

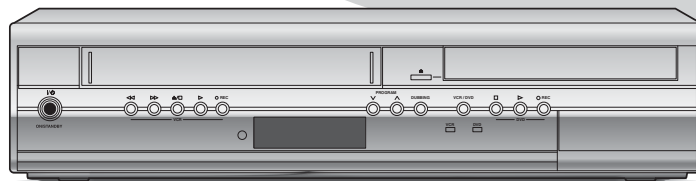
TOSHIBA

FILE NO. 810-200741GR

SERVICE MANUAL



DVD Video Recorder /Video Cassette Recorder ***D-VR17KB***



The above model is classified as a green product (*1), as indicated by the underlined serial number. This Service Manual describes replacement parts for the green product. When repairing this green product, 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

DVD VIDEO RECORDER & VIDEO CASSETTE RECORDER

D-VR17KB

Main Section

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

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SPECIFICATIONS

General

- System
DVD-Video, DVD-RW/R, DVD+RW/R, CD-DA, CD-RW/R,
Video Cassette Tape
- VCR Video Heads
Four heads
- Power requirements
220–240V ~ ± 10%, 50Hz ± 0.5%
- Power consumption
35W (standby: 5.0W)
- Weight
4.3kg
- Dimensions (width x height x depth)
435 x 99.5 x 260mm
- Operating temperature
5°C to 40°C
- Operating humidity
Less than 80% (no condensation)
- TV format
PAL-I

Recording

- Recording format
Video Recording (VR)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 : 13.5MHz
Compression format : MPEG
- Audio recording format
Sampling frequency : 48kHz
Compression format : Dolby Digital

Tuner

- Receivable channels
IRA - E69

Input/Output

Front Panel : (AV3)

- Video input
One RCA connector
Input level : 1Vp-p (75 Ω)
- S-Video input
One Mini DIN 4-pin jack
Input level : Y (luminance) 1Vp-p (75 Ω)
C (colour) 300mVp-p (75 Ω)
- Audio input
Two RCA connectors
Input level : 2Vrms (Input impedance: more than
10kΩ)

Rear Panel :

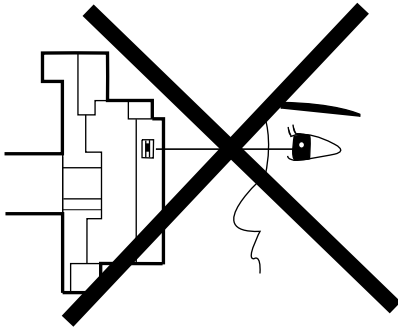
- VHF/UHF antenna input/output terminal
VHF/UHF set 75 Ω
- Audio input /output
Two 21-pin scart jack (AV1, AV2)
- Video input /output
Two 21-pin scart jack (AV1, AV2)
Input /output level : 1Vp-p (75 Ω) each
- S-Video output
One Mini DIN 4-pin jacks
Input /output level :
Y (luminance) 1Vp-p (75 Ω)
C (colour) 300mVp-p (75 Ω)
- Component video output
Three RCA connectors
Output level : Y: 1.0Vp-p (75 Ω)
P_B/C_B, P_R/C_R: 0.7Vp-p (75 Ω) each
- Audio output
Two RCA connectors
Output level : 2Vrms (Output impedance: 680 Ω)
- Digital audio output
One Coaxial pin jack
Output level : 500mVp-p (75 Ω)

Note

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

LASER BEAM SAFETY PRECAUTIONS

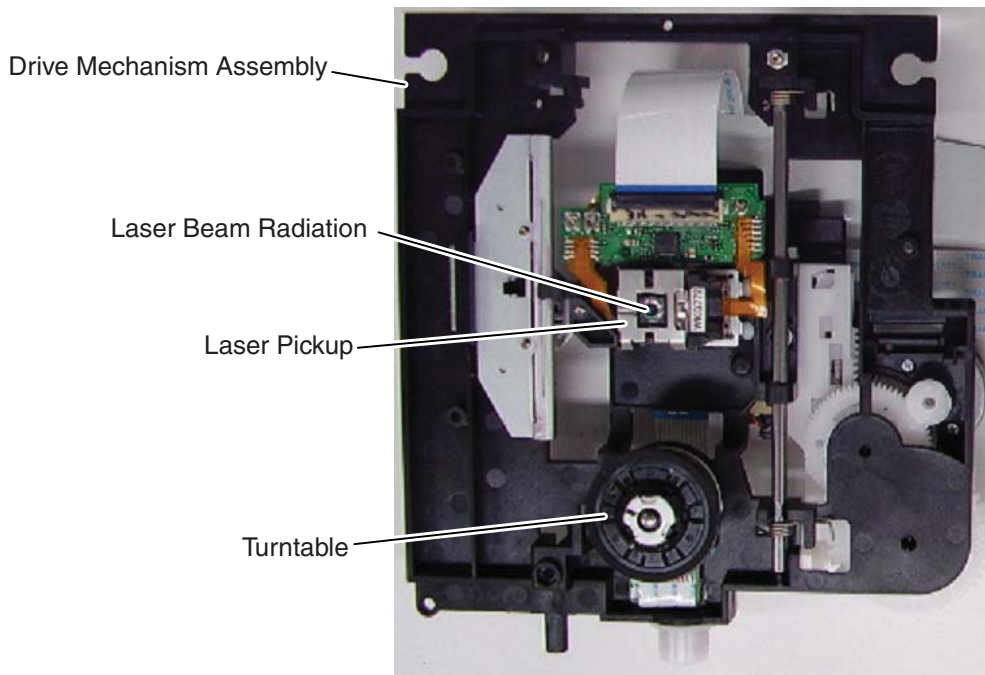
This DVD player uses a pickup that emits a laser beam.



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.

Precautions during Servicing

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

Safety Check after Servicing

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

1. Clearance Distance

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

Table 1 : Ratings for selected area

| AC Line Voltage | Clearance Distance (d), (d') |
|-----------------|---|
| 220 to 240 V | $\geq 3 \text{ mm}(d)$ $\geq 6 \text{ mm}(d')$ |

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.

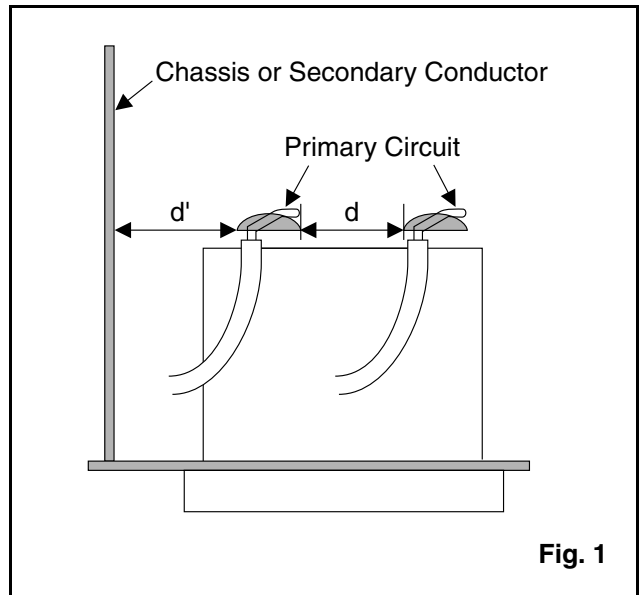


Fig. 1

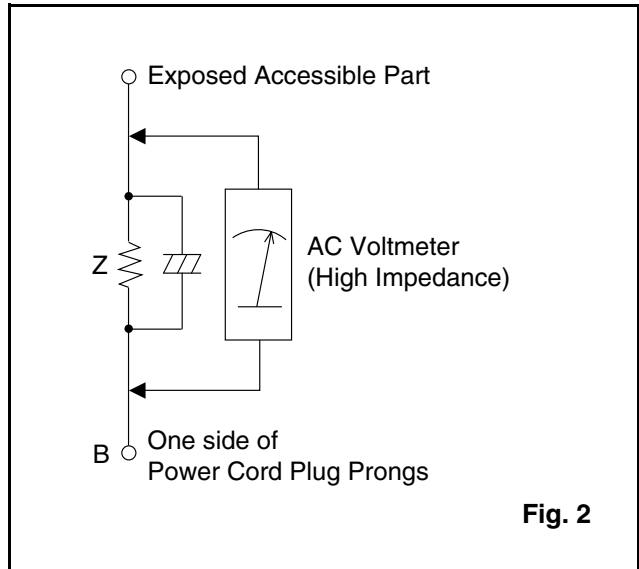


Fig. 2

Table 2: Leakage current ratings for selected areas

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

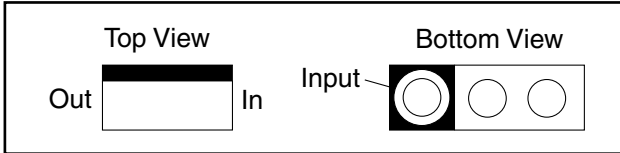
Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

STANDARD NOTES FOR SERVICING

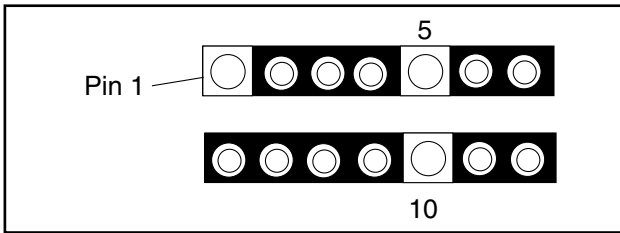
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

Circuit Board Indications

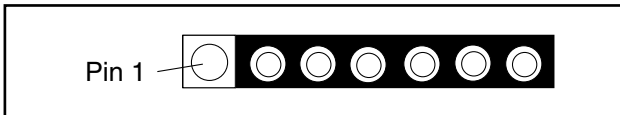
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

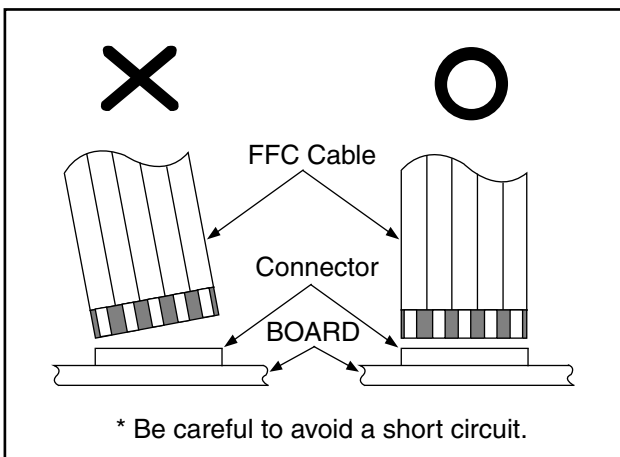


3. The 1st pin of every male connector is indicated as shown.



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

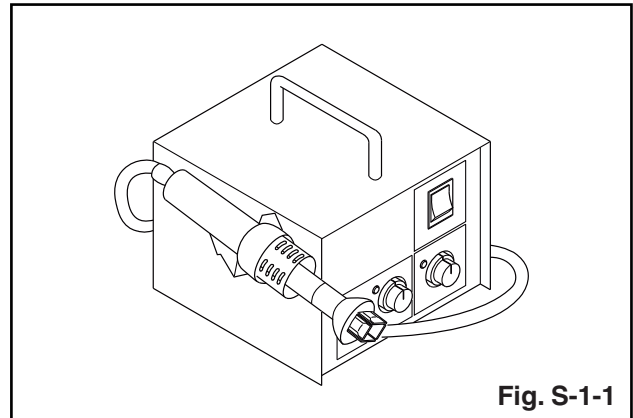
When soldering, be sure to use the Pb free solder.

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)

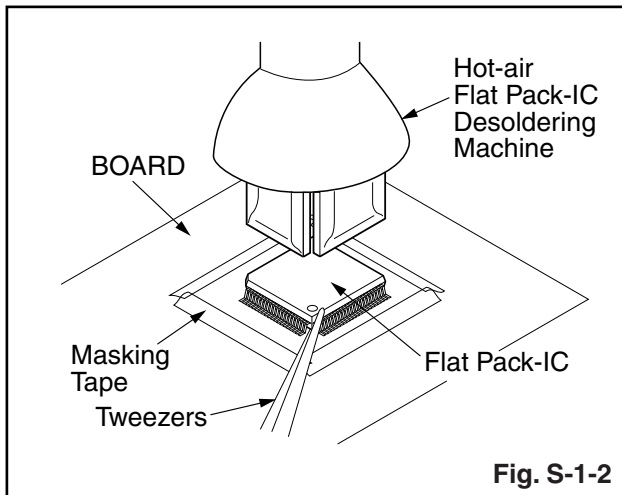


2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the BOARD; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat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

CAUTION:

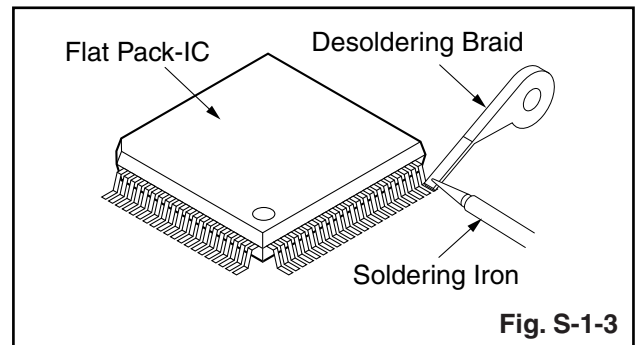
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape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

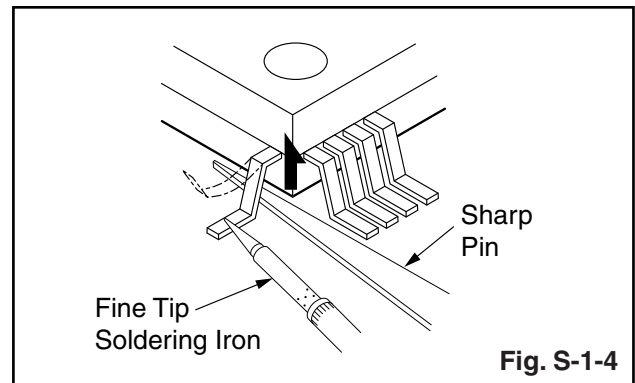


With Soldering Iron:

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)

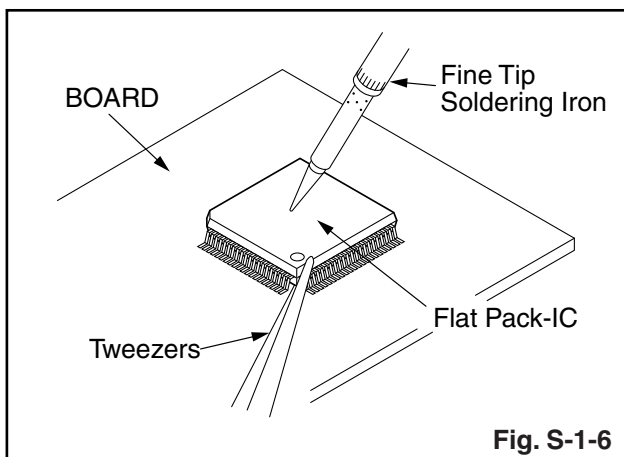
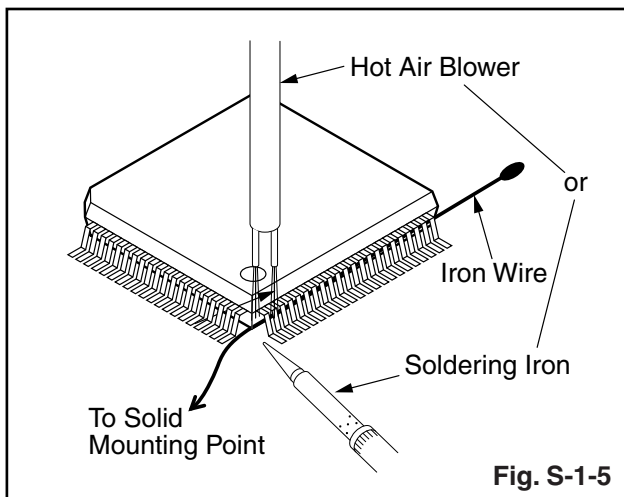


3. Bottom of the flat pack-IC is fixed with glue to the BOARD; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the BOARD using tweezers. (Fig. S-1-6)

With Iron Wire:

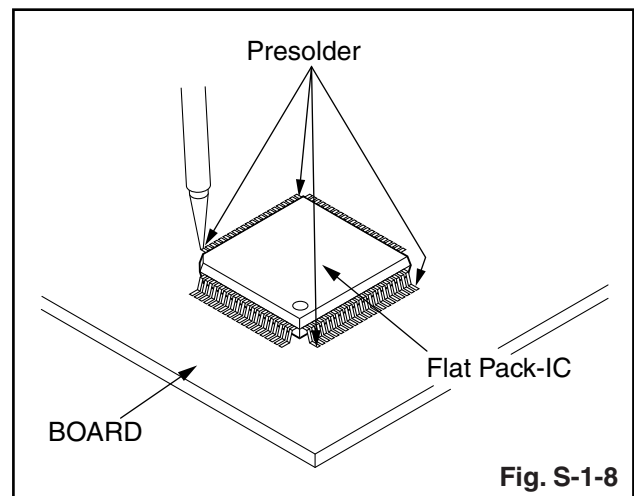
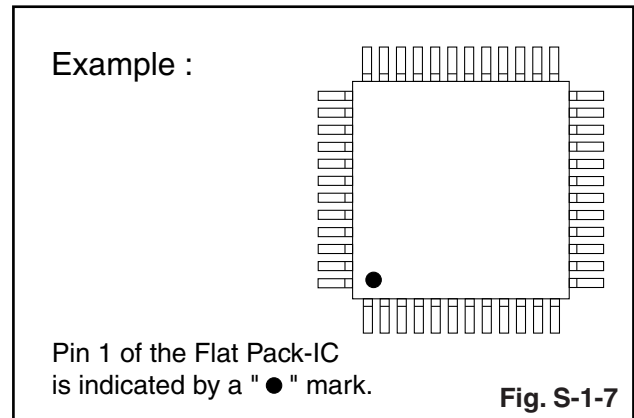
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins 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

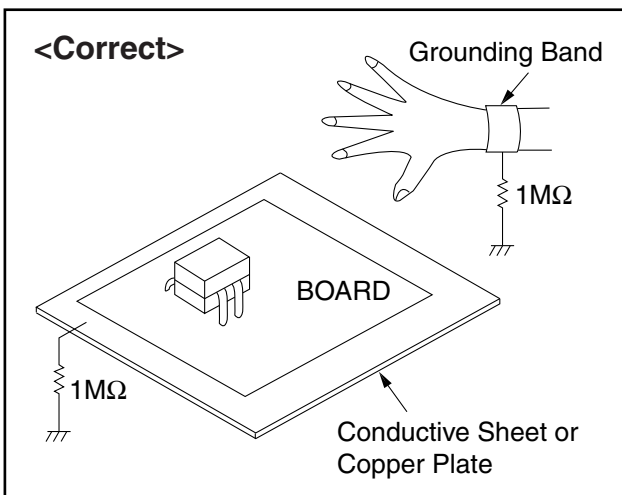
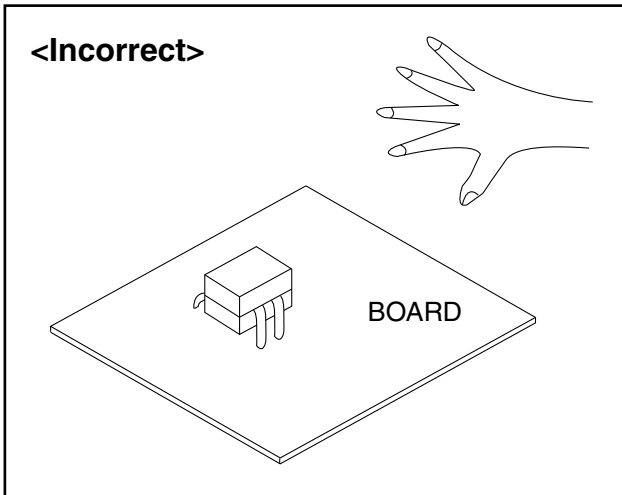
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band (1 M Ω) 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 M Ω) 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.



PREPARATION FOR SERVICING

How to Enter the Service Mode

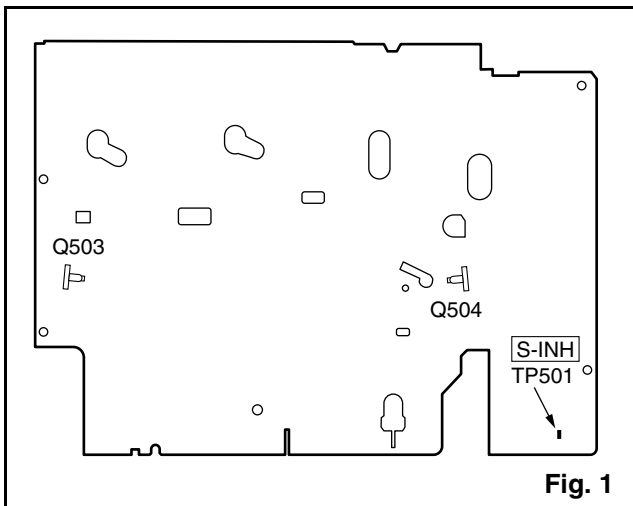
About Optical Sensors

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 the [▷] (VCR) button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect TP501 (S-INH) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.



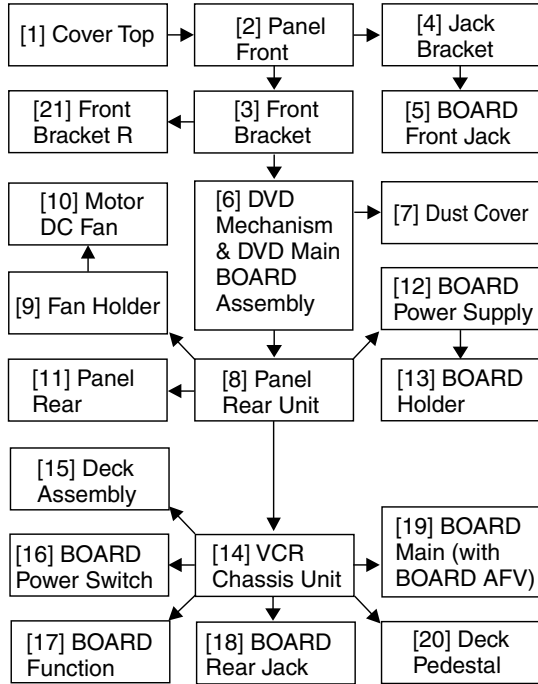
Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

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] | Panel Front | D2 | *5(L-1), *3(L-2), *CN1505 | 1 1-1 1-2 1-3 |
| [3] | Front Bracket | D2 | 2(S-2), 2(S-3) | --- |
| [4] | Jack Bracket | D3 | 2(S-4) | --- |
| [5] | BOARD Front Jack | D3 | Jack Plate Earth | --- |
| [6] | DVD Mechanism & DVD Main BOARD Assembly | D4 | 4(S-5), *CN101, *CN701 | --- |
| [7] | Dust Cover | D4 | ----- | --- |
| [8] | Panel Rear Unit | D5 | 3(S-6A), 2(S-6B), 3(S-7), (S-8), *CN1503 | --- |

| ID/ LOC. No. | PART | REMOVAL | | |
|--------------------|-----------------------------|-------------|--|--------|
| | | Fig. No. | REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER | Note |
| [9] | Fan Holder | D6 | 3(S-9) | --- |
| [10] | Motor DC Fan | D6 | ----- | --- |
| [11] | Panel Rear | D6 | ----- | --- |
| [12] | BOARD Power Supply | D7 | 4(S-10), *CN1504 | --- |
| [13] | BOARD Holder | D7 | 4(S-11) | --- |
| [14] | VCR Chassis Unit | D8 | 5(S-12), (S-13A), (S-13B), (S-13C), 3(S-14), (S-15), (S-16), PCB Washer | --- |
| [15] | Deck Assembly | D9 | (S-17), (S-18), Desolder | 2 3 |
| [16] | BOARD Power Switch | D9 | Desolder | --- |
| [17] | BOARD Function | D9 | Desolder | --- |
| [18] | BOARD Rear Jack | D9 | Desolder, Plate Earth | --- |
| [19] | BOARD Main (with BOARD AFV) | D9 | ----- | --- |
| [20] | Deck Pedestal | D10 | 7(S-19) | --- |
| [21] | Front Bracket R | D10 | (S-20) | --- |

(1) (2) (3) (4) (5)

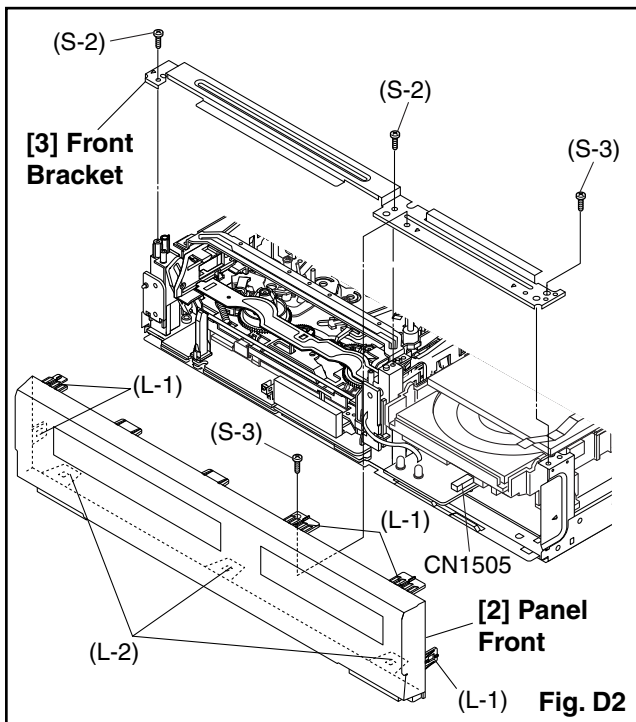
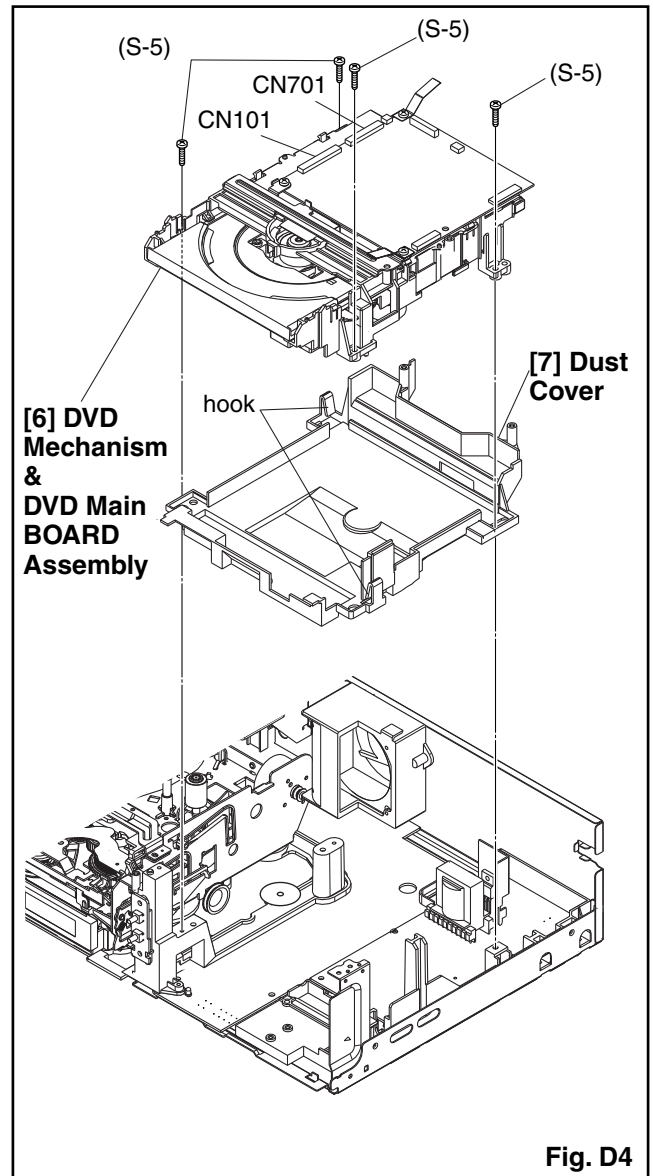
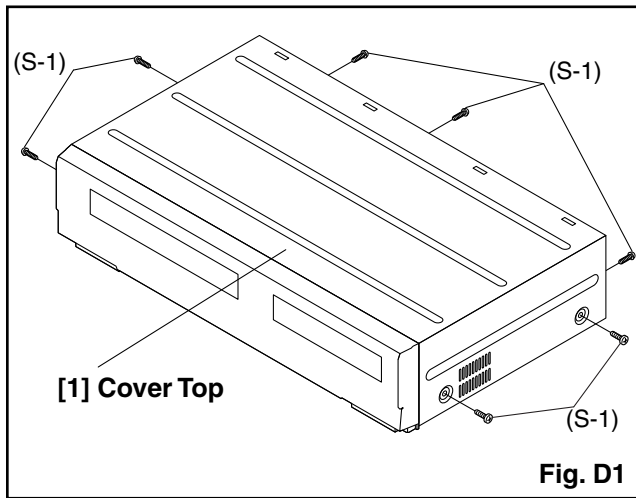
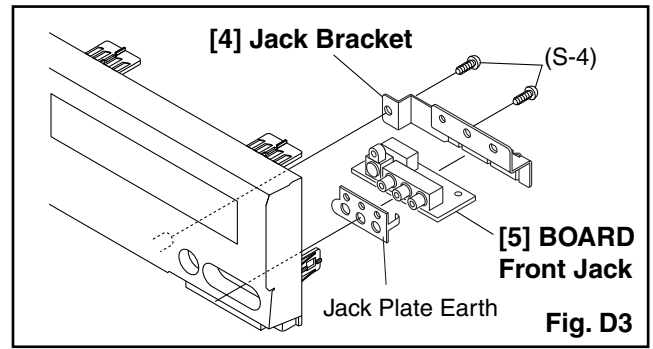
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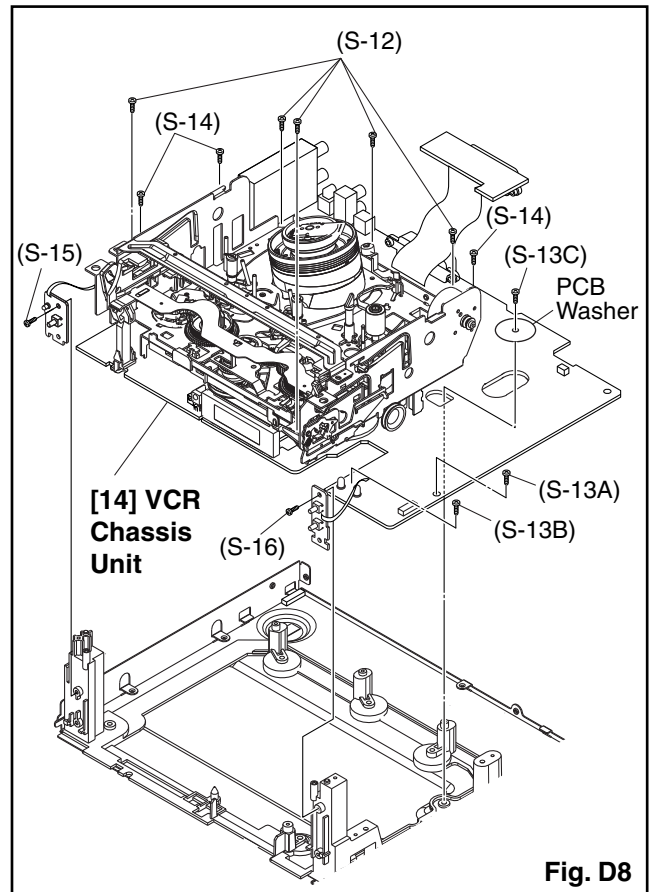
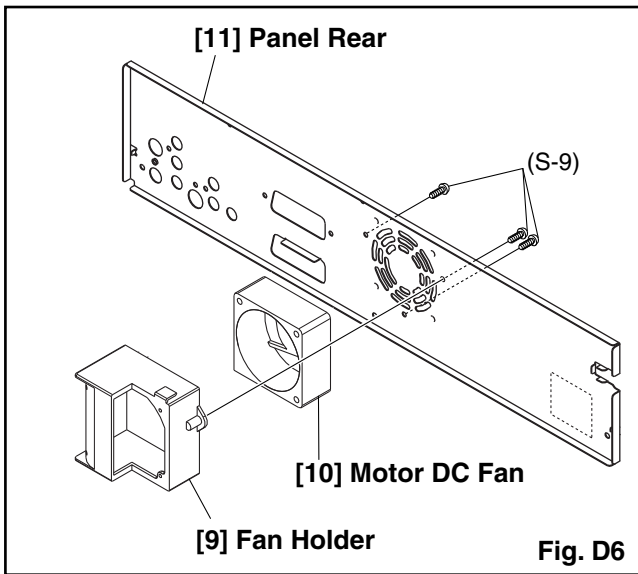
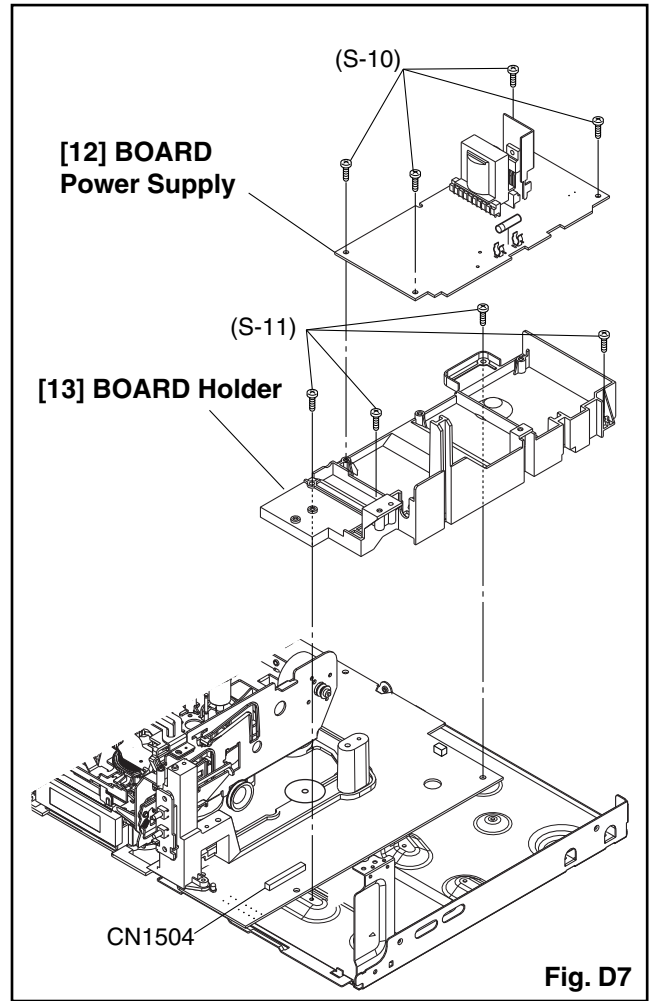
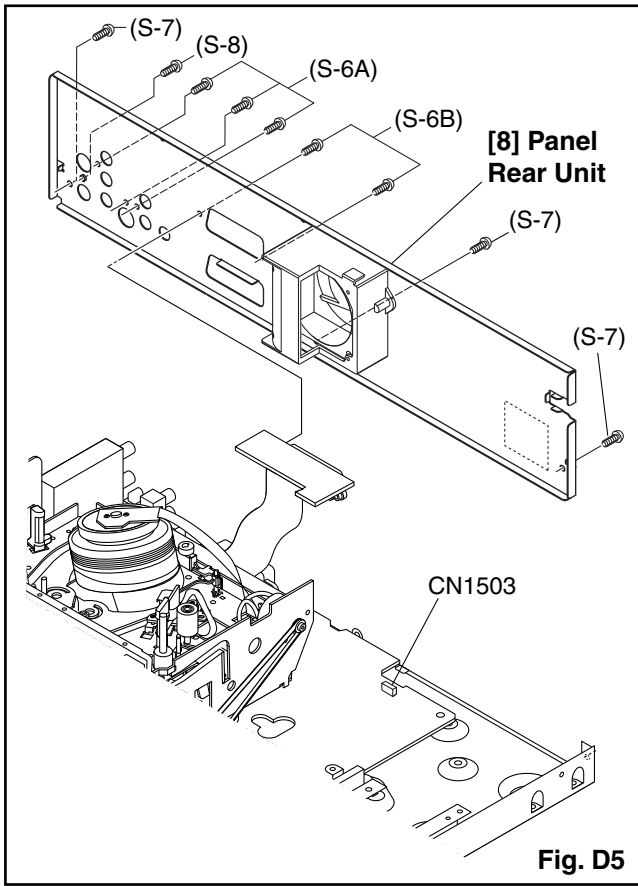
- (1): Identification (location) No. of parts in the figures
- (2): Name of the part
- (3): Figure Number for reference
- (4): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, L=Locking Tab, S=Screw,
CN=Connector
*=Unhook, Unlock, Release, 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

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

- 1-1. Release five Locking Tabs (L-1).
- 1-2. Release three Locking Tabs (L-2)
- 1-3. Disconnect Connector (CN1505), and remove the Panel Front.
2. When reassembling, solder wire jumpers as shown in Fig. D9.
3. Before installing the Deck Assembly, be sure to place the pin of LD-SW on BOARD Main as shown in Fig. D9. 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, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. D9.





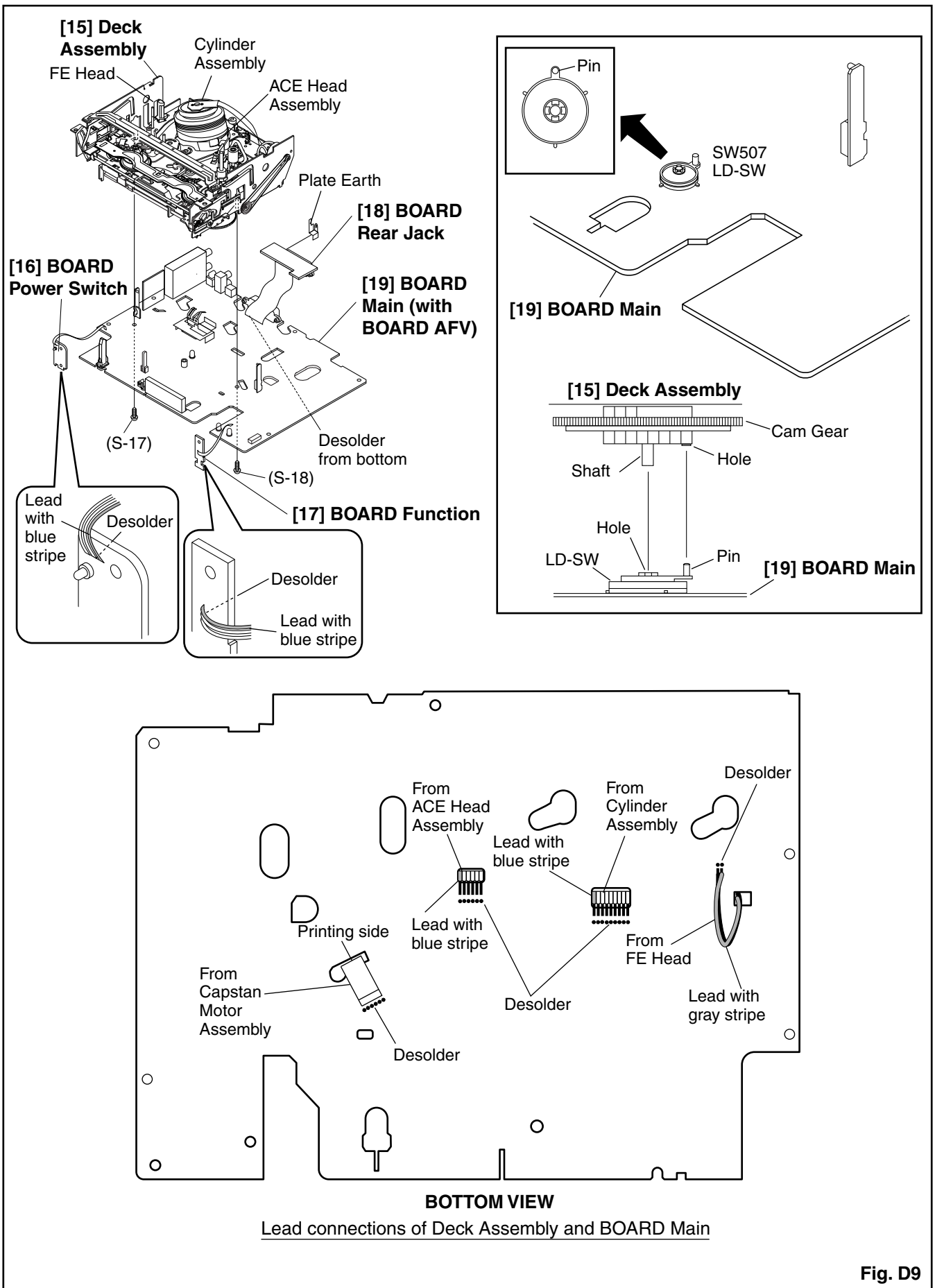
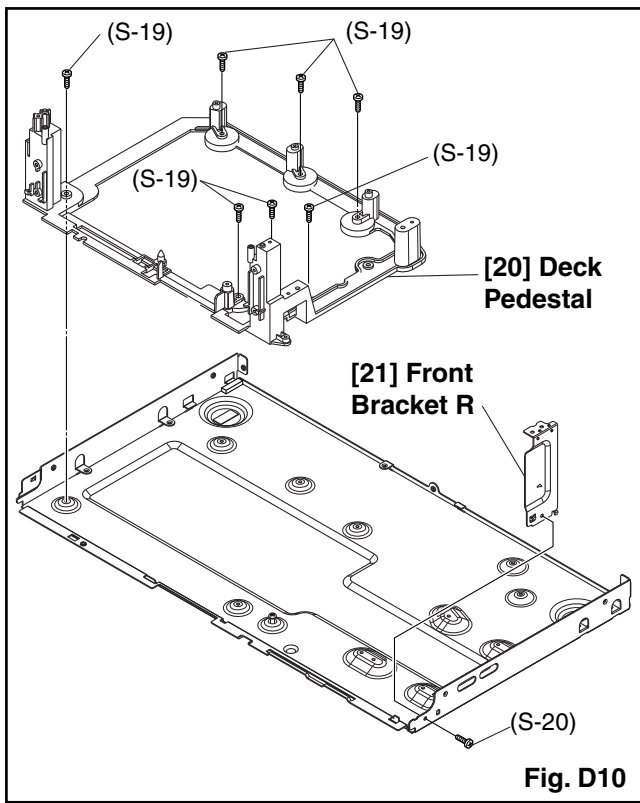


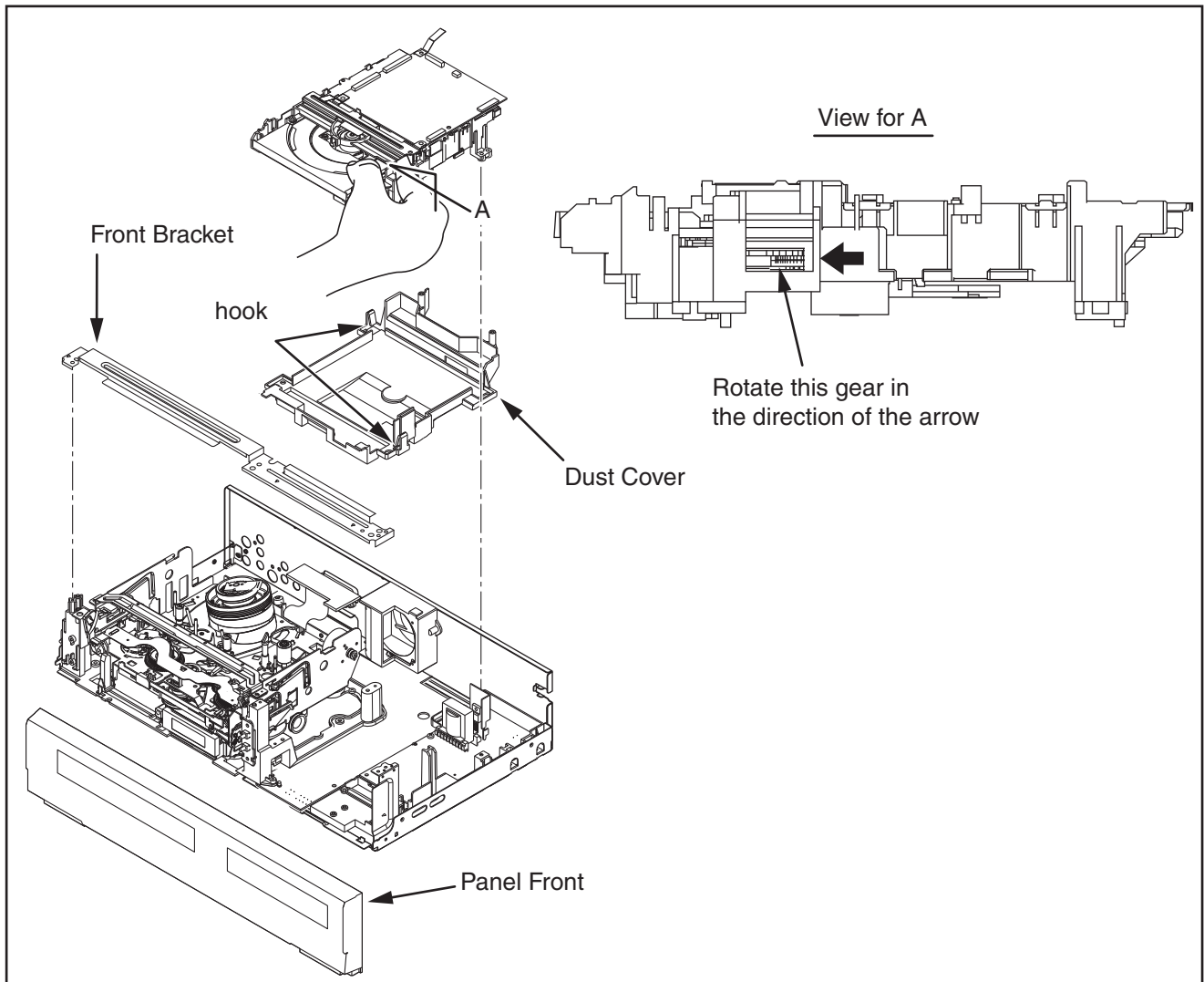
Fig. D9



3. How to Eject Manually

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

1. Remove the Cover Top.
2. Remove the Panel Front.
3. Remove the Front Bracket.
4. Remove the DVD Mechanism & DVD Main BOARD Assembly.
5. Unhook two places and detach the Dust Cover.
6. Rotate the gear in the direction of the arrow manually as shown below until the tray descends.
7. Pull the tray out manually and remove a disc.



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 ∇] 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)

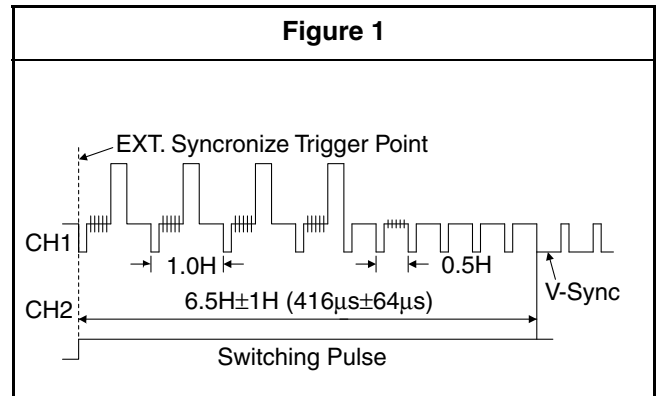
Head Switching Position Adjustment

Purpose:

To determine the Head Switching position during playback.

Symptom of Misadjustment:

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

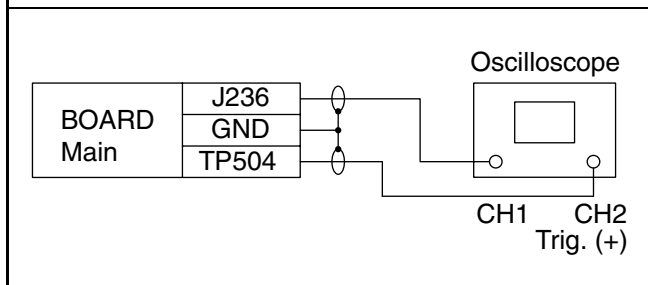


Reference Notes:

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

| Test point | Adj. Point | Mode | Input |
|--|--|---|-------|
| J236(JK1-V-OUT) TP504(RF-SW) GND | VR501 (Switching Point) (BOARD MAIN) | PLAY (SP) | ---- |
| Tape | Measurement Equipment | Spec. | |
| FL6A | Oscilloscope | $6.5H \pm 1H$ ($416\mu s \pm 64\mu s$) | |

Connections of Measurement Equipment



HOW TO INITIALIZE THE DVD RECORDER & VCR

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

< DVD Section >

1. Turn the DVD recorder on.
2. Confirm that no disc is loaded or that the disc tray is open. To put the DVD recorder into the Version display mode, press [DVD], [INSTANT SKIP], [1], [2], and [3] buttons on the remote control in that order.

Fig. a appears on the screen.

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

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

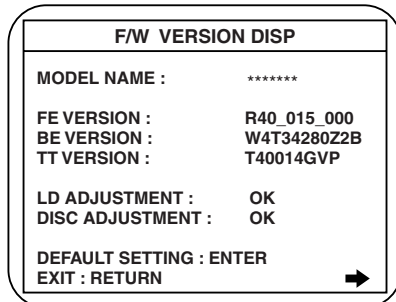


Fig. a Version Display Mode Screen

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

FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD recorder into version up mode, press [INSTANT SKIP], [6], [5], and [4] buttons on the remote control unit in the order. Then the tray will open automatically.
Fig. a appears on the screen and Fig. b appears on the VFD.

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

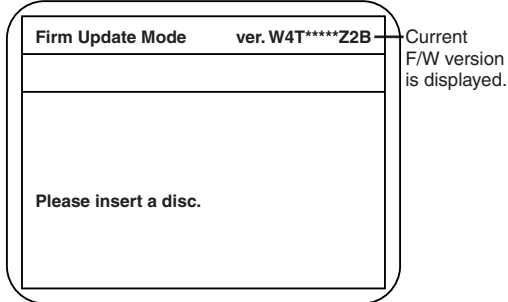


Fig. a Version Up Mode Screen

F - UP

Fig. b VFD in Version Up Mode

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

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

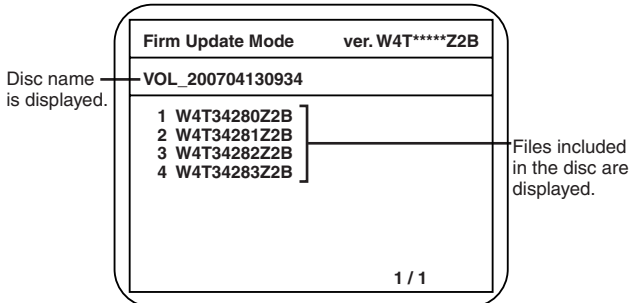


Fig. c Update Disc Screen

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

About VFD indication of Fig. e:

- 1) When Fig. d is displayed on the screen, "F-UP" is displayed on the VFD.
- 2) When "Firmware Updating... XX% Complete." is displayed on the screen, "34280" is displayed on the VFD.

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

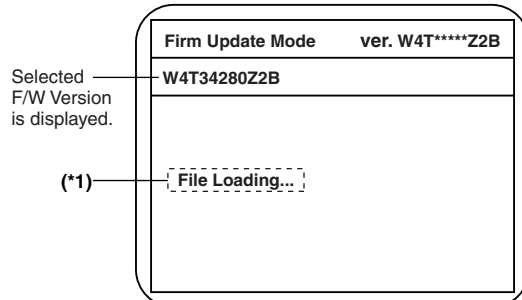


Fig. d Programming Mode Screen

34280

Fig. e VFD in Programming Mode (Example)

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

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

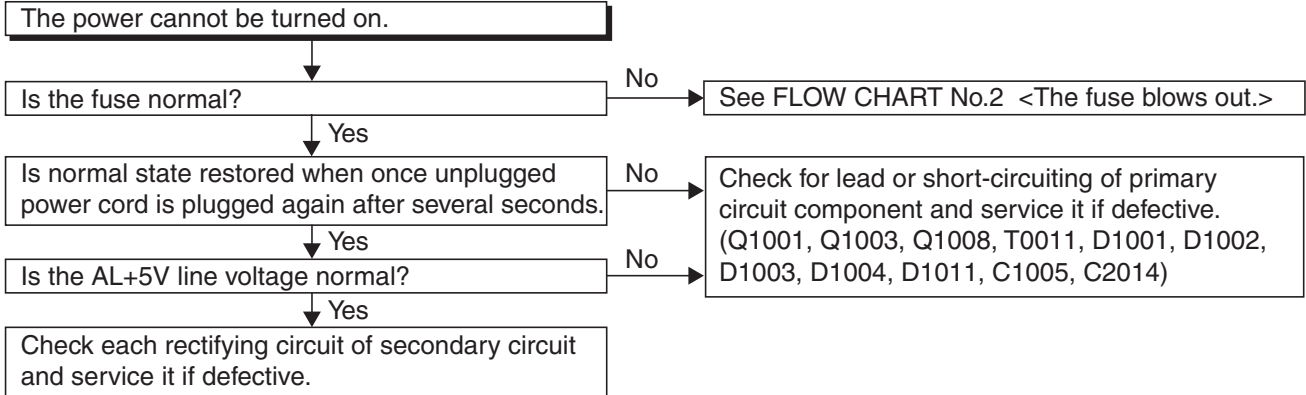
5. After updating is finished, the tray opens automatically.
At this time, no button is available.
6. Pull out the AC code once, then insert it again.

