

TOSHIBA

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SERVICE MANUAL

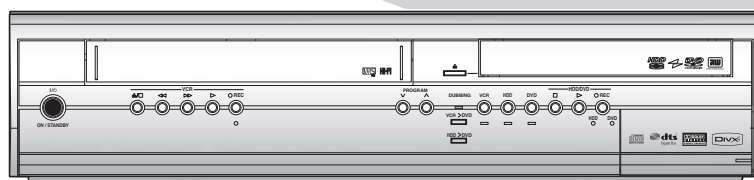


HDD & DVD / Video Cassette Recorder

RD-XV47KE

RD-XV47KB

RD-XV47KF



The above models are classified as green products (*1), as indicated by the underlined serial numbers. This Service Manual describes replacement parts for the green products. When repairing these green product(s), use the part(s) described in this manual and lead-free solder (*2).

For (*1) and (*2), see the next page.

(*1)

GREEN PRODUCT PROCUREMENT

The EC is actively promoting the WEEE & RoHS Directives that define standards for recycling and reuse of Waste Electrical and Electronic Equipment and for the Restriction of the use of certain Hazardous Substances. From July 1, 2006, the RoHS Directive will prohibit any marketing of new products containing the restricted substances.

Increasing attention is given to issues related to the global environmental. Toshiba Corporation recognizes environmental protection as a key management tasks, and is doing its utmost to enhance and improve the quality and scope of its environmental activities. In line with this, Toshiba proactively promotes Green Procurement, and seeks to purchase and use products, parts and materials that have low environmental impacts.

Green procurement of parts is not only confined to manufacture. The same green parts used in manufacture must also be used as replacement parts.

(*2)

LEAD-FREE SOLDER

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repair of this product.

WARNING

This product is manufactured using lead free solder.

DO NOT USE LEAD BASED SOLDER TO REPAIR THIS PRODUCT !

The melting temperature of lead-free solder is higher than that of leaded solder by 86°F to 104°F (30°C to 40°C). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or BOARD being soldered. Great care should be made to ensure high-quality soldering when servicing this product — especially when soldering large components, through-hole pins, and on BOARDS — as the level of heat required to melt lead-free solder is high.

MAIN SECTION

HDD & DVD / Video Cassette Recorder

RD-XV47KE/RD-XV47KB/RD-XV47KF

Main Section

- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- BOARD's
- Exploded Views
- Parts List

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SPECIFICATIONS

General	
System	HDD, DVD-Video, DVD-RW / R, DVD+RW / R, VCD, CD-DA, CD-RW / R, Video Cassette Tape
VCR video heads	Four heads
HDD	Internal 3.5 inch HDD 160 GB
Power requirements	220–240 V ~ ± 10%, 50 Hz ± 0.5%
Power consumption	60 W (standby: 8.0 W)
Weight	5.8 kg (RD-XV47KE/RD-XV47KF) 5.9 kg (RD-XV47KB)
Dimensions (width x height x depth)	435 x 99.5 x 380 mm
Operating temperature	5°C to 40°C
Operating humidity	Less than 80% (no condensation)
TV format	PAL / SECAM - BG / DK (RD-XV47KE) PAL-I (RD-XV47KB) SECAM LL, PAL B / G (RD-XV47KF)

Recording	
Recording format	Video Recording format (DVD-RW only), Video format (DVD-RW, DVD-R) +VR format (DVD+RW, DVD+R)
Recordable discs	DVD-ReWritable, DVD-Recordable, DVD+ReWritable, DVD+Recordable
Video recording format	
Sampling frequency	13.5 MHz
Compression format	MPEG2
Audio recording format	
Sampling frequency	48 kHz
Compression format	Dolby Digital

Tuner	
Receivable channels	E2-E69 (RD-XV47KE) IRA-E69 (RD-XV47KB) "L (SECAM L)": F1 - E69 (RD-XV47KF) "BG (PAL B / G)": E2 - E69 (RD-XV47KF)

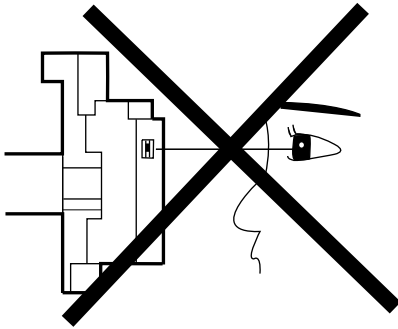
Input/Output	
Front Panel : (AV3)	
Video input	One RCA connector
Input level	1 Vp-p (75 Ω)
S-Video input	One Mini DIN 4-pin jack
Input level	Y (luminance) 1 Vp-p (75 Ω) C (colour) 300 mVp-p (75 Ω)
Audio input	Two RCA connectors
Input level	2 Vrms (input impedance: more than 10 kΩ)
Rear Panel	
VHF/UHF antenna input/output terminal	VHF/UHF set 75 Ω
Audio input /output	Two 21-pin scart sockets (AV1, AV2)
Video input /output	Two 21-pin scart sockets (AV1, AV2)
Input /output level	1Vp-p (75 Ω) each
S-Video output	One Mini DIN 4-pin jacks
Output level	Y (luminance) 1 Vp-p (75 Ω) C (colour) 300 mVp-p (75 Ω)
Component video out	Three RCA connectors
Output level	Y: 1.0 Vp-p (75 Ω) PB/CB, PR/CR: 0.7 Vp-p (75 Ω) each
Analogue audio output	Two RCA connectors
Output level	2 Vrms (output impedance: ≃680Ω)
Digital audio out	One Coaxial pin jack
Output level	500 mVp-p (75 Ω)

Note

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

LASER BEAM SAFETY PRECAUTIONS

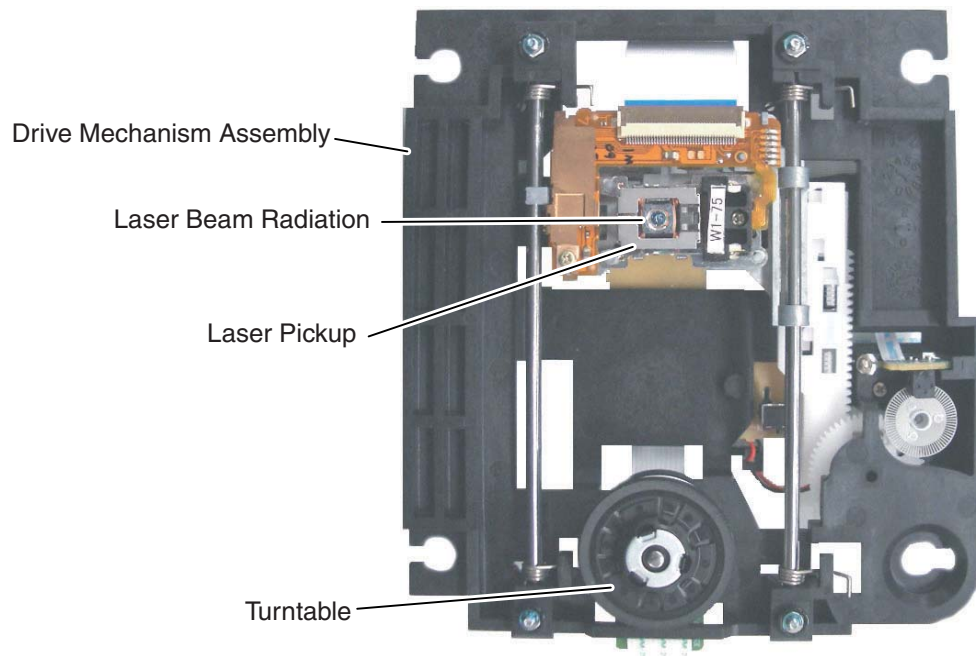
This DVD player uses a pickup that emits a laser beam.



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

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

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



CAUTION-CLASS 2M LASER
RADIATION WHEN OPEN
DO NOT STARE INTO THE BEAM
OR VIEW DIRECTLY WITH
OPTICAL INSTRUMENTS



Location: Inside Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

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

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

Precautions during Servicing

- A. Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.
- B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- D. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation tape
 - 2) PVC tubing
 - 3) Spacers
 - 4) Insulators for transistors
- E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
- G. Check that replaced wires do not contact sharp edges or pointed parts.
- H. When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.
- I. Also check areas surrounding repaired locations.
- J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

Safety Check after Servicing

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

1. Clearance Distance

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

Table 1 : Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
230 V	$\geq 3.2 \text{ mm}(d)$ $\geq 6.0 \text{ mm}(d')$

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

2. Leakage Current Test

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

Measuring Method (Power ON) :

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

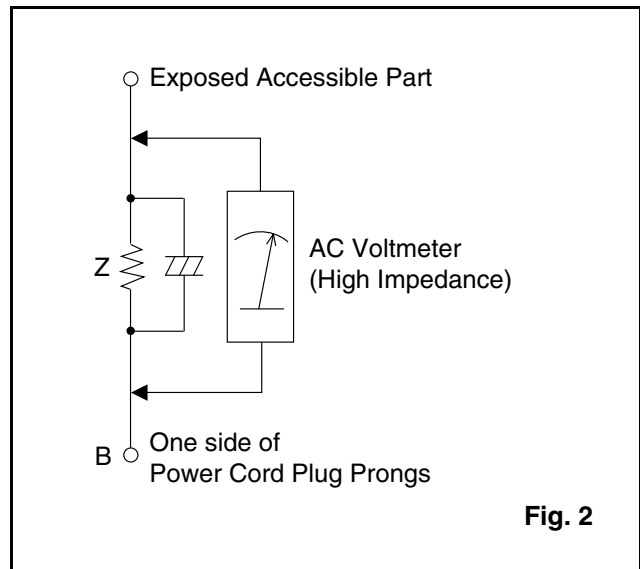
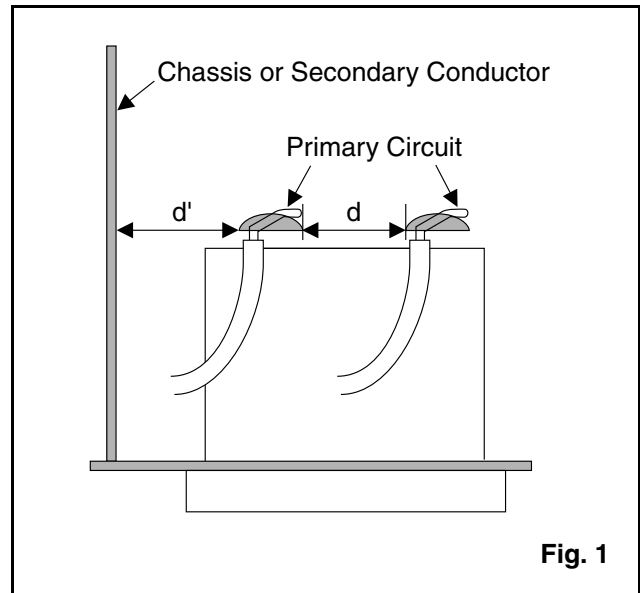


Table 2: Leakage current ratings for selected areas

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

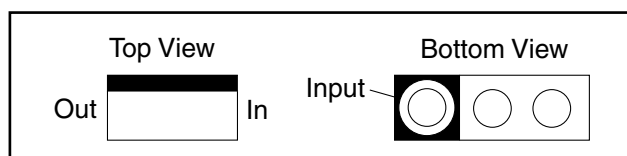
Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

STANDARD NOTES FOR SERVICING

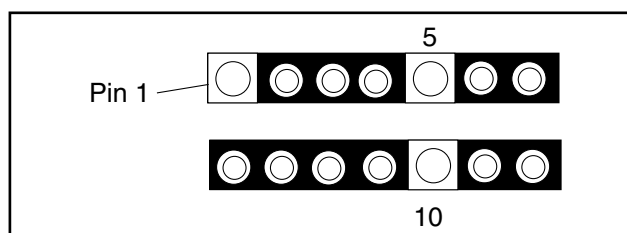
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

Circuit Board Indications

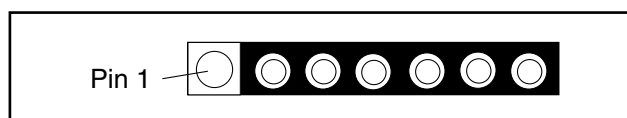
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

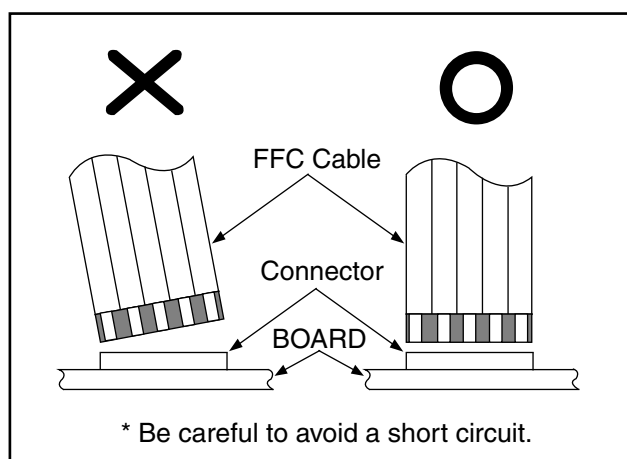


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

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



Pb (Lead) Free Solder

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

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

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

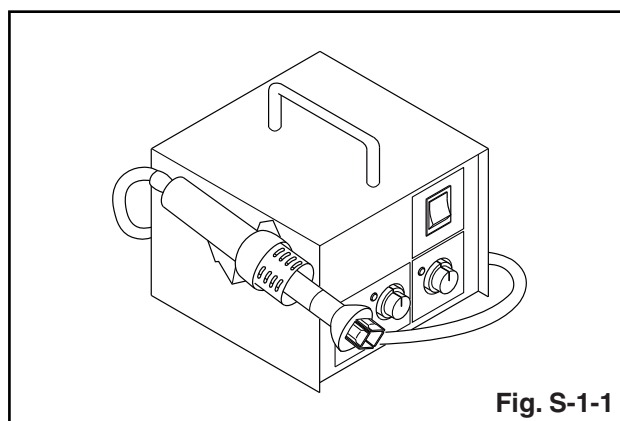


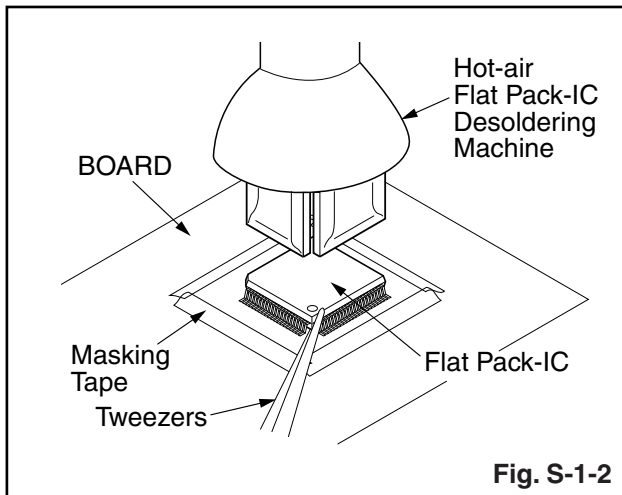
Fig. S-1-1

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

CAUTION:

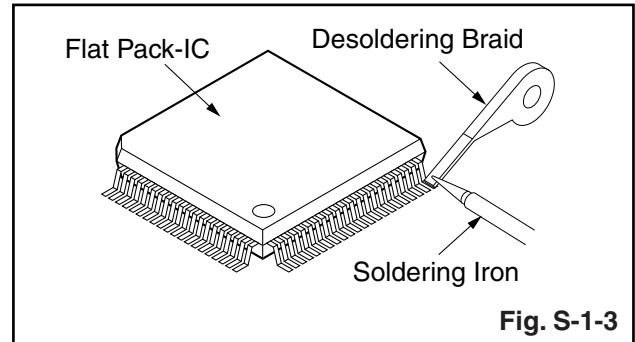
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape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

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

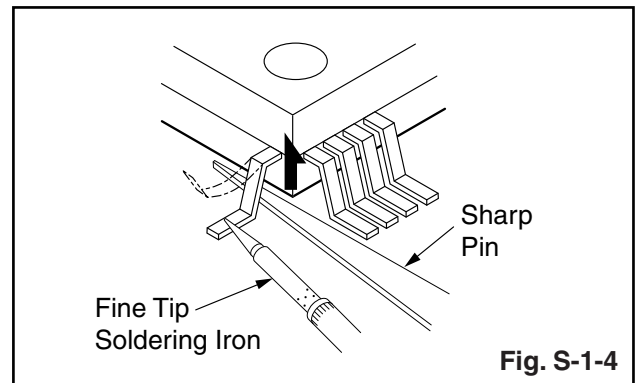


With Soldering Iron:

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



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

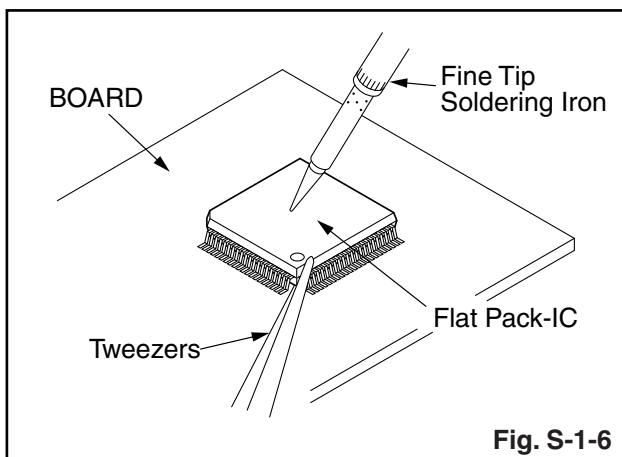
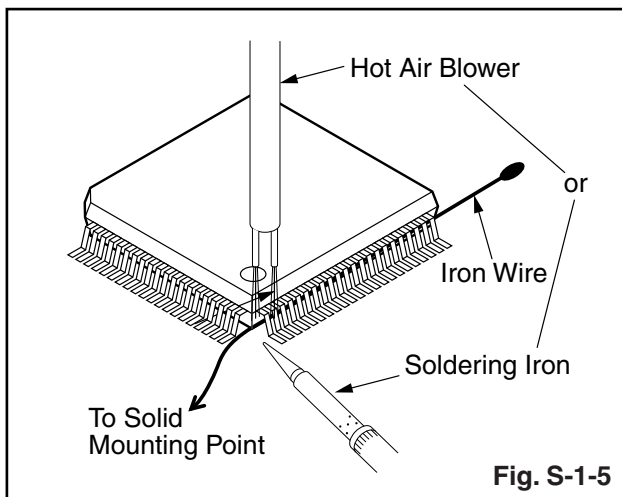


3. Bottom of the flat pack-IC is fixed with glue to the BOARD; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the BOARD using tweezers. (Fig. S-1-6)

With Iron Wire:

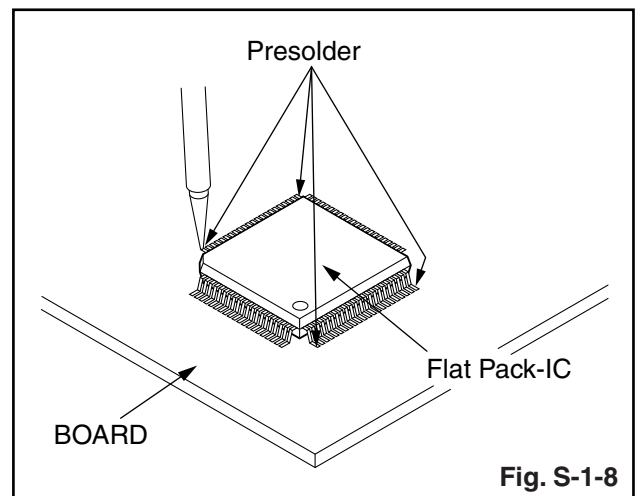
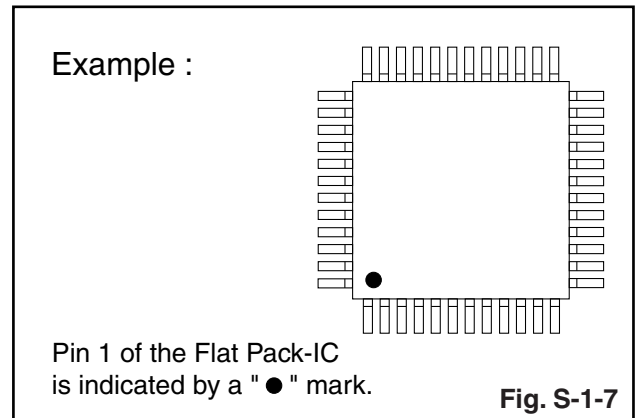
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins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

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



2. Installation

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



Instructions for Handling Semi-conductors

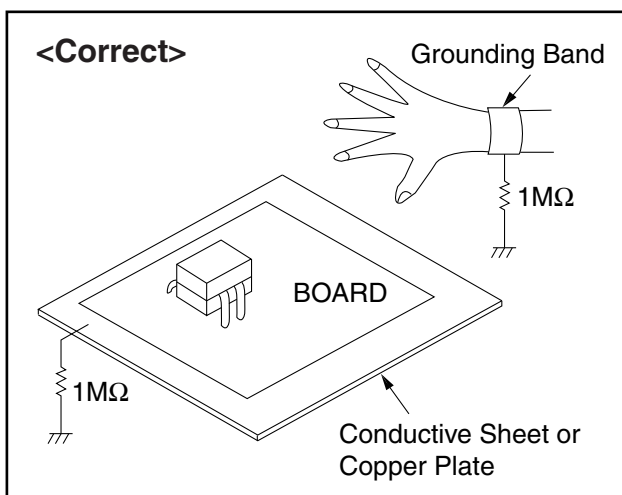
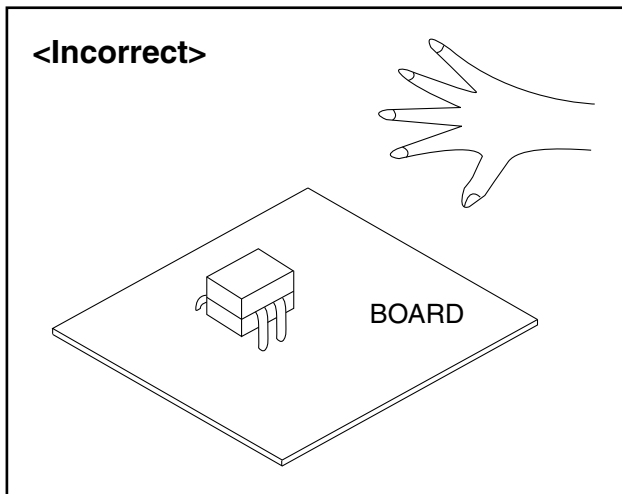
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

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

2. Ground for Workbench

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



HANDLING PRECAUTIONS FOR HDD

CAUTION:

1. SHOCK

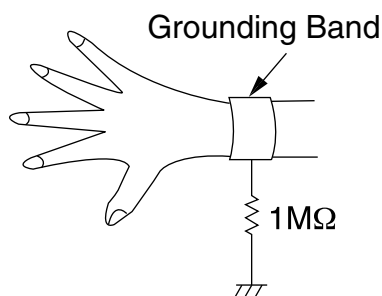
- a. Exposing HDD to shock may be the biggest damaging factor. Please note that HDD is easily damaged even if dropped from any height. Be sure to place HDD on a shock-absorbent mat. Also, be careful when transporting HDD.
- b. Be careful not to subject HDD to any shock when tightening screws for HDD replacement.
(Tighten screws manually, not with an electric driver.)

2. MOISTURE

- a. Moisture may also be a damaging factor. HDD is semiclosed style. Sudden changes in ambient temperature may cause moisture to form. Monitor temperature and do not allow moisture to form on the media surface. Also, when opening HDD package, do so only after package is at ambient temperature.
- b. After replacing HDD, leave it to reach room temperature (about 2 hours) for preventing dew internal condensation, and then work necessary task such as operation check.

3. STATIC ELECTRICITY

- a. After removing HDD or taking replacement HDD out of the protective bag (the replacement HDD is packed in a protective bag), place HDD on a conductive surface. A grounding band should be worn when handling.



Both the conductive surface and grounding band should be grounded.

- b. Make sure that HDD is placed on main unit completely and then let go of it, when assembling.
- c. Do not put HDD on a packing bag. (for preventing electrostatic damage)

4. OTHERS

- a. Be careful so as not to do the followings. Otherwise, HDD might be damaged.
 - **DO NOT** disassemble HDD.
 - When handling HDD, be sure to hold both sides securely.
- b. HDD should be stored, packed in the protective bag, in suitable surroundings (i.e., no extreme changes in temperature to avoid condensation).
- c. When transporting HDD, be sure to use the exclusive packing case (the replacement HDD carton).
- d. Do not stack HDDs.
- e. Do not place vertically because HDD is unstable and easy to fall.

PREPARATION FOR SERVICING

How to Enter the Service Mode

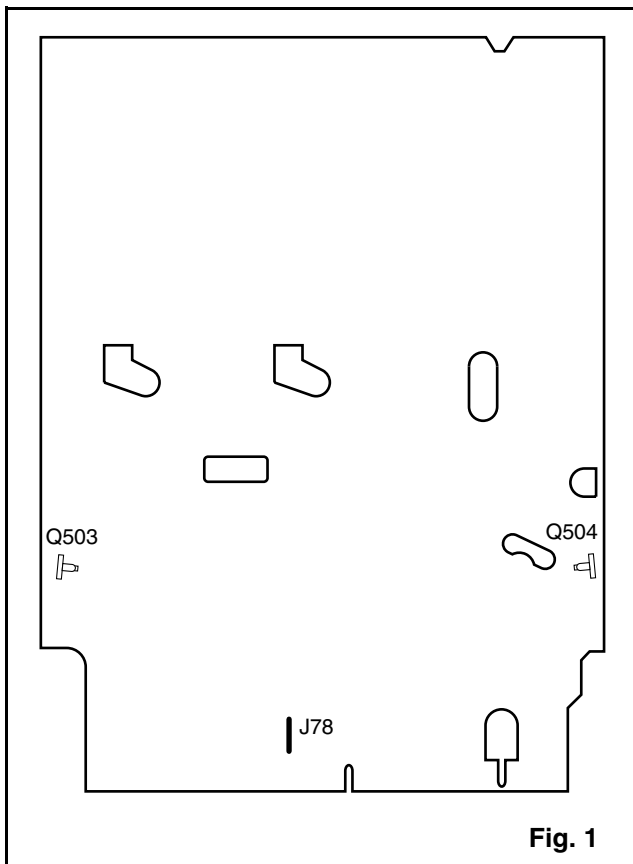
About Optical Sensors

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 [VCR PLAY] button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect J78 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.



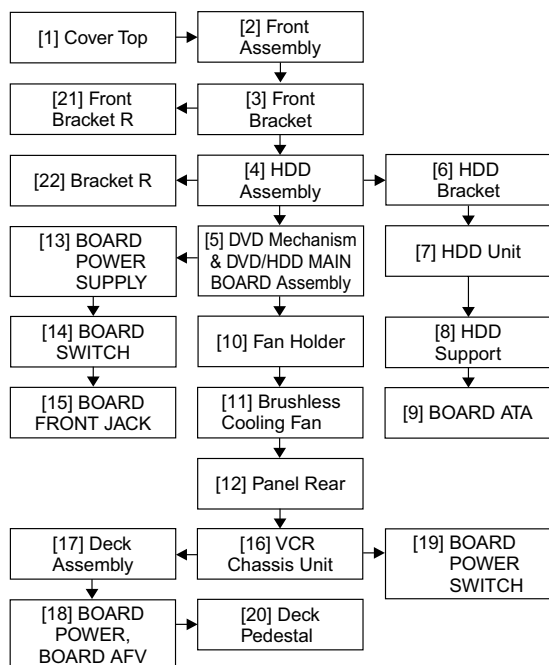
Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

CABINET DISASSEMBLY INSTRUCTIONS

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

1. Disassembly Flowchart

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



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[1]	Cover Top	D1	7(S-1)	---
[2]	Front Assembly	D2	(S-2), *5(L-1), *3(L-2)	1
[3]	Front Bracket	D2	2(S-3), 3(S-3B), Front Support	---
[4]	HDD Assembly	D3	2(S-4), *CN901, *CN1003	---
[5]	DVD Mechanism & DVD/HDD MAIN BOARD Assembly	D3	2(S-5), 2(S-6), *CN1001, *CN1502, Cover Dust	2
[6]	HDD Bracket	D4	4(S-7), (S-7B), Plate Earth	---
[7]	HDD Unit	D4	4(S-8), HDD Rubber	2
[8]	HDD Support	D4	Insulation Sheet	---
[9]	BOARD ATA	D4	*CN3001, *CN3002	---

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[10]	Fan Holder	D5	3(S-9), 2(S-9B), *CN1002	---
[11]	Brushless Cooling Fan	D5	-----	---
[12]	Panel Rear	D5	3(S-10), 2(S-10B), 2(S-11)	---
[13]	BOARD POWER SUPPLY	D6	*CL1001, 4(S-12)	---
[14]	BOARD SWITCH	D6	(S-13), Desolder	---
[15]	BOARD FRONT JACK	D6	*CN3001, 2(S-14)	---
[16]	VCR Chassis Unit	D7	5(S-15), 4(S-16), (S-17)	---
[17]	Deck Assembly	D8	(S-18), (S-19) Desolder	3 4
[18]	BOARD POWER, BOARD AFV	D8	-----	---
[19]	BOARD POWER SWITCH	D8	Desolder	---
[20]	Deck Pedestal	D9	8(S-20)	---
[21]	Front Bracket R	D9	(S-21)	---
[22]	Bracket R	D9	2(S-22)	---

↓ (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

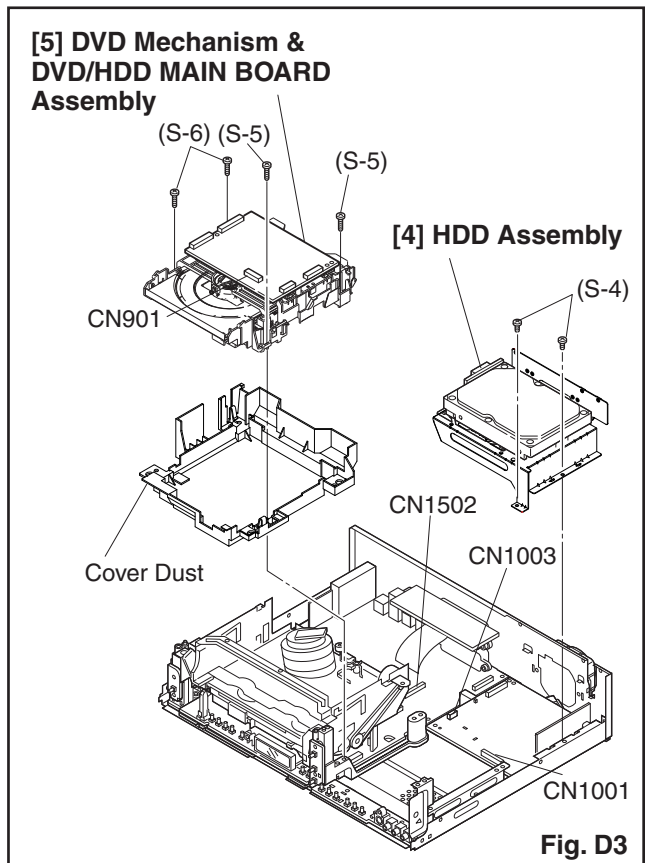
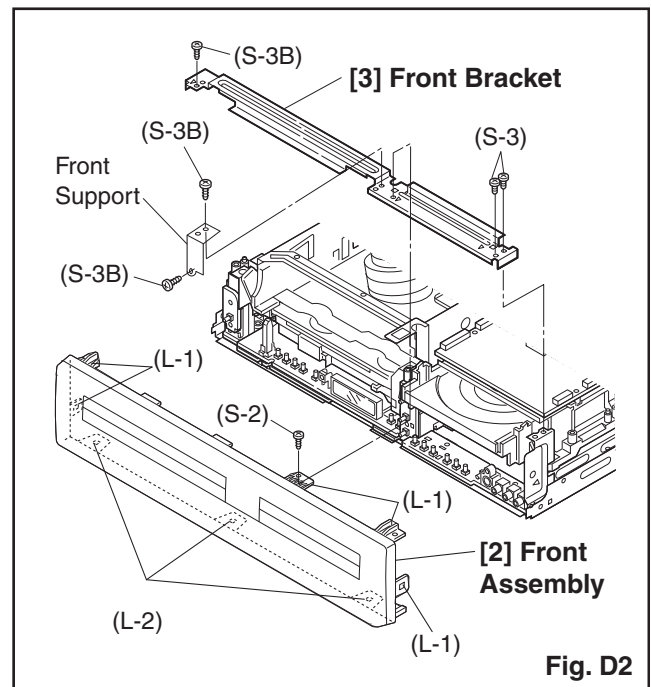
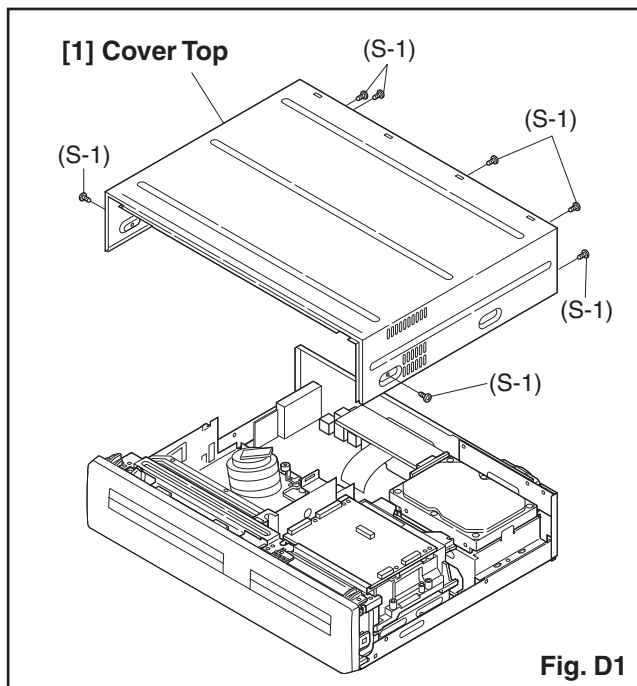
e.g. 6(S-1) = six Screws (S-1),

5(L-1) = five Locking Tabs (L-1)

(5): Refer to "Reference Notes."

Reference Notes

1. Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.
 - 1-1. Remove Screw (S-2).
 - 1-2. Release five Locking Tabs (L-1).
 - 1-3. Release three Locking Tabs (L-2) and remove the Front Assembly.
2. Do not replace the DVD Mechanism or the DVD/HDD MAIN BOARD Assembly separately, when replacing the DVD Mechanism & DVD/HDD MAIN BOARD Assembly. Order the new DVD Mechanism & DVD/HDD MAIN BOARD Assembly.
 - 2-1. Whenever you have replaced the HDD unit, initialize the HDD unit. To initialize the HDD unit, perform the following. To put the HDD & DVD/VCR into the HDD mode, press the [HDD] button on the remote control unit.
 - 2-2. To put the HDD & DVD/VCR into the self-check mode, after pressing [VARIABLE SKIP] button, press the [3], [6], and [9] buttons on the remote control in that order within three seconds.
 - 2-3. Press [ENTER] button. The HDD & DVD/VCR is initialized and the power is turned off automatically after two seconds.
3. When reassembling, solder wire jumpers as shown in Fig. D8.
4. Before installing the Deck Assembly, be sure to place the pin of LD-SW on the BOARD POWER as shown in Fig. D8. 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. D8.



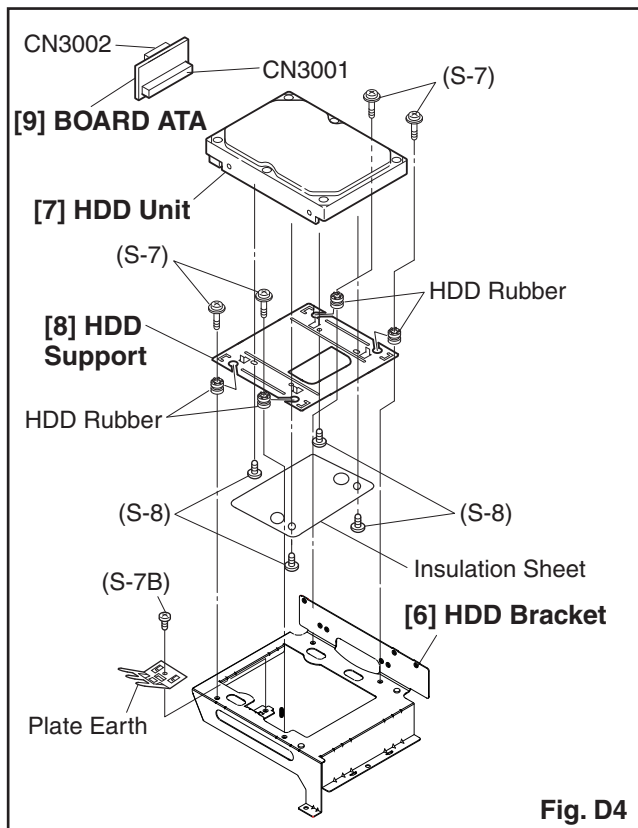


Fig. D4

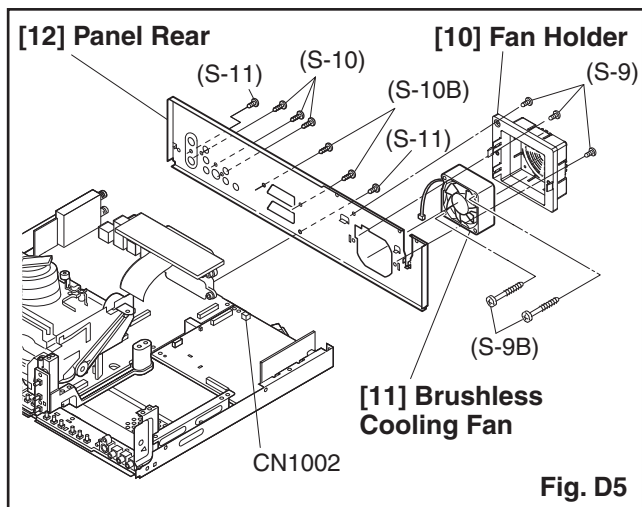


Fig. D5

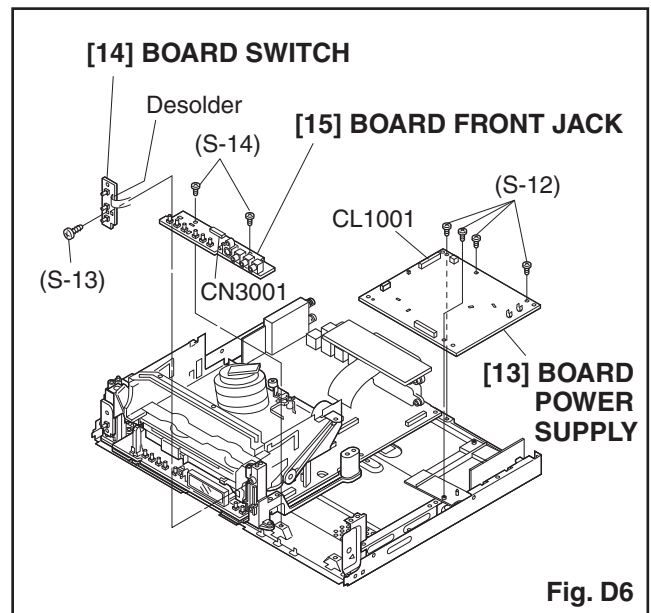


Fig. D6

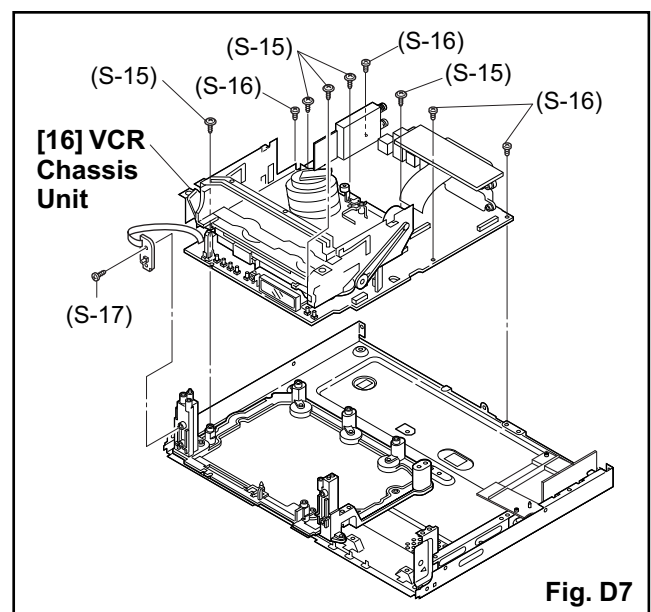


Fig. D7

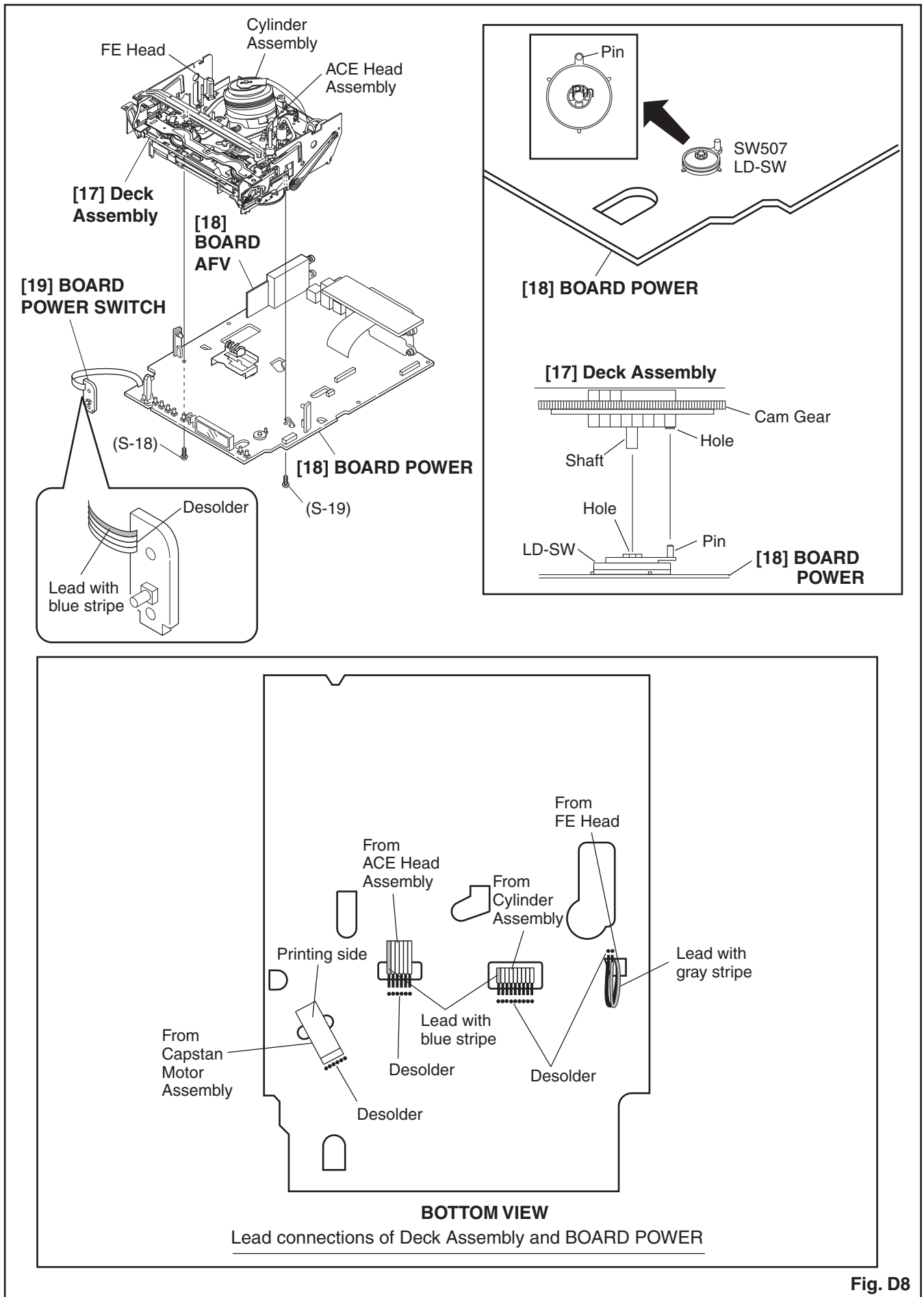


Fig. D8

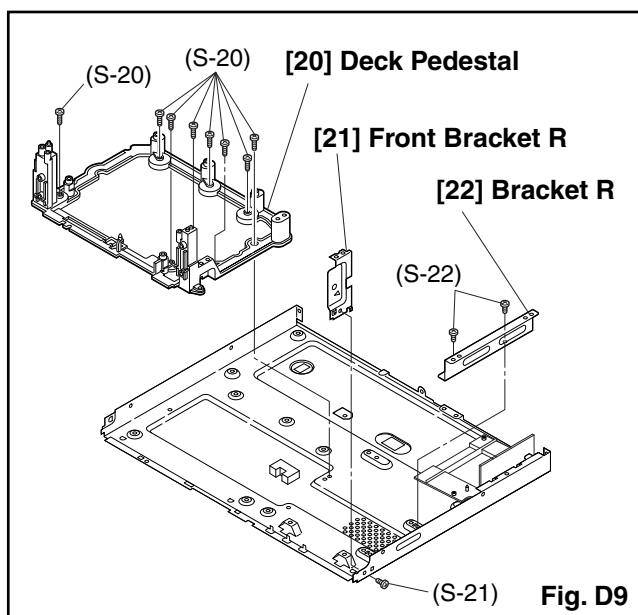
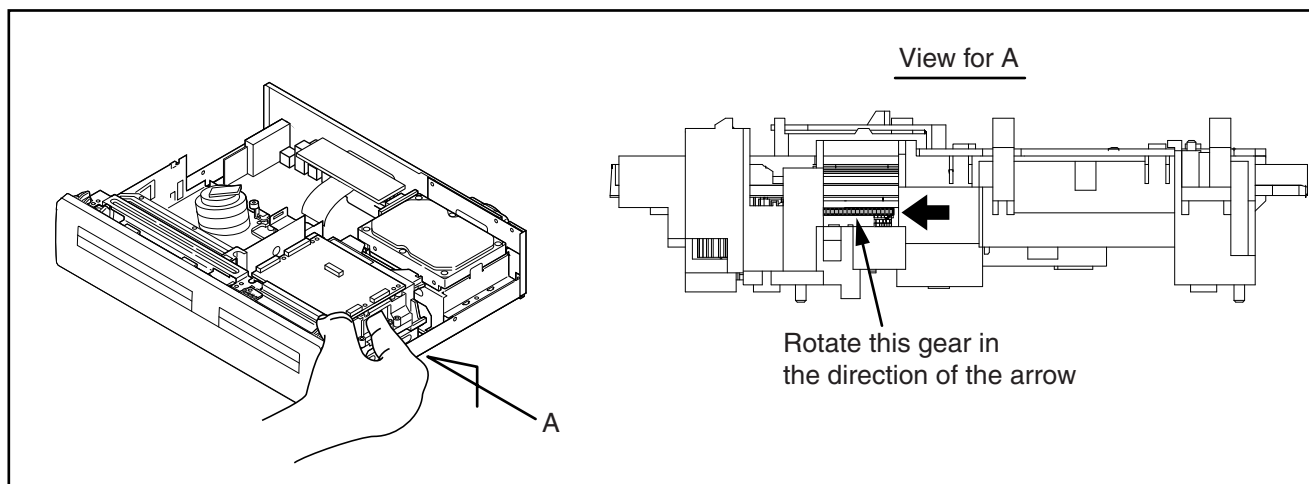


Fig. D9

3. How to Eject Manually

Note: When rotating the gear, be careful not to damage the gear.

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



ELECTRICAL ADJUSTMENT INSTRUCTIONS

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

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 in the center position: Press either [PROGRAM $\vee$] or [PROGRAM $\wedge$] button on the front panel first, then the [$\triangleright$] (VCR) button on the front panel.

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 (FL6A)

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
J308(AV1-V-OUT) TP504(RF-SW) GND	VR501 (Switching Point) (BOARD POWER)	PLAY (SP)	-----
Tape	Measurement Equipment	Spec.	
FL6A	Oscilloscope	6.5H±1H (416μs±64μs)	

Connections of Measurement Equipment			
--------------------------------------	--	--	--

BOARD
POWER

J308

GND

TP504

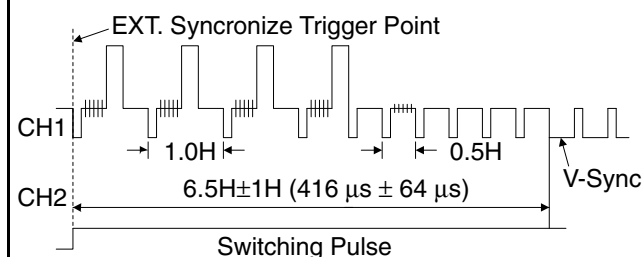
Oscilloscope

CH1

CH2

Trig. (+)

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 $\pm$ 1H (416 μ s $\pm$ 64 μ s) delayed position from the rising edge of the CH2 head switching pulse waveform.

HOW TO SELF-CHECK AND INITIALIZE THE HDD & DVD/VCR

1. Turn on the HDD & DVD/VCR.
2. To put the HDD & DVD/VCR into the HDD mode, press [HDD] on the remote control unit.
3. To put the HDD & DVD/VCR into the self-check mode, after pressing [VARIABLE SKIP] button, press the [3], [6], and [9] buttons on the remote control in that order within three seconds.
Fig. a appears on the screen and all LEDs light.

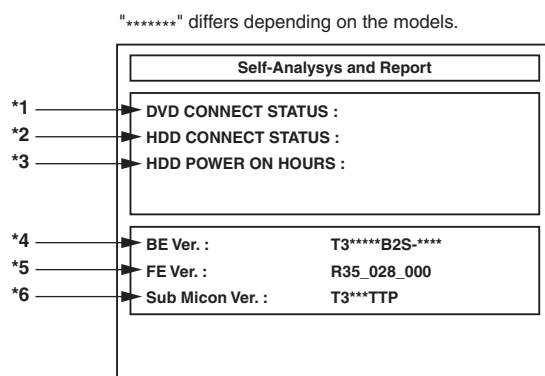


Fig. a: Self-Check Mode Screen

Table 1: Description of Fig. a

INDICATION	DESCRIPTION
DVD CONNECT STATUS (*1)	Connecting Condition of DVD(F/E)
HDD CONNECT STATUS (*2)	Connecting Condition of HDD
HDD POWER ON HOURS (*3)	Value of HDD power on hours obtained from S.M.A.R.T. command. (If not obtainable, value of HDD power on hours is "0".) Value in parentheses is the factory setting value. (If no setting, the value is "0".)
BE Ver. (*4)	B/E version
FE Ver. (*5)	F/E version
Sub Micon Ver. (*6)	Sub micro controller version

4. Upon the self-check completion, Fig. b appears on the screen.

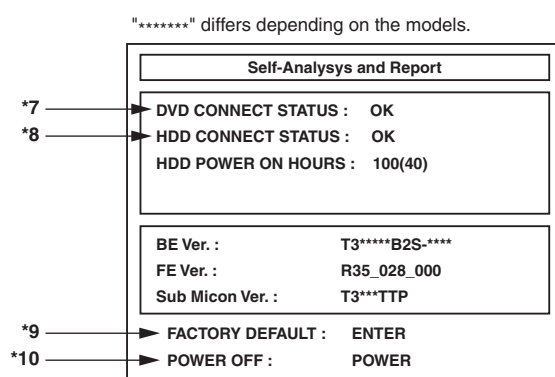


Fig. b: Screen of Finishing Self-Check Mode

Table 2: Indication of DVD self-check (*7)

INDICATION	DESCRIPTION
OK	Connection of DVD is normal.
NOT FOUND	DVD drive cannot be found.
CABLE ERROR	FFC cable (connecting to CN401) between the DVD drive and the DVD/HDD MAIN BOARD is not connected correctly.

Table 3: Indication of HDD self-check (*8)

INDICATION	DESCRIPTION
OK	Connection of HDD is normal.
NOT FOUND	HDD drive cannot be found.
CABLE ERROR	FFC cable between the BOARD ATA and the HDD drive is not connected correctly.

Table 4: Available button in self-check mode

BUTTON	DESCRIPTION
ENTER (*9)	Initialize (only when the self-check mode is complete)
ON / STANDBY (*10)	Turn the power off (when the self-check mode is complete)
OTHER	Not available

5. When the self-check mode is complete, press [I/O] button to turn the power off.
When initializing the HDD & DVD/VCR, press [ENTER] button. Fig. c appears on the screen. After two seconds, the power is turned off automatically.

"*****" differs depending on the models.

SELF CHECK	
DVD CONNECT STATUS :	OK
HDD CONNECT STATUS :	OK
HDD POWER ON HOURS :	100(40)
BE Ver. :	T3*****B2S-****
FE Ver. :	R35_028_000
Sub Micon Ver. :	T3***TTP
HDD FORMAT :	WRITING ← *11

Fig. c: Initialize Mode Screen

Table 5: Description of *11 in Fig. c

INDICATION	DESCRIPTION
ENTER	Initialization preparation is complete.
WRITING	Initializing
OK	Initializing is finished normally.
NG	Initializing is not finished normally.

NOTE: When initializing, "Current Clock", "Setup Changing Item", "Channel Setup", "Area Setup", "Program" and "HDD Contents" are initialized.

FIRMWARE RENEWAL MODE

1. Update Contents

	Item	Status
1	B/E	Update B/E FIRMWARE
2	F/E	Update F/E FIRMWARE

2. Update

1. Turn the power on and remove the disc in the tray.
2. To switch the HDD & DVD into the HDD mode, press [HDD] on the remote control unit.
3. To put the HDD & DVD into version up mode, press [VARIABLE SKIP] and [6], [5], [4] buttons on the remote control unit in that order within 3 seconds. The tray will open automatically. Fig. a appears on the TV screen and Fig. b appears on the VFD.

*FIRMWARE version will differ depending on the model. Fig. a is an example.

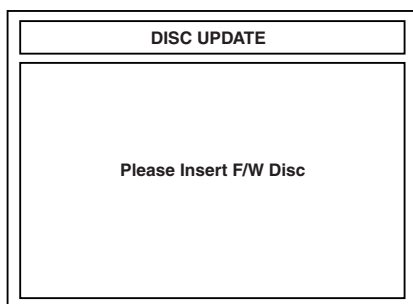


Fig. a: Update Mode TV Screen

F - UP

Fig. b: VFD Display in Update Mode

4. Load the update disc.
The TV screen will display Fig. c.
- If the update disc contains only a single file, the update will initiate automatically when the disc is inserted.

*FIRMWARE version will differ depending on the model. Fig. c is an example.

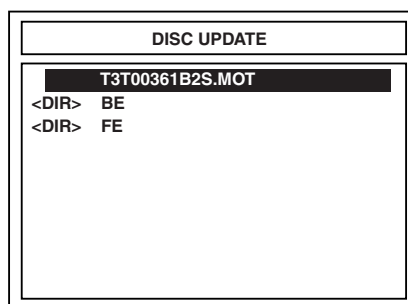


Fig. c: Update Disc TV Screen

Effective FIRMWARE update files will have the file extensions shown below.

File extension	Status
MOT	F/E FIRMWARE file

5. Select the desired FIRMWARE to be updated with the arrow button and press the [ENTER] or [PLAY] button.
The tray will open automatically; close the tray by pressing [OPEN/CLOSE] button or by hand.
6. Fig. d appears on the TV screen and Fig. e appears on the VFD, and the update will start.

*FIRMWARE version will differ depending on the model. Fig. d is an example.

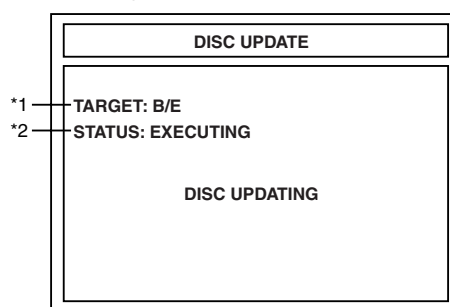


Fig. d: TV Display during update

The status displayed in *1 is as shown below.

Display	Status
B/E	FIRMWARE B/E
F/E	FIRMWARE F/E
UNKNOWN	Not FIRMWARE B/E or F/E

The status displayed in *2 is as shown below.

Display	Status
EXECUTING	Loading F/W from Update Disc or writing to Flash memory
ERROR	Error during Flash memory writing
FILE ERROR	Check SAM error in F/W file
READ ERROR	Error during F/W file reading

25

Fig. e: VFD Display during update

When the TV screen displays "Firmware Updating... XX% Complete," the VFD will indicate "XX"%.

- When update is complete, the unit will shut off automatically.
- If an error occurred during updating, the TV screen will display Fig. f.

*FIRMWARE version will differ depending on the model. Fig. f is an example.

DISC UPDATE
TARGET: B/E STATUS: ERROR
PLEASE PUSH POWER BUTTON

Fig. f: TV Display when completing update with error

Error

Fig. h: VFD Display when completing update with error

In this case, all button operations will be invalid except [I/⏻] button.

- Press [I/⏻] button to turn the power off and press [I/⏻] button again to turn the power back on and finish updating.

3. How to Verify the Firmware Version

- Turn the power on and remove the disc in the tray.
- To switch the HDD & DVD into HDD mode, press [HDD] on the remote control unit.
- To put the HDD & DVD into version display mode, press [VARIABLE SKIP] and [1], [2], [3] buttons on the remote control unit in that order within 3 seconds. Fig. i appears on the TV screen.

***** part will differ depending on the model.
Fig. i is an example.

VERSION INFORMATION	
Model Name :	E3B90ED
BE Ver. :	T3***B2S.***
FE Ver. :	R35.***
Sub Micon Ver. :	T3***TTP
REGION:	2
CPRM KEY NO:	(0x***)
HDD MODEL:	*****(*GByte)
DivX Ver.:	***
LD ADJUSTMENT:	OK
DISC ADJUSTMENT:	OK

Fig. i: Firmware version display

Display	Contents
MODEL NAME	Product number
BE Ver.	Firmware B/E version
FE Ver.	Application F/E version
Sub Micon Ver.	Sub Microcontroller firmware version
REGION	Region code of playable DVD disc
CPRM KEY NO.	CPRM key number
HDD MODEL	HDD serial number and capacity (GByte)
DivX Ver.	Version number of DivX filesystems
LD ADJUSTMENT	LD adjustment progress (done: OK/ not done: --)
DISC ADJUSTMENT	Factory adjustment progress (done: OK/not done: --)

Effective buttons in this mode are the following...

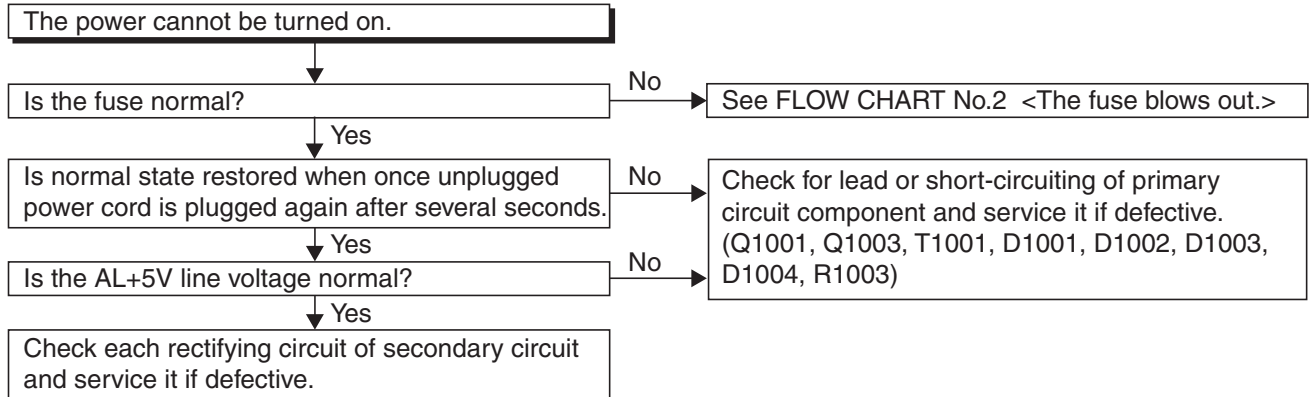
Buttons	Operations
POWER	Power off to release from this mode.
SETUP	Version display disappears and SETUP screen appears.
TOP MENU	Version display disappears and TOP MENU screen appears.
TIMER PROG.	Version display disappears and TIMER PROGRAMMING screen appears.
DUBBING MENU	Version display disappears and DUBBING screen appears.
Others	While displaying version and normal operation.

