JVC

SERVICE MANUAL

DVD VIDEO RECORDER & VIDEO CASSETTE RECORDER

DR-MV2SEL,DR-MV2SEU, DR-MV2SEY,DR-MV2SEZ

Area Suffix

EL ---------- South Europe
EU -------- Western Europe
EY -------- Northern Europe
EZ --------- Eastern Europe

DR-MV2SEL, DR-MV2SEU, DR-MV2SEY, DR-MV2SEZ [D5RV02]

Since the whole DVD mechanism assembly unit is replaced, the DVD recorder mechanism of this unit need not be adjusted.

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No.YD087
2005/11

SPECIFICATION

DR-MV2SEL,DR-MV2SEU,DR-MV2SEY,DR-MV2SEZ		
General		
	System	DVD-Video, DVD-RW / R, DVD+RW / R, CD-DA, CD-RW / R, Video Cassette Tape
	VCR video heads	Four heads
	Power requirements	220-240 V~±10%, 50 Hz ±0.5%
	Power consumption	35 W (standby: 5.0 W)
	Weight	4.3 kg
	Dimensions (width x height x depth)	435 x 99.5 x 262 mm
	Operating temperature	5°C~40°C
	Operating humidity	Less than 80% (no condensation)
	TV format	PAL B / G
Recording		
	Recording format	Video Recording format (DVD-RW only), Video format (DVD-RW, DVD-R)
	Recordable discs	DVD-ReWritable, DVD-Recordable
Video recording format	Sampling frequency	13.5 MHz
	Compression format	MPEG
Audio recording format	Sampling frequency	48 kHz
	Compression format	Dolby Digital
Tuner		
	Receivable channels	E2-E69

Note

- . The specifications and design of this product are subject to change without notice.

SECTION 1
PRECAUTION

1.1 IMPORTANT SAFETY PRECAUTIONS

1.1.1 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.

1.1.2 Precautions during Servicing

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

(2) 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.

(3) Use specified internal wiring. Note especially:
   a) Wires covered with PVC tubing
   b) Double insulated wires
   c) High voltage leads

(4) Use specified insulating materials for hazardous live parts. Note especially:
   a) Insulation tape
   b) PVC tubing
   c) Spacers
   d) Insulators for transistors

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

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

(7) Check that replaced wires do not contact sharp edges or pointed parts.

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

(9) Also check areas surrounding repaired locations.

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

(11) 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
   a) Remove the old connector by cutting the wires at a point close to the connector.

      Important: Do not re-use a connector. (Discard it.)
   b) 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.
   c) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
   d) Use a crimping tool to crimp the metal sleeve at its center. Be sure to crimp fully to the complete closure of the tool.

(12) When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

1.1.3 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.

1.1.3.1 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)

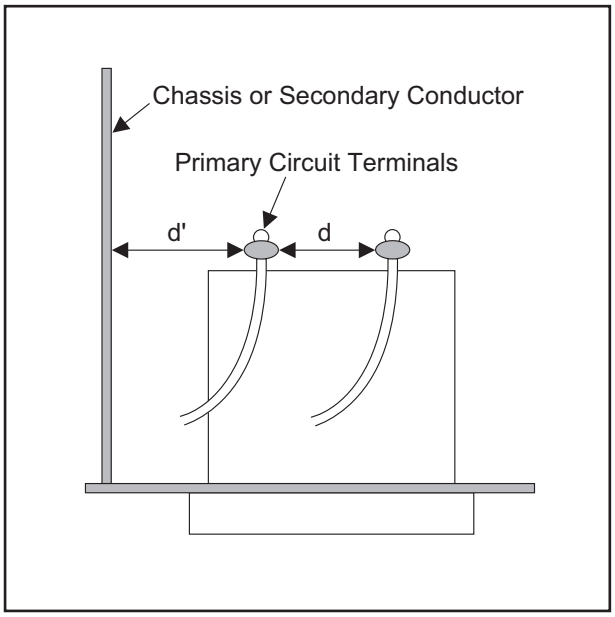


Fig.1

Table 1 : Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
220 to 240 V	≥ 3 mm(d) ≥ 6 mm(d')

Note:

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

1.1.3.2 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.

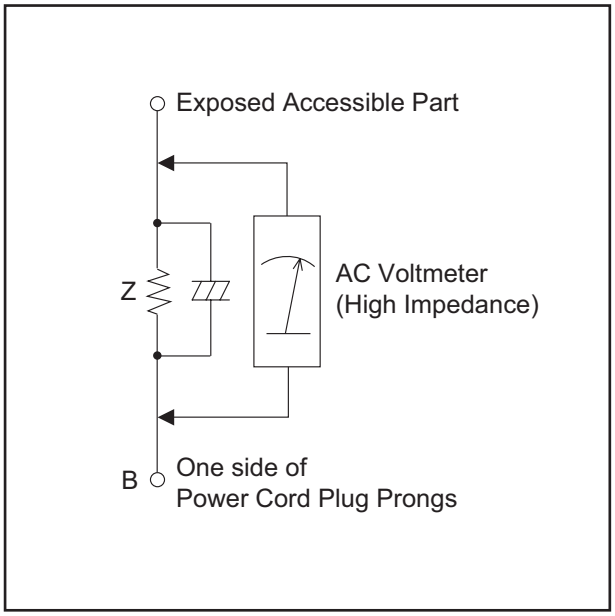


Fig.2

Table 2: Leakage current ratings for selected areas

AC Line Voltage	Load Z	Leakage Current (i)	One side of power cord plug prongs (B) to:
220 to 240 V	2kΩ RES. Connected in parallel	i≤0.7mA AC Peak i≤2mA DC	RF or Antenna terminals
	50kΩ RES. Connected in parallel	i≤0.7mA AC Peak i≤2mA DC	A/V Input, Output

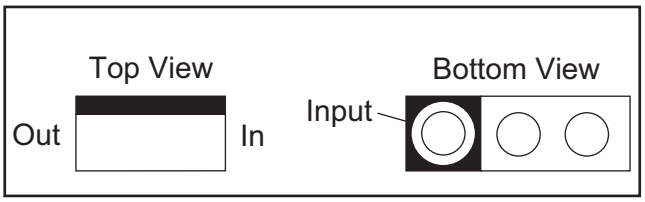
Note:

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

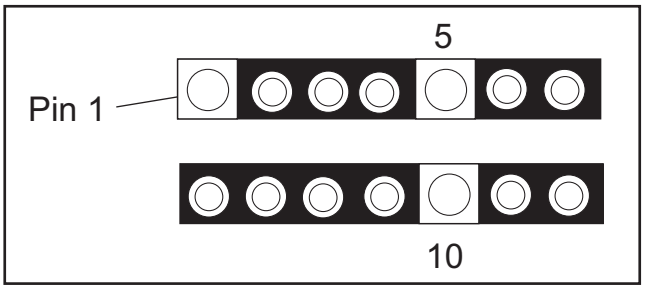
1.2 STANDARD NOTES FOR SERVICING

1.2.1 Circuit Board Indications

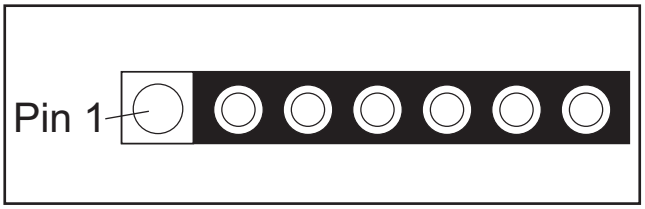
(1) The output pin of the 3 pin Regulator ICs is indicated as shown.



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



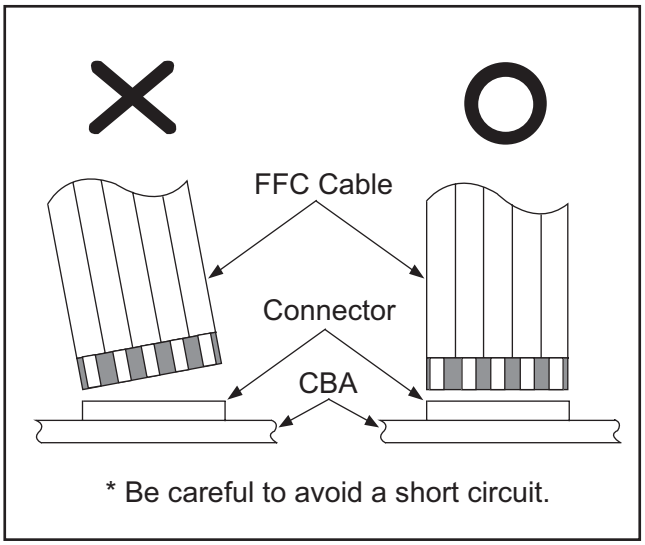
(3) The 1st pin of every male connector is indicated as shown.



1.2.2 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.



1.2.3 Pb (Lead) Free Solder

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

1.2.4 How to Remove / Install Flat Pack-IC

1.2.4.1 Removal

1.2.4.1.1 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. 1)

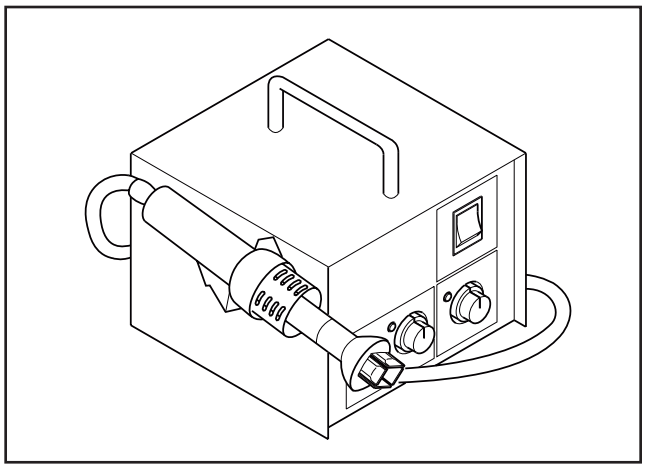


Fig.1

(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. 6)

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

1.2.4.1.2 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. 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.

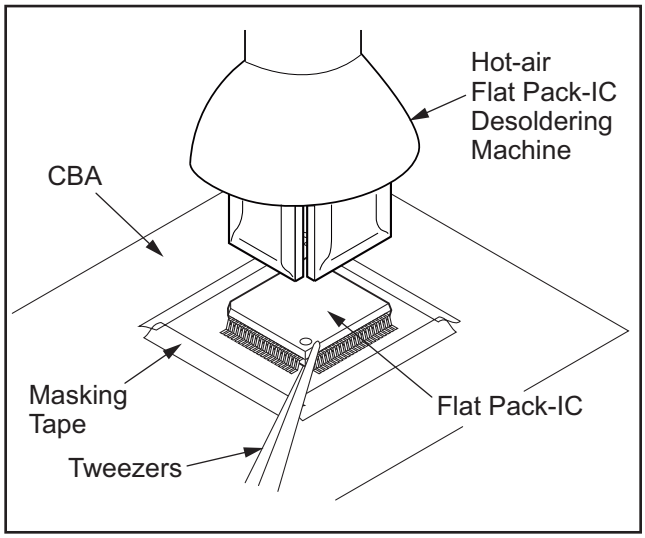


Fig.2

1.2.4.1.3 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. 3)

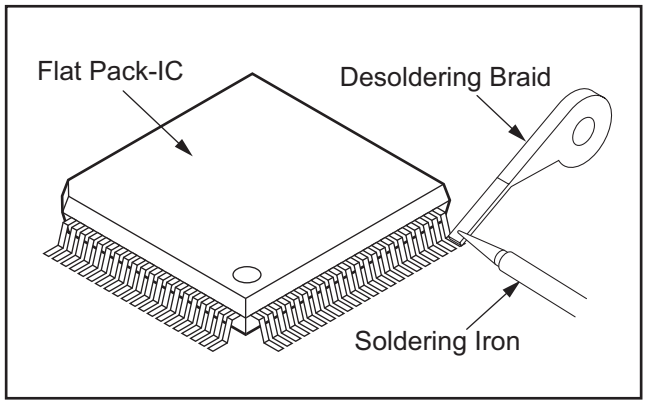


Fig.3

(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. 4)

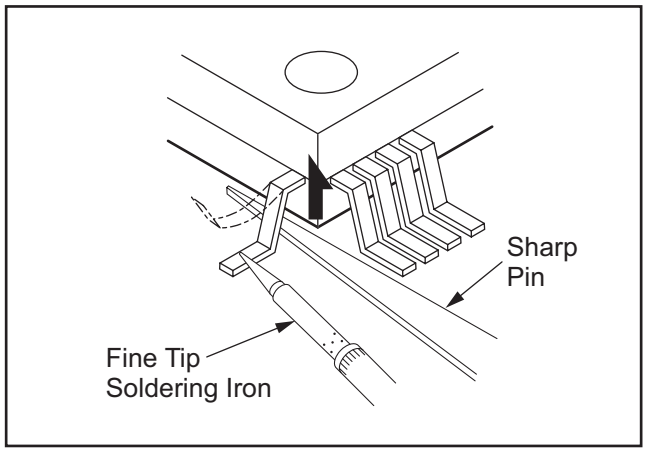


Fig.4

(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. 6)

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

1.2.4.1.4 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. 3)

(2) Affix the wire to a workbench or solid mounting point, as shown in Fig. 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. 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. 6)

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

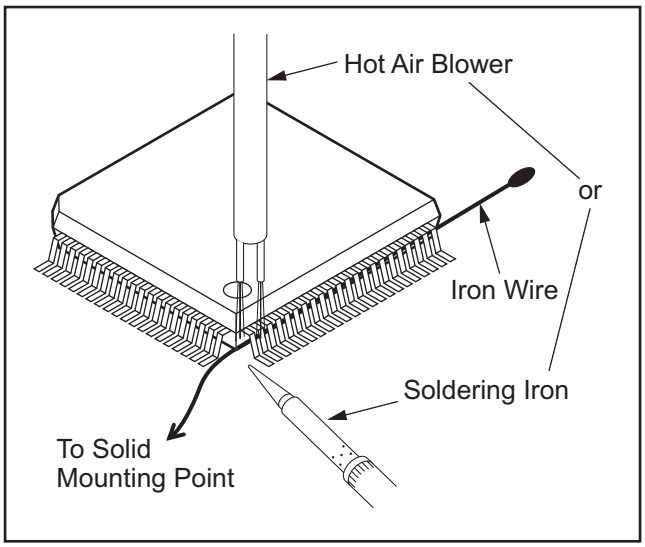


Fig.5

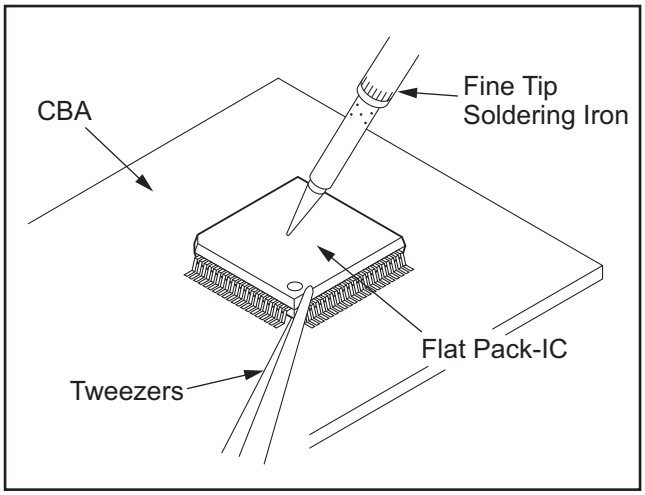


Fig.6

1.2.4.2 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. 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. 8)

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

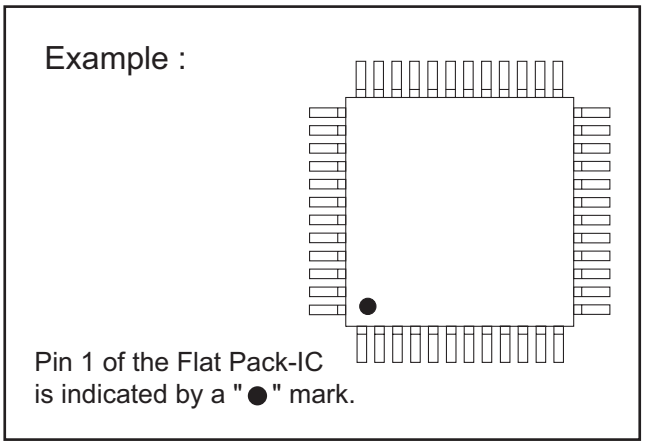


Fig.7

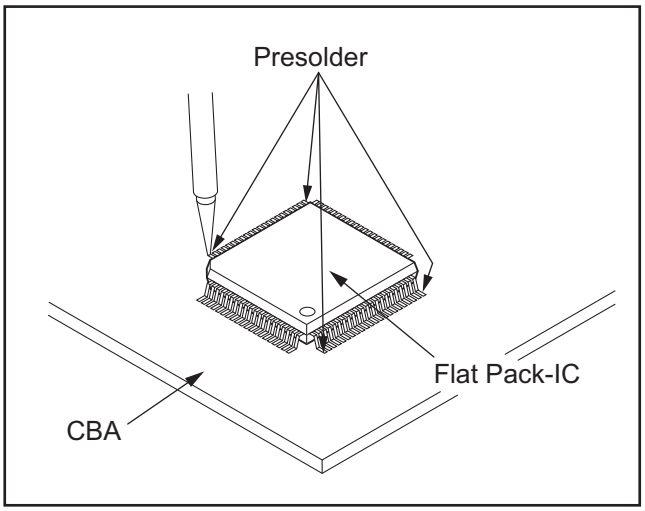


Fig.8

1.2.5 Instructions for Handling Semi-conductors

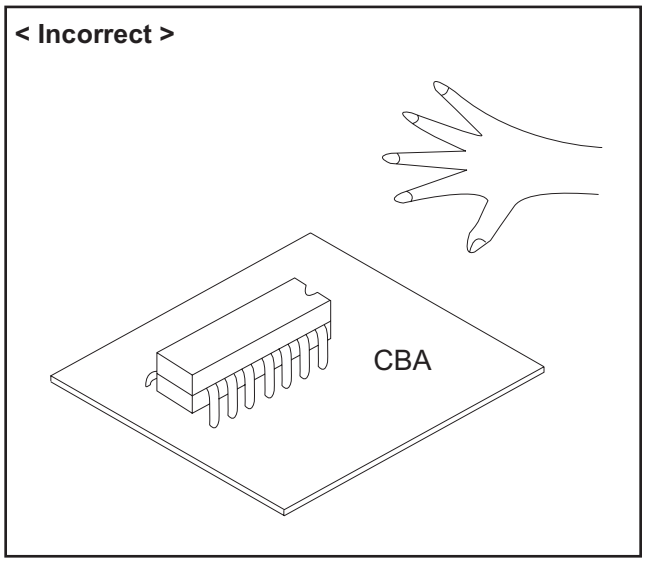
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

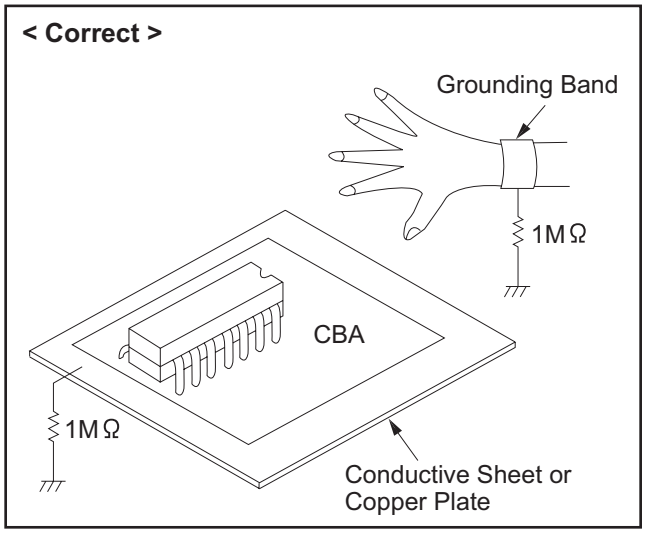
1.2.5.1 Ground for Human Body

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

1.2.5.2 Ground for Workbench

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





1.3 PREPARATION FOR SERVICING

1.3.1 How to Enter the Service Mode

1.3.1.1 About Optical Sensors

Caution:

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

What to do for preparation

Insert a tape into the Deck Mechanism Assembly and press the PLAY button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect TP507 (S-INH) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

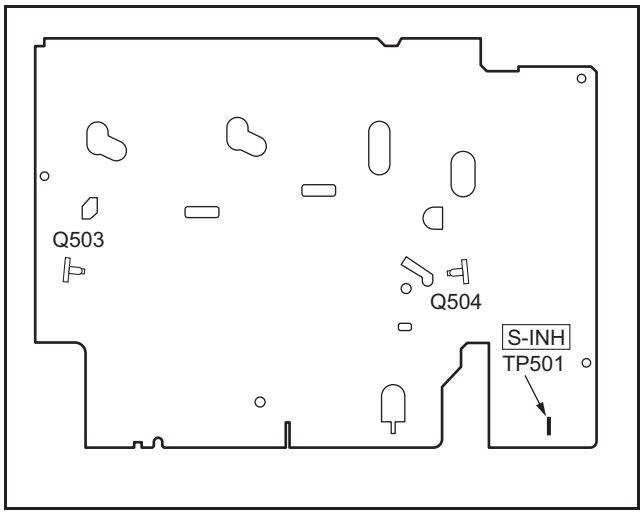


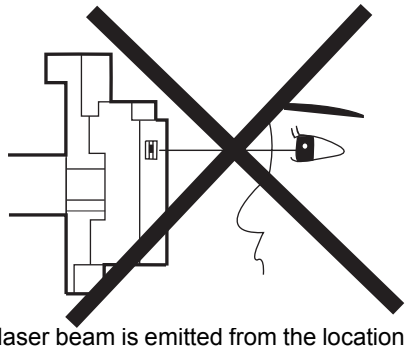
Fig.1

Note:

Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

1.4 LASER BEAM SAFETY PRECAUTIONS

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

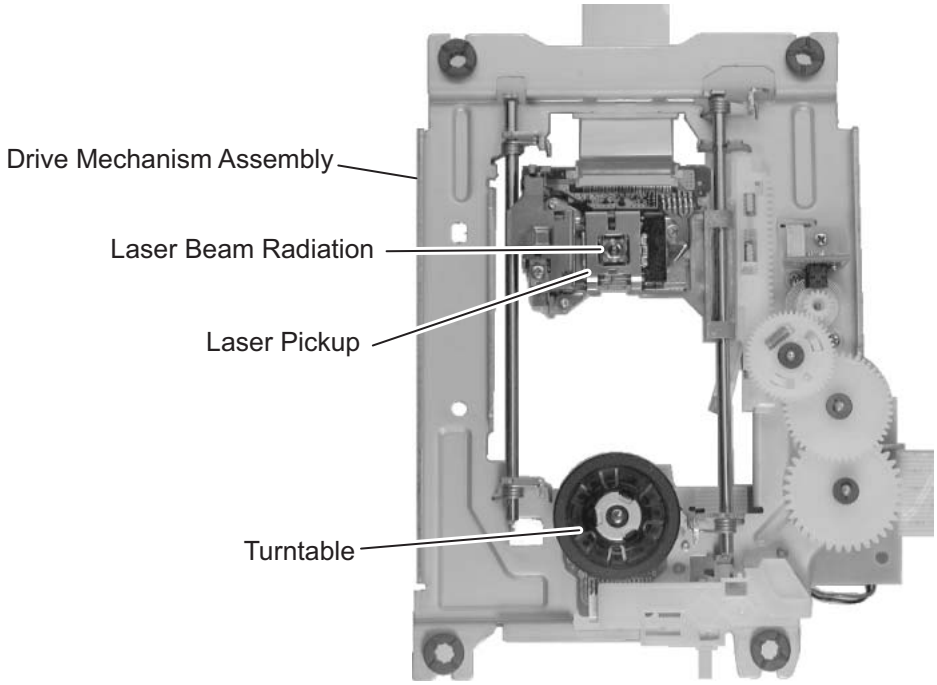


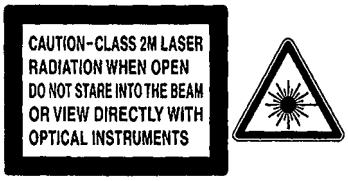
Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

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.





Location: Top of DVD mechanism.

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

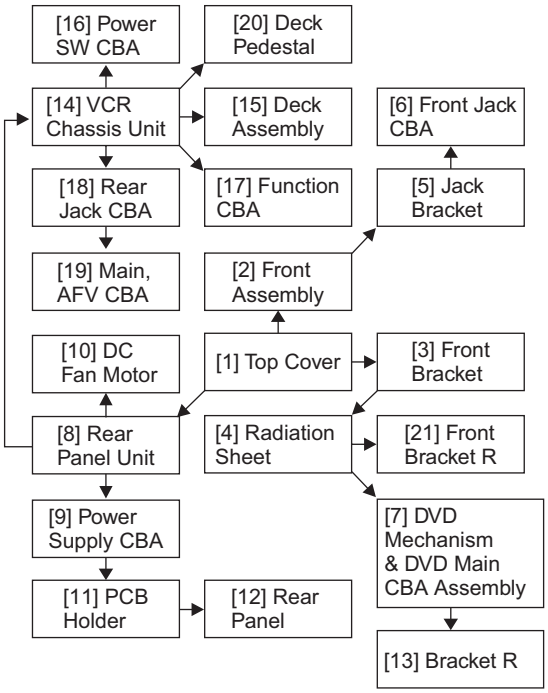
This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3
DISASSEMBLY

3.1 CABINET DISASSEMBLY INSTRUCTIONS

3.1.1 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.



3.1.2 Disassembly Method

ID/ Loc. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[1]	Top Cover	1	6(S-1)	-
[2]	Front Assembly	2	*5(L-1), *3(L-2),*CN1505	(1) a) b) c)
[3]	Front Bracket	2	2(S-2), (S-3),	-
[4]	Radiation Sheet	2	----------	-
[5]	Jack Bracket	3	2(S-4)	-
[6]	Front Jack CBA	3	Jack Earth Plate	-
[7]	DVD Mechanism&DVD Main CBA Assembly	4	2(S-5A), 2(S-5B), *CN501, *CN601	-
[8]	Rear Panel Unit	5	2(S-6A), 2(S-6B), 3(S-7), (S-8A), (S-8B), *CN1503, *CN1504	-
[9]	Power Supply CBA	6	4(S-9)	-
[10]	DC Fan Motor	6	2(S-10)	-
[11]	PCB Holder	6	3(S-11), Earth Plate	-
[12]	Rear Panel	6	----------	-
[13]	Bracket R	7	2(S-12)	-
[14]	VCR Chassis Unit	7	5(S-13), 3(S-14A), 2(S-14B), (S-15), (S-16)	-
[15]	Deck Assembly	8	(S-17), (S-18), Desolder	(2) (3)
[16]	Power SW CBA	8	Desolder	-
[17]	Function CBA	8	Desolder	-
[18]	Rear Jack CBA	8	Desolder, Ground Plate	-
[19]	Main, AFV CBA	8	----------	-
[20]	Deck Pedestal	9	8(S-19)	-
[21]	Front Bracket R	9	(S-20)	-
↓ (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. 6(S-1) = six Screws (S-1),
5(L-1) = two Locking Tabs (L-1)
(5) Refer to "Reference Notes."

3.1.2.1 Reference Notes

CAUTION :

Locking Tabs (L-1) and (L-2) are fragile.
Be careful not to break them.

(1)
- a) Release five Locking Tabs (L-1).
- b) Release three Locking Tabs (L-2)
- c) Disconnect Connector (CN1505), and remove the Front Assembly.

(2) When reassembling, solder wire jumpers as shown in Fig. 8.

(3) Before installing the Deck Assembly, be sure to place the pin of LD-SW on Main CBA as shown in Fig. 8. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. 8.

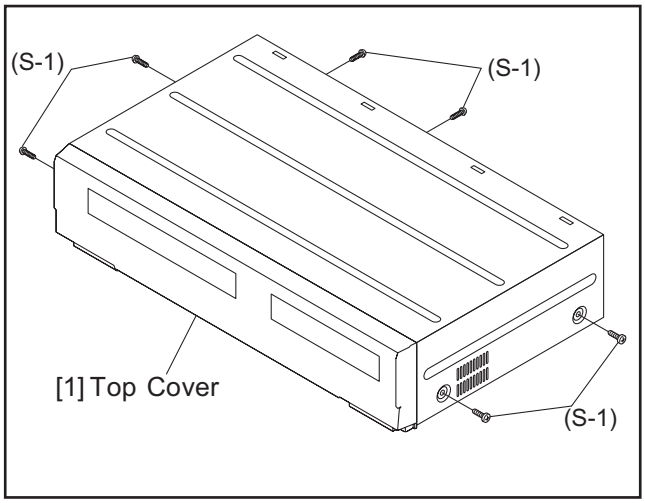


Fig.1

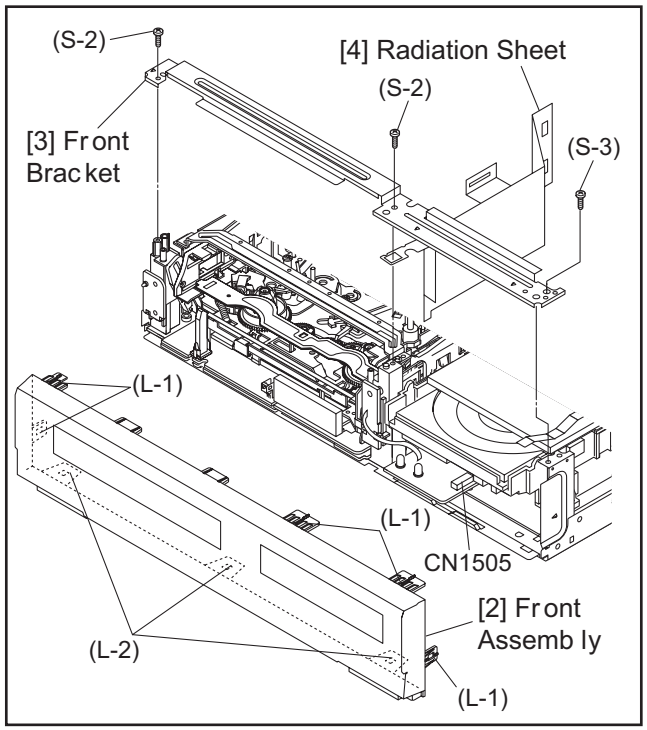


Fig.2

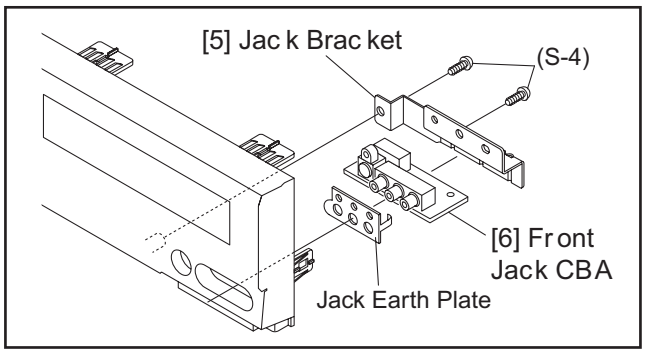


Fig.3

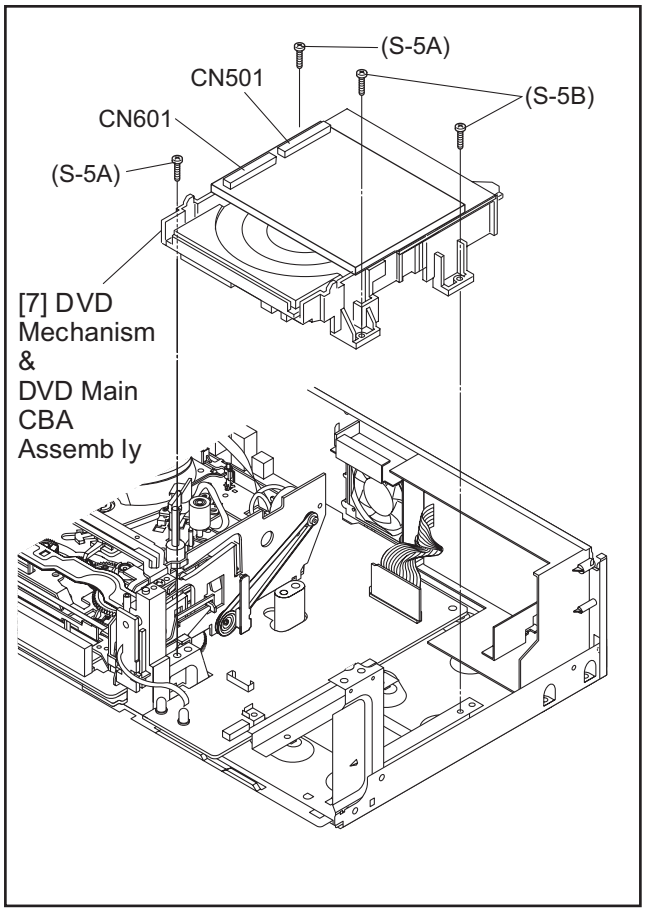


Fig.4

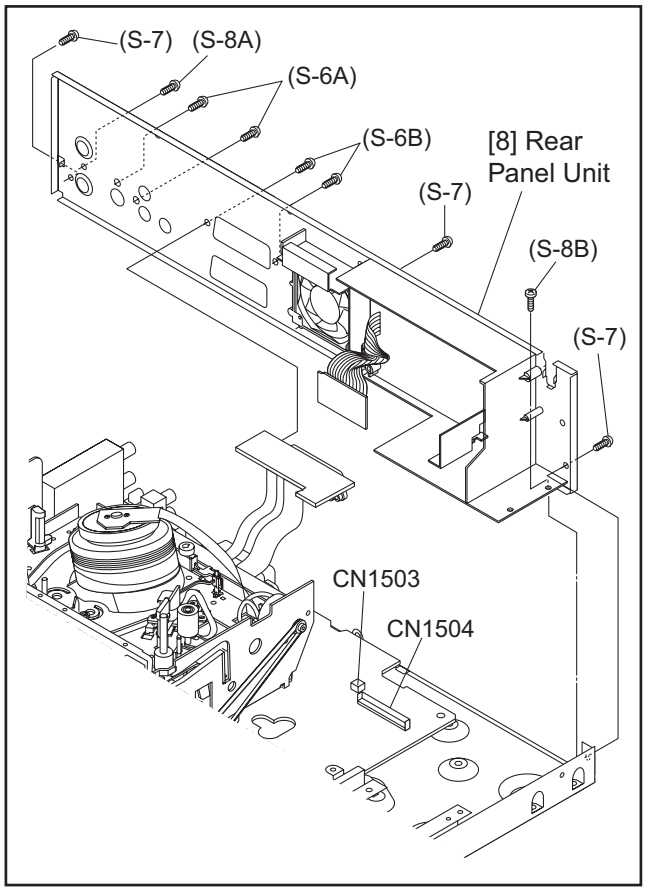


Fig.5

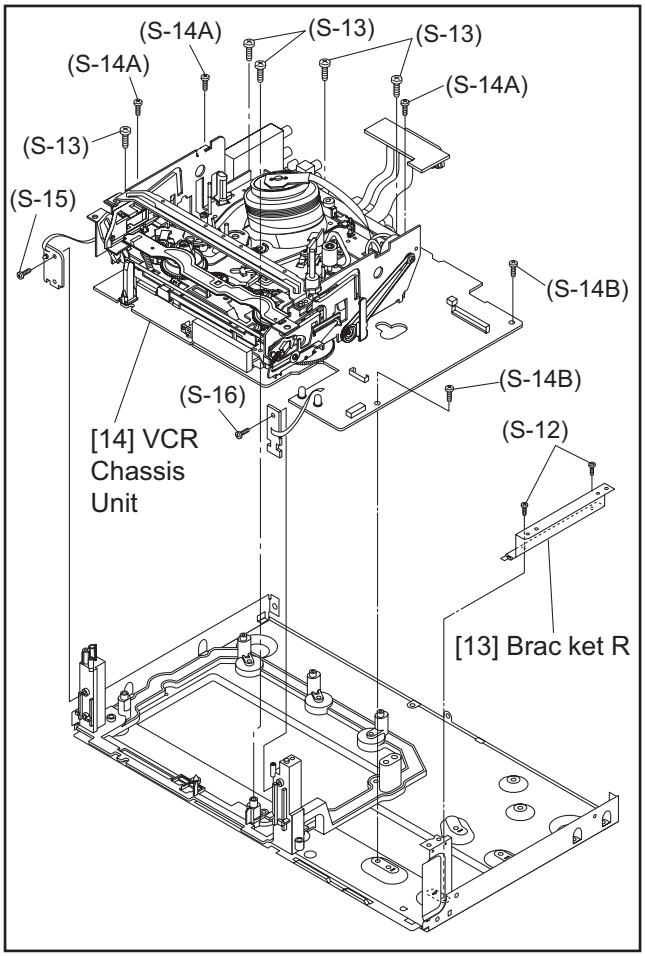


Fig.7

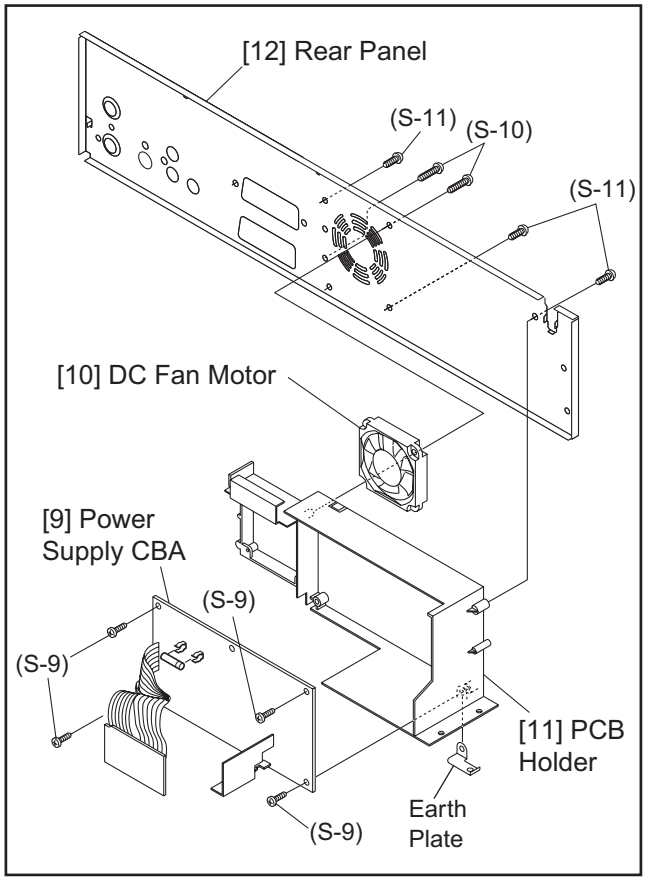
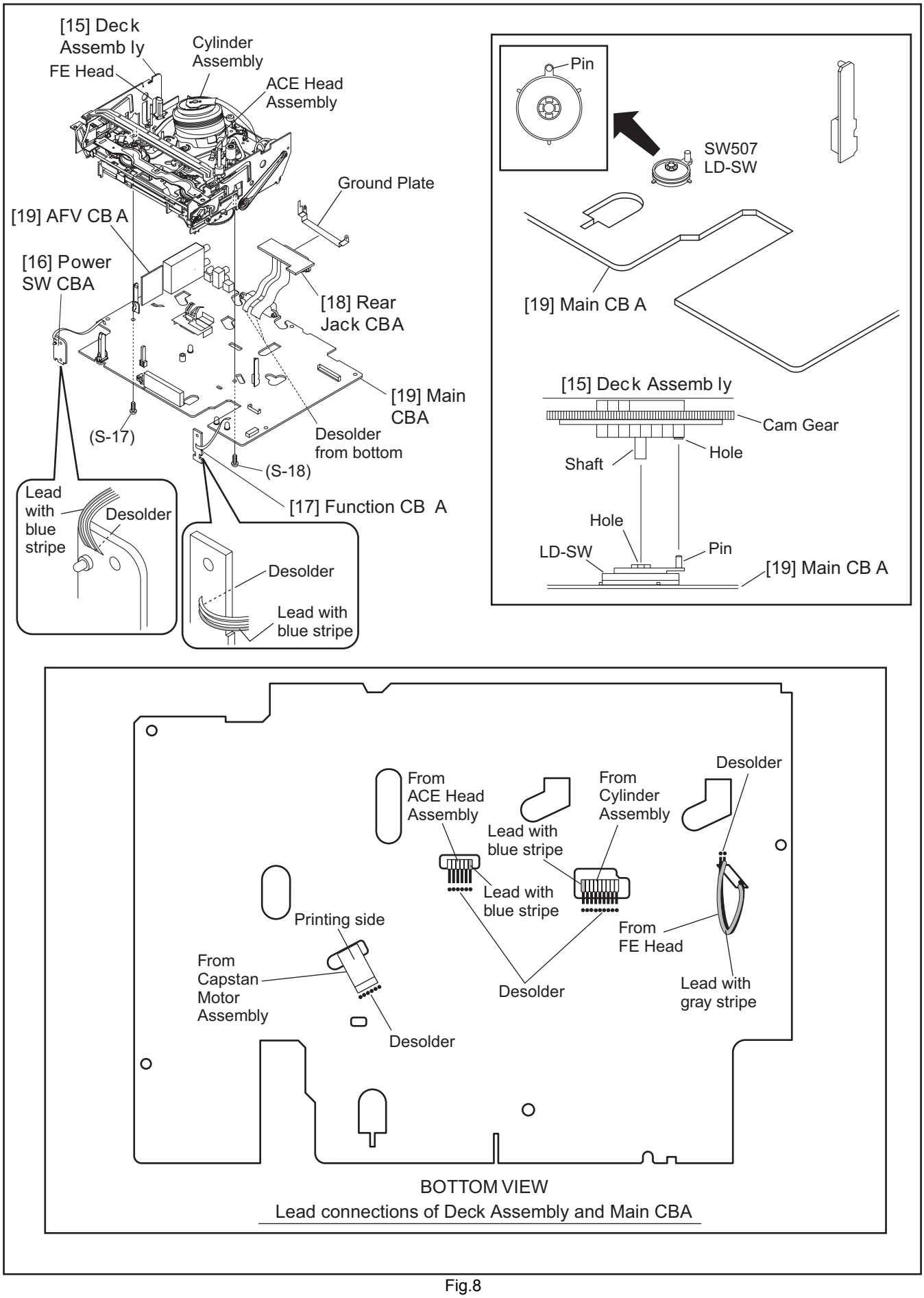


Fig.6



BOTTOM VIEW

Lead connections of Deck Assembly and Main CBA

Fig.8

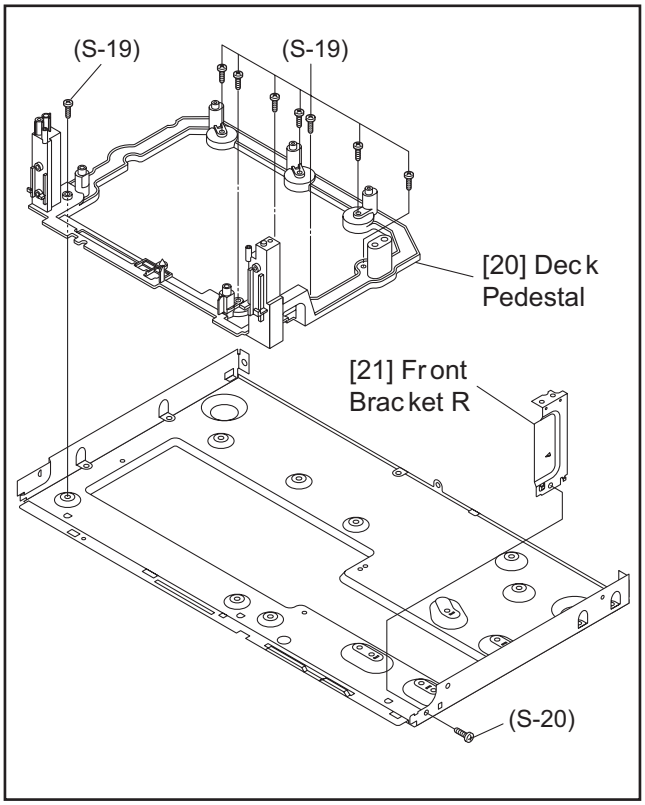


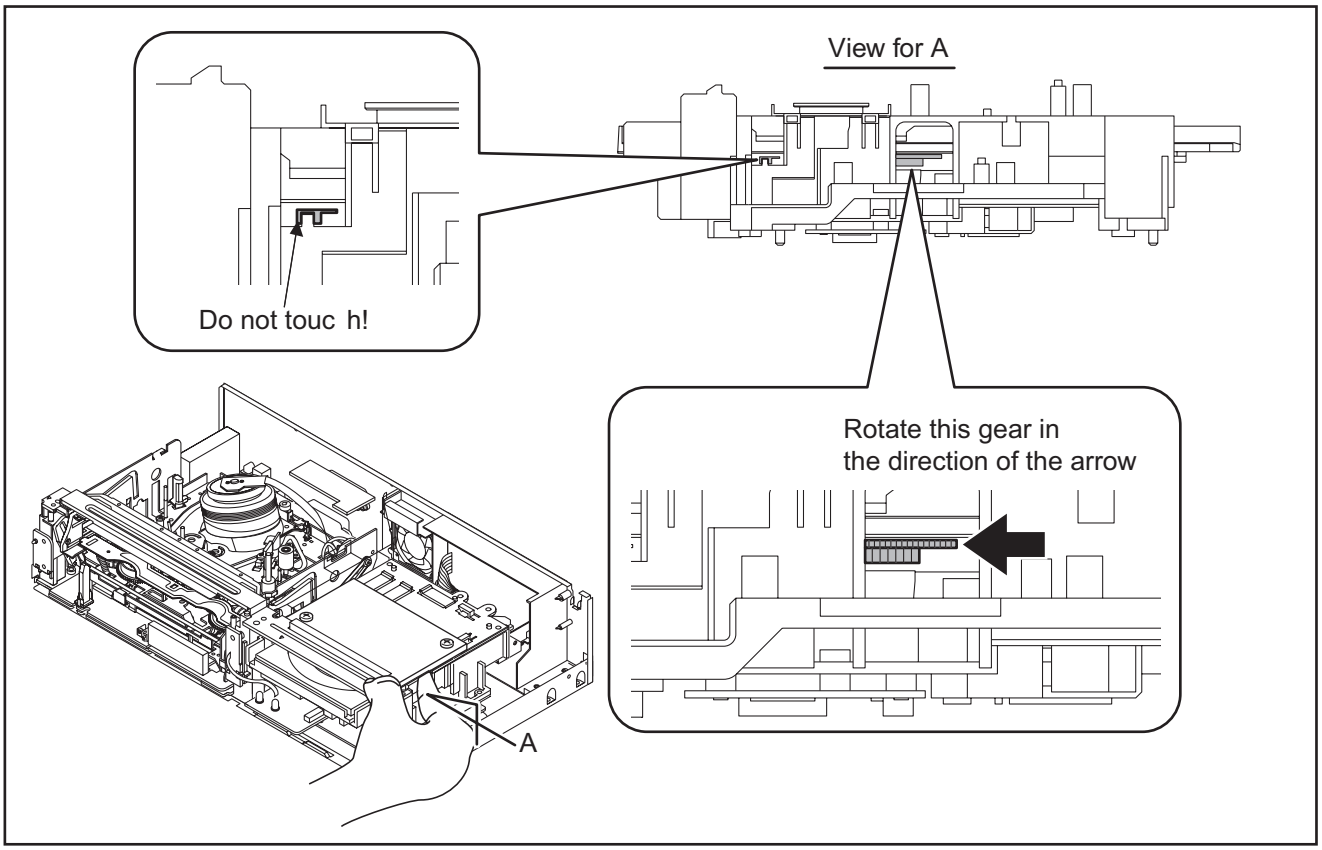
Fig.9

3.1.3 How to Eject Manually

3.1.3.1 Method 1

Note:

When servicing, do not touch white resin part as shown below.
When rotating the gear, be careful not to damage the gear.
(1) Remove the Top Cover.
(2) Rotate the gear in the direction of the arrow manually as shown below.