TROUBLESHOOTING

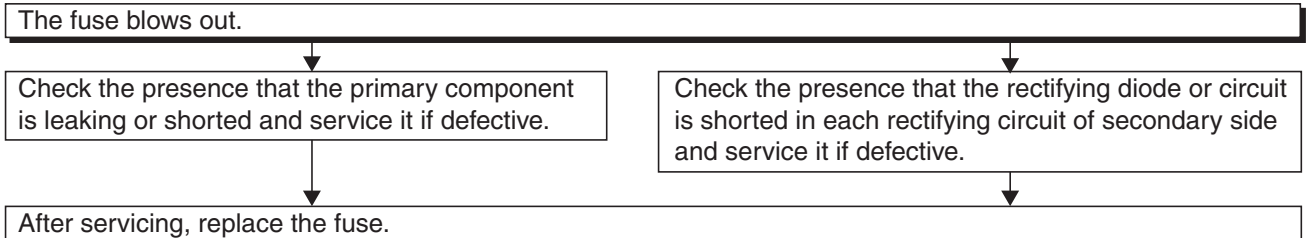
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

1 Power Supply Section

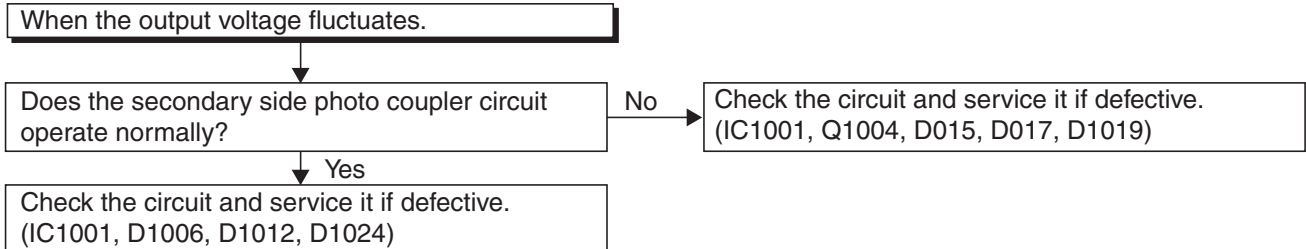
FLOW CHART NO.1



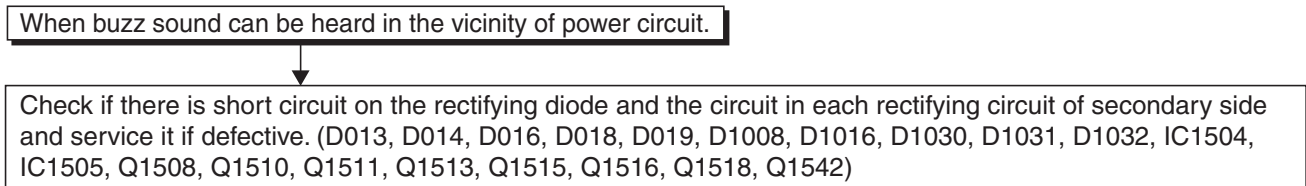
FLOW CHART NO.2



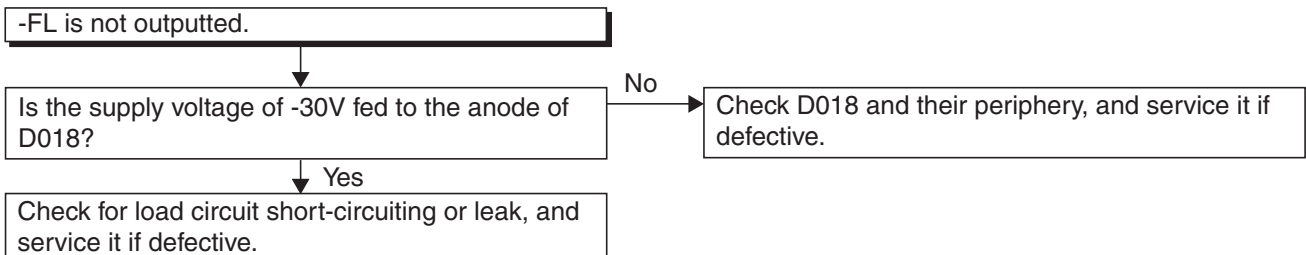
FLOW CHART NO.3



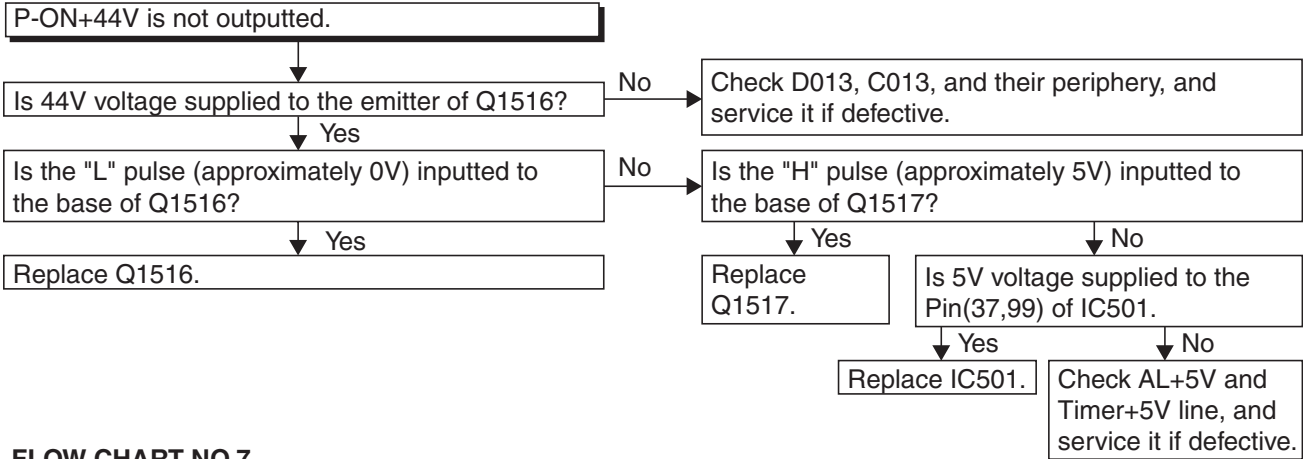
FLOW CHART NO.4



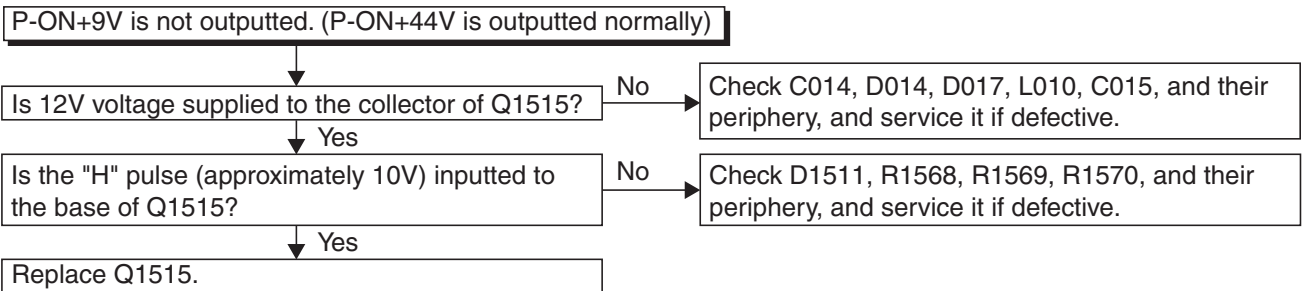
FLOW CHART NO.5



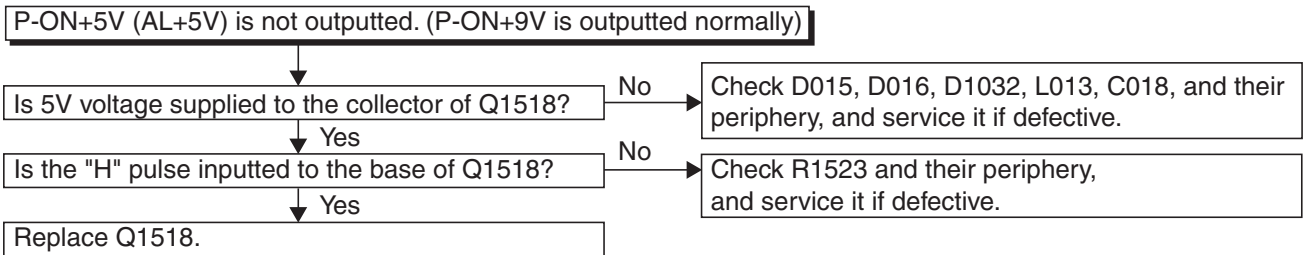
FLOW CHART NO.6



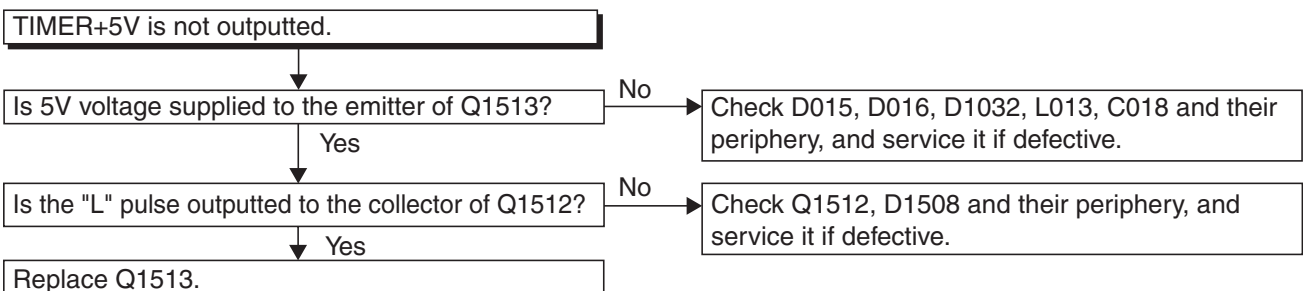
FLOW CHART NO.7



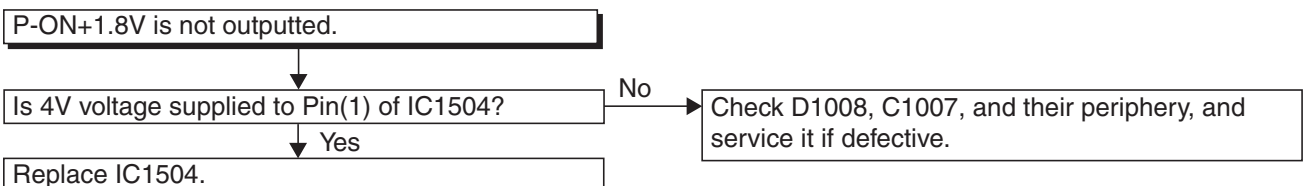
FLOW CHART NO.8



FLOW CHART NO.9

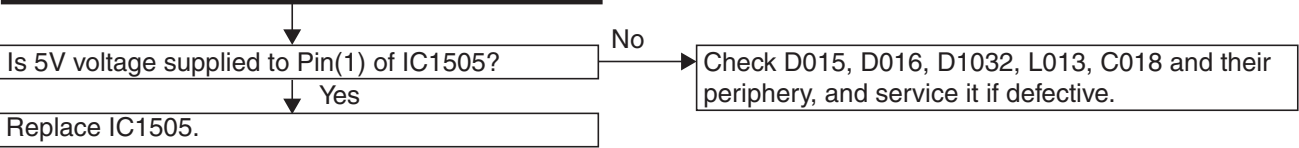


FLOW CHART NO.10



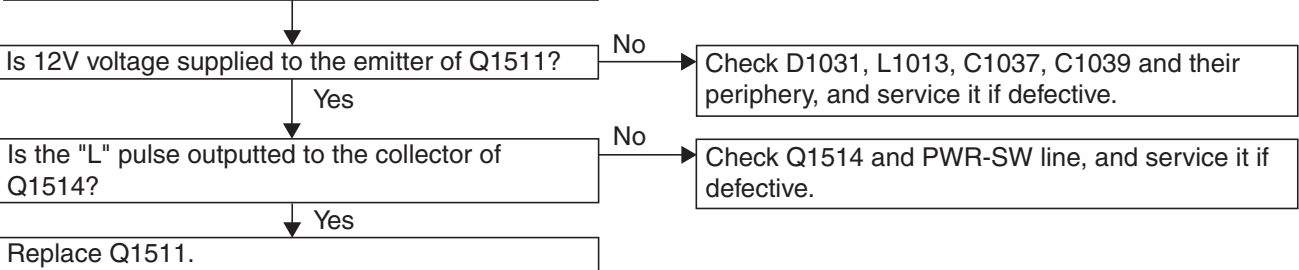
FLOW CHART NO.11

DVD-P-ON+3.3V is not outputted.



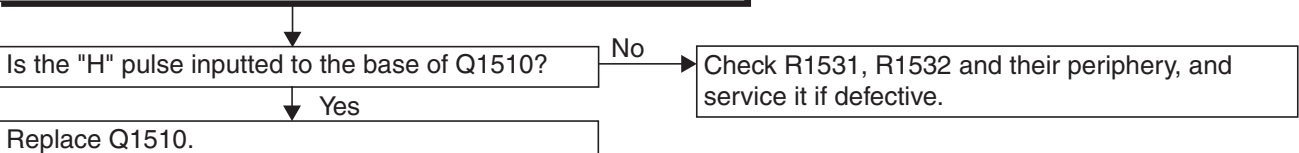
FLOW CHART NO.12

DVD-P-ON+12V is not outputted.



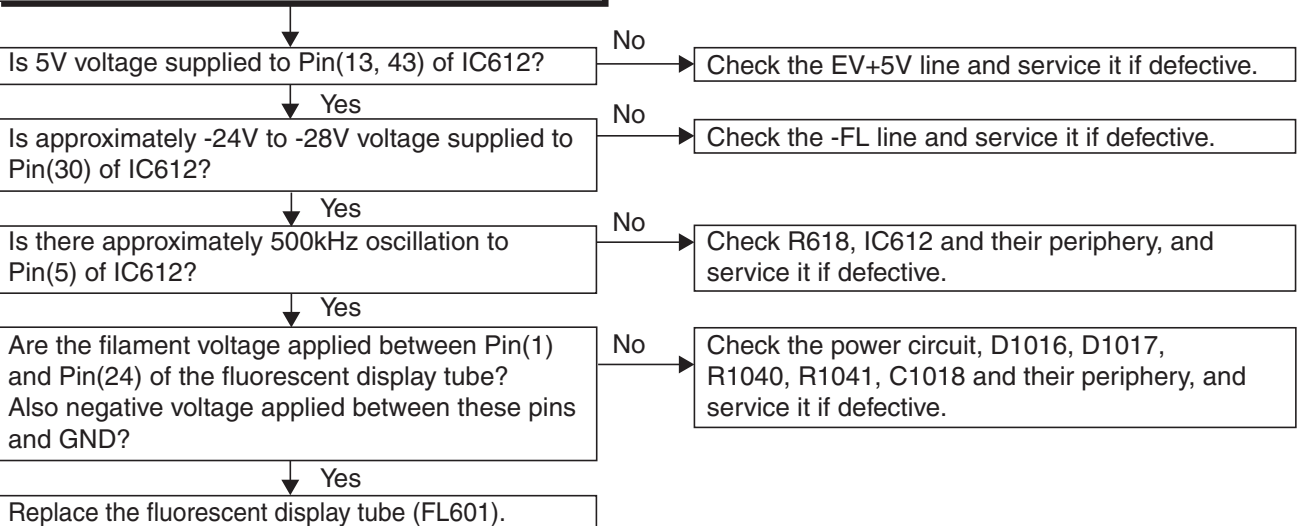
FLOW CHART NO.13

DVD-P-ON+5V is not outputted. (AL+5V is outputted normally.)



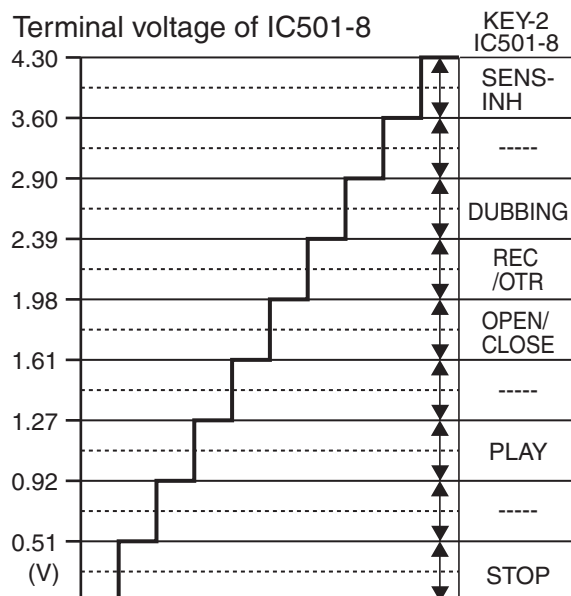
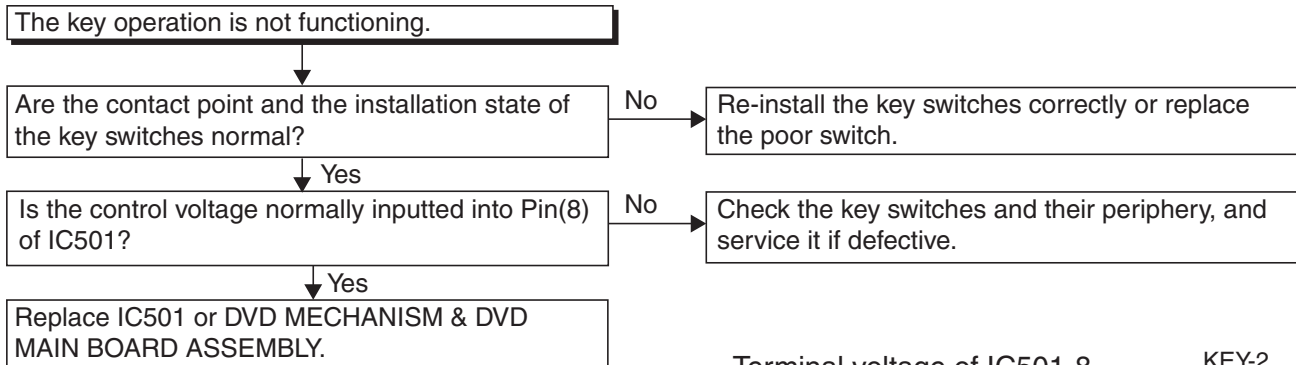
FLOW CHART NO.14

The fluorescent display tube does not light up.

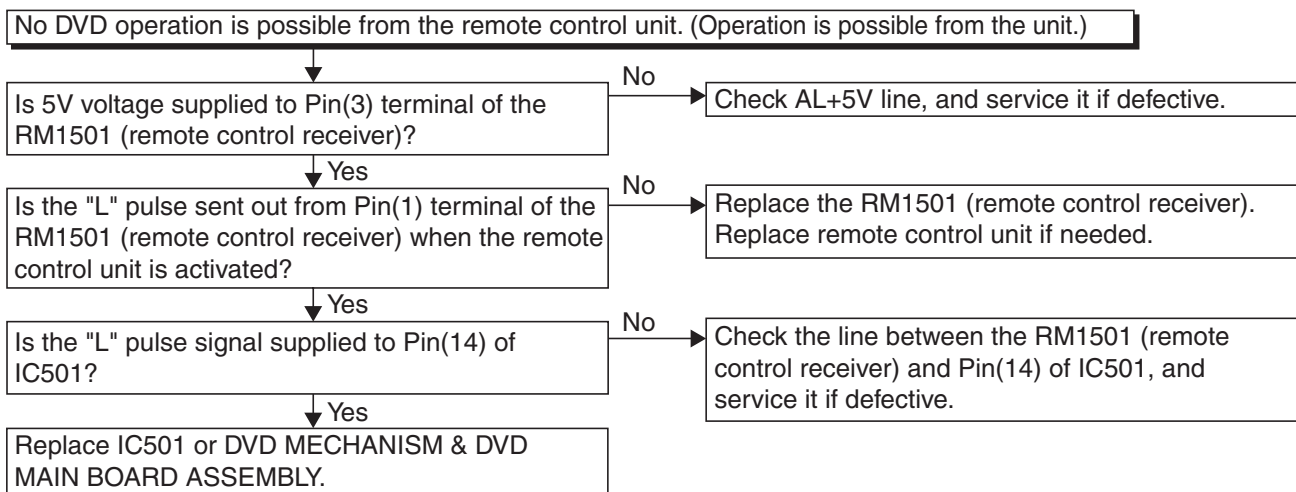


2 DVD Section

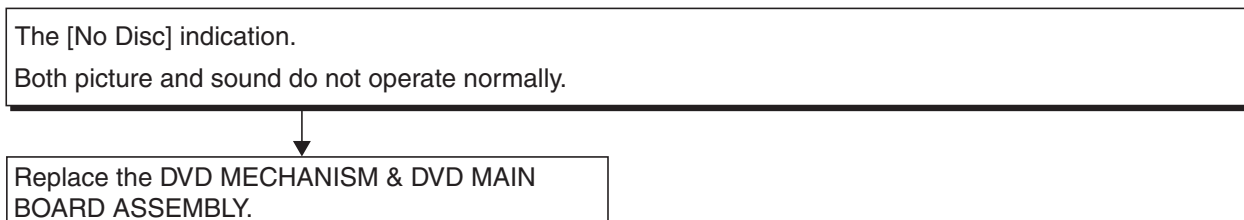
FLOW CHART NO.1



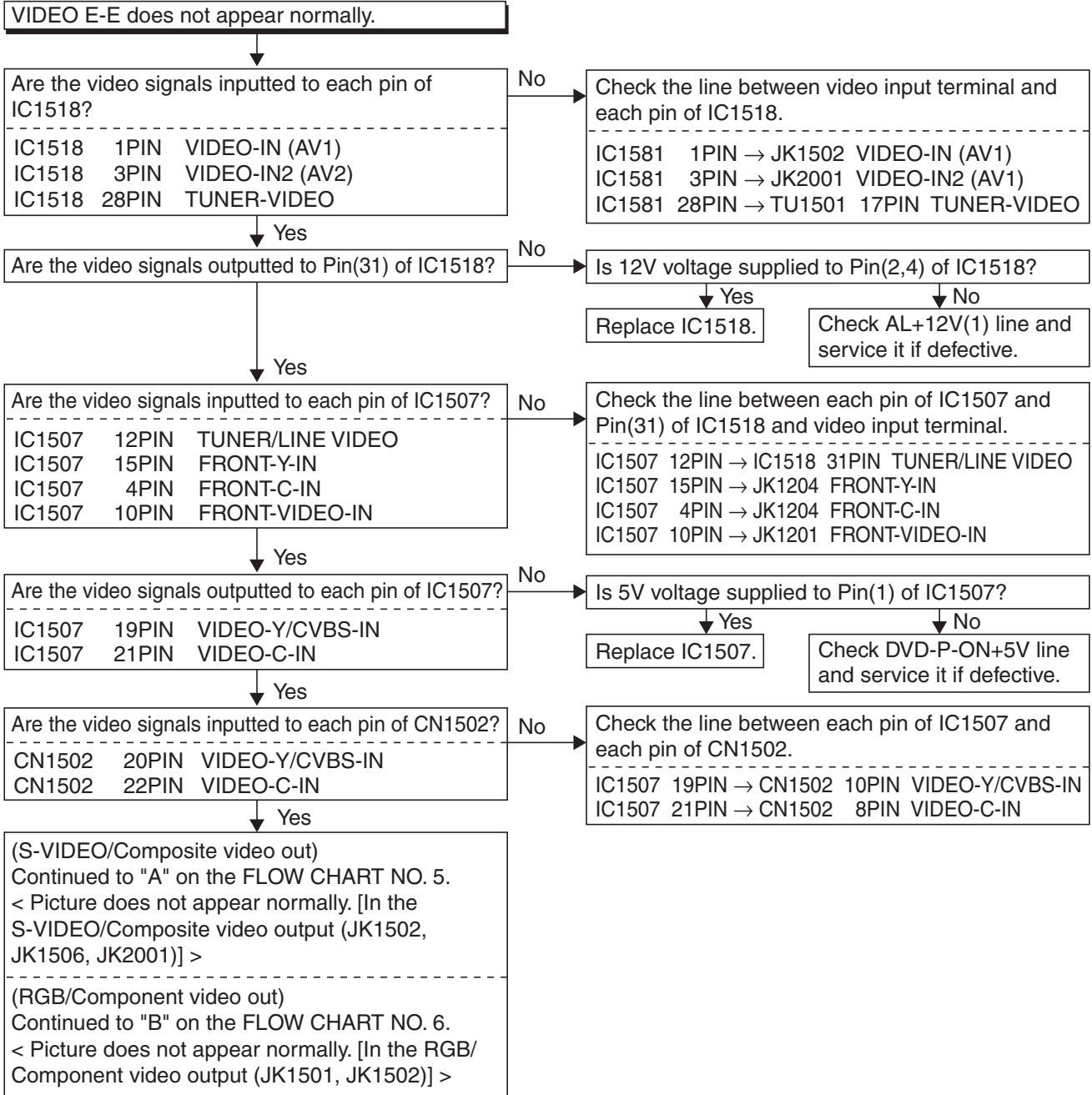
FLOW CHART NO.2



FLOW CHART NO.3

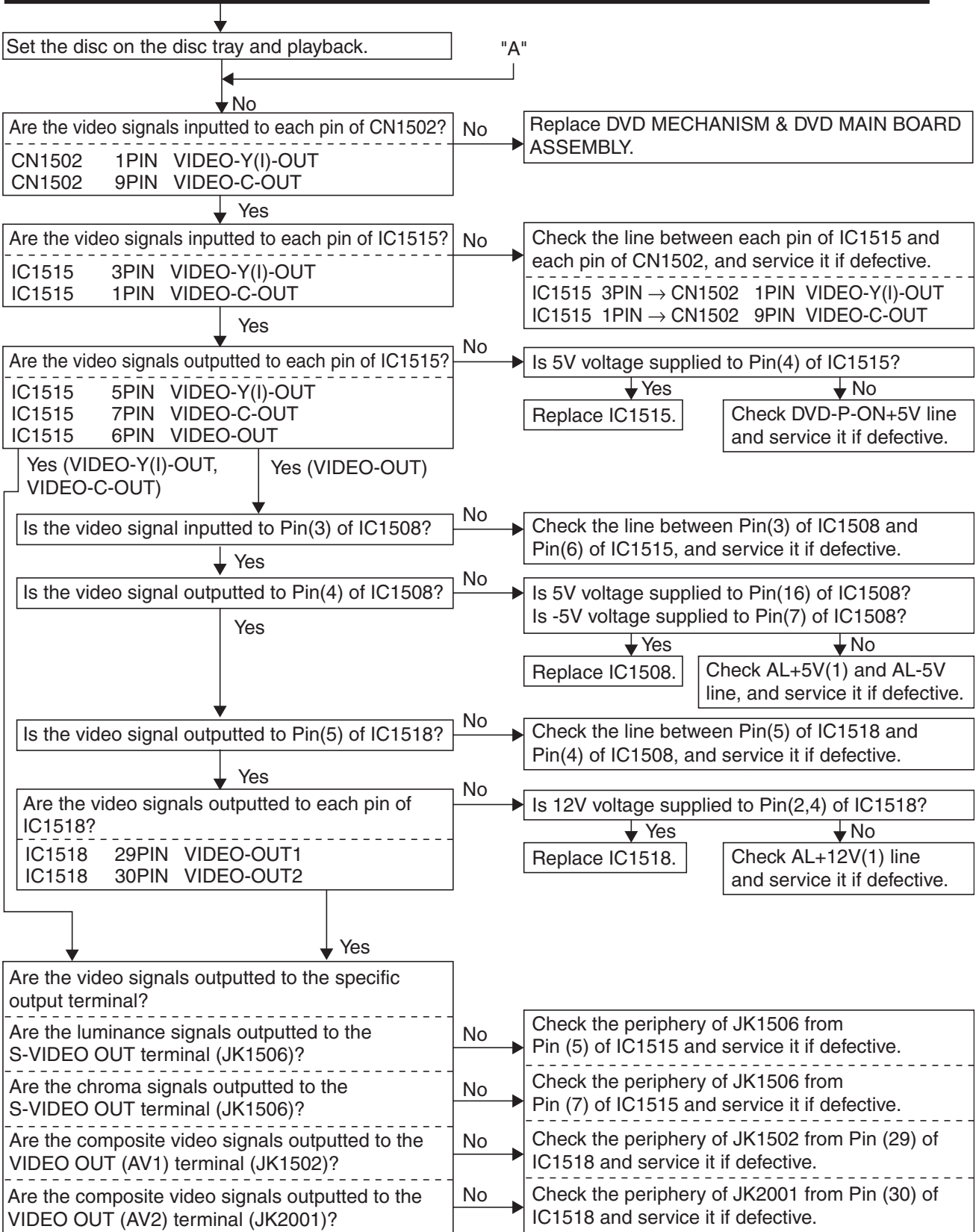


FLOW CHART NO.4



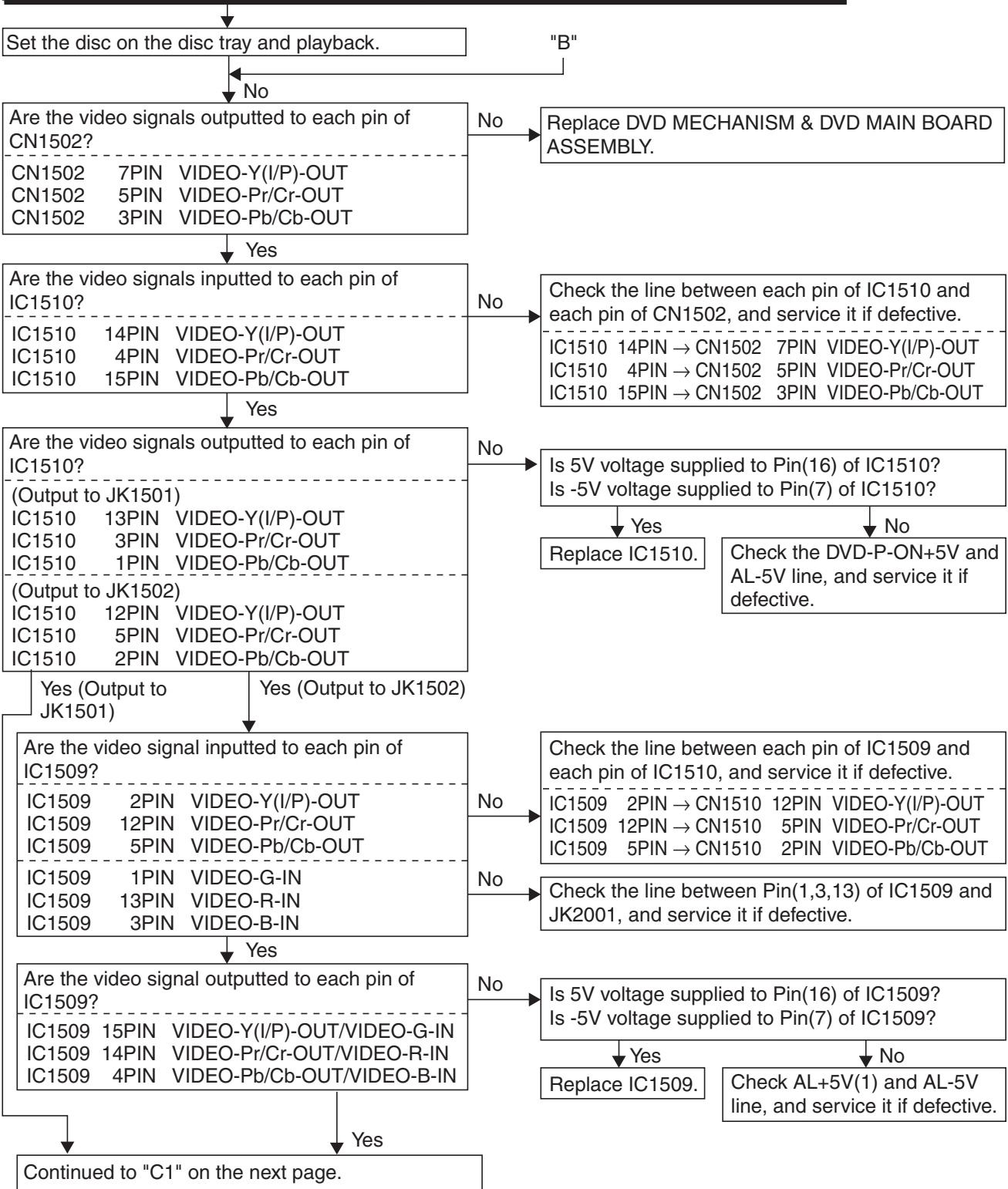
FLOW CHART NO.5

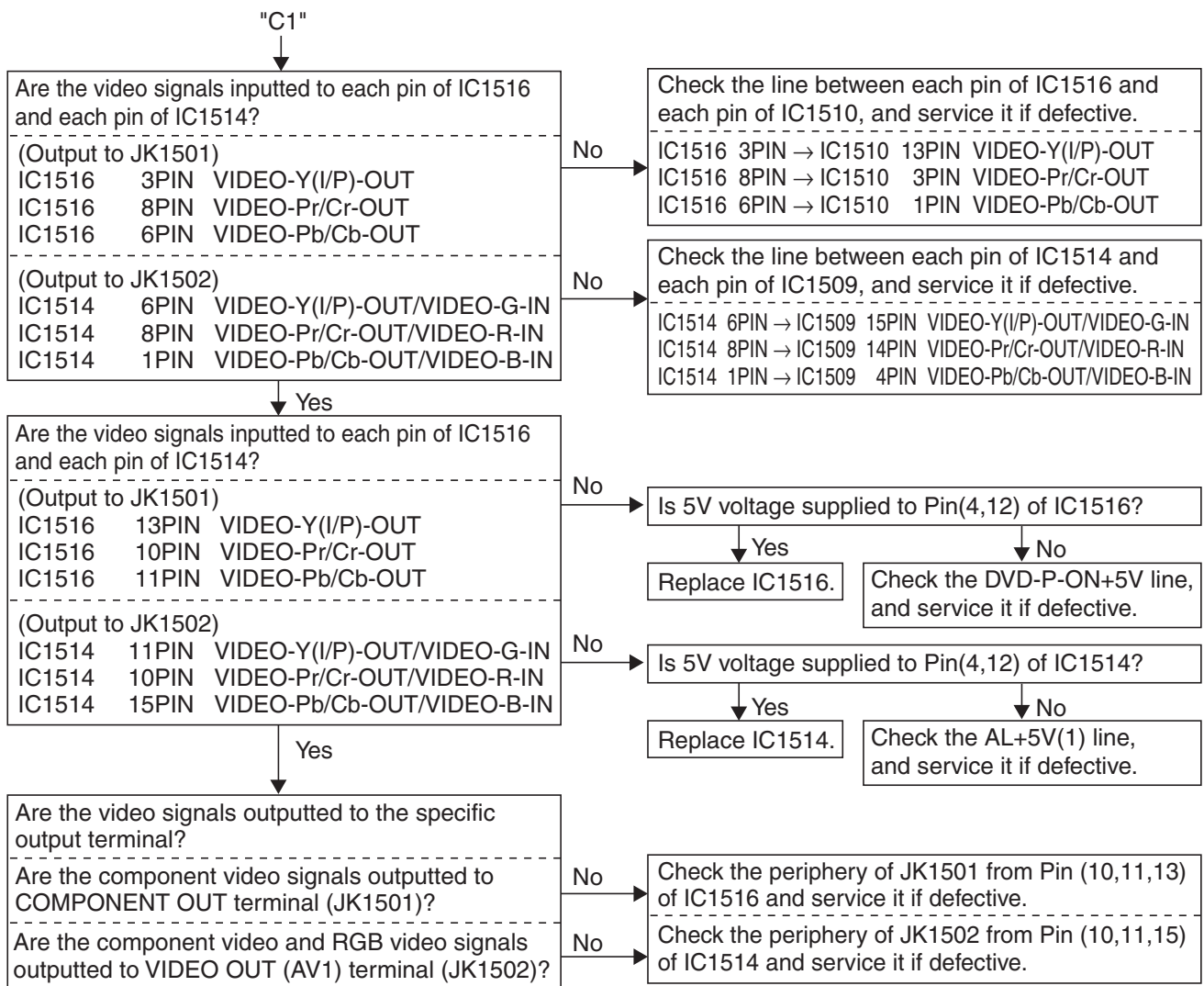
Picture does not appear normally. [In the S-VIDEO/Composite video output (JK1502, JK1506, JK2001)]



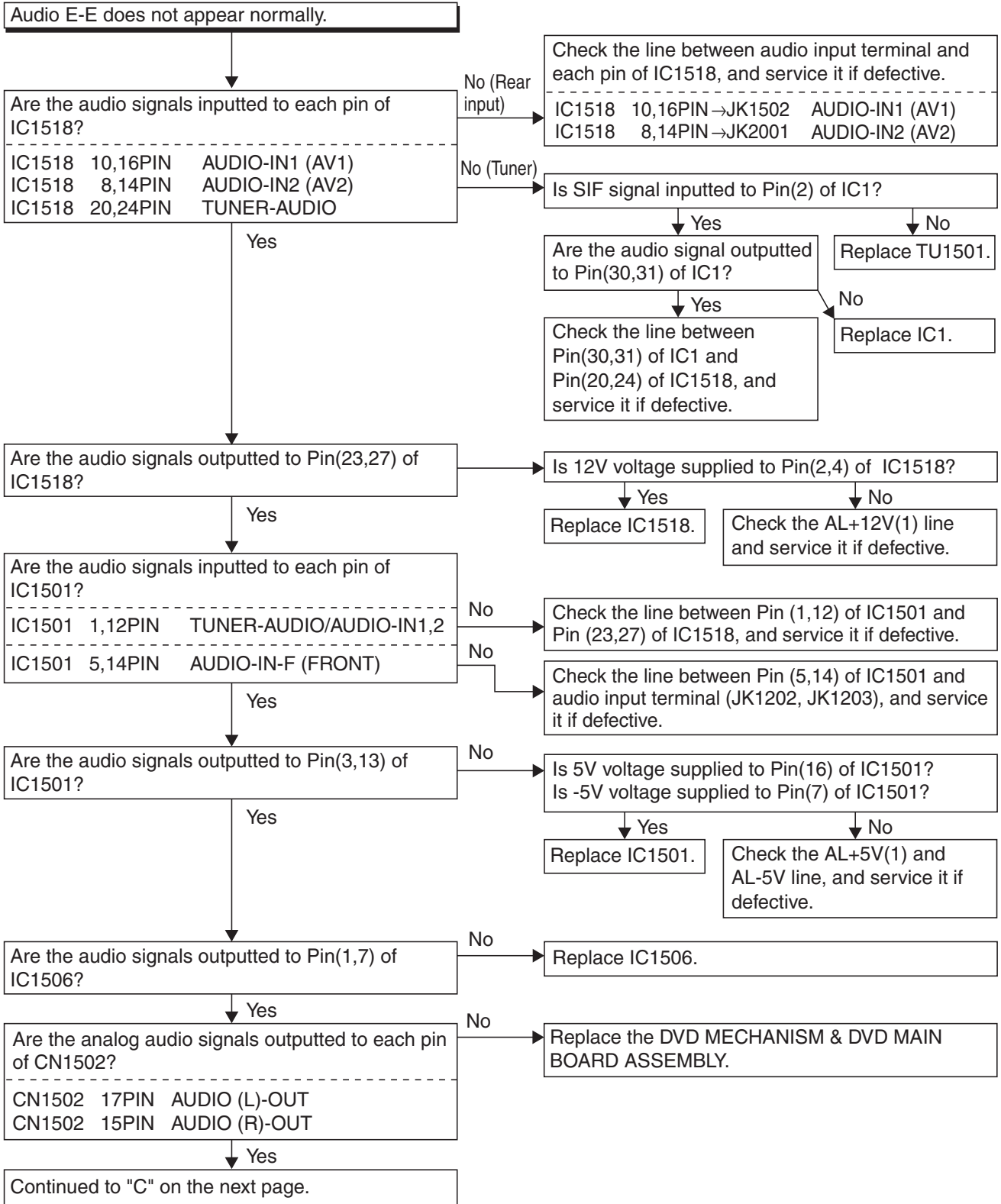
FLOW CHART NO.6

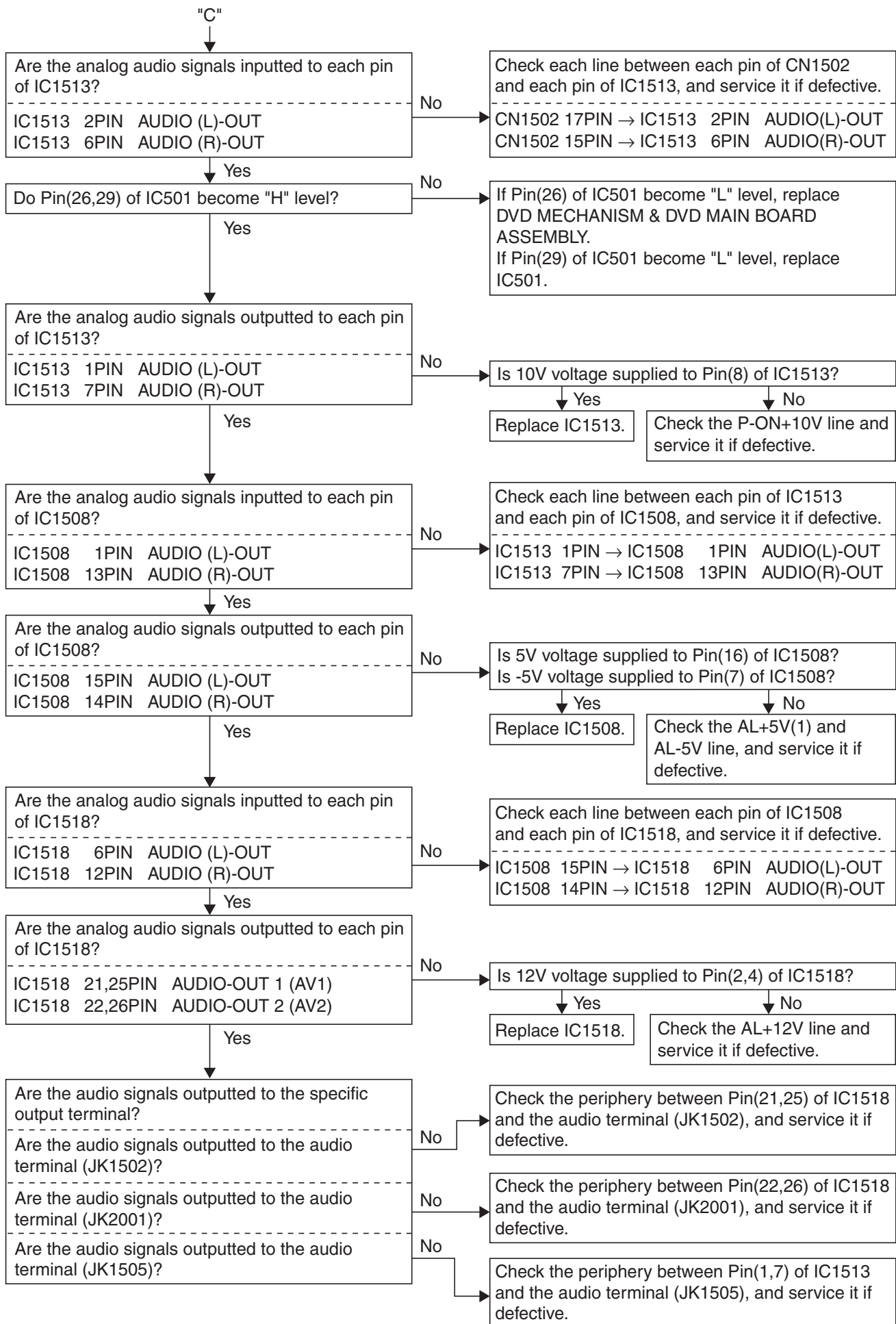
Picture does not appear normally. [In the RGB/Component video output (JK1501, JK1502)]





FLOW CHART NO.7





FLOW CHART NO.8

Audio is not outputted during playback.

Set the disc on the disc tray, and playback.

Are the analog audio signals outputted to each pin of CN1502?

CN1502 17PIN AUDIO (L)-OUT
CN1502 15PIN AUDIO (R)-OUT

No → Replace the DVD MECHANISM & DVD MAIN BOARD ASSEMBLY.

Yes

Are the analog audio signals inputted to each pin of IC1513?

IC1513 2PIN AUDIO (L)-OUT
IC1513 6PIN AUDIO (R)-OUT

No → Check each line between each pin of CN1502 and each pin of IC1513, and service it if defective.

CN1502 17PIN → IC1513 2PIN AUDIO(L)-OUT
CN1502 15PIN → IC1513 6PIN AUDIO(R)-OUT

Yes

Do Pin(26,29) of IC501 become "H" level?

No → If Pin(26) of IC501 become "L" level, replace DVD MECHANISM & DVD MAIN BOARD ASSEMBLY.
If Pin(29) of IC501 become "L" level, replace IC501.

Yes

Are the analog audio signals outputted to each pin of IC1513?

IC1513 1PIN AUDIO (L)-OUT
IC1513 7PIN AUDIO (R)-OUT

No → Is 10V voltage supplied to Pin(8) of IC1513?
Yes → Replace IC1513.
No → Check the P-ON+10V line and service it if defective.

Yes

Are the analog audio signals inputted to each pin of IC1508?

IC1508 1PIN AUDIO (L)-OUT
IC1508 13PIN AUDIO (R)-OUT

No → Check each line between each pin of IC1513 and each pin of IC1508, and service it if defective.

IC1513 1PIN → IC1508 1PIN AUDIO(L)-OUT
IC1513 7PIN → IC1508 13PIN AUDIO(R)-OUT

Yes

Are the analog audio signals outputted to each pin of IC1508?

IC1508 15PIN AUDIO (L)-OUT
IC1508 14PIN AUDIO (R)-OUT

No → Is 5V voltage supplied to Pin(16) of IC1508?
Is -5V voltage supplied to Pin(7) of IC1508?
Yes → Replace IC1508.
No → Check the AL+5V(1) and AL-5V line, and service it if defective.

Yes

Are the analog audio signals inputted to each pin of IC1518?

IC1518 6PIN AUDIO (L)-OUT
IC1518 12PIN AUDIO (R)-OUT

No → Check each line between each pin of IC1508 and each pin of IC1518, and service it if defective.

IC1508 15PIN → IC1518 6PIN AUDIO(L)-OUT
IC1508 14PIN → IC1518 12PIN AUDIO(R)-OUT

Yes

Continued to "D" on the next page.

"D"

Are the analog audio signals outputted to each pin of IC1518?

IC1518 21,25PIN AUDIO-OUT 1 (AV1)
IC1518 22,26PIN AUDIO-OUT 2 (AV2)

No

Is 12V voltage supplied to Pin(2,4) of IC1518?

Yes

Replace IC1518.

No

Check the AL+12V line and service it if defective.

Yes

Are the audio signals outputted to the specific output terminal?

Are the audio signals outputted to the audio terminal (JK1502)?

Are the audio signals outputted to the audio terminal (JK2001)?

Are the audio signals outputted to the audio terminal (JK1505)?

No

Check the periphery between Pin(21,25) of IC1518 and the audio terminal (JK1502), and service it if defective.

No

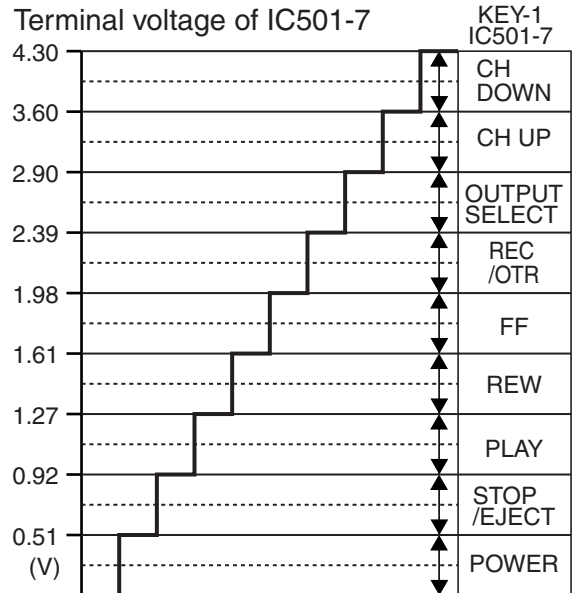
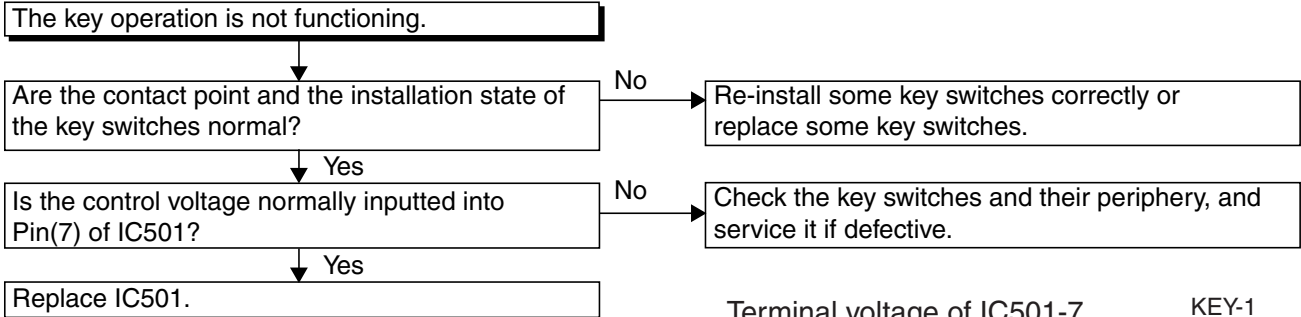
Check the periphery between Pin(22,26) of IC1518 and the audio terminal (JK2001), and service it if defective.

No

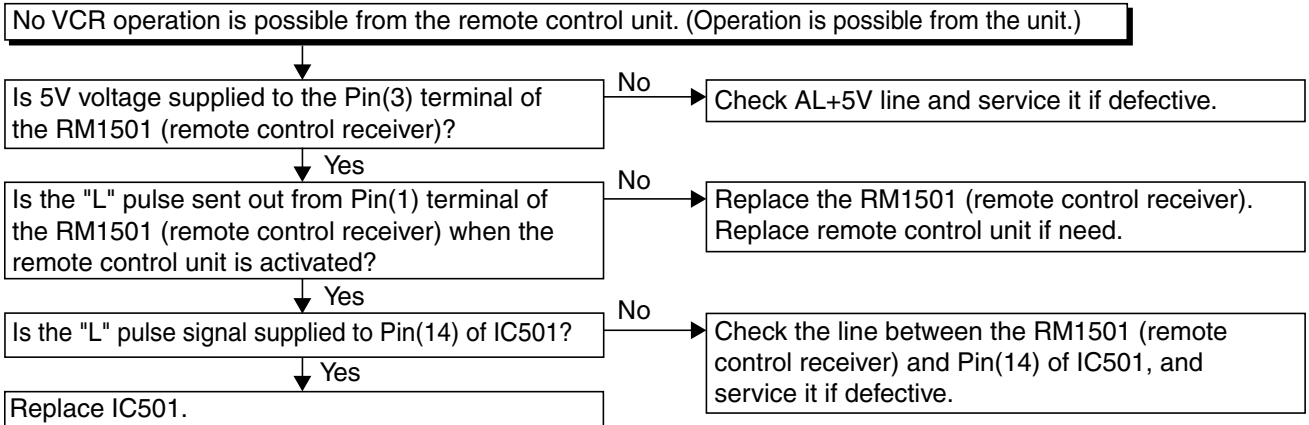
Check the periphery between Pin(1,7) of IC1513 and the audio terminal (JK1505), and service it if defective.