TROUBLESHOOTING

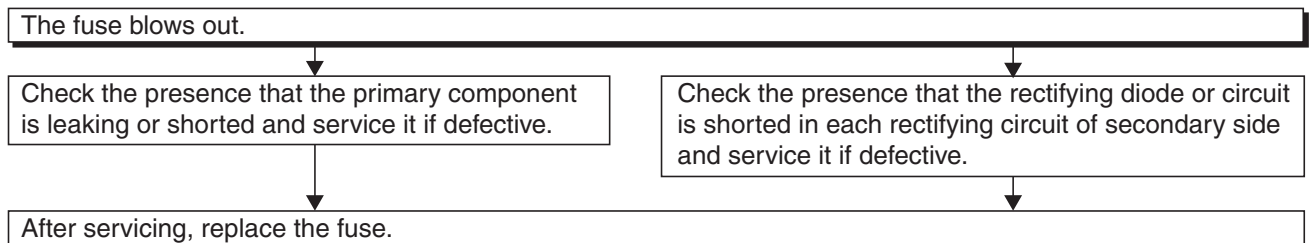
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

1 Power Supply Section

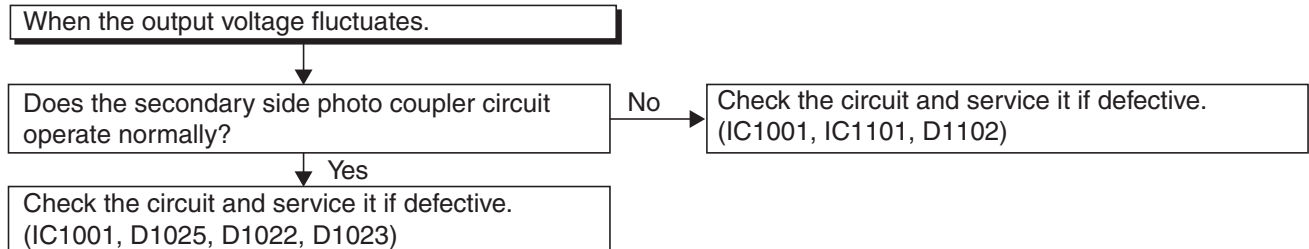
FLOW CHART NO.1



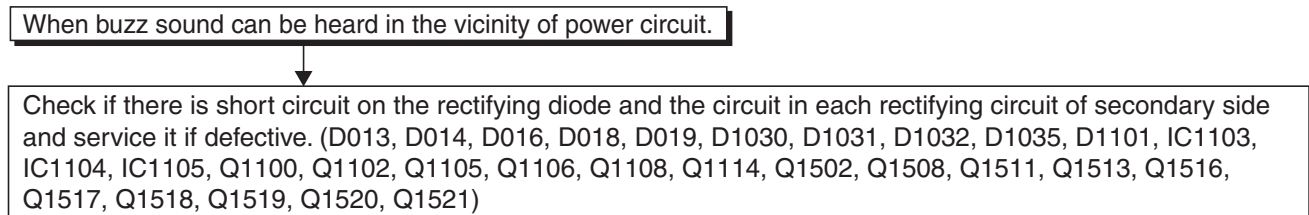
FLOW CHART NO.2



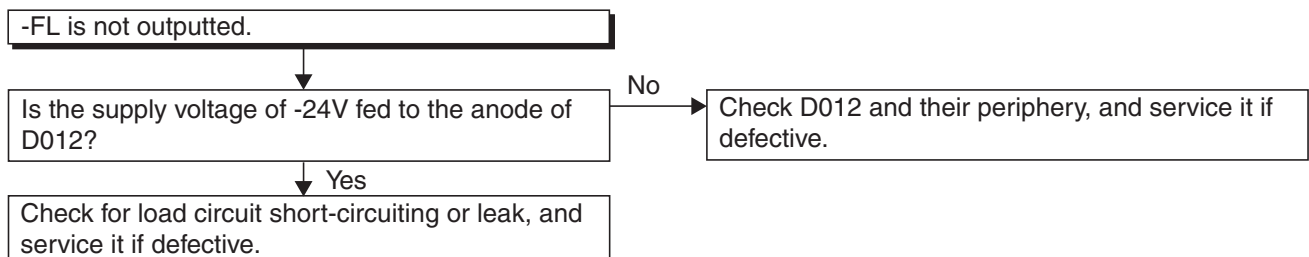
FLOW CHART NO.3



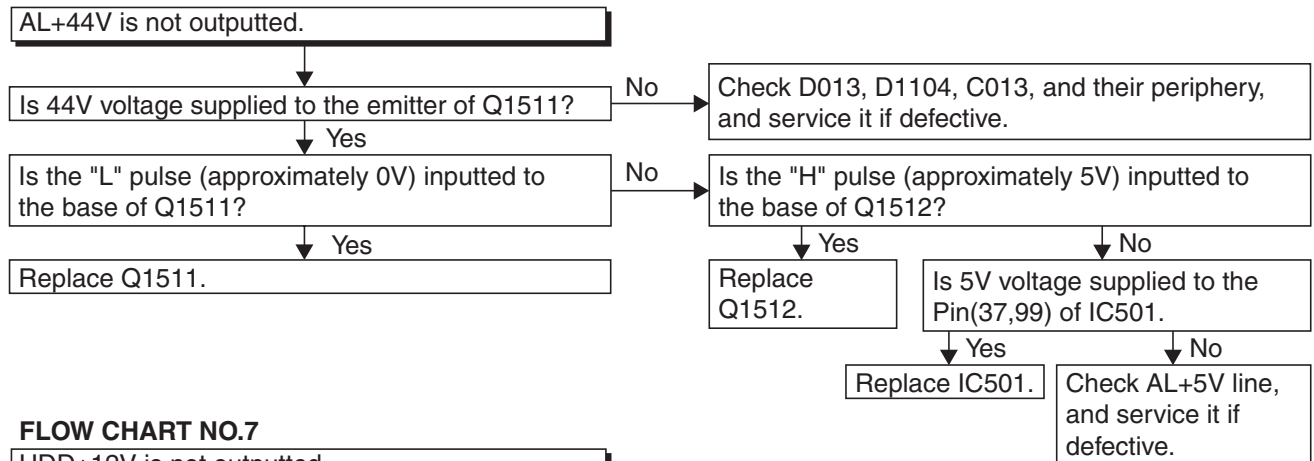
FLOW CHART NO.4



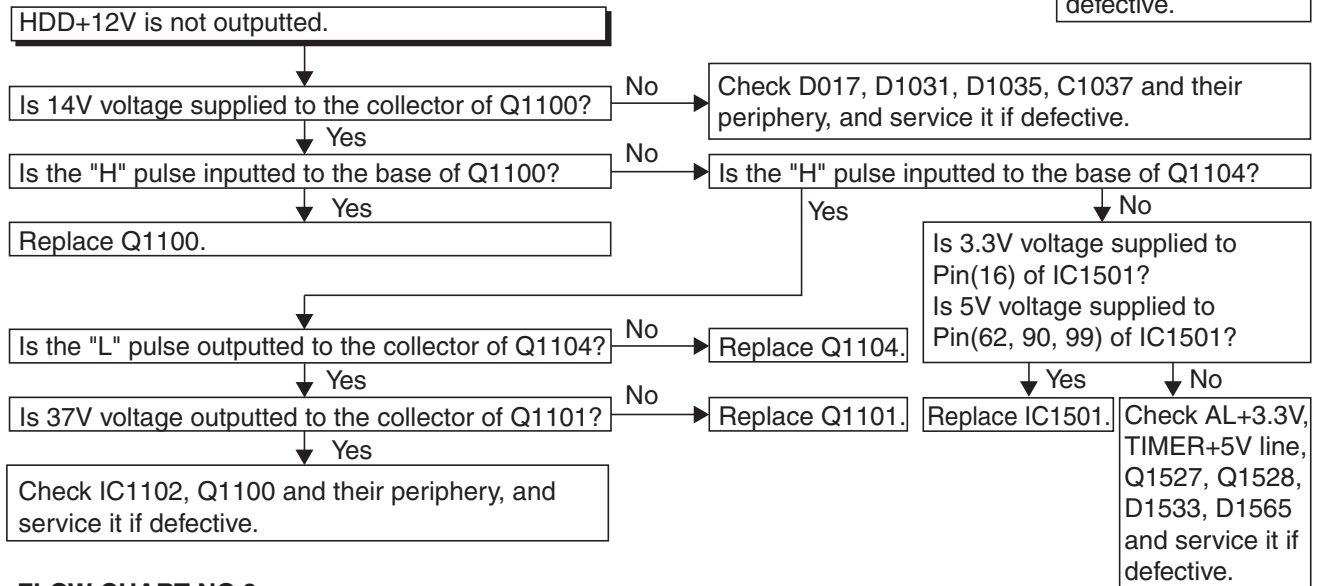
FLOW CHART NO.5



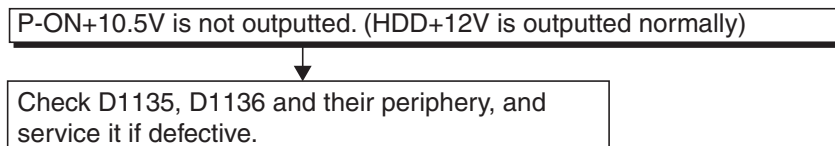
FLOW CHART NO.6



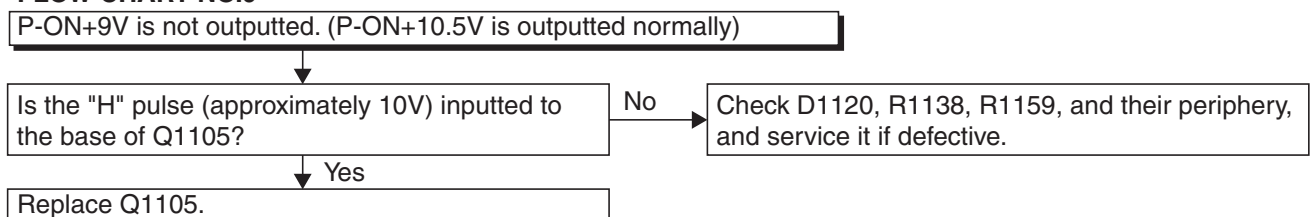
FLOW CHART NO.7



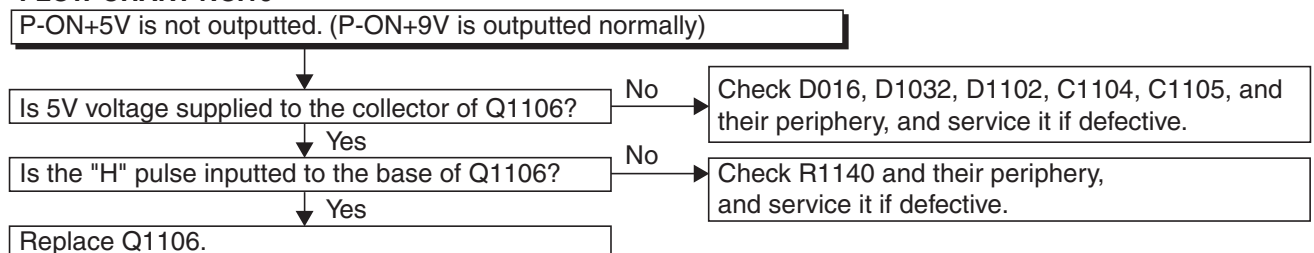
FLOW CHART NO.8



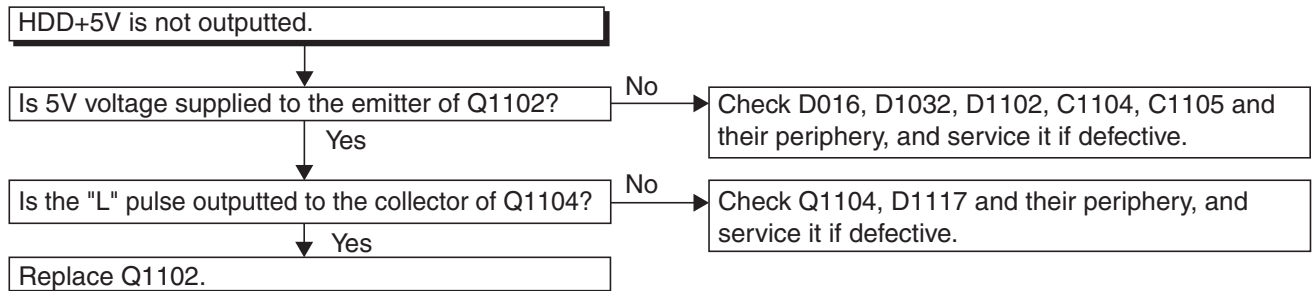
FLOW CHART NO.9



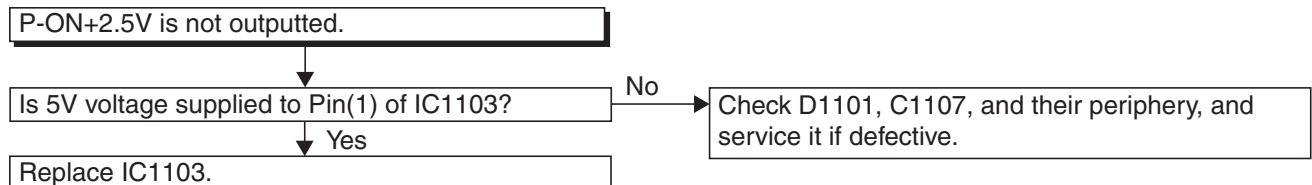
FLOW CHART NO.10



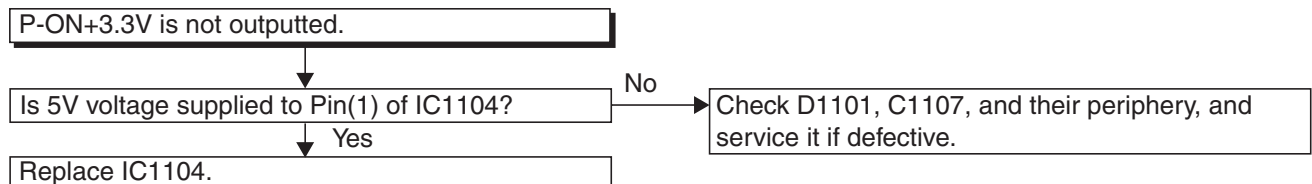
FLOW CHART NO.11



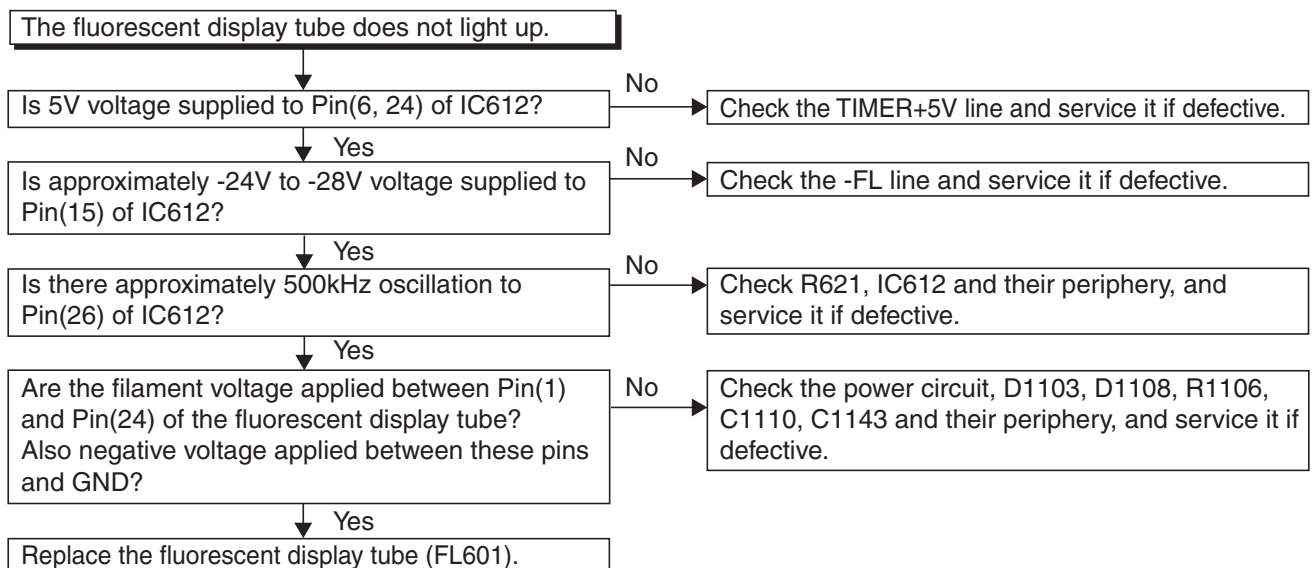
FLOW CHART NO.12



FLOW CHART NO.13

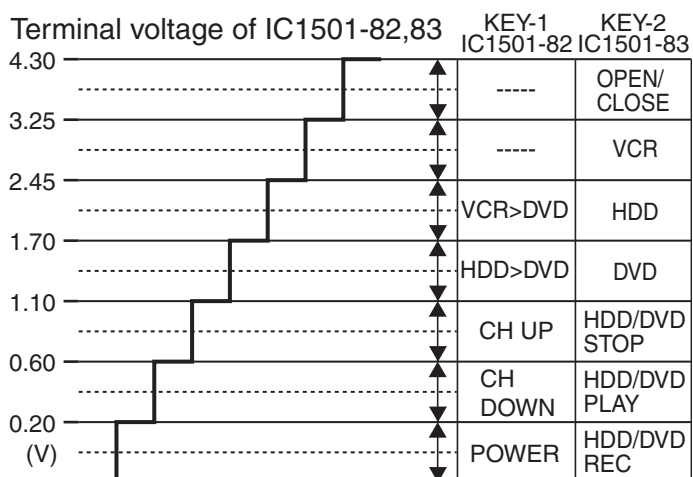
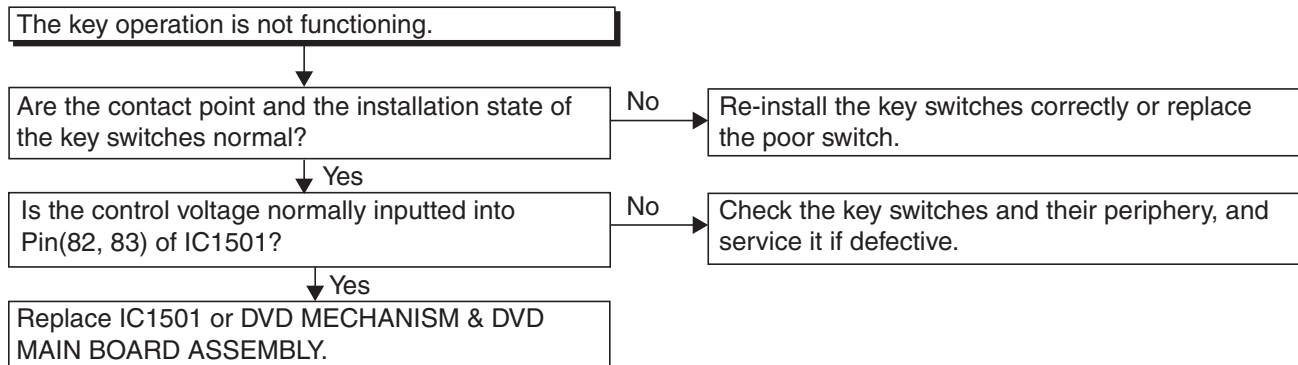


FLOW CHART NO.14

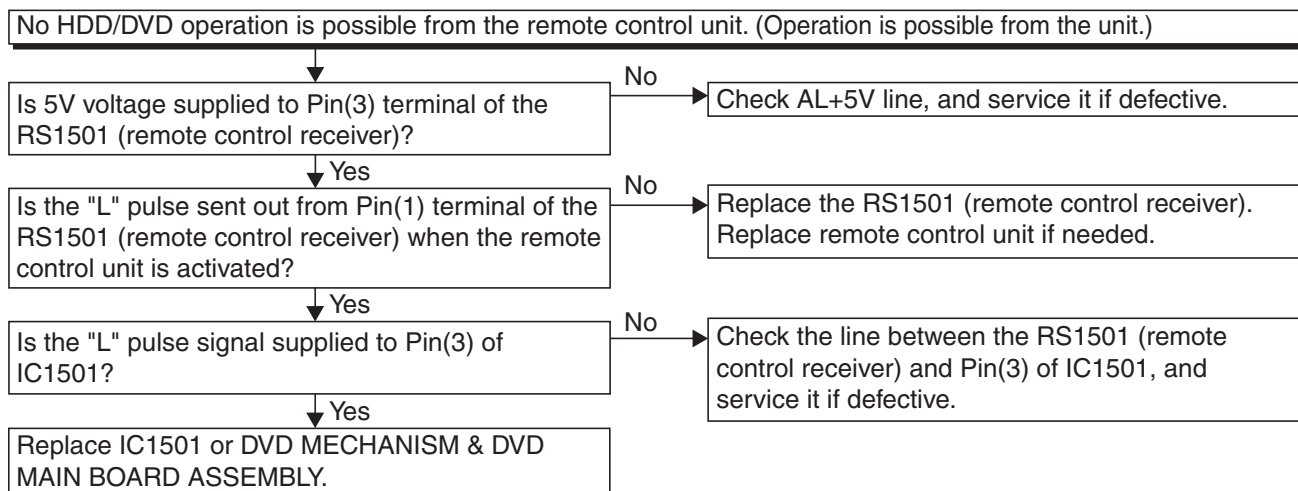


2 HDD/DVD Section

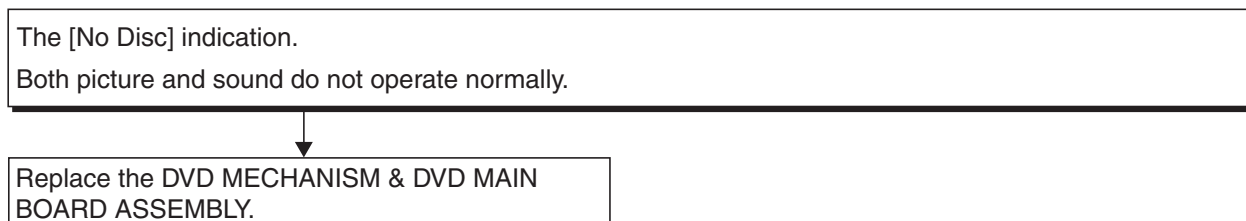
FLOW CHART NO.1



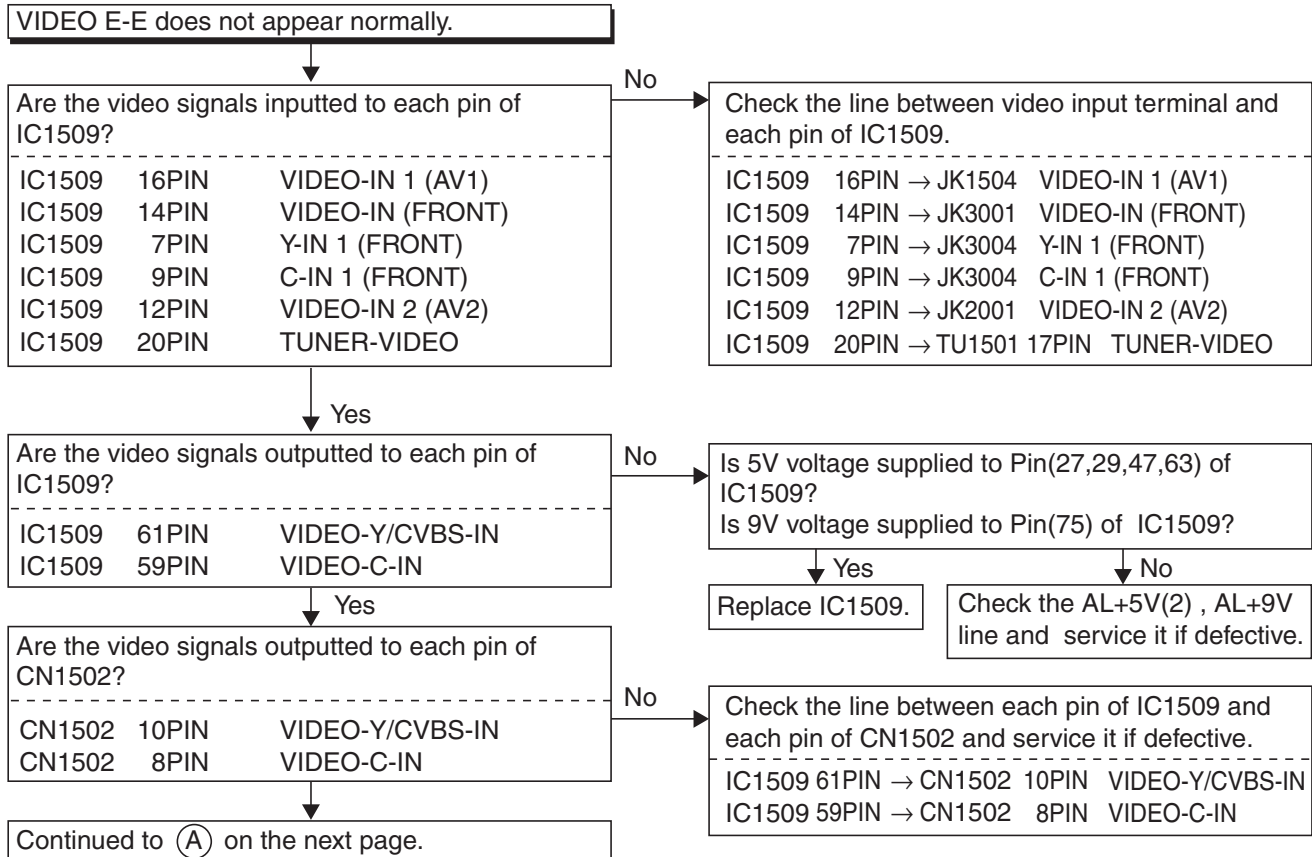
FLOW CHART NO.2

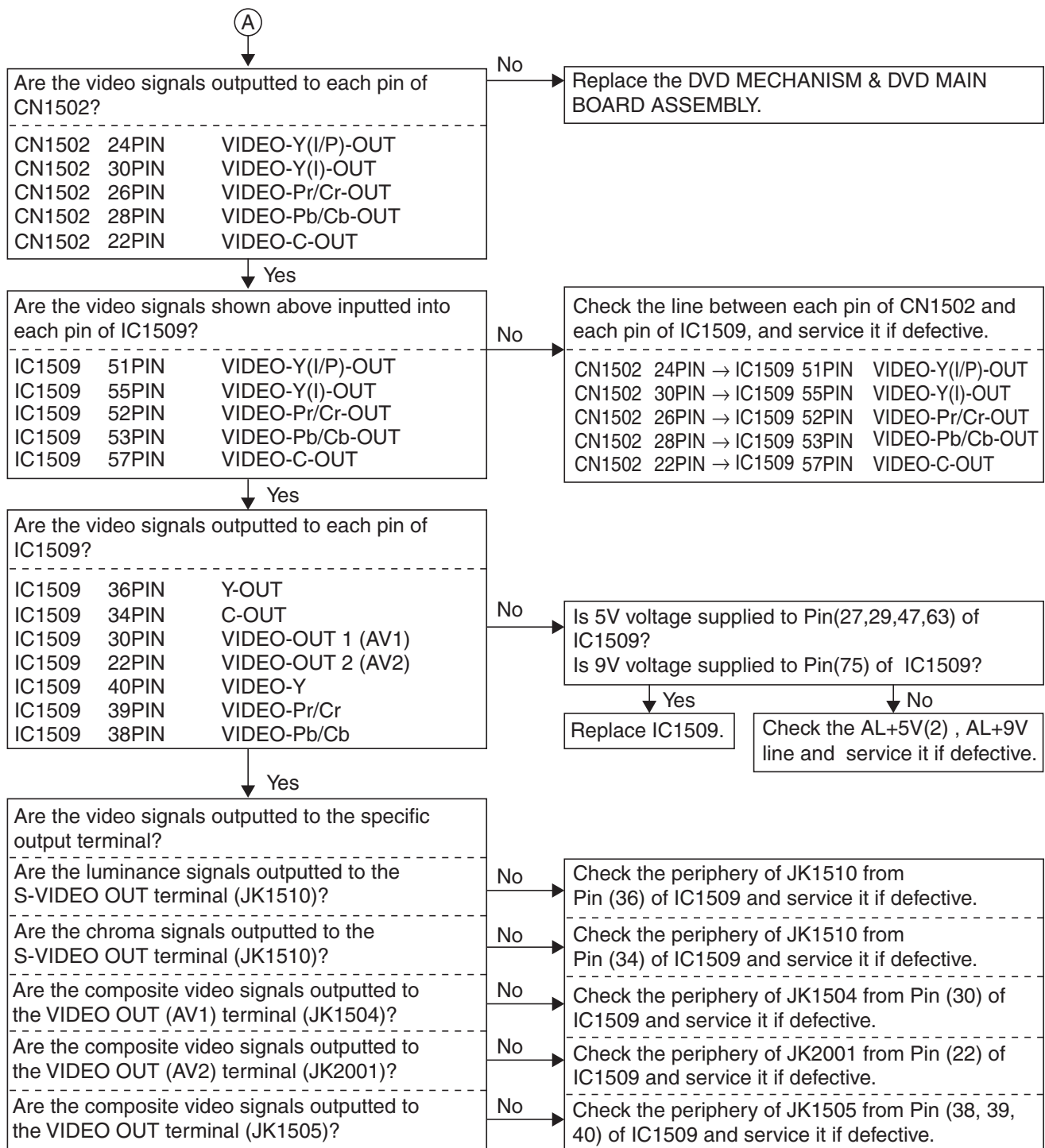


FLOW CHART NO.3

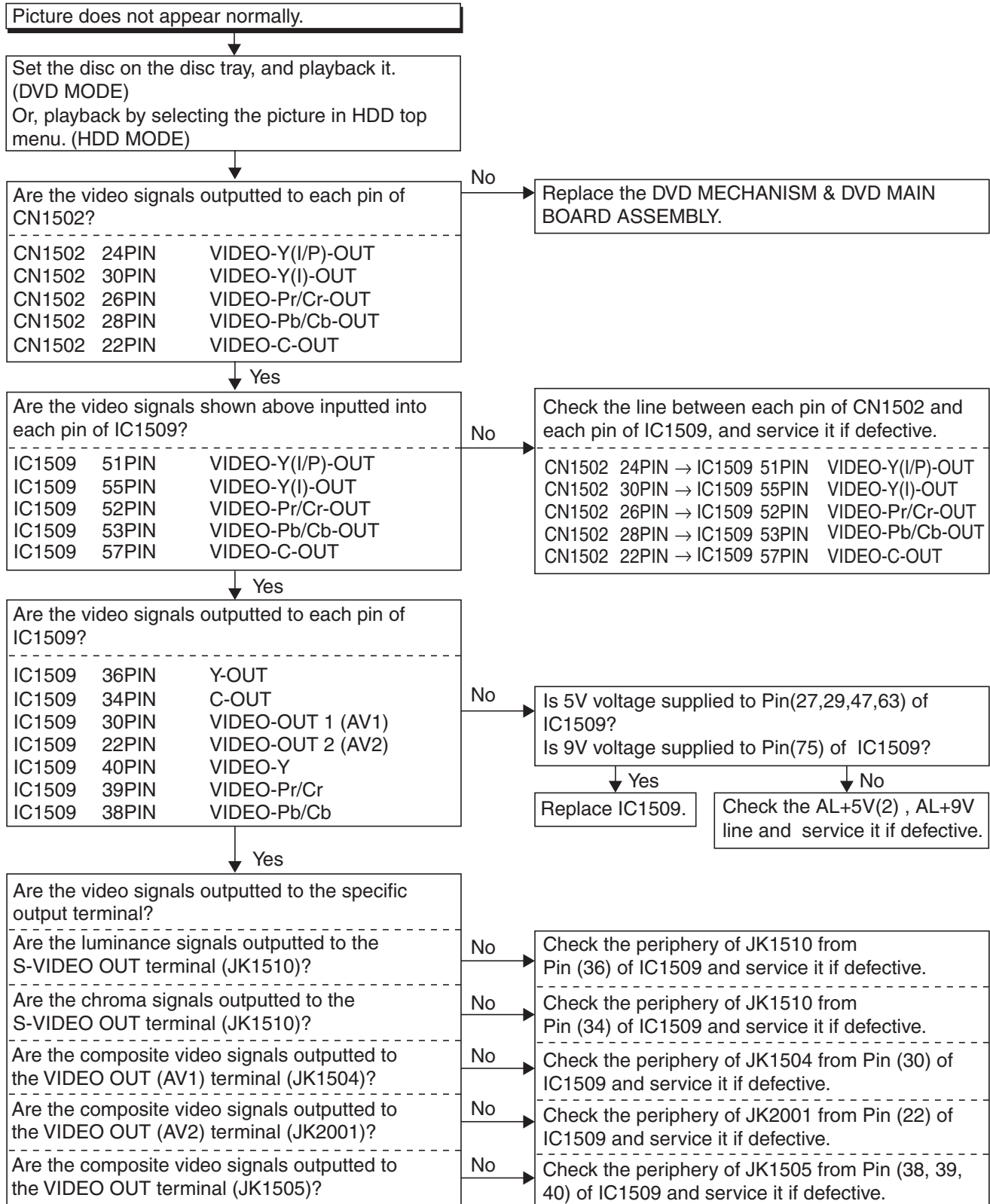


FLOW CHART NO.4

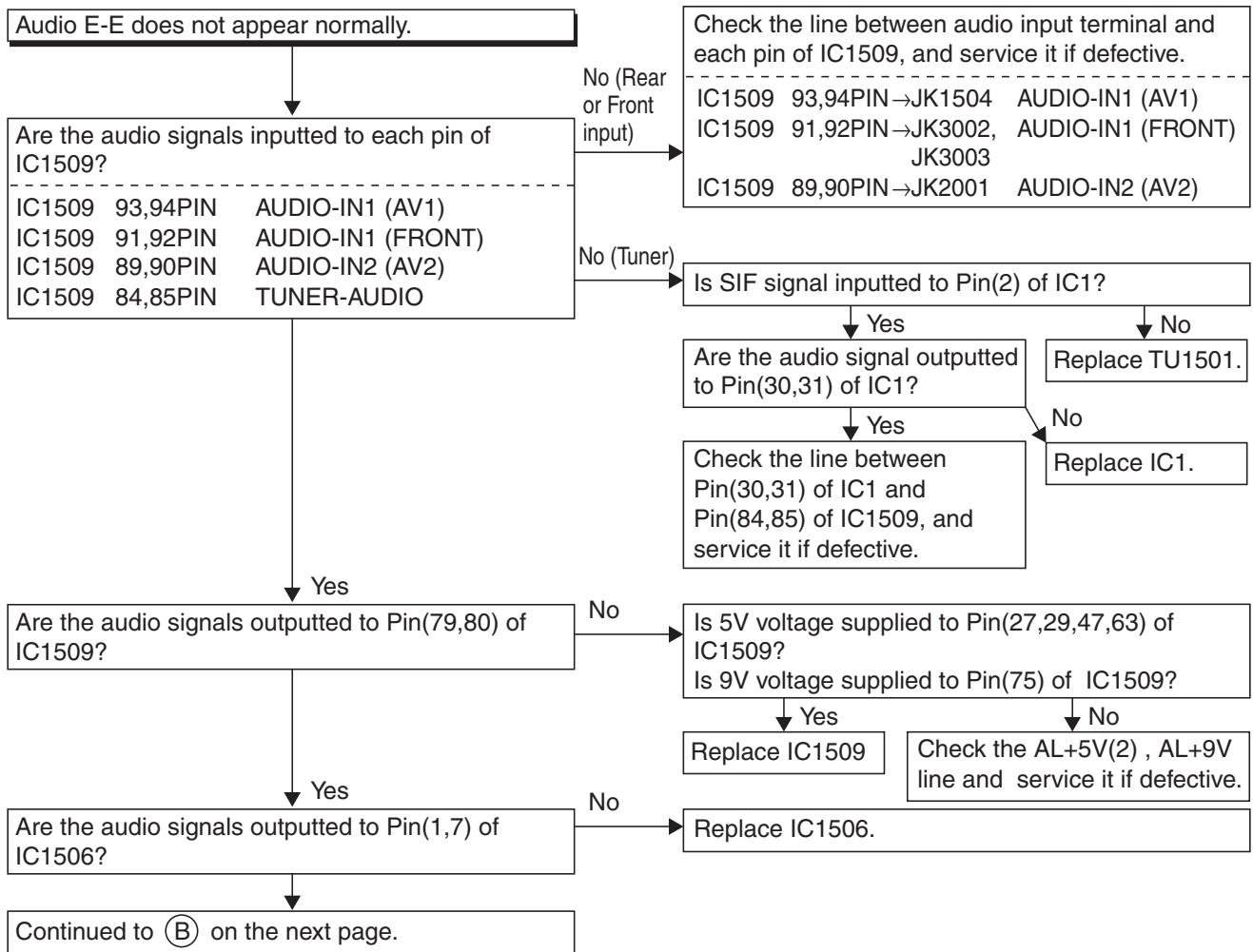


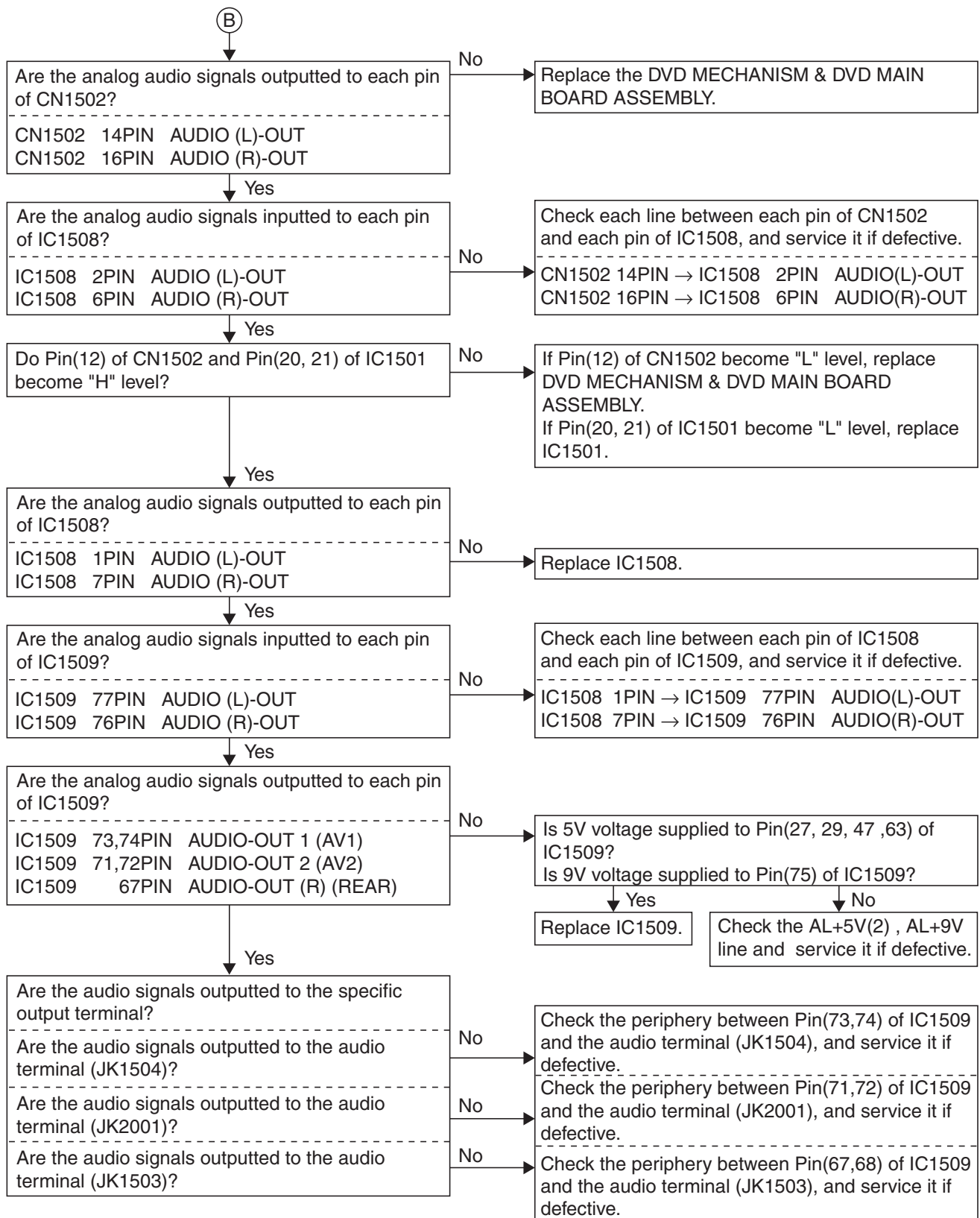


FLOW CHART NO.5

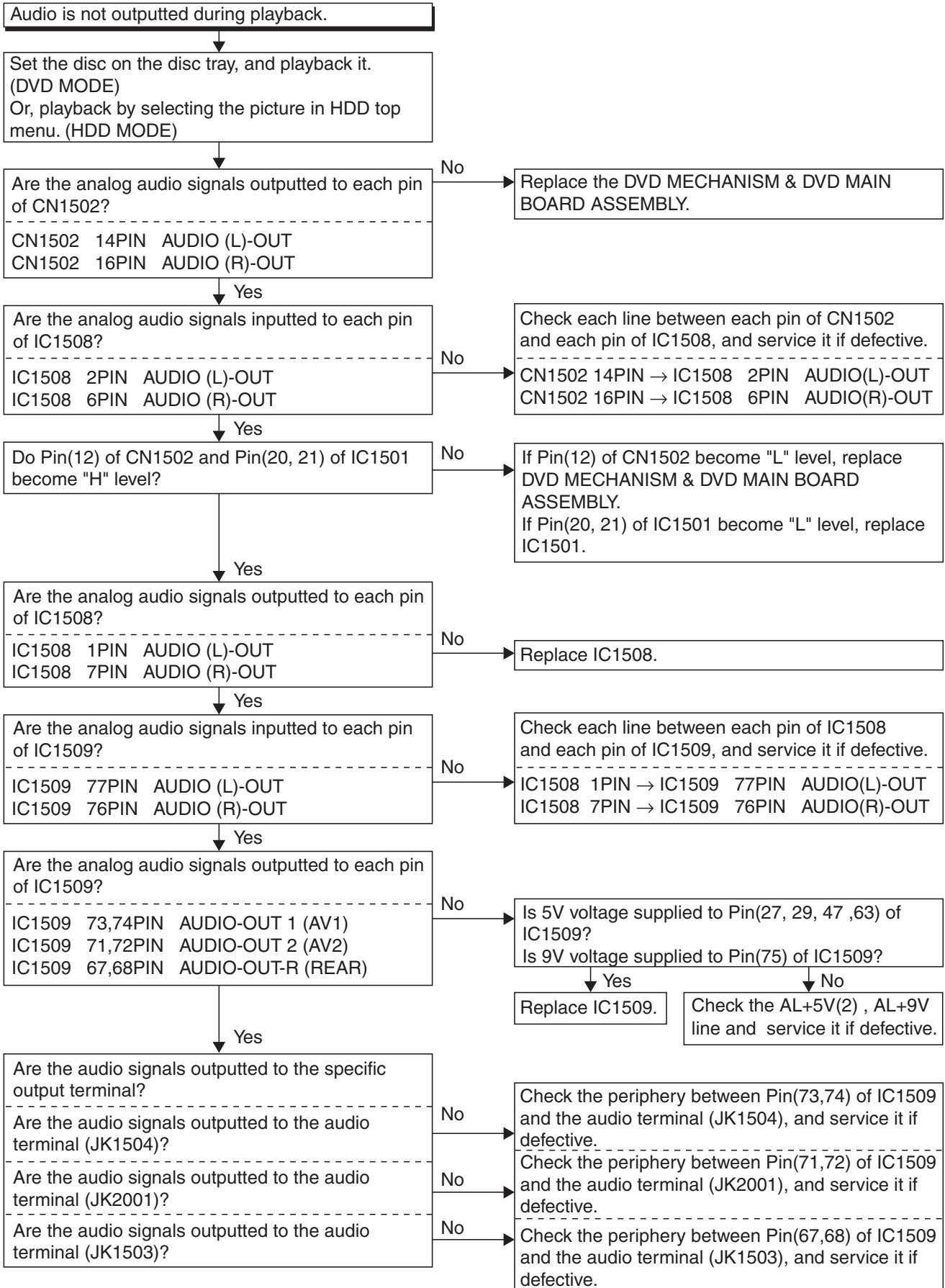


FLOW CHART NO.6



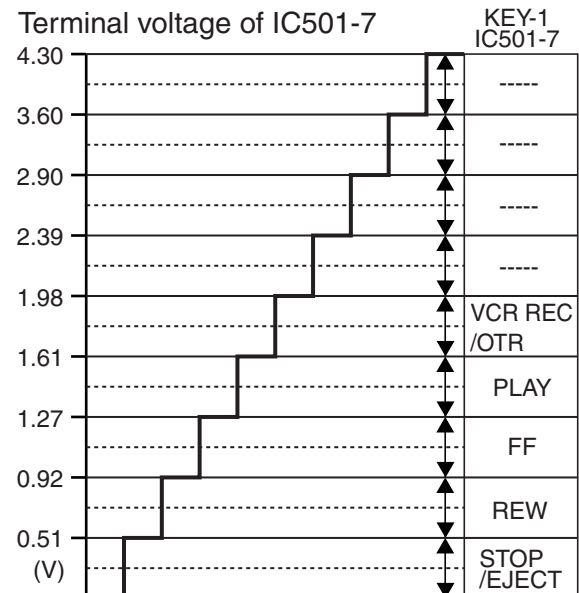
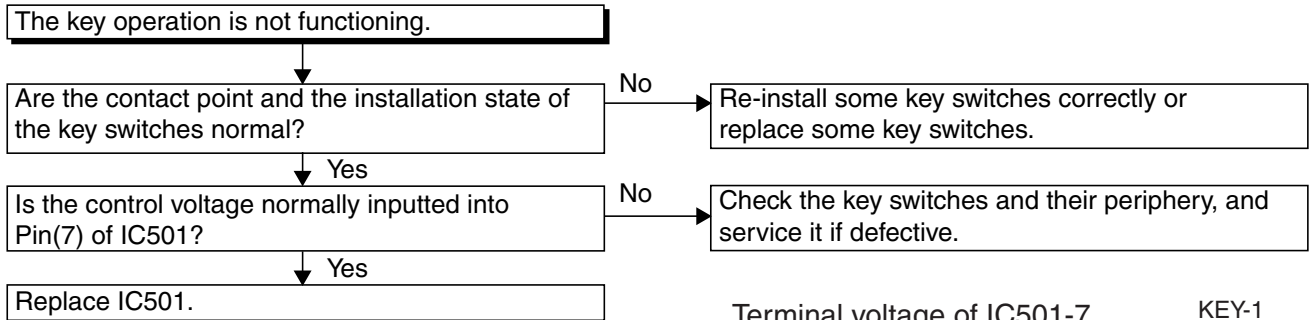


FLOW CHART NO.7

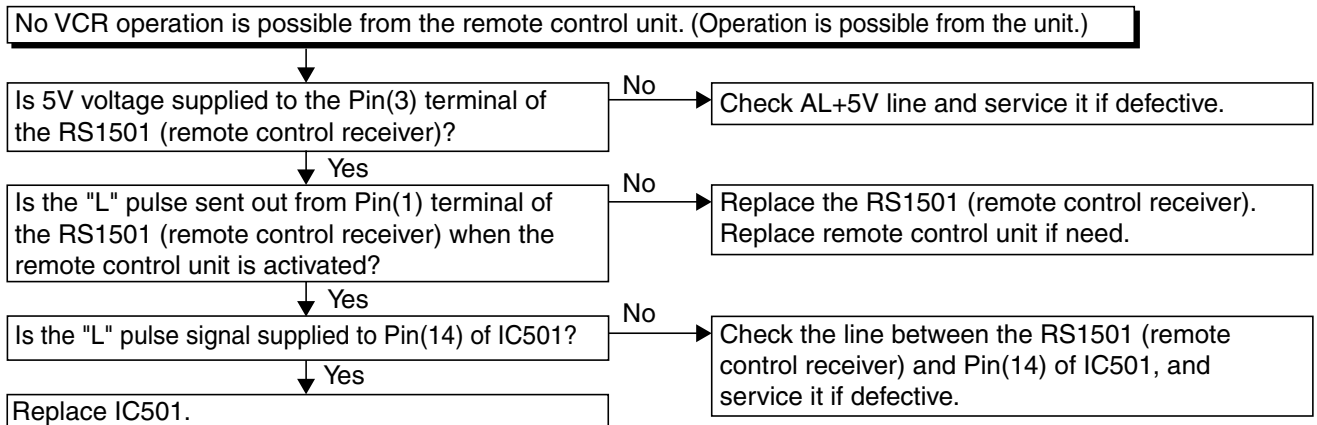


3 VCR Section

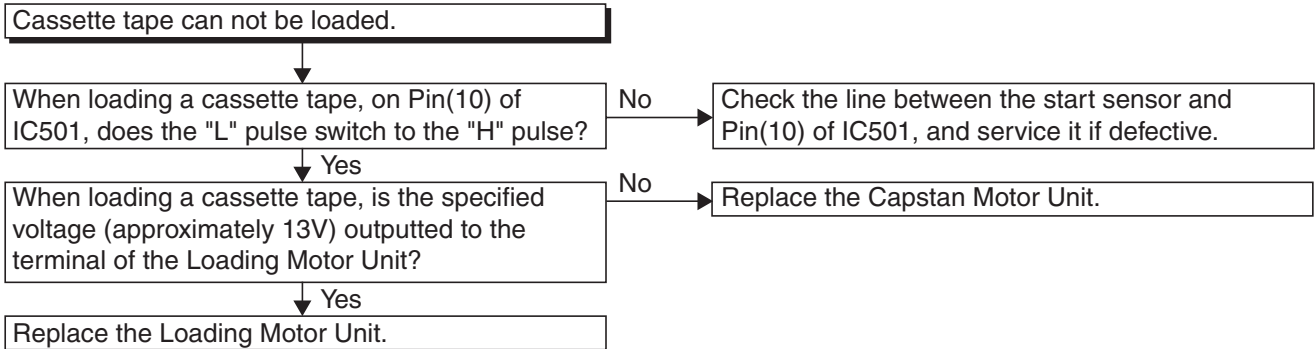
FLOW CHART NO.1



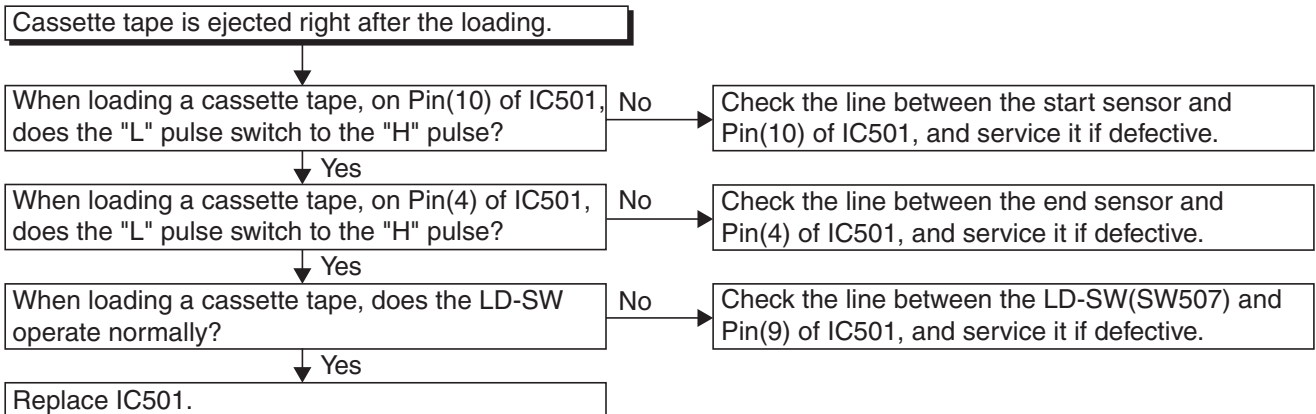
FLOW CHART NO.2



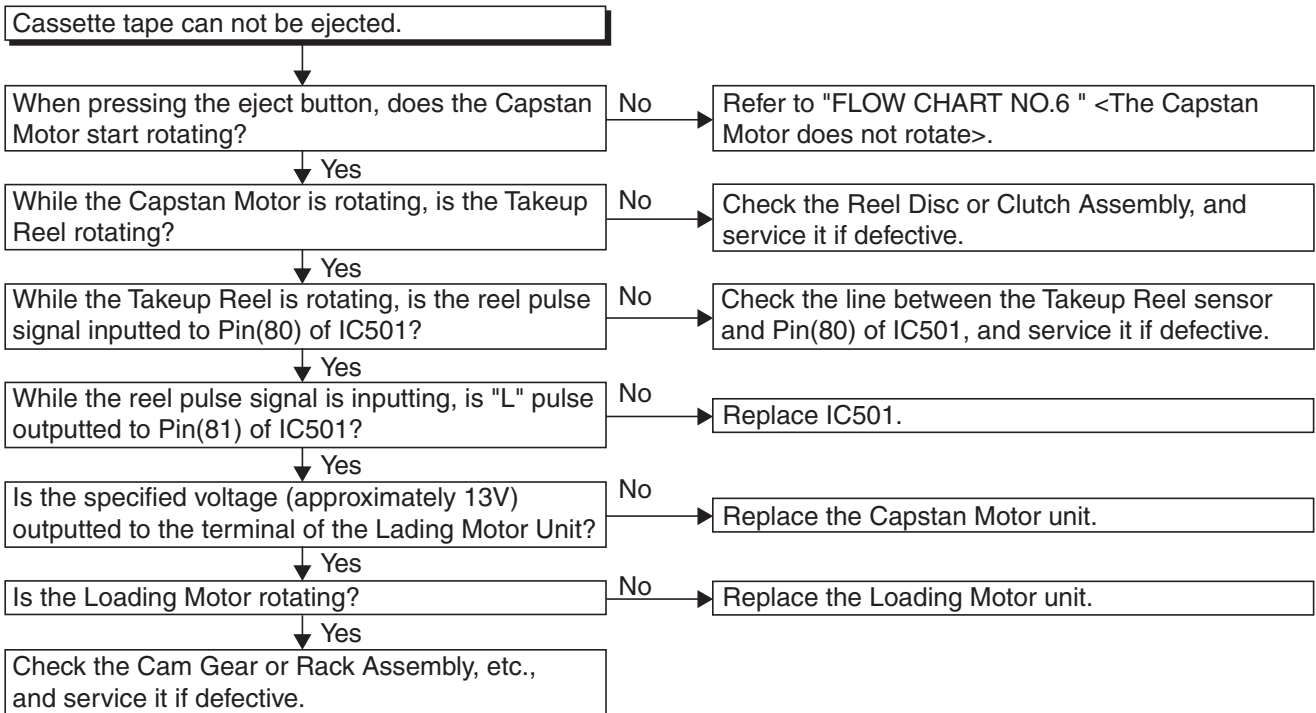
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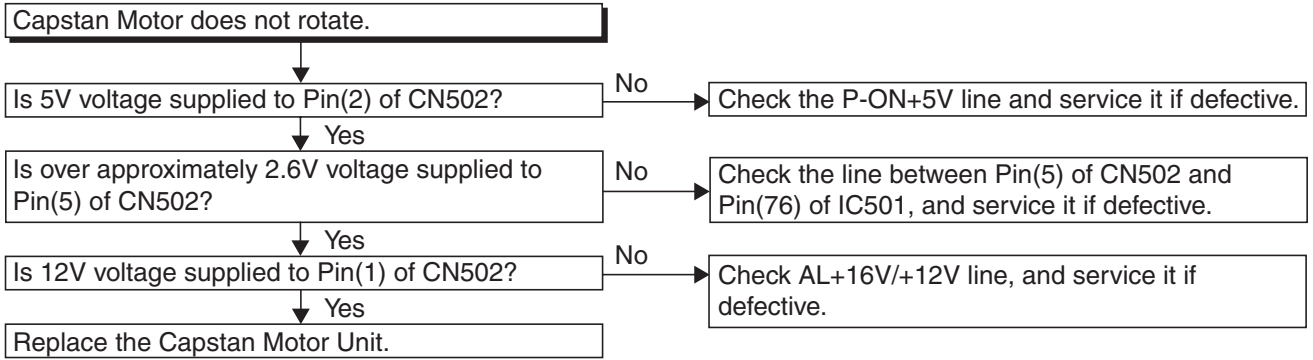
FLOW CHART NO.4