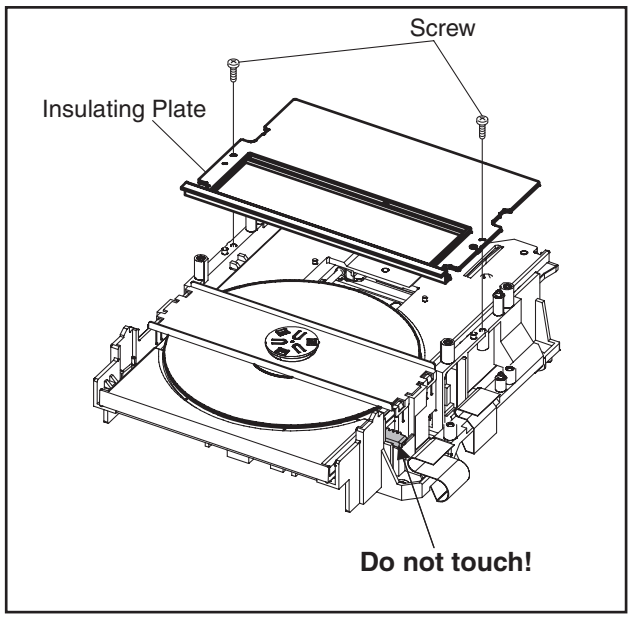
3.1.3.2 Method 2

Note:

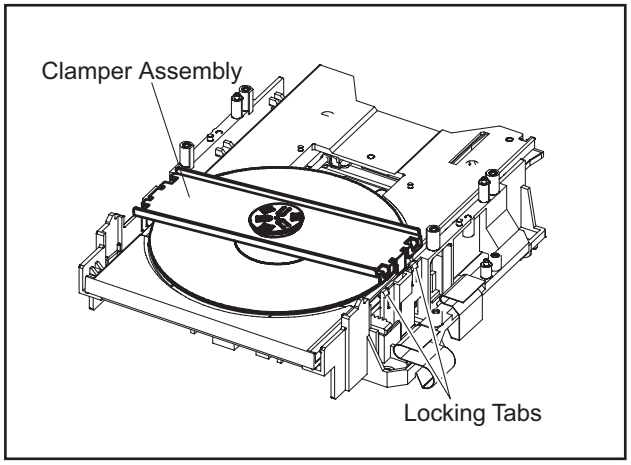
When servicing, do not touch white resin part as shown below.

(1) Remove the DVD Mechanism & DVD Main CBA Assembly.

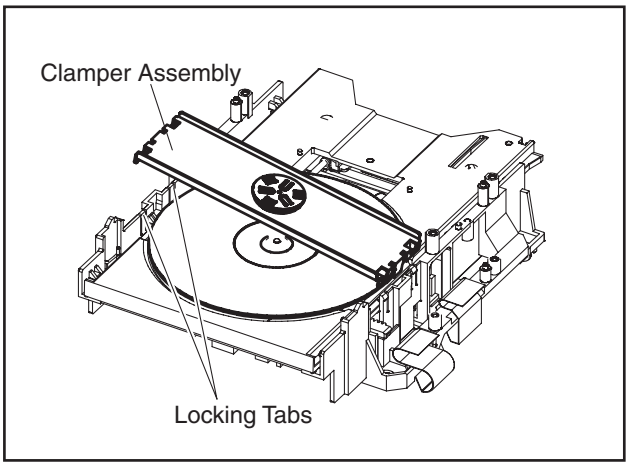
(2) Remove two screws, and remove the Insulating Plate.



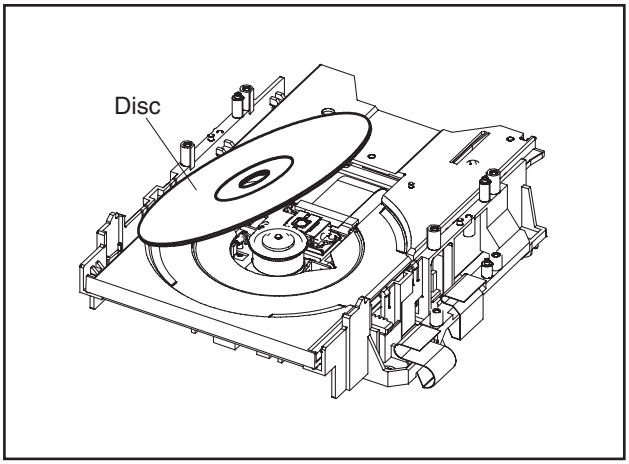
(3) Release two Locking Tabs, and lift up one side of the Clamper Assembly.



(4) Release the other side of two Locking Tabs, and remove the Clamper Assembly.



(5) Remove the disc.



3.2 DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS.)
All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [44] and [45] in Fig.1 on page 1-20. When reassembling, follow the steps in reverse order.

STEP/ LOC. No.	STARTING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Guide Holder A	T	3	2(S-1)	
[2]	[1]	Cassette Holder Assembly	T	4		
[3]	[2]	Slider (SP)	T	5	(S-1A), *(L-1)	
[4]	[2]	Slider (TU)	T	5	*(L-2)	
[5]	[4]	Lock Lever	T	5	*(L-3), *(P-1)	
[6]	[2]	Cassette Plate	T	5		
[7]	[7]	Cylinder Assembly	T	1,6	Desolder, 3(S-2)	
[8]	[8]	Loading Motor Assembly	T	1,7	Desolder, LDG Belt, 2(S-3)	
[9]	[9]	ACE Head Assembly	T	1,7	(S-4)	
[10]	[2]	Tape Guide Arm Assembly	T	1,8	*(P-2)	
[11]	[10]	C Door Opener	T	1,8	(S-4A), *(L-4)	
[12]	[11]	Pinch Arm (B)	T	1,8,9	*(P-3)	
[13]	[12]	Pinch Arm (A) Assembly	T	1,8,9		
[14]	[14]	FE Head	T	1,10	(S-5)	
[15]	[15]	Prism	T	1,10	(S-6)	
[16]	[2]	Slider Shaft	T	11	*(L-5)	
[17]	[16]	C Drive Lever (SP)	T	11		
[18]	[16]	C Drive Lever (TU)	T	11	(S-7), *(P-4)	
[19]	[19]	Capstan Motor	B	2,12	3(S-8), Cap Belt	
[20]	[20]	Clutch Assembly (HI)	B	2,13	(C-1)	
[21]	[20]	Center Gear	B	13		
*[22]	[22]	F Brake Assembly (HI)	B	2,13	*(L-6)	
[23]	[22]	Worm Holder	B	2,14	(S-9), *(L-7), *(L-8)	
[24]	[22]	Pulley Assembly (HI)	B	2,14		
[25]	[25]	Mode Gear (LM)	B	2,14	(C-2)	
[26]	[20],[25]	Mode Lever (HI)	B	2,14,15	(C-3)	
[27]	[22],[23],[26]	Cam Gear (A) (HI)	B	2,14,15	(C-4)	(+)Refer to Alignment Sec.Page 1-41
[28]	[26]	TR Gear C	B	2,14	(C-5)	
[29]	[28]	TR Gear Spring	B	14		
[30]	[29]	TR Gear A/B	B	14		
[31]	[31]	FF Arm (HI)	B	1,16		
[32]	[26]	Idler Assembly (HI)	B	1,16	*(L-9)	
[33]	[26]	BT Arm	B	2,16	*(P-5)	
[34]	[26]	Loading Arm (SP)Assembly	B	2,16		(+)Refer to Alignment Sec.Page 1-41
[35]	[34]	Loading Arm (TU) Assembly	B	2,16		(+)Refer to Alignment Sec.Page 1-41
[36]	[16],[26]	M Brake (TU) Assembly (HI)	T	1,17		
[37]	[2],[26]	M Brake (SP)Assembly (HI)	T	1,17	*(P-6)	

STEP/ LOC. No.	STARTING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[38]	[37]	Tension Lever Assembly	T	1,17		
[39]	[38]	T Lever Holder	T	17	*(L-10)	
[40]	[40]	M Gear (HI)	T	1,17	(C-6)	
[41]	[15],[40]	Sensor Gear (HI)	T	1,17	(C-7)	
[42]	[36],[40]	Reel T	T	1,17		
[43]	[38]	Reel S	T	1,17		
[44]	[34],[38]	Moving Guide S Preparation	T	1,18	(S-11), Slide Plate	
[45]	[35]	Moving Guide T Preparation	T	1,18		
[46]	[19]	TG Post Assembly	T	1,18	*(L-11)	
[47]	[27]	Rack Assembly	R	19		(+)Refer to Alignment Sec.Page 1-41
[48]	[47]	F Door Opener	R	19		
[49]	[49]	Cleaner Assembly	T	1,6		
[50]	[49]	CL Post	T	6	*(L-12)	
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)	↓ (6)	↓ (7)

(1) Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as identification (location) No. of parts in the figures.
(2) Indicates the part to start disassembling with in order to disassemble the part in column (1).
(3) Name of the part
(4) Location of the part: T=Top B=Bottom R=Right L=Left
(5) Figure Number
(6) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).
(7) Adjustment Information for Installation
(+):Refer to Deck Exploded Views for lubrication.

*** [22] F Brake Assembly (HI) is not used in 2 head model.**

Top View

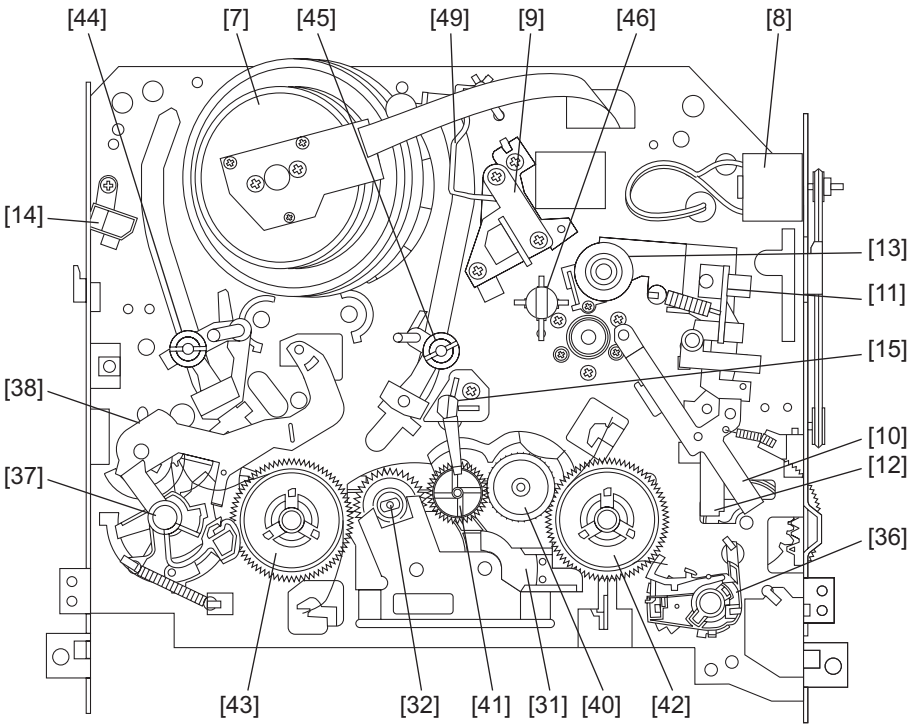


Fig.1

Bottom View

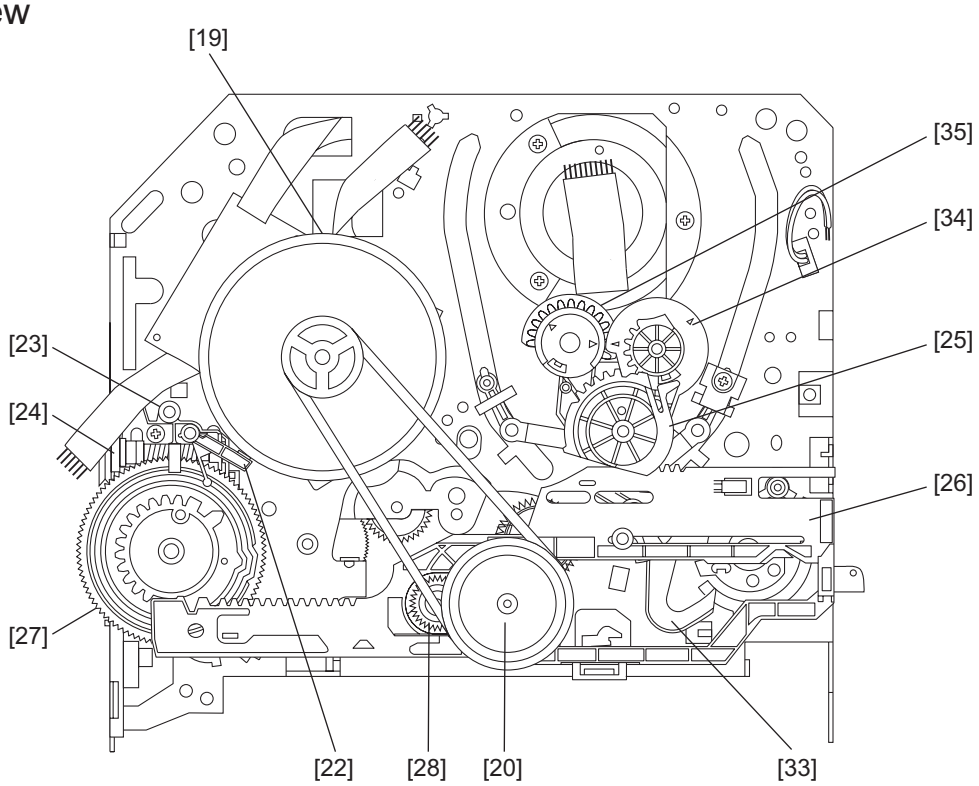


Fig.2

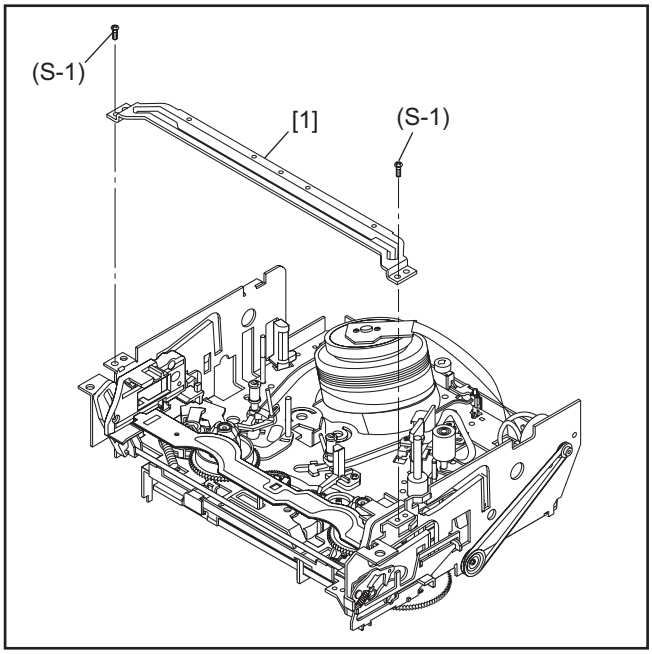


Fig.3

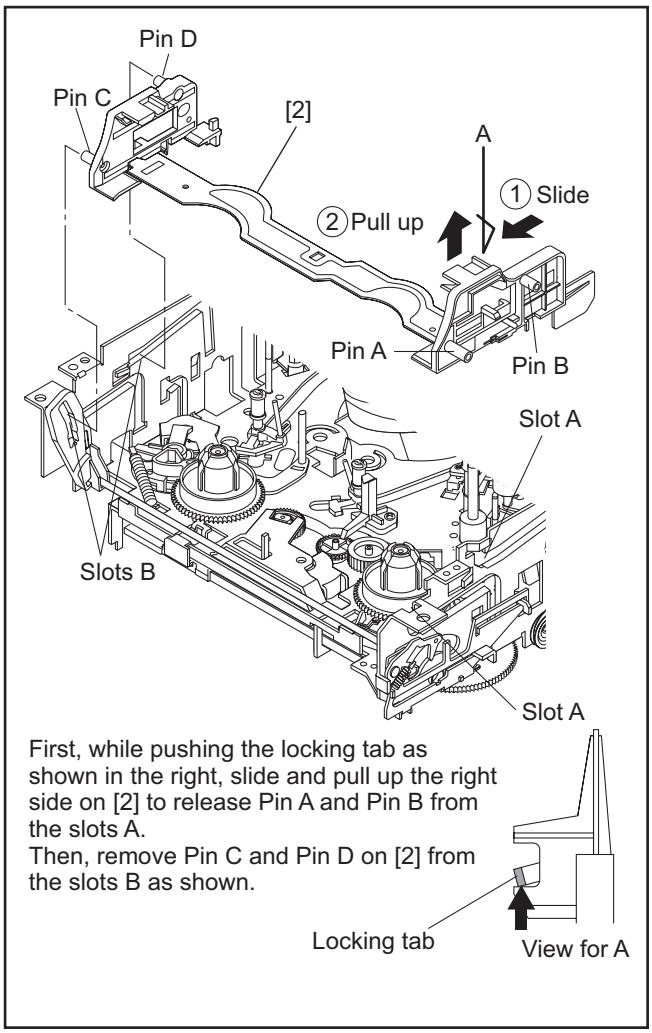


Fig.4

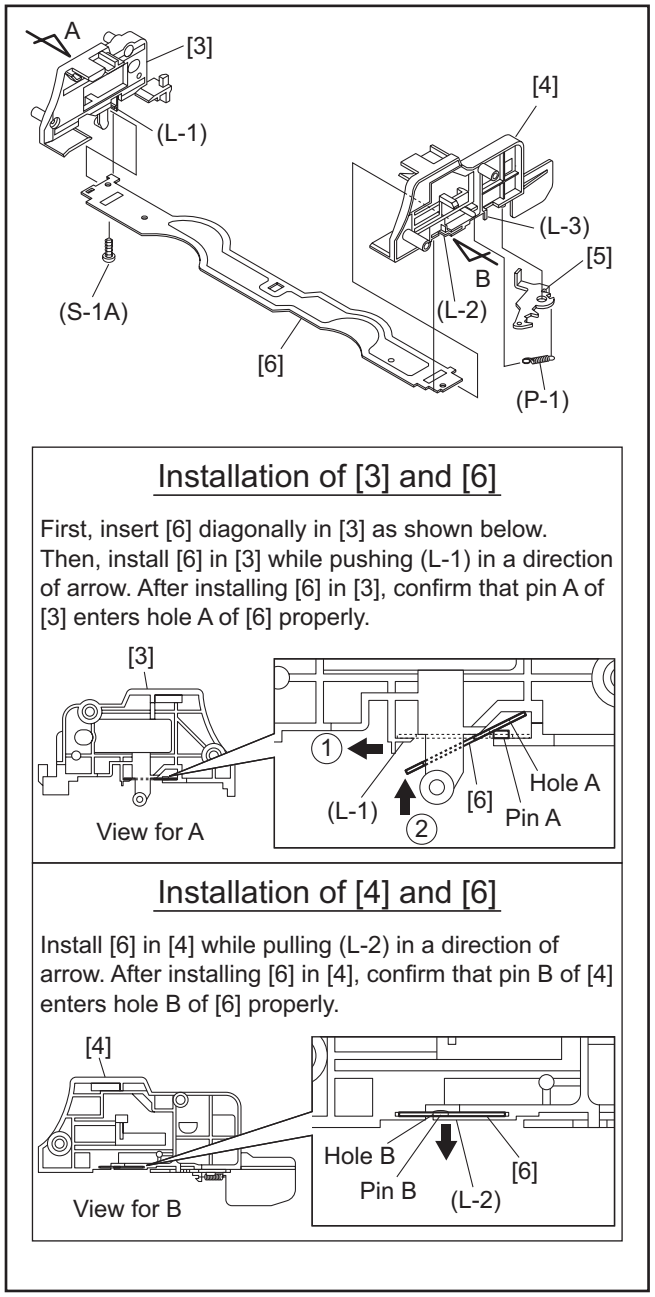


Fig.5

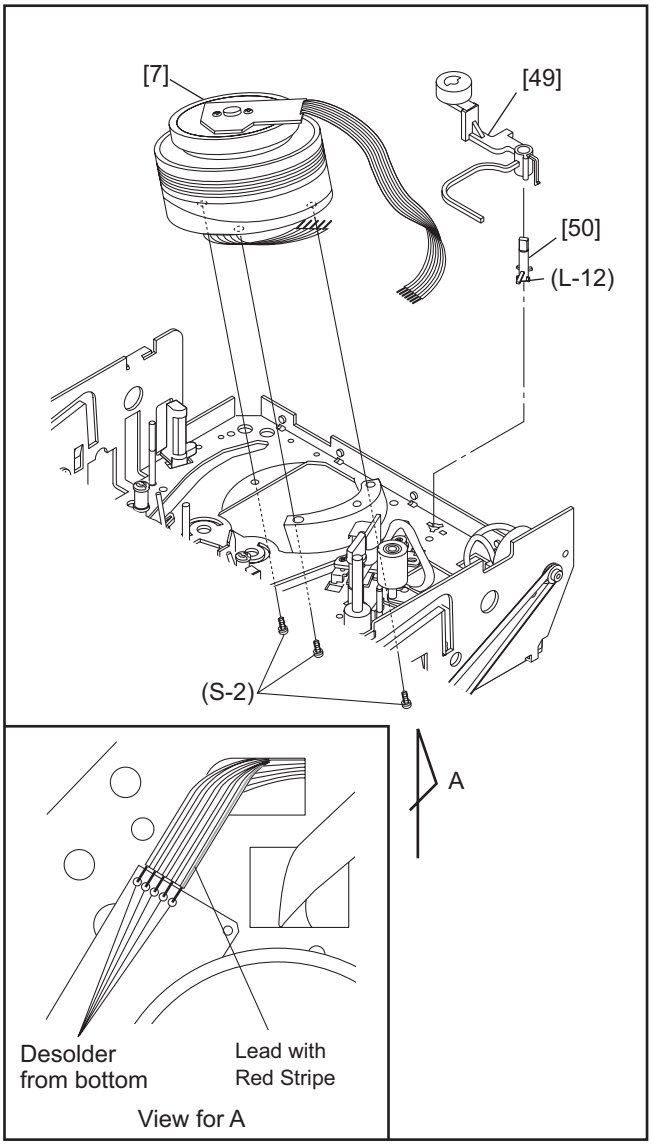


Fig.6

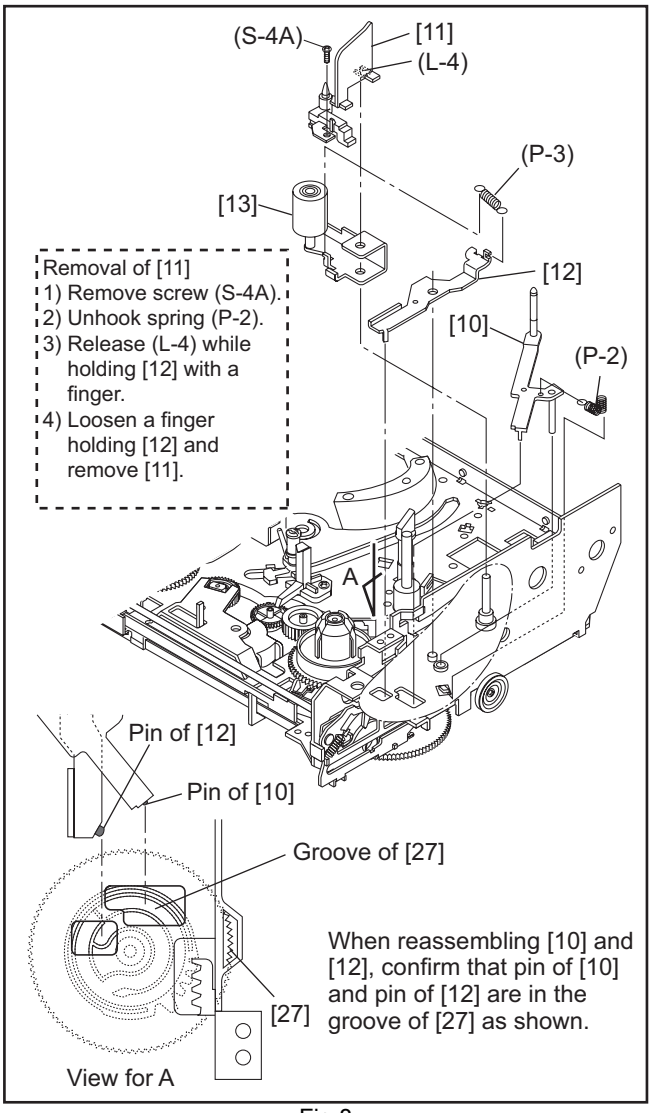


Fig.8

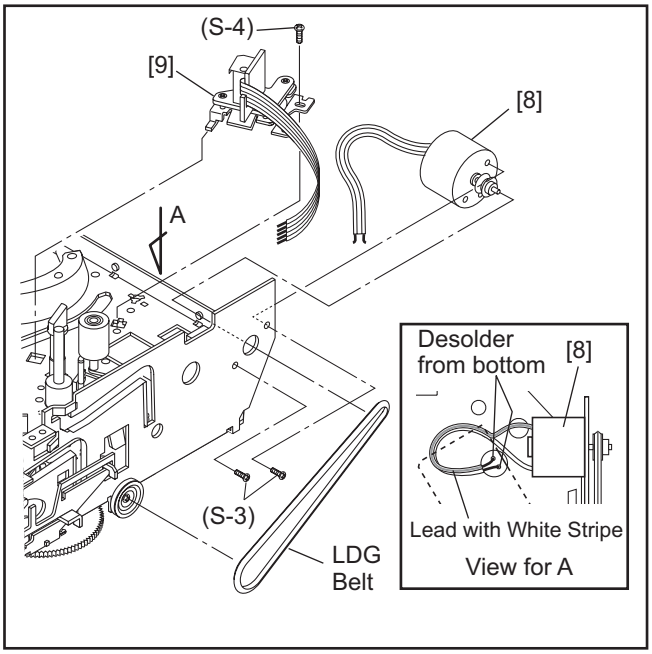


Fig.7

Installation of [13] and [12]

Hook spring (P-3) up to [12] and [13], then install them to the specified position so that [12] will be floated slightly while holding [12] and [13]. (Refer to Fig. A.)

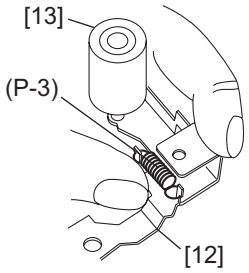


Fig. A

Install pin of [12] in groove of [27]. (Refer to Fig. B.)

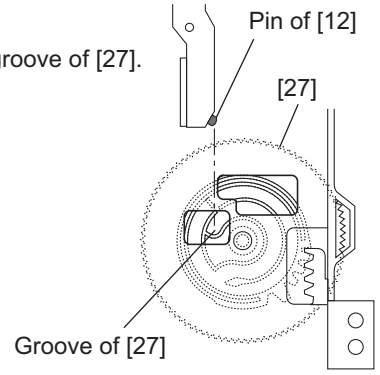


Fig. B (Top view)

Press both [12] and [13] till the groove of chassis pin appears, and adjust [13] to the notch of chassis. Then turn [13] a little in the direction of the arrow while pressing [12]. (Refer to Fig. C.)

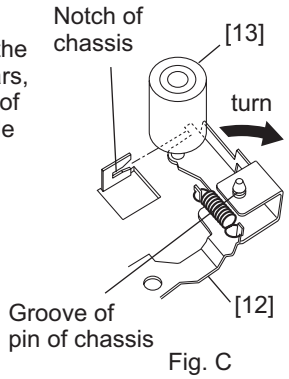


Fig. C

Install [11] and [10] while holding [12]. (Refer to Fig. 8.)

Fig.9

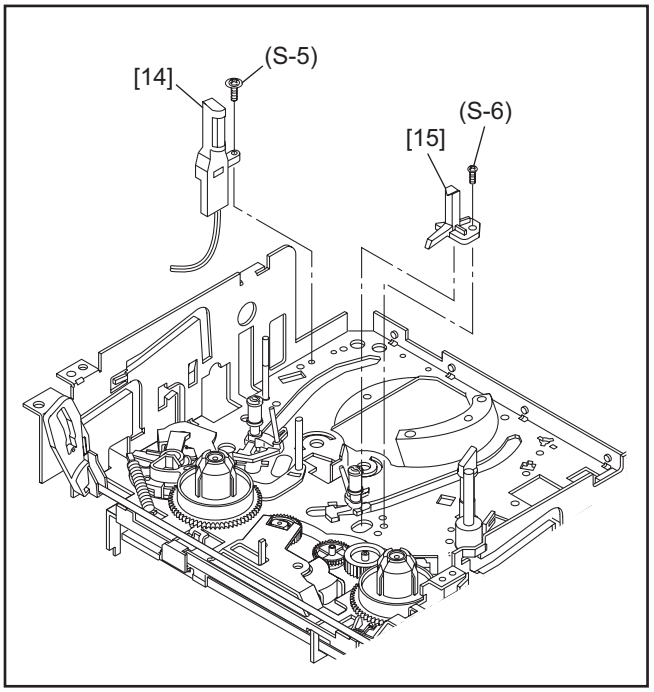


Fig.10

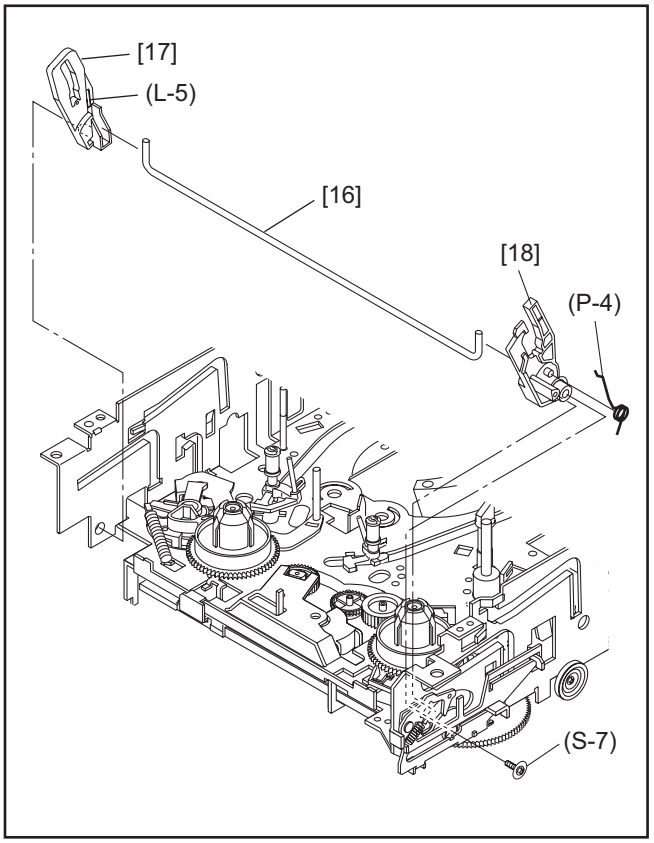
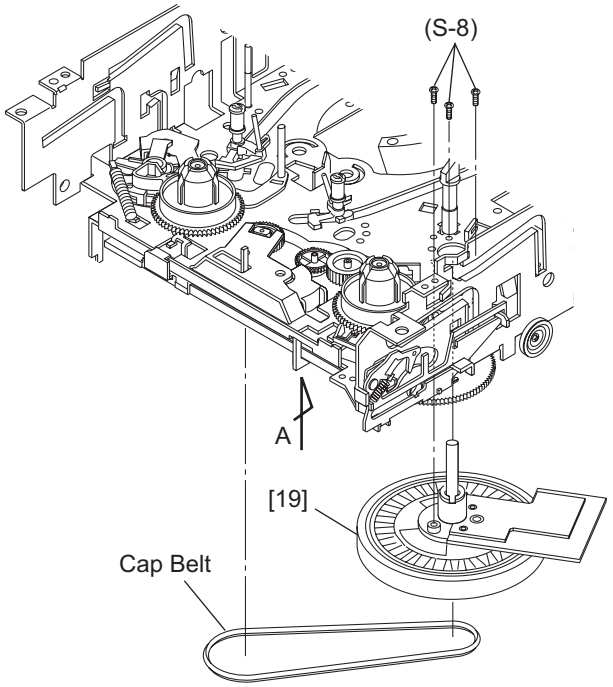


Fig.11


(S-8)
A
[19]
Cap Belt

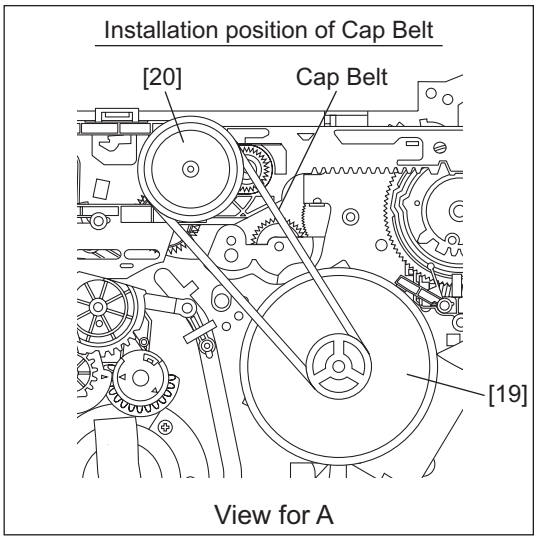
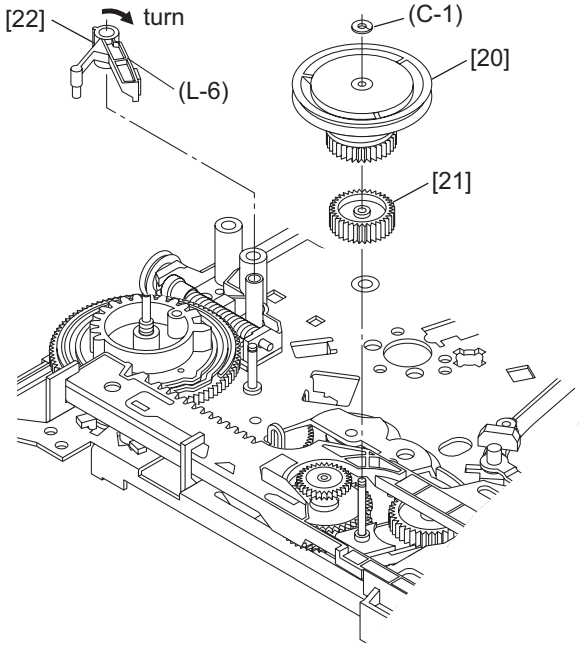

Installation position of Cap Belt
[20]
Cap Belt
[19]
View for A

Fig.12


[22]
turn
(L-6)
(C-1)
[20]
[21]

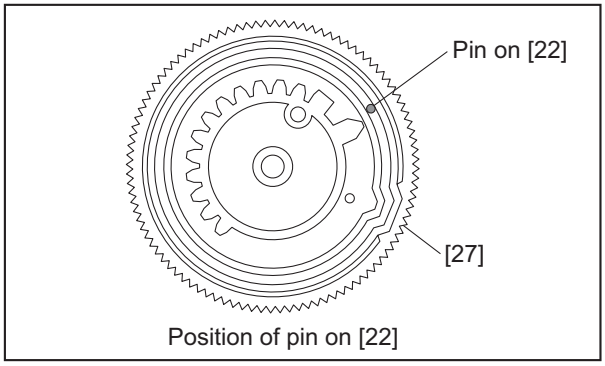

Pin on [22]
[27]
Position of pin on [22]

Fig.13

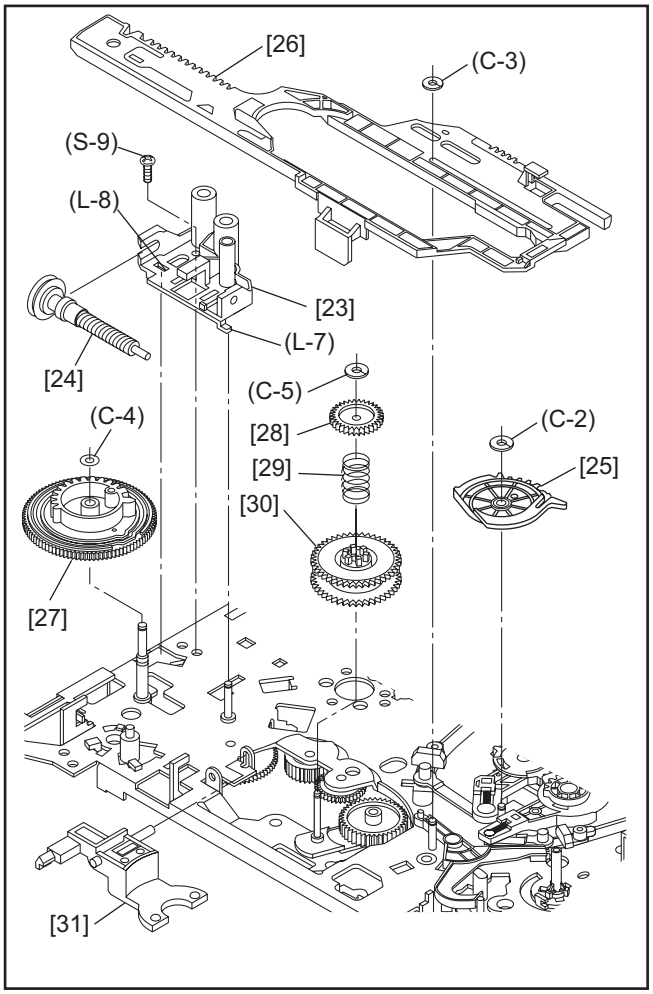


Fig.14

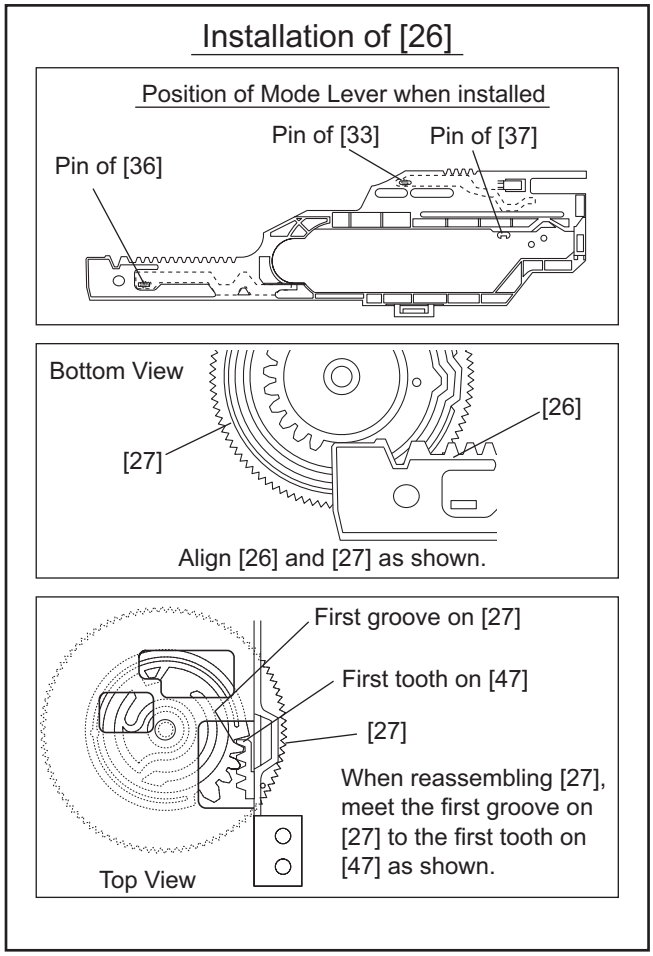


Fig.15

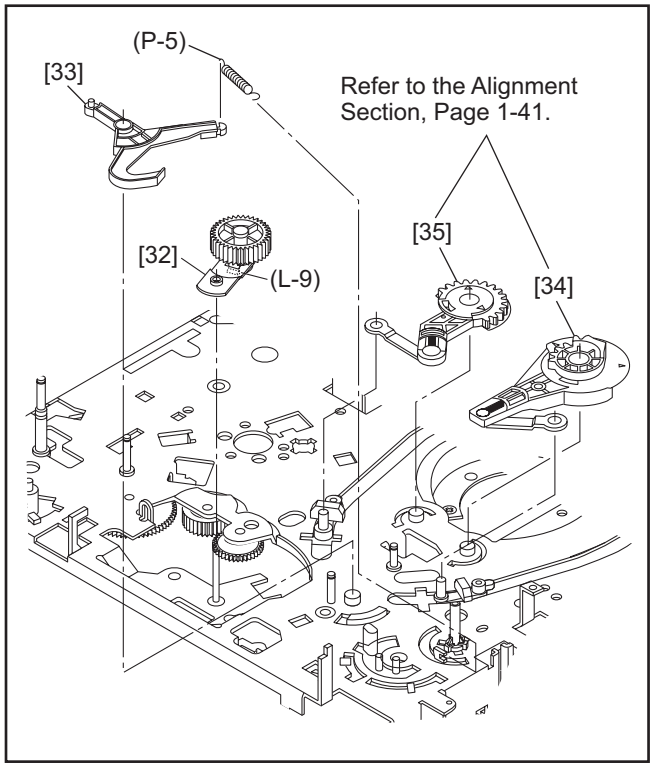


Fig.16

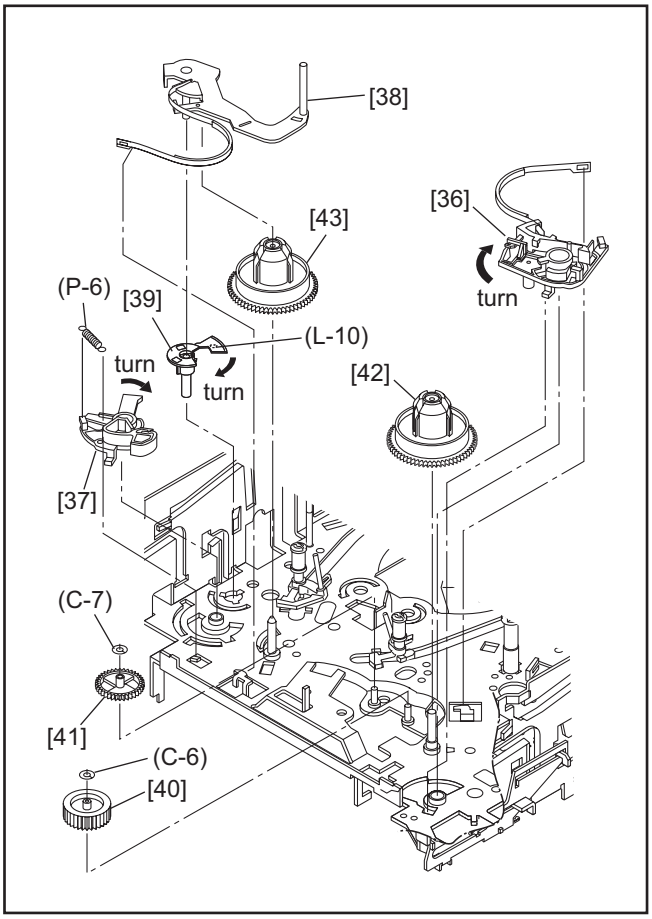


Fig.17

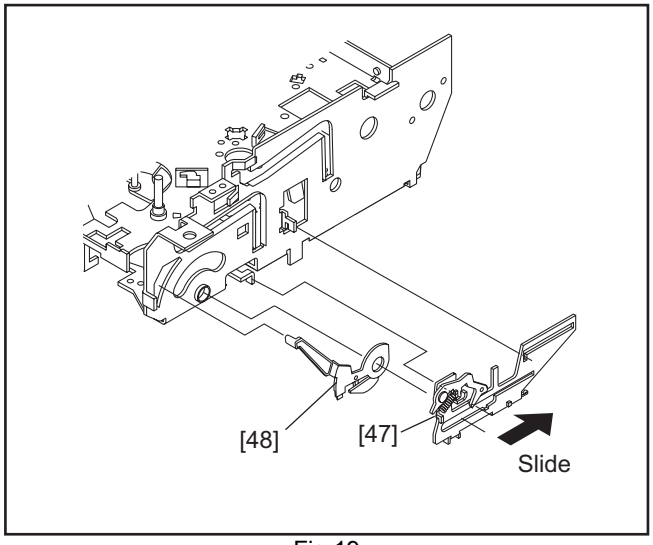


Fig.19

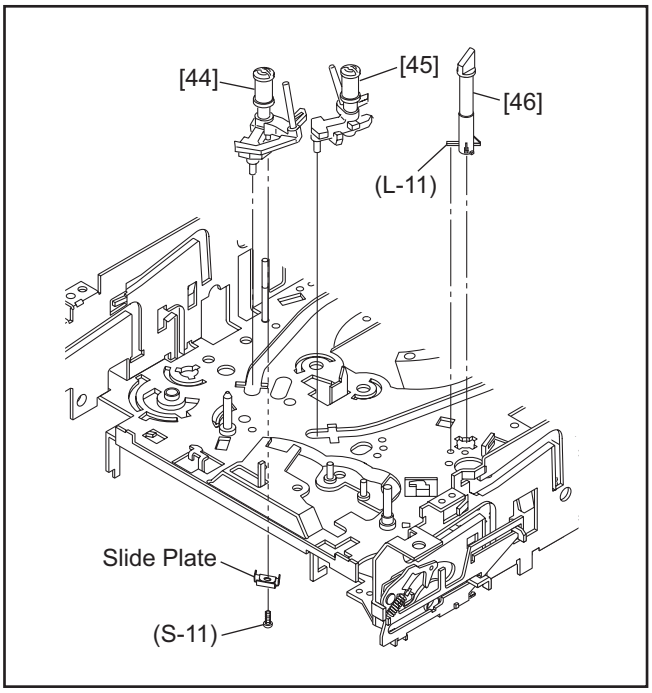


Fig.18

SECTION 4
ADJUSTMENT

4.1 ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is an abbreviation for "Circuit Board Assembly."

NOTE:

(1) Electrical adjustments are required after replacing circuit components and certain mechanical parts.
It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

(2) To perform these alignment / confirmation procedures, make sure that the tracking control is set inthe center position: Press either ”PR -” or “PR +” button on the front panel first, then the VCR “ ▸ “button on the front panel.

4.1.1 Test Equipment Required

(1) Oscilloscope: Dual-trace with 10:1 probe,
V-Range: 0.001~50V/Div.,
F-Range: DC~AC-20MHz

(2) Alignment Tape (MHPE)

4.1.2 Head Switching Position Adjustment

Purpose:

To determine the Head Switching position during playback.

Symptom of Misadjustment:

May cause Head Switching noise or vertical jitter in the picture.

Test point	Adj.Point	Mode	Input
J236(JK1-V-OUT) TP504(RF-SW) GND	VR501 (Switching Point) (MAIN CBA)	PLAY (SP)	-----
Tape	Measurement Equipme nt	Spec.	
MHPE	Oscilloscope	6.5H±1H (416μs±64μs)	

Connections of Measurement Equipment

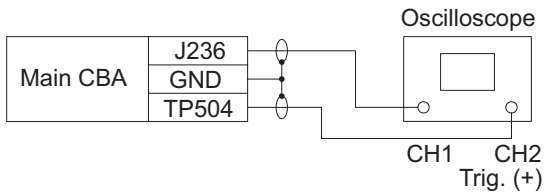
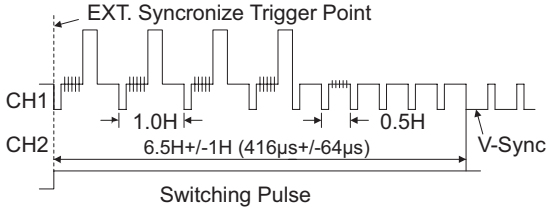


Figure 1



Reference Notes:

Playback the Alignment tape and adjust VR501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H±1H (416μs±64μs) delayed position from the rising edge of the CH2 head switching pulse waveform.

4.2 STANDARD MAINTENANCE

4.2.1 Service Schedule of Components

This maintenance chart shows you the standard of replacement and cleaning time for each part.
Because those may replace depending on environment and purpose for use, use the chart for reference.

h: Hours ○: Cleaning ● : Replace

Deck		Periodic Service Schedule			
Ref.No.	Part Name	1,000 h	2,000 h	3,000 h	4,000 h
1	Cylinder Assembly	○	●	○	●
2	Loading Motor Assembly			●	
4	Pulley Assembly		●		●
66	Tension Lever Assembly		●		●
9	ACE Head Assembly			●	
57,58	Reel S, Reel T			●	
11	Capstan Motor		●		●
12	Cap Belt		●		●
*13	FE Head			●	
*15	F Brake Assembly (HI)		●		●
16	Idler Assembly (HI)		●		●
24	Pinch Arm Assembly		●		●
26	M Brake (SP) Assembly (HI)		●		●
27	M Brake (TU) Assembly (HI)		●		●
44	LDG Belt		●		●

Notes:

(1) Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / ACE Head / FE Head)using 90% ethyl alcohol.
(2) After cleaning the parts, do all DECK ADJUSTMENTS.
(3) For the reference numbers listed above, refer to Deck Exploded Views.
* B73 ------ Recording model only
* B86 ------ Not used in 2 head model.

4.2.2 Cleaning

4.2.2.1 Cleaning of Video Head

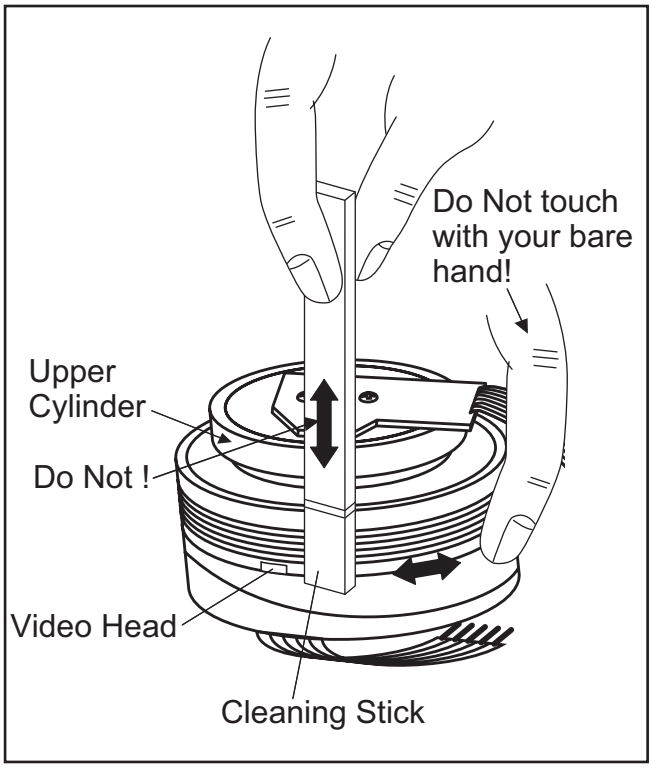
Clean the head with a head cleaning stick or chamois cloth.

