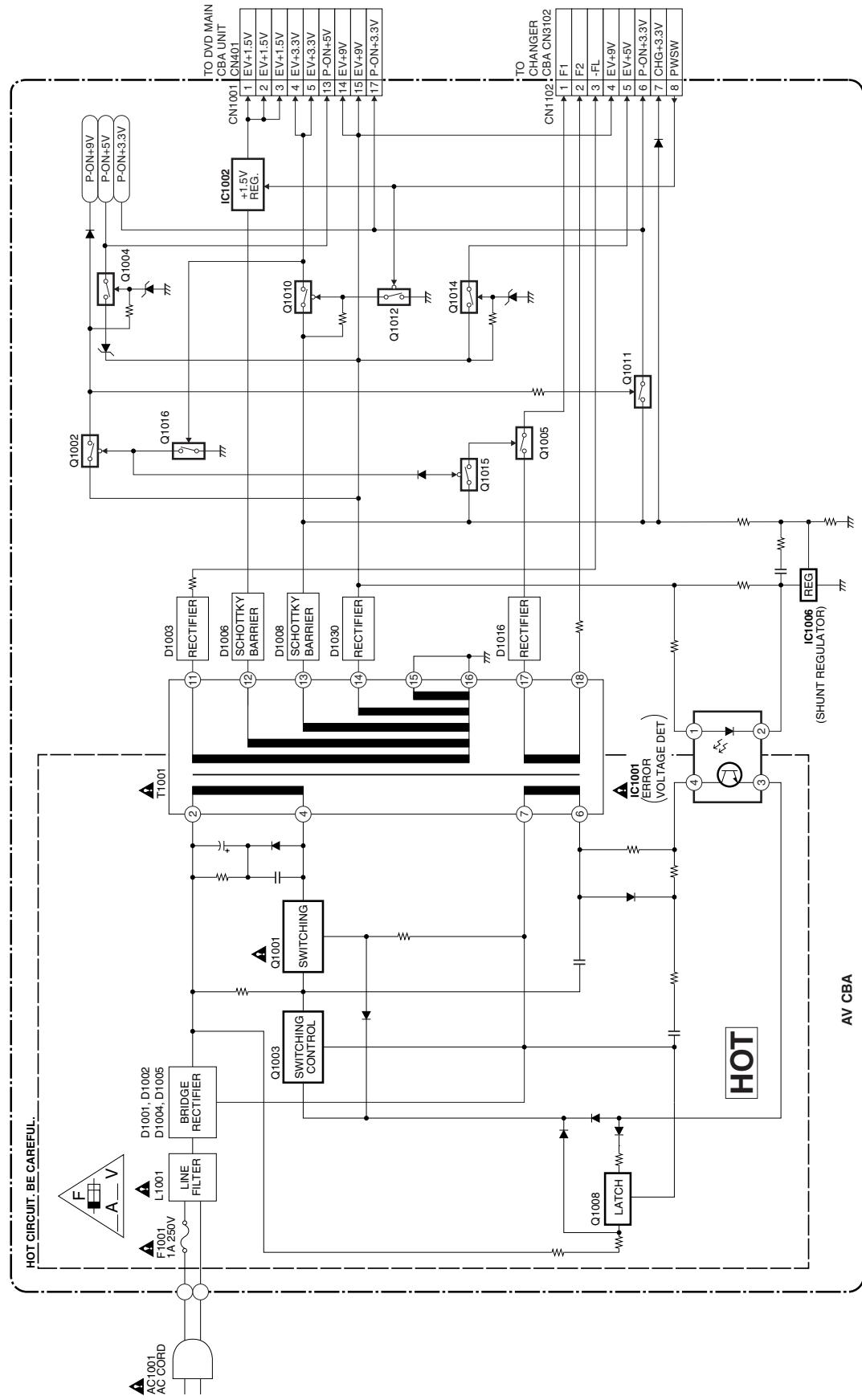
**ATTENTION :** Pour une protection continue les risques  
d'incendie n'utiliser que des fusibles de même type.

**Risk of fire-replace fuse as marked.**  
■ This symbol means fast operating fuse.  
Ce symbole représente un fusible à fusion rapide.

**CAUTION !**

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

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



# SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

## Standard Notes

### WARNING

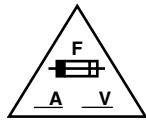
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special 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  $\mu F$  ( $P = 10^{-6} \mu F$ ).
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 RISQUES D'INCENDIE N'UTILISER QUE DES FUSIBLES 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:

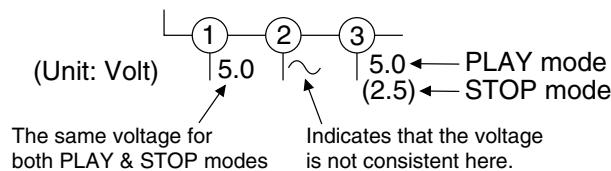
Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

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:

- 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.
- 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:

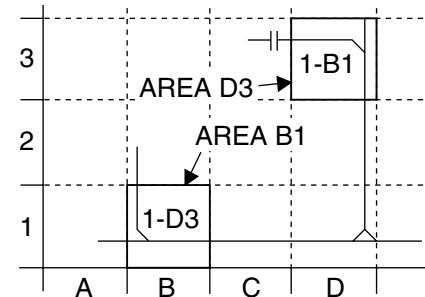


### 5. How to read converged lines

1-D3  
 Distinction Area  
 Line Number (1 to 3 digits)

Examples:

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



### 6. Test Point Information

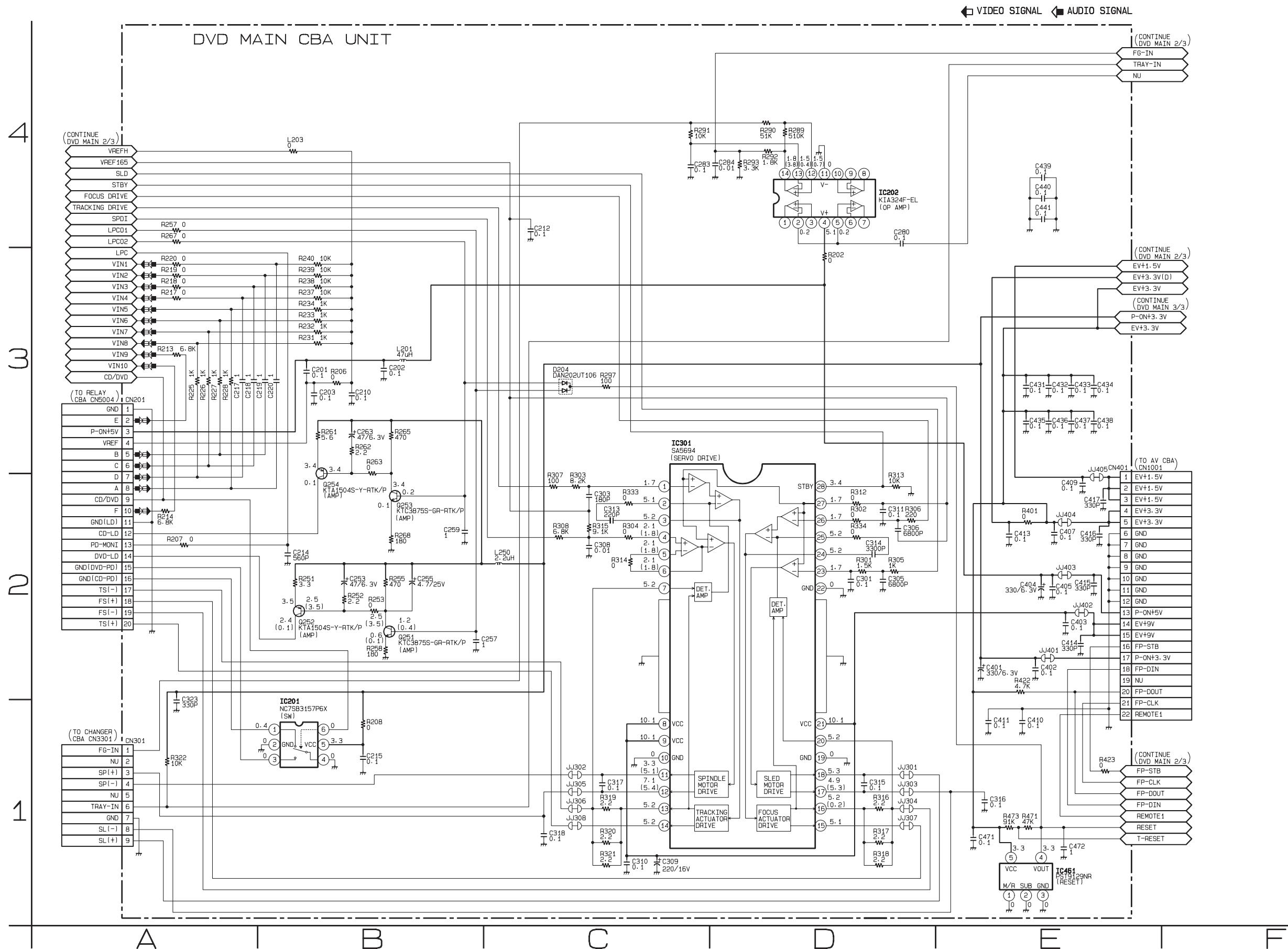
: Indicates a test point with a jumper wire across a hole in the PCB.