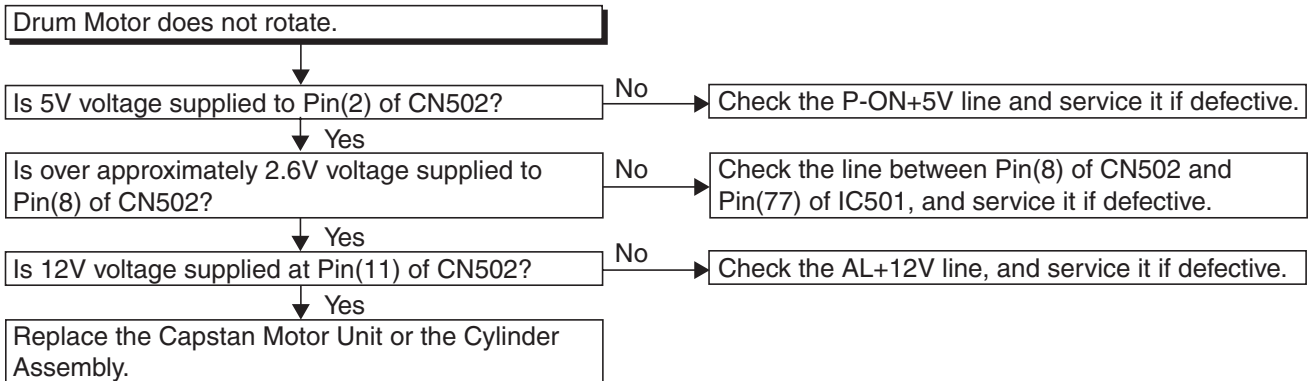
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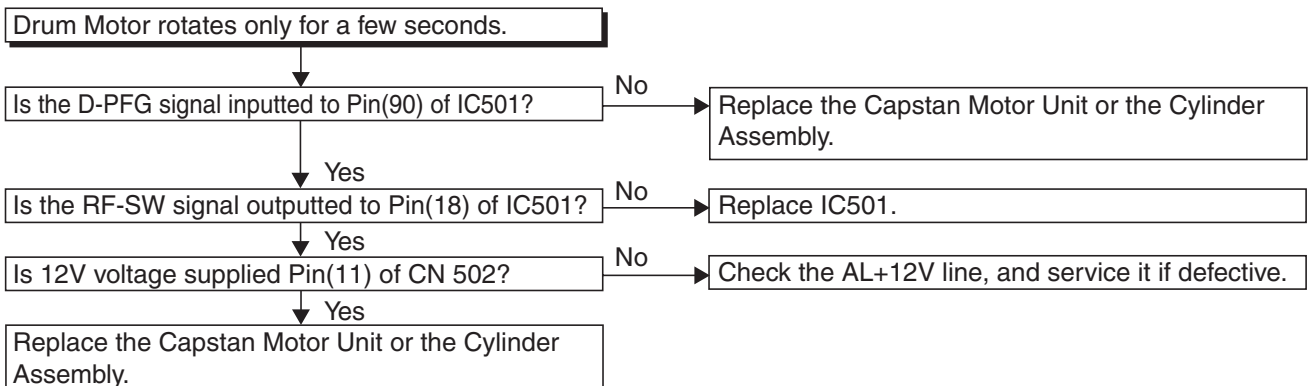
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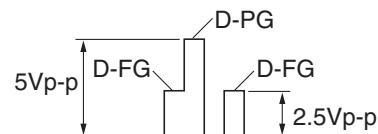
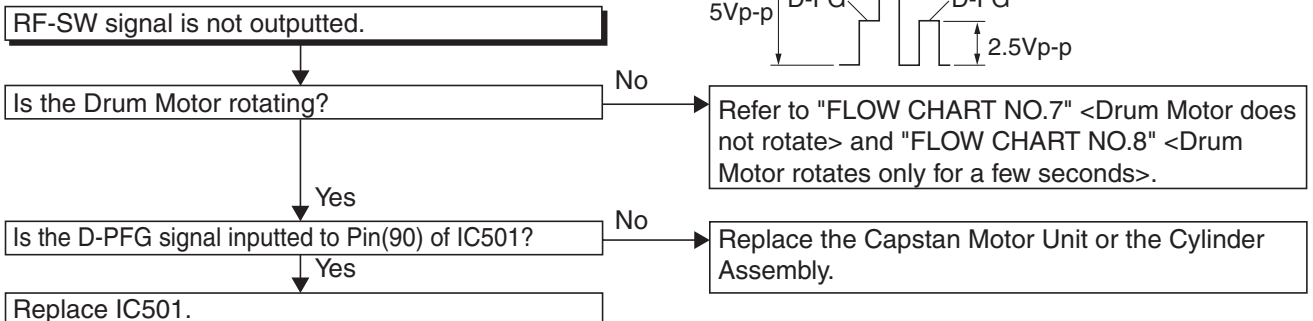
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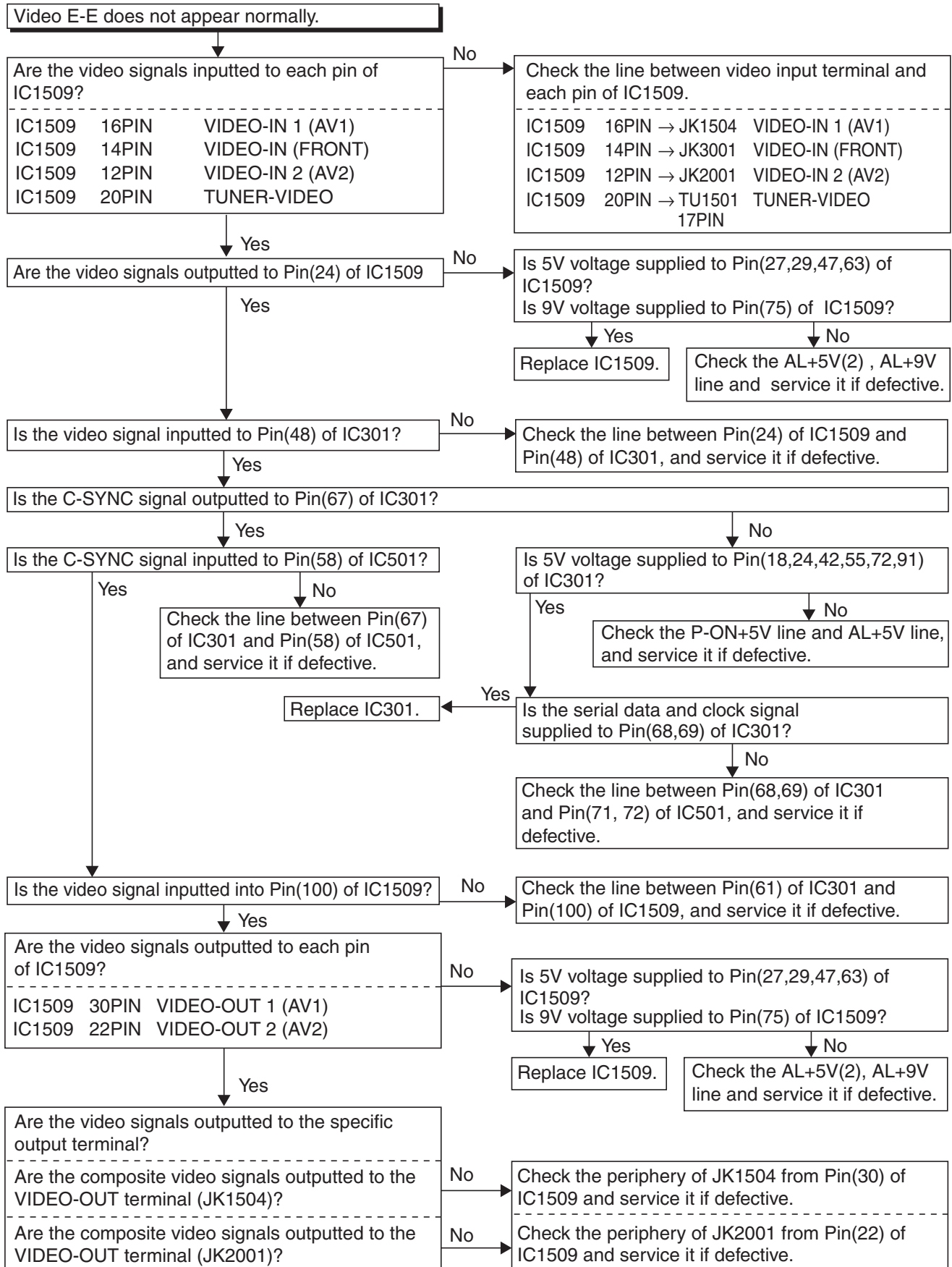
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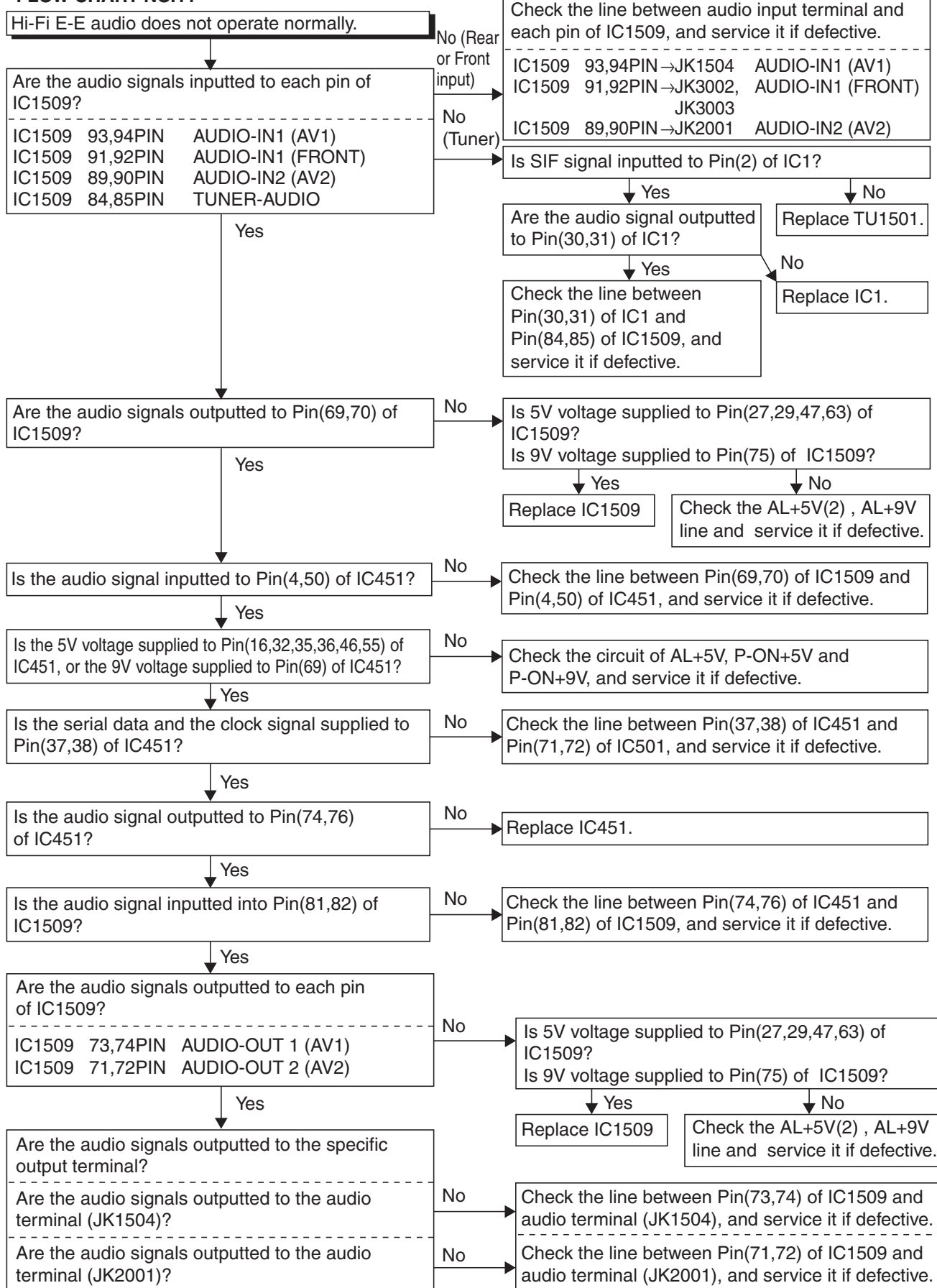
FLOW CHART NO.9



FLOW CHART NO.10

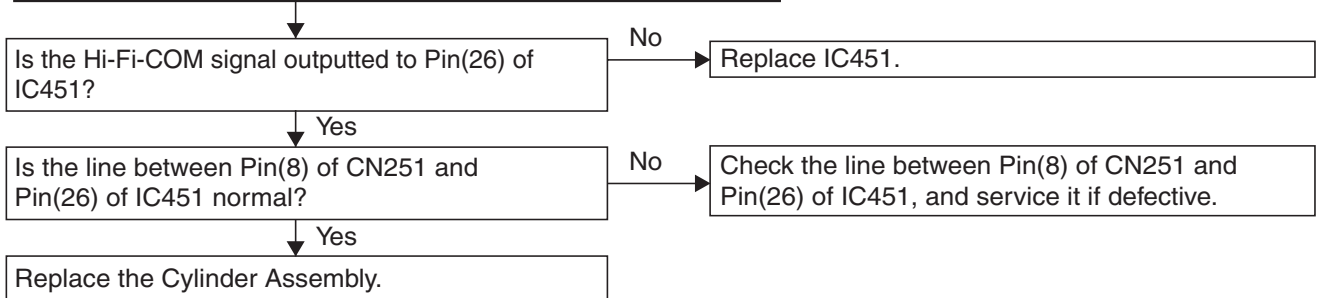


FLOW CHART NO.11



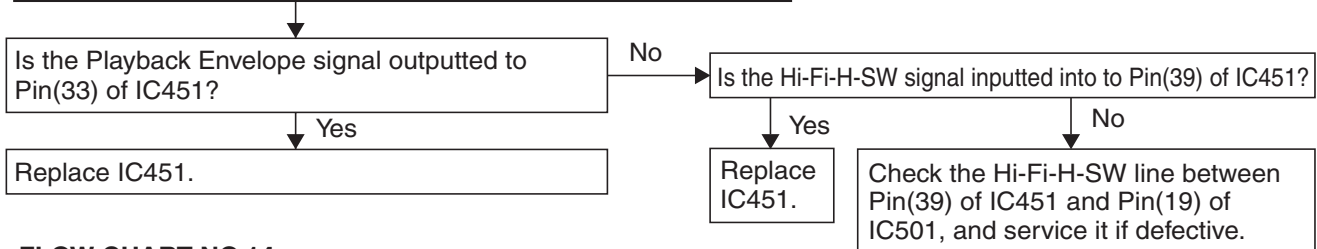
FLOW CHART NO.12

Hi-Fi audio can not be recorded normally. (E-E mode is normal.)



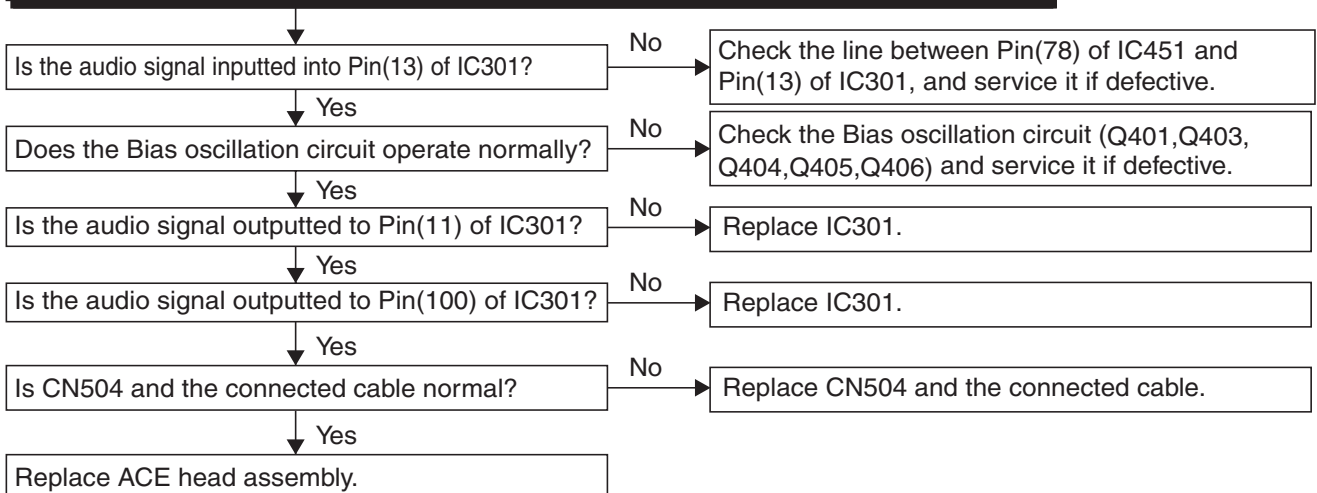
FLOW CHART NO.13

Hi-Fi audio can not be played back normally. (Hi-Fi E-E mode is normal.)



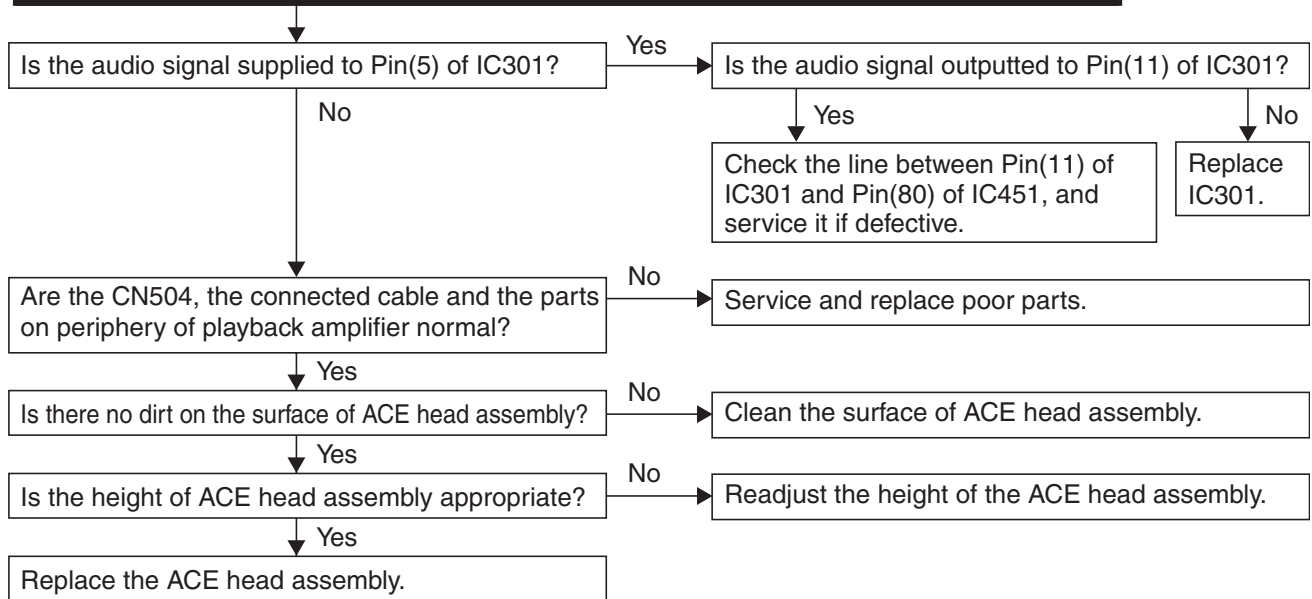
FLOW CHART NO.14

Hi-Fi audio can not be recorded normally in the linear audio mode. (E-E mode is normal.)



FLOW CHART NO.15

Hi-Fi audio can not be played back normally in the linear audio mode. (E-E mode is normal.)



FUNCTION INDICATOR SYMBOLS

< VCR Section >

When the power comes on again after that by pressing [I/⏮] button, an error message is displayed on the TV screen as follows.

When reel or capstan mechanism is not functioning correctly

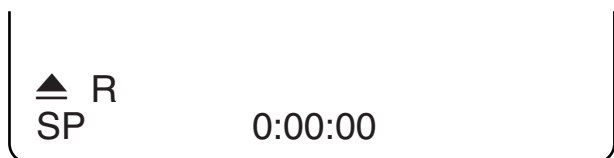


Fig. 1

P-ON+5V Power safety detection

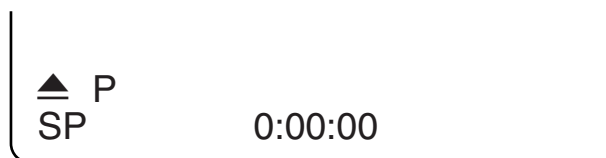


Fig. 5

When tape loading mechanism is not functioning correctly

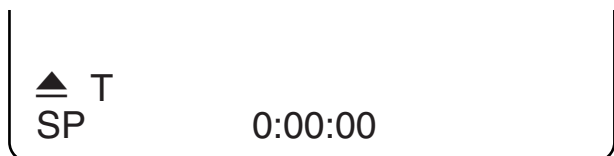


Fig. 2

When cassette loading mechanism is not functioning correctly

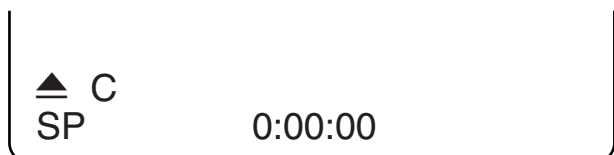


Fig. 3

When the drum is not working properly

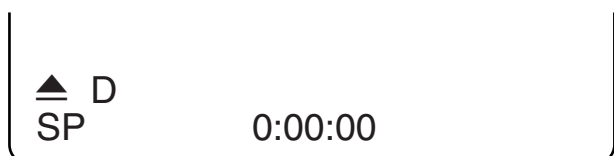
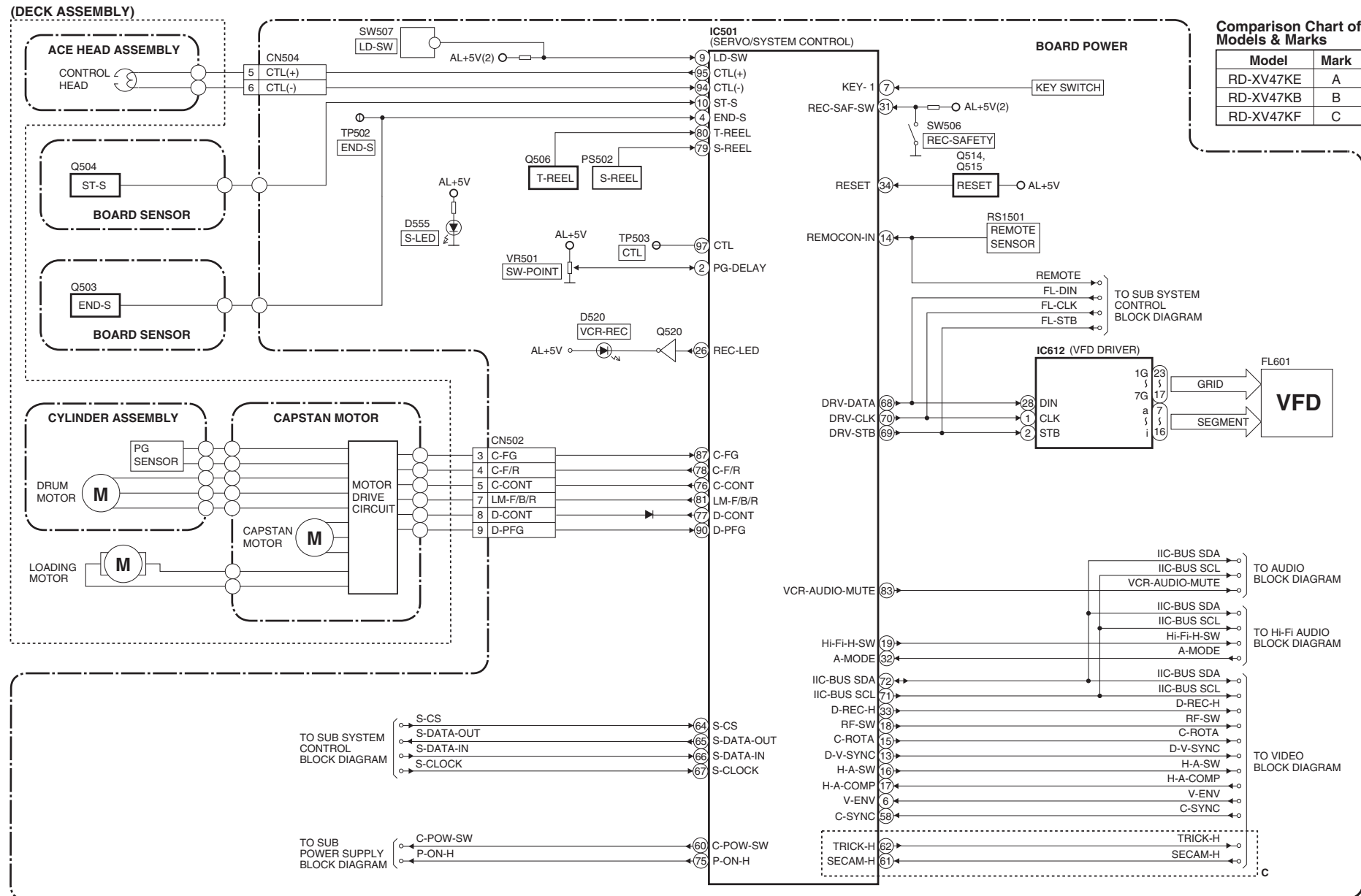


Fig. 4

BLOCK DIAGRAMS

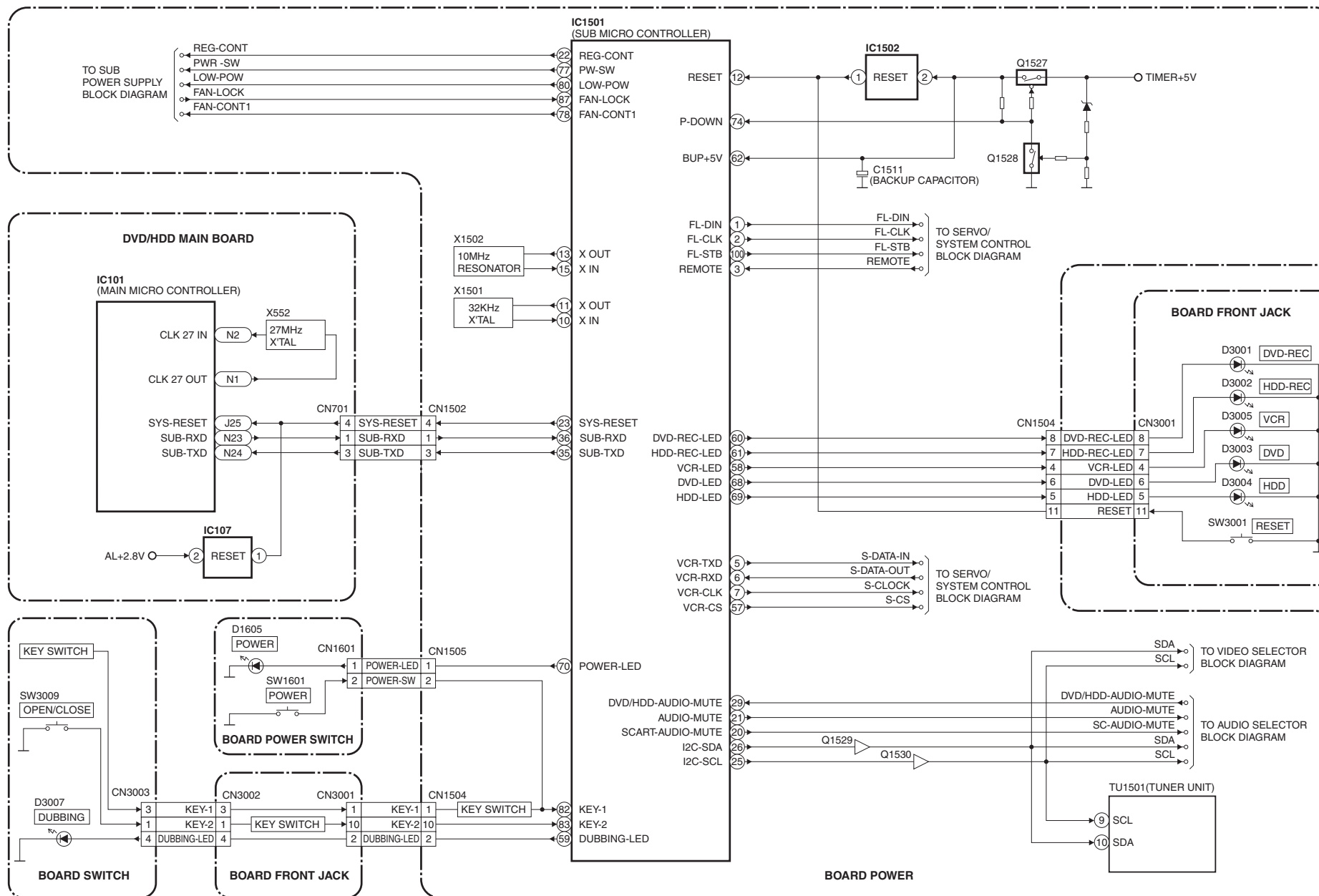
Servo/System Control Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



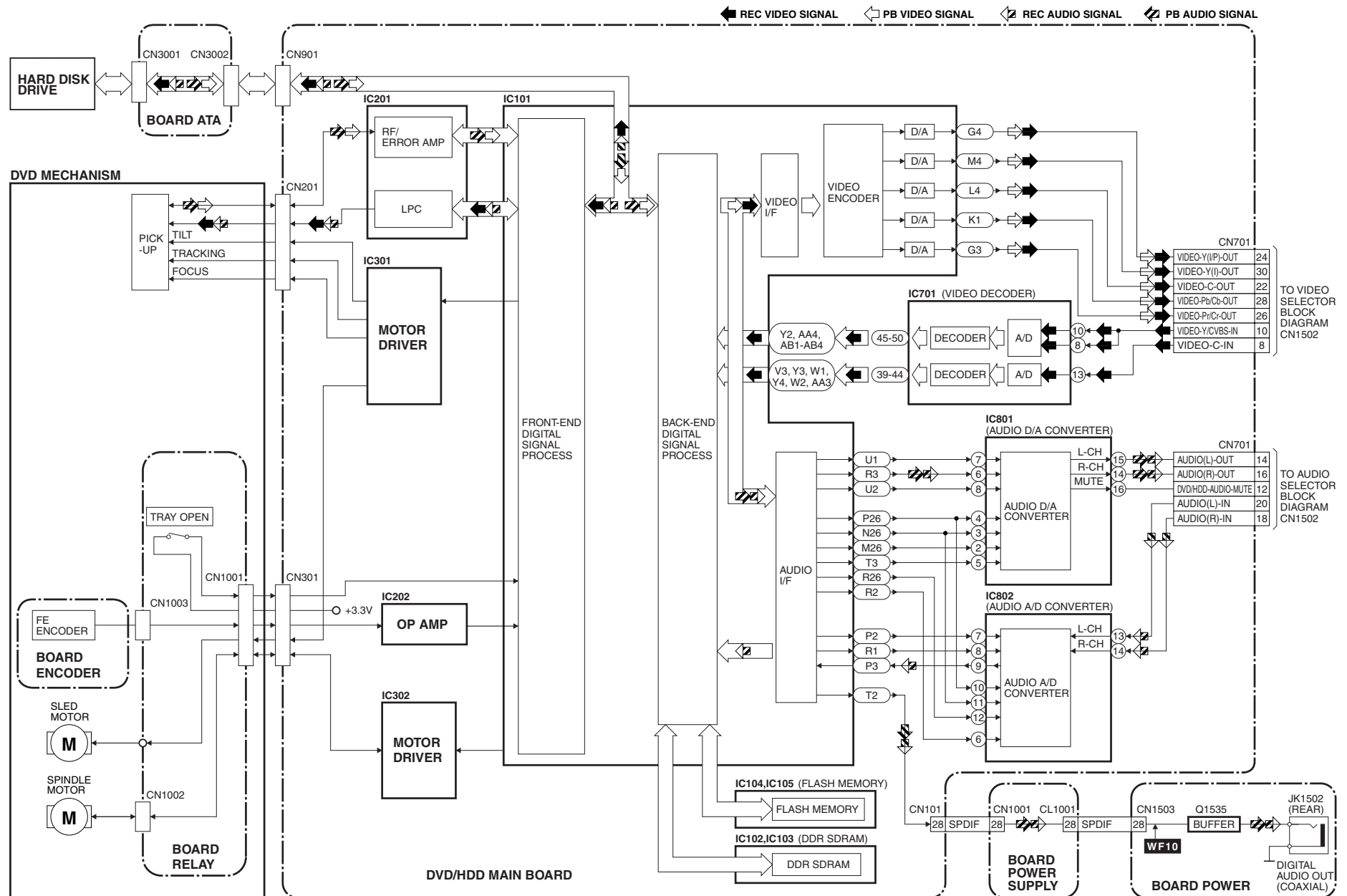
Sub System Control Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



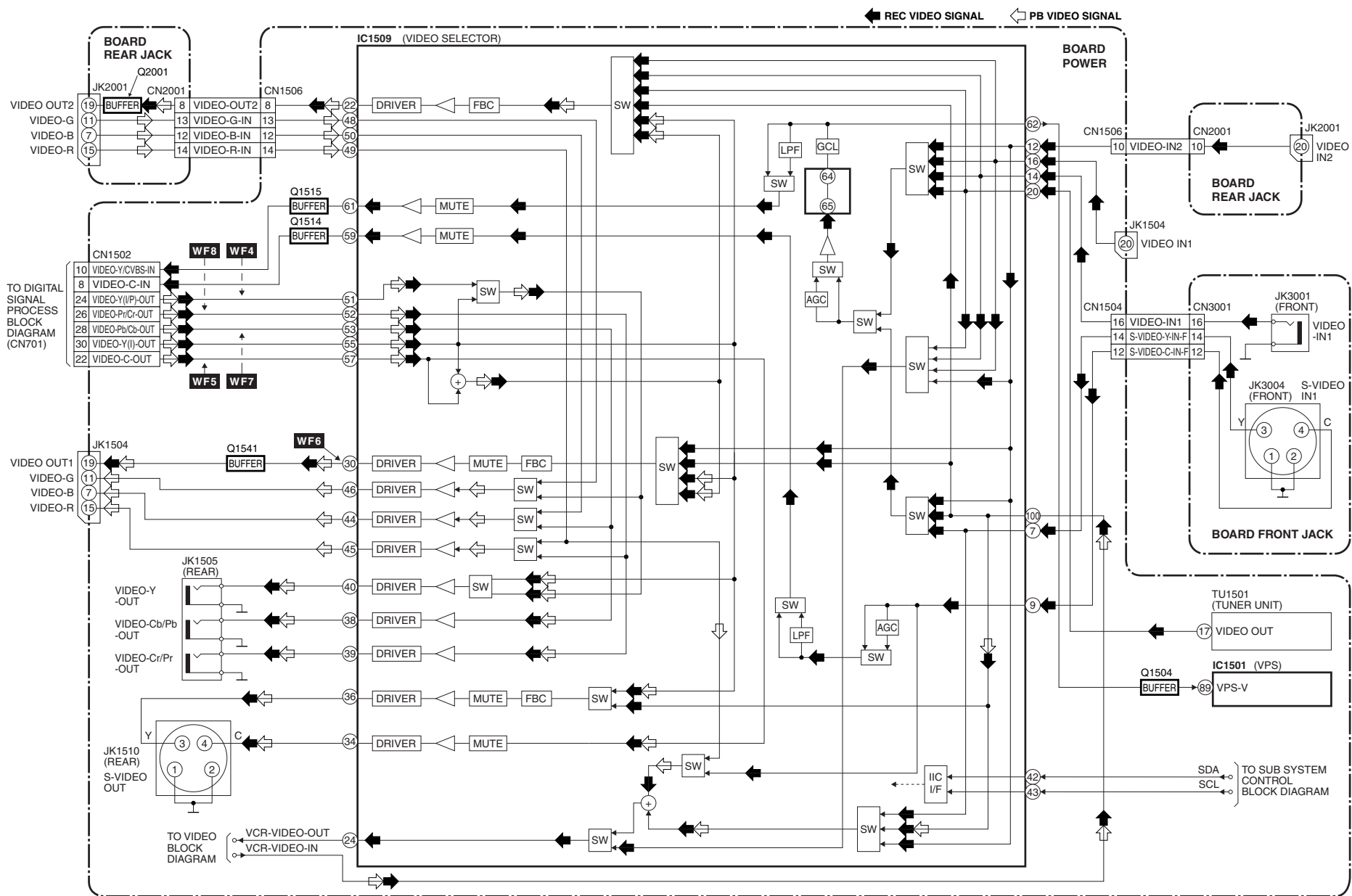
Digital Signal Process Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



Video Selector Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

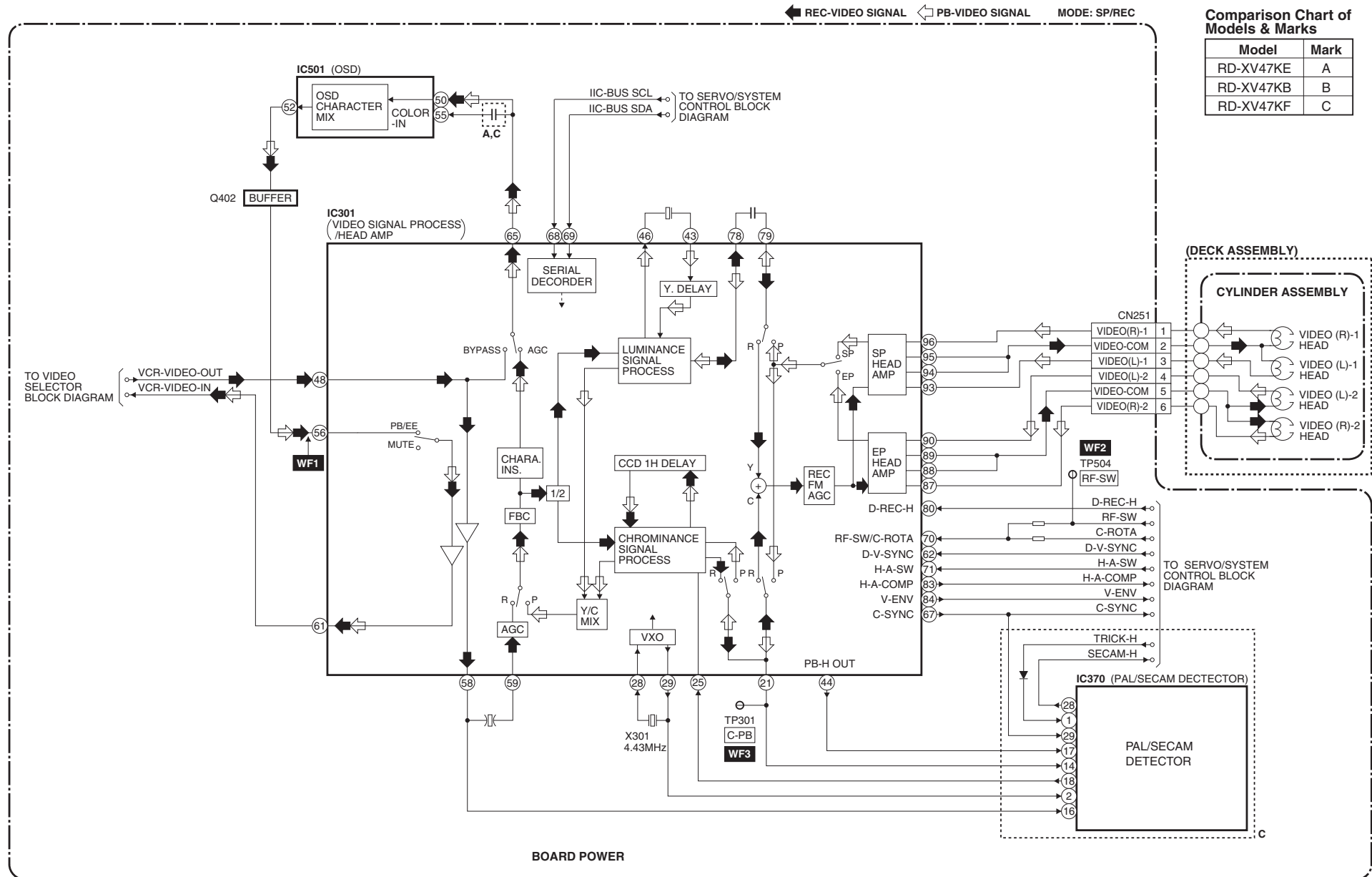


Video Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

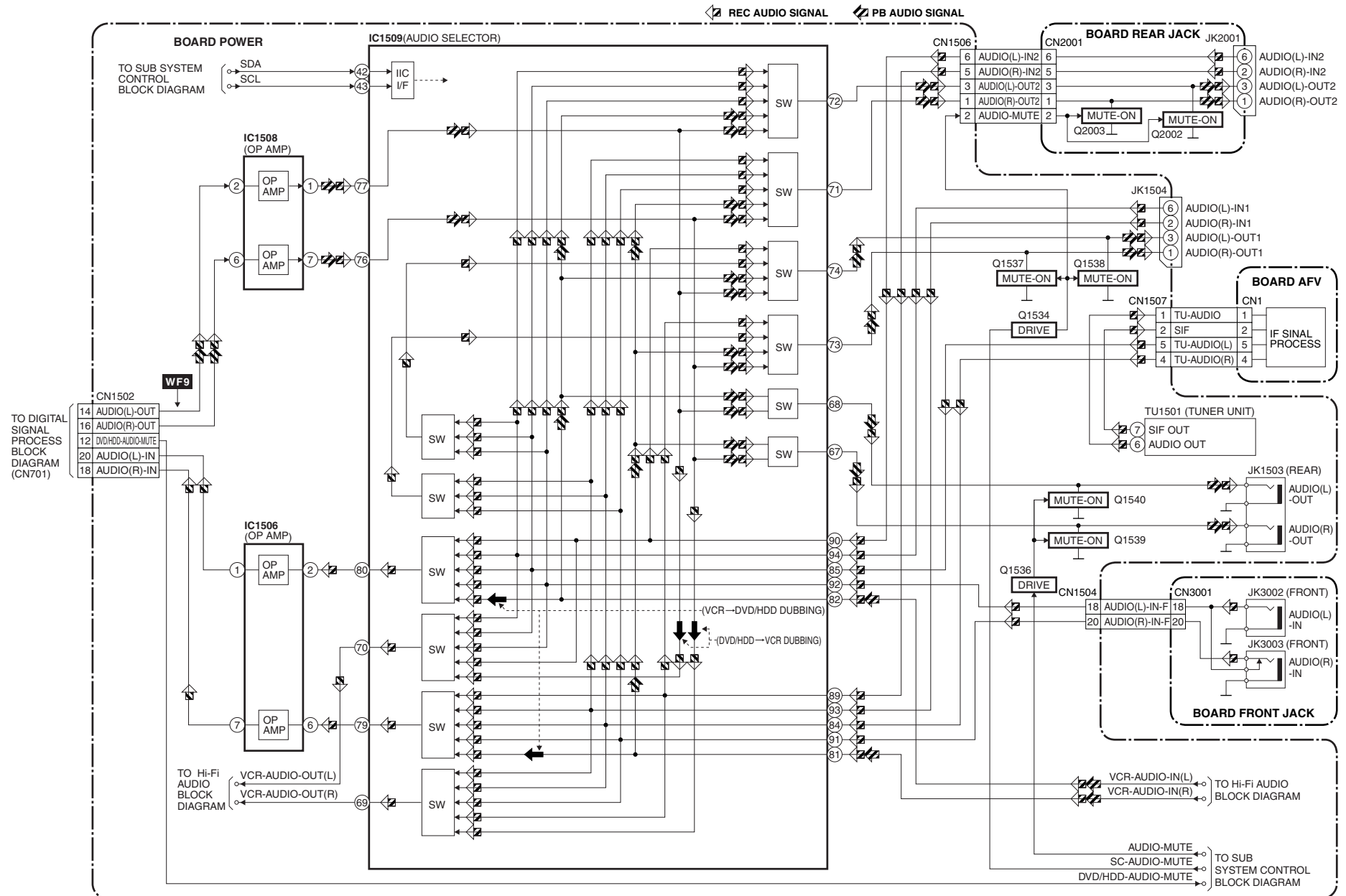
Comparison Chart of Models & Marks

Model	Mark
RD-XV47KE	A
RD-XV47KB	B
RD-XV47KF	C



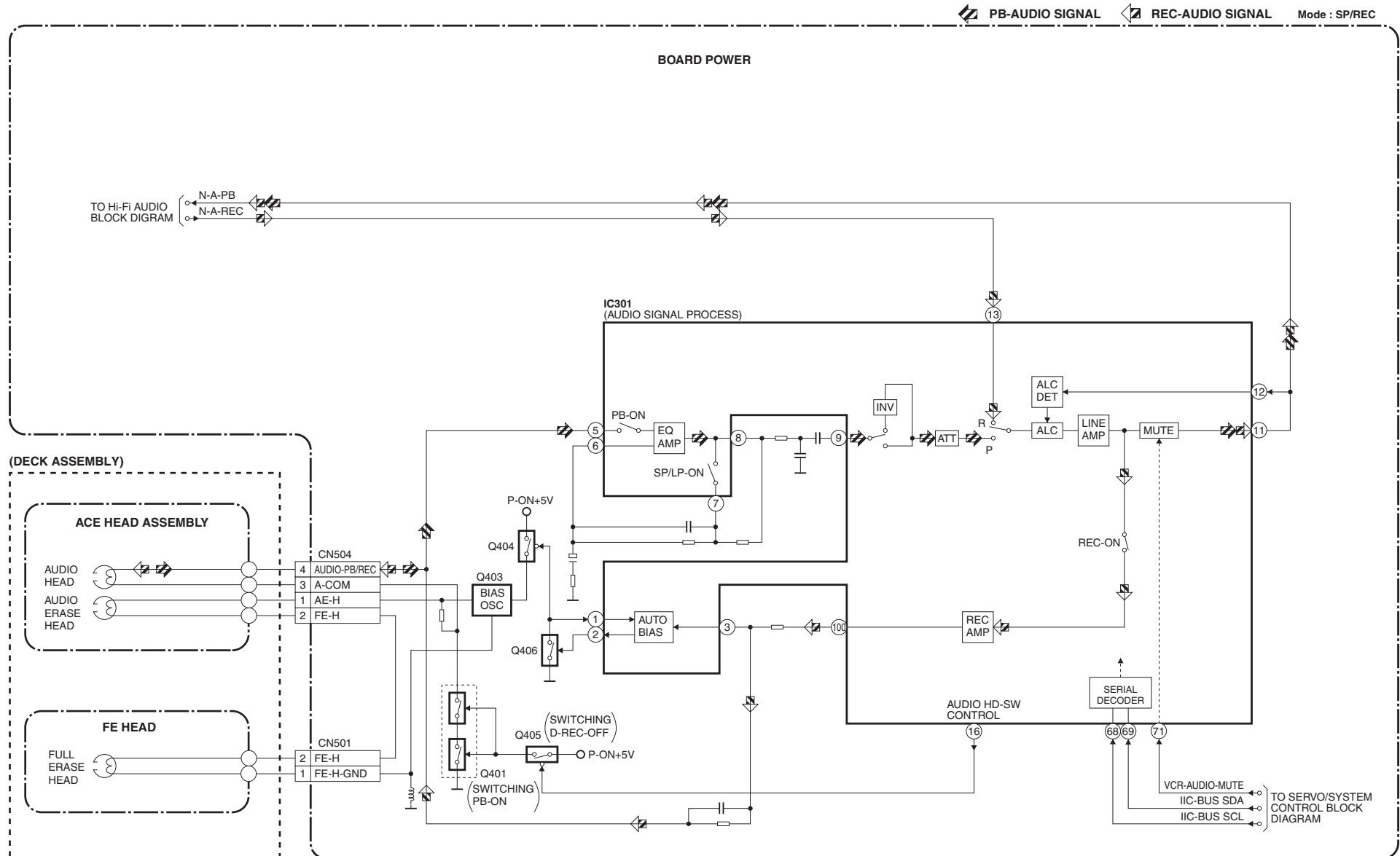
Audio Selector Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



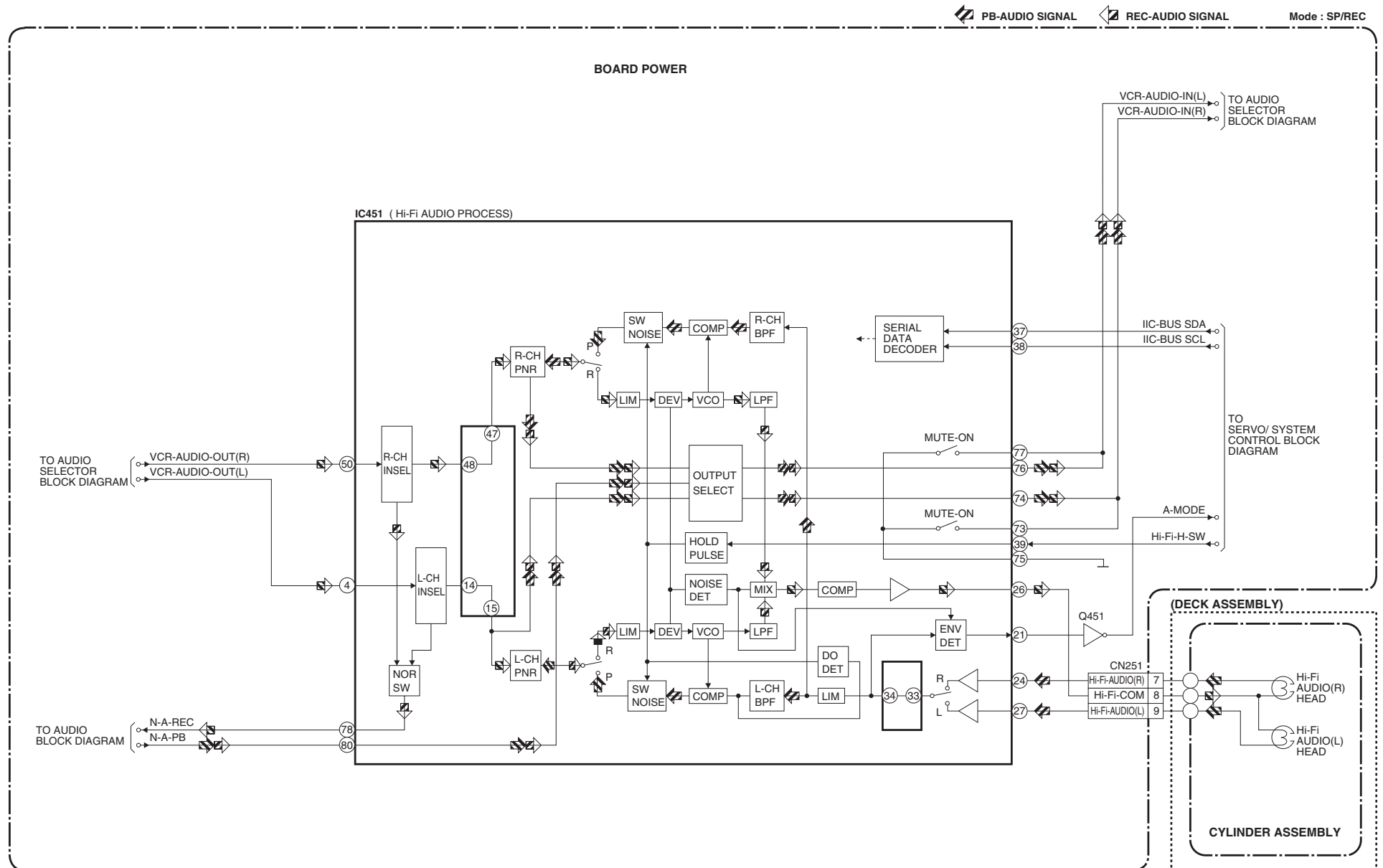
Audio Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



Hi-Fi Audio Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



Power Supply Block Diagram

CAUTION !

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

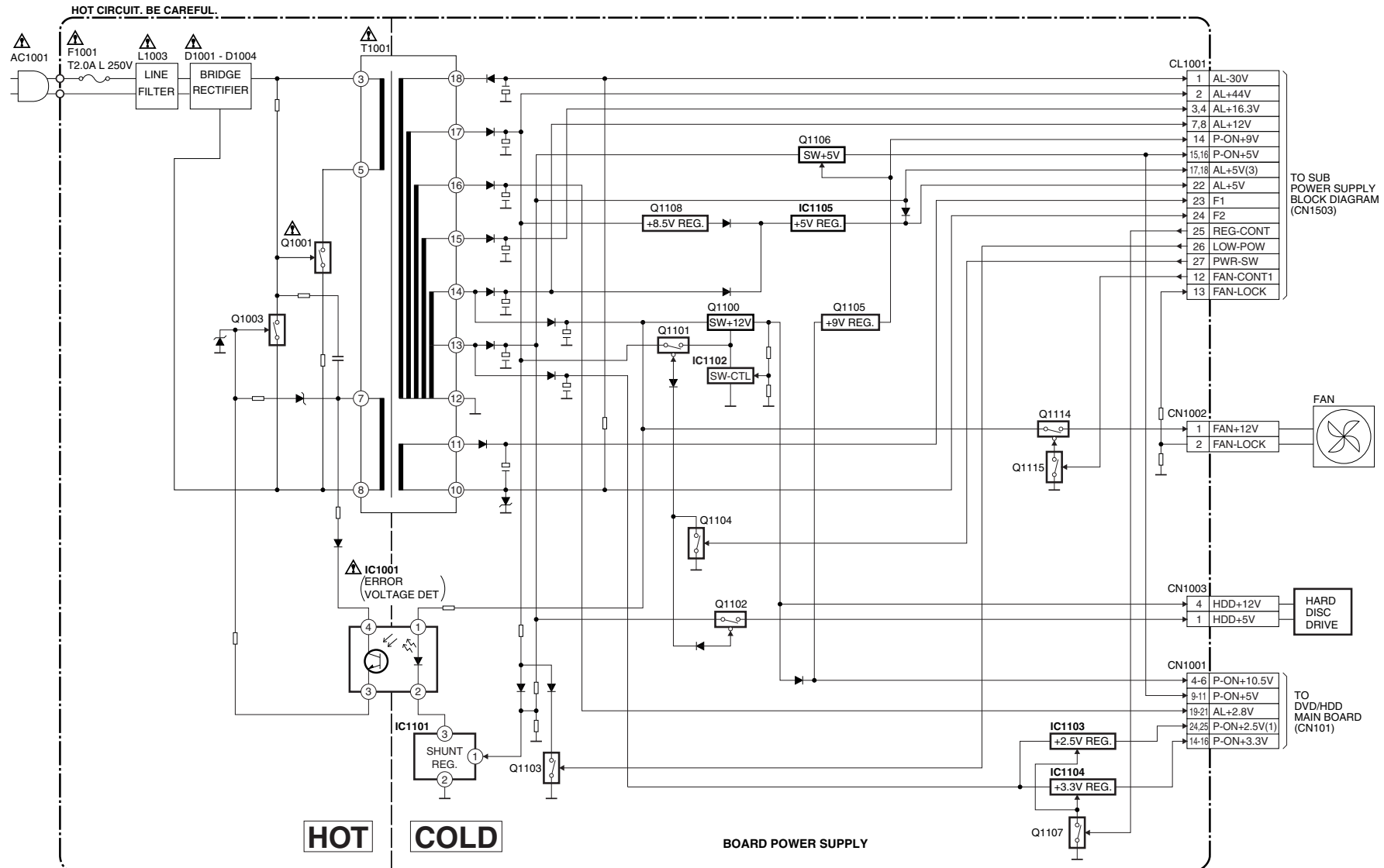
NOTE:

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

CAUTION !

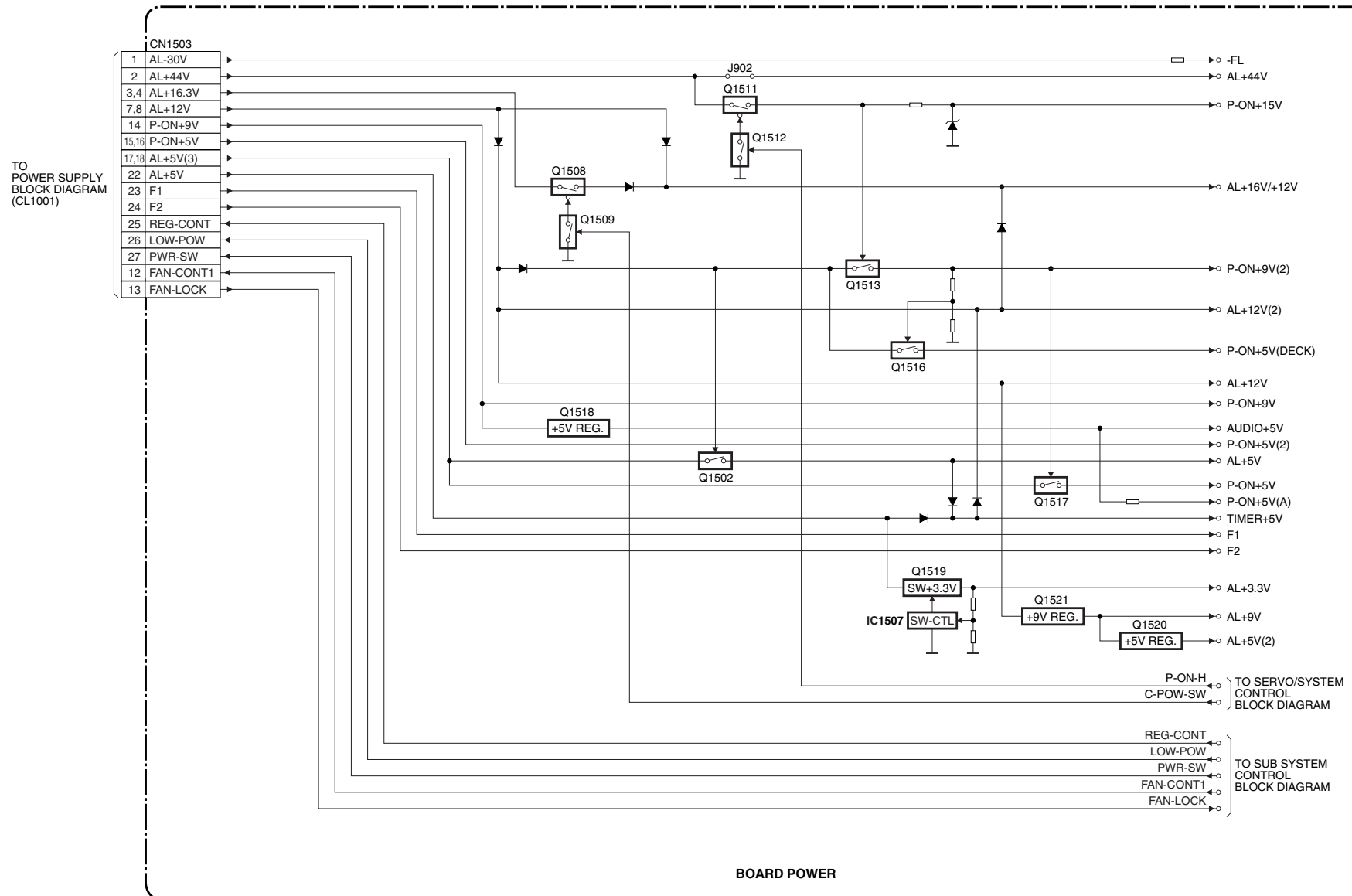
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power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

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



Sub Power Supply Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



SCHEMATIC DIAGRAMS / BOARD'S AND TEST POINTS

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

Standard Notes

WARNING

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

Notes:

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

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:

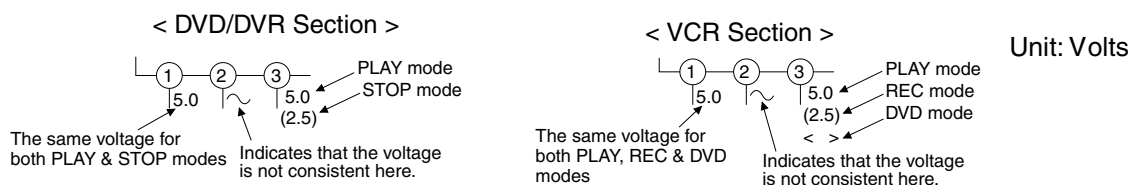
Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

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 modes on the schematics are as shown below:

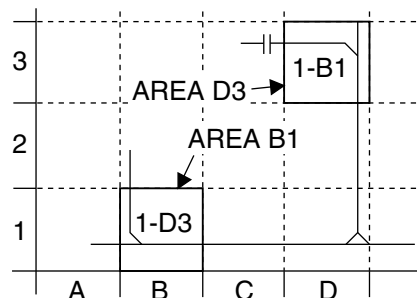


5. How to read converged lines

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 BOARD.

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

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

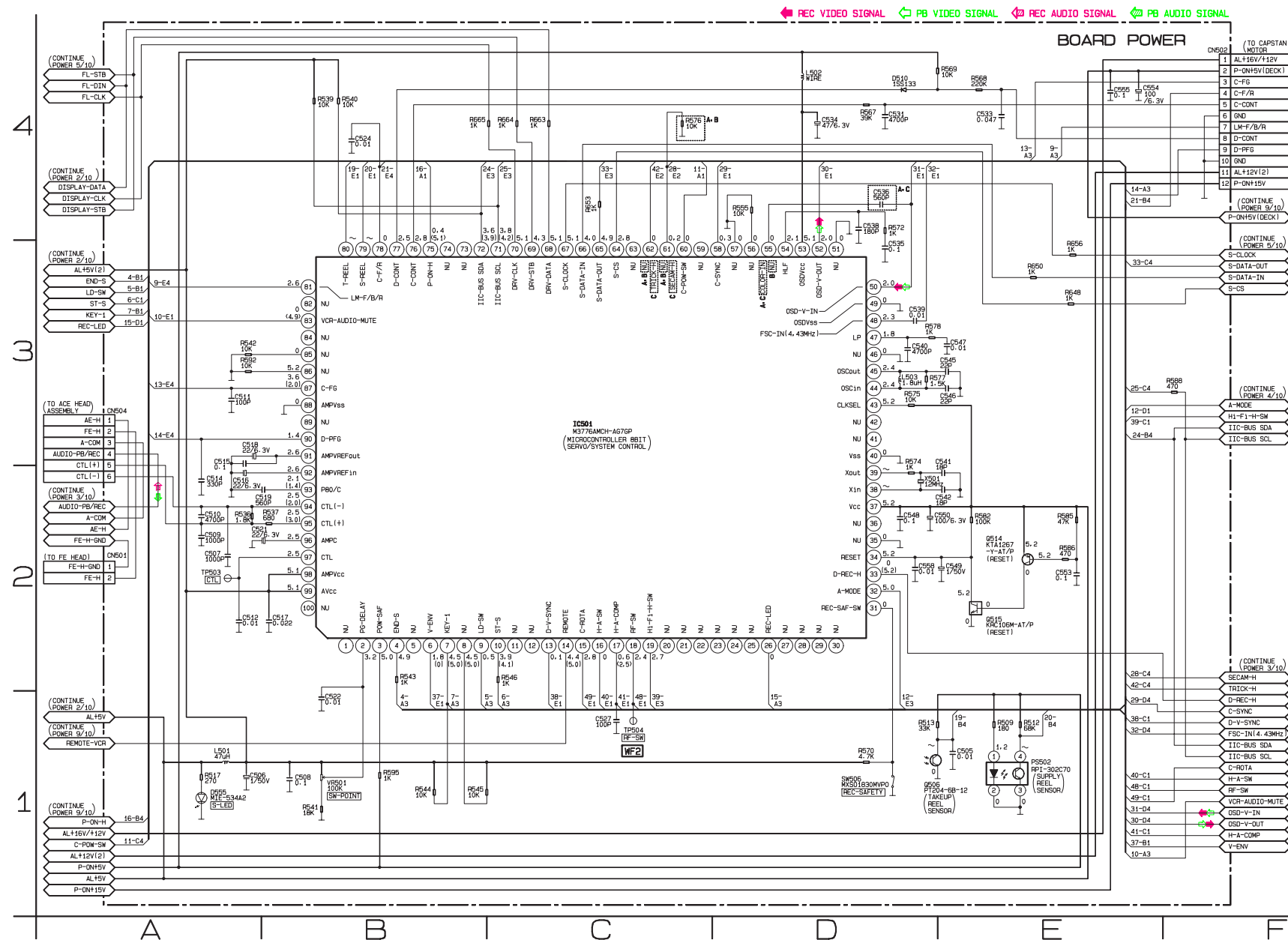
: Used to indicate a test point with a test pin.