3 VCR Section

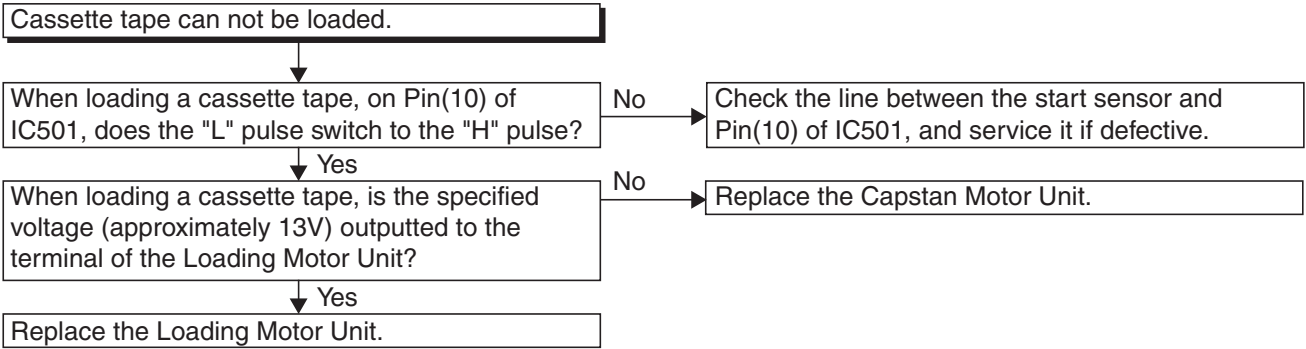
FLOW CHART NO.1



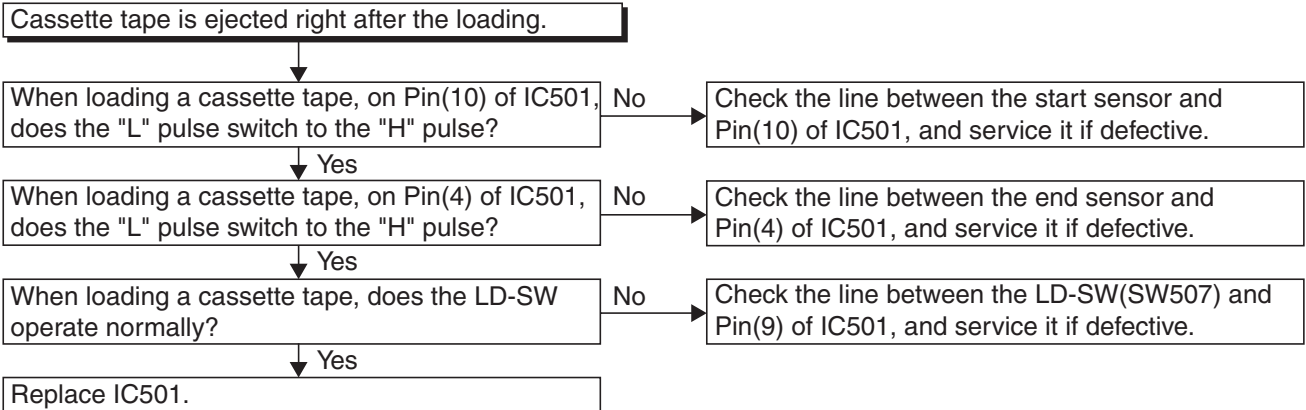
FLOW CHART NO.2



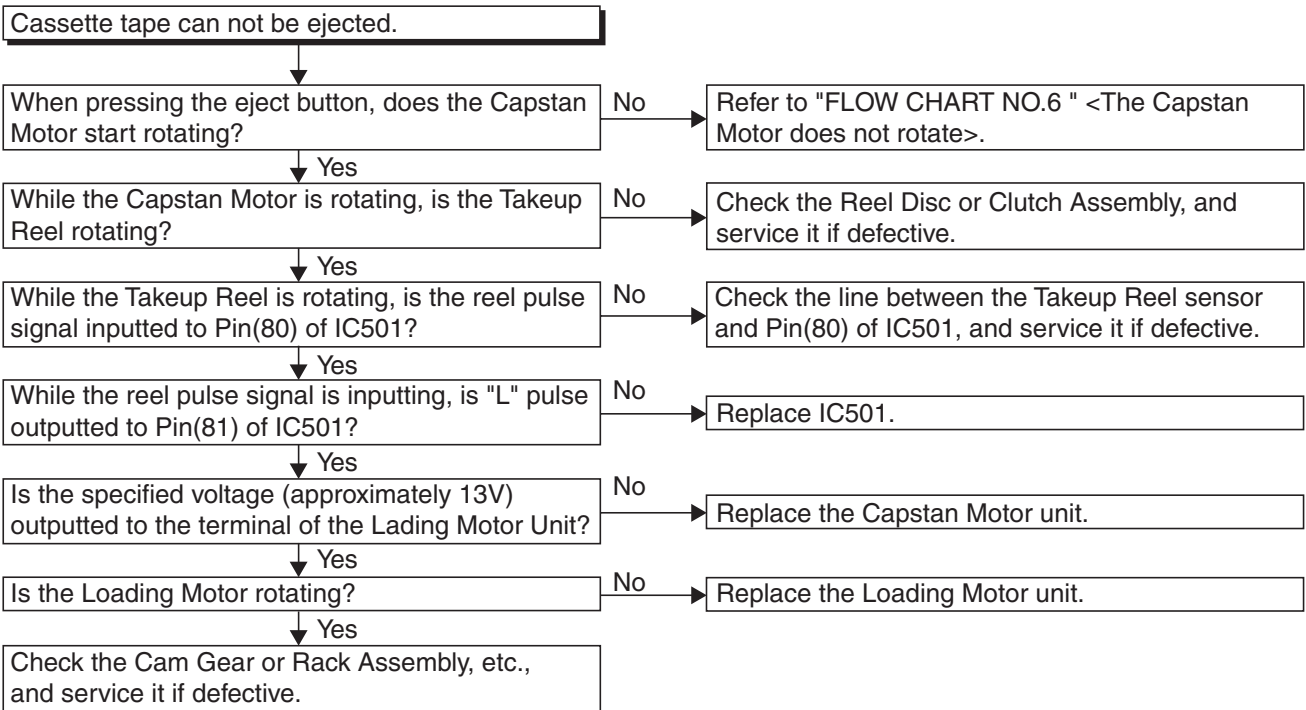
FLOW CHART NO.3



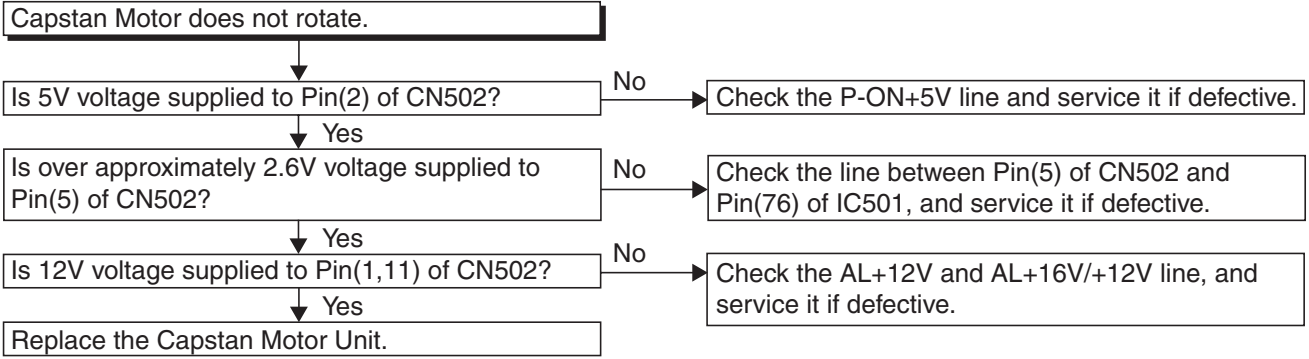
FLOW CHART NO.4



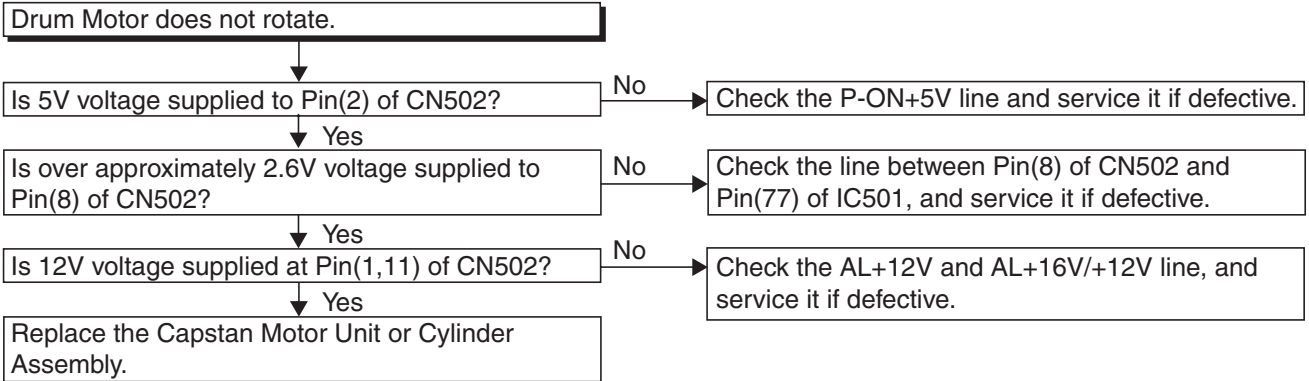
FLOW CHART NO.5



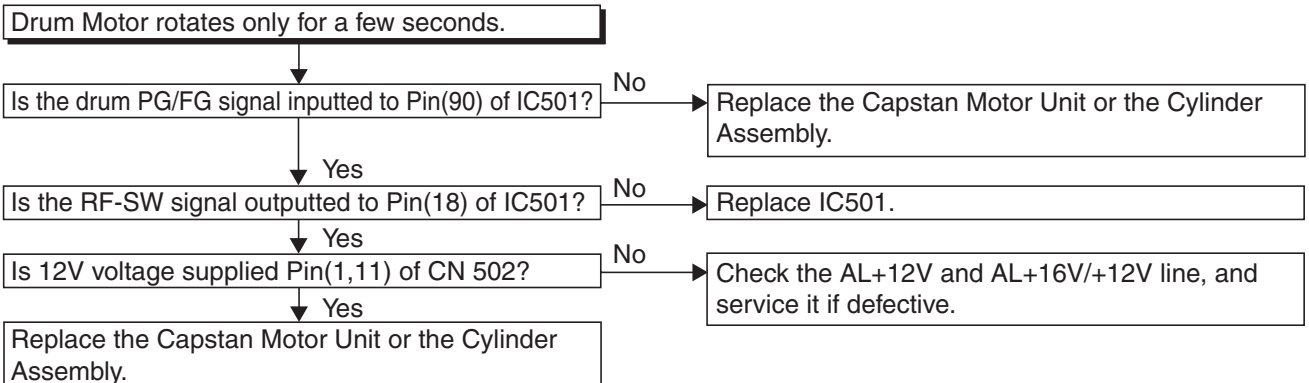
FLOW CHART NO.6



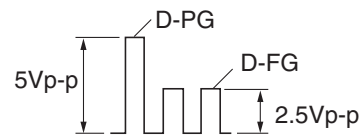
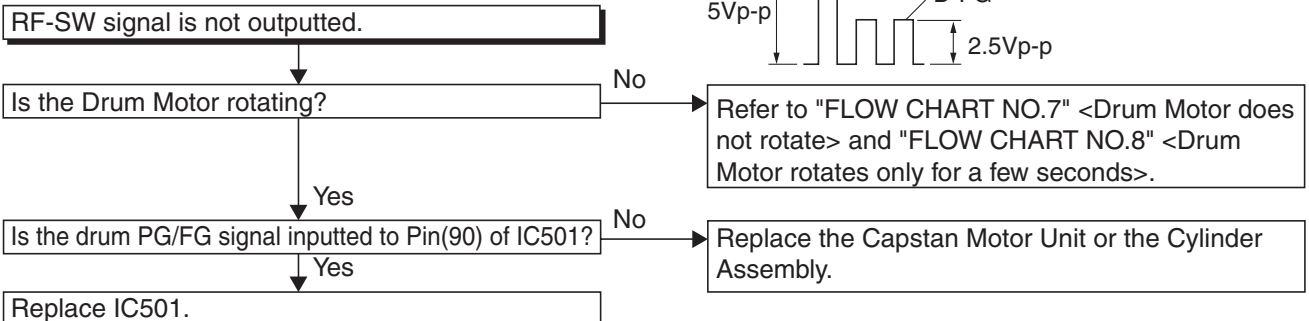
FLOW CHART NO.7



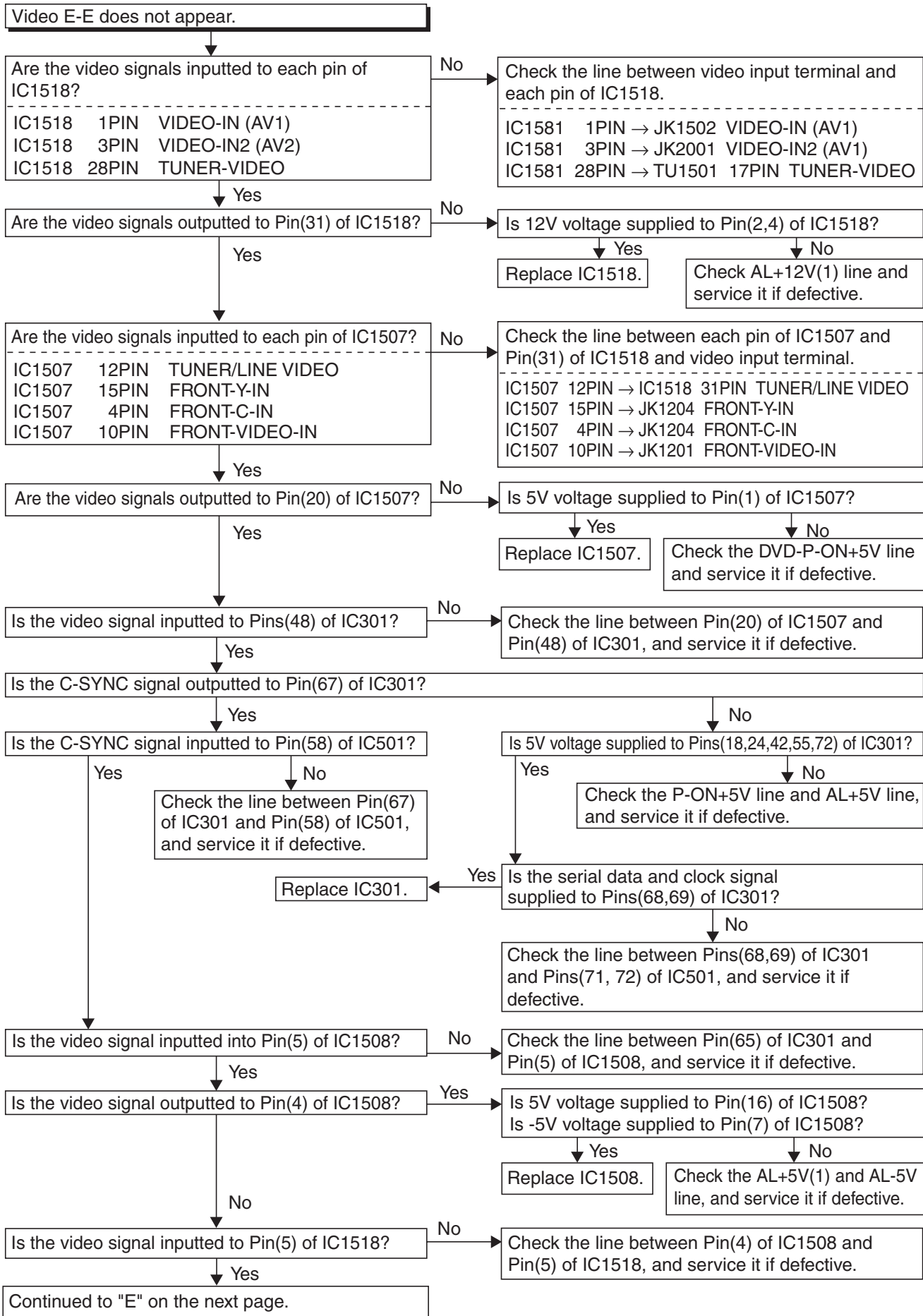
FLOW CHART NO.8



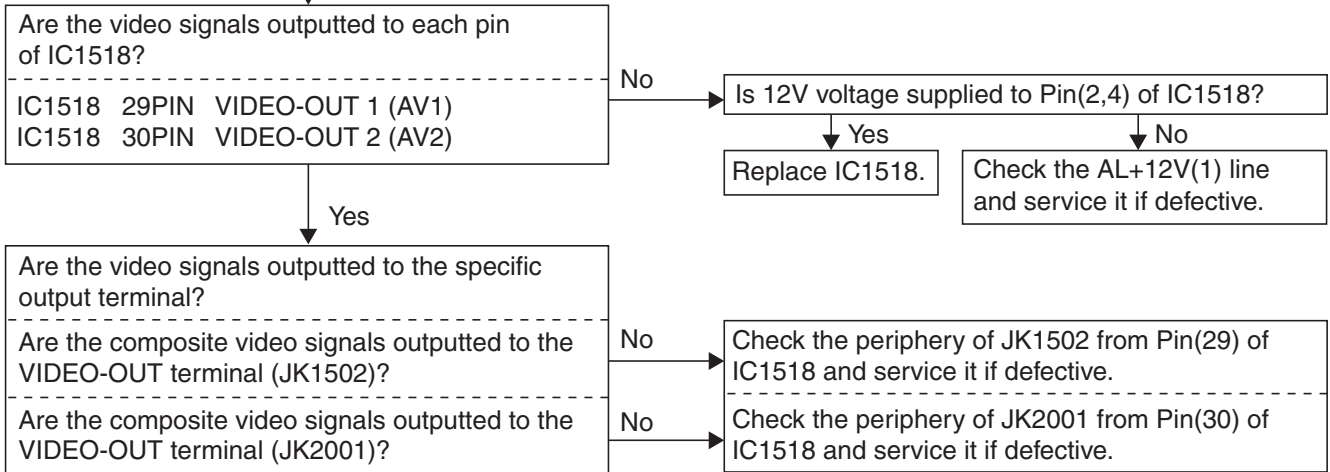
FLOW CHART NO.9



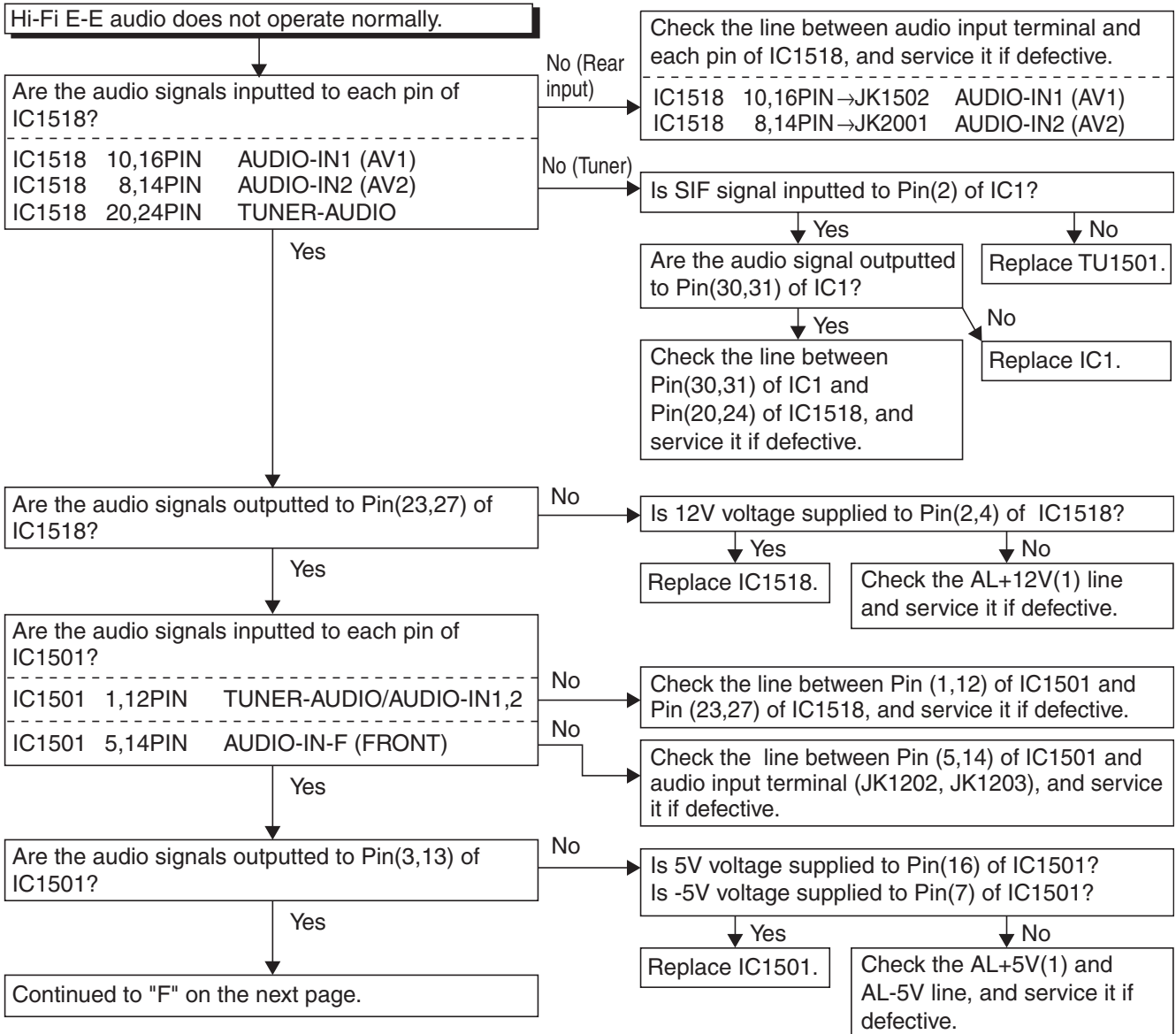
FLOW CHART NO.10

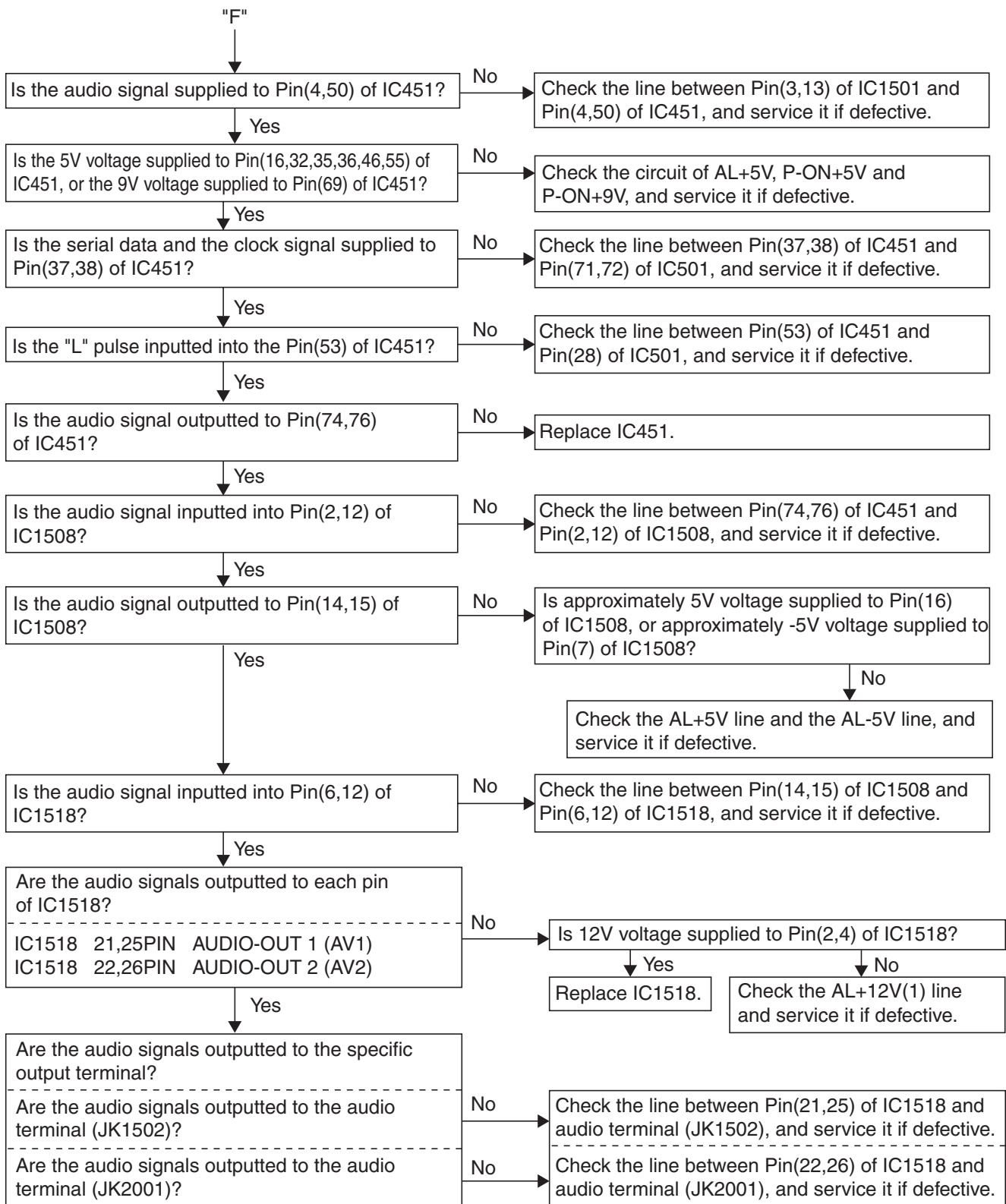


"E"



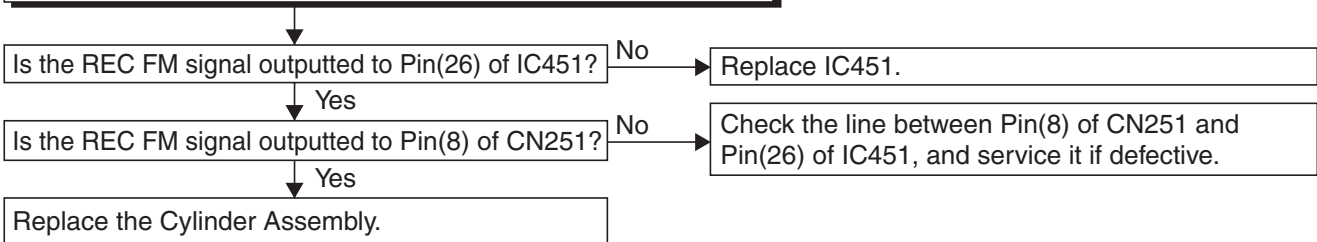
FLOW CHART NO.11





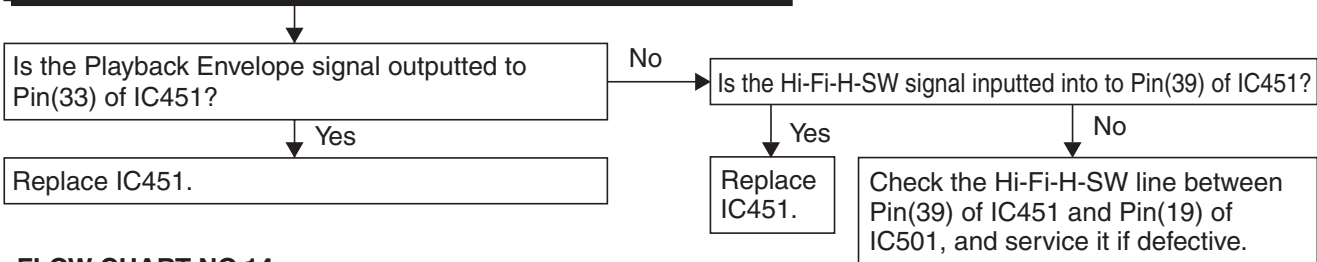
FLOW CHART NO.12

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



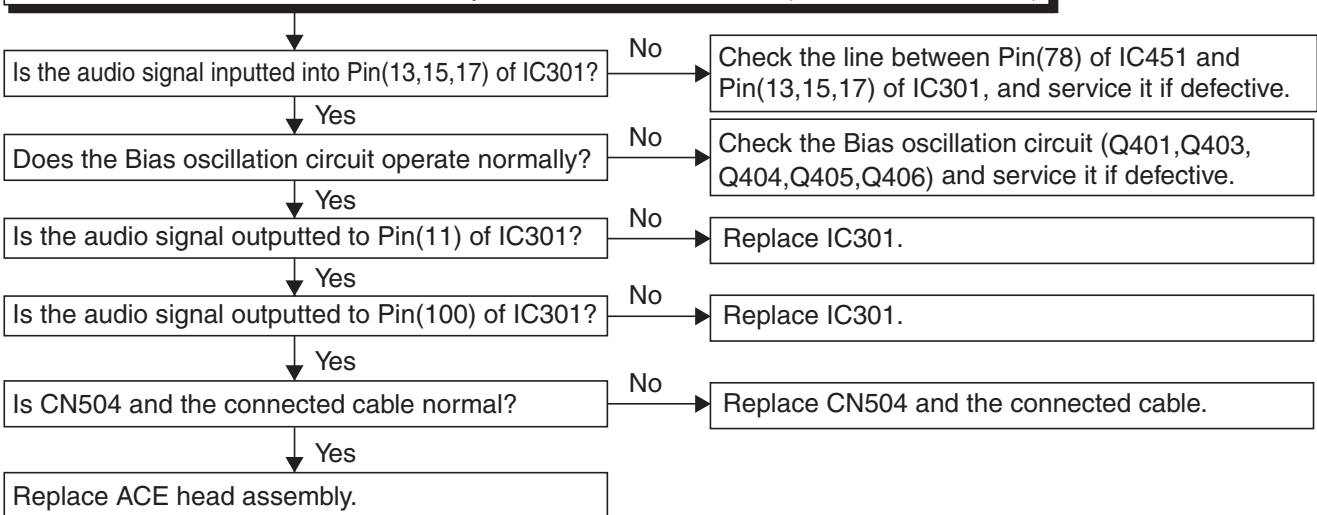
FLOW CHART NO.13

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



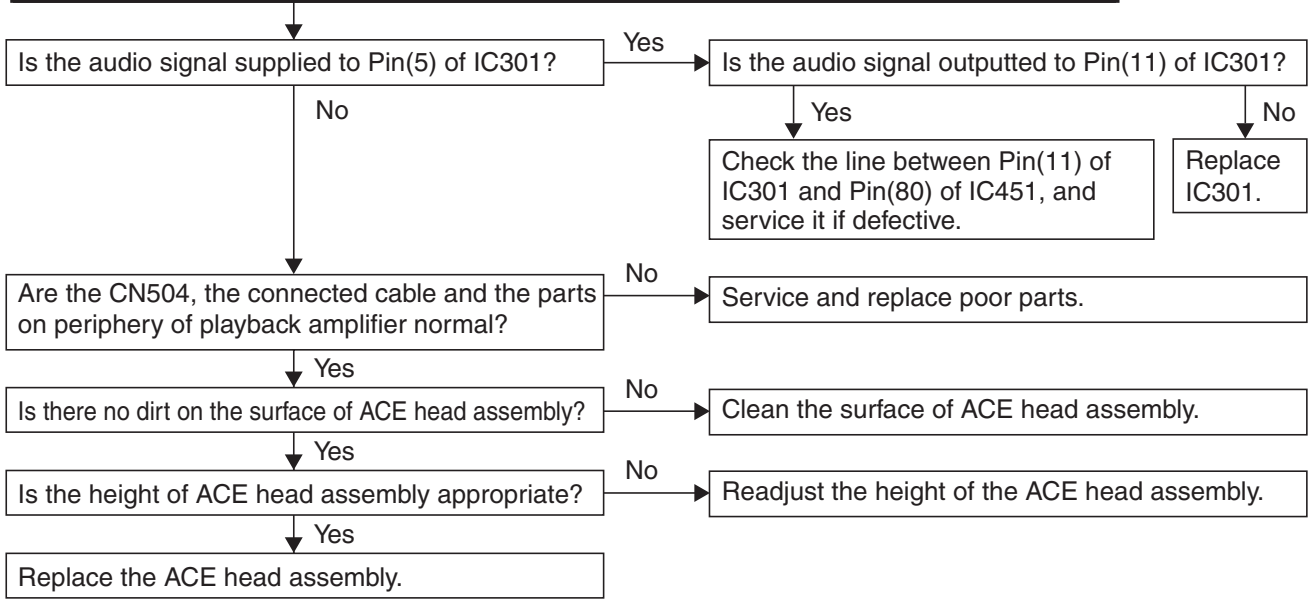
FLOW CHART NO.14

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 playbacked normally in the linear audio mode. (E-E mode is normal.)



FUNCTION INDICATOR SYMBOLS

< VCR Section >

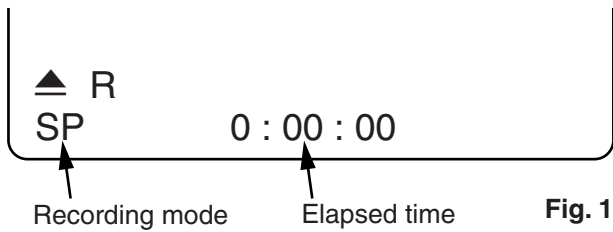
Note:

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

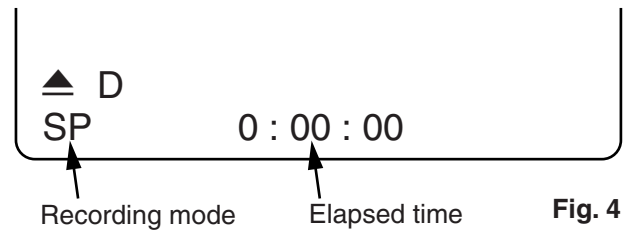
| MODE | INDICATOR ACTIVE |
|--|---|
| When reel or capstan mechanism is not functioning correctly | “▲ R” is displayed on a TV screen. (Refer to Fig. 1.) |
| When tape loading mechanism is not functioning correctly | “▲ T” is displayed on a TV screen. (Refer to Fig. 2.) |
| When cassette loading mechanism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

TV screen

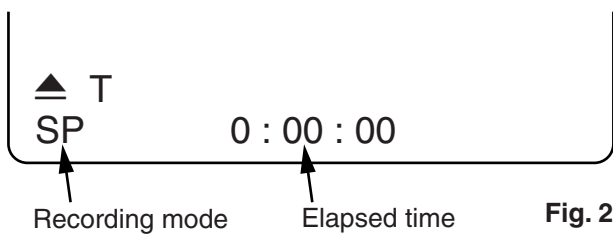
When reel or capstan mechanism is not functioning correctly



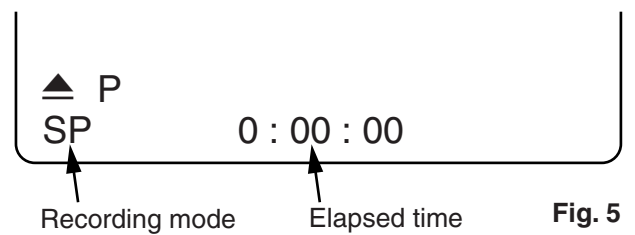
When the drum is not working properly



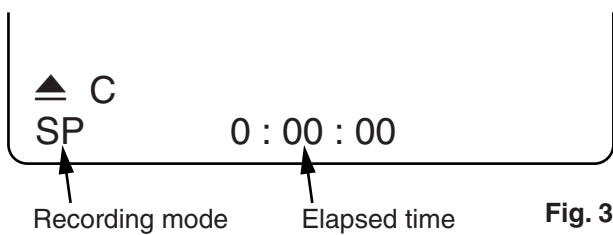
When tape loading mechanism is not functioning correctly



P-ON Power safety detection

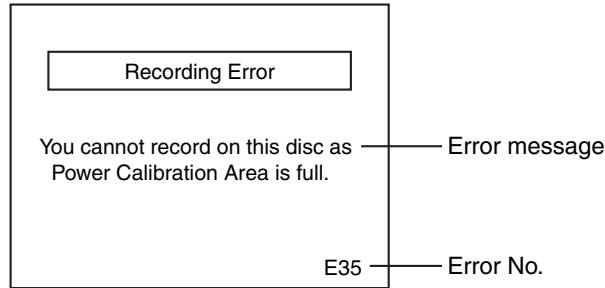


When cassette loading mechanism is not functioning correctly



< DVD Section >

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



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

| Message | Solution | Error No. | Error Description | Priority |
|---|---|-----------|---|----------|
| This disc is protected and not recordable. | Release the disc protect setting in the Disc Setting menu. | 29 | Disc Protected Disc. | 7 |
| Disc is full. (No area for new recording) | Insert the recordable disc with enough recording space. | 30 | No available recording space. | 5 |
| You cannot record more than 99 titles on one disc. (The maximum is 99.) | Delete unnecessary titles. | 31 | Its recording capacity has been reached. (Video Format Disc) | 7 |
| | | 32 | Its recording capacity has been reached. (VR Format Disc) | 8 |
| You cannot record more than 999 chapters on one disc. (The maximum is 999.) | Delete unnecessary chapter markers. | 33 | The 999 chapter has been reached. (VR Format Disc) | 9 |
| You cannot record on this disc as Control Information is full. | Delete unnecessary titles. | 34 | There is not space to record field of control information. | 10 |
| You cannot record on the disc as Power Calibration Area is full. | Insert a new disc. | 35 | PCA is Full. (in REC start) | 4 |
| This disc is already finalized. | Release the finalizing for this disc. | 36 | It is finalized. (Video Format Disc) | 6 |
| Can not record on this disc. | Repeat the same operation. | 37 | Access to Memory Area range outside. | - |
| | | 38 | Sector Address is wrong. | - |
| | | 39 | BUP writing error of chapter editing. | - |
| You cannot record more than 49 titles on one disc. (The maximum is 49.) | Delete unnecessary titles. | 43 | The 49 titles has been reached. (+VR Format) | 9 |
| You cannot record more than 254 chapters on one disc. (The maximum is 254.) | Delete unnecessary chapter marks. | 44 | The 254 chapter has been reached. (+VR Format Disc) | 10 |
| This program is not recordable in +VR mode. | Set "DVD-RW Recording Format" to "VR mode". | 45 | During the CGMS picture (possible to record once) input. (+VR Format Disc) | 12 |
| The disc has no recording compatibility. (Set "Make Recording Compatible" to "ON" to convert the disk.) | Please make the "Make Recording Compatible" setting "ON" when you want to add a postscript. | 46 | A postscript tried to be added to + VR Format Disc where different Title Menu from this machine when the Make Recording Compatible setting was turned off was recorded. | 7 |

If an error occurs during the timer recording, one of the following error numbers (40 to 42) or the above error messages (error number: 1 to 39 and 43 to 46) is displayed on the recording menu after timer recording. (Once the screen of the program line is exited, the program line for the error will be cleared.) (No Error Message is displayed for the error No. 40 ~ 42.)

| Timer Programming | | | | | | | VCR DVD |
|-------------------|-------|------|-----|---------|-----|--|---------|
| Date | Start | End | CH | Mode | PDC | | |
| * 01/01 | 0:57 | 1:57 | P08 | DVD E40 | ON | | |
| 2. | --- | | | | | | |
| 3. | --- | | | | | | |
| 4. | --- | | | | | | |
| 5. | --- | | | | | | |
| 6. | --- | | | | | | |
| 7. | --- | | | | | | |
| 8. | --- | | | | | | |

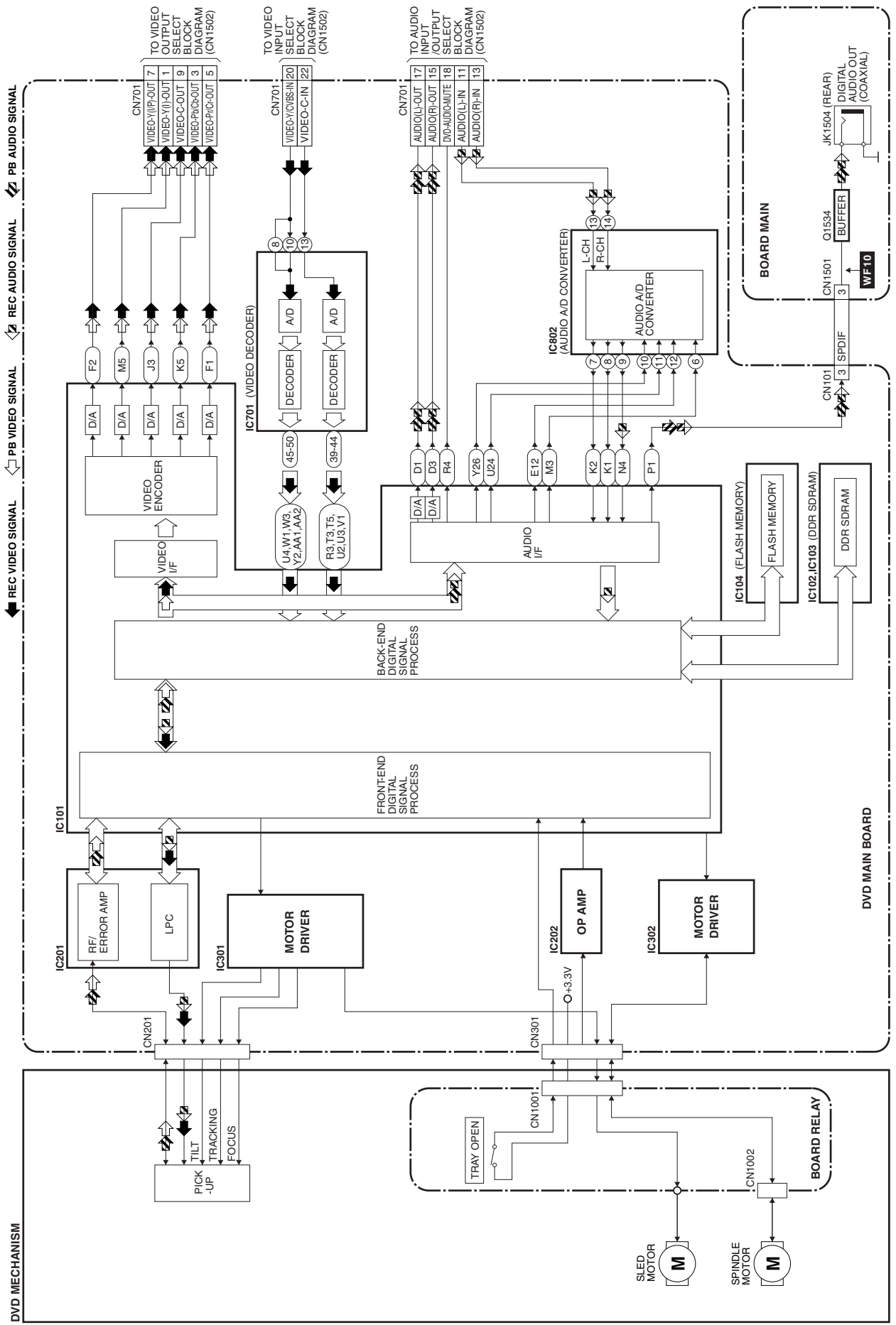
The speed mode changes to the error number.

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

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

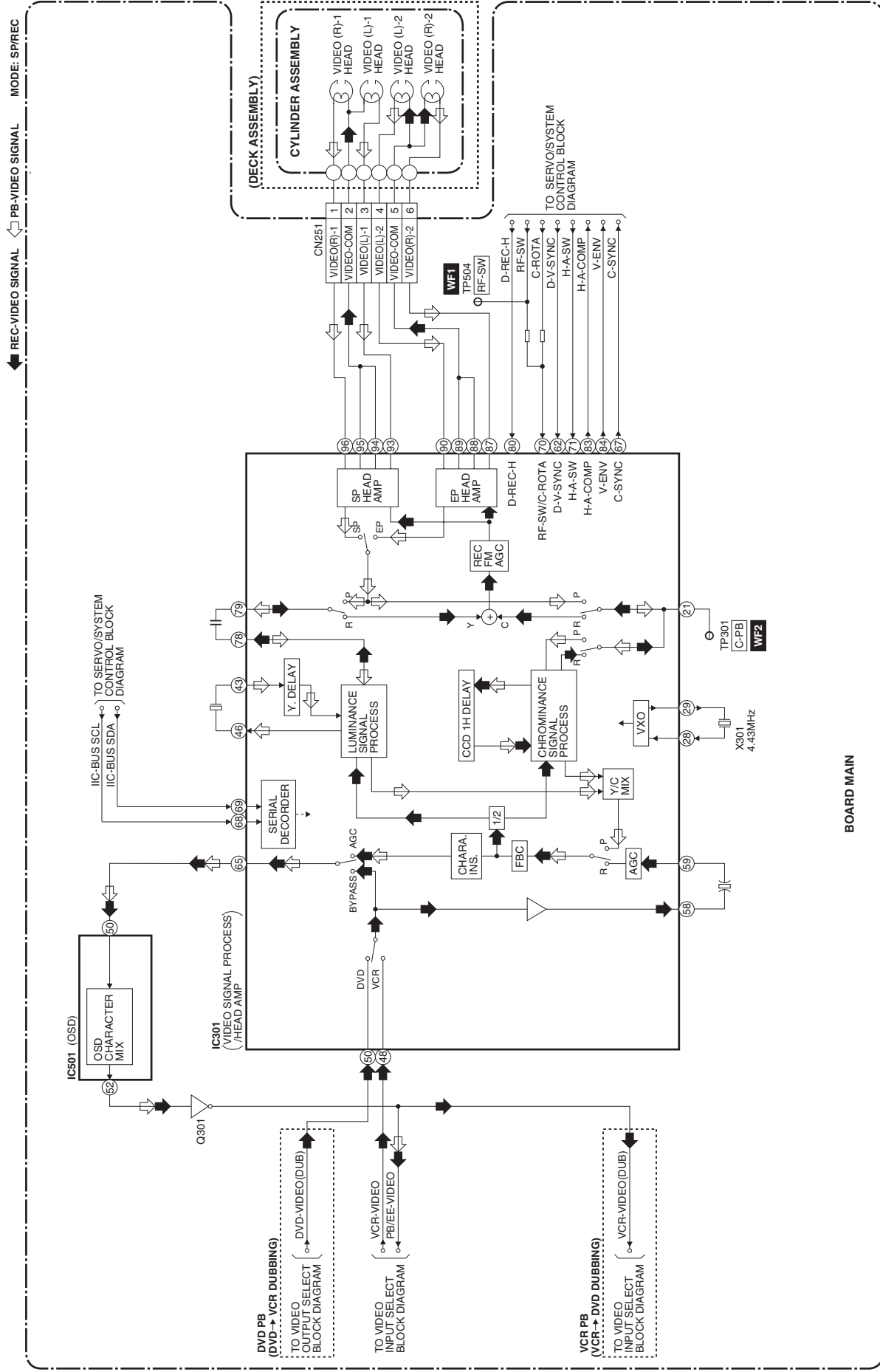
Digital Signal Process Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



Video Block Diagram

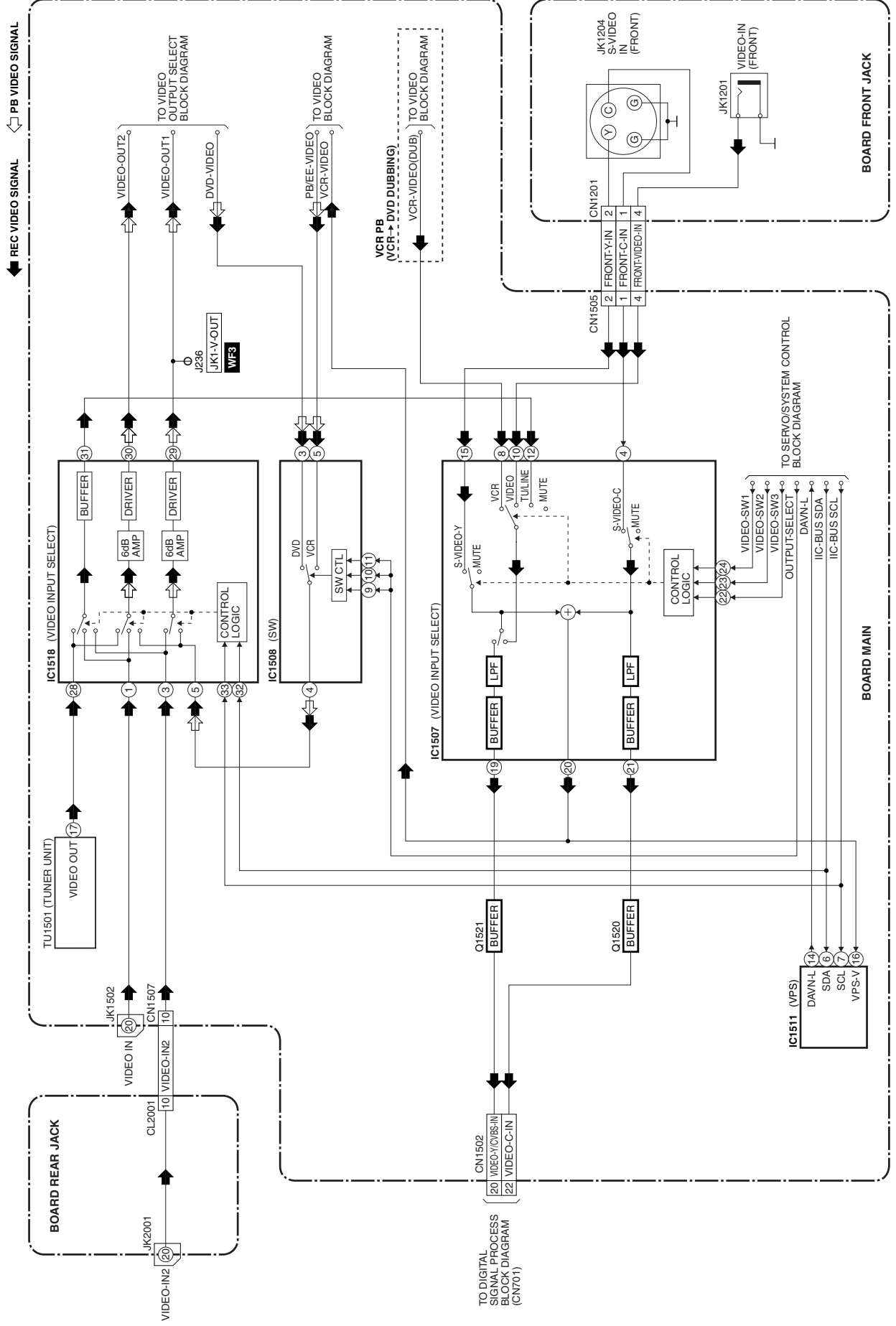
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



BOARD MAIN

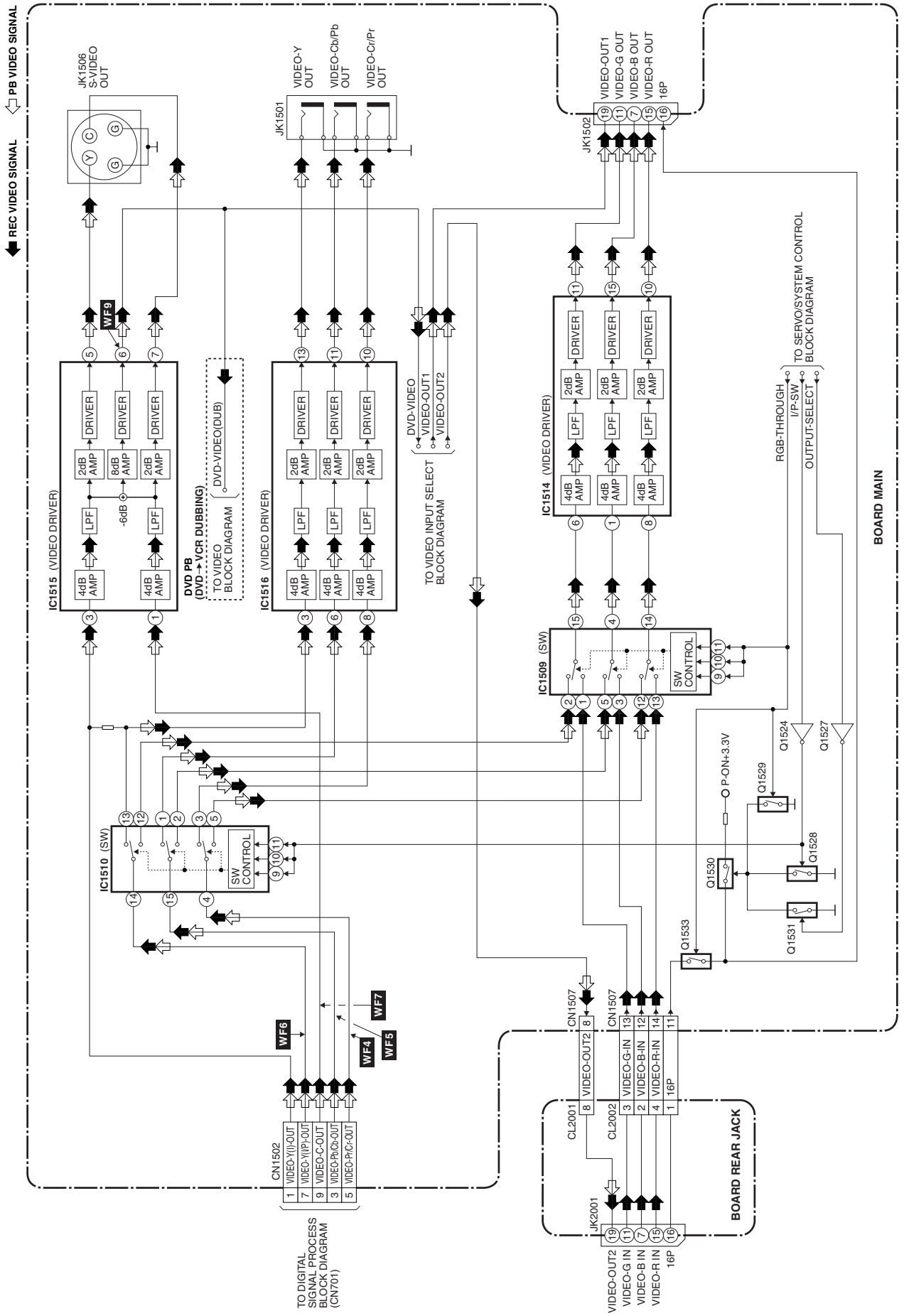
Video Input Select Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