Procedure

(1) Remove the top cabinet.
(2) Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
(3) Put a few drops of 90% ethyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

(1) The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
(2) Wait for the cleaned part to dry thoroughly before operating the unit.
(3) Do not reuse a stained head cleaning stick or a stained chamois cloth.



4.2.2.2 Cleaning of ACE Head

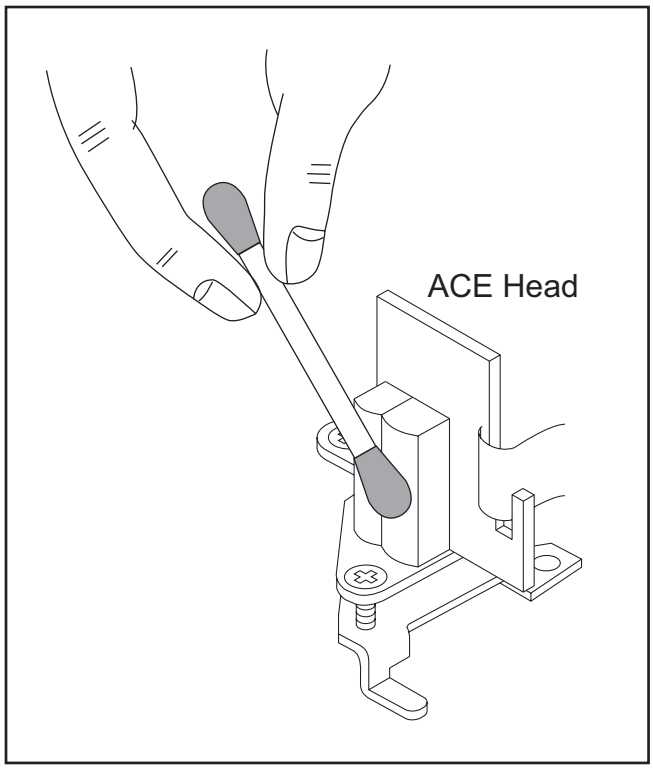
Clean the head with a cotton swab.

Procedure

(1) Remove the top cabinet.
(2) Dip the cotton swab in 90% ethyl alcohol and clean the ACE Head. Be careful not to damage the upper drum and other tape running parts.

Notes:

(1) Avoid cleaning the ACE Head vertically.
(2) Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



4.3 SERVICE FIXTURE AND TOOLS

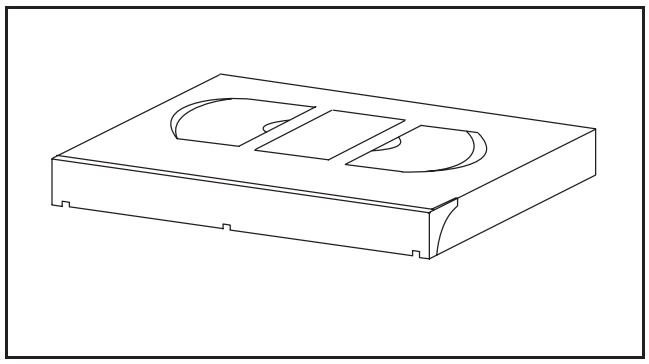


Fig.1

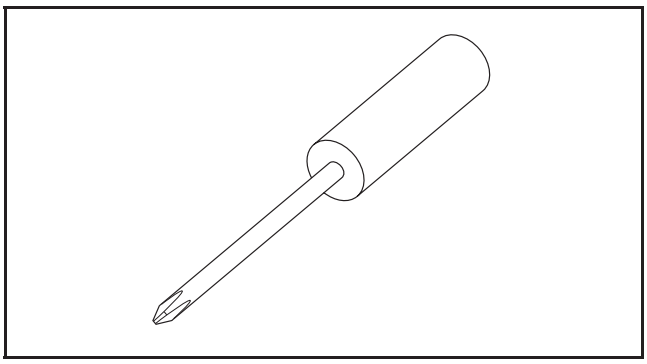


Fig.4

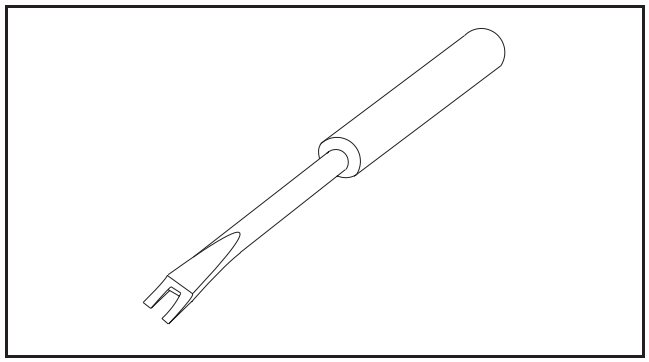


Fig.2

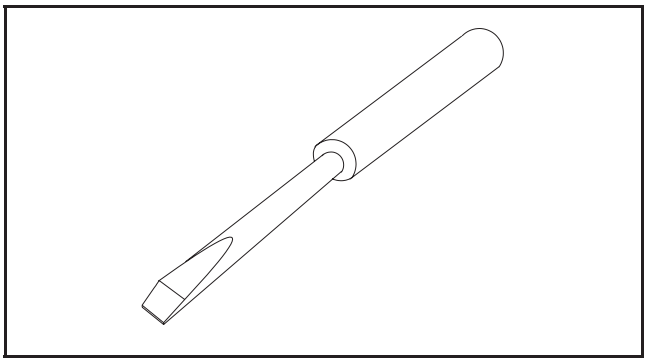


Fig.5

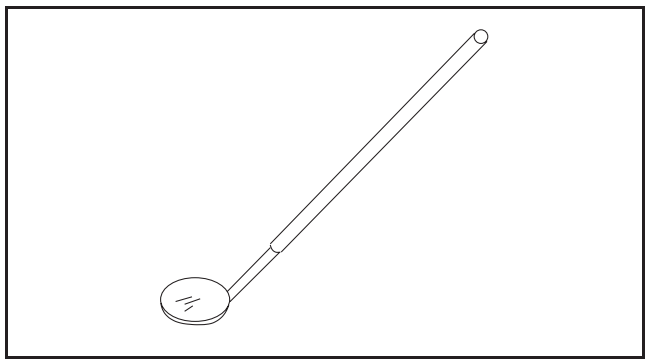


Fig.3

Ref. No.	Name	Part No.	Adjustment
1	Alignment Tape	MHPE	Head Adjustment of ACE Head
1	Alignment Tape	MHPE-L (4 Head model)	Azimuth and X Value Adjustment of ACE Head / Adjustment of Envelope Waveform
2	Guide Roller Adj. Screwdriver	PTU94002	Guide Roller
3	Mirror	Available Locally	Tape Transportation Check
4	Azimuth Adj. Screwdriver +	Available Locally	ACE Head Height
5	Flat Screwdriver -	Available Locally	X Value

4.4 MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

4.4.1 Service Information

(1) Method for Manual Tape Loading/Unloading To load a cassette tape manually:
   a) Disconnect the AC plug.
   b) Remove the Top Case and Front Assembly.
   c) Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out,by a spring motion, just as much as you have pushed in.
   d) Turn the LDG Belt in the appropriate direction shown in Fig. 1 for a minute or two to complete this task.

To unload a cassette tape manually:
   a) Disconnect the AC plug.
   b) Remove the Top Case and Front Assembly.
   c) Make sure that the Moving guide preparations are in the Eject Position.
   d) Turn the LDG Belt in the appropriate direction shown in Fig. 1 until the Moving guide preparations come to the Eject Position. Stop turning when the preparations begin clicking or can not be moved further. However, the tape will be left wound around the cylinder.
   e) Turn the LDG Belt in the appropriate direction continuously, and the cassette tape will be ejected. Allow a minute or two to complete this task.

(2) Method to place the Cassette Holder in the tapeloaded position without a cassette tape
   a) Disconnect the AC Plug.
   b) Remove the Top Case and Front Assembly.
   c) Turn the LDG Belt in the appropriate direction shown in Fig.1. Release the locking tabs shown in Fig. 1 and continue turning the LDG Belt until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.

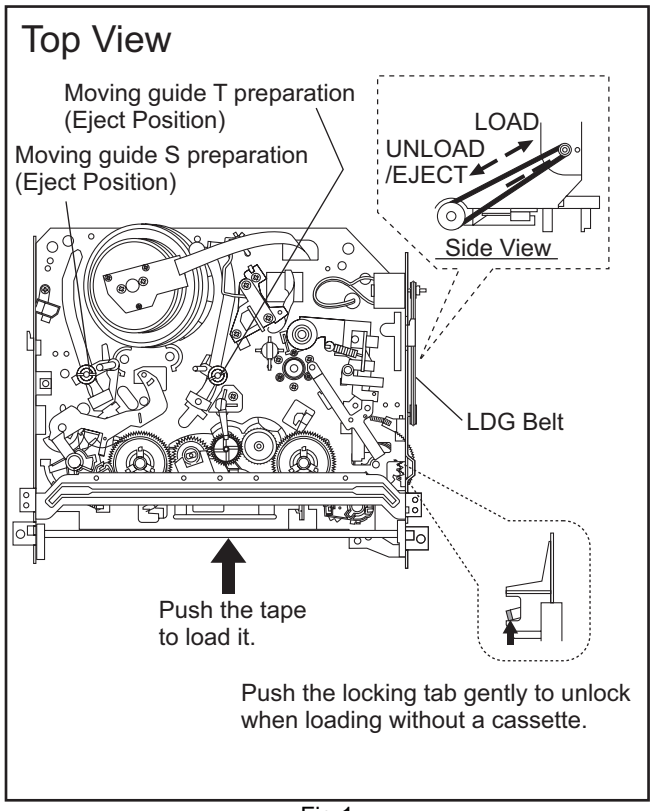


Fig.1

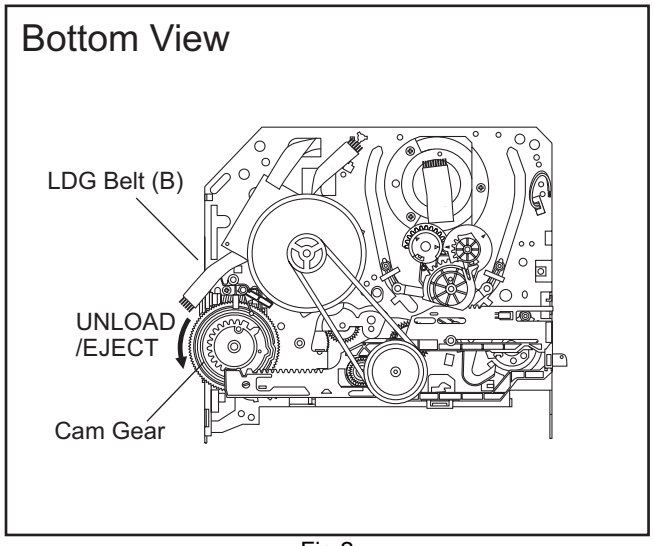


Fig.2

4.4.2 Tape Interchangeability Alignment

Note:

To do these alignment procedures, make sure that the Tracking Control Circuit is set to the preset position every time a tape is loaded or unloaded.

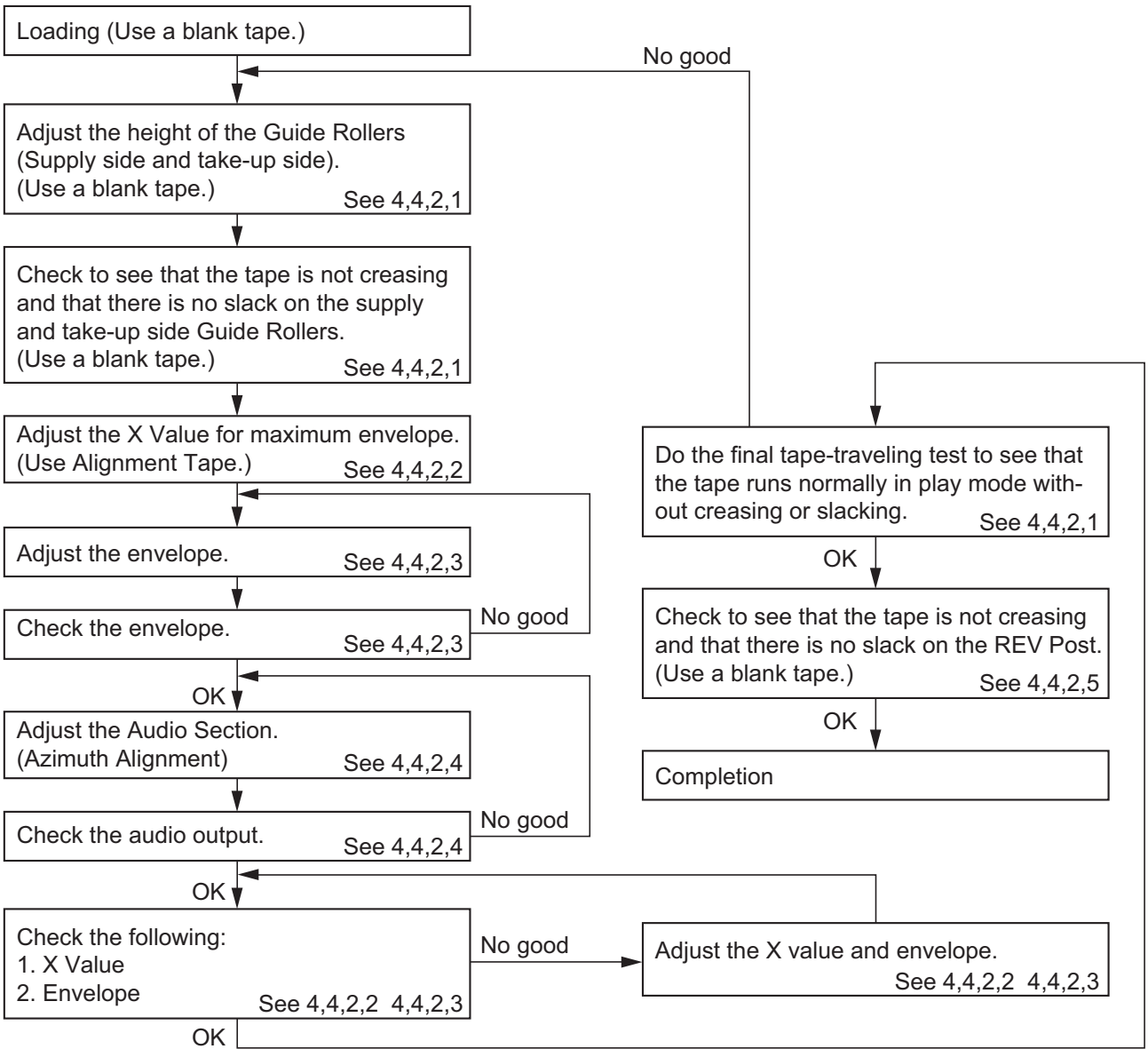
Equipment required:

Dual Trace Oscilloscope
VHS Alignment Tape (MHPE-L)
Guide Roller Adj. Screwdriver
Flat Screwdriver (Purchase Locally)

Note:

Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling



4.4.2.1 Preliminary/Final Checking and Alignment of Tape Path

Purpose:

To make sure that the tape path is well stabilized.

Symptom of Misalignment:

If the tape path is unstable, the tape will be damaged.

Note:

Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

(1) Playback a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig. 3 and 4.)

(2) If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. 3 and 5.)

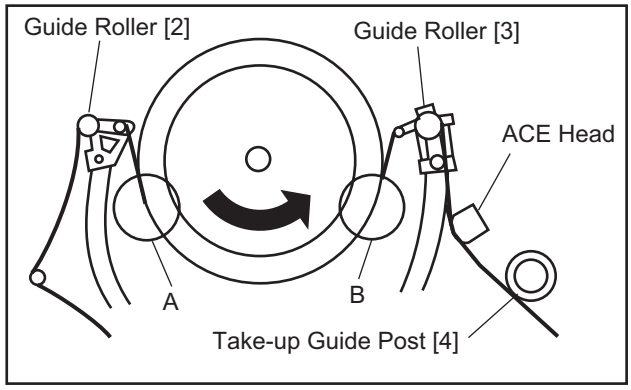


Fig.3

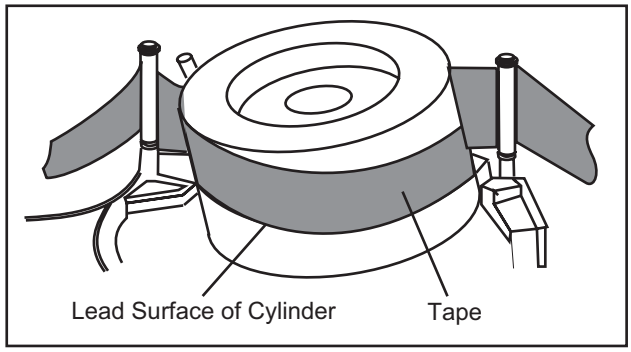


Fig.4

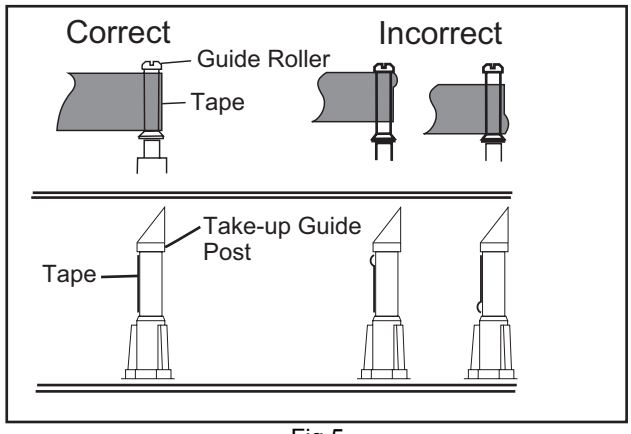


Fig.5

(3) Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and ACE Head. (Fig. 3 and 5)

(4) If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the ACE Head. (Fig. 6)

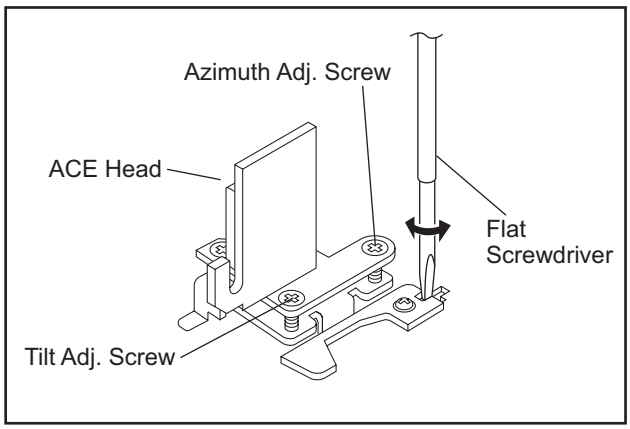


Fig.6

4.4.2.2 X Value Alignment

Purpose:

To obtain maximum PB FM envelope signal at the preset position of the Tracking Control Circuit, align the Horizontal Position of the ACE Head.

Symptom of Misalignment:

If the Horizontal Position of the ACE Head is not properly aligned, maximum PB FM envelope cannot be obtained at the preset position of the Tracking Control Circuit.

(1) Connect the oscilloscope to TP301 (C-PB) and TP503 (CTL) on the Main CBA. Use TP504 (RF-SW) as a trigger.

(2) Playback the Gray Scale of the Alignment Tape (FL6NS8) and confirm that the PB FM signal is present.

(3) Set the Tracking Control Circuit to the preset position by pressing “PR +” button and then “ ▸ ” button on the unit. (Refer to note on bottom of page 1-34.)

(4) Use the Flat Screwdriver so that the PB FM signal at TP301 (C-PB) is maximum.(Fig. 6)

(5) To shift the CTL waveform, press “PR +”or “PR -”button on the remote control unit. Then make sure that the maximum output position of PB FM envelope signal becomes within ±2ms from preset position.

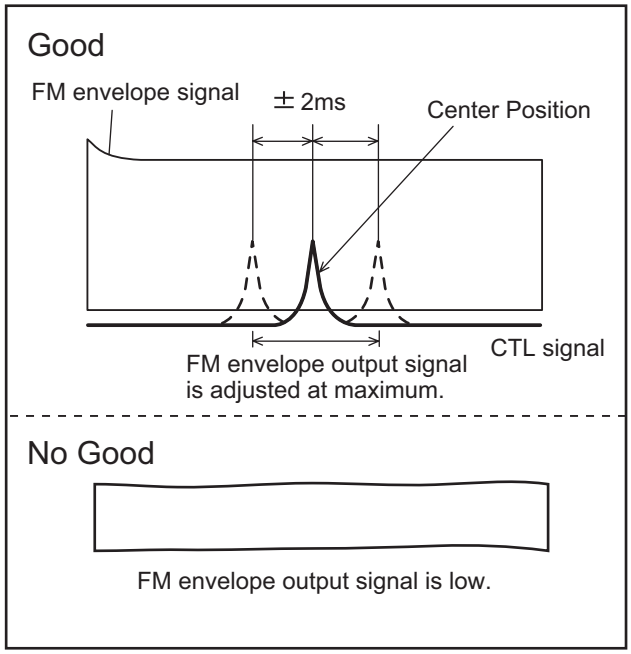


Fig.7

(6) Set the Tracking Control Circuit to the preset position by pressing “PR +” button and then the VCR “ ▸ ” button on the unit.

4.4.2.3 Checking/Adjustment of Envelope Waveform

Purpose:

To achieve a satisfactory picture, adjust the Guide Rollers so that the PB FM envelope becomes as flat as possible.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

(1) Connect the oscilloscope to TP301 (C-PB) on the Main CBA. Use TP504 (RF-SW) as a trigger.

(2) Playback the Gray Scale on the Alignment Tape(MHPE-L). Set the Tracking Control Circuit to the preset position by pressing “PR +” button and then VCR “ ▸ ” button on the unit. Adjust the height of Guide Rollers [2] and [3](Fig. 3, Page 1-33) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.

(3) If the envelope is as shown in Fig. 7, adjust the height of Guide Roller [2] (Refer to Fig. 3) so that the waveform looks like the one shown in Fig. 9.

(4) If the envelope is as shown in Fig. 8, adjust the height of Guide Roller [3] (Refer to Fig. 3) so that the waveform looks like the one shown in Fig. 9.

(5) When Guide Rollers [2] and [3] (Refer to Fig. 3)are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. 9.

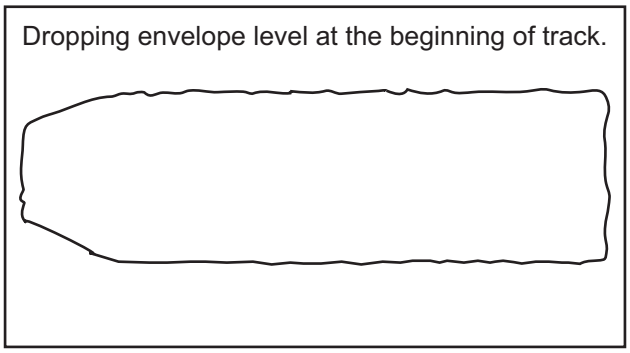


Fig.8

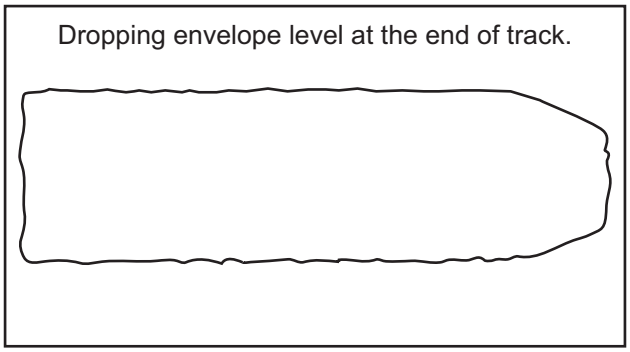


Fig.9

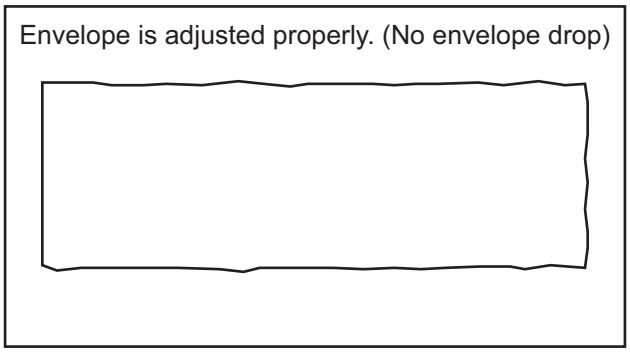


Fig.10

Note:

Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. 3), check the X Value by pushing the “PR +”or “PR -” buttons on the unit alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes of the “PR +” button on the unit to achieve 1/2 level of envelope should match the number of pushes of the “PR -” button on the unit from center. If required, redo the “X Value Alignment.”

4.4.2.4 Azimuth Alignment of Audio/Control/ Erase Head

Purpose:

To correct the Azimuth alignment so that the Audio/Control/ Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

(1) Connect the oscilloscope to the audio output jack on the rear side of the deck.
(2) Playback the alignment tape (MHPE-L) and confirm that the audio signal output level is 8kHz.
(3) Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscillo scope is at maximum. (Fig. 6)

Note:

Upon completion of the adjustment of Azimuth Adj. Screw, check the X Value by pushing the “PR +” or “PR -“buttons on the unit alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes of the “PR +“ button on the unit to achieve 1/2 level of envelope should match the number of pushes of the “PR -”button on the unit from center. If required, redo the “X Value Alignment.”

4.4.2.5 Checking and Alignment of Tape Path during reversing

Purpose:

To make sure that the tape path is well stabilized during reversing.

Symptom of Misalignment:

If the tape path is unstable during reversing, the tape will be damaged.

Note:

Do not use an Alignment Tape for this proce dure. If the unit is not correctly aligned, the tape may be damaged.

(1) Insert a blank cassette tape into the tray and set the unit to REV. Then confirm if the tape has been curled up or bent at the Take-up Guide Post[4] or REV Post[5]. (Refer to Fig. 11 and 12.)
(2) When the tape has been curled up or bent, turn the alignment screw to adjust the height of REV Post. (Refer to Fig. 11 and 13.)

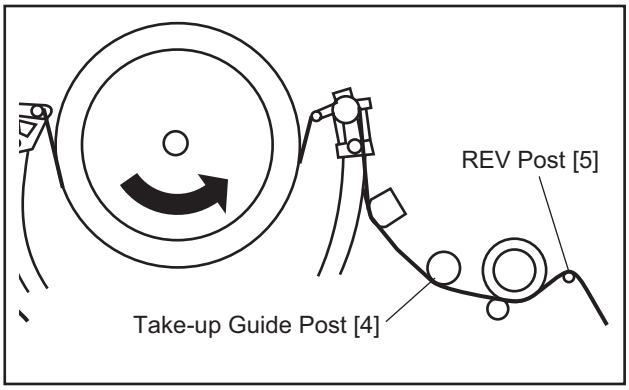


Fig.11

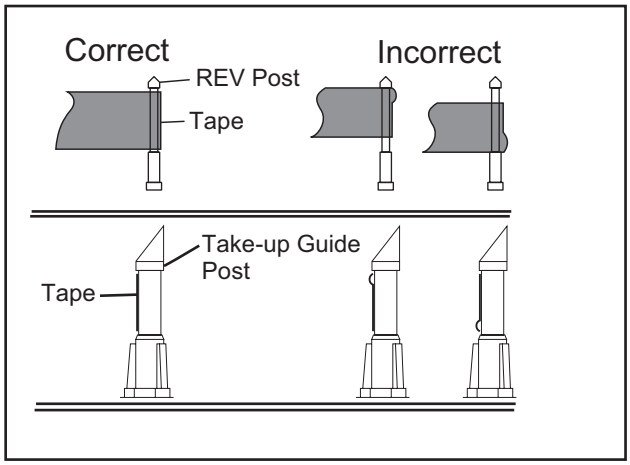


Fig.12

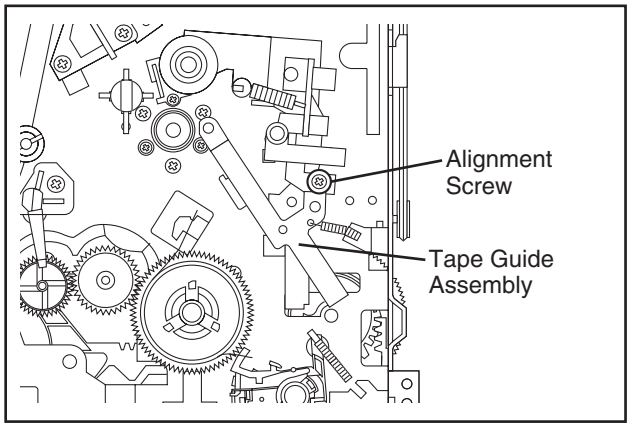


Fig.13

SECTION 5
TROUBLESHOOTING

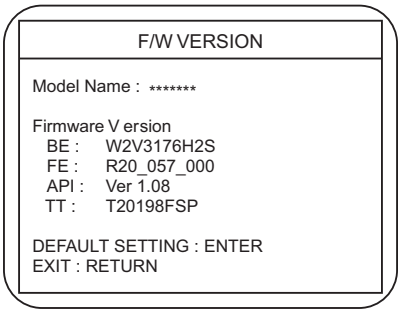
5.1 HOW TO INITIALIZE THE DVD RECORDER

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

(1) Turn the DVD recorder on.

(2) Confirm that no disc is loaded or that the disc tray is open. To put the DVD recorder into the Version display mode, press [↷], [1], [2], and [3] buttons on the remote control in that order.
Fig. 1 appears on the screen.

*1: "*******" differs depending on the models.
*2: Firmware Version differs depending on the models, and this indication is one example.



Version Display Mode Screen

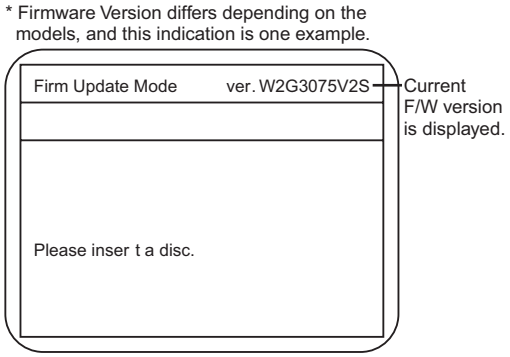
Fig.1

(3) Press [ENTER] button, then the DVD recorder starts initializing. When the initializing is completed, the DVD recorder exits the Version display mode and turns off the power automatically.
- To move into the Normal mode from the Version display mode, press [RETURN] button on the remote control instead of [ENTER] button.
- When [STANDBY/ON] button is pressed before [ENTER] button is pressed, the DVD recorder exits the Version display mode, then the power turns off.

5.2 FIRMWARE RENEWAL MODE

(1) Turn the power on and remove the disc on the tray.

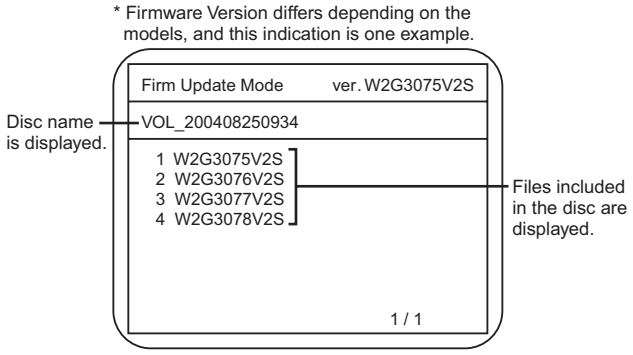
(2) To put the DVD recorder into version up mode, press [↷], [6], [5], and [4] buttons on the remote control unit in that order. Then the tray will open automatically.
Fig. 1 appears on the screen and Fig. 2 appears on the VFD.



Version Up Mode Screen
Fig.1

VFD in Version Up Mode
Fig.2

(3) Load the disc for version up.
Fig. 3 appears on the screen. The file on the top is highlighted as the default.
When there is only one file to exist, Step 4 will start automatically.



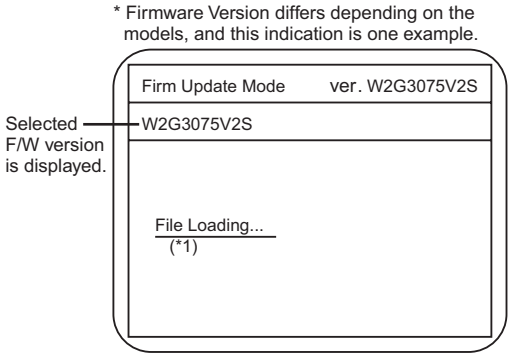
Update Disc Screen
Fig.3

(4) Select the firmware version pressing arrow buttons, then press [ENTER].
Fig. 4 appears on the screen and Fig. 5 appears on the VFD. The DVD recorder starts updating.

About VFD indication of Fig. 5:

a) When Fig. 4 is displayed on the screen, "F-UP" is displayed on the VFD.

b) When "Firmware Updating... XX% Complete." is displayed on the screen, "XX"% is displayed on the VFD.



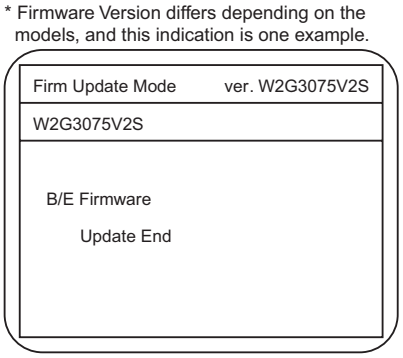
Programming Mode Screen
Fig.4

VFD in Programming Mode (Example)
Fig.5

The appearance shown in (*1) of Fig 4 is described as follows.

No.	Appearance	State
1	File Loading...	Sending files into the memory
2	Firmware Updating... XX% Complete.	Writing new version data
---	Firmware Update Failure	Failed in updating

(5) After updating is finished, the tray opens automatically.
Fig. 6 appears on the screen and Fig. 7 appears on the VFD.



Completed Program Mode Screen
Fig.6

VFD in Completed Program Mode
Fig.7

At this time, no button is available.

(6) Press [STANDBY/ON] button to turn the power off. Then press it again.

5.3 FUNCTION INDICATOR SYMBOLS

5.3.1 VCR Section

Note:

If a mechanical malfunction occurs, the power is turned off. When the power comes on again after that by pressing [STANDBY-ON] button, an error message is displayed on the TV screen for 5 seconds.

MODE	INDICATOR ACTIVE
When reel or capstan mechanism is not functioning correctly	"⏏ /R" is displayed on a TV screen. (Refer to Fig. 1.)
When tape loading mechanism is not functioning correctly	"⏏ /T" is displayed on a TV screen. (Refer to Fig. 2.)
When cassette loading mechanism is not functioning correctly	"⏏ /C" is displayed on a TV screen. (Refer to Fig. 3.)
When the drum is not working properly	"⏏ /D" is displayed on a TV screen. (Refer to Fig. 4.)
P-ON Power safety detection	"⏏ /P" is displayed on a TV screen. (Refer to Fig. 5.)

5.3.1.1 TV screen

When reel or capstan mechanism is not functioning correctly

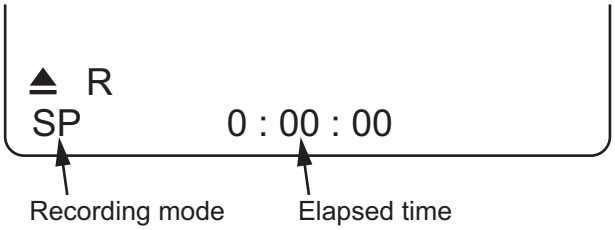


Fig.1

When tape loading mechanism is not functioning correctly

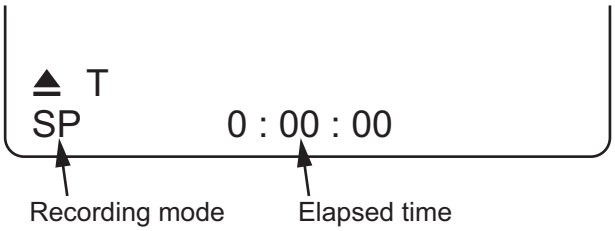


Fig.2

When cassette loading mechanism is not functioning correctly

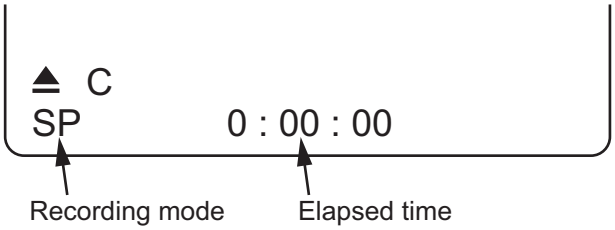


Fig.3

When the drum is not working properly

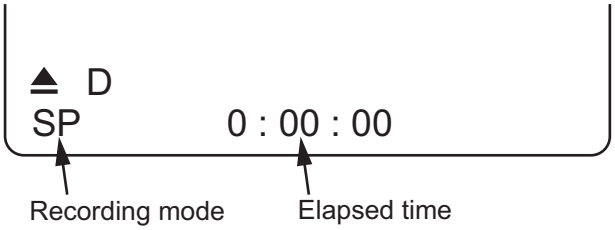


Fig.4

P-ON Power safety detection

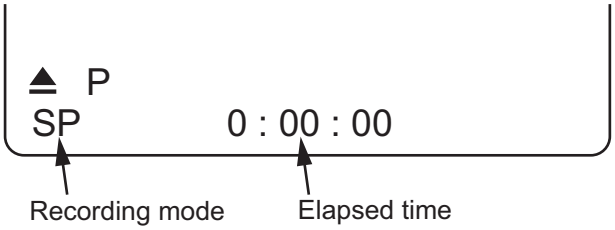
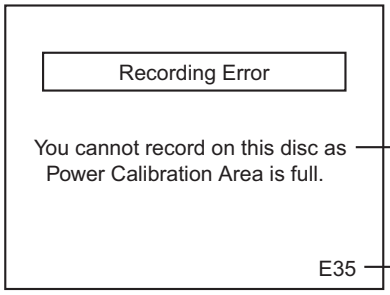


Fig.5

5.3.2 DVD Section

Note:

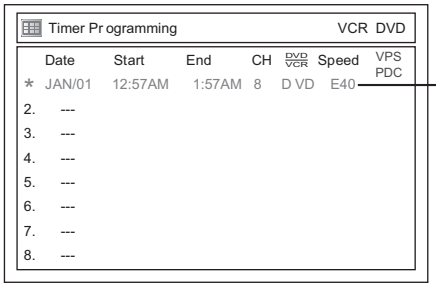
If an error occurs, a message with the error number appears on the screen.



Message	Solution	Error No.	Error Description	Priority
Can not record on this disc.	Insert the recordable disc, and ensure the disc status satisfies the recording requirements.	1	An error occurs during data reading.	-
		2	There is no reply for 15 seconds in Test Unit Ready.	-
		3	Cannot write the data after trying to write three times.	-
		4	An error occurs with OPC.	-
		5	During recovery in a record.	-
		6	An error occurs even if it do recovery of a record three times.	-
		7	An error occurs in a format.	-
		8	It cannot start an encode.	-
		9	There is not NV_PCK/RDI_PCK in data doing an encode.	-
		10	Encode Pause condition continued for 10 minutes.	-
		11	Encode Pause condition continued by normal REC condition for 10 minutes.	-
		12	Differ in an address and do not get StreamID of RDI/VIDEO.	-
		13	It is a reply that “ATAPI is not readable.”	-
		14	Cannot write the data after recovering SMALL VMGI.	-
		15	Cannot write the data after DVD-R Reverse Track.	-
		16	An error occurs in Finalize Close.	-
		17	An error occurs in Rec Stop Close.	-
		18	An error occurs in PCA Full (DVD_R).	-
		19	Safety Stop occurs during editing.	-
		20	High Speed Disc.	2
		21	The disc which is not formatted.	5
		22	The disc that Disc Error occurred.	3
		23	The -R Disc of VR Mode.	6
		24	The disc except DVD-R/RW or DVD-R finalized disc	1
This program is not allowed to be recorded.	You cannot record copy prohibited programs.	25	During the Macrovision picture input.	11
		26	During the CGMS picture input.	12
This program is not recordable in Video mode.	Set “DVD-RW Recording Format” to “VR mode”.	27	During the CGMS picture (possible a record once) input. (Video Format Disc)	12
This program is not allowed to be recorded on this disc.	Insert a ver.1.1 CPRM compatible DVD-RW disc.	28	During the CGMS picture (possible a record once) input. (Disc which there is not for the correspondence to VR Format CPRM)	12

Message	Solution	Error No.	Error Description	Priority
This disc is protected and not recordable.	Release the disc protect setting in the Disc Setting menu.	29	Disc Protected Disc.	7
Disc is full. (No area for new recording)	Insert the recordable disc with enough recording space.	30	There is no it in a space field.	5
You cannot record more than 99 titles on one disc. (The maximum is 99.)	Delete unnecessary titles.	31	It is recorded a 99 title. (Video Format Disc)	7
		32	It is recorded a 99 title. (VR Format Disc)	8
You cannot record more than 999 chapters on one disc. (The maximum is 999.)	Delete unnecessary chapter markers.	33	There is 999 number of total chapter. (VR Format Disc)	9
You cannot record on this disc as Control Information is full.	Delete unnecessary titles.	34	There is not a space to a record field of control information.	10
You cannot record on the disc as Power Calibration Area is full.	Insert a new disc.	35	PCA Full. (in REC start)	4
This disc is already finalized.	Release the finalizing for this disc.	36	It is done Finalize. (Video Format Disc)	6
Can not record on this disc.	Repeat the same operation.	37	Access to Memory Area range outside.	-
		38	Sector Address is wrong.	-
		39	BUP writing error of chapter editing.	-

If an error occurs during the timer recording, one of the following error numbers (40 to 42) or the above error messages (error number: 1 to 39) is displayed on the recording menu after timer recording.
(Once the screen of the program line is exited, the program line for the error will be cleared.)
(No Error Message is displayed for the error No. 40 ~ 42.)



A program with the error number is grayed out and asterisked on the timer programming list.

Message	Solution	Error No.	Error Description	Priority
Error message is not displayed.	- Set the timer programming correctly. - Set the timer programming before the start time. - Insert a recordable videotape with a record tab.	40	- Some portion has not been recorded because of program overlapping. - Recording did not start at the start time. - No Videotape is inserted. Videotape ran out during recording.	-
	Turn the power on and set the clock correctly then set timer programming again.	41	Power failed	-
	Insert the recordable disc.	42	No disc when recording	-

5.4 ALIGNMENT PROCEDURES OF MECHANISM

The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

5.4.1 Alignment points in Eject Position

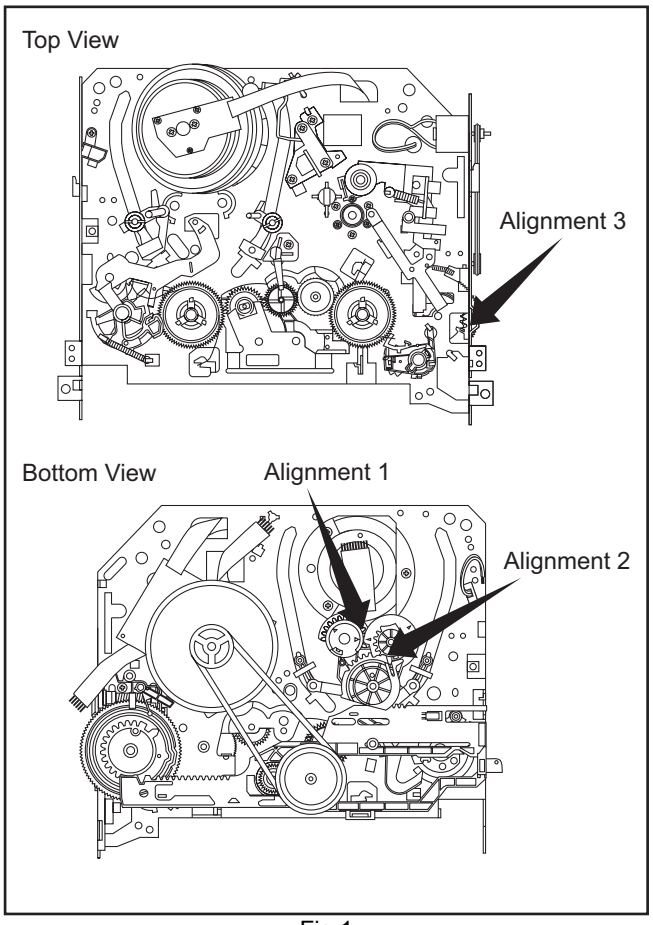


Fig.1

5.4.1.1 Alignment 1

Loading Arm (SP) and (TU) Assembly

Install Loading Arm (SP) and (TU) Assembly so that their triangle marks point to each other as shown in Fig. 2.

5.4.1.2 Alignment 2

Mode Gear

Keeping the two triangles pointing at each other, install the Loading Arm (SP) Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. 2.

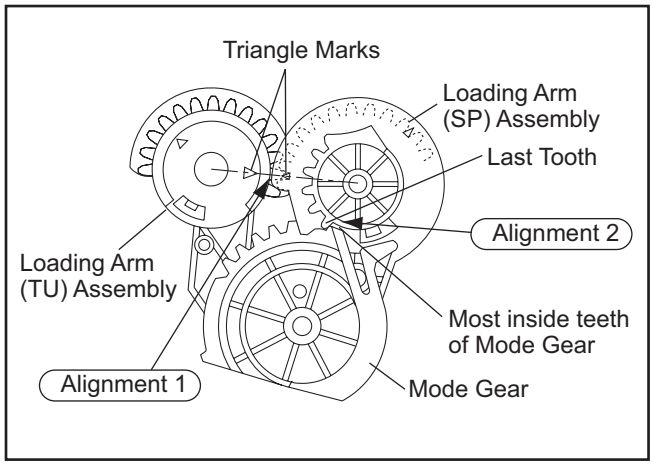


Fig.2

5.4.1.3 Alignment 3

Cam Gear (A) (HI), Rack Assembly

Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) (HI) as shown in Fig. 3.