POWER 1/10 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

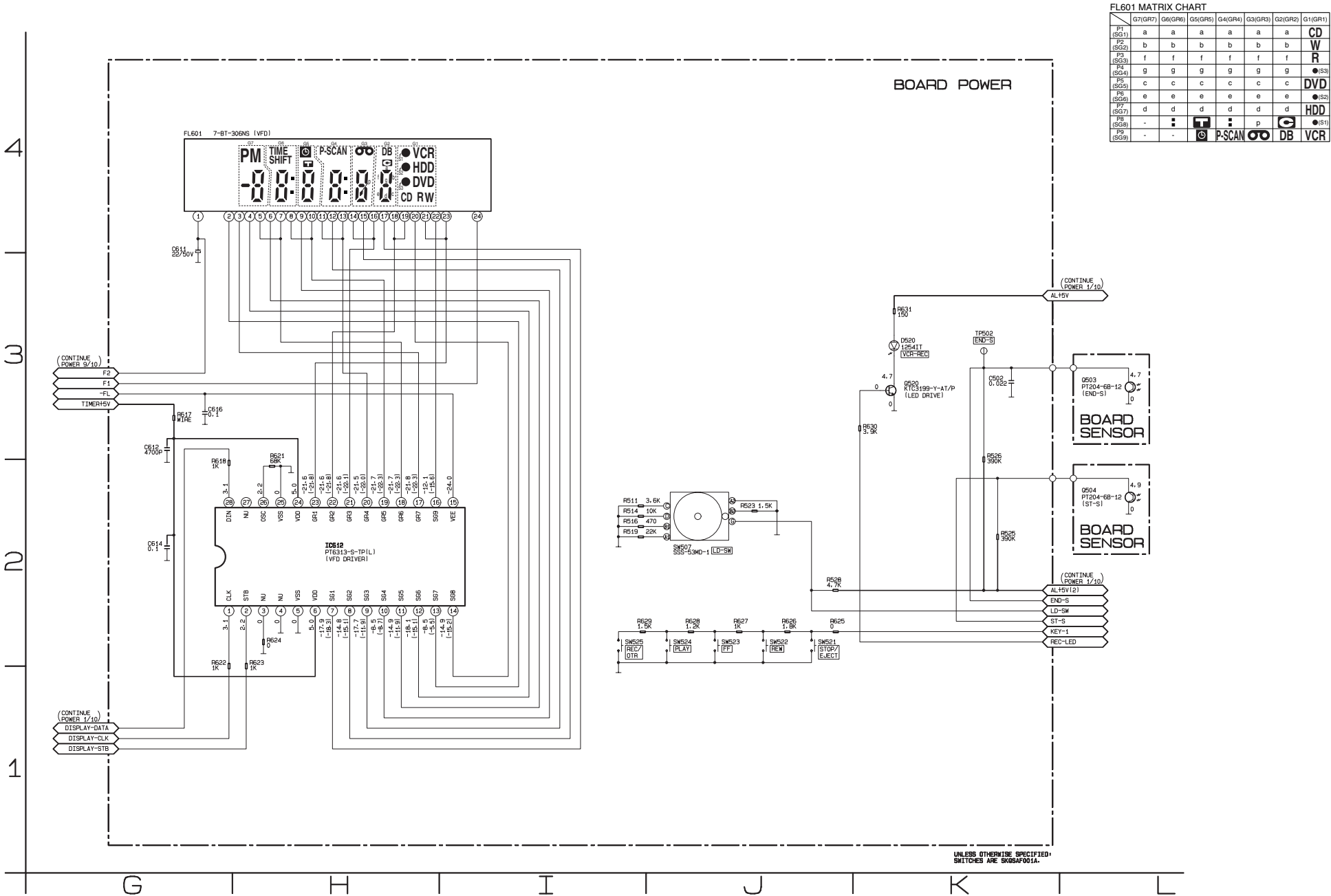
Comparison Chart of Models and Marks

MODEL	MARK
RD-XV47KE	A
RD-XV47KB	B
RD-XV47KF	C



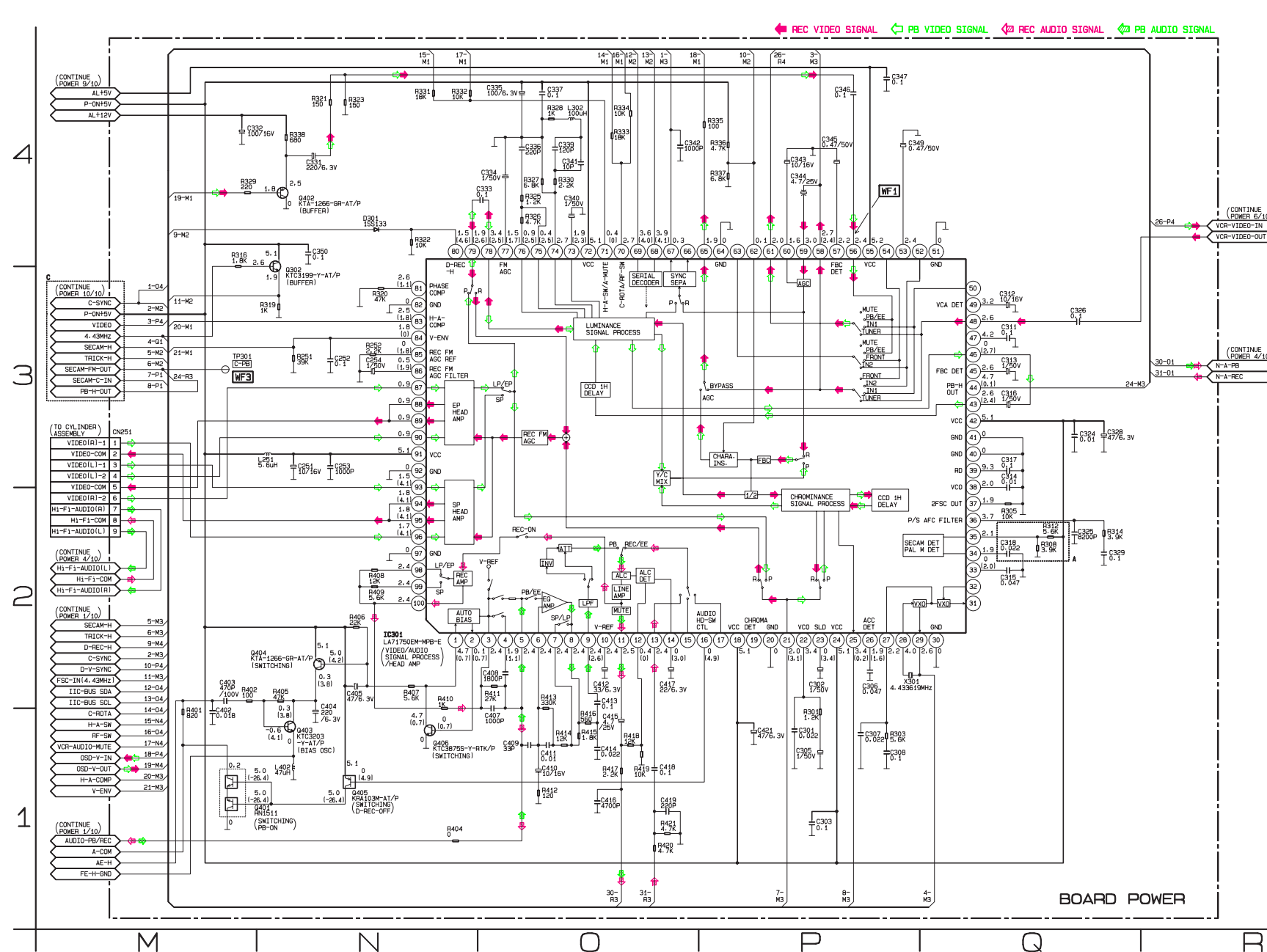
POWER 2/10 & SENSOR Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



POWER 3/10 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

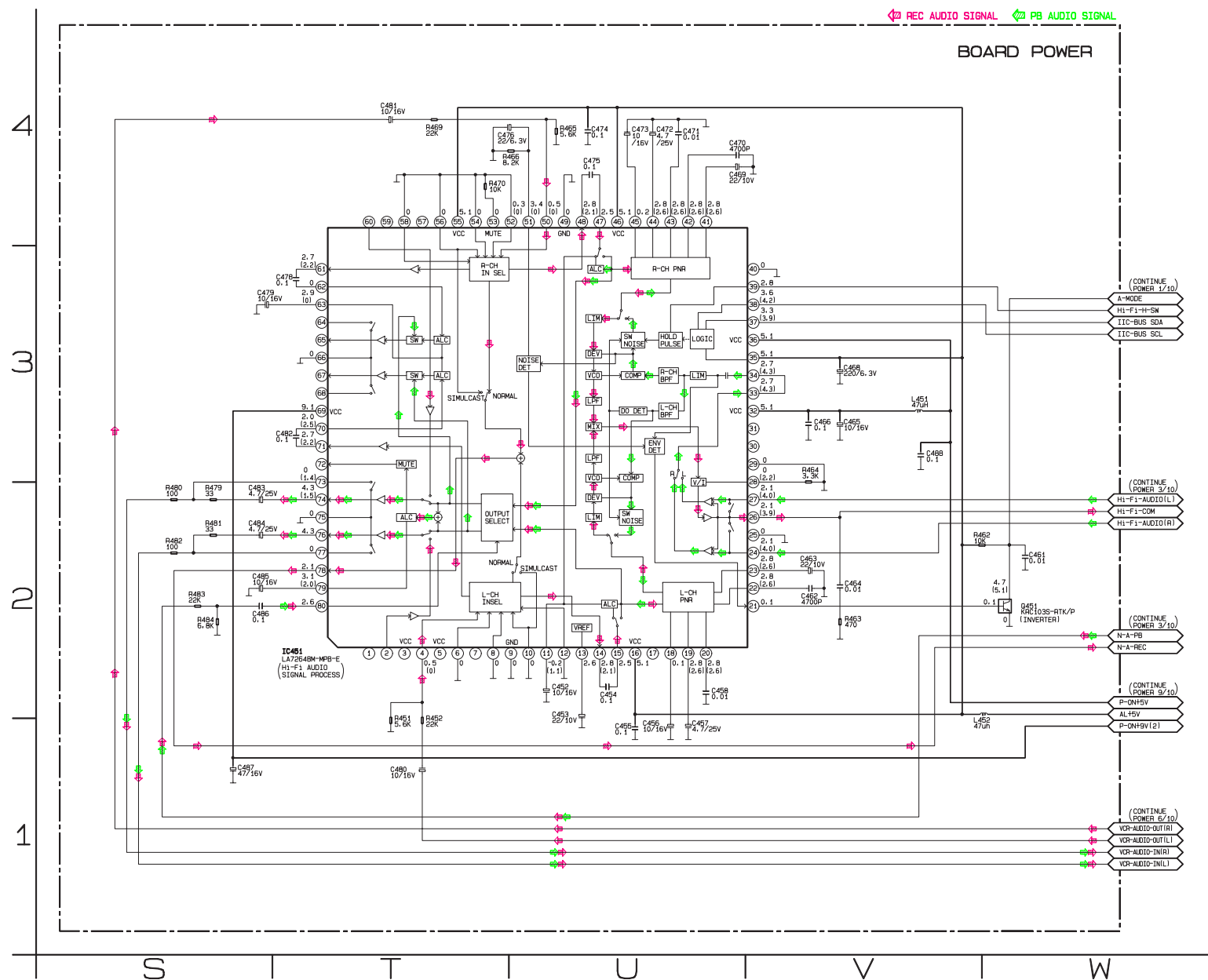


Comparison Chart of Models and Marks

MODEL	MARK
RD-XV47KE	A
RD-XV47KB	B
RD-XV47KF	C

POWER 4/10 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



POWER 5/10 & POWER SWITCH Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

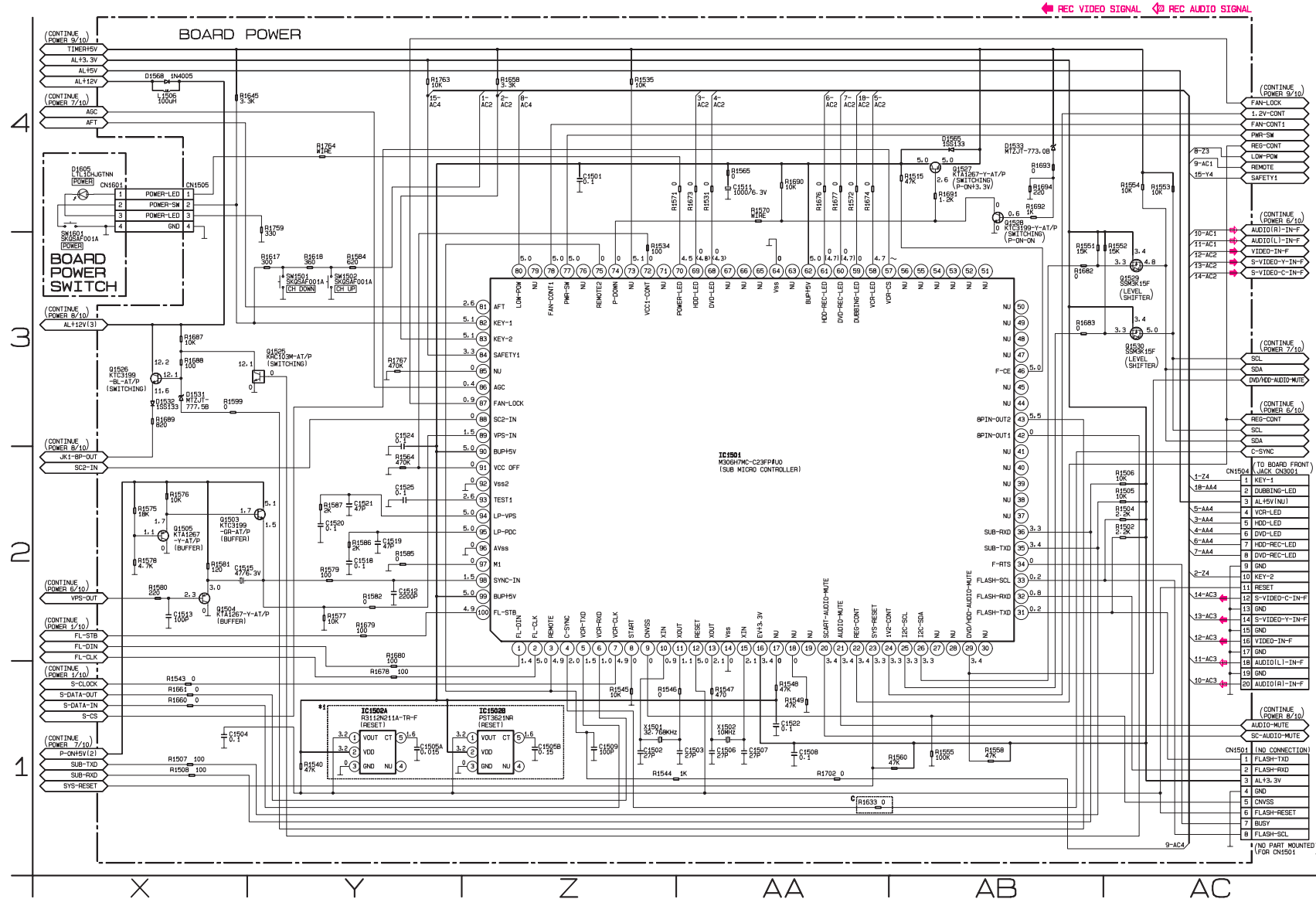
*1 NOTE

These components (IC1502A, IC1505A, IC1502B, IC1505B) can be used in any models.
However, you cannot mix components under Group A with the ones under Group B.
You can choose either Group. The difference between Group A and Group B is shown below.

	Group A	Group B
IC1502A	R3112N211A-TR-F	-----
IC1502B	-----	PST3621NR
C1505A	0.015	-----
C1505B	-----	0.15

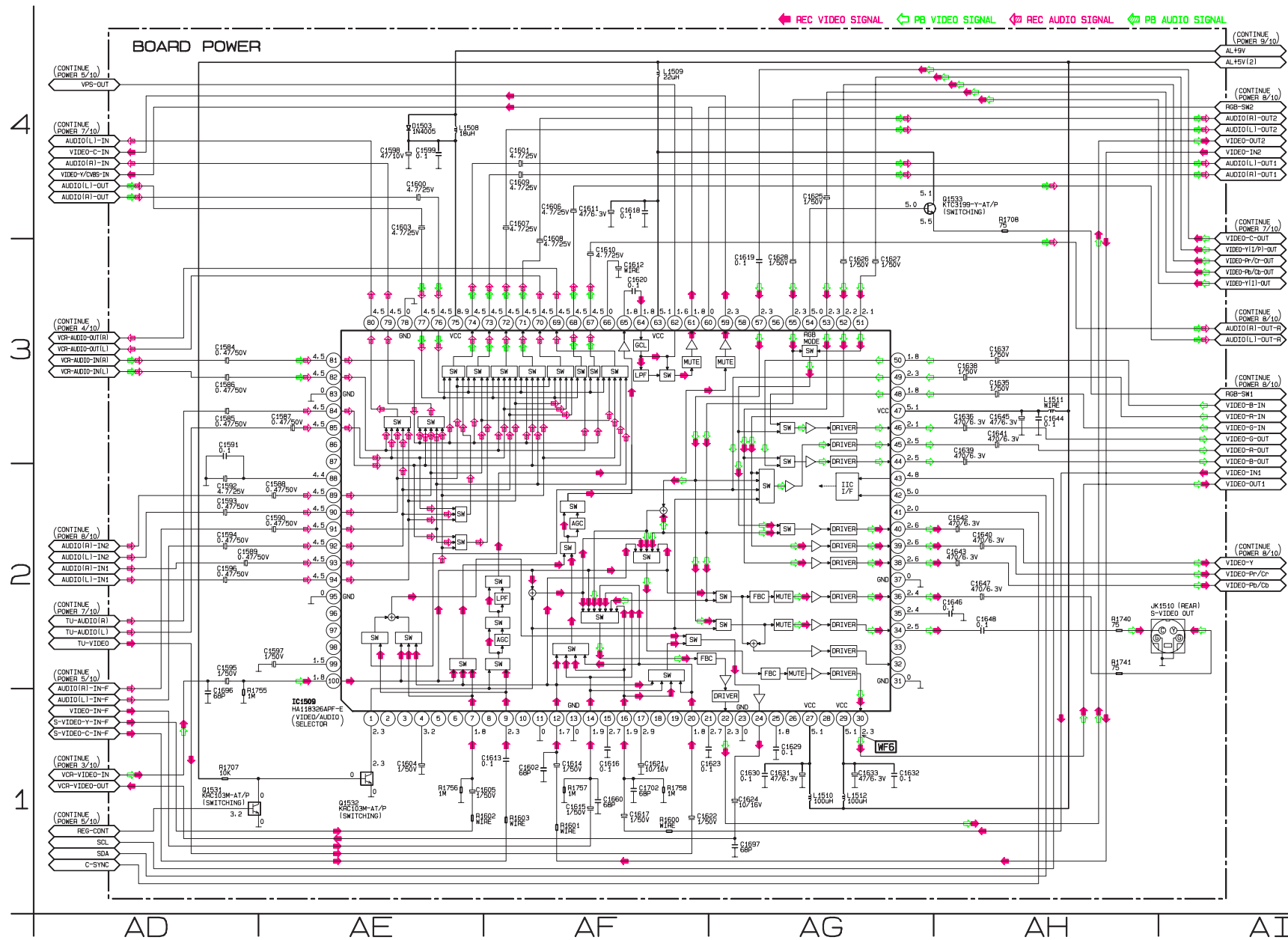
Comparison Chart of Models and Marks

MODEL	MARK
RD-XV47KE	A
RD-XV47KB	B
RD-XV47KF	C



POWER 6/10 Schematic Diagram < VCR Section >

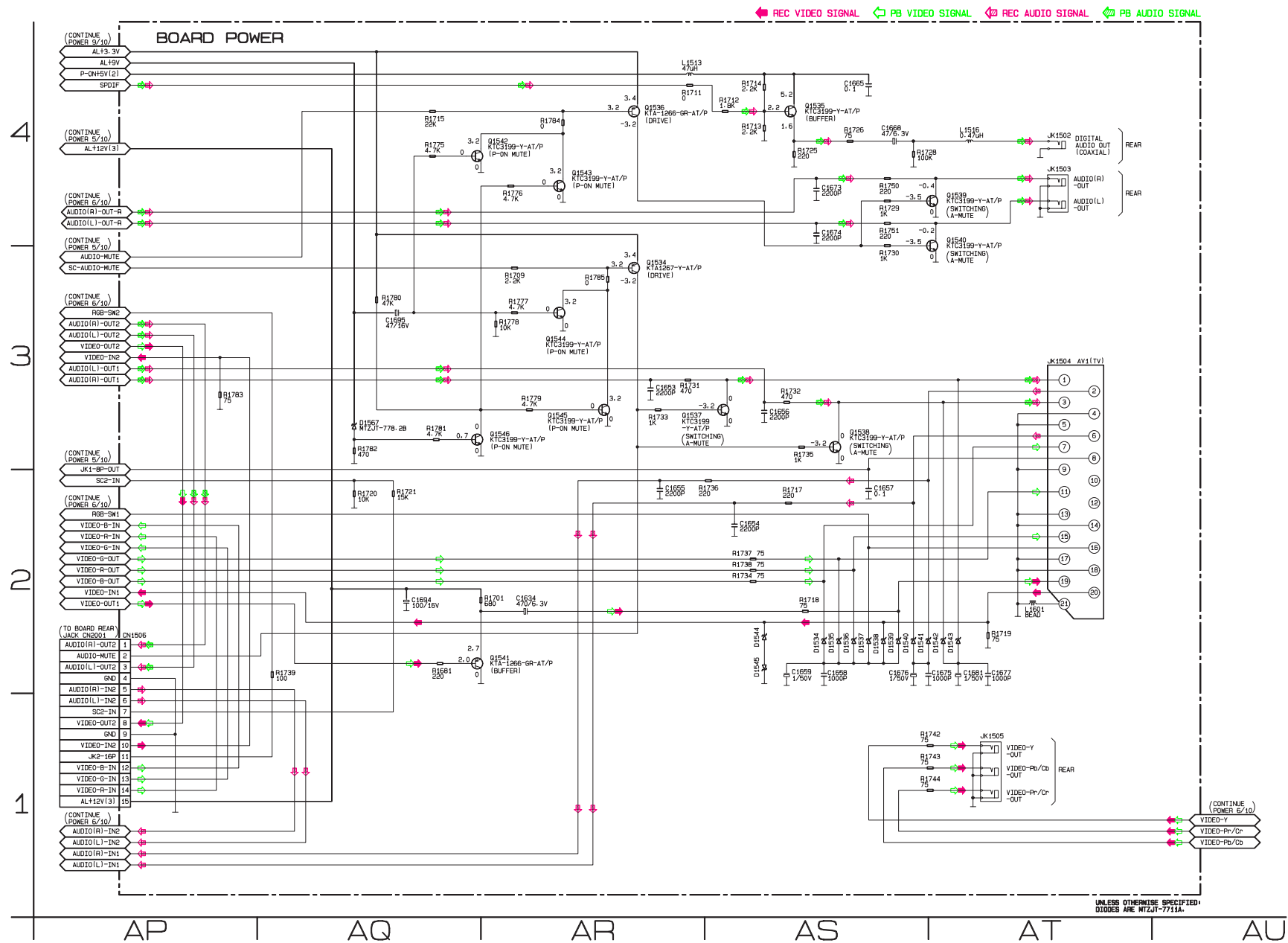
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



The schematic diagram illustrates the power supply and signal processing components of a DVD player's main board. It features two operational amplifiers, IC1506 (UTCA580) and IC1508 (K1442558P/P), configured as buffers and comparators. The power supply section includes a 5V regulator (R1590) and a 1.5V regulator (R1722), with various decoupling capacitors (C1544, C1540, C1549, C1563, C1562, C1540, C1541, C1542, C1543, C1544, C1545, C1546, C1547, C1548, C1549, C1550, C1551, C1552, C1553, C1554, C1555, C1556, C1557, C1558, C1559, C1560, C1561, C1562, C1563, C1564, C1565, C1566, C1567, C1568, C1569, C1570, C1571, C1572, C1573, C1574, C1575, C1576, C1577, C1578, C1579, C1580, C1581, C1582, C1583, C1584, C1585, C1586, C1587, C1588, C1589, C1590, C1591, C1592, C1593, C1594, C1595, C1596, C1597, C1598, C1599, C1600, C1601, C1602, C1603, C1604, C1605, C1606, C1607, C1608, C1609, C1610, C1611, C1612, C1613, C1614, C1615, C1616, C1617, C1618, C1619, C1620, C1621, C1622, C1623, C1624, C1625, C1626, C1627, C1628, C1629, C1630, C1631, C1632, C1633, C1634, C1635, C1636, C1637, C1638, C1639, C1640, C1641, C1642, C1643, C1644, C1645, C1646, C1647, C1648, C1649, C1650, C1651, C1652, C1653, C1654, C1655, C1656, C1657, C1658, C1659, C1660, C1661, C1662, C1663, C1664, C1665, C1666, C1667, C1668, C1669, C1670, C1671, C1672, C1673, C1674, C1675, C1676, C1677, C1678, C1679, C1680, C1681, C1682, C1683, C1684, C1685, C1686, C1687, C1688, C1689, C1690, C1691, C1692, C1693, C1694, C1695, C1696, C1697, C1698, C1699, C1700, C1701, C1702, C1703, C1704, C1705, C1706, C1707, C1708, C1709, C1710, C1711, C1712, C1713, C1714, C1715, C1716, C1717, C1718, C1719, C1720, C1721, C1722, C1723, C1724, C1725, C1726, C1727, C1728, C1729, C1730, C1731, C1732, C1733, C1734, C1735, C1736, C1737, C1738, C1739, C1740, C1741, C1742, C1743, C1744, C1745, C1746, C1747, C1748, C1749, C1750, C1751, C1752, C1753, C1754, C1755, C1756, C1757, C1758, C1759, C1760, C1761, C1762, C1763, C1764, C1765, C1766, C1767, C1768, C1769, C1770, C1771, C1772, C1773, C1774, C1775, C1776, C1777, C1778, C1779, C1780, C1781, C1782, C1783, C1784, C1785, C1786, C1787, C1788, C1789, C1790, C1791, C1792, C1793, C1794, C1795, C1796, C1797, C1798, C1799, C1800, C1801, C1802, C1803, C1804, C1805, C1806, C1807, C1808, C1809, C1810, C1811, C1812, C1813, C1814, C1815, C1816, C1817, C1818, C1819, C1820, C1821, C1822, C1823, C1824, C1825, C1826, C1827, C1828, C1829, C1830, C1831, C1832, C1833, C1834, C1835, C1836, C1837, C1838, C1839, C1840, C1841, C1842, C1843, C1844, C1845, C1846, C1847, C1848, C1849, C1850, C1851, C1852, C1853, C1854, C1855, C1856, C1857, C1858, C1859, C1860, C1861, C1862, C1863, C1864, C1865, C1866, C1867, C1868, C1869, C1870, C1871, C1872, C1873, C1874, C1875, C1876, C1877, C1878, C1879, C1880, C1881, C1882, C1883, C1884, C1885, C1886, C1887, C1888, C1889, C1890, C1891, C1892, C1893, C1894, C1895, C1896, C1897, C1898, C1899, C1900, C1901, C1902, C1903, C1904, C1905, C1906, C1907, C1908, C1909, C1910, C1911, C1912, C1913, C1914, C1915, C1916, C1917, C1918, C1919, C1920, C1921, C1922, C1923, C1924, C1925, C1926, C1927, C1928, C1929, C1930, C1931, C1932, C1933, C1934, C1935, C1936, C1937, C1938, C1939, C1940, C1941, C1942, C1943, C1944, C1945, C1946, C1947, C1948, C1949, C1950, C1951, C1952, C1953, C1954, C1955, C1956, C1957, C1958, C1959, C1960, C1961, C1962, C1963, C1964, C1965, C1966, C1967, C1968, C1969, C1970, C1971, C1972, C1973, C1974, C1975, C1976, C1977, C1978, C1979, C1980, C1981, C1982, C1983, C1984, C1985, C1986, C1987, C1988, C1989, C1990, C1991, C1992, C1993, C1994, C1995, C1996, C1997, C1998, C1999, C2000, C2001, C2002, C2003, C2004, C2005, C2006, C2007, C2008, C2009, C2010, C2011, C2012, C2013, C2014, C2015, C2016, C2017, C2018, C2019, C2020, C2021, C2022, C2023, C2024, C2025, C2026, C2027, C2028, C2029, C2030, C2031, C2032, C2033, C2034, C2035, C2036, C2037, C2038, C2039, C2040, C2041, C2042, C2043, C2044, C2045, C2046, C2047, C2048, C2049, C2050, C2051, C2052, C2053, C2054, C2055, C2056, C2057, C2058, C2059, C2060, C2061, C2062, C2063, C2064, C2065, C2066, C2067, C2068, C2069, C2070, C2071, C2072, C2073, C2074, C2075, C2076, C2077, C2078, C2079, C2080, C2081, C2082, C2083, C2084, C2085, C2086, C2087, C2088, C2089, C2090, C2091, C2092, C2093, C2094, C2095, C2096, C2097, C2098, C2099, C2100, C2101, C2102, C2103, C2104, C2105, C2106, C2107, C2108, C2109, C2110, C2111, C2112, C2113, C2114, C2115, C2116, C2117, C2118, C2119, C2120, C2121, C2122, C2123, C2124, C2125, C2126, C2127, C2128, C2129, C2130, C2131, C2132, C2133, C2134, C2135, C2136, C2137, C2138, C2139, C2140, C2141, C2142, C2143, C2144, C2145, C2146, C2147, C2148, C2149, C2150, C2151, C2152, C2153, C2154, C2155, C2156, C2157, C2158, C2159, C2160, C2161, C2162, C2163, C2164, C2165, C2166, C2167, C2168, C2169, C2170, C2171, C2172, C2173, C2174, C2175, C2176, C2177, C2178, C2179, C2180, C2181, C2182, C2183, C2184, C2185, C2186, C2187, C2188, C2189, C2190, C2191, C2192, C2193, C2194, C219

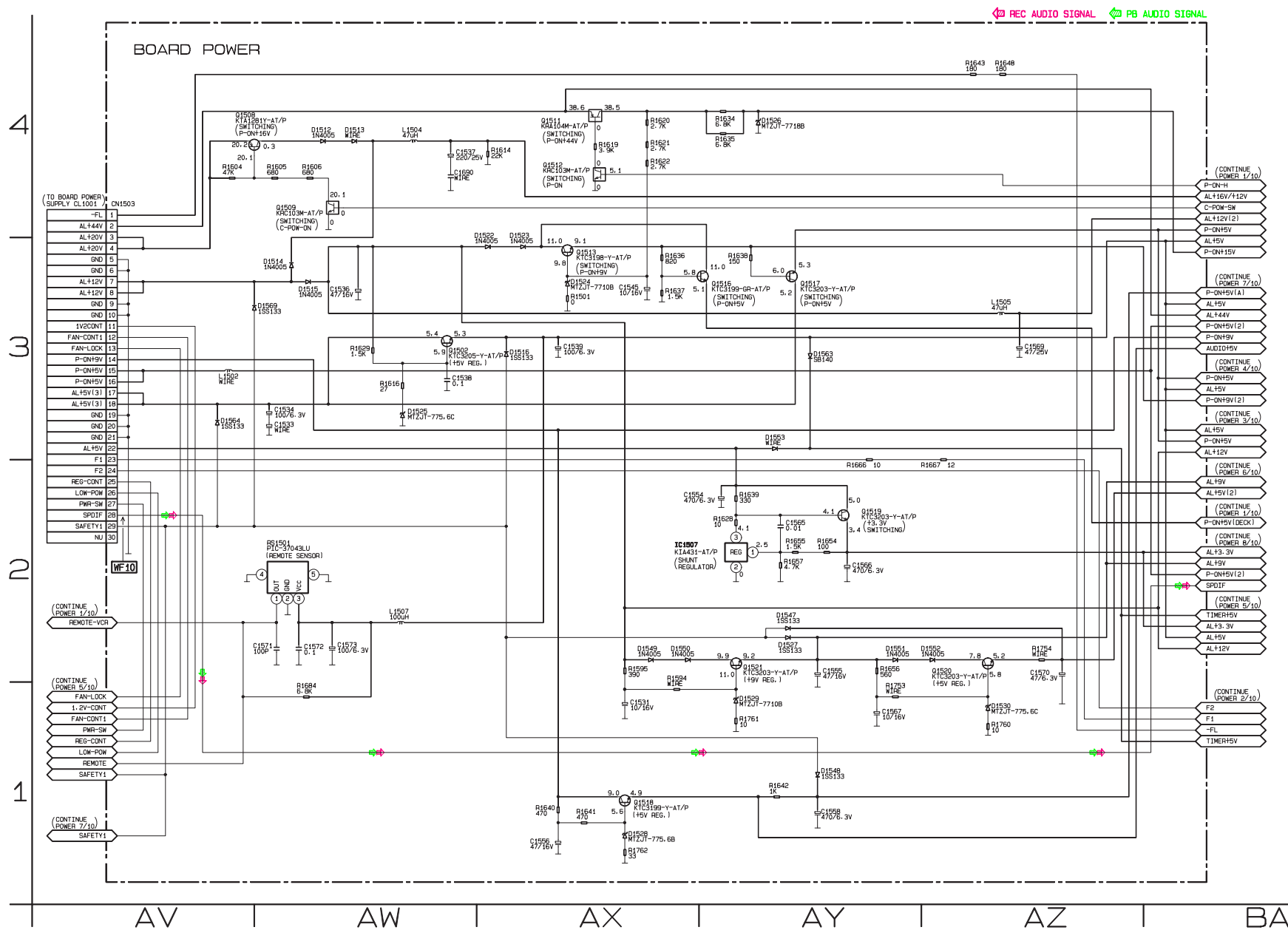
POWER 8/10 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



POWER 9/10 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

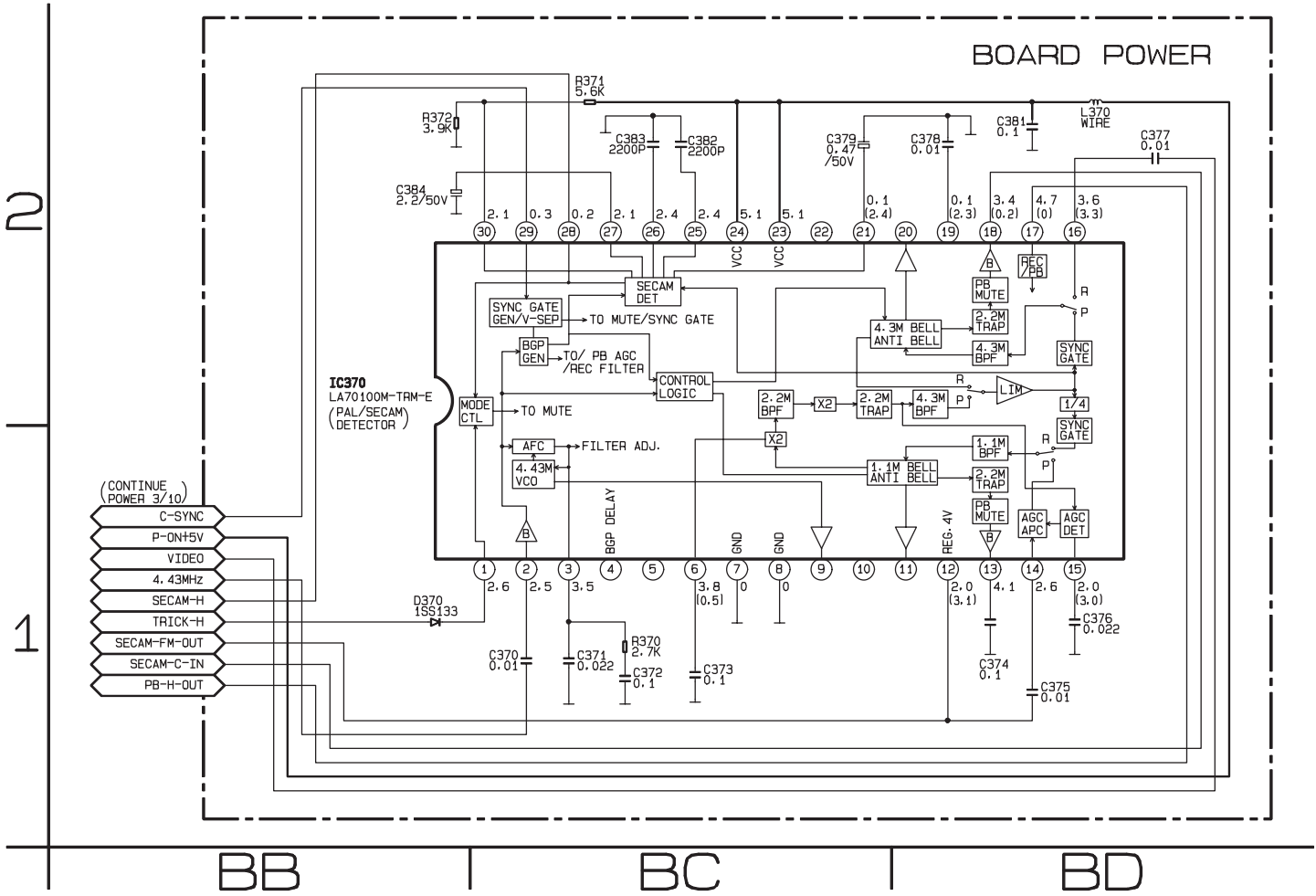


POWER 10/10 Schematic Diagram (C) < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

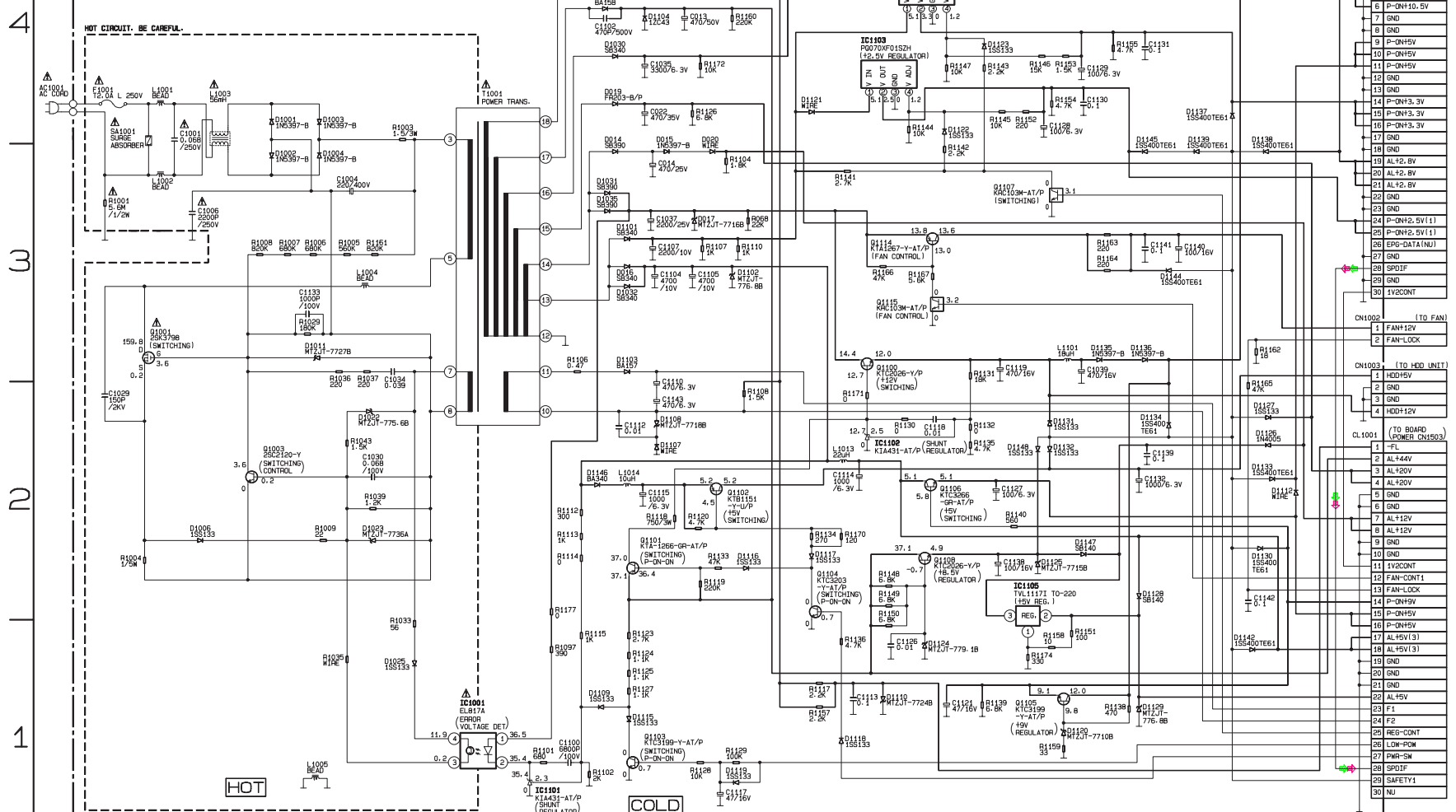
Comparison Chart of Models and Marks

MODEL	MARK
RD-XV47KE	A
RD-XV47KB	B
RD-XV47KF	C



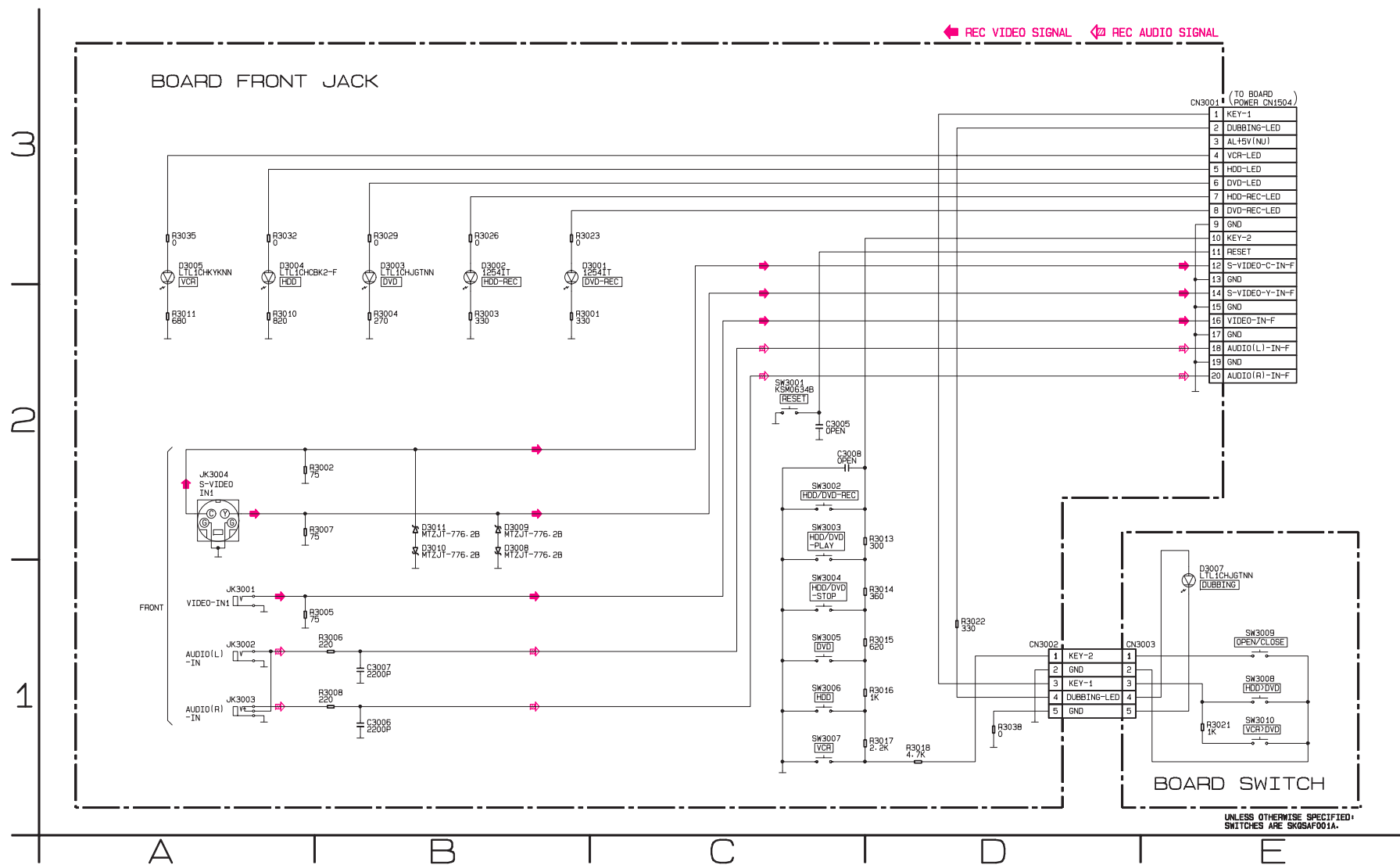
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components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

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



FRONT JACK & SWITCH Schematic Diagram < VCR Section >

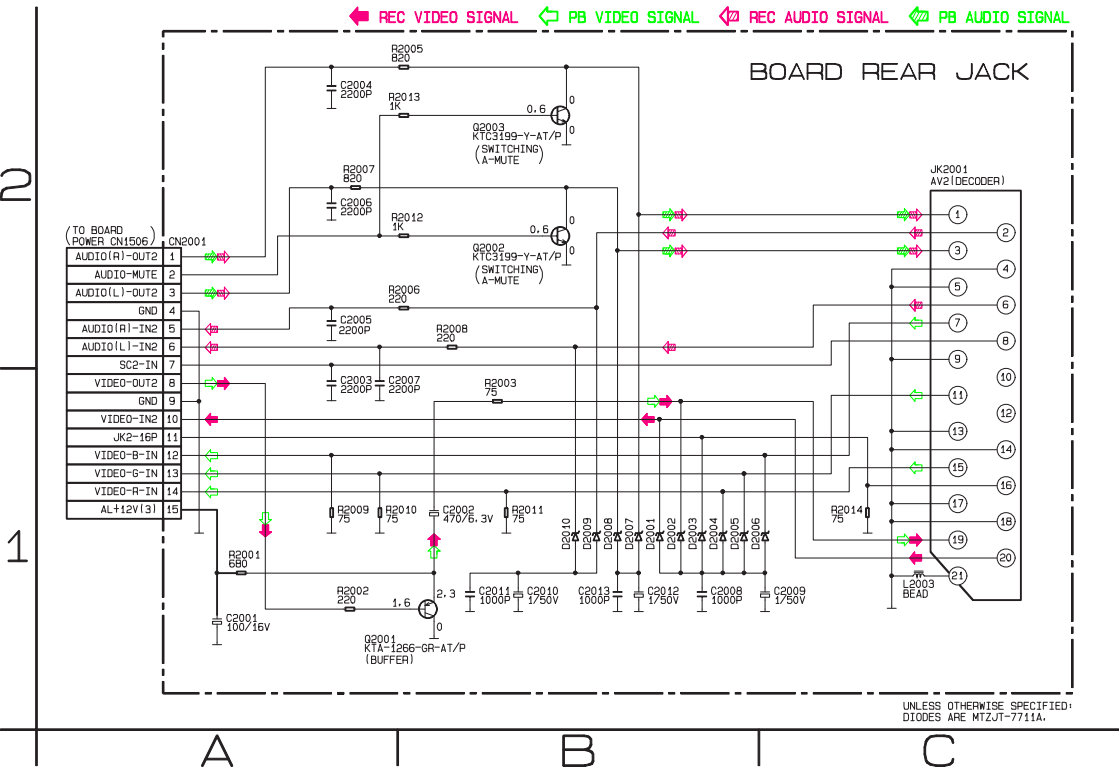
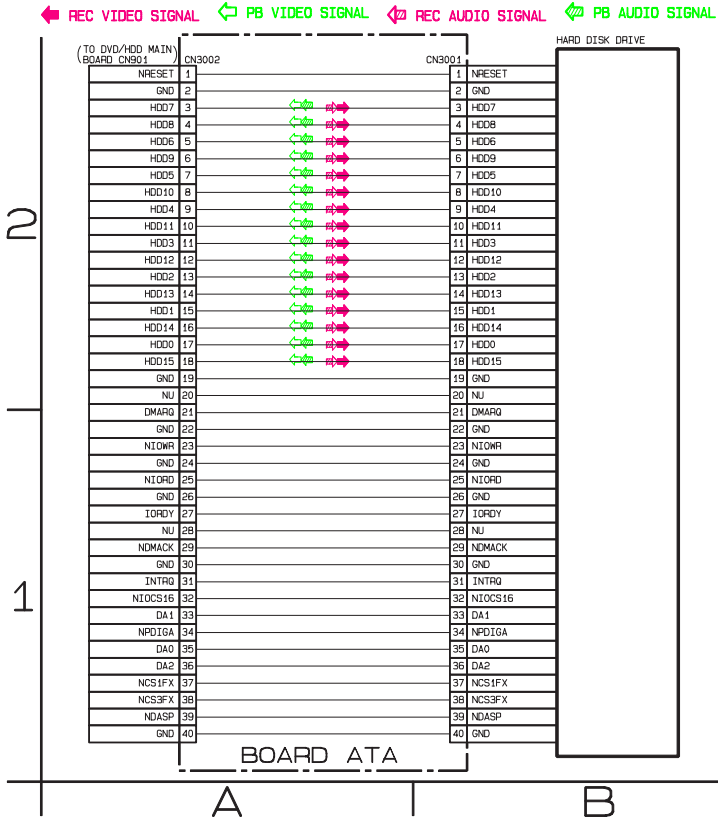
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



REAR JACK Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

ATA Schematic Diagram < DVD/HDD Section >



E3B90SCRJ

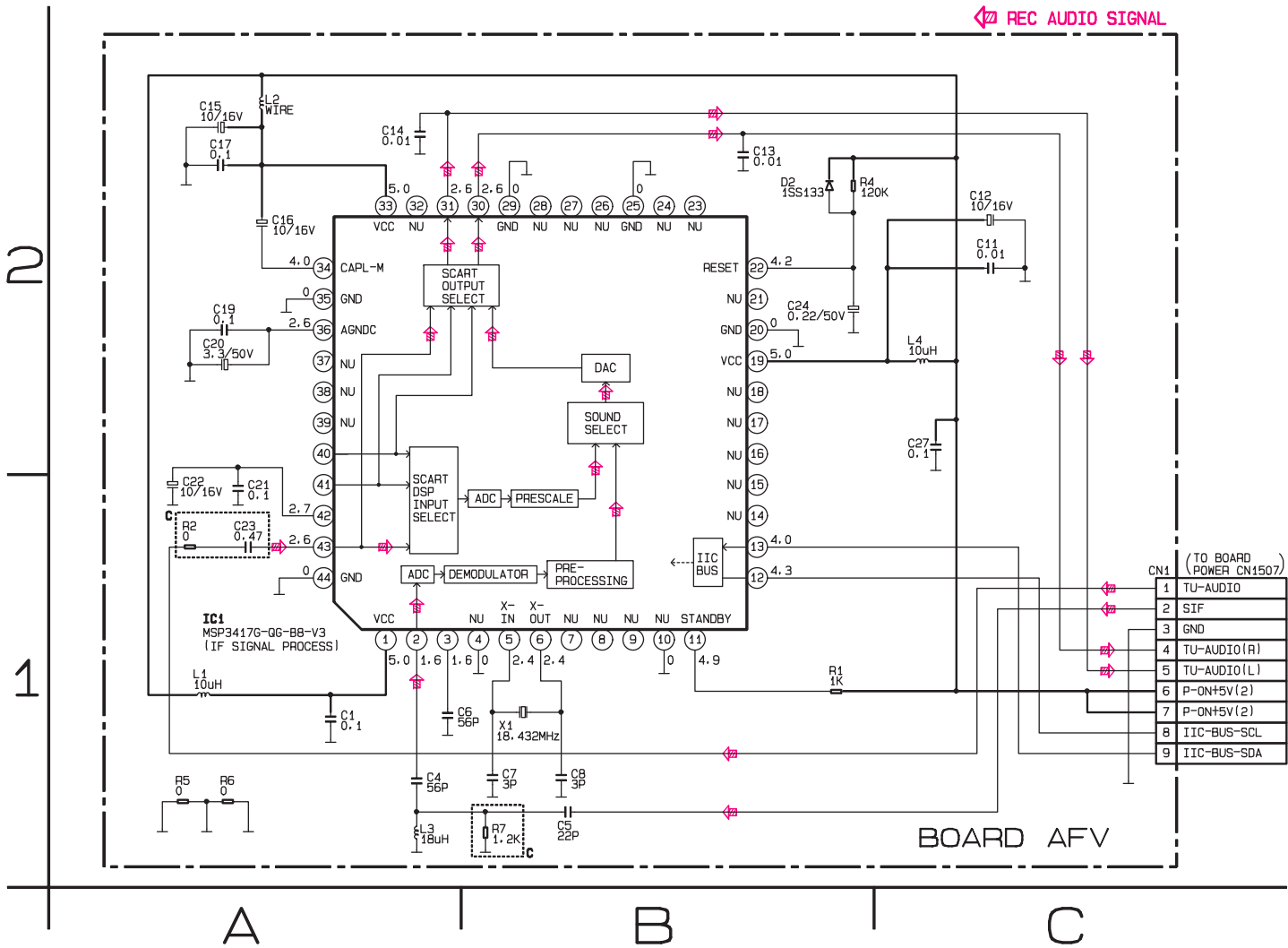
E3B90SCAT

AFV Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

Comparison Chart of Models and Marks

MODEL	MARK
RD-XV47KE	A
RD-XV47KB	B
RD-XV47KF	C



4
—
3
—
2
—
1
—

VIDEO SIGNAL REC AUDIO SIGNAL PB AUDIO SIGNAL

The order of pins shown in this diagram is different from that of actual IC101.
IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD/HDD Main Schematic Diagram Section.

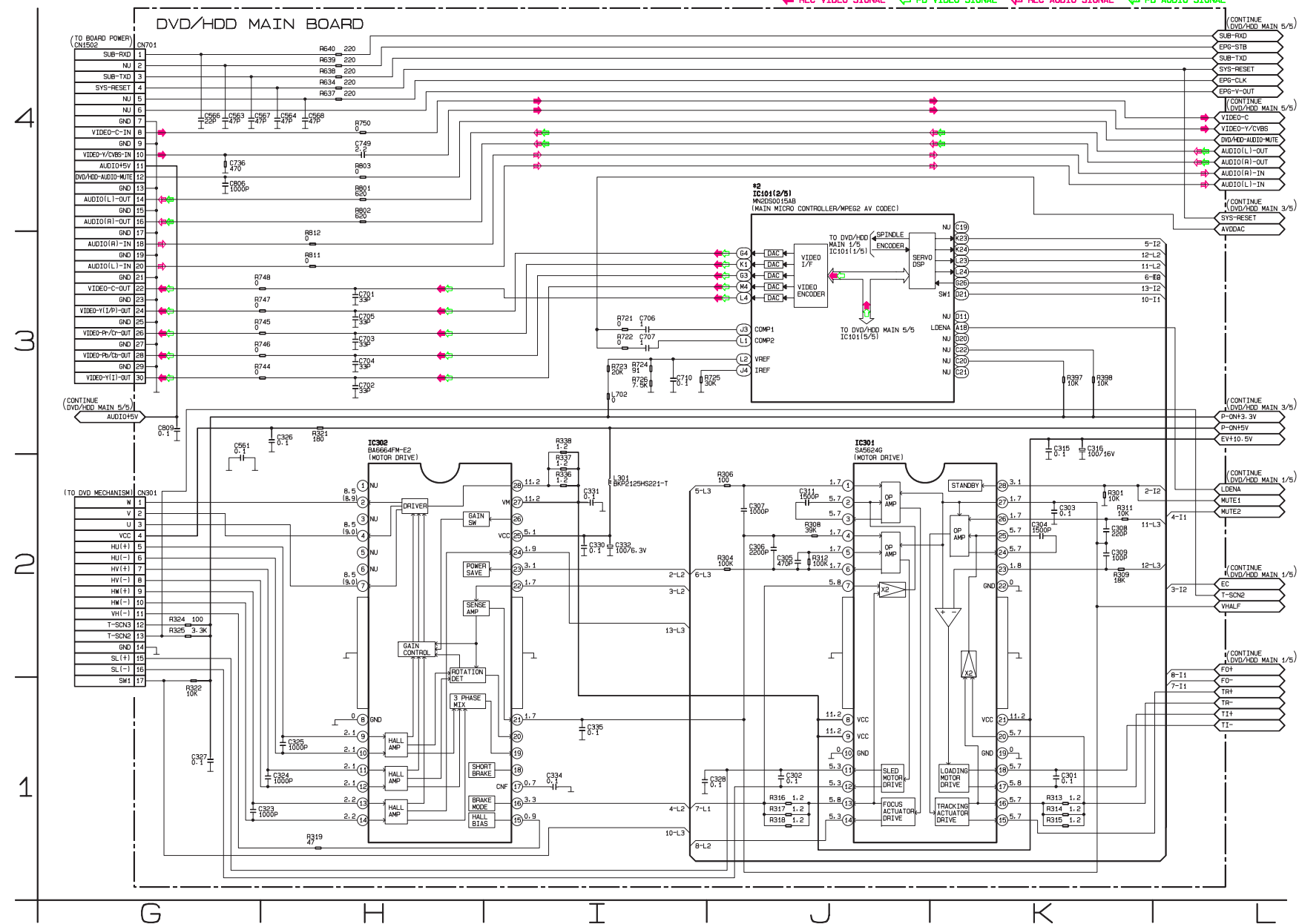


DVD/HDD MAIN 2/5 Schematic Diagram < DVD/HDD Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

*2 NOTE:

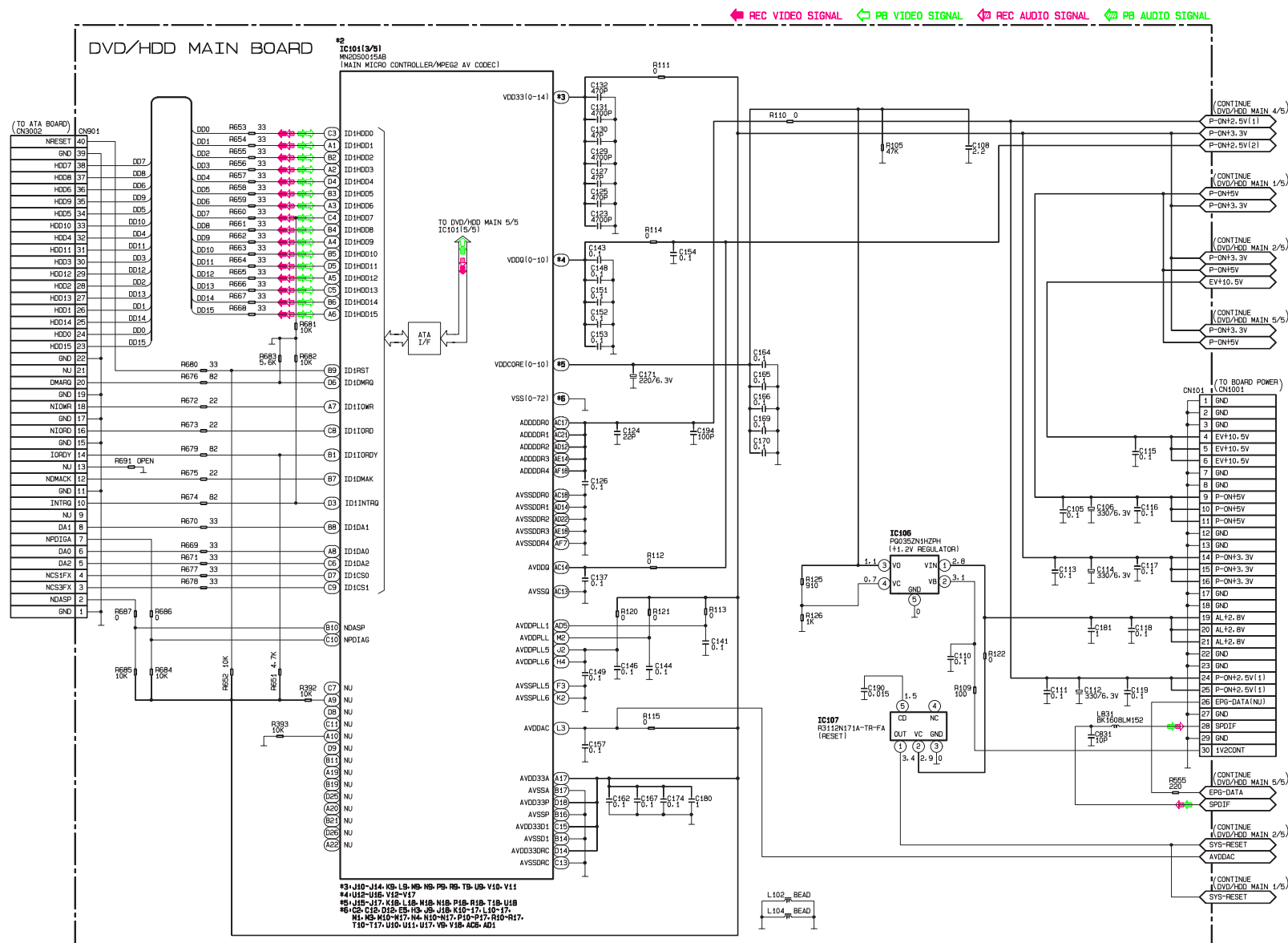
The order of pins shown in this diagram is different from that of actual IC101.
IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD/HDD Main Schematic Diagram Section.



A vertical axis with tick marks and labels 1, 2, 3, and 4.

AURIO, GIOVANNI

The order of pins shown in this diagram is different from that of actual IC101.
IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD/HDD Main Schematic Diagram Section.



4
—
3
—
2
—
1

The order of pins shown in this diagram is different from that of actual IC101.
IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD/HDD Main Schematic Diagram Section.