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

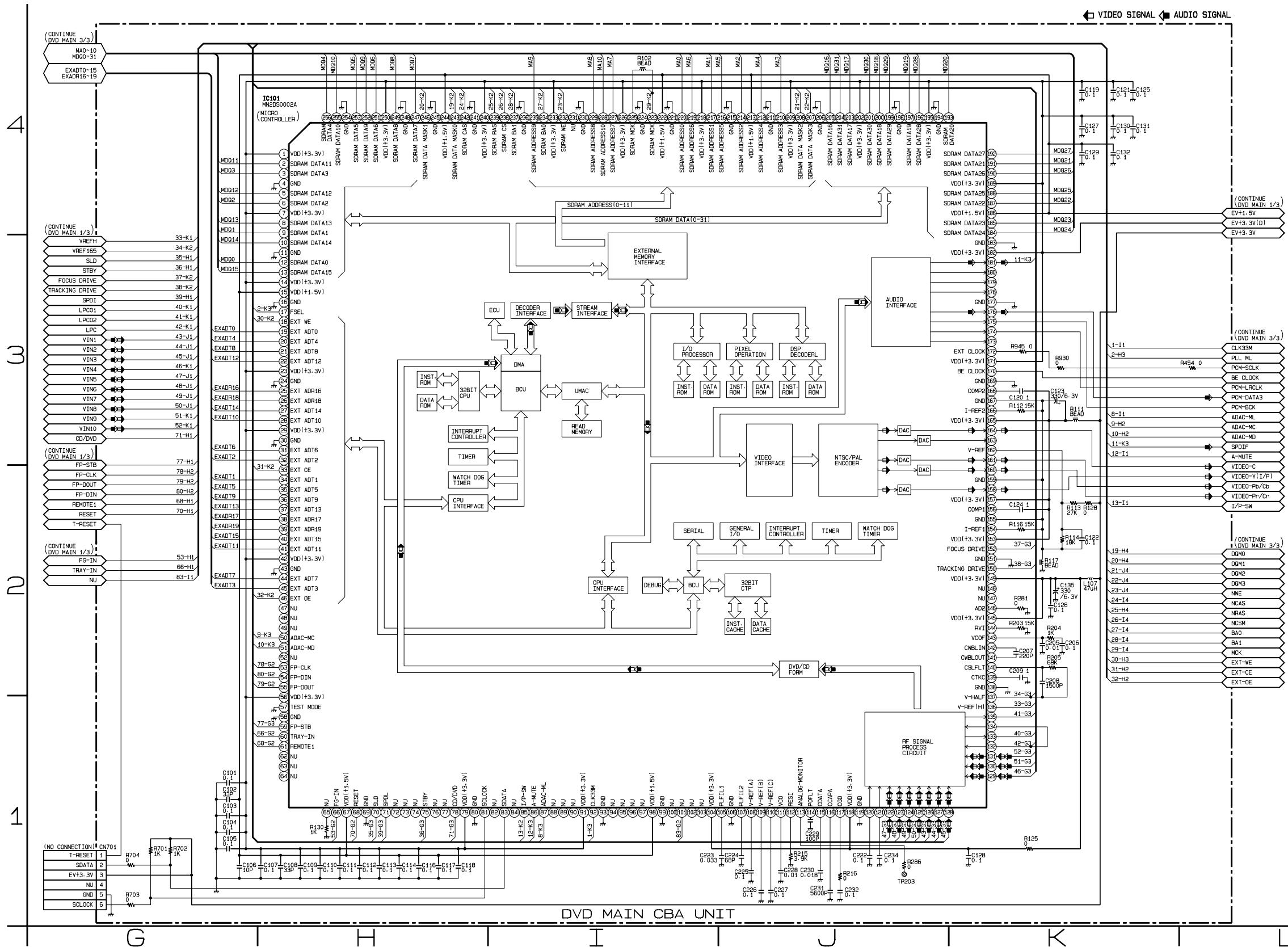
: Used to indicate a test point with no test pin.

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

## DVD Main 1/3 Schematic Diagram



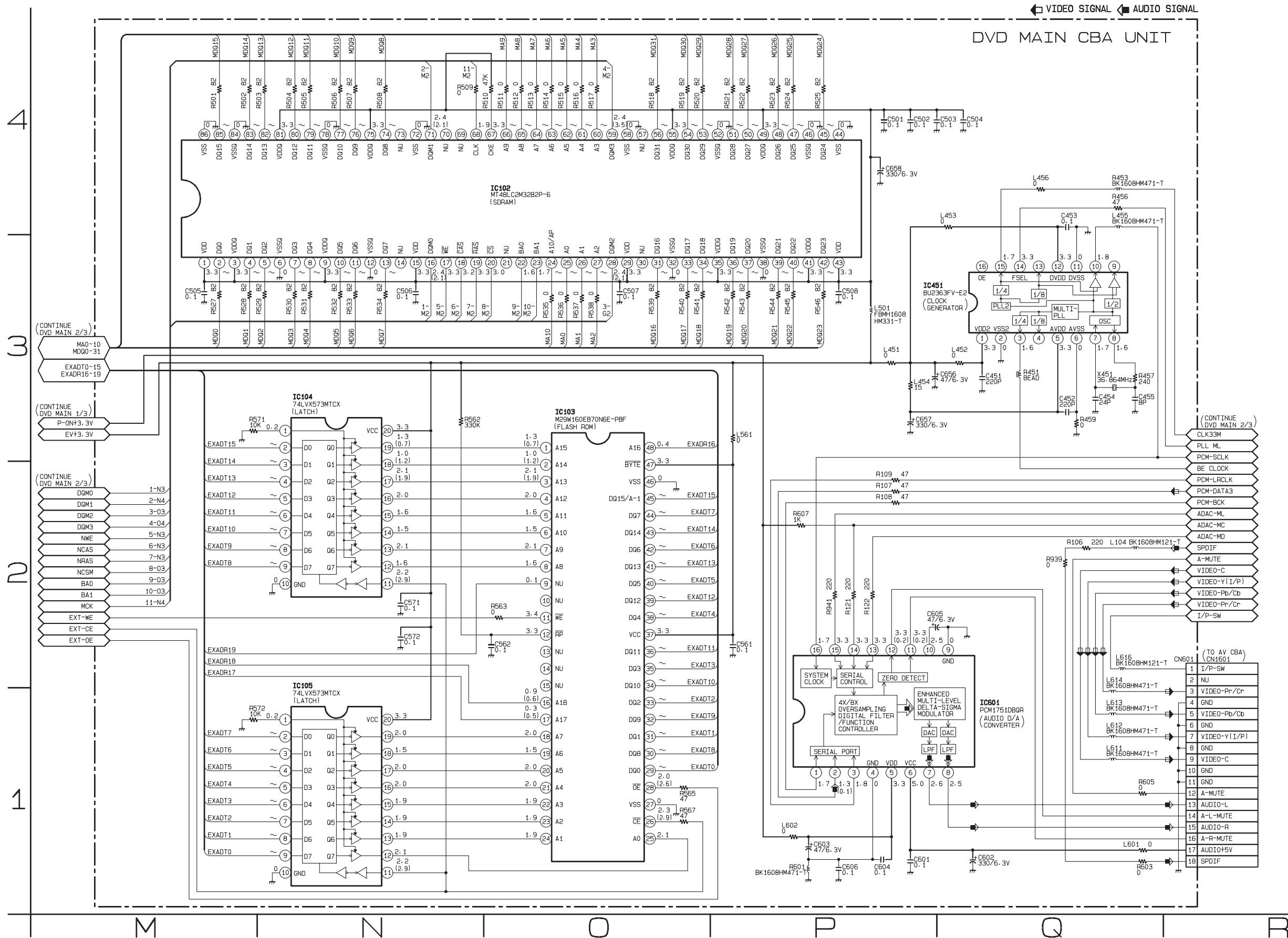
## DVD Main 2/3 Schematic Diagram



## IC101 Voltage Chart

PIN.NO	PLAY	STOP																					
1	3.3	3.3	33	2.2	2.9	65	0.1	0.1	97	----	----	129	2.0	2.0	161	0.5	0.5	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	1.3	1.3	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	3.3	3.3	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	3.4	3.4	115	1.4	1.4	147	----	----	179	----	----	211	0	0	243	2.4	2.1
20	~	~	52	----	----	84	----	----	116	0.3	0.3	148	----	----	180	----	----	212	~	~	244	1.5	1.5
21	~	~	53	3.4	3.4	85	2.4	2.4	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	3.4	0.1	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	3.4	3.4	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	----	----	95	----	----	127	2.0	2.0	159	0	0	191	~	~	223	1.9	1.9	255	~	~
32	~	~	64	----	----	96	----	----	128	2.0	2.0	160	0.5	0.5	192	~	~	224	0	0	256	~	~