Video Output Select Block Diagram

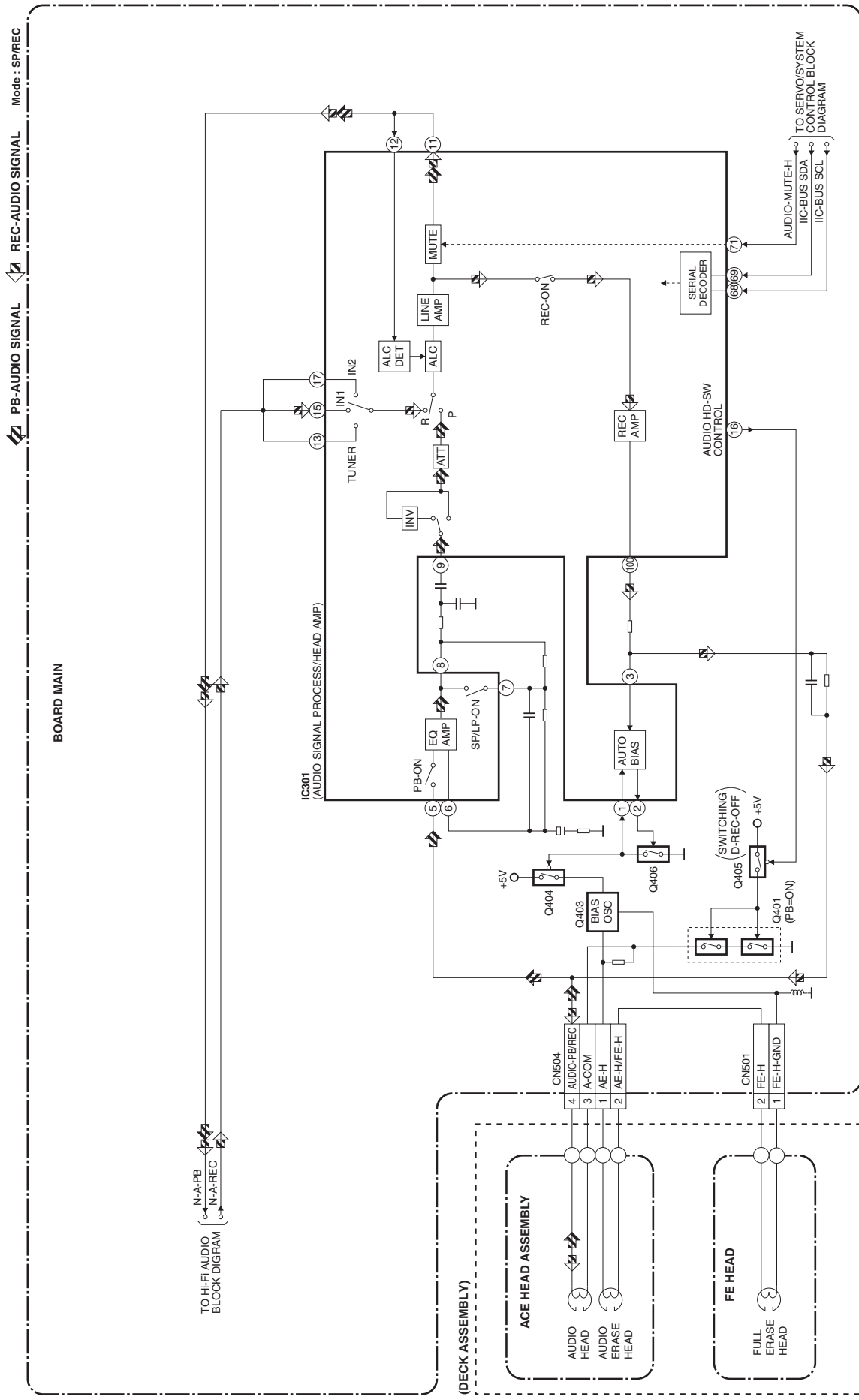
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



BOARD MAIN

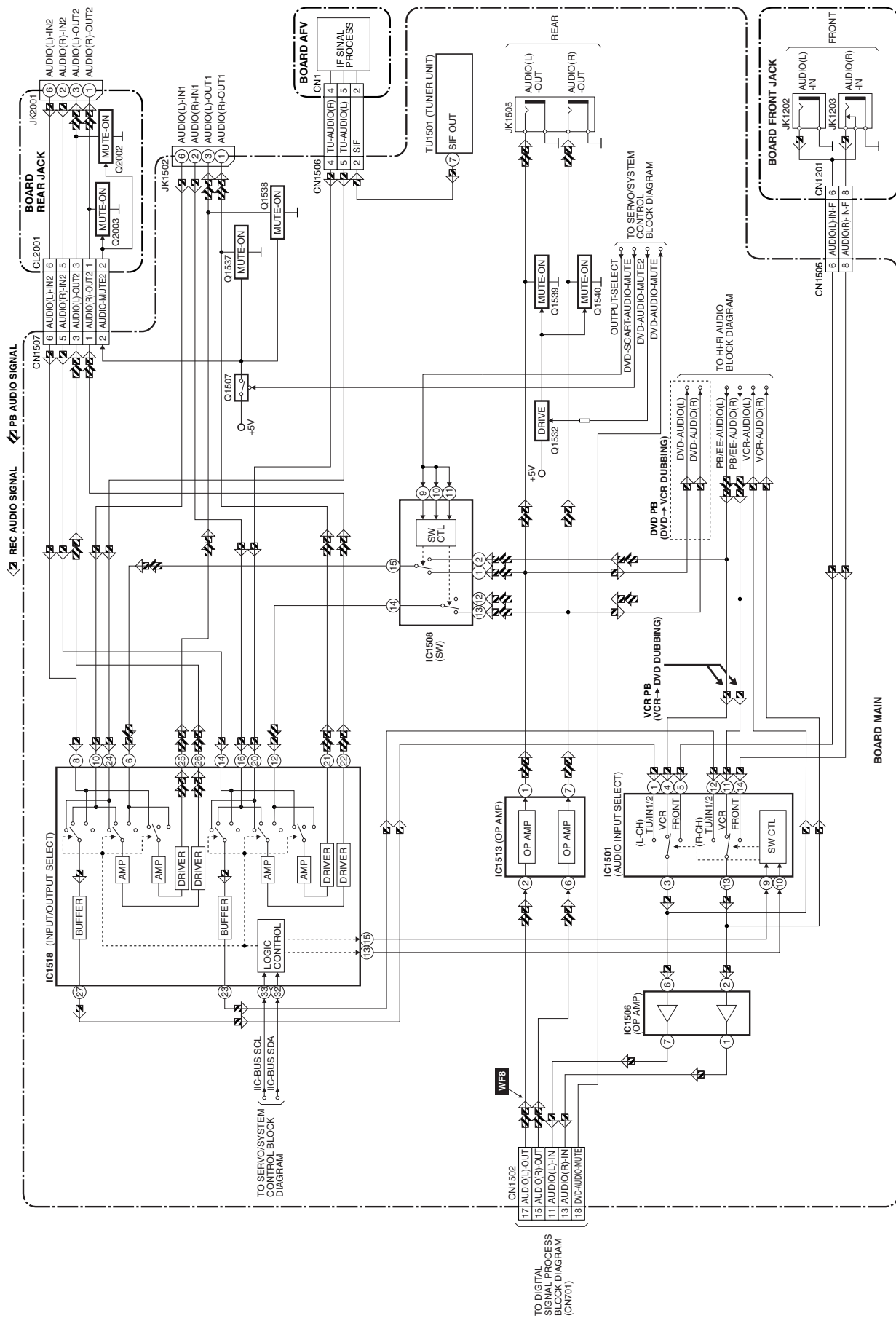
Audio Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



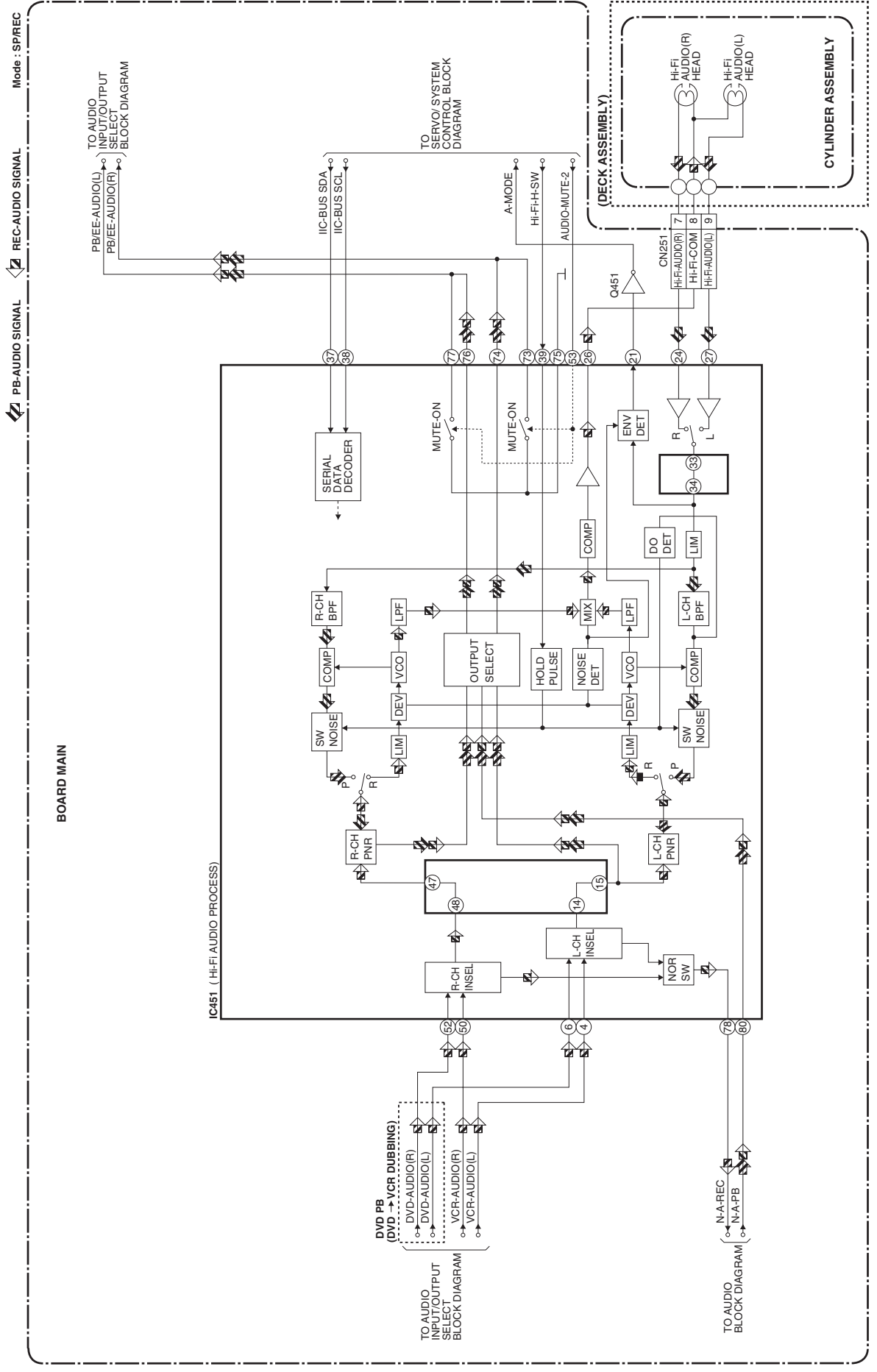
Audio Input/Output Select Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



Hi-Fi Audio Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

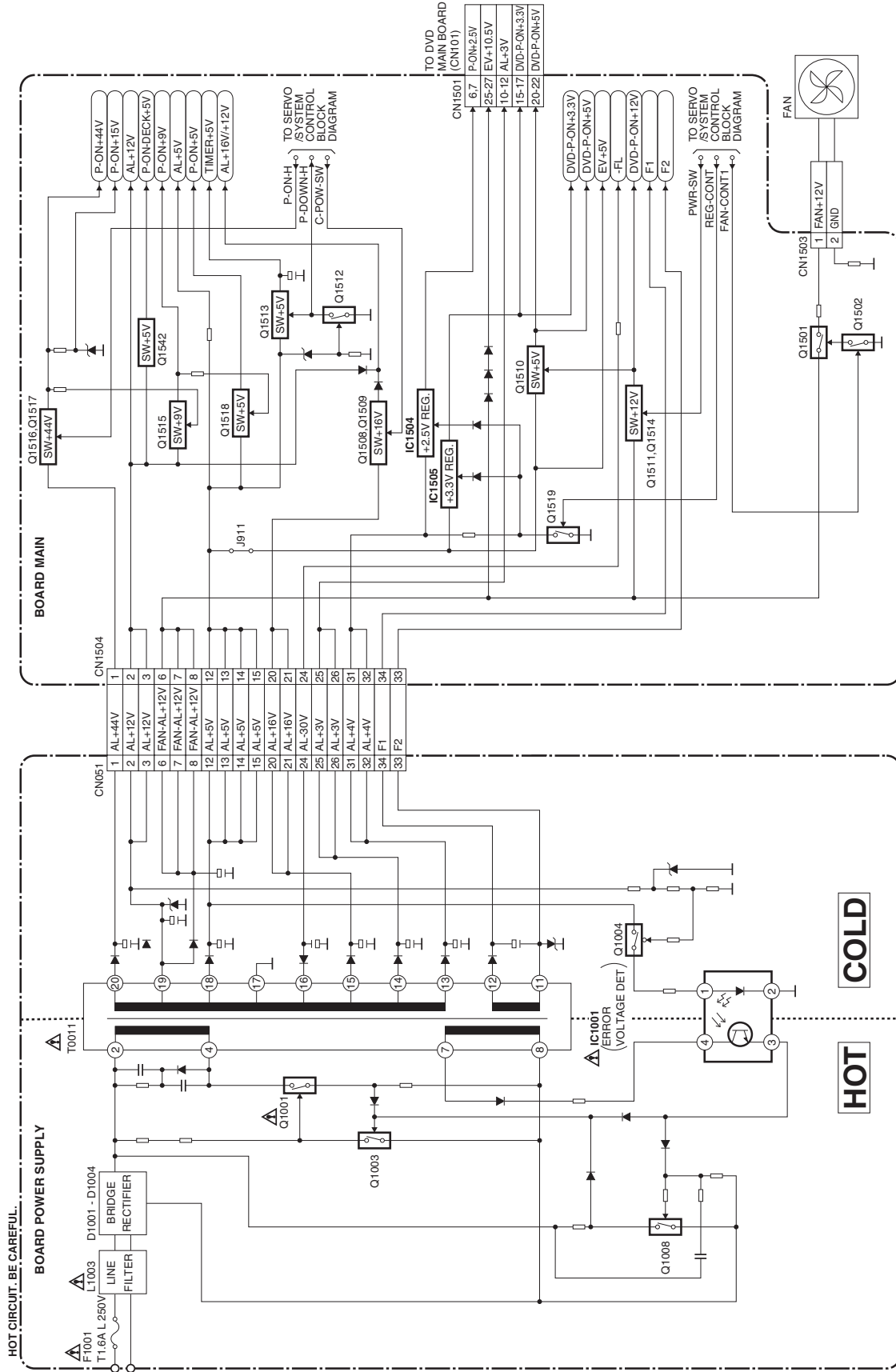


Power Supply Block Diagram

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

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.



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

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 ($P=10^{-6}$ μF).
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:

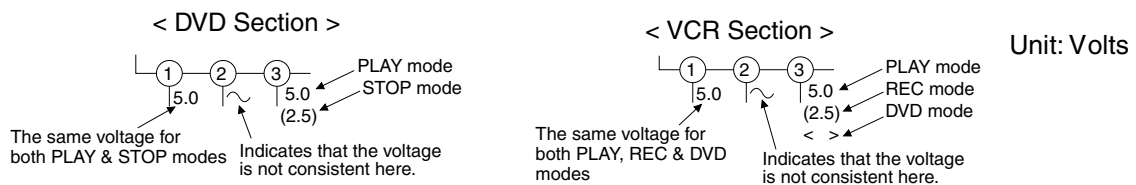
Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

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:

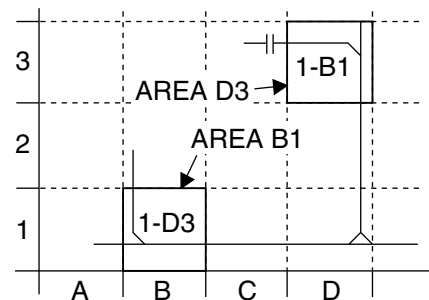


5. How to read converged lines

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".

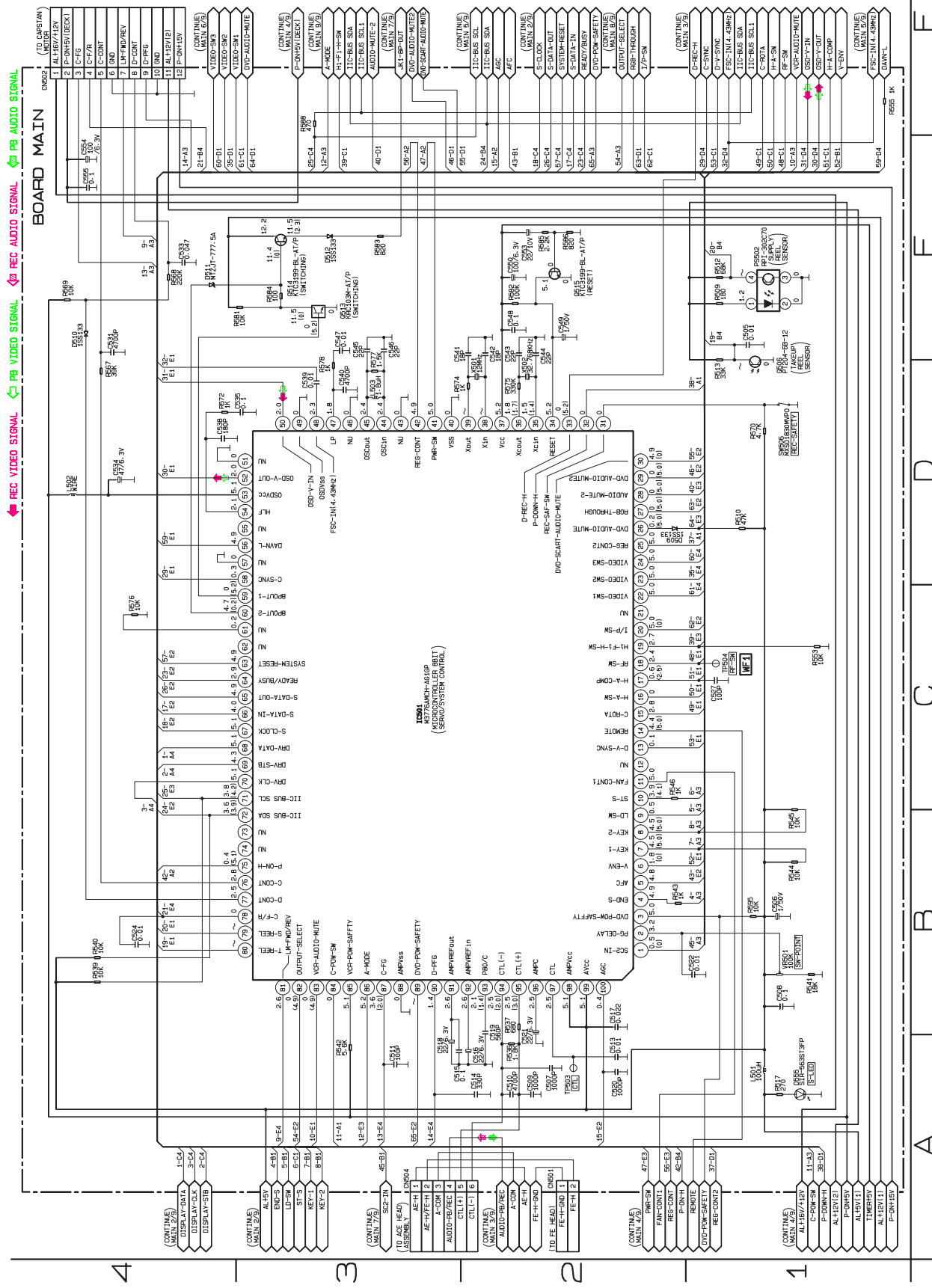


6. Test Point Information

- : 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.

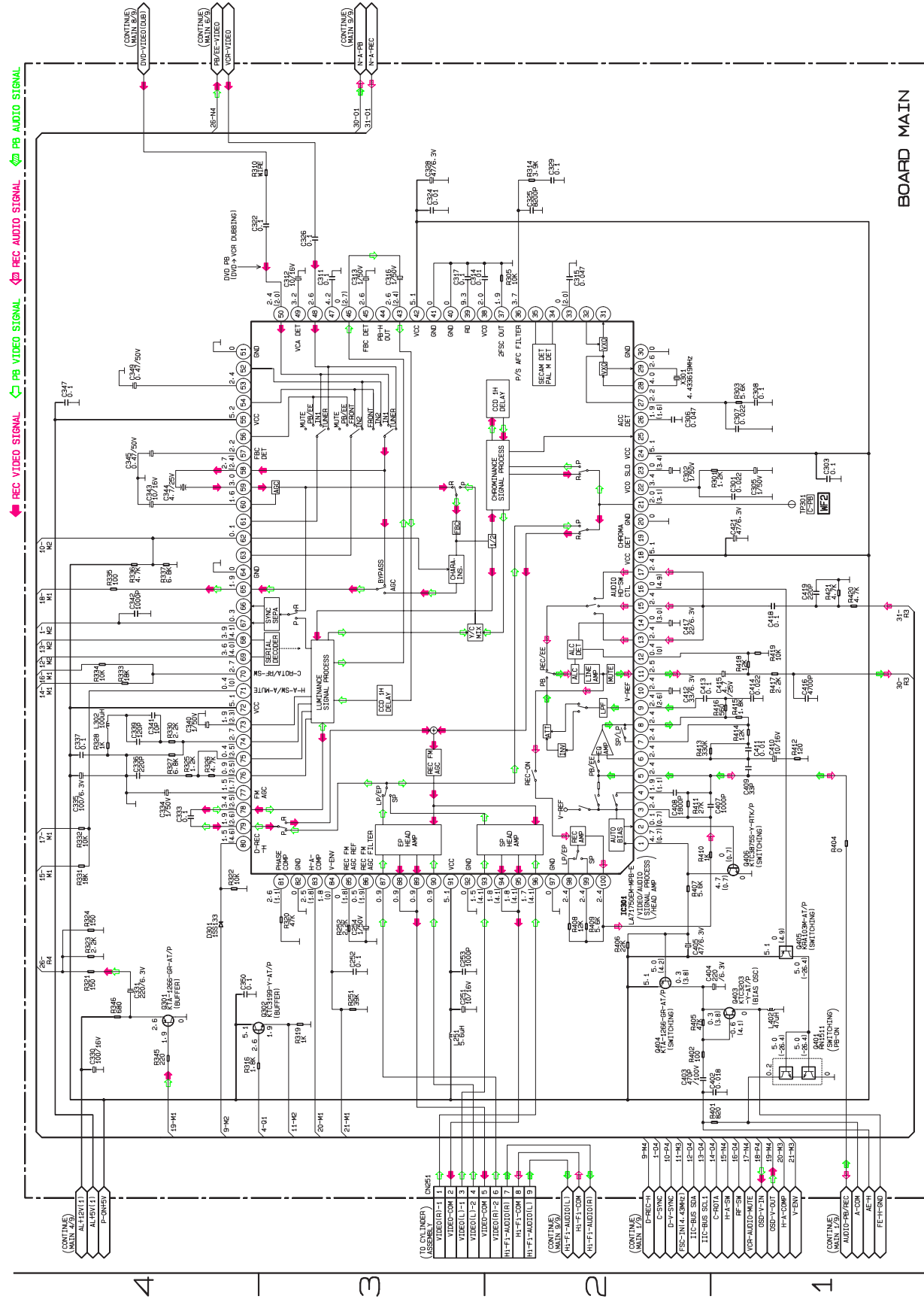
MAIN 1/9 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



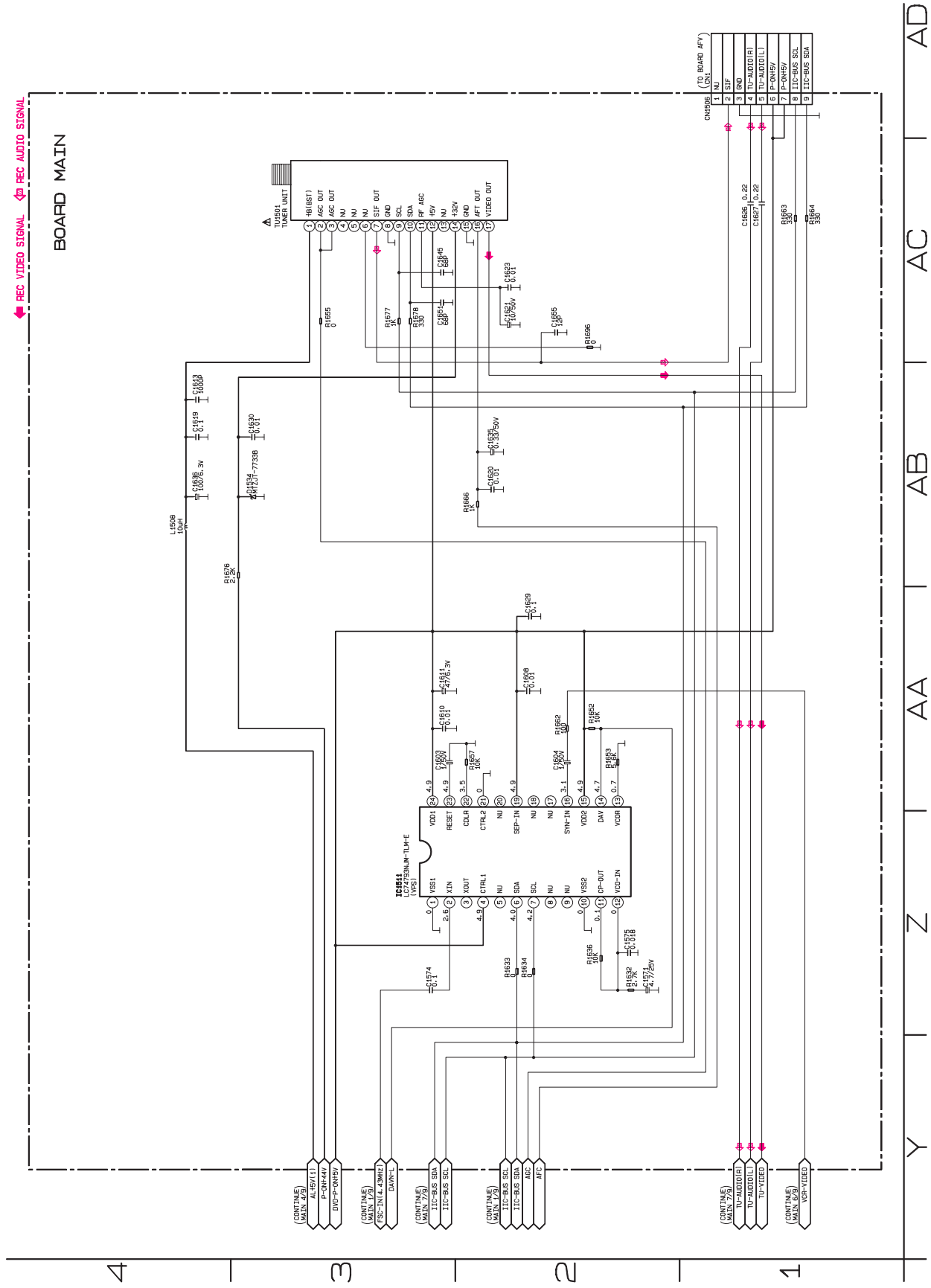
MAIN 3/9 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



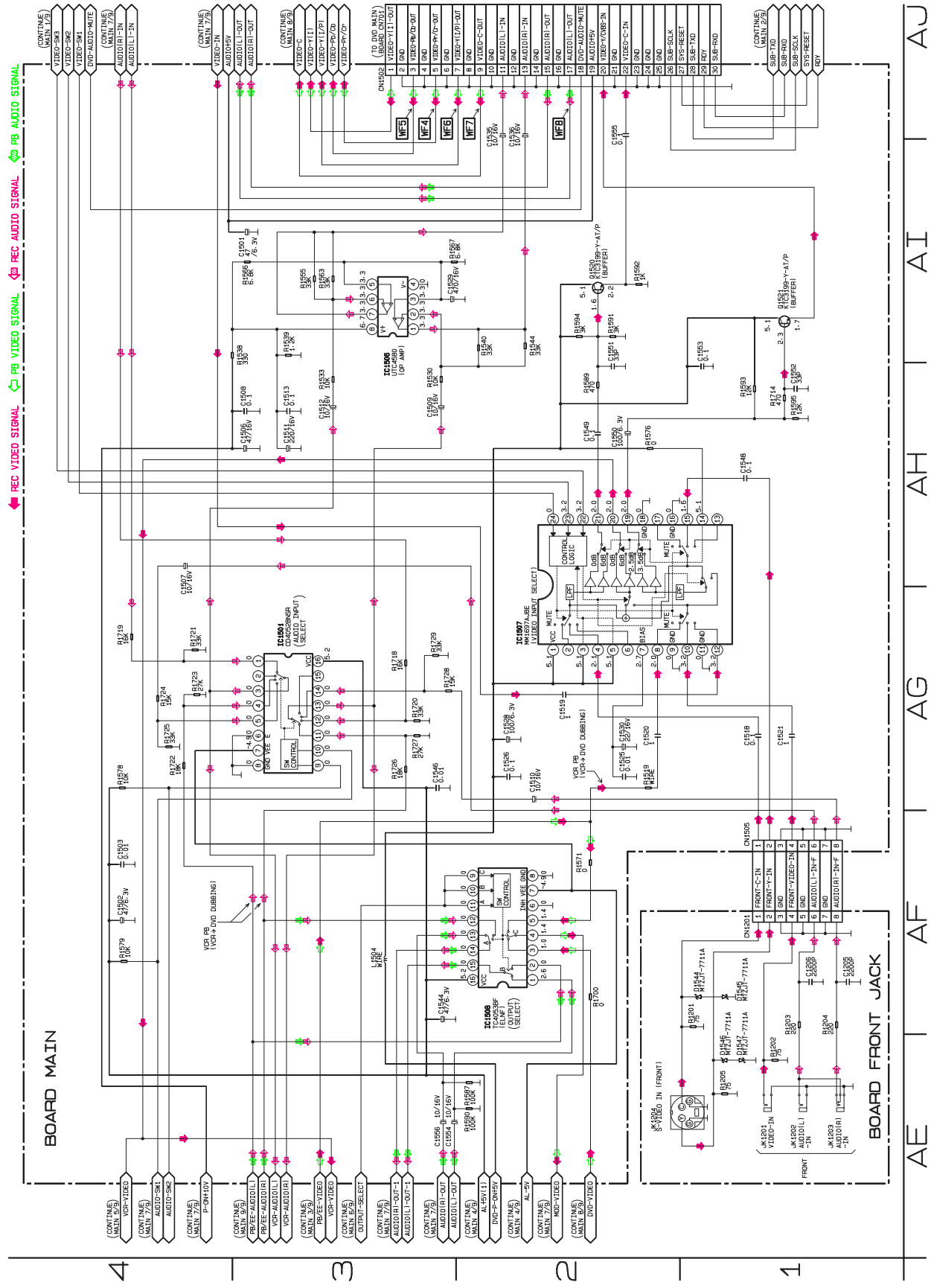
MAIN 5/9 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



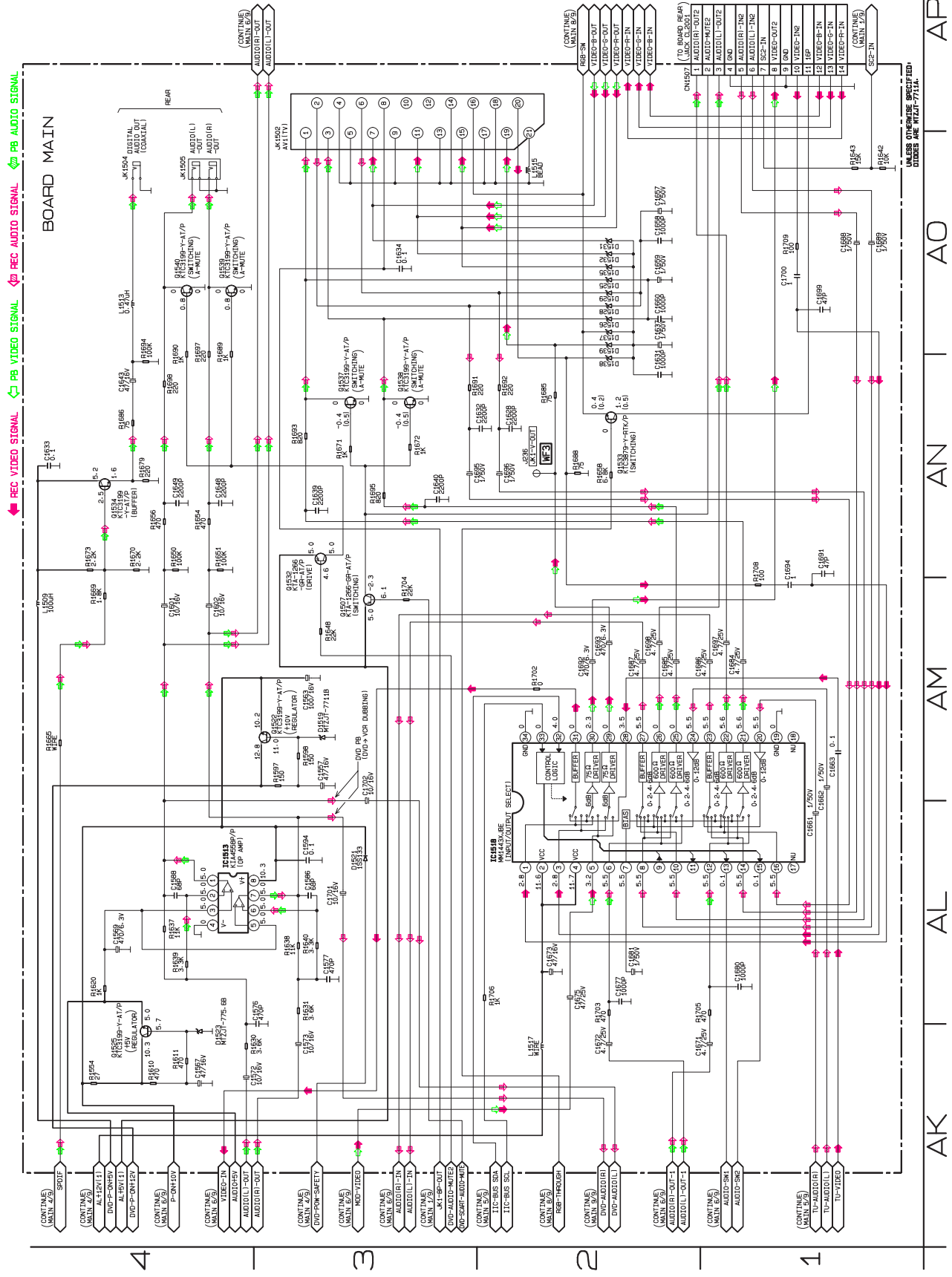
MAIN 6/9 & FRONT JACK Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



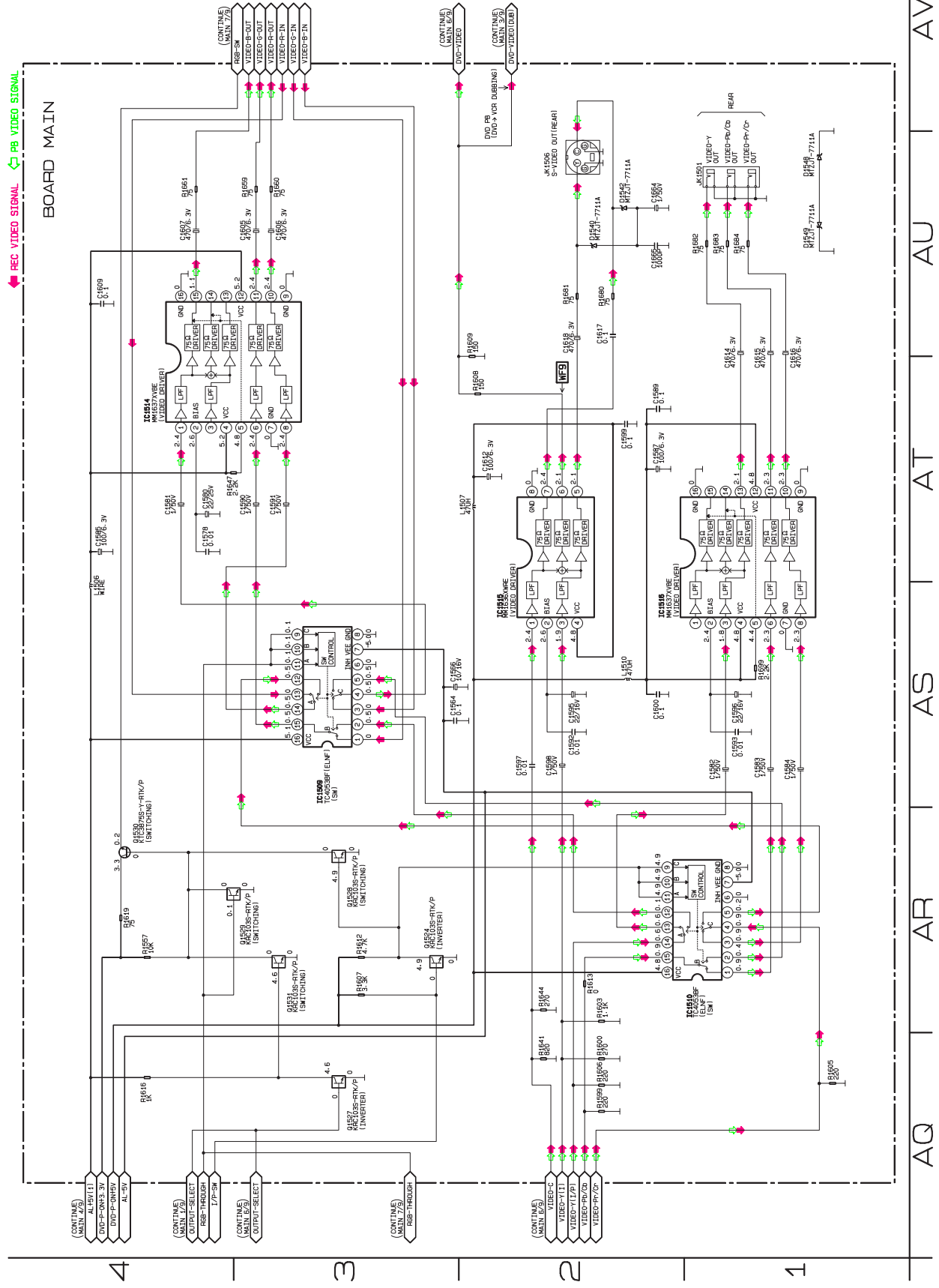
MAIN 719 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



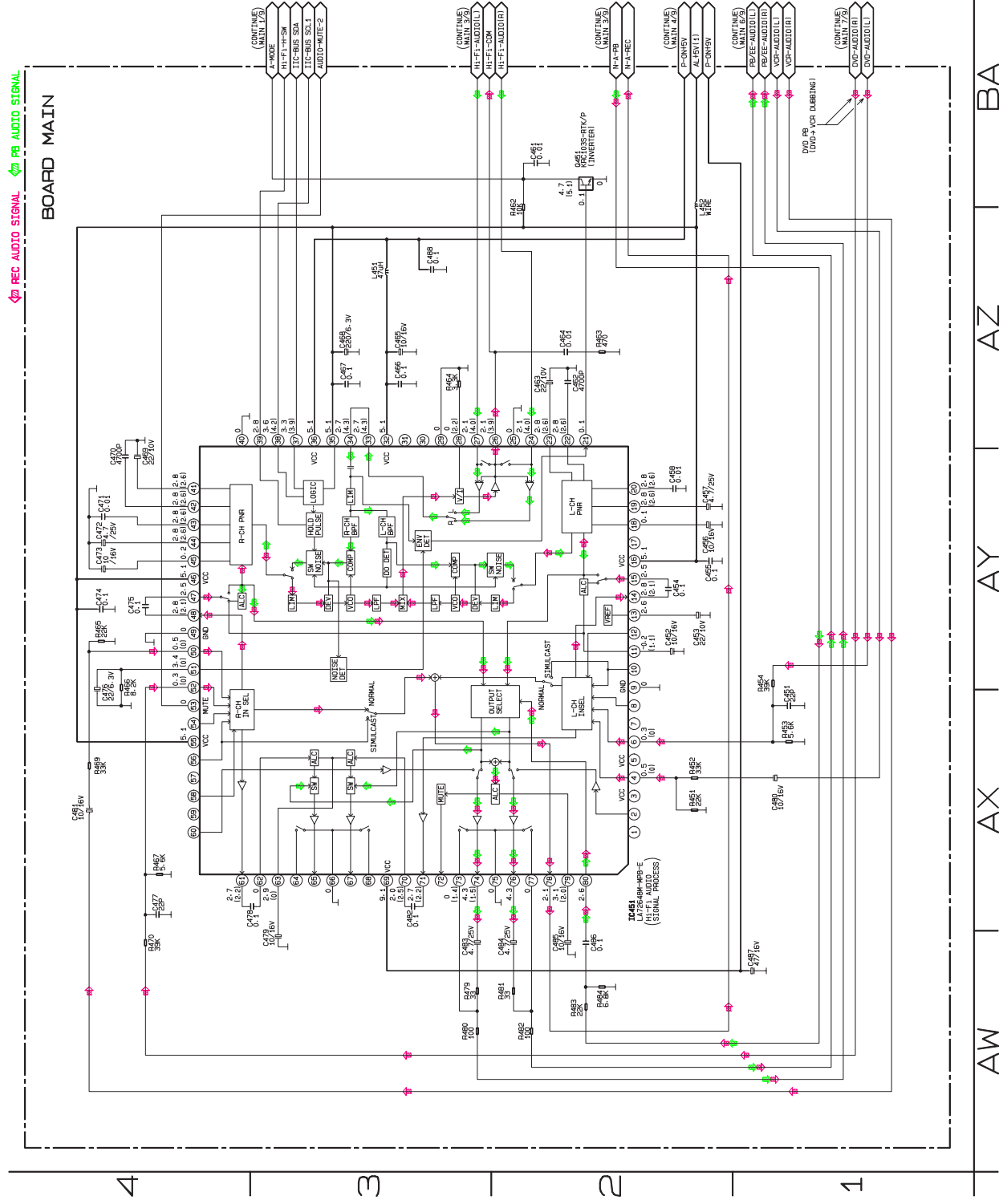
MAIN 8/9 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



MAIN 9/9 Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



AW | AX | AY | AZ | BA

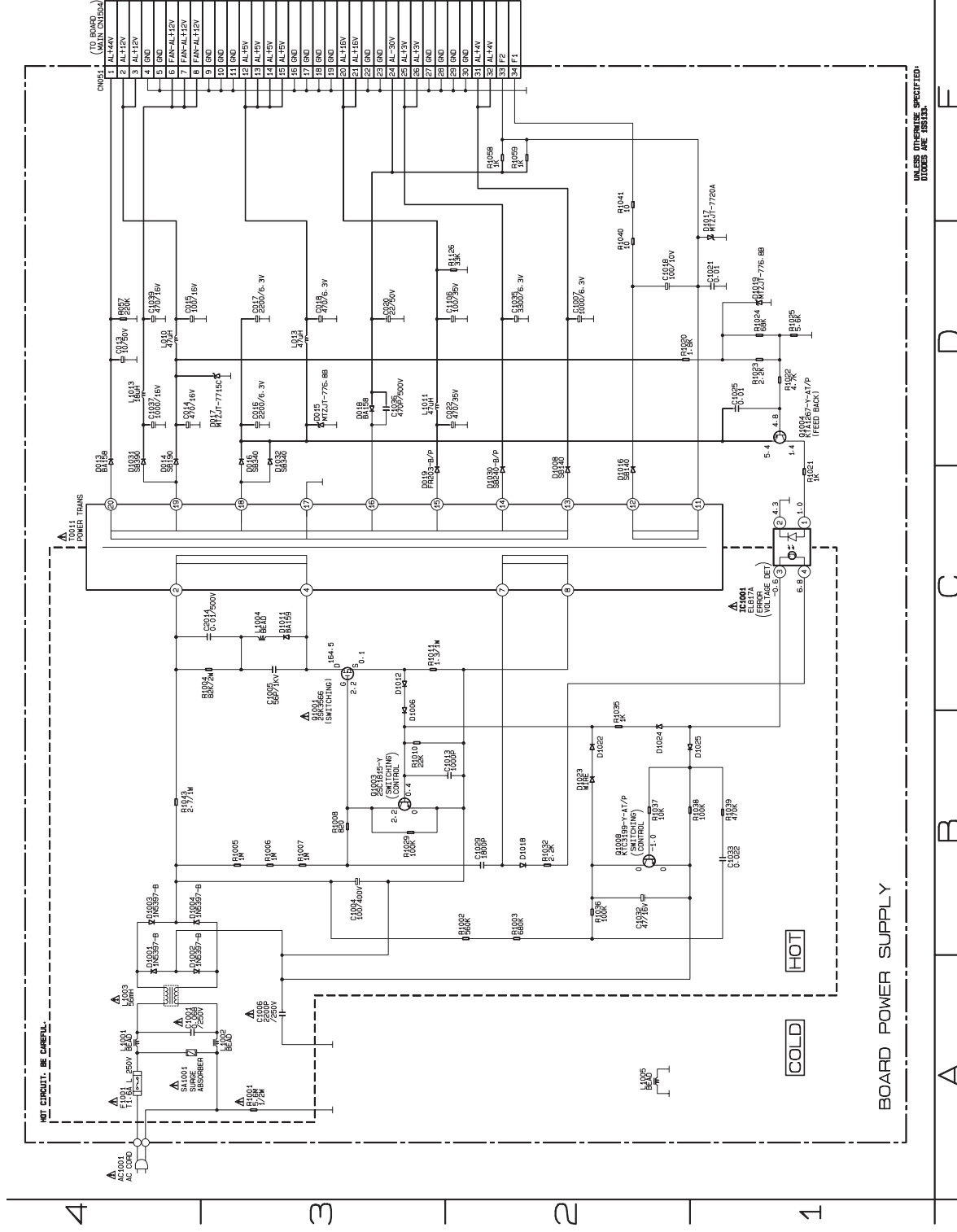
POWER SUPPLY Schematic Diagram < VCR Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

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

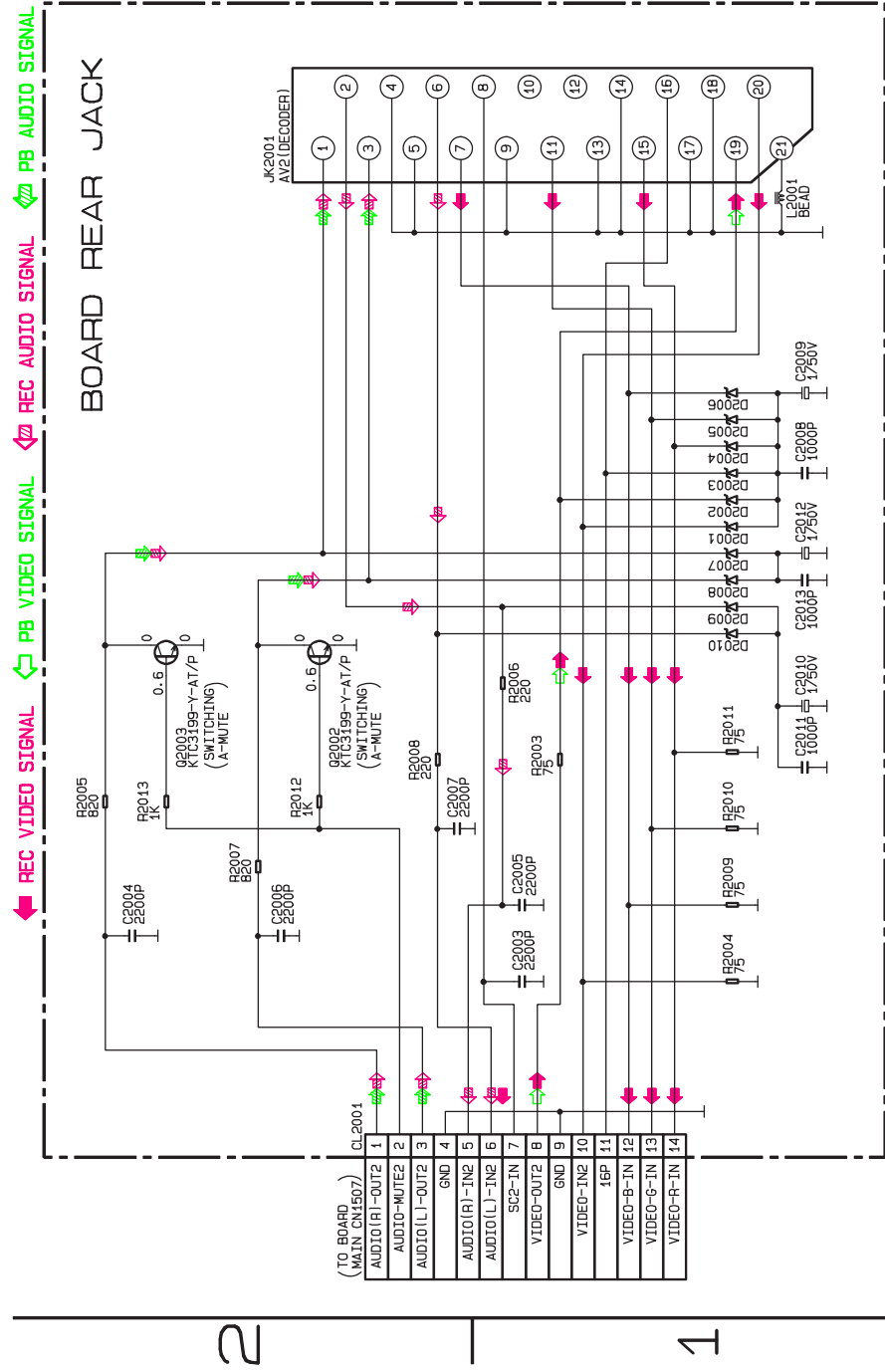
CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.