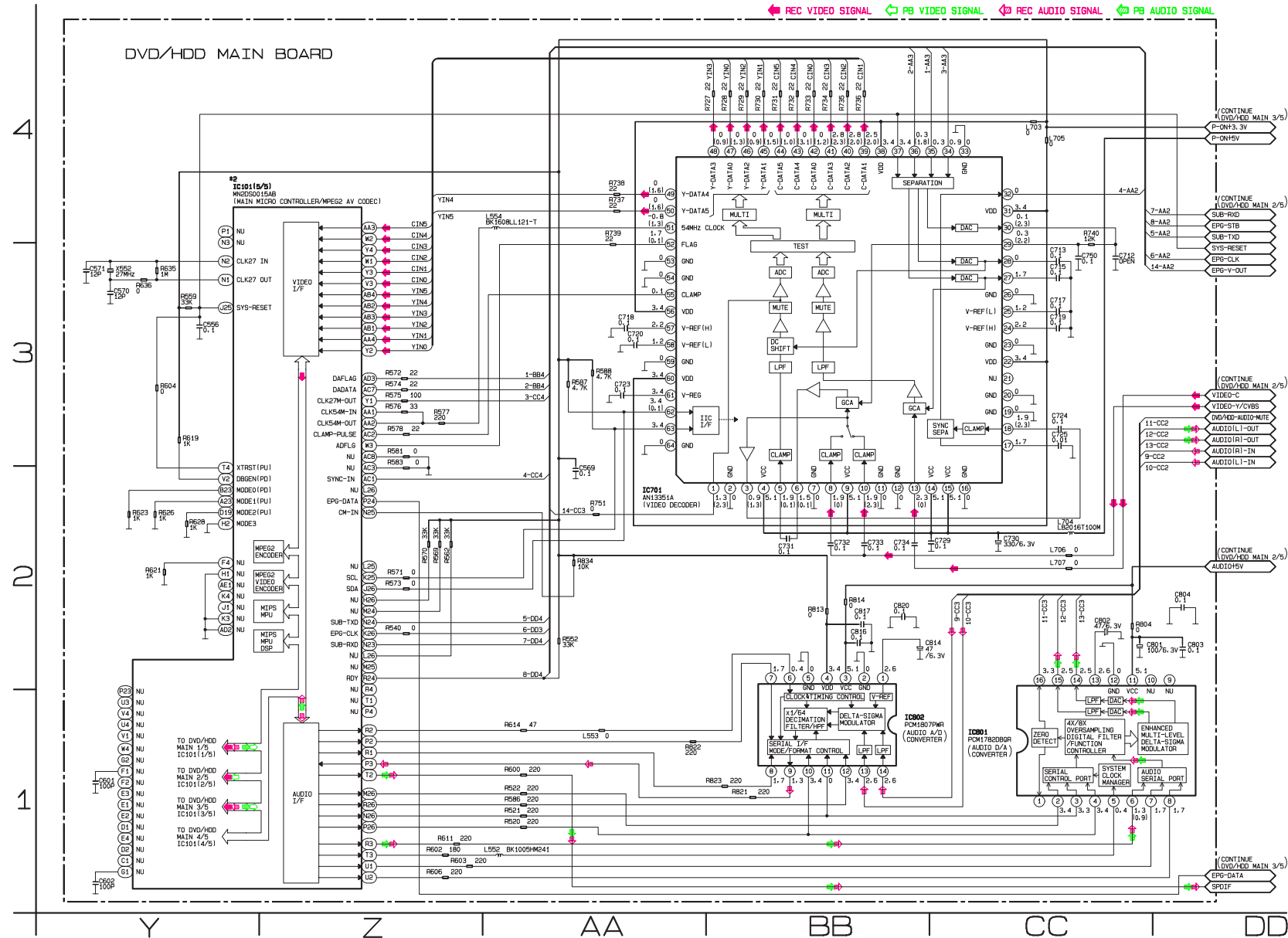


DVD/HDD MAIN 5/5 Schematic Diagram < DVD/HDD Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

*2 NOTE:

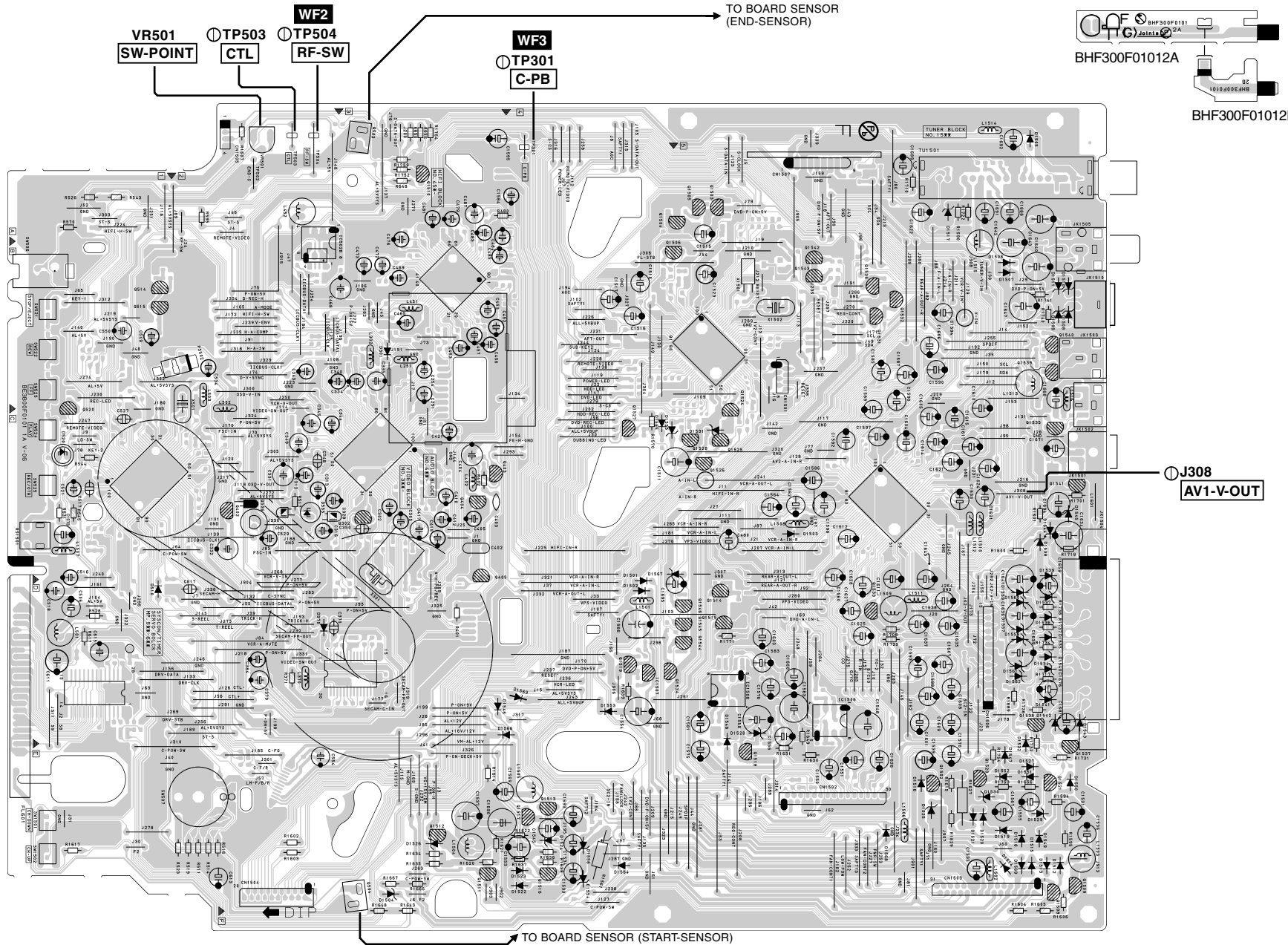
The order of pins shown in this diagram is different from that of actual IC101.
IC101 is divided into five and shown as IC101 (1/5) - IC101 (5/5) in this DVD/HDD Main Schematic Diagram Section.



BOARD POWER Top View

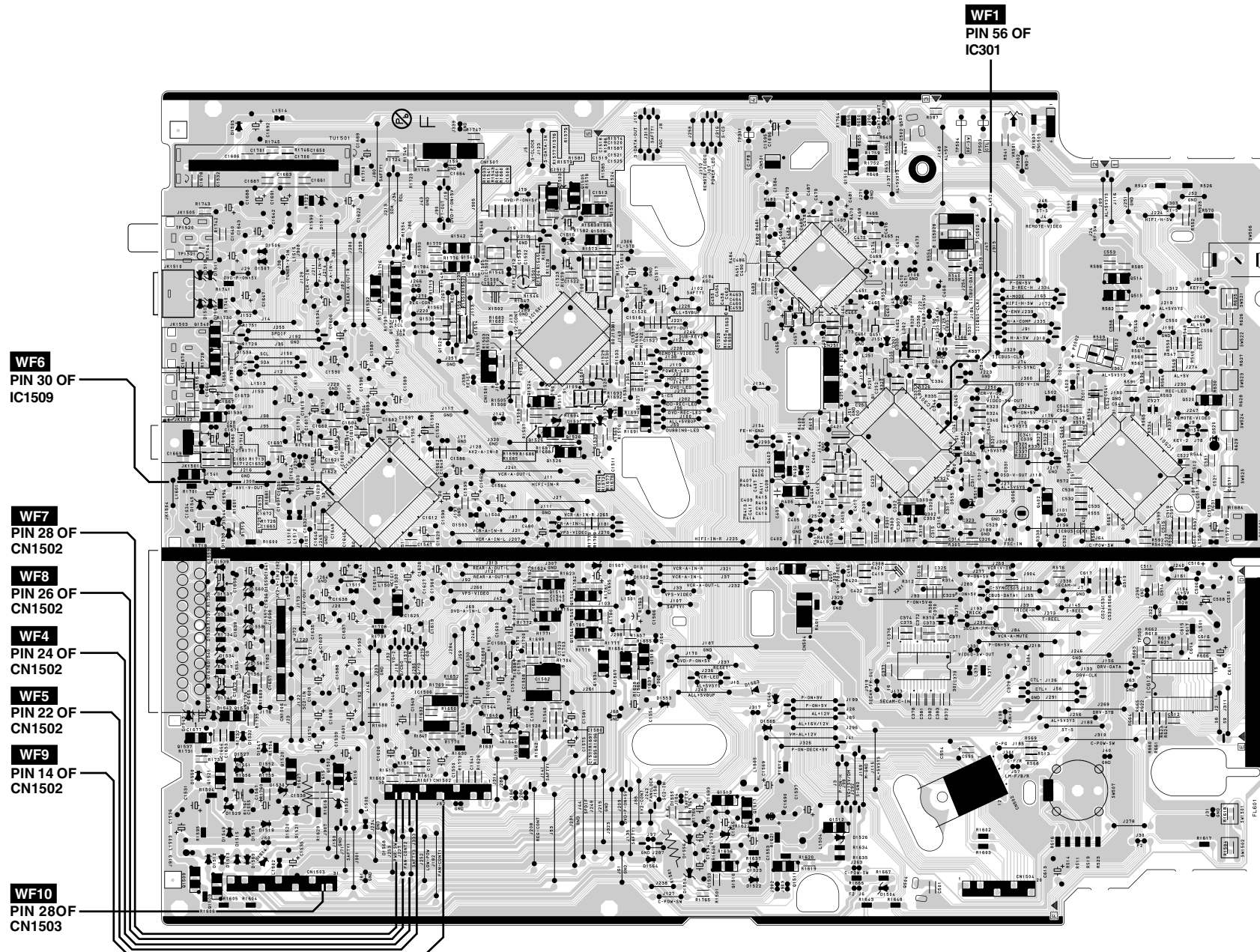
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

BOARD SENSOR View



BOARD POWER Bottom View

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



BOARD POWER SUPPLY Top View

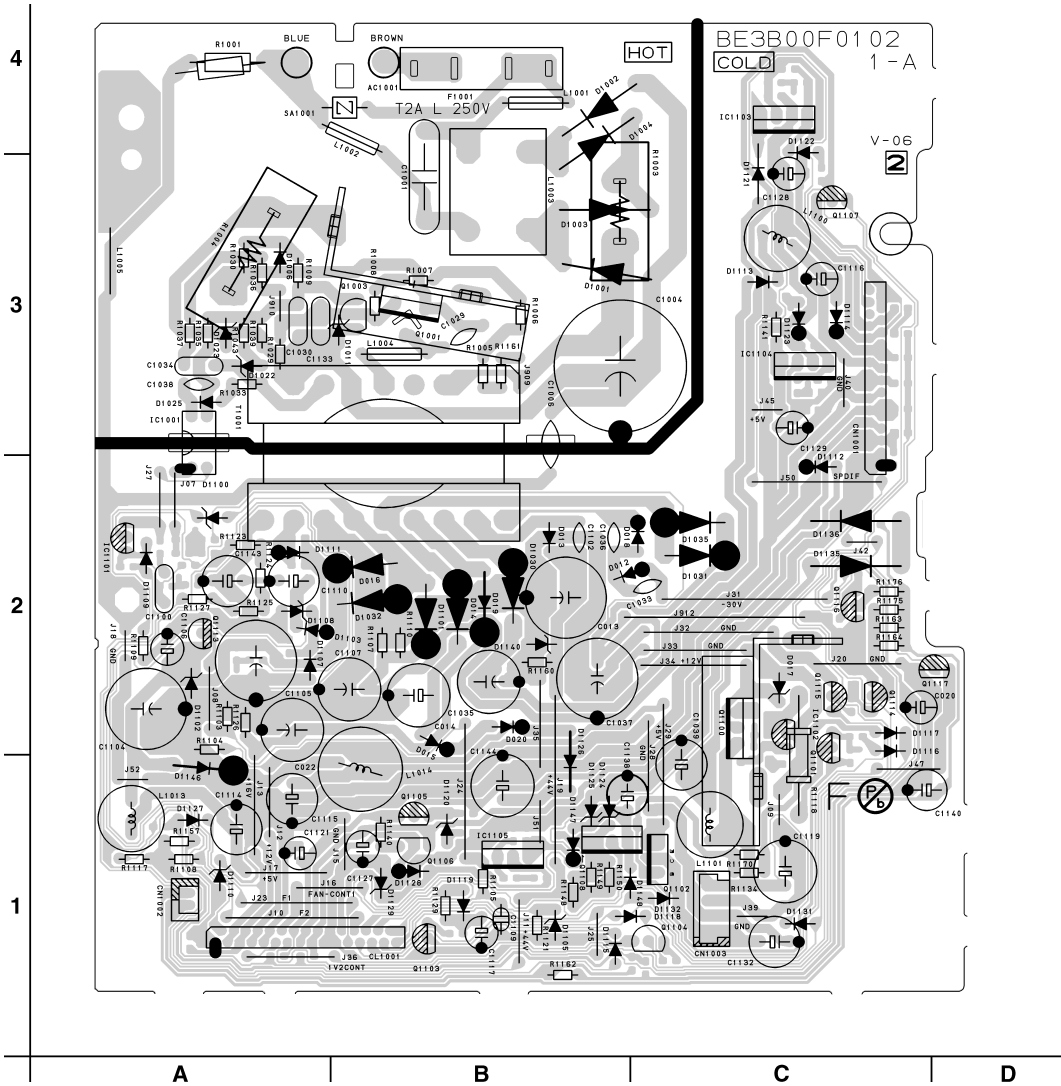
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

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

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



BOARD POWER SUPPLY Bottom View

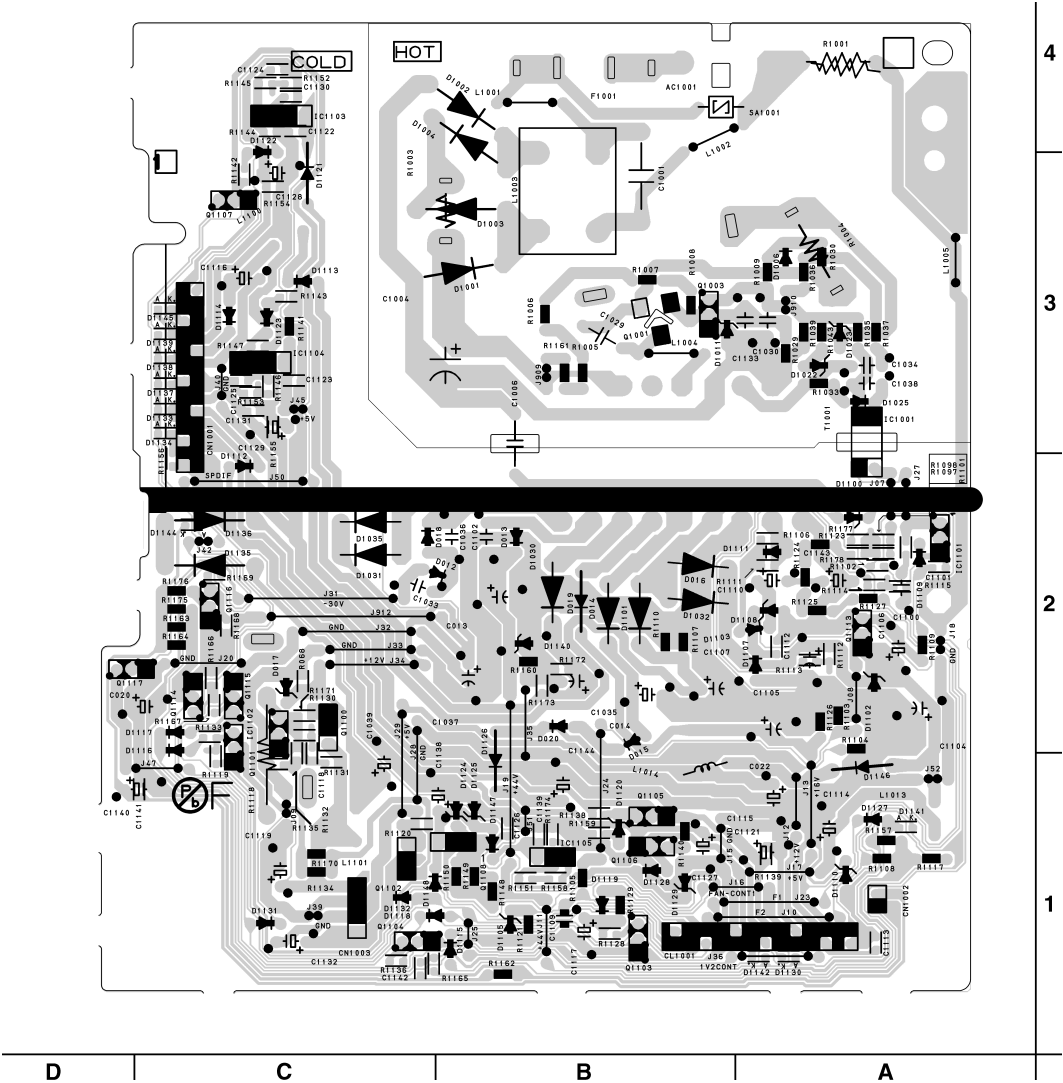
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

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

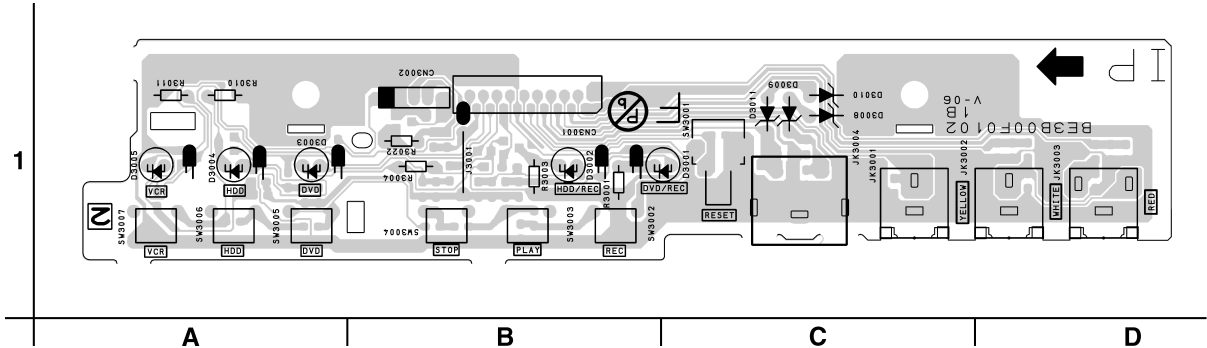
NOTE:
The voltage for parts in hot circuit is measured using
hot GND as a common terminal.

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

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

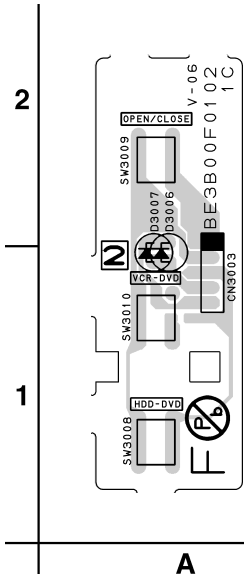


BOARD FRONT JACK Top View

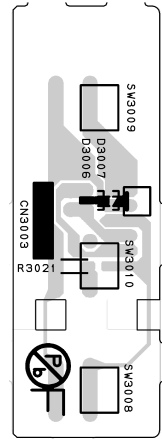


NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

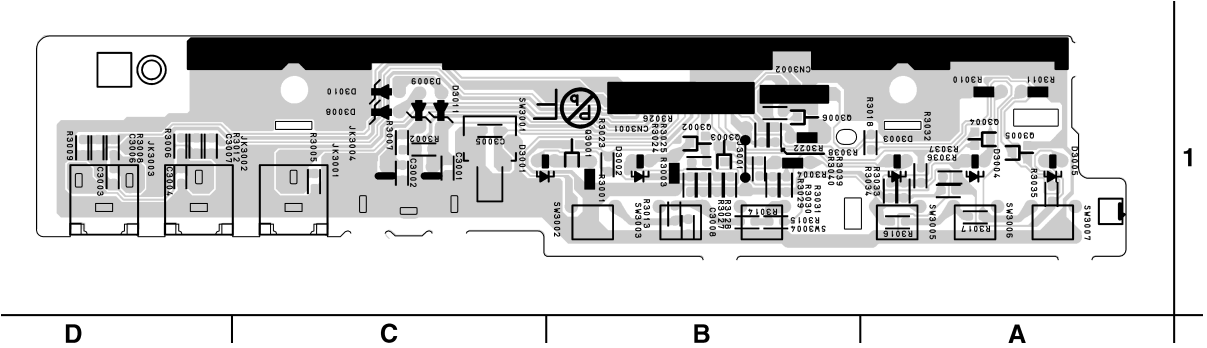
BOARD SWITCH
Top View



BOARD SWITCH
Bottom View



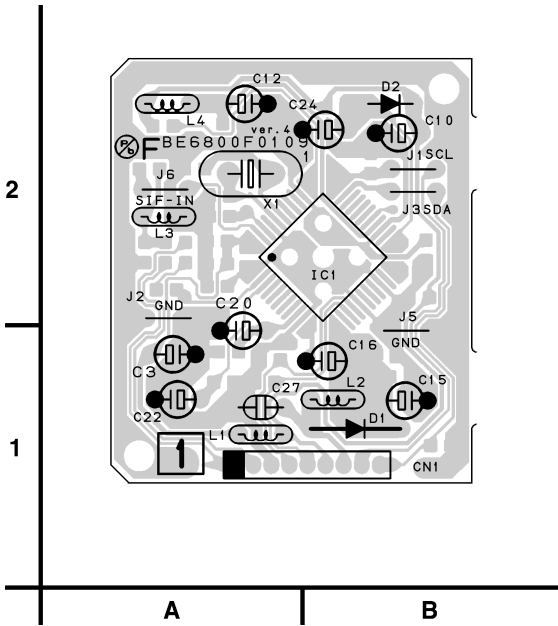
BOARD FRONT JACK Bottom View



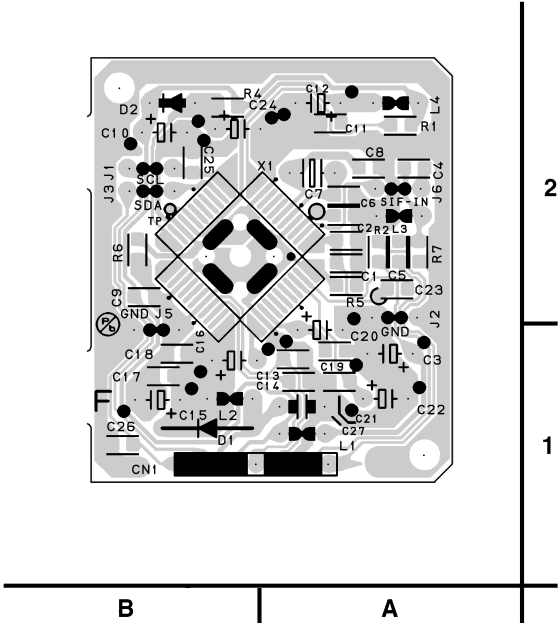
BE3B00F01021B

BE3B00F01021C

BOARD AFV Top View



BOARD AFV Bottom View



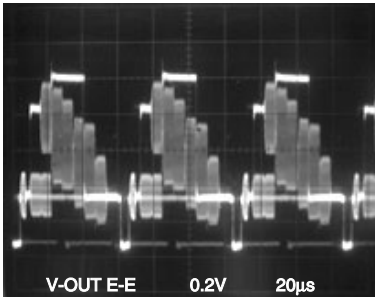
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

WAVEFORMS

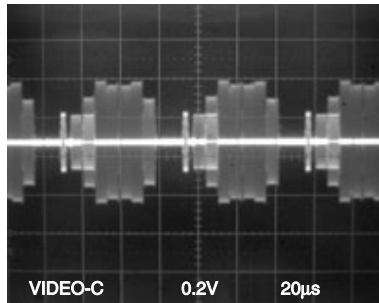
NOTE:

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

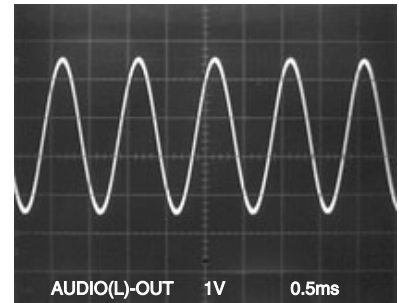
WF1 Pin 56 of IC301



WF5 Pin 22 of CN1502

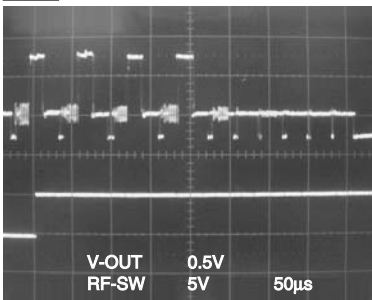


WF9 Pin 14 of CN1502

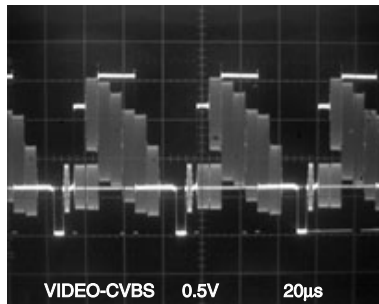


WF1 UPPER Pin 56 of IC301

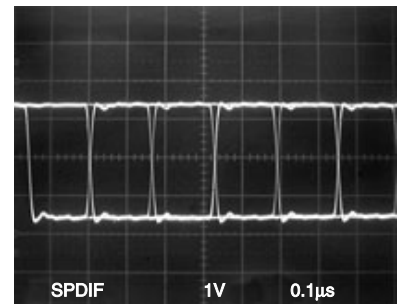
WF2 LOWER TP504



WF6 Pin 30 of IC1509

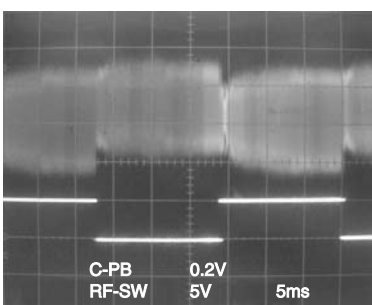


WF10 Pin 28 of CN1503

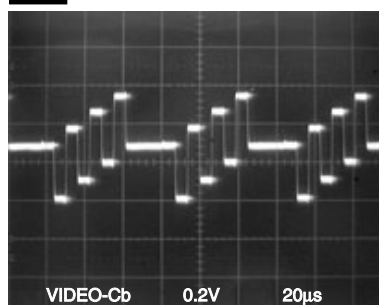


WF3 UPPER TP301

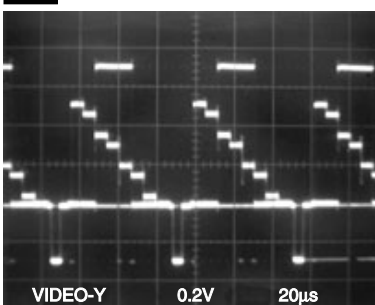
WF2 LOWER TP504



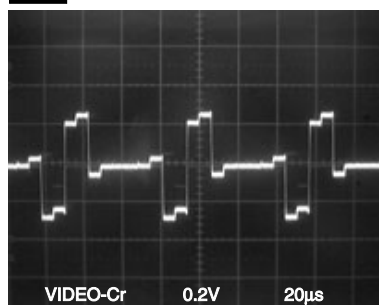
WF7 Pin 28 of CN1502



WF4 Pin 24 of CN1502

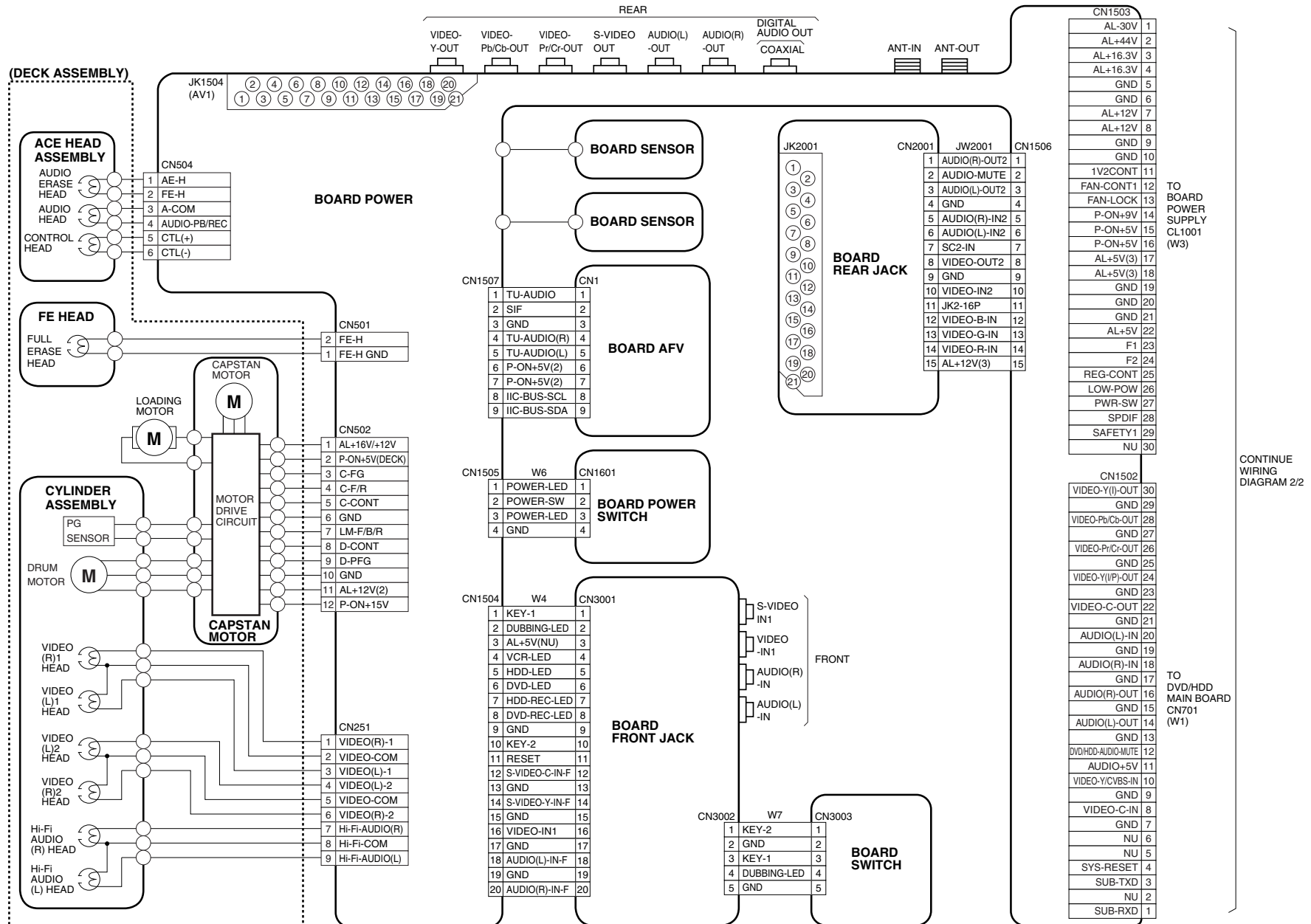


WF8 Pin 26 of CN1502



WIRING DIAGRAM

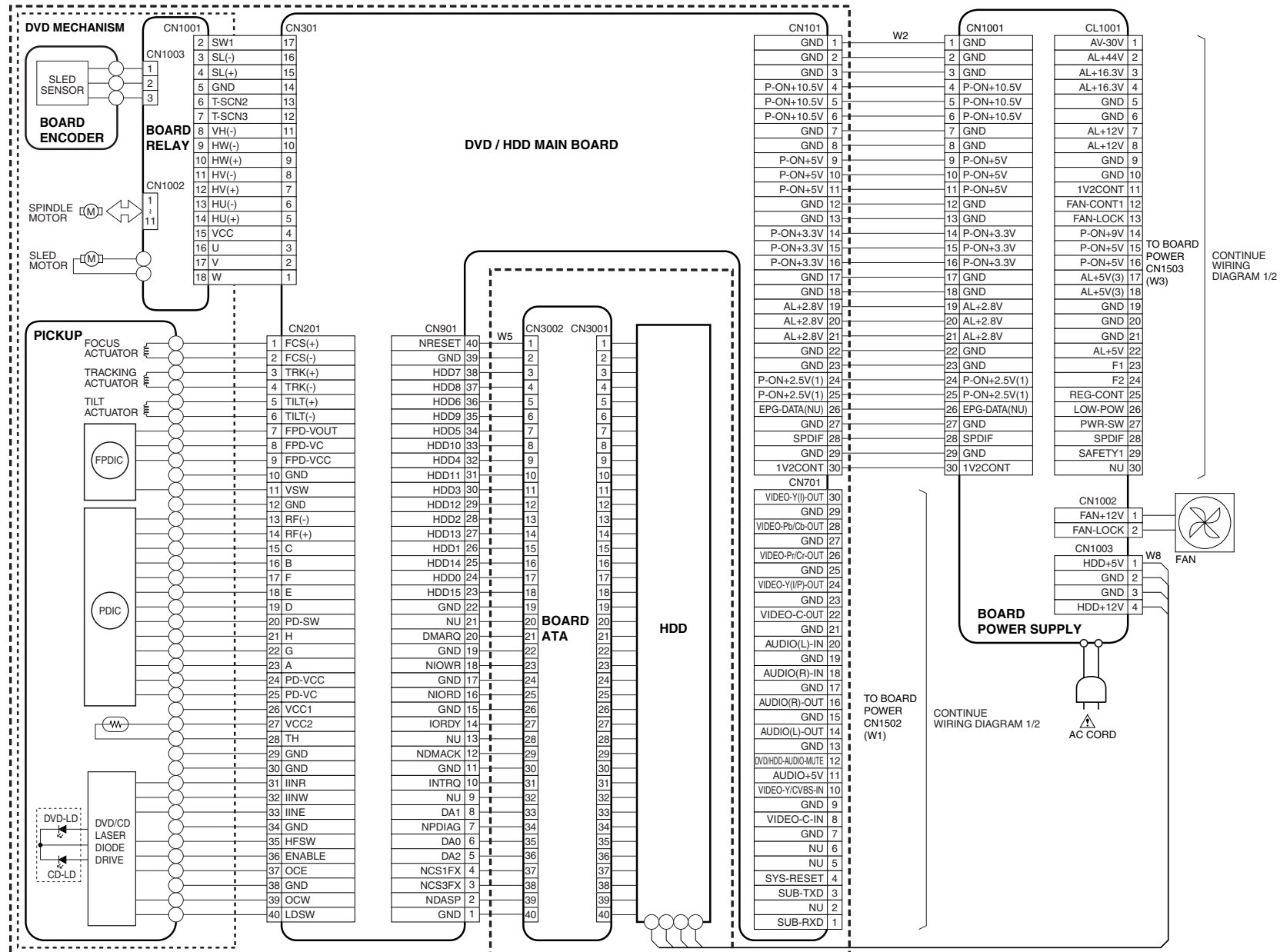
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



WIRING DIAGRAM

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

DVD MECHANISM & DVD MAIN BOARD ASSEMBLY



IC PIN FUNCTION DESCRIPTIONS

< VCR Section >

Comparison Chart of Models and Marks

Model	Mark
RD-XV47KE	A
RD-XV47KB	B
RD-XV47KF	C

IC501 (SERVO / SYSTEM CONTROL)

Pin No.	Mark	IN/ OUT	Signal Name	Function
1		-	NU	Not Used
2		IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage
3		IN	POW-SAF	P-ON Power Detection Input Signal
4		IN	END-S	Tape End Position Detect Signal
5		-	NU	Not Used
6		IN	V-ENV	Video Envelope Comparator Signal
7		IN	KEY-1	Key Data Input 1
8		-	NU	Not Used
9		IN	LD-SW	Deck Mode Position Detector Signal
10		IN	ST-S	Tape Start Position Detector Signal
11		-	NU	Not Used
12		-	NU	Not Used
13		OUT	D-V- SYNC	Dummy V-sync Output
14		IN	REMOTE	Remote Signal Input
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		-	NU	Not Used
23		-	NU	Not Used
24		-	NU	Not Used
25		-	NU	Not Used
26		OUT	REC-LED	Rec LED Control Signal
27		-	NU	Not Used

Pin No.	Mark	IN/ OUT	Signal Name	Function
28		-	NU	Not Used
29		-	NU	Not Used
30		-	NU	Not Used
31		IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab="L"/ With out Record tab="H")
32		IN	A-MODE	Hi-Fi Tape Detection Signal
33		OUT	D-REC-H	Delayed Record Signal
34		IN	RESET	Micro Controller Reset Signal
35		IN	NU	Ground
36		OUT	NU	Not Used
37		-	Vcc	Always +5V with AC Plug Connected
38		IN	Xin	Main Clock Input
39		OUT	Xout	Main Clock Output
40		-	Vss	Ground
41		-	NU	Not Used
42		-	NU	Not Used
43		IN	CLKSEL	Clock Select
44		IN	OSCIin	Clock Input for letter size
45		OUT	OSCOout	Clock Output for letter size
46		-	NU	Ground
47		IN	LP	LP
48		IN	FSC-IN [4.43MHz]	4.43MHz Clock Input
49		-	OSDVss	Ground
50		IN	OSD-V-IN	OSD Video Signal Input
51		-	NU	Not Used
52		OUT	OSD-V-OUT	OSD Video Signal Output
53		-	OSDVcc	+5V Power Supply (OSD)
54		-	HLF	LPF Connected Terminal (Slicer)
55	A,C	IN	COLOR-IN	SECAM or MESECAM Chroma Video Input Signal at Super Impose
	B	-	NU	Not Used
56		-	NU	Not Used
57		-	NU	Ground
58		IN	C-SYNC	Composite Synchronized Pulse
59		-	NU	Not Used

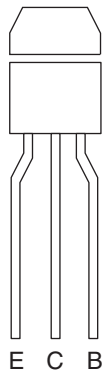
Pin No.	Mark	IN/ OUT	Signal Name	Function
60		OUT	C-POW-SW	Capstan Power Switching Signal
61	A,B	-	NU	Not Used
	C	IN	SECAM-H	SECAM Mode at High
62	A,B	-	NU	Not Used
	C	OUT	TRICK-H	Special playback = "H" in SECAM Mode
63		-	NU	Not Used
64		IN	S-CS	Sub Micro Controller Interface Chip Select Signal Input
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 Serial Clock
72		IN/ OUT	IIC-BUS SDA	IIC BUS Serial 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-F/B/R	Loading Motor Control Signal
82		-	NU	Not Used
83		OUT	VCR-AUDIO-MUTE	Audio Mute Control Signal (Mute = "H")
84		-	NU	Not Used
85		-	NU	Not Used
86		-	NU	Not Used

Pin No.	Mark	IN/ OUT	Signal Name	Function
87		IN	C-FG	Capstan Motor Rotation Detection Pulse
88		-	AMPVss	Ground
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	Always +5V with AC Plug Connected
99		-	AVcc	Always +5V with AC Plug Connected
100		-	NU	Not Used

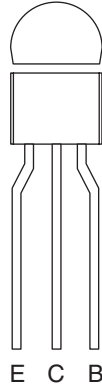
IC612 (VFD DRIVER)

Pin No.	IN/ OUT	Signal Name	Function
1	IN	CLK	Clock Input
2	IN	STB	Serial Interface Strobe
3	-	NU	Not Used
4	-	NU	Not Used
5	-	VSS	Ground
6	-	VDD	Power Supply
7	OUT	SG1	Segment Output
8	OUT	SG2	
9	OUT	SG3	
10	OUT	SG4	
11	OUT	SG5	
12	OUT	SG6	
13	OUT	SG7	
14	OUT	SG8	
15	-	VEE	Pull Down Level
16	OUT	SG9	Segment Output
17	OUT	GR7	Grid Output
18		GR6	
19		GR5	
20		GR4	
21		GR3	
22		GR2	
23		GR1	
24	-	VDD	Power Supply
25	-	VSS	Ground
26	IN	OSC	Oscillator Input
27	-	NU	Not Used
28	IN	DIN	Serial Data Input

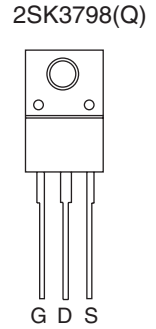
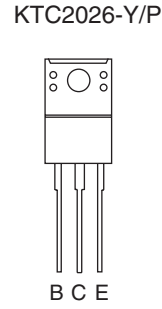
LEAD IDENTIFICATIONS



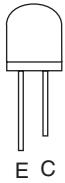
KRA103M-AT/P
KRA104M-AT/P
KRC103M-AT/P
KRC106M-AT/P
KTA1267Y-AT/P
KTA1281Y-AT/P
KTC3199-(BL,Y)-AT/P



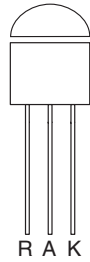
2SC2120-(Y)(TE2 F T)
KTA-1266-GR-AT/P
KTC3203-Y-AT/P
KTC3198-Y-AT/P
KTC3266-GR-AT/P



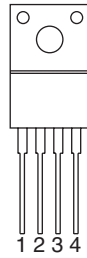
PT204-6B-12



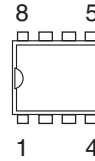
KIA431-AT/P



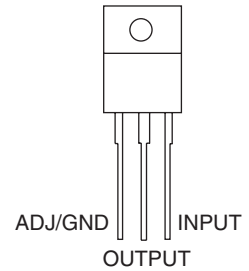
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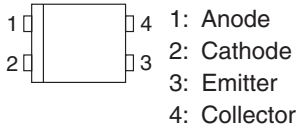
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UTC4580



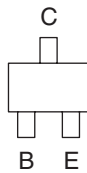
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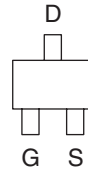
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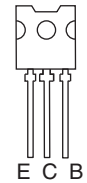
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KTC3875S-Y-RTK/P



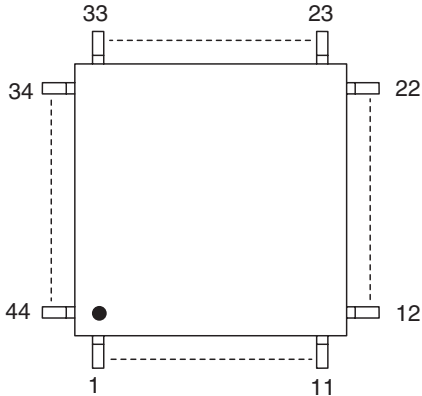
SSM3K15F(TE85L F)



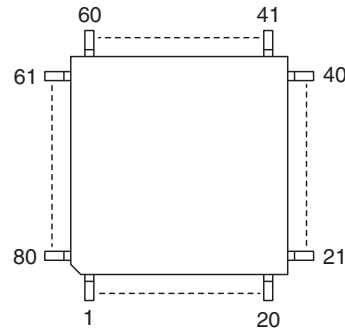
KTB1151-Y-U/P



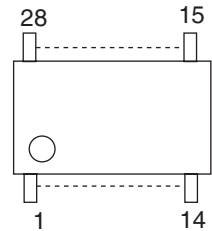
MSP3417G-QG-B8-V3



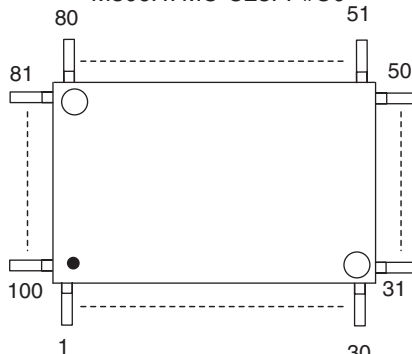
LA72648M-MPB-E



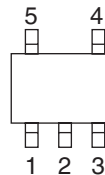
PT6313-S-TP(L)



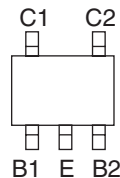
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LA71750EM-MPB-E
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M306H7MC-C23FP#U0



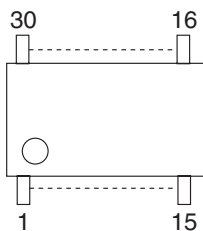
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BU4219G-TR
PST3621NR



RN1511(TE85R.F)



LA70100M-TRM-E



Note:

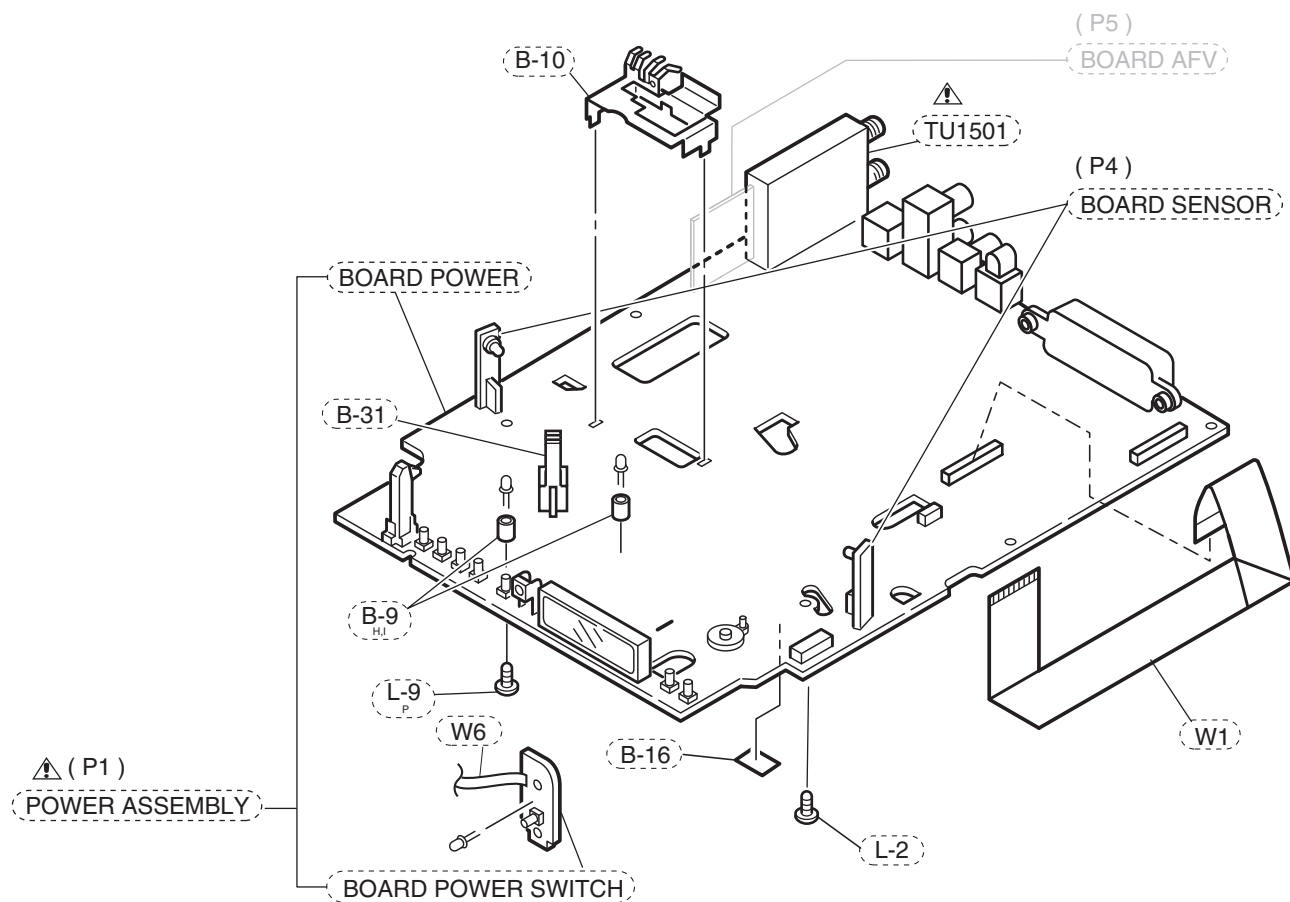
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

Cabinet

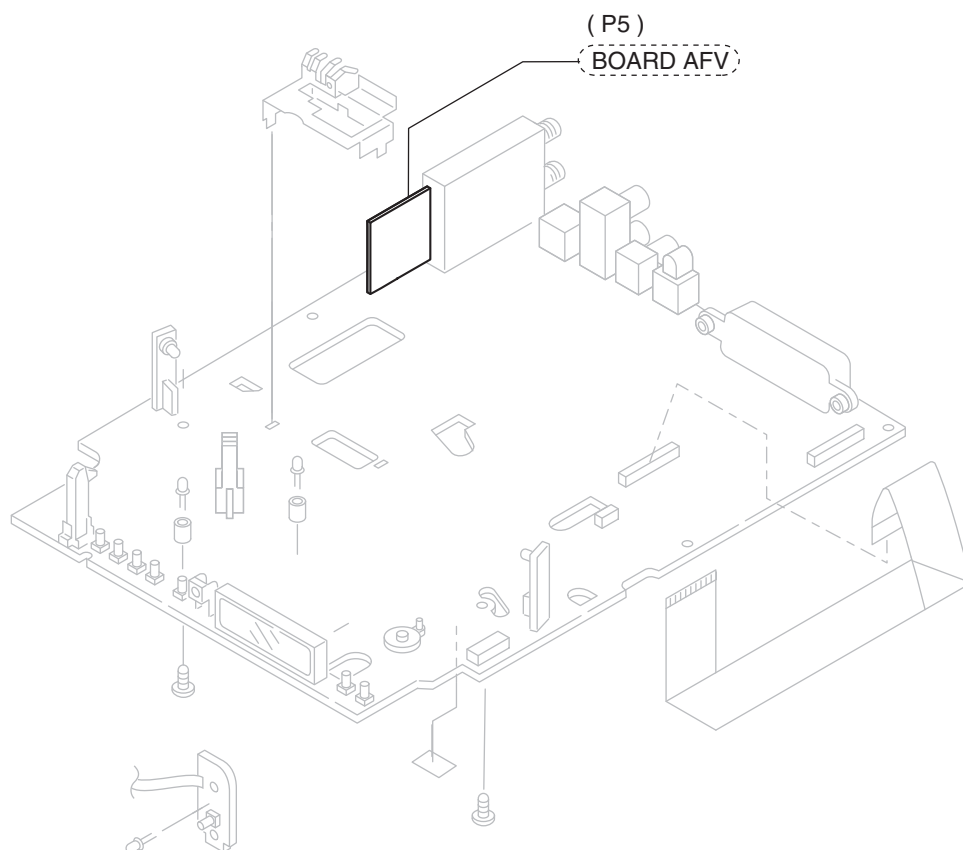


(P1) POWER ASSEMBLY

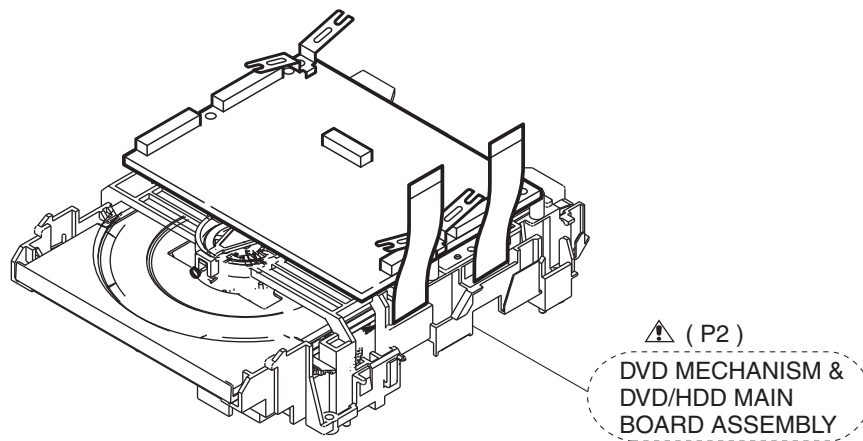
(P4) BOARD SENSOR



(P5) BOARD AFV

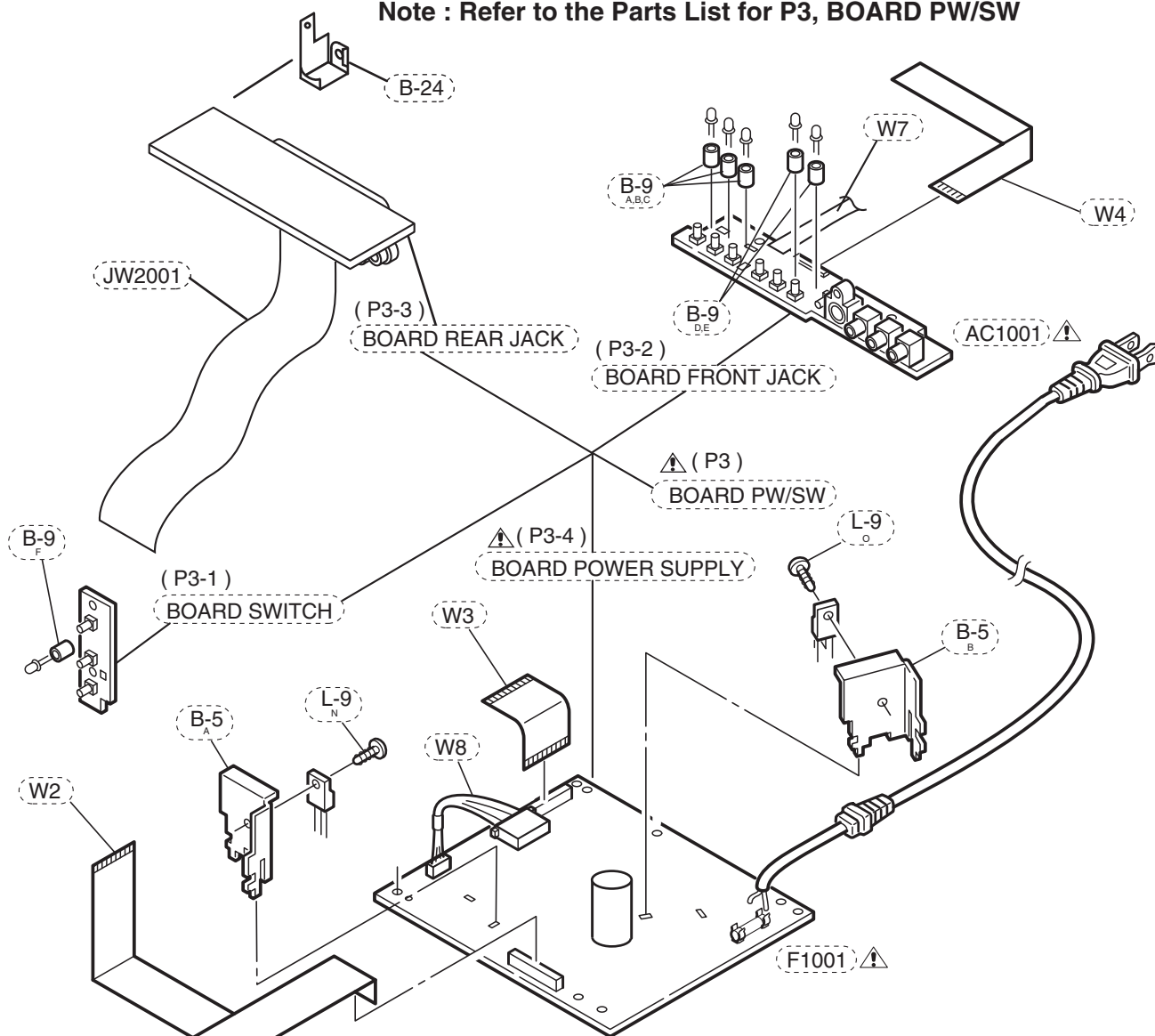


(P2) DVD MECHANISM & DVD/HDD MAIN BOARD ASSEMBLY

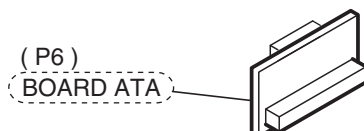


(P3) BOARD PW/SW

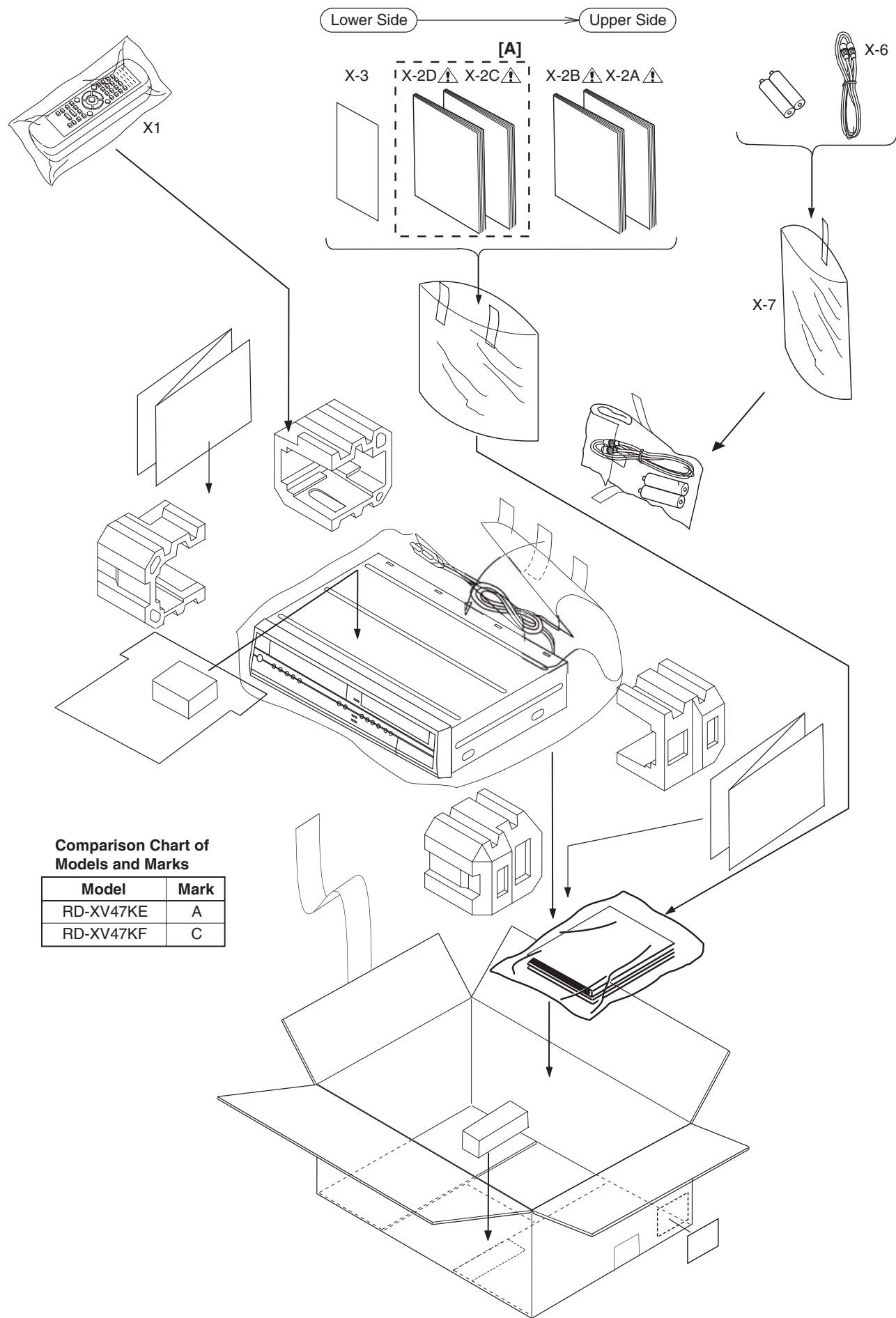
Note : Refer to the Parts List for P3, BOARD PW/SW