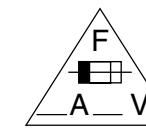
## DVD Main 3/3 Schematic Diagram



## 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.

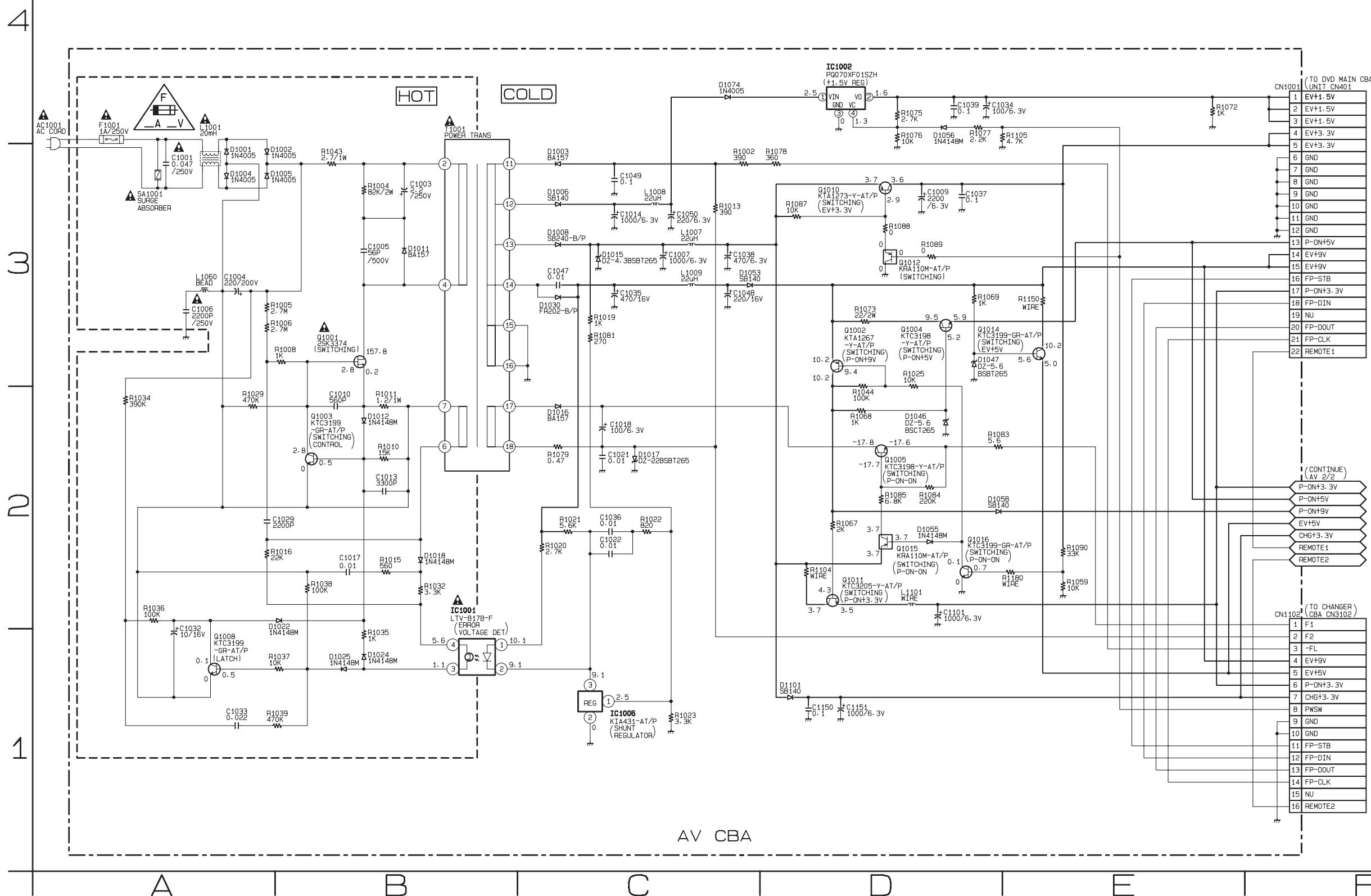
ATTENTION : Pour une protection continue les risques  
d'incendie n'utiliser que des fusibles de même type.

**Risk of fire-replace fuse as marked.**

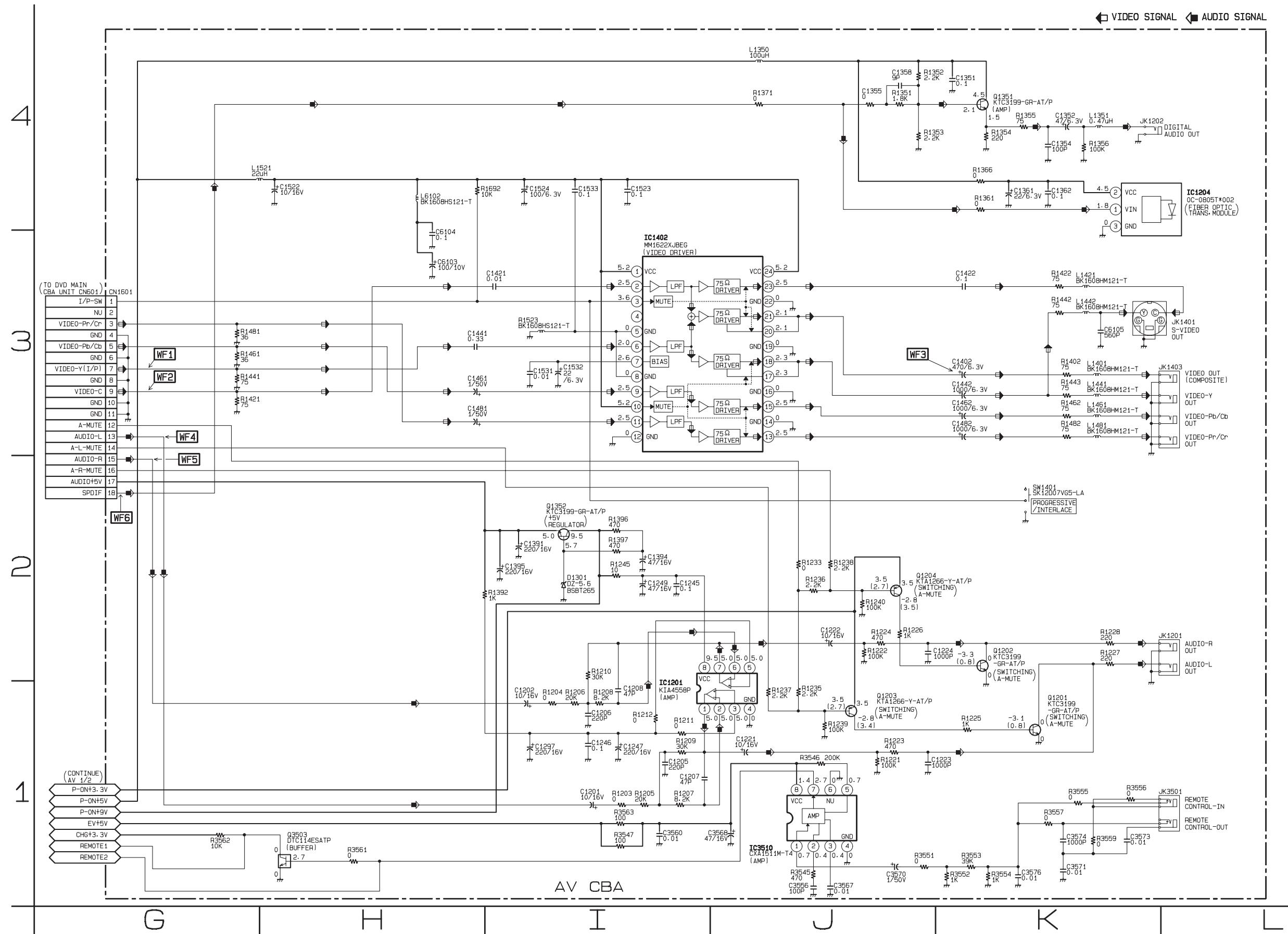
■ "This symbol means fast operating fuse."  
"Ce symbole représente un fusible à fusion rapide."