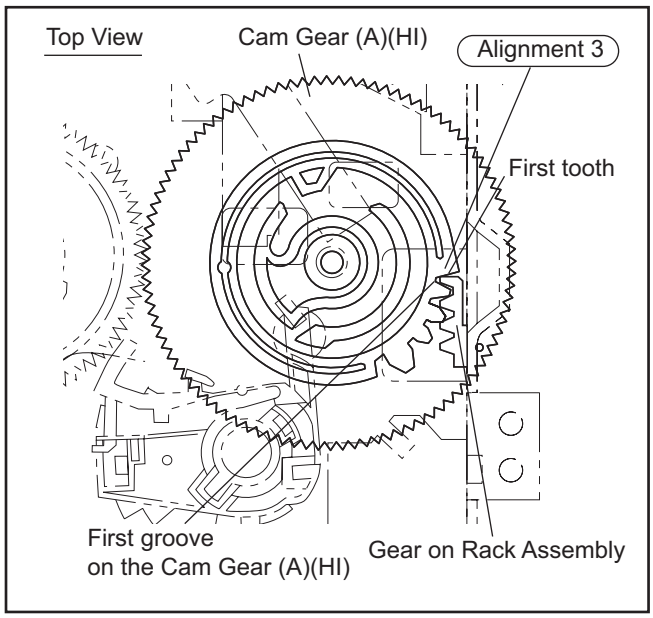


Fig.3

5.5 IC PIN FUNCTION DESCRIPTIONS

5.5.1 VCR Section

5.5.1.1 IC501(SERVO / SYSTEM CONTROL IC)

Pin No.	IN/ OUT	Signal Name	Function
1	IN	SC2-IN	Input Signal from Pin 8 of SCART2
2	IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage
3	IN	DVD-POW-SAFETY	Abnormal Voltage Detection
4	IN	END-S	Tape End Position Detect Signal
5	IN	AFC	Automatic Frequency Control Signal
6	IN	V-ENV	Video Envelope Comparator Signal
7	IN	KEY-1	Key Scan Input Signal 1
8	IN	KEY-2	Key Scan Input Signal 2
9	IN	LD-SW	Deck Mode Position Detector Signal
10	IN	ST-S	Tape Start Position Detector Signal
11	OUT	FAN-CONT1	Fan Motor Control Signal
12	-	NU	Not Used
13	OUT	D-V- SYNC	Dummy V-sync Output
14	IN	REMOCON -IN	Remote Control Sensor
15	OUT	C-ROTA	Color Phase Rotary Changeover SIgnal
16	OUT	H-A-SW	Video Head Amp Switching Pulse
17	IN	H-A-COMP	Head Amp Comparator Signal
18	OUT	RF-SW	Video Head Switching Pulse
19	OUT	Hi-Fi-H-SW	HiFi Audio Head Switching Pulse
20	-	NU	Not Used
21	-	NU	Not Used
22	OUT	VIDEO-SW1	Video Input Select Signal
23	OUT	VIDEO-SW2	Video Input Select Signal
24	OUT	VIDEO-SW3	Video Input Select Signal
25	OUT	REG-CONT2	Power Regulator Control Signal
26	-	NU	Not Used
27	OUT	RGB-THROUGH	SCART 2 RGB Through Control Signal
28	OUT	AUDIO-MUTE-2	Audio Mute Control Signal
29	OUT	DVD-AUDIO-MUTE	DVD Audio Mute Control Signal
30	-	NU	Not Used
31	IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab="L"/ With out Record tab="H")
32	IN	P-DOWN -H	Power Voltage Down Detector Signal
33	OUT	D-REC-H	Delayed Record Signal
34	IN	RESET	System Reset Signal (Reset="L")
35	IN	Xcin	Sub Clock
36	OUT	Xcout	Sub Clock
37	-	Vcc	Vcc
38	IN	Xin	Main Clock Input
39	OUT	Xout	Main Clock Input
40	-	GND	Vss(GND)
41	-	NU	Not Used
42	OUT	REGULATOR -CONTROL	Power Regulator Control Signal
43	IN	CLKSEL	Clock Select (GND)
44	IN	OSCin	Clock Input for letter size
45	OUT	OSCout	Clock Output for letter size
46	-	NUB	Not Used
47	IN	LP	LP
48	IN	FSC-IN [4.43MHz]	4.43MHz Clock Input
49	-	OSDVss	OSDVss
50	IN	OSD-V-IN	OSD Video Signal Input
51	-	NU	Not Used
52	OUT	OSD-V-OUT	OSD Video Signal Output
53	-	OSDVcc	OSDVcc
54	-	HLF	LPF Connected Terminal (Slicer)
55	IN	COLOR-IN	SECAM or MESECAM Chroma Video Input Signal at Super Impose
56	IN	DAVN-L	VPS/PDC Data Receive = "L"
57	-	NU	Not Used
58	IN	C-SYNC	Composite Synchronized Pulse
59	OUT	8POUT-1	Control SCART 1 8Pin Level by using 8POUT-1 and 8POUT-2

Pin No.	IN/ OUT	Signal Name	Function
60	OUT	8POUT-2	Control SCART 1 8Pin Level by using 8POUT-1 and 8POUT-2
61	-	NU	Not Used
62	-	NU	Not Used
63	OUT	SYSTEM-RESET	System Reset Signal
64	IN	READY/ BUSY	Ready/Busy communication Control with Main Micro Controller
65	OUT	S-DATA-OUT	Communication of Data from VCR Micro Controller
66	IN	S-DATA-IN	Communication of Data to VCR Micro Controller
67	OUT	S-CLOCK	Communication of Clock with VCR Micro Controller
68	OUT	DRV-DATA	VFD Driver IC Control Data
69	OUT	DRV-STB	VFD Driver IC Chip Select Signal
70	OUT	DRV-CLK	VFD Driver IC Control Clock
71	OUT	IIC-BUS-SCL	IIC BUS Control Clock
72	IN/ OUT	IIC-BUS-SDA	IIC BUS Control Data
73	-	NU	Not Used
74	-	NU	Not Used
75	OUT	P-ON-H	Power On Signal to High
76	OUT	C-CONT	Capstan Motor Control Signal
77	OUT	D-CONT	Drum Motor Control Signal
78	OUT	C-F/R	Capstan Motor FWD/REV Control Signal (FWD="L"/ REV="H")
79	IN	S-REEL	Supply Reel Rotation Signal
80	IN	T-REEL	Take Up Reel Rotation Signal
81	OUT	LM-FWD/ REV	Loading Motor Control Signal
82	OUT	OUTPUT-SELECT	Output Select
83	OUT	VCR-AUDIO-MUTE	Audio Mute Control Signal (Mute = "H")
84	OUT	C-POW-SW	Capstan Power Switching Signal
85	IN	VCR POW-SAFETY	VCR Power Supply Safety Signal
86	IN	A-MODE	Hi-Fi Tape Detection Signal
87	IN	C-FG	Capstan Motor Rotation Detection Pulse
88	-	AMPVss	AMPVss
89	-	NU	Not Used
90	IN	D-PFG	Drum Motor Phase/ Frequency Generator
91	-	AMPVREF out	V-Ref for CTL AMP
92	-	AMPVREF in	V-Ref for CTL AMP
93	-	P80/C	P80/C Terminal
94	IN/ OUT	CTL (-)	Playback/Record Control Signal (-)
95	IN/ OUT	CTL (+)	Playback/Record Control Signal (+)
96	-	AMPC	CTL AMP Connected Terminal
97	-	CTL	To Monitor for CTL AMP Output
98	-	AMPVcc	AMPVcc
99	-	AVcc	A/D Converter Power Input/ Standard Voltage Input
100	IN	AGC	IF AGC Comparator Signal

Notes:

Abbreviation for Active Level:

PWM -----Pulse Wide Modulation

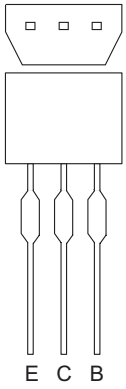
A/D--------Analog - Digital Converter

5.5.1.2 IC612 (FIP DRIVER)

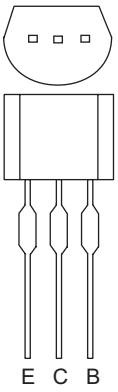
Pin No.	IN/ OUT	Signal Name	Name Function
1	OUT	POWER-LED (NU)	Power LED Signal Output
2	OUT	VCR-LED	VCR Mode LED Signal Output
3	OUT	DVD-LED	DVD Mode LED Signal Output
4	-	NU	Not Used
5	IN	OSC	Oscillator Input
6	-	NU	Not Used
7	IN	DIN	Serial Data Input
8	IN	CLK	Clock Input
9	IN	STB	Serial Interface Strobe
10	-	NU	Not Used
11	-	NU	Not Used
12	-	VSS	GND
13	-	VDD	Power Supply
14	-	NU	Not Used
15	-	NU	Not Used
16	-	NU	Not Used
17	-	NU	Not Used
18	-	NU	Not Used
19	-	NU	Not Used
20	OUT	c	Segment Output
21		b	
22		a	
23		d	
24		e	
25		f	
26		i	
27		h	
28		g	
29	-	NU	Not Used
30	-	VEE	Pull Down Level
31	-	NU	Not Used
32	-	NU	Not Used
33	-	NU	Not Used
34	-	NU	Not Used
35	-	NU	Not Used

Pin No.	IN/ OUT	Signal Name	Name Function
36	OUT	7G	Grid Output
37		6G	
38		5G	
39		4G	
40		3G	
41		2G	
42		1G	
43	-	V DD	Power Supply
44	-	VS S	GND

5.6 LEAD IDENTIFICATIONS

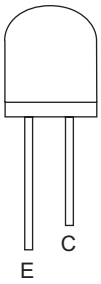


KRA103M-AT/P
KRC103M-AT/P
KTA-1266-GR-AT/P
KTA1267Y-AT/P
KTC3199-(BL,Y)-AT/P
KTC3193-Y-AT/P
KRA104M-AT/P
KTA1273-Y-AT/P

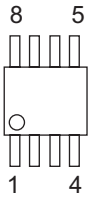


2SC1815-Y(TE2 F T)
KTC3203-Y-AT/P
KTC3205-Y-AT/P
KTA1281Y-AT/P
KTC3198-Y-AT/P

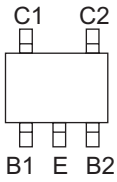
PT204-6B-12



KIA4558P/P
RC4580IP

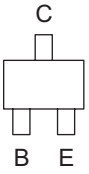


RN1511(TE85R.F)



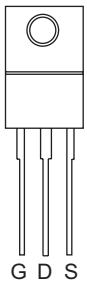
EL817A

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



KRC103S-RTK/P
KTC3875S-(GR,Y)-RTK/P
KTA1504S-(GR,Y)-RTK/P
KTC3879Y-RTK

2SK3566



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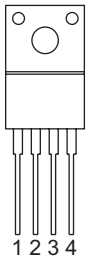
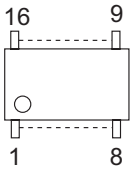
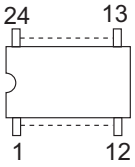


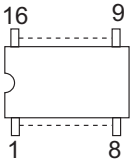
MM1637XVBE



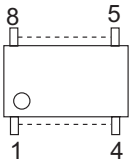
LC74793JM-TRM
MM1697AJBE



TC4053BF(EL N F)
CD4052BPWR



MM1636XWRE



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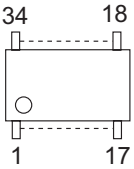
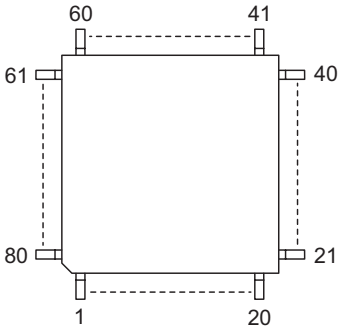


LA72648M-MPB-E



MSP3417G-QG-B8-V3
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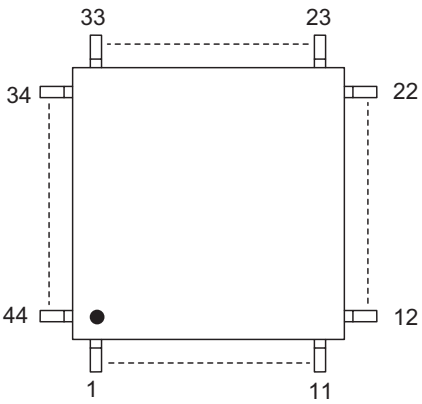
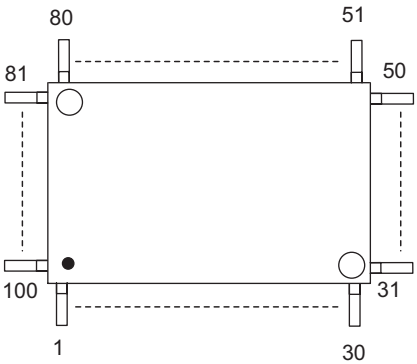


M3776AMCH-AD4GP
LA71750EM-MPB-E



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

JVC

Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY DIGITAL VIDEO STORAGE CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YD087)

Printed in Japan
VPT

JVC

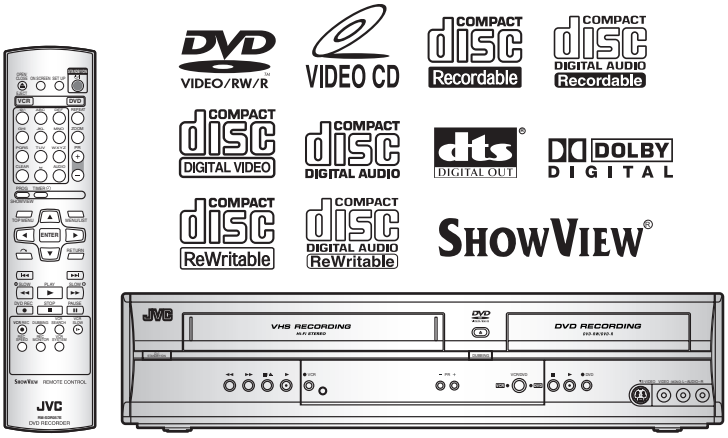
SCHEMATIC DIAGRAMS

DVD VIDEO RECORDER & VIDEO CASSETTE RECORDER

DR-MV2SEL, DR-MV2SEU, DR-MV2SEY, DR-MV2SEZ

CD-ROM No.SML200511

Area Suffix	
EL	---------- South Europe
EU	-------- Western Europe
EY	-------- Northern Europe
EZ	--------- Eastern Europe



DR-MV2SEL, DR-MV2SEU, DR-MV2SEY, DR-MV2SEZ [D5RV02]

Since the whole DVD mechanism assembly unit is replaced, the DVD recorder mechanism of this unit need not be adjusted.

No.YD087SCH
2005/11

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 uF ($P=10^{-6}$ uF).
5. All voltages are DC voltages unless otherwise specified.
6. Electrical parts such as capacitors, connectors, diodes, IC's, transistors, resistors, switches, and fuses are identified by four digits. The first two digits are not shown for each component. In each block of the diagram, there is a note such as shown below to indicate these abbreviated two digits.

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

1. CAUTION:

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

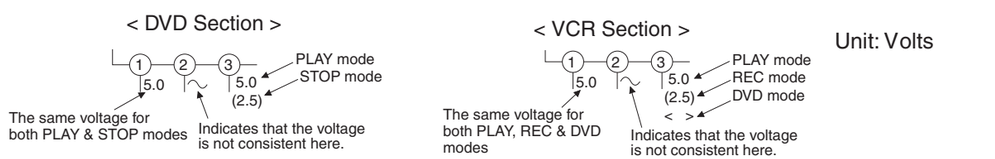
2. CAUTION:

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

3. Note:

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

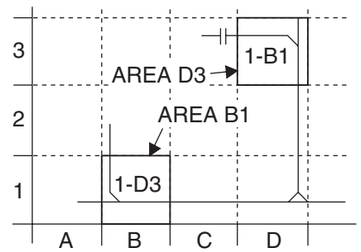
4. Voltage indications for PLAY and REC mode on the schematics are as shown below:



5. How to read converged lines

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

Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "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.

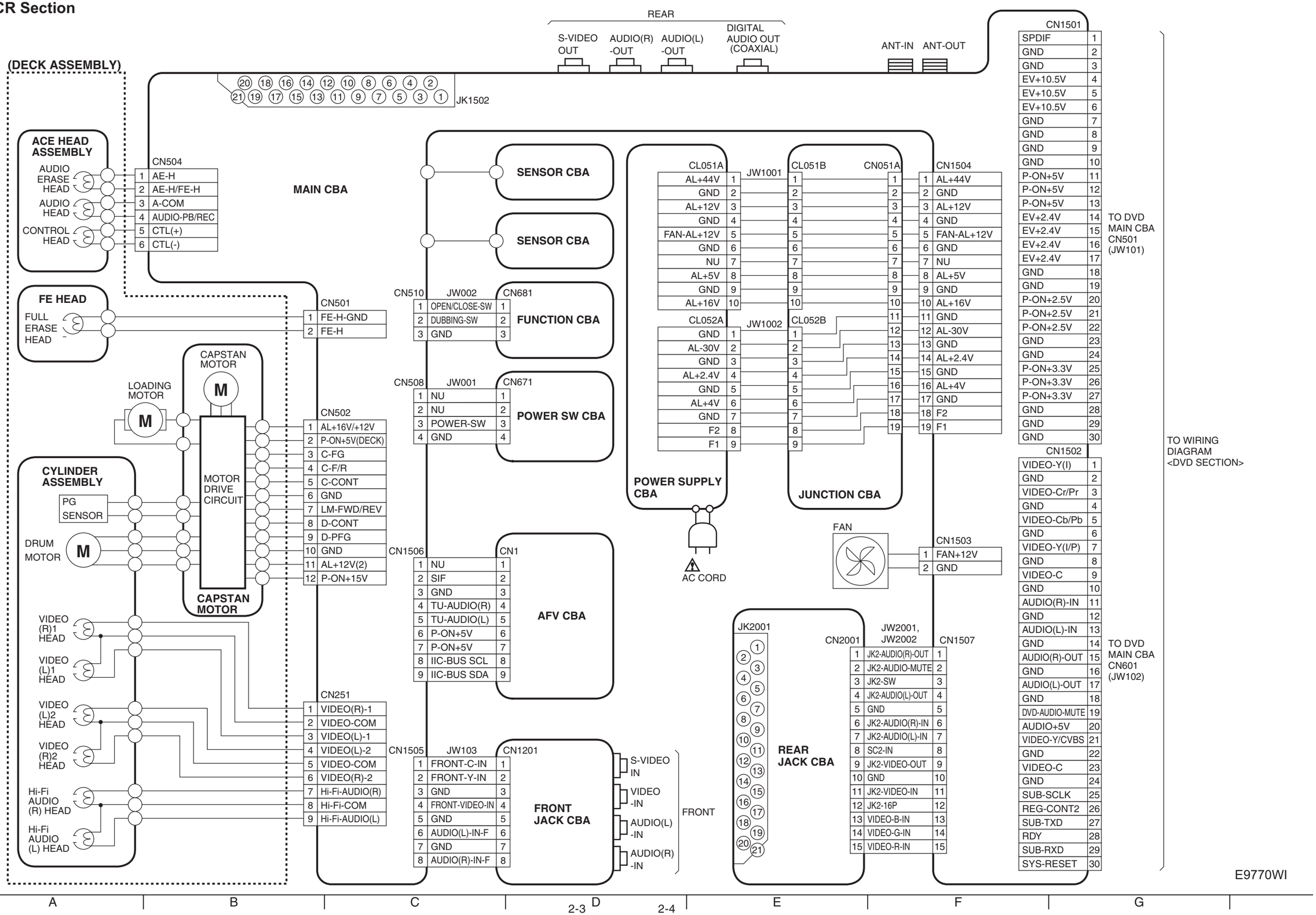
: Used to indicate a test point with a component lead on foil side.

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

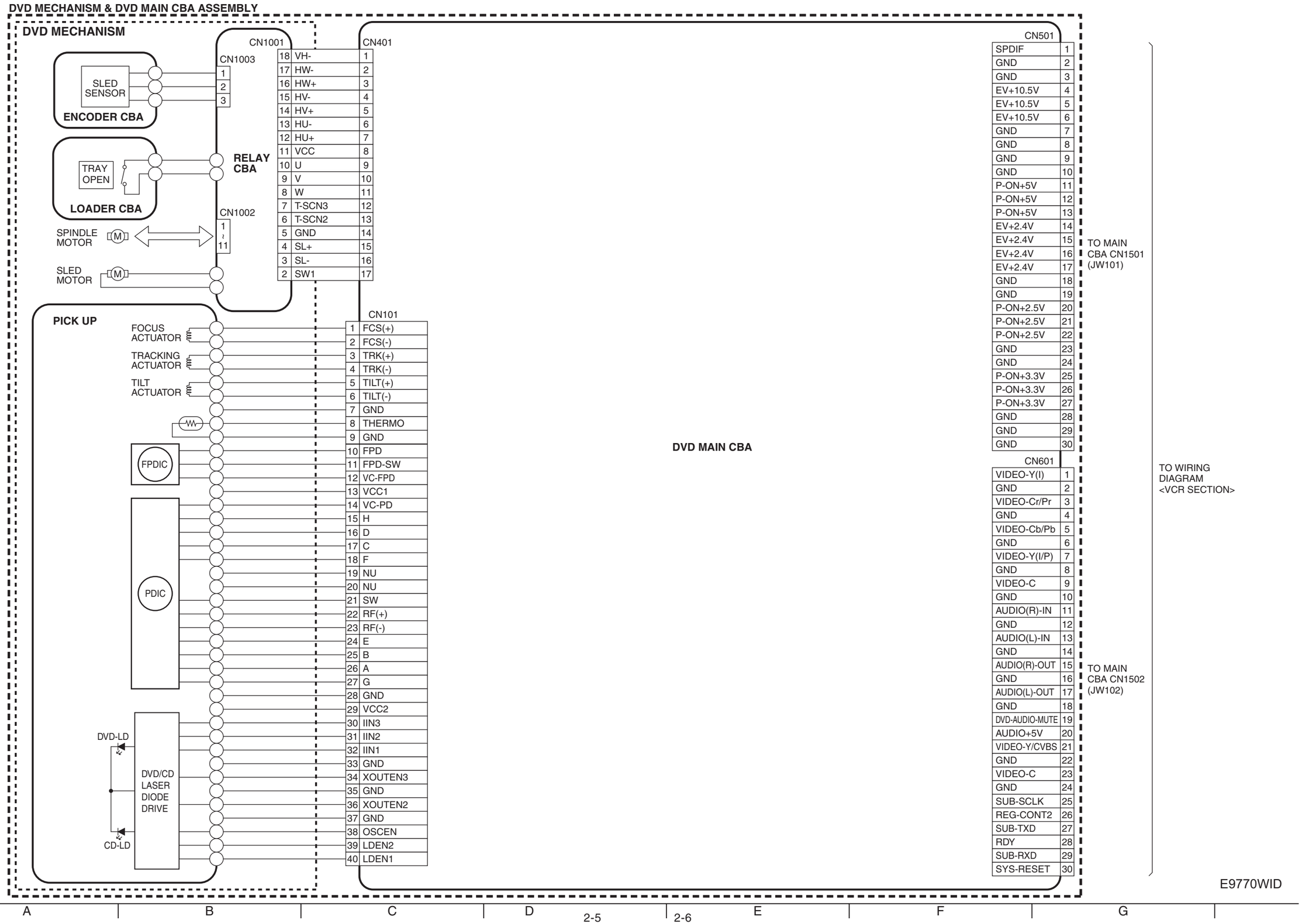
: Used to indicate a test point with a test pin.

Wiring diagrams

■ VCR Section



■ DVD Section



CN1001		CN401
18	VH-	1
17	HW-	2
16	HW+	3
15	HV-	4
14	HV+	5
13	HU-	6
12	HU+	7
11	VCC	8
10	U	9
9	V	10
8	W	11
7	T-SCN3	12
6	T-SCN2	13
5	GND	14
4	SL+	15
3	SL-	16
2	SW1	17

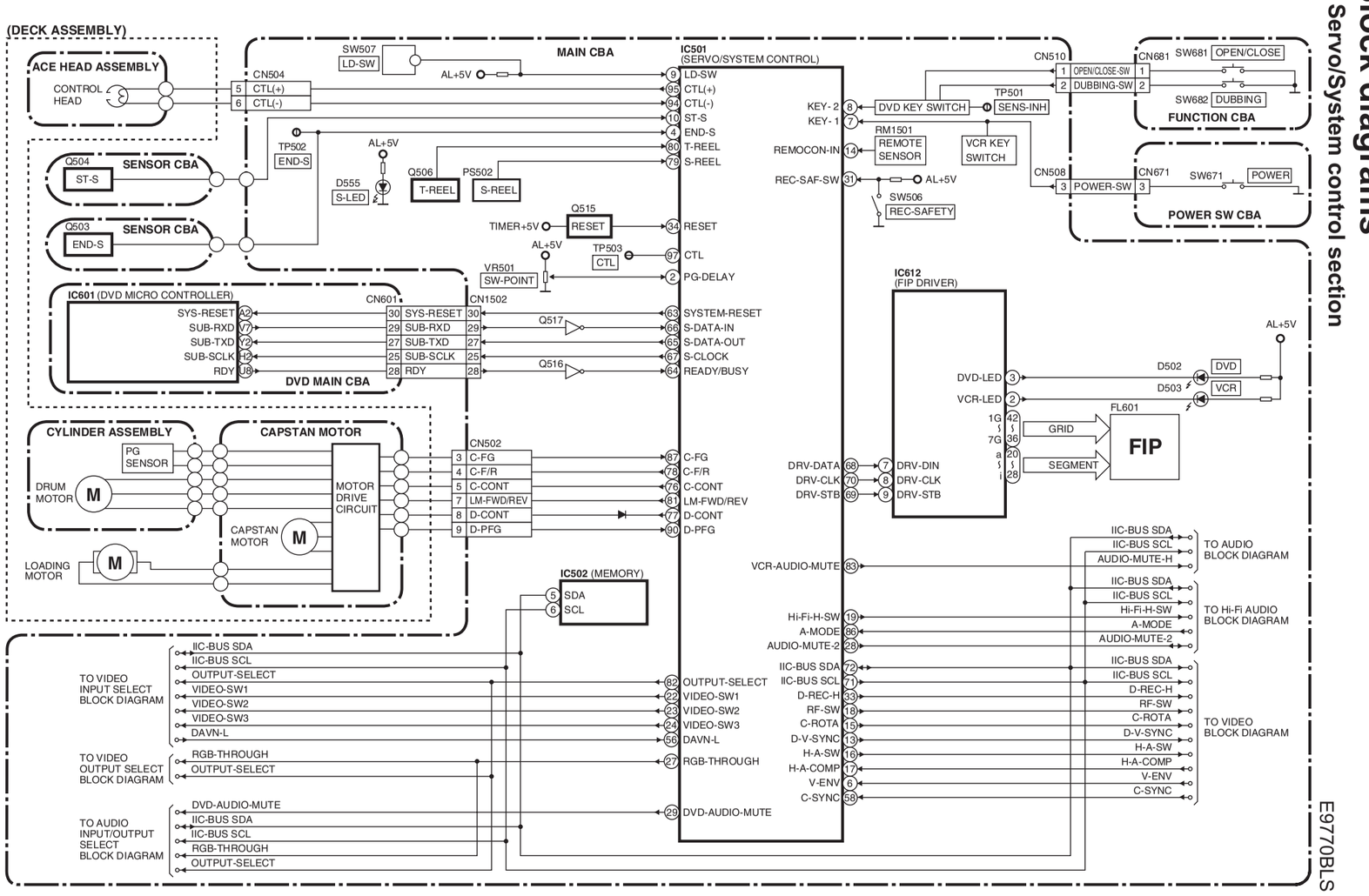
CN101	
1	FCS(+)
2	FCS(-)
3	TRK(+)
4	TRK(-)
5	TILT(+)
6	TILT(-)
7	GND
8	THERMO
9	GND
10	FPD
11	FPD-SW
12	VC-FPD
13	VCC1
14	VC-PD
15	H
16	D
17	C
18	F
19	NU
20	NU
21	SW
22	RF(+)
23	RF(-)
24	E
25	B
26	A
27	G
28	GND
29	VCC2
30	IIN3
31	IIN2
32	IIN1
33	GND
34	XOUTEN3
35	GND
36	XOUTEN2
37	GND
38	OSCEN
39	LDEN2
40	LDEN1

CN501	
SPDIF	1
GND	2
GND	3
EV+10.5V	4
EV+10.5V	5
EV+10.5V	6
GND	7
GND	8
GND	9
GND	10
P-ON+5V	11
P-ON+5V	12
P-ON+5V	13
EV+2.4V	14
EV+2.4V	15
EV+2.4V	16
EV+2.4V	17
GND	18
GND	19
P-ON+2.5V	20
P-ON+2.5V	21
P-ON+2.5V	22
GND	23
GND	24
P-ON+3.3V	25
P-ON+3.3V	26
P-ON+3.3V	27
GND	28
GND	29
GND	30

CN601	
VIDEO-Y(I)	1
GND	2
VIDEO-Cr/Pr	3
GND	4
VIDEO-Cb/Pb	5
GND	6
VIDEO-Y(I/P)	7
GND	8
VIDEO-C	9
GND	10
AUDIO(R)-IN	11
GND	12
AUDIO(L)-IN	13
GND	14
AUDIO(R)-OUT	15
GND	16
AUDIO(L)-OUT	17
GND	18
DVD-AUDIO-MUTE	19
AUDIO+5V	20
VIDEO-Y/CVBS	21
GND	22
VIDEO-C	23
GND	24
SUB-SCLK	25
REG-CONT2	26
SUB-TXD	27
RDY	28
SUB-RXD	29
SYS-RESET	30

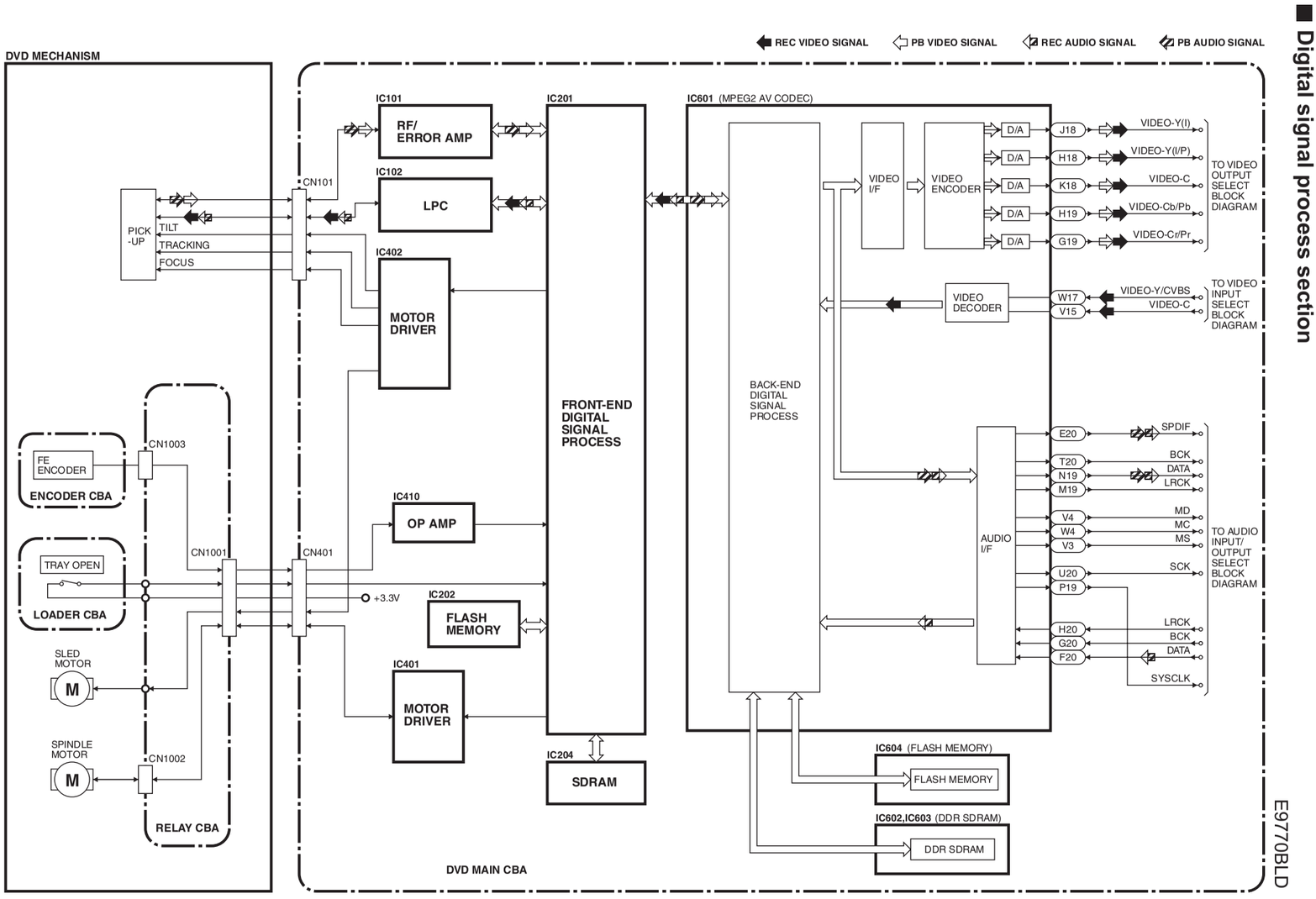
Block diagrams

■ Servo/System control section



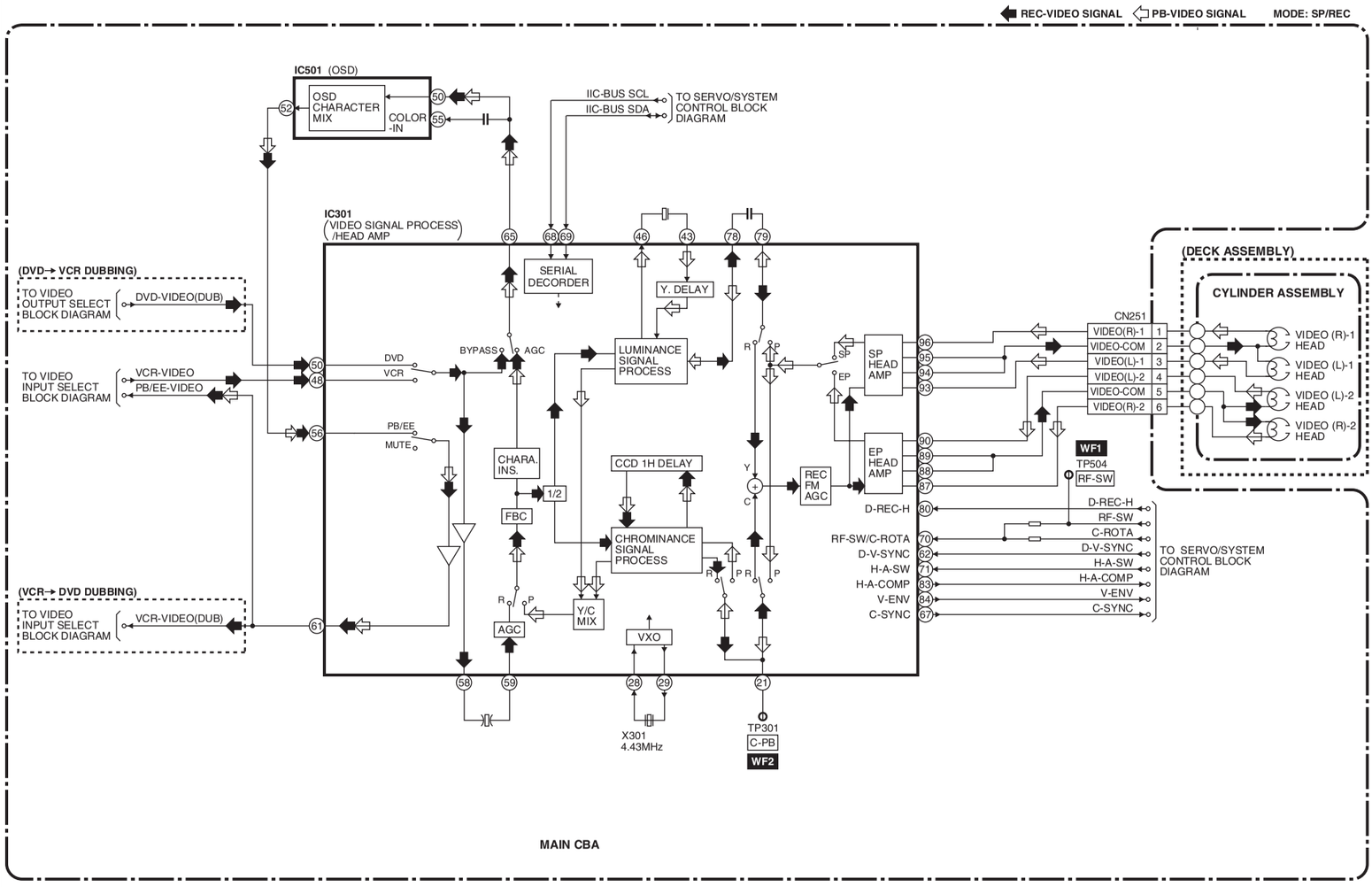
E9770BLS

■ Digital signal process section



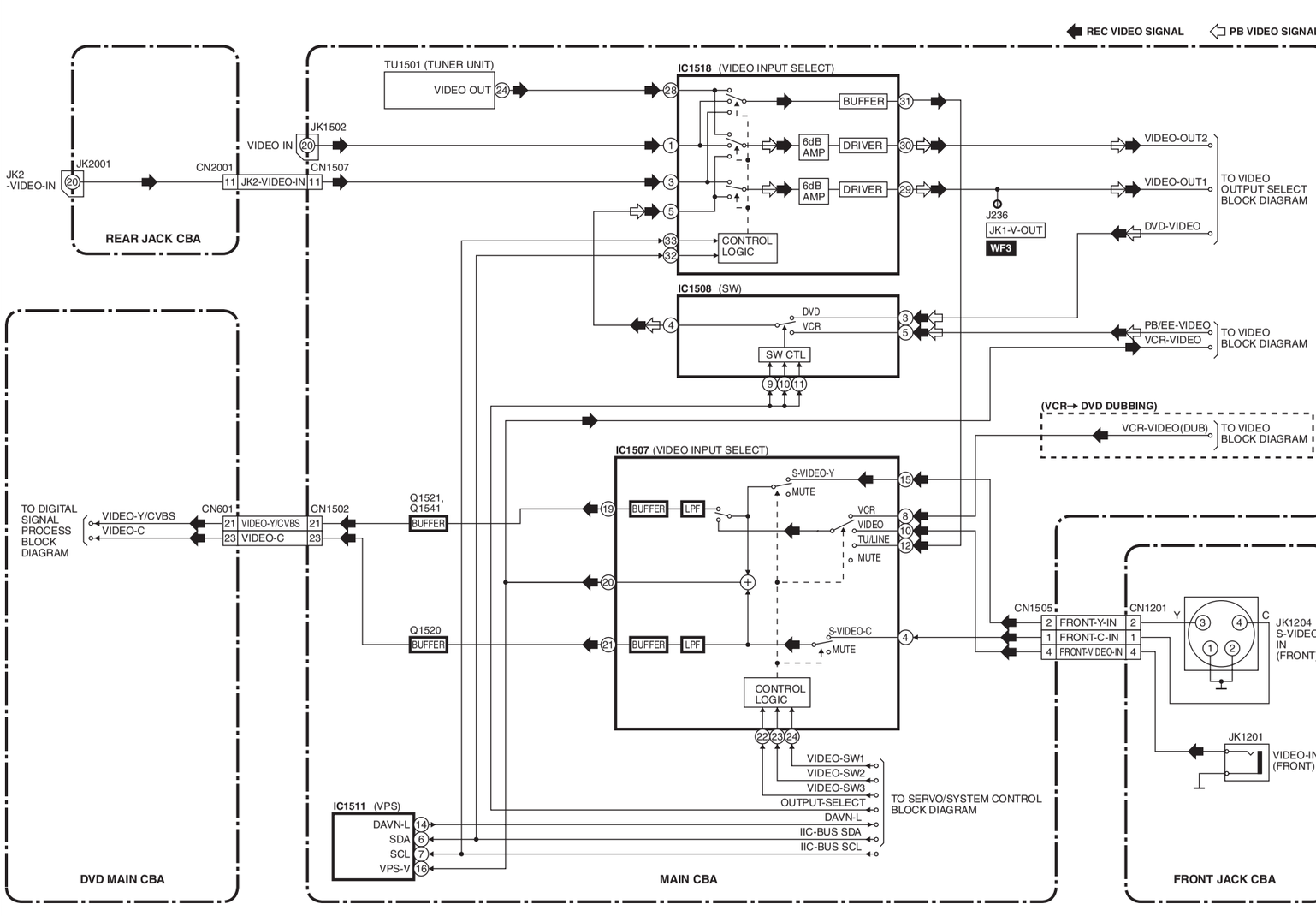
E9770BLD

■ Video section



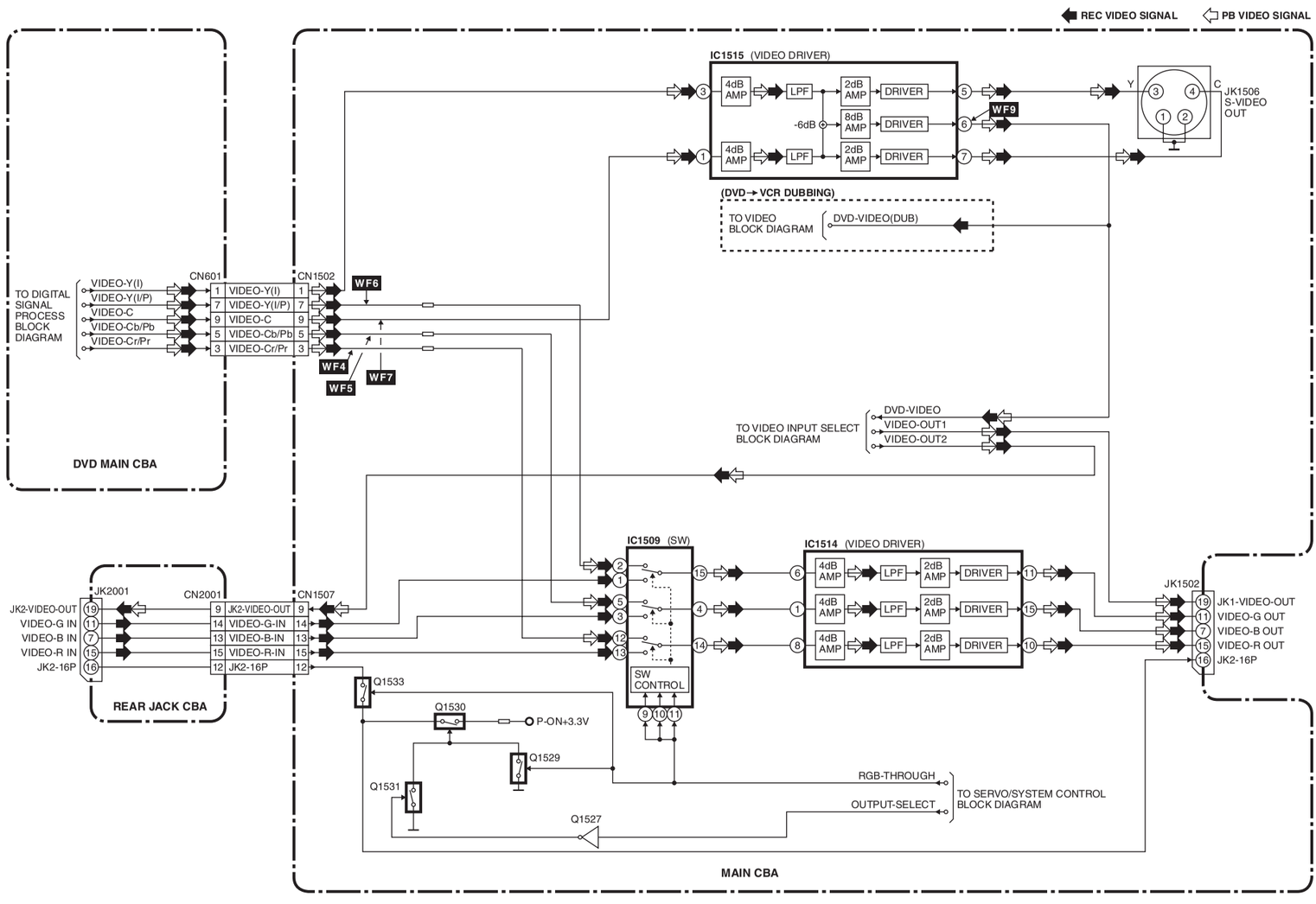
E9770BLV

■ Video input select section



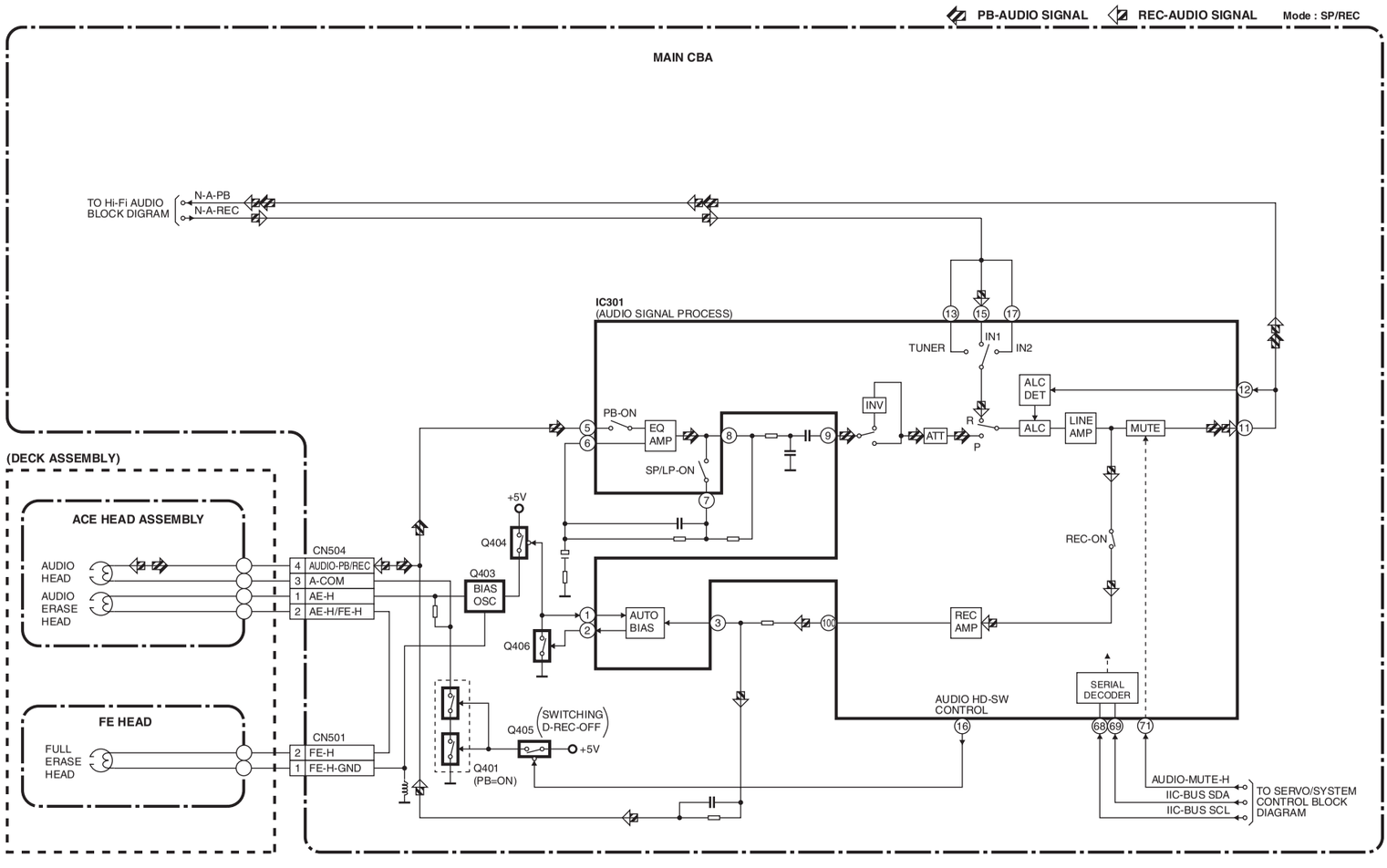
E9770BLVIS

■ Video output select section



E9770BLVOS

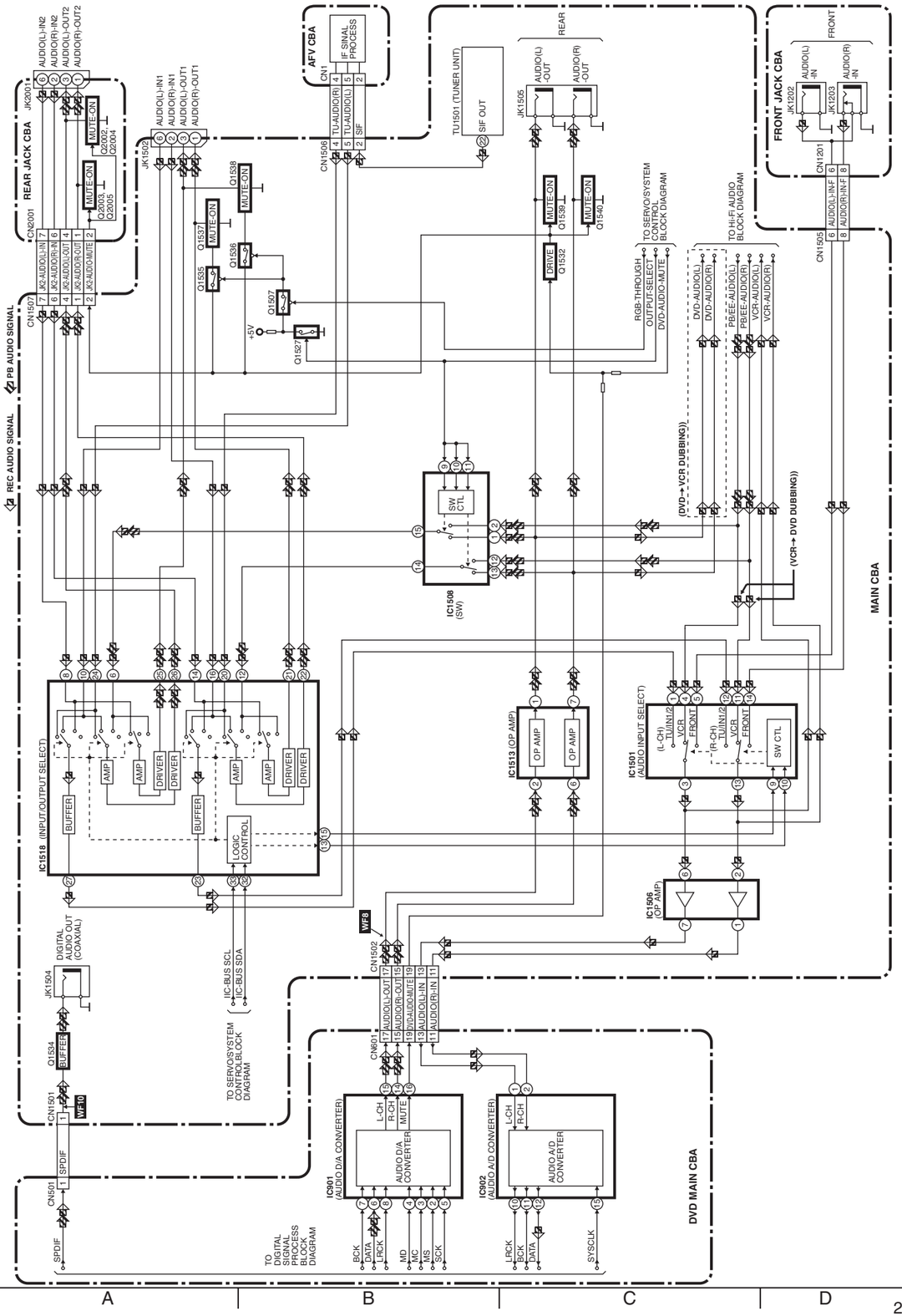
■ Audio section



E9770BLA

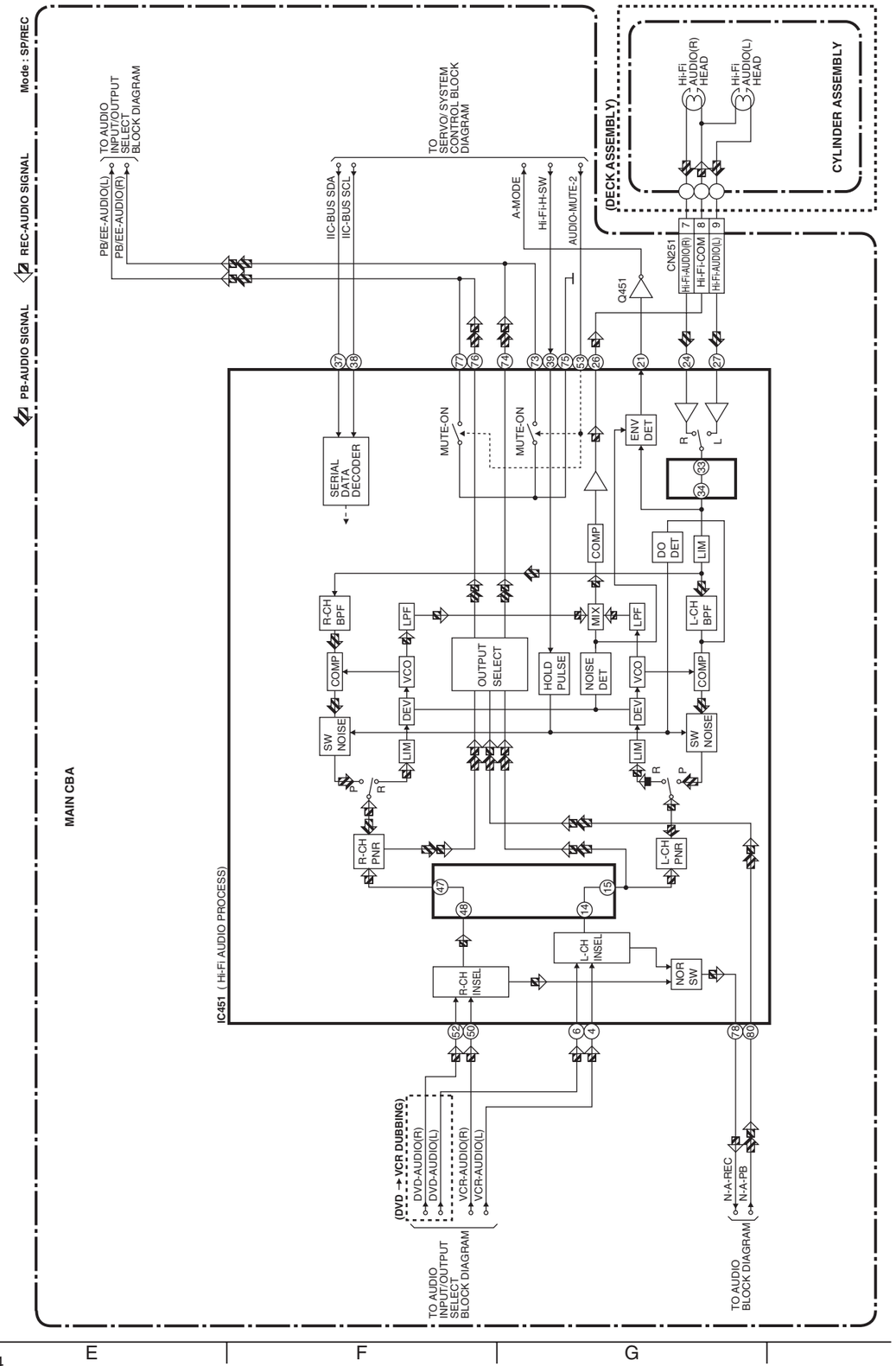
■ Audio input/output select section

E9770BLAS



■ Hi-Fi Audio section

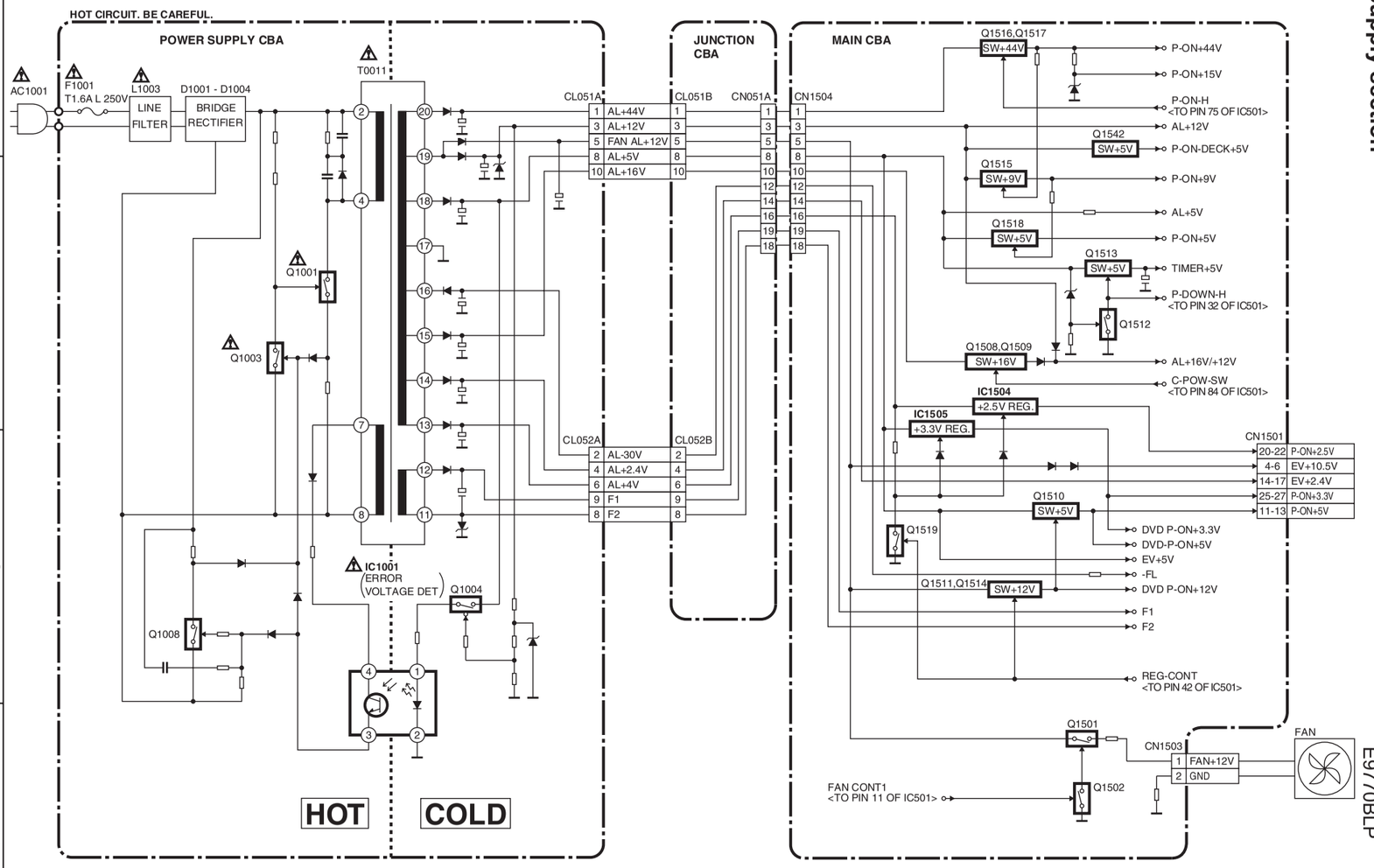
E9770BLH



CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.

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

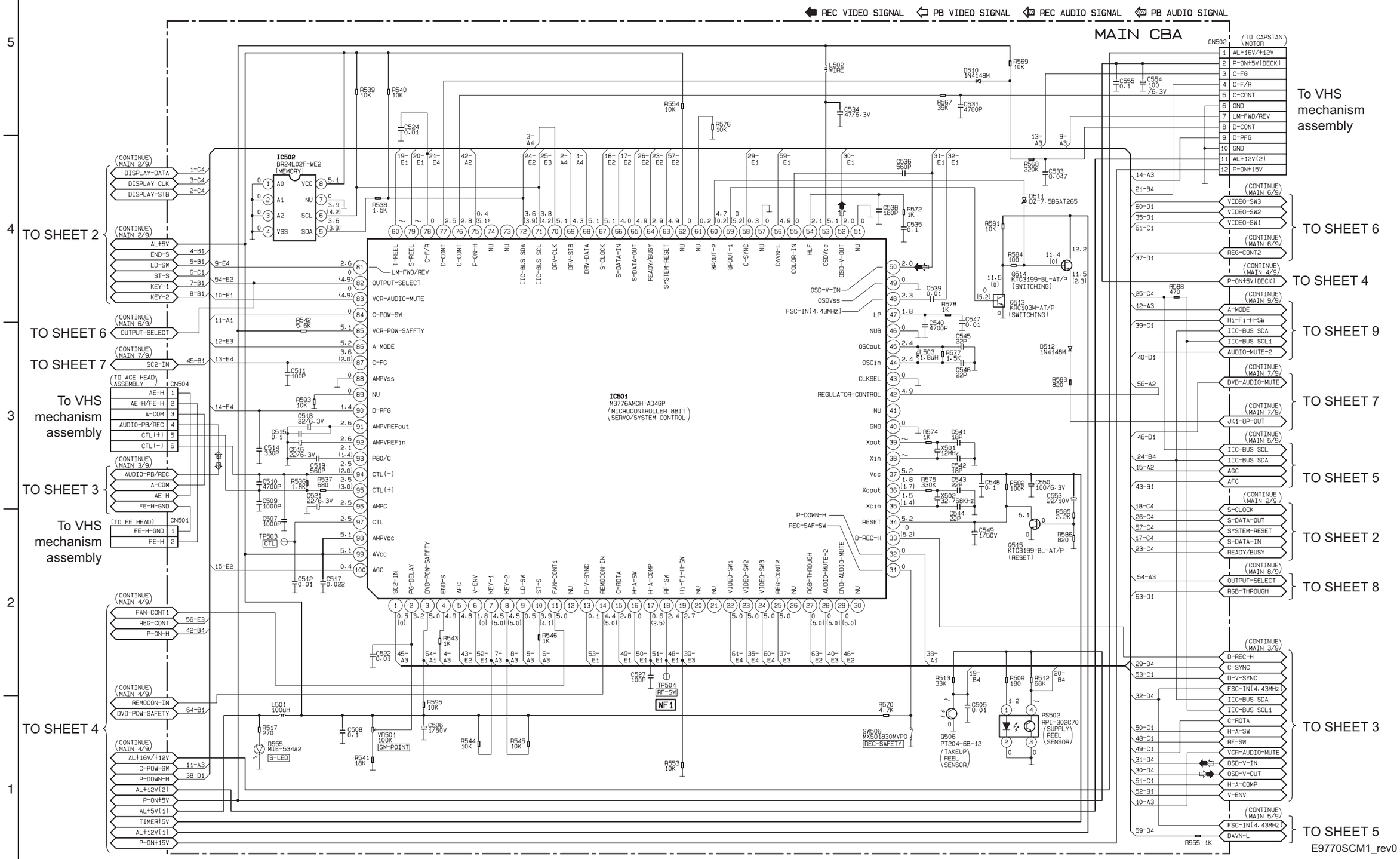
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in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



E9770BLP

Standard schematic diagrams

■ Main 1/9 section <VCR Section>



■ Main 2/9, Power SW, Function & Sensor section <VCR Section>

FL601 MATRIX CHART

	7G	6G	5G	4G	3G	2G	1G
a	▶	a	a	a	a	a	XP
b	❚❚	b	b	b	b	b	SP
c	⏻	c	c	c	c	c	LP
d	∞	d	d	d	d	d	EP
e	REC	e	e	e	e	e	SLP
f	PM	f	f	f	f	f	SEP
g	g	g	g	g	g	g	P.SCAN
h	h	⋮	T	⋮	➡	C	W
i	REPEAT	CD	VCD	VCR	⬅	DVD	R

MAIN CBA

TO SHEET 1

(CONTINUE MAIN 1/9)
S-CLOCK
S-DATA-OUT
SYSTEM-RESET
S-DATA-IN
READY/BUSY

TO SHEET 4

(CONTINUE MAIN 4/9)
F1
F2
-FL

(CONTINUE MAIN 4/9)
EV+5V

FL601 7-BT-301NS (FIP)

R651 2.7K
R652 4.7K
R653 2.7K
R654 4.7K
R655 2.7K
R656 4.7K

C560 0.1
R645 3.3K
R646 3.3K
R643 100
R644 100
Q517 KTC3875S-GR-RTK/P (INVERTER)
Q516 KTC3875S-GR-RTK/P (INVERTER)
R650 1K
R649 560
R648 1K
R647 560

(CONTINUE MAIN 6/9)
SUB-TXD
SUB-RXD
SUB-SCLK
SYS-RESET
RDY

TO SHEET 6

(CONTINUE MAIN 4/9)
AL+5V(1)

TO SHEET 4

C614 22/50V

IC612
PT6315(L)
(FIP DRIVER)

R617 WIRE
C614 0.1
C615 100/6.3V
C612 4700P

TP502 (END-S)
C502 0.022
Q503 PT204-6B-12 (END-S)
Q504 PT204-6B-12 (ST-S)

SENSOR CBA

R526 390K
R525 390K

R597 220
R598 220
D502 204-10GD/S957 (DVD)
D503 204-10GD/S957 (VCR)

R511 3.6K
R514 10K
R516 470
R519 22K
R523 1.5K
SW507 SSS-53MD (LD-SW)
R528 4.7K

(CONTINUE MAIN 1/9)
AL+5V
END-S
LD-SW
ST-S
KEY-1
KEY-2

TO SHEET 1

R601 1.8K
R602 1K
R603 1.2K
R604 1.5K
R605 2.2K
R606 3.9K
R607 8.2K
R608 22K
SW601 STOP
SW603 PLAY
SW605 REC/OTR
TP501 SENS-INH

CN510
1 OPEN/CLOSE-SW
2 DUBBING-SW
3 GND

CN681
SW681 OPEN/CLOSE
SW682 DUBBING

FUNCTION CBA

R632 22K
R631 8.2K
R630 3.9K
R629 2.2K
R628 1.5K
R627 1.2K
R626 1K
R625 1.8K
SW528 CH-DOWN
SW527 CH-UP
SW526 OUTPUT-SELECT
SW525 REC/OTR
SW524 FF
SW523 REW
SW522 PLAY
SW521 STOP/EJECT

CN508
1 NU
2 NU
3 POWER-SW
4 GND

CN671
SW671 POWER

POWER SW CBA

TO SHEET 1

(CONTINUE MAIN 1/9)
DISPLAY-DATA
DISPLAY-CLK
DISPLAY-STB

R623 0
R622 0
R621 0
R624 10K
C616 1000P
R618 100K

UNLESS OTHERWISE SPECIFIED:
SWITCHES ARE KSM0614B.

E9770SCM2_rev0

SHEET 2

■ Main 3/9 section <VCR Section>

REC VIDEO SIGNAL | PB VIDEO SIGNAL | REC AUDIO SIGNAL | PB AUDIO SIGNAL

TO SHEET 4 (CONTINUE MAIN 4/9): AL+5V(1), P-ON+5V

To VHS mechanism assembly (TO CYLINDER ASSEMBLY) CN251: VIDEO(R)-1, VIDEO-COM, VIDEO(L)-1, VIDEO(L)-2, VIDEO-COM, VIDEO(R)-2, Hi-Fi-AUDIO(R), Hi-Fi-COM, Hi-Fi-AUDIO(L)

TO SHEET 9 (CONTINUE MAIN 9/9): Hi-Fi-AUDIO(L), Hi-Fi-COM, Hi-Fi-AUDIO(R)

TO SHEET 1 (CONTINUE MAIN 1/9): D-REC-H, C-SYNC, D-V-SYNC, FSC-IN(4.43MHz), IIC-BUS SDA, IIC-BUS SCL1, C-ROTA, H-A-SW, RF-SW, VCR-AUDIO-MUTE, OSD-V-IN, OSD-V-OUT, H-A-COMP, V-ENV

TO SHEET 1 (CONTINUE MAIN 1/9): AUDIO-PB/REC, A-COM, AE-H, FE-H-GND

TO SHEET 8 (CONTINUE MAIN 8/9): DVD-VIDEO(DUB)

TO SHEET 6 (CONTINUE MAIN 6/9): PB/EE-VIDEO, VCR-VIDEO

TO SHEET 9 (CONTINUE MAIN 9/9): N-A-PB, N-A-REC

IC301 LA71750EM-MPB-E (VIDEO/AUDIO SIGNAL PROCESS /HEAD AMP)

Q302 KTC3199-Y-AT/P (BUFFER)

Q403 KTC3203 -Y-AT/P (BIAS OSC)

Q404 KTA-1266 -GR-AT/P (SWITCHING)

Q405 KRA103M-AT/P (SWITCHING)

Q406 KTC3875S-Y-RTK/P (SWITCHING)

Q401 RN1511 (SWITCHING PB-ON)

D301 1N414BM

X301 4.433619MHz

TP301 C-PB WF2

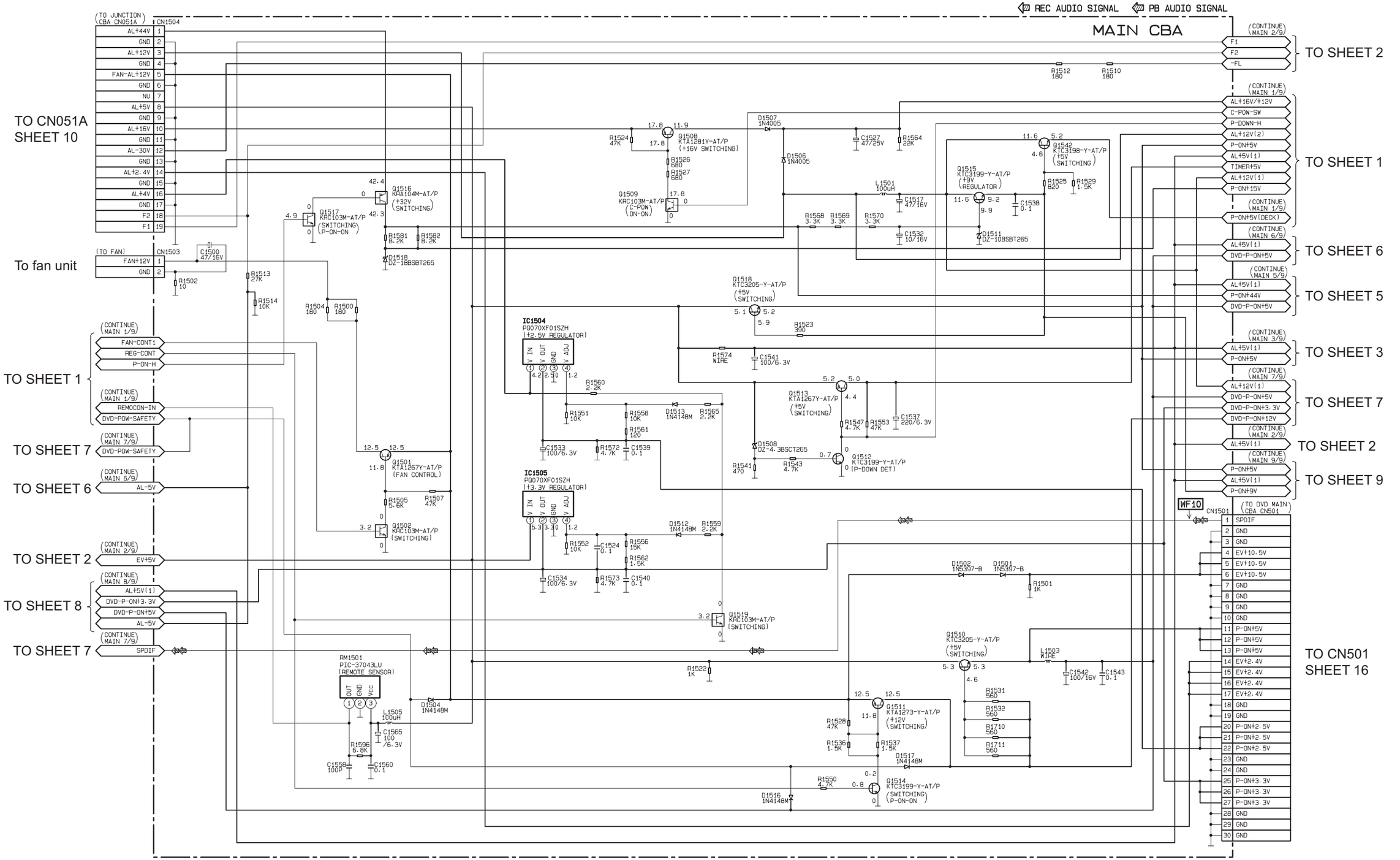
LUMINANCE SIGNAL PROCESS | CCD 1H DELAY | CHARA. INS. | Y/C MIX | CHROMINANCE SIGNAL PROCESS | CCD 1H DELAY | EP HEAD AMP | SP HEAD AMP | REC FM AGC | REC AMP | AUTO BIAS | EQ AMP | LPF | LINE AMP | ALC | ALC DET | MUTE | SECAM DET PAL M DET | P/S AFC FILTER | VCA DET | FBC DET | PB-H OUT | 2FSC OUT | DVD PB (DVD→ VCR DUBBING)

MAIN CBA

E9770SCM3_rev0

SHEET 3

■ Main 4/9 section <VCR Section>



E9770SCM4_rev0

SHEET 4

■ Main 5/9 section <VCR Section>

REC VIDEO SIGNAL PB VIDEO SIGNAL REC AUDIO SIGNAL PB AUDIO SIGNAL

MAIN CBA

(CONTINUE MAIN 4/9)
AL+5V(1)
P-ON+44V
DVD-P-ON+5V
TO SHEET 4

(CONTINUE MAIN 1/9)
FSC-IN(4.43MHz)
DAVN-L
TO SHEET 1

(CONTINUE MAIN 7/9)
IIC-BUS SDA
IIC-BUS SCL
TO SHEET 7

(CONTINUE MAIN 1/9)
IIC-BUS SCL
IIC-BUS SDA
AGC
AFC
TO SHEET 1

(CONTINUE MAIN 7/9)
TU-AUDIO(R)
TU-AUDIO(L)
TU-VIDEO
TO SHEET 7

(CONTINUE MAIN 6/9)
SYNC
TO SHEET 6

L1508 WIRE
C1619 0.1
R1676 1.8K
D1534 DZ-33BSDT265
C1630 0.01
L1510 15uH
C1621 39P

IC1511
LC74793JM-TRM
(VPS)

1	VSS1	24	VDD1 (4.9)
2	XIN (2.6)	23	RESET (4.9)
3	XOUT	22	CDLR (3.5)
4	CTRL1 (4.9)	21	CTRL2 (0)
5	NU	20	NU
6	SDA (4.0)	19	SEP-IN (4.9)
7	SCL (4.2)	18	NU
8	NU	17	NU
9	NU	16	SYN-IN (3.1)
10	VSS2 (0)	15	VDD2 (4.9)
11	CP-OUT (0.1)	14	DAV (4.7)
12	VCO-IN (0)	13	VCOR (0.7)

C1574 0.1
R1633 0
R1634 0
R1636 10K
R1632 2.7K
C1575 0.018
C1571 4.7/25V
C1603 1/50V
C1610 0.01
C1611 47/6.3V
R1657 10K
C1604 1/50V
R1662 100
R1652 10K
R1653 5.6K
C1629 0.1
R1666 1K
C1620 0.01

TU1501
TUNER UNIT

1	+B(BST)
2	NU
3	SDA
4	NU
5	SCL
6	NU
7	+32V
8	NU
9	NU
10	NU
11	SCL
12	SDA
13	NU
14	+5V
15	4.43MHz
16	+32V
17	NU
18	AGC OUT
19	NU
20	NU
21	AUDIO OUT
22	SIF OUT
23	AFT OUT
24	VIDEO OUT

R1677 330
R1678 330
R1696 0

CN1506 (TO AFV CBA CN1)

1	NU
2	SIF
3	GND
4	TU-AUDIO(R)
5	TU-AUDIO(L)
6	P-ON+5V
7	P-ON+5V
8	IIC-BUS SCL
9	IIC-BUS SDA

C1626 0.22
C1627 0.22
R1663 330
R1664 330

TO CN1
SHEET 12

E9770SCM5_rev0

SHEET 5

■ Main 6/9 & Front jack section <VCR Section>

REC VIDEO SIGNAL PB VIDEO SIGNAL REC AUDIO SIGNAL PB AUDIO SIGNAL

MAIN CBA

TO SHEET 1 — (CONTINUE MAIN 1/9) VIDEO-SW3, VIDEO-SW2, VIDEO-SW1

TO SHEET 5 — (CONTINUE MAIN 5/9) SYNC

TO SHEET 7 — (CONTINUE MAIN 7/9) PORT1, PORT2

(CONTINUE MAIN 7/9) P-ON+10V

TO SHEET 9 — (CONTINUE MAIN 9/9) PB/EE-AUDIO(L), PB/EE-AUDIO(R), VCR-AUDIO(L), VCR-AUDIO(R)

TO SHEET 3 — (CONTINUE MAIN 3/9) PB/EE-VIDEO, VCR-VIDEO

TO SHEET 1 — (CONTINUE MAIN 1/9) OUTPUT-SELECT

TO SHEET 7 — (CONTINUE MAIN 7/9) AUDIO(R)-OUT1, AUDIO(L)-OUT1

TO SHEET 7 — (CONTINUE MAIN 7/9) AUDIO(R)-OUT, AUDIO(L)-OUT

TO SHEET 4 — (CONTINUE MAIN 4/9) AL+5V(I), DVD-P-ON+5V

(CONTINUE MAIN 4/9) AL-5V

TO SHEET 7 — (CONTINUE MAIN 7/9) MOD-VIDEO

TO SHEET 8 — (CONTINUE MAIN 8/9) DVD-VIDEO

(CONTINUE MAIN 7/9) AUDIO(R)-IN, AUDIO(L)-IN — TO SHEET 7

(CONTINUE MAIN 7/9) VIDEO-IN, AUDIO+5V, DVD-AUDIO-MUTE, AUDIO(L)-OUT, AUDIO(R)-OUT — TO SHEET 7

(CONTINUE MAIN 8/9) VIDEO-C, VIDEO-Y(I), VIDEO-Y(I/P), VIDEO-Cb/Pb, VIDEO-Cr/Pr — TO SHEET 8

(CONTINUE MAIN 2/9) SUB-TXD, SUB-RXD, SUB-SCLK, SYS-RESET, RDY — TO SHEET 2

(CONTINUE MAIN 1/9) REG-CONT2 — TO SHEET 1

CN1502 (TO DVD MAIN CBA CN601) — TO CN601 SHEET 16

1	VIDEO-Y(I)
2	GND
3	VIDEO-Cr/Pr
4	GND
5	VIDEO-Cb/Pb
6	GND
7	VIDEO-Y(I/P)
8	GND
9	VIDEO-C
10	GND
11	AUDIO(R)-IN
12	GND
13	AUDIO(L)-IN
14	GND
15	AUDIO(R)-OUT
16	GND
17	AUDIO(L)-OUT
18	GND
19	DVD-AUDIO-MUTE
20	AUDIO+5V
21	VIDEO-Y/CVBS
22	GND
23	VIDEO-C
24	GND
25	SUB-SCLK
26	REG-CONT2
27	SUB-TXD
28	RDY
29	SUB-RXD
30	SYS-RESET

WF4, WF5, WF6, WF7, WF8

VCR PB (VCR→ DVD DUBBING)

IC1501 CD4052BPWR (AUDIO INPUT SELECT)

IC1506 RC4580IP (OP AMP)

IC1508 TC4053BF(ELNF) (OUTPUT SELECT)

IC1507 MM1697AJBE (VIDEO INPUT SELECT)

Q1520 KTC3193-Y-AT/P (BUFFER)

Q1541 KTA1267Y-AT/P (BUFFER)

Q1521 KTC3199-Y-AT/P (BUFFER)

JK1204 S-VIDEO IN (FRONT)

JK1201 VIDEO-IN

JK1202 AUDIO(L) -IN

JK1203 AUDIO(R) -IN

FRONT

CN1201 — CN1505

1	FRONT-C-IN	1	
2	FRONT-Y-IN	2	
3	GND	3	
4	FRONT-VIDEO-IN	4	
5	GND	5	
6	AUDIO(L)-IN-F	6	
7	GND	7	
8	AUDIO(R)-IN-F	8	

FRONT JACK CBA

E9770SCM6_rev0

SHEET 6

■ Main 7/9 section <VCR Section>

REC VIDEO SIGNAL | PB VIDEO SIGNAL | REC AUDIO SIGNAL | PB AUDIO SIGNAL

MAIN CBA

TO SHEET 4 (SPDIF)
TO SHEET 4 (AL+12V(1), DVD-P-ON+5V, DVD-P-ON+3.3V, DVD-P-ON+12V)
TO SHEET 6 (P-ON+10V, VIDEO-IN, AUDIO+5V, DVD-AUDIO-MUTE, AUDIO(L)-OUT, AUDIO(R)-OUT)
TO SHEET 4 (DVD-POW-SAFETY)
TO SHEET 6 (MOD-VIDEO)
TO SHEET 1 (JK1-8P-OUT)
TO SHEET 6 (AUDIO(R)-IN, AUDIO(L)-IN)
TO SHEET 1 (DVD-AUDIO-MUTE)
TO SHEET 5 (IIC-BUS SDA, IIC-BUS SCL)
TO SHEET 8 (RGB-THROUGH, OUTPUT-SELECT2)
TO SHEET 9 (DVD-AUDIO(R), DVD-AUDIO(L))
TO SHEET 6 (AUDIO(R)-OUT1, AUDIO(L)-OUT1)
TO SHEET 6 (PORT1, PORT2)
TO SHEET 5 (TU-AUDIO(R), TU-AUDIO(L), TU-VIDEO)

IC1513 KIA4558P/P (OP AMP)
IC1518 MM1443XJBE (INPUT/OUTPUT SELECT)
Q1525 KTC3199-Y-AT/P (+5V REGULATOR)
Q1522 KTC3199-Y-AT/P (+10V REGULATOR)
Q1534 KTC3199-Y-AT/P (BUFFER)
Q1532 KTA-1266-GR-AT/P (DRIVE)
Q1535 KTA1504S-Y-RTK/P (SWITCHING A-MUTE)
Q1537 KTC3199-Y-AT/P (SWITCHING A-MUTE)
Q1538 KTC3199-Y-AT/P (SWITCHING A-MUTE)
Q1536 KTA1504S-Y-RTK/P (SWITCHING A-MUTE)
Q1507 KTA1504S-Y-RTK/P (SWITCHING)
Q1533 KTC3879Y-RTK/P (SWITCHING)
Q1540 KTC3199-Y-AT/P (SWITCHING A-MUTE)
Q1539 KTC3199-Y-AT/P (SWITCHING A-MUTE)

JK1504 DIGITAL AUDIO OUT (COAXIAL)
JK1505 AUDIO(L)-OUT, AUDIO(R)-OUT (REAR)
JK1502
J236 JK1-V-OUT (WF3)
L1515 BEAD

(CONTINUE MAIN 6/9) AUDIO(R)-OUT, AUDIO(L)-OUT → TO SHEET 6
(CONTINUE MAIN 8/9) RGB-SW, VIDEO-B-OUT, VIDEO-G-OUT, VIDEO-R-OUT, VIDEO-R-IN, VIDEO-G-IN, VIDEO-B-IN → TO SHEET 8

CN1507 (TO REAR JACK CBA CN2001)

1	JK2-AUDIO(R)-OUT
2	JK2-AUDIO-MUTE
3	JK2-SW
4	JK2-AUDIO(L)-OUT
5	GND
6	JK2-AUDIO(R)-IN
7	JK2-AUDIO(L)-IN
8	SC2-IN
9	JK2-VIDEO-OUT
10	GND
11	JK2-VIDEO-IN
12	JK2-16P
13	VIDEO-B-IN
14	VIDEO-G-IN
15	VIDEO-R-IN

→ TO CN2001 SHEET 11

(CONTINUE MAIN 1/9) SC2-IN → TO SHEET 1

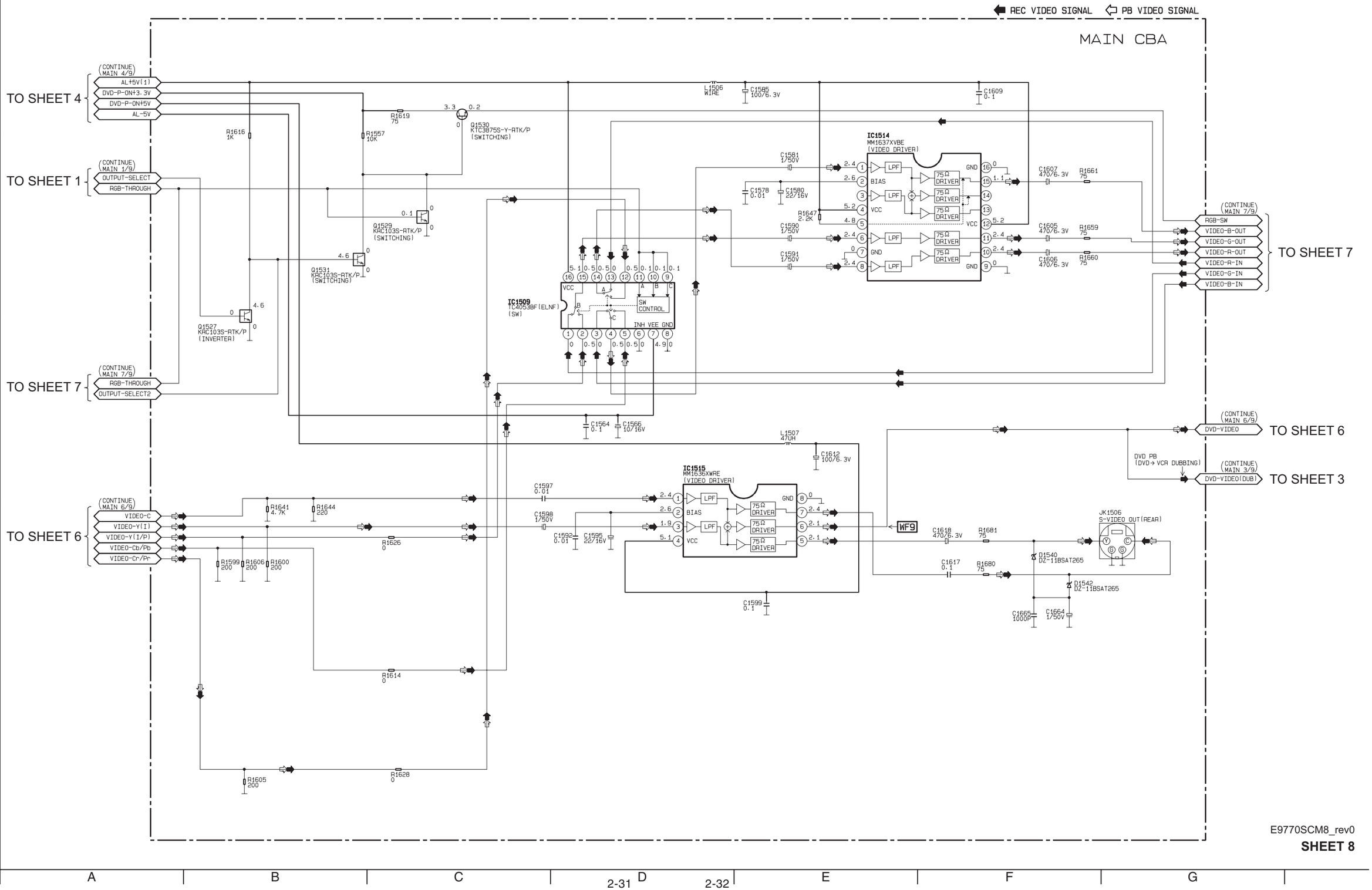
DVD PB (DVD→ VCR DUBBING)

UNLESS OTHERWISE SPECIFIED:
DIODES ARE DZ-11BSAT265.

E9770SCM7_rev0

SHEET 7

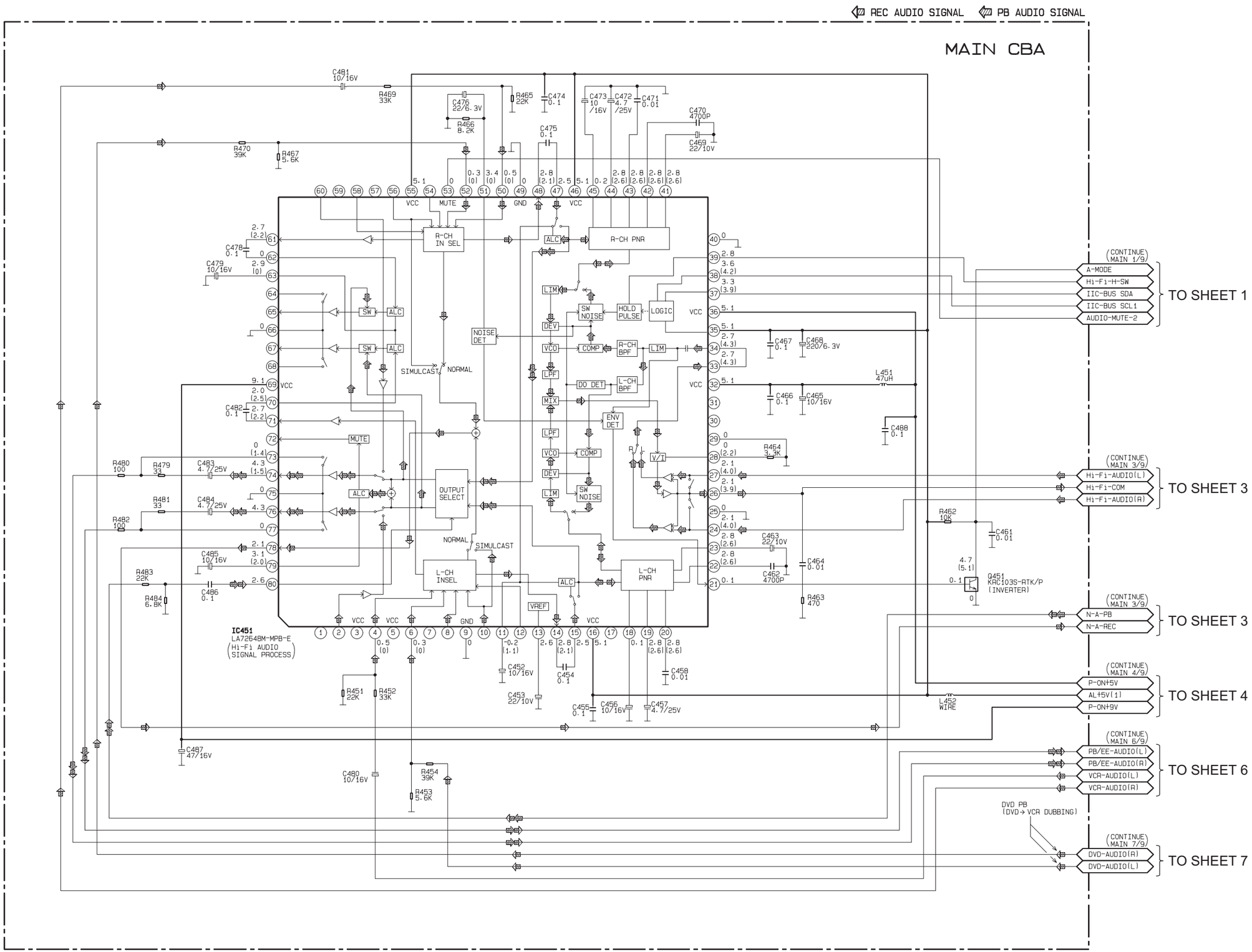
■ Main 8/9 section <VCR Section>



E9770SCM8_rev0

SHEET 8

■ Main 9/9 section <VCR Section>

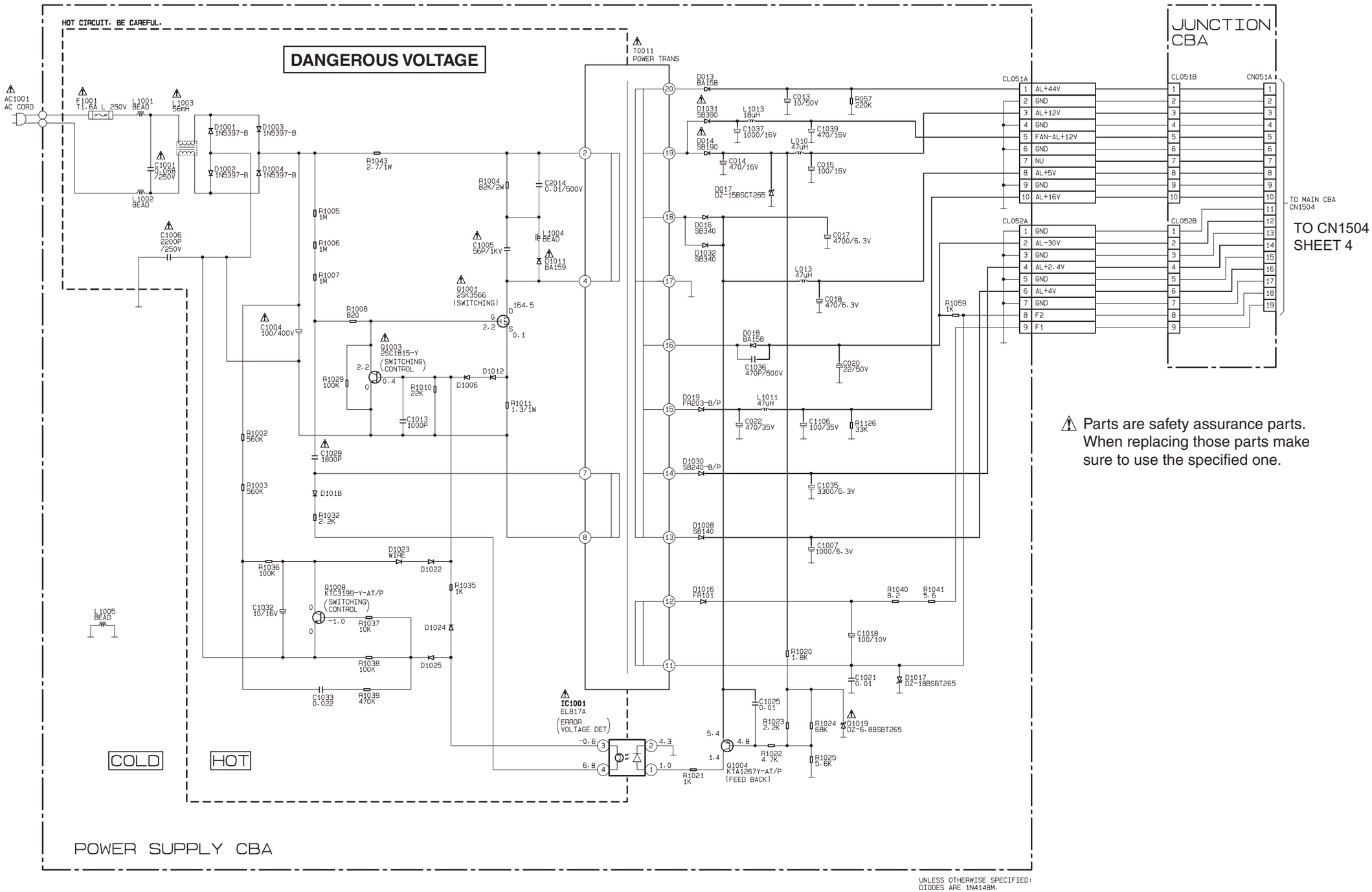


■ Power supply & junction section <VCR Section>

CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.

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

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



⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

E9770SCP_rev0

SHEET 10

■ Rear jack section <VCR Section>

REC VIDEO SIGNAL　PB VIDEO SIGNAL　REC AUDIO SIGNAL　PB AUDIO SIGNAL

REAR JACK CBA

(TO MAIN CBA CN1507) CN2001

JK2-AUDIO(R)-OUT	1
JK2-AUDIO-MUTE	2
JK2-SW	3
JK2-AUDIO(L)-OUT	4
GND	5
JK2-AUDIO(R)-IN	6
JK2-AUDIO(L)-IN	7
SC2-IN	8
JK2-VIDEO-OUT	9
GND	10
JK2-VIDEO-IN	11
JK2-16P	12
VIDEO-B-IN	13
VIDEO-G-IN	14
VIDEO-R-IN	15

TO CN1507 SHEET 7

R2005 820
C2004 2200P
R2013 1K
Q2005 KTA1504S-GR-RTK/P (SWITCHING A-MUTE)
Q2003 KTC3199 -Y-AT/P (SWITCHING A-MUTE)
R2015 10K
R2007 820
C2006 2200P
R2012 1K
Q2004 KTA1504S-GR-RTK/P (SWITCHING A-MUTE)
Q2002 KTC3199 -Y-AT/P (SWITCHING A-MUTE)
R2014 10K
C2005 2200P
R2006 220
R2008 220
C2003 2200P
C2007 2200P
R2003 75
R2004 75
R2009 75
R2010 75
R2011 75
D2010 D2009 D2008 D2007 D2001 D2002 D2003 D2004 D2005 D2006
C2011 1000P
C2010 1/50V
C2013 1000P
C2012 1/50V
C2008 1000P
C2009 10/16V
L2001 BEAD

JK2001

UNLESS OTHERWISE SPECIFIED:
DIODES ARE DZ-11BSAT265.