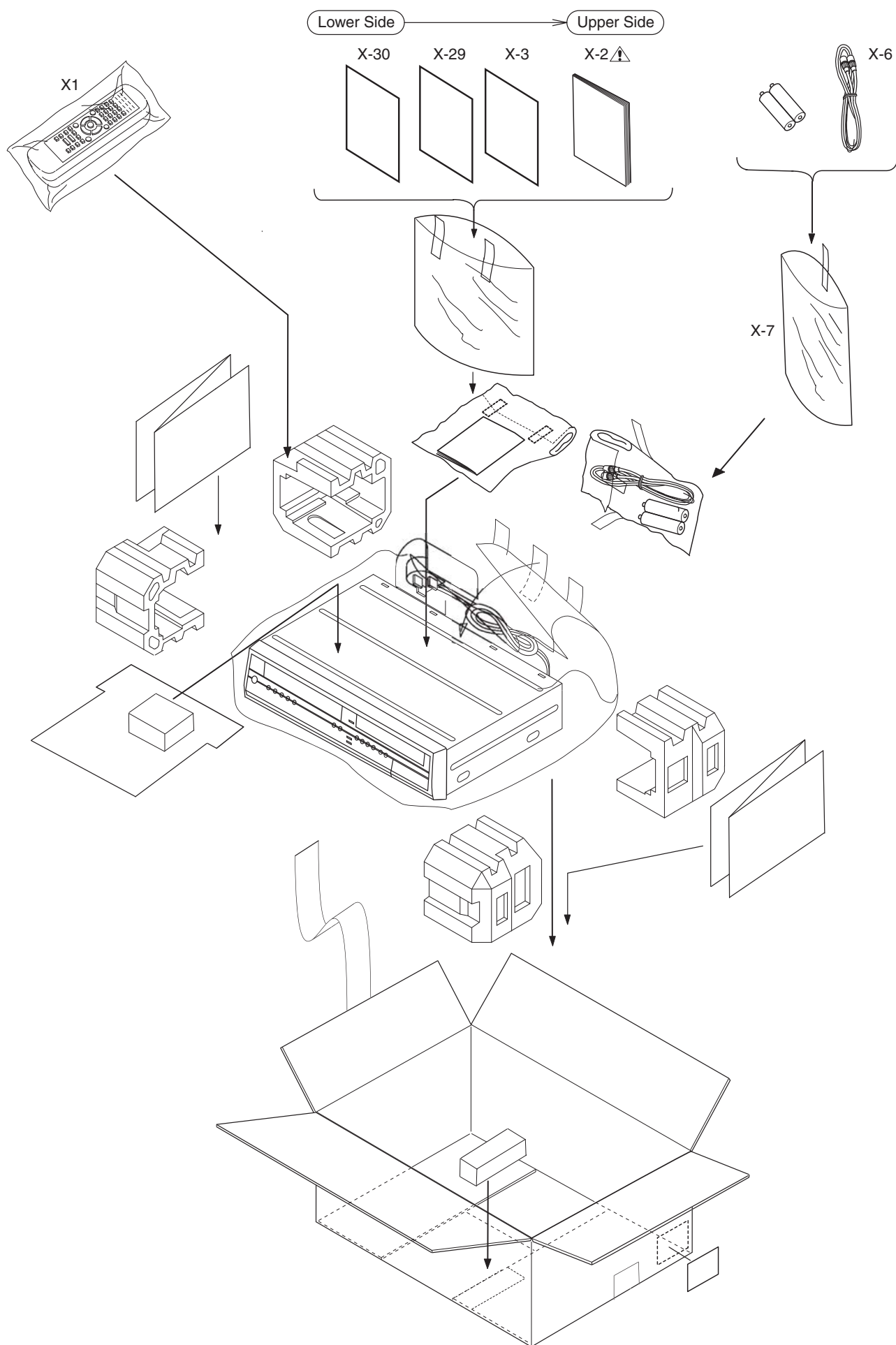
(P6) BOARD ATA



Packing [RD-XV47KE/RD-XV47KF]



Packing [RD-XV47KB]



MECHANICAL PARTS LIST

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

Comparison Chart of Models and Marks

Model	Mark
RD-XV47-K-TE	A
RD-XV47-K-TB	B
RD-XV47-K-TF	C

	Location No.	Mark	TSB P/N	Reference No.	Description
	A-1X	A,B	P000483650	1VM222858	PANEL FRONT E3B90ED
	A-1X	C	P000484080	1VM222861	PANEL FRONT E3B92FD
	A-2			1VM120193K	MAIN CHASSIS E4340UD
	A-3		P000483660	1VM323660	COVER TOP(T-BLACK) E3B90ED
	A-5			1VM425152	FAN HOLDER ASSEMBLY E43A0JD
	A-7A			0VM416122	FOOT E6500UD
	A-7B			0VM416122	FOOT E6500UD
	A-11			1VM422956	CENTER CUSHION E4350JD
	A-16			1VM322233	POWER HOLDER E43AED
	1B1		P000472770	N25E1FL	DECK ASSEMBLY CZD014/VM25E0
	1B3		P000475990	UHDD160VE002	ST3160212ACE ST3160212ACE
	B-1			1VM222703E	HDD BRACKET E3A50JD
	B-2			1VM422056	MODE LENS HOLDER E4340UD
	B-4			1VM422058	TAPE HIMELON(HDD) E4340UD
	B-7			0VM414677A	PLATE EARTH E4321JD DV-HD300
	B-8			1VM120055G	DECK PEDESTAL E9600UD
	B-11			0VM204534C	FRONT BRACKET E9400UD
	B-12			0VM416269A	FRONT BRACKET R E9400UD
	B-13			1VM424826	BRACKET R(T3) E3A50JD
	B-14			0VM413956	TAPE HIMELON H9206JD
	B-15			1VM422515	RUBBER CUSHION(COVER TOP) E4340UD
	B-18			1VM422518	FRONT SUPPORT E4340UD
	B-19			1VM422517	SIDE CUSHION(COVER TOP) E4340UD
	B-20			1VM422534B	RUBBER CUSHION (MAIN CHASSIS) E4340UD
	B-21			1VM424843	HDD SUPPORT E3A50JD
	B-22A			1VM422863	HDD RUBBER E4350JD
	B-22B			1VM422863	HDD RUBBER E4350JD
	B-22C			1VM422863	HDD RUBBER E4350JD
	B-22D			1VM422863	HDD RUBBER E4350JD
	B-25			0VM416664C	CUSHION RUBBER E9400UD
	B-27			1VM121092	COVER DUST(T3) E3B90ED
	B-32			1VM425218	INSULATION SHEET E3B90ED
	FM1001		P000483830	MMEZR12XNR02	BRUSH LESS COOLING FAN 2D65BK100090

	Location No.	Mark	TSB P/N	Reference No.	Description
	L-1A			GBHC3050	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI
	L-1B			GBHC3050	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI
	L-1C			GBHC3050	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI
	L-1D			GBHC3050	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI
	L-1E			GBHC3050	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI
	L-1F			GBHC3050	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI
	L-1G			GBHC3050	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI
	L-3A			GBHB3080	SCREW B-TIGHT M3X8 BIND HEAD+
	L-3B			GBHB3080	SCREW B-TIGHT M3X8 BIND HEAD+
	L-3C			GBHB3080	SCREW B-TIGHT M3X8 BIND HEAD+
	L-4A			GBHS3050	SCREW S-TIGHT M3*5 BIND+ 3*5 BIND+
	L-4B			GBHS3050	SCREW S-TIGHT M3*5 BIND+ 3*5 BIND+
	L-5A			GBJP3060	SCREW P-TIGHT M3X6 BIND HEAD+
	L-5B			GBJP3060	SCREW P-TIGHT M3X6 BIND HEAD+
	L-6A			GBJP3080	SCREW P-TIGHT M3X8 BIND HEAD+
	L-6B			GBJP3080	SCREW P-TIGHT M3X8 BIND HEAD+
	L-6C			GBJP3080	SCREW P-TIGHT M3X8 BIND HEAD+
	L-6D			GBJP3080	SCREW P-TIGHT M3X8 BIND HEAD+
	L-6E			GBJP3080	SCREW P-TIGHT M3X8 BIND HEAD+
	L-6F			GBJP3080	SCREW P-TIGHT M3X8 BIND HEAD+
	L-6G			GBJP3080	SCREW P-TIGHT M3X8 BIND HEAD+
	L-7A			GBJP3140	SCREW P-TIGHT 3X14 BIND HEAD +
	L-7B			GBJP3140	SCREW P-TIGHT 3X14 BIND HEAD +
	L-8A			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-8B			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-8C			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9A			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9B			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9C			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9D			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9E			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9F			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9G			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9H			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9I			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9J			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9K			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9L			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9M			0VM412937A	SCREW C-TIGHT M3X6 E5610UD

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	L-9Q			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9R			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-10A			0VM413320A	SCREW S-TIGHT 3X8 H9210UD
	L-10B			0VM413320A	SCREW S-TIGHT 3X8 H9210UD
	L-10C			0VM413320A	SCREW S-TIGHT 3X8 H9210UD
	L-10D			0VM413320A	SCREW S-TIGHT 3X8 H9210UD
	L-10E			0VM413320A	SCREW S-TIGHT 3X8 H9210UD
	L-10F			0VM413320A	SCREW S-TIGHT 3X8 H9210UD
	L-10G			0VM413320A	SCREW S-TIGHT 3X8 H9210UD
	L-10H			0VM413320A	SCREW S-TIGHT 3X8 H9210UD
	L-11A			GBJS3100	SCREW S-TIGHT M3X10 BIND HEAD+
	L-11B			GBJS3100	SCREW S-TIGHT M3X10 BIND HEAD+
	L-12A			GCJP3100	SCREW P-TIGHT M3*10 WASHERHEAD+
	L-12B			GCJP3100	SCREW P-TIGHT M3*10 WASHERHEAD+
	L-12C			GCJP3100	SCREW P-TIGHT M3*10 WASHERHEAD+
	L-12D			GCJP3100	SCREW P-TIGHT M3*10 WASHERHEAD+
	L-12E			GCJP3100	SCREW P-TIGHT M3*10 WASHERHEAD+
	L-13A			SAC3T050	INCH SCREW 3.4X5 +
	L-13B			SAC3T050	INCH SCREW 3.4X5 +
	L-13C			SAC3T050	INCH SCREW 3.4X5 +
	L-13D			SAC3T050	INCH SCREW 3.4X5 +
	L-15A			1VM422864	HDD SCREW E4350JD
	L-15B			1VM422864	HDD SCREW E4350JD
	L-15C			1VM422864	HDD SCREW E4350JD
	L-15D			1VM422864	HDD SCREW E4350JD
	L-16A			GBHP3080	SCREW P-TIGHT M3X8 BIND HEAD+ BLK
	L-16B			GBHP3080	SCREW P-TIGHT M3X8 BIND HEAD+ BLK
	L-17A			GBJP3300	SCREW P-TIGHT M3X30 BIND HEAD+
	L-17B			GBJP3300	SCREW P-TIGHT M3X30 BIND HEAD+
	L-18A			GBHS3060	S-TIGHT SCREW M3X6 BIND HEAD+BLACK
	L-18B			GBHS3060	S-TIGHT SCREW M3X6 BIND HEAD+BLACK
	L-18C			GBHS3060	S-TIGHT SCREW M3X6 BIND HEAD+BLACK
	W5		P000483980	WX1E3B00-101	FFC ATA-MAIN 40P (THIN PLATING) 40PIN/ TL345MM
ACCESSORIES					
	X1	A,C	P000483850	NB327ED	REMOTE CONTROL UNIT NB327ED
	X1	B	P000484070	NB324BD	REMOTE CONTROL UNIT NB324BD
⚠	X-2	B	P000483990	1VMN23452	OWNERS MANUAL(EN) E3B91BD
⚠	X-2A	A	P000483670	1VMN23421	OWNERS MANUAL(EN) E3B90ED
⚠	X-2A	C	P000484090	1VMN23454	OWNERS MANUAL(EN) E3B92FD
⚠	X-2B	A	P000483680	1VMN23422	OWNERS MANUAL(DE) E3B90ED
⚠	X-2B	C	P000484100	1VMN23455	OWNERS MANUAL(FR) E3B92FD
⚠	X-2C	A	P000483690	1VMN23423	OWNERS MANUAL(ES) E3B90ED
⚠	X-2D	A	P000483700	1VMN23424	OWNERS MANUAL(IT) E3B90ED
	X-3	A	P000483710	1VMN23425	QUICK GUIDE E3B90ED

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	X-3	B	P000484000	1VMN23453	QUICK GUIDE E3B91BD
	X-3	C	P000484110	1VMN23456	QUICK GUIDE E3B92FD
	X-6		P000460030	WPZ0122LG001	RF CORD PAL 1.2M
	X-29	B		1VM424769	HELP LINE SHEET E9BA1BD
	X-30	B		1VMN22863	REGISTRATION CARD E7B71BD

ELECTRICAL PARTS LIST

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

NOTES:

- Parts that are not assigned part numbers (-----) are not available.
- Tolerance of Capacitors and Resistors are noted with the following symbols.

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

Comparison Chart of Models and Marks

Model	Mark
RD-XV47-K-TE	A
RD-XV47-K-TB	B
RD-XV47-K-TF	C

DVD MECHANISM & DVD/HDD MAIN BOARD ASSEMBLY

	Location No.	Mark	TSB P/N	Reference No.	Description
	P2	A	P000483840	N78EJCEN	DVD MECHANISM & DVD/HDD MAIN BOARD ASSEMBLY
	P2	B	P000484060	N78EKCBN	DVD MECHANISM & DVD/HDD MAIN BOARD ASSEMBLY
	P2	C	P000484140	N78ELCFN	DVD MECHANISM & DVD/HDD MAIN BOARD ASSEMBLY

POWER ASSEMBLY

	Location No.	Mark	TSB P/N	Reference No.	Description
	P1	A	P000483770	1VSA15687	POWER ASSEMBLY
	P1	B	P000484010	1VSA15558	POWER ASSEMBLY
	P1	C	P000484130	1VSA15689	POWER ASSEMBLY
			-----	-----	Consists of the following:
			-----	-----	BOARD POWER (BOARD POWER A)
			-----	-----	BOARD POWER SWITCH (BOARD POWER B)
	P4		P000472720	1VSA13519	BOARD SENSOR

BOARD POWER

	Location No.	Mark	TSB P/N	Reference No.	Description
				-----	BOARD POWER (BOARD POWER A) Consists of the following:
CAPACITORS					
	C251			CE1CMAVSL100	ELECTROLYTIC CAP. 10µF/16V M H7
	C252			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V
	C253			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V

	Location No.	Mark	TSB P/N	Reference No.	Description
	C254			CE1JMAVSL1R0	ELECTROLYTIC CAP. 1µF/50V M H7
	C301			CHD1JK30B223	CHIP CERAMIC CAP.(1608) B K 0.022µF/50V
	C302			CE1JMAVSL1R0	ELECTROLYTIC CAP. 1µF/50V M H7
	C303			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V
	C305			CE1JMAVSL1R0	ELECTROLYTIC CAP. 1µF/50V M H7
	C306			CHD1JK30B473	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V
	C307			CHD1JK30B223	CHIP CERAMIC CAP.(1608) B K 0.022µF/50V
	C308			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V
	C311			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V
	C312			CE1CMAVSL100	ELECTROLYTIC CAP. 10µF/16V M H7
	C313			CE1JMAVSL1R0	ELECTROLYTIC CAP. 1µF/50V M H7
	C314			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V
	C315			CHD1JK30B473	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V
	C316			CE1JMAVSL1R0	ELECTROLYTIC CAP. 1µF/50V M H7
	C317			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V
	C318	A		CHD1JK30B223	CHIP CERAMIC CAP.(1608) B K 0.022µF/50V
	C324			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V
	C325			CHD1JK30B822	CHIP CERAMIC CAP. B K 8200pF/50V
	C326			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V
	C328			CE0KMAVSL470	ELECTROLYTIC CAP. 47µF/6.3V M H7
	C329			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V
	C331			CE0KMAVSL221	ELECTROLYTIC CAP. 220µF/6.3V M H7
	C332			CE1CMAVSL101	ELECTROLYTIC CAP. 100µF/16V M H7
	C333			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V
	C334			CE1JMAVSL1R0	ELECTROLYTIC CAP. 1µF/50V M H7
	C335			CE0KMAVSL101	ELECTROLYTIC CAP. 100µF/6.3V H7
	C336			CHD1JJ3CH221	CHIP CERAMIC CAP. CH J 220pF/50V
	C337			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V
	C339			CHD1JJ3CH121	CHIP CERAMIC CAP. CH J 120pF/50V
	C340			CE1JMAVSL1R0	ELECTROLYTIC CAP. 1µF/50V M H7
	C341			CHD1JD3CH100	CHIP CERAMIC CAP.(1608) CH D 10pF/50V
	C342			CHD1JJ3CH102	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V
	C343			CE1CMAVSL100	ELECTROLYTIC CAP. 10µF/16V M H7
	C344			CP1EMAVSB4R7	ELECTROLYTIC CAP. 4.7µF/25V M NP H7
	C345			CE1JMAVSLR47	ELECTROLYTIC CAP. 0.47µF/50V M H7

△	Location No.	Mark	TSB P/N	Reference No.	Description
	C346			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C347			CHD1EK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V
	C349			CE1JMAVSLR47	ELECTROLYTIC CAP. 0.47μF/50V M H7
	C350			CCA1JZTFZ104	CERAMIC CAP.(AX) F Z 0.1μF/50V
	C370	C		CCA1CMT0Y103	CERAMIC CAP.(AX) Y M 0.01μF/16V
	C371	C		CHD1JK30B223	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V
	C372	C		CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C373	C		CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C374	C		CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C375	C		CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C376	C		CHD1JK30B223	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V
	C377	C		CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C378	C		CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C379	C		CE1JMAVSLR47	ELECTROLYTIC CAP. 0.47μF/50V M H7
	C381	C		CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C382	C		CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C383	C		CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C384	C		CE1JMAVSL2R2	ELECTROLYTIC CAP. 2.2μF/50V M H7
	C402			CMA1JJP00183	FILM CAP.(P) 0.018μF/50V J
	C403			CCD2AKS0B471	CERAMIC CAP. B K 470pF/100V
	C404			CE0KMAVSL221	ELECTROLYTIC CAP. 220μF/6.3V M H7
	C405			CE0KMAVSL470	ELECTROLYTIC CAP. 47μF/6.3V M H7
	C407			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V
	C408			CHD1JK30B182	CHIP CERAMIC CAP. B K 1800pF/50V
	C409			CHD1JJ3CH330	CHIP CERAMIC CAP.(1608) CH J 33pF/50V
	C410			CE1CMAVSL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C411			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C412			CE0KMAVSL330	ELECTROLYTIC CAP. 33μF/6.3V M H7
	C413			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C414			CHD1JK30B223	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V
	C415			CE1EMAVSL4R7	ELECTROLYTIC CAP. 4.7μF/25V M H7
	C416			CHD1JK30B472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V
	C417			CE0KMAVSL220	ELECTROLYTIC CAP. 22μF/6.3V M H7
	C418			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C419			CHD1JJ3CH221	CHIP CERAMIC CAP. CH J 220pF/50V
	C421			CE0KMAVSL470	ELECTROLYTIC CAP. 47μF/6.3V M H7
	C452			CE1CMAVSL100	ELECTROLYTIC CAP. 10μF/16V M H7

△	Location No.	Mark	TSB P/N	Reference No.	Description
	C453			CE1AMAVSL220	ELECTROLYTIC CAP. 22μF/10V M H7
	C454			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C455			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C456			CE1CMAVSL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C457			CE1EMAVSL4R7	ELECTROLYTIC CAP. 4.7μF/25V M H7
	C458			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C461			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C462			CHD1JK30B472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V
	C463			CE1AMAVSL220	ELECTROLYTIC CAP. 22μF/10V M H7
	C464			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C465			CE1CMAVSL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C466			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C468			CE0KMAVSL221	ELECTROLYTIC CAP. 220μF/6.3V M H7
	C469			CE1AMAVSL220	ELECTROLYTIC CAP. 22μF/10V M H7
	C470			CHD1JK30B472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V
	C471			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C472			CE1EMAVSL4R7	ELECTROLYTIC CAP. 4.7μF/25V M H7
	C473			CE1CMAVSL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C474			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C475			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C476			CE0KMAVSL220	ELECTROLYTIC CAP. 22μF/6.3V M H7
	C478			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C479			CE1CMAVSL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C480			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C481			CE1CMAVSL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C482			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C483			CE1EMAVSL4R7	ELECTROLYTIC CAP. 4.7μF/25V M H7
	C484			CE1EMAVSL4R7	ELECTROLYTIC CAP. 4.7μF/25V M H7
	C485			CE1CMAVSL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C486			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C487			CE1CMAVSL470	ELECTROLYTIC CAP. 47μF/16V M H7
	C488			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C502			CHD1JK30B223	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V
	C505			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C506			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C507			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V
	C508			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	C509			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V
	C510			CHD1JK30B472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V
	C511			CHD1JJ3CH101	CHIP CERAMIC CAP.(1608) CH J 100pF/50V
	C512			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C514			CHD1JK30B331	CHIP CERAMIC CAP. B K 330pF/50V
	C515			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C516			CE0KMAVSL220	ELECTROLYTIC CAP. 22μF/6.3V M H7
	C517			CCA1EZTFZ223	CERAMIC CAP.(AX) F Z 0.022μF/25V
	C518			CE0KMAVSL220	ELECTROLYTIC CAP. 22μF/6.3V M H7
	C519			CHD1JJ3CH561	CHIP CERAMIC CAP. CH J 560pF/50V
	C521			CE0KMAVSL220	ELECTROLYTIC CAP. 22μF/6.3V M H7
	C522			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C524			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C527			CCA1JKT0B101	CERAMIC CAP.(AX) B K 100pF/50V
	C531			CHD1JK30B472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V
	C533			CHD1JK30B473	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V
	C534			CE0KMAVSL470	ELECTROLYTIC CAP. 47μF/6.3V M H7
	C535			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C536	A,C		CHD1JJ3CH561	CHIP CERAMIC CAP. CH J 560pF/50V
	C538			CHD1JJ3CH181	CHIP CERAMIC CAP. CH J 180pF/50V
	C539			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C540			CHD1JK30B472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V
	C541			CHD1JJ3CH180	CHIP CERAMIC CAP. CH J 18pF/50V
	C542			CHD1JJ3CH180	CHIP CERAMIC CAP. CH J 18pF/50V
	C545			CHD1JJ3CH220	CHIP CERAMIC CAP.(1608) CH J 22pF/50V
	C546			CHD1JJ3CH220	CHIP CERAMIC CAP.(1608) CH J 22pF/50V
	C547			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C548			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C549			CE1JMAVSL1R0	ELECTROLYTIC CAP. 1μF/50V M H7
	C550			CE0KMAVSL101	ELECTROLYTIC CAP. 100μF/6.3V H7
	C553			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C554			CE0KMAVSL101	ELECTROLYTIC CAP. 100μF/6.3V H7
	C555			CHD1EK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V
	C558			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C611			CE1JMASSL220	ELECTROLYTIC CAP. 22μF/50V M H7

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	C612			CHD1JK30B472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V
	C614			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C616			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1501			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1502			CHD1JJ3CH270	CHIP CERAMIC CAP. CH J 27pF/50V
	C1503			CHD1JJ3CH270	CHIP CERAMIC CAP. CH J 27pF/50V
	C1504			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
If C1505A is 0.015μF, then IC1502A is R3112N211A-TR-F.					
	C1505A			CHD1JK30B153	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V
	IC1502A		P000483910	QSZBA0TRC026	VOLTAGE DETECT R3112N211A-TR-F
If C1505B is 0.15μF, then IC1502B is PST3621NR.					
	C1505B			CHD1EK30B154	CHIP CERAMIC CAP.(1608) B K 0.15μF/25V
	IC1502B		P000483900	QSZBA0TMM162	SYSTEM RESET IC PST3621NR
	C1506			CHD1JJ3CH270	CHIP CERAMIC CAP. CH J 27pF/50V
	C1507			CHD1JJ3CH270	CHIP CERAMIC CAP. CH J 27pF/50V
	C1508			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1509			CHD1JJ3CH101	CHIP CERAMIC CAP.(1608) CH J 100pF/50V
	C1511			CE0KMASDL102	ELECTROLYTIC CAP. 1000μF/6.3V M
	C1512			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C1513			CHD1JJ3CH101	CHIP CERAMIC CAP.(1608) CH J 100pF/50V
	C1515			CE0KMASDL470	ELECTROLYTIC CAP. 47μF/6.3V M
	C1518			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1519			CHD1JJ3CH470	CHIP CERAMIC CAP.(1608) CH J 47pF/50V
	C1520			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1521			CHD1JJ3CH470	CHIP CERAMIC CAP.(1608) CH J 47pF/50V
	C1522			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1524			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1525			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1529			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C1530			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C1531			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1533			JW5.0T	BOARD JUMPER D0.6-P5.0
	C1534			CE0KMASDL101	ELECTROLYTIC CAP. 100μF/6.3V M
	C1536			CE1CMASDL470	ELECTROLYTIC CAP. 47μF/16V M
	C1537			CE1EMASDL221	ELECTROLYTIC CAP. 220μF/25V M
	C1538			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1539			CE0KMASDL101	ELECTROLYTIC CAP. 100μF/6.3V M
	C1540			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1541			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V

△	Location No.	Mark	TSB P/N	Reference No.	Description
	C1542			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1544			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1545			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1546			CHD1JJ3CH330	CHIP CERAMIC CAP.(1608) CH J 33pF/50V
	C1547			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1548			CE1CMASDL221	ELECTROLYTIC CAP. 220μF/16V M
	C1549			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1550			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1551			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1554			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1555			CE1CMASDL470	ELECTROLYTIC CAP. 47μF/16V M
	C1556			CE1CMASDL470	ELECTROLYTIC CAP. 47μF/16V M
	C1558			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1560			CE0KMASDL101	ELECTROLYTIC CAP. 100μF/6.3V M
	C1562			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1563			CE0KMASDL331	ELECTROLYTIC CAP. 330μF/6.3V M
	C1564			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1565			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C1566			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1567			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1569			CE1EMASDL470	ELECTROLYTIC CAP. 47μF/25V M
	C1570			CE0KMASDL470	ELECTROLYTIC CAP. 47μF/6.3V M
	C1571			CHD1JJ3CH101	CHIP CERAMIC CAP.(1608) CH J 100pF/50V
	C1572			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1573			CE0KMASDL101	ELECTROLYTIC CAP. 100μF/6.3V M
	C1575			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1576			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1577			CHD1JJ3CH271	CHIP CERAMIC CAP.(1608) CH J 270pF/50V
	C1578			CHD1JJ3CH470	CHIP CERAMIC CAP.(1608) CH J 47pF/50V
	C1579			CHD1JJ3CH271	CHIP CERAMIC CAP.(1608) CH J 270pF/50V
	C1580			CHD1JJ3CH470	CHIP CERAMIC CAP.(1608) CH J 47pF/50V
	C1581			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1582			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1583			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1584			CE1JMAVSLR47	ELECTROLYTIC CAP. 0.47μF/50V M H7
	C1585			CE1JMASDLR47	ELECTROLYTIC CAP. 0.47μF/50V M
	C1586			CE1JMASDLR47	ELECTROLYTIC CAP. 0.47μF/50V M
	C1587			CE1JMASDLR47	ELECTROLYTIC CAP. 0.47μF/50V M
	C1588			CE1JMASDLR47	ELECTROLYTIC CAP. 0.47μF/50V M

△	Location No.	Mark	TSB P/N	Reference No.	Description
	C1589			CE1JMASDLR47	ELECTROLYTIC CAP. 0.47μF/50V M
	C1590			CE1JMASDLR47	ELECTROLYTIC CAP. 0.47μF/50V M
	C1591			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1592			CE1EMASDLR47	ELECTROLYTIC CAP. 4.7μF/25V M
	C1593			CE1JMASDLR47	ELECTROLYTIC CAP. 0.47μF/50V M
	C1594			CE1JMASDLR47	ELECTROLYTIC CAP. 0.47μF/50V M
	C1595			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1596			CE1JMASDLR47	ELECTROLYTIC CAP. 0.47μF/50V M
	C1597			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1598			CE1AMASDL470	ELECTROLYTIC CAP. 47μF/10V M
	C1599			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1600			CE1EMASDLR47	ELECTROLYTIC CAP. 4.7μF/25V M
	C1601			CE1EMASDLR47	ELECTROLYTIC CAP. 4.7μF/25V M
	C1602			CHD1JJ3CH680	CHIP CERAMIC CAP.(1608) CH J 68pF/50V
	C1603			CE1EMASDLR47	ELECTROLYTIC CAP. 4.7μF/25V M
	C1604			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1605			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1606			CE1EMASDLR47	ELECTROLYTIC CAP. 4.7μF/25V M
	C1607			CE1EMASDLR47	ELECTROLYTIC CAP. 4.7μF/25V M
	C1608			CE1EMASDLR47	ELECTROLYTIC CAP. 4.7μF/25V M
	C1609			CE1EMASDLR47	ELECTROLYTIC CAP. 4.7μF/25V M
	C1610			CE1EMASDLR47	ELECTROLYTIC CAP. 4.7μF/25V M
	C1611			CE0KMASDL470	ELECTROLYTIC CAP. 47μF/6.3V M
	C1612			JW5.0T	BOARD JUMPER D0.6-P5.0
	C1613			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1614			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1615			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1616			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1617			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1618			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1619			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1620			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1621			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1622			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1623			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1624			CE1CMASDL100	ELECTROLYTIC CAP. 10μF/16V M
	C1625			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1626			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1627			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1628			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M

△	Location No.	Mark	TSB P/N	Reference No.	Description
	C1629			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1630			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1631			CE0KMASDL470	ELECTROLYTIC CAP. 47μF/6.3V M
	C1632			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1633			CE0KMASDL470	ELECTROLYTIC CAP. 47μF/6.3V M
	C1634			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1635			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1636			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1637			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1638			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1639			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1640			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1641			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1642			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1643			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1644			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1645			CE0KMASDL470	ELECTROLYTIC CAP. 47μF/6.3V M
	C1646			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1647			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1648			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1650			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C1653			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C1654			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C1655			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C1656			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C1657			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1658			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V
	C1659			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1660			CHD1JJ3CH680	CHIP CERAMIC CAP.(1608) CH J 68pF/50V
	C1661			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C1663			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1665			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1668			CE0KMASDL470	ELECTROLYTIC CAP. 47μF/6.3V M
	C1673			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C1674			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C1675			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V
	C1676			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1677			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V

△	Location No.	Mark	TSB P/N	Reference No.	Description
	C1678			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C1681			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C1687			CHD1JZ30F103	CHIP CERAMIC CAP. F Z 0.01μF/50V
	C1688			CE1JMASDL100	ELECTROLYTIC CAP. 10μF/50V M
	C1689			CE1JMASDLR33	ELECTROLYTIC CAP. 0.33μF/50V M
	C1690			JW5.0T	BOARD JUMPER D0.6-P5.0
	C1694			CE1CMASDL101	ELECTROLYTIC CAP. 100μF/16V M
	C1695			CE1CMASDL470	ELECTROLYTIC CAP. 47μF/16V M
	C1696			CHD1JJ3CH680	CHIP CERAMIC CAP.(1608) CH J 68pF/50V
	C1697			CHD1JJ3CH680	CHIP CERAMIC CAP.(1608) CH J 68pF/50V
	C1699			CHD1JJ3CH330	CHIP CERAMIC CAP.(1608) CH J 33pF/50V
	C1702			CHD1JJ3CH680	CHIP CERAMIC CAP.(1608) CH J 68pF/50V
CONNECTORS					
	CN1502			JC96J30ER007	FFC CONNECTOR 30PIN IMSA-9615S-30A-PP-A
	CN1503			JC96J30ER007	FFC CONNECTOR 30PIN IMSA-9615S-30A-PP-A
	CN1504			JCFNG20JG022	FMN CONNECTOR SIDE 20P 20FMN-STRK-A(LF)(SN)
	CN1507	A,B		E3B01AFV	AFV BOARD ASSEMBLY E3B01BD
	CN1507	C		E3B02AFV	AFV BOARD ASSEMBLY E3B02FD
DIODES					
	D301			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D370	C		QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D510			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D520			NPQZ0012541T	LED(RED) 1254IT
	D555		P000492990	QPQPS1R563ST	LED SIR-563ST3F P
	D1501			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1502			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1503			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1505			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1506			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1507			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1512			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1513			JW5.0T	BOARD JUMPER D0.6-P5.0
	D1514			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1515			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1516			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1517			QDTB00MTZJ33	ZENER DIODE MTZJT-7733B
	D1522			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1523			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1524			QDTB00MTZJ10	ZENER DIODE MTZJT-7710B
	D1525			QDTCOMTZJ5R6	ZENER DIODE MTZJT-775.6C
	D1526			QDTB00MTZJ18	ZENER DIODE MTZJT-7718B

△	Location No.	Mark	TSB P/N	Reference No.	Description
	D1527			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1528			QDTB0MTZJ5R6	ZENER DIODE MTZJT-775.6B
	D1529			QDTB00MTZJ10	ZENER DIODE MTZJT-7710B
	D1530			QDTC0MTZJ5R6	ZENER DIODE MTZJT-775.6C
	D1531			QDTB0MTZJ7R5	ZENER DIODE MTZJT-777.5B
	D1532			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1533			QDTB0MTZJ3R0	ZENER DIODE MTZJT-773.0B
	D1534			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1535			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1536			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1537			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1539			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1540			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1541			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1542			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1543			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1544			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1545			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D1547			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1548			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1549			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1550			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1551			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1552			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1553			JW5.0T	BOARD JUMPER D0.6-P5.0
	D1563			NDQZ000SB140	SCHOTTKY BARRIER DIODE SB140
	D1564			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1565			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1567			QDTB0MTZJ8R2	ZENER DIODE MTZJT-778.2B
	D1568			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1569			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
ICS					
	IC301		P000465590	QSZBA0RSY020	IC Y/C/A LA71750EM-MPB-E
	IC370	C	P000465860	QSZBA0TSY019	IC SECAM LA70100M-TRM-E
	IC451		P000465600	QSZBA0RSY033	IC HIFI LA72648M-MPB-E
	IC501		P000483890	QSZAB0RHT153	IC SYSCON M3776AMCH-AG7GP
	IC612		P000457190	NSZBA0TG2007	VFD DRIVER/CONTROLLER IC PT6313-S-TP(L)
	IC1501		P000483880	QSZAA0RHT157	SUB MICON M306H7MC-C23FP#U0
If IC1502A is R3112N211A-TR-F, then C1505A is 0.015μF.					
	IC1502A		P000483910	QSZBA0TRC026	VOLTAGE DETECT R3112N211A-TR-F
	C1505A			CHD1JK30B153	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V

△	Location No.	Mark	TSB P/N	Reference No.	Description
If IC1502B is PST3621NR, then C1505B is 0.15μF.					
	IC1502B		P000483900	QSZBA0TMM162	SYSTEM RESET IC PST3621NR
	C1505B			CHD1EK30B154	CHIP CERAMIC CAP.(1608) B K 0.15μF/25V
	IC1506		P000468640	NSZBA0S2H003	IC OP AMP UTC4580 DIP-8 8PIN
	IC1507		P000459940	NSZBA0TJY036	IC SHUNT REGULATOR KIA431-AT/P
	IC1508		P000459910	NSZBA0SJY035	IC OP AMP KIA4558P/P
	IC1509		P000459970	QSZBA0RHT051	IC INTERFACE HA118326APF-E
COILS					
	L251			LLARKBSTU5R6	MICRO INDUCTOR 5.6μF-K-5FT
	L302			LLAXKATTU101	INDUCTOR(100μF K) LAP02TA101K
	L370	C		JW5.0T	BOARD JUMPER D0.6-P5.0
	L402			LLARKBSTU470	INDUCTOR 47μF-K-5FT
	L451			LLARKBSTU470	INDUCTOR 47μF-K-5FT
	L452			LLBD00PKV023	RADIAL TYPE CHOKE COIL CW68-470K-841040NP
	L501			LLBD00PKV023	RADIAL TYPE CHOKE COIL CW68-470K-841040NP
	L502			JW5.0T	BOARD JUMPER D0.6-P5.0
	L503			LLAXKATTU1R8	INDUCTOR 1.8μF-K-26T
	L1501			LLAXKATTU101	INDUCTOR(100μF K) LAP02TA101K
	L1502			JW5.0T	BOARD JUMPER D0.6-P5.0
	L1504			LLBD00PKV023	RADIAL TYPE CHOKE COIL CW68-470K-841040NP
	L1505			LLBD00PKV023	RADIAL TYPE CHOKE COIL CW68-470K-841040NP
	L1506			LLARKBSTU101	INDUCTOR 100μF-K-5FT
	L1507			LLAXKATTU101	INDUCTOR(100μF K) LAP02TA101K
	L1508			LLAXKATTU180	INDUCTOR 18μF-K-26T
	L1509			LLBD00PKV021	CHOKE COIL 22μF-K
	L1510			LLAXKATTU101	INDUCTOR(100μF K) LAP02TA101K
	L1511			JW5.0T	BOARD JUMPER D0.6-P5.0
	L1512			LLAXKATTU101	INDUCTOR(100μF K) LAP02TA101K
	L1513			LLBD00PKV023	RADIAL TYPE CHOKE COIL CW68-470K-841040NP
	L1514			JW5.0T	BOARD JUMPER D0.6-P5.0
	L1516			LLAXKATTUR47	INDUCTOR(0.47μF K) LAP02TAR47K
	L1601			-----	BEAD CORE ASSEMBLY E3B91BD
	L1601-1			JW20.0T	BOARD JUMPER D0.6-P20.0
	L1601-2			XL03010XM001	BEAD CORE B16 RH 3.5X10X1.3
TRANSISTORS					
	Q302			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q401			QQ2Z0RN1511F	CHIP TRANSISTOR RN1511(TE85R.F)
	Q402			NQS4KTA1266P	TRANSISTOR KTA-1266-GR-AT/P
	Q403			NQSYKTC3203P	TRANSISTOR KTC3203-Y-AT/P
	Q404			NQS4KTA1266P	TRANSISTOR KTA-1266-GR-AT/P
	Q405			NQSZ0KRA103M	RES. BUILT-IN TRANSISTOR KRA103M-AT/P

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	Q406			NQ1YKTC3875S	CHIP TRANSISTOR KTC3875S-Y-RTK/P
	Q451			NQ1ZKRC103SP	TRANSISTOR KRC103S-RTK/P
	Q506			NPWZT2046B12	PHOTO TRANSISTOR PT204-6B-12
	Q514			NQSYKTA1267P	TRANSISTOR KTA1267-Y-AT/P
	Q515			NQSZKRC106MP	NPN TRANSISTOR KRC106M-AT/P
	Q520			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1502			NQSYKTC3203P	TRANSISTOR KTC3203-Y-AT/P
	Q1503			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1504			NQSYKTA1267P	TRANSISTOR KTA1267-Y-AT/P
	Q1505			NQSYKTA1267P	TRANSISTOR KTA1267-Y-AT/P
	Q1508			NQVYKTA1281P	TRANSISTOR KTA1281Y-AT/P
	Q1509			NQSZKRC103MP	NPN TRANSISTOR KRC103M-AT/P
	Q1511			NQSZ0KRA104M	RES. BUILT-IN TRANSISTOR KRA104M-AT/P
	Q1512			NQSZKRC103MP	NPN TRANSISTOR KRC103M-AT/P
	Q1513			NQSYKTC3198P	TRANSISTOR KTC3198-Y-AT/P
	Q1514			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1515			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1516			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1517			NQSYKTC3203P	TRANSISTOR KTC3203-Y-AT/P
	Q1518			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1519			NQSYKTC3203P	TRANSISTOR KTC3203-Y-AT/P
	Q1520			NQSYKTC3203P	TRANSISTOR KTC3203-Y-AT/P
	Q1521			NQSYKTC3203P	TRANSISTOR KTC3203-Y-AT/P
	Q1525			NQSZKRC103MP	NPN TRANSISTOR KRC103M-AT/P
	Q1526			NQS5KTC3199P	TRANSISTOR KTC3199-BL-AT/P
	Q1527			NQSYKTA1267P	TRANSISTOR KTA1267-Y-AT/P
	Q1528			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1529			QF1GSSM3K15F	MOS FET SSM3K15F(TE85L F)
	Q1530			QF1GSSM3K15F	MOS FET SSM3K15F(TE85L F)
	Q1531			NQSZKRC103MP	NPN TRANSISTOR KRC103M-AT/P
	Q1532			NQSZKRC103MP	NPN TRANSISTOR KRC103M-AT/P
	Q1533			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1534			NQSYKTA1267P	TRANSISTOR KTA1267-Y-AT/P
	Q1535			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1536			NQS4KTA1266P	TRANSISTOR KTA-1266-GR-AT/P
	Q1537			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1538			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1539			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1540			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1541			NQS4KTA1266P	TRANSISTOR KTA-1266-GR-AT/P

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	Q1542			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1543			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1544			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1545			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q1546			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
RESISTORS					
	R251			RRXAJR5Z0393	CHIP RES. 1/10W J 39k Ω
	R252			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
	R301			RRXAJR5Z0122	CHIP RES. 1/10W J 1.2k Ω
	R303			RRXAJR5Z0562	CHIP RES. 1/10W J 5.6k Ω
	R305			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R308	A		RRXAJR5Z0392	CHIP RES. 1/10W J 3.9k Ω
	R312	A		RRXAJR5Z0562	CHIP RES. 1/10W J 5.6k Ω
	R314			RRXAJR5Z0392	CHIP RES. 1/10W J 3.9k Ω
	R316			RRXAJR5Z0182	CHIP RES. 1/10W J 1.8k Ω
	R319			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R320			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R321			RRXAJR5Z0151	CHIP RES. 1/10W J 150 Ω
	R322			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R323			RRXAJR5Z0151	CHIP RES. 1/10W J 150 Ω
	R325			RRXAJR5Z0122	CHIP RES. 1/10W J 1.2k Ω
	R326			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R327			RRXAJR5Z0682	CHIP RES. 1/10W J 6.8k Ω
	R328			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R329			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R330			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
	R331			RRXAJR5Z0183	CHIP RES. 1/10W J 18k Ω
	R332			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R333			RRXAJR5Z0183	CHIP RES. 1/10W J 18k Ω
	R334			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R335			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R336			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R337			RRXAJR5Z0682	CHIP RES. 1/10W J 6.8k Ω
	R338			RRXAJR5Z0681	CHIP RES. 1/10W J 680 Ω
	R370	C		RRXAJR5Z0272	CHIP RES. 1/10W J 2.7k Ω
	R371	C		RCX6JATZ0562	CARBON RES. 1/6W J 5.6k Ω
	R372	C		RRXAJR5Z0392	CHIP RES. 1/10W J 3.9k Ω
	R401			RCX4JATZ0821	CARBON RES. 1/4W J 820 Ω
	R402			RCX6JATZ0101	CARBON RES. 1/6W J 100 Ω
	R404			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R405			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R406			RRXAJR5Z0223	CHIP RES. 1/10W J 22k Ω
	R407			RRXAJR5Z0562	CHIP RES. 1/10W J 5.6k Ω
	R408			RRXAJR5Z0123	CHIP RES. 1/10W J 12k Ω
	R409			RRXAJR5Z0562	CHIP RES. 1/10W J 5.6k Ω
	R410			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R411			RRXAJR5Z0273	CHIP RES. 1/10W J 27k Ω
	R412			RRXAJR5Z0121	CHIP RES. 1/10W J 120 Ω
	R413			RRXAJR5Z0334	CHIP RES. 1/10W J 330k Ω
	R414			RRXAJR5Z0123	CHIP RES. 1/10W J 12k Ω
	R415			RRXAJR5Z0182	CHIP RES. 1/10W J 1.8k Ω
	R416			RRXAJR5Z0561	CHIP RES. 1/10W J 560 Ω
	R417			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
	R418			RRXAJR5Z0123	CHIP RES. 1/10W J 12k Ω
	R419			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R420			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R421			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R451			RRXAJR5Z0562	CHIP RES. 1/10W J 5.6k Ω
	R452			RRXAJR5Z0223	CHIP RES. 1/10W J 22k Ω
	R462			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	R463			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R464			RRXAJR5Z0332	CHIP RES. 1/10W J 3.3k Ω
	R465			RRXAJR5Z0562	CHIP RES. 1/10W J 5.6k Ω
	R466			RRXAJR5Z0822	CHIP RES. 1/10W J 8.2k Ω
	R469			RRXAJR5Z0223	CHIP RES. 1/10W J 22k Ω
	R470			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R479			RRXAJR5Z0330	CHIP RES. 1/10W J 33 Ω
	R480			RCX6JATZ0101	CARBON RES. 1/6W J 100 Ω
	R481			RRXAJR5Z0330	CHIP RES. 1/10W J 33 Ω
	R482			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R483			RRXAJR5Z0223	CHIP RES. 1/10W J 22k Ω
	R484			RRXAJR5Z0682	CHIP RES. 1/10W J 6.8k Ω
	R509			RRXAJR5Z0181	CHIP RES. 1/10W J 180 Ω
	R511			RCX6GATZ0362	CARBON RES. 1/6W G 3.6k Ω
	R512			RRXAJR5Z0683	CHIP RES. 1/10W J 68k Ω
	R513			RRXAJR5Z0333	CHIP RES. 1/10W J 33k Ω
	R514			RCX6GATZ0103	CARBON RES. 1/6W G 10k Ω
	R516			RCX6GATZ0471	CARBON RES. 1/6W G 470 Ω
	R517			RCX4JATZ0271	CARBON RES. 1/4W J 270 Ω
	R519			RCX6GATZ0223	CARBON RES. 1/6W G 22k Ω
	R523			RCX6GATZ0152	CARBON RES. 1/6W G 1.5k Ω
	R525			RRXAJR5Z0394	CHIP RES. 1/10W J 390k Ω
	R526			RCX6JATZ0394	CARBON RES. 1/6W J 390k Ω
	R528			RCX6GATZ0472	CARBON RES. 1/6W G 4.7k Ω
	R536			RRXAJR5Z0182	CHIP RES. 1/10W J 1.8k Ω
	R537			RRXAJR5Z0681	CHIP RES. 1/10W J 680 Ω
	R539			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R540			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R541			RRXAJR5Z0183	CHIP RES. 1/10W J 18k Ω
	R542			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R543			RCX4JATZ0102	CARBON RES. 1/4W J 1k Ω
	R544			RCX6JATZ0103	CARBON RES. 1/6W J 10k Ω
	R545			RCX6JATZ0103	CARBON RES. 1/6W J 10k Ω
	R546			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R555			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R567			RRXAJR5Z0393	CHIP RES. 1/10W J 39k Ω
	R568			RRXAJR5Z0224	CHIP RES. 1/10W J 220k Ω
	R569			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R570			RCX6JATZ0472	CARBON RES. 1/6W J 4.7k Ω
	R572			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R574			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R575			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R576	A,B		RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R577			RRXAJR5Z0152	CHIP RES. 1/10W J 1.5k Ω
	R578			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R582			RRXAJR5Z0104	CHIP RES. 1/10W J 100k Ω
	R585			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R586			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R588			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R592			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R595			RCX4JATZ0102	CARBON RES. 1/4W J 1k Ω
	R617			JW5.0T	BOARD JUMPER D0.6-P5.0
	R618			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R621			RRXAJR5Z0683	CHIP RES. 1/10W J 68k Ω
	R622			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	R623			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R624			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R625			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R626			RRXAJR5Z0182	CHIP RES. 1/10W J 1.8k Ω
	R627			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R628			RRXAJR5Z0122	CHIP RES. 1/10W J 1.2k Ω
	R629			RRXAJR5Z0152	CHIP RES. 1/10W J 1.5k Ω
	R630			RRXAJR5Z0392	CHIP RES. 1/10W J 3.9k Ω
	R631			RCX4JATZ0151	CARBON RES. 1/4W J 150 Ω
	R648			RCX4JATZ0102	CARBON RES. 1/4W J 1k Ω
	R650			RCX4JATZ0102	CARBON RES. 1/4W J 1k Ω
	R653			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R656			RCX4JATZ0102	CARBON RES. 1/4W J 1k Ω
	R663			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R664			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R665			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R1501			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1502			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
	R1504			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
	R1505			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1506			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1507			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R1508			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R1515			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R1531			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1534			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R1535			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1540			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R1543			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1544			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R1545			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1546			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1547			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R1548			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R1549			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R1551			RRXAJR5Z0153	CHIP RES. 1/10W J 15k Ω
	R1552			RRXAJR5Z0153	CHIP RES. 1/10W J 15k Ω
	R1553			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1554			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1555			RRXAJR5Z0104	CHIP RES. 1/10W J 100k Ω
	R1558			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R1560			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R1564			RRXAJR5Z0474	CHIP RES. 1/10W J 470k Ω
	R1565			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1570			JW5.0T	BOARD JUMPER D0.6-P5.0
	R1571			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1572			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1575			RRXAJR5Z0183	CHIP RES. 1/10W J 18k Ω
	R1576			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1577			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1578			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R1579			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R1580			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R1581			RRXAJR5Z0121	CHIP RES. 1/10W J 120 Ω
	R1582			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1584			RRXAJR5Z0621	CHIP RES. 1/10W J 620 Ω

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	R1585			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1586			RRXAJR5Z0202	CHIP RES. 1/10W J 2k Ω
	R1587			RRXAJR5Z0202	CHIP RES. 1/10W J 2k Ω
	R1588			RRXAJR5Z0332	CHIP RES. 1/10W J 3.3k Ω
	R1590			RCX4JATZ0182	CARBON RES. 1/4W J 1.8k Ω
	R1594			JW5.0T	BOARD JUMPER D0.6-P5.0
	R1595			RCX4JATZ0391	CARBON RES. 1/4W J 390 Ω
	R1599			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1600			JW5.0T	BOARD JUMPER D0.6-P5.0
	R1601			JW5.0T	BOARD JUMPER D0.6-P5.0
	R1602			JW5.0T	BOARD JUMPER D0.6-P5.0
	R1603			JW5.0T	BOARD JUMPER D0.6-P5.0
	R1604			RCX6JATZ0473	CARBON RES. 1/6W J 47k Ω
	R1605			RCX4JATZ0681	CARBON RES. 1/4W J 680 Ω
	R1606			RCX4JATZ0681	CARBON RES. 1/4W J 680 Ω
	R1608			RRXAFR5H2400	CHIP RES. 1/10W F 240 Ω
	R1609			RRXAFR5H2200	CHIP RES. 1/10W F 220 Ω
	R1610			RRXAFR5H2200	CHIP RES. 1/10W F 220 Ω
	R1611			RRXAFR5H2200	CHIP RES. 1/10W F 220 Ω
	R1612			RRXAFR5H2200	CHIP RES. 1/10W F 220 Ω
	R1614			RCX6JATZ0223	CARBON RES. 1/6W J 22k Ω
	R1616			RRXAJR5Z0270	CHIP RES. 1/10W J 27 Ω
	R1617			RCX4JATZ0301	CARBON RES. 1/4W J 300 Ω
	R1618			RRXAJR5Z0361	CHIP RES. 1/10W J 360 Ω
	R1619			RRXAJR5Z0392	CHIP RES. 1/10W J 3.9k Ω
	R1620			RCX4JATZ0272	CARBON RES. 1/4W J 2.7k Ω
	R1621			RCX4JATZ0272	CARBON RES. 1/4W J 2.7k Ω
	R1622			RCX4JATZ0272	CARBON RES. 1/4W J 2.7k Ω
	R1623			RRXAJR5Z0302	CHIP RES. 1/10W J 3k Ω
	R1624			RRXAJR5Z0302	CHIP RES. 1/10W J 3k Ω
	R1625			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R1626			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R1628			RRXAJR5Z0100	CHIP RES. 1/10W J 10 Ω
	R1629			RCX6JATZ0152	CARBON RES. 1/6W J 1.5k Ω
	R1630			RCX4JATZ0102	CARBON RES. 1/4W J 1k Ω
	R1631			RCX4JATZ0221	CARBON RES. 1/4W J 220 Ω
	R1632			RRXAFR5H3302	CHIP RES. 1/10W F 33.0k Ω
	R1633	C		RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1634			RCX4JATZ0682	CARBON RES. 1/4W J 6.8k Ω
	R1635			RCX4JATZ0682	CARBON RES. 1/4W J 6.8k Ω
	R1636			RCX4JATZ0821	CARBON RES. 1/4W J 820 Ω
	R1637			RCX6JATZ0152	CARBON RES. 1/6W J 1.5k Ω
	R1638			RCX4JATZ0151	CARBON RES. 1/4W J 150 Ω
	R1639			RCX6JATZ0331	CARBON RES. 1/6W J 330 Ω
	R1640			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R1641			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R1642			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R1643			RCX4JATZ0181	CARBON RES. 1/4W J 180 Ω

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	R1645			RRXAJR5Z0332	CHIP RES. 1/10W J 3.3k Ω
	R1646			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R1647			RRXAFR5H3302	CHIP RES. 1/10W F 33.0k Ω
	R1648			RCX4JATZ0181	CARBON RES. 1/4W J 180 Ω
	R1649			RCX4JATZ0682	CARBON RES. 1/4W J 6.8k Ω
	R1650			RRXAJR5Z0683	CHIP RES. 1/10W J 68k Ω
	R1651			RRXAJR5Z0822	CHIP RES. 1/10W J 8.2k Ω
	R1652			RRXAJR5Z0683	CHIP RES. 1/10W J 68k Ω
	R1654			RRXAFR5H1000	CHIP RES. 1/10W F 100 Ω
	R1655			RRXAFR5H1501	CHIP RES. 1/10W F 1.5k Ω
	R1656			RCX4JATZ0561	CARBON RES. 1/4W J 560 Ω
	R1657			RRXAFR5H4701	CHIP RES. 1/10W F 4.7k Ω
	R1658			RRXAJR5Z0332	CHIP RES. 1/10W J 3.3k Ω
	R1660			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1661			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1666			RCX4JATZ0100	CARBON RES. 1/4W J 10 Ω
	R1667			RCX4JATZ0120	CARBON RES. 1/4W J 12 Ω
	R1673			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1674			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1676			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1677			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1678			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R1679			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R1680			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R1681			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R1682			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1683			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1684			RRXAJR5Z0682	CHIP RES. 1/10W J 6.8k Ω
	R1687			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1688			RRXAJR5Z0101	CHIP RES. 1/10W J 100 Ω
	R1689			RCX4JATZ0821	CARBON RES. 1/4W J 820 Ω
	R1690			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1691			RRXAJR5Z0122	CHIP RES. 1/10W J 1.2k Ω
	R1692			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R1693			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1694			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R1695			RRXAFR5H8201	CHIP RES. 1/10W F 8.2k Ω
	R1696			RRXAFR5H1302	CHIP RES. 1/10W F 13k Ω
	R1697			RRXAJR5Z0133	CHIP RES. 1/10W J 13k Ω
	R1698			RRXAFR5H8201	CHIP RES. 1/10W F 8.2k Ω
	R1699			RRXAFR5H1302	CHIP RES. 1/10W F 13k Ω
	R1700			RRXAJR5Z0133	CHIP RES. 1/10W J 13k Ω
	R1701			RCX4JATZ0681	CARBON RES. 1/4W J 680 Ω
	R1702			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1703			RRXAJR5Z0104	CHIP RES. 1/10W J 100k Ω
	R1704			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R1705			RRXAJR5Z0104	CHIP RES. 1/10W J 100k Ω
	R1706			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R1707			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1708			RCX4JATZ0750	CARBON RES. 1/4W J 75 Ω
	R1709			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
	R1710			RCX6JATZ0332	CARBON RES. 1/6W J 3.3k Ω

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	R1711			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1712			RRXAJR5Z0182	CHIP RES. 1/10W J 1.8k Ω
	R1713			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
	R1714			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
	R1715			RRXAJR5Z0223	CHIP RES. 1/10W J 22k Ω
	R1717			RCX4JATZ0221	CARBON RES. 1/4W J 220 Ω
	R1718			RCX4JATZ0750	CARBON RES. 1/4W J 75 Ω
	R1719			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R1720			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1721			RRXAJR5Z0153	CHIP RES. 1/10W J 15k Ω
	R1722			RCX4JATZ0182	CARBON RES. 1/4W J 1.8k Ω
	R1723			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1724			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1725			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R1726			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R1728			RRXAJR5Z0104	CHIP RES. 1/10W J 100k Ω
	R1729			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R1730			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R1731			RCX4JATZ0471	CARBON RES. 1/4W J 470 Ω
	R1732			RCX4JATZ0471	CARBON RES. 1/4W J 470 Ω
	R1733			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R1734			RCX4JATZ0750	CARBON RES. 1/4W J 75 Ω
	R1735			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R1736			RCX4JATZ0271	CARBON RES. 1/4W J 270 Ω
	R1737			RCX4JATZ0750	CARBON RES. 1/4W J 75 Ω
	R1738			RCX4JATZ0750	CARBON RES. 1/4W J 75 Ω
	R1739			RCX6JATZ0101	CARBON RES. 1/6W J 100 Ω
	R1740			RCX4JATZ0750	CARBON RES. 1/4W J 75 Ω
	R1741			RCX4JATZ0750	CARBON RES. 1/4W J 75 Ω
	R1742			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R1743			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R1744			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R1745			RRXAJR5Z0331	CHIP RES. 1/10W J 330 Ω
	R1746			RRXAJR5Z0331	CHIP RES. 1/10W J 330 Ω
	R1748			RRXAJR5Z0331	CHIP RES. 1/10W J 330 Ω
	R1749			RRXAJR5Z0331	CHIP RES. 1/10W J 330 Ω
	R1750			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R1751			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R1753			JW5.0T	BOARD JUMPER D0.6-P5.0
	R1754			JW5.0T	BOARD JUMPER D0.6-P5.0
	R1755			RRXAJR5Z0105	CHIP RES. 1/10W J 1M Ω
	R1756			RRXAJR5Z0105	CHIP RES. 1/10W J 1M Ω
	R1757			RRXAJR5Z0105	CHIP RES. 1/10W J 1M Ω
	R1758			RRXAJR5Z0105	CHIP RES. 1/10W J 1M Ω
	R1759			RCX6JATZ0331	CARBON RES. 1/6W J 330 Ω
	R1760			RRXAJR5Z0100	CHIP RES. 1/10W J 10 Ω
	R1761			RRXAJR5Z0100	CHIP RES. 1/10W J 10 Ω
	R1762			RRXAJR5Z0330	CHIP RES. 1/10W J 33 Ω
	R1763			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1764			JW5.0T	BOARD JUMPER D0.6-P5.0
	R1767			RRXAJR5Z0474	CHIP RES. 1/10W J 470k Ω
	R1769			RRXAJR5Z0183	CHIP RES. 1/10W J 18k Ω
	R1770			RRXAJR5Z0183	CHIP RES. 1/10W J 18k Ω

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	R1771			RCX6JATZ0123	CARBON RES. 1/6W J 12k Ω
	R1772			RRXAJR5Z0123	CHIP RES. 1/10W J 12k Ω
	R1773			RRXAJR5Z0151	CHIP RES. 1/10W J 150 Ω
	R1775			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R1776			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R1777			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R1778			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1779			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R1780			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R1781			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R1782			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
	R1783			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R1784			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1785			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
SWITCHES					
	SW506		P000465640	SSC0101MCE03	LEAF SWITCH MXS01830MVP0
	SW507		P000480780	SSR0106KB004	SWITCH ROTARY SSS-53MD-1
	SW521		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW522		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW523		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW524		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW525		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW1501		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW1502		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
MISCELLANEOUS					
	B-9H			0VM409508	BUSH LED(F) H3700UD
	B-9I			0VM409508	BUSH LED(F) H3700UD
	B-10			1VM425280	SHIELD ASSEMBLY(T3 PAL) E3B90ED
	B-16			0VM412870	DOUBLE SIDE TAPE HB200UD
	B-31			0VM304573	ROHM HOLDER H7770JD
	FL601		P000472820	TVFD1C0FT050	VFD 7-BT-306NS
	JK1502		P000465520	JXRL010LY140	JACK RCA MSP-281V41-B(B110)
	JK1503		P000465530	JXRL020LY120	JACK RCA MSP-382V-12 NILF
	JK1504		P000459850	JXGL210LY008	RGB CONNECTOR MRC-021V-05 ABS(B110)
	JK1505		P000465540	JXRL030LY116	JACK RCA MSP-213V1-652-B N I L
	JK1510		P000457070	JXEL040LY003	JACK S TYPE MDC-050V-2.4 LF(B110)
	L-2			GBCP3080	SCREW P-TIGHT M3X8 BIND HEAD+
	L-9P			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	PS502			QPWZP1302C70	PHOTO INTERRUPTER RPI-302C70
	RS1501		P000457340	USESJRSKK039	REMOTE RECEIVER PIC-37043LU
	TP301			JW7.0T	BOARD JUMPER D0.6-P7.0
	TP502			JW9.0T	BOARD JUMPER D0.6-P9.0
	TP503			JW7.0T	BOARD JUMPER D0.6-P7.0
	TP504			JW15.0T	BOARD JUMPER D0.6-P15.0
⚠	TU1501	A,B	P000483920	UTUNPLGAL020	TUNER UNIT TMFE2-303A
⚠	TU1501	C	P000484150	UTUNPSLAL007	TUNER UNIT TMFE2-405A
	W1		P000483930	WX1E3B00-001	FFC AV-MAIN 30P 30PIN/TL335MM

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	VR501			VRCB104HH014	CARBON P.O.T. VZ067TL1 B104 PB(F)
	X301		P000468200	FXC445LLN004	XTAL 4.433619MHz
	X501		P000468220	FXD126LCHE01	QUARTS CRYSTAL 12.000000MHz
	X1501		P000483780	FXC323LQUA03	RESONATOR XTAL 32.768kHz QTF38-32.768K125P15L
	X1502		P000483790	FXD106LLN002	QUARTZ CRYSTAL C49SJJ11640-10.000M