**NOTE:**

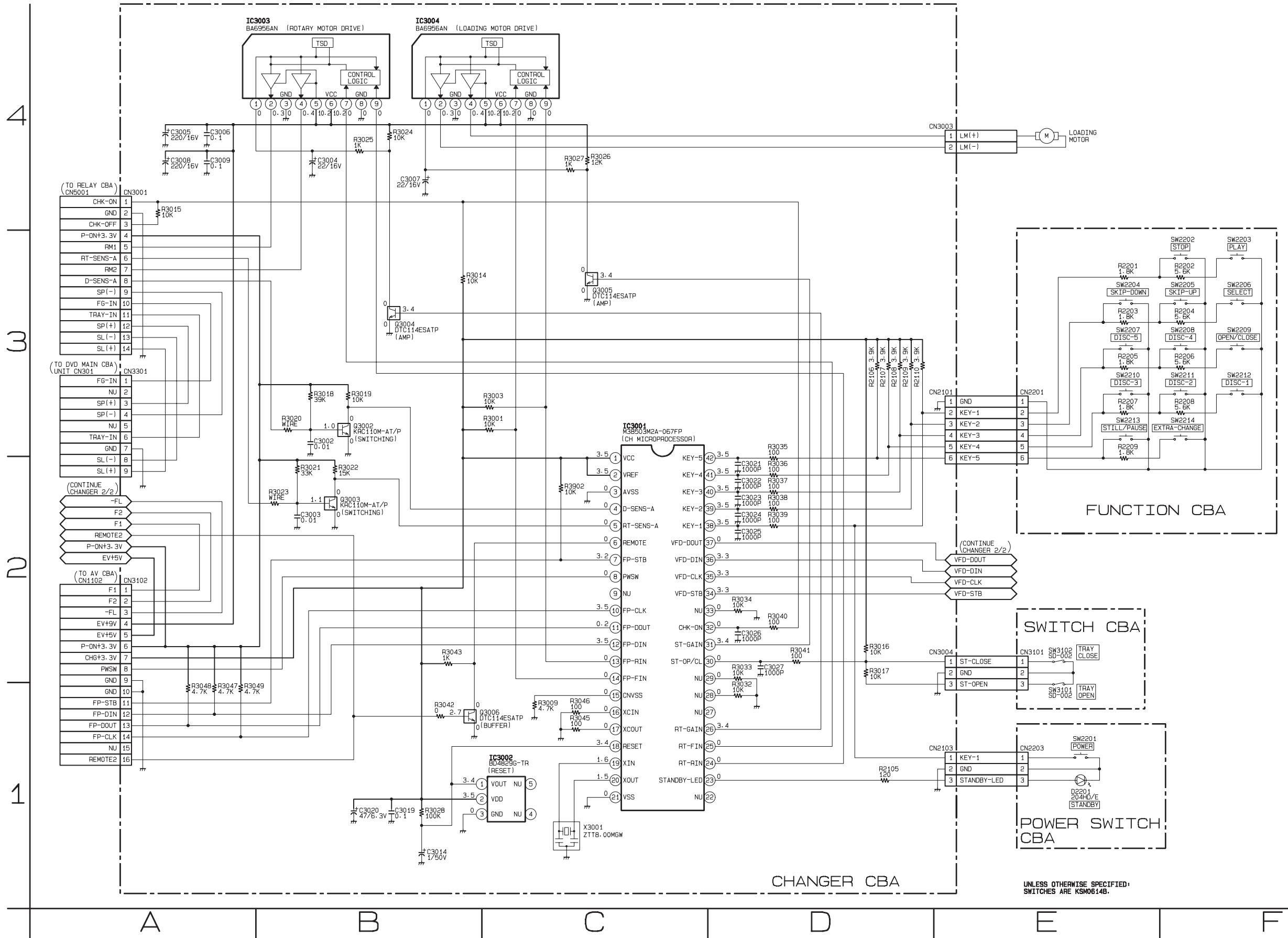
The voltage for parts in hot circuit is measured using  
hot GND as a common terminal.