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



REAR JACK Schematic Diagram < VCR Section >

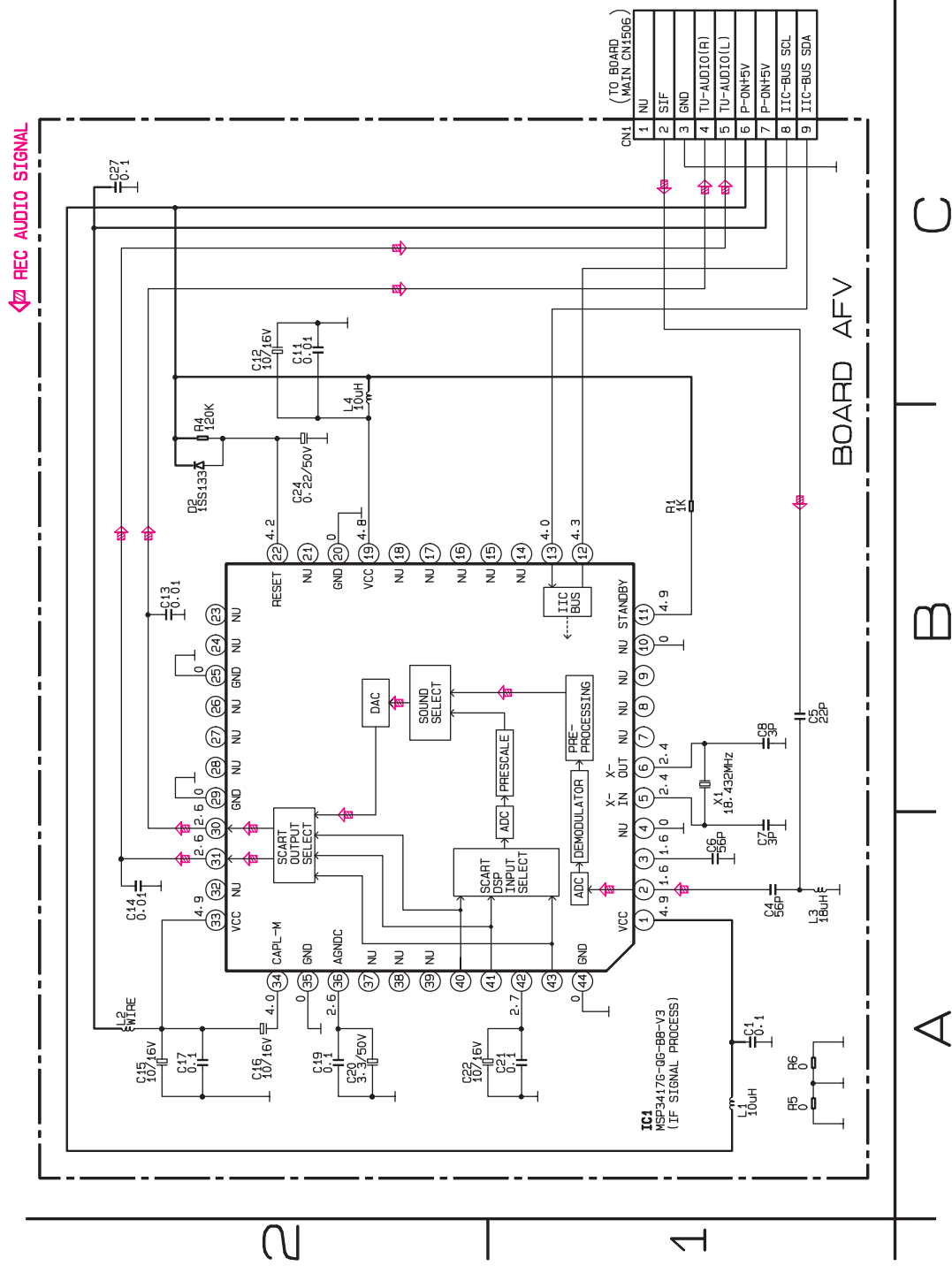
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



A B C

AFV Schematic Diagram < VCR Section >

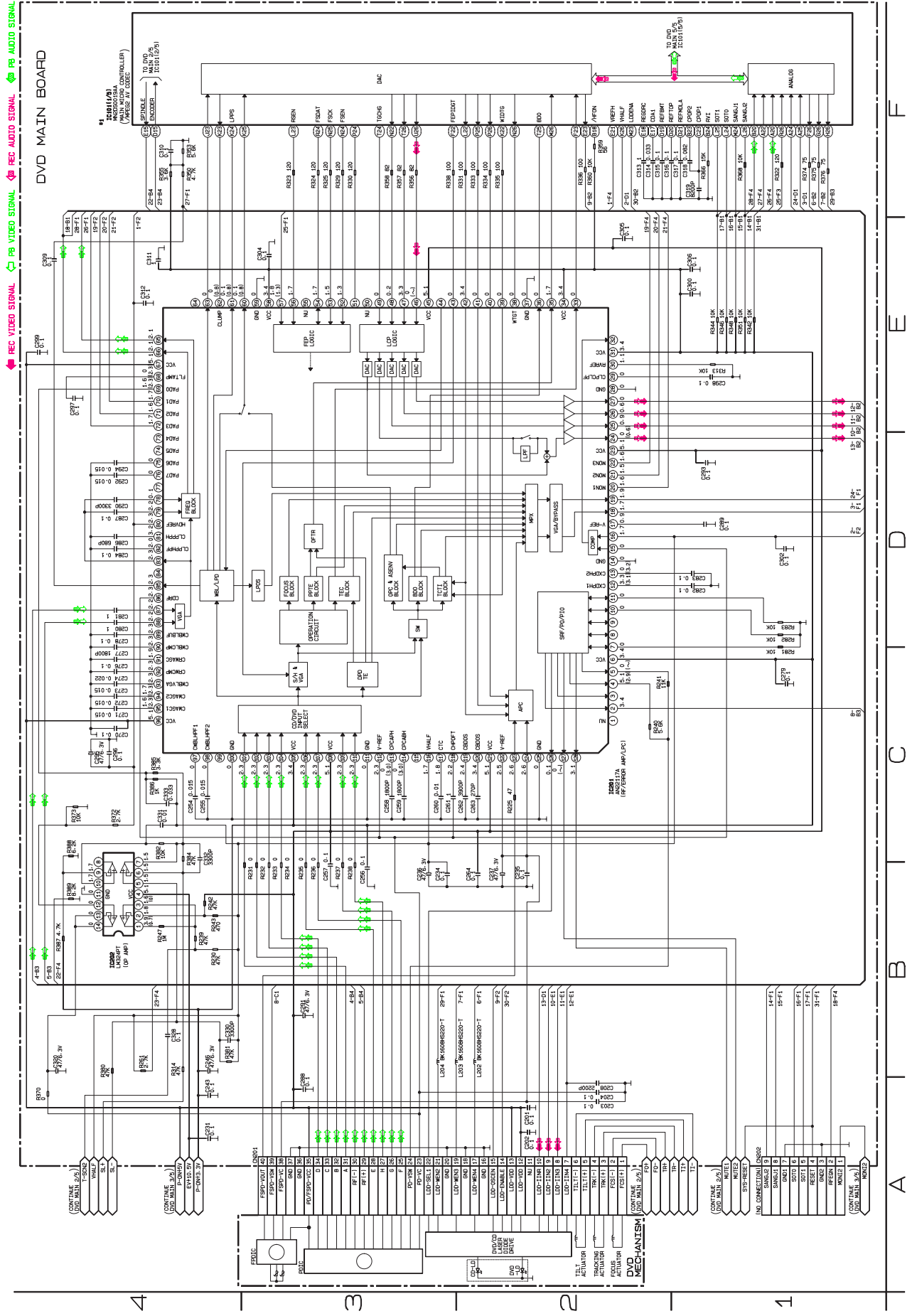
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



DVD MAIN 1/5 Schematic Diagram < DVD Section >

*1 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 Main Schematic Diagram Section.

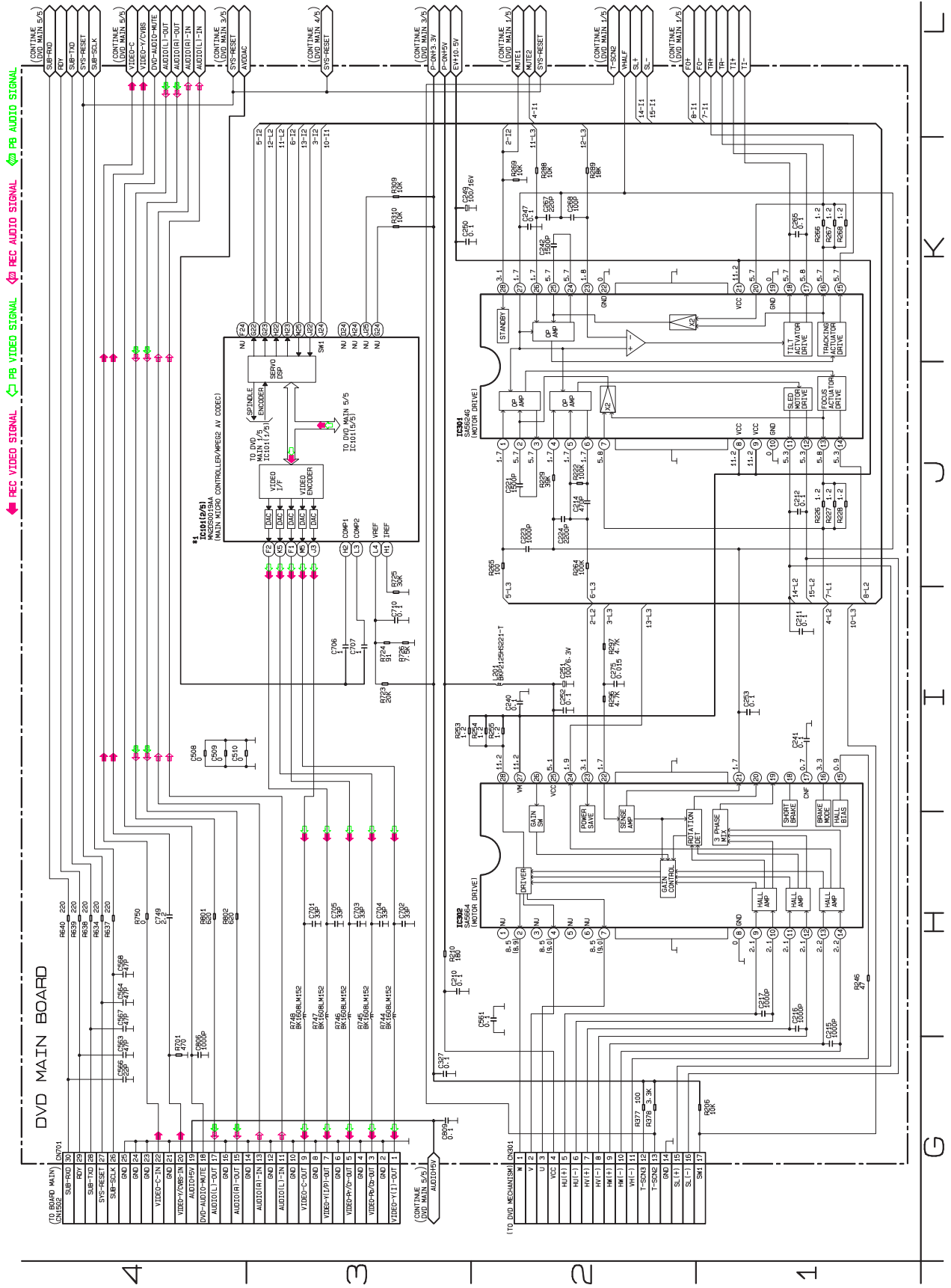
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



DVD MAIN 2/5 Schematic Diagram < DVD Section >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

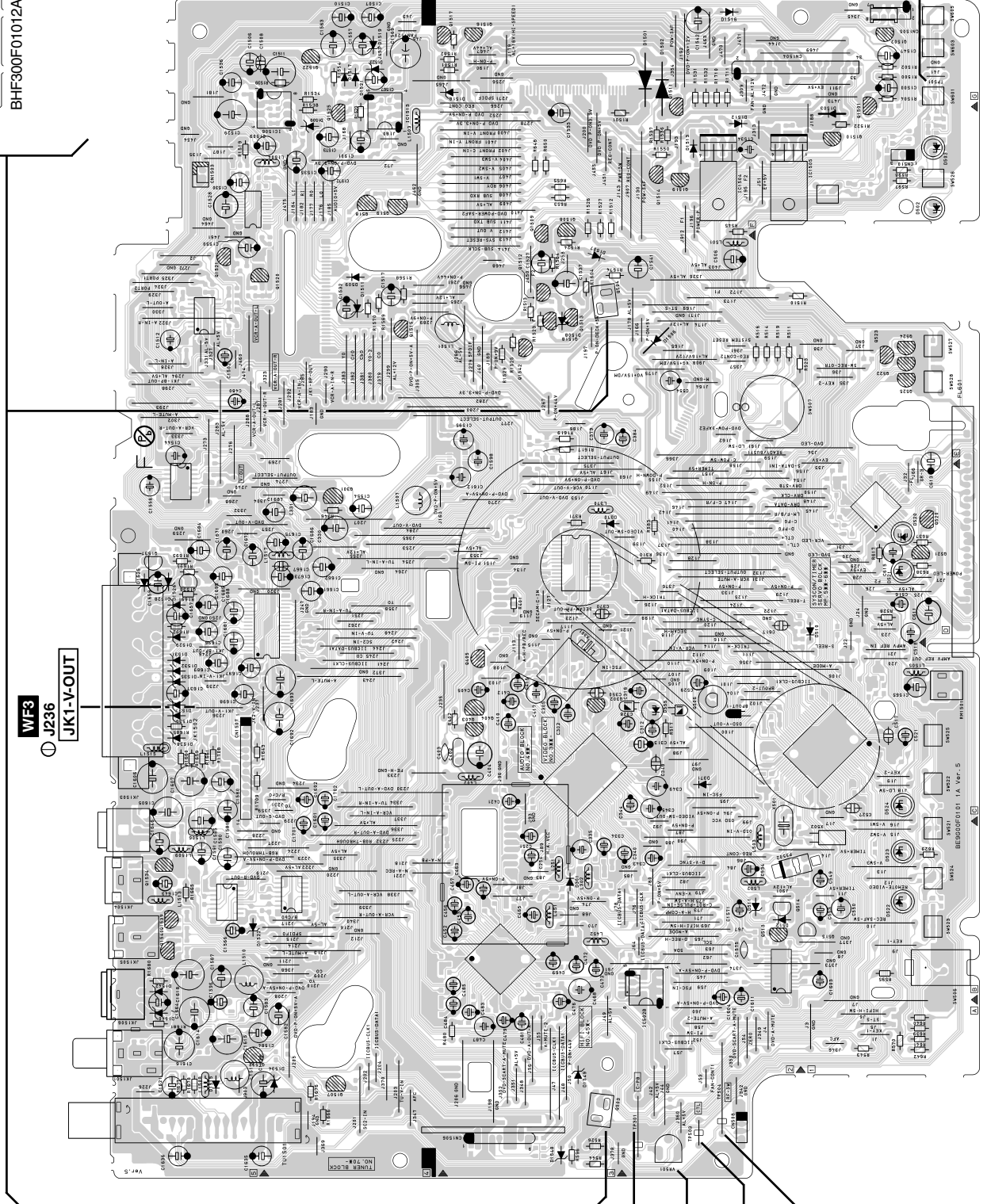
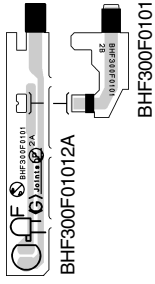
*1 NOTE:
The order of pins shown in this diagram is different from that of actual IC101.
IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD Main Schematic Diagram Section.



BOARD MAIN Top View

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

BOARD SENSOR Top View



WF3
J236
JK1-V-OUT

WF2
TP301
C-PB
VR501
SW-POINT
TP503
CTL
WF1
TP504
RF-SW

TP501
S-INH

BOARD MAIN Bottom View

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.

WF8
PIN 17 OF
CN1502

WF7
PIN 9 OF
CN1502

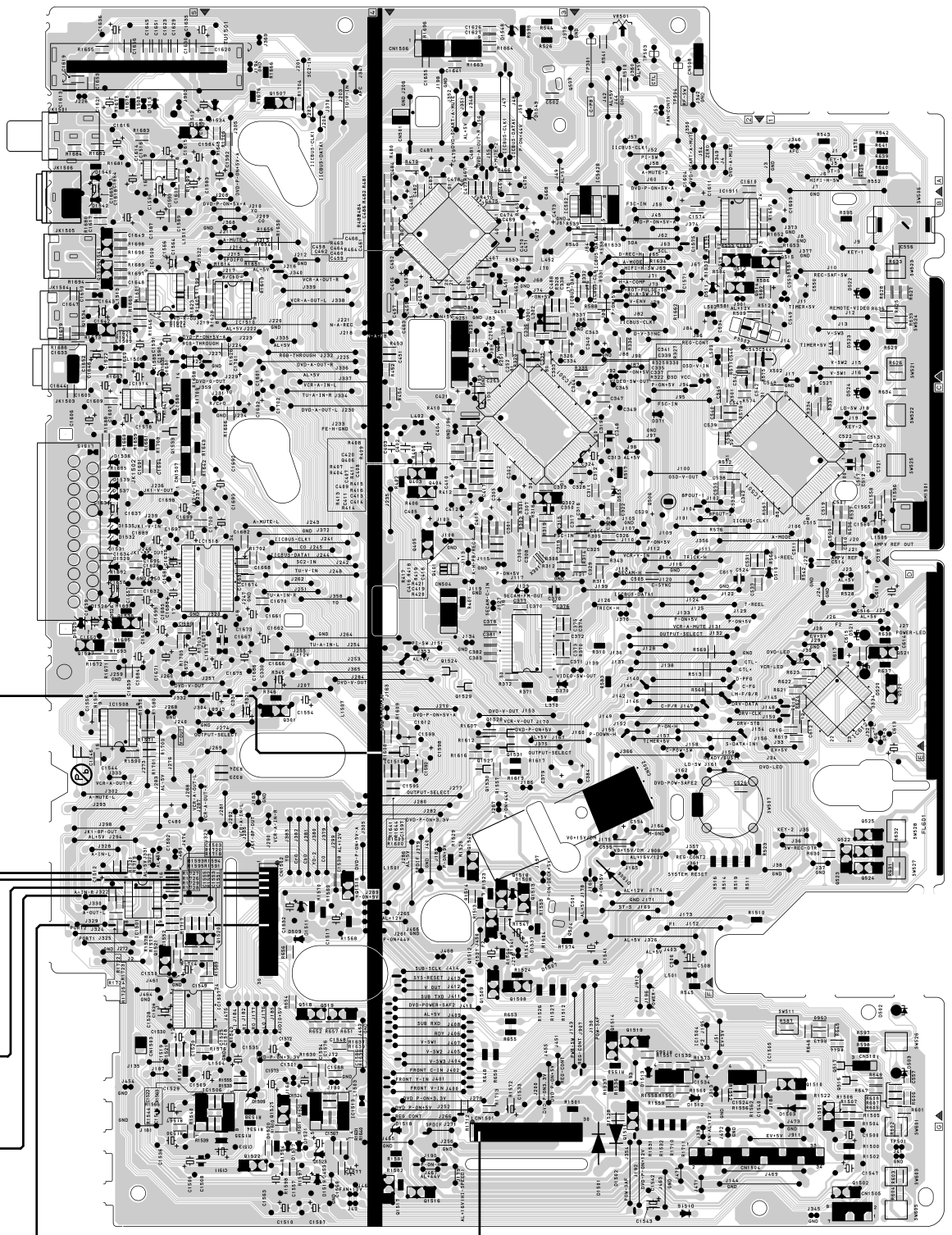
WF6
PIN 7 OF
CN1502

WF4
PIN 5 OF
CN1502

WF5
PIN 3 OF
CN1502

WF9
PIN 6 OF
IC1515

WF10
PIN 3 OF
CN1501



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.

CAUTION !

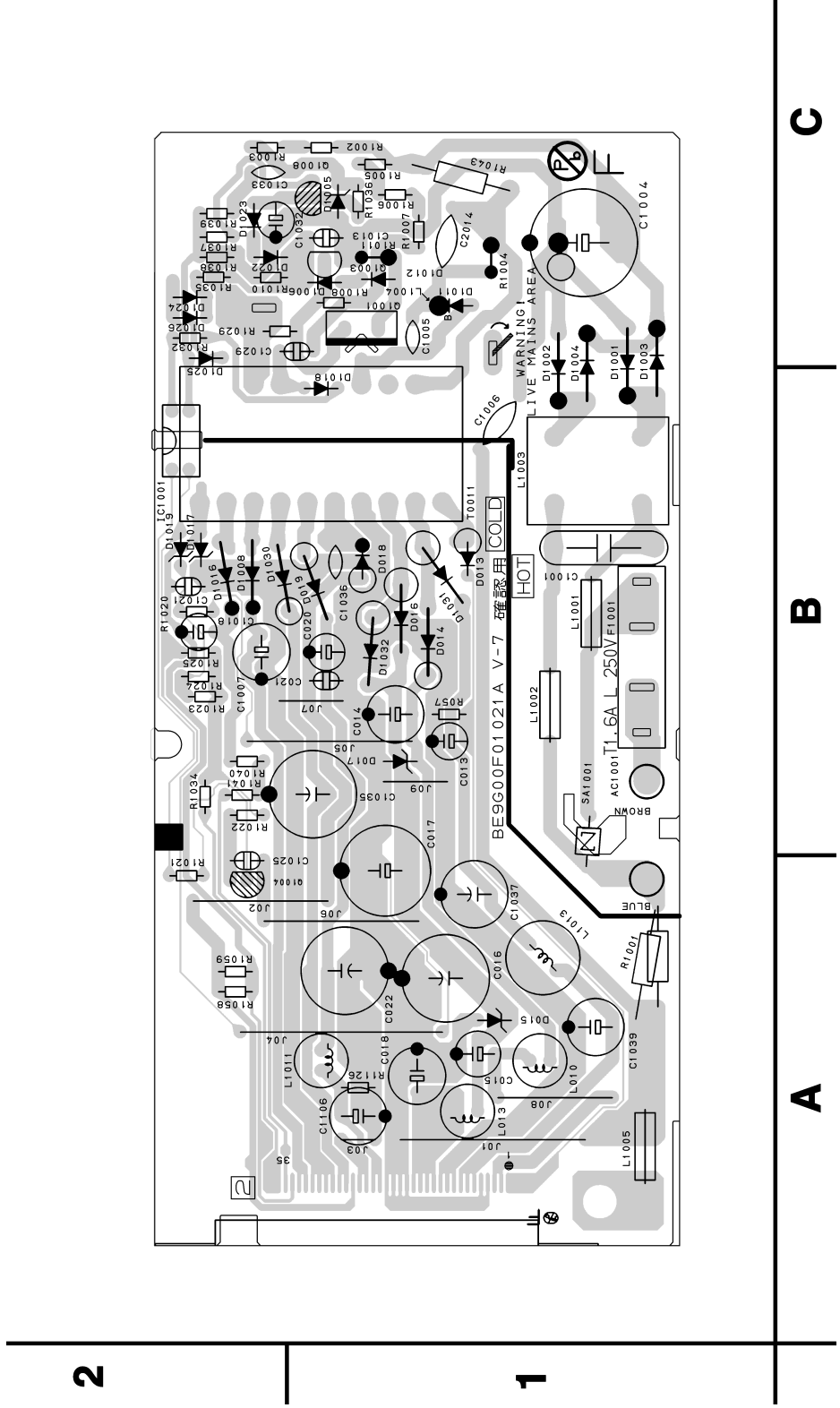
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power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

NOTE:

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.

NOTE:

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



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.

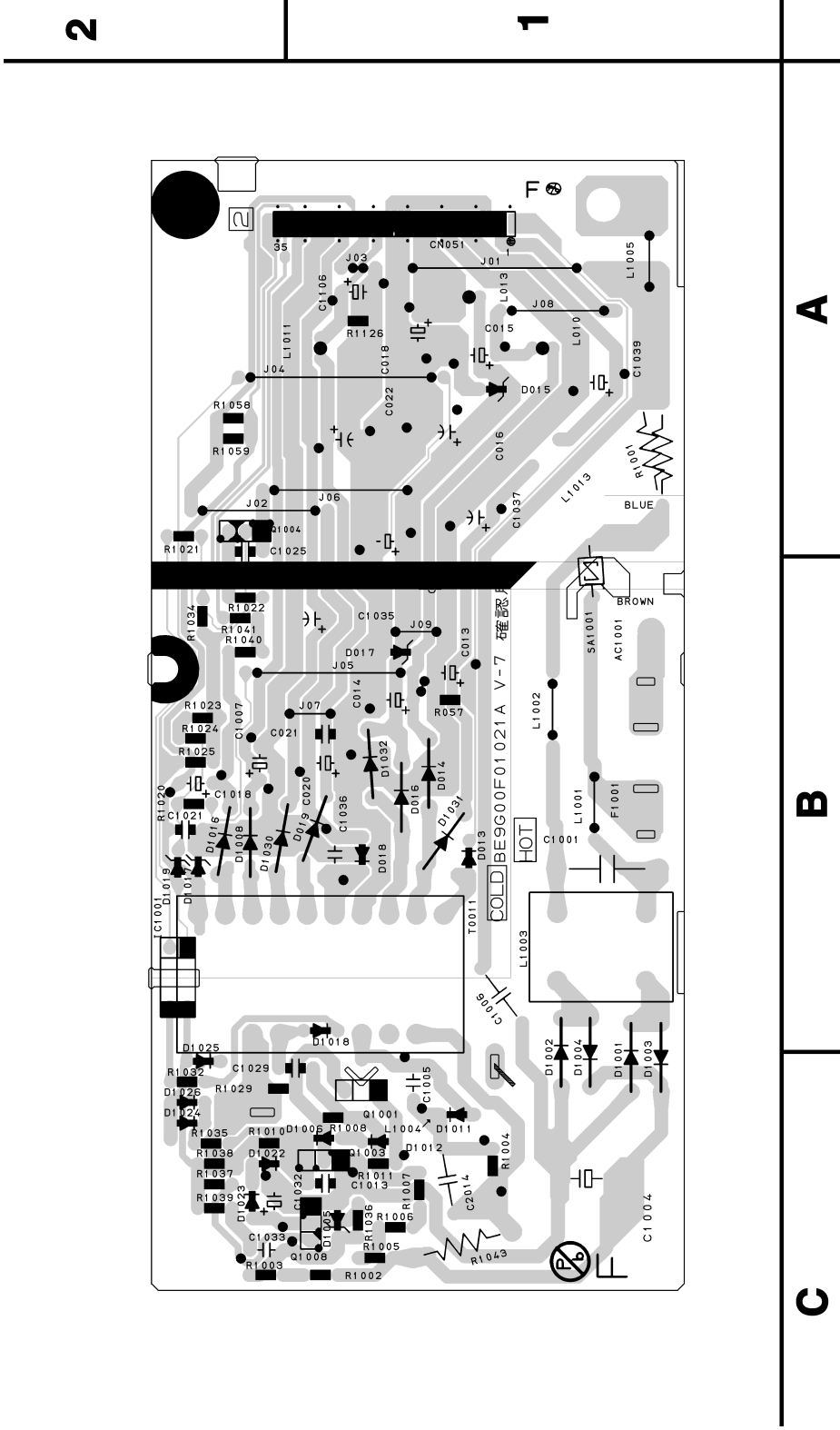
CAUTION !

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.

NOTE:

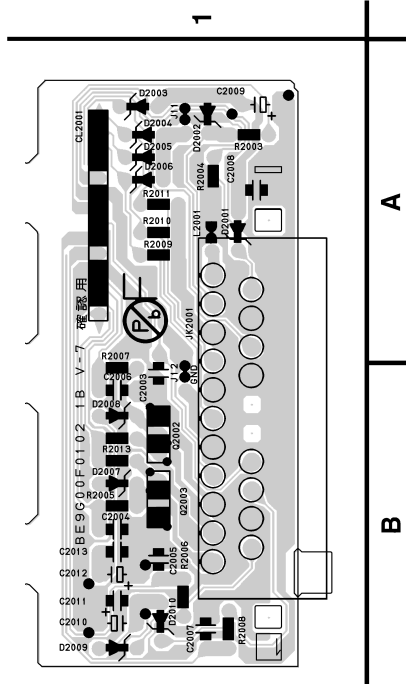
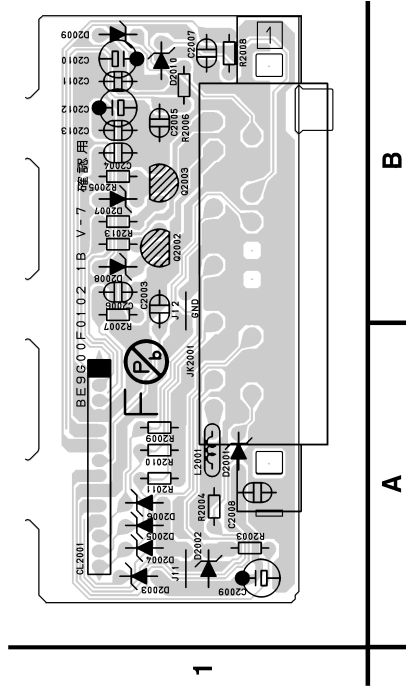
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



BOARD REAR JACK Top View

BOARD REAR JACK Bottom View

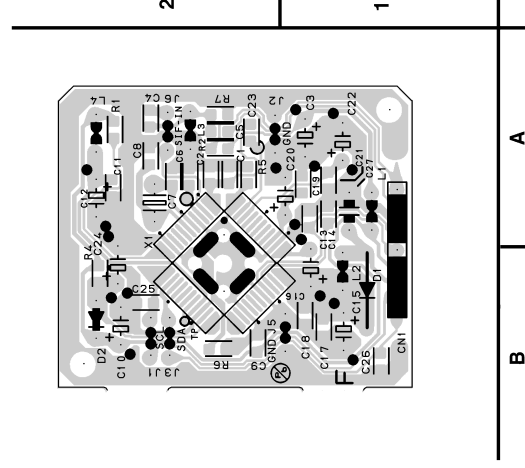
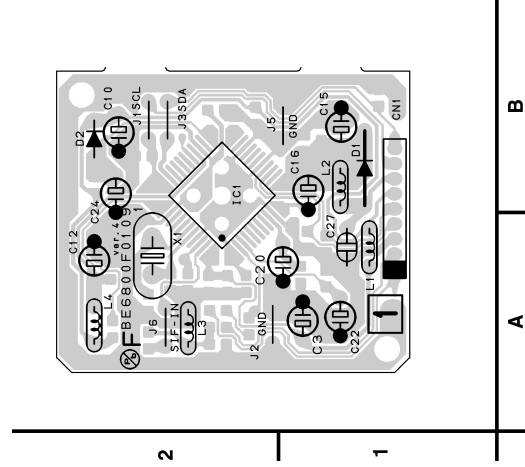
NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



BE9G00F01021B

BOARD AFV Top View

BOARD AFV Bottom View



BE6800F01091

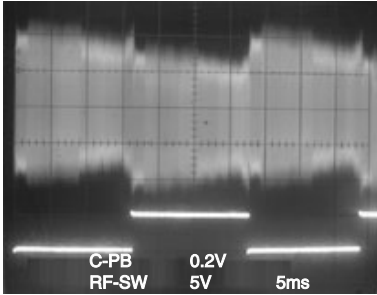
WAVEFORMS

NOTE:

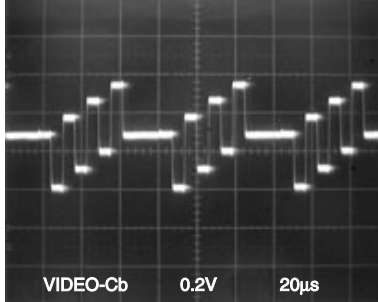
Input: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)

WF2 UPPER TP301

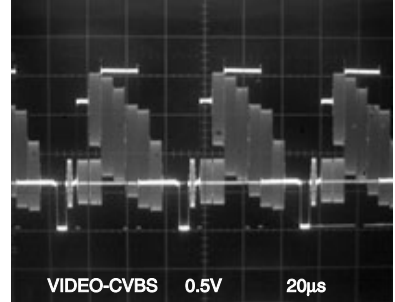
WF1 LOWER TP504



WF5 Pin 3 of CN1502

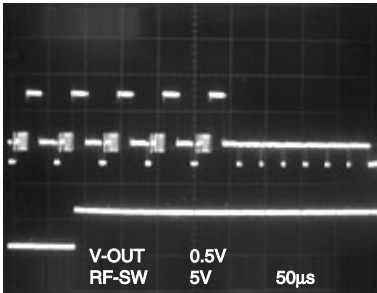


WF9 Pin 6 of IC1515

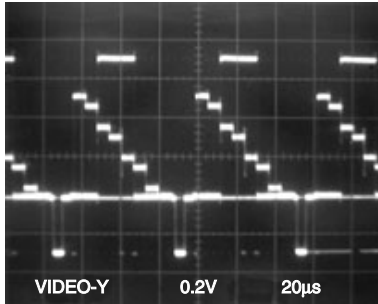


WF3 UPPER J236

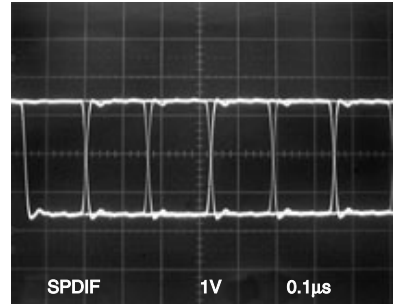
WF1 LOWER TP504



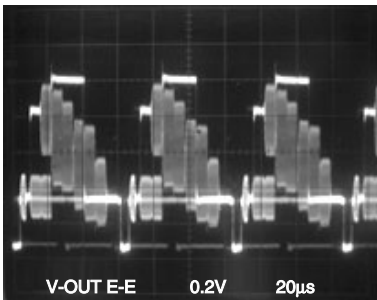
WF6 Pin 7 of CN1502



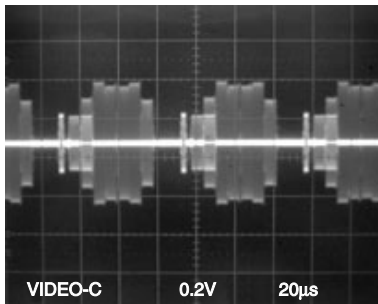
WF10 Pin 3 of CN1501



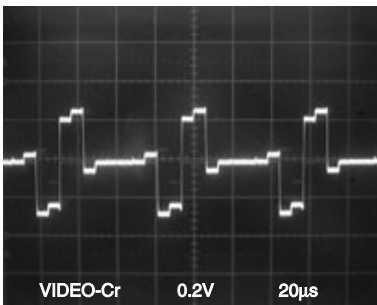
WF3 J236



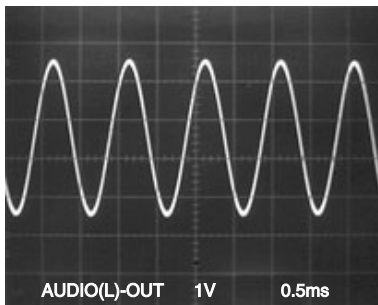
WF7 Pin 9 of CN1502



WF4 Pin 5 of CN1502

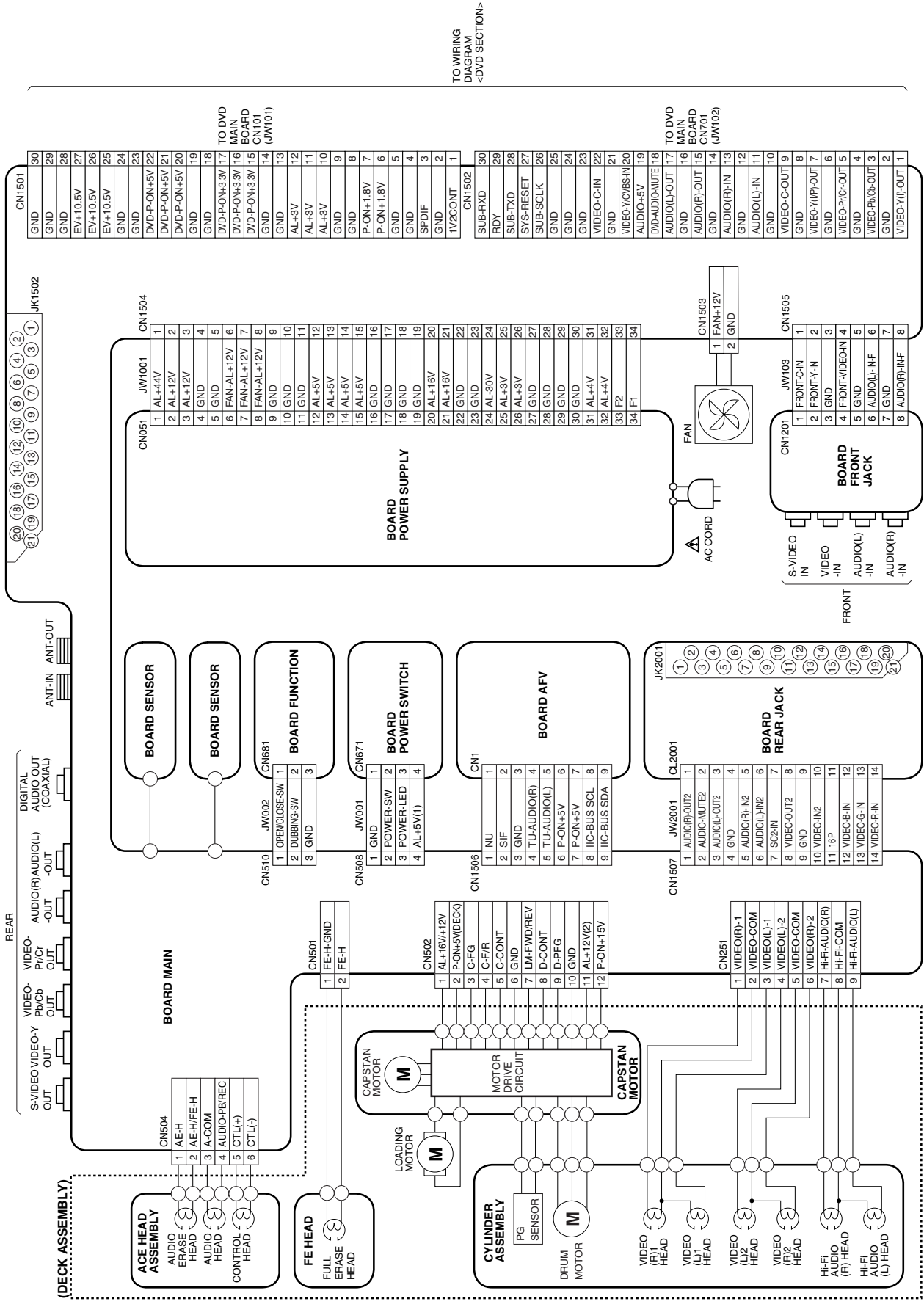


WF8 Pin 17 of CN1502



WIRING DIAGRAM < VCR SECTION >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



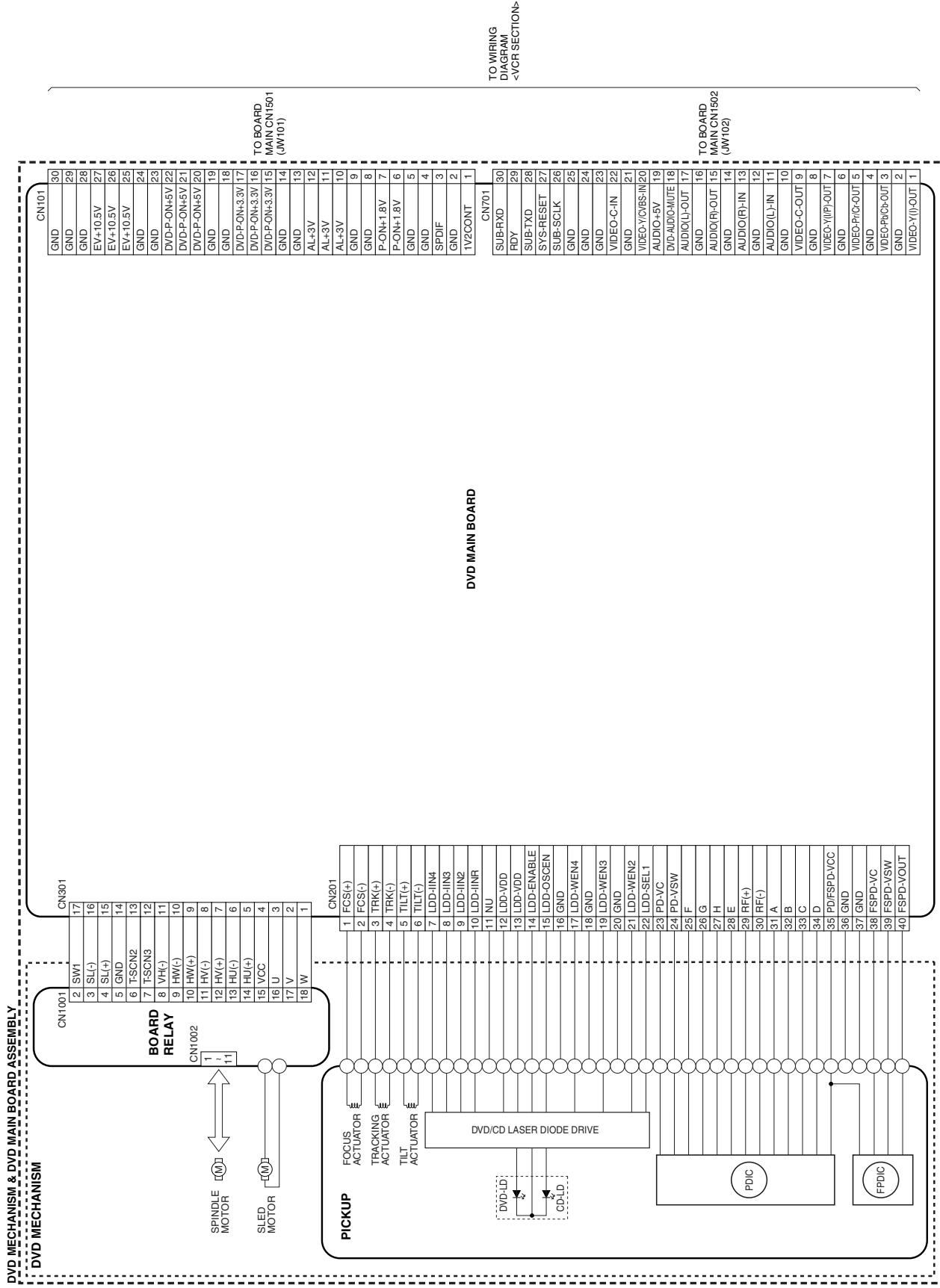
TO WIRING
DIAGRAM
<-DVD SECTION>

TO DVD
MAIN
BOARD
CN701
(JW102)

TO DVD
MAIN
BOARD
CN101
(JW101)

WIRING DIAGRAM < DVD SECTION >

NOTE: BOARD MEANS PRINTED CIRCUIT BOARD.



IC PIN FUNCTION DESCRIPTIONS

< VCR Section >

IC501(SERVO / SYSTEM CONTROL)

| Pin No. | IN/ OUT | Signal Name | Function |
|---------|---------|----------------|--|
| 1 | IN | SC2-IN | Input Signal from Pin 8 of SCART2 |
| 2 | IN | PG-DELAY | Video Head Switching Pulse Signal Adjusted Voltage |
| 3 | IN | DVD-POW-SAFETY | Abnormal Voltage Detection |
| 4 | IN | END-S | Tape End Position Detect Signal |
| 5 | IN | AFC | Automatic Frequency Control Signal |
| 6 | IN | V-ENV | Video Envelope Comparator Signal |
| 7 | IN | KEY-1 | Key Data Input 1 |
| 8 | IN | KEY-2 | Key Data Input 2 |
| 9 | IN | LD-SW | Deck Mode Position Detector Signal |
| 10 | IN | ST-S | Tape Start Position Detector Signal |
| 11 | OUT | FAN-CONT1 | Fan Motor Control Signal |
| 12 | - | NU | Not Used |
| 13 | OUT | D-V- SYNC | Dummy V-sync Output |
| 14 | IN | 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 | OUT | I/P-SW | Progressive/Interlace Data Output |
| 21 | - | NU | Not Used |
| 22 | OUT | VIDEO-SW1 | Video Input Select Signal 1 |
| 23 | OUT | VIDEO-SW2 | Video Input Select Signal 2 |
| 24 | OUT | VIDEO-SW3 | Video Input Select Signal 3 |
| 25 | OUT | REG-CONT2 | Power Regulator Control Signal |
| 26 | OUT | DVD-AUDIO-MUTE | DVD Audio Mute Control Signal |
| 27 | OUT | RGB-THROUGH | SCART 2 RGB Through Control Signal |

| Pin No. | IN/ OUT | Signal Name | Function |
|---------|---------|----------------------|---|
| 28 | OUT | AUDIO-MUTE-2 | Audio Mute Control Signal |
| 29 | OUT | DVD-AUDIO-MUTE2 | DVD Audio Mute Control Signal |
| 30 | OUT | DVD-SCART-AUDIO-MUTE | DVD SCART Audio Mute Control Signal |
| 31 | IN | REC-SAF-SW | Recording Safety SW Detect (With Record tab="L"/ With out Record tab="H") |
| 32 | IN | P-DOWN -H | Power Voltage Down Detector Signal |
| 33 | OUT | D-REC-H | Delayed Record Signal |
| 34 | IN | RESET | System Reset Signal (Reset="L") |
| 35 | IN | Xcin | Sub Clock Input |
| 36 | OUT | Xcout | Sub Clock Output |
| 37 | - | Vcc | +5V Power Supply (Timer) |
| 38 | IN | Xin | Main Clock Input |
| 39 | OUT | Xout | Main Clock Output |
| 40 | - | Vss | Ground |
| 41 | OUT | PWR-SW | DVD Power Supply Control Signal |
| 42 | OUT | REG-CONT | Power Regulator Control Signal |
| 43 | IN | NU | Ground |
| 44 | IN | OSCin | Clock Input for letter size |
| 45 | OUT | OSCout | Clock Output for letter size |
| 46 | - | NU | Ground |
| 47 | IN | LP | LP |
| 48 | IN | FSC-IN [4.43MHz] | 4.43MHz Clock Input |
| 49 | - | OSDVss | OSDVss |
| 50 | IN | OSD-V-IN | OSD Video Signal Input |
| 51 | - | NU | Not Used |
| 52 | OUT | OSD-V-OUT | OSD Video Signal Output |
| 53 | - | OSDVcc | +5V at Power On Signal |
| 54 | - | HLF | LPF Connected Terminal (Slicer) |
| 55 | - | NU | Not Used |
| 56 | IN | DAVN-L | VPS/PDC Data Receive = "L" |
| 57 | - | NU | Not Used |
| 58 | IN | C-SYNC | Composite Synchronized Pulse |

| Pin No. | IN/ OUT | Signal Name | Function |
|---------|---------|----------------|---|
| 59 | OUT | 8POUT-1 | Control SCART 1 8Pin Level by using 8POUT-1 and 8POUT-2 |
| 60 | OUT | 8POUT-2 | Control SCART 1 8Pin Level by using 8POUT-1 and 8POUT-2 |
| 61 | - | NU | Not Used |
| 62 | - | NU | Not Used |
| 63 | OUT | SYSTEM-RESET | System Reset Signal |
| 64 | IN | READY/BUSY | Ready/Busy communication Control with Main Micro Controller |
| 65 | OUT | S-DATA-OUT | Communication of Data from VCR Micro Controller |
| 66 | IN | S-DATA-IN | Communication of Data to VCR Micro Controller |
| 67 | OUT | S-CLOCK | Communication of Clock with VCR Micro Controller |
| 68 | OUT | DRV-DATA | VFD Driver IC Control Data |
| 69 | OUT | DRV-STB | VFD Driver IC Chip Select Signal |
| 70 | OUT | DRV-CLK | VFD Driver IC Control Clock |
| 71 | OUT | IIC-BUS SCL | IIC BUS 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-FWD/REV | Loading Motor Control Signal |
| 82 | OUT | OUTPUT-SELECT | Output Select |
| 83 | OUT | VCR-AUDIO-MUTE | Audio Mute Control Signal (Mute = "H") |
| 84 | OUT | C-POW-SW | Capstan Power Switching Signal |
| 85 | IN | VCR-POW-SAFETY | VCR Power Supply Safety Signal |
| 86 | IN | A-MODE | Hi-Fi Tape Detection Signal |
| 87 | IN | C-FG | Capstan Motor Rotation Detection Pulse |
| 88 | - | AMPVss | Ground |

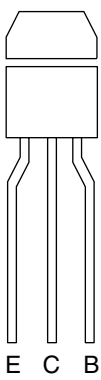
| Pin No. | IN/ OUT | Signal Name | Function |
|---------|---------|----------------|------------------------------------|
| 89 | IN | DVD-POW-SAFETY | DVD Power Supply Safety Signal |
| 90 | IN | D-PFG | Drum PG/FG Input Signal |
| 91 | - | AMPVREF out | V-Ref for CTL AMP |
| 92 | - | AMPVREF in | V-Ref 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 | IN | AGC | IF AGC Comparator Signal |

IC612 (VFD DRIVER)

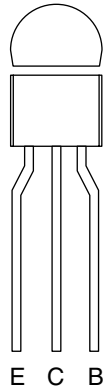
| Pin No. | IN/ OUT | Signal Name | Name Function |
|---------|---------|-------------|-----------------------------|
| 1 | OUT | POWER-LED | Power LED Control Signal |
| 2 | OUT | DVD-LED | DVD LED Control Signal |
| 3 | OUT | VCR-LED | VCR LED Control Signal |
| 4 | - | NU | Not Used |
| 5 | IN | OSC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

| Pin No. | IN/ OUT | Signal Name | Name Function |
|---------|---------|-------------|---------------|
| 36 | OUT | 7G | Grid Output |
| 37 | | 6G | |
| 38 | | 5G | |
| 39 | | 4G | |
| 40 | | 3G | |
| 41 | | 2G | |
| 42 | | 1G | |
| 43 | | - | |
| 44 | - | VSS | Ground |

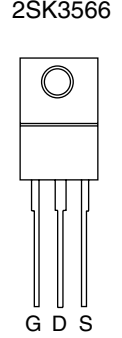
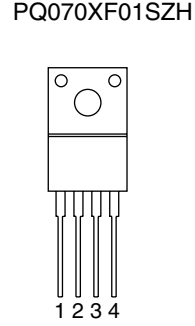
LEAD IDENTIFICATIONS



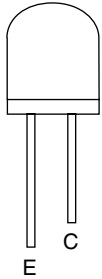
KRA103M-AT/P
KRA104M-AT/P
KRC103M-AT/P
KTA1267-Y-AT/P
KTA1273-Y-AT/P
KTA1281Y-AT/P
KTC3199-(BL,Y)-AT/P



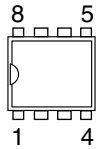
2SC1815-Y(TE2 F T)
KTA-1266-GR-AT/P
KTC3198-Y-AT/P
KTC3203-Y-AT/P
KTC3205-Y-AT/P



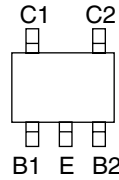
PT204-6B-12



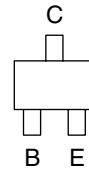
KIA4558P/P
UTC4580



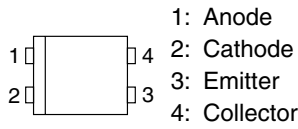
RN1511(TE85R.F)



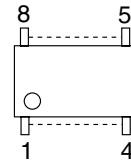
KTK5132S-RTK/P



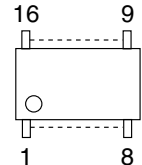
EL817A



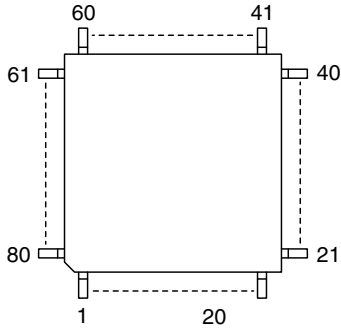
MM1636XWRE



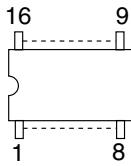
MM1637XVBE



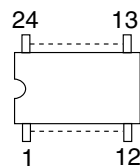
LA72648M-MPB-E



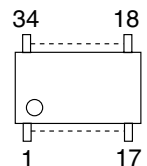
TC4053BF(EL N F)
CD4052BNSR



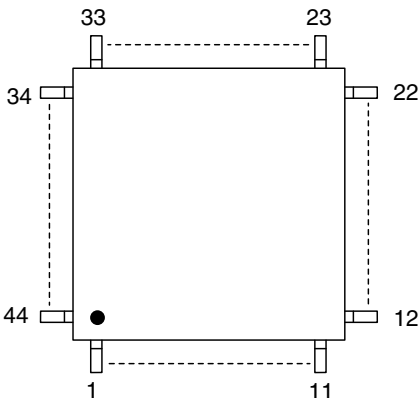
LC74793NJM-TLM-E
MM1697AJBE



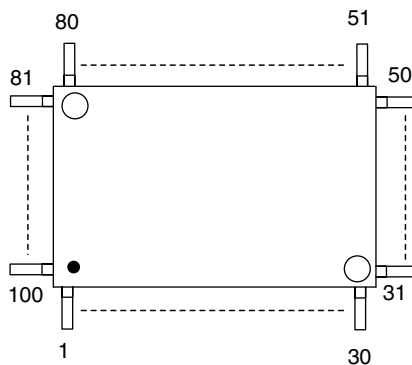
MM1443XJBE



MSP3417G-QG-B8-V3
PT6315(L)



M3776AMCH-AG1GP
LA71750EM-MPB-E

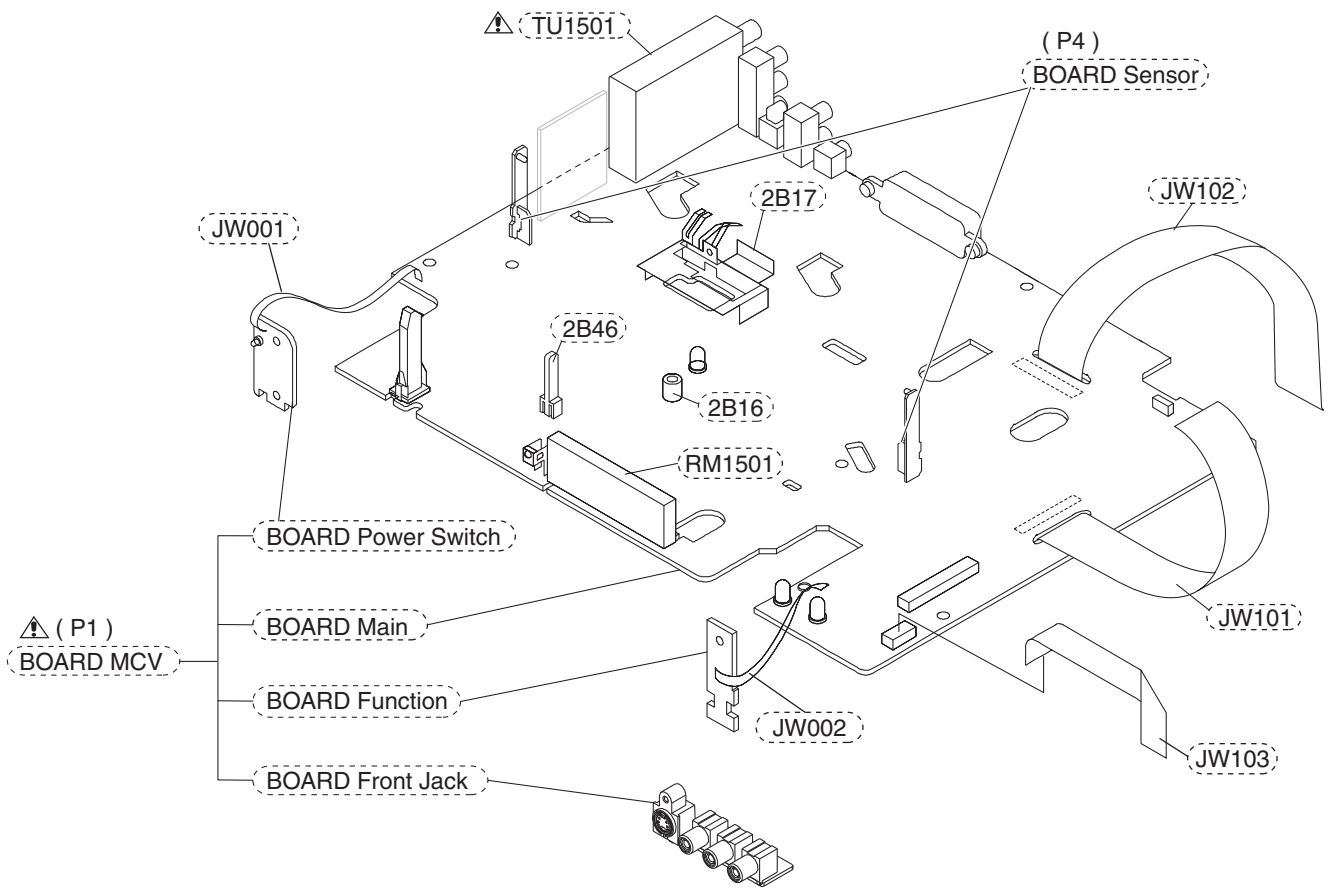


Note:

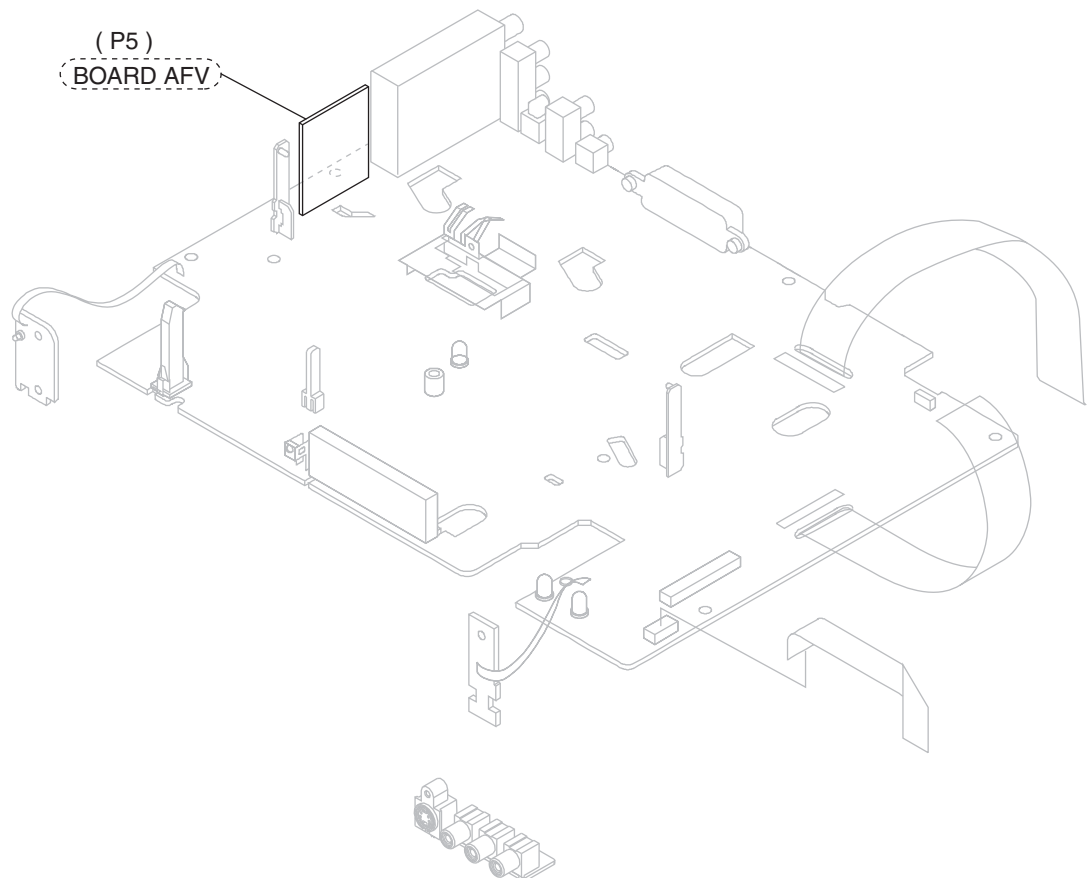
- A: Anode
- K: Cathode
- E: Emitter
- C: Collector
- B: Base
- R: Reference
- S: Source
- G: Gate
- D: Drain

(P1) BOARD MCV

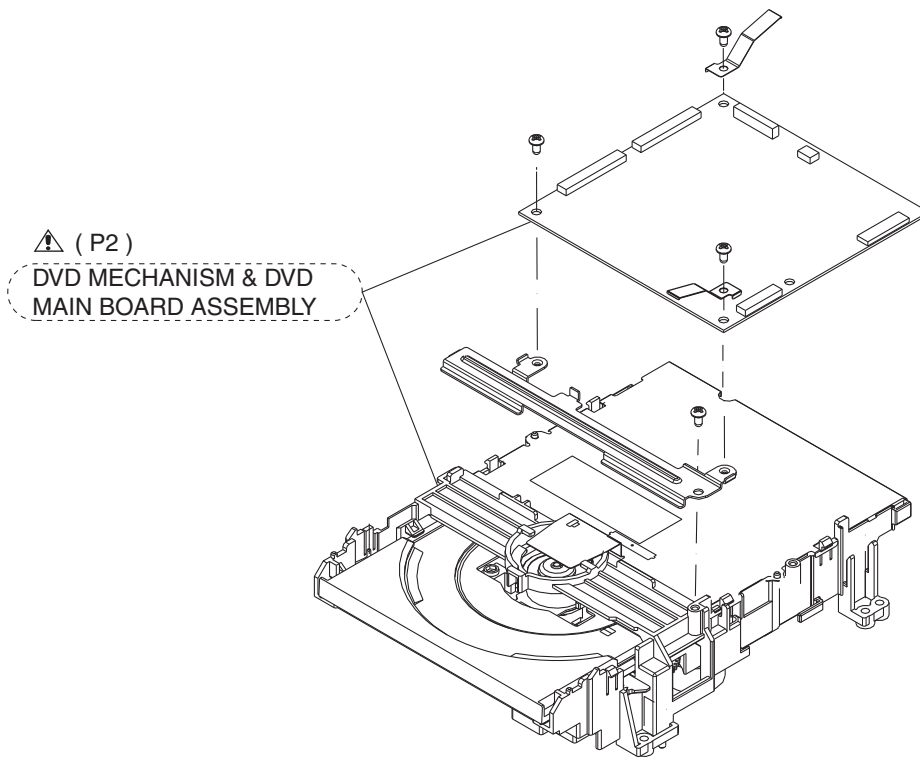
(P4) BOARD SENSOR



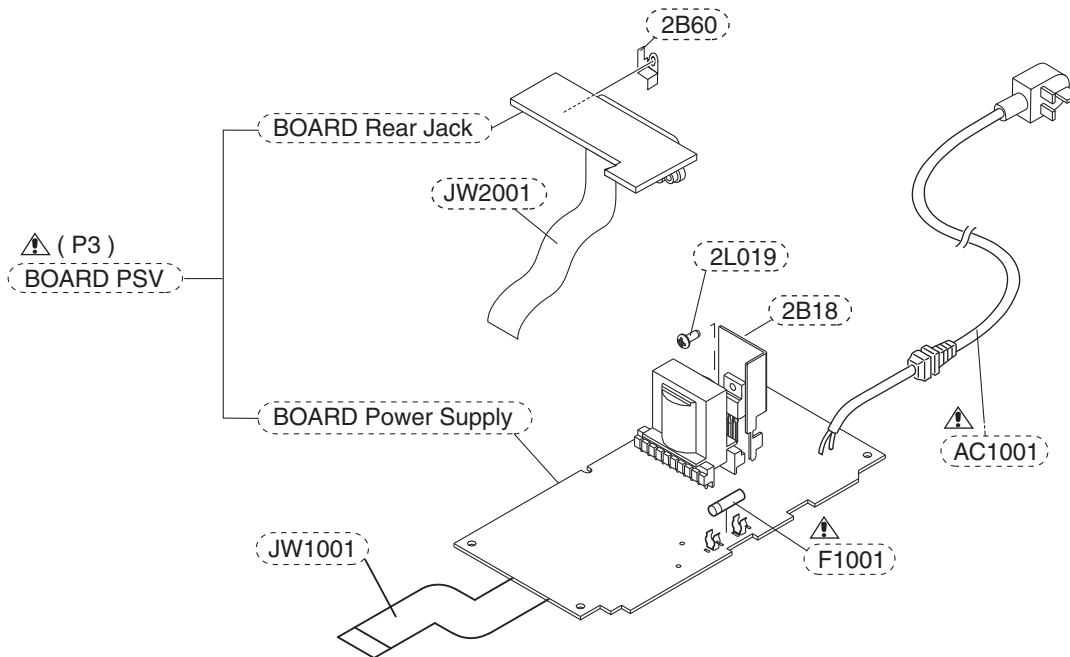
(P5) BOARD AFV



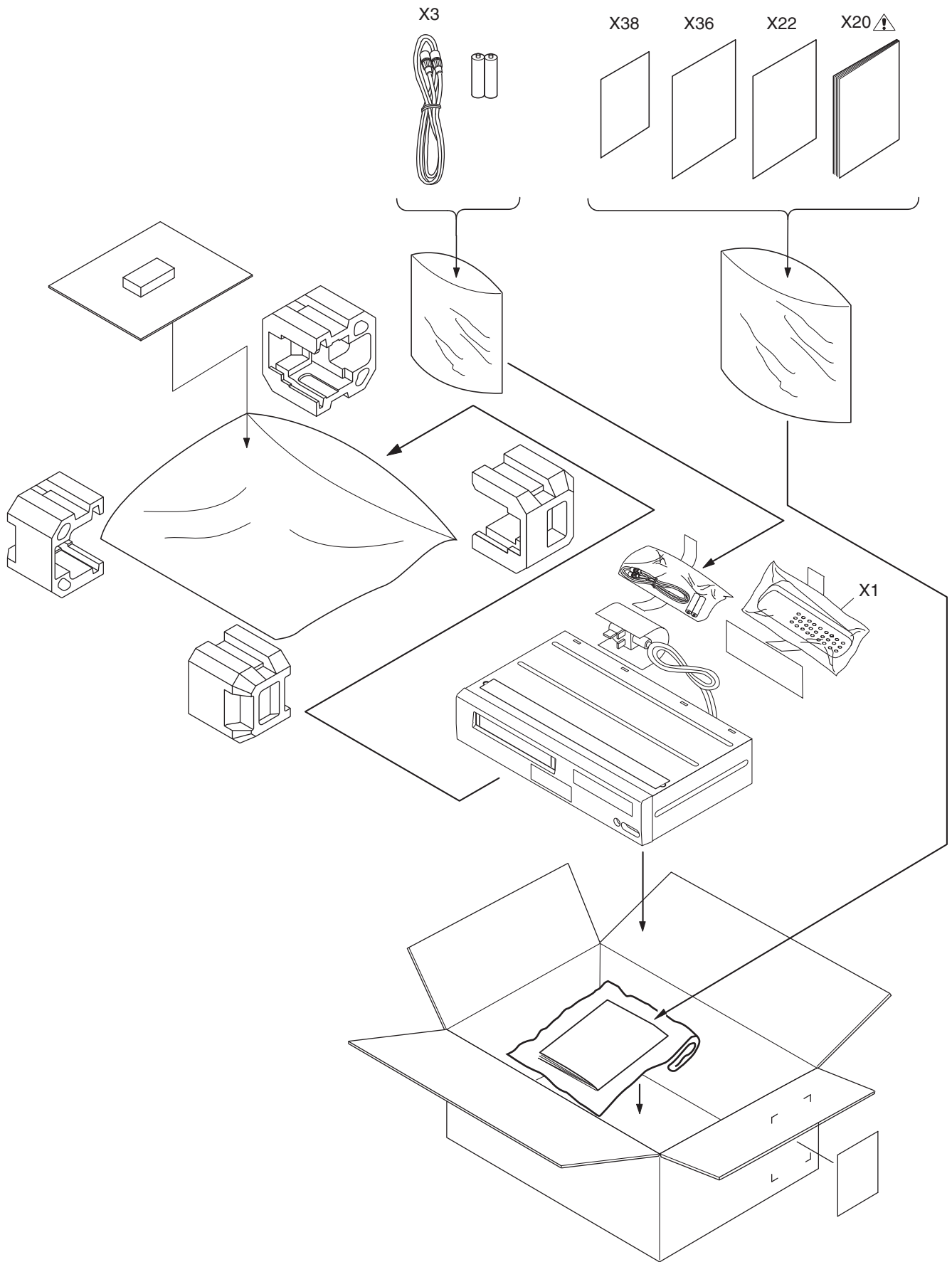
(P2) DVD MECHANISM & DVD MAIN BOARD ASSEMBLY




(P3) BOARD PSV





Packing



MECHANICAL PARTS LIST

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

|  | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|------------|---------------|--|
| | A1X | P000489930 | 1VM222910 | PANEL FRONT E9GA0BD |
| | A2 | P000489940 | 1VM222942 | COVER TOP E9GA0BD |
| | A3 | | 0VM101353H | MAIN CHASSIS E9400UD |
| | A22 | | 1VM323859 | TOPPER POP E9GA0BD |
| | A34 | | 0VM406940A | FOOT H5100UD |
| | 1B1 | | N25E1FL | DECK ASSEMBLY CZD014/ VM25E0 |
| | 2B1 | | 1VM120055G | DECK PEDESTAL E9600UD |
| | 2B2 | | 0VM204534C | FRONT BRACKET E9400UD |
| | 2B3 | | 0VM416269A | FRONT BRACKET R E9400UD |
| | 2B4 | | 1VM425084 | PLATE EARTH E9H10UD |
| | 2B10 | | 1VM121066F | BOARD HOLDER E9H10UD |
| | 2B13 | | 0VM416273 | JACK BRACKET E9400UD |
| | 2B31 | | 0VM413956 | TAPE HIMELON H9206JD |
| | 2B45 | | 1VM323812A | DUST COVER(R4 PAL) E9GA0BD |
| | 2B59 | | 1VM322618A | JACK PLATE EARTH E9A80UD |
| | 2B76 | | 1VM424744 | RUBBER CUSHION(B) E9B00ED |
| | 2B77 | | 1VM424745 | RUBBER CUSHION(C) E9B00ED |
| | 2B87 | | 1VM425701 | BOARD WASHER E9H10UD |
| | 2B84 | | 1VM323512 | FAN HOLDER E9H10UD |
| | 2L011 | | GBHC3050 | SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI |
| | 2L013 | | GBJS3060 | SCREW S-TIGHT M3X6 BIND HEAD+ |
| | 2L014 | | GBJS3060 | SCREW S-TIGHT M3X6 BIND HEAD+ |
| | 2L017 | | 0VM413320A | SCREW S-TIGHT 3X8 H9210UD |
| | 2L021 | | GBCP3080 | SCREW P-TIGHT M3X8 BIND HEAD+ |
| | 2L022 | | GBJS3060 | SCREW S-TIGHT M3X6 BIND HEAD+ |
| | 2L030 | | GBJP3080 | SCREW P-TIGHT M3X8 BIND HEAD+ |
| | 2L043 | | GBJP3080 | SCREW P-TIGHT M3X8 BIND HEAD+ |
| | 2L044 | | 0VM413320A | SCREW S-TIGHT 3X8 H9210UD |
| | 2L045 | | GBJP3080 | SCREW P-TIGHT M3X8 BIND HEAD+ |
| | 2L052 | | GBJP3060 | SCREW P-TIGHT M3X6 BIND HEAD+ |
| | 2L054 | | GBJP3060 | SCREW P-TIGHT M3X6 BIND HEAD+ |
| | 2L061 | | GBJP3060 | SCREW P-TIGHT M3X6 BIND HEAD+ |
| | 2L062 | | GBHB3080 | SCREW B-TIGHT M3X8 BIND HEAD+ |
| | 2L066 | | 0VM412937A | SCREW C-TIGHT M3X6 E5610UD |
| | 2L071 | | GCJP3100 | SCREW P-TIGHT M3*10 WASHERHEAD+ |
| | 2L075 | | GBHP3080 | SCREW P-TIGHT M3X8 BIND HEAD+ BLK |
| | 2L078 | | GBJS3060 | SCREW S-TIGHT M3X6 BIND HEAD+ |
| | 2L081 | | GBHS3060 | S-TIGHT SCREW M3X6 BIND HEAD+BLACK |
| | 2L082 | | GBHS3060 | S-TIGHT SCREW M3X6 BIND HEAD+BLACK |
| | 2L083 | | GBHP3080 | SCREW P-TIGHT M3X8 BIND HEAD+ BLK |
| | 2L111 | | GBJP3140 | SCREW P-TIGHT 3X14 BIND HEAD+ |
| | FM1001 | P000490010 | MMEZR12XNR01 | MOTOR DC FAN 2D65BK100100 |

|  | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|------------|---------------|--------------------------------|
| ACCESSORIES | | | | |
| | X1 | P000490030 | NB329BD | REMOTE CONTROL UNIT NB329BD |
| | X3 | P000460030 | WPZ0122LG001 | RF CORD PAL 1.2M |
|  | X20 | P000489950 | 1VMN23544 | OWNERS MANUAL E9GA0BD |
| | X22 | P000489960 | 1VMN23545 | QUICK GUIDE E9GA0BD |
| | X36 | | 1VMN22863 | REGISTRATION CARD E7B71BD |
| | X38 | | 1VM424769 | HELP LINE SHEET E9BA1BD |

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a \triangle 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..... \pm 0.25% D..... \pm 0.5% F..... \pm 1%
 G..... \pm 2% J..... \pm 5% K..... \pm 10%
 M..... \pm 20% N..... \pm 30% Z.....+80/-20%

DVD MECHANISM & DVD MAIN BOARD ASSEMBLY

| \triangle | Location No. | TSB P/N | Reference No. | Description |
|-------------|--------------|------------|---------------|---|
| \triangle | P2 | P000490020 | N78EADBN | DVD MECHANISM & DVD MAIN BOARD ASSEMBLY |

BOARD MCV

| \triangle | Location No. | TSB P/N | Reference No. | Description |
|-------------|--------------|------------|---------------|--|
| \triangle | P1 | P000489990 | 1VSA15795 | BOARD MCV Consists of the following |
| | | | ----- | BOARD MAIN (MCV-A) |
| | | | ----- | BOARD POWER SWITCH (MCV-B) |
| | | | ----- | BOARD FUNCTION (MCV-C) |
| | | | ----- | BOARD FRONT JACK (MCV-D) |
| | P4 | P000465450 | 1VSA11699 | BOARD SENSOR |

BOARD MAIN

| \triangle | Location No. | TSB P/N | Reference No. | Description |
|-------------------|--------------|---------|---------------|--|
| | | | ----- | BOARD MAIN (MCV-A) Consists of the following: |
| CAPACITORS | | | | |
| | C251 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10 μ F/16V M H7 |
| | C252 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |
| | C253 | | CHD1JK30B102 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V |
| | C254 | | CE1JMAVSL1R0 | ELECTROLYTIC CAP. 1 μ F/50V M H7 |
| | C301 | | CHD1JK30B223 | CHIP CERAMIC CAP.(1608) B K 0.022 μ F/50V |
| | C302 | | CE1JMAVSL1R0 | ELECTROLYTIC CAP. 1 μ F/50V M H7 |
| | C303 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |
| | C305 | | CE1JMAVSL1R0 | ELECTROLYTIC CAP. 1 μ F/50V M H7 |
| | C306 | | CHD1JK30B473 | CHIP CERAMIC CAP.(1608) B K 0.047 μ F/50V |
| | C307 | | CHD1JK30B223 | CHIP CERAMIC CAP.(1608) B K 0.022 μ F/50V |
| | C308 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |

| \triangle | Location No. | TSB P/N | Reference No. | Description |
|-------------|--------------|---------|---------------|---|
| | C311 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |
| | C312 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10 μ F/16V M H7 |
| | C313 | | CE1JMASSL1R0 | ELECTROLYTIC CAP. 1 μ F/50V M H7 |
| | C314 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01 μ F/50V |
| | C315 | | CHD1JK30B473 | CHIP CERAMIC CAP.(1608) B K 0.047 μ F/50V |
| | C316 | | CE1JMAVSL1R0 | ELECTROLYTIC CAP. 1 μ F/50V M H7 |
| | C317 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |
| | C322 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |
| | C324 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01 μ F/50V |
| | C325 | | CHD1JK30B822 | CHIP CERAMIC CAP. B K 8200pF/50V |
| | C326 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |
| | C328 | | CE0KMAVSL470 | ELECTROLYTIC CAP. 47 μ F/6.3V M H7 |
| | C329 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |
| | C330 | | CE1CMASDL101 | ELECTROLYTIC CAP. 100 μ F/16V M |
| | C331 | | CE0KMASDL221 | ELECTROLYTIC CAP. 220 μ F/6.3V M |
| | C333 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |
| | C334 | | CE1JMAVSL1R0 | ELECTROLYTIC CAP. 1 μ F/50V M H7 |
| | C335 | | CE0KMAVSL101 | ELECTROLYTIC CAP. 100 μ F/6.3V H7 |
| | C336 | | CHD1JJ3CH221 | CHIP CERAMIC CAP. CH J 220pF/50V |
| | C337 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V |
| | C339 | | CHD1JJ3CH121 | CHIP CERAMIC CAP. CH J 120pF/50V |
| | C340 | | CE1JMAVSL1R0 | ELECTROLYTIC CAP. 1 μ F/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. 10 μ F/16V M H7 |
| | C344 | | CP1EMAVSB4R7 | ELECTROLYTIC CAP. 4.7 μ F/25V M NP H7 |
| | C345 | | CE1JMAVSLR47 | ELECTROLYTIC CAP. 0.47 μ F/50V M H7 |
| | C347 | | CHD1EK30B104 | CHIP CERAMIC CAP.(1608) B K 0.1 μ F/25V |
| | C349 | | CE1JMAVSLR47 | ELECTROLYTIC CAP. 0.47 μ F/50V M H7 |
| | C350 | | CCA1JZTFZ104 | CERAMIC CAP.(AX) F Z 0.1 μ F/50V |
| | C402 | | CA1J183MS029 | FILM CAP.(P) 0.018 μ F/50V J |
| | C403 | | CCD2AKS0B471 | CERAMIC CAP. B K 470pF/100V |
| | C404 | | CE0KMASSL221 | ELECTROLYTIC CAP. 220 μ F/6.3V M H7 |
| | C405 | | CE0KMAVSL470 | ELECTROLYTIC CAP. 47 μ F/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. 10 μ F/16V M H7 |
| | C411 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01 μ F/50V |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|---|
| | 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 |
| | C451 | | CHD1JJ3CH220 | CHIP CERAMIC CAP.(1608) CH J 22pF/50V |
| | C452 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10μF/16V M H7 |
| | 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 |
| | C467 | | 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 |
| | C477 | | CHD1JJ3CH220 | CHIP CERAMIC CAP.(1608) CH J 22pF/50V |
| | C478 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C479 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10μF/16V M H7 |
| | C480 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10μF/16V M H7 |
| | 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 |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|---|
| | 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 |
| | 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 |
| | C513 | | 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 |
| | C520 | | CHD1JK30B102 | CHIP CERAMIC CAP.(1608) B K 1000pF/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 |
| | C526 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/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 |
| | 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 |
| | C543 | | CHD1JJ3CH220 | CHIP CERAMIC CAP.(1608) CH J 22pF/50V |
| | C544 | | CHD1JJ3CH220 | CHIP CERAMIC CAP.(1608) CH J 22pF/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 |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|--|
| | 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 | | CE1AMAVSL220 | ELECTROLYTIC CAP. 22μF/10V M H7 |
| | C554 | | CE0KMAVSL101 | ELECTROLYTIC CAP. 100μF/6.3V H7 |
| | C555 | | CHD1EK30B104 | CHIP CERAMIC CAP,(1608) B K 0.1μF/25V |
| | C560 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C611 | | CE1JMASSL220 | ELECTROLYTIC CAP. 22μF/50V M H7 |
| | C612 | | CHD1JK30B472 | CHIP CERAMIC CAP,(1608) B K 4700pF/50V |
| | C614 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C615 | | CE0KMAVSL101 | ELECTROLYTIC CAP. 100μF/6.3V H7 |
| | C616 | | CHD1JK30B102 | CHIP CERAMIC CAP,(1608) B K 1000pF/50V |
| | C1500 | | CE1CMASDL470 | ELECTROLYTIC CAP. 47μF/16V M |
| | C1501 | | CE0KMASDL470 | ELECTROLYTIC CAP. 47μF/6.3V M |
| | C1502 | | CE0KMAVSL470 | ELECTROLYTIC CAP. 47μF/6.3V M H7 |
| | C1503 | | CHD1JK30B103 | CHIP CERAMIC CAP,(1608) B K 0.01μF/50V |
| | C1506 | | CE1CMASDL470 | ELECTROLYTIC CAP. 47μF/16V M |
| | C1507 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |
| | C1508 | | CCA1EKT0B104 | CERAMIC CAP,(AX) B K 0.1μF/25V |
| | C1509 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |
| | C1510 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |
| | C1511 | | CE1CMASDL221 | ELECTROLYTIC CAP. 220μF/16V M |
| | C1512 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10μF/16V M H7 |
| | C1513 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1517 | | CE1CMASDL470 | ELECTROLYTIC CAP. 47μF/16V M |
| | C1518 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1519 | | CHD1AZ30F105 | CHIP CERAMIC CAP. F Z 1μF/10V |
| | C1520 | | CHD1AZ30F105 | CHIP CERAMIC CAP. F Z 1μF/10V |
| | C1521 | | CHD1AZ30F105 | CHIP CERAMIC CAP. F Z 1μF/10V |
| | C1524 | | CHD1EK30B104 | CHIP CERAMIC CAP,(1608) B K 0.1μF/25V |
| | C1525 | | CHD1JK30B103 | CHIP CERAMIC CAP,(1608) B K 0.01μF/50V |
| | C1526 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1527 | | CE1EMASDL470 | ELECTROLYTIC CAP. 47μF/25V M |
| | C1528 | | CE1CMASDL101 | ELECTROLYTIC CAP. 100μF/16V M |
| | C1529 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1530 | | CE1CMASDL220 | ELECTROLYTIC CAP. 22μF/16V M |
| | C1532 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |
| | C1533 | | CE0KMASDL101 | ELECTROLYTIC CAP. 100μF/6.3V M |
| | C1534 | | CE0KMAVSL101 | ELECTROLYTIC CAP. 100μF/6.3V H7 |
| | C1535 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|--|
| | C1536 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |
| | C1537 | | CE0KMASSL221 | ELECTROLYTIC CAP. 220μF/6.3V M H7 |
| | C1538 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1539 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1540 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1541 | | CE0KMASSL101 | ELECTROLYTIC CAP. 100μF/6.3V M H7 |
| | C1542 | | CE1CMASDL101 | ELECTROLYTIC CAP. 100μF/16V M |
| | C1543 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1544 | | CE0KMAVSL470 | ELECTROLYTIC CAP. 47μF/6.3V M H7 |
| | C1546 | | CHD1JZ30F103 | CHIP CERAMIC CAP. F Z 0.01μF/50V |
| | C1547 | | CE1CMASDL470 | ELECTROLYTIC CAP. 47μF/16V M |
| | C1548 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1549 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1550 | | CP0KMASNC101 | ELECTROLYTIC CAP. 100μF/6.3V M NP |
| | C1551 | | CHD1JJ3CH330 | CHIP CERAMIC CAP,(1608) CH J 33pF/50V |
| | C1552 | | CHD1JJ3CH330 | CHIP CERAMIC CAP,(1608) CH J 33pF/50V |
| | C1553 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1554 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |
| | C1555 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1556 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10μF/16V M H7 |
| | C1557 | | CE1CMASDL470 | ELECTROLYTIC CAP. 47μF/16V M |
| | C1558 | | CHD1JJ3CH101 | CHIP CERAMIC CAP,(1608) CH J 100pF/50V |
| | C1560 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1563 | | CE1CMASDL101 | ELECTROLYTIC CAP. 100μF/16V M |
| | C1564 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1565 | | CE0KMASDL101 | ELECTROLYTIC CAP. 100μF/6.3V M |
| | C1566 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |
| | C1567 | | CE1CMASDL470 | ELECTROLYTIC CAP. 47μF/16V M |
| | C1569 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1571 | | CE1EMAVSL4R7 | ELECTROLYTIC CAP. 4.7μF/25V M H7 |
| | C1572 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |
| | C1573 | | CE1CMASDL100 | ELECTROLYTIC CAP. 10μF/16V M |
| | C1574 | | CHD1JZ30F104 | CHIP CERAMIC CAP,(1608) F Z 0.1μF/50V |
| | C1575 | | CDA1EKPOX183 | SEMICONDUCTOR CAP. SR K 0.018μF/25V |
| | C1576 | | CHD1JJ3CH471 | CHIP CERAMIC CAP,(1608) CH J 470pF/50V |
| | C1577 | | CHD1JJ3CH471 | CHIP CERAMIC CAP,(1608) CH J 470pF/50V |
| | C1578 | | CHD1JK30B103 | CHIP CERAMIC CAP,(1608) B K 0.01μF/50V |
| | C1580 | | CE1CMASDL220 | ELECTROLYTIC CAP. 22μF/16V M |
| | C1581 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1582 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|---|
| | C1583 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1584 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1585 | | CE0KMASDL101 | ELECTROLYTIC CAP. 100μF/6.3V M |
| | C1586 | | CHD1JJ3CH680 | CHIP CERAMIC CAP.(1608) CH J 68pF/50V |
| | C1587 | | CE0KMASDL101 | ELECTROLYTIC CAP. 100μF/6.3V M |
| | C1588 | | CHD1JJ3CH680 | CHIP CERAMIC CAP.(1608) CH J 68pF/50V |
| | C1589 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C1590 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1591 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1592 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V |
| | C1593 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V |
| | C1594 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C1595 | | CE1CMAVSL220 | ELECTROLYTIC CAP. 22μF/16V M H7 |
| | C1596 | | CE1CMASDL220 | ELECTROLYTIC CAP. 22μF/16V M |
| | C1597 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V |
| | C1598 | | CE1JMAVSL1R0 | ELECTROLYTIC CAP. 1μF/50V M H7 |
| | C1599 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C1600 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C1601 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10μF/16V M H7 |
| | C1602 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10μF/16V M H7 |
| | C1603 | | CE1JMAVSL1R0 | ELECTROLYTIC CAP. 1μF/50V M H7 |
| | C1604 | | CP1JMAVSB1R0 | ELECTROLYTIC CAP. 1μF/50V M H7 NP |
| | C1605 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1606 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1607 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1608 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V |
| | C1609 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C1610 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V |
| | C1611 | | CE0KMAVSL470 | ELECTROLYTIC CAP. 47μF/6.3V M H7 |
| | C1612 | | CE0KMAVSL101 | ELECTROLYTIC CAP. 100μF/6.3V H7 |
| | C1613 | | CHD1JJ3CH102 | CHIP CERAMIC CAP.(1608) CH J 1000pF/50V |
| | C1614 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1615 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1616 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1617 | | CHD1EK30B104 | CHIP CERAMIC CAP.(1608) B K 0.1μF/25V |
| | C1618 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1619 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C1620 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V |
| | C1621 | | CE1JMASDL100 | ELECTROLYTIC CAP. 10μF/50V M |
| | C1623 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|--|
| | C1626 | | CHD1CZ30F224 | CHIP CERAMIC CAP. F Z 0.22μF/16V |
| | C1627 | | CHD1CZ30F224 | CHIP CERAMIC CAP. F Z 0.22μF/16V |
| | C1628 | | CHD1JK30B222 | CHIP CERAMIC CAP. B K 2200pF/50V |
| | C1629 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C1630 | | CHD1JK30B103 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V |
| | C1631 | | CHD1JK30B102 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V |
| | C1632 | | CHD1JK30B222 | CHIP CERAMIC CAP. B K 2200pF/50V |
| | C1633 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C1634 | | CHD1JZ30F104 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V |
| | C1635 | | CE1JMASDLR33 | ELECTROLYTIC CAP. 0.33μF/50V M |
| | C1636 | | CE0KMASDL101 | ELECTROLYTIC CAP. 100μF/6.3V M |
| | C1637 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1639 | | CHD1JK30B222 | CHIP CERAMIC CAP. B K 2200pF/50V |
| | C1640 | | CHD1JK30B222 | CHIP CERAMIC CAP. B K 2200pF/50V |
| | C1643 | | CE0KMASDL470 | ELECTROLYTIC CAP. 47μF/6.3V M |
| | C1645 | | CHD1JJ3CH680 | CHIP CERAMIC CAP.(1608) CH J 68pF/50V |
| | C1648 | | CHD1JK30B222 | CHIP CERAMIC CAP. B K 2200pF/50V |
| | C1649 | | CHD1JK30B222 | CHIP CERAMIC CAP. B K 2200pF/50V |
| | C1651 | | CHD1JJ3CH680 | CHIP CERAMIC CAP.(1608) CH J 68pF/50V |
| | C1655 | | CHD1JJ3CH120 | CHIP CERAMIC CAP. CH J 12pF/50V |
| | C1657 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1658 | | CHD1JK30B102 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V |
| | C1659 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1660 | | CHD1JK30B102 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V |
| | C1661 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1662 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1663 | | CHD1EK30B104 | CHIP CERAMIC CAP.(1608) B K 0.1μF/25V |
| | C1664 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1665 | | CHD1JK30B102 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V |
| | C1671 | | CE1EMASDL4R7 | ELECTROLYTIC CAP. 4.7μF/25V M |
| | C1672 | | CE1EMASDL4R7 | ELECTROLYTIC CAP. 4.7μF/25V M |
| | C1673 | | CE1CMASDL470 | ELECTROLYTIC CAP. 47μF/16V M |
| | C1675 | | CE1EMASDL470 | ELECTROLYTIC CAP. 47μF/25V M |
| | C1677 | | CHD1JK30B102 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V |
| | C1680 | | CHD1JK30B102 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V |
| | C1681 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1684 | | CE1EMASDL4R7 | ELECTROLYTIC CAP. 4.7μF/25V M |
| | C1685 | | CE1EMASDL4R7 | ELECTROLYTIC CAP. 4.7μF/25V M |
| | C1686 | | CE1EMASDL4R7 | ELECTROLYTIC CAP. 4.7μF/25V M |
| | C1687 | | CE1EMASDL4R7 | ELECTROLYTIC CAP. 4.7μF/25V M |

| △ | Location No. | TSB P/N | Reference No. | Description |
|-------------------|--------------|---------|---------------|--|
| | C1688 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1689 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1691 | | CHD1JJ3CH470 | CHIP CERAMIC CAP.(1608) CH J 47pF/50V |
| | C1692 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1693 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V M |
| | C1694 | | CHD1AZ30F105 | CHIP CERAMIC CAP. F Z 1μF/10V |
| | C1695 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1696 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C1697 | | CE1EMASDL4R7 | ELECTROLYTIC CAP. 4.7μF/25V M |
| | C1698 | | CE1EMASDL4R7 | ELECTROLYTIC CAP. 4.7μF/25V M |
| | C1699 | | CHD1JJ3CH470 | CHIP CERAMIC CAP.(1608) CH J 47pF/50V |
| | C1700 | | CHD1AZ30F105 | CHIP CERAMIC CAP. F Z 1μF/10V |
| | C1701 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10μF/16V M H7 |
| | C1702 | | CE1CMAVSL100 | ELECTROLYTIC CAP. 10μF/16V M H7 |
| CONNECTORS | | | | |
| | CN1503 | | J3PHC02JG017 | PH CONNECTOR (WHITE) TOP 2P B2B-PH-K-S(LF) |
| | CN1504 | | JC96J34ER007 | CONNECTOR FFC 34P IMSA-9615S-34A-PP-A |
| | CN1505 | | JCFEJ08JG001 | FE CONNECTOR TOP 8P 08FE-BT-VK-N |
| | CN1506 | | E3B01AFV | AFV BOARD ASSEMBLY E3B01BD |
| DIODES | | | | |
| | D301 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T-77) |
| | D502 | | NPQZ10GDS957 | LED(GREEN) 204-10GD/S957 |
| | D503 | | NPQZ10GDS957 | LED(GREEN) 204-10GD/S957 |
| | D509 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T-77) |
| | D510 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T-77) |
| | D511 | | QDTA00MTZJ7R5 | ZENER DIODE MTZJT-777.5A |
| | D512 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T-77) |
| | D555 | | QPQPS1R563ST | LED SIR-563ST3F P |
| | D1501 | | NDLZ001N5397 | DIODE 1N5397-B |
| | D1502 | | NDLZ001N5397 | DIODE 1N5397-B |
| | D1503 | | NDQZ001N4005 | RECTIFIER DIODE 1N4005 |
| | D1506 | | NDQZ000SB140 | SCHOTTKY BARRIER DIODE SB140 |
| | D1507 | | NDQZ001N4005 | RECTIFIER DIODE 1N4005 |
| | D1508 | | QDTC0MTZJ4R3 | ZENER DIODE MTZJT-774.3C |
| | D1511 | | QDTB00MTZJ10 | ZENER DIODE MTZJT-7710B |
| | D1512 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T-77) |
| | D1513 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T-77) |
| | D1516 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T-77) |
| | D1517 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T-77) |
| | D1518 | | QDTB00MTZJ18 | ZENER DIODE MTZJT-7718B |
| | D1519 | | QDTB00MTZJ11 | ZENER DIODE MTZJT-7711B |
| | D1521 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T-77) |
| | D1523 | | QDTB00MTZJ5R6 | ZENER DIODE MTZJT-775.6B |
| | D1525 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1526 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1528 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1529 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1531 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |

| △ | Location No. | TSB P/N | Reference No. | Description |
|--------------------|--------------|------------|---------------|---|
| | D1532 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1534 | | QDTB00MTZJ33 | ZENER DIODE MTZJT-7733B |
| | D1535 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1537 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1538 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1539 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1540 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1542 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1548 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1549 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| ICs | | | | |
| | IC301 | P000465590 | QSZBA0RSY020 | IC Y/C/A LA71750EM-MPB-E |
| | IC451 | P000465600 | QSZBA0RSY033 | IC HIFI LA72648M-MPB-E |
| | IC501 | P000490040 | QSZAA0RHT150 | IC SYSCON M3776AMCH-AG1GP |
| | IC612 | P000465560 | NSZBA0RG2009 | VFD DRIVER IC PT6315(L) |
| | IC1501 | P000457200 | NSZBA0TTY091 | IC SWITCHING CD4052BNSR |
| | IC1504 | P000457260 | QSZBA0SSH054 | VOLTAGE REGULATOR PQ070XF01SZH |
| | IC1505 | P000457260 | QSZBA0SSH054 | VOLTAGE REGULATOR PQ070XF01SZH |
| | IC1506 | P000468640 | NSZBA0S2H003 | IC OP AMP UTC4580 DIP-8 8PIN |
| | IC1507 | P000457280 | QSZBA0TMM150 | VIDEO SWITCH MM1697AJBE |
| | IC1508 | P000465630 | QSZBA0TTS163 | IC SWITCH TC4053BF(EL N F) |
| | IC1509 | P000465630 | QSZBA0TTS163 | IC SWITCH TC4053BF(EL N F) |
| | IC1510 | P000465630 | QSZBA0TTS163 | IC SWITCH TC4053BF(EL N F) |
| | IC1511 | P000490050 | QSZBA0TSY049 | IC VPS/PDC SLICER LC74793NJM-TLM-E |
| | IC1513 | P000459910 | NSZBA0SJY035 | IC OP AMP KIA4558P/P |
| | IC1514 | P000457270 | QSZBA0TMM102 | DRIVER FOR DVD MM1637XVBE |
| | IC1515 | P000465610 | QSZBA0TMM108 | DRIVER FOR DVD MM1636XWRE |
| | IC1516 | P000457270 | QSZBA0TMM102 | DRIVER FOR DVD MM1637XVBE |
| | IC1518 | P000465620 | QSZBA0TMM152 | AV SWITCH MM1443XJBE |
| COILS | | | | |
| | L251 | | LLAXKATTU5R6 | INDUCTOR 5.6μH-K-26T |
| | L302 | | LLAXKATTU101 | INDUCTOR(100μH K) LAP02TA101K |
| | L402 | | LLARKBSTU470 | INDUCTOR 47μH-K-5FT |
| | L451 | | LLARKBSTU470 | INDUCTOR 47μH-K-5FT |
| | L452 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | L501 | | LLAXKATTU101 | INDUCTOR(100μH K) LAP02TA101K |
| | L502 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | L503 | | LLAXKATTU1R8 | INDUCTOR 1.8μH-K-26T |
| | L1501 | | LLBD00PKV023 | RADIAL TYPE CHOKE COIL CW68-470K-841040NP |
| | L1503 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | L1504 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | L1505 | | LLAXKATTU101 | INDUCTOR(100μH K) LAP02TA101K |
| | L1506 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | L1507 | | LLBD00PKV023 | RADIAL TYPE CHOKE COIL CW68-470K-841040NP |
| | L1508 | | LLAXKATTU100 | INDUCTOR 10μH-K-26T |
| | L1509 | | LLAXKATTU101 | INDUCTOR(100μH K) LAP02TA101K |
| | L1510 | | LLBD00PKV023 | RADIAL TYPE CHOKE COIL CW68-470K-841040NP |
| | L1513 | | LLAXKATTUR47 | INDUCTOR(0.47μH K) LAP02TAR47K |
| | L1515 | | ----- | BEAD CORE ASSEMBLY E9GA0BD |
| | L1515-1 | | JW35.0T | BOARD JUMPER D0.6-P35.0 |
| | L1515-2 | | XL03010XM001 | BEAD CORE B16 RH 3.5X10X1.3 |
| | L1517 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| TRANSISTORS | | | | |
| | Q301 | | NQS4KTA1266P | TRANSISTOR KTA-1266-GR-AT/P |

| △ | Location No. | TSB P/N | Reference No. | Description |
|------------------|--------------|---------|---------------|---------------------------------------|
| | Q302 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| | Q401 | | QQ220RN1511F | CHIP TRANSISTOR RN1511(TE85R.F) |
| | Q403 | | NQSYKTC3203P | TRANSISTOR KTC3203-Y-AT/P |
| | Q404 | | NQS4KTA1266P | TRANSISTOR KTA-1266-GR-AT/P |
| | Q405 | | NQSZ0KRA103M | RES. BUILT-IN TRANSISTOR KRA103M-AT/P |
| | Q406 | | NQ1YKTC3875S | CHIP TRANSISTOR KTC3875S-Y-RTK/P |
| | Q451 | | NQ1ZKRC103SP | TRANSISTOR KRC103S-RTK/P |
| | Q506 | | NPWZT2046B12 | PHOTO TRANSISTOR PT204-6B-12 |
| | Q513 | | NQSZKRC103MP | NPN TRANSISTOR KRC103M-AT/P |
| | Q514 | | NQS5KTC3199P | TRANSISTOR KTC3199-BL-AT/P |
| | Q515 | | NQS5KTC3199P | TRANSISTOR KTC3199-BL-AT/P |
| | Q516 | | NQ14KTC3875S | CHIP TRANSISTOR KTC3875S-GR-RTK/P |
| | Q517 | | NQ14KTC3875S | CHIP TRANSISTOR KTC3875S-GR-RTK/P |
| | Q518 | | NQSZKRC103MP | NPN TRANSISTOR KRC103M-AT/P |
| | Q519 | | NQSZKRC103MP | NPN TRANSISTOR KRC103M-AT/P |
| | Q1501 | | NQSYKTA1267P | TRANSISTOR KTA1267-Y-AT/P |
| | Q1502 | | NQSZKRC103MP | NPN TRANSISTOR KRC103M-AT/P |
| | Q1507 | | NQS4KTA1266P | TRANSISTOR KTA-1266-GR-AT/P |
| | Q1508 | | NQVYKTA1281P | TRANSISTOR KTA1281-Y-AT/P |
| | Q1509 | | NQSZKRC103MP | NPN TRANSISTOR KRC103M-AT/P |
| | Q1510 | | NQSYKTC3205P | TRANSISTOR KTC3205-Y-AT/P |
| | Q1511 | | NQSYKTA1273P | TRANSISTOR KTA1273-Y-AT/P |
| | Q1512 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| | Q1513 | | NQSYKTA1267P | TRANSISTOR KTA1267-Y-AT/P |
| | Q1514 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| | Q1515 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| | Q1516 | | NQSZ0KRA104M | RES. BUILT-IN TRANSISTOR KRA104M-AT/P |
| | Q1517 | | NQSZKRC103MP | NPN TRANSISTOR KRC103M-AT/P |
| | Q1518 | | NQSYKTC3205P | TRANSISTOR KTC3205-Y-AT/P |
| | Q1519 | | NQSZKRC103MP | NPN TRANSISTOR KRC103M-AT/P |
| | Q1520 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| | Q1521 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| | Q1522 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| | Q1524 | | NQ1ZKRC103SP | TRANSISTOR KRC103S-RTK/P |
| | Q1525 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| | Q1527 | | NQ1ZKRC103SP | TRANSISTOR KRC103S-RTK/P |
| | Q1528 | | NQ1ZKRC103SP | TRANSISTOR KRC103S-RTK/P |
| | Q1529 | | NQ1ZKRC103SP | TRANSISTOR KRC103S-RTK/P |
| | Q1530 | | NQ1YKTC3875S | CHIP TRANSISTOR KTC3875S-Y-RTK/P |
| | Q1531 | | NQ1ZKRC103SP | TRANSISTOR KRC103S-RTK/P |
| | Q1532 | | NQS4KTA1266P | TRANSISTOR KTA-1266-GR-AT/P |
| | Q1533 | | NQ1YKTC3879P | TRANSISTOR KTC3879-Y-RTK/P |
| | Q1534 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-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 |
| | Q1542 | | NQSYKTC3198P | TRANSISTOR KTC3198-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 |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|---------------------------|
| | R305 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R310 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | 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 | | RRXAJR5Z0222 | CHIP RES. 1/10W J 2.2k Ω |
| | R324 | | 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 |
| | 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 |
| | R345 | | RRXAJR5Z0221 | CHIP RES. 1/10W J 220 Ω |
| | R346 | | RCX4JATZ0681 | CARBON RES. 1/4W J 680 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 | | RRXAJR5Z0223 | CHIP RES. 1/10W J 22k Ω |
| | R452 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R453 | | RRXAJR5Z0562 | CHIP RES. 1/10W J 5.6k Ω |
| | R454 | | RRXAJR5Z0393 | CHIP RES. 1/10W J 39k Ω |
| | R462 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R463 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R464 | | RRXAJR5Z0332 | CHIP RES. 1/10W J 3.3k Ω |
| | R465 | | RRXAJR5Z0223 | CHIP RES. 1/10W J 22k Ω |
| | R466 | | RRXAJR5Z0822 | CHIP RES. 1/10W J 8.2k Ω |
| | R467 | | RRXAJR5Z0562 | CHIP RES. 1/10W J 5.6k Ω |
| | R469 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R470 | | RRXAJR5Z0393 | CHIP RES. 1/10W J 39k 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 |
| | R510 | | RRXAJR5Z0473 | CHIP RES. 1/10W J 47k Ω |
| | R511 | | RCX6GATZ0362 | CARBON RES. 1/6W G 3.6k Ω |
| | R512 | | RRXAJR5Z0683 | CHIP RES. 1/10W J 68k Ω |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|---------------------------|
| | 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 | | RRXAJR5Z0562 | CHIP RES. 1/10W J 5.6k Ω |
| | R543 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R544 | | RCX4JATZ0103 | CARBON RES. 1/4W J 10k Ω |
| | R545 | | RCX4JATZ0103 | CARBON RES. 1/4W J 10k Ω |
| | R546 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R553 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R555 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k 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 | | RRXAJR5Z0334 | CHIP RES. 1/10W J 330k Ω |
| | R576 | | 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 |
| | R581 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R582 | | RRXAJR5Z0104 | CHIP RES. 1/10W J 100k Ω |
| | R583 | | RCX4JATZ0821 | CARBON RES. 1/4W J 820 Ω |
| | R584 | | RRXAJR5Z0101 | CHIP RES. 1/10W J 100 Ω |
| | R585 | | RRXAJR5Z0222 | CHIP RES. 1/10W J 2.2k Ω |
| | R586 | | RRXAJR5Z0821 | CHIP RES. 1/10W J 820 Ω |
| | R588 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R595 | | RCX4JATZ0103 | CARBON RES. 1/4W J 10k Ω |
| | R596 | | RCX6JATZ0151 | CARBON RES. 1/6W J 150 Ω |
| | R597 | | RCX4JATZ0221 | CARBON RES. 1/4W J 220 Ω |
| | R598 | | RCX4JATZ0221 | CARBON RES. 1/4W J 220 Ω |
| | R601 | | RRXAJR5Z0182 | CHIP RES. 1/10W J 1.8k Ω |
| | R602 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R603 | | RRXAJR5Z0122 | CHIP RES. 1/10W J 1.2k Ω |
| | R604 | | RRXAJR5Z0152 | CHIP RES. 1/10W J 1.5k Ω |
| | R605 | | RRXAJR5Z0222 | CHIP RES. 1/10W J 2.2k Ω |
| | R606 | | RRXAJR5Z0392 | CHIP RES. 1/10W J 3.9k Ω |
| | R607 | | RRXAJR5Z0822 | CHIP RES. 1/10W J 8.2k Ω |
| | R608 | | RRXAJR5Z0223 | CHIP RES. 1/10W J 22k Ω |
| | R617 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | R618 | | RRXAJR5Z0104 | CHIP RES. 1/10W J 100k Ω |
| | R621 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R622 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R623 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R624 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R625 | | RRXAJR5Z0182 | CHIP RES. 1/10W J 1.8k Ω |
| | R626 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R627 | | RRXAJR5Z0122 | CHIP RES. 1/10W J 1.2k Ω |
| | R628 | | RRXAJR5Z0152 | CHIP RES. 1/10W J 1.5k Ω |
| | R629 | | RCX4JATZ0222 | CARBON RES. 1/4W J 2.2k Ω |
| | R630 | | RRXAJR5Z0392 | CHIP RES. 1/10W J 3.9k Ω |
| | R631 | | RRXAJR5Z0822 | CHIP RES. 1/10W J 8.2k Ω |
| | R632 | | RRXAJR5Z0223 | CHIP RES. 1/10W J 22k Ω |
| | R643 | | RRXAJR5Z0101 | CHIP RES. 1/10W J 100 Ω |
| | R644 | | RRXAJR5Z0101 | CHIP RES. 1/10W J 100 Ω |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|---------------------------|
| | R645 | | RRXAJR5Z0332 | CHIP RES. 1/10W J 3.3k Ω |
| | R646 | | RRXAJR5Z0332 | CHIP RES. 1/10W J 3.3k Ω |
| | R647 | | RRXAJR5Z0561 | CHIP RES. 1/10W J 560 Ω |
| | R648 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R649 | | RRXAJR5Z0561 | CHIP RES. 1/10W J 560 Ω |
| | R650 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R651 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R653 | | RCX6JATZ0272 | CARBON RES. 1/6W J 2.7k Ω |
| | R654 | | RRXAJR5Z0472 | CHIP RES. 1/10W J 4.7k Ω |
| | R655 | | RCX6JATZ0272 | CARBON RES. 1/6W J 2.7k Ω |
| | R656 | | RRXAJR5Z0472 | CHIP RES. 1/10W J 4.7k Ω |
| | R657 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1016 | | RCX4JATZ0103 | CARBON RES. 1/4W J 10k Ω |
| | R1500 | | RCX4JATZ0221 | CARBON RES. 1/4W J 220 Ω |
| | R1501 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R1502 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | R1504 | | RCX4JATZ0221 | CARBON RES. 1/4W J 220 Ω |
| | R1505 | | RRXAJR5Z0562 | CHIP RES. 1/10W J 5.6k Ω |
| | R1507 | | RRXAJR5Z0473 | CHIP RES. 1/10W J 47k Ω |
| | R1510 | | RCX4JATZ0471 | CARBON RES. 1/4W J 470 Ω |
| | R1512 | | RCX4JATZ0471 | CARBON RES. 1/4W J 470 Ω |
| | R1513 | | RCX6JATZ0273 | CARBON RES. 1/6W J 27k Ω |
| | R1514 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1519 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | R1522 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R1523 | | RCX4JATZ0391 | CARBON RES. 1/4W J 390 Ω |
| | R1524 | | RCX6JATZ0473 | CARBON RES. 1/6W J 47k Ω |
| | R1525 | | RCX6JATZ0821 | CARBON RES. 1/6W J 820 Ω |
| | R1526 | | RCX4JATZ0681 | CARBON RES. 1/4W J 680 Ω |
| | R1527 | | RCX4JATZ0681 | CARBON RES. 1/4W J 680 Ω |
| | R1528 | | RRXAJR5Z0473 | CHIP RES. 1/10W J 47k Ω |
| | R1529 | | RCX6JATZ0152 | CARBON RES. 1/6W J 1.5k Ω |
| | R1530 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1531 | | RCX4JATZ0821 | CARBON RES. 1/4W J 820 Ω |
| | R1532 | | RCX4JATZ0821 | CARBON RES. 1/4W J 820 Ω |
| | R1533 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1536 | | RCX4JATZ0152 | CARBON RES. 1/4W J 1.5k Ω |
| | R1537 | | RCX4JATZ0152 | CARBON RES. 1/4W J 1.5k Ω |
| | R1538 | | RCX4JATZ0331 | CARBON RES. 1/4W J 330 Ω |
| | R1539 | | RCX4JATZ0122 | CARBON RES. 1/4W J 1.2k Ω |
| | R1540 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R1541 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R1543 | | RRXAJR5Z0472 | CHIP RES. 1/10W J 4.7k Ω |
| | R1544 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R1547 | | RRXAJR5Z0472 | CHIP RES. 1/10W J 4.7k Ω |
| | R1550 | | RCX6JATZ0472 | CARBON RES. 1/6W J 4.7k Ω |
| | R1551 | | RRXAFR5H1002 | CHIP RES. 1/10W F 10k Ω |
| | R1552 | | RRXAFR5H1002 | CHIP RES. 1/10W F 10k Ω |
| | R1553 | | RRXAJR5Z0473 | CHIP RES. 1/10W J 47k Ω |
| | R1554 | | RCX4JATZ0270 | CARBON RES. 1/4W J 27 Ω |
| | R1555 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R1556 | | RRXAFR5H1502 | CHIP RES. 1/10W F 15k Ω |
| | R1557 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1558 | | RRXAFR5H4701 | CHIP RES. 1/10W F 4.7k Ω |
| | R1559 | | RRXAJR5Z0222 | CHIP RES. 1/10W J 2.2k Ω |
| | R1560 | | RRXAJR5Z0152 | CHIP RES. 1/10W J 1.5k Ω |
| | R1561 | | RRXAFR5H8200 | CHIP RES. 1/10W F 820 Ω |
| | R1562 | | RRXAFR5H1501 | CHIP RES. 1/10W F 1.5k Ω |
| | R1563 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R1564 | | RCX6JATZ0223 | CARBON RES. 1/6W J 22k Ω |
| | R1565 | | RRXAJR5Z0222 | CHIP RES. 1/10W J 2.2k Ω |
| | R1566 | | RRXAJR5Z0682 | CHIP RES. 1/10W J 6.8k Ω |
| | R1567 | | RRXAJR5Z0682 | CHIP RES. 1/10W J 6.8k Ω |
| | R1568 | | RCX6JATZ0332 | CARBON RES. 1/6W J 3.3k Ω |
| | R1569 | | RCX6JATZ0332 | CARBON RES. 1/6W J 3.3k Ω |
| | R1570 | | RCX6JATZ0332 | CARBON RES. 1/6W J 3.3k Ω |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|---------------------------|
| | R1571 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R1572 | | RRXAJR5Z0472 | CHIP RES. 1/10W J 4.7k Ω |
| | R1573 | | RRXAJR5Z0472 | CHIP RES. 1/10W J 4.7k Ω |
| | R1574 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | R1576 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R1578 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1579 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1581 | | RCX4JATZ0822 | CARBON RES. 1/4W J 8.2k Ω |
| | R1582 | | RCX4JATZ0822 | CARBON RES. 1/4W J 8.2k Ω |
| | R1587 | | RRXAJR5Z0104 | CHIP RES. 1/10W J 100k Ω |
| | R1589 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R1590 | | RRXAJR5Z0104 | CHIP RES. 1/10W J 100k Ω |
| | R1591 | | RRXAJR5Z0302 | CHIP RES. 1/10W J 3k Ω |
| | R1592 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R1593 | | RRXAJR5Z0123 | CHIP RES. 1/10W J 12k Ω |
| | R1594 | | RRXAJR5Z0302 | CHIP RES. 1/10W J 3k Ω |
| | R1595 | | RRXAJR5Z0123 | CHIP RES. 1/10W J 12k Ω |
| | R1596 | | RRXAJR5Z0682 | CHIP RES. 1/10W J 6.8k Ω |
| | R1597 | | RRXAJR5Z0151 | CHIP RES. 1/10W J 150 Ω |
| | R1598 | | RRXAJR5Z0151 | CHIP RES. 1/10W J 150 Ω |
| | R1599 | | RRXAFR5H2200 | CHIP RES. 1/10W F 220 Ω |
| | R1600 | | RRXAFR5H2700 | CHIP RES. 1/10W F 270 Ω |
| | R1603 | | RRXAFR5H1101 | CHIP RES. 1/10W F 1.1k Ω |
| | R1604 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | R1605 | | RRXAFR5H2200 | CHIP RES. 1/10W F 220 Ω |
| | R1606 | | RRXAFR5H2200 | CHIP RES. 1/10W F 220 Ω |
| | R1607 | | RRXAJR5Z0332 | CHIP RES. 1/10W J 3.3k Ω |
| | R1608 | | RRXAJR5Z0151 | CHIP RES. 1/10W J 150 Ω |
| | R1609 | | RRXAJR5Z0151 | CHIP RES. 1/10W J 150 Ω |
| | R1610 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R1611 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R1612 | | RRXAJR5Z0472 | CHIP RES. 1/10W J 4.7k Ω |
| | R1613 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R1616 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R1619 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R1620 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R1630 | | RRXAFR5H3601 | CHIP RES. 1/10W F 3.6k Ω |
| | R1631 | | RRXAFR5H3601 | CHIP RES. 1/10W F 3.6k Ω |
| | R1632 | | RRXAJR5Z0272 | CHIP RES. 1/10W J 2.7k Ω |
| | R1633 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R1634 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R1636 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1637 | | RRXAFR5H1102 | CHIP RES. 1/10W F 11k Ω |
| | R1638 | | RRXAFR5H1102 | CHIP RES. 1/10W F 11k Ω |
| | R1639 | | RRXAJR5Z0332 | CHIP RES. 1/10W J 3.3k Ω |
| | R1640 | | RRXAJR5Z0332 | CHIP RES. 1/10W J 3.3k Ω |
| | R1641 | | RRXAFR5H8200 | CHIP RES. 1/10W F 820 Ω |
| | R1642 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1643 | | RCX6JATZ0153 | CARBON RES. 1/6W J 15k Ω |
| | R1644 | | RRXAFR5H2700 | CHIP RES. 1/10W F 270 Ω |
| | R1647 | | RRXAJR5Z0222 | CHIP RES. 1/10W J 2.2k Ω |
| | R1648 | | RRXAJR5Z0223 | CHIP RES. 1/10W J 22k Ω |
| | R1650 | | RRXAJR5Z0104 | CHIP RES. 1/10W J 100k Ω |
| | R1651 | | RRXAJR5Z0104 | CHIP RES. 1/10W J 100k Ω |
| | R1652 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1653 | | RRXAJR5Z0562 | CHIP RES. 1/10W J 5.6k Ω |
| | R1654 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R1655 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R1656 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R1657 | | RRXAJR5Z0103 | CHIP RES. 1/10W J 10k Ω |
| | R1658 | | RRXAJR5Z0682 | CHIP RES. 1/10W J 6.8k Ω |
| | R1659 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R1660 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R1661 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R1662 | | RRXAJR5Z0101 | CHIP RES. 1/10W J 100 Ω |
| | R1663 | | RRXAJR5Z0331 | CHIP RES. 1/10W J 330 Ω |