BOARD POWER SWITCH

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
					BOARD POWER SWITCH (BOARD POWER B) Consists of the following:
DIODE					
	D1605			NPQZ1CHJGTN N	LED(GREEN) LTL1CHJGTNN
SWITCH					
	SW1601		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
MISCELLANEOUS					
	W6		P000472880	WX1E4340-006	PARALLEL WIRE 4P AWG26#2651/ 126MM

BOARD SENSOR

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	P4		P000472720	1VSA13519	BOARD SENSOR Consists of the following:
TRANSISTORS					
	Q503			NPWZT2046B12	PHOTO TRANSISTOR PT204-6B-12
	Q504			NPWZT2046B12	PHOTO TRANSISTOR PT204-6B-12

BOARD PW/SW

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
⚠	P3	A,C	-----	1VSA15686	BOARD PW/SW
⚠	P3	B	-----	1VSA15561	BOARD PW/SW Consists of the following:
⚠	P3-4	A,C	P000483760	1VSA15686-4	BOARD POWER SUPPLY (PW/SW-A)
⚠	P3-4	B	P000484050	1VSA15561-4	BOARD POWER SUPPLY (PW/SW-A)
	P3-2	A,C	P000483740	1VSA15686-2	BOARD FRONT JACK (PW/SW-B)
	P3-2	B	P000484030	1VSA15561-2	BOARD FRONT JACK (PW/SW-B)
	P3-1	A,C	P000483730	1VSA15686-1	BOARD SWITCH (PW/SW-C)
	P3-1	B	P000484020	1VSA15561-1	BOARD SWITCH (PW/SW-C)
	P3-3	A,C	P000483750	1VSA15686-3	BOARD REAR JACK (PW/SW-D)
	P3-3	B	P000484040	1VSA15561-3	BOARD REAR JACK (PW/SW-D)

BOARD POWER SUPPLY

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
⚠	P3-4	A,C	P000483760	1VSA15686-4	BOARD POWER SUPPLY (PW/SW-A)
⚠	P3-4	B	P000484050	1VSA15561-4	BOARD POWER SUPPLY (PW/SW-A) Consists of the following:
CAPACITORS					
	C013			CE1JMZADL471	ELECTROLYTIC CAP 470μF/50V M
	C014			CE1EMASDL471	ELECTROLYTIC CAP. 470μF/25V M
	C020			CE1JMASDL220	ELECTROLYTIC CAP. 22μF/50V M
	C022			CE1GMASDL471	ELECTROLYTIC CAP. 470μF/35V M
⚠	C1001			CT2E683DC016	ACROSS THE LINE CAP. 0.068μF/250V
	C1004			CA2H221S6029	ELECTROLYTIC CAP. 220μF/400V M
⚠	C1006			CCN2EMA0E222	SAFTY CAP. 2200pF/250V
	C1029			CCD3DKP0B151	CERAMIC CAP. B K 150pF/2KV
	C1030			CA2A683DT018	POLYESTER FILM CAP. (PB FREE) 0.068μF/100V J
	C1034			CA1J393MS029	FILM CAP.(P) 0.039μF/50V J
	C1035			CE0KMZADL332	ELECTROLYTIC CAP. 3300μF/6.3V SL
	C1036			CCD2JKP0B471	CERAMIC CAP. B K 470pF/500V
	C1037			CE1EMZADL222	ELECTROLYTIC CAP. 2200μF/25V SL
	C1039			CE1CMASDL471	ELECTROLYTIC CAP. 470μF/16V M
	C1100			CA2A682DT018	POLYESTER FILM CAP. (PB FREE) 0.0068μF/100V J
	C1102			CCD2JKP0B471	CERAMIC CAP. B K 470pF/500V
	C1104			CE1AMZADL472	ELECTRIC CAP. 4700μF/10V
	C1105			CE1AMZADL472	ELECTRIC CAP. 4700μF/10V
	C1107			CE1AMZADL222	ELECTROLYTIC CAP. 2200μF/10V SL
	C1110			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C1112			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C1113			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1114			CE0KMASDL102	ELECTROLYTIC CAP. 1000μF/6.3V M
	C1115			CE0KMASDL102	ELECTROLYTIC CAP. 1000μF/6.3V M
	C1116			CE0KMASDL101	ELECTROLYTIC CAP. 100μF/6.3V M
	C1117			CE1CMASDL470	ELECTROLYTIC CAP. 47μF/16V M
	C1118			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C1119			CE1CMASDL471	ELECTROLYTIC CAP. 470μF/16V M
	C1121			CE1CMASDL470	ELECTROLYTIC CAP. 47μF/16V M
	C1126			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C1127			CE0KMASDL101	ELECTROLYTIC CAP. 100μF/6.3V M
	C1128			CE0KMASDL101	ELECTROLYTIC CAP. 100μF/6.3V M
	C1129			CE0KMASDL101	ELECTROLYTIC CAP. 100μF/6.3V M
	C1130			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1131			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V

△	Location No.	Mark	TSB P/N	Reference No.	Description
	C1132			CE0KMASDL102	ELECTROLYTIC CAP. 1000μF/6.3V M
	C1133			CA2A102DT018	POLYESTER FILM CAP. (PB FREE) 0.001μF/100V J
	C1138			CE1CMASDL101	ELECTROLYTIC CAP. 100μF/16V M
	C1139			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1140			CE1CMASDL101	ELECTROLYTIC CAP. 100μF/16V M
	C1141			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1142			CHD1JK30B104	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V
	C1143			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
CONNECTORS					
	CN1001			JC96J30ER007	FFC CONNECTOR 30PIN IMSA-9615S-30A-PP-A
	CN1002			J3PHC02JG017	PH CONNECTOR (WHITE) TOP 2P B2B-PH- K-S(LF)
DIODES					
	D012			NDQZ000BA158	RECTIFIER DIODE BA158
	D013			NDQZ000BA158	RECTIFIER DIODE BA158
	D014			NDQZ000SB390	SCHOTTKY BARRIER DIODE SB390
	D015			NDLZ001N5397	DIODE 1N5397-B
	D016			NDQZ000SB340	SCHOTTKY BARRIER DIODE SB340
	D017			QDTB00MTZJ16	ZENER DIODE MTZJT- 7716B
	D018			NDQZ000BA158	RECTIFIER DIODE BA158
	D019			NDQZ000FR203	RECTIFIER DIODE FR203-B/P
	D020			JW5.0T	BOARD JUMPER D0.6- P5.0
	D1001			NDLZ001N5397	DIODE 1N5397-B
	D1002			NDLZ001N5397	DIODE 1N5397-B
	D1003			NDLZ001N5397	DIODE 1N5397-B
	D1004			NDLZ001N5397	DIODE 1N5397-B
	D1006			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1011			QDTB00MTZJ27	ZENER DIODE MTZJT- 7727B
	D1022			QDTB00MTZJ5R6	ZENER DIODE MTZJT- 775.6B
	D1023			QDTA00MTZJ36	ZENER DIODE MTZJT- 7736A
	D1025			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1030			NDQZ000SB340	SCHOTTKY BARRIER DIODE SB340
	D1031			NDQZ000SB390	SCHOTTKY BARRIER DIODE SB390
	D1032			NDQZ000SB340	SCHOTTKY BARRIER DIODE SB340
	D1035			NDQZ000SB390	SCHOTTKY BARRIER DIODE SB390
	D1101			NDQZ000SB340	SCHOTTKY BARRIER DIODE SB340
	D1102			QDTB00MTZJ6R8	ZENER DIODE MTZJT- 776.8B
	D1103			NDQZ000BA157	RECTIFIER DIODE BA157
	D1107			JW5.0T	BOARD JUMPER D0.6- P5.0
	D1108			QDTB00MTZJ18	ZENER DIODE MTZJT- 7718B
	D1109			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1110			QDTB00MTZJ24	ZENER DIODE MTZJT- 7724B
	D1112			JW5.0T	BOARD JUMPER D0.6- P5.0
	D1113			JW5.0T	BOARD JUMPER D0.6- P5.0
	D1114			JW5.0T	BOARD JUMPER D0.6- P5.0

△	Location No.	Mark	TSB P/N	Reference No.	Description
	D1115			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1116			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1117			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1118			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1119			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1120			QDTB00MTZJ10	ZENER DIODE MTZJT- 7710B
	D1121			JW10.0T	BOARD JUMPER D0.6- P10.0
	D1122			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1123			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1124			QDTB00MTZJ9R1	ZENER DIODE MTZJT- 779.1B
	D1125			QDTB00MTZJ15	ZENER DIODE MTZJT- 7715B
	D1126			NDQZ001N4005	RECTIFIER DIODE 1N4005
	D1127			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1128			NDQZ000SB140	SCHOTTKY BARRIER DIODE SB140
	D1129			QDTB00MTZJ6R8	ZENER DIODE MTZJT- 776.8B
	D1130			QD1Z001SS400	SWITCHING DIODE 1SS400 TE61
	D1131			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1132			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
	D1133			QD1Z001SS400	SWITCHING DIODE 1SS400 TE61
	D1134			QD1Z001SS400	SWITCHING DIODE 1SS400 TE61
	D1135			NDLZ001N5397	DIODE 1N5397-B
	D1136			NDLZ001N5397	DIODE 1N5397-B
	D1137			QD1Z001SS400	SWITCHING DIODE 1SS400 TE61
	D1138			QD1Z001SS400	SWITCHING DIODE 1SS400 TE61
	D1139			QD1Z001SS400	SWITCHING DIODE 1SS400 TE61
	D1140			QDLZ001ZC43Q	DIODE 1ZC43(Q)
	D1142			QD1Z001SS400	SWITCHING DIODE 1SS400 TE61
	D1144			QD1Z001SS400	SWITCHING DIODE 1SS400 TE61
	D1145			QD1Z001SS400	SWITCHING DIODE 1SS400 TE61
	D1146			NDQZ000SB340	SCHOTTKY BARRIER DIODE SB340
	D1147			NDQZ000SB140	SCHOTTKY BARRIER DIODE SB140
	D1148			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
ICs					
△	IC1001		P000459900	NPEA000EL817	PHOTOCOUPLER EL817A
	IC1101		P000459940	NSZBA0TJY036	IC SHUNT REGULATOR KIA431-AT/P
	IC1102		P000459940	NSZBA0TJY036	IC SHUNT REGULATOR KIA431-AT/P
	IC1103		P000457260	QSZBA0SSH054	VOLTAGE REGULATOR PQ070XF01SZH
	IC1104		P000457260	QSZBA0SSH054	VOLTAGE REGULATOR PQ070XF01SZH
	IC1105		P000483860	NSZBA0STY245	IC REGULATOR TLV1117/ TO-220
COILS					
	L1001			-----	BEAD CORE ASSEMBLYE3B91BD
	L1001-1			JW20.0T	BOARD JUMPER D0.6- P20.0

Location No.	Mark	TSB P/N	Reference No.	Description
L1001-2			XL03010XM001	BEAD CORE B16 RH 3.5X10X1.3
L1002			-----	BEAD CORE ASSEMBLYE3B91BD
L1002-1			JW20.0T	BOARD JUMPER D0.6-P20.0
L1002-2			XL03010XM001	BEAD CORE B16 RH 3.5X10X1.3
L1003		P000483800	LLEG0Z0TU001	COIL LINE FILTER 56MH TLF24HB5630R3
L1004			-----	BEAD CORE ASSEMBLYE3B91BD
L1004-1			JW20.0T	BOARD JUMPER D0.6-P20.0
L1004-2			XL03010XM001	BEAD CORE B16 RH 3.5X10X1.3
L1005			-----	BEAD CORE ASSEMBLYE3B91BD
L1005-1			JW20.0T	BOARD JUMPER D0.6-P20.0
L1005-2			XL03010XM001	BEAD CORE B16 RH 3.5X10X1.3
L1013			LLC220KKV007	POWER INDUCTORS TWKBNP-220K
L1014			LLC100KTU026	RADIAL LEADED INDUCTOR LHL13NB100K
L1100			LLC180KKV007	POWER INDUCTORS TWKBNP-180K
L1101			LLC180KKV007	POWER INDUCTORS TWKBNP-180K
TRANSISTORS				
Q1001			QFWZ2SK3798Q	MOS FET 2SK3798(Q)
Q1003			QQSY2SC2120F	TRANSISTOR 2SC2120-Y (TE2 F T)
Q1100			NQEYKTC2026P	TRANSISTOR(PB FREE) KTC2026-Y/P
Q1101			NQS4KTA1266P	TRANSISTOR KTA-1266-GR-AT/P
Q1102			NQEY0KTB1151	TRANSISTOR KTB1151-Y-U/P
Q1103			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
Q1104			NQSYKTC3203P	TRANSISTOR KTC3203-Y-AT/P
Q1105			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
Q1106			NQS4KTC3266P	TRANSISTOR KTC3266-GR-AT/P
Q1107			NQSZKRC103MP	NPN TRANSISTOR KRC103M-AT/P
Q1108			NQEYKTC2026P	TRANSISTOR(PB FREE) KTC2026-Y/P
Q1114			NQSYKTA1267P	TRANSISTOR KTA1267-Y-AT/P
Q1115			NQSZKRC103MP	NPN TRANSISTOR KRC103M-AT/P
RESISTORS				
R068			RRXAJR5Z0223	CHIP RES. 1/10W J 22k Ω
R1001			RCX2565FS001	CARBON RES. 1/2W K 5.6M Ω
R1003			RW031R5PAK10	CEMENT RESISTOR 3W K 1.5 Ω
R1004			RW051R0PAK10	CEMENT RESISTOR 5W J 1.0 Ω H 10MM
R1005			RCX4JATZ0564	CARBON RES. 1/4W J 560k Ω
R1006			RCX4JATZ0684	CARBON RES. 1/4W J 680k Ω
R1007			RCX4JATZ0684	CARBON RES. 1/4W J 680k Ω
R1008			RCX4JATZ0824	CARBON RES. 1/4W J 820k Ω
R1009			RCX4JATZ0220	CARBON RES. 1/4W J 22 Ω

Location No.	Mark	TSB P/N	Reference No.	Description
R1029			RCX4JATZ0184	CARBON RES. 1/4W J 180k Ω
R1033			RCX4JATZ0560	CARBON RES. 1/4W J 56 Ω
R1035			JW5.0T	BOARD JUMPER D0.6-P5.0
R1036			RCX4JATZ0221	CARBON RES. 1/4W J 220 Ω
R1037			RCX4JATZ0221	CARBON RES. 1/4W J 220 Ω
R1039			RCX4JATZ0122	CARBON RES. 1/4W J 1.2k Ω
R1043			RCX4JATZ0152	CARBON RES. 1/4W J 1.5k Ω
R1097			RRXAJR5Z0391	CHIP RES. 1/10W J 390 Ω
R1101			RRXAJR5Z0681	CHIP RES. 1/10W J 680 Ω
R1102			RRXAFR5H2001	CHIP RES. 1/10W F 2k Ω
R1104			RCX4JATZ0182	CARBON RES. 1/4W J 1.8k Ω
R1106			RRXAR47HH007	CHIP RES.(1608) 1/10W J 0.47 Ω
R1107			RCX4JATZ0102	CARBON RES. 1/4W J 1k Ω
R1108			RCX4JATZ0152	CARBON RES. 1/4W J 1.5k Ω
R1110			RCX4JATZ0102	CARBON RES. 1/4W J 1k Ω
R1112			RRXAFR5H3000	CHIP RES. 1/10W F 300 Ω
R1113			RRXAFR5H1001	CHIP RES. 1/10W F 1.0k Ω
R1114			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
R1115			RRXAFR5H1001	CHIP RES. 1/10W F 1.0k Ω
R1117			RCX4JATZ0222	CARBON RES. 1/4W J 2.2k Ω
R1118			RN03751ZU001	METAL OXIDE FILM RES. 3W J 750 Ω
R1119			RRXAJR5Z0224	CHIP RES. 1/10W J 220k Ω
R1120			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
R1123			RCX4JATZ0272	CARBON RES. 1/4W J 2.7k Ω
R1124			RCX4JATZ0112	CARBON RES. 1/4W J 1.1k Ω
R1125			RCX4JATZ0112	CARBON RES. 1/4W J 1.1k Ω
R1126			RCX4JATZ0682	CARBON RES. 1/4W J 6.8k Ω
R1127			RCX4JATZ0112	CARBON RES. 1/4W J 1.1k Ω
R1128			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
R1129			RCX6JATZ0104	CARBON RES. 1/6W J 100k Ω
R1130			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
R1131			RRXAFR5H1802	CHIP RES. 1/10W F 18k Ω
R1132			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
R1133			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
R1134			RCX4JATZ0271	CARBON RES. 1/4W J 270 Ω
R1135			RRXAFR5H4701	CHIP RES. 1/10W F 4.7k Ω
R1136			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
R1138			RRXAJR5Z0471	CHIP RES. 1/10W J 470 Ω
R1139			RRXAJR5Z0682	CHIP RES. 1/10W J 6.8k Ω
R1140			RCX6JATZ0561	CARBON RES. 1/6W J 560 Ω
R1141			RCX4JATZ0272	CARBON RES. 1/4W J 2.7k Ω
R1142			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
R1143			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
R1144			RRXAFR5H1002	CHIP RES. 1/10W F 10k Ω
R1145			RRXAFR5H1002	CHIP RES. 1/10W F 10k Ω
R1146			RRXAFR5H1502	CHIP RES. 1/10W F 15k Ω
R1147			RRXAFR5H1002	CHIP RES. 1/10W F 10k Ω
R1148			RCX4JATZ0682	CARBON RES. 1/4W J 6.8k Ω

△	Location No.	Mark	TSB P/N	Reference No.	Description
	R1149			RCX4JATZ0682	CARBON RES. 1/4W J 6.8k Ω
	R1150			RCX4JATZ0682	CARBON RES. 1/4W J 6.8k Ω
	R1151			RRXAFR5H1000	CHIP RES. 1/10W F 100 Ω
	R1152			RRXAFR5H2200	CHIP RES. 1/10W F 220 Ω
	R1153			RRXAFR5H1501	CHIP RES. 1/10W F 1.5k Ω
	R1154			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R1155			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R1157			RCX4JATZ0222	CARBON RES. 1/4W J 2.2k Ω
	R1158			RRXAFR5H0100	CHIP RES.(1608) 1/10W F 10 Ω
	R1159			RRXAJR5Z0330	CHIP RES. 1/10W J 33 Ω
	R1160			RCX6JATZ0224	CARBON RES. 1/6W J 220k Ω
	R1161			RCX4JATZ0824	CARBON RES. 1/4W J 820k Ω
	R1162			RCX4JATZ0180	CARBON RES. 1/4W J 18 Ω
	R1163			RCX4JATZ0221	CARBON RES. 1/4W J 220 Ω
	R1164			RCX4JATZ0221	CARBON RES. 1/4W J 220 Ω
	R1165			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R1166			RRXAJR5Z0473	CHIP RES. 1/10W J 47k Ω
	R1167			RRXAJR5Z0562	CHIP RES. 1/10W J 5.6k Ω
	R1170			RCX4JATZ0121	CARBON RES. 1/4W J 120 Ω
	R1171			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R1172			RRXAJR5Z0103	CHIP RES. 1/10W J 10k Ω
	R1174			RRXAFR5H3300	CHIP RES. 1/10W F 330 Ω
	R1177			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
MISCELLANEOUS					
△	AC1001	A,C		WAE0172LW011	POWER CORD PE8G2CG9G0AB05
△	AC1001	B		WAB0182LW016	POWER CORD PE8G2X91H0AA061
	B-5A			1VM424636	HEAT SINK E2A00JD
	B-5B			1VM425352	POWER HEATSINK E3B90ED
	CL1001			JC96J30ER007	FFC CONNECTOR 30PIN IMSA-9615S-30A-PP-A
△	F1001		P000483870	PEG20B0W3002	FUSE TIME RAG TSD2A250VSVDEUC3CP SE
	FH1001			XH01200LY002	FUSE HOLDER MSF-015 LF (B110)
	FH1002			XH01200LY002	FUSE HOLDER MSF-015 LF (B110)
	L-9N			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
	L-9O			0VM412937A	SCREW C-TIGHT M3X6 E5610UD
△	SA1001		P000457210	NVQZ10D471KB	SURGE ABSORBER 470V+-10PER
△	T1001		P000483810	LTT3PE0XB006	TRANS POWER BCK-35-0341
	W2		P000483940	WX1E3B00-002	FFC PW-MAIN 30P 30PIN/ TL313MM
	W3		P000483950	WX1E3B00-003	FFC AV-PW 30P 30PIN/ TL90MM
	W4		P000483960	WX1E3B00-004	FFC AV-SW 20P 20PIN/ TL136MM
	W8		P000472900	WX1E4340-008	WIRE ASSEMBLY 4P AWG22/ 105MM

BOARD FRONT JACK

△	Location No.	Mark	TSB P/N	Reference No.	Description
	P3-2	A,C	P000483740	1VSA15686-2	BOARD FRONT JACK (PW/SW-B)
	P3-2	B	P000484030	1VSA15561-2	BOARD FRONT JACK (PW/SW-B) Consists of the following:
CAPACITORS					
	C3006			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C3007			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
CONNECTOR					
	CN3001			JCFNG20JG022	FMN CONNECTOR SIDE 20P 20FMN-STRK-A(LF)(SN)
DIODES					
	D3001			NPQZ0012541T	LED(RED) 1254IT
	D3002			NPQZ0012541T	LED(RED) 1254IT
	D3003			NPQZ1CHJGTN N	LED(GREEN) LTL1CHJGTNN
	D3004			NPQ3L1CHCBK2 F	LED(BLUE) LTL1CHCBK2-F
	D3005			NPQZ1CHKYKN N	LED(AMBER YELLOW) LTL1CHKYKN N
	D3008			QDTB0MTZJ6R2	ZENER DIODE MTZJT-776.2B
	D3009			QDTB0MTZJ6R2	ZENER DIODE MTZJT-776.2B
	D3010			QDTB0MTZJ6R2	ZENER DIODE MTZJT-776.2B
	D3011			QDTB0MTZJ6R2	ZENER DIODE MTZJT-776.2B
RESISTORS					
	R3001			RCX4JATZ0331	CARBON RES. 1/4W J 330 Ω
	R3002			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R3003			RCX4JATZ0331	CARBON RES. 1/4W J 330 Ω
	R3004			RCX4JATZ0271	CARBON RES. 1/4W J 270 Ω
	R3005			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R3006			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R3007			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R3008			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R3010			RCX4JATZ0821	CARBON RES. 1/4W J 820 Ω
	R3011			RCX4JATZ0681	CARBON RES. 1/4W J 680 Ω
	R3013			RRXAJR5Z0301	CHIP RES. 1/10W J 300 Ω
	R3014			RRXAJR5Z0361	CHIP RES. 1/10W J 360 Ω
	R3015			RRXAJR5Z0621	CHIP RES. 1/10W J 620 Ω
	R3016			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R3017			RRXAJR5Z0222	CHIP RES. 1/10W J 2.2k Ω
	R3018			RRXAJR5Z0472	CHIP RES. 1/10W J 4.7k Ω
	R3022			RCX4JATZ0331	CARBON RES. 1/4W J 330 Ω
	R3023			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R3026			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R3029			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R3032			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R3035			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R3038			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
SWITCHES					
	SW3001		P000472810	SST0101HH036	SWITCH TACT KSM0634B PB(F)
	SW3002		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW3003		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A

△	Location No.	Mark	TSB P/N	Reference No.	Description
	SW3004		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW3005		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW3006		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW3007		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
MISCELLANEOUS					
	B-9A			0VM409508	BUSH LED(F) H3700UD
	B-9B			0VM409508	BUSH LED(F) H3700UD
	B-9C			0VM409508	BUSH LED(F) H3700UD
	B-9D			0VM409508	BUSH LED(F) H3700UD
	B-9E			0VM409508	BUSH LED(F) H3700UD
	JK3001		P000457110	JXRL010LY135	JACK RCA(YELLOW) MTJ-032-05B-20(B110)
	JK3002		P000457120	JXRL010LY136	JACK RCA(WHITE) MTJ-032-05B-22(B110)
	JK3003		P000457090	JYRL010LY029	JACK RCA(RED) MTJ-032-05A-21(B110)
	JK3004		P000457080	JXEL040RP003	MINI DIN SOCKET MDC1-34-020
	W7		P000483970	WX1E3B00-007	PARALLEL WIRE 5P AWG26#2651/120MM

BOARD SWITCH

△	Location No.	Mark	TSB P/N	Reference No.	Description
	P3-1	A,C	P000483730	1VSA15686-1	BOARD SWITCH (PW/SW-C)
	P3-1	B	P000484020	1VSA15561-1	BOARD SWITCH (PW/SW-C) Consists of the following:
DIODE					
	D3007			NPOZ1CHJGTNN	LED(GREEN) LTL1CHJGTNN
RESISTOR					
	R3021			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
SWITCHES					
	SW3008		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW3009		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
	SW3010		P000483300	SST0101AL041	TACT SWITCH SKQSAF001A
MISCELLANEOUS					
	B-9F			0VM409508	BUSH LED(F) H3700UD

BOARD REAR JACK

△	Location No.	Mark	TSB P/N	Reference No.	Description
	P3-3	A,C	P000483750	1VSA15686-3	BOARD REAR JACK (PW/SW-D)
	P3-3	B	P000484040	1VSA15561-3	BOARD REAR JACK (PW/SW-D) Consists of the following:
CAPACITORS					
	C2001			CE1CMASDL101	ELECTROLYTIC CAP. 100μF/16V M
	C2002			CE0KMASDL471	ELECTROLYTIC CAP. 470μF/6.3V M
	C2003			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C2004			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C2005			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C2006			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C2007			CHD1JK30B222	CHIP CERAMIC CAP. B K 2200pF/50V
	C2008			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V

△	Location No.	Mark	TSB P/N	Reference No.	Description
	C2009			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C2010			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C2011			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V
	C2012			CE1JMASDL1R0	ELECTROLYTIC CAP. 1μF/50V M
	C2013			CHD1JK30B102	CHIP CERAMIC CAP.(1608) B K 1000pF/50V
DIODES					
	D2001			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D2002			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D2003			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D2004			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D2005			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D2006			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D2007			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D2008			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D2009			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
	D2010			QDTA00MTZJ11	ZENER DIODE MTZJT-7711A
COILS					
	L2003			-----	BEAD CORE ASSEMBLYE3B91BD
	L2003-1			JW35.0T	BOARD JUMPER D0.6-P35.0
	L2003-2			XL03010XM001	BEAD CORE B16 RH 3.5X10X1.3
TRANSISTORS					
	Q2001			NQS4KTA1266P	TRANSISTOR KTA-1266-GR-AT/P
	Q2002			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
	Q2003			NQSYKTC3199P	TRANSISTOR KTC3199-Y-AT/P
RESISTORS					
	R2001			RCX6JATZ0681	CARBON RES. 1/6W J 680 Ω
	R2002			RRXAJR5Z0221	CHIP RES. 1/10W J 220 Ω
	R2003			RCX4JATZ0750	CARBON RES. 1/4W J 75 Ω
	R2005			RCX4JATZ0821	CARBON RES. 1/4W J 820 Ω
	R2006			RCX4JATZ0221	CARBON RES. 1/4W J 220 Ω
	R2007			RCX4JATZ0821	CARBON RES. 1/4W J 820 Ω
	R2008			RCX4JATZ0221	CARBON RES. 1/4W J 220 Ω
	R2009			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R2010			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R2011			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
	R2012			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R2013			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R2014			RRXAJR5Z0750	CHIP RES. 1/10W J 75 Ω
MISCELLANEOUS					
	B-24			1VM423185	21P PLATE EARTH E7B20ED
	JK2001		P000459840	JXGL210LY006	RGB CONNECTOR MRC-021V-03 ABS(B11)
	JW2001		P000460080	WX1E7B20-002	FLAT CABLE 15P AWG26#2651/P2.0/70

BOARD AFV

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	P5	A,B	P000483720	1VSA15656	BOARD AFV
	P5	C	P000484120	1VSA15657	BOARD AFV
					Consists of the following:
CAPACITORS					
	C1			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C4			CHD1JJ3CH560	CHIP CERAMIC CAP. CH J 56pF/50V
	C5			CHD1JJ3CH220	CHIP CERAMIC CAP.(1608) CH J 22pF/50V
	C6			CHD1JJ3CH560	CHIP CERAMIC CAP. CH J 56pF/50V
	C7			CHD1JC3CH3R0	CHIP CERAMIC CAP. CH C 3pF/50V
	C8			CHD1JC3CH3R0	CHIP CERAMIC CAP. CH C 3pF/50V
	C11			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C12			CE1CMASL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C13			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C14			CHD1JK30B103	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V
	C15			CE1CMASL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C16			CE1CMASL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C17			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C19			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C20			CE1JMASL3R3	ELECTROLYTIC CAP. 3.3μF/50V M H7
	C21			CHD1JZ30F104	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V
	C22			CE1CMASL100	ELECTROLYTIC CAP. 10μF/16V M H7
	C23	C		CHD1AZ30F474	CHIP CERAMIC CAP. F Z 0.47μF/10V
	C24			CE1JMASLR22	ELECTROLYTIC CAP. 0.22μF/50V M H7
	C27			CCA1JZTFZ104	CERAMIC CAP.(AX) F Z 0.1μF/50V
CONNECTOR					
	CN1			JTED009ER045	ANGLE PIN HEADER 9P IMSA-6029B-1-09Z003-
DIODE					
	D2			QDTZ001SS133	SWITCHING DIODE 1SS133(T-77)
IC					
	IC1		P000459920	NSZBA0SP3005	IC AUDIO PROCESSOR MSP3417G-QG-B8-V3
COILS					
	L1			LLARKBSTU100	INDUCTOR 10μF-K-5FT
	L2			JW5.0T	BOARD JUMPER D0.6-P5.0
	L3			LLAXKATTU180	INDUCTOR 18μF-K-26T
	L4			LLARKBSTU100	INDUCTOR 10μF-K-5FT
RESISTORS					
	R1			RRXAJR5Z0102	CHIP RES. 1/10W J 1k Ω
	R2	C		RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R4			RRXAJR5Z0124	CHIP RES. 1/10W J 120k Ω
	R5			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R6			RRXAZR5Z0000	CHIP RES.(1608) 1/10W 0 Ω
	R7	C		RRXAJR5Z0122	CHIP RES. 1/10W J 1.2k Ω
MISCELLANEOUS					
	X1		P000468230	FXD186LLN001	XTAL 18.432MHz

BOARD ATA

⚠	Location No.	Mark	TSB P/N	Reference No.	Description
	P6		P000472730	1VSA13582	BOARD ATA
					Consists of the following:
CONNECTORS					
	CN3001			JCYKC40JC002	IDC SOCKET 40PIN VT YKF43-0025
	CN3002			JCFHD40HQ007	FPC/FFC CONNECTOR(40PIN) FH12-40S-0.5SH(89)

DECK MECHANISM SECTION

HDD & DVD / Video Cassette Recorder

RD-XV47KE/RD-XV47KB/RD-XV47KF

Deck Mechanism Section

- Standard Maintenance
- Mechanism Alignment Procedures
- Disassembly / Assembly of Mechanism
- Deck Exploded Views
- Deck Parts List

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STANDARD MAINTENANCE

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
B2	Cylinder Assembly	○	●	○	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B587	Tension Lever Assembly		●		●
B31	ACE Head Assembly			●	
B573, B574	Reel S, Reel T			●	
B37	Capstan Motor		●		●
B52	Cap Belt		●		●
*B73	FE Head			●	
*B86	F Brake Assembly (HI)		●		●
B133	Idler Assembly (HI)		●		●
B410	Pinch Arm Assembly		●		●
B414	M Brake (SP) Assembly (HI)		●		●
B416	M Brake (TU) Assembly (HI)		●		●
B525	LDG Belt		●		●

Notes:

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

Cleaning

Cleaning of Video Head

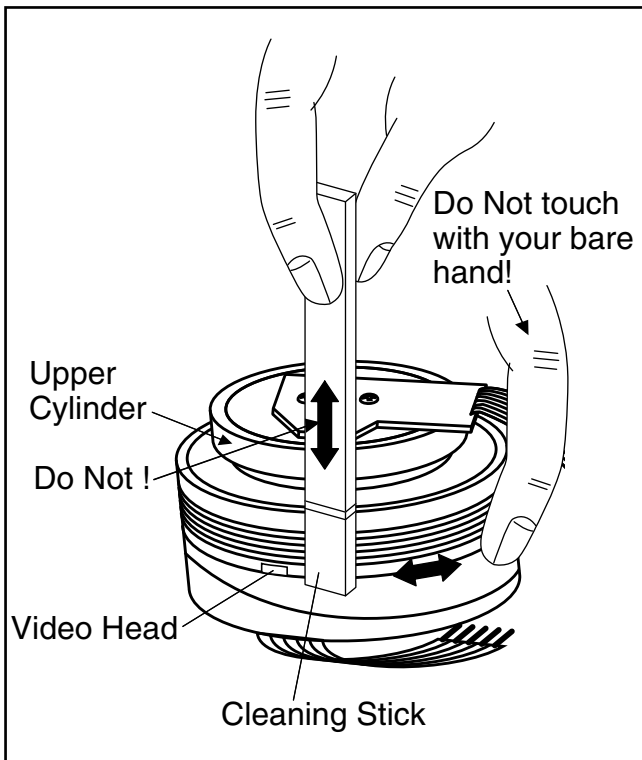
Clean the head with a head cleaning stick or chamois cloth.

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.



Cleaning of ACE Head

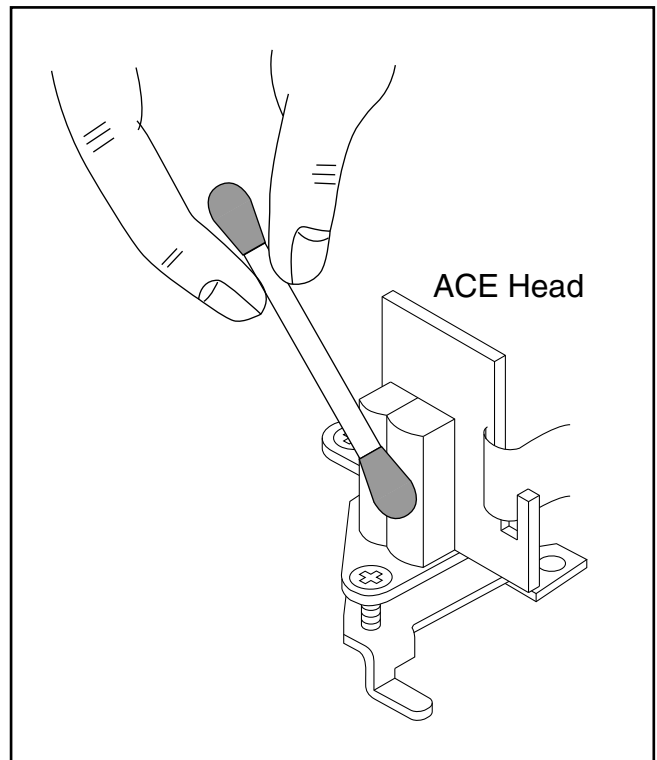
Clean the head with a cotton swab.

Procedure

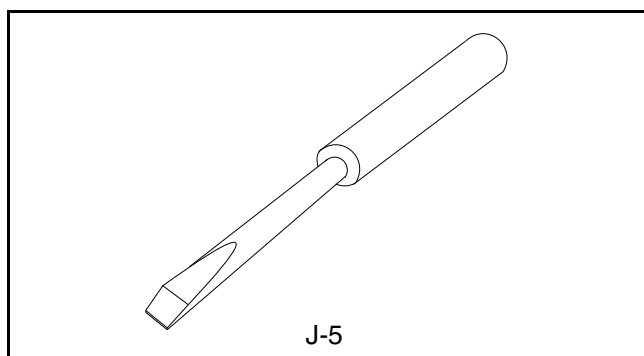
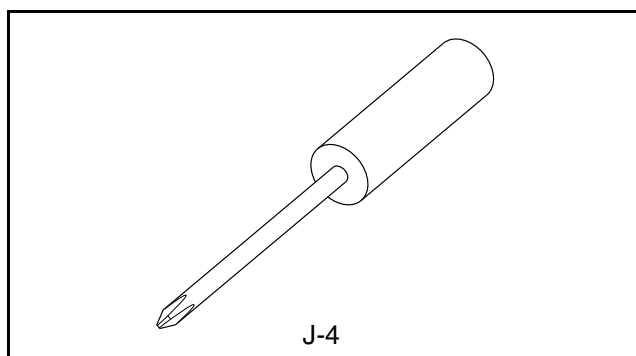
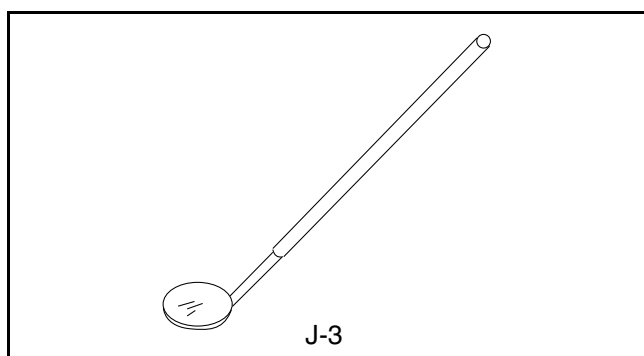
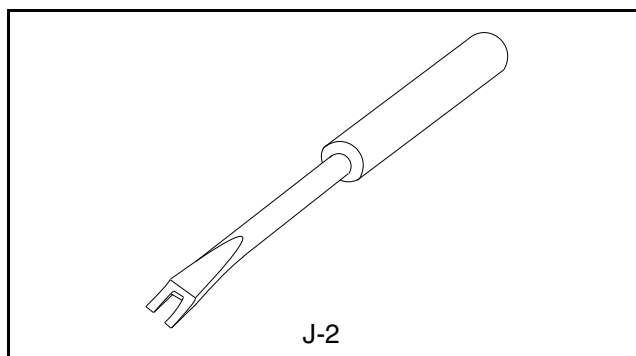
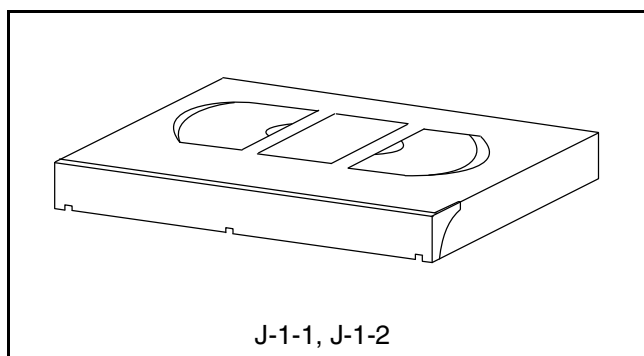
1. Remove the top cabinet.
2. Dip the cotton swab in 90% ethyl alcohol and clean the ACE Head. Be careful not to damage the upper drum and other tape running parts.

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.



SERVICE FIXTURE AND TOOLS



Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	FL6A	Head Adjustment of ACE Head
J-1-2	Alignment Tape	FL6N8 (2 Head model) FL6NS8 (4 Head model)	Azimuth and X Value Adjustment of ACE Head / Adjustment of Envelope Waveform
J-2	Guide Roller Adj. Screwdriver	Available Locally	Guide Roller
J-3	Mirror	Available Locally	Tape Transportation Check
J-4	Azimuth Adj. Screwdriver +	Available Locally	ACE Head Height
J-5	Flat Screwdriver -	Available Locally	X Value

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.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

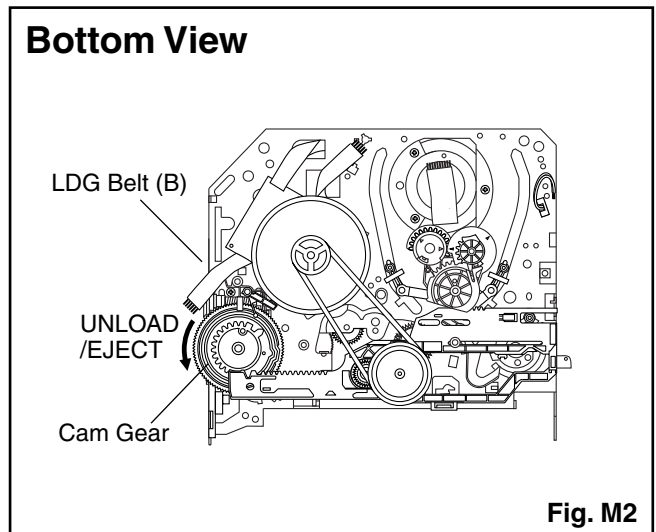
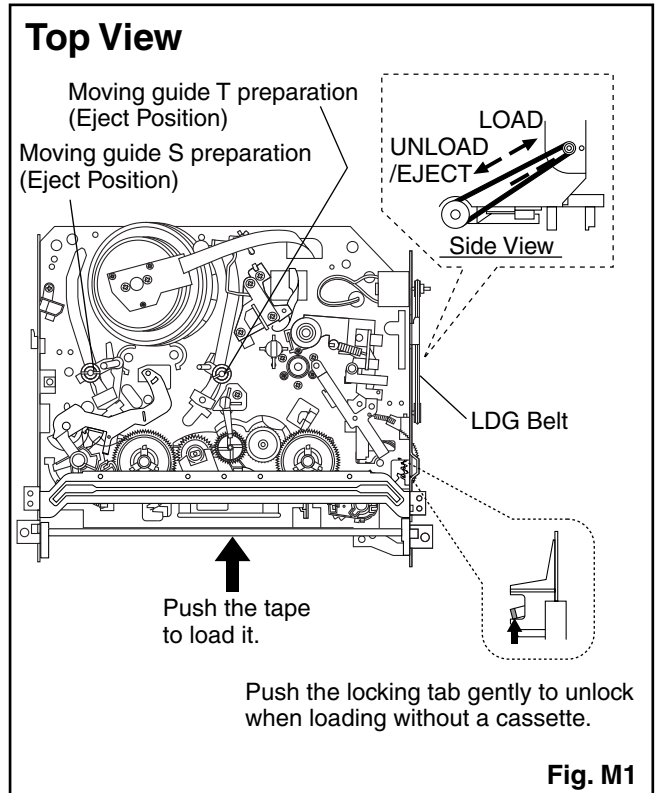
1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 for a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Make sure that the Moving guide preparations are in the Eject Position.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 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.
5. 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.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Case and Front Assembly.
3. Turn the LDG Belt in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 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.



1. Tape Interchangeability Alignment

Note:

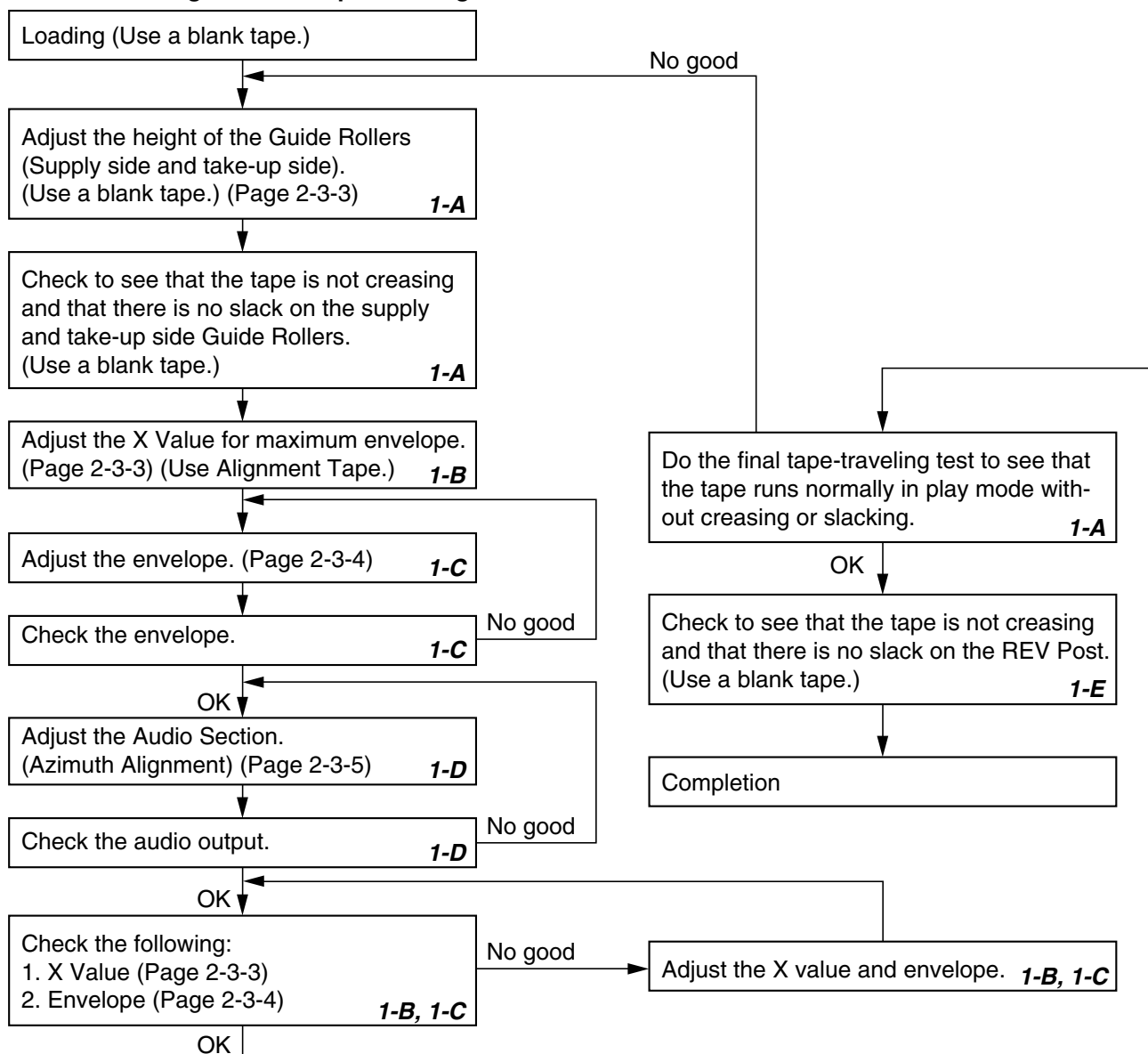
To do these alignment procedures, make sure that the Tracking Control Circuit is set to the preset position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

- Dual Trace Oscilloscope
- VHS Alignment Tape (FL6NS8)
- 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



1-A. 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. M3 and M4.)
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. M3 and M5.)

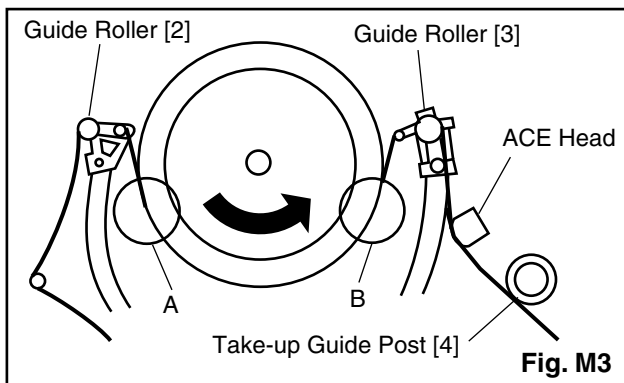


Fig. M3

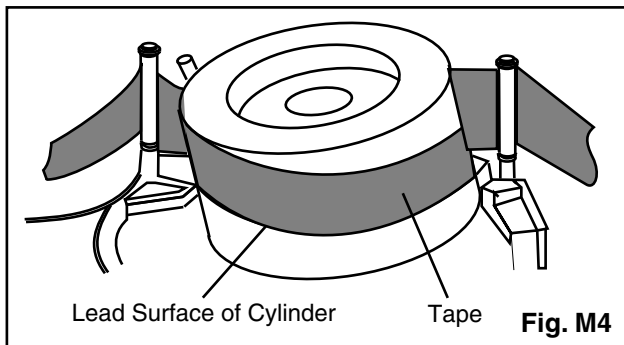


Fig. M4

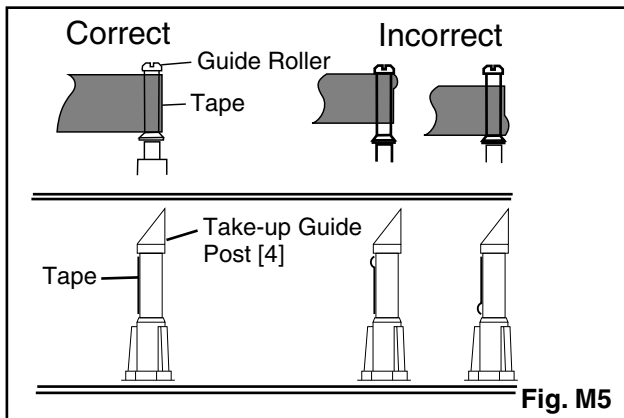


Fig. M5

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. M3 and M5)

4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the ACE Head. (Fig. M6)

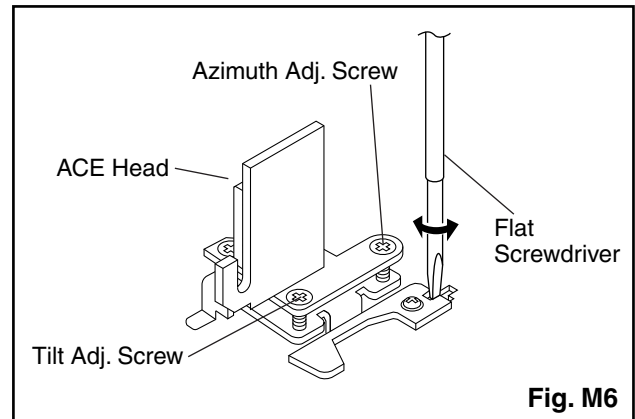


Fig. M6

1-B. X Value Alignment

Purpose:

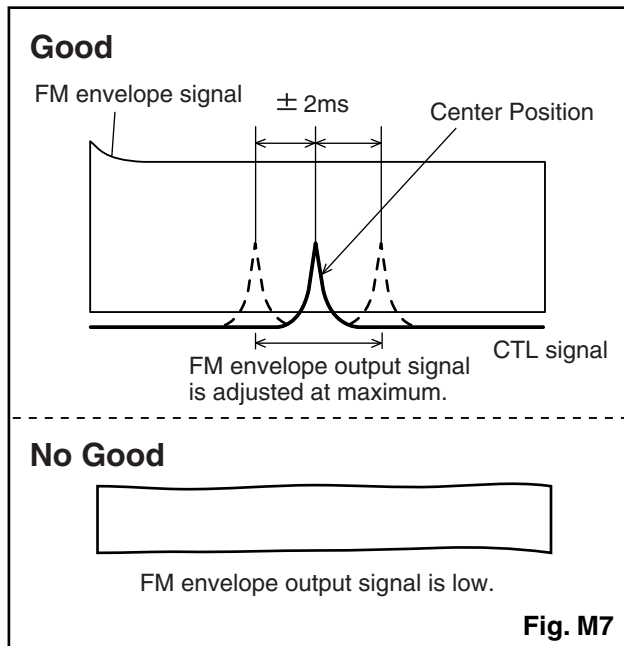
To obtain maximum PB FM envelope signal at the preset position of the Tracking Control Circuit, align the Horizontal Position of the ACE Head.

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 BOARD POWER. 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 [PROGRAM ^] button and then [▷] (VCR) button on the unit. (Refer to note on bottom of page 2-3-4.)
4. Use the Flat Screwdriver so that the PB FM signal at TP301 (C-PB) is maximum. (Fig. M6)

5. To shift the CTL waveform, press [PROGRAM ^] or [PROGRAM v] button. Then make sure that the maximum output position of PB FM envelope signal becomes within $\pm 2\text{ms}$ from preset position.



6. Set the Tracking Control Circuit to the preset position by pressing [PROGRAM ^] button and then [▷] (VCR) button on the unit.

1-C. Checking/Adjustment of Envelope Waveform

Purpose:

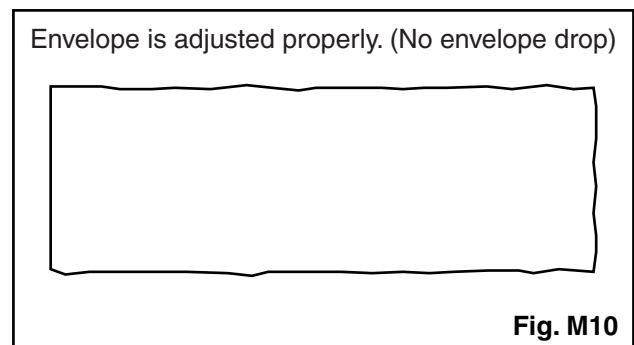
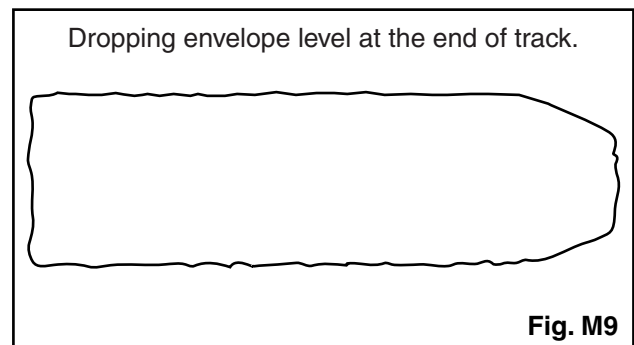
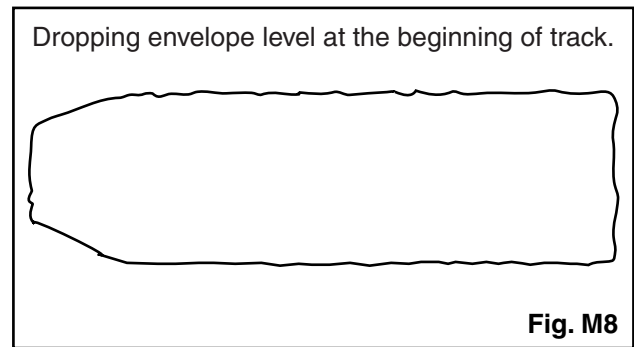
To achieve a satisfactory picture, adjust the Guide Rollers so that the PB FM envelope becomes as flat as possible.

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 BOARD POWER. Use TP504 (RF-SW) as a trigger.
2. Playback the Gray Scale on the Alignment Tape (FL6NS8). Set the Tracking Control Circuit to the preset position by pressing [PROGRAM ^] button and then [▷] (VCR) button on the unit. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) 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. M8, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M10.
4. If the envelope is as shown in Fig. M9, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M10.

5. When Guide Rollers [2] and [3] (Refer to Fig. M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M10.



Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the [PROGRAM ^] or [PROGRAM v] 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 [PROGRAM ^] button on the unit to achieve 1/2 level of envelope should match the number of pushes of the [PROGRAM v] button on the unit from center. If required, redo the "X Value Alignment."

1-D. 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 (FL6NS8) 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 oscilloscope is at maximum. (Fig. M6)

Note: Upon completion of the adjustment of Azimuth Adj. Screw, check the X Value by pushing the [PROGRAM ^] or [PROGRAM v] 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 [PROGRAM ^] button on the unit to achieve 1/2 level of envelope should match the number of pushes of the [PROGRAM v] button on the unit from center. If required, redo the "X Value Alignment."

1-E. Checking and Alignment of Tape Path during reversing

Purpose:

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

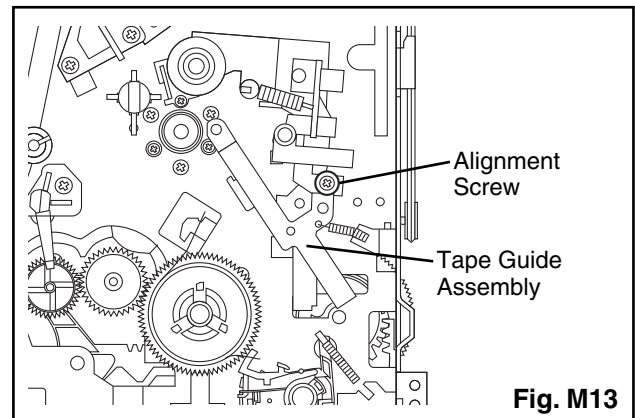
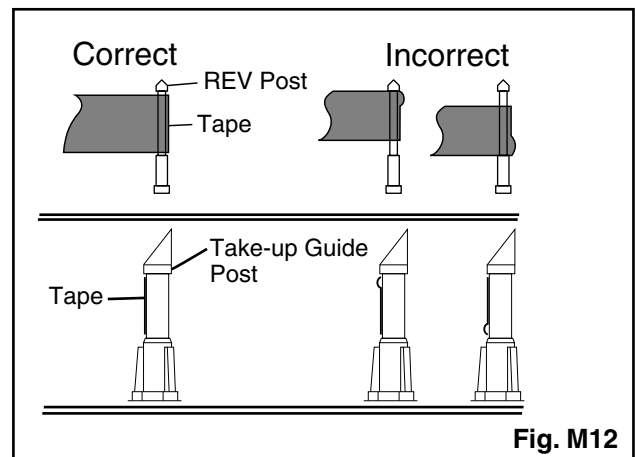
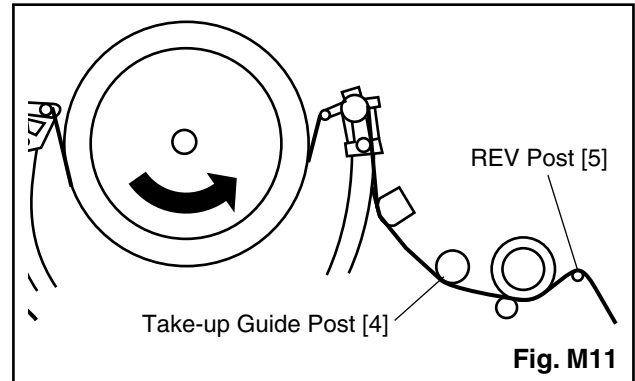
Symptom of Misalignment:

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

Note: Do not use an Alignment Tape for this procedure. 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. M11 and M12.)

2. When the tape has been curled up or bent, turn the alignment screw to adjust the height of REV Post. (Refer to Fig. M11 and M13.)