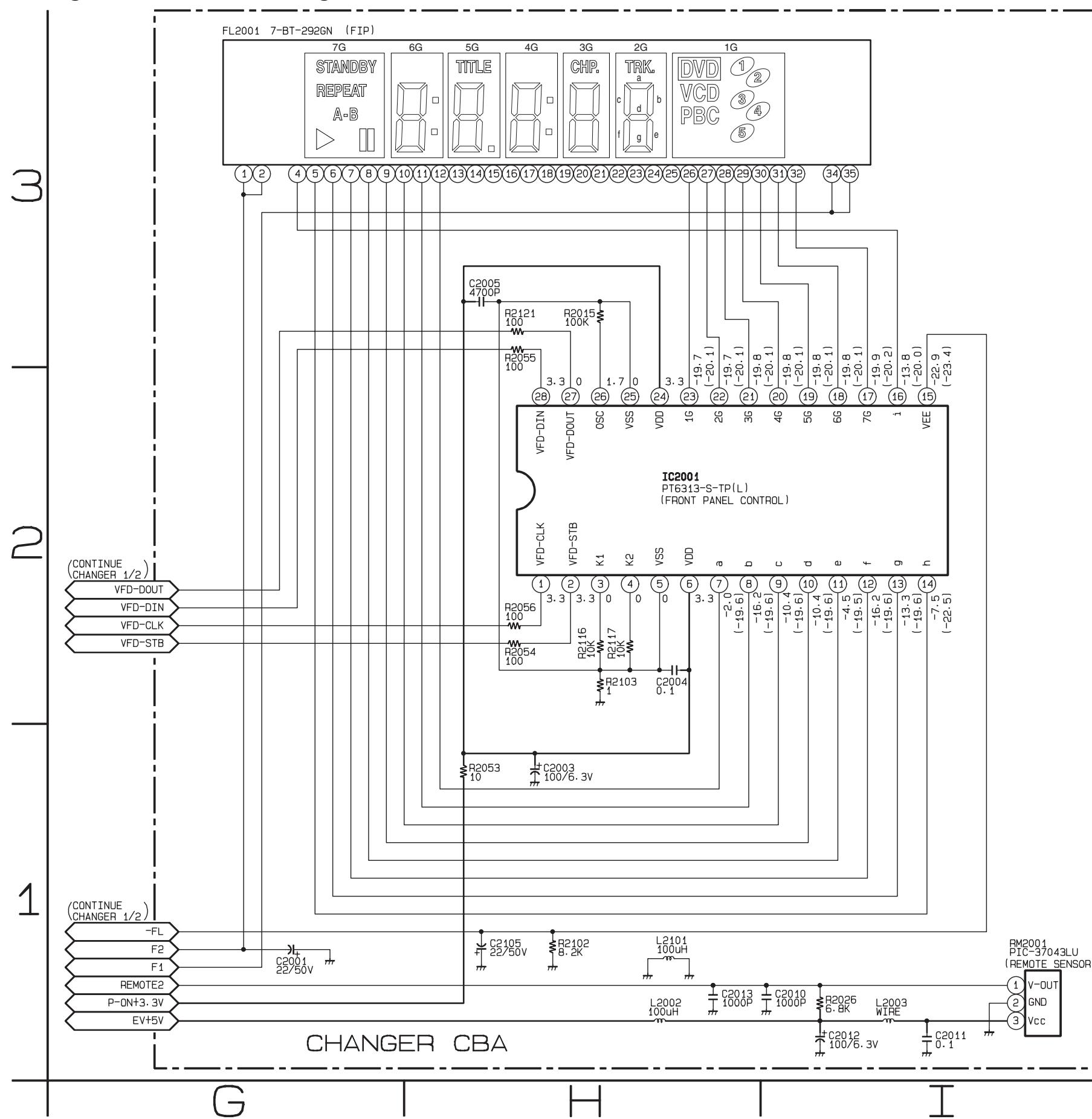
## AV 2/2 Schematic Diagram



## Changer 1/2 , Function , Power Switch & Switch Schematic Diagram



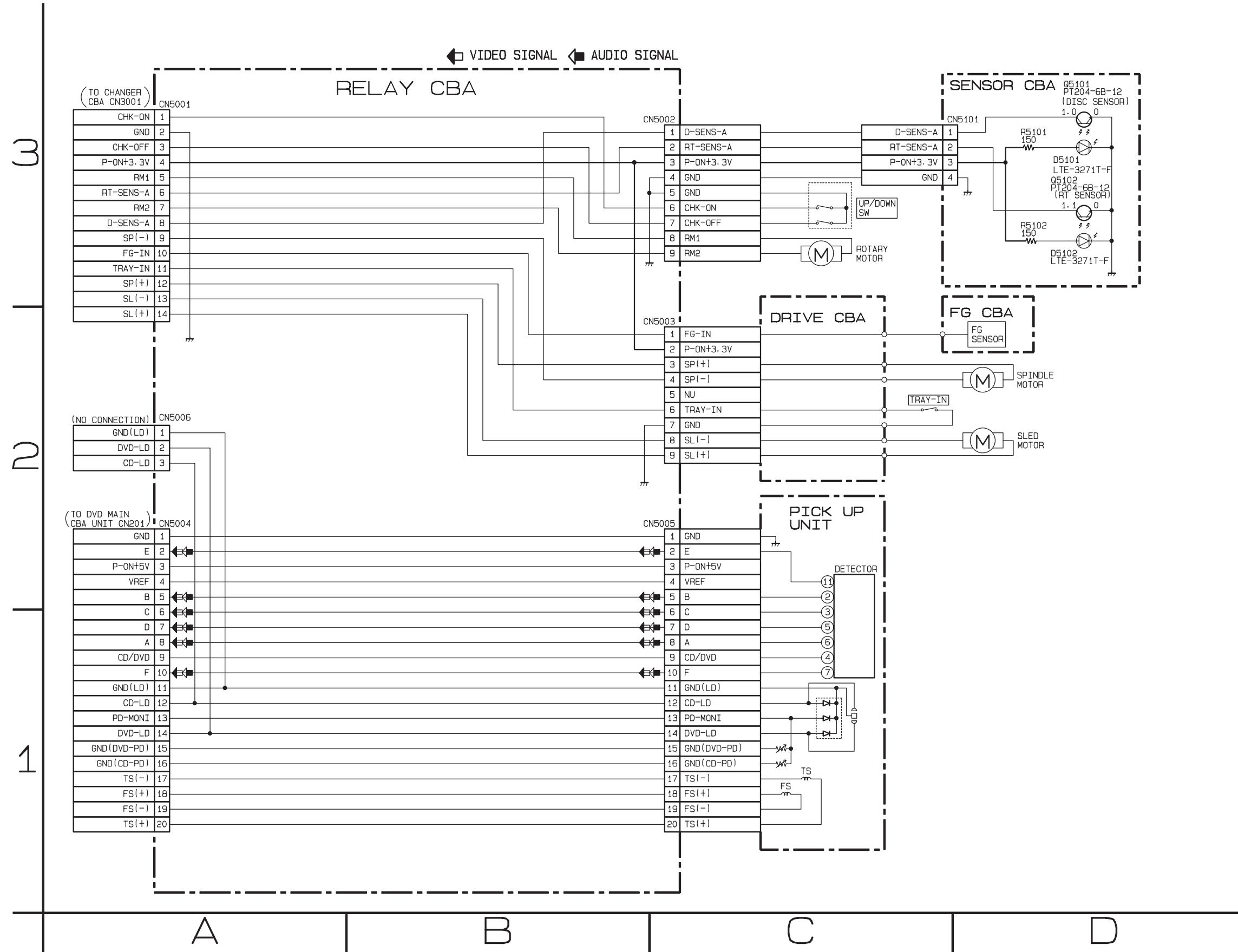
## Changer 2/2 Schematic Diagram



FL2001 MATRIX CHART

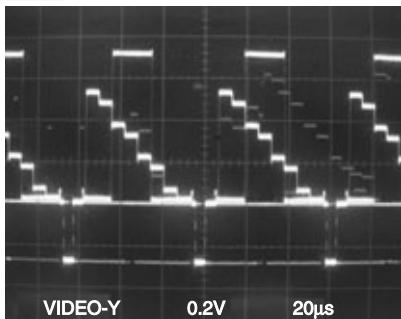
	7G	6G	5G	4G	3G	2G	1G
a	STANDBY	a	a	a	a	a	1
b	REPEAT	b	b	b	b	b	2
c	A	c	c	c	c	c	3
d	-B	d	d	d	d	d	4
e	▶	e	e	e	e	e	5
f	⏸	f	f	f	f	f	DVD
g	—	g	g	g	g	g	PBC
h	—	□	TITLE	—	CHP.	TRK.	CD
i	—	—	—	—	—	—	V