E9770SCRJ_rev0

SHEET 11

■ AFV section <VCR Section>

REC AUDIO SIGNAL

L2 WIRE
C15 10/16V
C17 0.1
C16 10/16V
C19 0.1
C20 3.3/50V
C22 10/16V
C21 0.1
C14 0.01
C13 0.01
C27 0.1
C12 10/16V
C11 0.01
C24 0.22/50V
D2 1N4148M
R4 120K
L4 10uH
R1 1K
R5 0
R6 0
L1 10uH
C1 0.1
C6 56P
X1 18.432MHz
C7 3P
C8 3P
C4 56P
L3 18uH
C5 22P

	33	32	31	30	29	28	27	26	25	24	23											
	4.9		2.6	2.6	0				0													
	VCC	NU			GND	NU	NU	NU	GND	NU	NU											
4.0	34	CAPL-M										RESET	22	4.2								
0	35	GND										NU	21									
2.6	36	AGNDC										GND	20	0								
	37	NU										VCC	19	4.8								
	38	NU										NU	18									
	39	NU										NU	17									
	40											NU	16									
	41											NU	15									
2.7	42											NU	14									
	43												13	4.0								
0	44	GND											12	4.3								
	1	2	3	4	5	6	7	8	9	10	11											
	VCC			NU	X-IN	X-OUT	NU	NU	NU	NU	STANDBY											
	4.9	1.6	1.6	0	2.4	2.4				0	4.9											

SCART OUTPUT SELECT
DAC
SOUND SELECT
SCART DSP INPUT SELECT
ADC
PRESCALE
ADC
DEMODULATOR
PRE-PROCESSING
IIC BUS

IC1
MSP3417G-QG-B8-V3
(IF SIGNAL PROCESS)

CN1	(TO MAIN CBA CN1506)
1	NU
2	SIF
3	GND
4	TU-AUDIO(R)
5	TU-AUDIO(L)
6	P-ON+5V
7	P-ON+5V
8	IIC-BUS SCL
9	IIC-BUS SDA

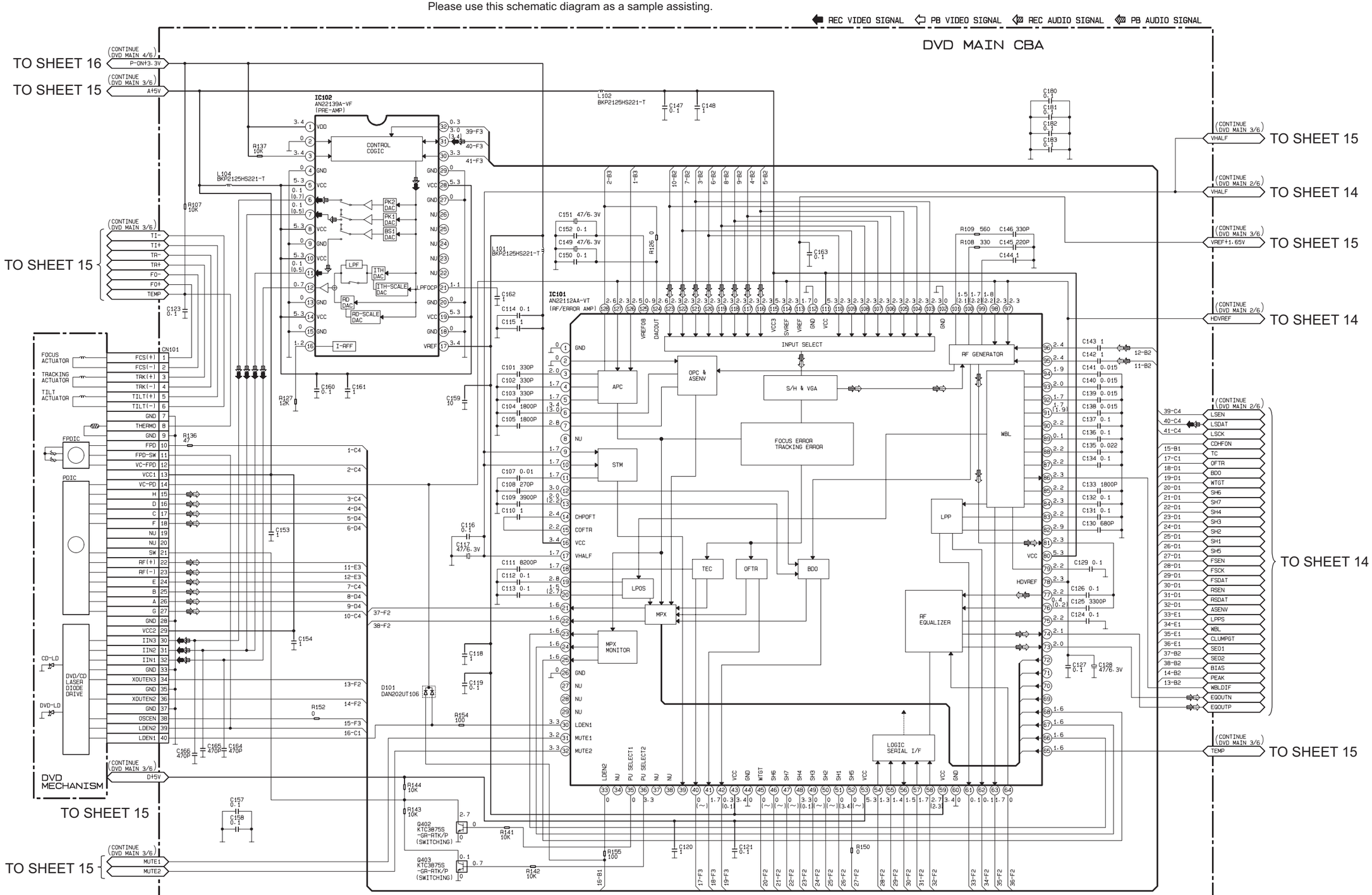
TO CN1506
SHEET 5

AFV CBA

E9770SCAFV_rev0
SHEET 12

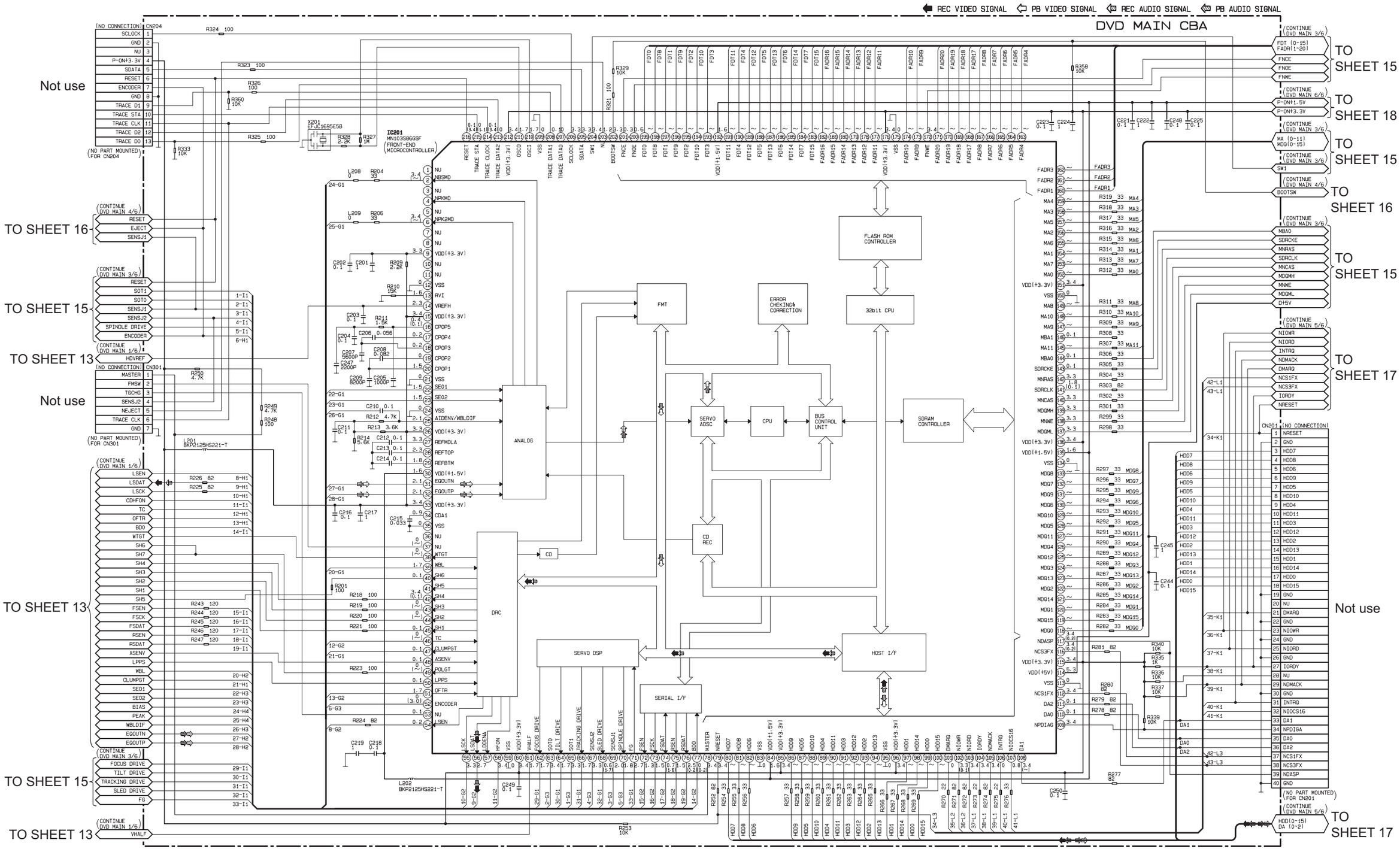
■ DVD Main 1/6 section <DVD Section>

NOTE:
Because the DVD substrate is unit exchange, the repair is off the subject.
Please use this schematic diagram as a sample assisting.



■ DVD Main 2/6 section <DVD Section>

NOTE:
Because the DVD substrate is unit exchange, the repair is off the subject.
Please use this schematic diagram as a sample assisting.

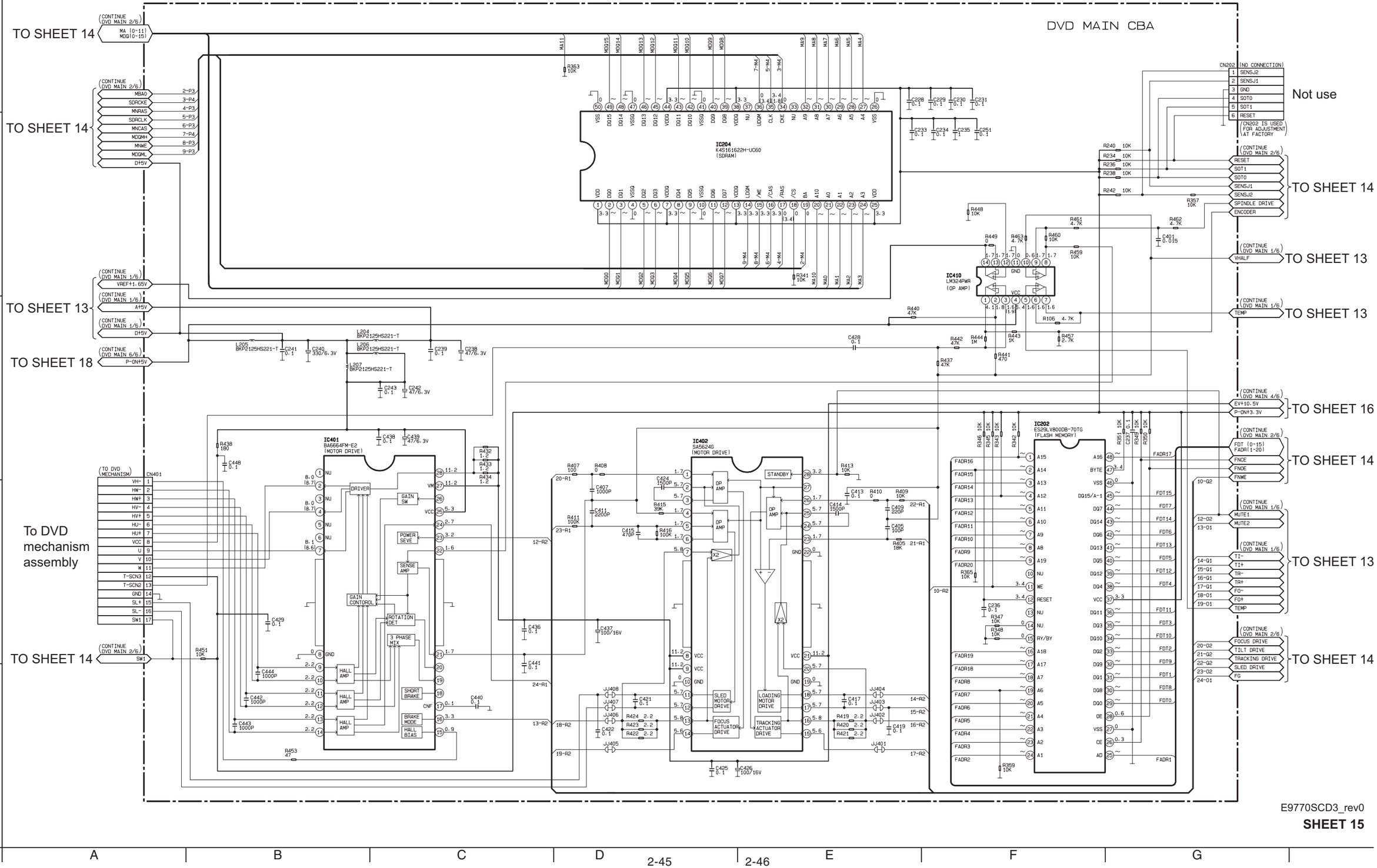


E9770SCD2_rev0

SHEET 14

■DVD Main 3/6 section <DVD Section>

NOTE:
Because the DVD substrate is unit exchange, the repair is off the subject.
Please use this schematic diagram as a sample assisting.



■DVD Main 4/6 section <DVD Section>

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC601.
2. IC601 is divided into six and shown as IC601 (1/6) ~ IC601 (6/6) in this DVD Main Schematic Diagram Section.

NOTE:
Because the DVD substrate is unit exchange, the repair is off the subject.
Please use this schematic diagram as a sample assisting.

REC VIDEO SIGNAL ⇦ PB VIDEO SIGNAL ⇦ REC AUDIO SIGNAL ⇦ PB AUDIO SIGNAL

DVD MAIN CBA

TO SHEET 15 (CONTINUE DVD MAIN 3/6): EV+10.5V, P-ON+3.3V
TO SHEET 18 (CONTINUE DVD MAIN 6/6): P-ON+2.5V, P-ON+3.3V, P-ON+5V, EV+2.4V
TO SHEET 17 (CONTINUE DVD MAIN 5/6): P-ON+3.3V
TO SHEET 18 (CONTINUE DVD MAIN 6/6): FVDD, HLVDD
TO SHEET 13 (CONTINUE DVD MAIN 1/6): P-ON+3.3V

*1 IC601(1/6) UPD61175F1-145-JN2-A (MAIN MICRO CONTROLLER/MPEG2 AV CODEC)
RSET0, RSET1, VREF, CLK24IN, CLK24OUT, FSCO, FSCI, HLCO, HLCI, CLK27IN, CLK27OUT
AYVRT, AYVCOM, AYVRB, ACVRT, ACVCOM, ACVRB
VIDEO DECODER, VIDEO I/F, VIDEO ENCCODER, MPEG2 ENCODER, MPEG2 VIDEO ENCODER, MIPS MPU, MIPS MPU DSP, AUDIO I/F
TO DVD MAIN 5/6 IC601(3/6)
TO DVD MAIN 6/6 IC601(5/6)

*1 IC601(2/6) UPD61175F1-145-JN2-A (MAIN MICRO CONTROLLER /MPEG2 AV CODEC)
SENSJ1, SUB-TXD, SUB-RXD, RDY, P-DOWN, BOOTSW, EJECT, SUB-SCLK, FERESET

IC902 PCM1803DBR (AUDIO ADC)
SERIAL I/F MODE/FORMAT CONTROL, x1/64, x1/128 DECIMATION FILTER/HPF, CLOCK&TIMING CONTROL, DELTA-SIGMA MODULATOR, V-REF

IC901 PCM1782DBQR (AUDIO DAC)
ZERO DETECT, 4X/8X OVERSAMPLING DIGITAL FILTER /FUNCTION CONTROLLER, ENHANCED MULTI-LEVEL DELTA-SIGMA MODULATOR, SERIAL CONTROL PORT, SYSTEM CLOCK MANAGER, AUDIO SERIAL PORT

CN501 (TO MAIN CBA CN1501)
1 SPDIF, 2 GND, 3 GND, 4 EV+10.5V, 5 EV+10.5V, 6 EV+10.5V, 7 GND, 8 GND, 9 GND, 10 GND, 11 P-ON+5V, 12 P-ON+5V, 13 P-ON+5V, 14 EV+2.4V, 15 EV+2.4V, 16 EV+2.4V, 17 EV+2.4V, 18 GND, 19 GND, 20 P-ON+2.5V, 21 P-ON+2.5V, 22 P-ON+2.5V, 23 GND, 24 GND, 25 P-ON+3.3V, 26 P-ON+3.3V, 27 P-ON+3.3V, 28 GND, 29 GND, 30 GND

CN601 (TO MAIN CBA CN1502)
1 VIDEO-Y(I), 2 GND, 3 VIDEO-Cr/Pr, 4 GND, 5 VIDEO-Cb/Pb, 6 GND, 7 VIDEO-Y(I/P), 8 GND, 9 VIDEO-C, 10 GND, 11 AUDIO(R)-IN, 12 GND, 13 AUDIO(L)-IN, 14 GND, 15 AUDIO(R)-OUT, 16 GND, 17 AUDIO(L)-OUT, 18 GND, 19 DVD-AUDIO-MUTE, 20 AUDIO+5V, 21 VIDEO-Y/CVBS, 22 GND, 23 VIDEO-C, 24 GND, 25 SUB-SCLK, 26 REG-CONT2, 27 SUB-TXD, 28 RDY, 29 SUB-RXD, 30 SYS-RESET

TO SHEET 14 (CONTINUE DVD MAIN 2/6): RESET, EJECT, SENSJ1
TO SHEET 14 (CONTINUE DVD MAIN 2/6): BOOTSW
TO SHEET 17 (CONTINUE DVD MAIN 5/6): SYS-RESET
(CONTINUE DVD MAIN 6/6): REG-CONT2 → TO SHEET 18

TO CN1501 SHEET 4
TO CN1502 SHEET 6

E9770SCD4_rev0

SHEET 16

■DVD Main 5/6 section <DVD Section>

NOTE:

1. The order of pins shown in this diagram is different from that of actual IC601.
2. IC601 is divided into six and shown as IC601 (1/6) ~ IC601 (6/6) in this DVD Main Schematic Diagram Section.

NOTE:

Because the DVD substrate is unit exchange, the repair is off the subject.
Please use this schematic diagram as a sample assisting.

REC VIDEO SIGNAL | PB VIDEO SIGNAL | REC AUDIO SIGNAL | PB AUDIO SIGNAL

DVD MAIN CBA

IC604
ES29LV320DT-90TG
(32Mbit FLASH MEMORY)

*1
IC601(3/6)
UPD61175F1-145-JN2-A
(MAIN MICRO CONTROLLER/MPEG2 AV CODEC)

TO DVD MAIN 4/6
IC601(1/6)

MEMORY I/F

ATA I/F

(CONTINUE DVD MAIN 2/6)
HDD(0-15) DA (0-2)
TO SHEET 14

(CONTINUE DVD MAIN 2/6)
NIOWR, NIORD, INTRQ, NDMACK, DMARQ, NCS1FX, NCS3FX, IORDY, NRESET
TO SHEET 14

(CONTINUE DVD MAIN 4/6)
P-ON+3.3V
TO SHEET 16

*1
IC601(4/6)
UPD61175F1-145-JN2-A
(MAIN MICRO CONTROLLER /MPEG2 AV CODEC)

CN602 (NO CONNECTION)
1 RADD16
2 JTDI
3 JTRST
4 JTMS
5 P-ON+3.3V
6 JTDO
7 GND
8 JTCL
9 RESET
Not use

(CN602 IS USED FOR ADJUSTMENT AT FACTORY)

(CONTINUE DVD MAIN 4/6)
SYS-RESET
TO SHEET 16

E9770SCD5_rev0

SHEET 17

■DVD Main 6/6 section <DVD Section>

NOTE:

1. The order of pins shown in this diagram is different from that of actual IC601.
2. IC601 is divided into six and shown as IC601 (1/6) ~ IC601 (6/6) in this DVD Main Schematic Diagram Section.

NOTE:

Because the DVD substrate is unit exchange, the repair is off the subject.
Please use this schematic diagram as a sample assisting.

DVD MAIN CBA

IC603
P2S56D40BTP-G6
(SDRAM)

IC602
P2S56D40BTP-G6
(SDRAM)

*1
IC601(5/6)
UPD61175F1-145-JN2-A
(MAIN MICRO CONTROLLER/MPEG2 AV CODEC)

*1
IC601(6/6)
UPD61175F1-145-JN2-A
(MAIN MICRO CONTROLLER /MPEG2 AV CODEC)

SDRAM I/F

TO DVD MAIN 4/6 IC601(1/6)

*2:H8, H13, J8, J13, M8, M13, N8, N13
*3:A5, D5, D7, D9, D11, D13, F4, G4, J4
*4:H9~H12, J9, J10, J12, M9, M10, M12, N9~N12
*5:J11, K8~K13, K17, L8~L13, M11

IC501
PQ015EZ1HZPH
(1.5V REGULATOR)

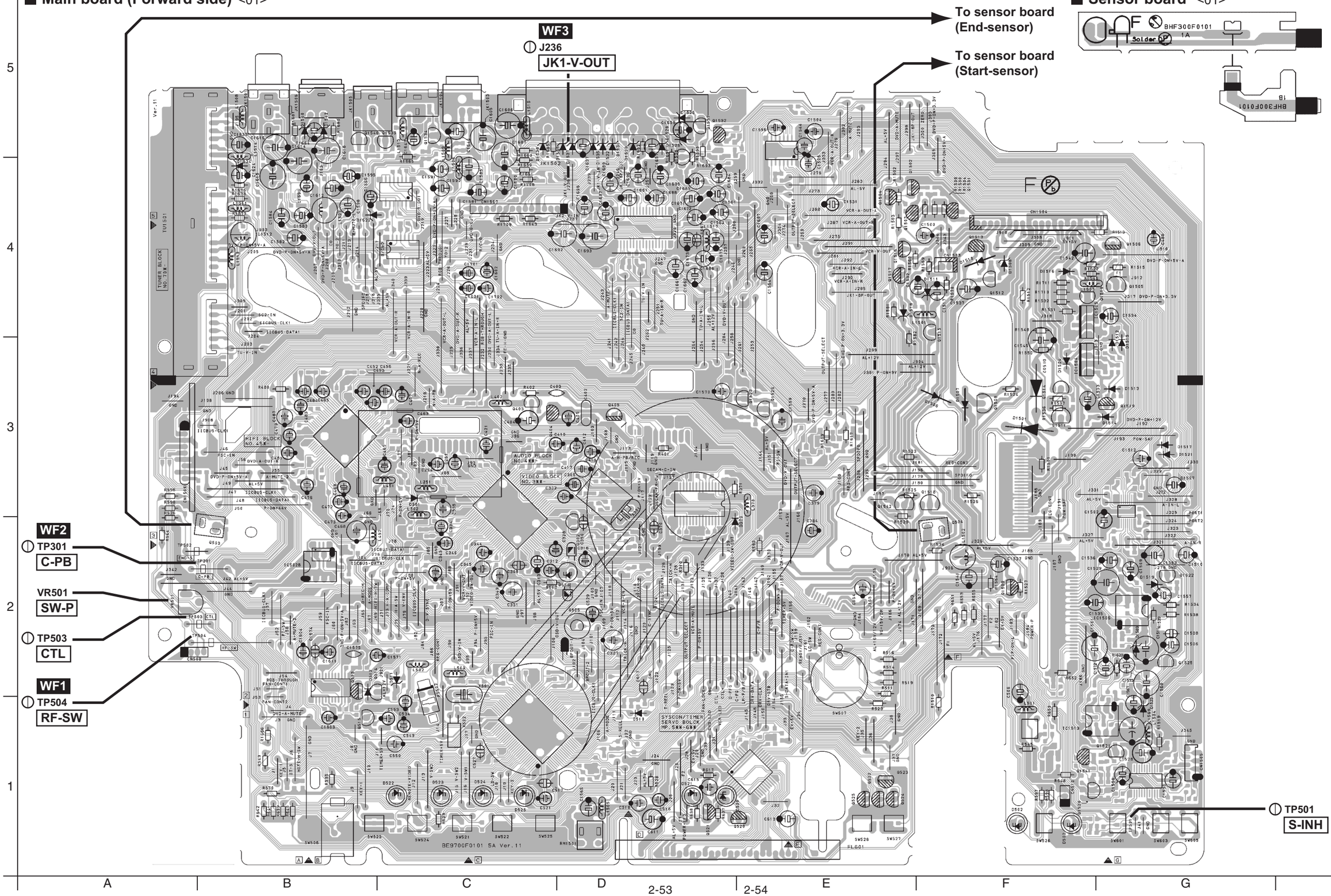
(CONTINUE DVD MAIN 4/6) FVDD, HLVDD — TO SHEET 16
(CONTINUE DVD MAIN 3/6) P-ON+5V — TO SHEET 15
(CONTINUE DVD MAIN 2/6) P-ON+1.5V, P-ON+3.3V — TO SHEET 14
(CONTINUE DVD MAIN 4/6) P-ON+2.5V, P-ON+3.3V, P-ON+5V, EV+2.4V — TO SHEET 16
(CONTINUE DVD MAIN 4/6) REG-CONT2 — TO SHEET 16

E9770SCD6_rev0

SHEET 18

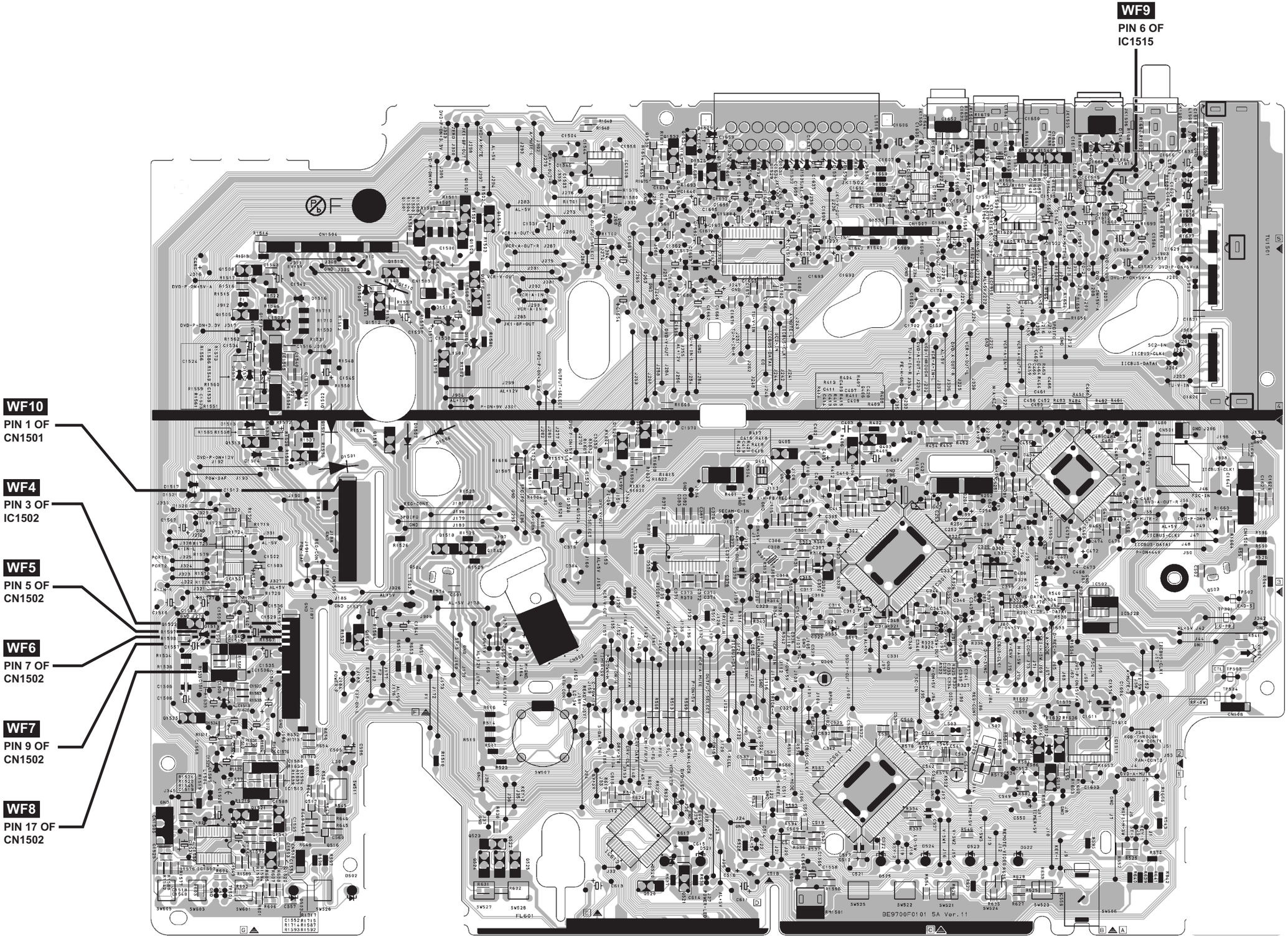
Printed circuit boards

■ Main board (Forward side) <01>



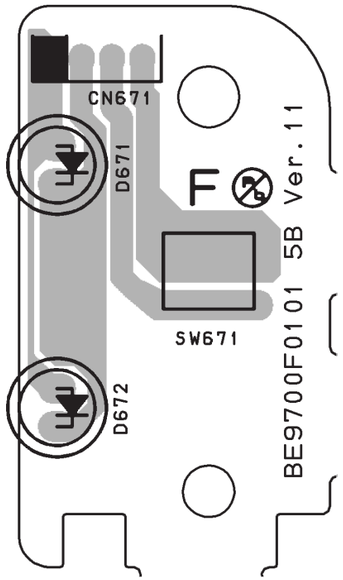
■ Sensor board <01>

■ Main board (Bottom side) <01>

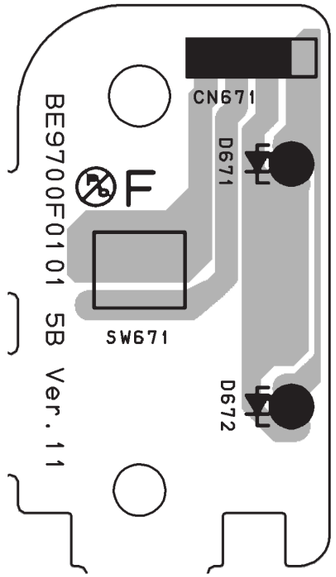


■ Power SW board <01>

Forward side

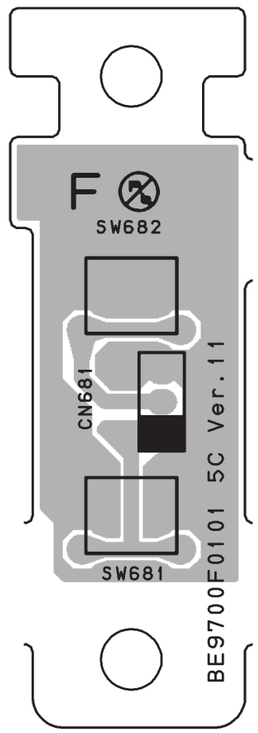


Reverse side

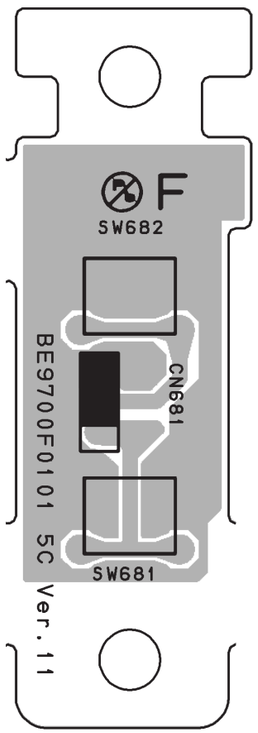


■ Function board <01>

Forward side

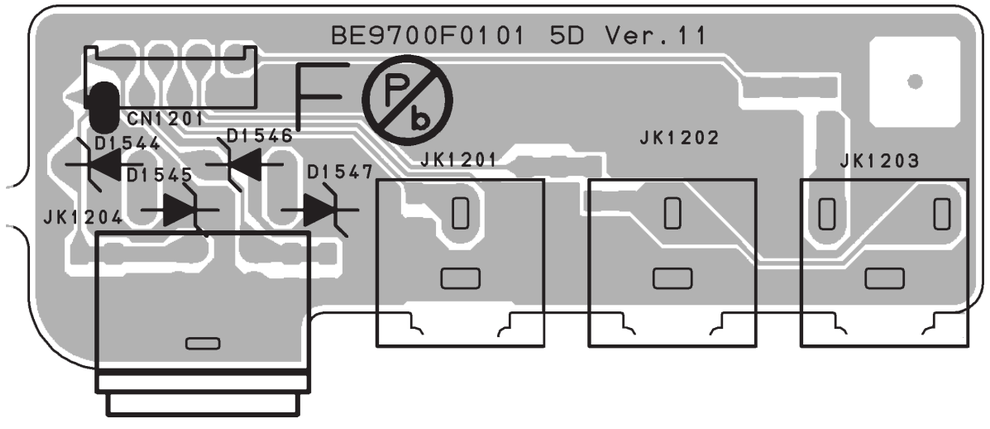


Reverse side

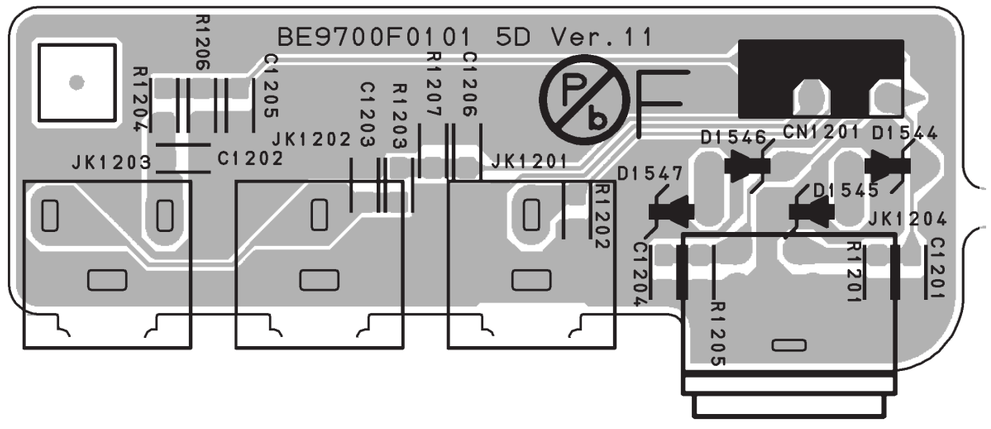


■ Front jack board <01>

Forward side

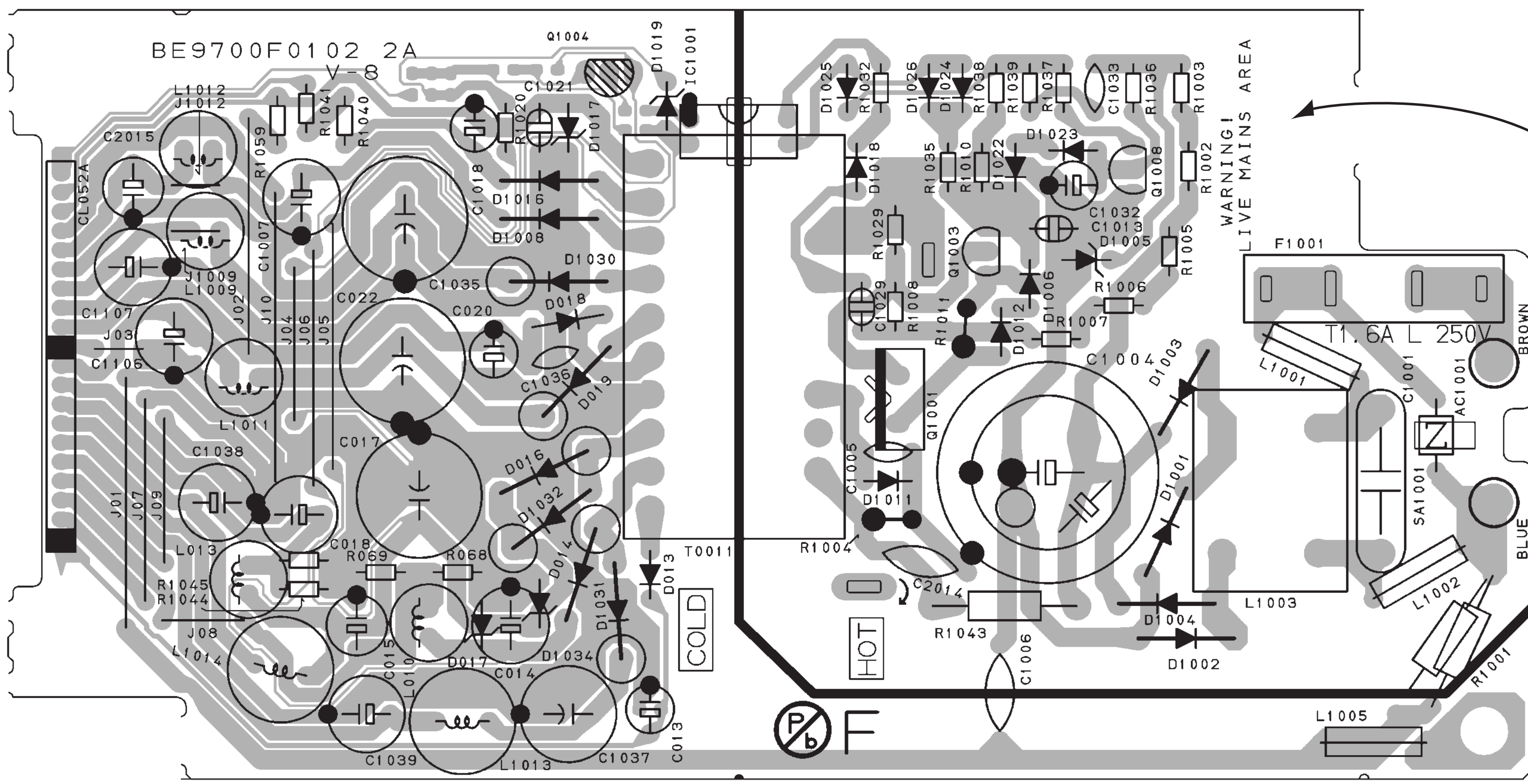


Reverse side



■ Power supply board <02>

Forward side



DANGEROUS VOLTAGE

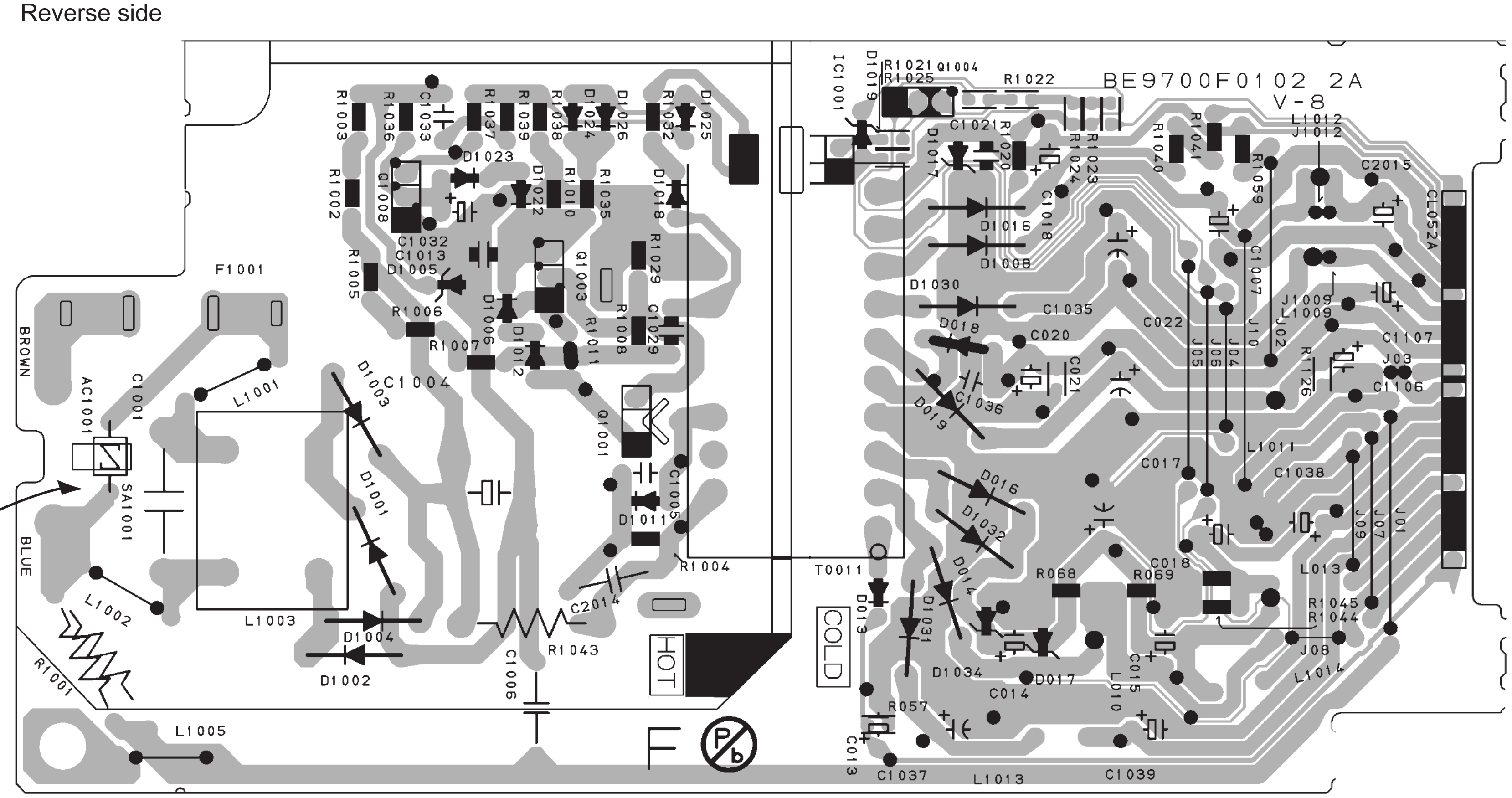
CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.

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

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

Because a hot chassis ground is present in the power supply circut, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

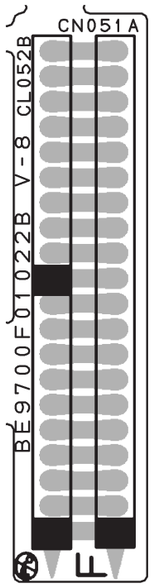
Reverse side



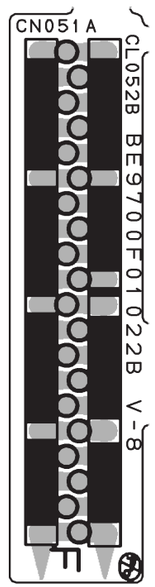
DANGEROUS VOLTAGE

■ Junction board <02>

Forward side

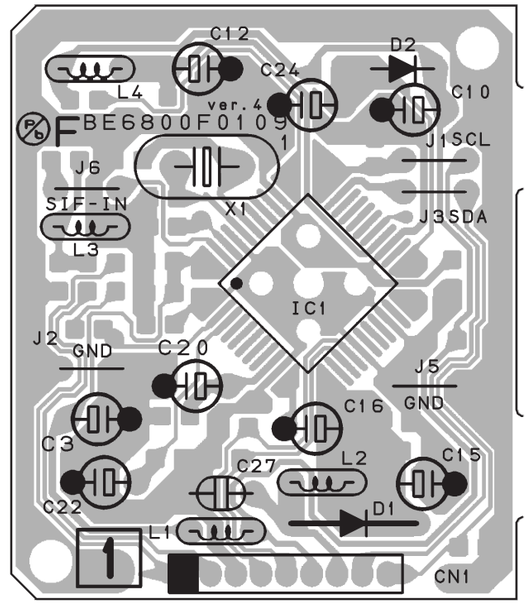


Reverse side

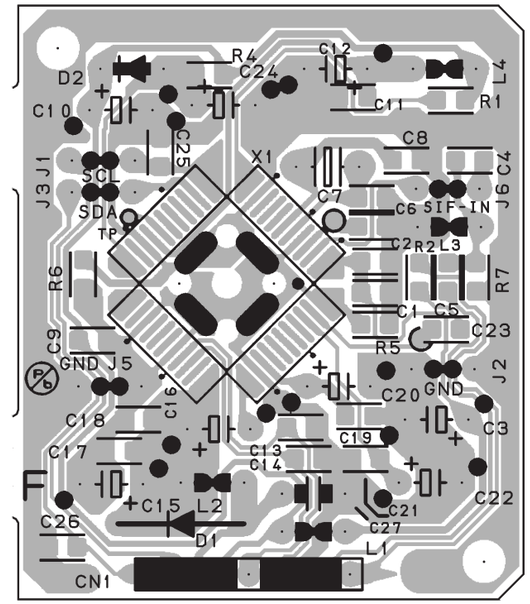


■ AFV board <03>

Forward side

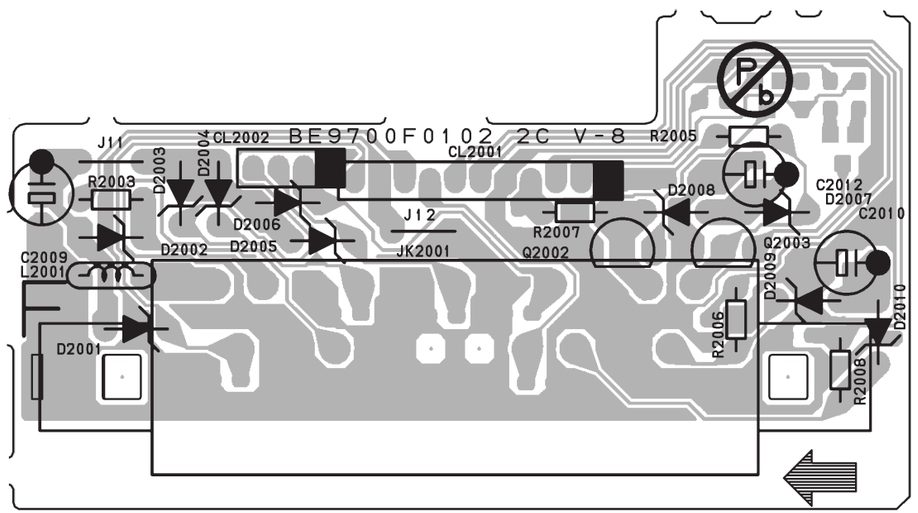


Reverse side

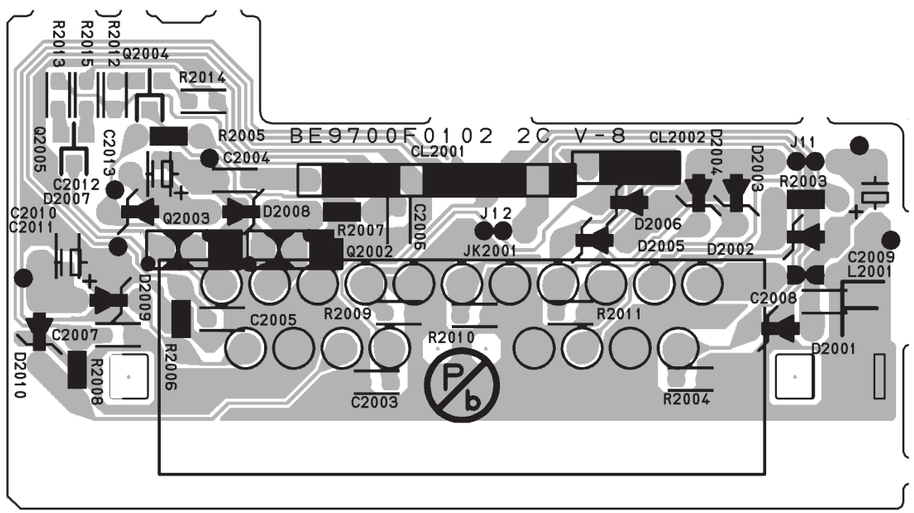


■ Rear jack board <02>

Forward side



Reverse side

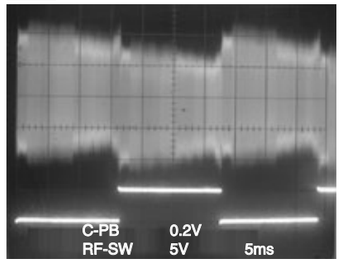


Wave forms

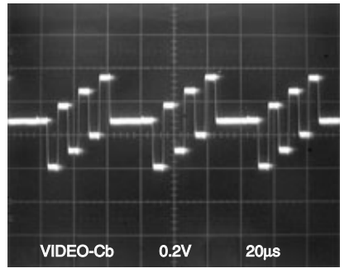
NOTE:
Input: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)

WF2 UPPER TP301

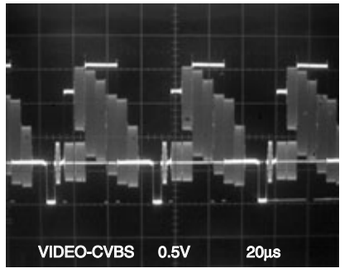
WF1 LOWER TP504



WF5 Pin 5 of CN1502

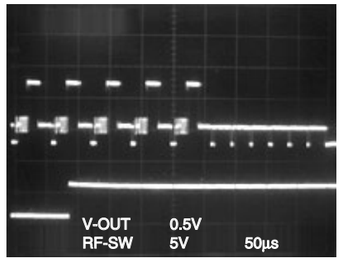


WF9 Pin 6 of IC1515

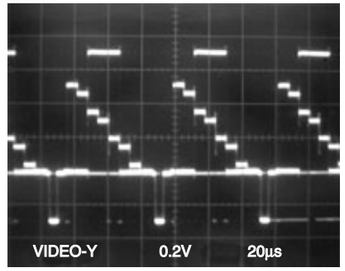


WF3 UPPER J236

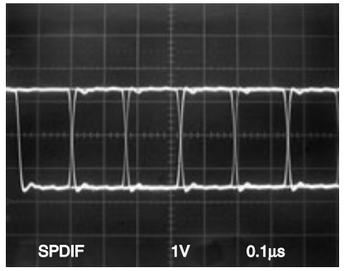
WF1 LOWER TP504



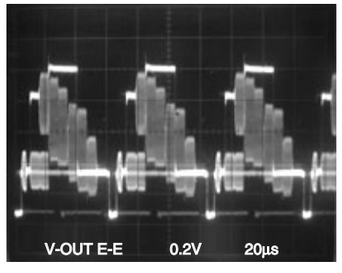
WF6 Pin 7 of CN1502



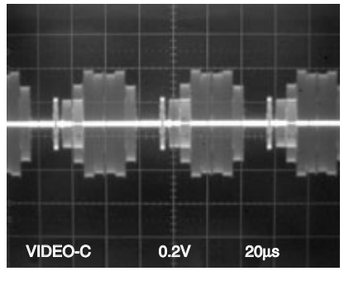
WF10 Pin 1 of CN1501



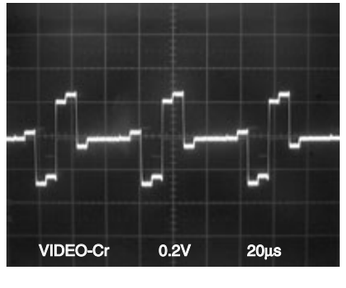
WF3 J236



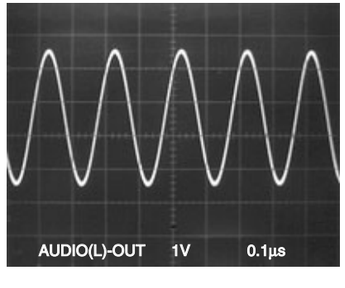
WF7 Pin 9 of CN1502



WF4 Pin 3 of CN1502



WF8 Pin 17 of CN1502



JVC

Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY DIGITAL VIDEO STORAGE CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

No.YD087SCH

Printed in Japan
VPT

PARTS LIST

[DR-MV2SEL,DR-MV2SEU, DR-MV2SEY,DR-MV2SEZ]

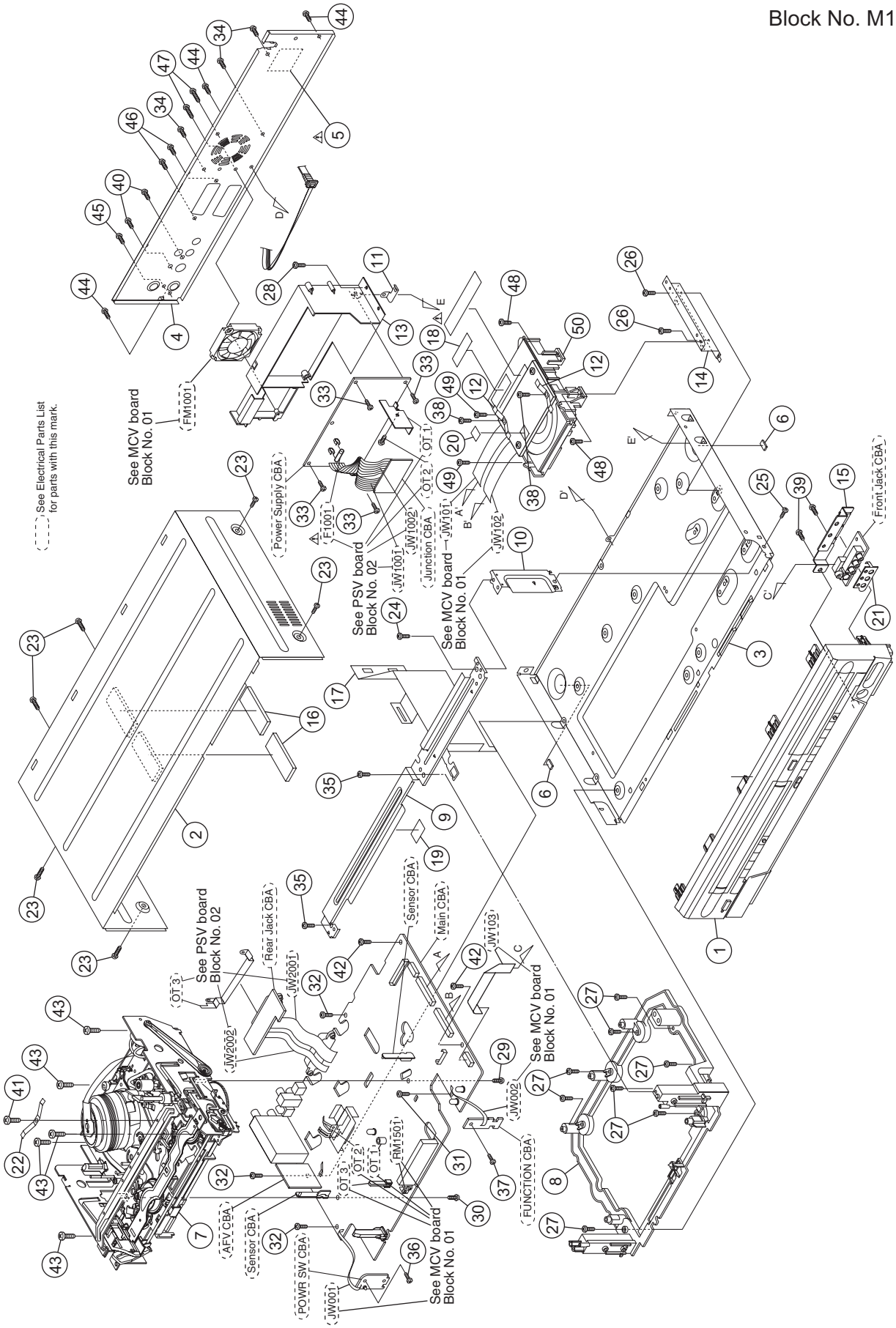
* SAFETY PRECAUTION
  Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.
* BEWARE OF BOGUS PARTS
  Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.
* (x_) in a description column shows the number of the used part.

Area Suffix	
EL	South Europe
EU	Western Europe
EY	Northern Europe
EZ	Eastern Europe

- Contents -

Exploded view of general assembly and parts list

Block No. M1MM



General assembly

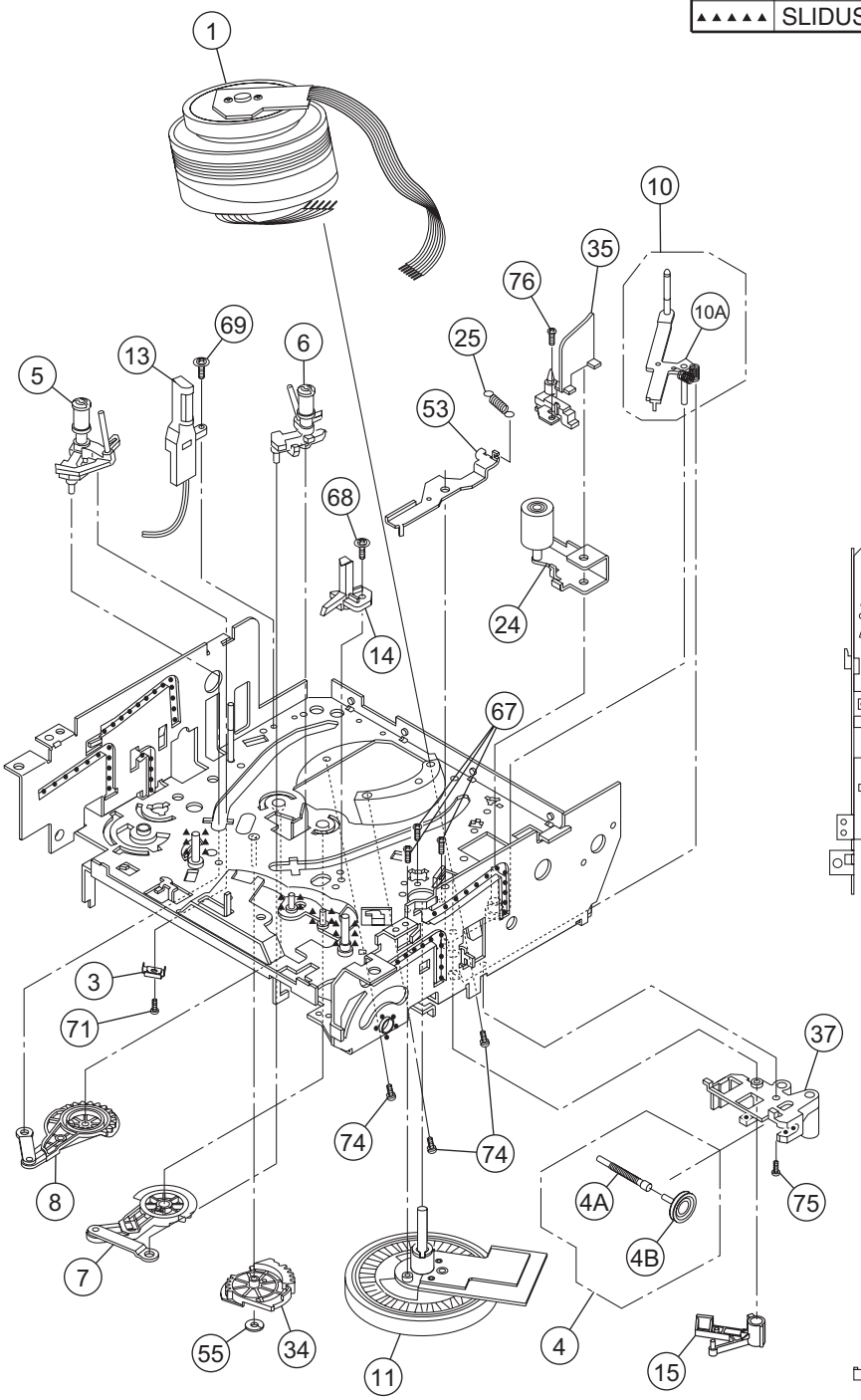
Block No. [M][1][M][M]

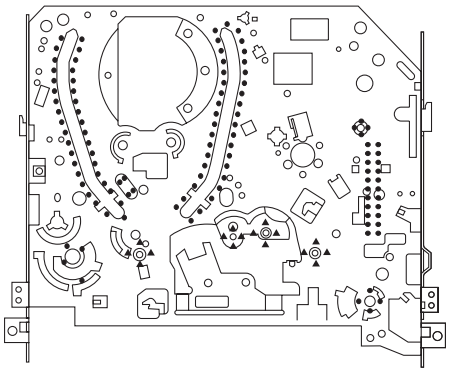
⚠ Symbol No.	Part No.	Part Name	Description	Local
1	FU-1VM221131	FRONT ASSEMBLY		
2	FU-0VM101356D	TOP COVER		
3	FU-0VM101353E	MAIN CHASSIS		
4	FU-1VM220444	REAR PANEL		
⚠ 5	---------	RATING LABEL		
6	FU-0VM406940	FOOT	3X10 BIND HEAD+(x2)	
7	PTU96159	DECK ASSEMBLY	Without cylinder assembly	
8	FU-1VM120055B	DECK PEDESTAL	M3*10 WASHERHEAD+	
9	FU-0VM204534C	FRONT BRACKET	M3X6 BIND HEAD+	
10	FU-0VM416269A	FRONT BRACKET	M3X8 BIND HEAD+	
11	FU-0VM416272	EARTH PLATE	M3X8 BIND HEAD+	
12	FU-1VM421129	MECHA EARTH PLATE	M3X5 HEAD+ BIND S-TIGHT(x2)	
13	FU-1VM120056	PCB HOLDER	M3X8 BIND HEAD+	
14	FU-1VM421062A	BRACKET R		
15	FU-0VM416273	JACK BRACKET		
16	FU-0VM416664	CUSHION RUBBER	(x2)	
17	FU-1VM320806	RADIATION SHEET		
⚠ 18	---------	CAUTION LABEL(PAL)		
19	FU-0VM413956	TAPE HIMELON		
20	---------	GEMSTAR LABEL		
21	FU-1VM320623	JACK EARTH PLATE		
22	FU-1VM421129	MECHA EARTH PLATE		
23	FU-GBCC3050	SCREW C-TIGHT	M3X5 BIND HEAD +(x6)	
24	FU-GBJS3060	SCREW S-TIGHT	M3X6 BIND HEAD+	
25	FU-GBJS3060	SCREW S-TIGHT	M3X6 BIND HEAD+	
26	FU-0VM412937A	SCREW C-TIGHT	M3X6(x2)	
27	FU-0VM413320A	SCREW S-TIGHT	M3X8(x8)	
28	FU-GBJS3060	SCREW S-TIGHT	M3X6 BIND HEAD+	
29	FU-GBCP3080	SCREW P-TIGHT	M3X8 BIND HEAD+	
30	FU-GBJS3060	SCREW S-TIGHT	M3X6 BIND HEAD+	
31	FU-GBJP3080	P-TIGHT SCREW	M3X8 BIND HEAD+	
32	FU-GBJS3060	SCREW S-TIGHT	M3X6 BIND HEAD+(x3)	
33	FU-GBJP3080	P-TIGHT SCREW	M3X8 BIND HEAD+(x4)	
34	FU-GBJP3080	P-TIGHT SCREW	M3X8 BIND HEAD+(x3)	
35	FU-GBJP3080	P-TIGHT SCREW	M3X8 BIND HEAD+(x2)	
36	FU-GBJP3060	SCREW P-TIGHT	M3X6 BIND HEAD+	
37	FU-GBJP3060	SCREW P-TIGHT	M3X6 BIND HEAD+	
38	FU-GBJP3080	P-TIGHT SCREW	M3X8 BIND HEAD+(x2)	
39	FU-GBJP3060	SCREW P-TIGHT	M3X6 BIND HEAD+(x2)	
40	FU-GBHB3080	SCREW B-TIGHT	M3X8 BIND HEAD+(x2)	
41	FU-GBCC3050	SCREW C-TIGHT	M3X5 BIND HEAD +	
42	FU-0VM412937A	SCREW C-TIGHT	M3X6(x2)	
43	FU-GCJP3100	SCREW P-TIGHT	M3*10 WASHERHEAD+(x5)	
44	FU-GBHS3050	SCREW S-TIGHT	M3*5 BIND+ 3*5 BIND+(x3)	
45	FU-GBHS3060	S-TIGHT SCREW	M3X6 BIND HEAD+BKACK	
46	FU-GBHP3080	SCREW P-TIGHT	M3X8 BIND HEAD+ BLK(x2)	
47	FU-1VM420034A	P-TIGHT SCREW	M3X34(x2)	
48	FU-GBJS3100	SCREW S-TIGHT	M3X10 BIND HEAD+(x2)	
49	FU-GBJP3120	SCREW P-TIGHT	M3*12 BIND+(x2)	
50	FU-N7RCBBEN	DVD MECHANISM & DVD MAIN CBA ASSEMBLY		EU,EL,EZ
50	FU-N7RCEBEN	DVD MECHANISM & DVD MAIN CBA ASSEMBLY		EY

VHS mechanism assembly and parts list

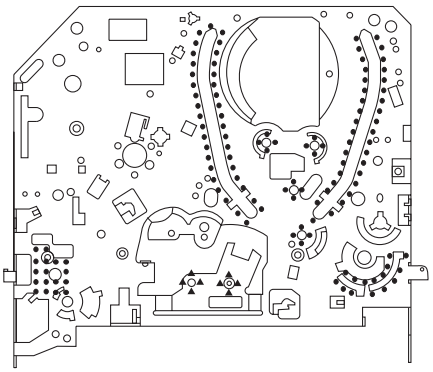
Block No. M2MM

Mark	Description
●●●●●	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150



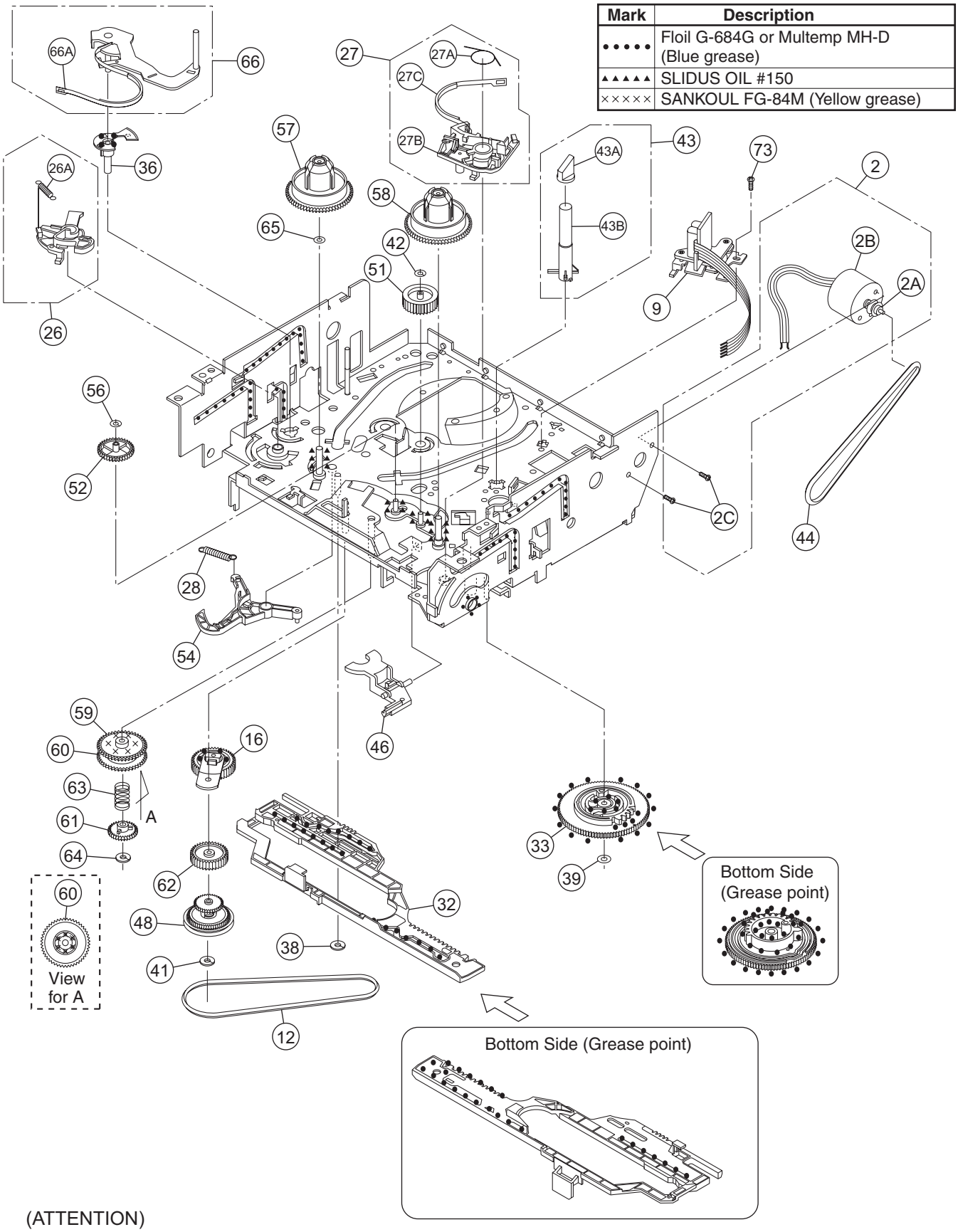


Chassis Assembly
Top View (Lubricating Point)



Chassis Assembly
Bottom View (Lubricating Point)

(ATTENTION)
These parts which symbol No. are from 2 to 76 can not be supplied.
When these parts must be exchanged, Please order the VHS mechanism assembly.(Page 3-2 Symbol No,7)



(ATTENTION)
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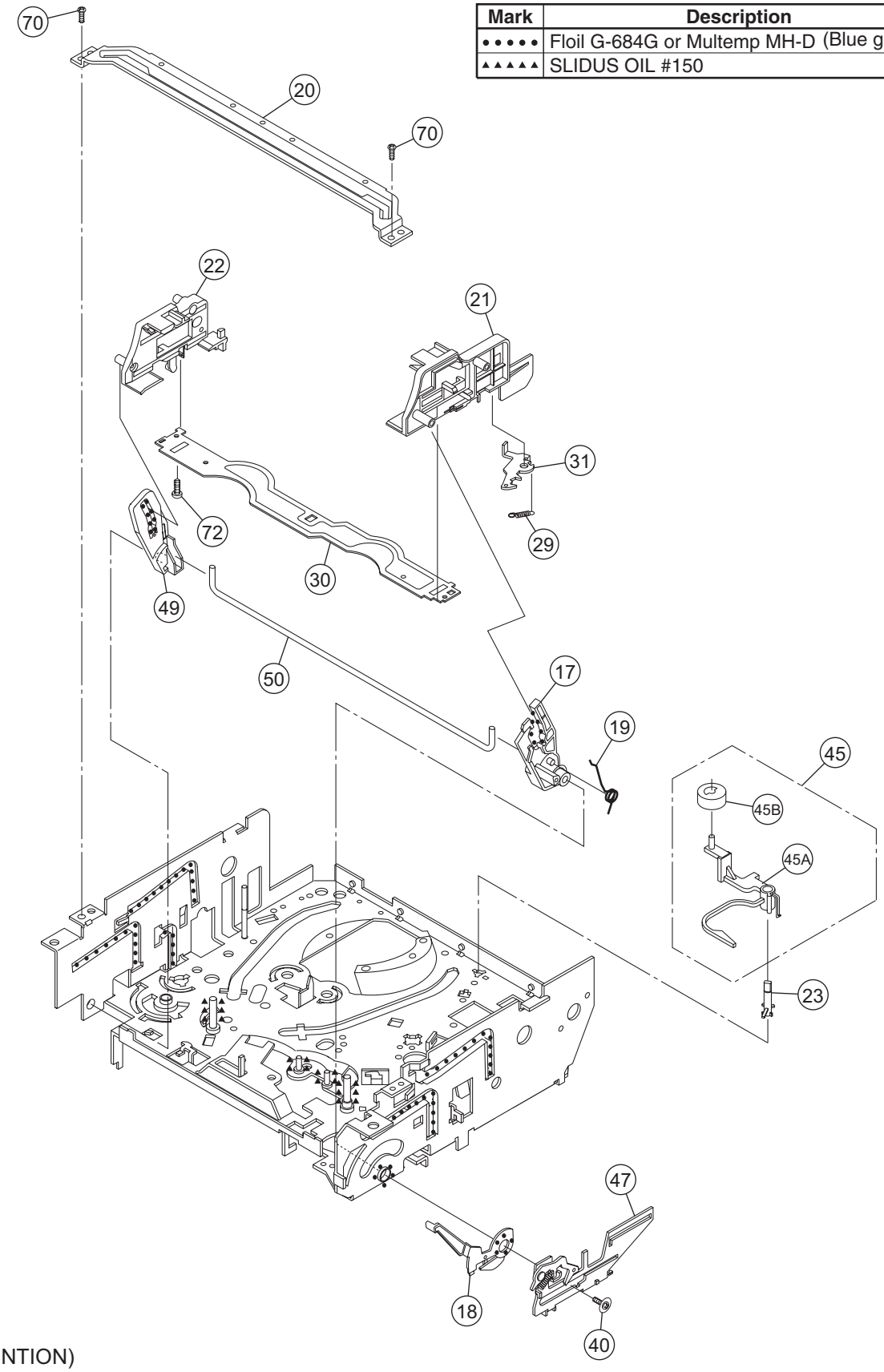
When these parts must be exchanged, Please order the VHS mechanism assembly.(Page 3-2 Symbol No,7)

Mark	Description
●●●●●	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150



(ATTENTION)
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When these parts must be exchanged, Please order the VHS mechanism assembly.(Page 3-2 Symbol No,7)

VHS mechanism

Block No. [M][2][M][M]

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	FU-N236CCYL	CYLINDER ASSEMBLY		
2	FU-1VSA12912	LOADING MOTOR ASSEMBLY		
2A	FU-0VM403205A	MOTOR PULLEY		
2B	FU-MMDZB12MF003	LOADING MOTOR		
2C	FU-CPJ39040	SCREW SEMS	M2.6X4 PAN HEAD+(x2)	
3	FU-0VM416429	SLIDE PLATE		
4	FU-0VSA13501	PULLEY ASSEMBLY(HI)		
4A	FU-0VM414091	WORM		
4B	FU-0VM414330B	PULLEY		
5	FU-1VSA12887	MOVING GUIDE		
6	FU-1VSA12886	MOVING GUIDE		
7	FU-1VSA12880	LOADING ARM(TU) ASSEMBLY		
8	FU-1VSA12879	LOADING ARM(SP) ASSEMBLY		
9	FU-1VSA12888	AC HEAD ASSEMBLY		
10	FU-1VSA12889	TAPE GUIDE ARM ASSEMBLY		
10A	FU-0VM412555	REV SPRING		
11	FU-N9688CML	CAPSTAN MOTOR		
12	FU-0VM411138	CAP BELT		
13	FU-DHVEC01AL007	FE HEAD(MK12)		
14	FU-0VM202870	PRISM		
15	FU-0VSA13447	F BRAKE ASSEMBLY(HI)		
16	FU-1VSA12903	IDLER ASSEMBLY(HI)		
17	FU-0VM203773	C DRIVE LEVER(TU)		
18	FU-0VM203751C	F DOOR OPENER		
19	FU-0VM414145	C DRIVE SPRING		
20	FU-0VM304920	GUIDE HOLDER		
21	FU-0VM101172F	SLIDER(TU)		
22	FU-0VM101182K	SLIDER(SP)		
23	FU-0VM411114	CL POST		
24	FU-1VSA12881	PINCH ARM(A) ASSEMBLY		
25	FU-0VM414644	PINCH SPRING		
26	FU-0VSA13655	M BRAKE(SP) ASSEMBLY(HI)		
26A	FU-0VM414899	S BRAKE SPRING(HI)		
27	FU-0VSA13449	M BRAKE(TU) ASSEMBLY(HI)		
27A	FU-0VM414943	REV BRAKE SPG(HI)		
27B	FU-0VM203752E	BRAKE ARM(TU)		
27C	FU-0VM305724C	BAND BRAKE(TU)		
28	FU-0VM414221G	TENSION SPG		
29	FU-0VM411110	LOCK LEVER SPRING		
30	FU-1VM220271	CASSETTE PLATE		
31	FU-0VM414095	LOCK LEVER		
32	FU-0VM101352	MODE LEVER(HI)		
33	FU-0VM101176G	CAM GEAR(A)(HI)		
34	FU-0VM204236	MODE GEAR(LM)		
35	FU-0VM305719	C DOOR OPENER		
36	FU-0VM305729C	T LEVER HOLDER		
37	FU-0VM203767	WORM HOLDER		
38	FU-0VM410058	REEL WASHER	MK9 5*2.1*0.5	
39	FU-0VM402629A	P.S.W	F 6*2.55*0.5	
40	FU-0VM411535B	SCREW RACK		
41	FU-0VM410058	REEL WASHER	MK9 5*2.1*0.5	
42	FU-0VM408485A	P.S.W CUT	1.6X4.0X0.5T	
43	FU-0VSA11012	TG POST ASSEMBLY		
43A	FU-0VM407664C	TG CAP		
43B	FU-0VM411108E	TG POST		
44	FU-0VM412804	LDG BELT		
45	FU-0VSA11161	CLEANER ASSEMBLY		
45A	FU-0VM304413	CLEANER LEVER		
45B	FU-0VM410032C	CLEANER ROLLER		
46	FU-0VM306183	FF ARM(HI)		
47	FU-1VSA11842	RACK ASSEMBLY		
48	FU-0VSA13450	CLUTCH ASSEMBLY(HI)		
49	FU-0VM203772	C DRIVE LEVER(SP)		
50	FU-0VM305762B	SLIDER SHAFT		
51	FU-0VM305755	M GEAR(HI)		
52	FU-0VM305756	SENSOR GEAR(HI)		
53	FU-1VSA12891	SLIDER ASSEMBLY		
54	FU-0VM305728	BT ARM		
55	FU-0VM408485A	P.S.W CUT	1.6X4.0X0.5T	
56	FU-0VM408485A	P.S.W CUT	1.6X4.0X0.5T	
57	FU-0VM203436	REEL S		
58	FU-0VM202872C	REEL T		
59	FU-0VM304440	TR GEAR A		
60	FU-0VM305900	TR GEAR B		
61	FU-0VM305743A	TR GEAR C		
62	FU-0VM305081	CENTER GEAR		
63	FU-0VM411187C	TR GEAR SPRING		
64	FU-0VM414741	CAM WASHER		
65	FU-0VM413663	PSW		

(ATTENTION)
These parts which symbol No. are from 2 to 76 can not be supplied.
When these parts must be exchanged, Please order the VHS mechanism assembly.(Page 3-2 Symbol No,7)

⚠ Symbol No.	Part No.	Part Name	Description	Local
66	FU-1VSA12878	TENSION LEVER ASSEMBLY		
66A	FU-1VM320582	BAND BRAKE(SP)		
67	FU-GPJB9060	SCREW B-TIGHT	M2.6X6 PAN HEAD+(x3)	
68	FU-GCJS9080	SCREW S-TIGHT	M2.6X8 WASHER HEAD+	
69	FU-GCJS9080	SCREW S-TIGHT	M2.6X8 WASHER HEAD+	
70	FU-GBJS3060	SCREW S-TIGHT	M3X6 BIND HEAD+(x2)	
71	FU-GBJBY040	SCREW B-TIGHT	M2.3X4 BIND HEAD+	
72	FU-GPJP2060	SCREW P-TIGHT	M2X6 PAN HEAD+	
73	FU-0VM410964A	AC HEAD SCREW		
74	FU-CPJ39050	SCREW SEMS	M2.6X5 PAN HEAD+(x3)	
75	FU-GBJS9060	SCREW S-TIGHT	M2.6X6 BIND HEAD+	
76	FU-SCJ39050	SCREW	M2.6X5 WASHER HEAD+	

(ATTENTION)
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When these parts must be exchanged, Please order the VHS mechanism assembly.(Page 3-2 Symbol No,7)

Electrical parts list

MCV board

Block No. [0][1]

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	FU-1VSA12624	MCV BOARD ASSY		
IC301	FU-QSZBA0RSY020	IC Y/C/A		
IC451	FU-QSZBA0RSY033	IC HIFI		
IC501	FU-QSZAC0RHT068	SYSCON IC		
IC502	FU-QSZBA0TRM068	IC		
IC612	FU-NSZBA0RG2009	VFD DRIVER IC		
IC1501	FU-NSZBA0TTY142	IC(ANALOG SW)		
IC1504	FU-QSZBA0SSH054	VOLTAGE REGULATOR		
IC1505	FU-QSZBA0SSH054	VOLTAGE REGULATOR		
IC1506	FU-NSZBA0STY173	IC OP AMP		
IC1507	FU-QSZBA0TMM150	VIDEO SWITCH		
IC1508	FU-QSZBA0TTS163	IC SWITCH		
IC1509	FU-QSZBA0TTS163	IC SWITCH		
IC1511	FU-QSZBA0TSY018	IC VPS/PDC SLICER		
IC1513	FU-NSZBA0SJY035	IC OP AMP		
IC1514	FU-QSZBA0TMM102	DRIVER FOR DVD		
IC1515	FU-QSZBA0TMM108	DRIVER FOR DVD		
IC1518	FU-QSZBA0TMM152	AV SWITCH		
Q302	FU-NQSYKTC3199P	TRANSISTOR		
Q401	FU-QQ2Z0RN1511F	CHIP TRANSISTOR		
Q403	FU-NQSYKTC3203P	TRANSISTOR		
Q404	FU-NQS4KTA1266P	TRANSISTOR		
Q405	FU-NQSZ0KRA103M	RES. BUILT-IN TRANSISTOR		
Q406	FU-NQ1YKTC3875S	CHIP TRANSISTOR		
Q451	FU-NQ1ZKRC103SP	TRANSISTOR		
Q503	FU-NPWZT2046B12	PHOTO TRANSISTOR		
Q504	FU-NPWZT2046B12	PHOTO TRANSISTOR		
Q506	FU-NPWZT2046B12	PHOTO TRANSISTOR		
Q513	FU-NQSZKRC103MP	TRANSISTOR		
Q514	FU-NQS5KTC3199P	TRANSISTOR		
Q515	FU-NQS5KTC3199P	TRANSISTOR		
Q516	FU-NQ14KTC3875S	CHIP TRANSISTOR		
Q517	FU-NQ14KTC3875S	CHIP TRANSISTOR		
Q1501	FU-NQSYKTA1267P	TRANSISTOR		
Q1502	FU-NQSZKRC103MP	TRANSISTOR		
Q1507	FU-NQ1YKTA1504S	CHIP TRANSISTOR		
Q1508	FU-NQVYKTA1281P	TRANSISTOR		
Q1509	FU-NQSZKRC103MP	TRANSISTOR		
Q1510	FU-NQSYKTC3205P	TRANSISTOR		
Q1511	FU-NQSYKTA1273P	TRANSISTOR		
Q1512	FU-NQSYKTC3199P	TRANSISTOR		
Q1513	FU-NQSYKTA1267P	TRANSISTOR		
Q1514	FU-NQSYKTC3199P	TRANSISTOR		
Q1515	FU-NQSYKTC3199P	TRANSISTOR		
Q1516	FU-NQSZ0KRA104M	RES. BUILT-IN TRANSISTOR		
Q1517	FU-NQSZKRC103MP	TRANSISTOR		
Q1518	FU-NQSYKTC3205P	TRANSISTOR		
Q1519	FU-NQSZKRC103MP	TRANSISTOR		
Q1520	FU-NQSYKTC3193P	TRANSISTOR		
Q1521	FU-NQSYKTC3199P	TRANSISTOR		
Q1522	FU-NQSYKTC3199P	TRANSISTOR		
Q1525	FU-NQSYKTC3199P	TRANSISTOR		
Q1527	FU-NQ1ZKRC103SP	TRANSISTOR		
Q1529	FU-NQ1ZKRC103SP	TRANSISTOR		
Q1530	FU-NQ1YKTC3875S	CHIP TRANSISTOR		
Q1531	FU-NQ1ZKRC103SP	TRANSISTOR		
Q1532	FU-NQS4KTA1266P	TRANSISTOR		
Q1533	FU-NQ1YKTC3879P	TRANSISTOR		
Q1534	FU-NQSYKTC3199P	TRANSISTOR		
Q1535	FU-NQ1YKTA1504S	CHIP TRANSISTOR		
Q1536	FU-NQ1YKTA1504S	CHIP TRANSISTOR		
Q1537	FU-NQSYKTC3199P	TRANSISTOR		
Q1538	FU-NQSYKTC3199P	TRANSISTOR		
Q1539	FU-NQSYKTC3199P	TRANSISTOR		
Q1540	FU-NQSYKTC3199P	TRANSISTOR		
Q1541	FU-NQSYKTA1267P	TRANSISTOR		
Q1542	FU-NQSYKTC3198P	TRANSISTOR		
D301	FU-NDTZ01N4148M	SWITCHING DIODE		
D502	FU-NPQZ10GDS957	LED	(GREEN)	

⚠ Symbol No.	Part No.	Part Name	Description	Local
D503	FU-NPQZ10GDS957	LED	(GREEN)	
D510	FU-NDTZ01N4148M	SWITCHING DIODE		
D511	FU-NDTA0DZ7R5BS	ZENER DIODE		
D512	FU-NDTZ01N4148M	SWITCHING DIODE		
D555	FU-NPZZM1E534A2	LED		
D1501	FU-NDLZ001N5397	DIODE		
D1502	FU-NDLZ001N5397	DIODE		
D1504	FU-NDTZ01N4148M	SWITCHING DIODE		
D1506	FU-NDQZ001N4005	RECTIFIER DIODE		
D1507	FU-NDQZ001N4005	RECTIFIER DIODE		
D1508	FU-NDTC0DZ4R3BS	ZENER DIODE		
D1511	FU-NDTB00DZ10BS	ZENER DIODE		
D1512	FU-NDTZ01N4148M	SWITCHING DIODE		
D1513	FU-NDTZ01N4148M	SWITCHING DIODE		
D1516	FU-NDTZ01N4148M	SWITCHING DIODE		
D1517	FU-NDTZ01N4148M	SWITCHING DIODE		
D1518	FU-NDTB00DZ18BS	ZENER DIODE		
D1519	FU-NDTB00DZ11BS	ZENER DIODE		
D1521	FU-NDTZ01N4148M	SWITCHING DIODE		
D1523	FU-NDTB0DZ5R6BS	ZENER DIODE		
D1525	FU-NDTA00DZ11BS	ZENER DIODE		
D1526	FU-NDTA00DZ11BS	ZENER DIODE		
D1528	FU-NDTA00DZ11BS	ZENER DIODE		
D1529	FU-NDTA00DZ11BS	ZENER DIODE		
D1531	FU-NDTA00DZ11BS	ZENER DIODE		
D1532	FU-NDTA00DZ11BS	ZENER DIODE		
D1534	FU-NDTD00DZ33BS	ZENER DIODE		
D1535	FU-NDTA00DZ11BS	ZENER DIODE		
D1537	FU-NDTA00DZ11BS	ZENER DIODE		
D1538	FU-NDTA00DZ11BS	ZENER DIODE		
D1539	FU-NDTA00DZ11BS	ZENER DIODE		
D1540	FU-NDTA00DZ11BS	ZENER DIODE		
D1542	FU-NDTA00DZ11BS	ZENER DIODE		
D1544	FU-NDTA00DZ11BS	ZENER DIODE		
D1545	FU-NDTA00DZ11BS	ZENER DIODE		
D1546	FU-NDTA00DZ11BS	ZENER DIODE		
D1547	FU-NDTA00DZ11BS	ZENER DIODE		
C251	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C252	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C253	FU-CHD1JK30B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C254	FU-CE1JMAVSL1R0	ELECTROLYTIC CAP.	1UF/50V M H7	
C301	FU-CHD1JJ3CH151	CHIP CERAMIC CAP.	CH J 150PF/50V	
C302	FU-CE1JMAVSL1R0	ELECTROLYTIC CAP.	1UF/50V M H7	
C303	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C305	FU-CE1JMAVSL1R0	ELECTROLYTIC CAP.	1UF/50V M H7	
C306	FU-CHD1JK30B473	CHIP CERAMIC CAP.	B K 0.047UF/50V	
C307	FU-CHD1JK30B223	CHIP CERAMIC CAP.	B K 0.022UF/50V	
C308	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C311	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C312	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C313	FU-CE1JMASSL1R0	ELECTROLYTIC CAP.	1UF/50V M H7	
C314	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C315	FU-CHD1JK30B473	CHIP CERAMIC CAP.	B K 0.047UF/50V	
C316	FU-CE1JMAVSL1R0	ELECTROLYTIC CAP.	1UF/50V M H7	
C317	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C318	FU-CHD1JK30B223	CHIP CERAMIC CAP.	B K 0.022UF/50V	
C322	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C324	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C325	FU-CHD1JK30B822	CHIP CERAMIC CAP.	B K 8200PF/50V	
C326	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C327	FU-CE0KMAVSL221	ELECTROLYTIC CAP.	220UF/6.3V M H7	
C328	FU-CE0KMAVSL470	ELECTROLYTIC CAP.	47UF/6.3V M H7	
C329	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C331	FU-CE0KMAVSL221	ELECTROLYTIC CAP.	220UF/6.3V M H7	
C333	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C334	FU-CE1JMAVSL1R0	ELECTROLYTIC CAP.	1UF/50V M H7	
C335	FU-CE0KMAVSL101	ELECTROLYTIC CAP.	100UF/6.3V H7	
C336	FU-CHD1JJ3CH221	CHIP CERAMIC CAP.	CH J 220PF/50V	
C337	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C339	FU-CHD1JJ3CH121	CHIP CERAMIC CAP.	CH J 120PF/50V	
C340	FU-CE1JMAVSL1R0	ELECTROLYTIC CAP.	1UF/50V M H7	
C341	FU-CHD1JD3CH100	CHIP CERAMIC CAP.	CH D 10PF/50V	
C342	FU-CHD1JJ3CH102	CHIP CERAMIC CAP.	CH J 1000PF/50V	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C343	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C344	FU-CP1EMAVSB4R7	ELECTROLYTIC CAP.	4.7UF/25V M NP H7	
C345	FU-CE1JMAVSLR47	ELECTROLYTIC CAP.	0.47UF/50V M H7	
C346	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C347	FU-CHD1EK30B104	CHIP CERAMIC CAP.	B K 0.1UF/25V	
C349	FU-CE1JMAVSLR47	ELECTROLYTIC CAP.	0.47UF/50V M H7	
C350	FU-CCA1JZTFZ104	CERAMIC CAP.(AX)	F Z 0.1UF/50V	
C402	FU-CMA1JJP00183	FILM CAP.(P)	0.018UF/50V J	
C403	FU-CCD2AKS0B471	CERAMIC CAP.	B K 470PF/100V	
C404	FU-CE0KMASSL221	ELECTROLYTIC CAP.	220UF/6.3V M H7	
C405	FU-CE0KMAVSL470	ELECTROLYTIC CAP.	47UF/6.3V M H7	
C407	FU-CHD1JK30B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C408	FU-CHD1JK30B182	CHIP CERAMIC CAP.	B K 1800PF/50V	
C409	FU-CHD1JJ3CH330	CHIP CERAMIC CAP.	CH J 33PF/50V	
C410	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C411	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C412	FU-CE0KMAVSL330	ELECTROLYTIC CAP.	33UF/6.3V M H7	
C413	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C414	FU-CHD1JK30B223	CHIP CERAMIC CAP.	B K 0.022UF/50V	
C415	FU-CE1EMAVSL4R7	ELECTROLYTIC CAP.	4.7UF/25V M H7	
C416	FU-CHD1JK30B472	CHIP CERAMIC CAP.	B K 4700PF/50V	
C417	FU-CE0KMAVSL220	ELECTROLYTIC CAP.	22UF/6.3V M H7	
C418	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C419	FU-CHD1JJ3CH221	CHIP CERAMIC CAP.	CH J 220PF/50V	
C421	FU-CE0KMAVSL470	ELECTROLYTIC CAP.	47UF/6.3V M H7	
C452	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C453	FU-CE1AMAVSL220	ELECTROLYTIC CAP.	22UF/10V M H7	
C454	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C455	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C456	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C457	FU-CE1EMAVSL4R7	ELECTROLYTIC CAP.	4.7UF/25V M H7	
C458	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C461	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C462	FU-CHD1JK30B472	CHIP CERAMIC CAP.	B K 4700PF/50V	
C463	FU-CE1AMAVSL220	ELECTROLYTIC CAP.	22UF/10V M H7	
C464	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C465	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C466	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C467	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C468	FU-CE0KMAVSL221	ELECTROLYTIC CAP.	220UF/6.3V M H7	
C469	FU-CE1AMAVSL220	ELECTROLYTIC CAP.	22UF/10V M H7	
C470	FU-CHD1JK30B472	CHIP CERAMIC CAP.	B K 4700PF/50V	
C471	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C472	FU-CE1EMAVSL4R7	ELECTROLYTIC CAP.	4.7UF/25V M H7	
C473	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C474	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C475	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C476	FU-CE0KMAVSL220	ELECTROLYTIC CAP.	22UF/6.3V M H7	
C478	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C479	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C480	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C481	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C482	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C483	FU-CE1EMAVSL4R7	ELECTROLYTIC CAP.	4.7UF/25V M H7	
C484	FU-CE1EMAVSL4R7	ELECTROLYTIC CAP.	4.7UF/25V M H7	
C485	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C486	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C487	FU-CE1CMAVSL470	ELECTROLYTIC CAP.	47UF/16V M H7	
C488	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C502	FU-CHD1JK30B223	CHIP CERAMIC CAP.	B K 0.022UF/50V	
C505	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C506	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C507	FU-CHD1JK30B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C508	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C509	FU-CHD1JK30B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C510	FU-CHD1JK30B472	CHIP CERAMIC CAP.	B K 4700PF/50V	
C511	FU-CHD1JJ3CH101	CHIP CERAMIC CAP.	CH J 100PF/50V	
C512	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C514	FU-CHD1JK30B331	CHIP CERAMIC CAP.	B K 330PF/50V	
C515	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C516	FU-CE0KMAVSL220	ELECTROLYTIC CAP.	22UF/6.3V M H7	
C517	FU-CCA1EZTFZ223	CERAMIC CAP.(AX)	F Z 0.022UF/25V	
C518	FU-CE0KMAVSL220	ELECTROLYTIC CAP.	22UF/6.3V M H7	
C519	FU-CHD1JJ3CH561	CHIP CERAMIC CAP.	CH J 560PF/50V	
C521	FU-CE0KMAVSL220	ELECTROLYTIC CAP.	22UF/6.3V M H7	
C522	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C524	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C527	FU-CCA1JKT0B101	CERAMIC CAP.(AX)	B K 100PF/50V	
C531	FU-CHD1JK30B472	CHIP CERAMIC CAP.	B K 4700PF/50V	
C533	FU-CHD1JK30B473	CHIP CERAMIC CAP.	B K 0.047UF/50V	
C534	FU-CE0KMAVSL470	ELECTROLYTIC CAP.	47UF/6.3V M H7	
C535	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C536	FU-CHD1JJ3CH561	CHIP CERAMIC CAP.	CH J 560PF/50V	
C538	FU-CHD1JJ3CH181	CHIP CERAMIC CAP.	CH J 180PF/50V	
C539	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C540	FU-CHD1JK30B472	CHIP CERAMIC CAP.	B K 4700PF/50V	
C541	FU-CHD1JJ3CH180	CHIP CERAMIC CAP.	CH J 18PF/50V	
C542	FU-CHD1JJ3CH180	CHIP CERAMIC CAP.	CH J 18PF/50V	
C543	FU-CHD1JJ3CH220	CHIP CERAMIC CAP.	CH J 22PF/50V	
C544	FU-CHD1JJ3CH220	CHIP CERAMIC CAP.	CH J 22PF/50V	
C545	FU-CHD1JJ3CH220	CHIP CERAMIC CAP.	CH J 22PF/50V	
C546	FU-CHD1JJ3CH220	CHIP CERAMIC CAP.	CH J 22PF/50V	
C547	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C548	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C549	FU-CE1JMAVSL1R0	ELECTROLYTIC CAP.	1UF/50V M H7	
C550	FU-CE0KMAVSL101	ELECTROLYTIC CAP.	100UF/6.3V H7	
C553	FU-CE1AMAVSL220	ELECTROLYTIC CAP.	22UF/10V M H7	
C554	FU-CE0KMAVSL101	ELECTROLYTIC CAP.	100UF/6.3V H7	
C555	FU-CHD1EK30B104	CHIP CERAMIC CAP.	B K 0.1UF/25V	
C560	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C611	FU-CE1JMASSL220	ELECTROLYTIC CAP.	22UF/50V M H7	
C612	FU-CHD1JK30B472	CHIP CERAMIC CAP.	B K 4700PF/50V	
C614	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C615	FU-CE0KMAVSL101	ELECTROLYTIC CAP.	100UF/6.3V H7	
C616	FU-CHD1JK30B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C1205	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C1206	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C1500	FU-CE1CMAVSL470	ELECTROLYTIC CAP.	47UF/16V M H7	
C1502	FU-CE0KMASDL470	ELECTROLYTIC CAP.	47UF/6.3V M	
C1503	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C1504	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C1505	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C1506	FU-CE1CMASDL470	CAP ALUMINUM ELECTOLYTIC	47UF/16V M	
C1507	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1508	FU-CCA1EKT0B104	CERAMIC CAP.(AX)	B K 0.1UF/25V	
C1509	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1510	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1511	FU-CE1CMASDL221	ELECTROLYTIC CAP.	220UF/16V M	
C1512	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C1513	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1517	FU-CE1CMASDL470	CAP ALUMINUM ELECTOLYTIC	47UF/16V M	
C1518	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1519	FU-CHD1AZ30F105	CHIP CERAMIC CAP.	F Z 1UF/10V	
C1520	FU-CHD1AZ30F105	CHIP CERAMIC CAP.	F Z 1UF/10V	
C1521	FU-CHD1AZ30F105	CHIP CERAMIC CAP.	F Z 1UF/10V	
C1524	FU-CHD1EK30B104	CHIP CERAMIC CAP.	B K 0.1UF/25V	
C1525	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C1526	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1527	FU-CE1EMASDL470	CAP ALUMINUM ELECTOLYTIC	47UF/25V M	
C1528	FU-CE1CMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/16V M	
C1529	FU-CE0KMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/6.3V M	
C1530	FU-CE1CMASDL220	CAP ALUMINUM ELECTOLYTIC	22UF/16V M	
C1531	FU-CE0KMASDL470	ELECTROLYTIC CAP.	47UF/6.3V M	
C1532	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1533	FU-CE0KMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/6.3V M	
C1534	FU-CE0KMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/6.3V M	
C1535	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1536	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1537	FU-CE0KMASSL221	ELECTROLYTIC CAP.	220UF/6.3V M H7	
C1538	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1539	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1540	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1541	FU-CE0KMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/6.3V M	
C1542	FU-CE1CMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/16V M	
C1543	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1544	FU-CE0KMAVSL470	ELECTROLYTIC CAP.	47UF/6.3V M H7	
C1546	FU-CHD1JZ30F103	CHIP CERAMIC CAP.	F Z 0.01UF/50V	
C1548	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1549	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1550	FU-CE0KMASDL470	ELECTROLYTIC CAP.	47UF/6.3V M	
C1552	FU-CHD1JJ3CH270	CHIP CERAMIC CAP.	CH J 27PF/50V	
C1553	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1554	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1555	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1556	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C1557	FU-CE1CMASDL470	CAP ALUMINUM ELECTOLYTIC	47UF/16V M	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C1558	FU-CHD1JJ3CH101	CHIP CERAMIC CAP.	CH J 100PF/50V	
C1560	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1563	FU-CE1CMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/16V M	
C1564	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1565	FU-CE0KMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/6.3V M	
C1566	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1567	FU-CE1CMASDL470	CAP ALUMINUM ELECTOLYTIC	47UF/16V M	
C1569	FU-CE0KMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/6.3V M	
C1571	FU-CE1EMAVSL4R7	ELECTROLYTIC CAP.	4.7UF/25V M H7	
C1572	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1573	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1574	FU-CCA1JZTFZ104	CERAMIC CAP.(AX)	F Z 0.1UF/50V	
C1575	FU-CDA1EKP0X183	SEMICONDUCTOR CAP.	SR K 0.018UF/25V	
C1576	FU-CHD1JJ3CH271	CHIP CERAMIC CAP.	CH J 270PF/50V	
C1577	FU-CHD1JJ3CH271	CHIP CERAMIC CAP.	CH J 270PF/50V	
C1578	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C1580	FU-CE1CMASDL220	CAP ALUMINUM ELECTOLYTIC	22UF/16V M	
C1581	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1585	FU-CE0KMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/6.3V M	
C1586	FU-CHD1JJ3CH470	CHIP CERAMIC CAP.	CH J 47PF/50V	
C1588	FU-CHD1JJ3CH470	CHIP CERAMIC CAP.	CH J 47PF/50V	
C1590	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1591	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1592	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C1594	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1595	FU-CE1CMASDL220	CAP ALUMINUM ELECTOLYTIC	22UF/16V M	
C1597	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C1598	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1599	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1601	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C1602	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C1603	FU-CE1JMAVSL1R0	ELECTROLYTIC CAP.	1UF/50V M H7	
C1604	FU-CP1JMAVSB1R0	ELECTROLYTIC CAP.	1UF/50V M H7 NP	
C1605	FU-CE0KMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/6.3V M	
C1606	FU-CE0KMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/6.3V M	
C1607	FU-CE0KMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/6.3V M	
C1609	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1610	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C1611	FU-CE0KMAVSL470	ELECTROLYTIC CAP.	47UF/6.3V M H7	
C1612	FU-CE0KMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/6.3V M	
C1617	FU-CHD1EK30B104	CHIP CERAMIC CAP.	B K 0.1UF/25V	
C1618	FU-CE0KMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/6.3V M	
C1619	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1620	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C1621	FU-CHD1JJ3CH390	CHIP CERAMIC CAP.	CH J 39PF/50V	
C1626	FU-CHD1CZ30F224	CHIP CERAMIC CAP.	F Z 0.22UF/16V	
C1627	FU-CHD1CZ30F224	CHIP CERAMIC CAP.	F Z 0.22UF/16V	
C1628	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C1629	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1630	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C1631	FU-CHD1JK30B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C1632	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C1633	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1634	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C1637	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1639	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C1640	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C1643	FU-CE0KMASDL470	ELECTROLYTIC CAP.	47UF/6.3V M	
C1648	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C1649	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C1657	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1658	FU-CHD1JK30B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C1659	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1660	FU-CHD1JK30B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C1661	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1662	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1663	FU-CHD1EK30B104	CHIP CERAMIC CAP.	B K 0.1UF/25V	
C1664	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1665	FU-CHD1JK30B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C1671	FU-CE1EMASDL4R7	CAP ALUMINUM ELECTOLYTIC	4.7UF/25V M	
C1672	FU-CE1EMASDL4R7	CAP ALUMINUM ELECTOLYTIC	4.7UF/25V M	
C1673	FU-CE1CMASDL470	CAP ALUMINUM ELECTOLYTIC	47UF/16V M	
C1675	FU-CE1EMASDL470	CAP ALUMINUM ELECTOLYTIC	47UF/25V M	
C1681	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1684	FU-CE1EMASDL4R7	CAP ALUMINUM ELECTOLYTIC	4.7UF/25V M	
C1685	FU-CE1EMASDL4R7	CAP ALUMINUM ELECTOLYTIC	4.7UF/25V M	
C1686	FU-CE1EMASDL4R7	CAP ALUMINUM ELECTOLYTIC	4.7UF/25V M	
C1687	FU-CE1EMASDL4R7	CAP ALUMINUM ELECTOLYTIC	4.7UF/25V M	
C1688	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1689	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1691	FU-CHD1JJ3CH470	CHIP CERAMIC CAP.	CH J 47PF/50V	
C1692	FU-CE0KMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/6.3V M	
C1693	FU-CE0KMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/6.3V M	
C1694	FU-CHD1AZ30F105	CHIP CERAMIC CAP.	F Z 1UF/10V	
C1695	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1696	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C1697	FU-CE1EMASDL4R7	CAP ALUMINUM ELECTOLYTIC	4.7UF/25V M	
C1698	FU-CE1EMASDL4R7	CAP ALUMINUM ELECTOLYTIC	4.7UF/25V M	
C1699	FU-CHD1JJ3CH470	CHIP CERAMIC CAP.	CH J 47PF/50V	
C1700	FU-CHD1AZ30F105	CHIP CERAMIC CAP.	F Z 1UF/10V	
C1701	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C1702	FU-CE1CMAVSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
R251	FU-RRXAJR5Z0393	CHIP RES.	1/10W J 39K Ω	
R252	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R301	FU-RRXAJR5Z0122	CHIP RES.	1/10W J 1.2K Ω	
R303	FU-RRXAJR5Z0562	CHIP RES.	1/10W J 5.6K Ω	
R305	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R308	FU-RRXAJR5Z0392	CHIP RES.	1/10W J 3.9K Ω	
R310	FU-RCX6JATZ0151	CARBON RES.	1/6W J 150 Ω	
R311	FU-RRXAJR5Z0151	CHIP RES.	1/10W J 150 Ω	
R312	FU-RRXAJR5Z0562	CHIP RES.	1/10W J 5.6K Ω	
R314	FU-RRXAJR5Z0392	CHIP RES.	1/10W J 3.9K Ω	
R316	FU-RRXAJR5Z0182	CHIP RES.	1/10W J 1.8K Ω	
R319	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R320	FU-RRXAJR5Z0473	CHIP RES.	1/10W J 47K Ω	
R321	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R322	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R323	FU-RRXAFR5H0201	CHIP RES.	1/10W F 200 Ω	
R324	FU-RRXAJR5Z0392	CHIP RES.	1/10W J 3.9K Ω	
R325	FU-RRXAJR5Z0122	CHIP RES.	1/10W J 1.2K Ω	
R326	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R327	FU-RRXAJR5Z0682	CHIP RES.	1/10W J 6.8K Ω	
R328	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R330	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R331	FU-RRXAJR5Z0183	CHIP RES.	1/10W J 18K Ω	
R332	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R333	FU-RRXAJR5Z0183	CHIP RES.	1/10W J 18K Ω	
R334	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R335	FU-RRXAJR5Z0101	CHIP RES.	1/10W J 100 Ω	
R336	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R337	FU-RRXAJR5Z0682	CHIP RES.	1/10W J 6.8K Ω	
R339	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R341	FU-RRXAJR5Z0152	CHIP RES.	1/10W J 1.5K Ω	
R342	FU-RRXAJR5Z0182	CHIP RES	1/10W J 1.8K Ω	
R401	FU-RCX4JATZ0821	CARBON RES.	1/4W J 820 Ω	
R402	FU-RCX6JATZ0101	CARBON RES.	1/6W J 100 Ω	
R404	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R405	FU-RRXAJR5Z0473	CHIP RES.	1/10W J 47K Ω	
R406	FU-RRXAJR5Z0223	CHIP RES.	1/10W J 22K Ω	
R407	FU-RRXAJR5Z0562	CHIP RES.	1/10W J 5.6K Ω	
R408	FU-RRXAJR5Z0123	CHIP RES.	1/10W J 12K Ω	
R409	FU-RRXAJR5Z0562	CHIP RES.	1/10W J 5.6K Ω	
R410	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R411	FU-RRXAJR5Z0273	CHIP RES.	1/10W J 27K Ω	
R412	FU-RRXAJR5Z0121	CHIP RES.	1/10W J 120 Ω	
R413	FU-RRXAJR5Z0334	CHIP RES.	1/10W J 330K Ω	
R414	FU-RRXAJR5Z0123	CHIP RES.	1/10W J 12K Ω	
R415	FU-RRXAJR5Z0182	CHIP RES.	1/10W J 1.8K Ω	
R416	FU-RRXAJR5Z0561	CHIP RES.	1/10W J 560 Ω	
R417	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R418	FU-RRXAJR5Z0123	CHIP RES.	1/10W J 12K Ω	
R419	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R420	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R421	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R451	FU-RRXAJR5Z0223	CHIP RES.	1/10W J 22K Ω	
R452	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R453	FU-RRXAJR5Z0562	CHIP RES.	1/10W J 5.6K Ω	
R454	FU-RRXAJR5Z0393	CHIP RES.	1/10W J 39K Ω	
R462	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R463	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R464	FU-RRXAJR5Z0332	CHIP RES.	1/10W J 3.3K Ω	
R465	FU-RRXAJR5Z0223	CHIP RES.	1/10W J 22K Ω	
R466	FU-RRXAJR5Z0822	CHIP RES.	1/10W J 8.2K Ω	
R467	FU-RRXAJR5Z0562	CHIP RES.	1/10W J 5.6K Ω	
R469	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R470	FU-RRXAJR5Z0393	CHIP RES.	1/10W J 39K Ω	
R479	FU-RRXAJR5Z0330	CHIP RES.	1/10W J 33 Ω	
R480	FU-RCX6JATZ0101	CARBON RES.	1/6W J 100 Ω	
R481	FU-RRXAJR5Z0330	CHIP RES.	1/10W J 33 Ω	
R482	FU-RRXAJR5Z0101	CHIP RES.	1/10W J 100 Ω	
R483	FU-RRXAJR5Z0223	CHIP RES.	1/10W J 22K Ω	
R484	FU-RRXAJR5Z0682	CHIP RES.	1/10W J 6.8K Ω	
R509	FU-RRXAJR5Z0181	CHIP RES.	1/10W J 180 Ω	
R511	FU-RCX6GATZ0362	CARBON RES.	1/6W G 3.6K Ω	
R512	FU-RRXAJR5Z0683	CHIP RES.	1/10W J 68K Ω	
R513	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R514	FU-RCX6GATZ0103	CARBON RES.	1/6W G 10K Ω	
R516	FU-RCX6GATZ0471	CARBON RES.	1/6W G 470 Ω	
R517	FU-RCX4JATZ0271	CARBON RES.	1/4W J 270 Ω	
R519	FU-RCX6GATZ0223	CARBON RES	1/6W G 22K Ω	
R523	FU-RCX6GATZ0152	CARBON RES.	1/6W G 1.5K Ω	
R525	FU-RRXAJR5Z0394	CHIP RES.	1/10W J 390K Ω	
R526	FU-RCX6JATZ0394	CARBON RES.	1/6W J 390K Ω	
R528	FU-RCX6GATZ0472	CARBON RES.	1/6W G 4.7K Ω	
R536	FU-RRXAJR5Z0182	CHIP RES.	1/10W J 1.8K Ω	
R537	FU-RRXAJR5Z0681	CHIP RES.	1/10W J 680 Ω	
R538	FU-RRXAJR5Z0152	CHIP RES.	1/10W J 1.5K Ω	
R539	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R540	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R541	FU-RRXAJR5Z0183	CHIP RES.	1/10W J 18K Ω	
R542	FU-RRXAJR5Z0562	CHIP RES.	1/10W J 5.6K Ω	
R543	FU-RCX4JATZ0102	CARBON RES.	1/4W J 1K Ω	
R544	FU-RCX6JATZ0103	CARBON RES.	1/6W J 10K Ω	
R545	FU-RCX6JATZ0103	CARBON RES.	1/6W J 10K Ω	
R546	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R553	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R554	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R555	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R567	FU-RRXAJR5Z0393	CHIP RES.	1/10W J 39K Ω	
R568	FU-RRXAJR5Z0224	CHIP RES.	1/10W J 220K Ω	
R569	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R570	FU-RCX6JATZ0472	CARBON RES.	1/6W J 4.7K Ω	
R572	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R574	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R575	FU-RRXAJR5Z0334	CHIP RES.	1/10W J 330K Ω	
R576	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R577	FU-RRXAJR5Z0152	CHIP RES.	1/10W J 1.5K Ω	
R578	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R581	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R582	FU-RRXAJR5Z0104	CHIP RES.	1/10W J 100K Ω	
R583	FU-RCX4JATZ0821	CARBON RES.	1/4W J 820 Ω	
R584	FU-RRXAJR5Z0101	CHIP RES.	1/10W J 100 Ω	
R585	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R586	FU-RRXAJR5Z0821	CHIP RES.	1/10W J 820 Ω	
R588	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R593	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R595	FU-RCX6JATZ0103	CARBON RES.	1/6W J 10K Ω	
R597	FU-RCX6JATZ0221	CARBON RES.	1/6W J 220 Ω	
R598	FU-RCX6JATZ0221	CARBON RES.	1/6W J 220 Ω	
R601	FU-RRXAJR5Z0182	CHIP RES.	1/10W J 1.8K Ω	
R602	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R603	FU-RRXAJR5Z0122	CHIP RES.	1/10W J 1.2K Ω	
R604	FU-RRXAJR5Z0152	CHIP RES.	1/10W J 1.5K Ω	
R605	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R606	FU-RRXAJR5Z0392	CHIP RES.	1/10W J 3.9K Ω	
R607	FU-RRXAJR5Z0822	CHIP RES.	1/10W J 8.2K Ω	
R608	FU-RRXAJR5Z0223	CHIP RES.	1/10W J 22K Ω	
R618	FU-RRXAJR5Z0104	CHIP RES.	1/10W J 100K Ω	
R621	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R622	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R623	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R624	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R625	FU-RRXAJR5Z0182	CHIP RES.	1/10W J 1.8K Ω	
R626	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R627	FU-RRXAJR5Z0122	CHIP RES.	1/10W J 1.2K Ω	
R628	FU-RRXAJR5Z0152	CHIP RES.	1/10W J 1.5K Ω	
R629	FU-RCX6JATZ0222	CARBON RES.	1/6W J 2.2K Ω	
R630	FU-RRXAJR5Z0392	CHIP RES.	1/10W J 3.9K Ω	
R631	FU-RRXAJR5Z0822	CHIP RES.	1/10W J 8.2K Ω	
R632	FU-RRXAJR5Z0223	CHIP RES.	1/10W J 22K Ω	
R643	FU-RRXAJR5Z0101	CHIP RES.	1/10W J 100 Ω	
R644	FU-RRXAJR5Z0101	CHIP RES.	1/10W J 100 Ω	
R645	FU-RRXAJR5Z0332	CHIP RES.	1/10W J 3.3K Ω	
R646	FU-RRXAJR5Z0332	CHIP RES.	1/10W J 3.3K Ω	
R647	FU-RRXAJR5Z0561	CHIP RES.	1/10W J 560 Ω	
R648	FU-RCX4JATZ0102	CARBON RES.	1/4W J 1K Ω	
R649	FU-RRXAJR5Z0561	CHIP RES.	1/10W J 560 Ω	
R650	FU-RCX4JATZ0102	CARBON RES.	1/4W J 1K Ω	
R651	FU-RCX6JATZ0272	CARBON RES.	1/6W J 2.7K Ω	
R652	FU-RCX6JATZ0472	CARBON RES.	1/6W J 4.7K Ω	
R653	FU-RCX6JATZ0272	CARBON RES.	1/6W J 2.7K Ω	
R654	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R655	FU-RCX6JATZ0272	CARBON RES.	1/6W J 2.7K Ω	
R656	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R1201	FU-RRXAJR5Z0750	CHIP RES.	1/10W J 75 Ω	
R1202	FU-RRXAJR5Z0750	CHIP RES.	1/10W J 75 Ω	
R1203	FU-RRXAJR5Z0221	CHIP RES.	1/10W J 220 Ω	
R1204	FU-RRXAJR5Z0221	CHIP RES.	1/10W J 220 Ω	
R1205	FU-RRXAJR5Z0750	CHIP RES.	1/10W J 75 Ω	
R1500	FU-RCX4JATZ0181	CARBON RES.	1/4W J 180 Ω	
R1501	FU-RCX4JATZ0102	CARBON RES.	1/4W J 1K Ω	
R1502	FU-RCX4JATZ0100	CARBON RES.	1/4W J 10 Ω	
R1504	FU-RCX4JATZ0181	CARBON RES.	1/4W J 180 Ω	
R1505	FU-RRXAJR5Z0562	CHIP RES.	1/10W J 5.6K Ω	
R1507	FU-RRXAJR5Z0473	CHIP RES.	1/10W J 47K Ω	
R1510	FU-RCX4JATZ0181	CARBON RES.	1/4W J 180 Ω	
R1512	FU-RCX4JATZ0181	CARBON RES.	1/4W J 180 Ω	
R1513	FU-RCX6JATZ0273	CARBON RES.	1/6W J 27K Ω	
R1514	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1522	FU-RCX4JATZ0102	CARBON RES.	1/4W J 1K Ω	
R1523	FU-RCX4JATZ0391	CARBON RES.	1/4W J 390 Ω	
R1524	FU-RCX6JATZ0473	CARBON RES.	1/6W J 47K Ω	
R1525	FU-RCX6JATZ0821	CARBON RES.	1/6W J 820 Ω	
R1526	FU-RCX4JATZ0681	CARBON RES.	1/4W J 680 Ω	
R1527	FU-RCX4JATZ0681	CARBON RES.	1/4W J 680 Ω	
R1528	FU-RRXAJR5Z0473	CHIP RES.	1/10W J 47K Ω	
R1529	FU-RCX6JATZ0152	CARBON RES.	1/6W J 1.5K Ω	
R1530	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1531	FU-RCX4JATZ0561	CARBON RES.	1/4W J 560 Ω	
R1532	FU-RCX4JATZ0561	CARBON RES.	1/4W J 560 Ω	
R1533	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1536	FU-RCX4JATZ0152	CARBON RES.	1/4W J 1.5K Ω	
R1537	FU-RCX4JATZ0152	CARBON RES.	1/4W J 1.5K Ω	
R1538	FU-RCX4JATZ0331	CARBON RES.	1/4W J 330 Ω	
R1539	FU-RCX4JATZ0102	CARBON RES.	1/4W J 1K Ω	
R1540	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R1541	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R1543	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R1544	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R1547	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R1550	FU-RCX6JATZ0472	CARBON RES.	1/6W J 4.7K Ω	
R1551	FU-RRXAFR5H0103	CHIP RES.	1/10W F 10K Ω	
R1552	FU-RRXAFR5H0103	CHIP RES.	1/10W F 10K Ω	
R1553	FU-RRXAJR5Z0473	CHIP RES.	1/10W J 47K Ω	
R1555	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R1556	FU-RRXAFR5H0153	CHIP RES.	1/10W F 15K Ω	
R1557	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1558	FU-RRXAFR5H0103	CHIP RES.	1/10W F 10K Ω	
R1559	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R1560	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R1561	FU-RRXAFR5H1200	CHIP RES.	1/10W F 120 Ω	
R1562	FU-RRXAFR5H0152	CHIP RES.	1/10W F 1.5K Ω	
R1563	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R1564	FU-RCX6JATZ0223	CARBON RES.	1/6W J 22K Ω	
R1565	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R1566	FU-RRXAJR5Z0682	CHIP RES.	1/10W J 6.8K Ω	
R1567	FU-RRXAJR5Z0682	CHIP RES.	1/10W J 6.8K Ω	
R1568	FU-RCX6JATZ0332	CARBON RES.	1/6W J 3.3K Ω	
R1569	FU-RCX6JATZ0332	CARBON RES.	1/6W J 3.3K Ω	
R1570	FU-RCX6JATZ0332	CARBON RES.	1/6W J 3.3K Ω	
R1571	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1572	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R1573	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R1577	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1578	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1579	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1581	FU-RCX4JATZ0822	CARBON RES.	1/4W J 8.2K Ω	
R1582	FU-RCX4JATZ0822	CARBON RES.	1/4W J 8.2K Ω	
R1587	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R1589	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R1591	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R1592	FU-RRXAJR5Z0152	CHIP RES.	1/10W J 1.5K Ω	
R1593	FU-RRXAJR5Z0152	CHIP RES.	1/10W J 1.5K Ω	
R1594	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1595	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1596	FU-RRXAJR5Z0682	CHIP RES.	1/10W J 6.8K Ω	
R1597	FU-RRXAJR5Z0151	CHIP RES.	1/10W J 150 Ω	
R1598	FU-RRXAJR5Z0151	CHIP RES.	1/10W J 150 Ω	
R1599	FU-RRXAFR5H0201	CHIP RES.	1/10W F 200 Ω	
R1600	FU-RRXAFR5H0201	CHIP RES.	1/10W F 200 Ω	
R1605	FU-RRXAFR5H0201	CHIP RES.	1/10W F 200 Ω	
R1606	FU-RRXAFR5H0201	CHIP RES.	1/10W F 200 Ω	
R1610	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R1611	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R1614	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1616	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1619	FU-RCX4JATZ0750	CARBON RES.	1/4W J 75 Ω	
R1620	FU-RCX4JATZ0102	CARBON RES.	1/4W J 1K Ω	
R1626	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1628	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1630	FU-RRXAFR5H0822	CHIP RES.	1/10W F 8.2K Ω	
R1631	FU-RRXAFR5H0822	CHIP RES.	1/10W F 8.2K Ω	
R1632	FU-RRXAJR5Z0272	CHIP RES.	1/10W J 2.7K Ω	
R1633	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1634	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1636	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1637	FU-RRXAFR5H0133	CHIP RES.	1/10W F 13K Ω	
R1638	FU-RRXAFR5H0133	CHIP RES.	1/10W F 13K Ω	
R1639	FU-RRXAJR5Z0133	CHIP RES.	1/10W J 13K Ω	
R1640	FU-RRXAJR5Z0133	CHIP RES.	1/10W J 13K Ω	
R1641	FU-RRXAFR5H0472	CHIP RES.	1/10W F 4.7K Ω	
R1642	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1643	FU-RCX6JATZ0153	CARBON RES.	1/6W J 15K Ω	
R1644	FU-RRXAFR5H0221	CHIP RES.	1/10W F 220 Ω	
R1647	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R1648	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R1649	FU-RRXAJR5Z0223	CHIP RES.	1/10W J 22K Ω	
R1650	FU-RRXAJR5Z0104	CHIP RES.	1/10W J 100K Ω	
R1651	FU-RRXAJR5Z0104	CHIP RES.	1/10W J 100K Ω	
R1652	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1653	FU-RRXAJR5Z0562	CHIP RES.	1/10W J 5.6K Ω	
R1654	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R1656	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R1657	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1658	FU-RRXAJR5Z0682	CHIP RES.	1/10W J 6.8K Ω	
R1659	FU-RCX4JATZ0750	CARBON RES.	1/4W J 75 Ω	
R1660	FU-RCX4JATZ0750	CARBON RES.	1/4W J 75 Ω	
R1661	FU-RCX4JATZ0750	CARBON RES.	1/4W J 75 Ω	
R1662	FU-RRXAJR5Z0101	CHIP RES.	1/10W J 100 Ω	
R1663	FU-RRXAJR5Z0331	CHIP RES.	1/10W J 330 Ω	
R1664	FU-RRXAJR5Z0331	CHIP RES.	1/10W J 330 Ω	
R1666	FU-RCX4JATZ0102	CARBON RES.	1/4W J 1K Ω	
R1669	FU-RRXAJR5Z0182	CHIP RES.	1/10W J 1.8K Ω	
R1670	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R1671	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1672	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1673	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R1674	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1675	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1676	FU-RCX6JATZ0182	CARBON RES.	1/6W J 1.8K Ω	
R1677	FU-RCX4JATZ0331	CARBON RES.	1/4W J 330 Ω	
R1678	FU-RCX4JATZ0331	CARBON RES.	1/4W J 330 Ω	
R1679	FU-RRXAJR5Z0221	CHIP RES.	1/10W J 220 Ω	
R1680	FU-RCX4JATZ0750	CARBON RES.	1/4W J 75 Ω	
R1681	FU-RCX4JATZ0750	CARBON RES.	1/4W J 75 Ω	
R1685	FU-RCX4JATZ0750	CARBON RES.	1/4W J 75 Ω	
R1686	FU-RRXAJR5Z0750	CHIP RES.	1/10W J 75 Ω	
R1688	FU-RRXAJR5Z0750	CHIP RES.	1/10W J 75 Ω	
R1689	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1690	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1691	FU-RCX6JATZ0221	CARBON RES.	1/6W J 220 Ω	
R1692	FU-RCX6JATZ0221	CARBON RES.	1/6W J 220 Ω	
R1693	FU-RCX4JATZ0821	CARBON RES.	1/4W J 820 Ω	
R1694	FU-RRXAJR5Z0104	CHIP RES.	1/10W J 100K Ω	
R1695	FU-RCX4JATZ0821	CARBON RES.	1/4W J 820 Ω	
R1696	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1697	FU-RRXAJR5Z0221	CHIP RES.	1/10W J 220 Ω	
R1698	FU-RRXAJR5Z0221	CHIP RES.	1/10W J 220 Ω	
R1700	FU-RRXAJR5Z0151	CHIP RES.	1/10W J 150 Ω	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R1701	FU-RRXAJR5Z0151	CHIP RES.	1/10W J 150 Ω	
R1702	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1703	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R1704	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R1708	FU-RCX6JATZ0101	CARBON RES.	1/6W J 100 Ω	
R1709	FU-RCX6JATZ0101	CARBON RES.	1/6W J 100 Ω	
R1710	FU-RCX4JATZ0561	CARBON RES.	1/4W J 560 Ω	
R1711	FU-RCX4JATZ0561	CARBON RES.	1/4W J 560 Ω	
R1712	FU-RRXAJR5Z0222	CHIP RES.	1/10W J 2.2K Ω	
R1713	FU-RRXAJR5Z0332	CHIP RES.	1/10W J 3.3K Ω	
R1714	FU-RRXAJR5Z0471	CHIP RES.	1/10W J 470 Ω	
R1715	FU-RRXAJR5Z0821	CHIP RES.	1/10W J 820 Ω	
R1716	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1717	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1718	FU-RRXAJR5Z0163	CHIP RES.	1/10W J 16K Ω	
R1719	FU-RRXAJR5Z0163	CHIP RES.	1/10W J 16K Ω	
R1720	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R1721	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R1722	FU-RRXAJR5Z0183	CHIP RES.	1/10W J 18K Ω	
R1723	FU-RRXAJR5Z0273	CHIP RES.	1/10W J 27K Ω	
R1724	FU-RRXAJR5Z0153	CHIP RES.	1/10W J 15K Ω	
R1725	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R1726	FU-RRXAJR5Z0183	CHIP RES.	1/10W J 18K Ω	
R1727	FU-RRXAJR5Z0273	CHIP RES.	1/10W J 27K Ω	
R1728	FU-RRXAJR5Z0153	CHIP RES.	1/10W J 15K Ω	
R1729	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
VR501	FU-VRCB104HH014	CARBON P.O.T.		
L251	FU-LLAXKATTU5R6	INDUCTOR		
L302	FU-LLAXKATTU101	INDUCTOR	(100UH K)	
L402	FU-LLARKBSTU470	INDUCTOR		
L451	FU-LLARKBSTU470	INDUCTOR		
L501	FU-LLAXKATTU101	INDUCTOR	(100UH K)	
L503	FU-LLAXKATTU1R8	INDUCTOR		
L1501	FU-LLAXKATTU101	INDUCTOR	(100UH K)	
L1505	FU-LLAXKATTU101	INDUCTOR	(100UH K)	
L1507	FU-LLBD00PKV022	CHOKE COIL	47UH	
L1509	FU-LLAXKATTU101	INDUCTOR	(100UH K)	
L1510	FU-LLAXKATTU150	INDUCTOR		
L1513	FU-LLAXKATTUR47	INDUCTOR	(0.47UH K)	
L1515	FU-1VSA12643	BEAD CORE ASSEMBLY		
CN1201	FU-JCFEJ08JG001	FE CONNECTOR	TOP 8P	
CN1503	FU-J3PHC02JG017	PH CONNECTOR (WHITE)	TOP 2P	
CN1504	FU-J322C19TG001	242 SERIES CONNECTOR		
CN1505	FU-JCFEJ08JG001	FE CONNECTOR	TOP 8P	
CN1506	FU-E9771AFV	AFV PCB ASSEMBLY		
FL601	FU-TVFD1C0FT049	VACUUM FLUORESCENT DISPLA		
FM1001	FU-MMEZR12NM005	DC FAN MOTOR		
JK1201	FU-JXRL010LY101	RCA JACK(YELLOW)		
JK1202	FU-JXRL010LY102	RCA JACK(WHITE)		
JK1203	FU-JYRL010LY024	RCA JACK(RED)		
JK1204	FU-JXEL040LY003	S TYPE JACK		
JK1502	FU-JXGL210LY008	RGB CONNECTOR		
JK1504	FU-JXRL010LY140	RCA JACK		
JK1505	FU-JXRL020LY120	RCA JACK		
JK1506	FU-JXEL040LY003	S TYPE JACK		
JW001	FU-WX1H99A0-005	FLAT CABLE 2P		
JW002	FU-WX3803S6FF08	FLAT CABLE 3P		
JW101	FU-WX1E9700-001	FFC CABLE 30P		
JW102	FU-WX1E9700-001	FFC CABLE 30P		
JW103	FU-WX1E9700-002	FFC CABLE 8P		
OT1	FU-0VM409508	BUSH LED(F)		
OT2	FU-1VM420438	NEW SHIELD ASSEMBLY		
OT3	FU-0VM304573	ROHM HOLDER		
PS502	FU-QPWZP1302C70	PHOTO INTERRUPTER		
RM1501	FU-USESJRSKK039	REMOTE RECEIVER		
SW506	FU-SSC0101MCE03	LEAF SWITCH		
SW507	FU-SSR0106KB003	ROTARY MODE SWITCH		
SW521	FU-SST0101HH013	TACT SWITCH		
SW522	FU-SST0101HH013	TACT SWITCH		
SW523	FU-SST0101HH013	TACT SWITCH		
SW524	FU-SST0101HH013	TACT SWITCH		
SW525	FU-SST0101HH013	TACT SWITCH		
SW526	FU-SST0101HH013	TACT SWITCH		
SW527	FU-SST0101HH013	TACT SWITCH		
SW528	FU-SST0101HH013	TACT SWITCH		
SW601	FU-SST0101HH013	TACT SWITCH		

⚠ Symbol No.	Part No.	Part Name	Description	Local
SW603	FU-SST0101HH013	TACT SWITCH		
SW605	FU-SST0101HH013	TACT SWITCH		
SW671	FU-SST0101HH013	TACT SWITCH		
SW681	FU-SST0101HH013	TACT SWITCH		
SW682	FU-SST0101HH013	TACT SWITCH		
TU1501	FU-UTUNPLGAL015	TUNER UNIT		
X301	FU-FXC445LLN004	XTAL	4.433619MHZ	
X501	FU-FXD126LDS001	XTAL	12.000MHZ	
X502	FU-FXC323LQUA02	XTAL		

PSV board

Block No. [0][2]

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	FU-1VSA12635	PSV BOARD ASSY		
⚠ IC1001	FU-NPEA000EL817	PHOTOCOUPLER		
⚠ Q1001	FU-QFWZ02SK3566	FET		
⚠ Q1003	FU-QQSY2SC1815F	TRANSISTOR		
Q1004	FU-NQSYKTA1267P	TRANSISTOR		
Q1008	FU-NQSYKTC3199P	TRANSISTOR		
Q2002	FU-NQSYKTC3199P	TRANSISTOR		
Q2003	FU-NQSYKTC3199P	TRANSISTOR		
Q2004	FU-NQ14KTA1504S	CHIP TRANSISTOR		
Q2005	FU-NQ14KTA1504S	CHIP TRANSISTOR		
D013	FU-NDQZ000BA158	RECTIFIER DIODE		
⚠ D014	FU-NDQZ000SB190	SCHOTTKY BARRIER DIODE		
D016	FU-NDQZ000SB340	SCHOTTKY BARRIER DIODE		
D017	FU-NDTC00DZ15BS	ZENER DIODE		
D018	FU-NDQZ000BA158	RECTIFIER DIODE		
D019	FU-NDQZ000FR203	RECTIFIER DIODE		
D1001	FU-NDLZ001N5397	DIODE		
D1002	FU-NDLZ001N5397	DIODE		
D1003	FU-NDLZ001N5397	DIODE		
D1004	FU-NDLZ001N5397	DIODE		
D1006	FU-NDTZ01N4148M	SWITCHING DIODE		
D1008	FU-NDQZ000SB140	SCHOTTKY BARRIER DIODE		
⚠ D1011	FU-NDQZ000BA159	RECTIFIER DIODE		
D1012	FU-NDTZ01N4148M	SWITCHING DIODE		
D1016	FU-NDWZ000FR101	RECTIFIER DIODE		
D1017	FU-NDTB00DZ18BS	ZENER DIODE		
D1018	FU-NDTZ01N4148M	SWITCHING DIODE		
⚠ D1019	FU-NDTB0DZ6R8BS	ZENER DIODE		
D1022	FU-NDTZ01N4148M	SWITCHING DIODE		
D1024	FU-NDTZ01N4148M	SWITCHING DIODE		
D1025	FU-NDTZ01N4148M	SWITCHING DIODE		
D1030	FU-NDWZ000SB240	SCHOTTKY BARRIER DIODE		
⚠ D1031	FU-NDQZ000SB390	SCHOTTKY BARRIER DIODE		
D1032	FU-NDQZ000SB340	SCHOTTKY BARRIER DIODE		
D2001	FU-NDTA00DZ11BS	ZENER DIODE		
D2002	FU-NDTA00DZ11BS	ZENER DIODE		
D2003	FU-NDTA00DZ11BS	ZENER DIODE		
D2004	FU-NDTA00DZ11BS	ZENER DIODE		
D2005	FU-NDTA00DZ11BS	ZENER DIODE		
D2006	FU-NDTA00DZ11BS	ZENER DIODE		
D2007	FU-NDTA00DZ11BS	ZENER DIODE		
D2008	FU-NDTA00DZ11BS	ZENER DIODE		
D2009	FU-NDTA00DZ11BS	ZENER DIODE		
D2010	FU-NDTA00DZ11BS	ZENER DIODE		
C013	FU-CE1JMASDL100	ELECTROLYTIC CAP.	10UF/50V M	
C014	FU-CE1CMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/16V M	
C015	FU-CE1CMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/16V M	
C017	FU-CE0KMZADL472	ELECTROLYTIC CAP.	4700UF/6.3V SL	
C018	FU-CE0KMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/6.3V M	
C020	FU-CE1JMASDL220	CAP ALUMINUM ELECTOLYTIC	22UF/50V M	
C022	FU-CE1GMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/35V M	
⚠ C1001	FU-CT2E683DC011	METALIZED FILM CAP.	0.068UF/250V K	
⚠ C1004	FU-CA2H101S6016	ELECTROLYTIC CAP.	100UF/400V M	

⚠ Symbol No.	Part No.	Part Name	Description	Local
⚠ C1005	FU-CCD3AKPSL560	CERAMIC CAP.	SL K 56PF/1KV	
⚠ C1006	FU-CCN2EMA0E222	SAFTY CAP.	2200PF/250V	
C1007	FU-CE0KMASDL102	CAP ALUMINUM ELECTOLYTIC	1000UF/6.3V M	
C1013	FU-CCA1JJT0B102	CERAMIC CAP.(AX)	B J 1000PF/50V	
C1018	FU-CE1AMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/10V M	
C1021	FU-CCA1CMT0Y103	CERAMIC CAP.(AX)	Y M 0.01UF/16V	
C1025	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
⚠ C1029	FU-CCA1CKT0X182	CERAMIC CAP.(AX)	X K 1800PF/16V	
C1032	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C1033	FU-CCD1JZSYV223	CERAMIC CAP.	YV Z 0.022UF/50V	
C1035	FU-CE0KMZADL332	ELECTROLYTIC CAP.	3300UF/6.3V SL	
C1036	FU-CCD2JKP0B471	CERAMIC CAP.	B K 470PF/500V	
C1037	FU-CE1CMASDL102	CAP ALUMINUM ELECTOLYTIC	1000UF/16V M	
C1039	FU-CE1CMASDL471	CAP ALUMINUM ELECTOLYTIC	470UF/16V M	
C1106	FU-CE1GMASDL101	CAP ALUMINUM ELECTOLYTIC	100UF/35V M	
C2003	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C2004	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C2005	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C2006	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C2007	FU-CHD1JK30B222	CHIP CERAMIC CAP.	B K 2200PF/50V	
C2008	FU-CHD1JKB0B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C2009	FU-CE1CMASDL100	CAP ALUMINUM ELECTOLYTIC	10UF/16V M	
C2010	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C2011	FU-CHD1JKB0B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C2012	FU-CE1JMASDL1R0	CAP ALUMINUM ELECTOLYTIC	1UF/50V M	
C2013	FU-CHD1JKB0B102	CHIP CERAMIC CAP.	B K 1000PF/50V	
C2014	FU-CCD2JKP0B103	CERAMIC CAP.	B K 0.01UF/500V	
R057	FU-RRXAJR5Z0224	CHIP RES.	1/10W J 220K Ω	
R1002	FU-RCX4JATZ0564	CARBON RES.	1/4W J 560K Ω	
R1003	FU-RCX4JATZ0564	CARBON RES.	1/4W J 560K Ω	
R1004	FU-RN02JZLZ0823	METAL OXIDE FILM RES.	2W J 82K Ω	
R1005	FU-RCX4JATZ0105	CARBON RES.	1/4W J 1M Ω	
R1006	FU-RCX4JATZ0105	CARBON RES.	1/4W J 1M Ω	
R1007	FU-RCX4JATZ0105	CARBON RES.	1/4W J 1M Ω	
R1008	FU-RCX4GATZ0821	CARBON RES.	1/4W G 820 Ω	
R1010	FU-RCX6JATZ0223	CARBON RES.	1/6W J 22K Ω	
R1011	FU-RN01JZLZ01R3	METAL OXIDE FILM RES.	1W J 1.3 Ω	
R1020	FU-RCX6JATZ0182	CARBON RES.	1/6W J 1.8K Ω	
R1021	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R1022	FU-RRXAJR5Z0472	CHIP RES.	1/10W J 4.7K Ω	
R1023	FU-RRXAFR5H0222	CHIP RES.	1/10W F 2.2K Ω	
R1024	FU-RRXAJR5Z0683	CHIP RES.	1/10W J 68K Ω	
R1025	FU-RRXAFR5H0562	CHIP RES.	1/10W F 5.6K Ω	
R1029	FU-RCX6JATZ0104	CARBON RES.	1/6W J 100K Ω	
R1032	FU-RCX6JATZ0222	CARBON RES.	1/6W J 2.2K Ω	
R1035	FU-RCX6JATZ0102	CARBON RES.	1/6W J 1K Ω	
R1036	FU-RCX6JATZ0104	CARBON RES.	1/6W J 100K Ω	
R1037	FU-RCX6JATZ0103	CARBON RES.	1/6W J 10K Ω	
R1038	FU-RCX6JATZ0104	CARBON RES.	1/6W J 100K Ω	
R1039	FU-RCX6JATZ0474	CARBON RES.	1/6W J 470K Ω	
R1040	FU-RCX4JATZ08R2	CARBON RES.	1/4W J 8.2 Ω	
R1041	FU-RCX4JATZ05R6	CARBON RES.	1/4W J 5.6 Ω	
R1043	FU-RN012R7ZU001	METAL OXIDE FILM RES.	1W J 2.7 Ω	
R1059	FU-RCX4JATZ0102	CARBON RES.	1/4W J 1K Ω	
R1126	FU-RRXAJR5Z0333	CHIP RES.	1/10W J 33K Ω	
R2003	FU-RCX4JATZ0750	CARBON RES.	1/4W J 75 Ω	
R2004	FU-RRXAJR5Z0750	CHIP RES.	1/10W J 75 Ω	
R2005	FU-RCX4JATZ0821	CARBON RES.	1/4W J 820 Ω	
R2006	FU-RCX4JATZ0221	CARBON RES.	1/4W J 220 Ω	
R2007	FU-RCX4JATZ0821	CARBON RES.	1/4W J 820 Ω	
R2008	FU-RCX4JATZ0221	CARBON RES.	1/4W J 220 Ω	
R2009	FU-RRXAJR5Z0750	CHIP RES.	1/10W J 75 Ω	
R2010	FU-RRXAJR5Z0750	CHIP RES.	1/10W J 75 Ω	
R2011	FU-RRXAJR5Z0750	CHIP RES.	1/10W J 75 Ω	
R2012	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R2013	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R2014	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
R2015	FU-RRXAJR5Z0103	CHIP RES.	1/10W J 10K Ω	
L010	FU-LLBD00PKV022	CHOKE COIL	47UH	
L013	FU-LLBD00PKV022	CHOKE COIL	47UH	
L1001	FU-1VSA12652	BEAD CORE ASSEMBLY		
L1002	FU-1VSA12652	BEAD CORE ASSEMBLY		
⚠ L1003	FU-LLBG00ZTU022	LINE FILTER	56MH	
L1004	FU-XL03010XM001	BEAD CORE	B16 RH 3.5X10X1.3	
L1005	FU-1VSA12652	BEAD CORE ASSEMBLY		
L1011	FU-LLBD00PKV022	CHOKE COIL	47UH	

⚠ Symbol No.	Part No.	Part Name	Description	Local
L1013	FU-LLC180KKV007	POWER INDUCTORS		
L2001	FU-1VSA12643	BEAD CORE ASSEMBLY		
⚠ T0011	FU-LTT00EPKT189	SWITCHING TRANSFORMER		
⚠ AC1001	FU-WAE0172LW011	AC CORD		
CN051A	FU-JCTUB19TG002	242 SERIES CONNECTOR		
⚠ F1001	FU-PAGC20BW3162	FUSE	T1.6AL/250V	
FH1001	FU-XH01Z00LY002	FUSE HOLDER		
FH1002	FU-XH01Z00LY002	FUSE HOLDER		
JK2001	FU-JXGL210LY006	RGB CONNECTOR		
JW1001	FU-WX1E9700-003	FLAT CABLE 10P		
JW1002	FU-WX1E9700-004	FLAT CABLE 9P		
JW2001	FU-WX1E9700-005	FLAT CABLE 11P		
JW2002	FU-WX1E9700-006	FLAT CABLE 4P		
OT1	FU-1VM420987	HEAT SINK		
OT2	FU-GBJS3080	SCREW S-TIGHT	M3X8 BIND HEAD+	
OT3	FU-0VM415201C	PLATE GROUND(21PIN)		

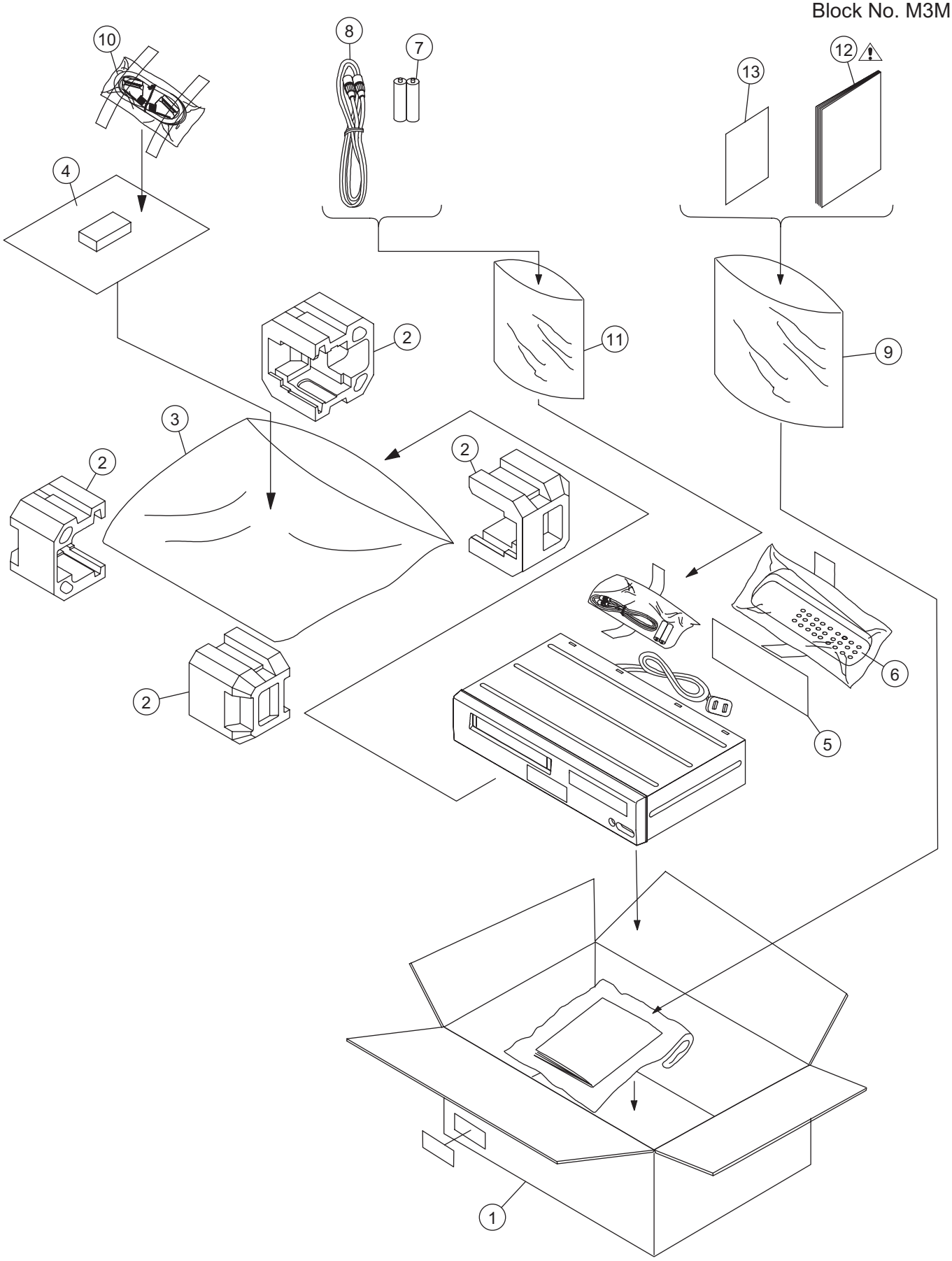
AFV board

Block No. [0][3]

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	FU-1VSA12639	AFV BOARD ASSY		
IC1	FU-NSZBA0SP3005	IC AUDIO PROCESSOR		
D2	FU-NDTZ01N4148M	SWITCHING DIODE		
C1	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C4	FU-CHD1JJ3CH560	CHIP CERAMIC CAP.	CH J 56PF/50V	
C5	FU-CHD1JJ3CH220	CHIP CERAMIC CAP.	CH J 22PF/50V	
C6	FU-CHD1JJ3CH560	CHIP CERAMIC CAP.	CH J 56PF/50V	
C7	FU-CHD1JC3CH3R0	CHIP CERAMIC CAP.	CH C 3PF/50V	
C8	FU-CHD1JC3CH3R0	CHIP CERAMIC CAP.	CH C 3PF/50V	
C11	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C12	FU-CE1CMASSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C13	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C14	FU-CHD1JK30B103	CHIP CERAMIC CAP.	B K 0.01UF/50V	
C15	FU-CE1CMASSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C16	FU-CE1CMASSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C17	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C19	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C20	FU-CE1JMASSL3R3	ELECTROLYTIC CAP.	3.3UF/50V M H7	
C21	FU-CHD1JZ30F104	CHIP CERAMIC CAP.	F Z 0.1UF/50V	
C22	FU-CE1CMASSL100	ELECTROLYTIC CAP.	10UF/16V M H7	
C24	FU-CE1JMASSLR22	ELECTROLYTIC CAP.	0.22UF/50V M H7	
C27	FU-CCA1JZTFZ104	CERAMIC CAP.(AX)	F Z 0.1UF/50V	
R1	FU-RRXAJR5Z0102	CHIP RES.	1/10W J 1K Ω	
R4	FU-RRXAJR5Z0124	CHIP RES.	1/10W J 120K Ω	
R5	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
R6	FU-RRXAZR5Z0000	CHIP RES.	1/10W 0 Ω	
L1	FU-LLAXKATTU100	INDUCTOR		
L3	FU-LLAXKATTU180	INDUCTOR		
L4	FU-LLAXKATTU100	INDUCTOR		
CN1	FU-JTED009ER045	ANGLE PIN HEADER 9P		
X1	FU-FXD186LLN001	XTAL	18.432MHZ	

Packing materials and accessories parts list

Block No. M3MM



Packing and accessories

Block No. [M][3][M][M]

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	FU-1VM321468	GIFT BOX CARTON		
2	FU-1VM120413	SIDE PAD	four in one	
3	FU-0DM400731A	SET BAG		
4	FU-1VM321492	TOP PAD		
5	FU-1VM420375	REMOCON PAD		
6	FU-NB402FD	REMOTE CONTROL UNIT		
7	---------	DRY BATTERY	R6TYPE	
8	FU-WPZ0122LG001	RF CORD PAL 1.2M		
9	FU-0VM415576	ACCESSORY BAG		
10	FU-WX1E4300-012	SCART CABLE 1.5M		
11	FU-1VM422101	ACCESSORY BAG		
⚠ 12	FU-1VMN21287	INST BOOK(GER)		EU
⚠ 12	FU-1VMN21291	INST BOOK(SWE)		EY
⚠ 12	FU-1VMN21295	INST BOOK(SPA)		EL
⚠ 12	FU-1VMN21326	INST BOOK(POL)		EZ
⚠ 12	FU-1VMN21288	INST BOOK(FRA)		EU
⚠ 12	FU-1VMN21292	INST BOOK(NOR)		EY
⚠ 12	FU-1VMN21296	INST BOOK(POR)		EL
⚠ 12	FU-1VMN21327	INST BOOK(CZC)		EZ
⚠ 12	FU-1VMN21289	INST BOOK(ITA)		EU
⚠ 12	FU-1VMN21293	INST BOOK(DEN)		EY
⚠ 12	FU-1VMN21328	INST BOOK(HUN)		EZ
⚠ 12	FU-1VMN21290	INST BOOK(DUT)		EU
⚠ 12	FU-1VMN21294	INST BOOK(FIN)		EY
13	---------	WARRANTY SHEET	FU-1VM321422	