| △ | Location No. | TSB P/N | Reference No. | Description |
|-----------------|--------------|------------|---------------|---------------------------|
| | R1664 | | RRXAJR5Z0331 | CHIP RES. 1/10W J 330 Ω |
| | R1665 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | R1666 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R1669 | | RRXAJR5Z0182 | CHIP RES. 1/10W J 1.8k Ω |
| | R1670 | | RRXAJR5Z0222 | CHIP RES. 1/10W J 2.2k Ω |
| | R1671 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R1672 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R1673 | | RRXAJR5Z0222 | CHIP RES. 1/10W J 2.2k Ω |
| | R1676 | | RCX4JATZ0222 | CARBON RES. 1/4W J 2.2k Ω |
| | R1677 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R1678 | | RCX4JATZ0331 | CARBON RES. 1/4W J 330 Ω |
| | R1679 | | RRXAJR5Z0221 | CHIP RES. 1/10W J 220 Ω |
| | R1680 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R1681 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R1682 | | RRXAJR5Z0750 | CHIP RES. 1/10W J 75 Ω |
| | R1683 | | RRXAJR5Z0750 | CHIP RES. 1/10W J 75 Ω |
| | R1684 | | RRXAJR5Z0750 | CHIP RES. 1/10W J 75 Ω |
| | R1685 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R1686 | | RRXAJR5Z0750 | CHIP RES. 1/10W J 75 Ω |
| | R1688 | | RRXAJR5Z0750 | CHIP RES. 1/10W J 75 Ω |
| | R1689 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R1690 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R1691 | | RCX4JATZ0221 | CARBON RES. 1/4W J 220 Ω |
| | R1692 | | RCX4JATZ0221 | CARBON RES. 1/4W J 220 Ω |
| | R1693 | | RCX4JATZ0821 | CARBON RES. 1/4W J 820 Ω |
| | R1694 | | RRXAJR5Z0104 | CHIP RES. 1/10W J 100k Ω |
| | R1695 | | RCX4JATZ0821 | CARBON RES. 1/4W J 820 Ω |
| | R1696 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R1697 | | RRXAJR5Z0221 | CHIP RES. 1/10W J 220 Ω |
| | R1698 | | RRXAJR5Z0221 | CHIP RES. 1/10W J 220 Ω |
| | R1699 | | RRXAJR5Z0222 | CHIP RES. 1/10W J 2.2k Ω |
| | R1700 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R1702 | | RRXAZR5Z0000 | CHIP RES.(1608) 1/10W 0 Ω |
| | R1703 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R1704 | | RRXAJR5Z0223 | CHIP RES. 1/10W J 22k Ω |
| | R1705 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R1706 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k Ω |
| | R1708 | | RCX6JATZ0101 | CARBON RES. 1/6W J 100 Ω |
| | R1709 | | RCX6JATZ0101 | CARBON RES. 1/6W J 100 Ω |
| | R1712 | | RRXAJR5Z0122 | CHIP RES. 1/10W J 1.2k Ω |
| | R1713 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R1714 | | RRXAJR5Z0471 | CHIP RES. 1/10W J 470 Ω |
| | R1718 | | RRXAJR5Z0163 | CHIP RES. 1/10W J 16k Ω |
| | R1719 | | RRXAJR5Z0163 | CHIP RES. 1/10W J 16k Ω |
| | R1720 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R1721 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R1722 | | RRXAJR5Z0183 | CHIP RES. 1/10W J 18k Ω |
| | R1723 | | RRXAJR5Z0273 | CHIP RES. 1/10W J 27k Ω |
| | R1724 | | RRXAJR5Z0153 | CHIP RES. 1/10W J 15k Ω |
| | R1725 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k Ω |
| | R1726 | | RRXAJR5Z0183 | CHIP RES. 1/10W J 18k Ω |
| | R1727 | | RRXAJR5Z0273 | CHIP RES. 1/10W J 27k Ω |
| | R1728 | | RRXAJR5Z0153 | CHIP RES. 1/10W J 15k Ω |
| | R1729 | | RRXAJR5Z0333 | CHIP RES. 1/10W J 33k 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 |
| | SW526 | P000483300 | SST0101AL041 | TACT SWITCH SKQSAF001A |
| | SW527 | P000483300 | SST0101AL041 | TACT SWITCH SKQSAF001A |
| | SW528 | P000483300 | SST0101AL041 | TACT SWITCH SKQSAF001A |
| | SW601 | P000483300 | SST0101AL041 | TACT SWITCH SKQSAF001A |

| △ | Location No. | TSB P/N | Reference No. | Description |
|----------------------|--------------|------------|---------------|---|
| | SW603 | P000483300 | SST0101AL041 | TACT SWITCH SKQSAF001A |
| | SW605 | P000483300 | SST0101AL041 | TACT SWITCH SKQSAF001A |
| MISCELLANEOUS | | | | |
| | 2B16 | | 0VM409508 | BUSH LED(F) H3700UD |
| | 2B17 | | 1VM425280 | SHIELD ASSEMBLY(T3 PAL) E3B90ED |
| | 2B46 | | 0VM304573 | ROHM HOLDER H7770JD |
| | FL601 | P000490060 | TVFD1C0FT056 | FL 7-BT-310N |
| | JK1501 | P000465540 | JXRL030LY116 | JACK RCA MSP-213V1-652-B N L |
| | JK1502 | P000459850 | JXGL210LY008 | RGB CONNECTOR MRC-021V-05 ABS(B110) |
| | JK1504 | P000465520 | JXRLO10LY140 | JACK RCA MSP-281V41-B(B110) |
| | JK1505 | P000465530 | JXRLO20LY120 | JACK RCA MSP-382V-12 NILF |
| | JK1506 | P000457070 | JXEL040LY003 | JACK S TYPE MDC-050V-2.4 LF(B110) |
| | JW001 | | WX1E9B00-007 | FLAT CABLE 4P AWG26#2651/P2.0/100 |
| | JW101 | | WX1E9G00-002 | FFC CABLE 30P FFC/P1.00/150 |
| | JW102 | | WX1E9G00-002 | FFC CABLE 30P FFC/P1.00/150 |
| | PS502 | | QPWZP1302C70 | PHOTO INTERRUPTER RPI-302C70 |
| | RM1501 | P000457340 | USESJRSKK039 | REMOTE RECEIVER PIC-37043LU |
| | TP301 | | JW17.0T | BOARD JUMPER D0.6-P17.0 |
| | TP501 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | TP503 | | JW7.0T | BOARD JUMPER D0.6-P7.0 |
| | TP504 | | JW25.5T | BOARD JUMPER D0.6-P25.5 |
| △ | TU1501 | P000483920 | UTUNPLGAL020 | TUNER UNIT TMFE2-303A |
| | VR501 | | VRCB104HH014 | CARBON P.O.T. VZ067TL1 B104 PB(F) |
| | X301 | P000468200 | FXC445LLN004 | XTAL 4.433619MHz |
| | X501 | P000468220 | FXD126LCHE01 | QUARTS CRYSTAL 12.000000MHz |
| | X502 | P000483780 | FXC323LQUA03 | RESONATOR XTAL 32.768kHz QTF38-32.768K125P15L |

BOARD POWER SWITCH

| △ | Location No. | TSB P/N | Reference No. | Description |
|---------------|--------------|------------|---------------|--|
| | | | ----- | BOARD POWER SWITCH (MCV-B) Consists of the following: |
| DIODE | | | | |
| | D673 | | NPQZ1CHJGTNN | LED(GREEN) LTL1CHJGTNN |
| SWITCH | | | | |
| | SW673 | P000483300 | SST0101AL041 | TACT SWITCH SKQSAF001A |

BOARD FUNCTION

| △ | Location No. | TSB P/N | Reference No. | Description |
|----------------------|--------------|------------|---------------|--|
| | | | ----- | BOARD FUNCTION (MCV-C) Consists of the following: |
| SWITCHES | | | | |
| | SW681 | P000472800 | SST0101HH013 | TACT SWITCH KSM0614B |
| | SW682 | P000472800 | SST0101HH013 | TACT SWITCH KSM0614B |
| MISCELLANEOUS | | | | |
| | JW002 | | WX1E9B00-004 | FLAT CABLE 3P AWG26#2651/P2.0/80 |

BOARD FRONT JACK

| △ | Location No. | TSB P/N | Reference No. | Description |
|-------------------|--------------|---------|---------------|--|
| | | | ----- | BOARD FRONT JACK (MCV-D) Consists of the following: |
| CAPACITORS | | | | |
| | C1205 | | CHD1JK30B222 | CHIP CERAMIC CAP. B K 2200pF/50V |
| | C1206 | | CHD1JK30B222 | CHIP CERAMIC CAP. B K 2200pF/50V |

| △ | Location No. | TSB P/N | Reference No. | Description |
|----------------------|--------------|------------|---------------|--------------------------------------|
| CONNECTOR | | | | |
| | CN1201 | | JCFEJ08JG001 | FE CONNECTOR TOP 8P 08FE-BT-VK-N |
| DIODES | | | | |
| | D1544 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1545 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1546 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| | D1547 | | QDTA00MTZJ11 | ZENER DIODE MTZJT-7711A |
| RESISTORS | | | | |
| | R1201 | | RRXAJR5Z0750 | CHIP RES. 1/10W J 75 Ω |
| | R1202 | | RRXAJR5Z0750 | CHIP RES. 1/10W J 75 Ω |
| | R1203 | | RRXAJR5Z0221 | CHIP RES. 1/10W J 220 Ω |
| | R1204 | | RRXAJR5Z0221 | CHIP RES. 1/10W J 220 Ω |
| | R1205 | | RRXAJR5Z0750 | CHIP RES. 1/10W J 75 Ω |
| MISCELLANEOUS | | | | |
| | JK1201 | P000465500 | JXRL010LY101 | JACK RCA(YELLOW) MTJ-032-11B-40 FE01 |
| | JK1202 | P000465510 | JXRL010LY102 | JACK RCA(WHITE) MTJ-032-11B-41 FE01 |
| | JK1203 | P000465490 | JYRL010LY024 | JACK RCA(RED) MTJ-032-11A-31 FE01 |
| | JK1204 | P000457070 | JXEL040LY003 | JACK S TYPE MDC-050V-2.4 LF(B110) |
| | JW103 | | WX1E9700-002 | FFC CABLE 8P FFC/P1.25/120 |

BOARD SENSOR

| △ | Location No. | TSB P/N | Reference No. | Description |
|--------------------|--------------|------------|---------------|--|
| | P4 | P000465450 | 1VSA11699 | BOARD SENSOR Consists of the following: |
| TRANSISTORS | | | | |
| | Q503 | | NPWZT2046B12 | PHOTO TRANSISTOR PT204-6B-12 |
| | Q504 | | NPWZT2046B12 | PHOTO TRANSISTOR PT204-6B-12 |

BOARD PSV

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|------------|---------------|--|
| △ | P3 | P000489980 | 1VSA15793 | BOARD PSV Consists of the following |
| | | | ----- | BOARD POWER SUPPLY (PSV-A) |
| | | | ----- | BOARD REAR JACK (PSV-B) |

BOARD POWER SUPPLY

| △ | Location No. | TSB P/N | Reference No. | Description |
|-------------------|--------------|---------|---------------|--|
| | | | ----- | BOARD POWER SUPPLY (PSV-A) Consists of the following: |
| CAPACITORS | | | | |
| | C013 | | CE1JMASDL100 | ELECTROLYTIC CAP. 10μF/50V M |
| | C014 | | CE1CMASDL471 | ELECTROLYTIC CAP. 470μF/16V M |
| | C015 | | CE1CMASDL101 | ELECTROLYTIC CAP. 100μF/16V M |
| | C016 | | CE0KMZADL222 | ELECTROLYTIC CAP. 2200μF/6.3V SL |
| | C017 | | CE0KMZADL222 | ELECTROLYTIC CAP. 2200μF/6.3V SL |
| | C018 | | CE0KMASDL471 | ELECTROLYTIC CAP. 470μF/6.3V 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 | | CA2H101S6016 | ELECTROLYTIC CAP. 100μF/400V M |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---------------|--------------|------------|---------------|--|
| | C1005 | | CCD3AKPSL560 | CERAMIC CAP. SL K 56pF/1KV |
| △ | C1006 | | CCN2EMA0E222 | SAFTY CAP. 2200pF/250V |
| | C1007 | | CE0KMASDL102 | ELECTROLYTIC CAP. 1000μF/ 6.3V M |
| | C1013 | | CCA1JJT0B102 | CERAMIC CAP.(AX) B J 1000pF/ 50V |
| | C1018 | | CE1AMASDL101 | ELECTROLYTIC CAP. 100μF/ 10V M |
| | C1021 | | CCA1CMT0Y103 | CERAMIC CAP.(AX) Y M 0.01μF/ 16V |
| | C1025 | | CCA1JKT0B103 | CERAMIC CAP.(AX) B K 0.01μF/ 50V |
| | C1029 | | CCA1CKT0X182 | CERAMIC CAP.(AX) X K 1800pF/ 16V |
| | C1032 | | CE1CMASDL470 | ELECTROLYTIC CAP. 47μF/16V M |
| | C1033 | | CCD1JZSYV223 | CERAMIC CAP. YV Z 0.022μF/ 50V |
| | C1035 | | CE0KMZADL332 | ELECTROLYTIC CAP. 3300μF/ 6.3V SL |
| | C1036 | | CCD2JKP0B471 | CERAMIC CAP. B K 470pF/500V |
| | C1037 | | CE1CMASDL102 | ELECTROLYTIC CAP. 1000μF/ 16V M |
| | C1039 | | CE1CMASDL471 | ELECTROLYTIC CAP. 470μF/ 16V M |
| | C1106 | | CE1GMASDL101 | ELECTROLYTIC CAP. 100μF/ 35V M |
| | C2014 | | CCD2JKP0B103 | CERAMIC CAP. B K 0.01μF/ 500V |
| DIODES | | | | |
| | D013 | | NDQZ000BA158 | RECTIFIER DIODE BA158 |
| | D014 | | NDQZ000SB190 | SCHOTTKY BARRIER DIODE SB190 |
| | D015 | | QDTB0MTZJ6R8 | ZENER DIODE MTZJT-776.8B |
| | D016 | | NDQZ000SB340 | SCHOTTKY BARRIER DIODE SB340 |
| | D017 | | QDTC00MTZJ15 | ZENER DIODE MTZJT-7715C |
| | D018 | | NDQZ000BA158 | RECTIFIER DIODE BA158 |
| | D019 | | NDQZ000FR203 | RECTIFIER DIODE FR203-B/P |
| | 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) |
| | D1008 | | NDQZ000SB140 | SCHOTTKY BARRIER DIODE SB140 |
| | D1011 | | NDQZ000BA159 | RECTIFIER DIODE BA159 |
| | D1012 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T- 77) |
| | D1016 | | NDQZ000SB140 | SCHOTTKY BARRIER DIODE SB140 |
| | D1017 | | QDTA00MTZJ20 | ZENER DIODE MTZJT-7720A |
| | D1018 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T- 77) |
| | D1019 | | QDTB0MTZJ6R8 | ZENER DIODE MTZJT-776.8B |
| | D1022 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T- 77) |
| | D1023 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | D1024 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T- 77) |
| | D1025 | | QDTZ001SS133 | SWITCHING DIODE 1SS133(T- 77) |
| | D1030 | | NDQZ000SB240 | SCHOTTKY BARRIER DIODE SB240-B/P |
| | D1031 | | NDQZ000SB390 | SCHOTTKY BARRIER DIODE SB390 |
| | D1032 | | NDQZ000SB340 | SCHOTTKY BARRIER DIODE SB340 |
| IC | | | | |
| △ | IC1001 | P000459900 | NPEA000EL817 | PHOTOCOUPLER EL817A |
| COILS | | | | |
| | L010 | | LLBD00PKV023 | RADIAL TYPE CHOKE COIL CW68-470K-841040NP |
| | L013 | | LLBD00PKV023 | RADIAL TYPE CHOKE COIL CW68-470K-841040NP |

| △ | Location No. | TSB P/N | Reference No. | Description |
|----------------------|--------------|------------|---------------|--|
| | L1001 | | ----- | BEAD CORE ASSEMBLY E9GA0BD |
| | L1001-1 | | JW20.0T | BOARD JUMPER D0.6-P20.0 |
| | L1001-2 | | XL03010XM001 | BEAD CORE B16 RH 3.5X10X1.3 |
| | L1002 | | ----- | BEAD CORE ASSEMBLY E9GA0BD |
| | L1002-1 | | JW20.0T | BOARD JUMPER D0.6-P20.0 |
| | L1002-2 | | XL03010XM001 | BEAD CORE B16 RH 3.5X10X1.3 |
| △ | L1003 | | LLBG00ZTU022 | LINE FILTER 56MH TLF14CB5630R2 |
| | L1004 | | XL03010XM001 | BEAD CORE B16 RH 3.5X10X1.3 |
| | L1005 | | ----- | BEAD CORE ASSEMBLY E9GA0BD |
| | L1005-1 | | JW20.0T | BOARD JUMPER D0.6-P20.0 |
| | L1005-2 | | XL03010XM001 | BEAD CORE B16 RH 3.5X10X1.3 |
| | L1011 | | LLBD00PKV023 | RADIAL TYPE CHOKE COIL CW68-470K-841040NP |
| | L1013 | | LLF1800KV002 | POWER INDUCTORS CWKBNP-180K |
| TRANSISTORS | | | | |
| △ | Q1001 | | QFWZ02SK3566 | FET 2SK3566 |
| | Q1003 | | QQSY2SC1815F | TRANSISTOR 2SC1815-Y(T2 F T) |
| | Q1004 | | NQSYKTA1267P | TRANSISTOR KTA1267-Y-AT/P |
| | Q1008 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| RESISTORS | | | | |
| | R057 | | RCX6JATZ0224 | CARBON RES. 1/6W J 220k Ω |
| △ | R1001 | | RCX2565FS001 | CARBON RES. 1/2W K 5.6M Ω |
| | R1002 | | RCX4JATZ0564 | CARBON RES. 1/4W J 560k Ω |
| | R1003 | | RCX4JATZ0684 | CARBON RES. 1/4W J 680k Ω |
| | R1004 | | RN02JZLZ0823 | METAL OXIDE FILM RES. 2W J 82k Ω |
| | R1005 | | RCX4JATZ0105 | CARBON RES. 1/4W J 1M Ω |
| | R1006 | | RCX4JATZ0105 | CARBON RES. 1/4W J 1M Ω |
| | R1007 | | RCX4JATZ0105 | CARBON RES. 1/4W J 1M Ω |
| | R1008 | | RCX4GATZ0821 | CARBON RES. 1/4W G 820 Ω |
| | R1010 | | RCX6JATZ0223 | CARBON RES. 1/6W J 22k Ω |
| | R1011 | | RN01JZLZ01R3 | METAL OXIDE FILM RES. 1W J 1.3 Ω |
| | R1020 | | RCX6JATZ0182 | CARBON RES. 1/6W J 1.8k Ω |
| | R1021 | | RCX6JATZ0102 | CARBON RES. 1/6W J 1k Ω |
| | R1022 | | RCX6JATZ0472 | CARBON RES. 1/6W J 4.7k Ω |
| | R1023 | | RCX6GATZ0222 | CARBON RES. 1/6W G 2.2k Ω |
| | R1024 | | RCX6JATZ0683 | CARBON RES. 1/6W J 68k Ω |
| | R1025 | | RCX6GATZ0562 | CARBON RES. 1/6W G 5.6k Ω |
| | R1029 | | RCX6JATZ0104 | CARBON RES. 1/6W J 100k Ω |
| | R1032 | | RCX6JATZ0222 | CARBON RES. 1/6W J 2.2k Ω |
| | R1035 | | RCX6JATZ0102 | CARBON RES. 1/6W J 1k Ω |
| | R1036 | | RCX6JATZ0104 | CARBON RES. 1/6W J 100k Ω |
| | R1037 | | RCX6JATZ0103 | CARBON RES. 1/6W J 10k Ω |
| | R1038 | | RCX6JATZ0104 | CARBON RES. 1/6W J 100k Ω |
| | R1039 | | RCX6JATZ0474 | CARBON RES. 1/6W J 470k Ω |
| | R1040 | | RCX4JATZ0100 | CARBON RES. 1/4W J 10 Ω |
| | R1041 | | RCX4JATZ0100 | CARBON RES. 1/4W J 10 Ω |
| | R1043 | | RN012R7ZU001 | METAL OXIDE FILM RES. 1W J 2.7 Ω |
| | R1058 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R1059 | | RCX4JATZ0102 | CARBON RES. 1/4W J 1k Ω |
| | R1126 | | RCX6JATZ0333 | CARBON RES. 1/6W J 33k Ω |
| MISCELLANEOUS | | | | |
| | 2B18 | | 1VM420987 | HEAT SINK E6800ED |
| | 2L019 | | GBJS3080 | SCREW S-TIGHT M3X8 BIND HEAD+ |
| △ | AC1001 | | WAB0182LW019 | POWER CORD W/O A GND WIRE BS 1800MM BLACK |
| △ | F1001 | P000459950 | PAGC20BW3162 | FUSE T1.6AL/250V |
| | FH1001 | | XH01200LY002 | FUSE HOLDER MSF-015 LF (B110) |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|------------|---------------|-------------------------------|
| | FH1002 | | XH01Z00LY002 | FUSE HOLDER MSF-015 LF (B110) |
| | JW1001 | | WX1E9G00-001 | FFC CABLE 34P FFC/P1.00/110 |
| △ | SA1001 | P000457210 | NVQZ10D471KB | SURGE ABSORBER 470V+-10PER |
| △ | T0011 | P000490000 | LTT2PE0KT023 | TRANS POWER 7717 |

BOARD REAR JACK

| △ | Location No. | TSB P/N | Reference No. | Description |
|----------------------|--------------|------------|---------------|---|
| | | | ----- | BOARD REAR JACK (PSV-B) Consists of the following: |
| CAPACITORS | | | | |
| | C2003 | | CA1J222TU011 | CERAMIC CAP.(AX) B K 2200pF/50V |
| | C2004 | | CA1J222TU011 | CERAMIC CAP.(AX) B K 2200pF/50V |
| | C2005 | | CA1J222TU011 | CERAMIC CAP.(AX) B K 2200pF/50V |
| | C2006 | | CA1J222TU011 | CERAMIC CAP.(AX) B K 2200pF/50V |
| | C2007 | | CA1J222TU011 | CERAMIC CAP.(AX) B K 2200pF/50V |
| | C2008 | | CCA1JKT0B102 | CERAMIC CAP.(AX) B K 1000pF/50V |
| | C2009 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C2010 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C2011 | | CCA1JKT0B102 | CERAMIC CAP.(AX) B K 1000pF/50V |
| | C2012 | | CE1JMASDL1R0 | ELECTROLYTIC CAP. 1μF/50V M |
| | C2013 | | CCA1JKT0B102 | CERAMIC CAP.(AX) 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 | | | | |
| | L2001 | | ----- | BEAD CORE ASSEMBLY E9GA0BD |
| | L2001-1 | | JW35.0T | BOARD JUMPER D0.6-P35.0 |
| | L2001-2 | | XL03010XM001 | BEAD CORE B16 RH 3.5X10X1.3 |
| TRANSISTORS | | | | |
| | Q2002 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| | Q2003 | | NQSYKTC3199P | TRANSISTOR KTC3199-Y-AT/P |
| RESISTORS | | | | |
| | R2003 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R2004 | | 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 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R2010 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R2011 | | RCX4JATZ0750 | CARBON RES. 1/4W J 75 Ω |
| | R2012 | | RCX6JATZ0102 | CARBON RES. 1/6W J 1k Ω |
| | R2013 | | RCX6JATZ0102 | CARBON RES. 1/6W J 1k Ω |
| MISCELLANEOUS | | | | |
| | 2B60 | | 1VM423185 | 21P PLATE EARTH E7B20ED |
| | JK2001 | P000459840 | JXGL210LY006 | RGB CONNECTOR MRC-021V-03 ABS(B11) |

| △ | Location No. | TSB P/N | Reference No. | Description |
|---|--------------|---------|---------------|-----------------------------------|
| | JW2001 | | WX1E9G00-003 | FLAT CABLE 14P AWG26#2561/P2.0/65 |

BOARD AFV

| △ | Location No. | TSB P/N | Reference No. | Description |
|----------------------|--------------|------------|---------------|--|
| | P5 | P000483720 | 1VSA15656 | 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 | | CE1JMASSL3R3 | 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 |
| | C24 | | CE1JMASSLR22 | 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 10μH-K-5FT |
| | L2 | | JW5.0T | BOARD JUMPER D0.6-P5.0 |
| | L3 | | LLAXKATTU180 | INDUCTOR 18μH-K-26T |
| | L4 | | LLARKBSTU100 | INDUCTOR 10μH-K-5FT |
| RESISTORS | | | | |
| | R1 | | RRXAJR5Z0102 | CHIP RES. 1/10W J 1k 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 |
| MISCELLANEOUS | | | | |
| | X1 | P000468230 | FXD186LLN001 | XTAL 18.432MHz |

DECK MECHANISM SECTION

DVD VIDEO RECORDER & VIDEO CASSETTE RECORDER

D-VR17KB

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

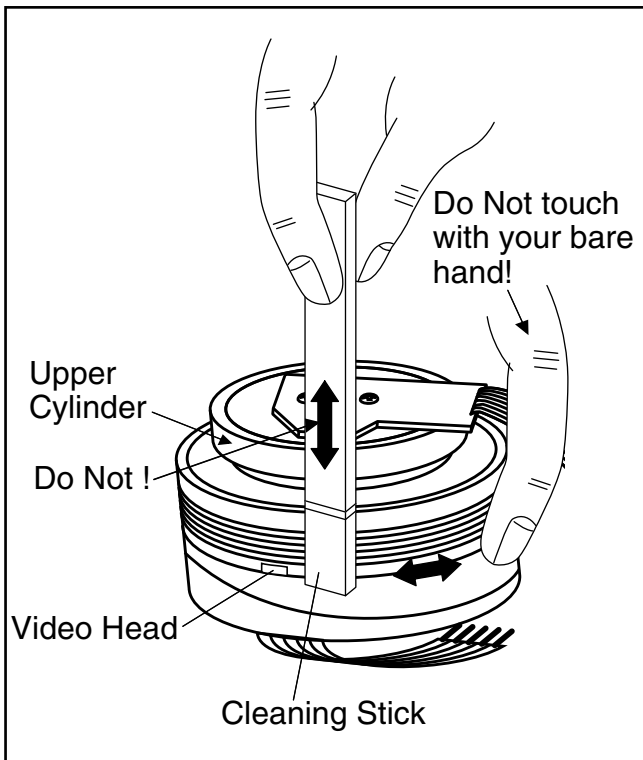
Clean the head with a head cleaning stick or chamois cloth.

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

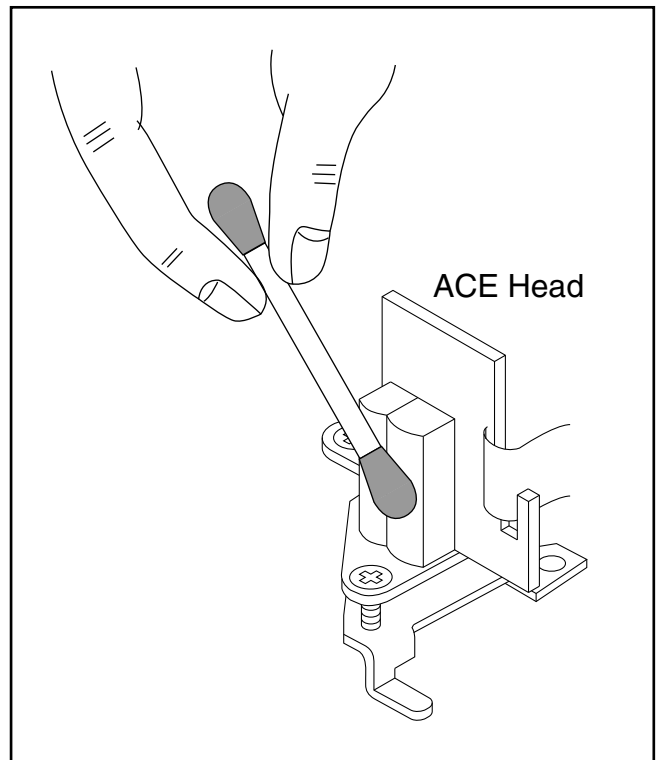
Clean the head with a cotton swab.

Procedure

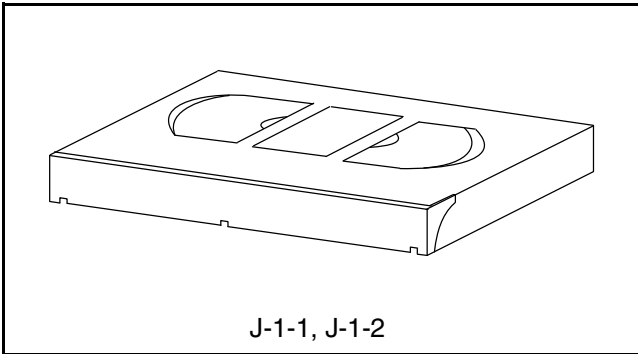
1. Remove the top cabinet.
2. Dip the cotton swab in 90% ethyl alcohol and clean the ACE Head. Be careful not to damage the upper drum and other tape running parts.

Notes:

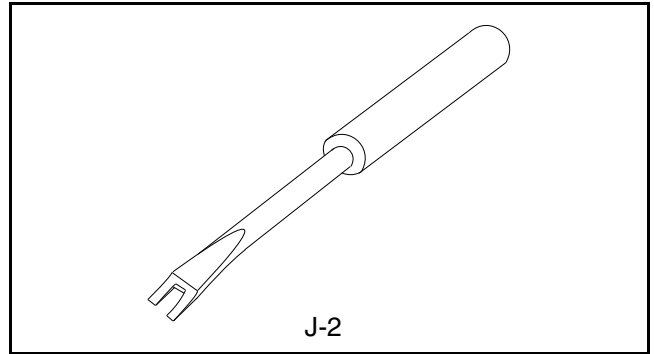
1. Avoid cleaning the ACE Head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



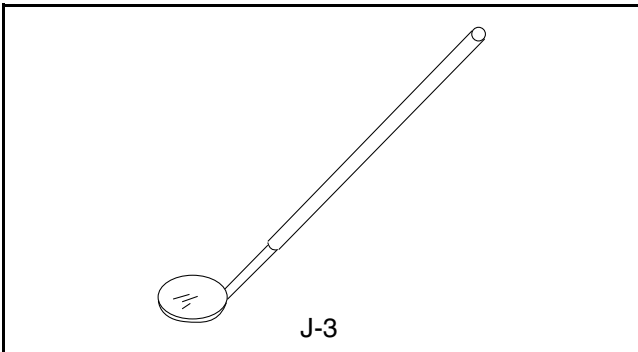
SERVICE FIXTURE AND TOOLS



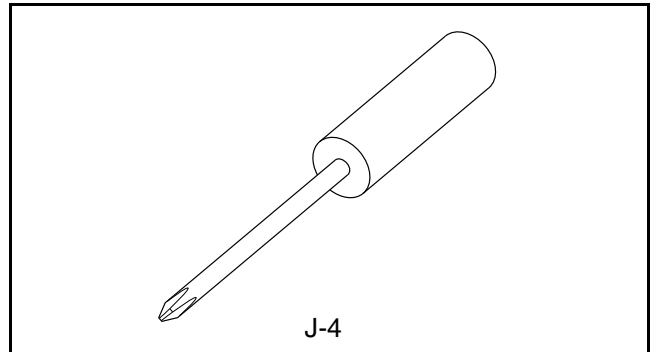
J-1-1, J-1-2



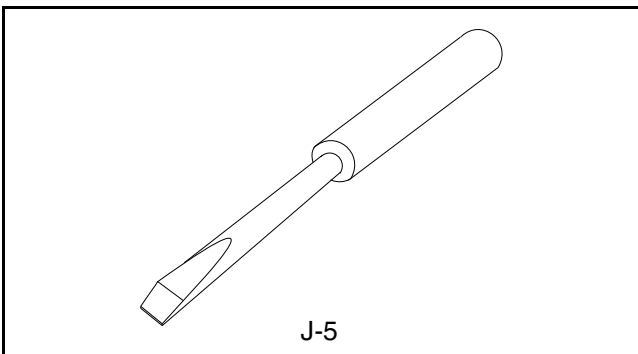
J-2



J-3



J-4



J-5

| 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:

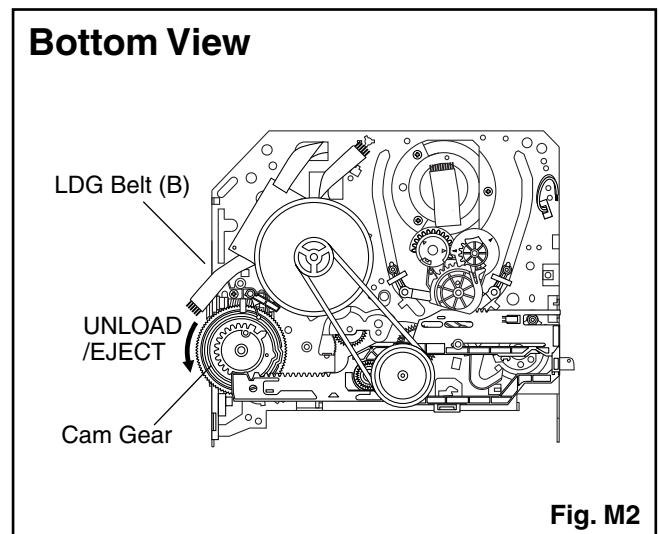
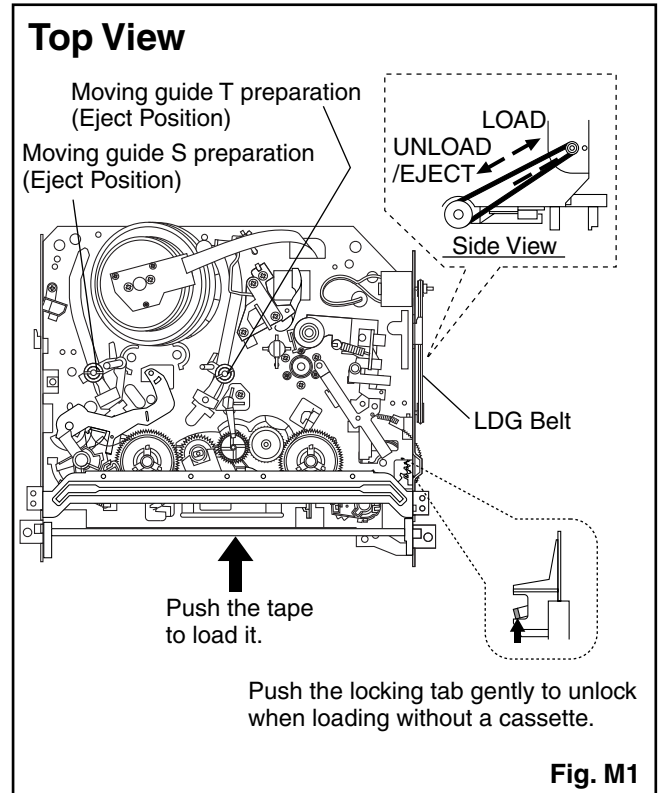
1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see 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:

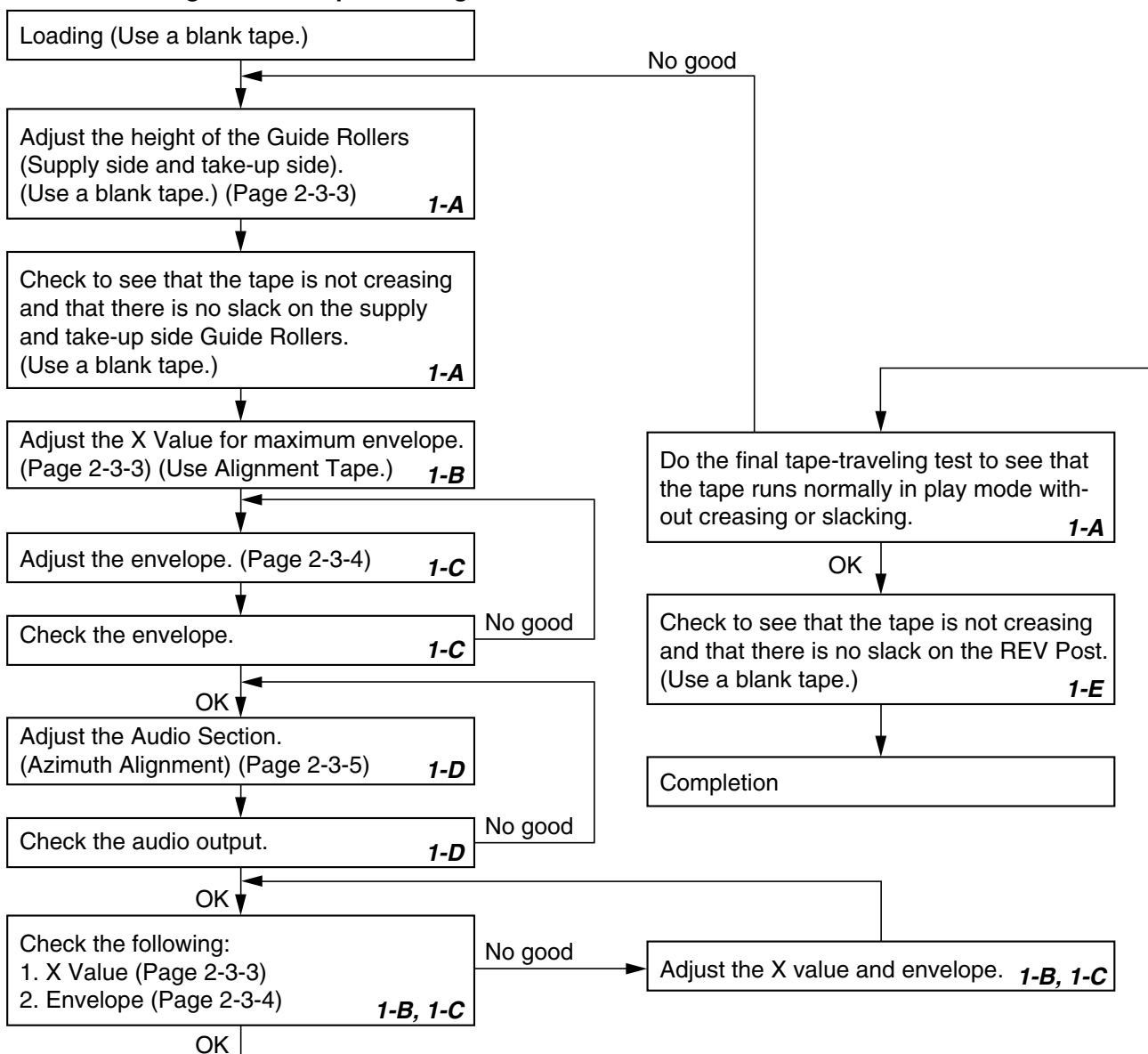
To do these alignment procedures, make sure that the Tracking Control Circuit is set to the preset position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

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:

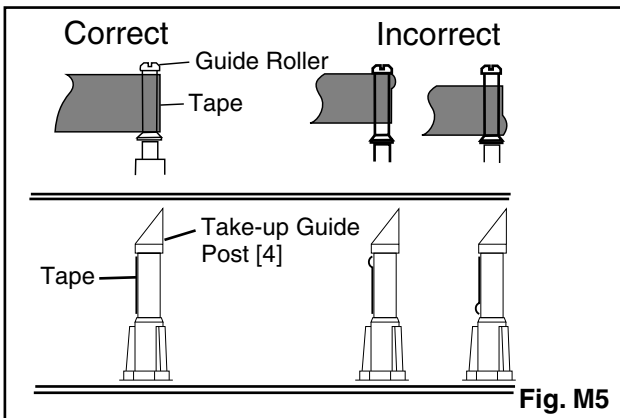
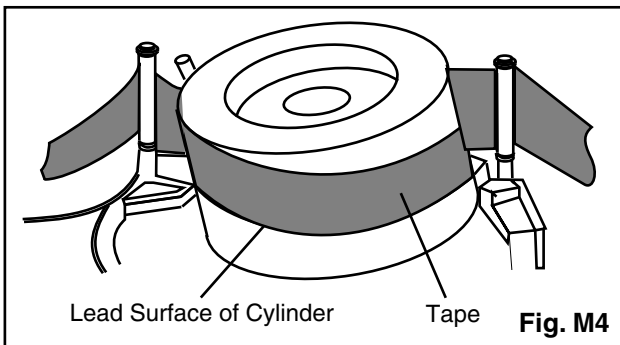
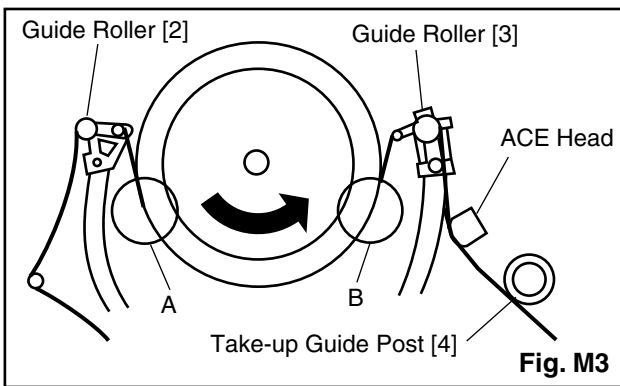
To make sure that the tape path is well stabilized.

Symptom of Misalignment:

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

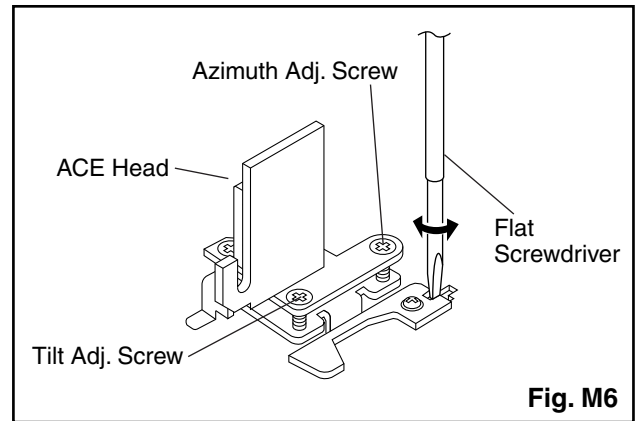
Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

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.)



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)



1-B. X Value Alignment

Purpose:

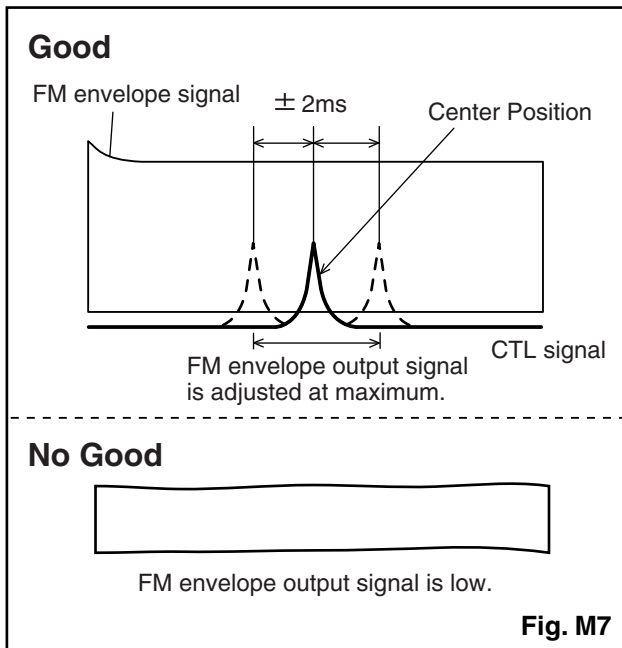
To obtain maximum PB FM envelope signal at the preset position of the Tracking Control Circuit, align the Horizontal Position of the ACE Head.

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)

- 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.



- 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:

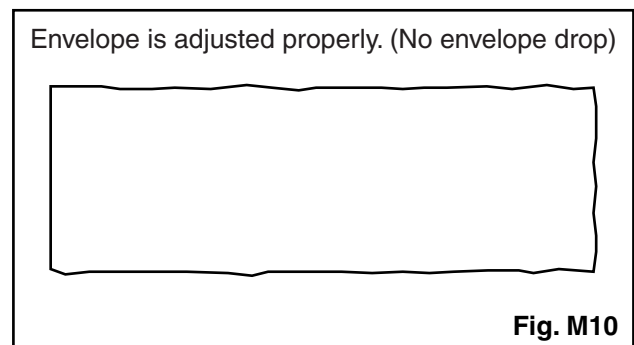
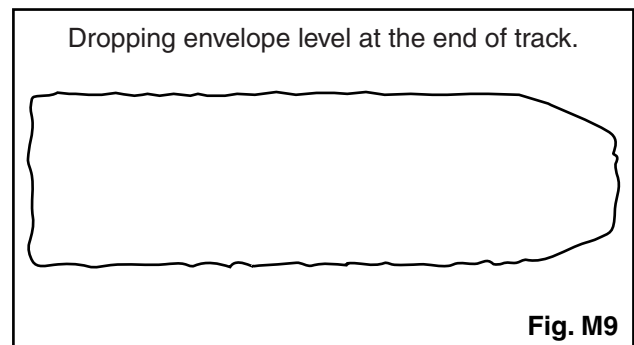
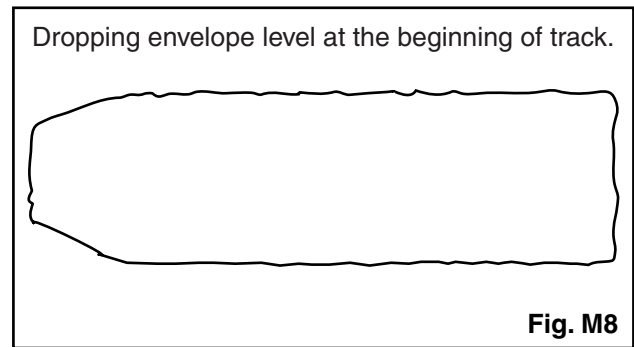
To achieve a satisfactory picture, adjust the Guide Rollers so that the PB FM envelope becomes as flat as possible.

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.

- Connect the oscilloscope to TP301 (C-PB) on the BOARD POWER. Use TP504 (RF-SW) as a trigger.
- 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.
- 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.
- 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.

- 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.

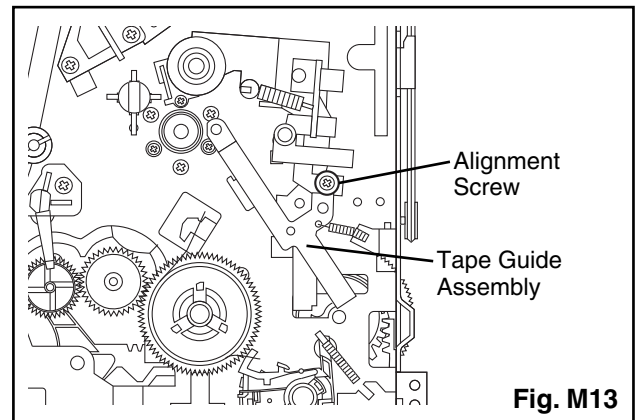
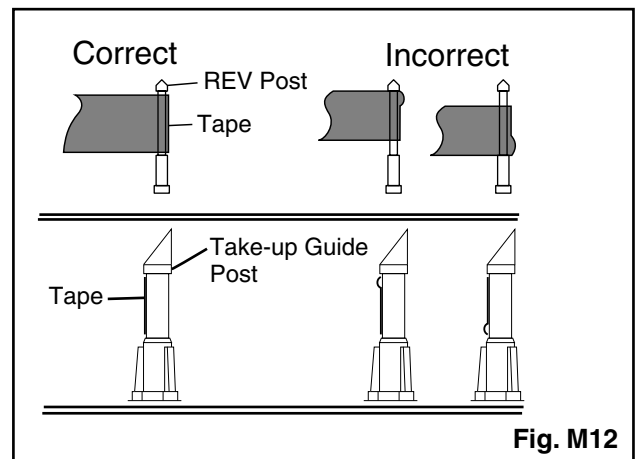
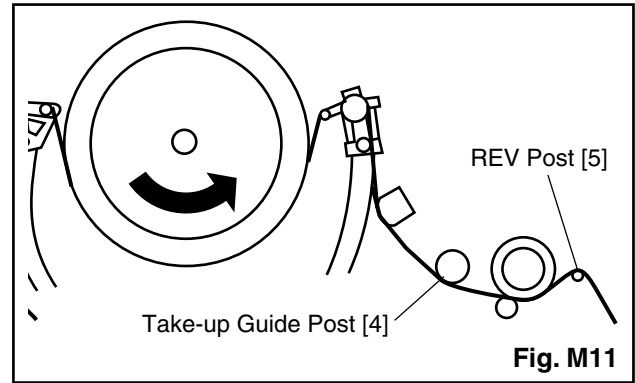
Symptom of Misalignment:

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

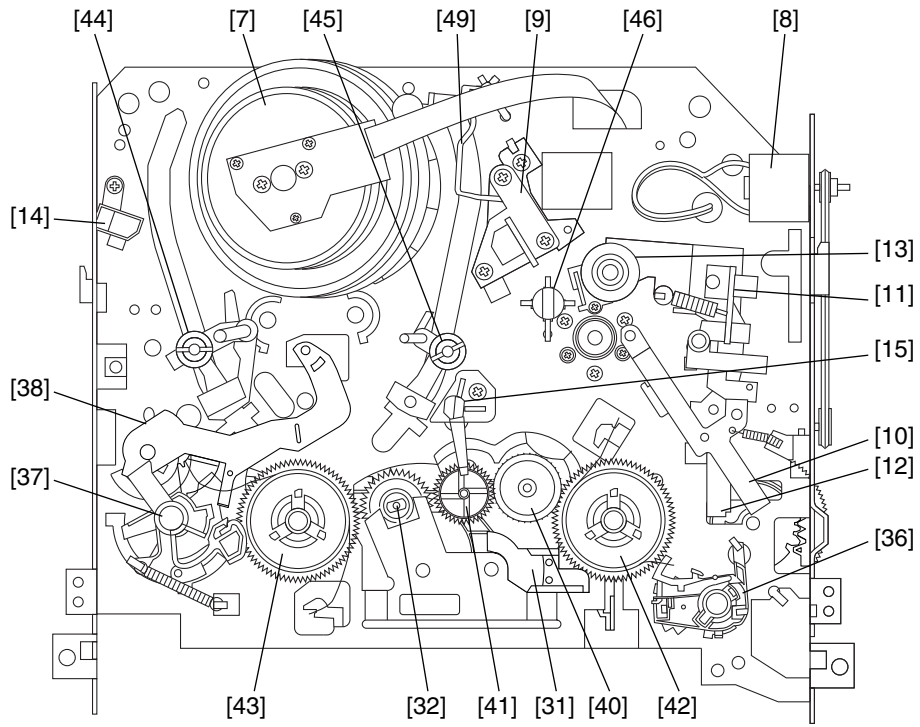


Fig. DM1H

Bottom View

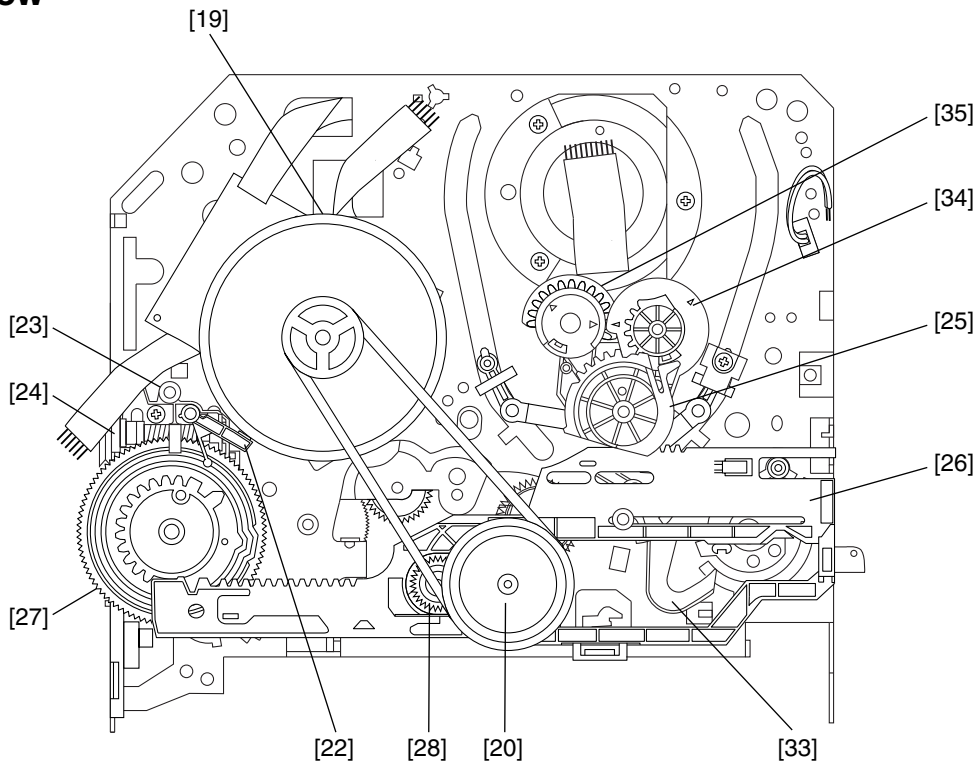


Fig. DM2H

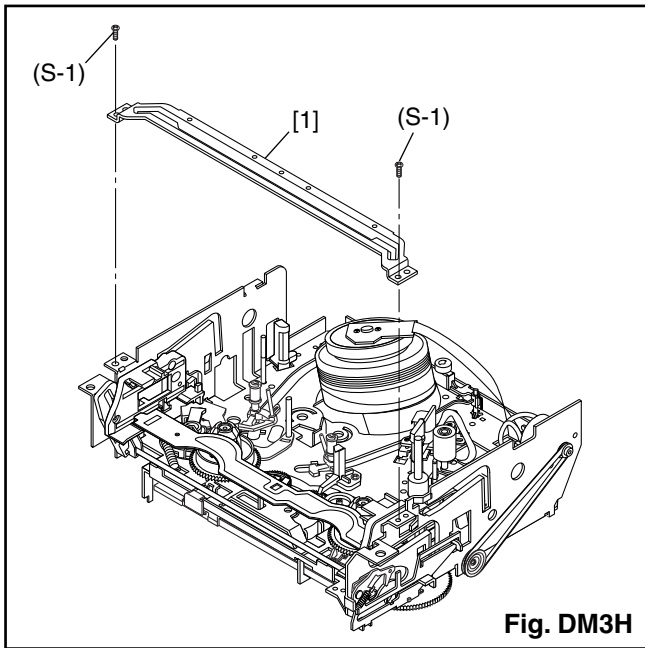
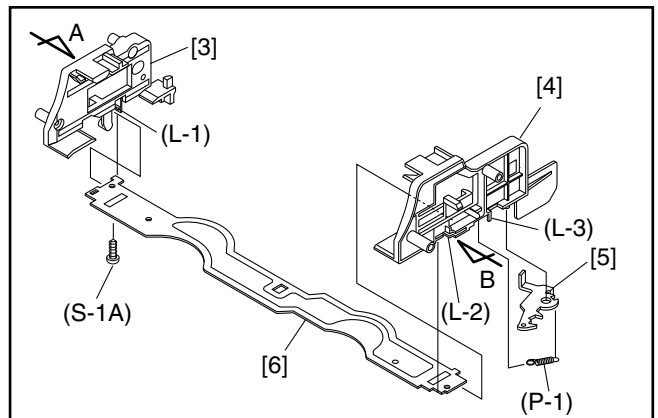
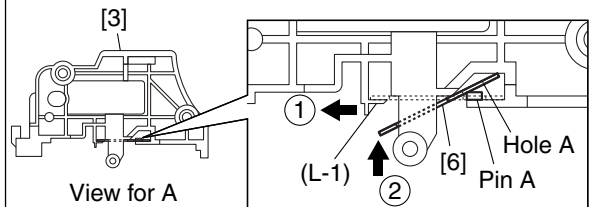


Fig. DM3H



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.

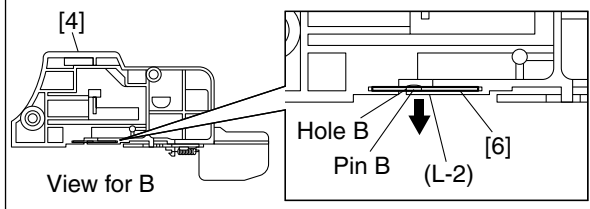
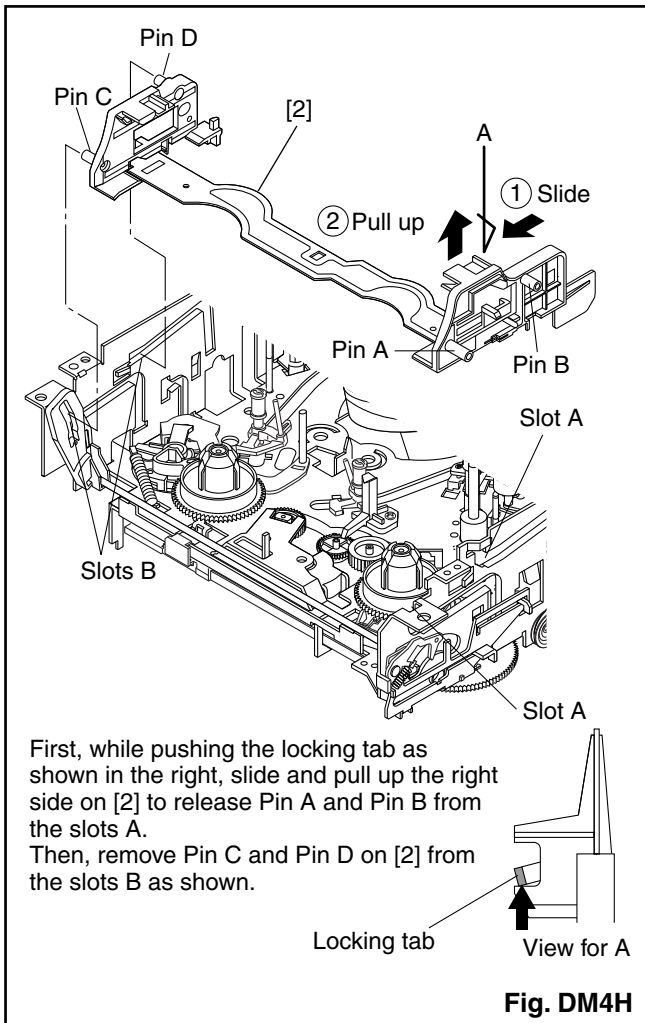


Fig. DM5H



First, while pushing the locking tab as shown in the right, slide and pull up the right side on [2] to release Pin A and Pin B from the slots A. Then, remove Pin C and Pin D on [2] from the slots B as shown.

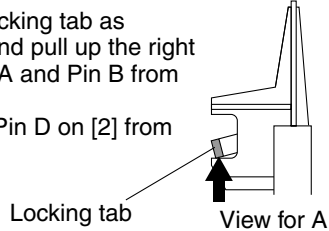


Fig. DM4H

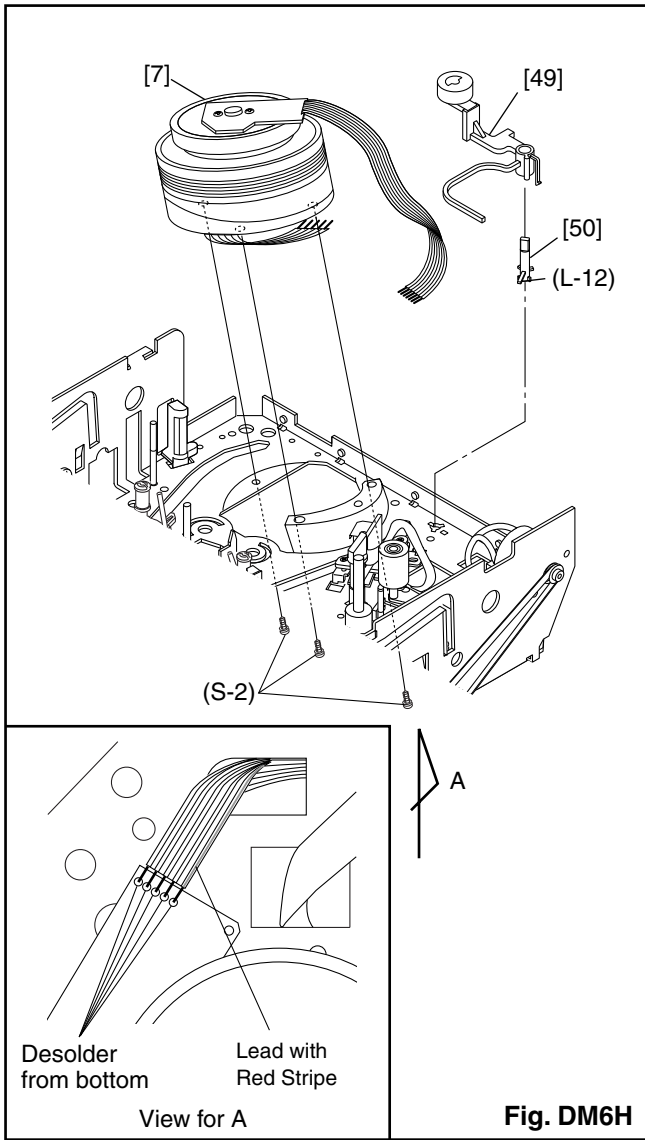


Fig. DM6H

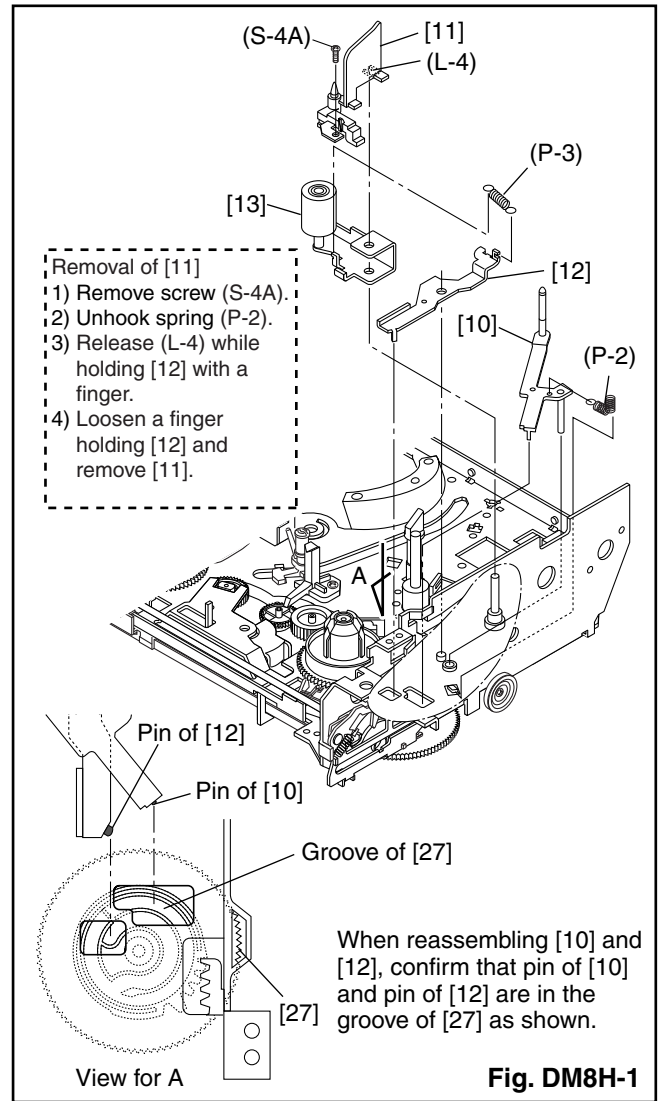


Fig. DM8H-1

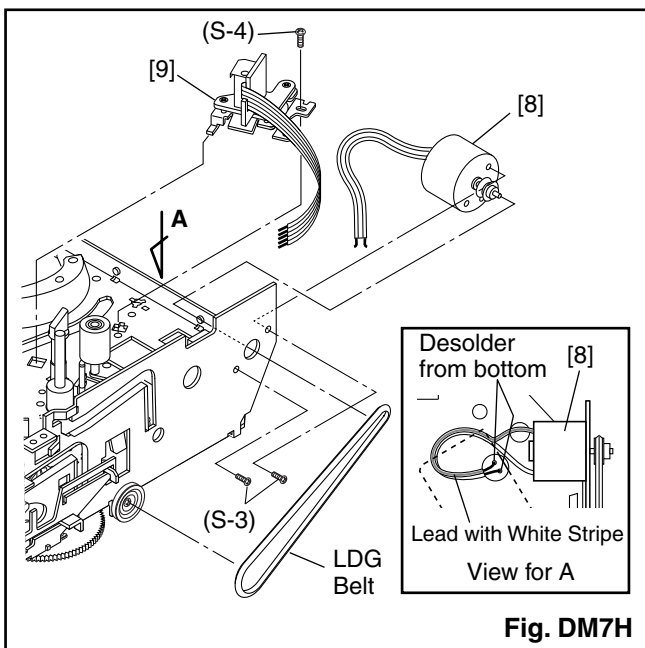


Fig. DM7H

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.)

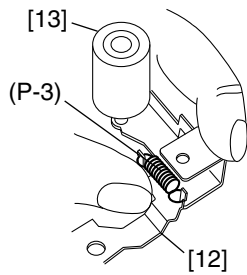


Fig. A

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

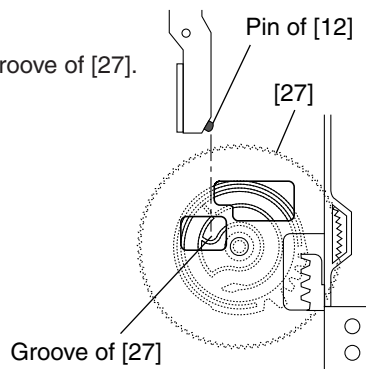


Fig. B (Top view)

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.)

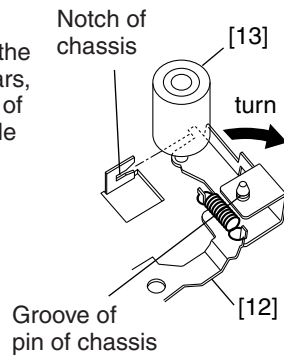


Fig. C

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

Fig. DM8H-2

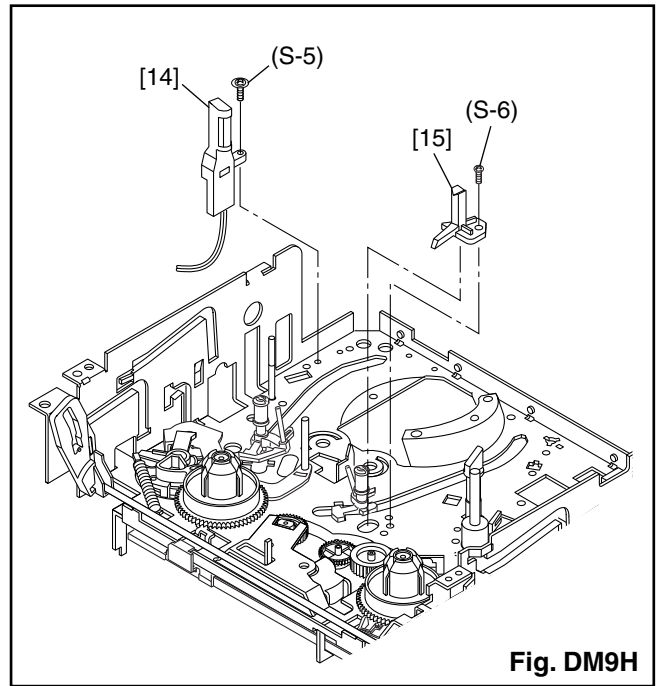


Fig. DM9H

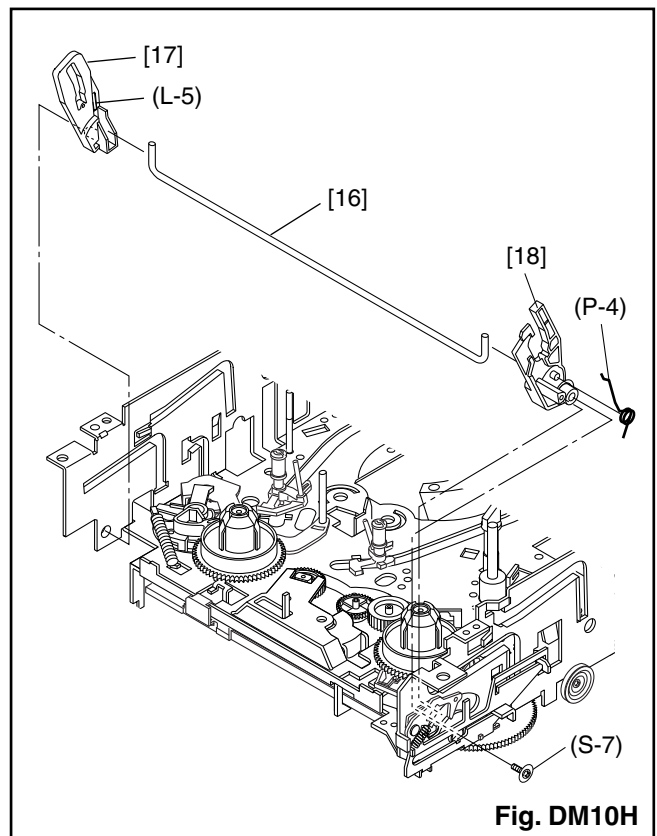
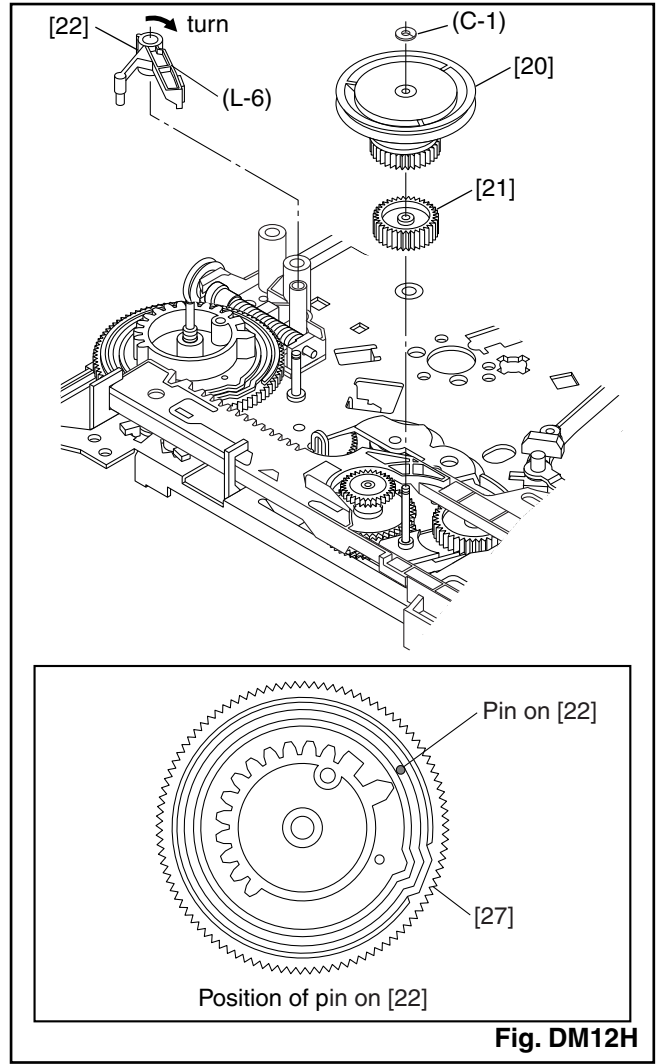
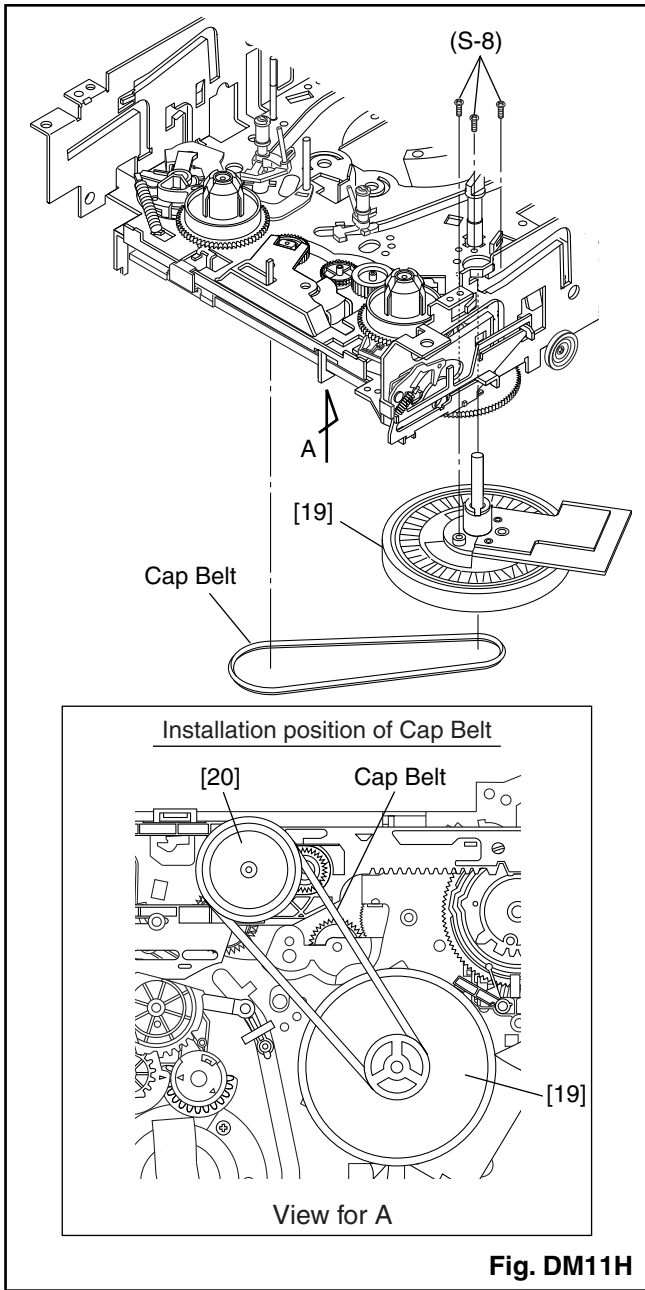
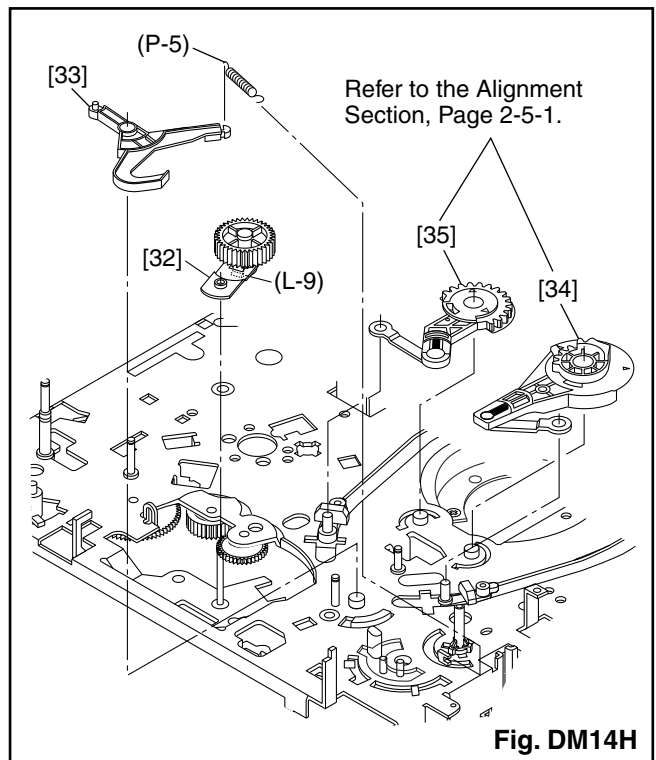
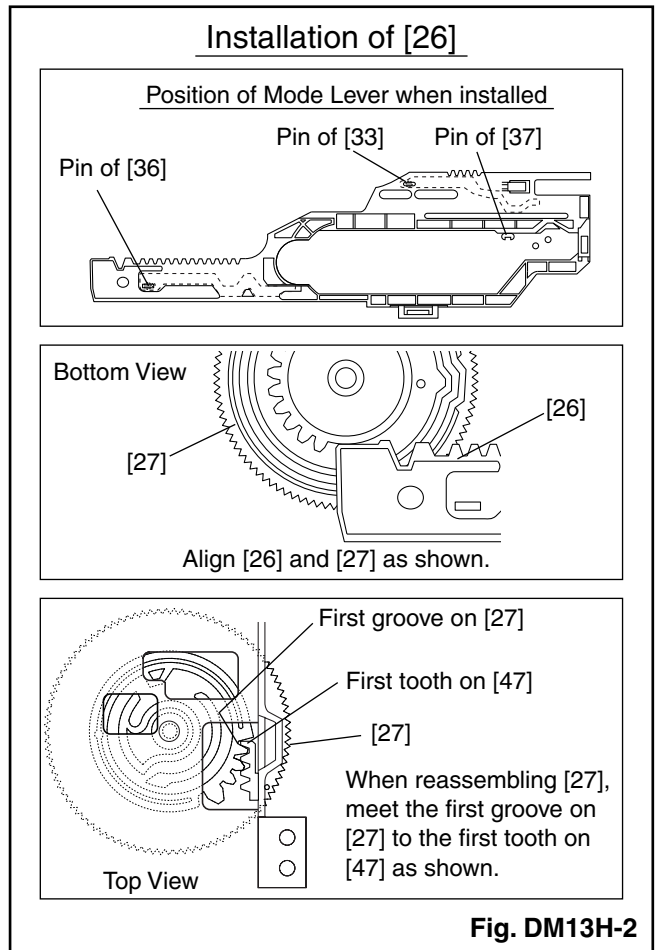
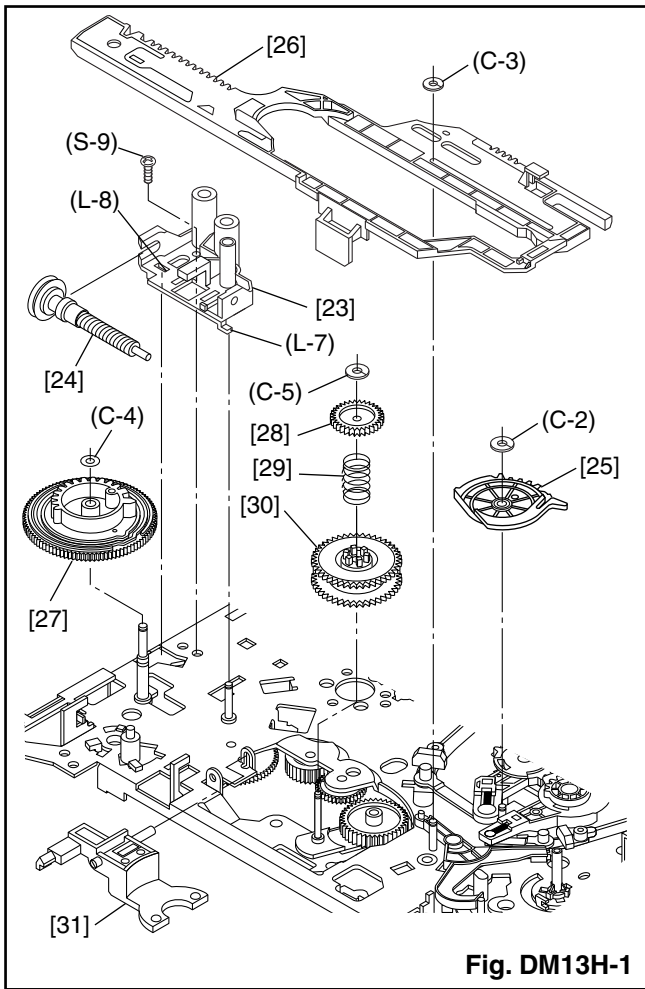
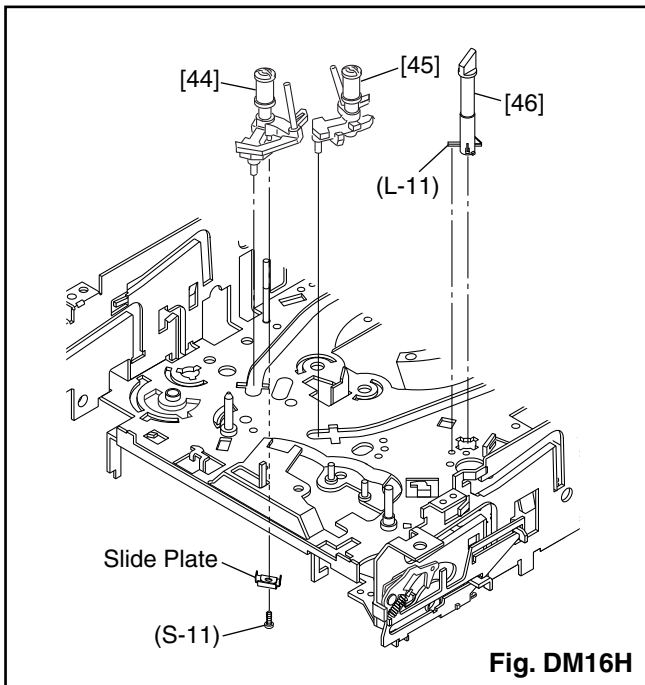
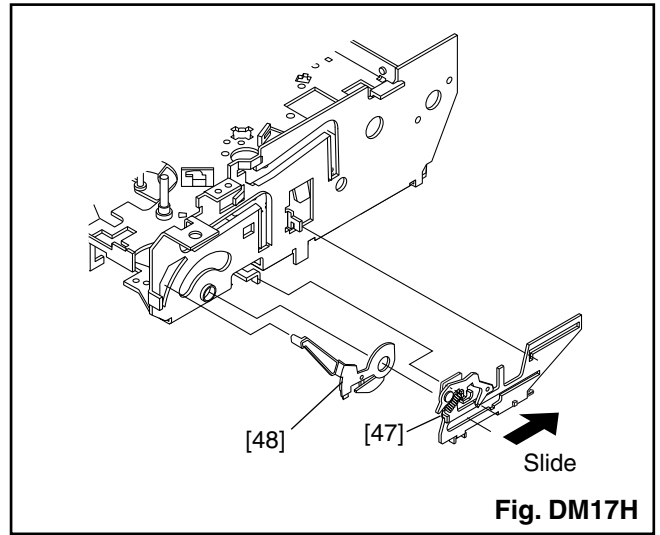
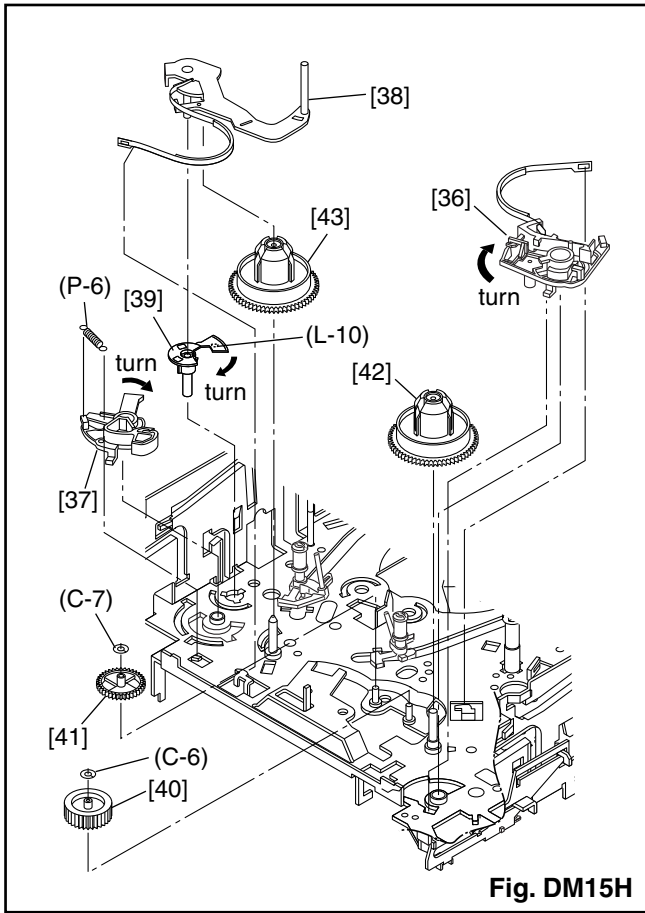


Fig. DM10H







ALIGNMENT PROCEDURES OF MECHANISM

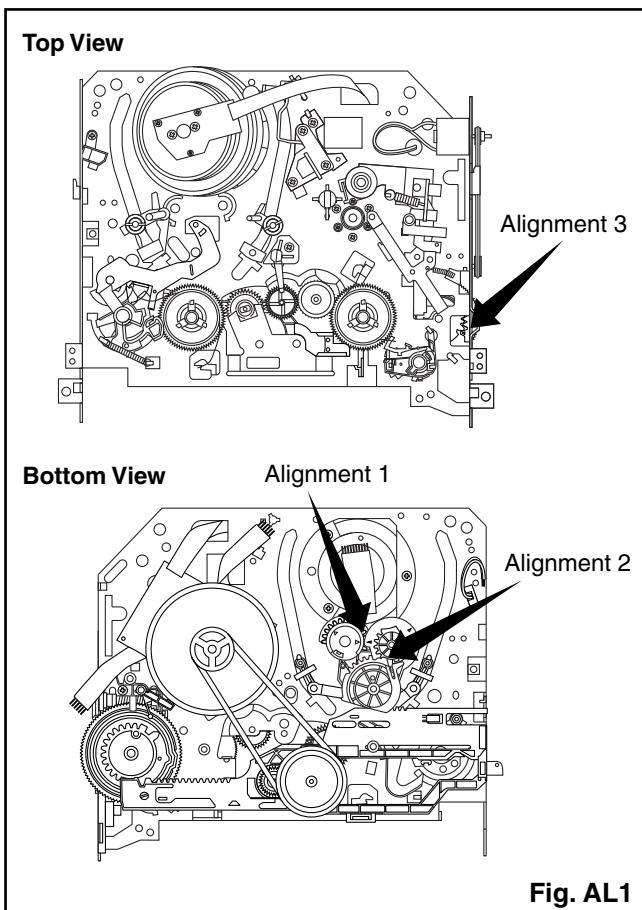
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between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

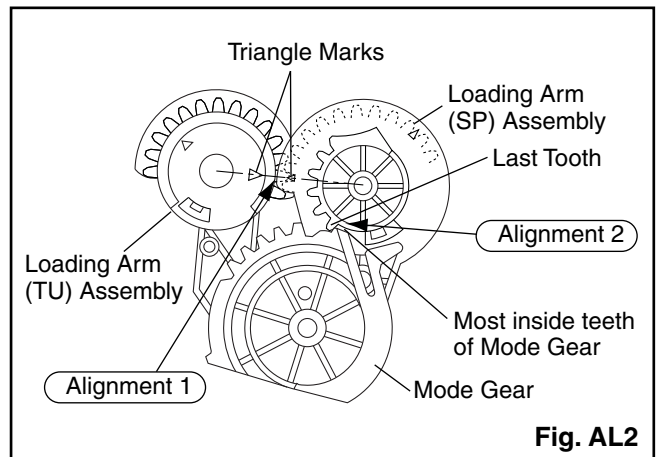
Loading Arm (SP) and (TU) Assembly

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

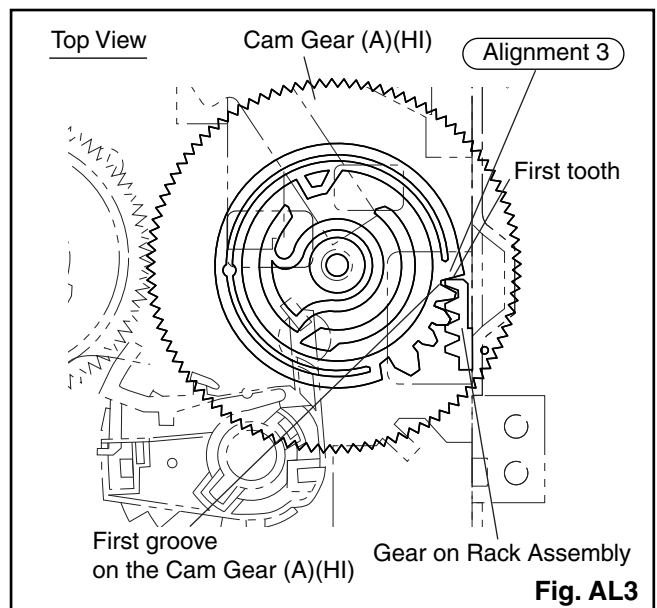
Keeping the two triangles pointing at each other, install the Loading Arm (SP) Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.



Alignment 3

Cam Gear (A) (HI), Rack Assembly

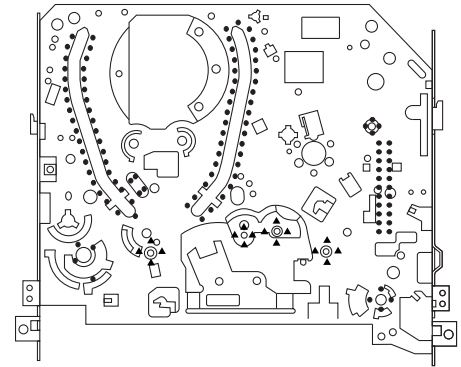
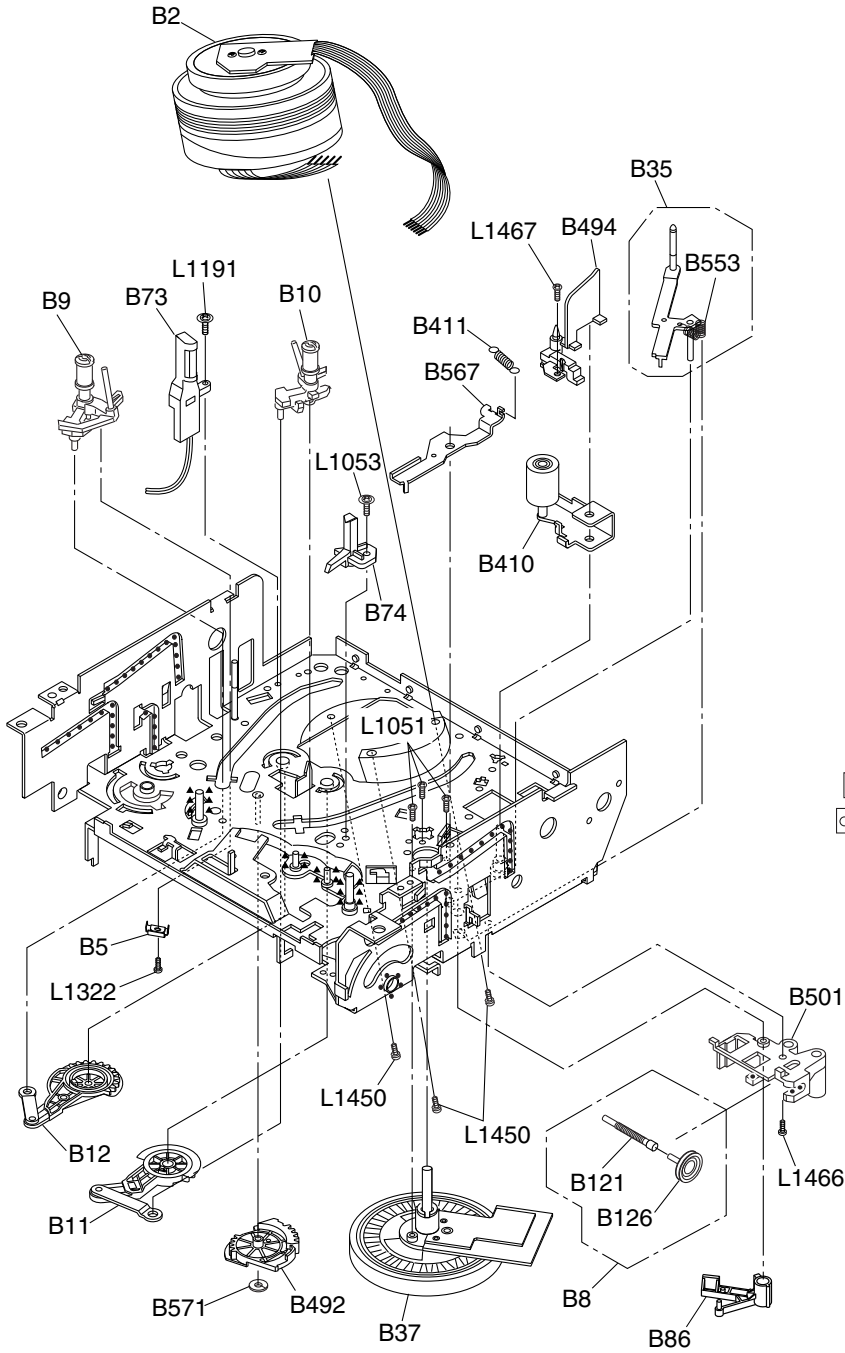
Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) (HI) as shown in Fig. AL3.



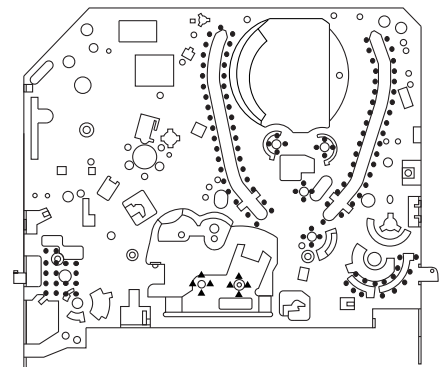
DECK EXPLODED VIEWS

Deck Mechanism View 1

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



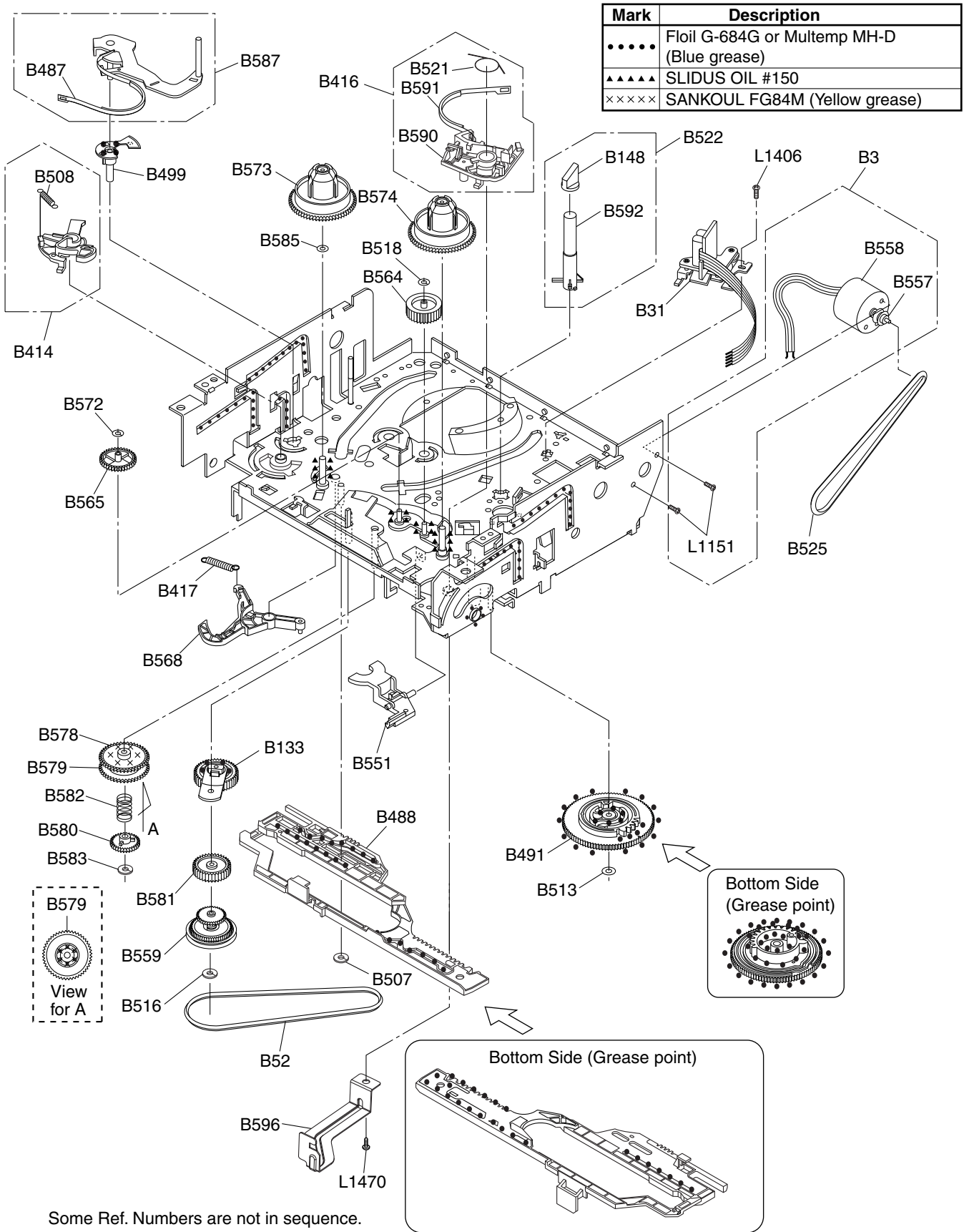
Chassis Assembly
Top View (Lubricating Point)



Chassis Assembly
Bottom View (Lubricating Point)

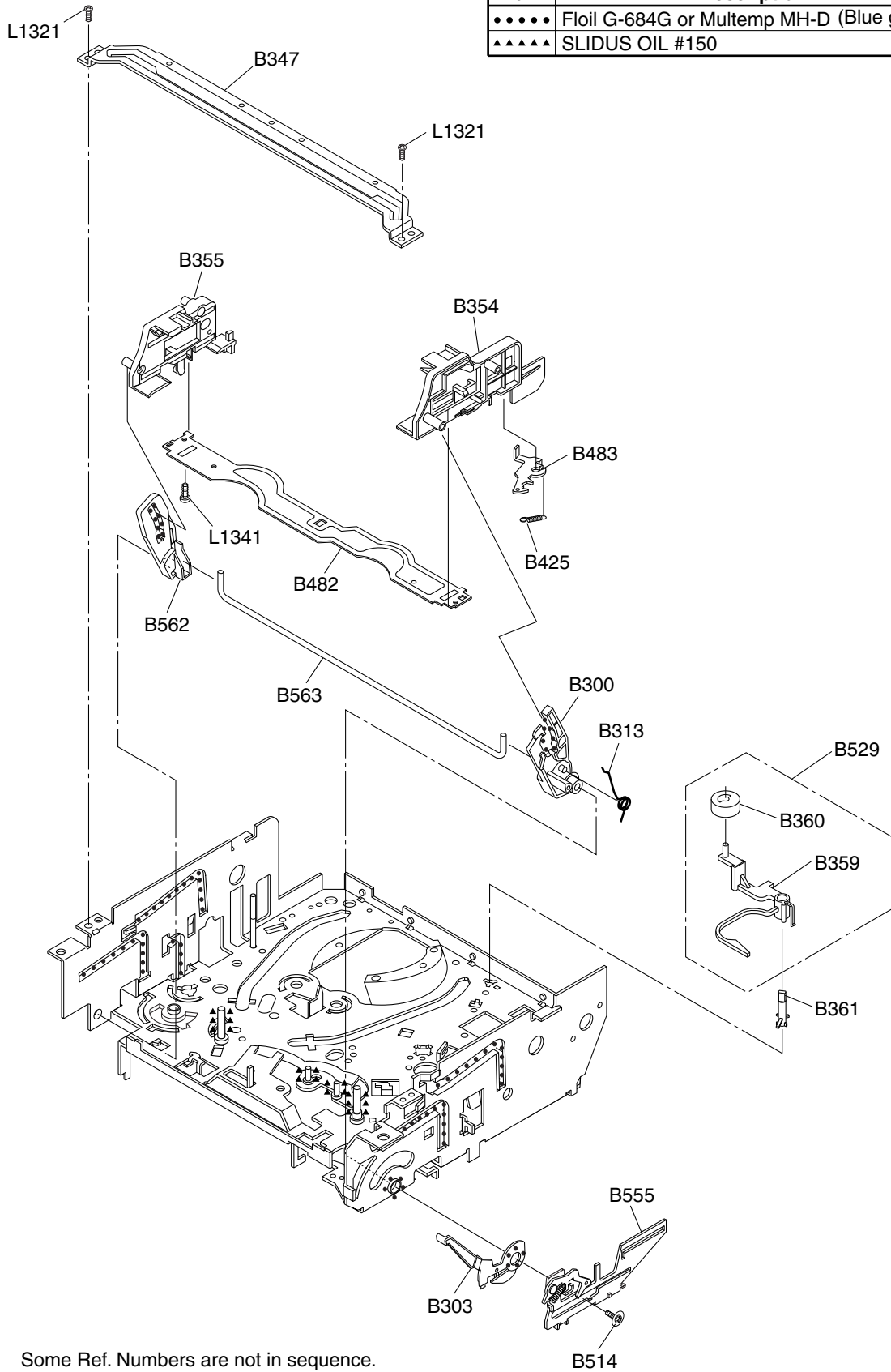
Some Ref. Numbers are not in sequence.

Deck Mechanism View 2



Deck Mechanism View 3

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



Some Ref. Numbers are not in sequence.

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.P.P MK12.5 |
| | B10 | P000468120 | 1VSA12886 | MOVING GUIDE T.P.P 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) 288/ VCZC1301 |
| | 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 | P000489970 | 1VSA12890B | 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+ |

TOSHIBA CORPORATION

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