## Relay , Sensor , Drive , FG & Pick Up Unit Schematic Diagram

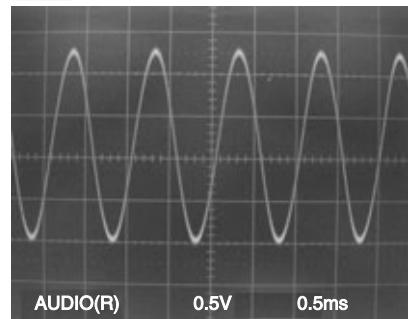


## WAVEFORMS

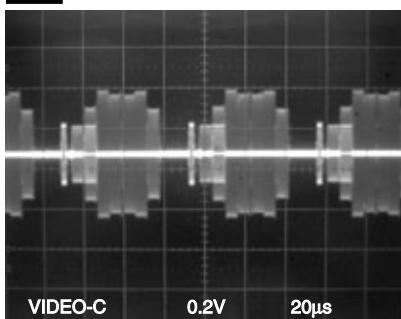
WF1 Pin 7 of CN1601



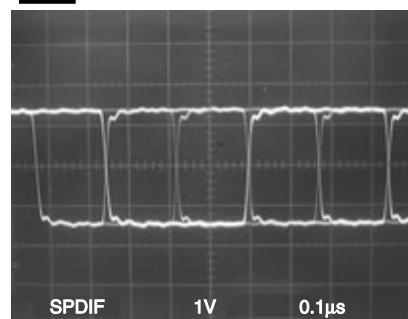
WF5 Pin 15 of CN1601



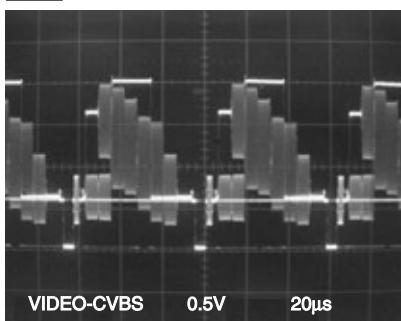
WF2 Pin 9 of CN1601



WF6 Pin 18 of CN1601



WF3 C1402 PLUS LEAD

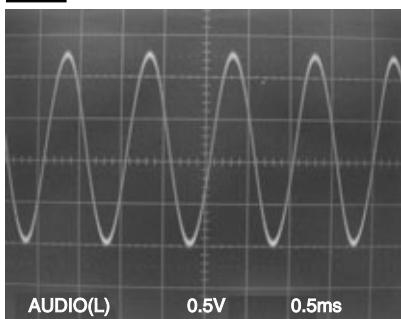


### NOTE:

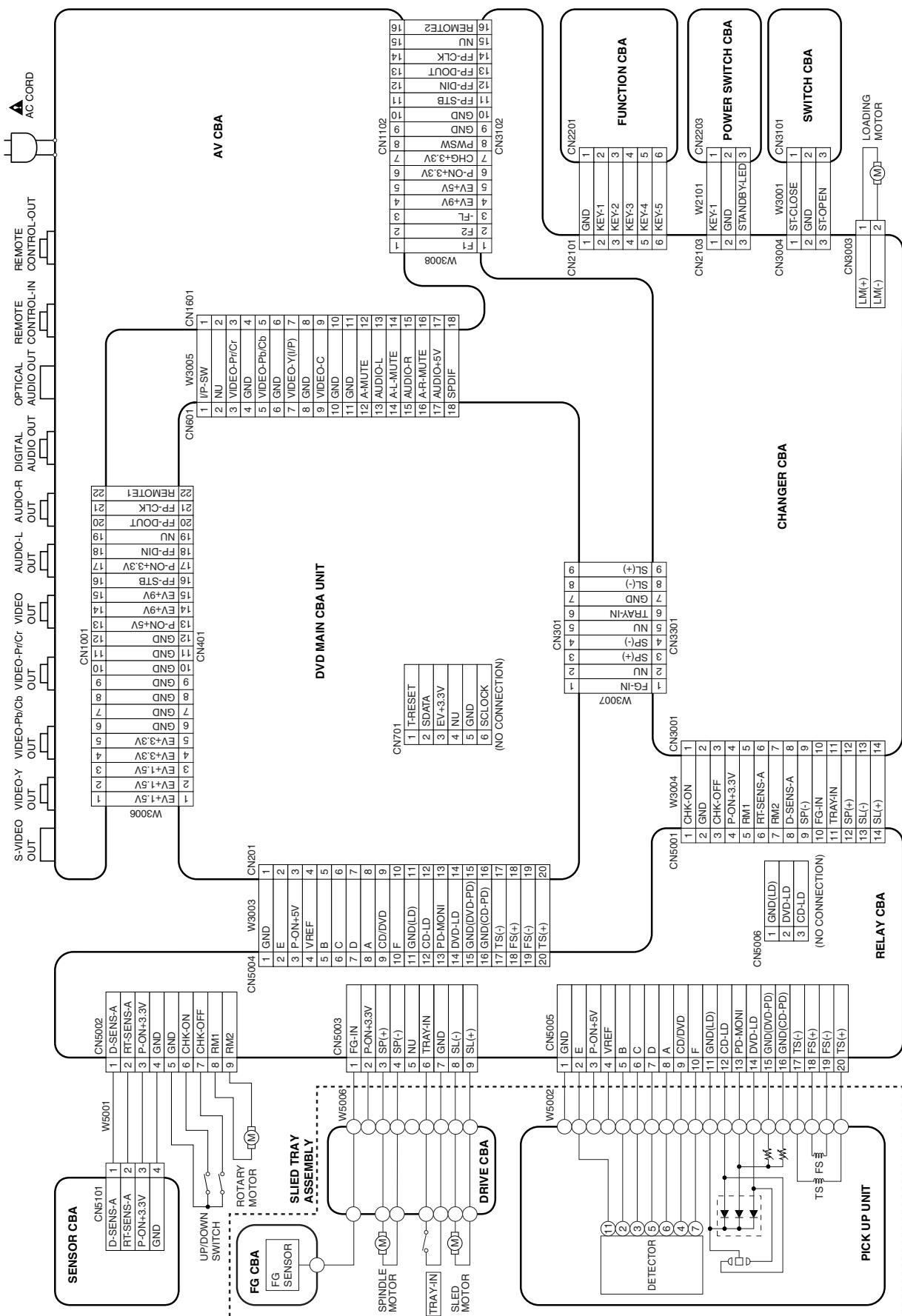
Input

DVD: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)  
(WF1~WF6)

WF4 Pin 13 of CN1601



# WIRING DIAGRAM



## FIRMWARE RENEWAL MODE

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

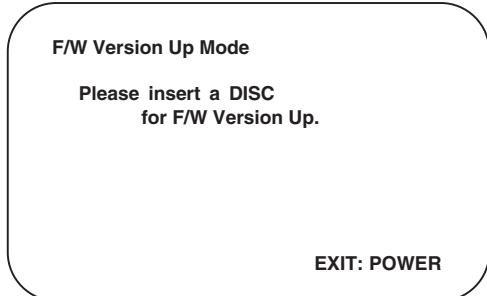


Fig. a Version Up Mode Screen

**bE - UP**

Fig. b VFD in Version Up Mode

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

- Load the disc for version up.
- The DVD player enters the F/W version up mode automatically. Fig. c appears on the screen and Fig. d appears on the VFD.

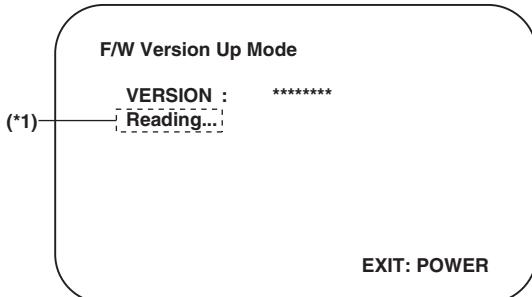


Fig. c Programming Mode Screen

**1223**

Fig. d VFD in Programming Mode (Example)

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

- After programming is finished, the tray opens automatically. Fig. e appears on the screen and the checksum in (\*)2 of Fig. e appears on the VFD. (Fig. f)

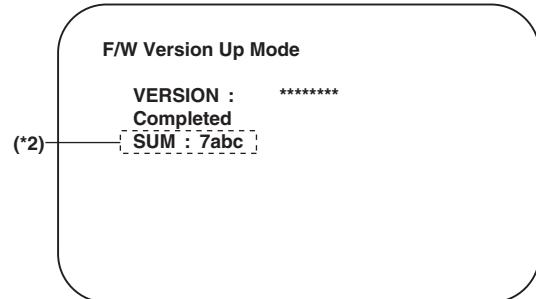


Fig. e Completed Program Mode Screen

**7abc**

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

At this time, no buttons are available.

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

Fig. g appears on the screen.

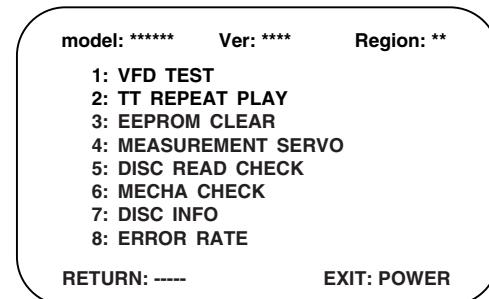


Fig. g

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

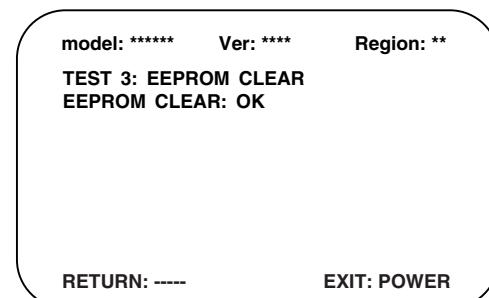
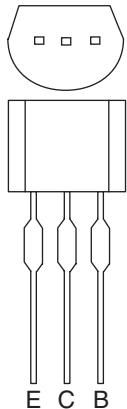


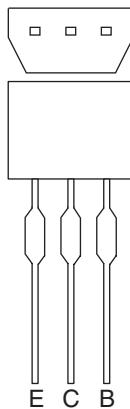
Fig. h

- To exit this mode, press [POWER] button.

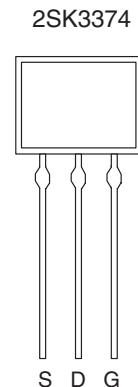
# LEAD IDENTIFICATIONS



2SA1815-(GR)(TE2 F T)  
2SA966-Y(TE6 F M)  
KTC3198-Y-AT/P  
KTC3205-Y-AT/P  
KTA1273-Y-AT/P

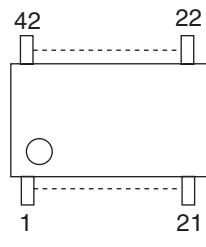


DTC114ESA TP  
2SA1015-Y(TE2 F T)  
KRA110M-AT/P  
KTA1266-Y-AT/P  
KTA1267-Y-AT/P  
KTC3199-GR-AT/P

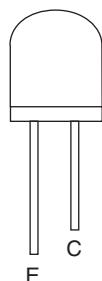


2SK3374

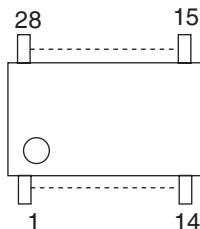
M38503M2A-070FP



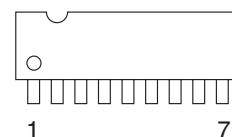
PT204-6B-12



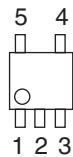
PT6313-S-TP(L)  
SC16313G



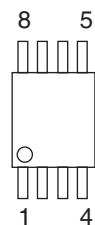
BA6956AN



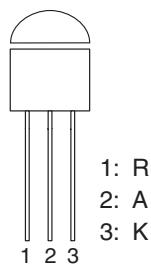
BD4829G-TR



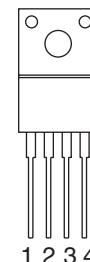
NJM4558D  
KIA4558P  
CXA1511M-T4



KIA431-AT/P  
FAN431AZXA

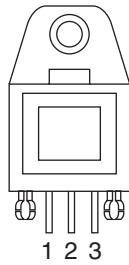


PQ070XF01SZH

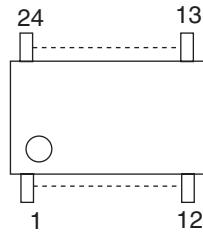


1: Vin  
2: Vo  
3: GND  
4: Vc

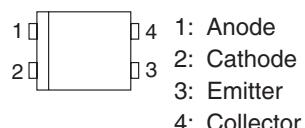
0C-0805T\*002



MM1622XJBEG



LTV-817(B,C)-F



1: Anode  
2: Cathode  
3: Emitter  
4: Collector

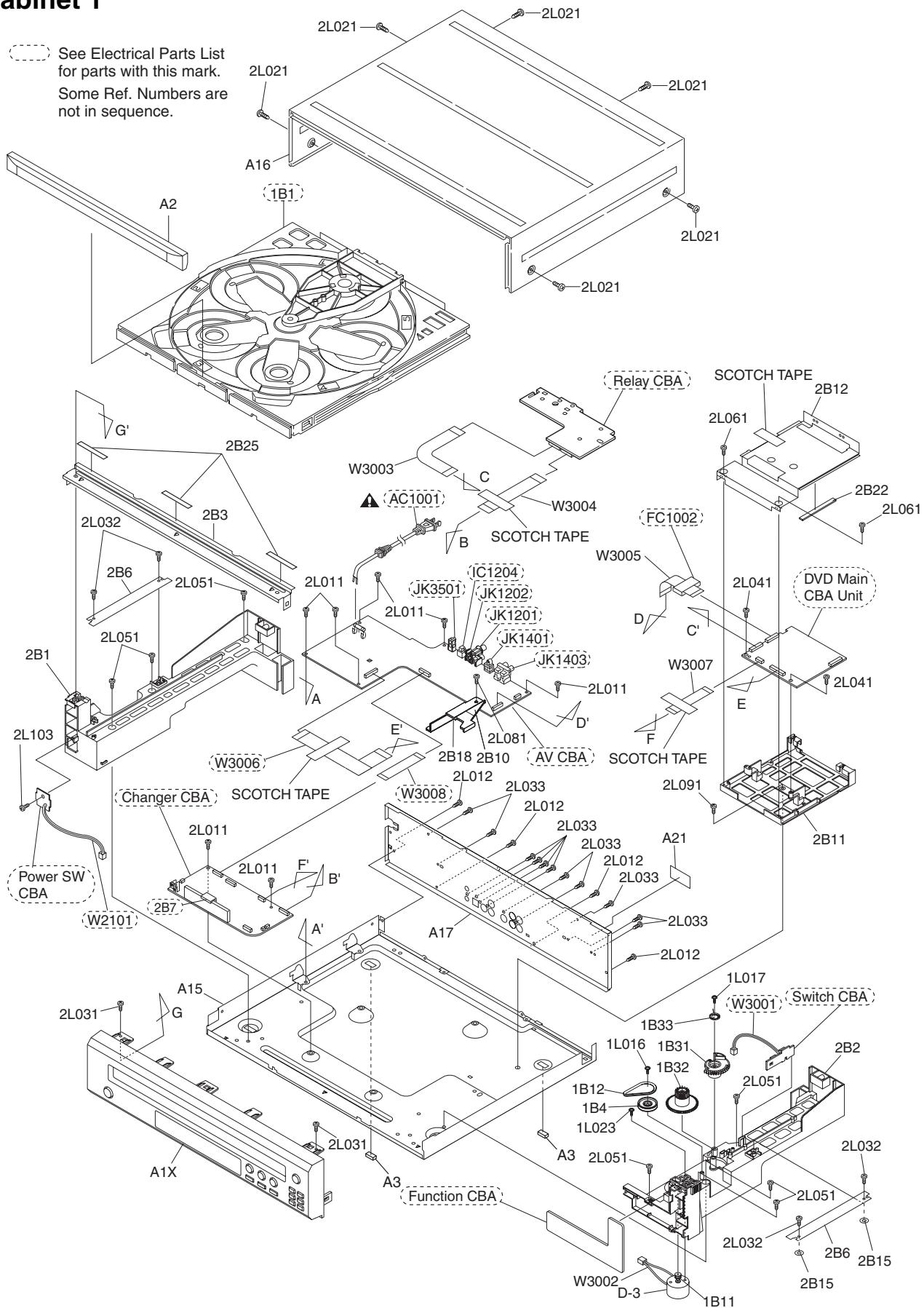
**Note:**

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

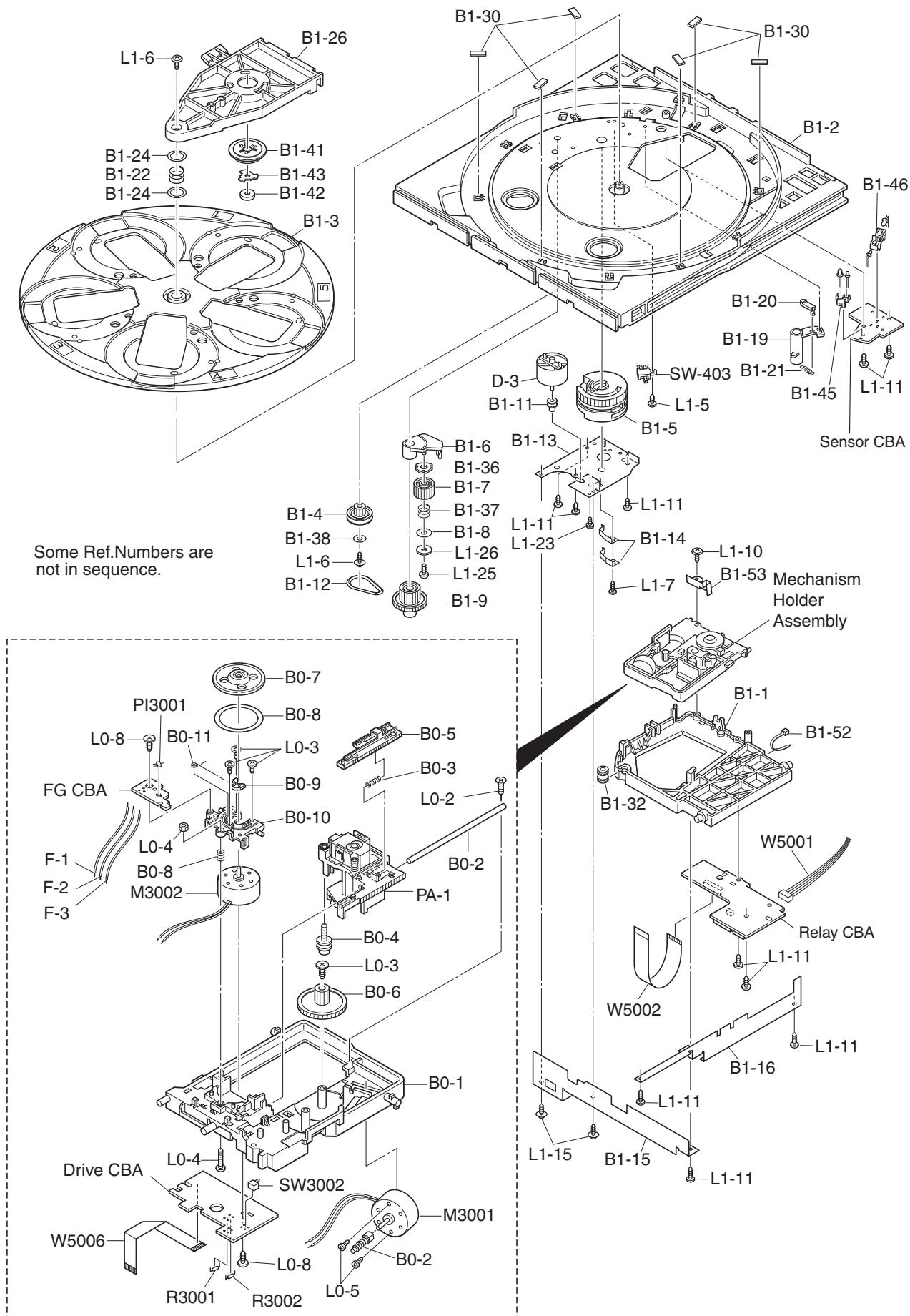
# EXPLODED VIEWS

## Cabinet 1

See Electrical Parts List  
for parts with this mark.  
Some Ref. Numbers are  
not in sequence.



## Cabinet 2



## DVM725 PARTS LIST OF EXPLODED VIEW

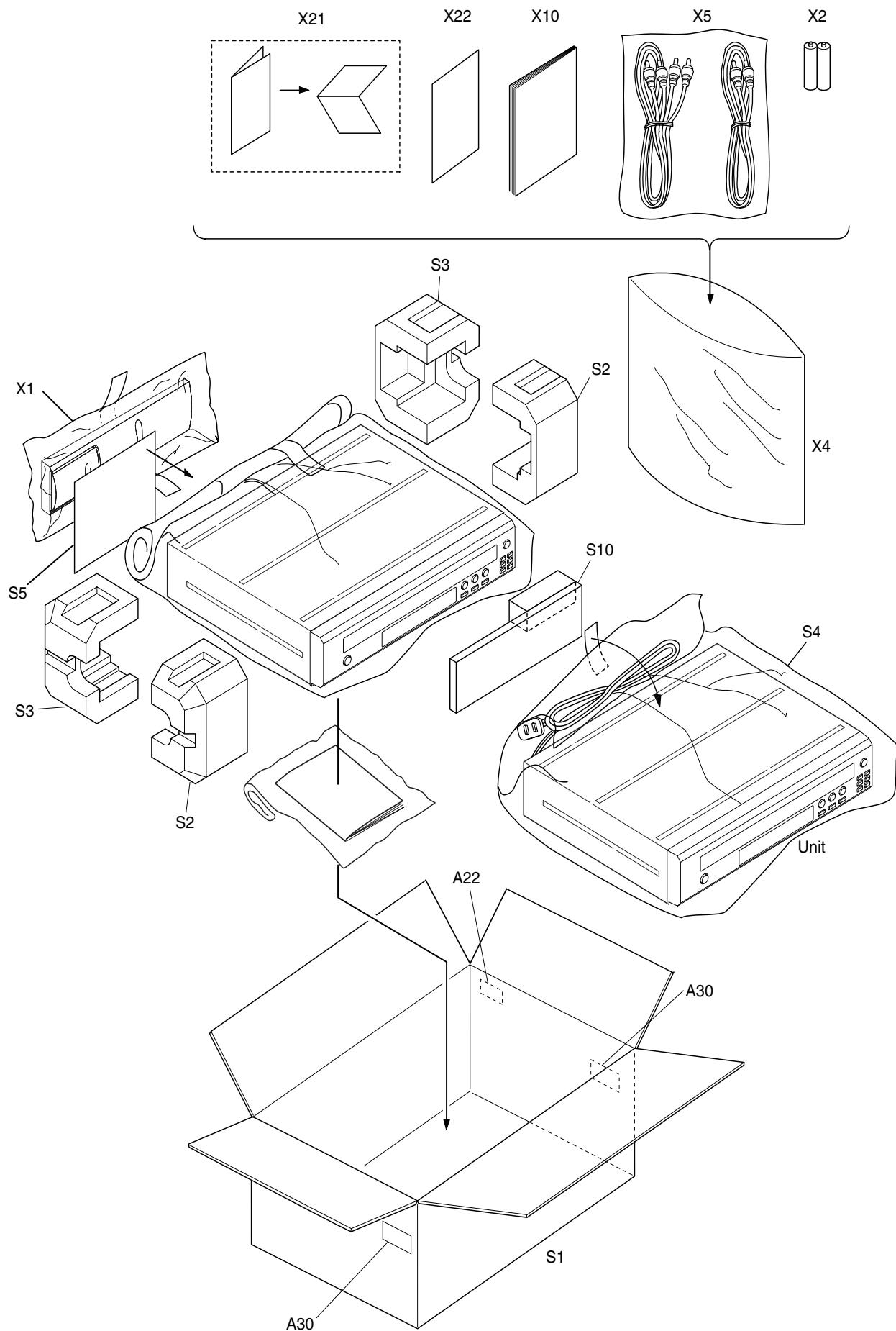
※ 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

※ The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

	Ref. No.	PartNo.	Part Name	Remarks	Q'ty	New
		00D 9H2 6000 741 00D 9H2 6000 721	DVD MAIN CBA UNIT CHG CBA CHANGER CBA AV CBA FUNCTION CBA	N79DNGUP 1VSA14209 - - -	1 1	*
		00D 9H2 6000 487	POWER SW CBA SWITCH CBA TRAY CBA RELAY CBA SENSOR CBA	- - 0VSA13569 - -	1	
	A1X A2 A3 A15 A16	00D 9H2 6000 737 00D 9H2 6000 322 00D 9H2 6000 411 00D 9H2 6000 412 00D 9H2 6000 734	FRONT ASSEMBLY TRAY PANEL ASSEMBLY FOOT CHASSIS TOP COVER	1VM222578 0VM414121 0VM406940 0VM101293 0VM203048C	1 1 2 1 1	*
	A17 A21 1B1 1B4 1B11	00D 9H2 6000 738 - 00D 9H2 6000 424 00D 9H2 6000 328 00D 9H2 6000 329	REAR PANEL LABEL SERIAL NO. SLIDE TRAY ASSEMBLY LOADING PULLEY MOTOR PULLEY	1VM222499 - N79F0GVC 0VM304636 21P7048	1 1	*
	1B12 1B31 1B32 1B33 2B1	00D 9H2 6000 330 00D 9H2 6000 331 00D 9H2 6000 332 00D 9H2 6000 333 00D 9H2 6000 333	BELT L SLIDE TRAY GEAR(B) SLIDE TRAY GEAR(A) TRAY GUIDE SPRING TRAY GUIDE(L)	0RM400160 0VM304632 0VM304631 0VM412360 0VM000136H	1 1 1 1 1	
	2B2 2B3 2B6 2B9 2B10	00D 9H2 6000 735 00D 9H2 6000 336 00D 9H2 6000 337 - -	TRAY GUIDE(R) BRACKET(TOP) STOPPER BRACKET WIRE TAPE NON WOVEN FABRICS(35*20)	0VM000137J 0VM203160 0VM411941 0VM404993 0VM414360	1 1 2 3 1	*
	2B11 2B12 2B15 2B18 2B22	00D 9H2 6000 416 00D 9H2 6000 417 00D 9H2 6000 436 00D 9H2 6000 418 00D 9H2 6000 438	HOLDER PCB SHIELD PLATE WASHER(D8) FFC CLAMPER GASKET(B)	0VM204153 0VM204262 0VM408931 0VM415656 0VM415818	1 1 2 1 1	
	2B24 2B25 D-3 FC1002 W3002	00D 9H2 6000 481 - 00D 9H2 6000 715 00D 9H2 6000 448 00D 9H2 6000 429	DOUBLE SIDE TAPE RUBBER SHEET DC MINI MOTORS M31E-1(R-14 7448) FERRITE CORE BP53RD 065 330 080M MOTOR CABLE MOTOR CABLE	0VM415819 0VM415921 MMDZB4EMM003 XL05033TU001 WX1E8620-902	1 1 1 1 1	*
	W3003 W3004 W3005 W3006 W3007	00D 9H2 6000 430 00D 9H2 6000 431 00D 9H2 6000 716 00D 9H2 6000 433 00D 9H2 6000 434	20P FFC MAIN TO RELAY 14P FFC CONTROL TO RELAY WIRE ASSEMBLY FFC 18P 18PIN 45MM 22P FFC AV TO MAIN 9P FFC CONTROL TO MAIN	WX1E8620-120 WX1E8620-014 WX1E8625-001 WX1E8620-022 WX1E8620-009	1 1 1 1 1	*
	W3008	00D 9H2 6000 435	16P FFC AV TO CONTROL	WX1E8620-116	1	

	Ref. No.	PartNo.	Part Name	Remarks	Q'ty	New
	<b>SCREWS</b>					
	1L016	-	SCREW TAP TIGHT WASHER+ P-TIGHT	GCJP3080	1	
	1L017	-	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120	1	
	1L023	-	SCREW SEMS M2.6X4 PAN HEAD+	CPJ39040	1	
	2L011	-	SCREW C-TIGHT M3X6 BIND HEAD+	GBJC3060	7	
	2L012	-	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI	GBHC3050	4	
	2L021	-	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI	GBHC3050	6	
	2L031	-	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080	2	
	2L032	-	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080	4	
	2L033	-	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080	11	
	2L041	-	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080	2	
	2L051	-	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080	7	
	2L061	-	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080	2	
	2L081	-	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080	1	
	2L091	-	SCREW C-TIGHT M3X6 BIND HEAD+	GBJC3060	1	
	2L103	-	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080	1	

## PACKING



## DMV725 PARTS LIST OF PACKING & ACCESSORIES

※ 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

※ The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions..

Ref. No.	PartNo.	Part Name	Remarks	Q'ty	Ne w
A22	-	BAR CODE LABEL	-	1	
A30	-	CONTROL LABEL	-	1	
S1	00D 9H2 6000 739	GIFT BOX CARTON	1VM323026	1	*
S2	00D 9H2 6000 317	FRONT PAD	0VM101008A	2	
S3	00D 9H2 6000 736	REAR PAD	0VM101007A	2	
S4	00D 9H2 6000 688	SET BAG	0DM400731D	1	*
S5	00D 9H2 6000 421	PAD	0VM415718	1	
S10	00D 9H2 6000 449	TRAY PAD	0VM415859	1	
X1	00D 9H2 6000 718	REMOTE CONTROL UNIT	NA841UD	1	*
X2	-	DRY BATTERY R6P/2S	XB0M451T0001	2	*
X2	-	DRY BATTERY ES-GR6M-C	XB0M571GLP01	2	*
X4	-	ACCESSORY BAG	0VM416059	1	*
X5	00D 9H2 6000 226	AV CORD WPZ0102TM015	WPZ0102TM015	1	
X5	00D 9H2 6000 243	AV CORD RCA(M*2)TO RCA(M*2)	WPZ0102LTE01	1	
X10	00D 9H2 6000 740	OWNERS MANUAL	1VMN23040	1	*
X21	-	WARRANTY SHEET	1VM322381	1	*
X22	-	SERVICE CENTER SHEET	1VM423684	1	*