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. DM1H on page 2-4-3. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START- ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Guide Holder A	T	DM3H	2(S-1)	
[2]	[1]	Cassette Holder Assembly	T	DM4H		
[3]	[2]	Slider (SP)	T	DM5H	(S-1A), *(L-1)	
[4]	[2]	Slider (TU)	T	DM5H	*(L-2)	
[5]	[4]	Lock Lever	T	DM5H	*(L-3), *(P-1)	
[6]	[2]	Cassette Plate	T	DM5H		
[7]	[7]	Cylinder Assembly	T	DM1H, DM6H	Desolder, 3(S-2)	
[8]	[8]	Loading Motor Assembly	T	DM1H, DM7H	Desolder, LDG Belt, 2(S-3)	
[9]	[9]	ACE Head Assembly	T	DM1H, DM7H	(S-4)	
[10]	[2]	Tape Guide Arm Assembly	T	DM1H, DM8H-1	*(P-2)	
[11]	[10]	C Door Opener	T	DM1H, DM8H-1	(S-4A), *(L-4)	
[12]	[11]	Pinch Arm (B)	T	DM1H, DM8H-1, DM8H-2	*(P-3)	
[13]	[12]	Pinch Arm (A) Assembly	T	DM1H, DM8H-1, DM8H-2		
[14]	[14]	FE Head	T	DM1H, DM9H	(S-5)	
[15]	[15]	Prism	T	DM1H, DM9H	(S-6)	
[16]	[2]	Slider Shaft	T	DM10H	*(L-5)	
[17]	[16]	C Drive Lever (SP)	T	DM10H		
[18]	[16]	C Drive Lever (TU)	T	DM10H	(S-7), *(P-4)	
[19]	[19]	Capstan Motor	B	DM2H, DM11H	3(S-8), Cap Belt	
[20]	[20]	Clutch Assembly (HI)	B	DM2H, DM12H	(C-1)	
[21]	[20]	Center Gear	B	DM12H		
*[22]	[22]	F Brake Assembly (HI)	B	DM2H, DM12H	*(L-6)	
[23]	[22]	Worm Holder	B	DM2H, DM13H-1	(S-9), *(L-7), *(L-8)	
[24]	[22]	Pulley Assembly (HI)	B	DM2H, DM13H-1		
[25]	[25]	Mode Gear (LM)	B	DM2H, DM13H-1	(C-2)	
[26]	[20],[25]	Mode Lever (HI)	B	DM2H, DM13H-1, DM13H-2	(C-3)	
[27]	[22],[23], [26]	Cam Gear (A) (HI)	B	DM2H, DM13H-1, DM13H-2	(C-4)	(+)Refer to Alignment Sec. Page 2-5-1
[28]	[26]	TR Gear C	B	DM2H, DM13H-1	(C-5)	
[29]	[28]	TR Gear Spring	B	DM13H-1		
[30]	[29]	TR Gear A/B	B	DM13H-1		
[31]	[31]	FF Arm (HI)	B	DM1H, DM14H		
[32]	[26]	Idler Assembly (HI)	B	DM1H, DM14H	*(L-9)	
[33]	[26]	BT Arm	B	DM2H, DM14H	*(P-5)	

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/UNLOCK/RELEASE/UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[34]	[26]	Loading Arm (SP) Assembly	B	DM2H, DM14H		(+)Refer to Alignment Sec.Page 2-5-1
[35]	[34]	Loading Arm (TU) Assembly	B	DM2H, DM14H		(+)Refer to Alignment Sec.Page 2-5-1
[36]	[16],[26]	M Brake (TU) Assembly (HI)	T	DM1H, DM15H		
[37]	[2],[26]	M Brake (SP) Assembly (HI)	T	DM1H, DM15H	*(P-6)	
[38]	[37]	Tension Lever Assembly	T	DM1H, DM15H		
[39]	[38]	T Lever Holder	T	DM15H	*(L-10)	
[40]	[40]	M Gear (HI)	T	DM1H, DM15H	(C-6)	
[41]	[15],[40]	Sensor Gear (HI)	T	DM1H, DM15H	(C-7)	
[42]	[36],[40]	Reel T	T	DM1H, DM15H		
[43]	[38]	Reel S	T	DM1H, DM15H		
[44]	[34],[38]	Moving Guide S Preparation	T	DM1H, DM16H	(S-11), Slide Plate	
[45]	[35]	Moving Guide T Preparation	T	DM1H, DM16H		
[46]	[19]	TG Post Assembly	T	DM1H, DM16H	*(L-11)	
[47]	[27]	Rack Assembly	R	DM17H		(+)Refer to Alignment Sec.Page 2-5-1
[48]	[47]	F Door Opener	R	DM17H		
[49]	[49]	Cleaner Assembly	T	DM1H, DM6H		
[50]	[49]	CL Post	T	DM6H	*(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

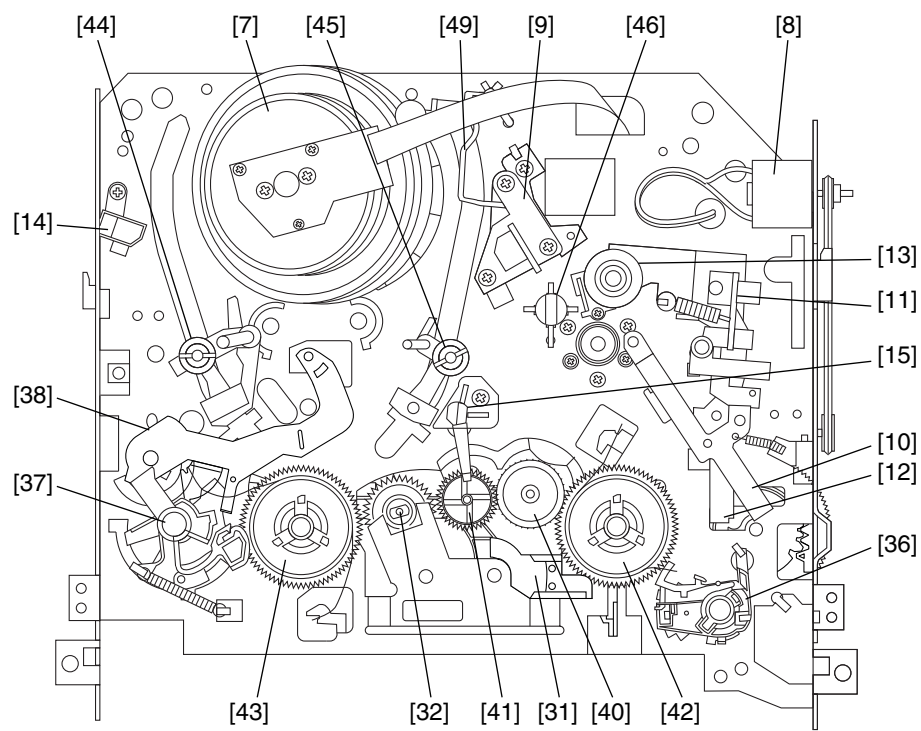


Fig. DM1H

Bottom View

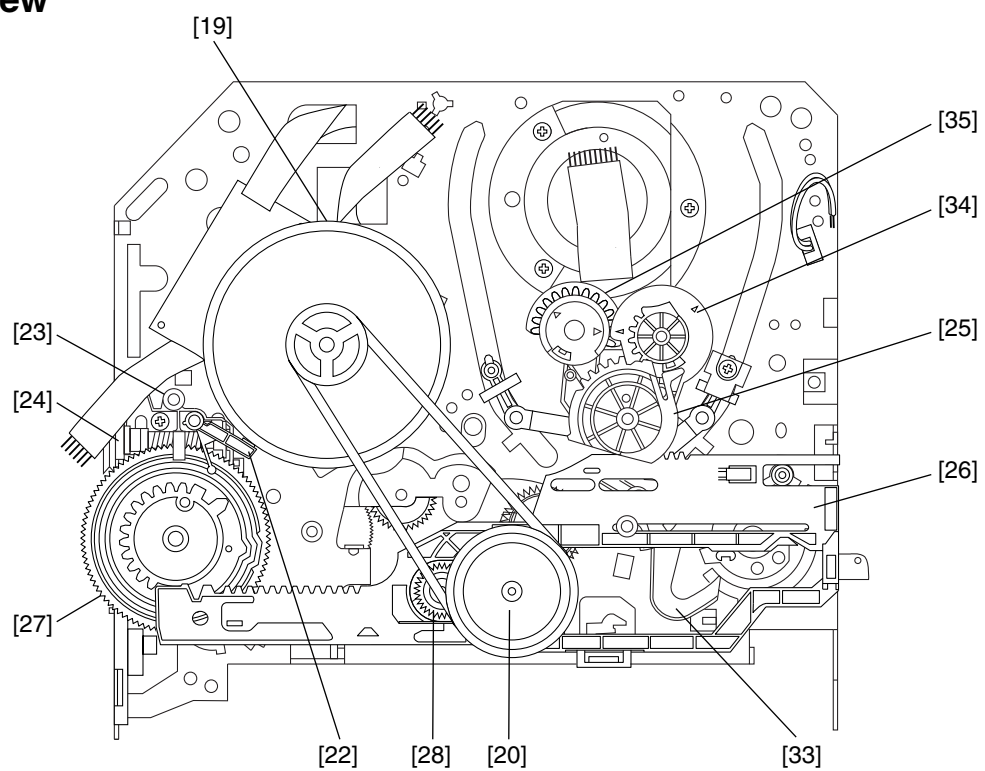
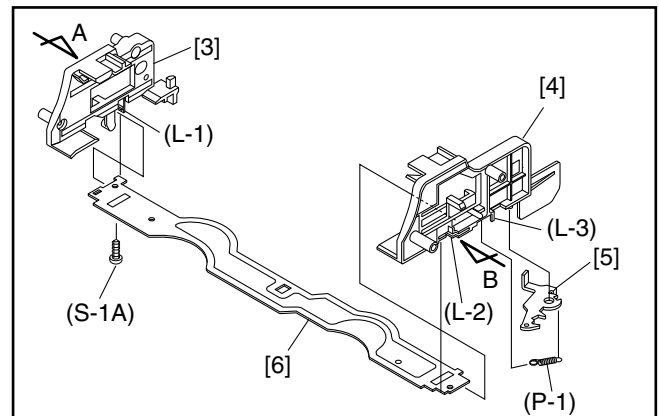
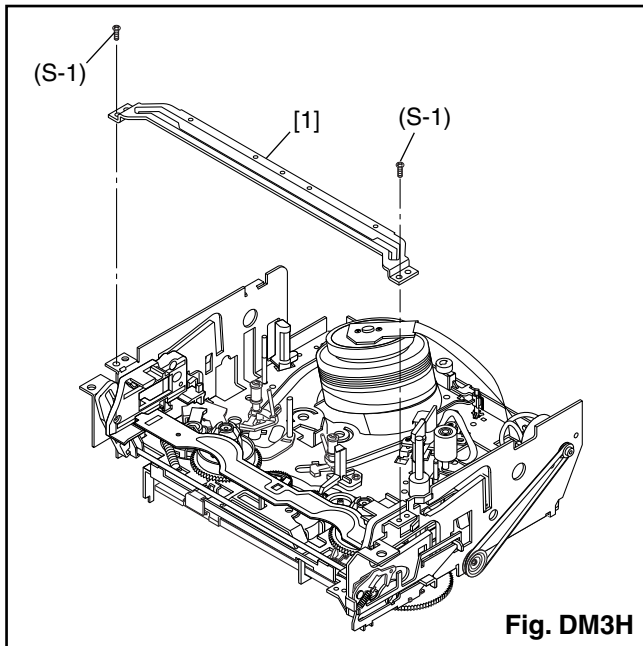
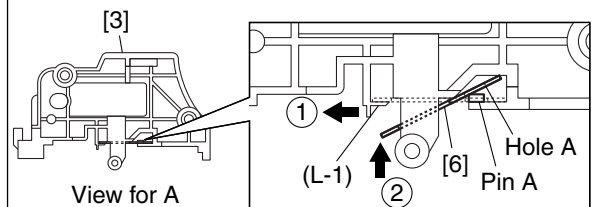


Fig. DM2H



Installation of [3] and [6]

First, insert [6] diagonally in [3] as shown below. Then, install [6] in [3] while pushing (L-1) in the direction of the arrow. After installing [6] in [3], confirm that pin A of [3] enters hole A of [6] properly.



Installation of [4] and [6]

Install [6] in [4] while pulling (L-2) in the direction of the arrow. After installing [6] in [4], confirm that pin B of [4] enters hole B of [6] properly.

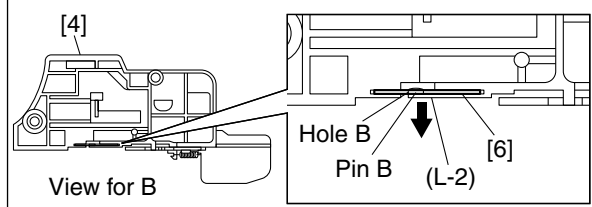
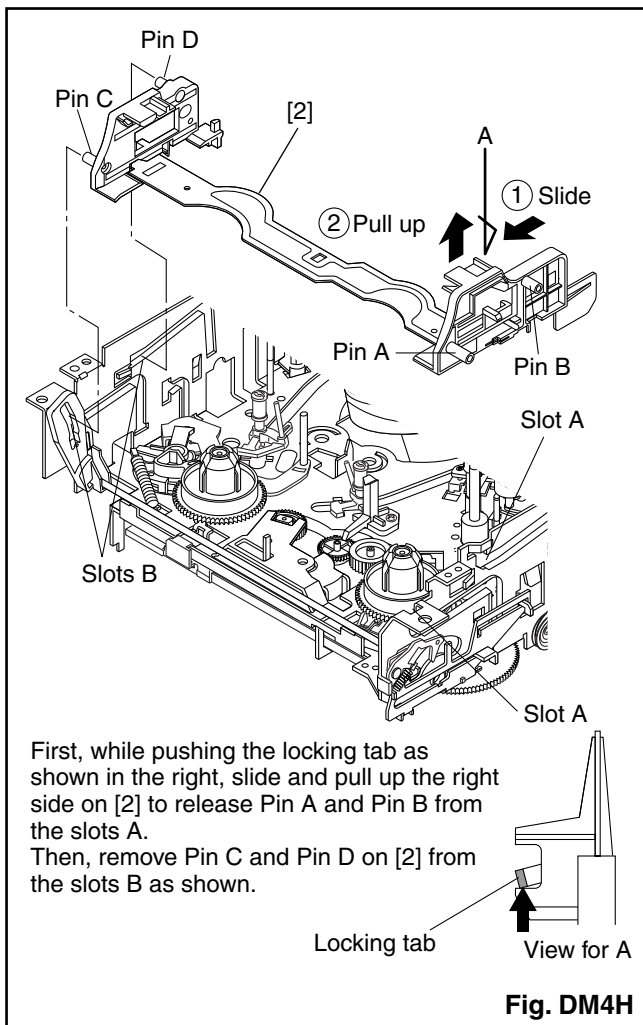
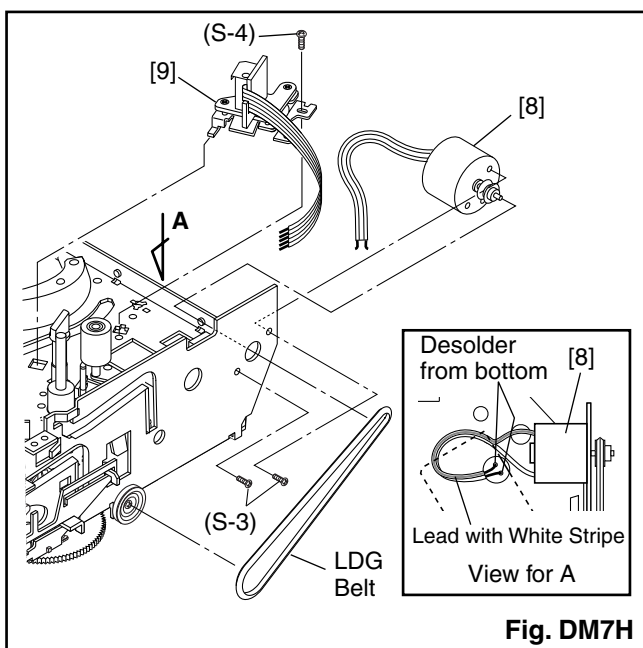
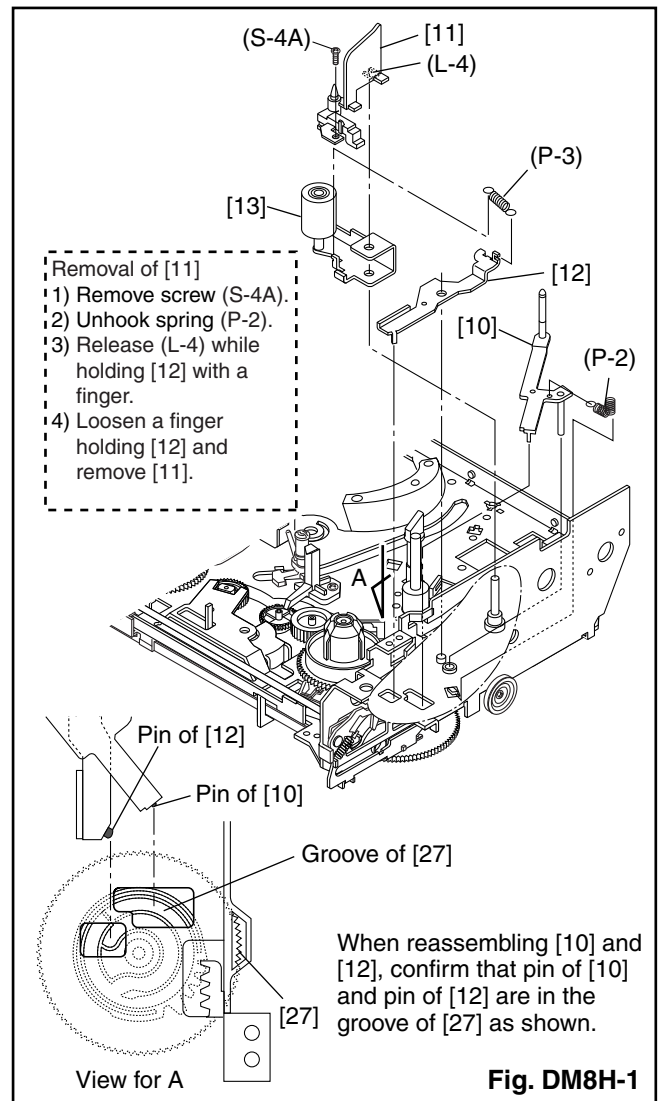
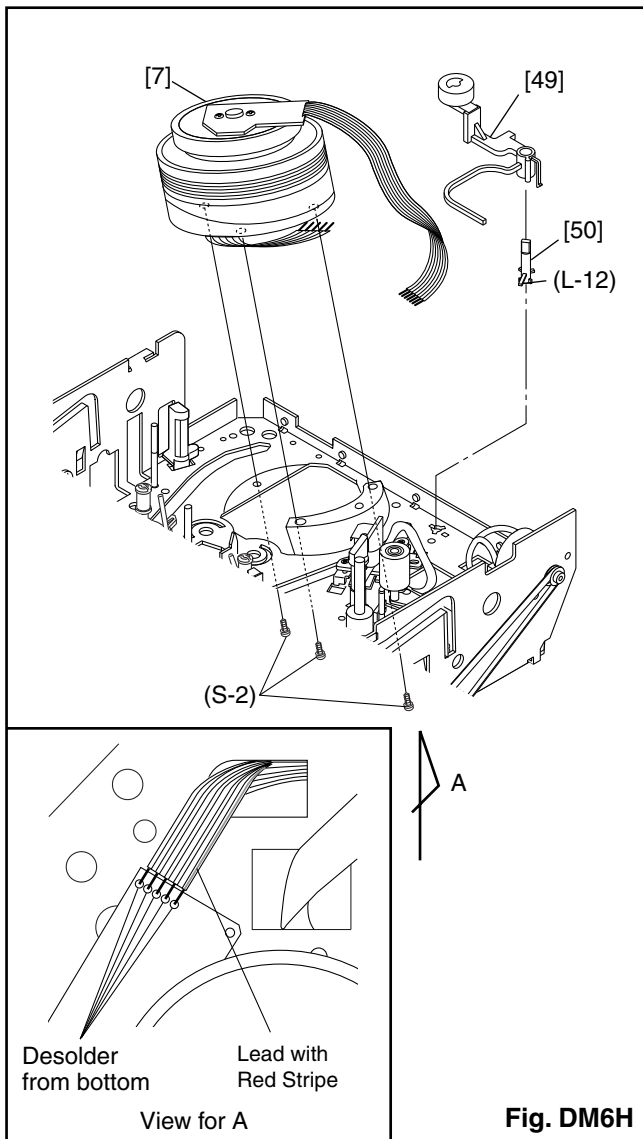


Fig. DM5H





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.)

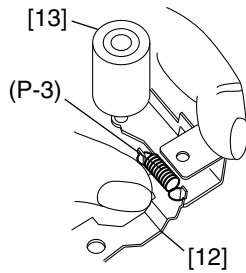


Fig. A

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

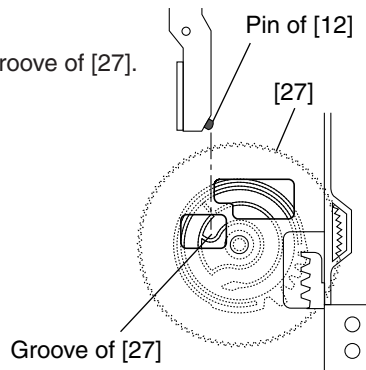


Fig. B (Top view)

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.)

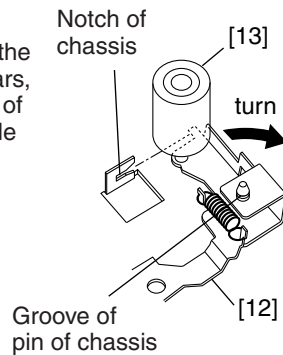


Fig. C

Install [11] and [10] while holding [12]. (Refer to Fig. DM8H-1.)

Fig. DM8H-2

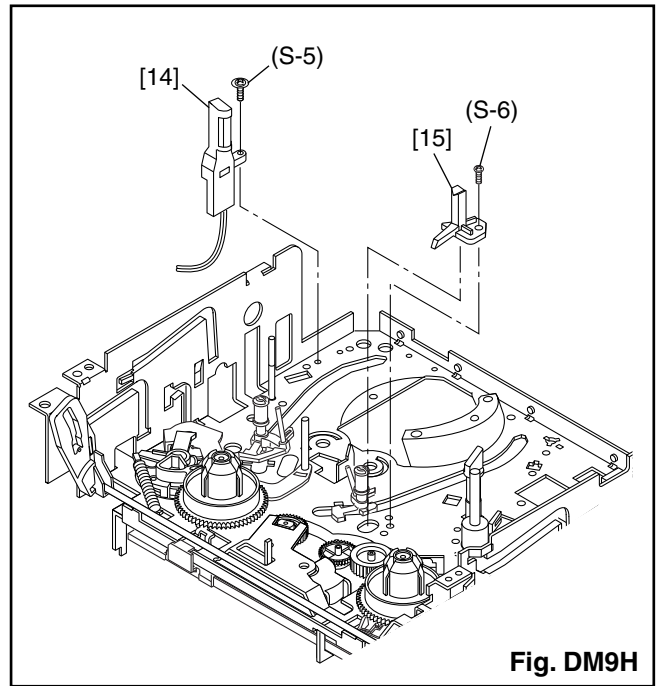


Fig. DM9H

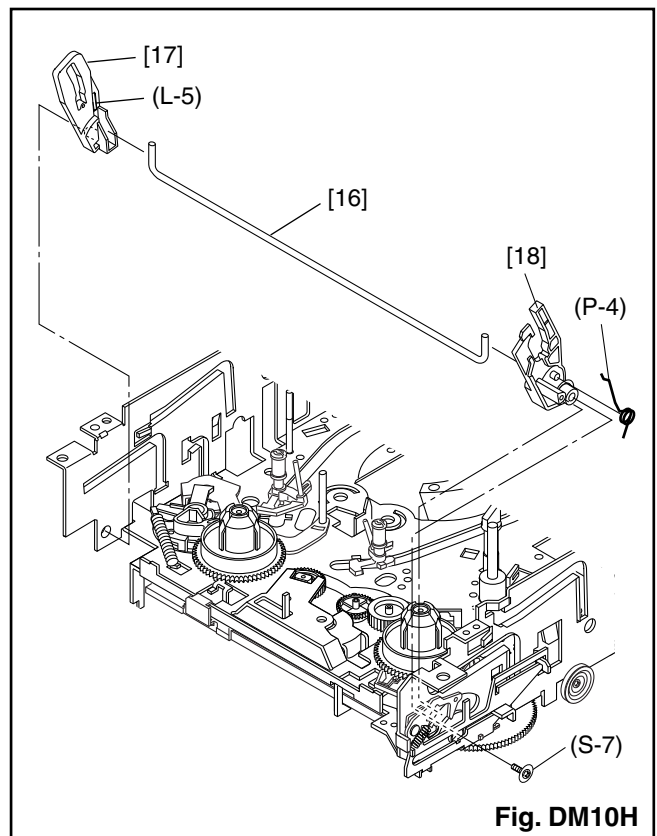
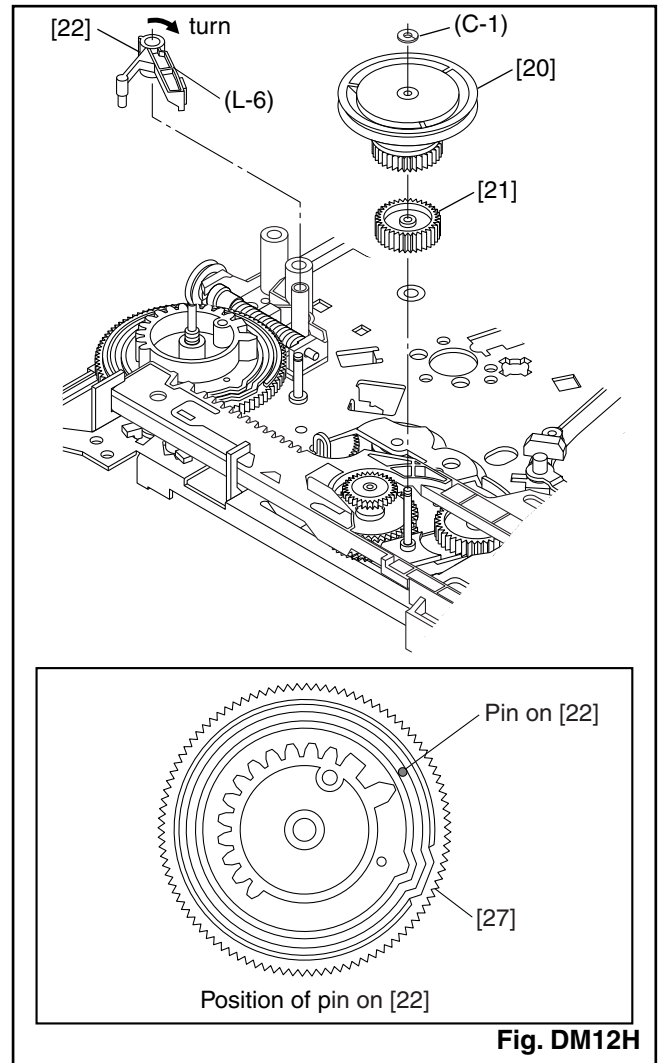
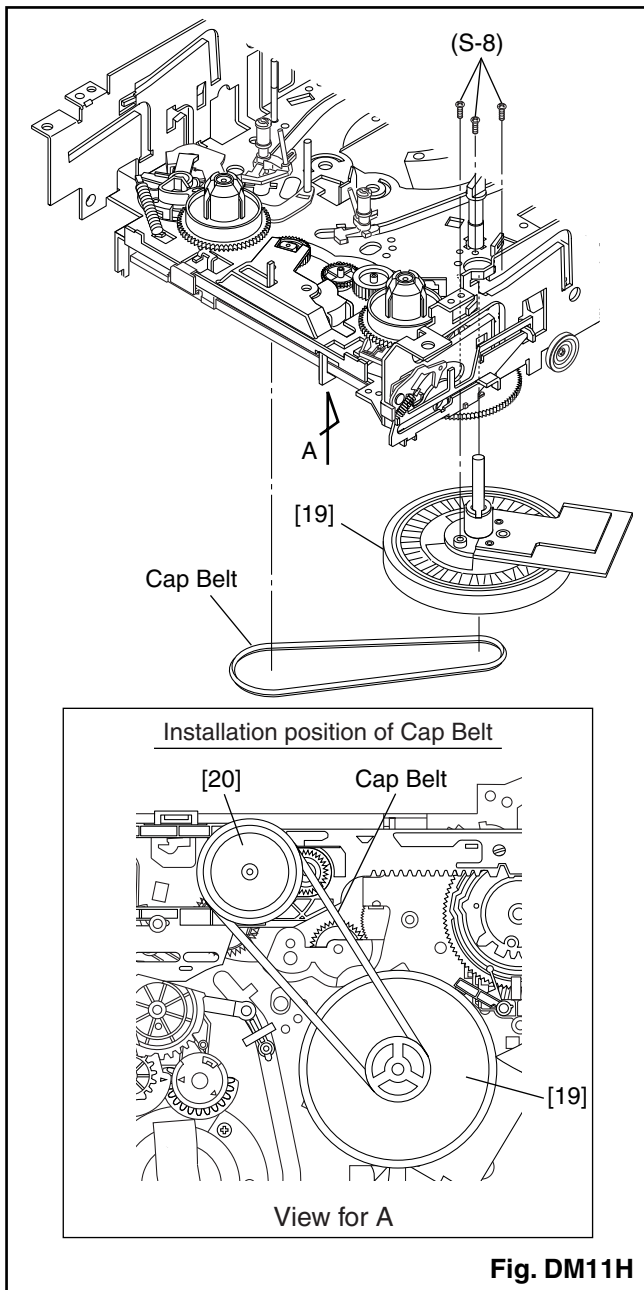
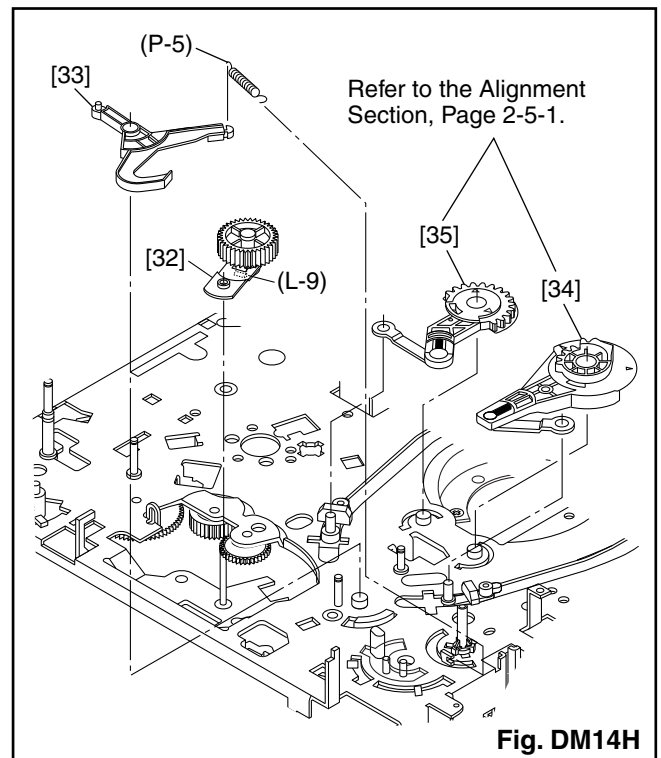
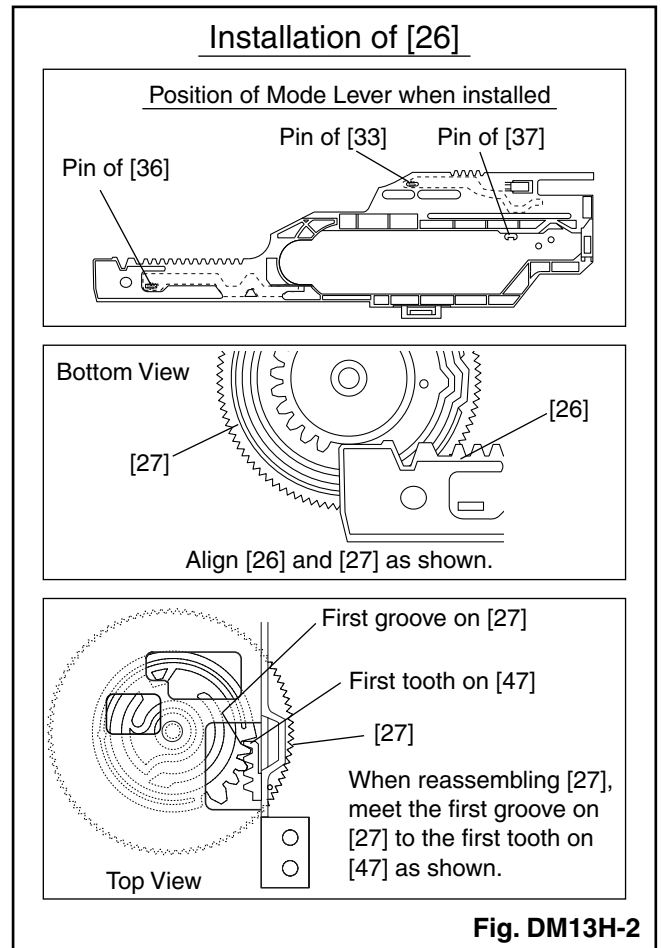
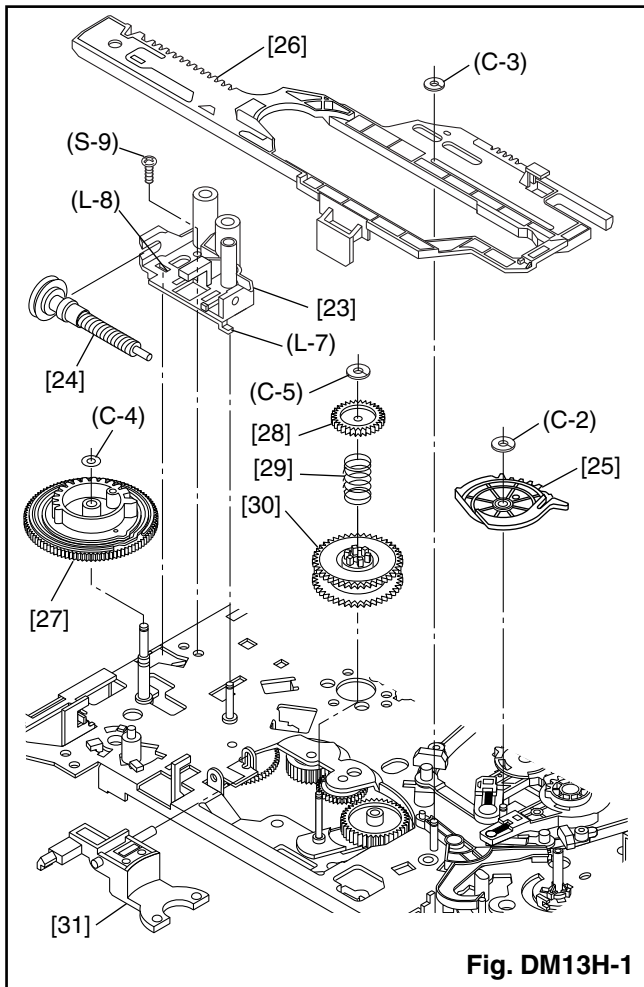
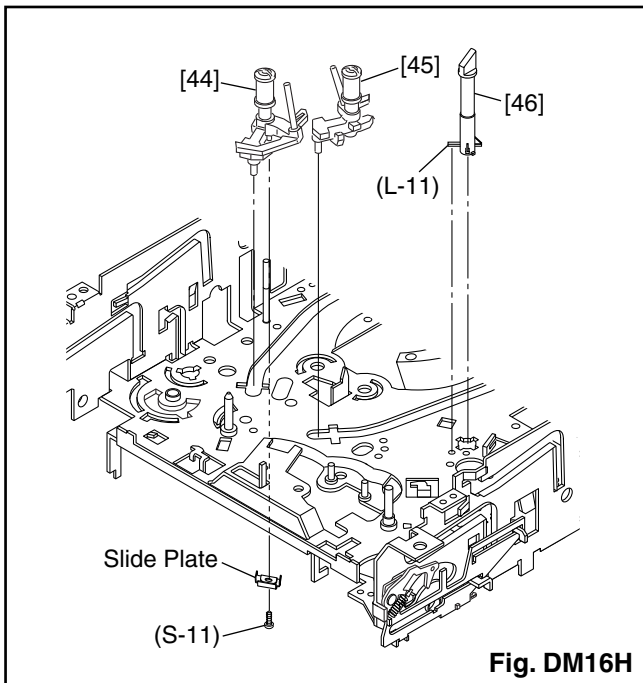
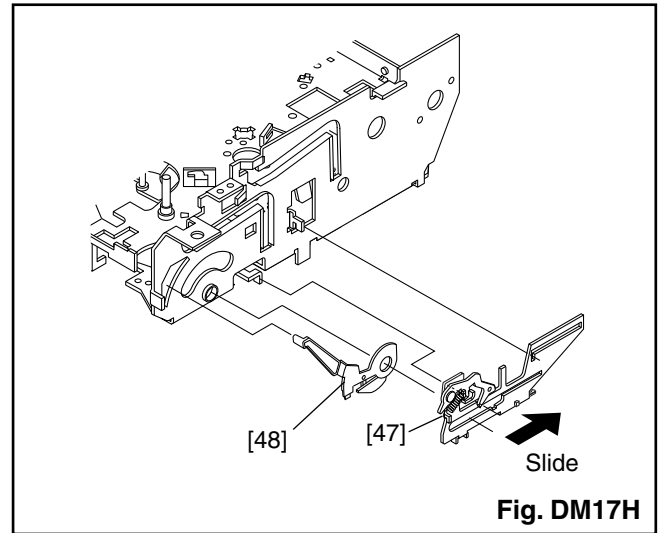
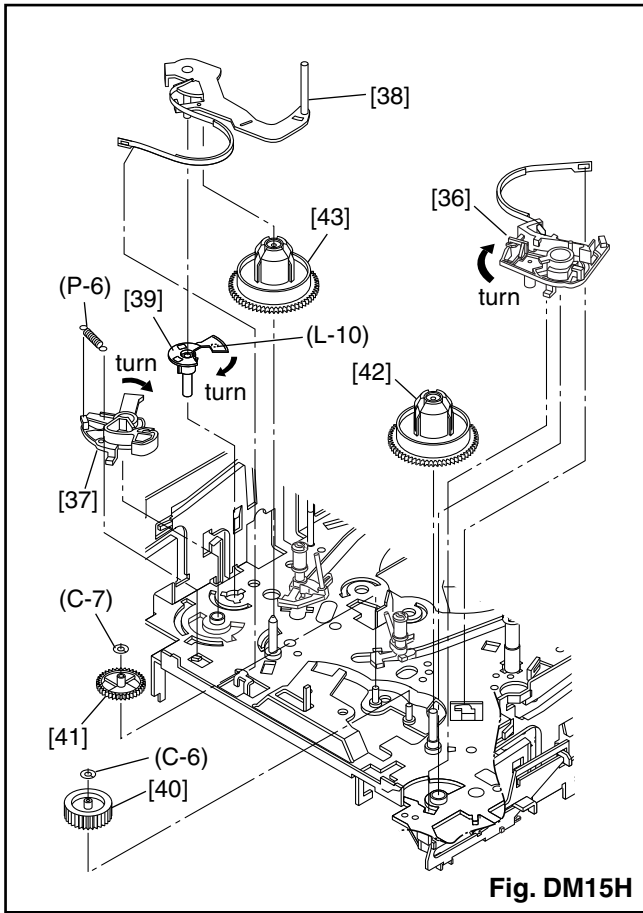


Fig. DM10H







ALIGNMENT PROCEDURES OF MECHANISM

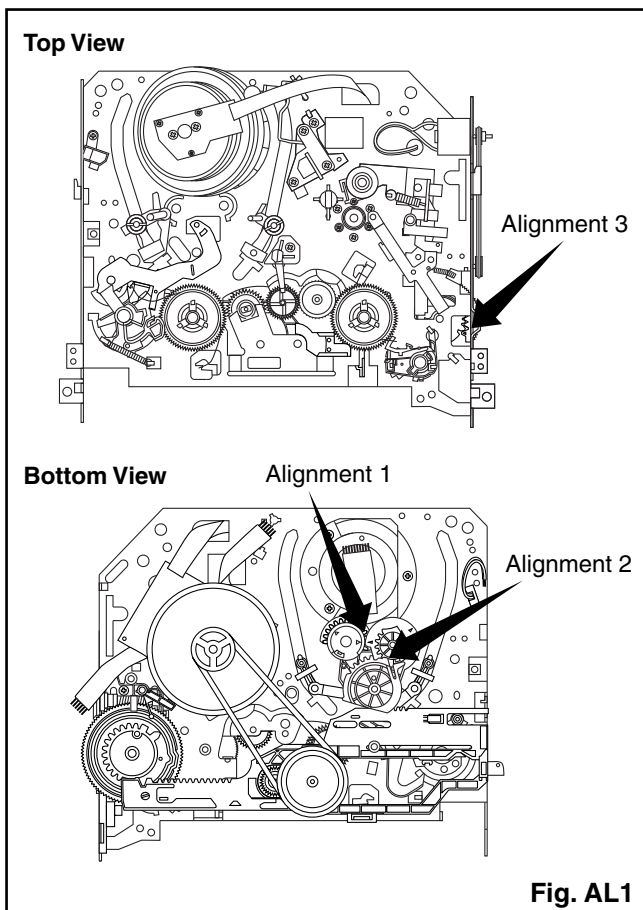
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between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

Alignment points in Eject Position



Alignment 1

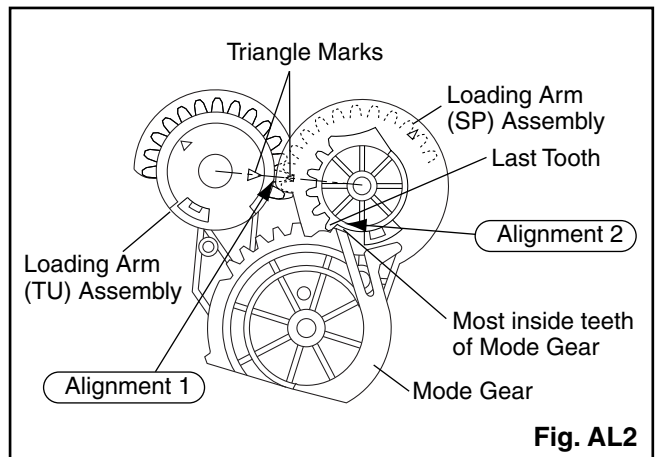
Loading Arm (SP) and (TU) Assembly

Install Loading Arm (SP) and (TU) Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Mode Gear

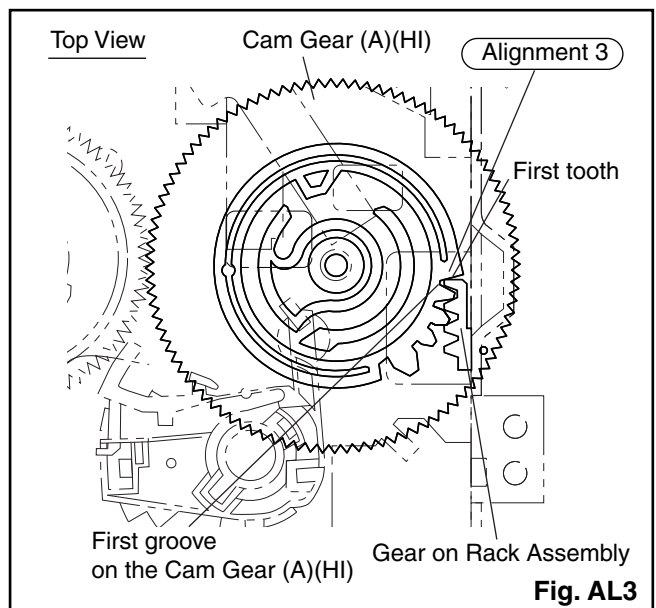
Keeping the two triangles pointing at each other, install the Loading Arm (SP) Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.



Alignment 3

Cam Gear (A) (HI), Rack Assembly

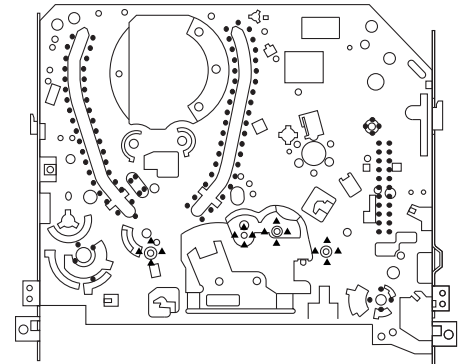
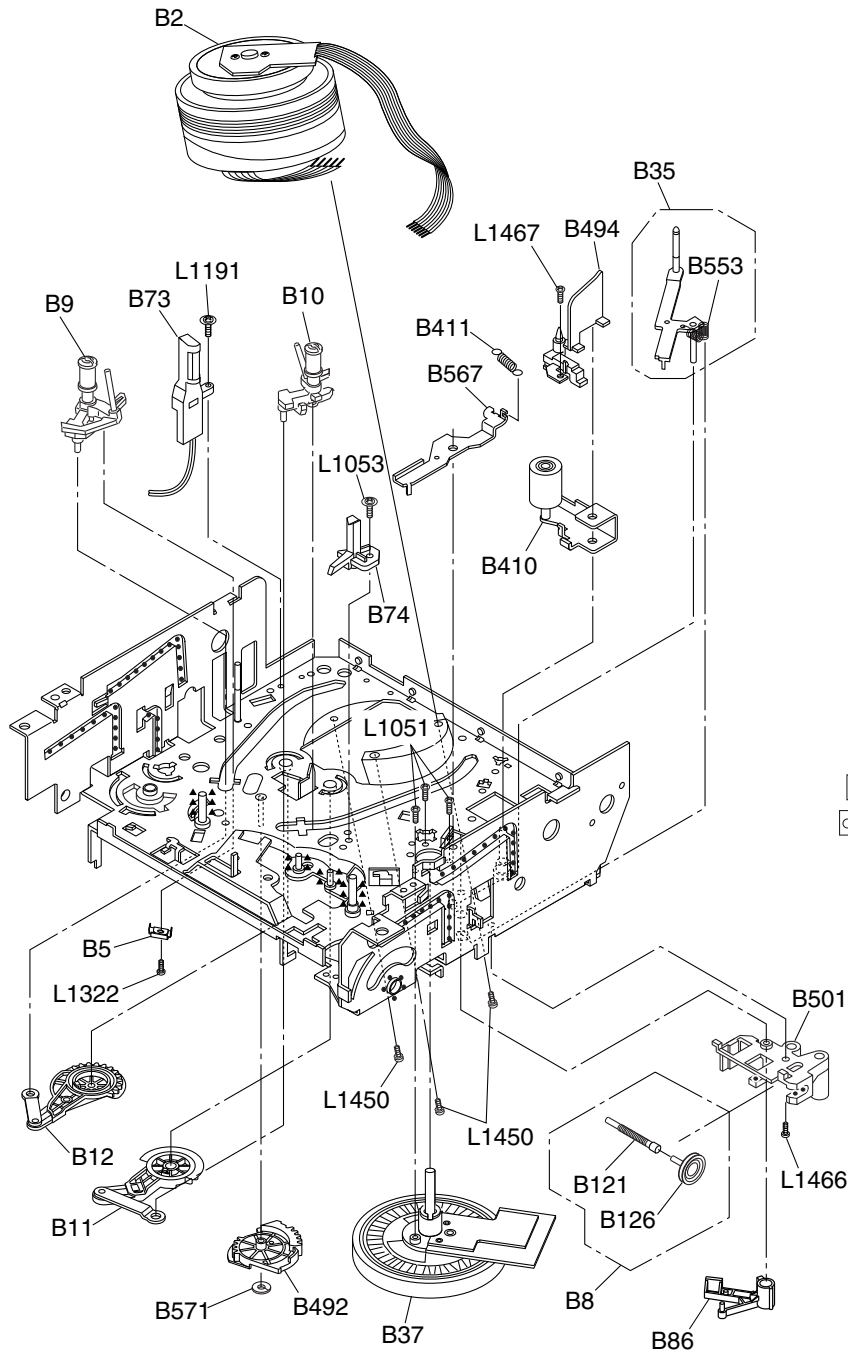
Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) (HI) as shown in Fig. AL3.



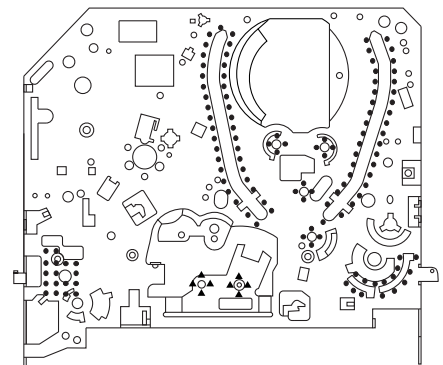
DECK EXPLODED VIEWS

Deck Mechanism View 1

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



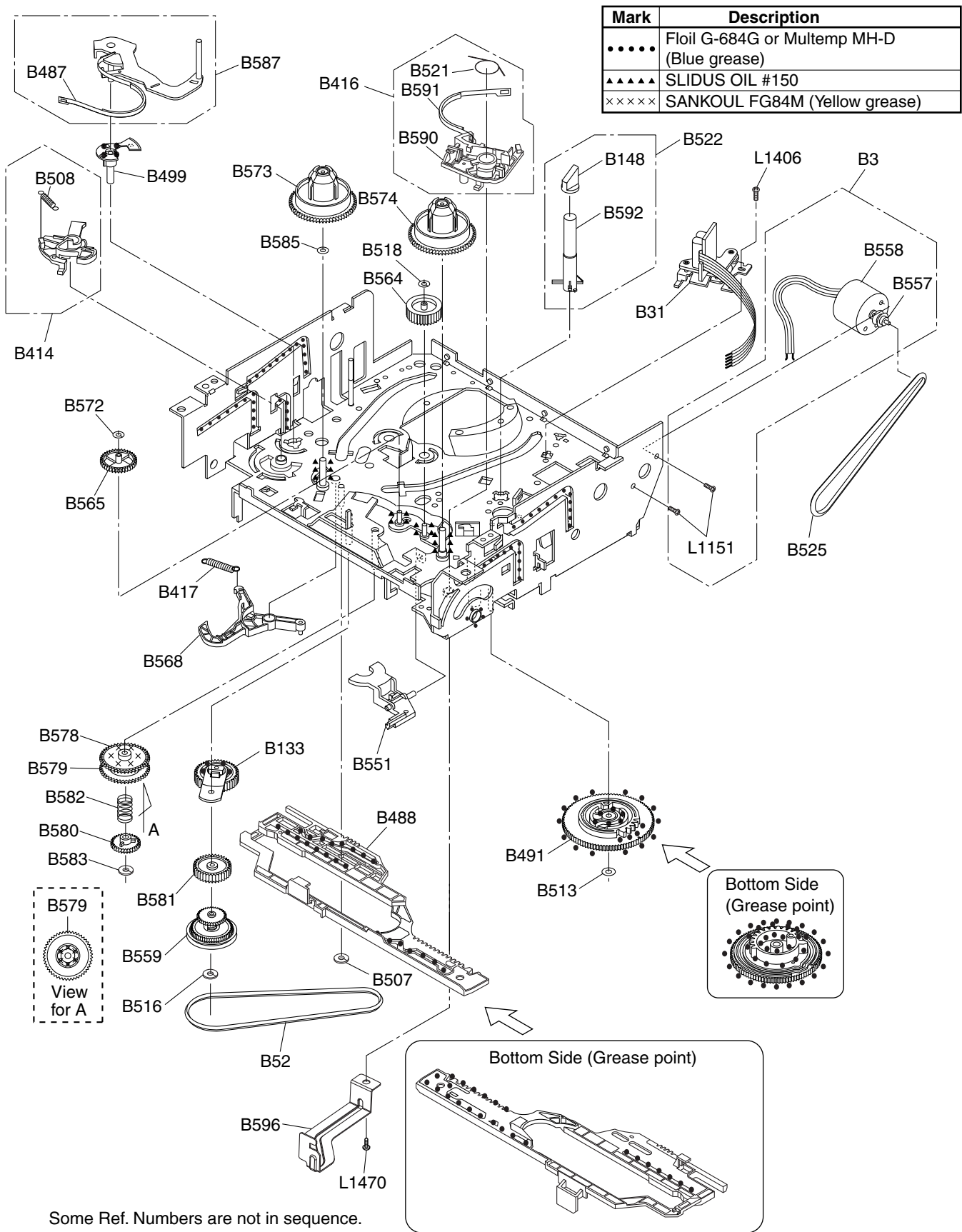
Chassis Assembly
Top View (Lubricating Point)



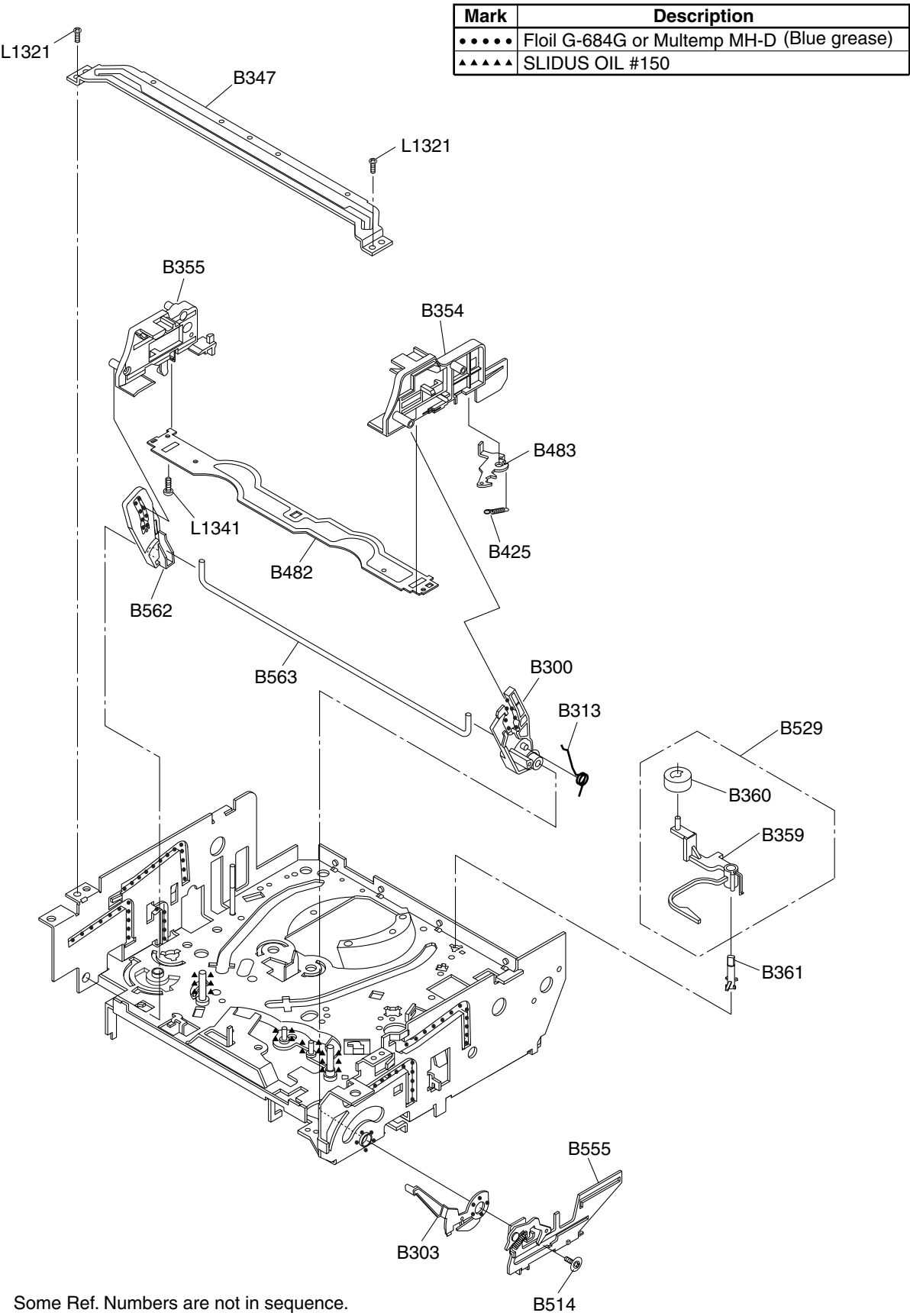
Chassis Assembly
Bottom View (Lubricating Point)

Some Ref. Numbers are not in sequence.

Deck Mechanism View 2



Deck Mechanism View 3



DECK PARTS LIST

△	Location No.	TSB P/N	Reference No.	Description
	B2	P000468620	1VSA14761	CYLINDER ASSEMBLY(N236C) MK14 PAL 6HD
	B3	P000468180	1VSA12912	LOADING MOTOR ASSEMBLY MK14
	B5	P000467990	0VM416429	SLIDE PLATE MK12.5
	B8	P000483640	0VSA13501	PULLEY ASSEMBLY(HI) MK12
	B9	P000468130	1VSA12887	MOVING GUIDE S PP MK12.5
	B10	P000468120	1VSA12886	MOVING GUIDE T PP MK12.5
	B11	P000468100	1VSA12880	LOADING ARM(TU) ASSEMBLY MK12
	B12	P000468090	1VSA12879	LOADING ARM(SP) ASSEMBLY MK12
	B31	P000468140	1VSA12888	AC HEAD ASSEMBLY MK12.5
	B35	P000468150	1VSA12889	TAPE GUIDE ARM ASSEMBLY MK12.5
	B37	P000468630	1VSA14833	CAPSTAN MOTOR HI(N9688) 288VCZC1301
	B52	P000467850	0VM411138	CAP BELT MK10
	B73	P000468190	DHVEC01AL007	FE HEAD(MK12) HVFHP0047A
	B74	P000467540	0VM202870	PRISM MK10
	B86	P000468010	0VSA13447	F BRAKE ASSEMBLY(HI) MK12
	B121	P000467900	0VM414091	WORM MK12
	B126	P000467940	0VM414330B	PULLEY MK12
	B133	P000468170	1VSA12903	IDLER ASSEMBLY(HI) MK12
	B148	P000467780	0VM407664C	TG CAP MK6
	B300	P000467610	0VM203773	C DRIVE LEVER(TU) MK12
	B303	P000467570	0VM203751C	F DOOR OPENER MK12
	B313	P000467920	0VM414145	C DRIVE SPRING MK12
	B347	P000467650	0VM304920	GUIDE HOLDER A MK10
	B354	P000467500	0VM101172F	SLIDER(TU) MK12
	B355	P000480670	0VM101182Q	SLIDER(SP) MK12
	B359	P000467630	0VM304413	CLEANER LEVER MK10
	B360	P000467800	0VM410032C	CLEANER ROLLER MK9
	B361	P000467840	0VM411114	CL POST MK10
	B410	P000480760	1VSA15385	PINCH ARM(A) ASSEMBLY MK12
	B411	P000467950	0VM414644	PINCH SPRING MK12
	B414	P000468030	0VSA13655	M BRAKE(SP) ASSEMBLY(HI) MK12
	B416		0VSA13449	M BRAKE(TU) ASSEMBLY(HI) MK12
	B417	P000480690	0VM414221H	TENSION SPG(3002645) MK12.5
	B425	P000467830	0VM411110	LOCK LEVER SPRING MK10
	B482	P000468040	1VM220271	CASSETTE PLATE
	B483	P000467910	0VM414095	LOCK LEVER MK12
	B487	P000468050	1VM320582	BAND BRAKE(SP) MK12.5
	B488	P000480680	0VM101352W	MODE LEVER(HI) MK12.5
	B491	P000467510	0VM101176G	CAM GEAR(A)(HI) MK12
	B492	P000467620	0VM204236	MODE GEAR(LM) MK12
	B494	P000467670	0VM305719	C DOOR OPENER MK12
	B499	P000467700	0VM305729C	T LEVER HOLDER MK12
	B501	P000467590	0VM203767	WORM HOLDER MK12
	B507	P000467810	0VM410058	REEL WASHER MK9 5*2.1*0.5
	B508	P000467970	0VM414899	S BRAKE SPRING(HI) MK12
	B513	P000467770	0VM402629A	P.S.W F 6*2.55*0.5
	B514		0VM411535B	SCREW RACK MK14
	B516	P000467810	0VM410058	REEL WASHER MK9 5*2.1*0.5
	B518	P000467790	0VM408485A	P.S.W CUT 1.6X4.0X0.5T
	B521	P000467980	0VM414943	REV BRAKE SPG(HI) MK12
	B522		0VSA11012	TG POST ASSEMBLY MK10
	B525	P000467880	0VM412804	LDG BELT MK11
	B529		0VSA11161	CLEANER ASSEMBLY MK10
	B551	P000467760	0VM306183	FF ARM(HI) MK12
	B553	P000467870	0VM412555	REV SPRING MK11
	B555	P000468070	1VSA11842	RACK ASSEMBLY MK14
	B557	P000483630	0VM403205A	MOTOR PULLEY U5

△	Location No.	TSB P/N	Reference No.	Description
	B558	P000483820	MMDZB12MF003	LOADING MOTOR RF-500TB-12560
	B559	P000468020	0VSA13450	CLUTCH ASSEMBLY(HI) MK12
	B562	P000467600	0VM203772	C DRIVE LEVER(SP) MK12
	B563	P000467740	0VM305762B	SLIDER SHAFT MK12
	B564	P000467720	0VM305755	M GEAR(HI) MK12
	B565	P000467730	0VM305756	SENSOR GEAR(HI) MK12
	B567	P000468160	1VSA12890	PINCH ARM(B) ASSEMBLY MK12.5
	B568	P000467690	0VM305728	BT ARM MK12
	B571	P000467790	0VM408485A	P.S.W CUT 1.6X4.0X0.5T
	B572	P000467790	0VM408485A	P.S.W CUT 1.6X4.0X0.5T
	B573	P000467560	0VM203436	REEL S MK11
	B574	P000467550	0VM202872C	REEL T MK10
	B578	P000467640	0VM304440	TR GEAR A MK10
	B579	P000467750	0VM305900	TR GEAR B MK12
	B580	P000467710	0VM305743A	TR GEAR C MK12
	B581	P000467660	0VM305081	CENTER GEAR MK11
	B582	P000467860	0VM411187C	TR GEAR SPRING MK10
	B583	P000467960	0VM414741	CAM WASHER MK12
	B585	P000467890	0VM413663	PSW(317505) MK11
	B587	P000468080	1VSA12878	TENSION LEVER ASSEMBLY MK12
	B590	P000467580	0VM203752E	BRAKE ARM(TU) MK12
	B591	P000467680	0VM305724C	BAND BRAKE(TU) MK12
	B592	P000467820	0VM411108E	TG POST MK10
	B596		1VM424704	HOLDER ML SHARP HI-SPEED
	L1051		GPJB9060	SCREW B-TIGHT M2.6X6 PAN HEAD+
	L1053		GCJS9080	SCREW S-TIGHT M2.6X8 WASHER HEAD+
	L1151		CPJ39040	SCREW SEMS M2.6X4 PAN HEAD+
	L1191		GCJS9080	SCREW S-TIGHT M2.6X8 WASHER HEAD+
	L1321		GBJS3060	SCREW S-TIGHT M3X6 BIND HEAD+
	L1322		GBJBY040	SCREW B-TIGHT M2.3X4 BIND HEAD+
	L1341		GPJP2060	SCREW P-TIGHT M2X6 PAN HEAD+
	L1406		0VM410964A	AC HEAD SCREW MK14
	L1450		CPJ39050	SCREW SEMS M2.6X5 PAN HEAD+
	L1466		GBJS9060	SCREW S-TIGHT M2.6X6 BIND HEAD+
	L1467		SCJ39050	SCREW M2.6X5 WASHER HEAD+
	L1470		GBJS9040	SCREW S-TIGHT M2.6X4 BIND HEAD+

Appendix: RD-XV47KE, RD-XV47KB, RD-XV47KF

REVISION HISTORY

REV	Date	Reason for Change
1	07/31/07	Changed Parts List due to add the TSB P/N for LED, Location No. D555

TOSHIBA CORPORATION

1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN