

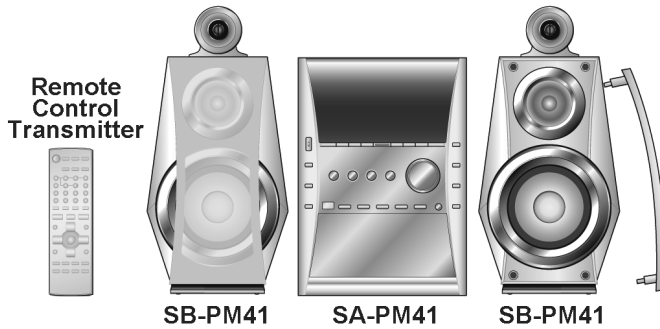
Service Manual

CD Stereo System



SA-PM41P SA-PM41PC

Colour
(S)... Silver Type



Specification

n Amplifier Section

Power output	
10%, Total harmonic distortion	
60 Hz-3 kHz, both channels driven	
(Low channel)	26 W per channel (6 Ω)
3 kHz-16 kHz, both channels driven	
(High channel)	29 W per channel (6 Ω)
Total Bi-Amp power	55 W per channel
Power output	
10% Total harmonic distortion	
1 kHz, both channels driven	
(Low channel)	35 W per channel (6 Ω)
8 kHz, both channels driven	
(High channel)	35 W per channel (6 Ω)
Total Bi-Amp power	70 W per channel
Output Impedance	
Headphone	16 Ω - 32 Ω

n FM Tuner Section

Frequency range	87.5 MHz - 108.0 MHz (100 kHz steps)
	87.9 MHz - 107.9 MHz (200 kHz steps)
Sensitivity	1.5 μ V (IHF)
S/N 26dB	1.5 μ V
Antenna terminal(s)	75 Ω (unbalanced)

n AM Tuner Section

Frequency range	520kHz - 1710 kHz (10kHz steps)
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Sensitivity

S/N 20 dB (at 1000 kHz)	560 μ V/m
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n Cassette Deck Section

Track system	4 track, 2 channel
Heads	
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erasing system	AC erase 100 kHz
Tape speed	4.8 cm/s
Overall frequency response (+3 dB, -6 dB) at DECK OUT)	
NORMAL (TYPE I)	35 Hz - 14 kHz
S/N RATIO	45dB (A weighted)
Wow and flutter	0.10% (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

n CD Section

Disc	
CD, CD-R, CD-RW, MP3	8cm / 12cm (3 $\frac{3}{20}$ " / 4 $\frac{73}{100}$ ")
Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source / wavelength	Semiconductor laser / 780 nm
Number of channels	Stereo
Frequency response	20 Hz - 20 kHz (+1dB, -2 dB)
Wow and flutter	Below measurable limit
Digital filter	8 fs

Panasonic

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D/A converter	MASH (1 bit DAC)	Mass	1.95 kg (4.30 lbs)
MP3		n General	
Bit rate	32kbps - 320kbps	Power supply	AC 120 V, 60 Hz
Sampling frequency	32kHz, 44.1kHz, 48kHz	Power consumption	130 W
n Speaker Section		Dimensions (W x H x D)	179 mm x 250 mm x 383 mm (7 ¹ / ₁₆ " x 9 ²⁷ / ₃₂ " x 15 ³ / ₁₂ ")
Type	2 way, 2 speaker system	Mass	5.24 kg (11.55 lbs)
Speaker(s)		Power consumption in standby mode	0.8 W
Full Range	10 cm (4") cone type	Notes :	
Tweeter	6 cm (2 ³ / ₈ ") cone type	1. Specifications are subject to change without notices. Mass and dimensions are approximate.	
Impedance	6 Ω	2. Total harmonic distortion is measured by the digital spectrum analyzer.	
Input power		3. The labels "HIGH" and "Low" on the rear of the speakers.	
HIGH	70 W (Max)	n System : SC-PM41P-S	Music center: SA-PM41P-S
LOW	70 W (Max)		Speaker: SB-PM41P-S
Output sound pressure level	80 dB/W (1.0 m)	n System : SC-PM41PC-S	Music center: SA-PM41PC-S
Frequency range	55 Hz - 22 kHz (-16 dB) 70 Hz - 20 kHz (-10 dB)		Speaker: SB-PM41P-S
Dimensions (W x H x D)	128 mm x 250 mm x 222 mm (5 ¹ / ₃₂ " x 9 ²⁷ / ₃₂ " x 8 ³ / ₄ ")		

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 Safety Precautions

1.1. GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, ensure that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, check for leakage current checks to prevent from being exposed to shock hazards.

(This "Safety Precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

1.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Using an ohmmeter measure the resistance value, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1M\Omega$ and 5.2Ω .

When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

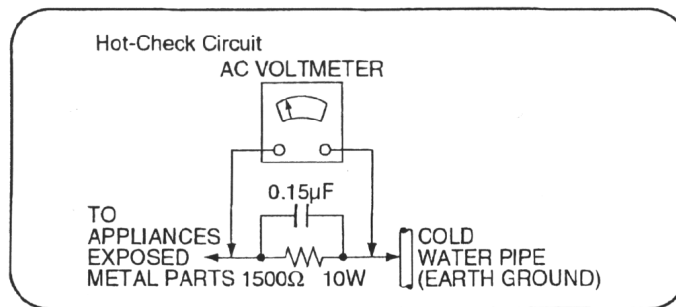


Fig. 1

1.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5k\Omega$, 10 watts resistor, in parallel with a $0.15\mu F$ capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed $1/2$ milliamp. should the measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and re-checked before it is returned to the customer.

1.1.3. Caution for fuse replacement

(For English)

CAUTION:

Replace with the same type fuse:
(Manufacturer: Littelfuse Inc., Type: 233 or F1, 2A 125V)

(For Canadian French)

ATTENTION:

Utiliser un fusible de rechange de même type:
(Fabricant: Littelfuse Inc., Type: 233 or F1, 2A 125V)

2 Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C506, C507, C508, C601, C602, C600, & C620 through a 10 Ω , 1W resistor to ground.

DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

- Current consumption at AC 120V, 60 Hz in NO SIGNAL mode should be ~300 mA.

3 Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

4 Handling the Lead-free Solder

4.1. About lead free solder (PbF)

Distinction of PbF P.C.B.:

P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

- Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. Please use a high temperature soldering iron. In case of soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C).
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).
- When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

5 Precaution of Laser Diode

CAUTION:

This unit utilizes a class 1 laser.

Invisible laser radiation is emitted from the optical pickup lens.

When the unit is turned on:

1. Do not look directly into the pick up lens.
2. Do not use optical instruments to look at the pick up lens.
3. Do not adjust the preset variable resistor on the pickup lens.
4. Do not disassemble the optical pick up unit.
5. If the optical pick up is replaced, use the manufacturer's specified replacement pick up only.
6. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION!

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

CAUTION	~ INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. IEC60825-1 / Class 3b
VARNING	~ OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	~ USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
ADVARSEL	~ USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VARO!	~ AVATTAESSA OLET NÄKYMÄTÖNTÄ ALTIINA LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VORSICHT	~ UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
ATTENTION	~ RAYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
注意	~ 打开时有不可见激光辐射。避免激光束照射。
注意	~ ここを開くと不可視レーザー光が出ます。 ビームを見たり、触れたりしないで下さい。

Inside of product

6 Handling Precautions For Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body. So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

· Handling of traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FFC board).
3. Take care not to apply excessive stress to the flexible board (FFC board). When removing or connecting the short pin, finish the job in as short time as possible. (Fig 6.1)
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

· Grounding for electrostatic breakdown prevention

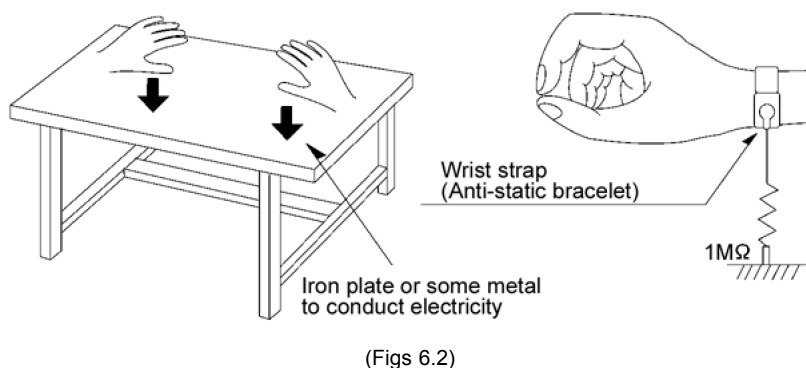
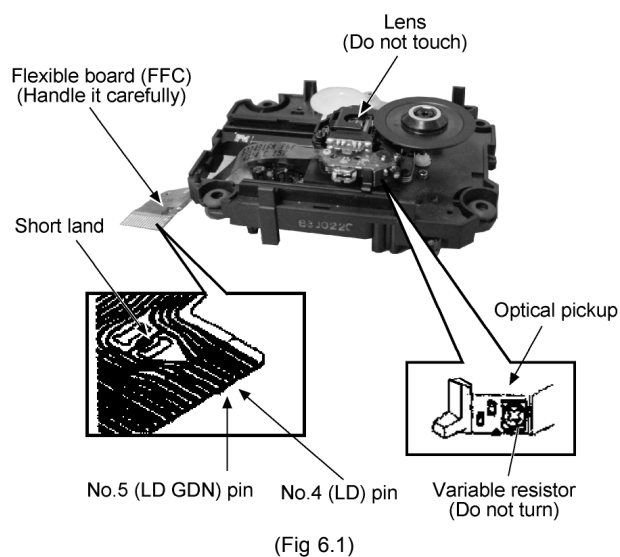
1. Work table grounding. (Fig 6.2)
Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding. (Fig 6.2)
Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is place, and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

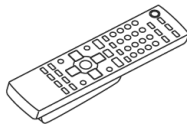
Caution when replacing the Traverse Deck

The traverse deck has a short point shorted with solder to protect the laser diode against electrostatics breakdown. Be sure to remove the solder from the short point before making connections.

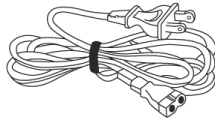


7 Accessories

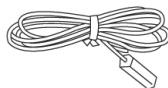
Note : Refer to Packing Materials & Accessories Parts List (Section 25.5) for the part number.



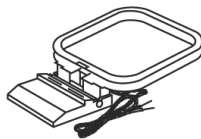
Remote Control



AC power cord



FM indoor antenna

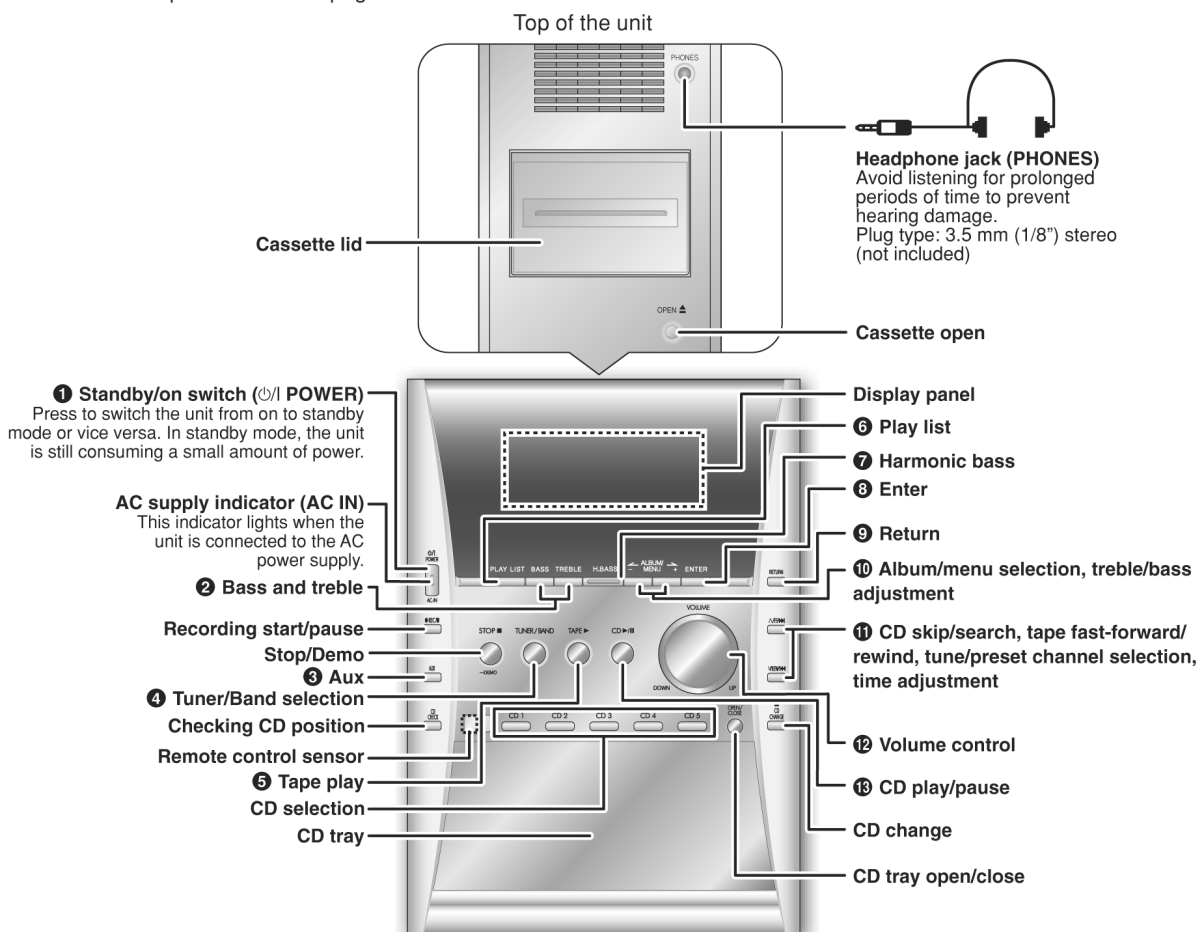


AM loop antenna

8 Operation Procedures

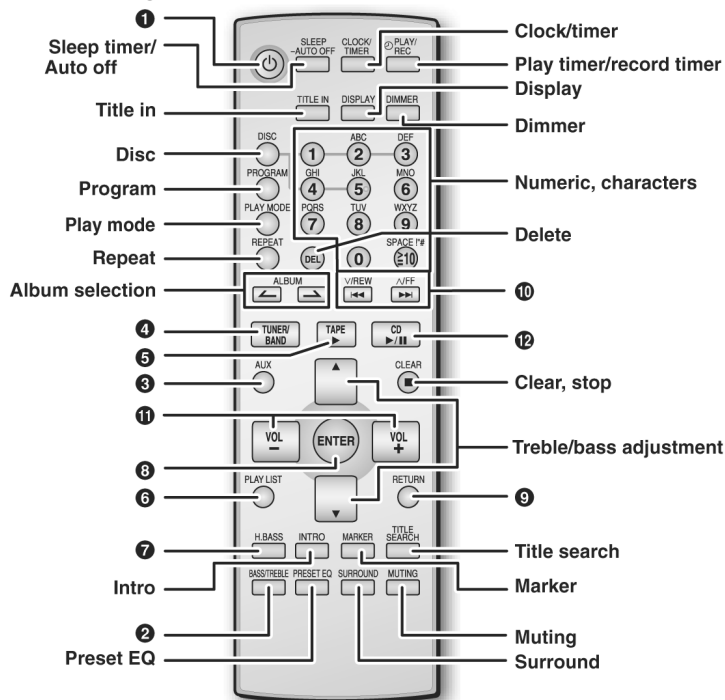
Main unit

Refer numbers in parentheses for page reference.



Remote control

Buttons such as 1 function the same as the controls on the main unit.



9 Information on Disc & MP3

NOTE on CDs

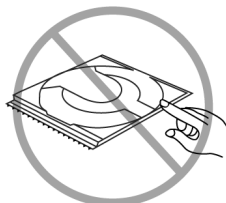
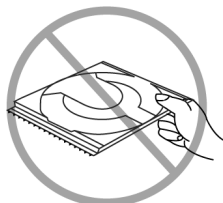
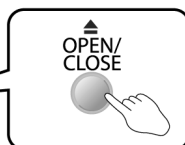
- This unit can access up to 99 tracks.
- Choose CD with this mark.



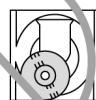
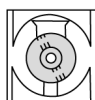
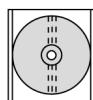
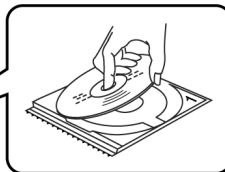
- This unit can play MP3 files and CD-DA format audio CD-R/RW that have been finalized.
- It may not be able to play some CD-R/RW due to the condition of the recording.
- Do not use irregular shaped disc.
- Do not use disc with labels and stickers that are coming off or with adhesive exuding from under labels and stickers.
- Do not attach extra labels or stickers on the disc.
- Do not write anything on the CD.

Not doing the following will cause damage to the unit.

- "GOOD BYE" is displayed when the unit turns off. Remove the power plug after this display disappears.



- Always press [▲ OPEN/CLOSE] to insert or remove a disc.
- Do not push or pull out the tray by hand as this will cause an accident.



- Place the disc correctly label-up as shown in the diagram.
- Insert one disc into the tray.

NOTE on MP3

- When "NOT MP3/ERROR1" appears on the display, an unsupported MP3 format is being played. The unit will skip that track and play the next one.
- Files are treated as tracks and folders are treated as albums.
- This unit can access up to 999 tracks, 255 albums and 20 sessions.
- Disc must conform to ISO9660 level 1 or 2 (except for extended formats).
- To play in a certain order, prefix the folder and file names with 3-digits numbers in the order you want to play them.

MPEG Layer-3 audio decoding technology licensed from
Fraunhofer IIS and Thomson multimedia.

10 Assembling and Disassembling

“ATTENTION SERVICER”

Some chassis components may be have sharp edges. Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures.
Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.

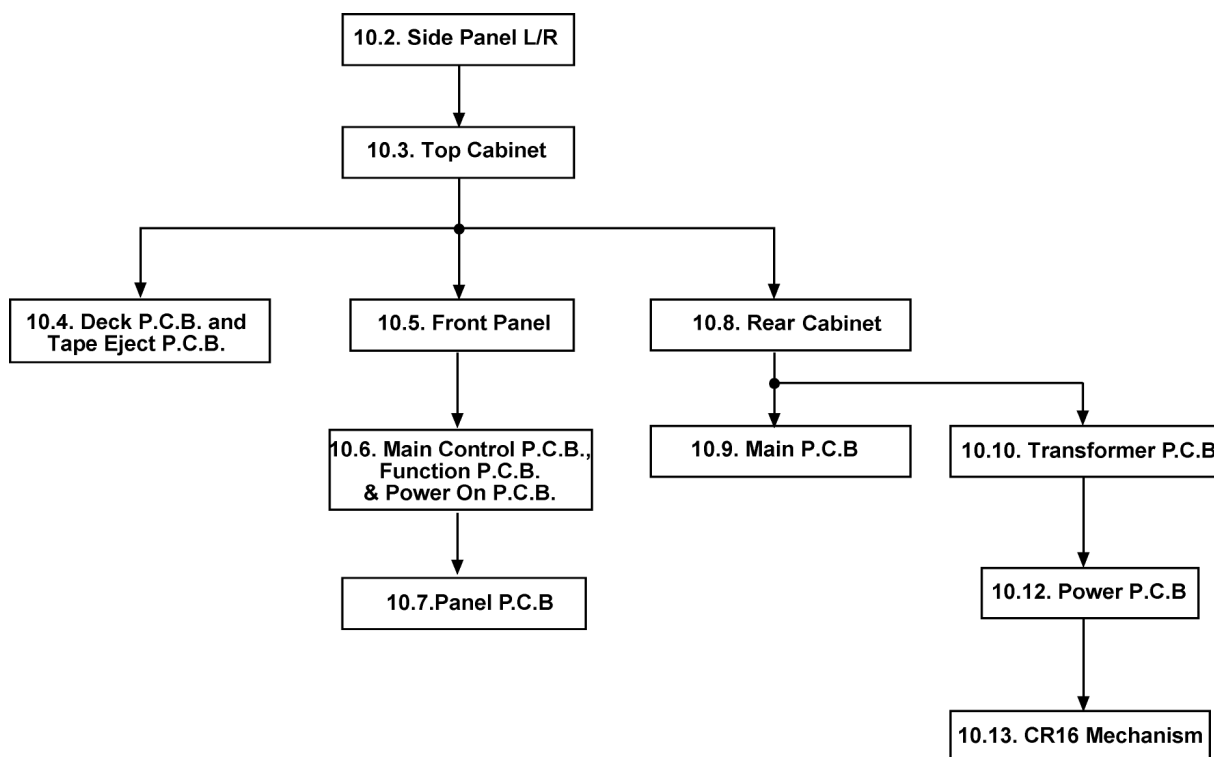
Warning:

This product uses a laser diode. Refer to “Precaution of Laser Diode”.

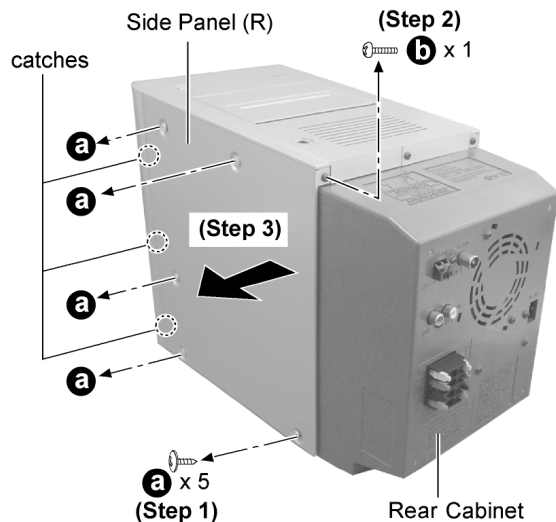
10.1. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart below.



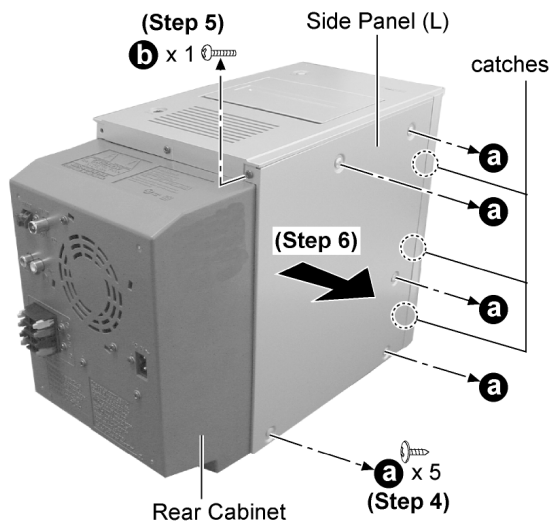
10.2. Disassembly of Side Panel L & R



Step 1 : Remove 5 screws from the side panel (R).

Step 2 : Remove 1 screws from the corner of the side panel (R).

Step 3 : Remove the side panel as arrow shown (Be careful of the catches).



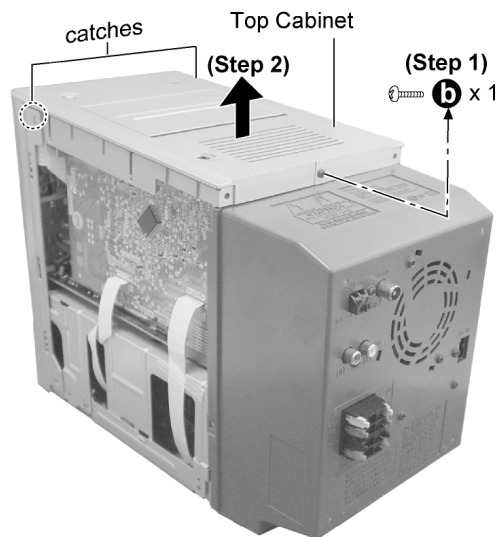
Step 4 : Remove 5 screws from the side panel (L).

Step 5 : Remove 1 screws from the corner of the side panel (L).

Step 6 : Remove the side panel as arrow shown (Be careful of the catches).

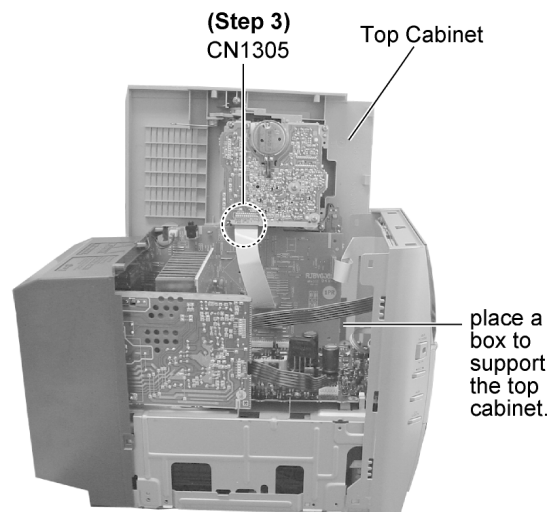
10.3. Disassembly of Top Cabinet

- Follow the (Step 1) - (Step 6) of item 10.2.



Step 1 : Remove 1 screws.

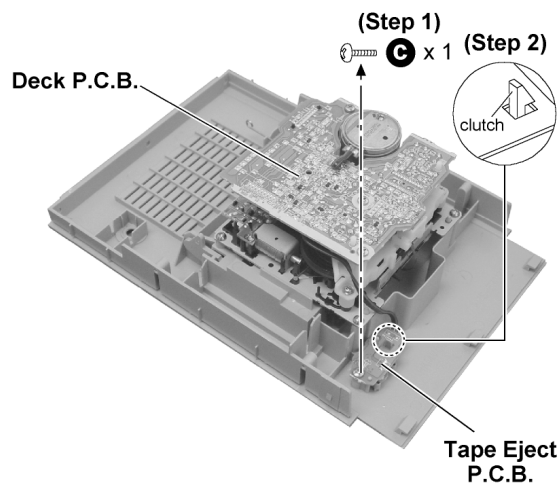
Step 2 : Lift up the top cabinet as arrow shown (Be careful of the catches).



Step 3 : Place the top cabinet as shown and detach the connector CN1305.

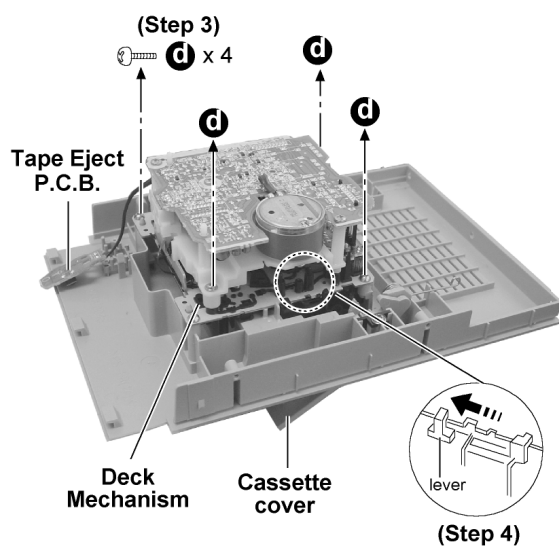
10.4. Disassembly of Deck P.C.B. and Tape Eject P.C.B.

- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.



Step 1 : Remove 1 screw.

Step 2 : Release the clutch and remove the Tape Eject P.C.B..

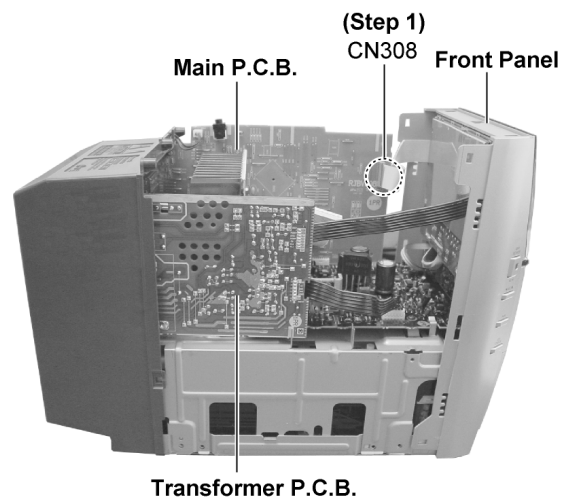


Step 3 : Remove 4 screws.

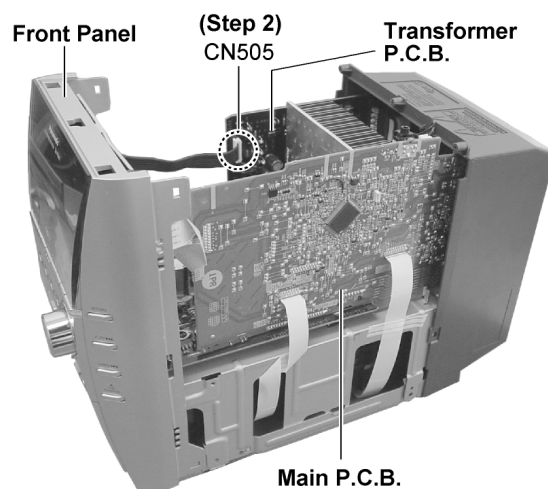
Step 4 : Push the lever as arrow shown to remove the Deck Mechanism.

10.5. Disassembly of Front Panel

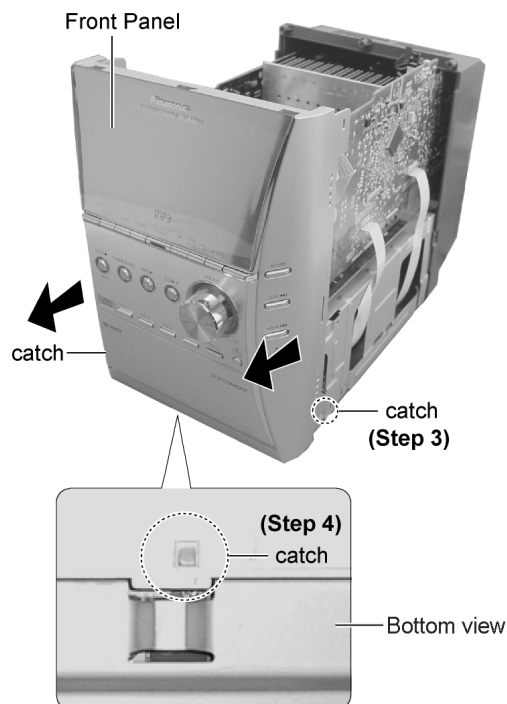
- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.



Step 1 : Detach the connector CN308.



Step 2 : Detach the connector CN505.

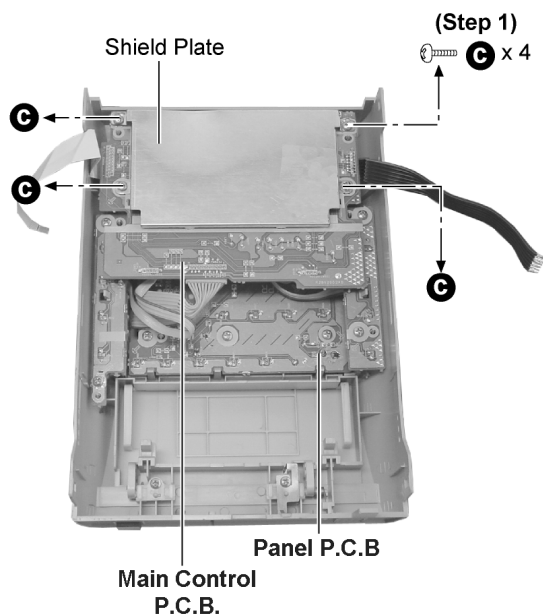


Step 3 : Release 2 catches.

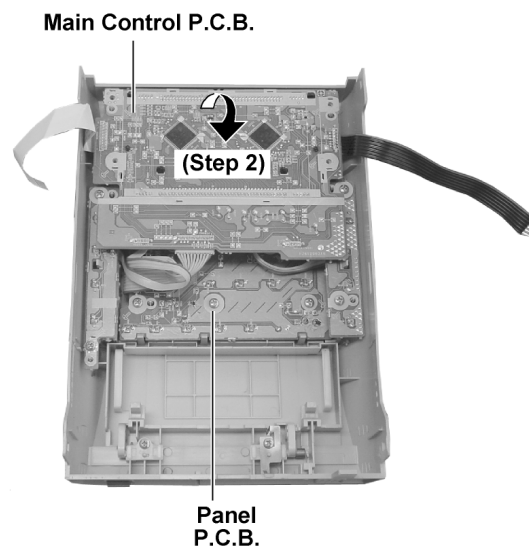
Step 4 : Release the catch at the bottom cabinet and remove the front panel as arrow shown.

10.6. Disassembly of Main Control P.C.B., Function P.C.B. and Power In P.C.B.

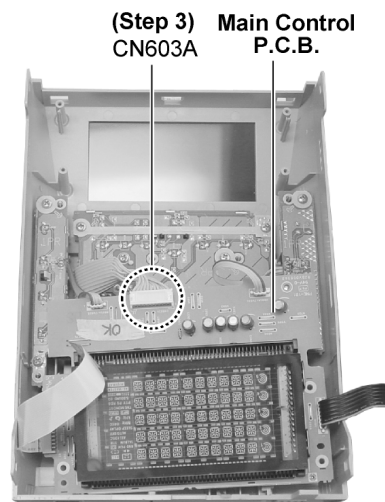
- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 4) of item 10.5.
- Disassembly of Main Control P.C.B.



Step 1 : Remove 4 screws to remove the shield plate.

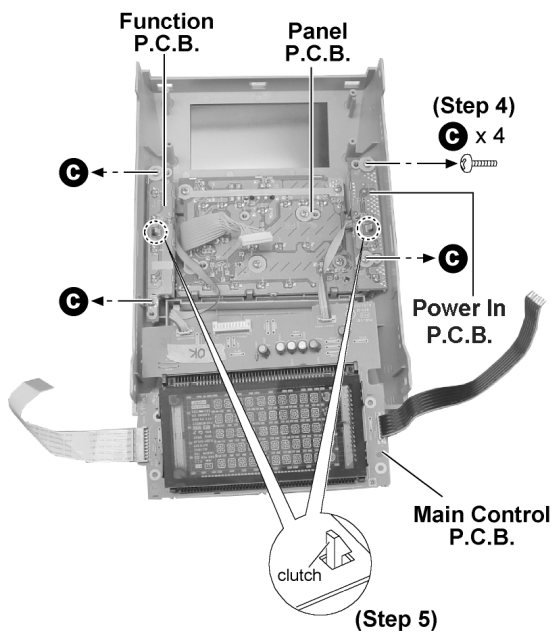


Step 2 : Flip the Main Control P.C.B. as arrow shown.



Step 3 : Detach the connector CN603A.

- Disassembly of Function P.C.B. and Power In P.C.B.

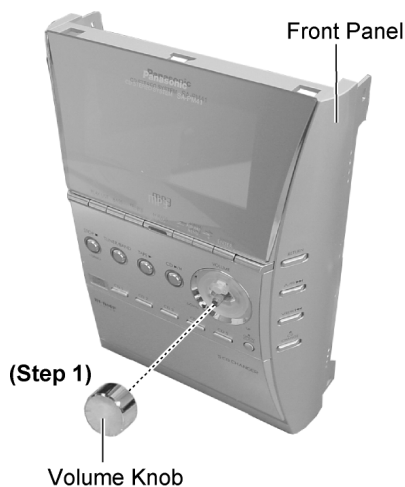


Step 4 : Remove 4 screws.

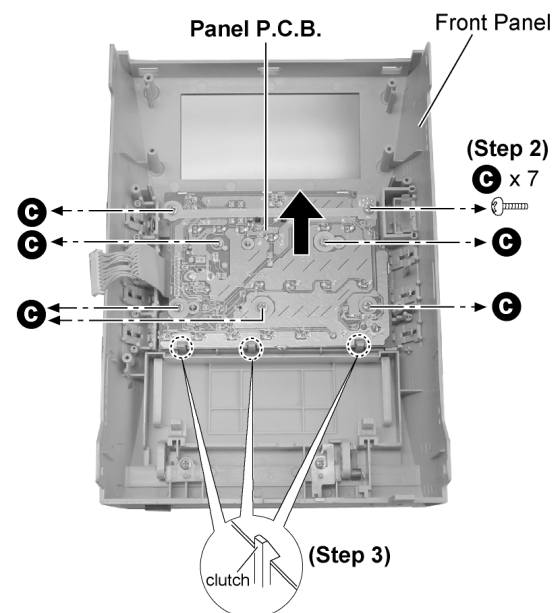
Step 5 : Release the 2 clutches and remove Function P.C.B. and Power In P.C.B. together with Main Control P.C.B..

10.7. Disassembly of Panel P.C.B.

- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 4) of item 10.5.
- Follow the (Step 1) - (Step 5) of item 10.6.



Step 1 : Remove the volume knob.

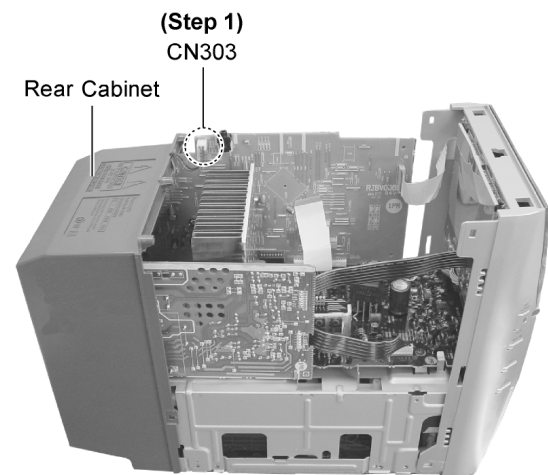


Step 2 : Remove 7 screws.

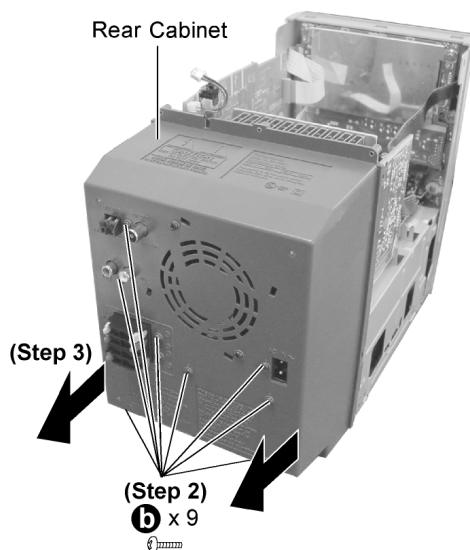
Step 3 : Release 3 clutches and remove the Panel P.C.B. as arrow shown.

10.8. Disassembly of Rear Cabinet

- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.



Step 1 : Detach the connector CN303.

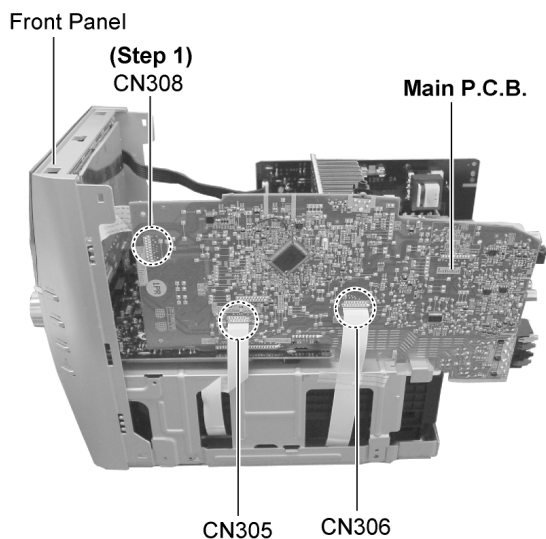


Step 2 : Remove 9 screws altogether.

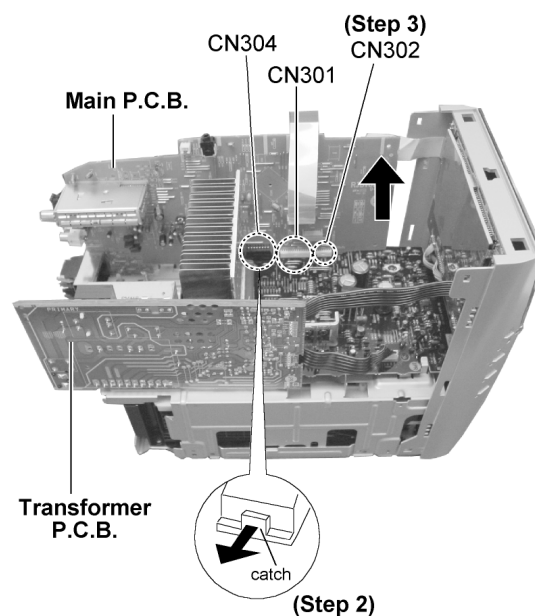
Step 3 : Remove the rear cabinet as arrows shown (Be careful of the catches).

10.9. Disassembly of Main P.C.B.

- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 3) of item 10.8.



Step 1 : Detach the connector CN308, CN305 and CN306.

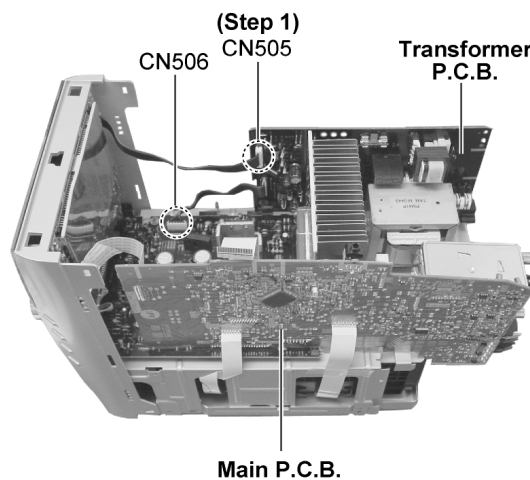


Step 2 : Release the catch as arrow shown and detach the connector CN304.

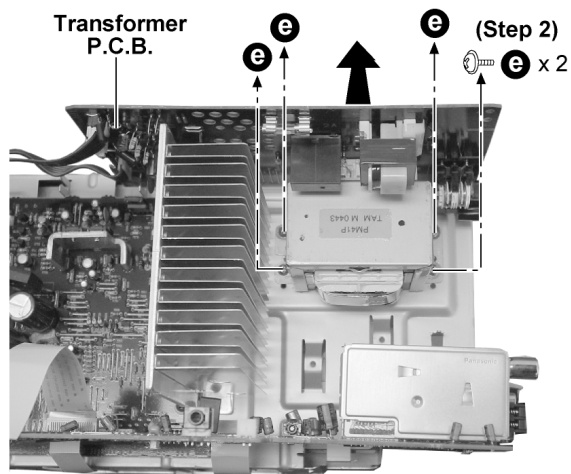
Step 3 : Detach the connectors CN301 and CN302 and pull out the Main P.C.B. as arrow shown.

10.10. Disassembly of Transformer P.C.B.

- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 3) of item 10.8.



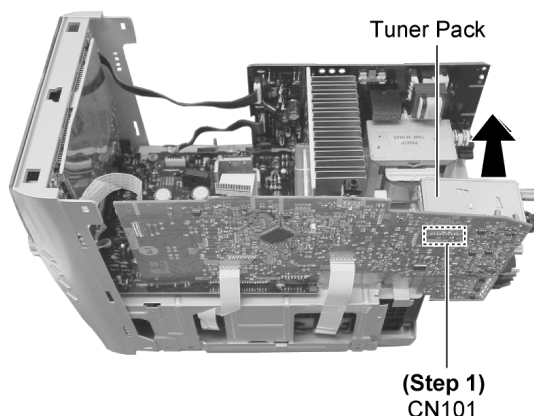
Step 1 : Detach the connectors CN505 and CN506.



Step 2 : Remove 4 screws and pull out the Transformer P.C.B. as arrow shown.

10.11. Disassembly of Tuner Pack

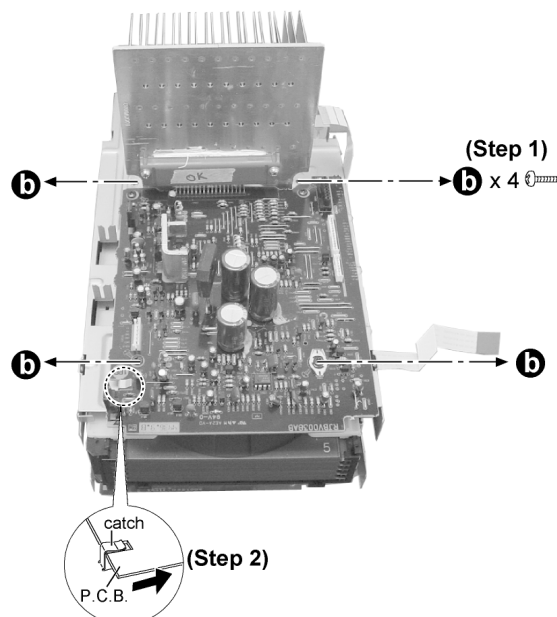
- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 3) of item 10.8.



Step 1 : Detach the connector CN101 and remove the tuner pack as arrow shown.

10.12. Disassembly of Power P.C.B.

- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 4) of item 10.5.
- Follow the (Step 1) - (Step 3) of item 10.8.
- Follow the (Step 1) - (Step 3) of item 10.9.
- Follow the (Step 1) - (Step 2) of item 10.10.



Step 1 : Remove 4 screws.

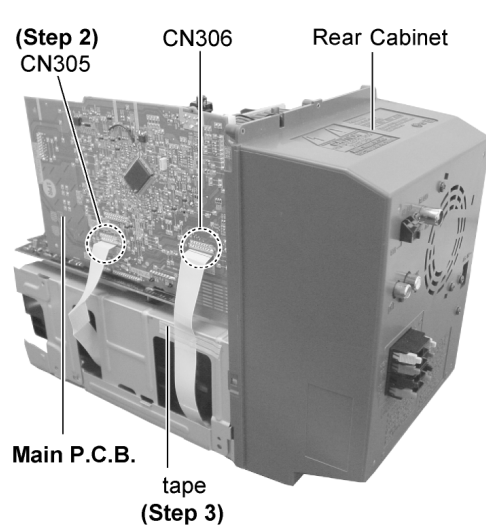
Step 2 : Remove the Power P.C.B. as arrow shown (Be careful of the catch)

10.13. Disassembly of CR16 Mechanism

- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 4) of item 10.5.

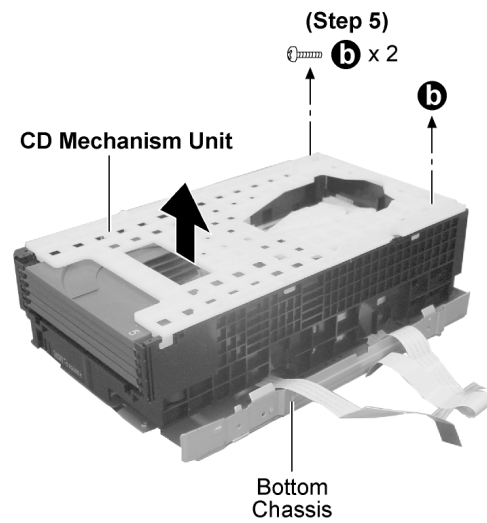


Step 1 : Remove 2 screws.



Step 2 : Detach the connectors CN305 and CN306.

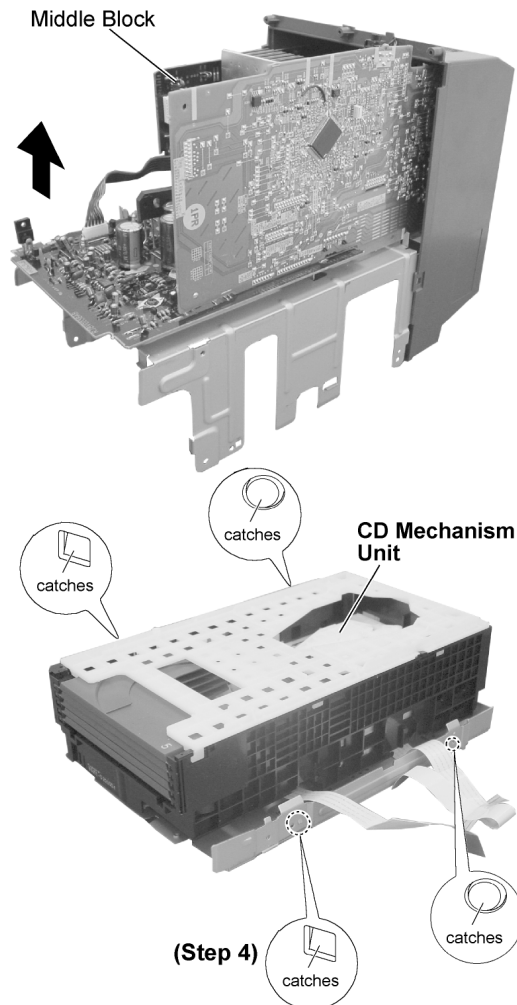
Step 3 : Remove the tape which used to secure the FFC connectors.



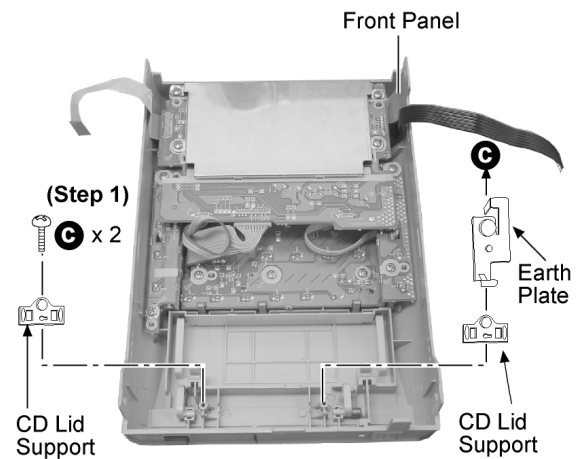
Step 5 : Remove 2 screws and remove the CD Mechanism Unit from the bottom chassis as arrow shown.

10.14. Replacement of CD Lid

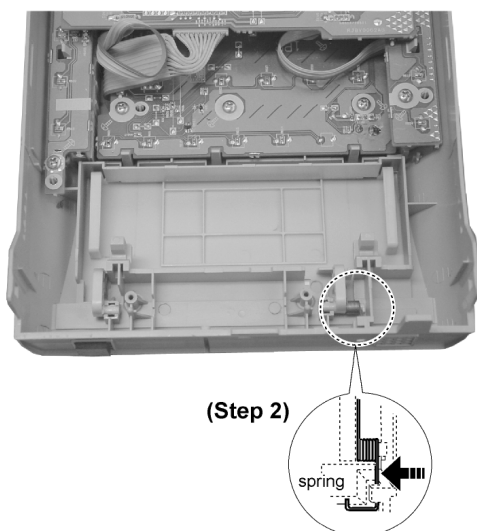
- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 4) of item 10.5.



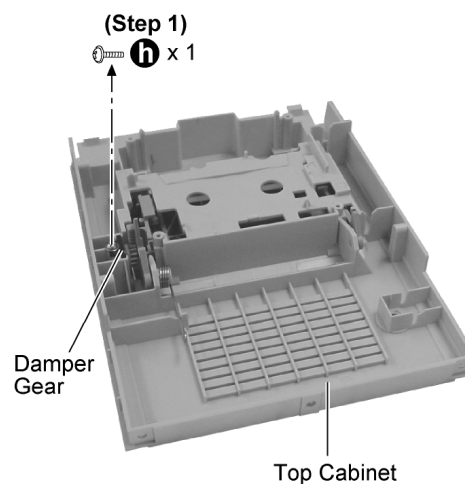
Step 4 : Release the catches and remove the middle block as arrow shown.



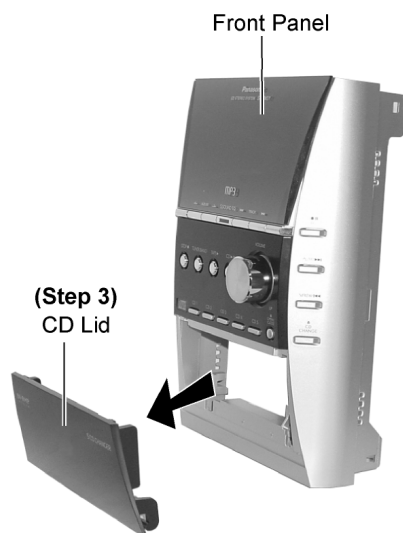
Step 1 : Remove 2 screws 2 CD Lid supports and earth plate.



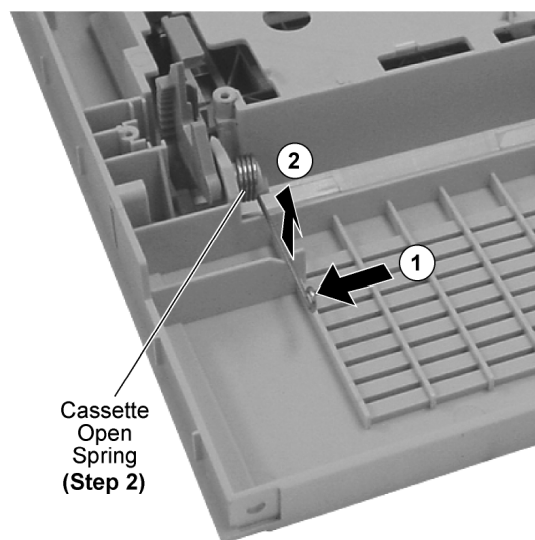
Step 2 : Push the spring as arrow shown.



Step 1 : Remove 1 screw and the damper gear.



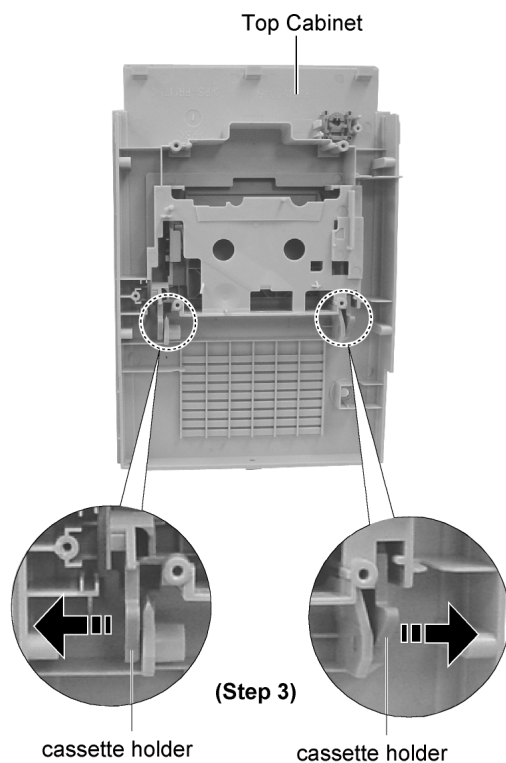
Step 3 : Remove the CD lid as arrow shown.



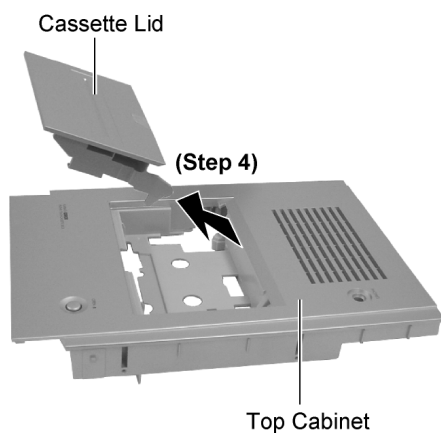
Step 2 : Remove the cassette open spring as arrows shown in order.

10.15. Replacement of Cassette Lid

- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 4) of item 10.4.



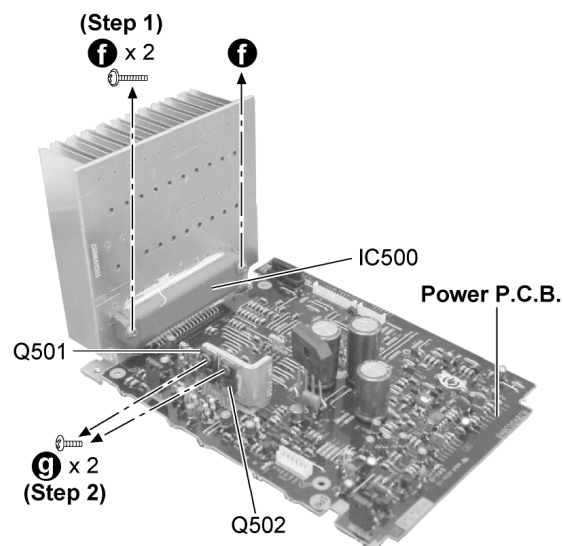
Step 3 : Pull both sides cassette holders to the direction of the arrows shown.



Step 4 : Remove the cassette lid as arrow shown.

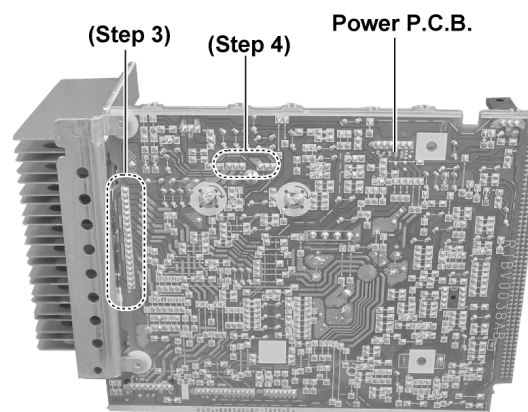
10.16. Replacement of the Power IC and Transistors

- Follow the (Step 1) - (Step 6) of item 10.2.
- Follow the (Step 1) - (Step 3) of item 10.3.
- Follow the (Step 1) - (Step 4) of item 10.5.
- Follow the (Step 1) - (Step 3) of item 10.8.
- Follow the (Step 1) - (Step 3) of item 10.9.
- Follow the (Step 1) - (Step 2) of item 10.10.
- Follow the (Step 1) - (Step 2) of item 10.12.



Step 1 : Remove 2 screws.

Step 2 : Remove 2 screws.



Step 3 : Unsolder the Power IC500.

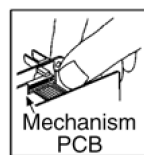
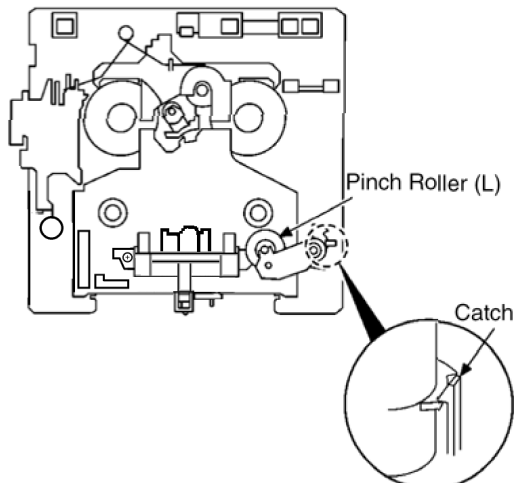
Step 4 : Unsolder the Transistor Q501 and Q502.

10.17. Procedure for Replacing Pinch Roller and Head Block (Cassette Mechanism Unit)

- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.4.

Step 1

Release catches to remove the pinch rollers (L).



Note:
Support the Mechanism PCB by hand to remove the Mechanism Control PCB.

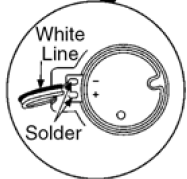
Step 4

Remove the Mechanism Control PCB, keeping track of connectors

Step 2

$a \times 3$

Mechanism Control PCB



Step 3

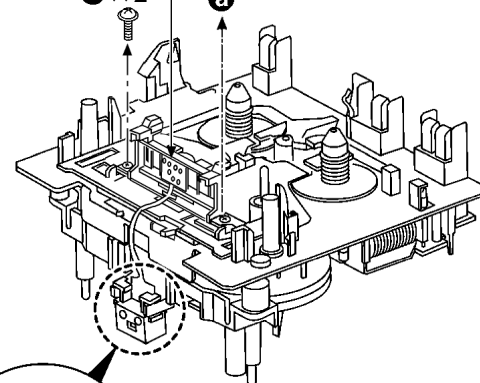
Remove 2 solders of the motor terminal.

Step 7

Remove the head block

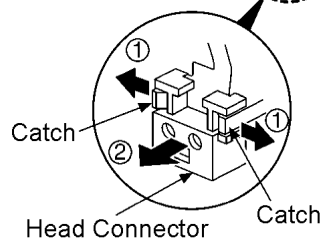
Step 6

$a \times 2$



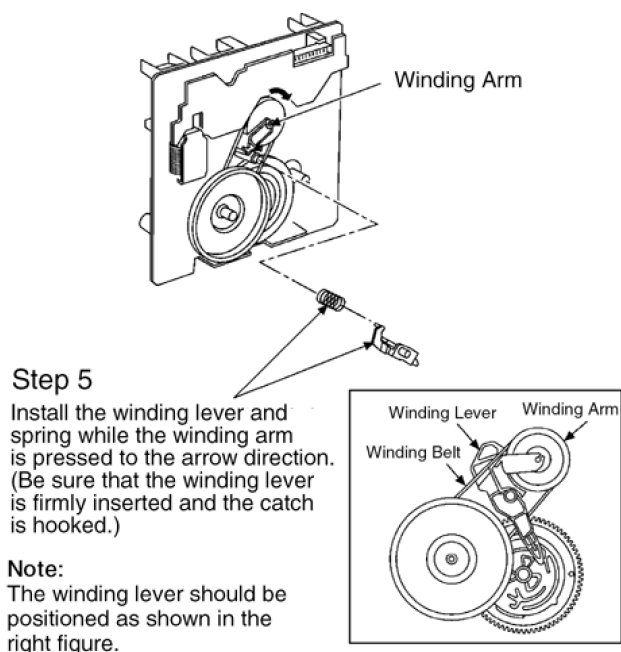
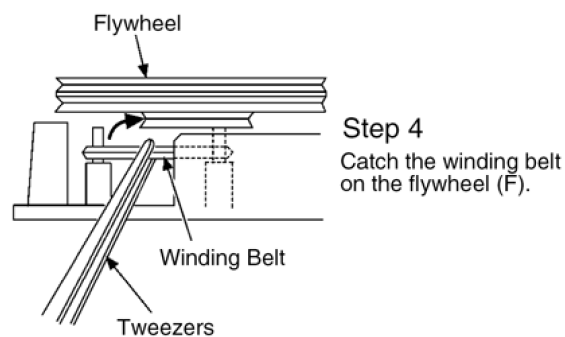
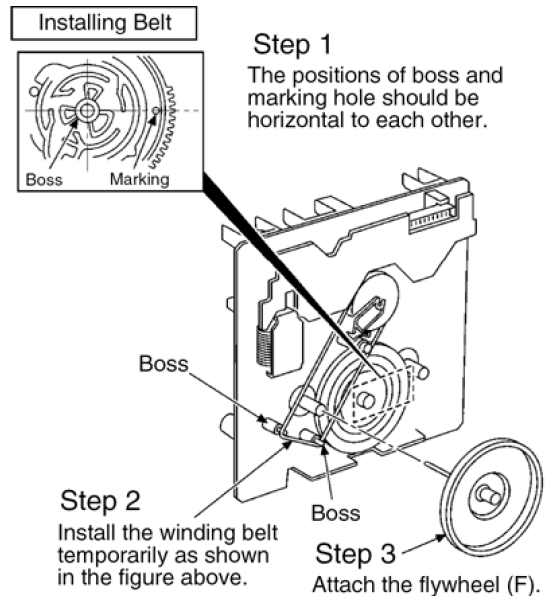
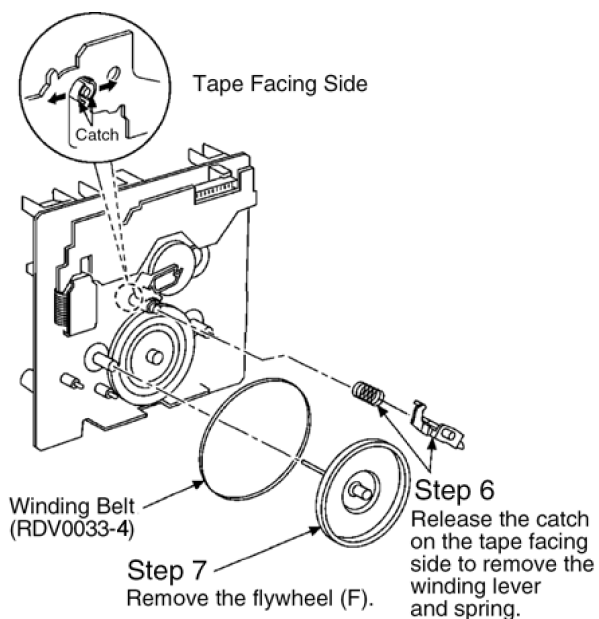
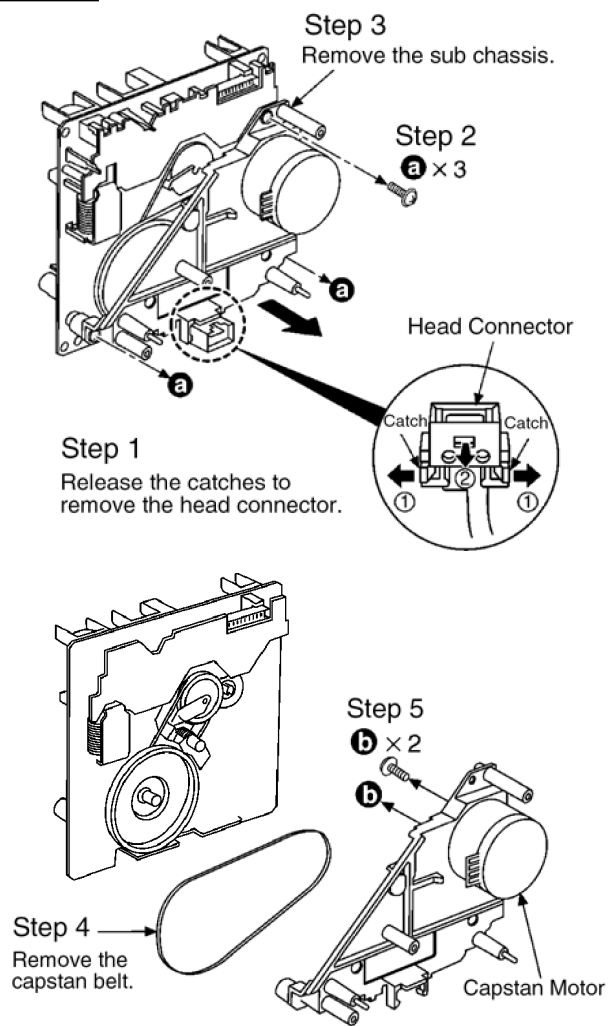
Step 5

Release the catches to remove the head connector



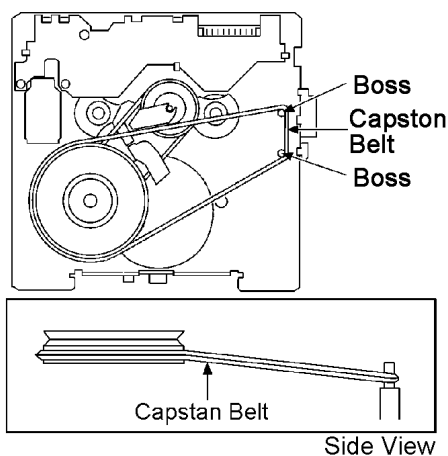
10.18. Procedure for Replacing Motor, Capstan Belt A, Capstan Belt B, and Winding Belt (Cassette Mechanism Unit)

- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.4.
- Follow the (Step 1) - (Step 5) of Item 10.17.

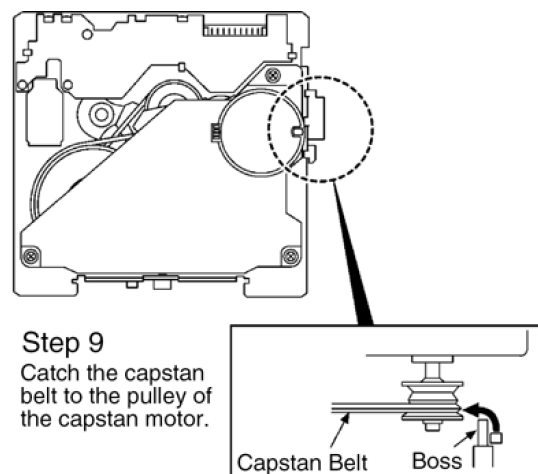
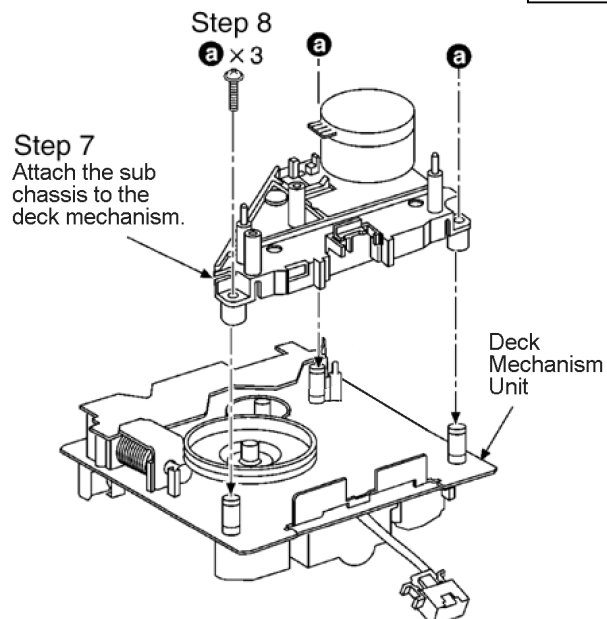


Step 6

Install the capstan belt temporarily as shown in the figure below.

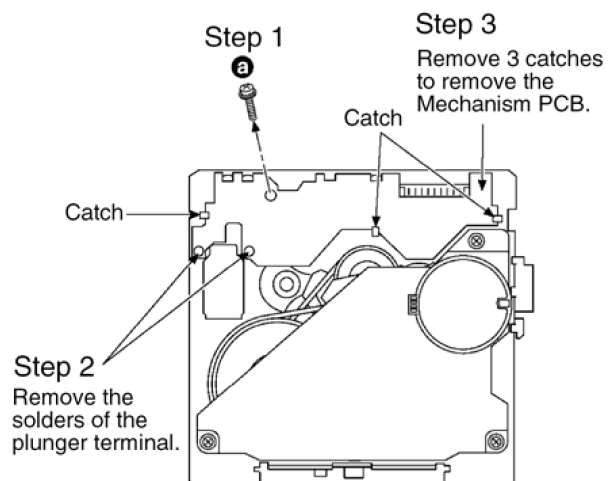
**Note:**

Keep the belt away from grease.



10.19. Procedure for Replacing Parts on Mechanism PCB

- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.4.
- Follow the (Step 1) - (Step 5) of Item 10.17.



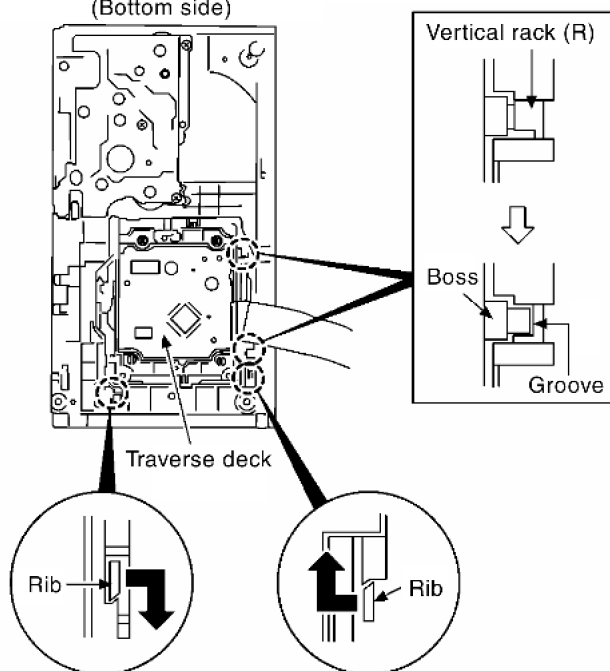
10.20. Disassembly of CR16 Mechanism

- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.5.
- Follow the (Step 1) - (Step 3) of Item 10.8.
- Follow the (Step 1) - (Step 5) of Item 10.13.

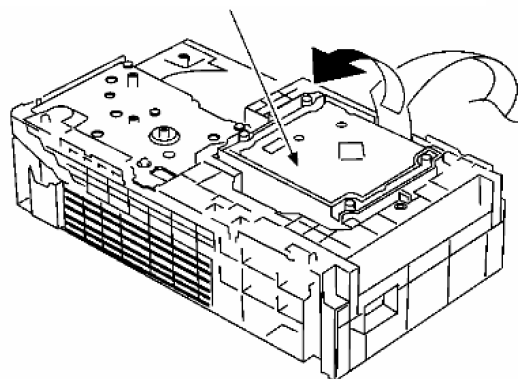
Step 1

Move ribs at both sides to the arrow direction
(The vertical rack (R) slides and the groove opens)

(Bottom side)

**Step 2**

Remove CD traverse deck rotating to the arrow direction.

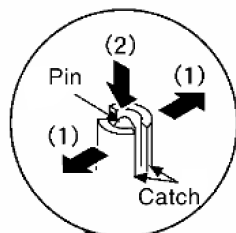


10.21. Replacement of optical pickup unit (CD mechanism)

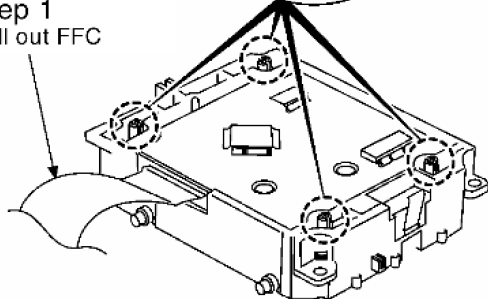
- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.5.
- Follow the (Step 1) - (Step 3) of Item 10.8.
- Follow the (Step 1) - (Step 5) of Item 10.13.
- Follow the (Step 1) - (Step 2) of Item 10.20.

Step 2

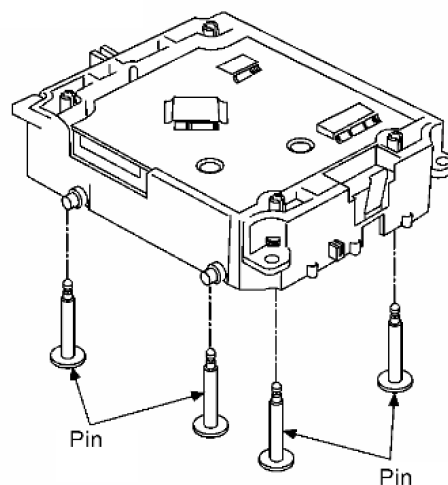
Widening the catch, push the pin in

**Step 1**

Pull out FFC

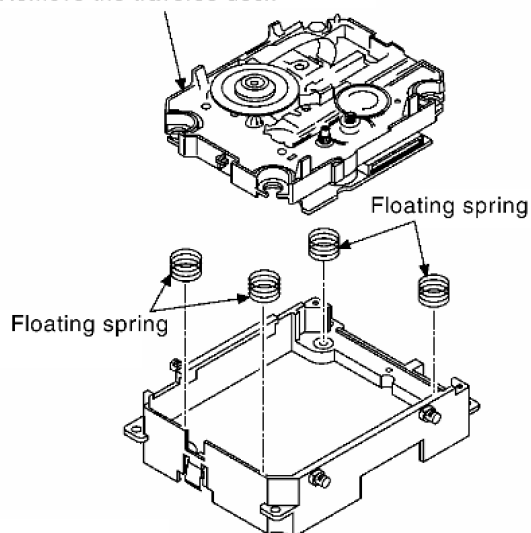
**Step 3**

Remove 4 pins



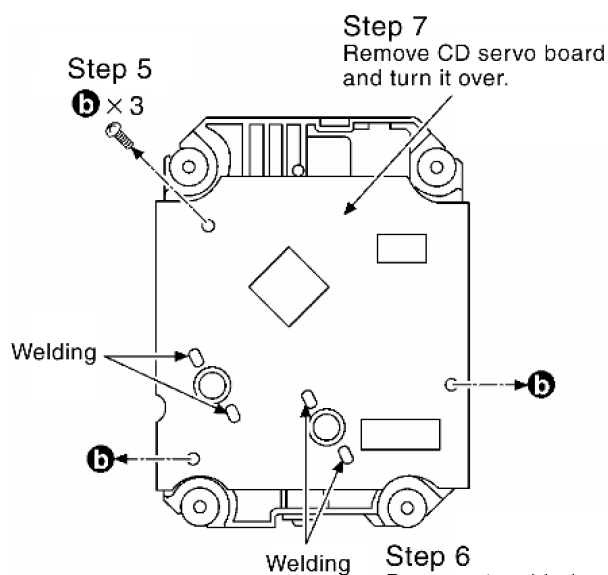
Step 4

Remove the traverse deck



Note:

As floating springs (4 pieces) come off at the same time, be careful not to lose them.

Step 5**b** × 3**Step 7**

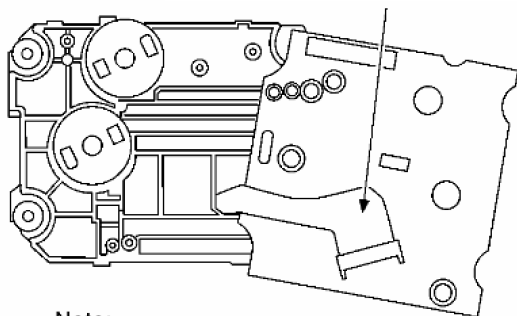
Remove CD servo board and turn it over.

Step 6

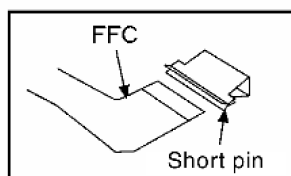
Remove 4 welded parts of the motor terminal.

Step 8

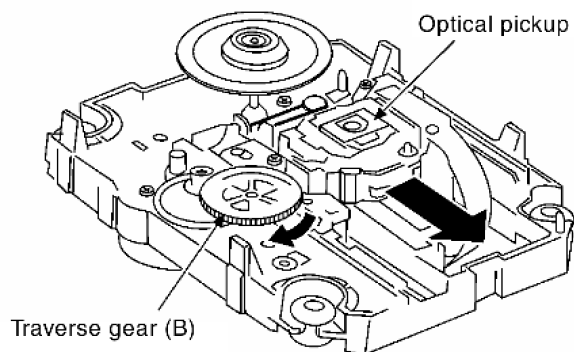
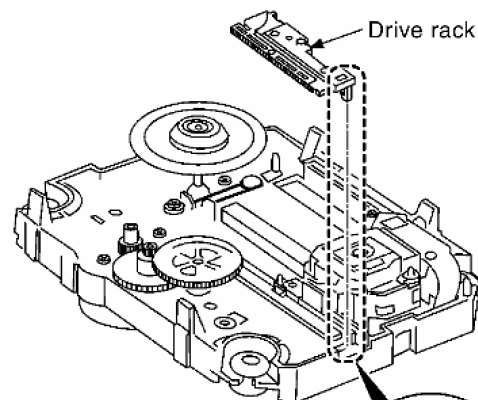
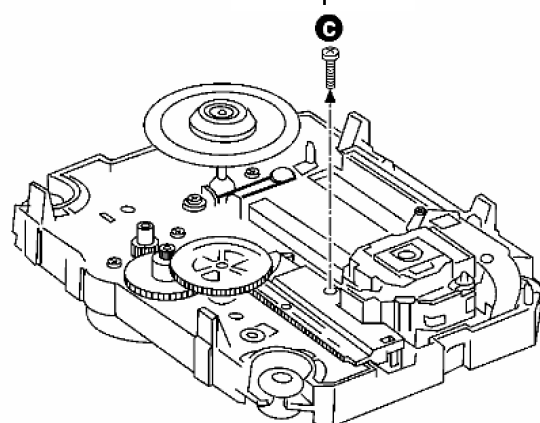
Pull FFC out from the connector.



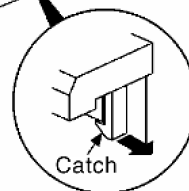
Note:

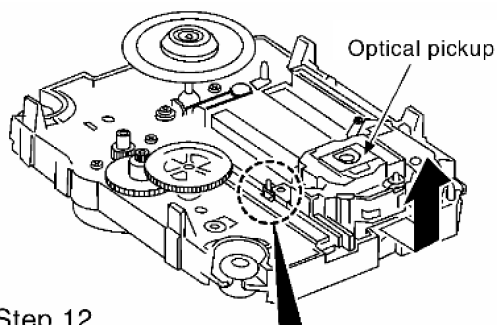
Insert a short pin into FFC of the optical pickup.
[See "Notice on handling of the optical pickup"]**Step 9**

Rotate the traverse gear (B) to the arrow direction and shift the optical pickup to the furthest backward.

**Step 10****Step 11**

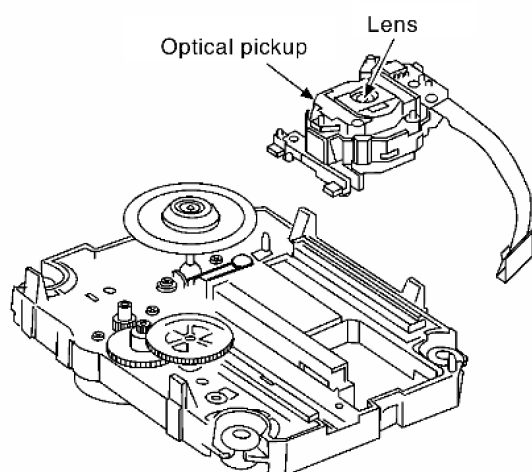
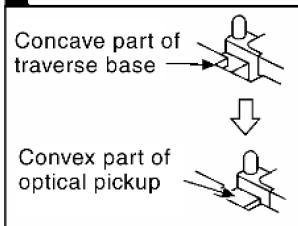
Remove the catch of the drive rack, and take out the drive rack.





Step 12

Place the convex part of an optical pickup to the concave part of a traverse base, then take out the optical pickup.



Note:

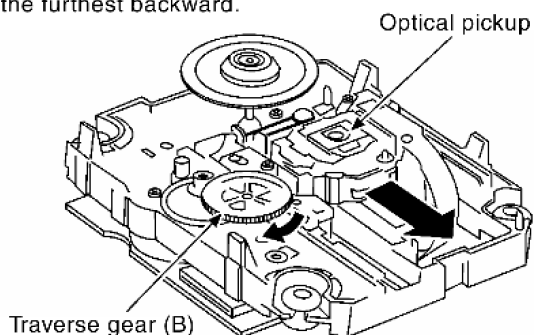
Do not touch the lens of the optical pickup

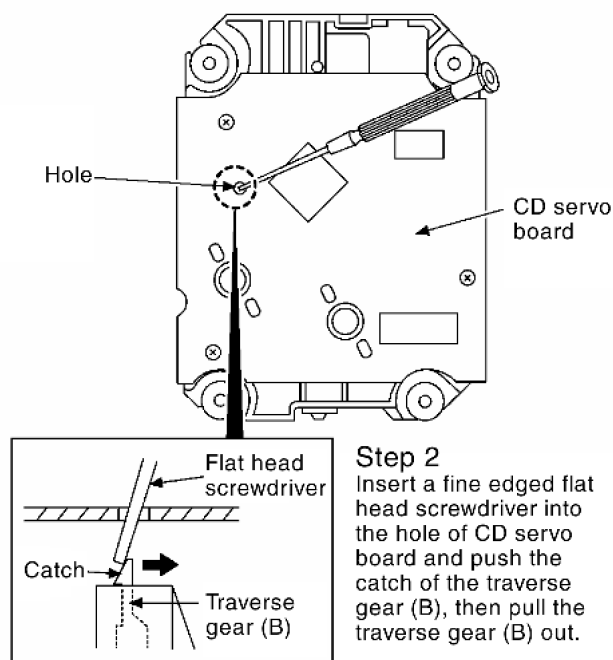
10.22. Replacement of a traverse gear A and a traverse gear B

- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.5.
- Follow the (Step 1) - (Step 3) of Item 10.8.
- Follow the (Step 1) - (Step 5) of Item 10.13.
- Follow the (Step 1) - (Step 2) of Item 10.20.
- Follow the (Step 1) - (Step 12) of Item 10.21.

Step 1

Rotate the traverse gear (B) to the arrow direction, and shift the optical pickup to the furthest backward.

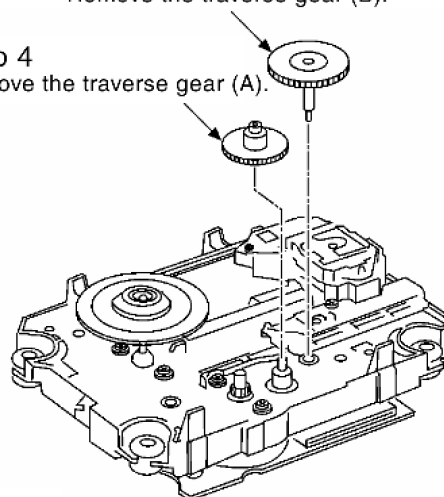




Note:
Be careful not to break the hook of the traverse gear (B)

Step 3
Remove the traverse gear (B).

Step 4
Remove the traverse gear (A).



Note:
Do not use the removed traverse gear (B) anymore. Surely replace with a new one.

10.23. Procedure for removing CD loading mechanism

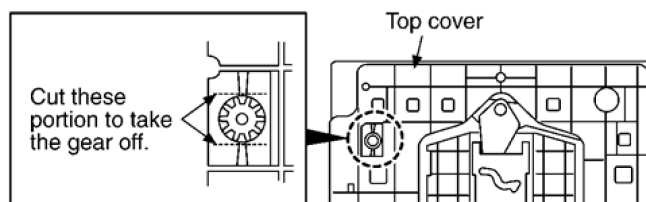
1. Turn off by pressing power SW in the body.
2. Unplug AC power cord after the indication of [GOOD-BYE], then disassemble the body.
3. Disassemble the body, and take out CD loading mechanism.
4. Perform disassembly according to the following procedure for disassembly.

10.24. CR16 mechanism disassembly procedure

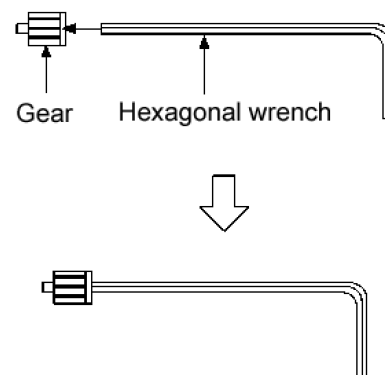
10.24.1. Gear for servicing information

- This unit has a gear which used for checking items (open/close of disc tray, up/down operation of traverse unit by manually) when servicing. (For gear information, that is described on the items for disassembly procedures.)
- For preparation of gear (for servicing), perform the procedures as follows.
- In case of re-servicing the same set, the "gear for servicing" may be took off because it had been used. So, the "gear for servicing" must be stored.

1. Remove the gear attached to top cover of CD loading mechanism.



2. Insert the hexagonal wrench (2.5mm) into the gear.



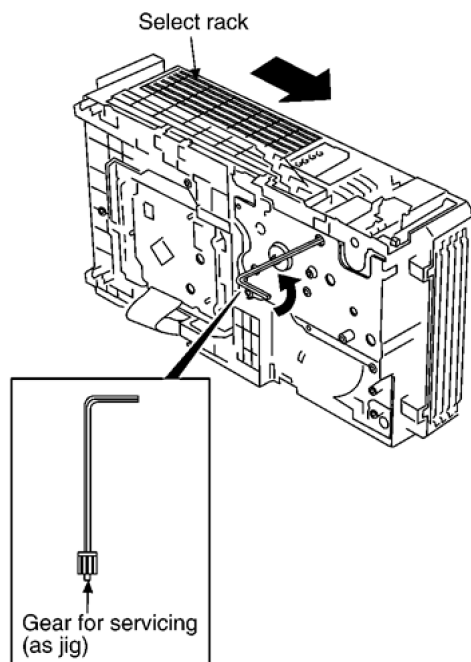
(Preparation of gear as jig is completed)

10.24.2. Replacement for the disc tray

- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.5.
- Follow the (Step 1) - (Step 3) of Item 10.8.
- Follow the (Step 1) - (Step 5) of Item 10.13.

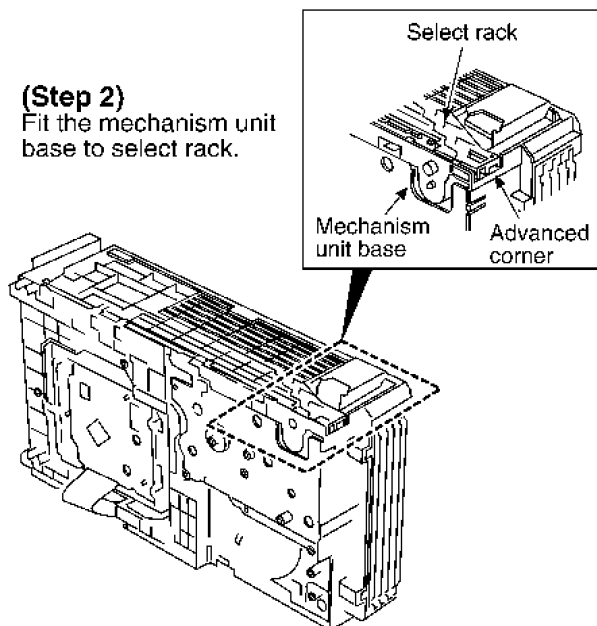
(Step 1)

Rotate the gear for servicing and move the select rack to advanced corner.



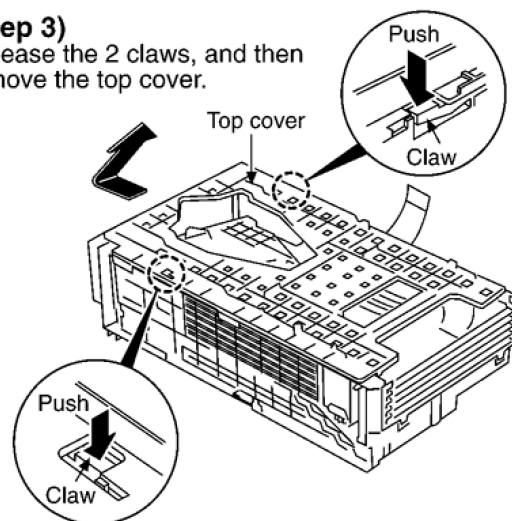
(Step 2)

Fit the mechanism unit base to select rack.



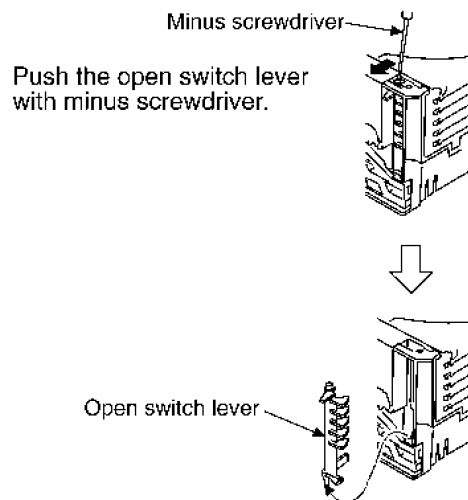
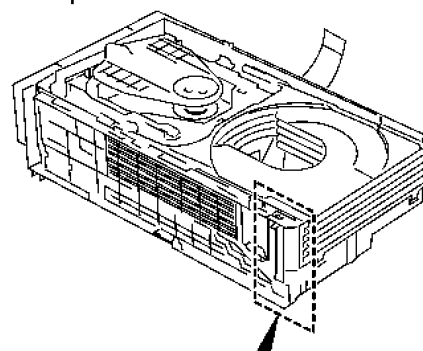
(Step 3)

Release the 2 claws, and then remove the top cover.



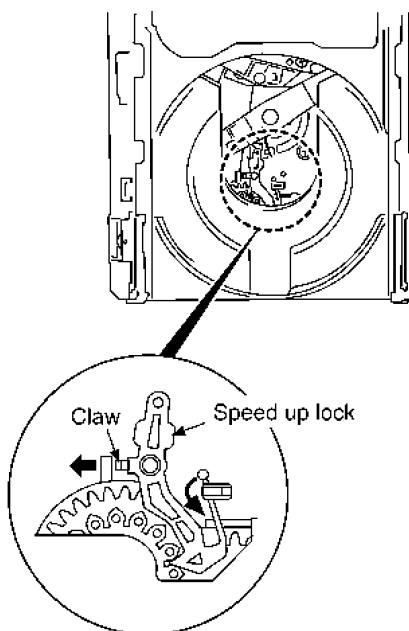
(Step 4)

Remove the open switch lever.



(Step 5)

Release the claw, and then remove the speed up lock.



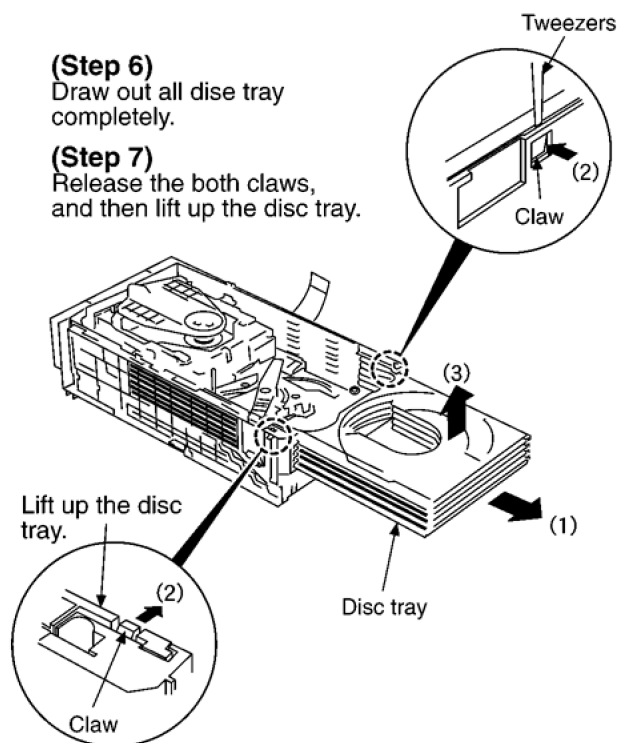
Insert the tweezers between the mechanism base and disc tray, and then lift up the disc tray.

(Step 6)

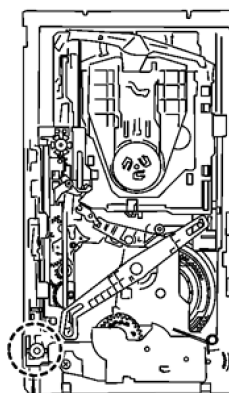
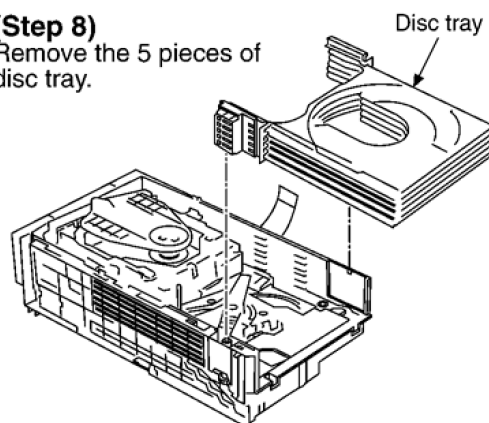
Draw out all disc tray completely.

(Step 7)

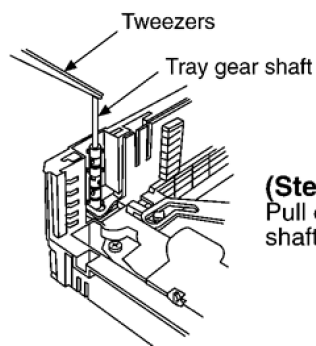
Release the both claws, and then lift up the disc tray.

**(Step 8)**

Remove the 5 pieces of disc tray.

**(Step 9)**

Pull out the tray gear shaft with tweezers.

**(Step 10)**

Remove the tray drive gear ass'y.

10.24.3. Replacement for the traverse deck

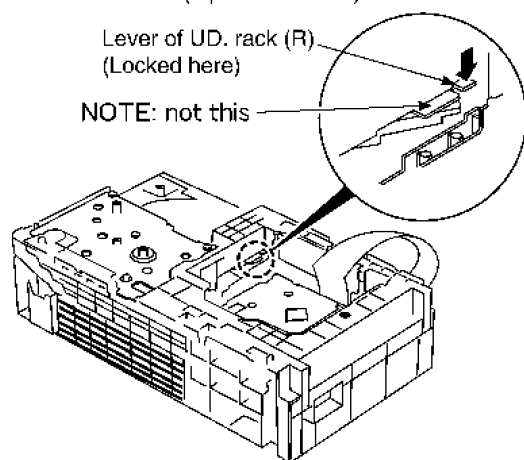
- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.5.
- Follow the (Step 1) - (Step 3) of Item 10.8.
- Follow the (Step 1) - (Step 5) of Item 10.13.
- Follow the (Step 1) - (Step 10) of Item 10.24.2

(Step 1)

Confirm the position for lever of UD. rack (R) to remove traverse unit.

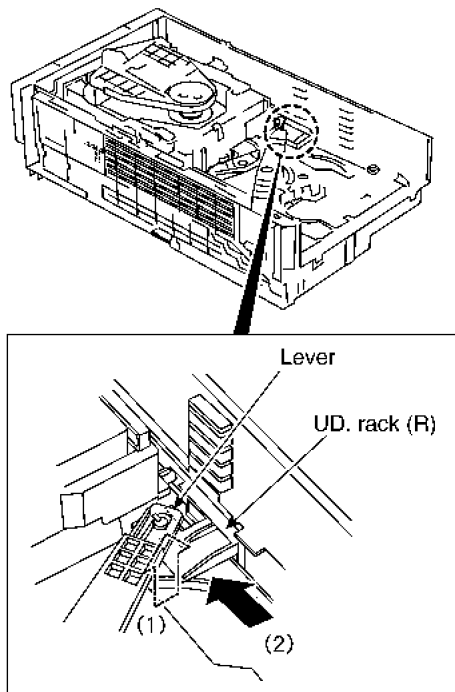
(Step 2)

Turn the unit over. (Upside: P.C.B.)



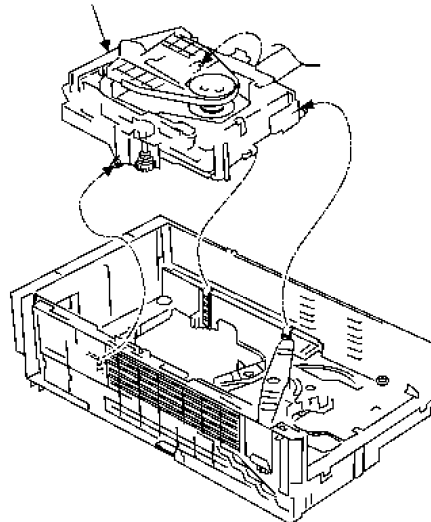
(Step 3)

Turn the unit over again, slide UD. rack (R) while pushing up the lever from the bottom.



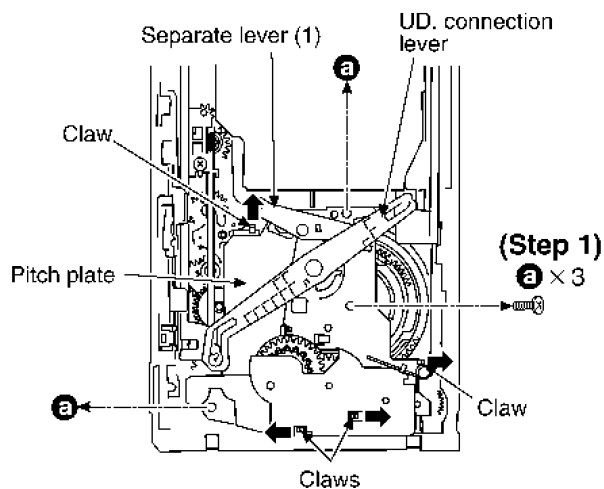
(Step 4)

Remove the traverse unit.



10.24.4. Disassembly for CD loading unit

- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.5.
- Follow the (Step 1) - (Step 3) of Item 10.8.
- Follow the (Step 1) - (Step 5) of Item 10.13.
- Follow the (Step 1) - (Step 10) of Item 10.24.2
- Follow the (Step 1) - (Step 4) of Item 10.24.3

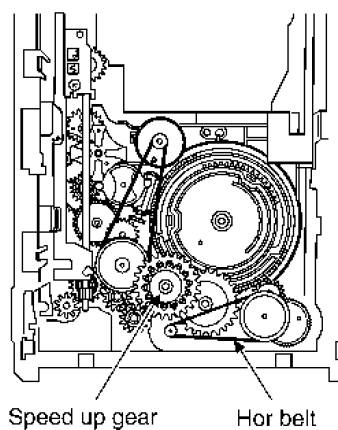


(Step 2)

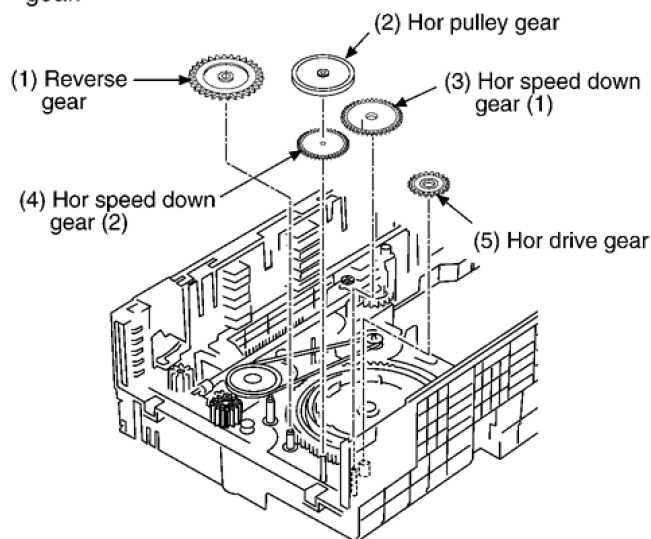
Release the 4 claws, and then remove the pitch plate together with separate lever (1) and UD. connection lever.

(Step 3)

Remove the speed up gear and hor belt.

**(Step 4)**

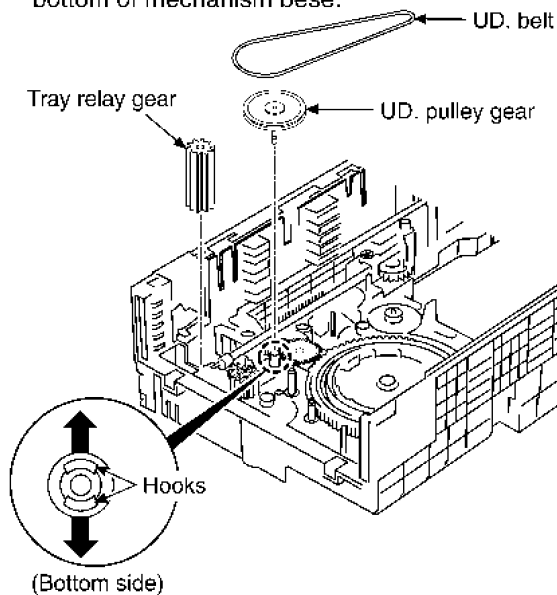
Remove the reverse gear, hor pulley gear, hor speed down gear (1), hor speed down gear (2) and hor drive gear.

**(Step 5)**

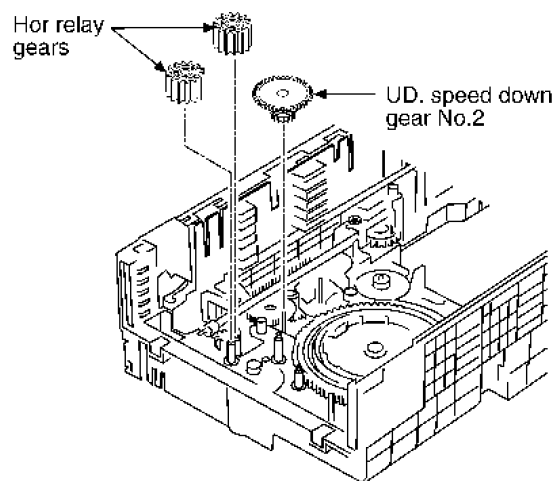
Remove the UD. belt and tray relay gear.

(Step 6)

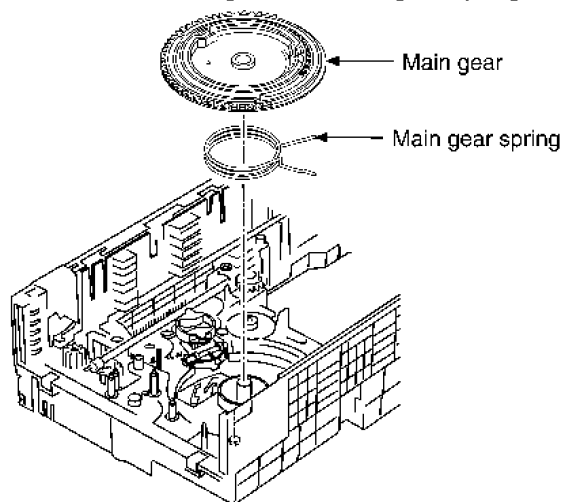
Pull out the UD. pulley gear, loosen 2 hooks of the bottom of mechanism base.

**(Step 7)**

Remove the 2 hor relay gears and UD. speed down gear No.2.

**(Step 8)**

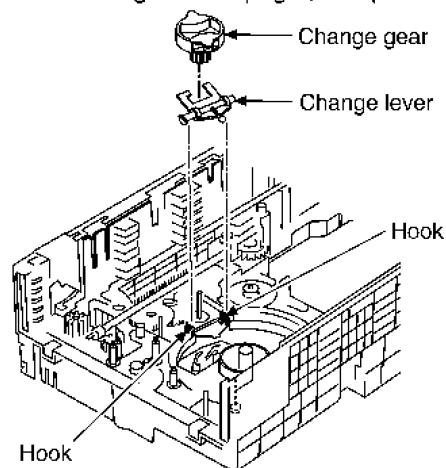
Remove the main gear and main gear spring.

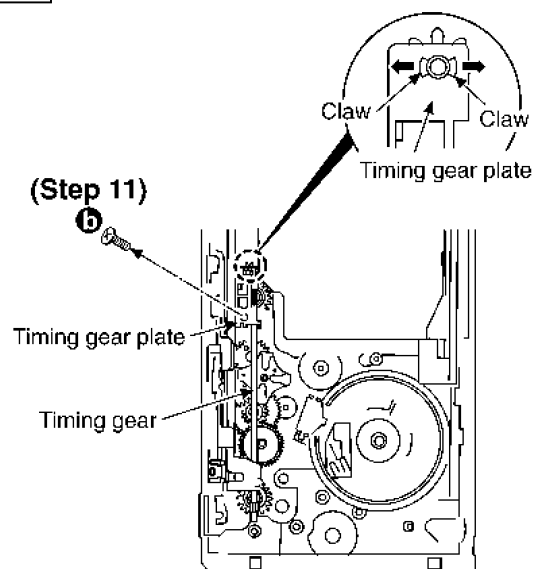
**(Step 9)**

Remove the change gear.

(Step 10)

Raise the change lever upright, and pull it out of hook.

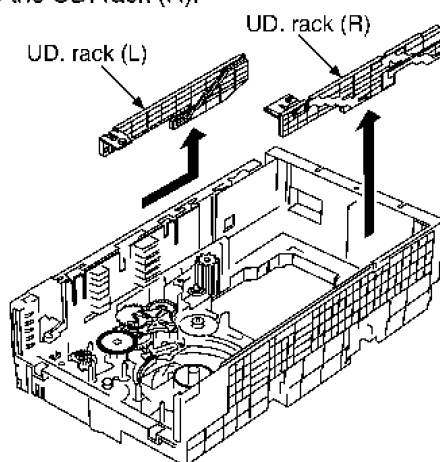




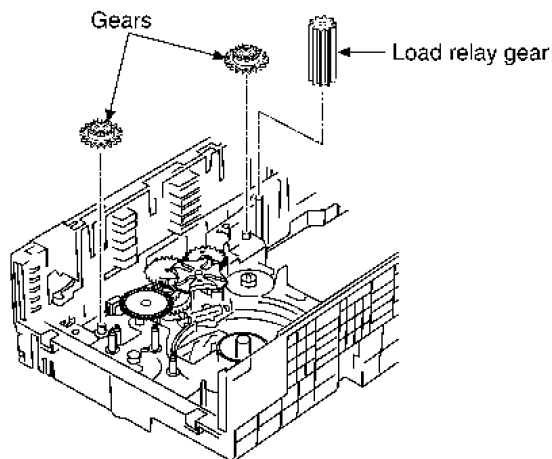
(Step 12)
Release the 2 claws, and then remove the timing gear and timing gear plate.

(Step 13)
Move the UD. rack (L) to backward, and then remove it.

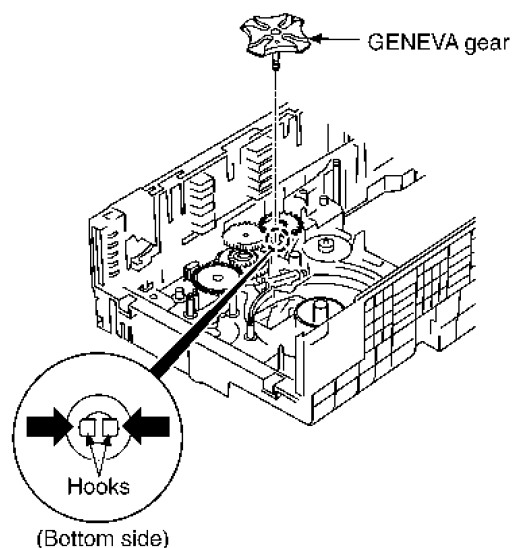
(Step 14)
Remove the UD. rack (R).



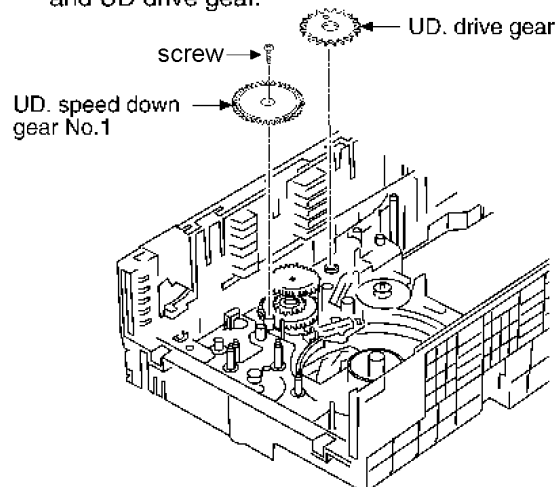
(Step 15)
Remove the 2 gears and load relay gear.



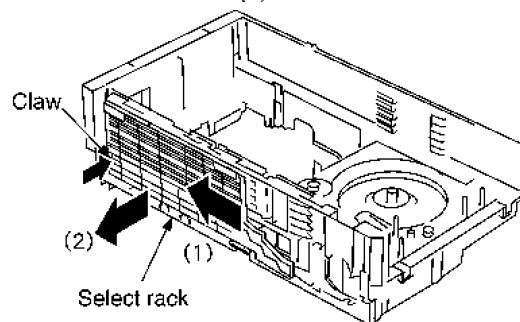
(Step 16)
Pull out the GENEVA gear, loosen 2 hooks of the bottom of mechanism base.

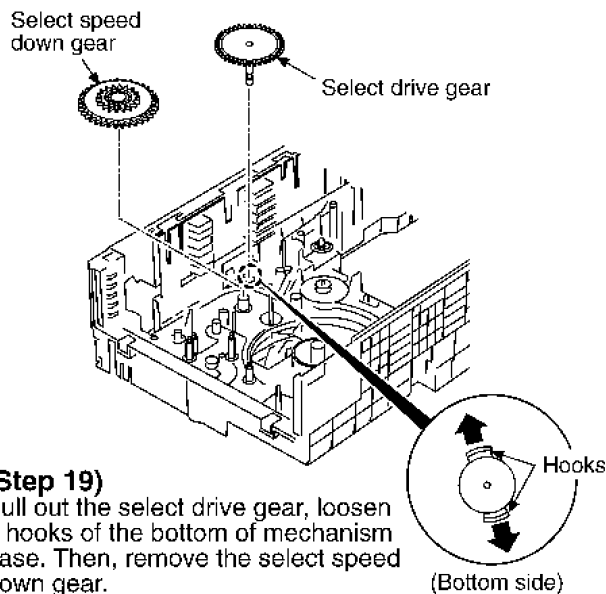


(Step 17)
Remove the UD. speed down gear No.1 and UD drive gear.

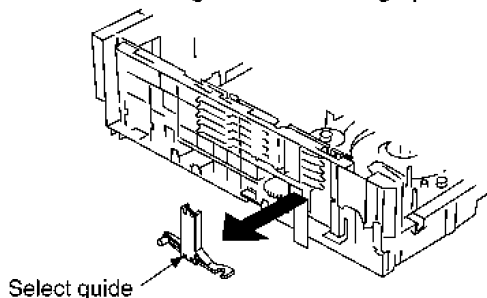


(Step 18)
Slide the select rack to the edge direction of the arrow (1). Push the claw and pull out to arrow (2) while sliding the select rack to the arrow (1).

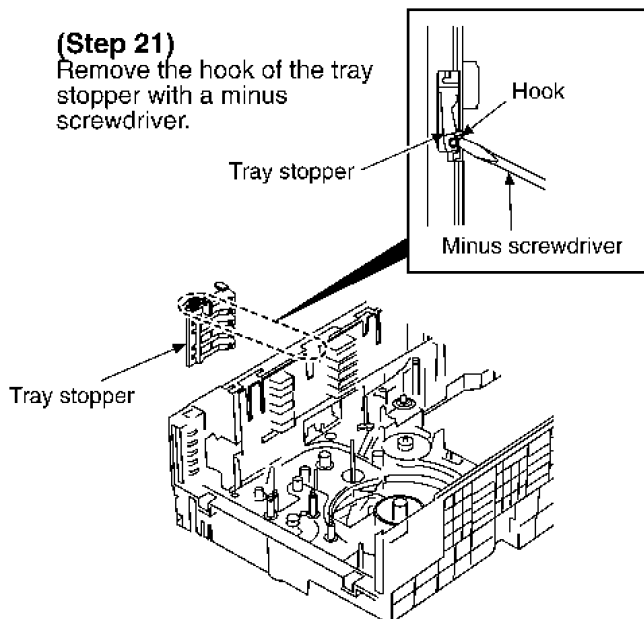




(Step 20)
Remove the select guide after sliding upside.

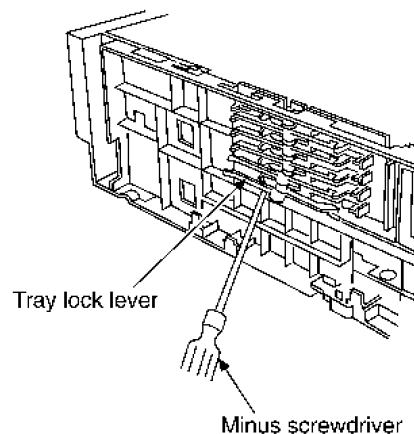


(Step 21)
Remove the hook of the tray stopper with a minus screwdriver.



(Step 22)

Remove the bottom of the tray lock lever with a minus screwdriver and others.



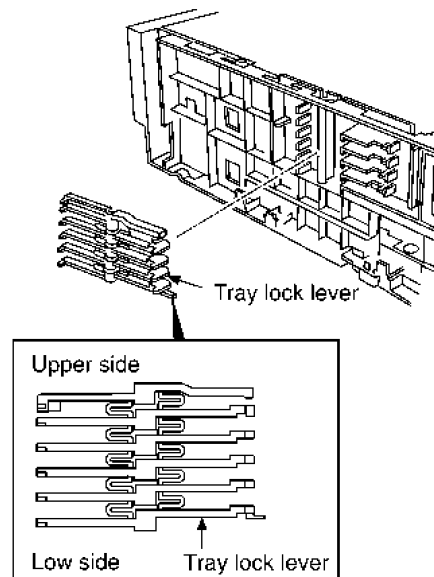
10.25. CR16 MECHANISM ASSEMBLY PROCEDURE

The following specified greases and/or oil must be applied when some specific parts are changed.

1. Floil grease (VFK1298) : The floil grease must be applied to tray, tray (L) and tray (R).
 2. Hanarl oil (VFK1700) : The hanarl oil must be applied to any parts with grease other than the said parts.
- Follow the (Step 1) - (Step 6) of Item 10.2.
 - Follow the (Step 1) - (Step 3) of Item 10.3.
 - Follow the (Step 1) - (Step 4) of Item 10.5.
 - Follow the (Step 1) - (Step 3) of Item 10.8.
 - Follow the (Step 1) - (Step 2) of Item 10.10.
 - Follow the (Step 1) - (Step 5) of Item 10.13.
 - Follow the (Step 1) - (Step 10) of Item 10.24.2
 - Follow the (Step 1) - (Step 4) of Item 10.24.3
 - Follow the (Step 1) - (Step 22) of Item 10.24.4

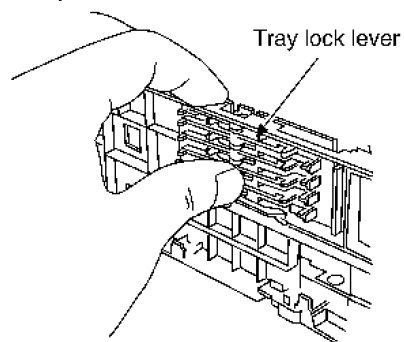
(Step 1)

Install the tray lock lever to mechanism base.

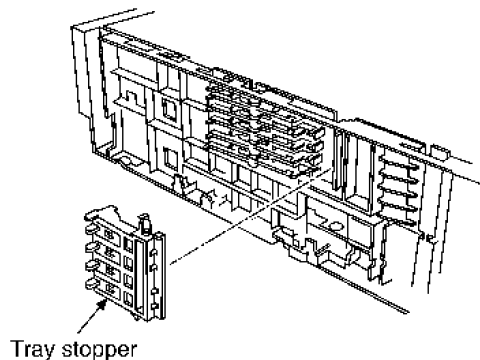


(Step 2)

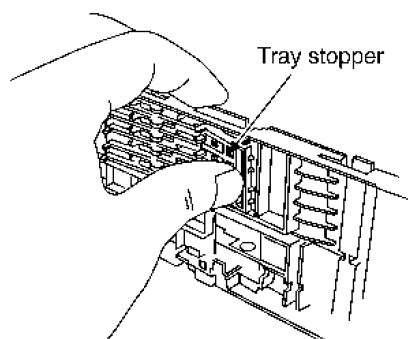
Push the tray lock lever with a hand and install it.

**(Step 3)**

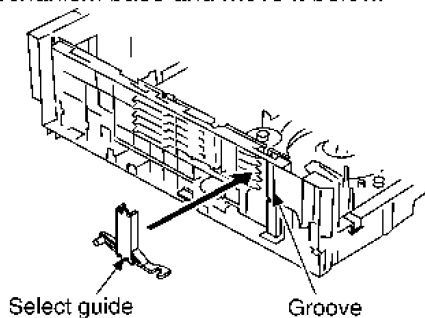
Install the tray stopper to mechanism base.

**(Step 4)**

Push the tray stopper with a hand and install it.

**(Step 5)**

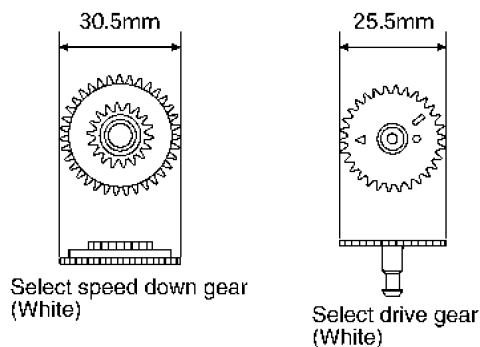
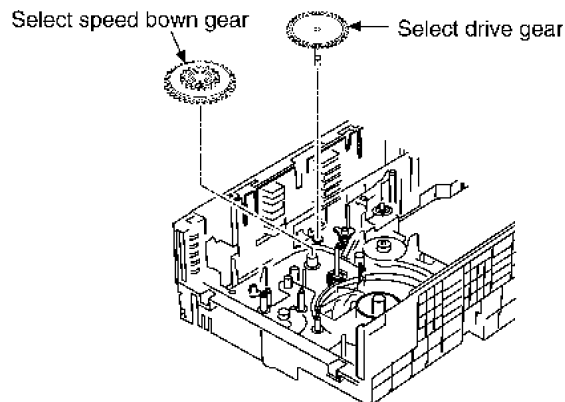
Insert the select guide with a groove of the mechanism base and move it below.

**(Step 6)**

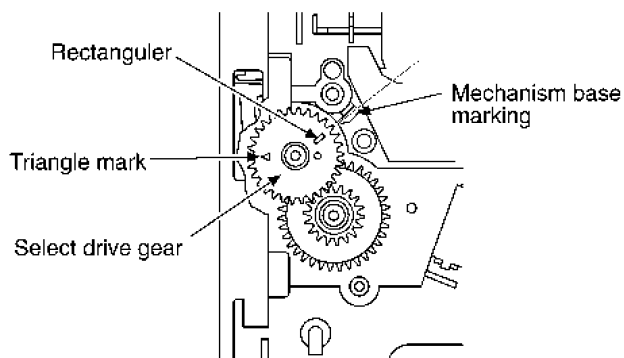
Install the select speed down gear to mechanism base.

(Step 7)

Install the select drive gear to mechanism base.

**(Step 8)**

Fit a mechanism base marking to the rectangular mark of gear so that the triangle mark can indicate the sideward direction.



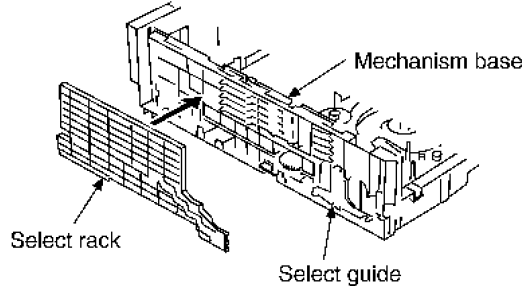
(Step 9)

Install the select rack to mechanism base.

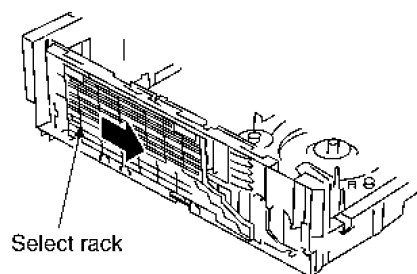
Checking items before the installation.

1. Check select guide is completely in lowest position.
2. Check its phase of select drive gear is correct position. (Rectangle/Triangular mark) (Refer to Step 8)

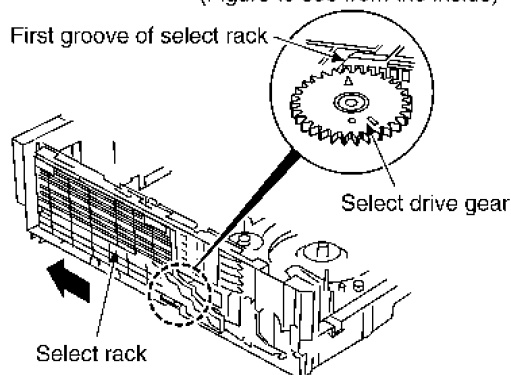
1. Put a select rack down with it fitted to its circumference of mechanism base.



2. Slide the select rack with it's pushing to a little right direction and install it.

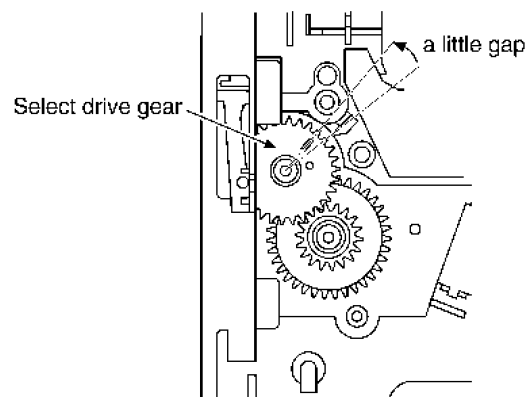


(Figure to see from the inside)

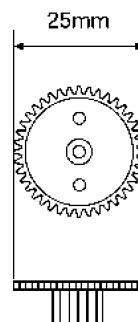
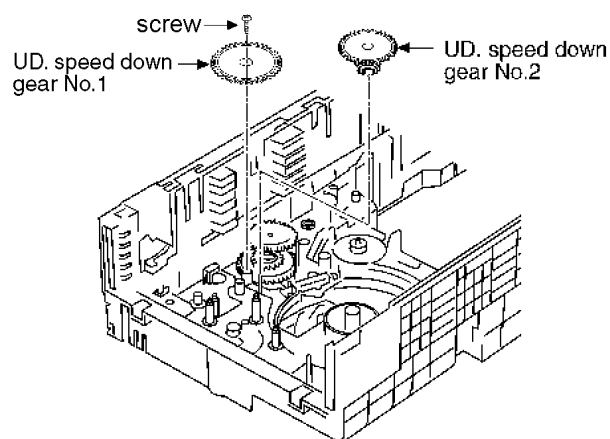


3. Check whether its end of triangular mark is in first groove of select rack, after fixing.
4. After insertion of select rack, continue the following work until the indication that it gese forward. And, all the while it must be checked that select rack is in the extreme end.

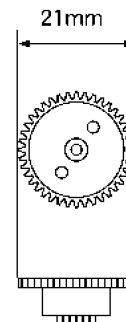
5. After insertion the select rack, the marking of select gear has a little gap when it is in the extreme end.

**(Step 10)**

Install the UD. speed down gear No.1 and UD. speed down gear No.2.



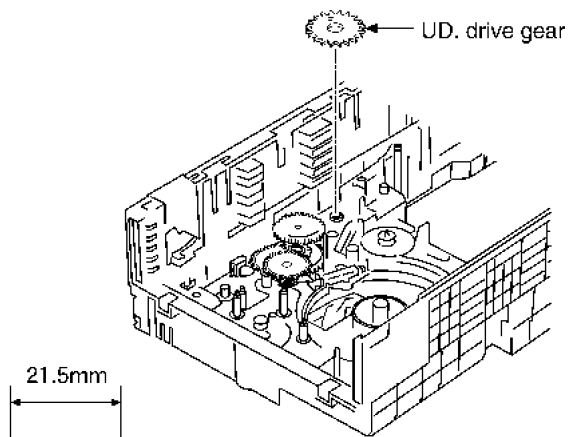
UD. speed down gear No.1
(White)



UD. speed down gear No.2
(Semi-transparent)

(Step 11)

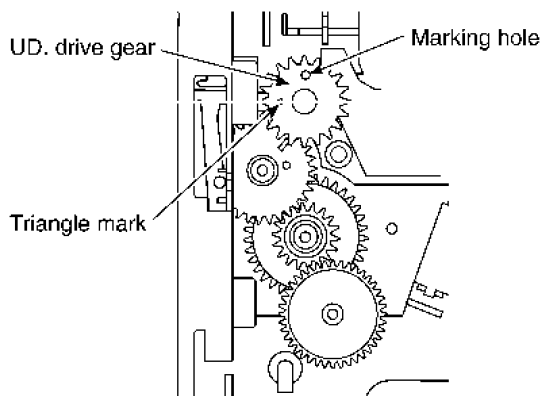
Install the UD. drive gear to mechanism base.



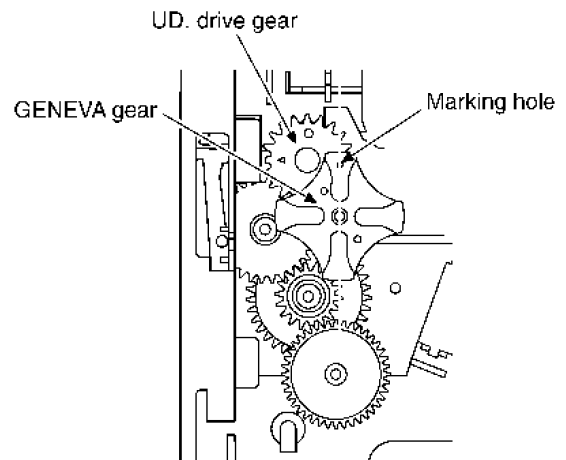
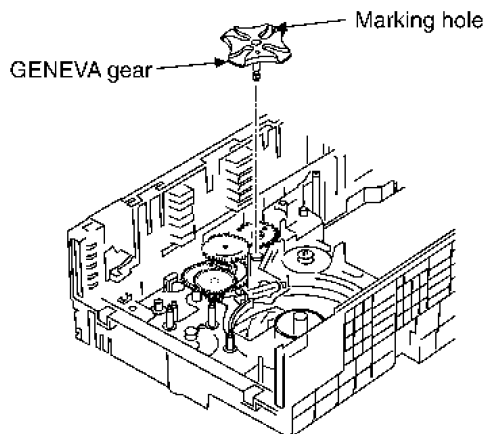
UD drive gear
(White)

(Step 12)

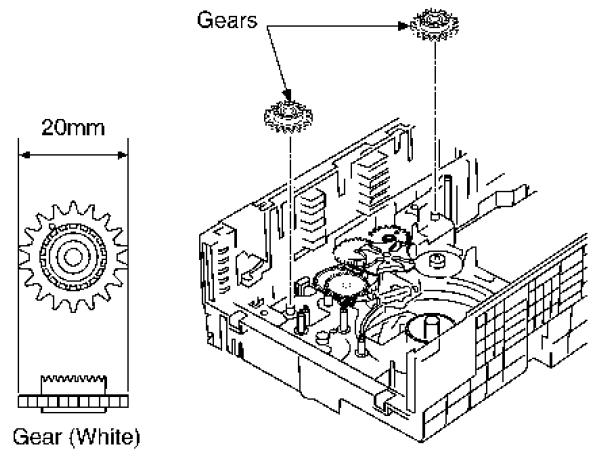
Insert the UD. drive gear with its marking hole upward.
At that time, its triangle mark should be sideways.

**(Step 13)**

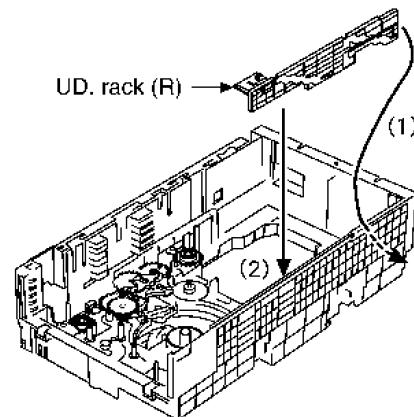
Insert the GENEVA gear with its marking hole upward,
and fix it by 2 hooks on bottom of mechanism base.
At that time, UD. drive gear mustn't be moved.

**(Step 14)**

Install the 2 gears to mechanism base.

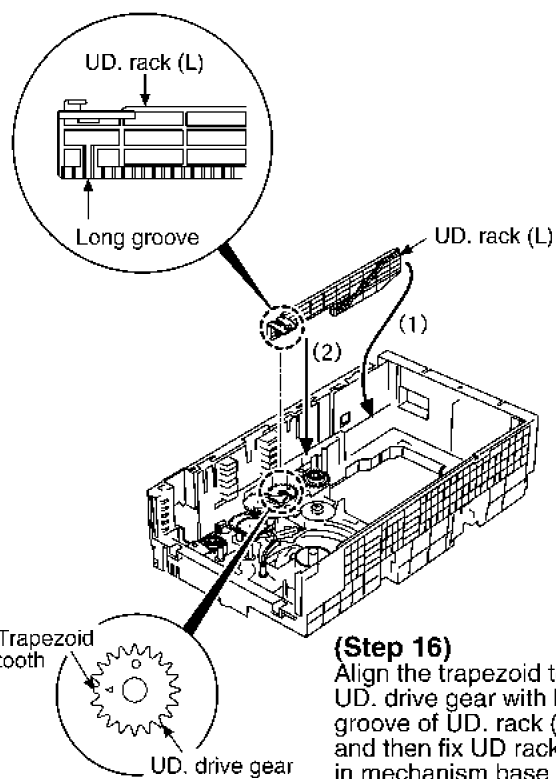
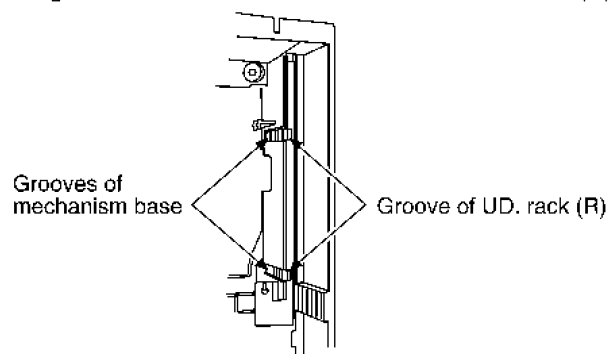
**(Step 15)**

Insert the UD. rack (R) to (2) from arrow (1).



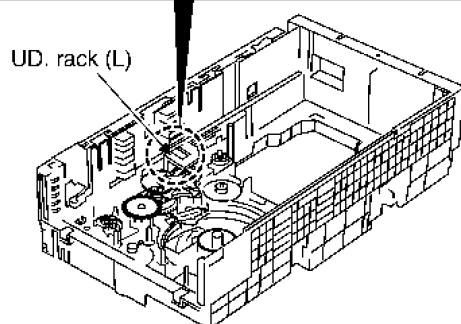
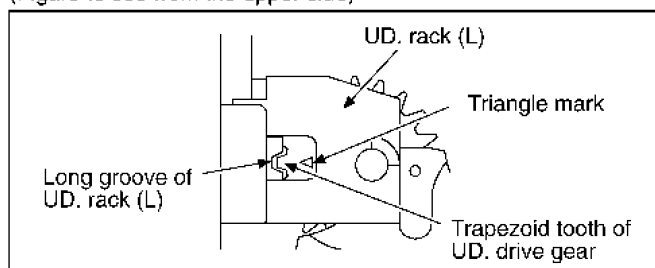
NOTE:

Put a groove of the mechanism base to the UD. rack (R).

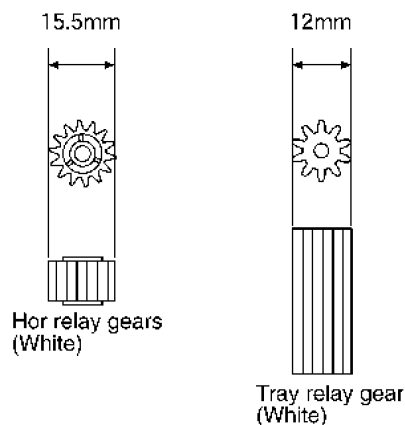
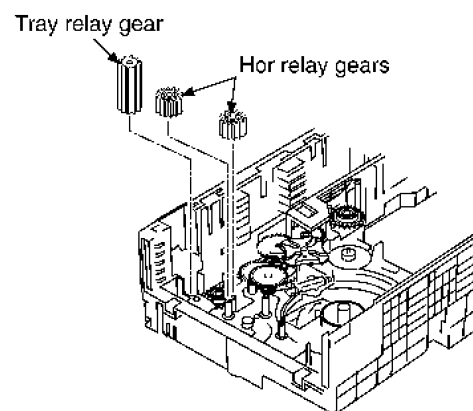
**(Step 16)**

Align the trapezoid tooth of UD. drive gear with long groove of UD. rack (L), and then fix UD rack (L) in mechanism base.

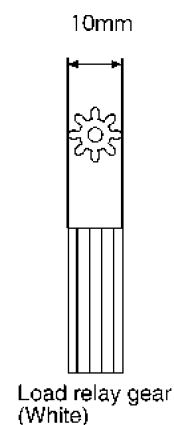
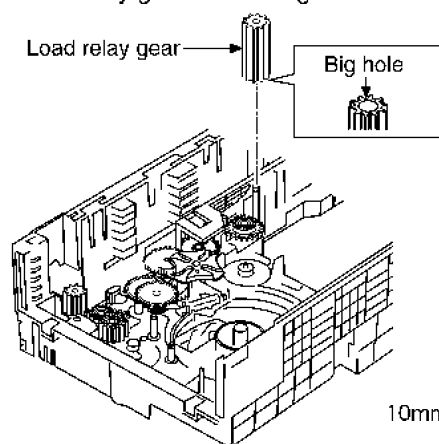
(Figure to see from the upper side)

**(Step 17)**

Install the tray relay gear and 2 hor relay gears.

**(Step 18)**

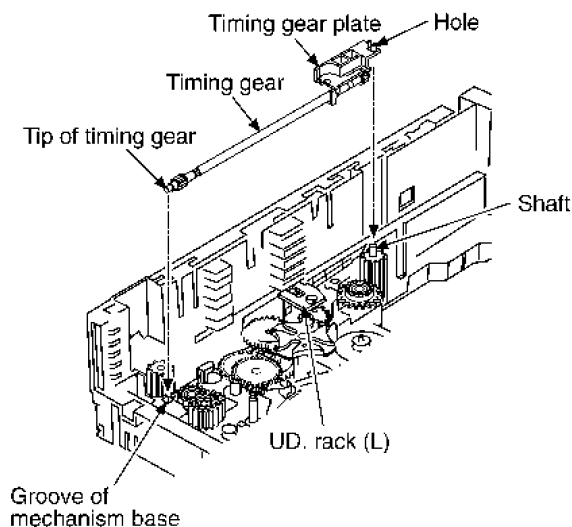
Install the load relay gear to mechanism base. (Fit load relay gear with its big hole downward.)



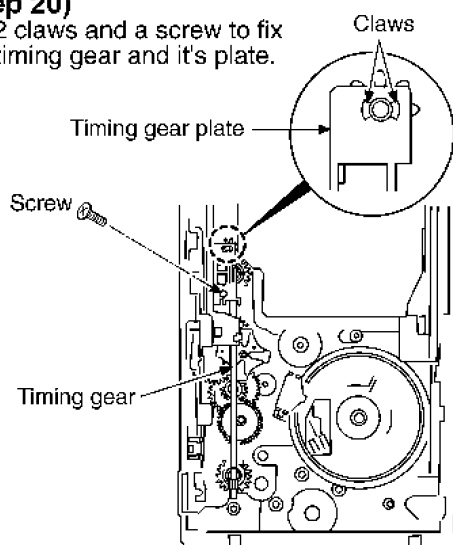
(Step 19)

Put on the top of the timing gear, then, install the timing gear and it's plate.

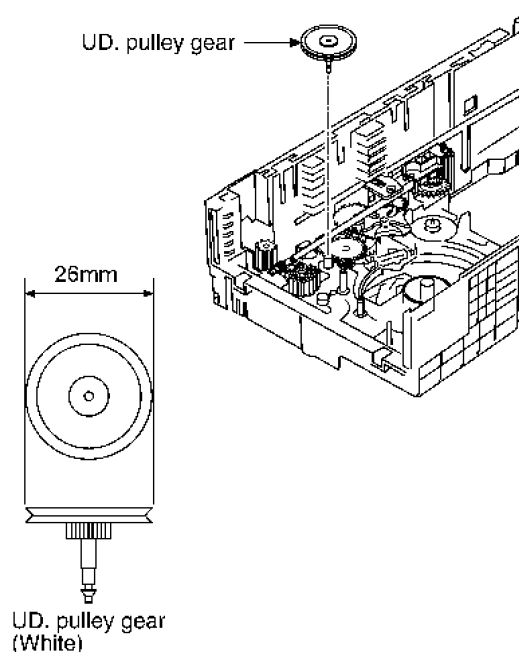
At that time avoid the UD. rack (L).

**(Step 20)**

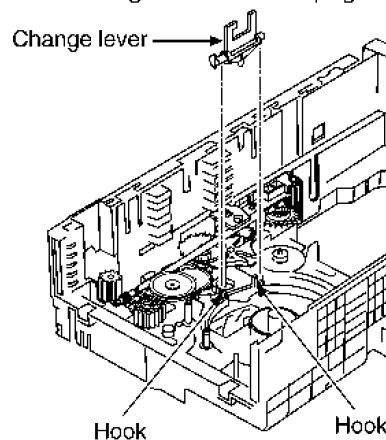
Fix 2 claws and a screw to fix the timing gear and it's plate.

**(Step 21)**

Install the UD. pulley gear to mechanism base.

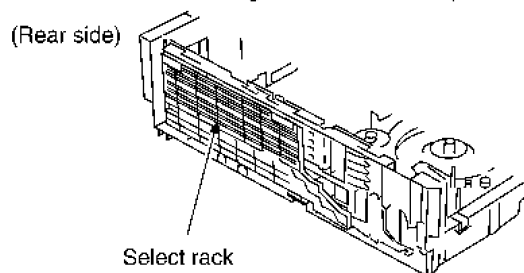
**(Step 22)**

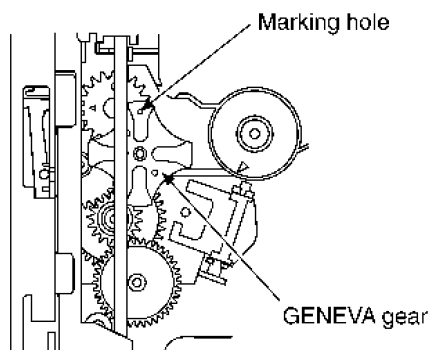
Insert the change lever with it upright.

**(Step 23)**

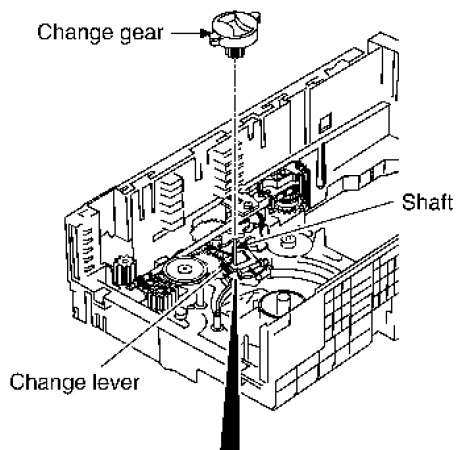
Be sure the notice of below before fixing the change gear.

1. Select track should be in the rear of mechanism base.
2. Its hole of GENEVA gear should turn up.

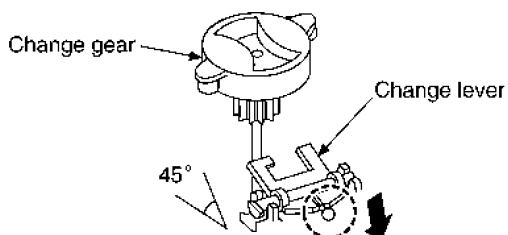


**(Step 24)**

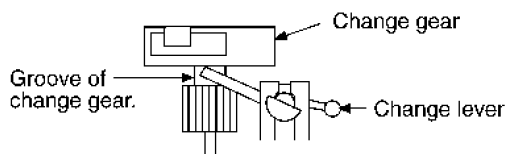
Install the change gear as insert the change lever into the groove of change gear.



1. Pushing the ○ part and pull up the change lever 45°.



2. Insert the change lever into the groove of change gear.

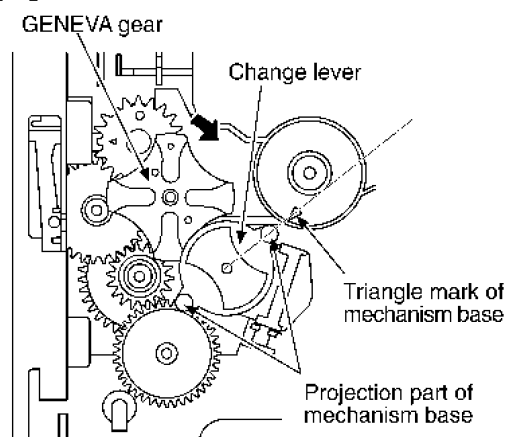
**(Step 25)**

Put change gear down with projection part of change gear fitted to triangle mark of mechanism base, when fixing change gear.

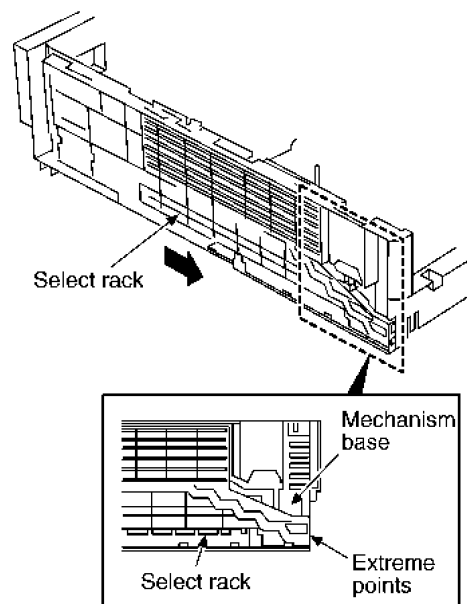
At that time, check change gear is inserted into the groove of change lever.

(Step 26)

Lastly, turn GENEVA gear clockwise slightly and drop change gear to mechanism base.

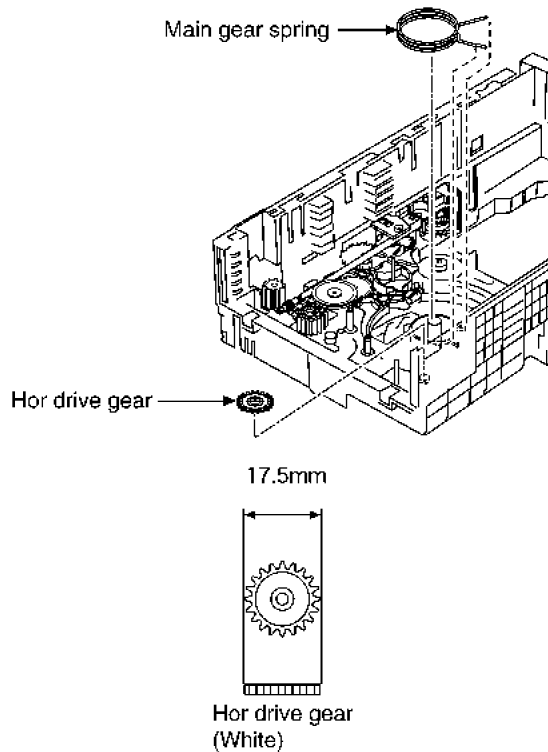
**(Step 27)**

Move the select rack smoothly forward manually until 2 extreme points of both select track and mechanism base.

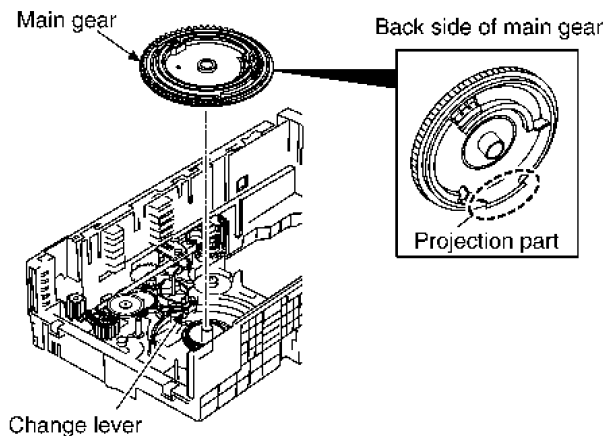


(Step 28)

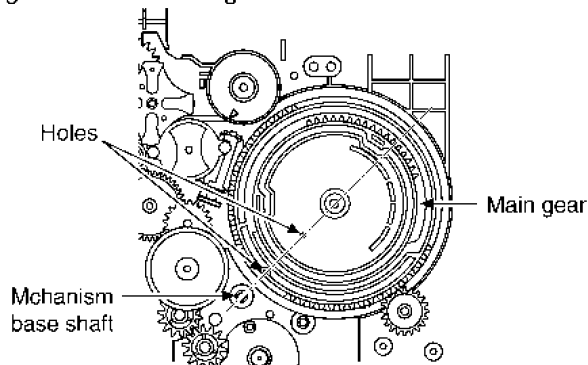
Install the main gear spring and hor drive gear.

**(Step 29)**

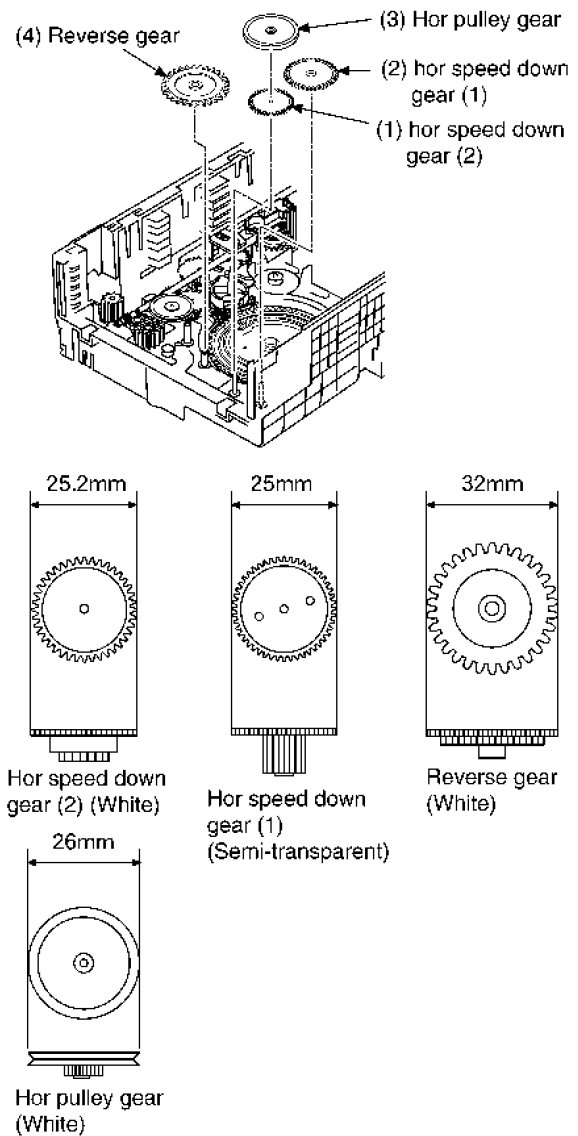
Don't bring change lever into touch to projection part of main gear, when fixing main gear in mechanism base.

**(Step 30)**

After that, turn main gear so that 2 holes inside main gear would be in alignment with mechanism base.

**(Step 31)**

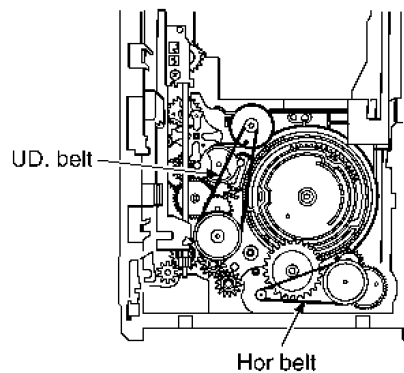
Install the hor speed down gear (2), hor speed down gear (1), hor pulley gear and reverse gear.

**(Step 32)**

Install the UD. belt and hor belt.

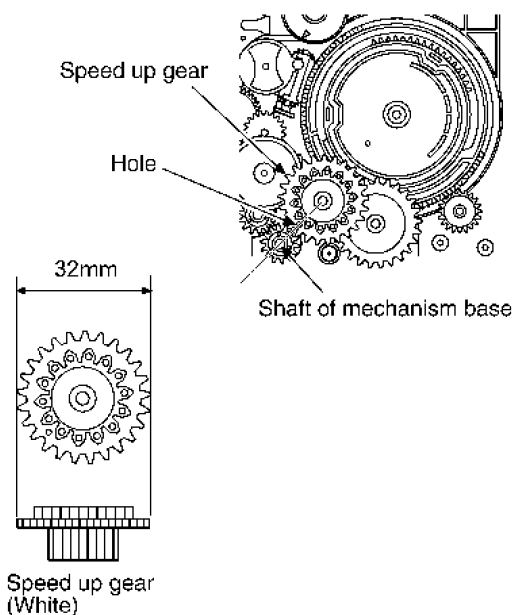
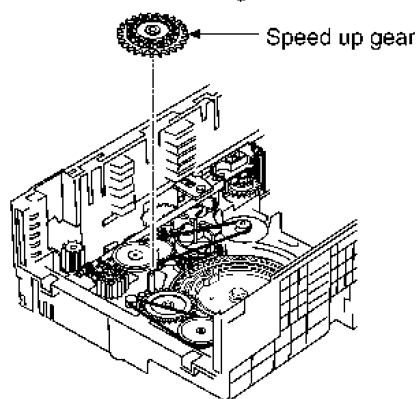
NOTE:

1. Take care not apply the grease to the belt.
2. Install the belt without twist.



(Step 33)

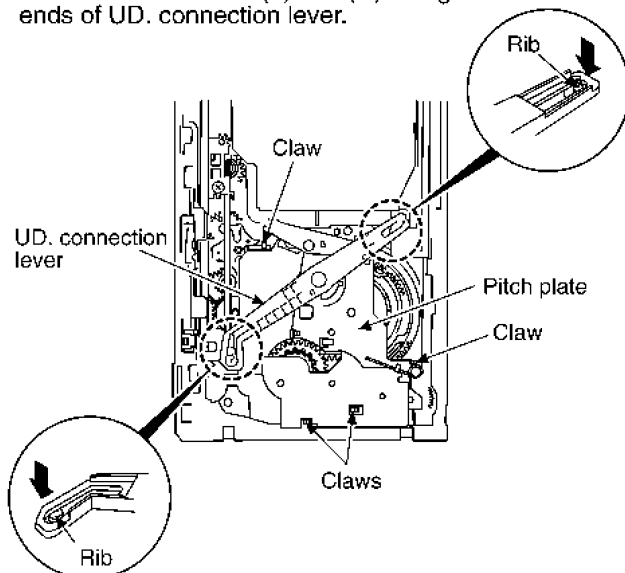
Install speed up gear to its shaft of mechanism base with 2 fitting.

**(Step 34)**

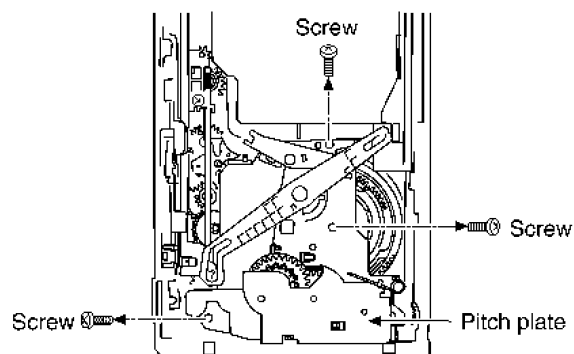
Install the pitch plate. (The 4 claws should be latched.)

(Step 35)

Fix 2 ribs of UD. rack (L) and (R) into groove of both ends of UD. connection lever.

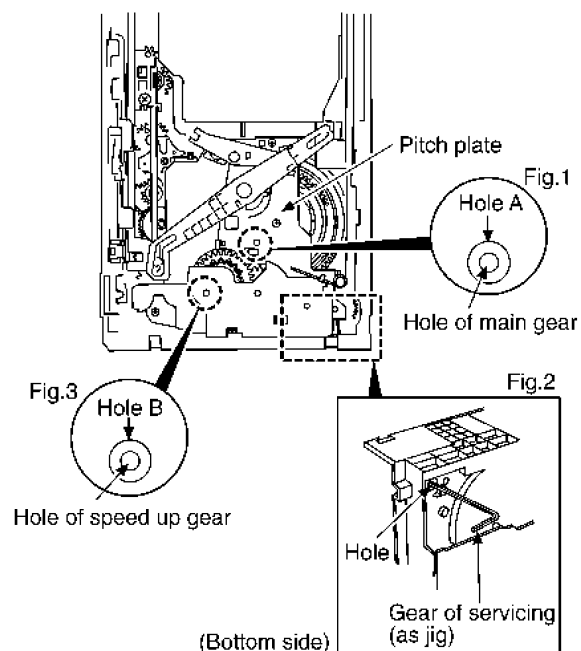
**(Step 36)**

Fixed it by three screws further.

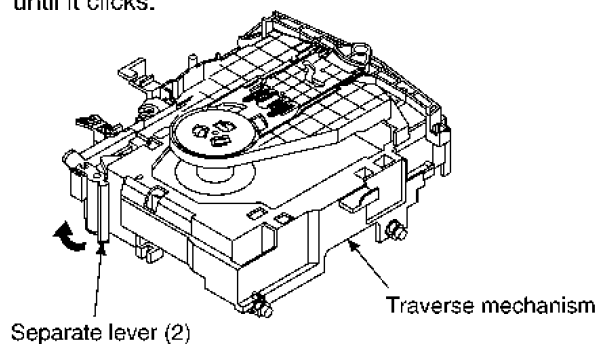
**(Step 37)**

Be sure the notice of below before fixing the traverse mechanism.

1. Check that 2 holes of both pitch plate and main gear is fitted. (Refer to Fig.1)
If it's not fitted, put the gear for servicing in the hole of the bottom side and adjust it. (Refer to Fig.2)
2. Check that 2 holes of both pitch plate and speed up gear is fitted. (Refer Fig.3)
If it's not fitted turn the speed up gear to adjust it.

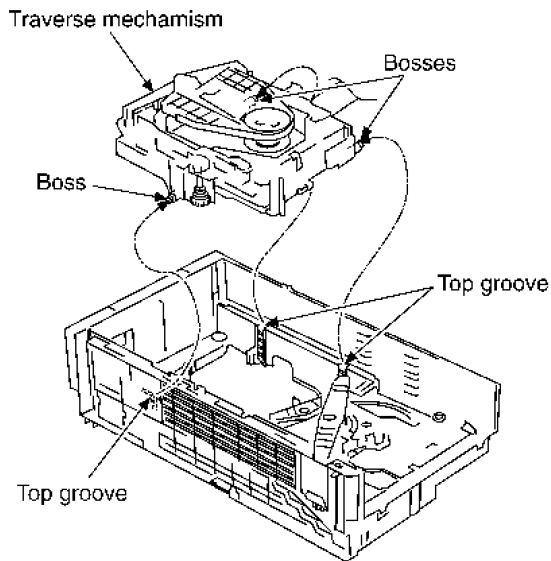
**(Step 38)**

Turn the separate lever (2) slowly toward left side until it clicks.

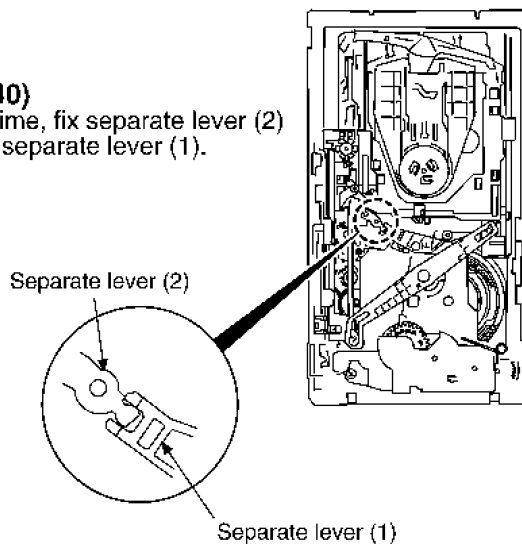


(Step 39)

Fix the left boss into the top groove of the UD. rack (L) and fix 2 bosses into the groove of the UD. rack (R).

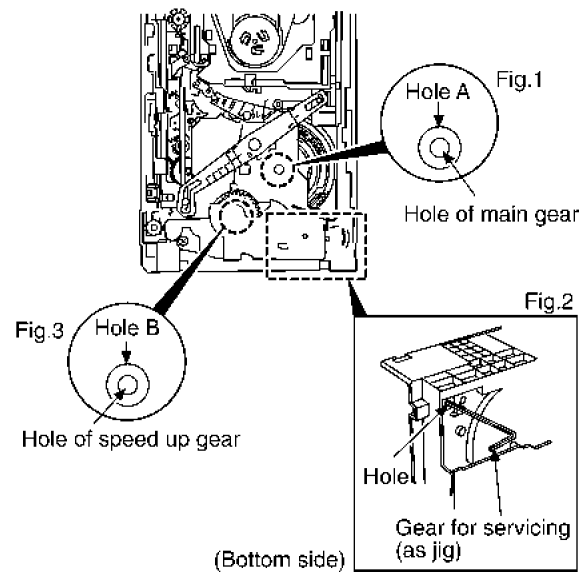
**(Step 40)**

At that time, fix separate lever (2) into the separate lever (1).

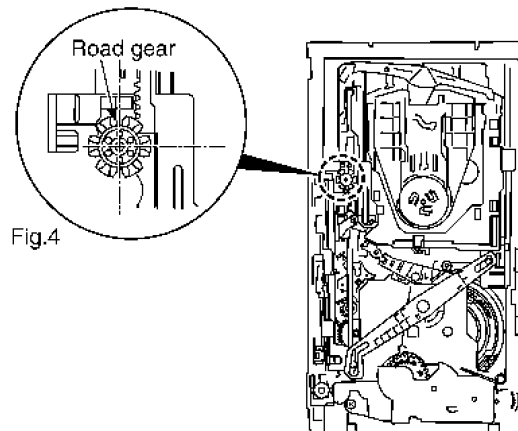
**(Step 41)**

After the traverse mechanism fixed, confirm the phase in order below.

1. Check that 2 holes of both pitch plate and main gear is fitted. (Refer to Fig.1)
If it's not fitted, put the gear for servicing in the hole of the bottom side and adjust it. (Refer to Fig.2)
2. Check that 2 holes of both pitch plate and speed up gear is fitted. (Refer Fig.3)
If it's not fitted turn the speed up gear to adjust it.

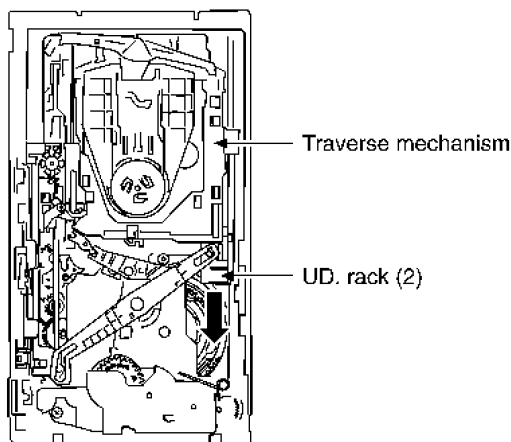


3. In the cog of road gear, the groove with it's cutting halfway set side ward. (Refer to Fig.4)
Remove the traverse mechanism again when it is not set side ward and install it after adjustment of inserting position.
NOTE: By this time, do not adjust to rotate the road gear.



(Step 42)

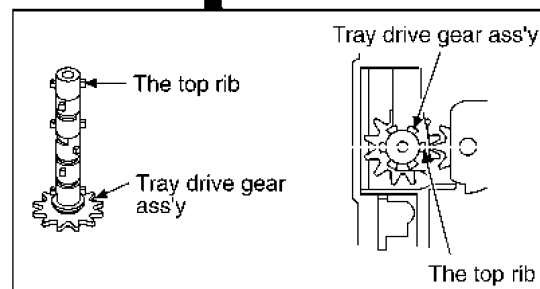
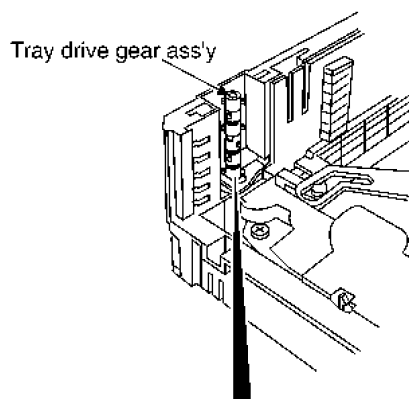
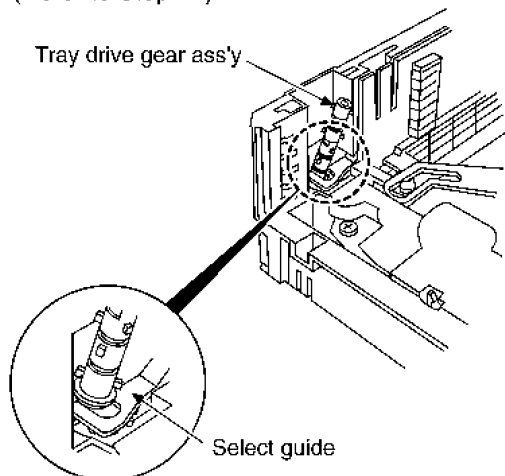
After insertion of traverse mechanism, pull the UD. rack (R) on this side that each phase is "OK" and then lock the traverse mechanism.

**(Step 43)**

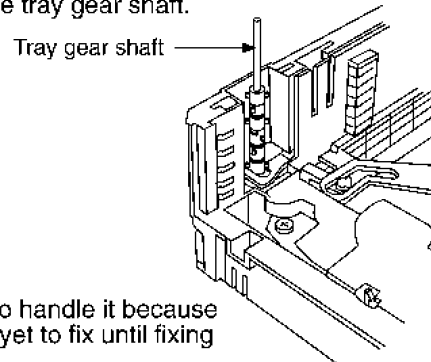
Install the tray drive gear to select guide.
(Install the top rib of the tray drive gear with side ward.)

NOTE:

Confirm the each phase surely before install the tray drive gear. (Refer to Step 41).

**(Step 44)**

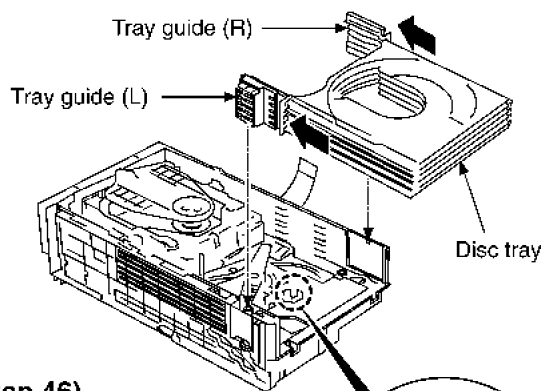
Insert the tray gear shaft.

**NOTE:**

Be careful to handle it because the shaft is yet to fix until fixing top cover.

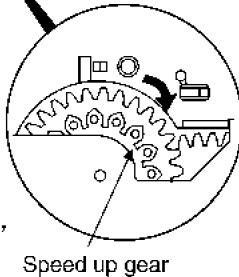
(Step 45)

Move the tray guide (R) and (L) to direction of arrow that fixed (stopped) it and install 5 pieces of disc tray.

**(Step 46)**

Confirm that when the disc tray insert the upper side, the speed up gear is rotate clockwise a little.

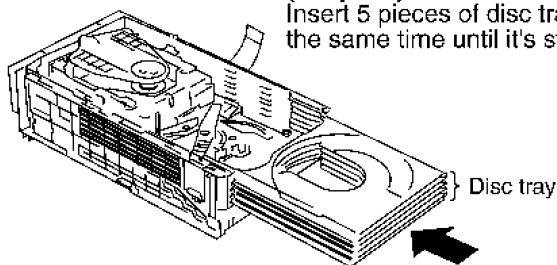
- When the rotation of speed up gear is not clockwise or rotate, repeat from Step 45.
- Until the speed up gear rotate, repeat from Step 45 and 46.

**NOTE:**

While keeping all position, install 5 pieces of disc tray.

(Step 47)

Insert 5 pieces of disc tray at the same time until it's stop.

**(Step 48)**

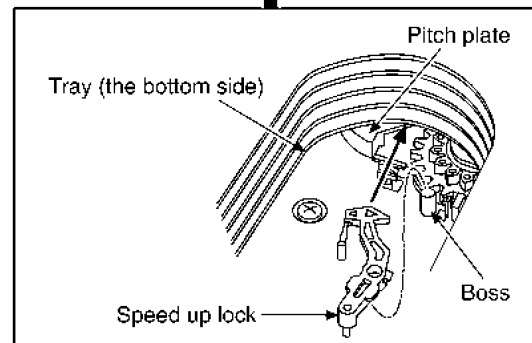
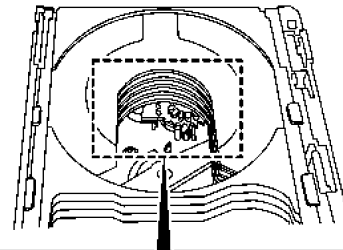
Turn the traverse side 180°.

(Step 49)

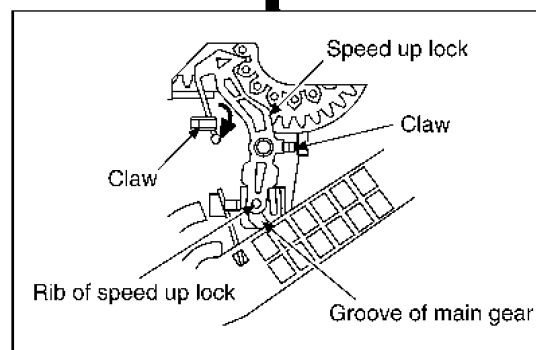
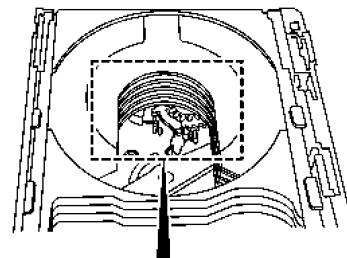
While install the tip of speed up lock between tray (No.1) of the most lower side and pitch plate for the time being. (Do not to insert the cog of speed up gear), insert it to boss.

NOTE:

At that time, do not move the tray.
(See the tray the most front side)

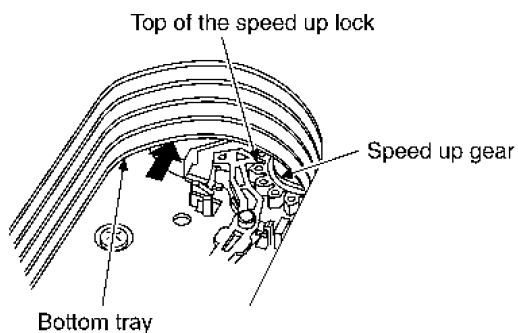
**(Step 50)**

Insert the rib of speed up lock into a groove of main gear, and lock it with 2 claws.



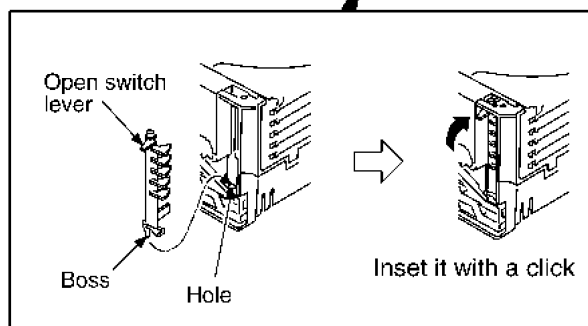
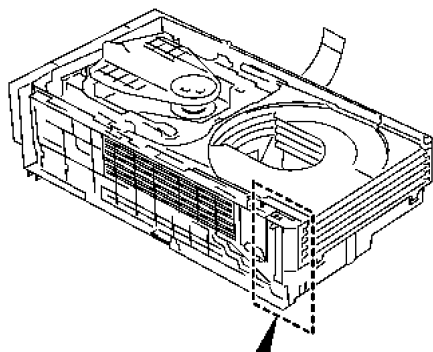
(Step 51)

Move the bottom tray to the arrow while pushing the top of the speed up gear. And insert it to a cog of the speed up gear.

**(Step 52)**

Install the open switch lever.

(Put the boss into the hole of the mechanism base.)

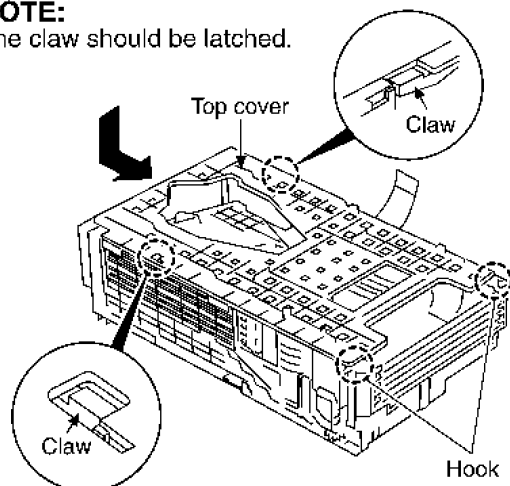
**(Step 53)**

Install the top cover.

Fix it into hooks and slide direction to the arrow.

NOTE:

The claw should be latched.



10.26. Disassembly of traverse mechanism

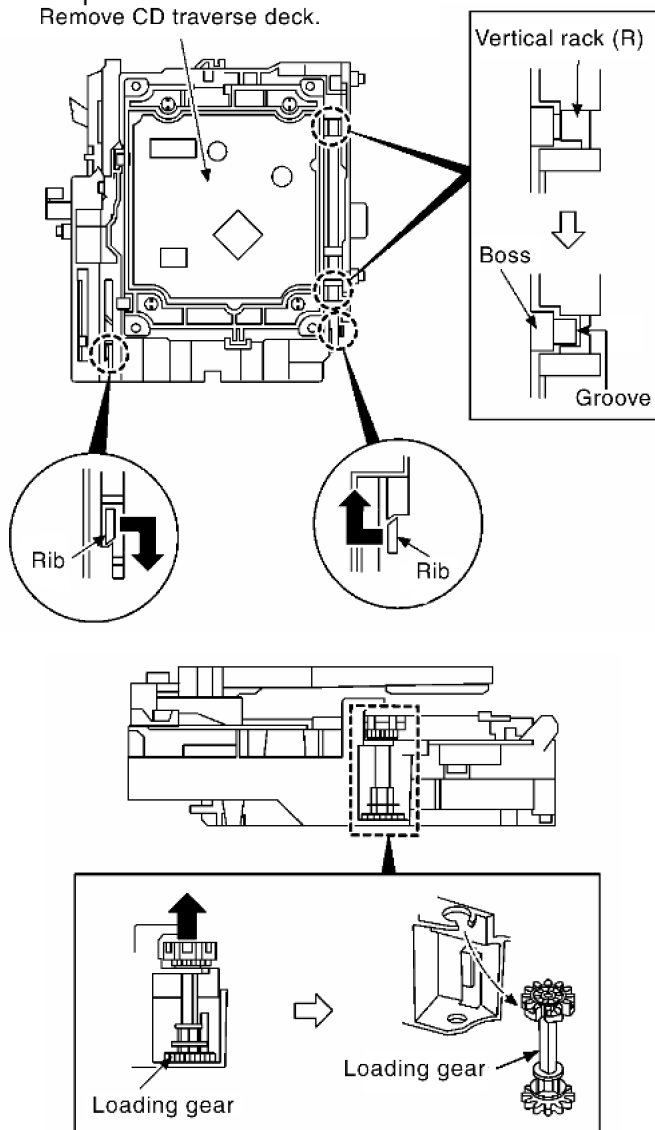
- Follow the (Step 1) - (Step 6) of Item 10.2.
- Follow the (Step 1) - (Step 3) of Item 10.3.
- Follow the (Step 1) - (Step 4) of Item 10.5.
- Follow the (Step 1) - (Step 3) of Item 10.8.
- Follow the (Step 1) - (Step 5) of Item 10.13.
- Follow the (Step 1) - (Step 2) of Item 10.20.

Step 1

Shift ribs of both side to the arrow direction.
(A vertical rack (R) slides and groove opens)

Step 2

Remove CD traverse deck.



Step 3

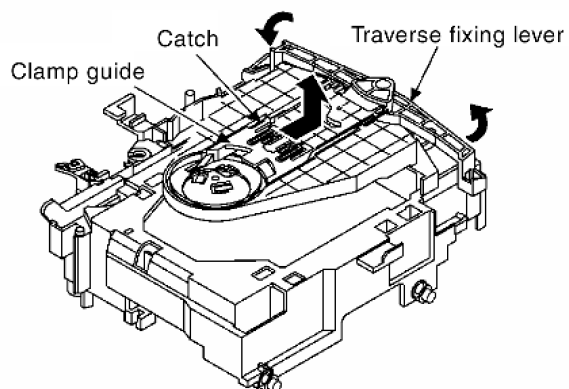
Lift a loading gear slightly and pull out.

Step 4

Fixing lever to the arrow direction, rotate a traverse.

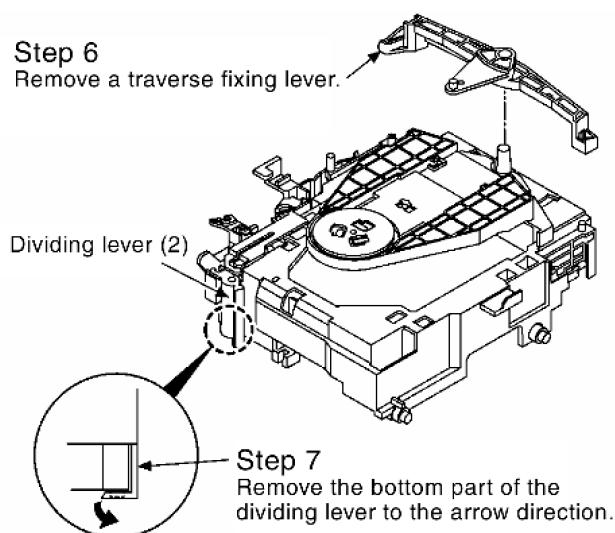
Step 5

Remove catch and take out a clamp guide.



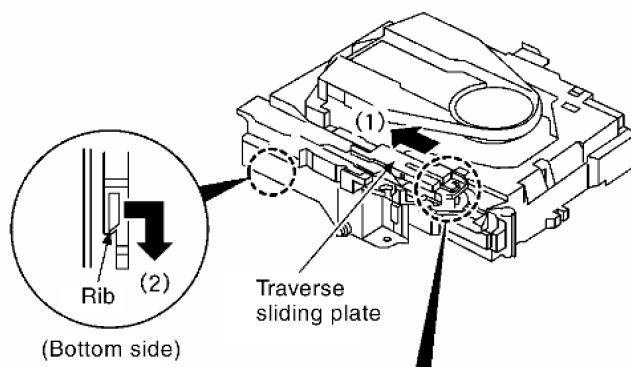
Step 6

Remove a traverse fixing lever.

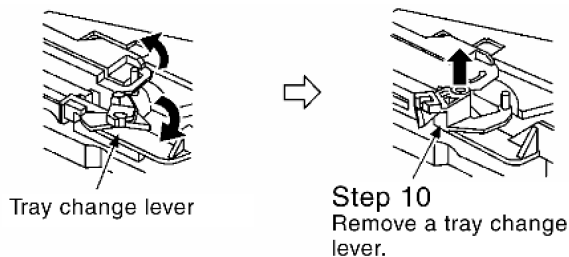


Step 8

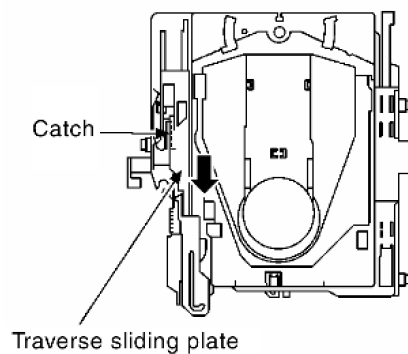
Slide a traverse sliding plate to the arrow direction (1), and shift a rib to the arrow direction (2).

**Step 9**

Shifting a traverse sliding plate slightly and rotate a tray change lever.

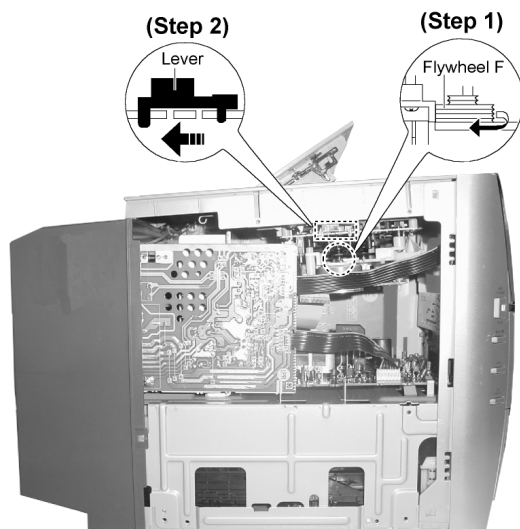
**Step 11**

Holding the catch down, slide a traverse sliding plate to the arrow direction and remove it.



10.27. Handling of cassette tape jam

· Follow the (Step 1) - (Step 6) of Item 10.2.



Step 1 : If the cassette tape cannot eject due to twinning around capstan or pinch roller during play or record, rotate the flywheel F as arrow shown to remove twined tape.

Step 2 : Push the lever as arrow shown to open the cassette lid and remove the cassette tape.

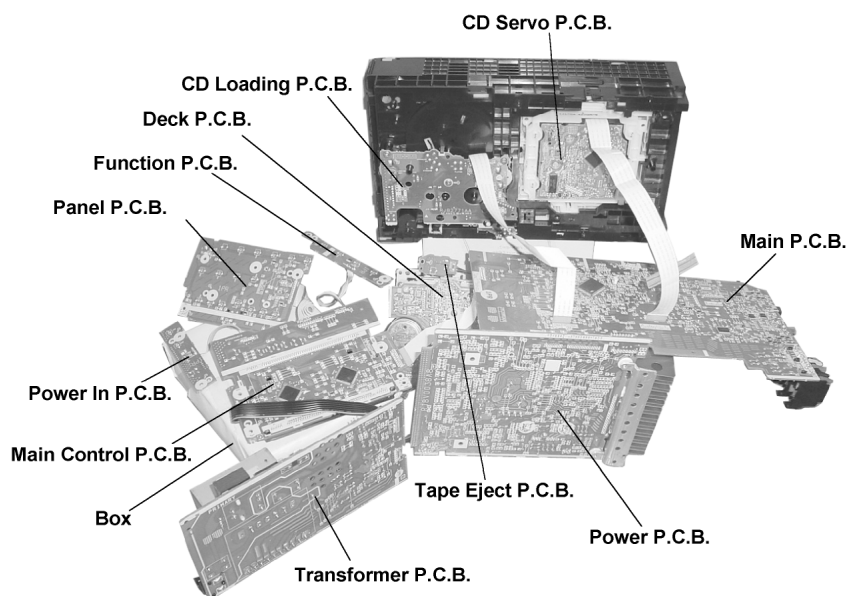
11 Service Positions

11.1. Checking procedure

Note : For the disassembling procedure, see the section 10.

11.2. Checking the major P.C.B

1. Disassembly of Side Panel L & R
2. Disassembly of Top Cabinet
3. Disassembly of Deck Mechanism P.C.B and Tape Eject P.C.B
4. Disassembly of Front Panel
5. Disassembly of Main Control P.C.B Function P.C.B, Power In P.C.B
6. Disassembly Panel P.C.B
7. Disassembly of Rear Panel
8. Disassembly of Main P.C.B
9. Disassembly of Transformer P.C.B
10. Disassembly of Power P.C.B
11. Disassembly of CR16 mechanism



12 Self-Diagnostic Display Function

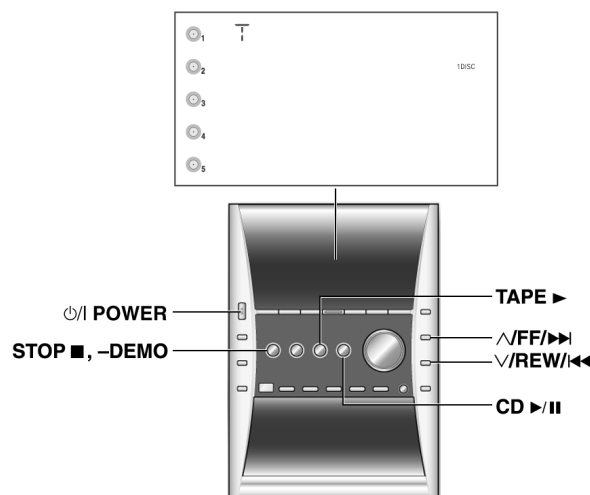
This unit is equipped with a self-diagnostic display function, which will be useful during servicing and maintenance.

· Refer to the next page for display symbols, symptoms, etc.

12.1. Entering into Self-Diagnostic Mode

12.1.1. Setting of the Self-Diagnostic Mode (Test Mode)

No.	Operation Procedure	Operation and Processing of Microcomputer
1	Switch the SELECTOR to TAPE ►. There should be NO cassettes loaded.	
2	Press the [STOP n/-DEMO] key for 2 sec and press [^ /FF/►►] for another 2 sec, it shall enter into the self-diagnostic mode.	[T] shall be displayed in the FL.



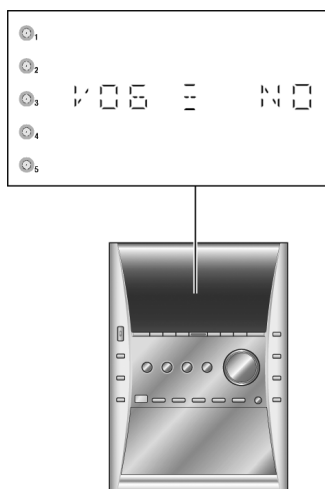
12.1.2. Setting of Self-Diagnostic (Doctor Mode)

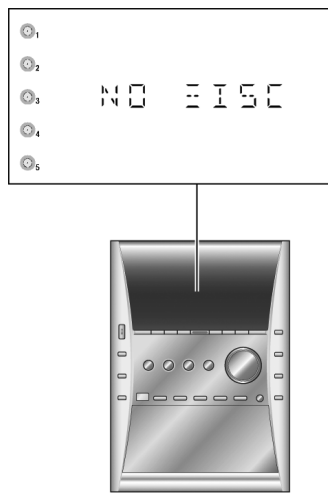
a) Turn on power for unit.

b) Select CD Mode. Ensure no disc is inserted in the unit.

c) Press and hold [STOP n/-DEMO] button for at least 2 seconds, follow by [4] and [7] on remote control. In the case where there is EEPROM, then, the display should be as below:

This display shall be there for for 1sec. After display the EEPROM information for 1sec, the display shall return to the normal Doctor Mode display.





d) Power down to exit by pressing [/ I POWER] button on the main unit.

e) The CLEAR key on the remote controller when used in any test items mode shall end the current test, operations and exit Doctor Mode.

12.1.3. Check Sum Display of EEPROM

- The check sum of EEPROM; It displays it.
- When the operation which enters the doctor mode in the doctor mode is done, version No. of EEPROM; It is (DEC display) and a check sum (HEX display).

1. Doctor mode ON.

2. pressing "C2DF"

The following are displayed

CHECKSUM [CHK-EA]

Note: Version/check sum displays ' CHK-NO ' when display when judged that there is EEPROM, and judged it not is.

- It returns to the doctor mode display of usually by the operation which enters the doctor mode of usually by the operation which enters the doctor mode again with the check sum displayed. (The display does not return by the time limitation)

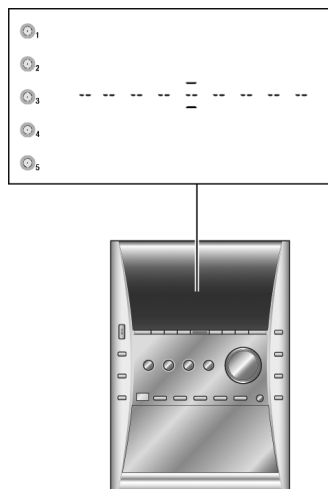
12.1.4. Cold start setting

1. Doctor mode ON.

2. Press [4] button on the remote control.

- Data shall be set in order to make a cold start (backup data are initialized) when reset starts next time.

To clarify that the code was accepted at this time, the pattern below is displayed in the LCD for 2 seconds.



(Note) In the case that you unplug from AC outlet after this mode was set, then plug to AC again, a cold start shall begin. And "-----" is displayed in the FL for 2 seconds.

12.2. Clearing Self-Diagnostic Memory

<CD Section> (F15, F17, F22, F26, F27, F28, F29)

1. Enter into self-diagnostic mode.
2. Errors are stored in the unit memory. To clear memory, press and hold down "STOP_n/-DEMO" button for 5 seconds or more during self-diagnostic mode. The message, "CLEAR" appears on the display when memory is erased, and the unit displays the message, "T".
Memory is not affected by turning off the power or unplugging the socket.
Be sure to clear memory after repair is completed.
3. Press "STOP_n/-DEMO" button. A symbol of self-diagnostic is indicated on the display if an error is found. If several errors are found, a respective indication is displayed when "STOP_n/-DEMO" button is pressing repeatedly. (e.g. H01 → CD F15 → F01)
If no error is found, only "T" indication is displayed and remains unchange even if "STOP_n/-DEMO" button is pressed.

12.3. Displaying Self-Diagnostic Results

<Cassette Deck Section> (H01, H02, H03, F01, F02)

1. Enter the self-diagnostic mode, following the instructions described in [12.1.1 Setting of the Self-Diagnostic Mode].
2. Insert a normal-positioned music tape with erase prevention niches on both Sides A and B. Press [TAPE ►] button to activate the TPS operation so that the tape automatically stops at an interval between music selections.
3. Press [STOP_n /-DEMO] and [TAPE ►] buttons together on the remote controller. (Recording does not start.)
4. Then, insert a Cr02-positioned blank cassette tape with an erase prevention niche of Side A or B set to the left side.
5. Press [▲ /FF/ ►►] button. The tape will be forwarded and automatically stop after two seconds.
6. Remove the cassette tape, and set the other side.
7. Press [▼ /REW/ ◀◀] button. The tape will be rewound and automatically stops after two seconds.
8. Press [STOP_n/-DEMO] button on the unit.

If an error is found, a self-diagnostic key appears on the display.

If several errors are found, the display shows these keys when [STOP_n/-DEMO] button is pressed repeatedly. (Ex.: H01 - H02 - F01 - H01)

If no error is found, only the message, "T" appears on the display.

(*1) TPS operation (music search) detects the blank sections between music selections. Therefore, do not use tapes with the following conditions:

- A blank section that lasts only 4 seconds or less.
- No blank sections (recording through microphones, etc.).
- Music selections that have extremely low pitches or prolonged silent sections (such as classical music).
- and/or Music recorded with fade in/out effect.

12.4. Error Code Table

12.4.1. Error code for Power Supply

Error Code	Abnormal Items	Possible Cause
F61	POWER AMP output abnormal	During normal operation, if DCDT becomes "L", normal POWER OFF process shall not be executed, PCONT shall be switched to "L" immediately. "GOODBYE" shall not be display but the error display F61 is displayed instead. 2 seconds after the F61 displayed, ECONO shall be set to "L" and FL display shall be turned off. The error content shall be memorized when the abnormality occurs and can be display in the C-mecha self-diagnostic mode described later.

12.4.2. Error codes for CD Mechanism

Error Code	Abnormal Items	Possible Cause
F15	CD REST SW abnormal	CD traverse position initial setting operation failsafe counter (1000 ms) waiting for REST SW to turn on. Error No. shall be clear by force or during coldstart.
F26	CD servo LSI command signal abnormal	CD function DTMS command, after system setting, If SENSE = 'L' cannot be detected. Memory shall contain F26 code. After Power on, CD function shall continue, error shall occur "NO DISC". Error No. shall be clear by force or coldstart.
F28	DISC LOAD abnormal	While going to play position, if failsafe counter is finished and switch no change or switch target condition was not achieve, this error shall be memorized. Next time mechanism operates, it shall do coldstart. Error No. shall be clear by force or coldstart.
F29	DISC unload abnormal	While going to play position, if failsafe counter is finished and switch no change or switch target condition was not achieve, this error shall be memorized. Next time mechanism operates, it shall do coldstart. Error No. shall be clear by force or coldstart.

Error Code	Abnormal Items	Possible Cause
F27	Slide operation abnormal	During vertical operation, if failsafe timer is finished and switch no change or switch target condition was not achieve, this error shall be memorized. Next time mechanism operates, it shall do coldstart.Error No. shall be clear by force or coldstart.
F17	Down SW abnormal	During vertical operation going to the bottom position, if failsafe timer is finished and switch no change or switch target condition was not achieve, this error shall be memorized. The Next time mechanism operates, it shall do mechanism initialization.Error No. shall be clear by force or coldstart.
F22	Loading Mode / Mecha abnormal	During mecha initialization, Loading mode mechanism abnormal, normal operation cannot be achieve. The next time mechanism operates, it shall do mechanism initialization.Error No. shall be clear by force or coldstart.

12.4.3. Error codes for Cassette Mechanism

Error Code	Abnormal Items	Possible Cause
H01	MODE SW abnormal	Normal operation during mecha transition, MODE SW abnormal is memorised. The content of abnormality can be confirmed in the abnormal detection mode explained in the later section. The content of abnormality can be confirmed in the abnormal detection mode explained in the later section.
H02	REC INH SW abnormal	
H03	HALF SW abnormal	
F01	Reel pulse abnormal	
F02	TPS abnormal	

12.5. Cassette Mechanism Self-Diagnostic Mode

1. A CrO2-positioned blank cassette tape with an erase prevention niche on either Side A or B.
2. A normal-positioned music tape with erase prevention niches on both Sides A and B. Both tapes are halfway forwarded in advance.
3. The remote controller that comes with this unit.

No.	Operation Procedures	Micon operation & processing
1	C-mecha Abnormal Detection shall be executed for DECK 1 only.	Check that all DECK mechanism leaf SW are in OFF state.
2	[▶▶] key is pressed, after loading in a NORMAL type cassette with the recording tab on the left side removed.	FF shall be executed for 2 sec, afterwhich STOP. Check the following. { F.REC INH SW } is OFF { R.REC INH SW } is ON { HALF SW } is ON Reel pulse toggles between H & L.
3	[◀◀] key is pressed, after loading a NORMAL, CrO2, METAL type cassette with the recording tab on the right side removed.	REW shall be executed for 2 sec, afterwhich STOP. Check the following. { F.REC INH SW } is ON { R.REC INH SW } is OFF { HALF SW } is ON Reel pulse toggles between H & L.
4	[TAPE ▶] Key is pressed, after loading in a NORMAL, CrO2, METAL type cassette (cassette for TPS checking purposes and with both recording tabs intact).	TPS operation is executed. Check the following. { F.REC INH SW } is ON { R.REC INH SW } is ON { HALF SW } is ON TPS signal changes. After checking TPS, it shall STOP. If TPS checking is completed at TAPE END, it is considered as TPS abnormal.
5	[REC] key is pressed, after loading in a NORMAL type cassette (with both recording tabs intact)	REC operation shall not be executed. Check the following. { F.REC INH SW } is ON { R.REC INH SW } is ON { HALF SW } is ON
6	Self-diagnostic mode is stopped by pressing the [CLEAR n] Key.	LCD shall display the abnormality item code, when the STOP key is pressed, it shall display the abnormality item code in the following sequence. [T H 0 1] [T H 0 2] [T H 0 3]
7	To clear all the abnormalities in the memory, press the [CLEAR n] Key for more than 5 Sec while the self-diagnostic mode is stopped.	At this time, all the abnormalities item in the memory is cleared and is displayed on the LCD.[C L E A R] display for 1 Sec. then,[T] is displayed.
8	To cancel the self-diagnostic mode press the [POWER] Key.	POWER is OFF.At the next POWER ON, normal operation shall be executed.

- If RAM check error occurs during microcomputer reset, COLDSTART shall be executed and all the error memory shall be cleared during RAM initialization.

12.6. Changer Reliability Test Mode

1. Doctor mode ON.
2. Press [2] button on the remote control. it enters into ageing mode.

- During this series of operation, the number of its operation shall be shown in the alphanumeric display repeatedly.
It shall start from [_ _ 00001]
- It shall move up one counter when step 1~8 of the above operations end.
It shall display [_ _ 00000] after [_ _ 99999] has been reached.
- Press POWER key, tray return to PLAY position and then POWER is OFF.

During test mode, if mecha operation encounters abnormality or time over , retry operation shall be done but aging test mode shall stop.

Ageing process:

1. Tray 1 open.
2. It waits for 1 second (Note: Do not put any disc into the tray).
3. Tray 1 close.
4. TOC READ (Reading incomplete).
5. Tray 2 open and repeat process 1 to 4. (Process repeat until Tray 5).
6. Tray check.
7. Whole process complete (Counter on FL increase by 1).

Note: To exit ageing mode, press [ / I POWER] button. The unit will power down. Do not unplug the power cord until FL display shows "GOODBYE". This is to avoid tray jam problem.

Display Example:	[00000T3OP]	...TRAY OPEN
	[00000T3CL]	...TRAY CLOSE
	[00000T3RE]	...TOC READING
	[00000T3CH]	...TRAY CHANGING

12.7. Changer Operation Checking

1. Doctor mode ON.
2. press [DISC] key to ON

Current disc setting shall be tray 1

- a. tray 1 load, tray 2 open then close
 - b. tray 1 load, tray 3 open then close
 - c. tray 1 load, tray 4 open then close
 - d. tray 1 load, tray 5 open then close
 - e. tray 1 load, while playing CD check mode 4 disc then close
 - f. tray 1 stop unload
 - g. CD check mode and then close
 - h. tray 1 load
 - i. after the above process, [CHNGR_OK] shall be displayed
- During this series of operation, the number of its operation shall be shown in the alphanumeric display repeatedly.
It shall start from [_ _ 00001]
 - It shall move up one counter when step 1~8 of the above operations end.
It shall display [_ _ 00000] after [_ _ 99999] has been reached.
 - Press POWER key, tray return to PLAY position and then POWER is OFF.

During test mode, if mecha operation encounters abnormality or time over , retry operation shall be done but aging test mode shall stop

12.8. CR16 Mechanism Ageing Mode

To enter into ageing mode:

1. Enter a Doctor mode.
2. Press [2] button on the remote control. It enters into ageing mode.

Ageing process:

1. Tray 1 open.
2. It waits for 1 second (Note: Do not put any disc into the tray).
3. Tray 1 close.

4. TOC READ (Reading incomplete).
5. Tray 2 open and repeat process 1 to 4. (Process repeat until Tray 5).
6. Tray check.
7. Whole process complete (Counter on FL increase by 1).

Note: To exit ageing mode, press [ / I POWER] button. The unit will power down. Do not unplug the power cord until FL display shows "GOODBYE". This is to avoid tray jam problem.

Display Example:

[00000T3OP]

...TRAY OPEN

[00000T3CL]

...TRAY CLOSE

[00000T3RE]

...TOC READING

[00000T3CH]

...TRAY CHANGING

13 Procedure for Checking Operation of Individual Parts of Cassette Mechanism Unit

13.1. Operation Check with Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Fig. 6)
2. Supply DC5V to MOTOR. (→ MOTOR rotates.) (Fig. 5)
3. Insert a cassette tape to the unit.
4. Supply DC9V to the plunger, and turn the power ON and OFF. (→ Power +PL, -PL) (Fig. 5)
 - a. FWD PLAY: Supply the plunger power in a flash. (ON: approx. 5msec)
 - b. FWD FF: Supply the plunger power in a flash at PLAY mode. (ON: approx. 5msec)
 - c. STOP: Supply the plunger power in a flash at FWD FF mode. (ON: approx. 5msec)
 - d. REV PLAY: Supply the plunger power in a normal timing at STOP mode. (ON: approx. 200msec)
 - e. REV REW: Supply the plunger power in a flash at REV PLAY mode. (ON: approx. 50msec)
 - f. STOP: Supply the plunger power in a flash at FF mode. (ON: approx. 50msec)

Repeat the operation (→ FWD PLAY)

(Note) Other operation may start if a timing of supplying the plunger power is missed.

13.1.1. Connection Status between Mechanism and Power Supply (Motor, Plunger)

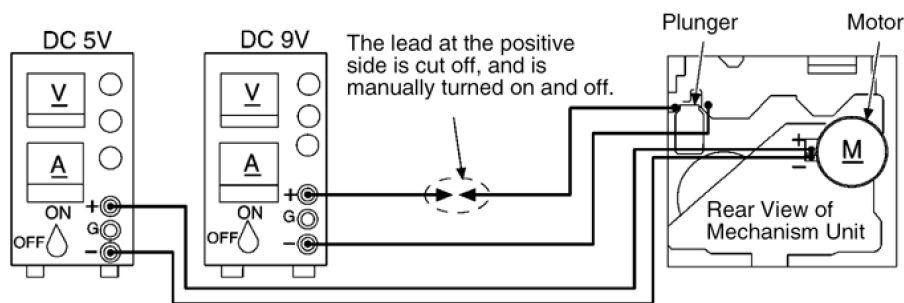


Fig. 5

13.1.2. Operative Parts of Mechanism Unit (EJECT lever fitted with rubber band, Plunger/Rib operation)

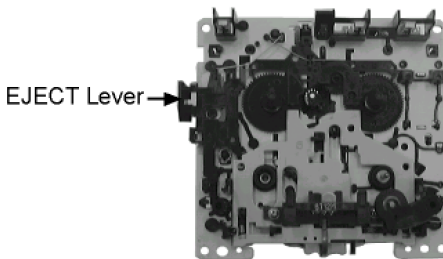


Fig. 6

13.2. Operation Check without Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Fig. 6)
2. Supply DC5V to MOTOR. (→ MOTOR rotates.)
3. Lift up the mechanism unit's plunger/rib with the tip of a negative screwdriver, and operate the unit in the same timing as supplying the power. (Fig. 7)

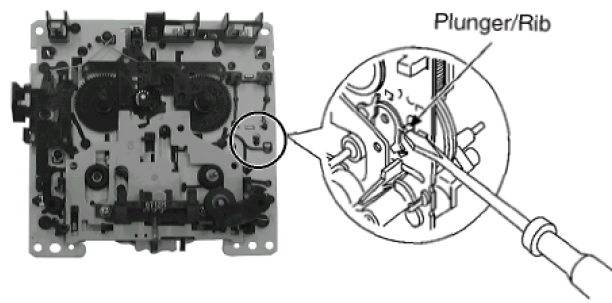


Fig. 7

14 Measurement And Adjustments

14.1. Cassette Deck Section

14.1.1. Requirements

- Test tape (QZZCFM) (QZZCWAT)
- Normal blank cassette tape (QZZCRA)
- Digital frequency counter
- Oscilloscope
- Electrical voltmeter
- Headphone jack output jig (Fig. 8)

14.1.2. Setting of Unit

- VOLUME: MAX

14.1.3. Preparations

1. Apply under [10. Assembling and Disassembling].
2. Remove 4 screws from the mechanism unit to disassemble . under [10. Assembling and Disassembling].
3. Connect the headphone jack output jig (Fig. 8) to headphone jack.

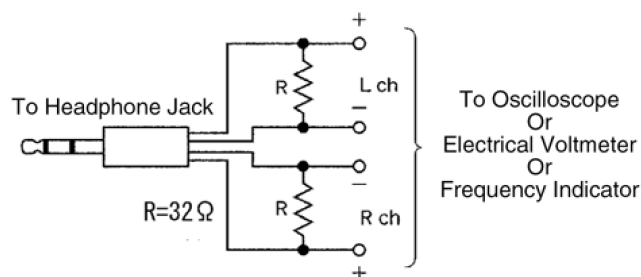


Fig. 8

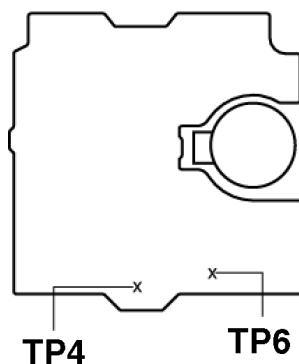


Fig. 9

14.1.4. Tape Speed Adjustment

- Normal speed adjustment (only during forward playback)
- (Product reference value: 3,000±90Hz)

1. Connect a frequency indicator. (Fig. 12)
 2. Playback the middle portion of the test tape (QZZCWAT).
 3. Adjust the motor screw so that the following output level is produced. (Fig. 10)
- Adjustment Range: 3,000 ± 90Hz (a constant speed)

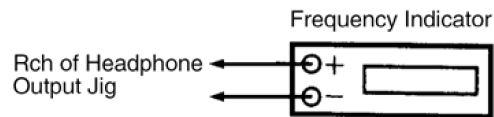


Fig. 10

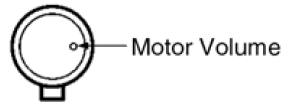


Fig. 11

14.1.5. Bias Voltage Check

1. Connect an electrical voltmeter. (Fig. 9) (Fig. 12)
2. Set the function to "TAPE" position.
3. Insert a normal blank cassette tape (QZZCRA).
4. While pressing and holding down [REC (●/||)] button, press [TAPE (▶)] button to pause the recording mode. (Repeat pressing the buttons till the recording pause mode is activated.)
5. Check that the output level is within the standard range.

Standard Range: $13.5 \pm 4\text{mV}$

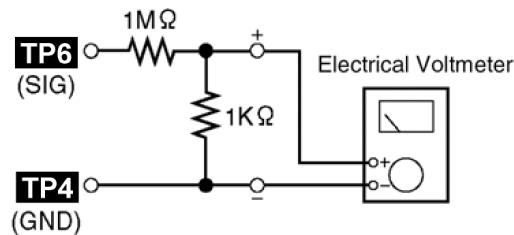


Fig. 12

14.1.6. Bias Frequency Check

1. Connect a digital frequency counter (Fig. 13).
2. Set the function to "TAPE" position.
3. Insert a normal blank cassette tape (QZZCRA) and press "REC" mode on main unit.
4. Check that the output frequency is within the standard range.

Standard Value: $98 \pm 8\text{ kHz}$

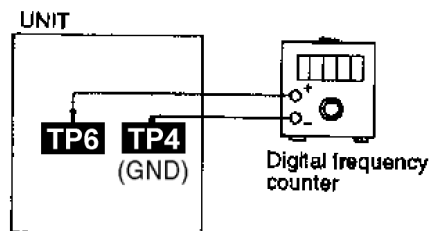


Fig. 13

15 Voltage Measurement

Note:

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.

Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

15.1. CD Servo P.C.B. (REPV0039A)

CD SERVO P.C.B.																				
Ref No.	IC702																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.9	0.5	1.6	3.3	1.8	0.5	1.9	0.5	0.5	0.5	1.9	0.5	2.1	0.5	3.3	2.0	1.7	0.5	1.9	1.9
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC702																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	1.6	1.9	1.9	1.9	1.9	1.9	1.9	0.7	2.4	2.3	2.2	2.0	2.0	2.0	2.0	2.0	3.3	0.5	1.1	2.4
STANDBY	0	0	0	0	0	0	0	0	-0.3	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC702																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	1.8	1.6	0.5	1.9	1.9	1.3	1.9	1.9	3.3	1.5	0	1.3	3.0	1.5	0.5	3.3	2.0	3.3	0.5	3.3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC702																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0.5	0.5	3.0	1.0	3.3	2.6	0.5	3.3	0.5	1.8	1.8	3.3	0.8	0.5	0.5	0.5	0.5	0.5	3.2	3.2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC 703																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.9	0.5	1.9	0.5	0	0	0	0	0	7.6	4.3	3.6	3.8	3.6	3.1	4.0	3.6	3.5	7.7	0
STANDBY	0	0	0	0	0	0	0	0	0	0.3	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.3	0
Ref No.	IC 703																			
MODE	21	22	23	24	25	26	27	28												
CD PLAY	7.7	0	0	0	7.7	1.9	1.9	1.9												
STANDBY	0.3	0	0	0	0.3	0	0	0												

15.2. Main P.C.B. (REPV0062A)

MAIN P.C.B.																				
Ref No.	IC300																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	0	0	0	8.9	4.5	4.5	4.5	4.5	4.5
STANDBY	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0.3	0	0	0	0	0
Ref No.	IC300																			
MODE	21	22	23	24																
CD PLAY	4.5	4.5	4.5	0.8																
STANDBY	0	0.2	0.2	0.2																
Ref No.	IC301																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	4.8	4.8	0	0	0	3.0	0	0												
STANDBY	5	5	0	0	0	3.1	0	0												
Ref No.	IC302																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.8	4.8	4.8	4.8	4.8	0	4.8	0	0	0.8	0.7	4.8	2.3	0	2.3	4.9	4.9	4.8	4.8	3.3
STANDBY	5.0	0	0	0	0.1	0	5.0	0	0	1.0	0.7	5.0	2.5	0	2.3	5.1	5.1	4.9	5.0	3.5
Ref No.	IC302																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	0	4.4	4.1	4.8	0	4.9	4.9	4.9	0	0	0	0	4.8	0	4.8	4.8	4.8	0
STANDBY	5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.0	0	0	0	4.9
Ref No.	IC302																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	4.8	4.8	0	0	0	4.9	0	4.9	0	0	4.9	0.2	4.9	4.9	4.9	4.9	4.9	0	4.8
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC302																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0.5	4.9	1.9	0	4.8	0	0	0	0	0	0	0	0	0	0	0	4.8	4.8	0	4.8
STANDBY	0	5.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.1	0
Ref No.	IC302																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	4.8	0	0	0	0	0	0	4.9	4.9	0.4	4.9	4.9	4.9	3.4	0	1.9	4.9	4.9	4.9
STANDBY	0	0	0	0	0	0	0	0	0	0	0.4	5.0	5.0	5.0	5.0	0	2.2	5.0	5.0	5.0
Ref No.	IC303																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	4.9	0	0	1.9	0	0	0												
STANDBY	0	5.0	0	0	0	0	0	0												
Ref No.	IC305																			
MODE	1	2	3	4	5															
CD PLAY	4.8	0	4.8	0	3.3															
STANDBY	0.5	0	0	0	0															
Ref No.	IC903																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	4.5	4.5	4.5	0	4.5	4.5	4.5	9.0												
STANDBY	0.1	0.1	0.1	0	0.1	0.1	0.1	0.3												
Ref No.	IC906																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	4.5	4.5	4.5	0	4.5	4.5	4.5	9.0												
STANDBY	0.3	0.3	0.1	0	0.1	0.1	0.1	0.3												
Ref No.	IC905																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	4.5	4.5	4.5	0	4.5	4.5	4.5	9.0												
STANDBY	0.3	0.3	0.1	0	0.1	0.3	0.3	0.3												

MAIN P.C.B.												
Ref No.	Q200				Q201				Q222			
MODE	E	C	B		E	C	B		E	C	B	
CD PLAY	4.1	3.9	0		9.4	11.2	10.1		0	0	0.8	
STANDBY	0	-2.6	0		0	0.5	0.5		0	0	-2.6	
Ref No.	Q301				Q302				Q303			
MODE	E	C	B		E	C	B		1	2	3	
CD PLAY	5.0	4.9	4.2		0	0	4.8		5.0	4.9	4.3	
STANDBY	5.1	0	5.0		0	5.0	0		5.1	5.0	4.3	
Ref No.	Q306				Q307				Q308			
MODE	E	C	B		E	C	B		E	C	B	
CD PLAY	0	4.9	0		0	0	0.7		0	2.4	0	
STANDBY	0	5.0	0		0	0	0.7		0	3.1	0	
Ref No.	Q390				Q400				Q422			
MODE	E	C	B		E	C	B		E	C	B	
CD PLAY	0	4.9	0		4.4	4.3	0		0	0	0.8	
STANDBY	0	5.0	0		0	-1.7	0		0	0	-2.6	
Ref No.	Q902				Q903				Q908			
MODE	E	C	B		E	C	B		E	C	B	
CD PLAY	0	-2.6	0		3.2	1.4	2.0		0	0	0.7	
STANDBY	0	-2.7	0		0	-2.7	0		0	0	-1.7	

15.3. Main Control P.C.B. (REPV0062A)

MAIN CONTROL P.C.B.																				
Ref No.	IC601																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	-29.3	-29.3	-29.3	-29.3	4.9	3.8	3.8	1.6	0.3	0	4.8	2.2	2.6	0	-31.4	-31.4	-31.4	-31.4	-31.4	-31.4
STANDBY	-31.1	0	-31.1	-30.6	0	0	0	0	0.1	0.2	0.5	0.3	0.1	0	-30.5	-30.6	-30.4	-30.4	-30.4	-30.4
Ref No.	IC601																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-31.4	-31.4	-21.2	-31.6	-29.3	-25.3	-29.4	-19.2	-23.3	-27.3	-25.3	-19.3	-25.3	-31.4	-27.3	-31.4	-25.2	-21.2	-31.4	-27.3
STANDBY	-30.4	-30.4	-30.4	-30.4	-30.4	-30.4	-30.4	-30.4	-30.4	-30.4	-30.4	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8
Ref No.	IC601																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	-29.3	-25.3	-21.2	-27.3	-25.3	-23.2	-21.2	-31.4	-27.3	-27.3	-21.2	4.8	-29.4	-29.4	-29.4	-29.4	-29.4	-29.4	-29.4	-29.4
STANDBY	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	0.5	-29.9	-29.9	-29.9	-29.9	-29.9	-29.9	-29.9	-29.9
Ref No.	IC601																			
MODE	61	62	63	64																
CD PLAY	-29.4	-29.4	-29.4	-29.4																
STANDBY	-29.9	-29.9	-29.9	-29.9																
Ref No.	IC602																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	-29.3	-29.3	-29.3	-29.3	4.9	3.8	3.8	1.6	0.3	2.6	4.8	2.1	2.1	0	-31.4	-31.4	-31.4	-31.4	-31.4	-31.4
STANDBY	-30.0	0	-30.0	-30.0	0	0	0	0	0.1	0.2	0.5	0.2	0.1	0	-30.0	-30.0	-30.0	-30.0	-30.0	-30.0
Ref No.	IC602																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-31.4	-31.4	-21.2	-31.6	-29.3	-25.3	-29.4	-19.2	-23.3	-27.3	-25.3	-19.3	-25.3	-31.4	-27.3	-31.4	-25.2	-21.2	-31.4	-27.3
STANDBY	-30.0	-30.0	-30.0	-30.0	-30.0	-30.0	-30.0	-30.0	-30.0	-30.0	-30.0	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8
Ref No.	IC602																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	-29.3	-25.3	-21.2	-27.3	-25.3	-23.2	-21.2	-31.4	-27.3	-27.3	-21.2	4.8	-29.4	-29.4	-29.4	-29.4	-29.4	-29.4	-29.4	-29.4
STANDBY	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	-29.8	0.5	-29.9	-29.9	-29.9	-29.9	-29.9	-29.9	-29.9	-29.9
Ref No.	IC602																			
MODE	61	62	63	64																
CD PLAY	-29.4	-29.4	-29.4	-29.4																
STANDBY	-29.9	-29.9	-29.9	-29.9																

15.4. Deck P.C.B. (REPV0016B)

DECK P.C.B																				
Ref No.	IC 1000																			
MODE	1	2	3	4	5															
CD PLAY	5.9	0	0	0	0															
STANDBY	0.2	0	0	0	0															
Ref No.	IC 1001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0.7	5.0	4.2	0	4.9	0	0.1	0.1	5.9	0	8.7	0	0	0.1	0	3.6	0.2	4.2	5.0
STANDBY	0	0.2	0.2	0.1	0	0	0	0.1	0	0.3	0	0.3	0	0	0.1	0	0	0	0.2	0.2
Ref No.	IC 1001																			
MODE	21	22																		
CD PLAY	0.7	0.1																		
STANDBY	0.2	0																		

DECK P.C.B																				
Ref No.	Q1101				Q1201				Q1302				Q1303				Q1304			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0.7		0	0	0.7		1.5	1.3	0		0	5.9	0		5.9	0.1	5.9	
STANDBY	0	0	0		0	0	0		0	0	0		0	0.2	0		0	0	0	
Ref No.	Q1309				Q1310				Q1312				Q1314				Q1315			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	8.7	0.1		0	8.7	0.1		0	0.1	0		9.8	-2.0	9.8		9.8	0	9.8	
STANDBY	0	0	0		0	0	0		0	0	0		0.4	-2.0	0.4		0.4	0	0.4	
Ref No.	Q1316				Q1317															
MODE	E	C	B		E	C	B													
CD PLAY	0	9.1	-2.3		0	0	0.1													
STANDBY	0	0	-1.3		0	0	0													

15.5. Deck Mechanism P.C.B. (REPX0321H)

DECK MECHANISM P.C.B.																				
Ref No.	IC 971																			
MODE	1	2	3	4																
CD PLAY	4.5	0	-0.1	0																
STANDBY	0	0	0	0																

15.6. CD Loading P.C.B. (REP3569A)

CD LOADING P.C.B																				
Ref No.	IC 11																			
MODE	1	2	3	4	5	6	7	8	9											
CD PLAY	7.6	0	0	0	7.6	7.6	4.8	0	4.8											
STANDBY	0.3	0.2	0	0.2	0.3	0.3	0	0	0											
Ref No.	IC 21																			
MODE	1	2	3	4	5	6	7	8	9											
CD PLAY	7.6	0	0	0	7.6	7.6	4.8	0	4.8											
STANDBY	0.3	0.2	0	0.2	0.3	0.3	0	0	0											

15.7. Power P.C.B. (REPV0038F)

POWER P.C.B.																				
Ref No.	IC 500																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
CD PLAY	-30.9	31.2	0	31.2	-31.0	0	0	0.6	0	-14.8	0	0	0	0	0	0	31.2	-31.0		
STANDBY	0	28.2	0	28.2	0	0	0	0	0	0	0	0	0	0	0	0	28.2	0		
Ref No.	IC 501																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-8.6	0	0	0	9.0												
STANDBY	0	0	0	0.4	0	0	0	0.3												

POWER P.C.B.																				
Ref No.	Q501				Q502				Q505				Q506				Q508			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	9.0	12.5	9.6		12.6	9.8	12.0		0	-9.2	-0.6		-8.7	-29.9	-9.2		9.1	12.0	9.7	
STANDBY	0.3	0.4	0.4		0.4	0.4	0.4		0	0	0.3		0.4	0	0		0	0.4	0.4	
Ref No.	Q509				Q514				Q515				Q516				Q517			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	12.0	12.8	12.5		11.2	12.8	11.8		0.1	4.9	0		0	4.9	0.1		4.9	7.8	5.5	
STANDBY	0.5	0.5	0.5		0.5	0.3	0.3		0.1	0.7	0		0	0.7	0.2		0.5	0.3	0.4	
Ref No.	Q519				Q520				Q700				Q701				Q702			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	3.5	-0.5		7.8	9.8	8.4		0	0	0.2		9.8	0	9.8		0	9.8	0	
STANDBY	0	0	0.7		0.3	0.4	0.4		0	0.7	0		0.4	0	0.4		0	0.3	0	
Ref No.	Q703				Q704				Q710				Q711				Q714			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	4.9	0		0	-5.8	0		0	0	-5.8		0	0	-5.8		-1.4	9.0	-0.8	
STANDBY	0	0.7	0		1.4	1.2	0		0	0	0.7		0	0	0.7		0.4	0.3	0	
Ref No.	Q715				Q716				Q717				Q718				Q719			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-1.4	9.0	-0.8		-0.7	9.0	-0.1		-0.7	9.0	-0.1		0	0	-5.8		0	0	-5.8	
STANDBY	0.4	0.3	0		0.4	0.3	0		0.4	0.3	0		0	0	0.6		0	0	0.6	
Ref No.	Q720				Q721				Q725				Q726							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
CD PLAY	0	0	0		0	0	0		0	0	-5.8		0	0	-5.8					
STANDBY	0	0	0		0	0	0		0	0	0.6		0	0	0.6					

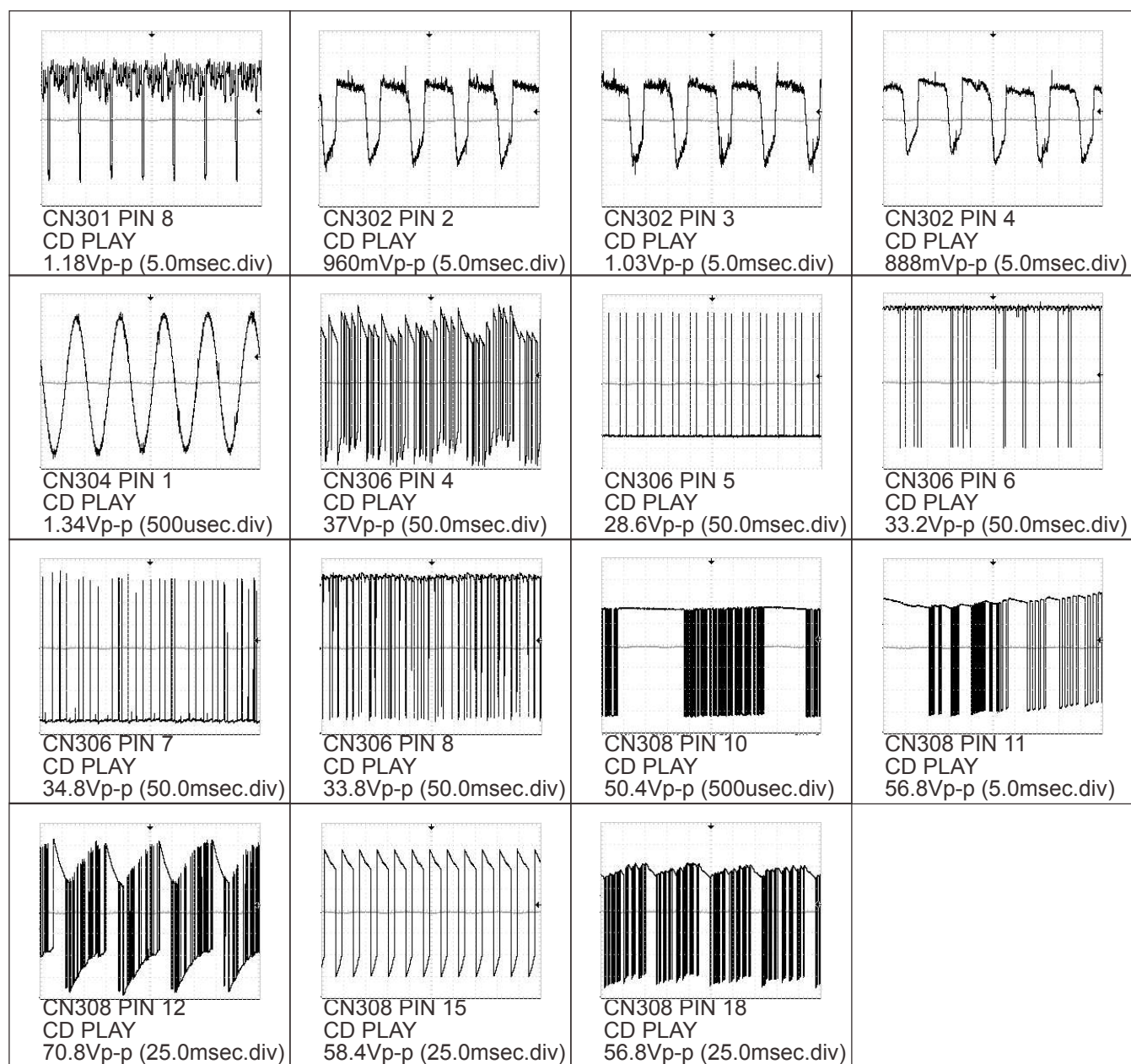
15.8. Panel P.C.B. (REPV0062A)

PANEL P.C.B.																				
Ref No.	Q600				Q602				Q603				Q604							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
CD PLAY	0	0	4.7		0	7.5	0		0	0.1	4.8		-29.2	4.8	-29.4					
STANDBY	0	1.5	0		0	1.5	0		0	1.3	0		-30.9	0.3	-30.9					

15.9. Transformer P.C.B. (REPV0038F)

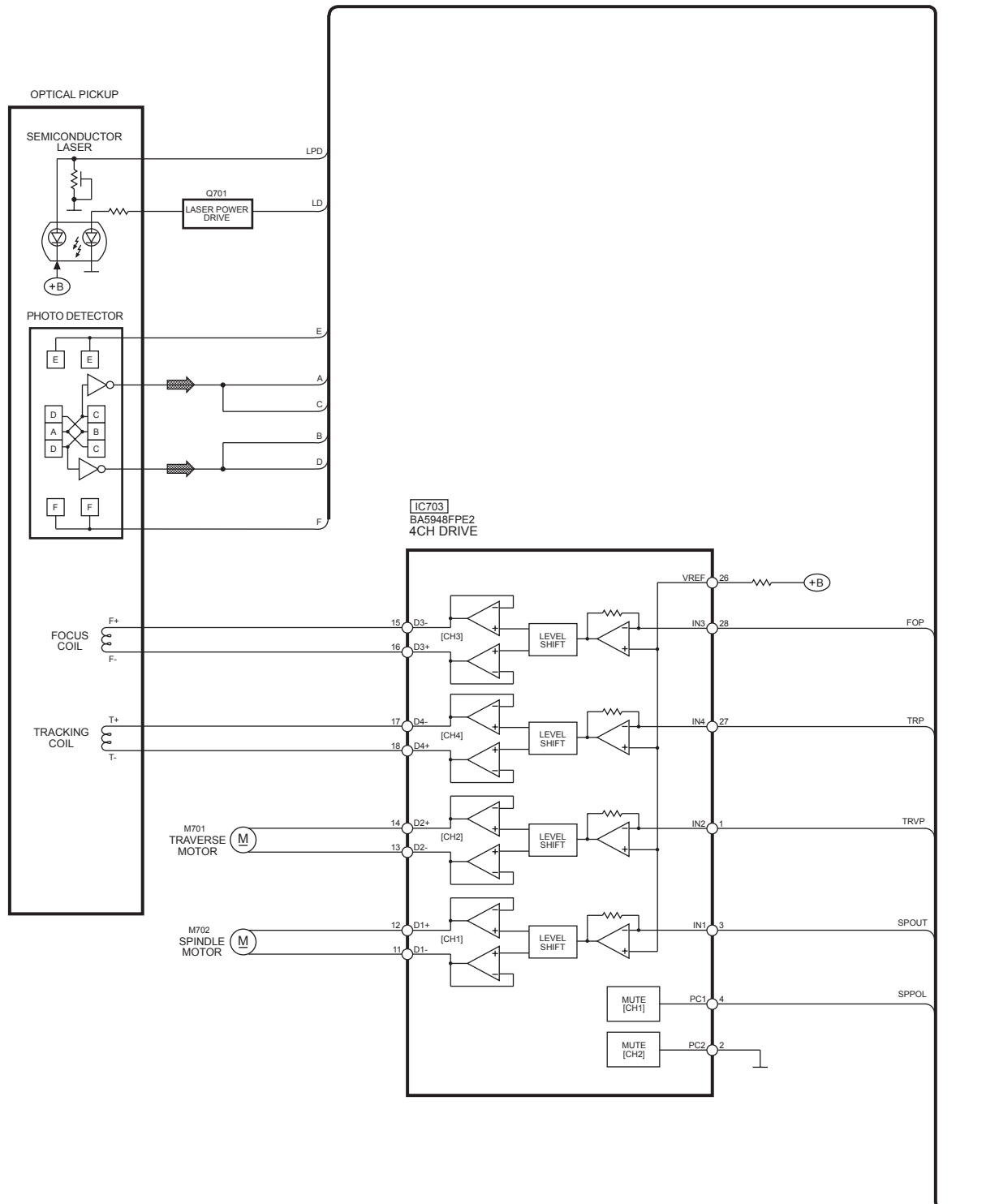
TRANSFORMER P.C.B.																				
Ref No.	Q575				Q577				Q578				Q579							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
CD PLAY	0	0	0.7		5.8	7.2	6.5		0	3.3	-0.2		-31.7	-40.9	-32.3					
STANDBY	0	5.9	0		5.9	6.8	6.6		0	3.4	-0.2		-31.2	-31.2	-31.1					

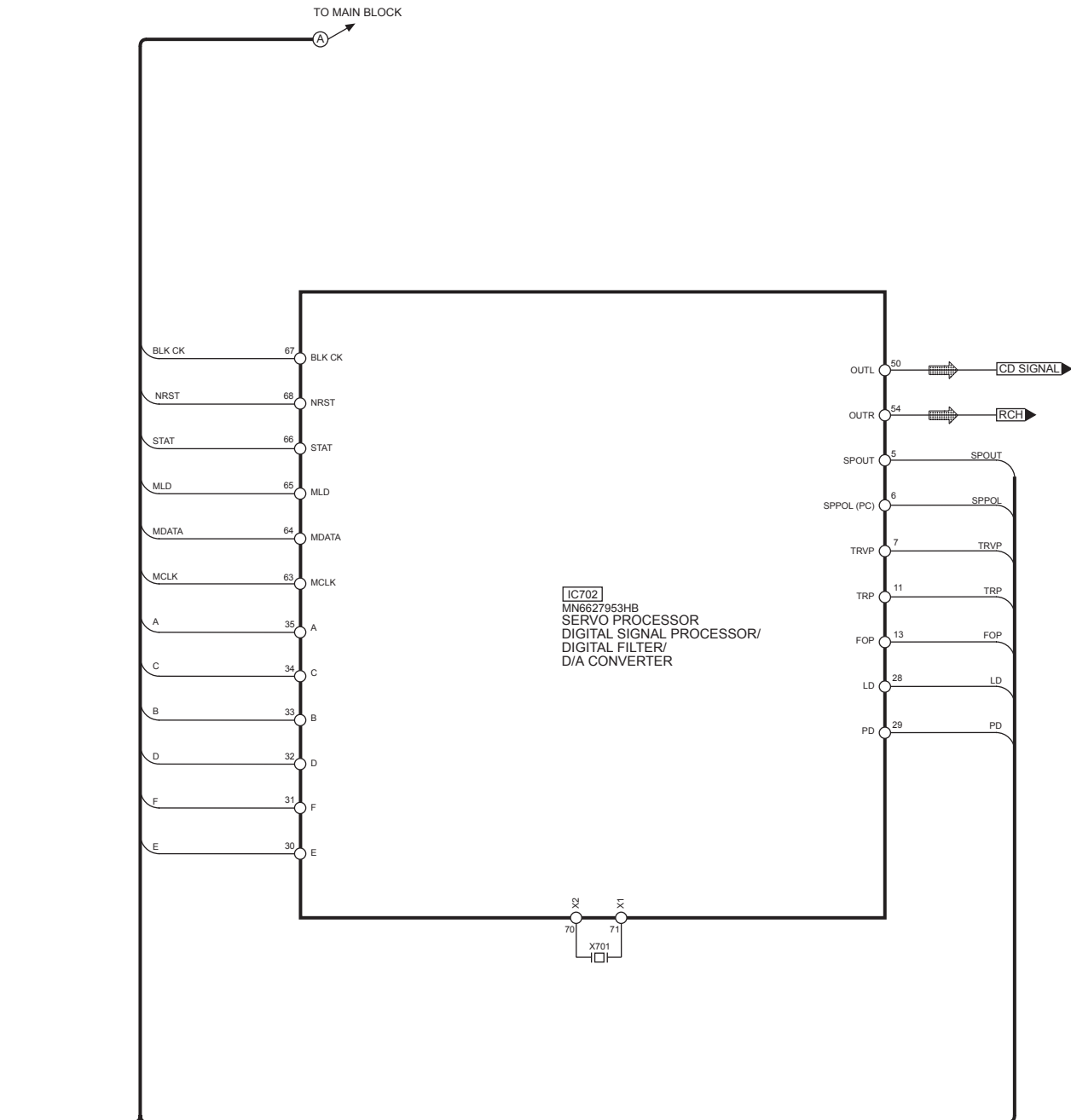
16 Waveform Chart



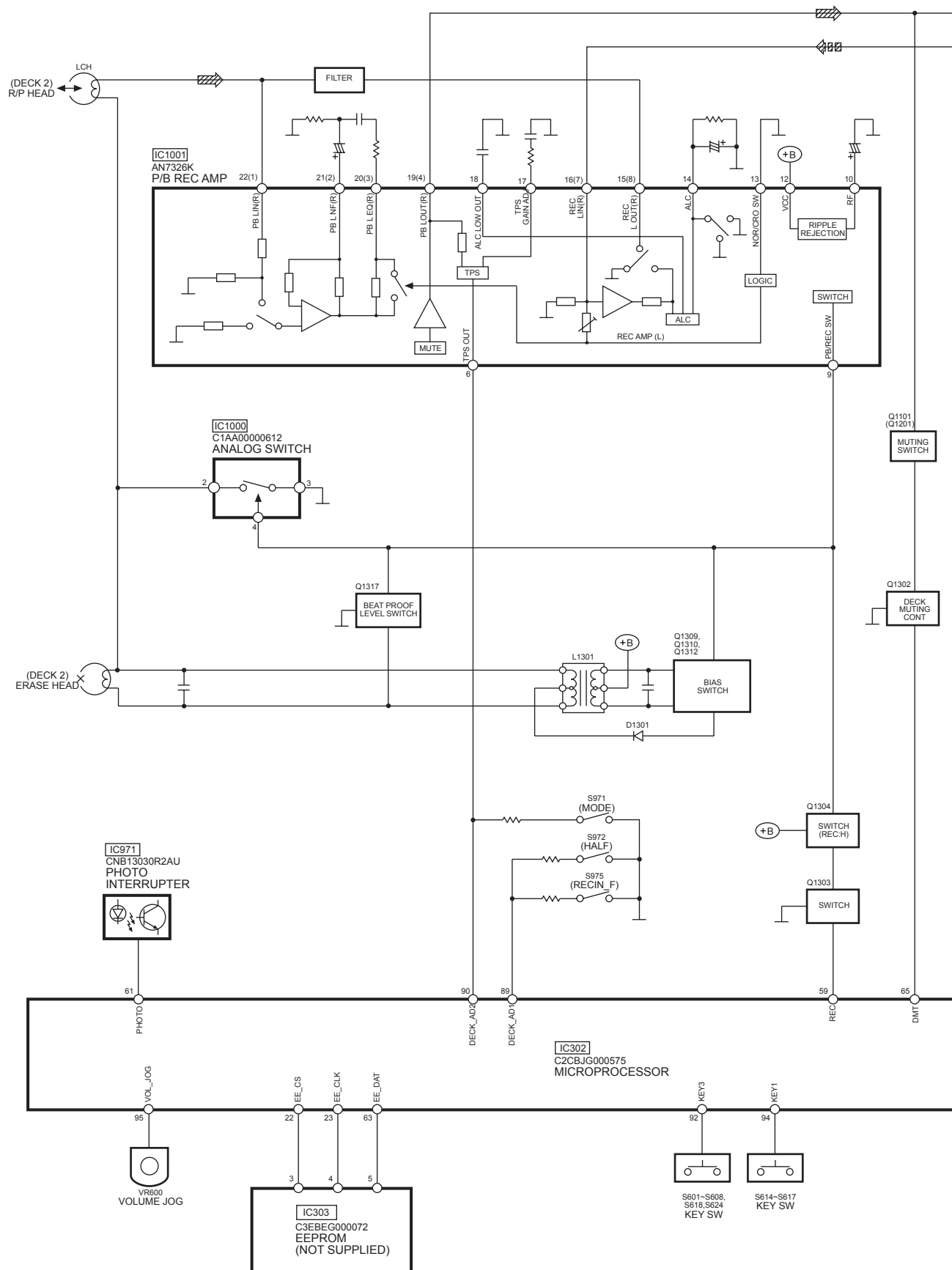
17 Block Diagram

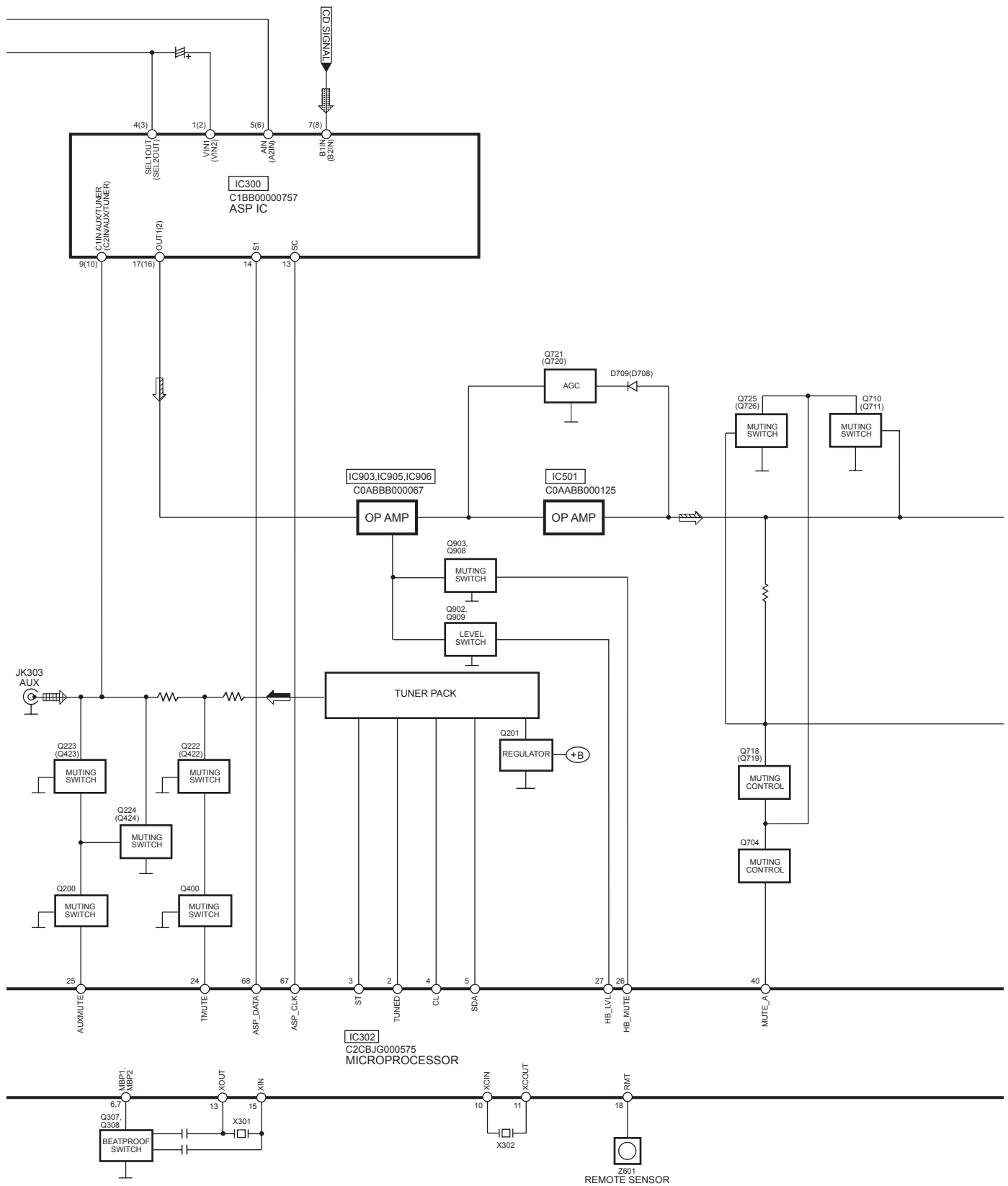
17.1. CD SERVO Block

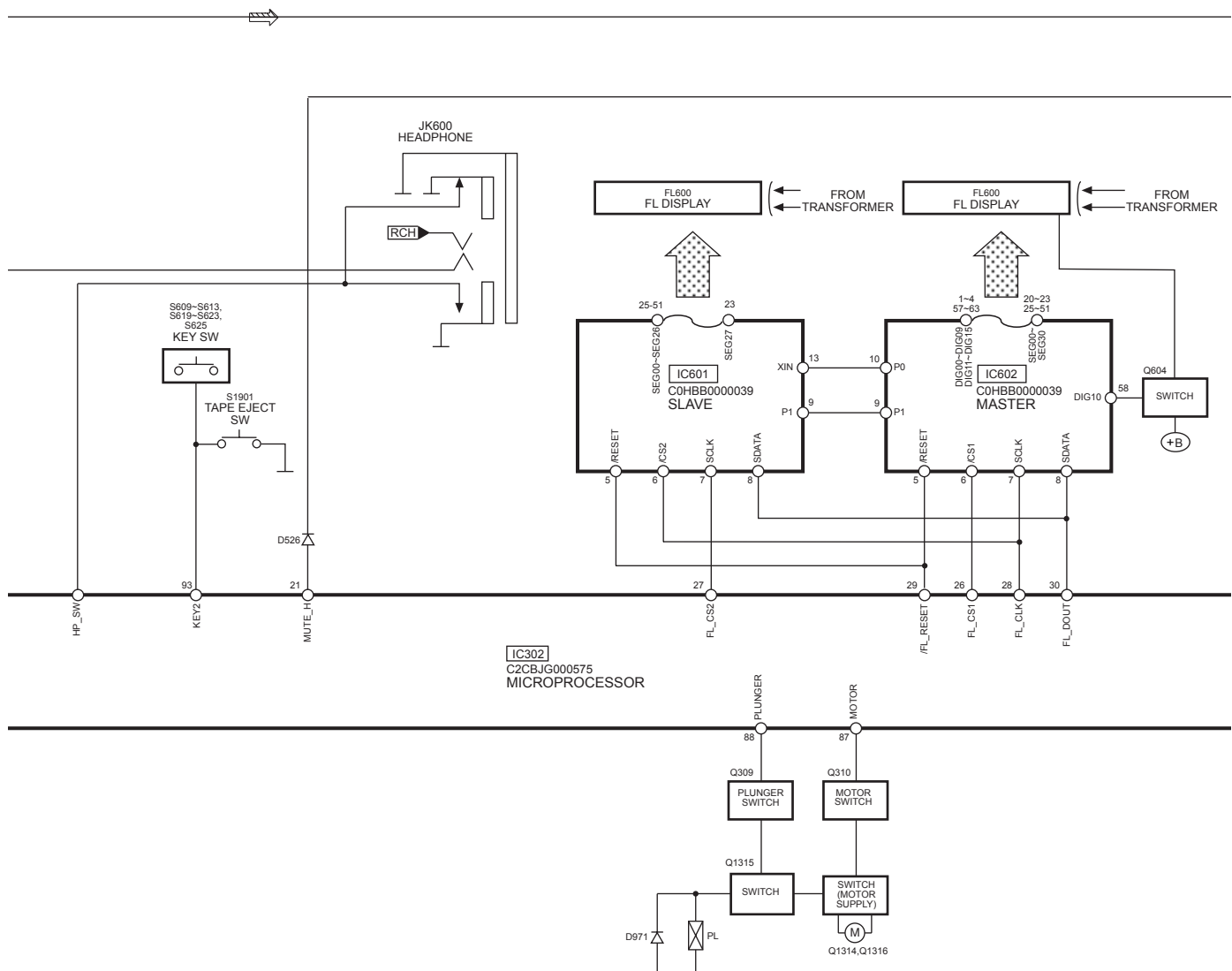


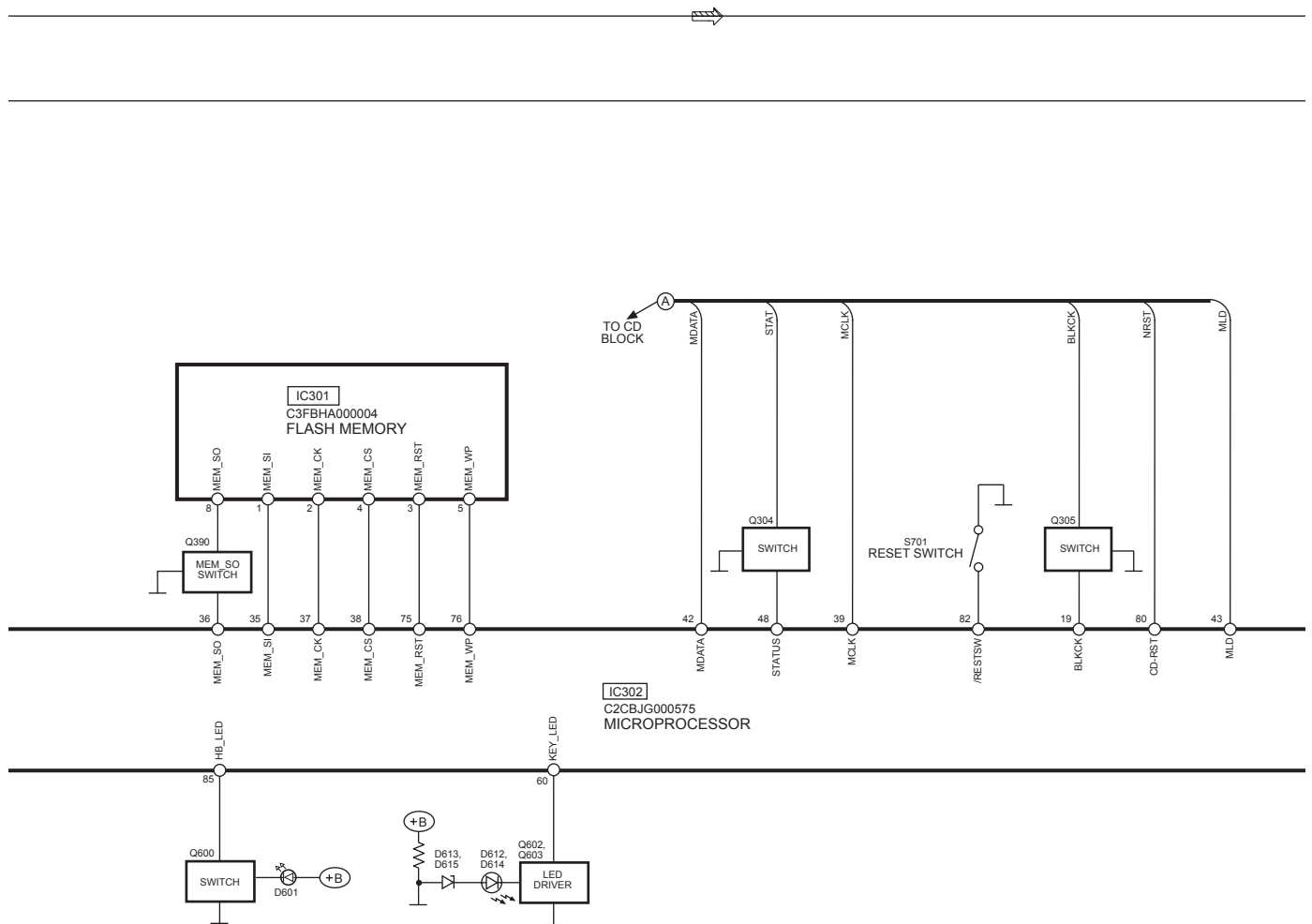


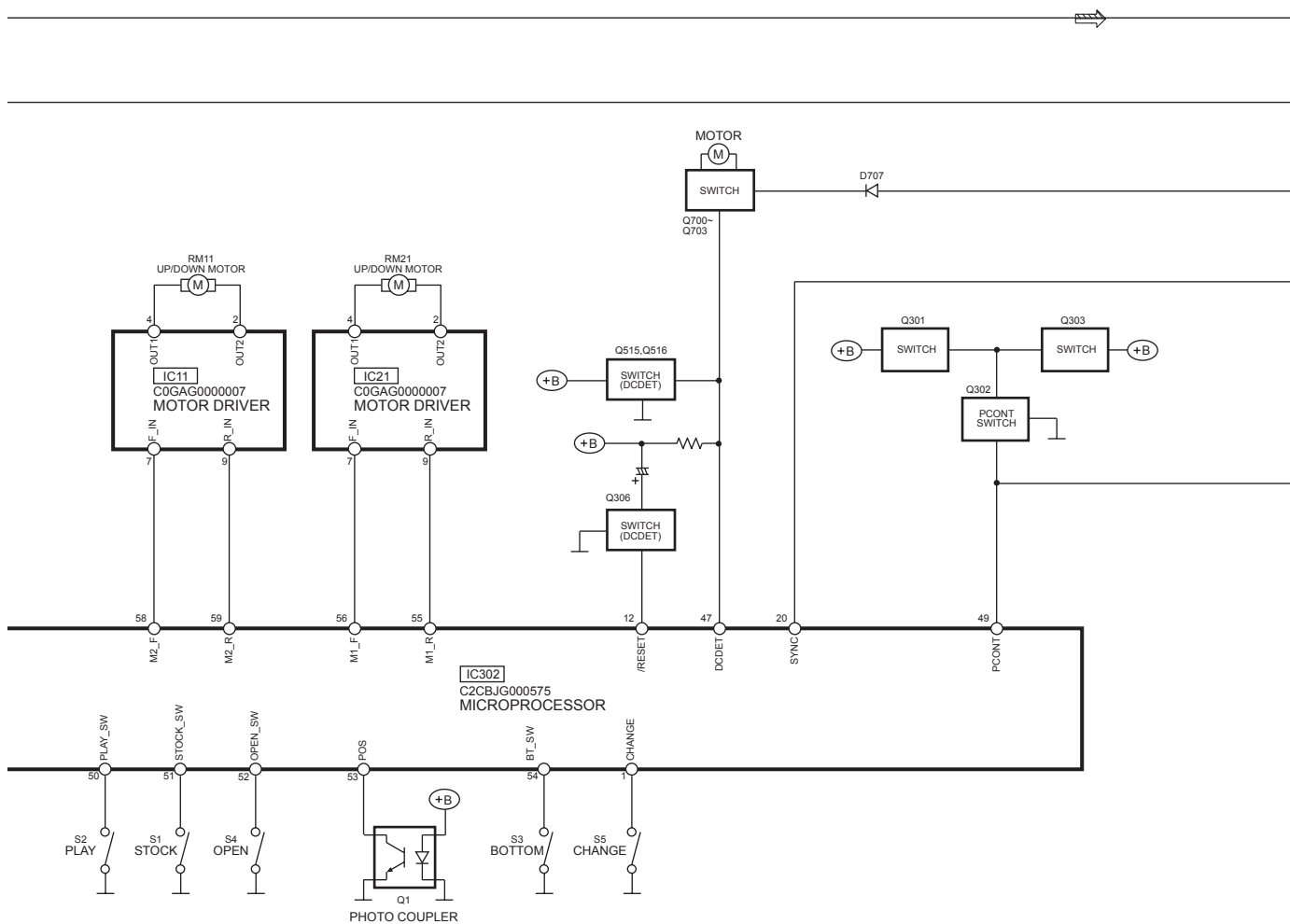
17.2. MAIN Block



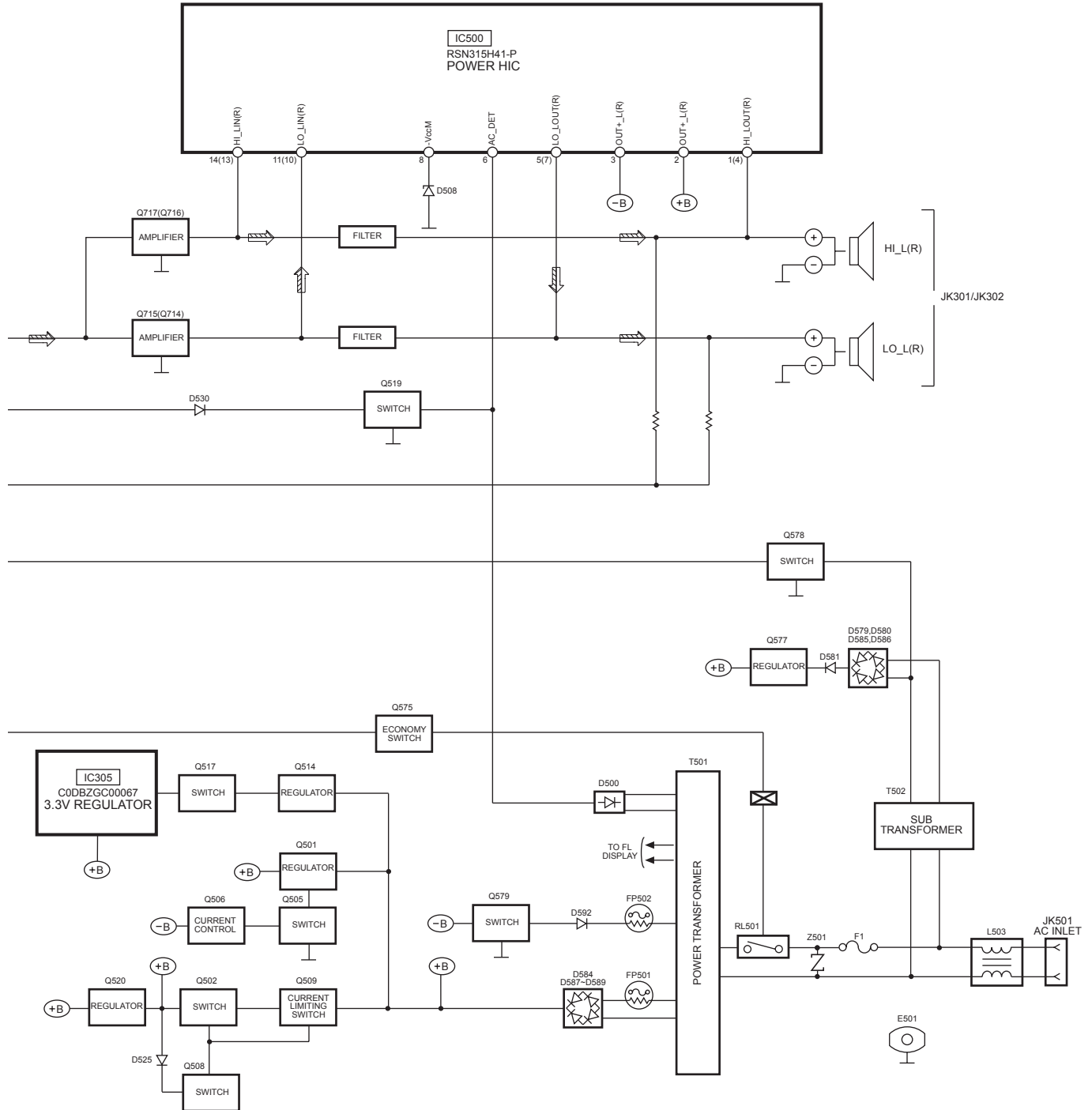
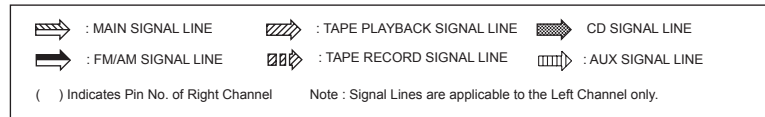








SIGNAL LINES



18 Notes of Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

S1	Stock switch
S2	Play switch
S3	Bottom switch
S4	Open switch
S5	Change switch
S601	CD 1 switch
S602	CD 2 switch
S603	CD 3 switch
S604	CD 4 switch
S605	CD 5 switch
S606	Open/Close switch
S607	CD Play/Pause switch
S608	Tape switch
S609	Enter switch
S610	Track Up switch
S611	H.Bass switch
S612	Treble switch
S613	Track Down switch
S614	Power switch
S615	Rec switch
S616	AUX switch
S617	CD_Check switch
S618	Tuner/Band switch
S619	Bass switch
S620	CD Change switch
S621	REV switch
S622	FWD switch
S623	Return switch
S624	Stop switch
S625	Play List switch
S701	REST switch
S971	Mode switch
S972	Half switch
S973	CR02 switch
S975	Recinh_F switch
S1901	Tape Eject switch
VR600	Volume VR

- Cover the parts boxes made of plastics with aluminium foil.
- Put a conductive mat on the work table.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F1 2A, 125V FUSE.



RISK OF FIRE-REPLACE FUSE AS MARKED.

FUSE CAUTION



These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire hazard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.



Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là où le présent symbole est apposé.

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

Importance safety notice :

Components identified by  mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

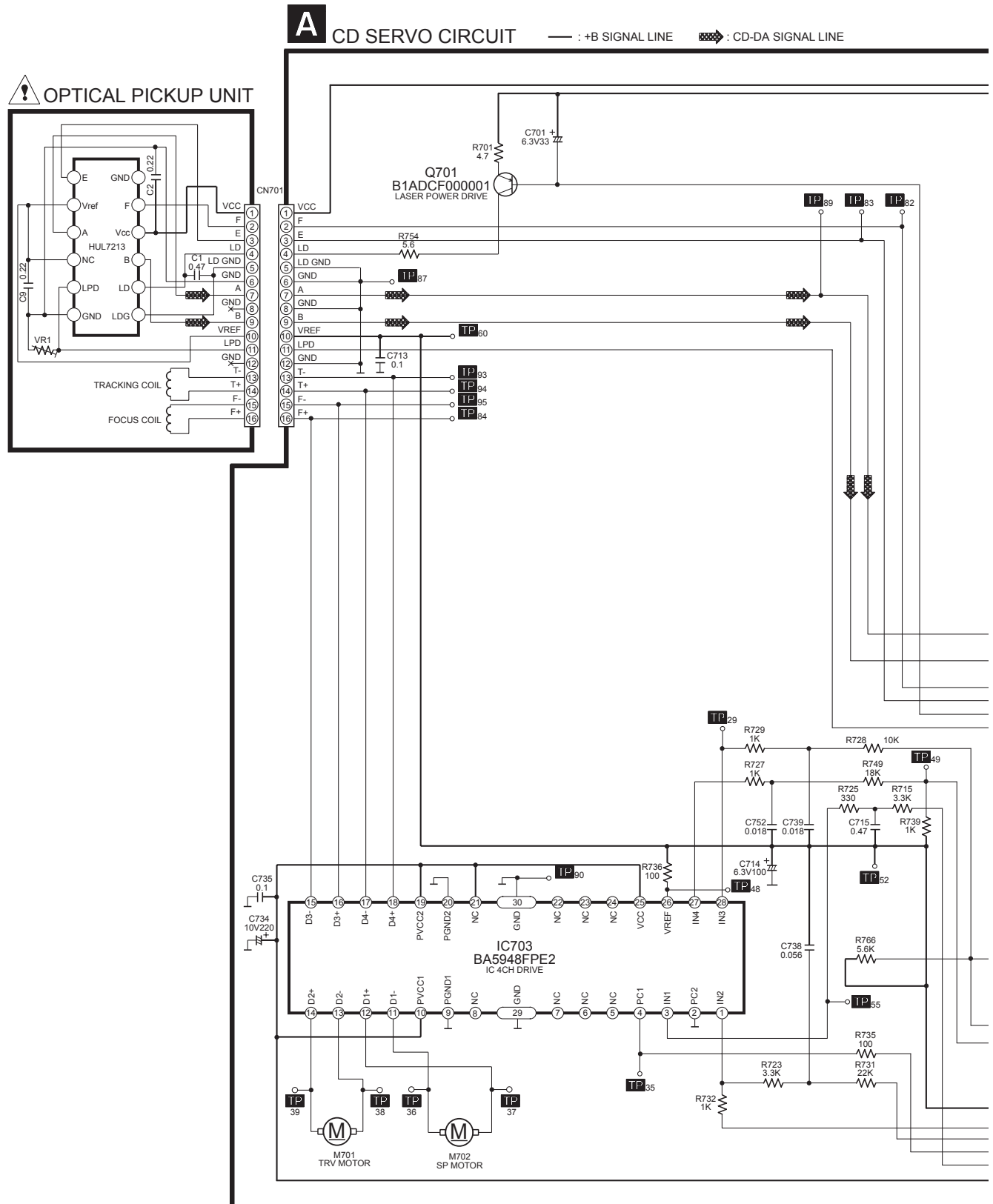
IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

19 Schematic Diagram

19.1. CD SERVO CIRCUIT

SCHEMATIC DIAGRAM - 1



SCHEMATIC DIAGRAM - 2

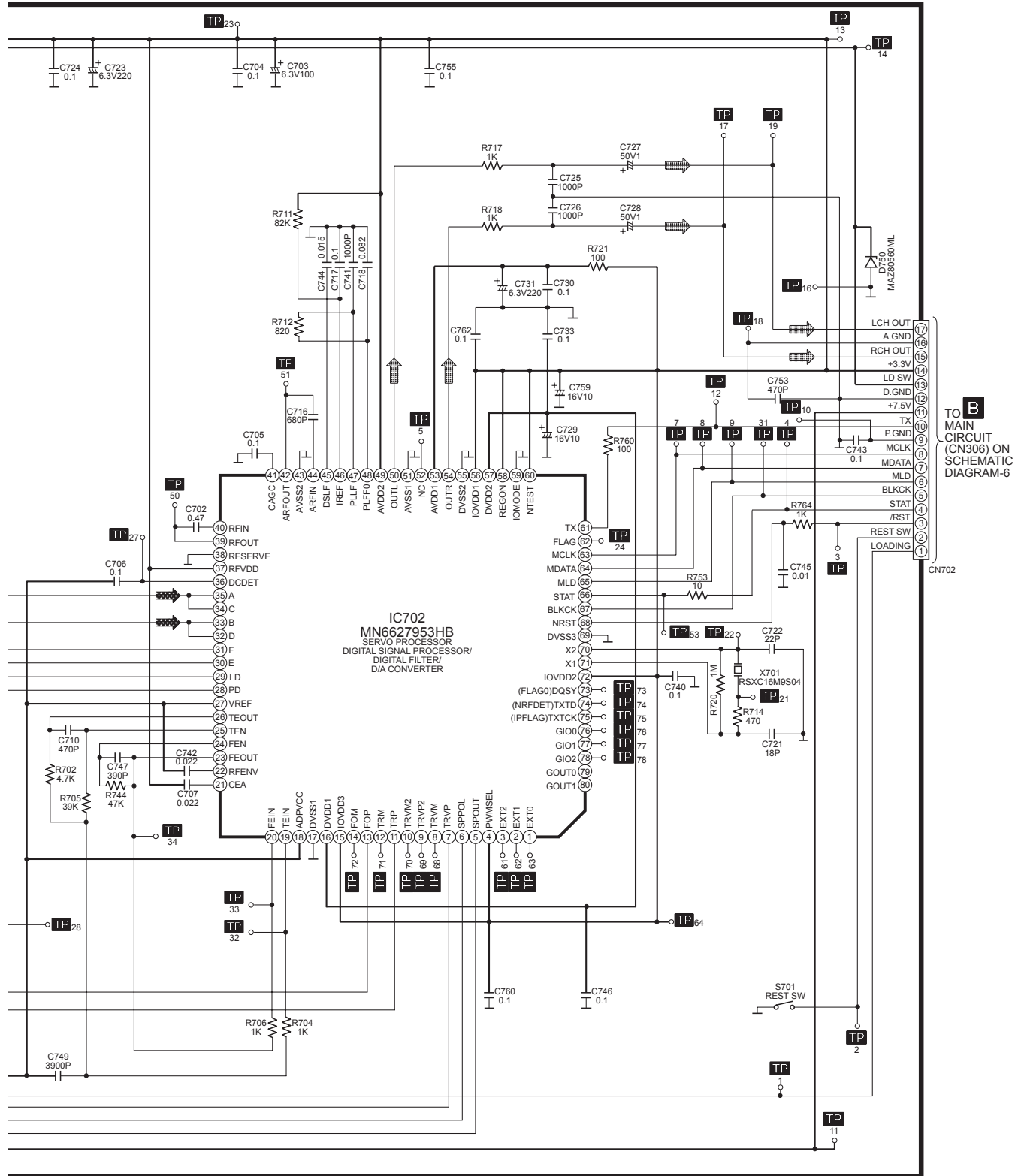
A

CD SERVO CIRCUIT

— : +B SIGNAL LINE

▨ : CD-DA SIGNAL LINE

▨ : CD SIGNAL LINE

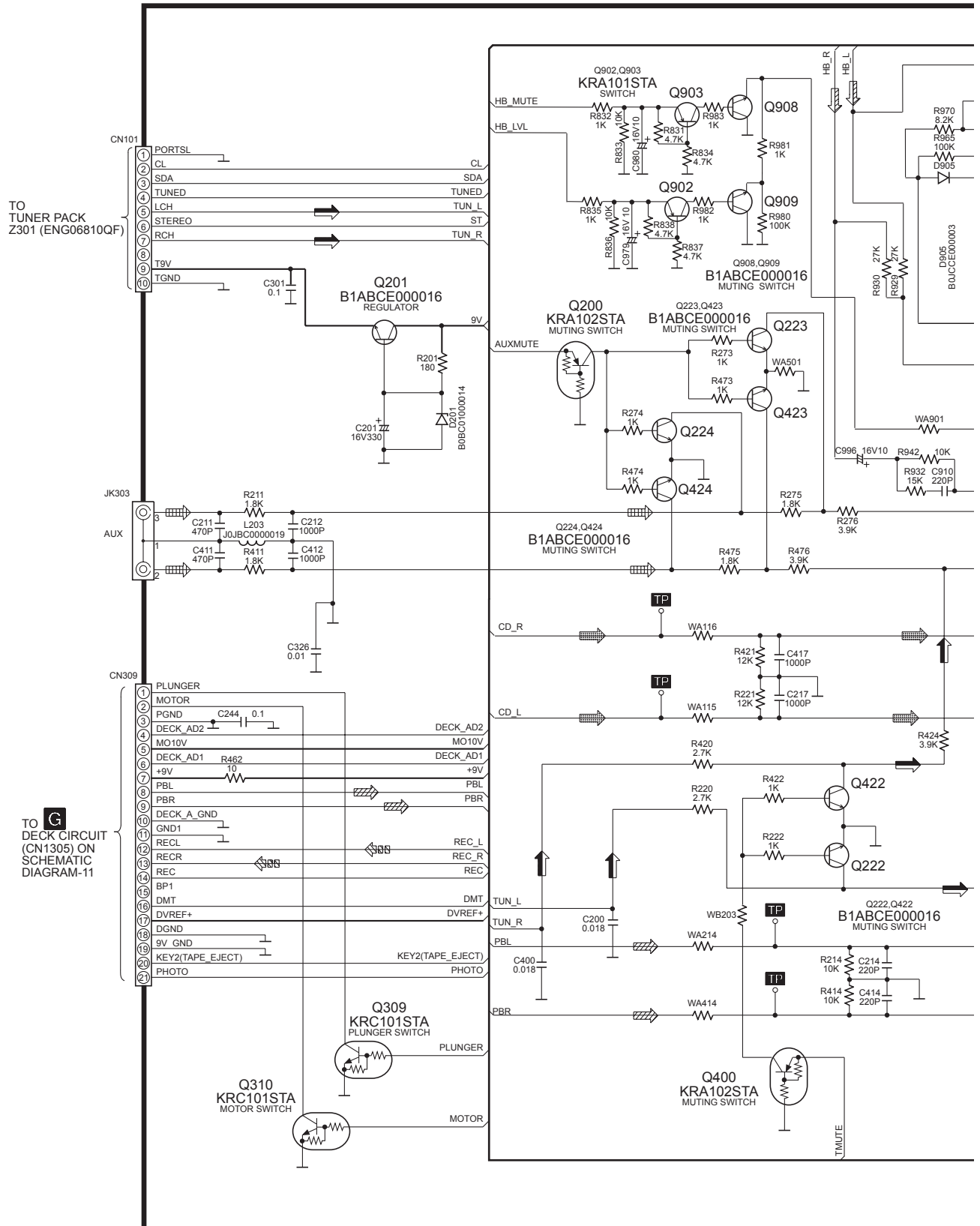


19.2. MAIN CIRCUIT

SCHEMATIC DIAGRAM-3

B MAIN CIRCUIT

 : MAIN SIGNAL LINE
 : FM/AM SIGNAL LINE
 : +B SIGNAL LINE
 : TAPE RECORD SIGNAL LINE
 : CD SIGNAL LINE
 : TAPE PLAYBACK SIGNAL LINE
 : AUX SIGNAL LINE



SCHEMATIC DIAGRAM-4

B MAIN CIRCUIT

 : MAIN SIGNAL LINE

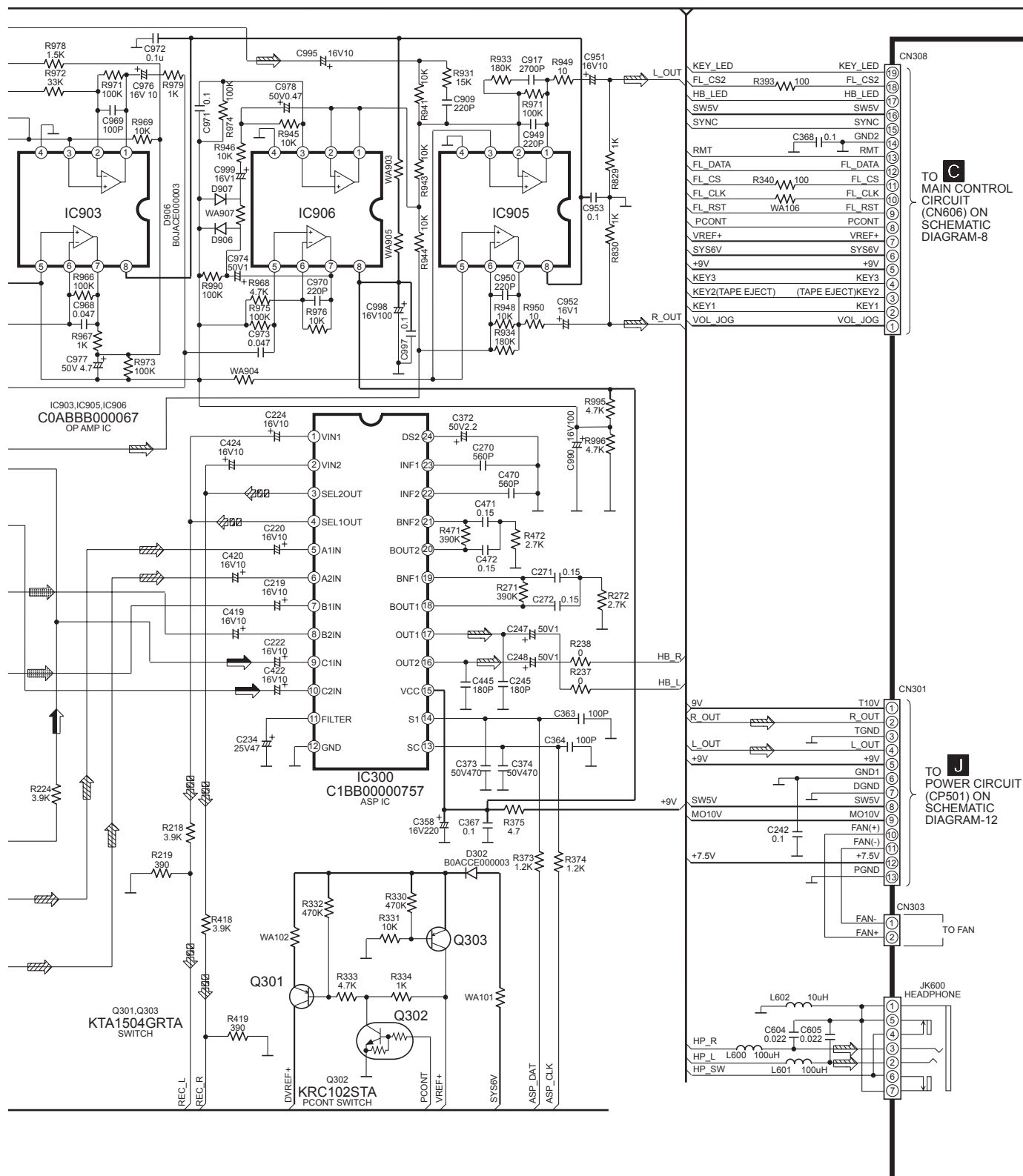
 : FM/AM SIGNAL LINE

 : TAPE RECORD SIGNAL LINE

 : TAPE PLAYBACK SIGNAL LINE

 : CD SIGNAL LINE

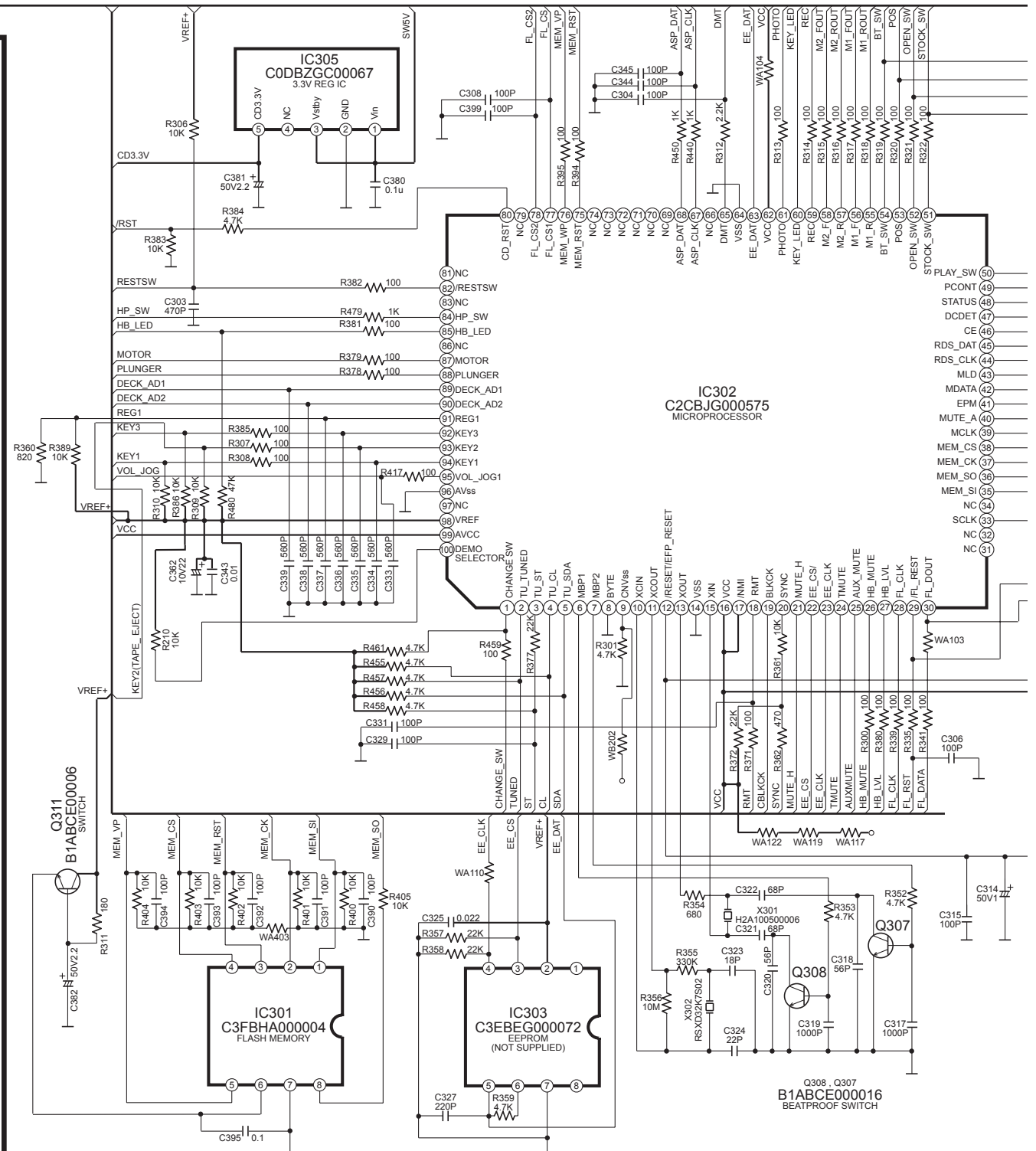
———— : +B SIGNAL LINE



SCHEMATIC DIAGRAM-5

B MAIN CIRCUIT

— : +B SIGNAL LINE



SCHEMATIC DIAGRAM-6

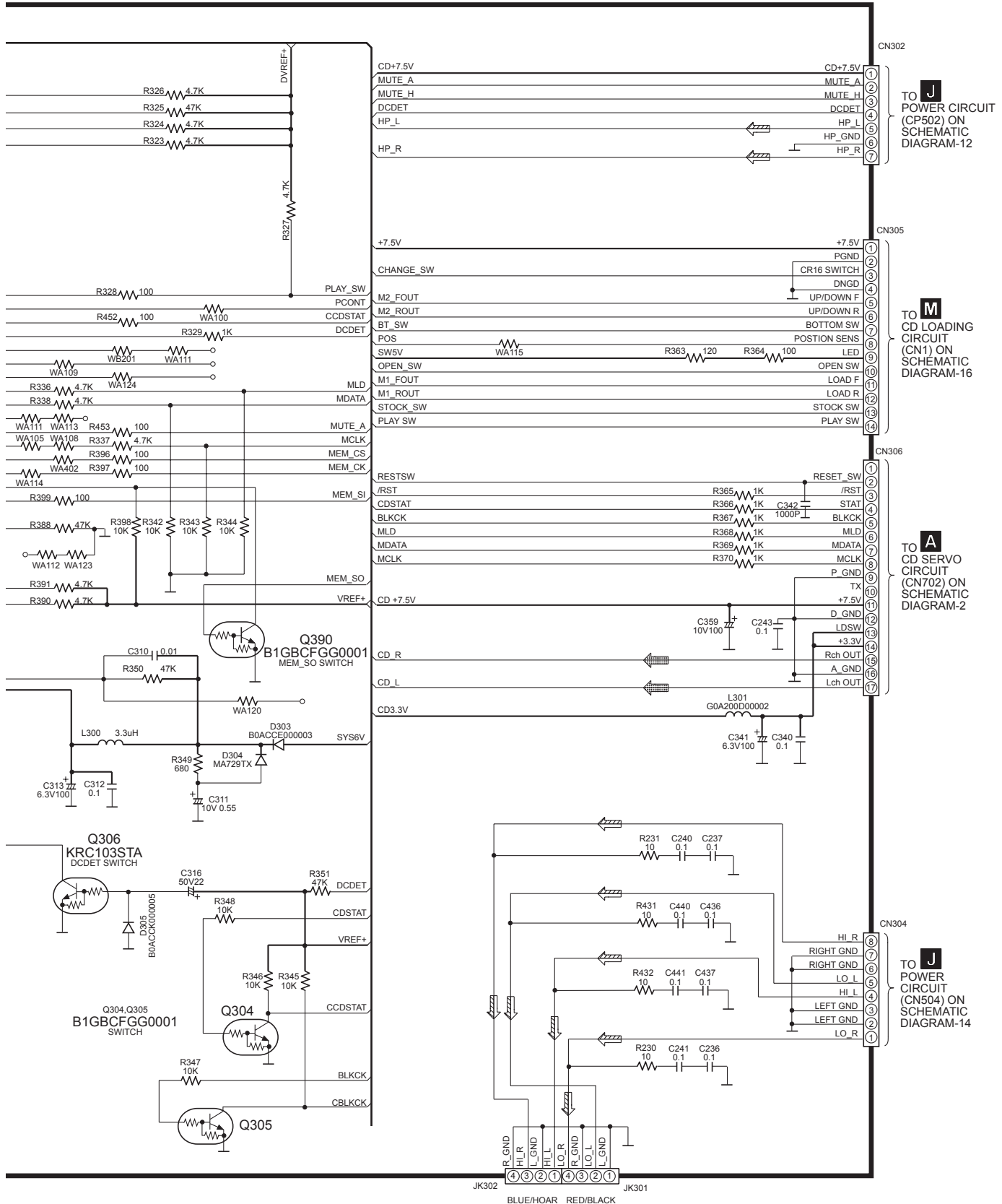
B

MAIN CIRCUIT

⇒ : MAIN SIGNAL LINE

⇒ : CD SIGNAL LINE

— : +B SIGNAL LINE



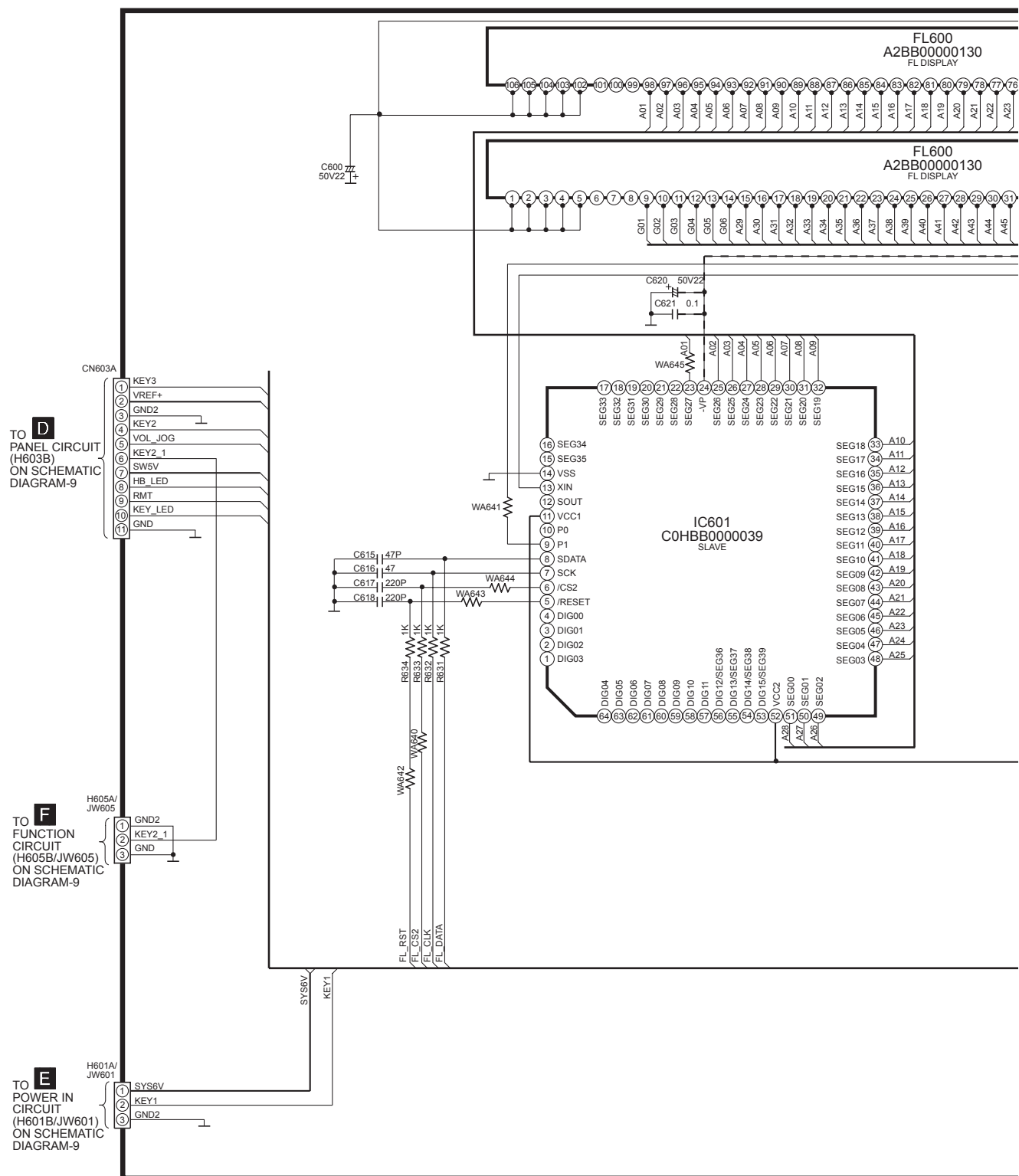
19.3. MAIN CONTROL CIRCUIT, PANEL CIRCUIT, POWER IN CIRCUIT and FUNCTION CIRCUIT

SCHEMATIC DIAGRAM-7

C

MAIN CONTROL CIRCUIT

--- : -B SIGNAL LINE
 — : +B SIGNAL LINE

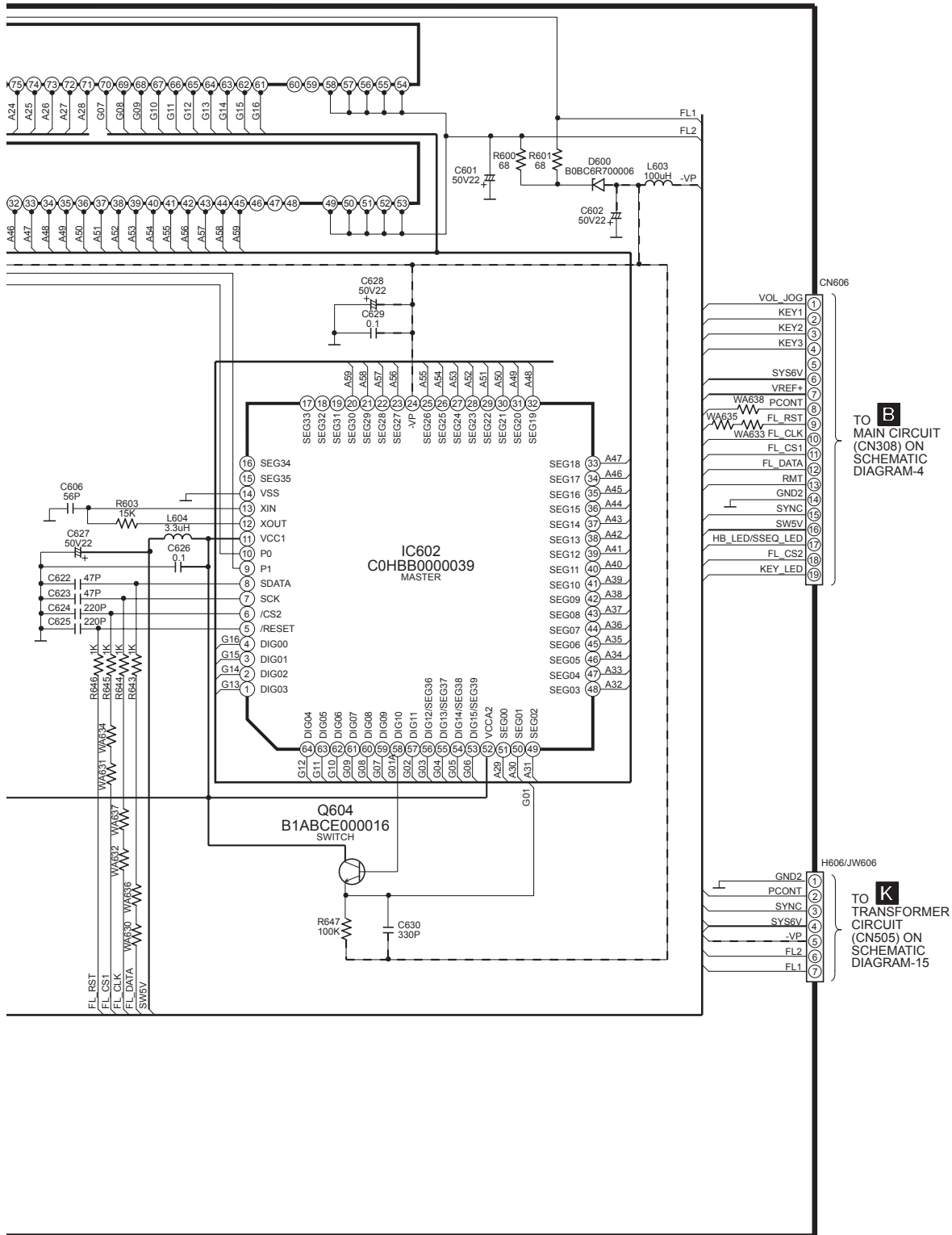


SCHEMATIC DIAGRAM-8

C

MAIN CONTROL CIRCUIT

--- : -B SIGNAL LINE
 — : +B SIGNAL LINE



G DECK CIRCUIT



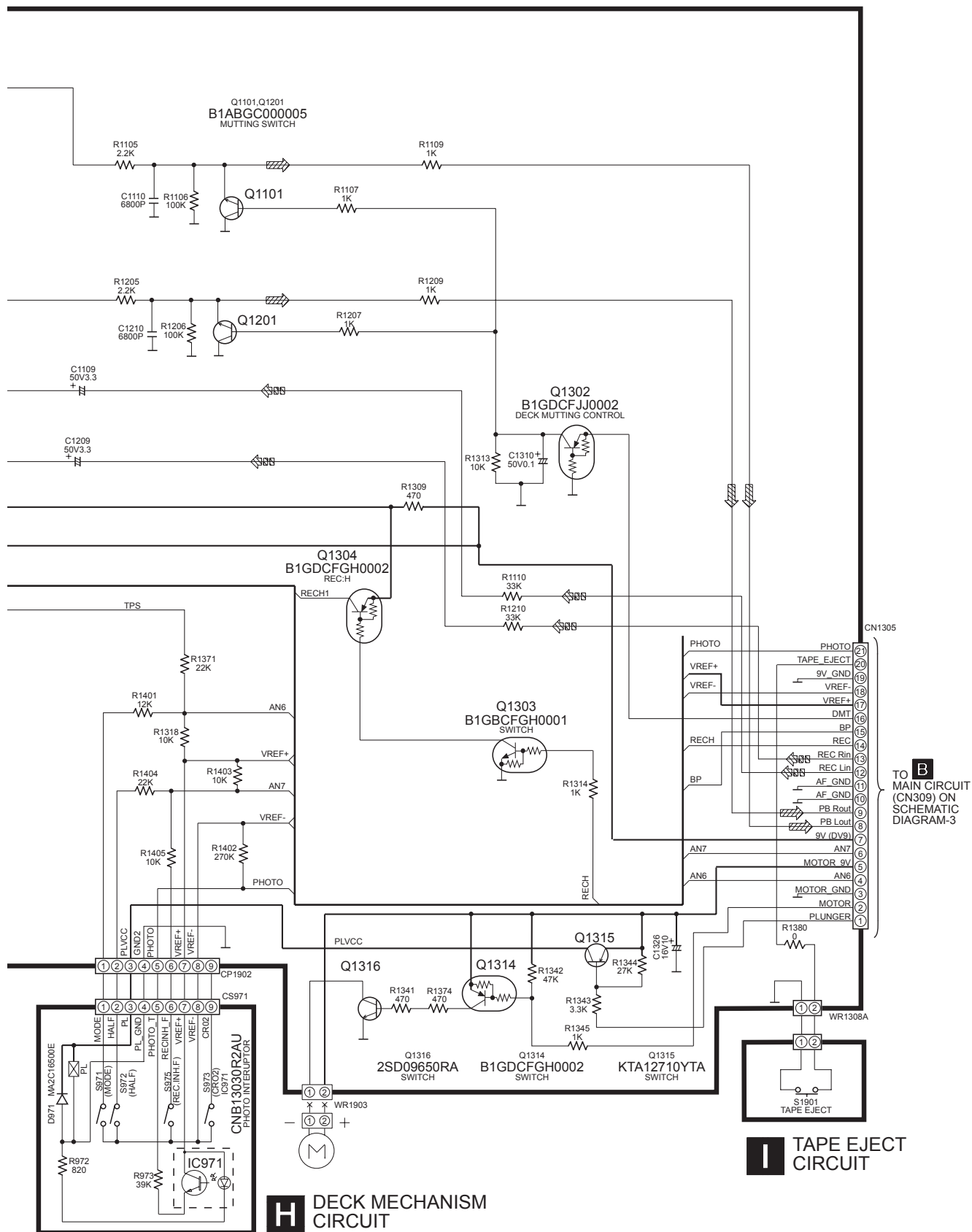
SCHEMATIC DIAGRAM-11

G DECK CIRCUIT

 : TAPE PLAYBACK SIGNAL LINE

 : TAPE RECORD SIGNAL LINE

———— : +B SIGNAL LINE



J POWER CIRCUIT

 : MAIN SIGNAL LINE



SCHEMATIC DIAGRAM-13

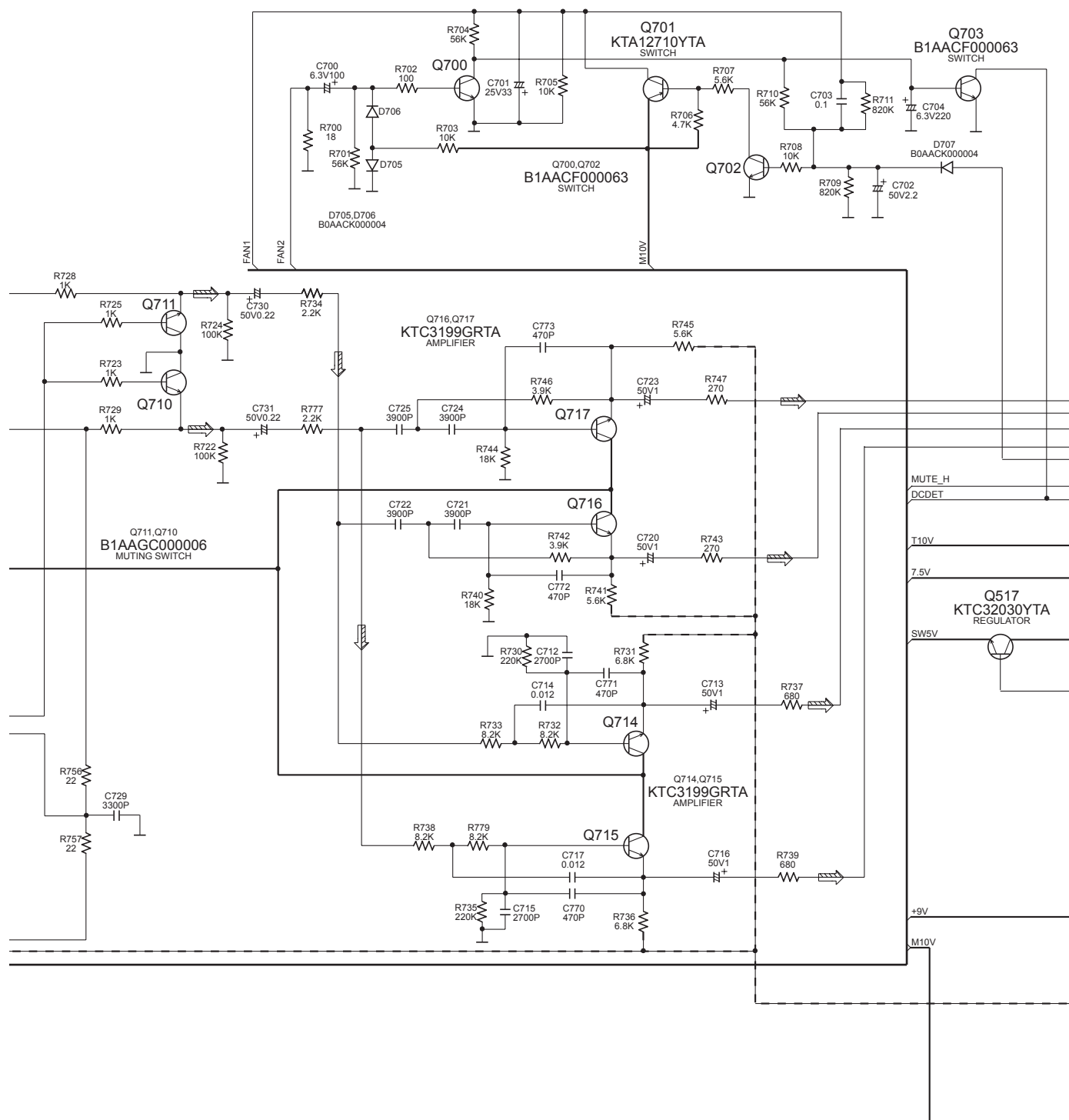
J

POWER CIRCUIT

— — — : - B SIGNAL LINE

———— : +B SIGNAL LINE

 : MAIN SIGNAL LINE



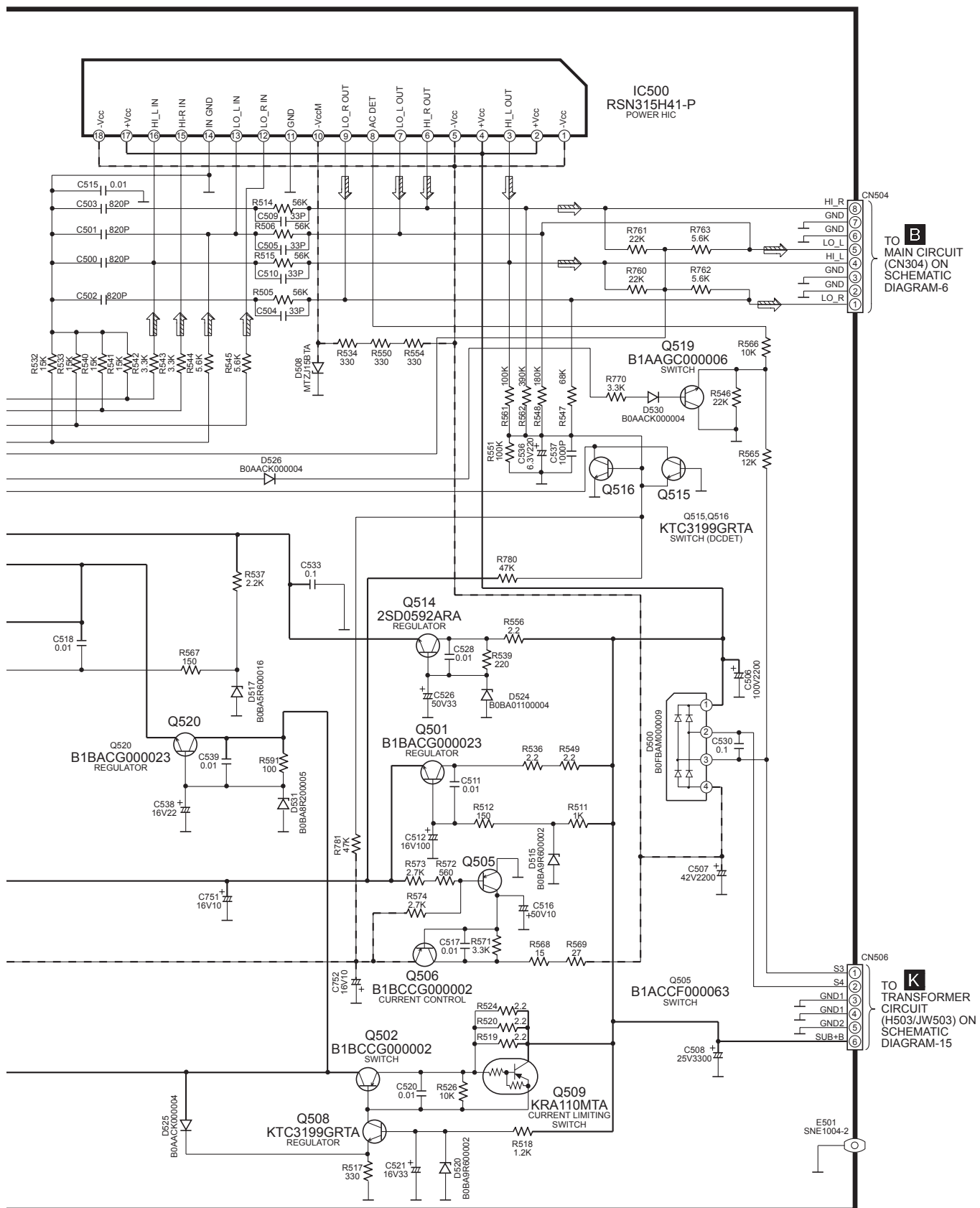
SCHEMATIC DIAGRAM-14

J POWER CIRCUIT

- - - : -B SIGNAL LINE

— : +B SIGNAL LINE

⇒ : MAIN SIGNAL LINE



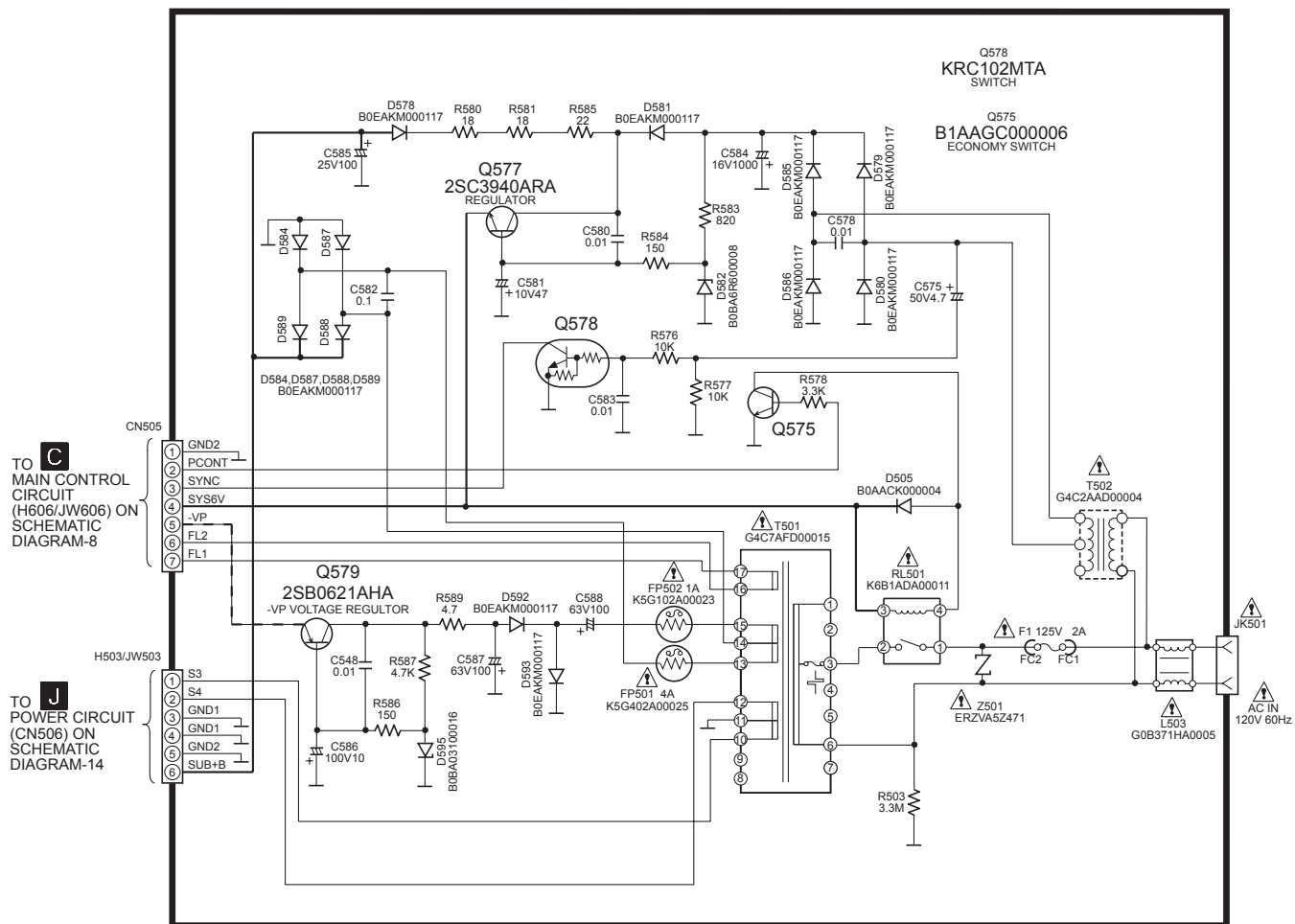
19.6. TRANSFORMER CIRCUIT

SCHEMATIC DIAGRAM-15

K

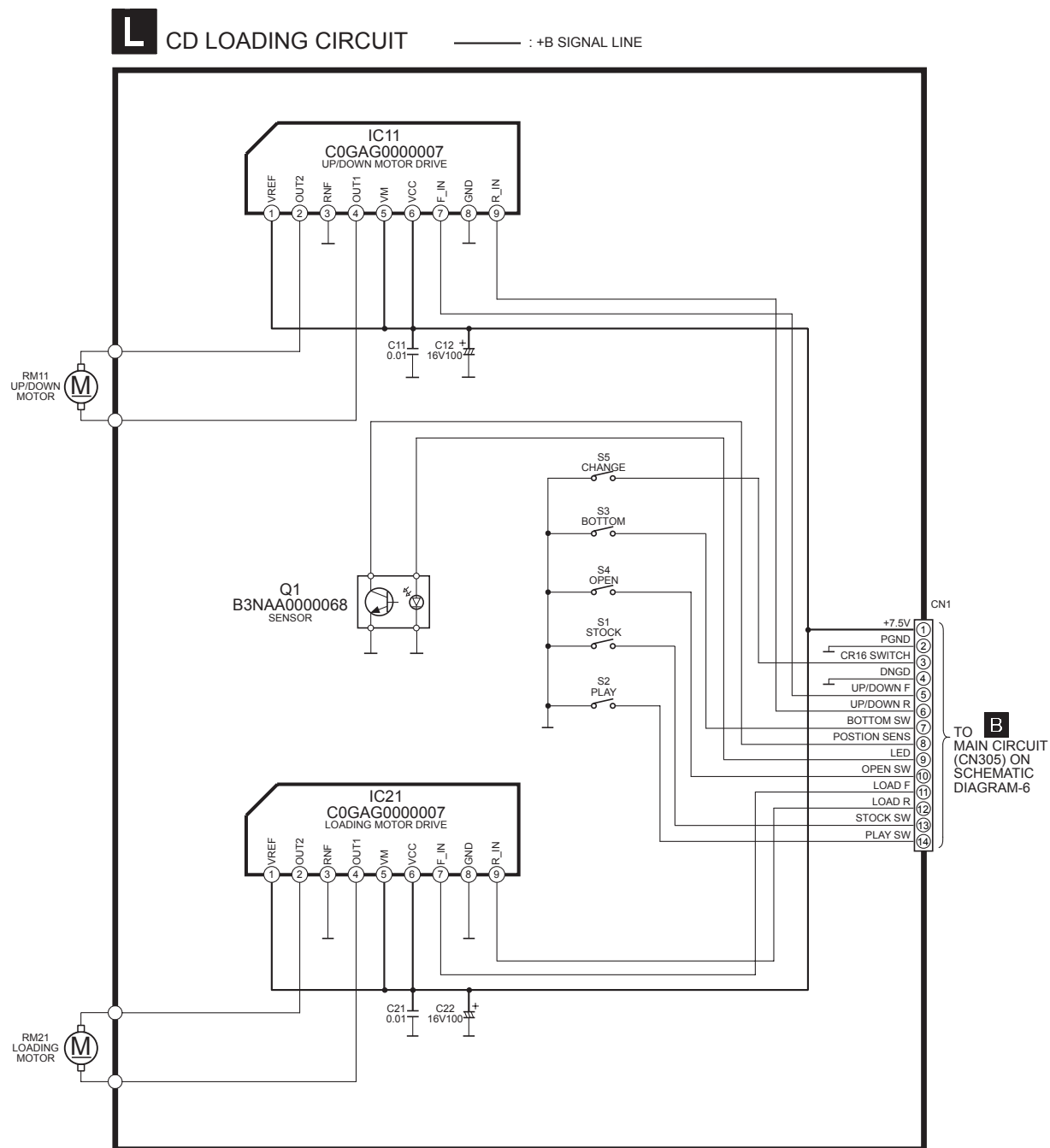
TRANSFORMER CIRCUIT

- - - : -B SIGNAL LINE
 ——— : +B SIGNAL LINE



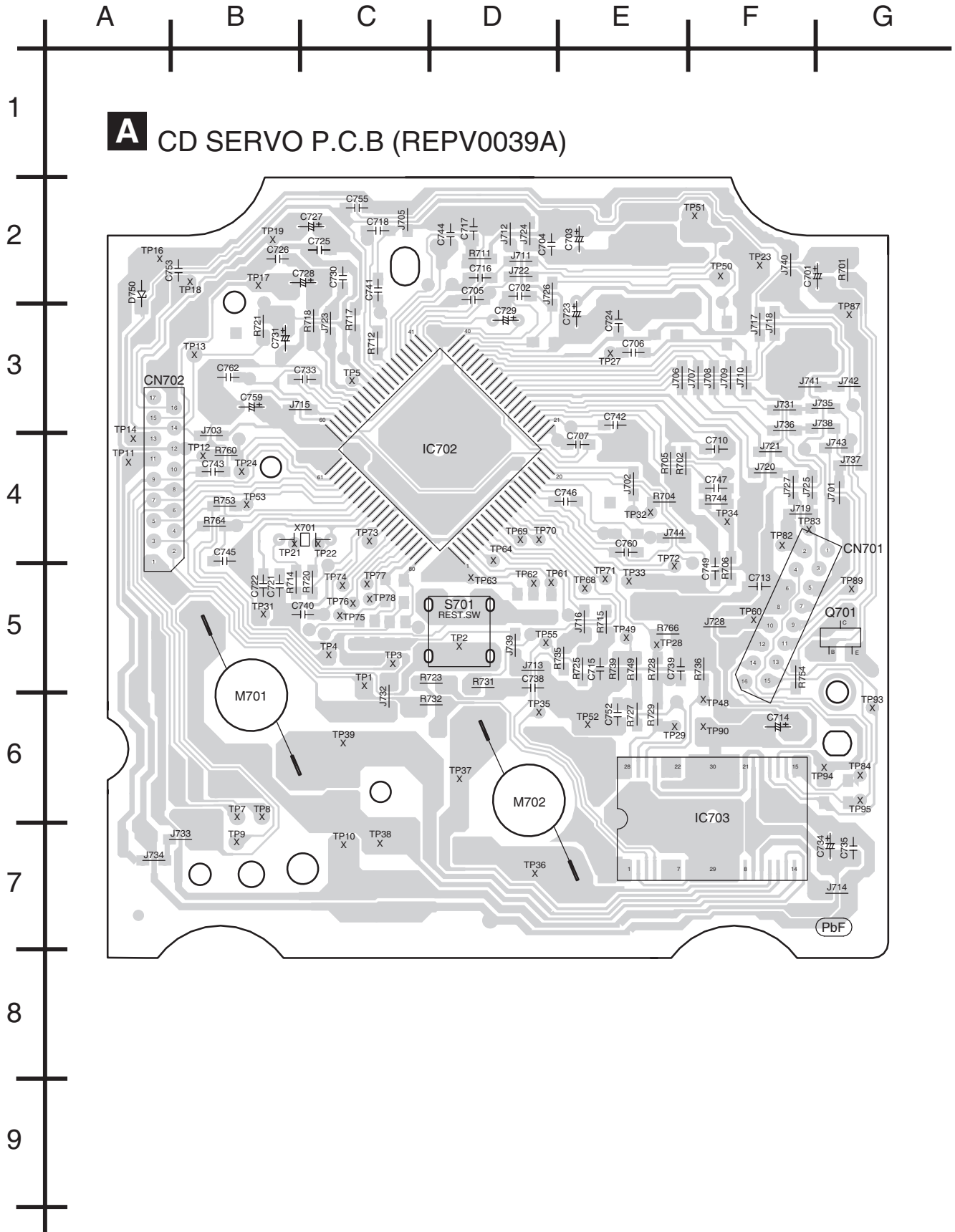
19.7. CD LOADING CIRCUIT

SCHEMATIC DIAGRAM-16



20 Printed Circuit Board

20.1. CD SERVO P.C.B.



20.2. MAIN P.C.B.





20.3. MAIN CONTROL P.C.B. and PANEL P.C.B.



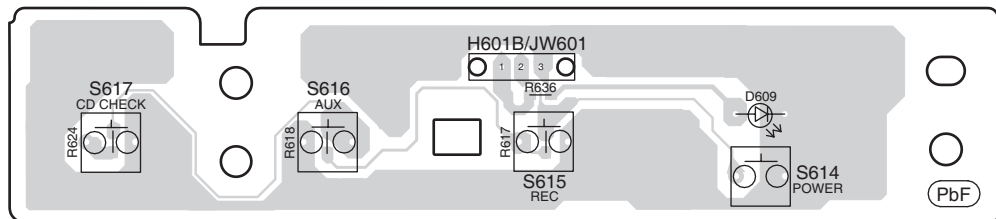
20.4. POWER IN P.C.B., FUNCTION P.C.B. and DECK MECHANISM P.C.B.

A B C D E F G

1

E POWER IN P.C.B (REPV0062A)

2

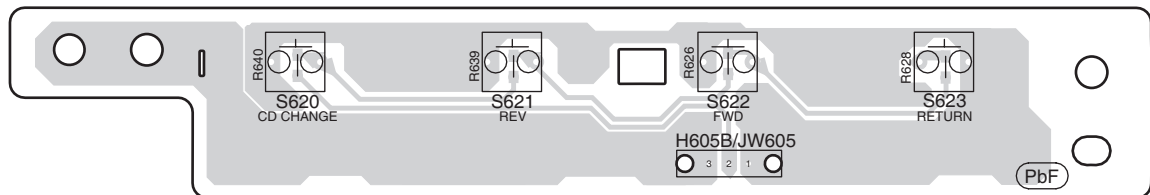


3

4

F FUNCTION P.C.B (REPV0062A)

5

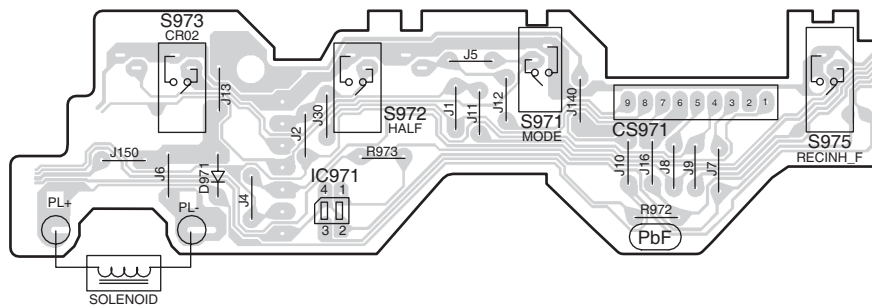


6

7

H DECK MECHANISM P.C.B (REPX0321H)

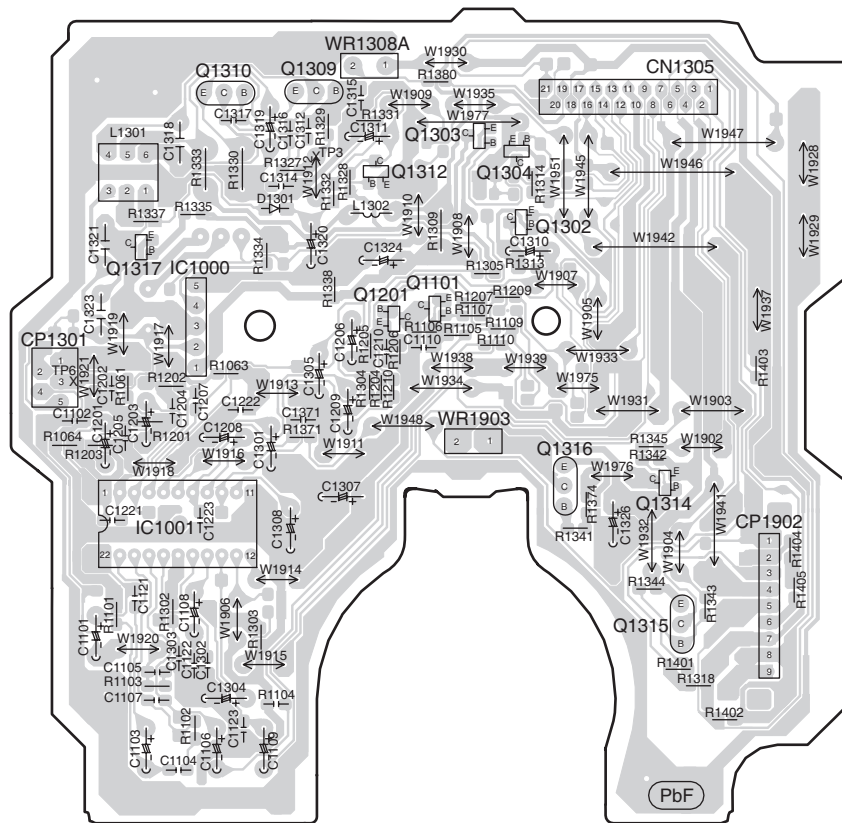
8



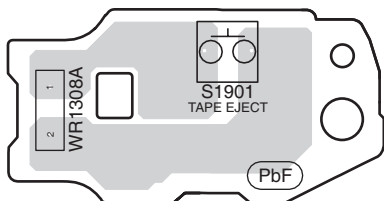
9

20.5. DECK P.C.B. and TAPE EJECT P.C.B.

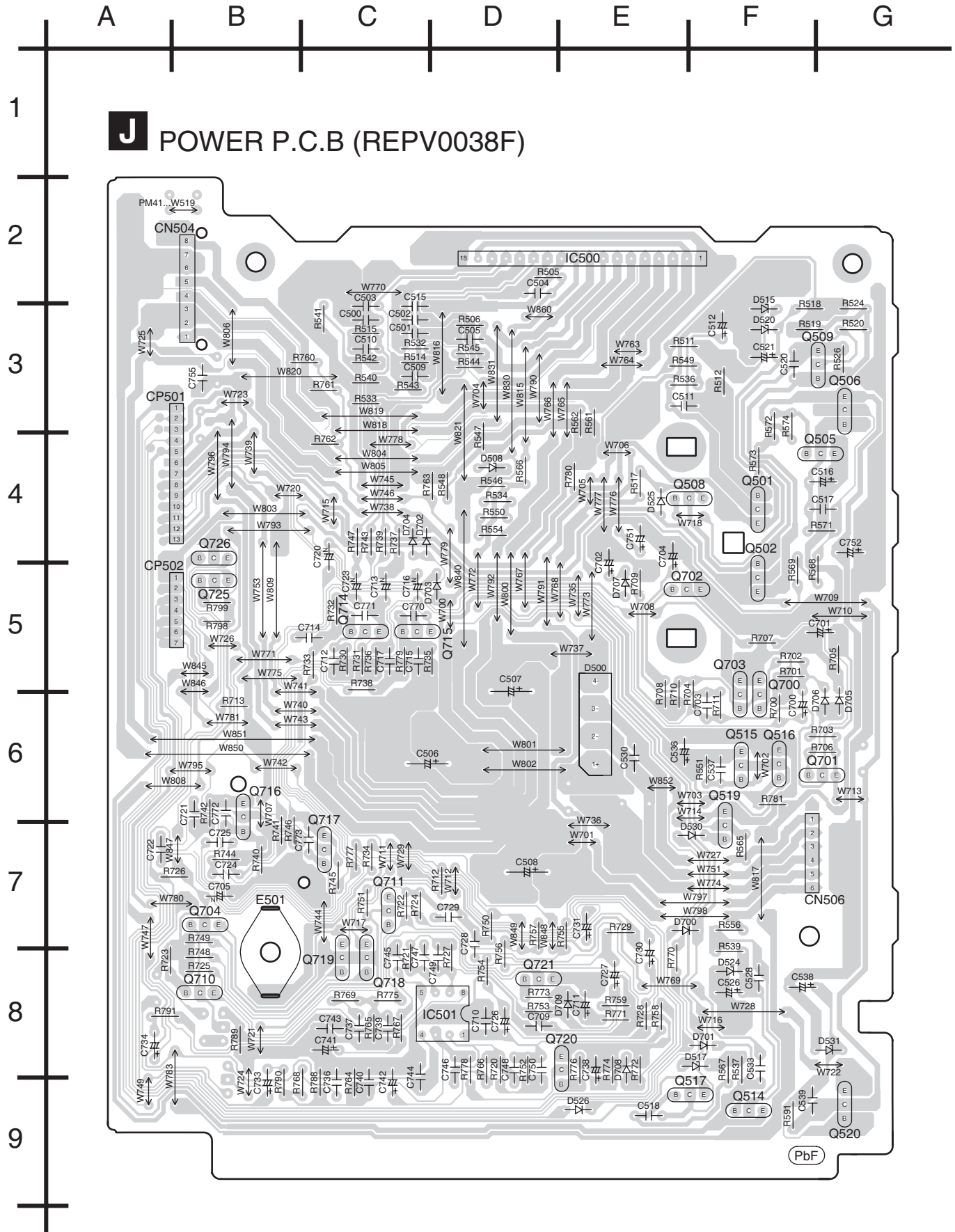
G DECK P.C.B (REPV0016B)

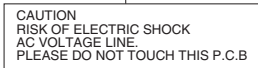


I TAPE EJECT P.C.B (REPV0016B)

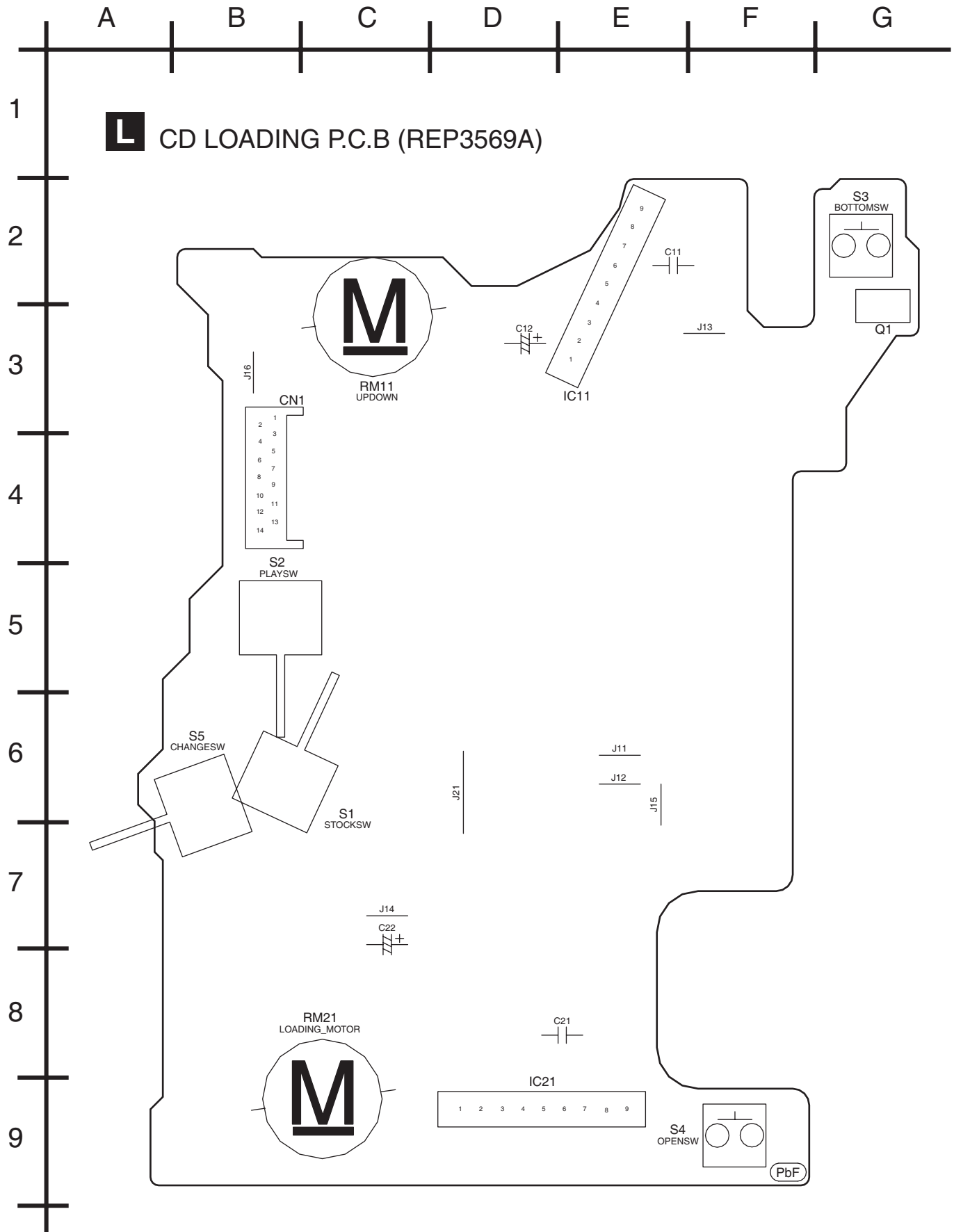


20.6. POWER P.C.B.

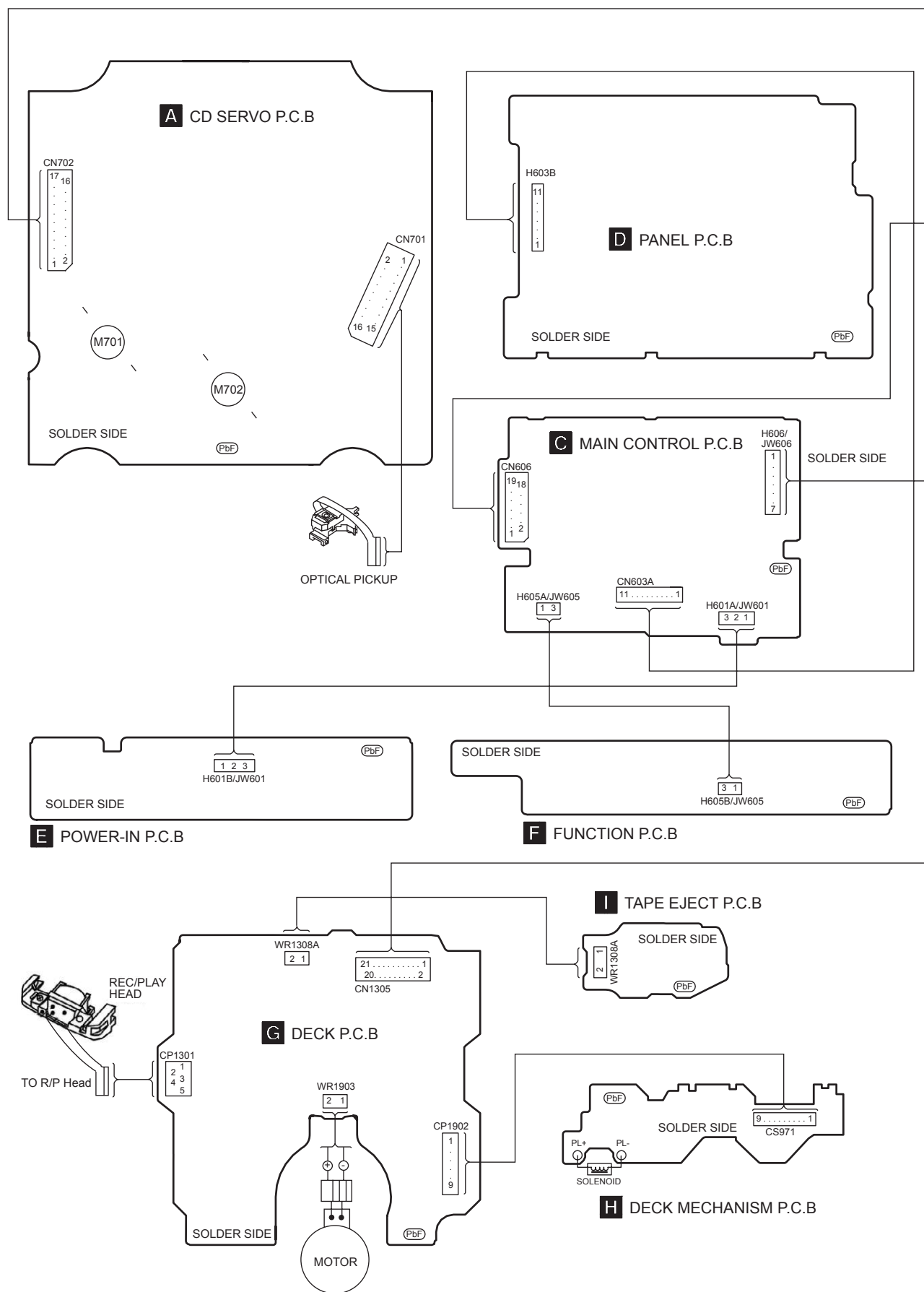


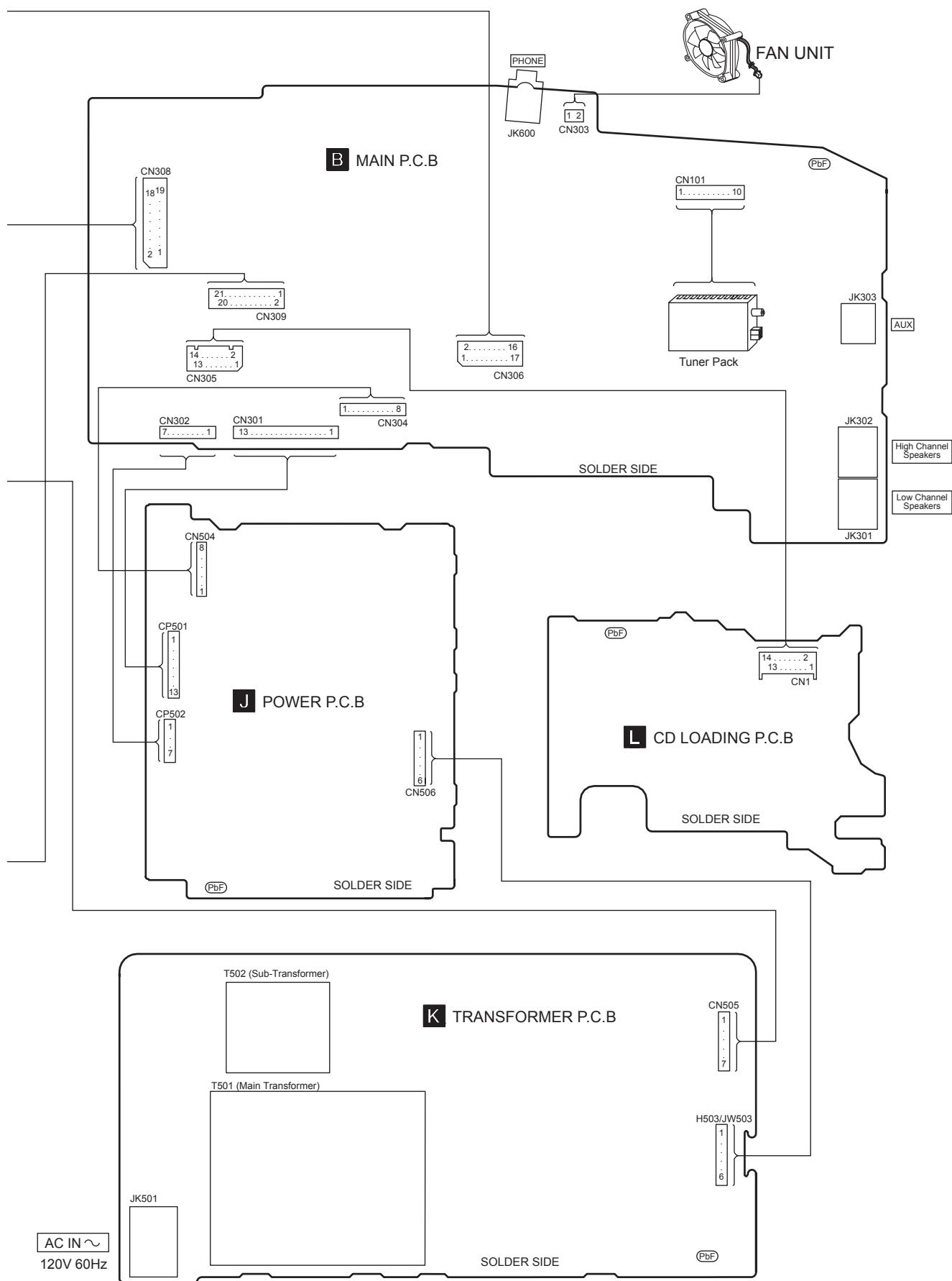


20.8. CD LOADING P.C.B.

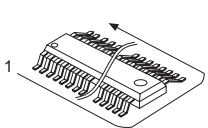
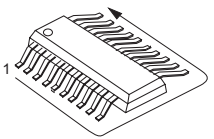
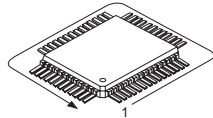
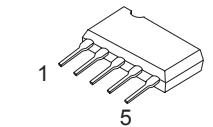
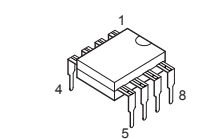
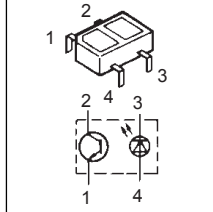
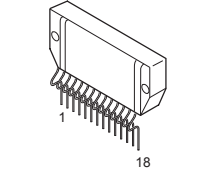
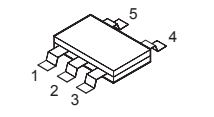
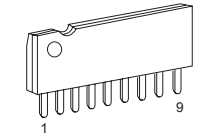
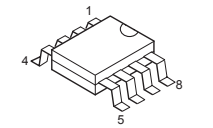
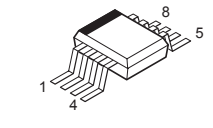
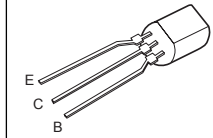
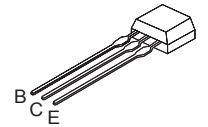
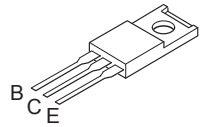
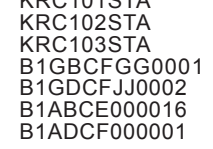
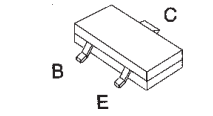
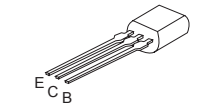
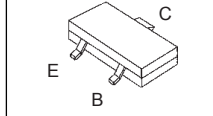
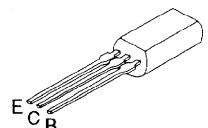
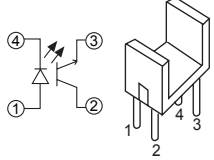
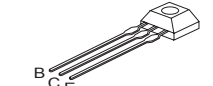
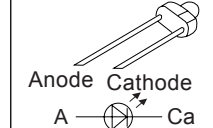
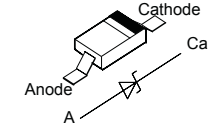
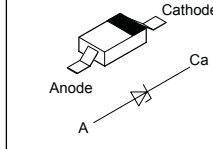
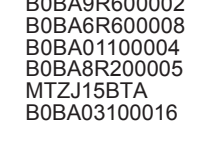
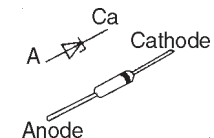
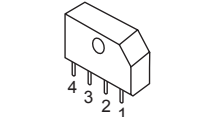
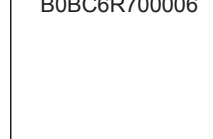
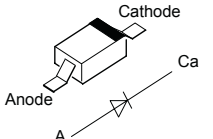
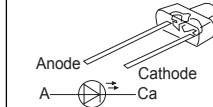
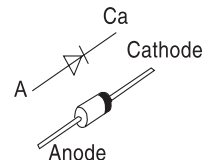
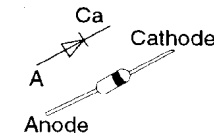


21 Wiring Connection Diagram





22 Illustration of IC's, Transistors and Diodes

BA5948FPE2 (28P) AN7326K (22P) 	C1BB00000757 (24P) 	C0HBB0000039 (64P) MN6627953HB (80P) C2CBJG000575 (100P) 	C1AA00000612 (5P) 	C0AABB000125 (8P) 	CNB13030R2AU (4P) 
RSN315H41-P (18P) 	C0DBZGC00067 	C0GAG0000007 (9P) 	C0ABBB000067 	C3FBHA000004 	2SB0621AHA 
B1AAGC000006 	B1BACG000023 B1BCCG000002 	B1ABGC000005 KRA102STA KRC101STA KRC102STA KRC103STA B1GBCFGG0001 B1GDCFJJ0002 B1ABCE000016 B1ADCF000001 	B1GBCFGH0001 B1GDCFGH0002 B1ABCF000011 KRA101STA 	2SD0592ARA 2SD09650RA KTA12710YTA KTA1504GRTA KTC32030YTA 	KRC119STA 
2SC3940ARA 	B3NAA0000068 	KRA102MTA KRC102MTA KRA110MTA B1ACCF000063 KTC3199GRTA B1AACF000063 	B3AEA0000058 	B0ACCK000005 	MAZ80560ML B0BC8R100004 
B0BA5R600016 B0BA9R600002 B0BA6R600008 B0BA01100004 B0BA8R200005 MTZJ15BTA B0BA03100016 		B0FBAM000009 	B0BC01000014 B0ACCE000003 B0BC6R700006 		B3ADA0000087 B3AAA0000487 
B0EAKM000117 	B0AACK000004 MA729TX MA2C16500E 				

23 Terminal Function of IC's

23.1. IC302 (C2CBJG000575) MICRO PROCESSOR

Pin No.	Mark	I/O	Function
1	CH_SW	I	Change Switch (CR16)
2	TU_TUNED	I	Tuner tuned signal
3	TU_ST	I	Tuner Stereo signal
4	TU_SCK	I	Tuner Serial Clock Input
5	TU_SDA	I/O	Tuner Serial Data Input
6	MBP1	O	Microcomputer Beat Proof Output 1 (CONTROL)
7	MBP2	O	Microcomputer Beat Proof Output 2 (CONTROL)
8	BYTE	-	External Data Bus Width Select Input (Connect To Ground)
9	CNVSS/	-	Flash Mode Terminal (Connected To Ground)
10	XCIN	-	32.768 kHz Sub Clock
11	XCOUT	-	32.768 kHz Sub Clock
12	/RESET	-	Reset Input (ACTIVE L)
13	XOUT	-	10 MHz Main Clock
14	VSS	-	Ground (0V)
15	XIN	-	10 MHz Main Clock
16	VCC	-	Power Supply (+5V)
17	/NMI	-	Connect to Vcc (+5V)
18	RMT	I	Remote Control Input
19	BLKCK	I	CD Block Clock Input (Inverted)
20	SYNC	I	AC Failure Detect Input
21	MUTE_H	O	HIC Mute
22	EE_CS/	O	EEPROM Chip Select
23	EE_CLK	O	EEPROM CLOCK
24	MUTE_T	O	H=Tuner muting
25	MUTE_X	O	A=AUX muting
26	HB_MUTE	O	Harmonic BASS Mute (L: ON, H: OFF)
27	HB_LVL	O	Harmonic BASS Level Control
28	FL_CLK	O	Serial Clock to FL Driver
29	/FL_RESET	O	Reset Input (ACTIVE: L)
30	FL_DOUT	O	Serial Data To FL Driver (Output)
31	N.C.	O	No Connection
32	N.C.	O	No Connection
33	SCLK	O	No Connection
34	N.C.	O	No Connection
35	MEM_SI	O	Flash Memory Serial Input
36	MEM_SO	I	Flash Memory Serial Output
37	MEM_CK	O	Flash Memory Serial Clock
38	MEM_CS	O	Flash Memory Chip Select
39	MCLK	O	CD Command CLK Output
40	MUTE_A	O	Audio Mute
41	EPM	O	-
42	MDATA	O	CD Command Data Output
43	MLD	O	CD Command Load Output/
44	RDS_CLK	I	RDS Clock Input
45	RDS_DAT	I	RDS Data Input
46	CE	O	-
47	DCDET	I	DC Detect Input
48	STATUS	I	CD Servo LSI Status Input (Inverted)
49	PCONT	O	Main Transformer Control Output
50	PLAY_SW	I	Play Switch (CR16)
51	ST_SW	I	Stock Switch (CR16)
52	OP_SW	I	Open Switch (CR16)
53	POS	I	Position Switch (CR16)
54	BT_SW	I	Bottom Switch (CR16)

Pin No.	Mark	I/O	Function
55	M1_R	O	Changer Motor 1 Reverse Control
56	M1_F	O	Changer Motor 1 Forward Control
57	M2_R	O	Changer Motor 2 Reverse Control
58	M2_F	O	Changer Motor 2 Forward Control
59	REC	O	when record circuit is operating DURING RECORDING=H
60	KEY_LED	O	Dimmer ON=L, Dimmer Off=H-
61	PHOTO	I	PHOTO (SG Mechanism only)
62	VCC	-	Power Supply (+5V)
63	EE_DATA	I/O	EEPROM DATA
64	VSS	-	Ground (0V)
65	DMT	O	Deck Mute at mecha transition L=mute OFF, H=mute ON
66	N.C.	O	No Connection
67	ASP_CLK	O	ASP CLK
68	ASP_DAT	O	ASP DATA
69	N.C.	O	No Connection
70	N.C.	O	No Connection
71	N.C.	O	No Connection
72	N.C.	O	No Connection
73	N.C.	O	No Connection
74	N.C.	O	No Connection
75	MEM_RST	O	Flash Memory Reset
76	MEM_WP	O	Flash Memory Write Protect
77	FL_CS1	O	FL Driver Chip Select
78	FL_CS2	O	FL Driver Chip Select
79	N.C.	O	No Connection
80	CD_RST	O	CD Reset Output
81	N.C.	-	No Connection
82	/RESTSW	I	CD Limit Switch Input for the Most Inner Point (Active Low)
83	N.C.	O	No Connection
84	HP_SW	I	Headphone Detect SW Input
85	HB_LED	O	Harmonic BASS LED Control
86	N.C.	O	No Connection
87	MOTOR	O	MOTOR Control Output L=OFF, H=ON
88	PLUNGER	O	Deck PLUNGER Control Output L=OFF, H=ON
89	DECK_AD1	I	DECK AD Input 1
90	DECK_AD2	I	DECK AD Input 2
91	REG1	I	Region Setting 1
92	KEY3	I	KEY3 INPUT
93	KEY2	I	KEY2 INPUT
94	KEY1	I	KEY1 INPUT
95	VOL_JOG1	I	Volume Jog 1
96	AVSS	-	Analog Power Supply Input (Connect to GND)
97	N.C.	-	No Connection
98	VREF	-	Reference for A-D (5V)
99	AVCC	-	Analog Power Supply Input
100	Demo selector	I	(H=default demo on, L=default demo off)

23.2. IC702 (MN6627953HB) Servo processor/ Digital signal processor/ Digital filter/ D/A converter

Pin No.	Mark	I/O	Function
1	EXT0	I/O	Extend input/output port 0
2	EXT1	I/O	Extend input/output port 1
3	EXT2	I/O	Extend input/output port 2
4	PWMSEL	I	PWM output selection input (L: Direct; H: Tri-State)
5	SPOUT	O	Spindle driver output signal
6	SPPOL	O	Spindle driver output signal
7	TRVP	O	Spindle driver output signal
8	TRVM	O	Spindle driver output signal
9	TRVP2	O	Traverse driver output signal 2 (+)
10	TRVM2	O	Traverse driver output signal 2 (-)
11	TRP	O	Traverse driver output signal (+)
12	TRM	O	Traverse driver output signal (-)
13	FOP	O	Traverse driver output signal (+)
14	FOM	O	Traverse driver output signal (-)
15	IOVDD3	-	I/O power supply 3
16	DVDD1	-	Power supply 1 for digital circuit
17	DVSS1	-	Digital circuit GND 1
18	ADPVCC	I	Power voltage monitor. Power voltage input
19	TEIN	I	DSP traverse error signal input
20	FEIN	I	DSP focus error signal input
21	CEA	I/O	HPF-Amp capacitance connection terminal
22	RFENV	O	RF envelope signal monitor
23	FEOUT	O	FE Amp output
24	FEN	I	FE Amp reversal input
25	TEN	I	TE Amp reversal input
26	TEOUT	O	TE Amp output
27	VREF	O	VREF output
28	PD	I	APC Amp input
29	LD	O	APC Amp output
30	E	I	Tracking input signal 1
31	F	I	Tracking input signal 2
32	D	I	Tracking input signal 4
33	B	I	Tracking input signal 2
34	C	I	Tracking input signal 3
35	A	I	Focus input signal 1
36	DCDET	I	Detection HPF capacitance terminal
37	RFVDD	-	RF Amp power supply

Pin No.	Mark	I/O	Function
38	RESERVE	-	AVSS2
39	RFOUT	O	RF Amp output
40	RFIN	I	AGC input
41	CAGC	I/O	AGC control terminal
42	ARFOUT	O	AGC output (Audio RF)
43	AVSS2	-	Analog circuit GND 2
44	ARFIN	I	RF signal input
45	DSLIF	O	DSL loop filter
46	IREF	I	I (current), Reference input
47	PLLF	O	PLL loop filter
48	PLLFO	O	PLL loop filter
49	AVDD2	-	Analog circuit power supply 2
50	OUTL	O	LCH output signal
51	AVSS1	-	Audio output circuit GND 1
52	N.C.	-	No Connection
53	AVDD1	-	Power supply 1 for analog circuit
54	OUTR	O	RCH output signal
55	DVSS2	-	Digital circuit GND 2
56	IOVDD1	-	I/O power supply 1
57	DVDD2	-	Power supply 2 for Digital circuit
58	REGON	I	Laser diode control (H: ON)
59	IOMODE	I	I/O switching setting input
60	NTEST	I	Test mode setting input (H: ON)
61	TX	O	Digital audio interface output
62	FLAG	O	Flag signal output
63	MCLK	I	Micro-P serial command CLK
64	MDATA	I	Micro-P serial command DATA
65	MLD	I	Micro-P serial command LOAD
66	STAT	O	Status signal output
67	BLKCK	O	Subcode block clock
68	NRST	I	LSI reset input (L: RESET)
69	DVSS3	-	Digital circuit GND 3
70	X2	O	Crystal oscillator circuit output
71	X1	I	Crystal oscillator circuit input
72	IOVDD2	I	I/O power supply 2
73	DQSY	O	Pack signal output for CD-Text data
74	TXTD	O	CD Text signal output
75	TXCK	I	External clock signal input for CD-Text register
76	GIO0	I/O	General purpose input/output Terminal 0
77	GIO1	I/O	General purpose input/output Terminal 1
78	GIO2	I/O	General purpose input/output Terminal 2
79	GOUT0	O	General purpose output Terminal 0
80	GOUT1	O	General purpose output Terminal 1

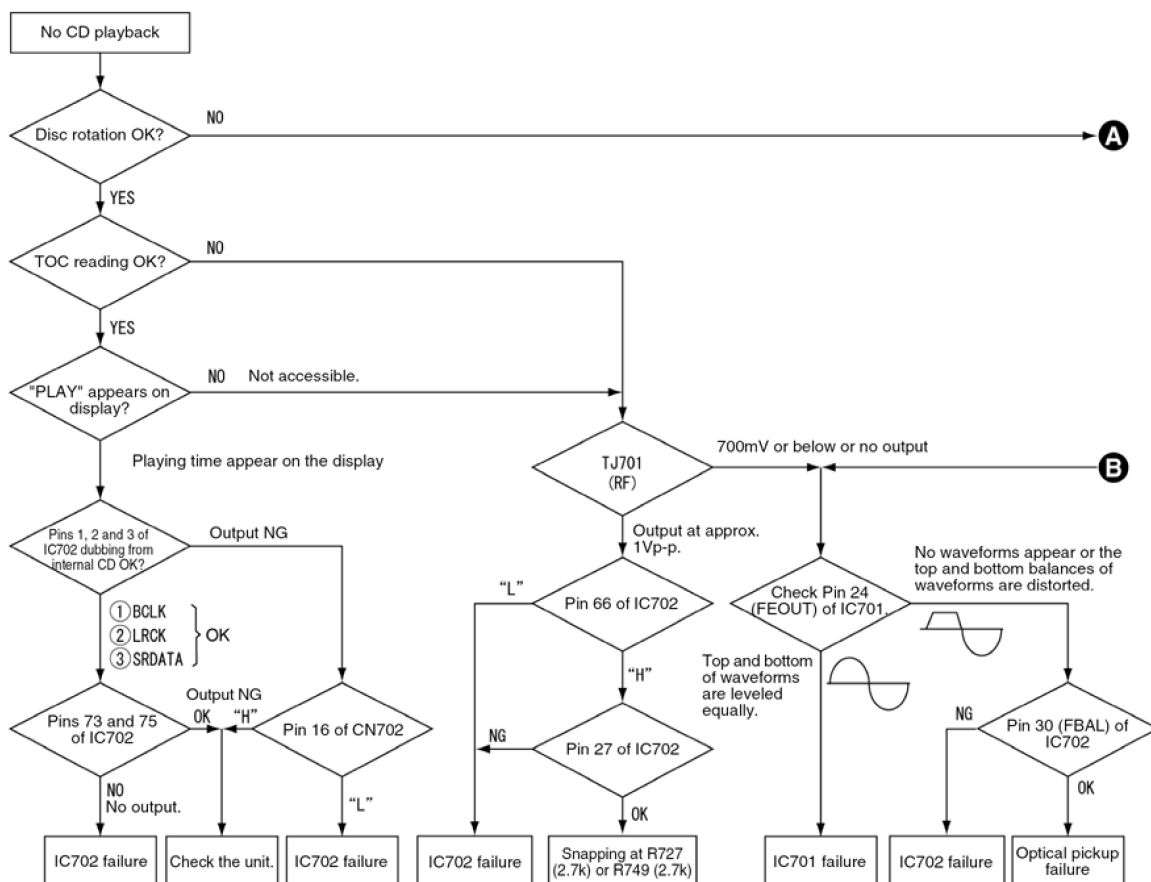
23.3. IC703 (BA5948FPE2) IC 4CH DRIVE

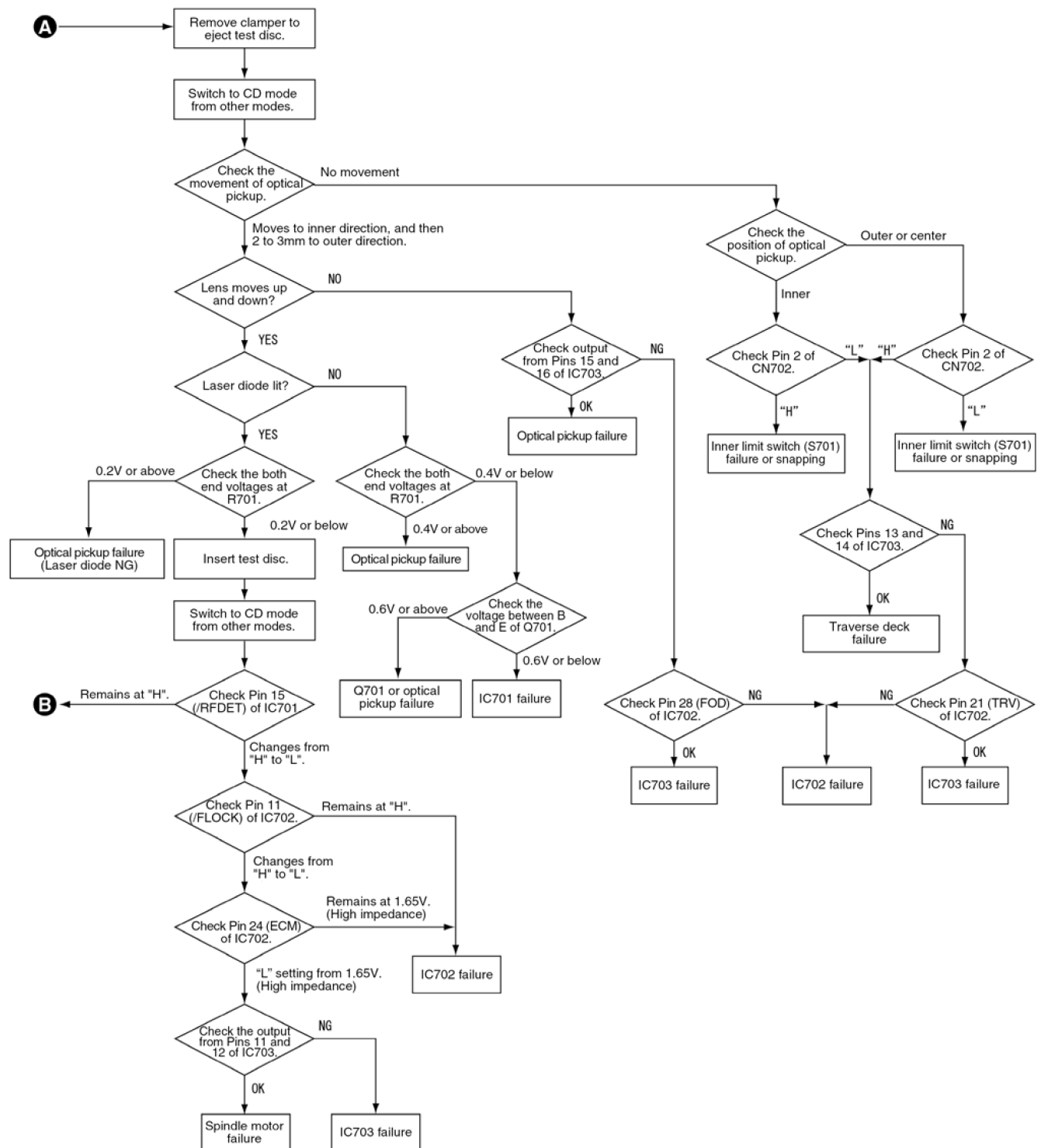
Pin No.	Mark	I/O	Function
1	IN2	I	Motor Driver 92 Input
2	PC2	I	Turntable Motor Drive Signal ("L": ON)
3	IN1	I	Motor Driver (1) Input
4	PC1	-	Traverse Motor Drive Signal ("L": ON)
5	N.C.	-	No Connection
6	N.C.	-	No Connection

Pin No.	Mark	I/O	Function
7	N.C.	-	No Connection
8	N.C.	-	No Connection
9	PGND1	-	Ground Connection (1) for Driver
10	PVCC1	I	Power Supply (1) for Driver
11	D1-	O	Motor Driver (1) reverse - action output
12	D1+	O	Motor Driver (1) forward - action output

Pin No.	Mark	I/O	Function
13	D2-	O	Motor Driver (2) reverse - action output
14	D2+	O	Motor Driver (2) forward - action output
15	D3-	O	Motor Driver (3) reverse - action output
16	D3+	O	Motor Driver (3) forward - action output
17	D4-	O	Motor Driver (4) reverse - action output
18	D4+	O	Motor Driver (4) forward - action output
19	PVCC2	-	Power Supply (2) for Driver
20	PGND2	-	Ground Connection (2) for Driver
21	N.C.	-	No Connection
22	N.C.	-	No Connection
23	N.C.	-	No Connection
24	N.C.	-	No Connection
25	VCC	I	Power Supply Terminal
26	VREF	I	Reference Voltage Input
27	IN4	I	Motor Driver (4) Input
28	IN3	I	Motor Driver (3) Input

24 Troubleshooting Flowchart (CD Section Circuit)





25 Parts Location and Replacement Parts List

Notes:

- Important safety notice:

Components identified by  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.

When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.

- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)

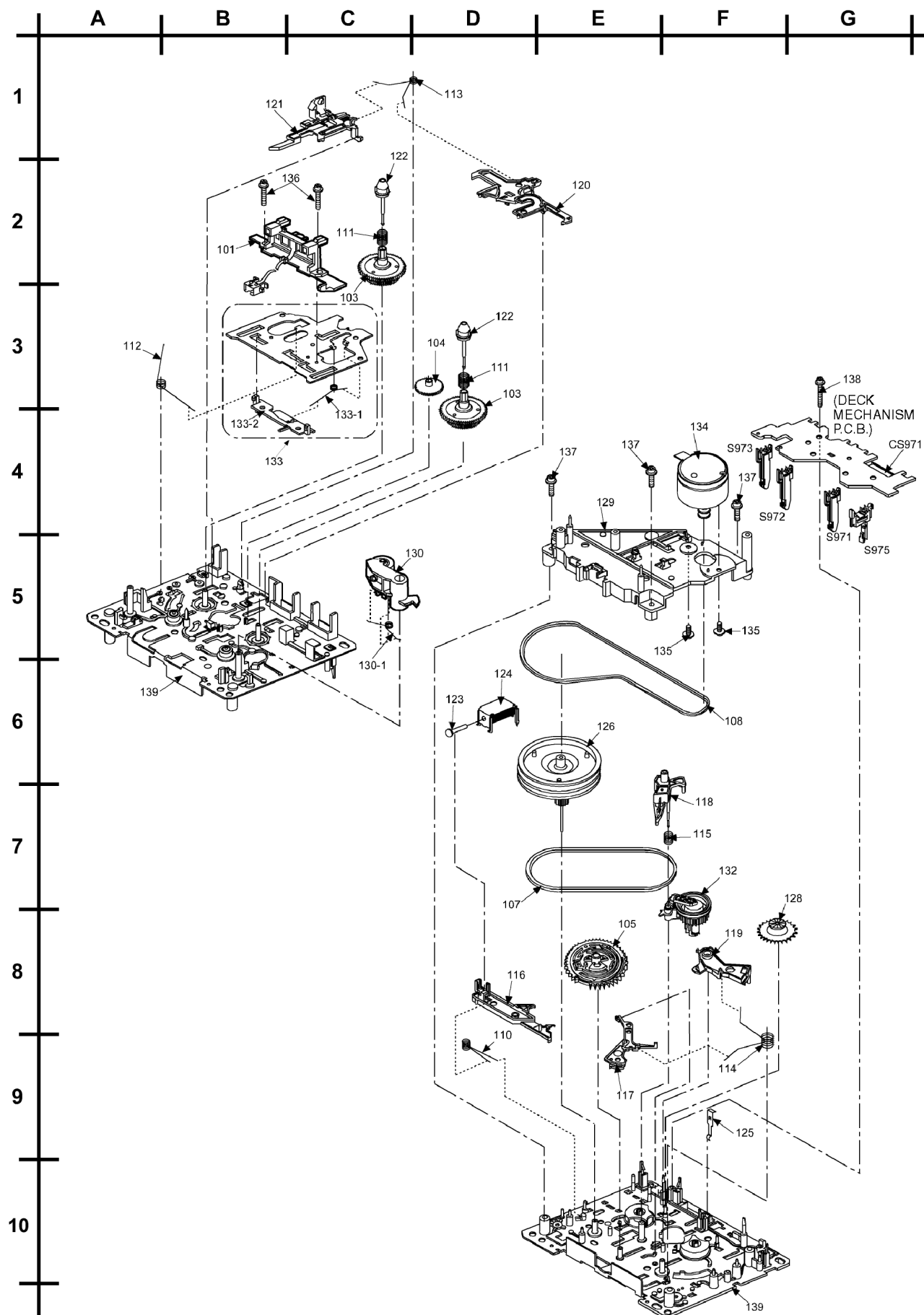
Parts without these indications can be used for all areas.

- Warning: This product uses a laser diode. Refer to Precaution of Laser Diode.
- Capacitor values are in microfarads (μF) unless specified otherwise, P= Pico-farads (pF), F= Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).
- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
- [M] Indicates in the Remarks columns indicates parts supplied by **PAVCSG**.
- The "(SF)" mark denotes the standard part.
- Reference for O/I book languages are as follows:

Ar:	Arabic	Du:	Dutch	It:	Italian	Sp:	Spanish
Cf:	Canadian French	En:	English	Ko:	Korean	Sw:	Swedish
Cz:	Czech	Fr:	French	Po:	Polish	Co:	Traditional Chinese
Da:	Danish	Ge:	German	Ru:	Russian	Cn:	Simplified Chinese
Pe:	Persian	Ur:	Ukraine				

25.1. Deck Mechanism

25.1.1. Deck Mechanism Parts Location (RAA4402-S)

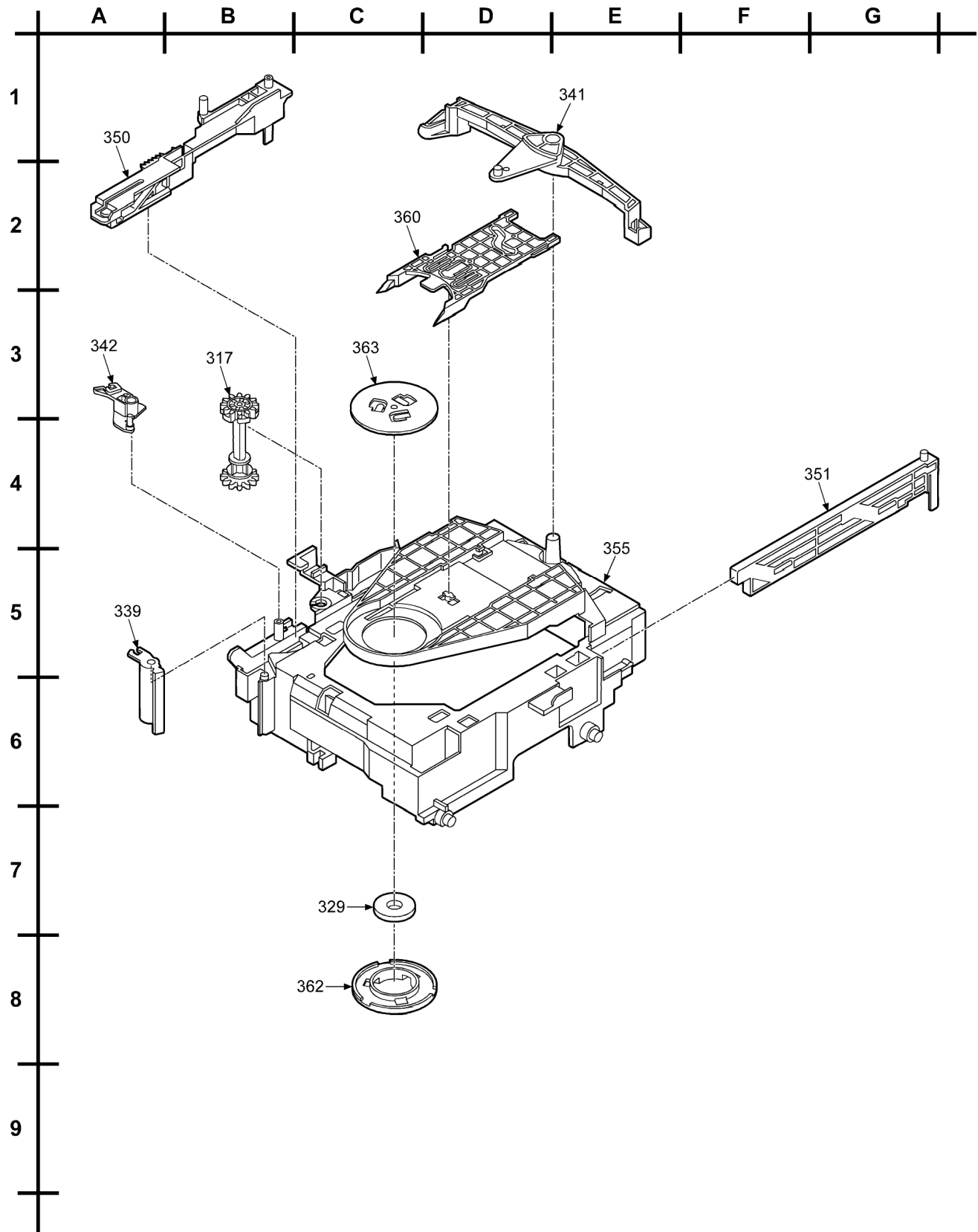


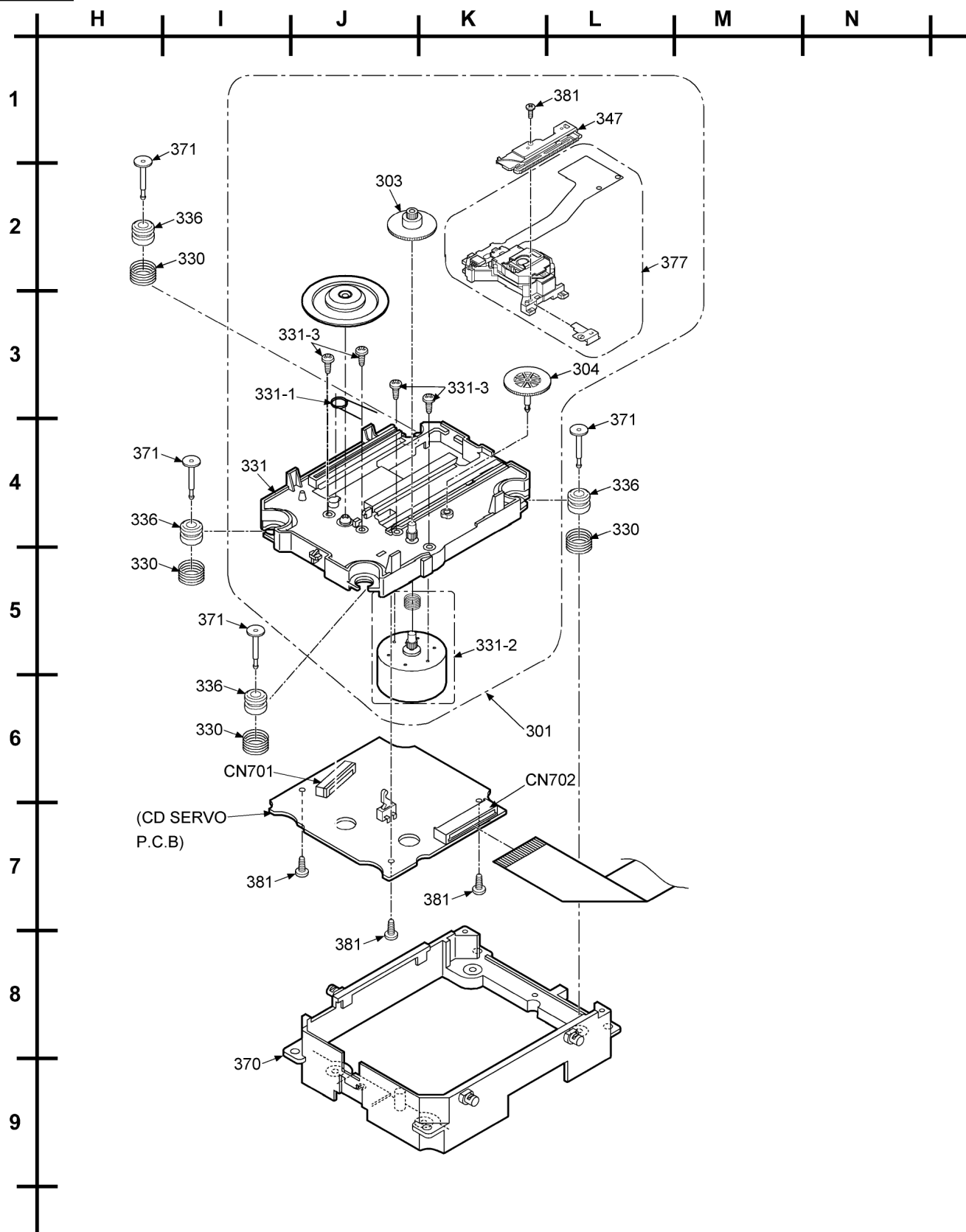
25.1.2. Deck Mechanism Parts List

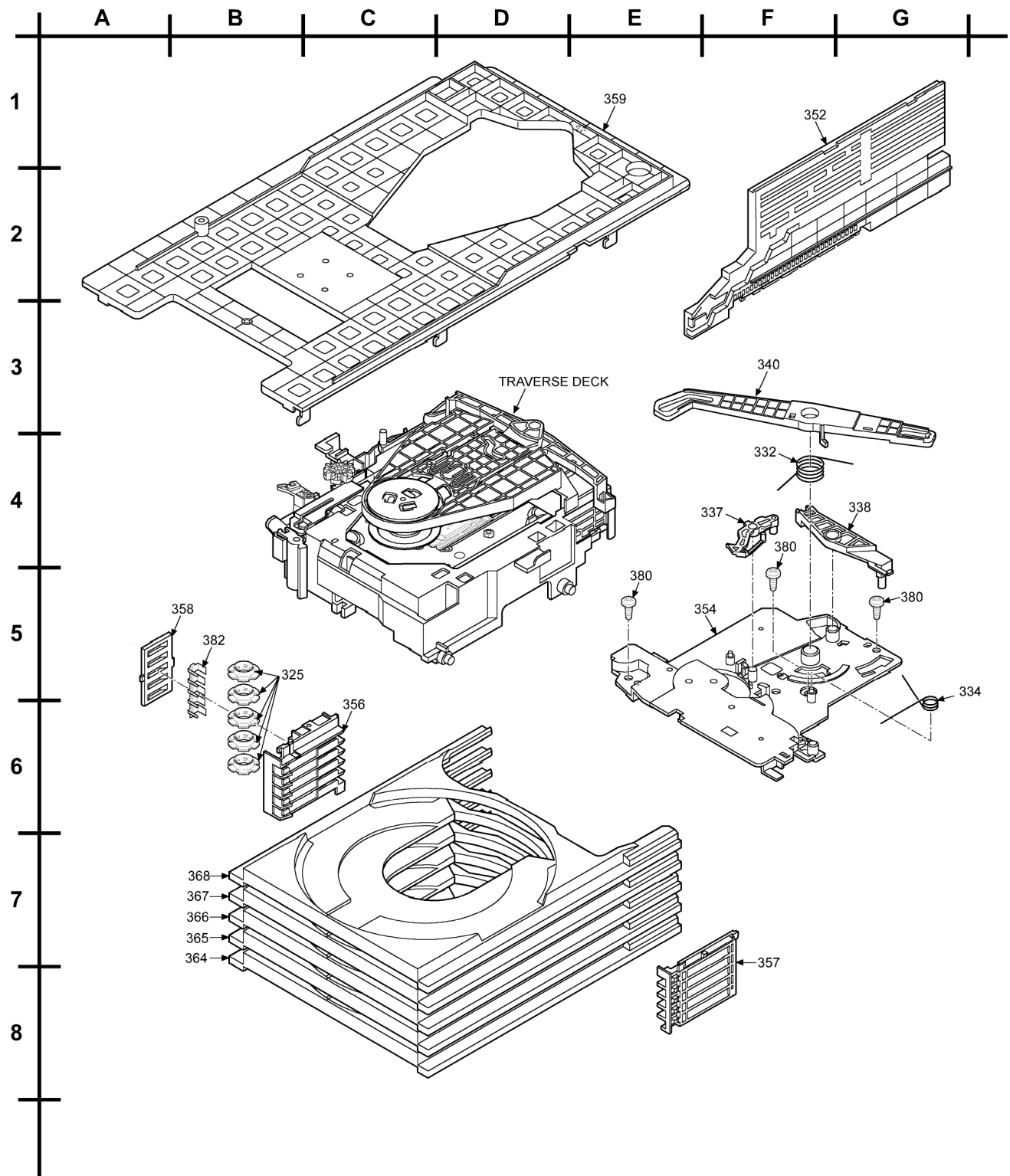
Ref. No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK	
101	RED0067	R/P HEAD BLOCK UNIT	[M]
103	RDG0300	REEL BASE GEAR	[M]
104	RDG0301	WINDING RELAY GEAR	[M]
105	RDK0026	MAIN GEAR	[M]
107	RDV0033-4	WINDING BELT	[M]
108	RDV0064	CAPSTAN BELT	[M]
110	RMB0312	TRIGGER LEVER SPRING	[M]
111	RMB0400	REEL SPRING	[M]
112	RMB0403	HEAD PANEL SPRING	[M]
113	RMB0404	BRAKE ROD SPRING	[M]
114	RMB0406	FR LEVER SPRING	[M]
115	RMB0408	THRUST SPRING	[M]
116	RML0370	TRIGGER LEVER	[M]
117	RML0371	FR LEVER	[M]
118	RML0372	WINDING LEVER	[M]
119	RML0374	EJECT LEVER	[M]
120	RMM0131	BRAKE ROD	[M]
121	RMM0133	EJECT ROD	[M]
122	RMQ0519	REEL HUB	[M]
123	RMS0398-1	MOVING CORE	[M]
124	RXQ0470	PLUNGER	[M]
125	RMC0061	PACK SPRING	[M]
126	RXF0061	FLYWHEEL F ASS'Y	[M]
128	RXG0040	FF RELAY GEAR ASS'Y	[M]
129	RMK0283A-J	SUB-CHASSIS	[M]
130	RXL0124	PINCH ROLLER F ASS'Y	[M]
130-1	RMB0401	PINCH ARM SPRING F	[M]
132	RXL0126	WINDING ARM ASS'Y	[M]
133	RXQ0412	HEAD PANEL ASS'Y	[M]
133-1	RMB0405	FR ROD SPRING	[M]
133-2	RMM0132	FR ROD	[M]
134	REM0120	CAP MOTOR ASS'Y	[M]
135	RHD26022	MOTOR SCREW	[M]
136	XTW2+5L	HEAD BLOCK UNIT SCREW	[M]
137	XTW26+10S	SUB-CHASSIS SCREW	[M]
138	XYC2+JF17	PCB EARTH SCREW	[M]
139	RPFKJSTR280PP	CHASSIS ASS'Y	[M]

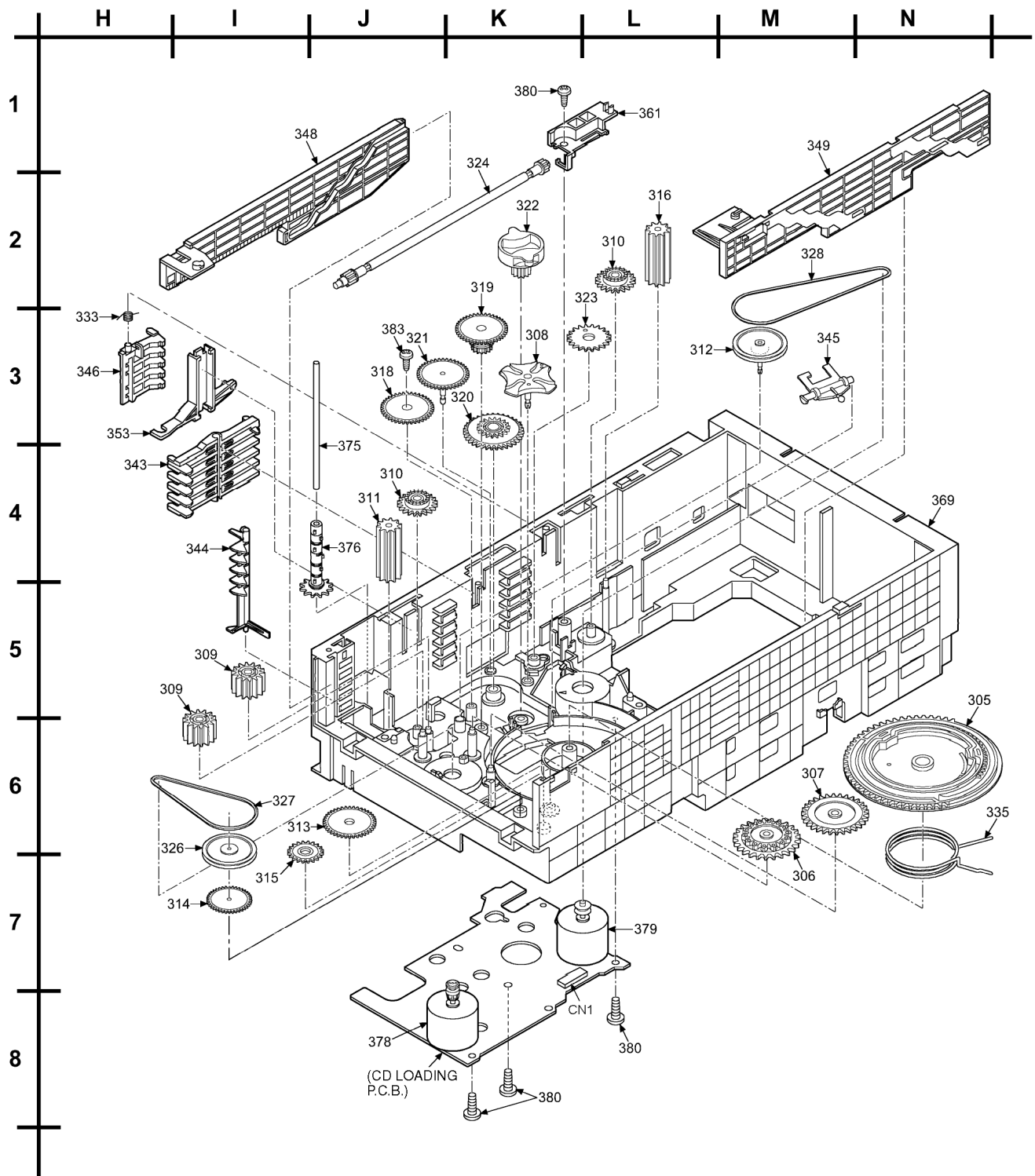
25.2. CD Loading Mechanisms

25.2.1. CD Loading Mechanism Parts Location









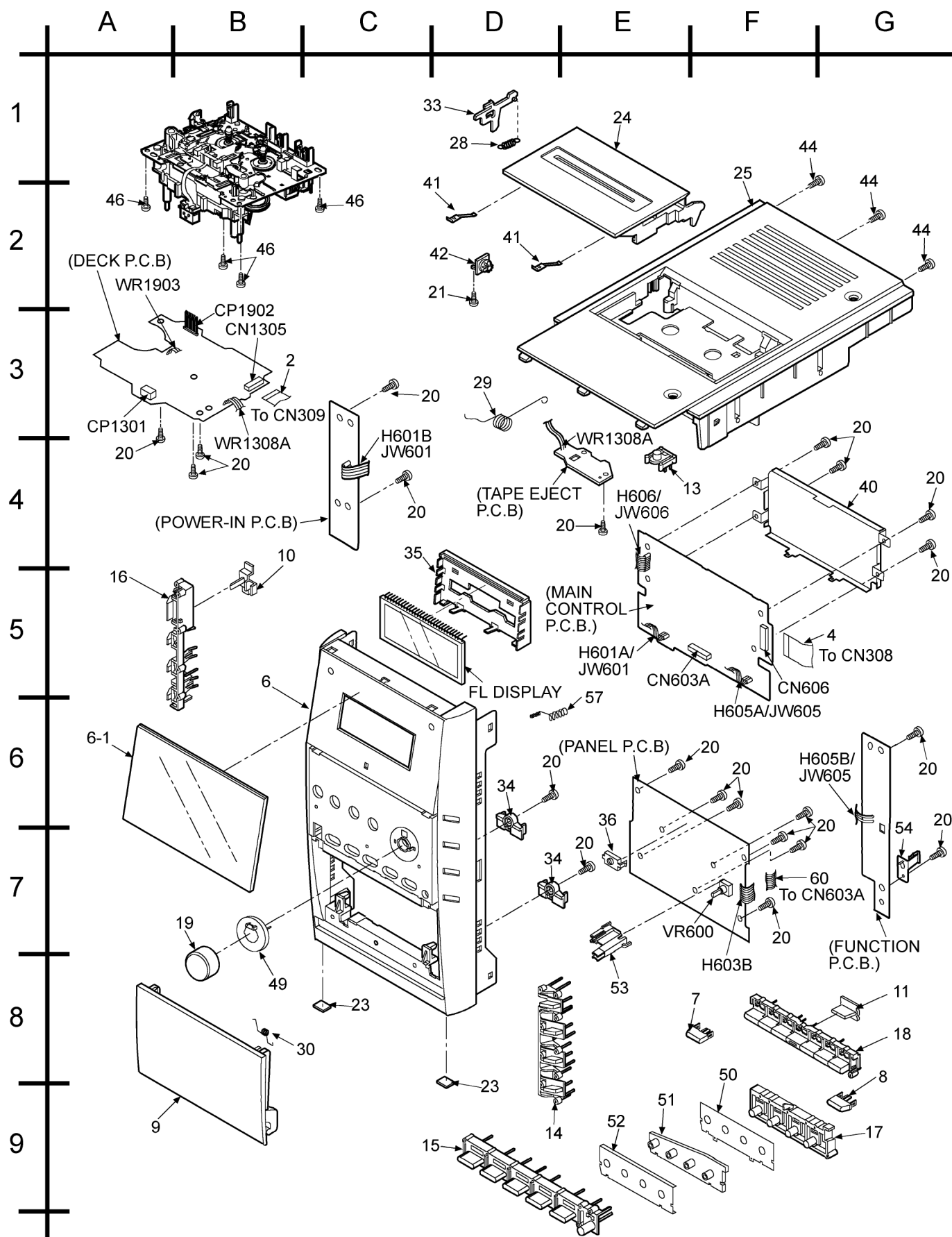
25.2.2. CD Loading Mechanism Parts List

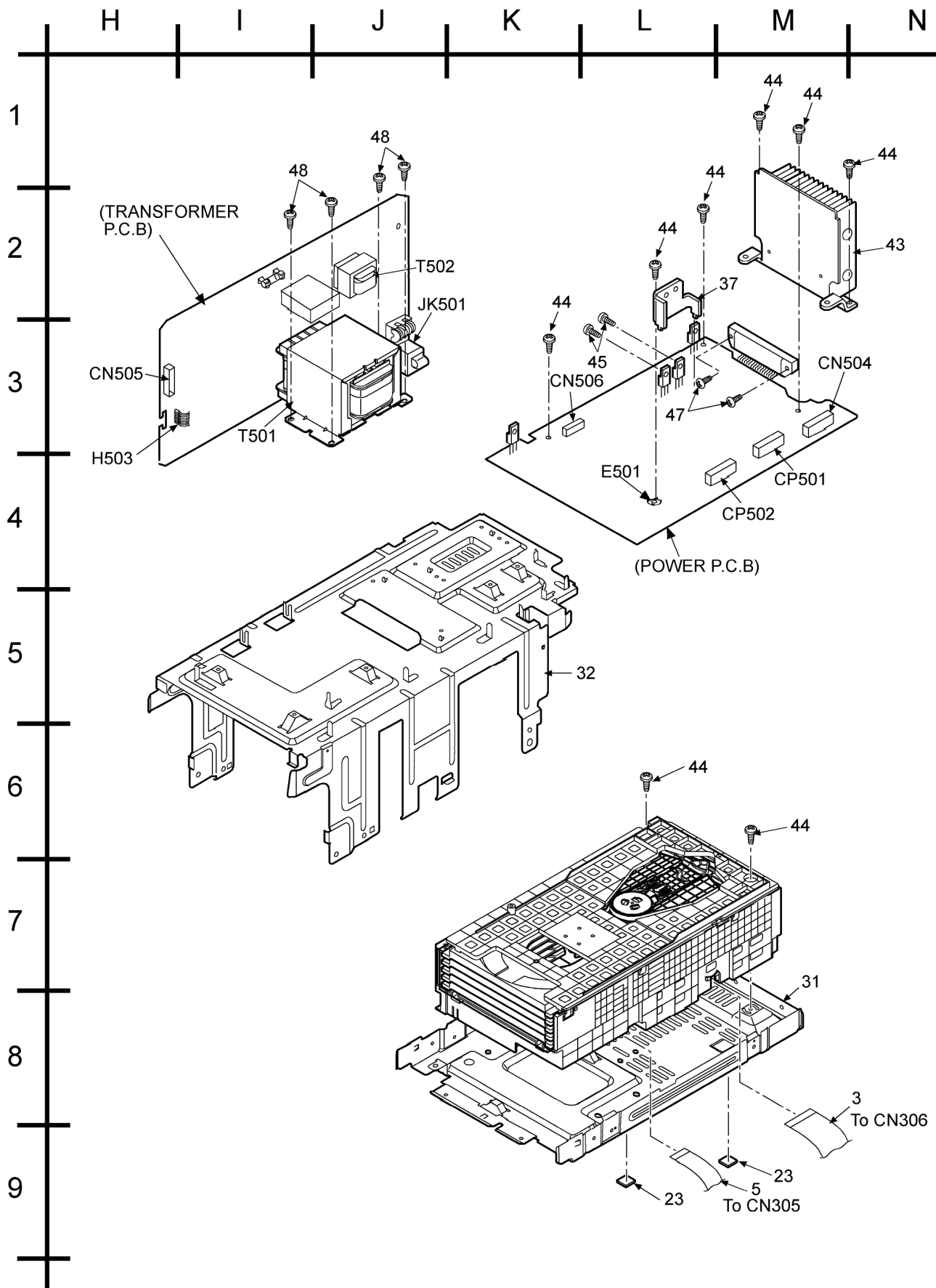
Ref. No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RAE0157A-V	TRV UNIT W/O SERVO	[M]
303	RDG0455	TRAVERSE GEAR (A)	[M]
304	RDG0456	TRAVERSE GEAR (B)	[M]
305	RDG0519	MAIN GEAR	[M]
306	RDG0520	SPEED UP GEAR	[M]
307	RDG0521	REVERSE GEAR	[M]
308	RDG0522	GENEVA GEAR	[M]
309	RDG0523	HOR RELAY GEAR	[M]
310	RDG0525	CROWN GEAR	[M]
311	RDG0526	TRAY RELAY GEAR	[M]
312	RDG0527	UD PULLEY GEAR	[M]
313	RDG0528	HOR SPEED DOWN GEAR	[M]
314	RDG0529	HOR SPEED DOWN GEAR	[M]
315	RDG0530	HOR DRIVE GEAR	[M]
316	RDG0531	LOAD RELAY GEAR	[M]
317	RDG0532	LOAD GEAR	[M]
318	RDG0535	UD SPEED DOWN GEAR	[M]
319	RDG0534	UD SPEED DOWN GEAR	[M]
320	RDG0536	SELECT SPEED DOWN GEAR	[M]
321	RDG0537	SELECT DRIVE GEAR	[M]
322	RDG0538	CHANGE GEAR	[M]
323	RDG0539	UD DRIVE GEAR	[M]
324	RDG0540	TIMING GEAR	[M]
325	RDG0542	TRAY GEAR	[M]
326	RDG0543	HOR PULLEY GEAR	[M]
327	RDV0068	HOR BELT	[M]
328	RDV0069	UD BELT	[M]
329	RHM0001	MAGNET	[M]
330	RME0109	FLOATING SPRING	[M]
331	RFKNCT101	TRAVERSE UNIT	[M]
331-1	RME0369	PRESS SPRING	[M]
331-2	RXQ0632	TRAVERSE MOTOR UNIT	[M]
331-3	XQN17+C28FJ	SCREW	[M]
332	RME0344	UD ASSIST SPRING	[M]
333	RME0361	TRAY STOPPER SPRING	[M]
334	RME0363	LIMIT SPRING	[M]
335	RME0368	MAIN GEAR SPRING	[M]
336	RMG0563-T	FLOATING RUBBER	[M]
337	RML0616	SPEED UP LOCK	[M]
338	RML0617	SEPARATE LEVER 1	[M]
339	RML0618	SEPARATE LEVER 2	[M]
340	RML0619-1	UD. CONNECTION LEVER	[M]
341	RML0620	TRV.CONNECT LEVER	[M]
342	RML0621	TRAY CHANGE LEVER	[M]
343	RML0622	TRAY LOCK LEVER	[M]
344	RML0623	OPEN SW. LEVER	[M]
345	RML0624	CHG. LEVER	[M]
346	RML0637	TRAY STOPPER	[M]
347	RMM0218	TRAVERSE DRIVE RACK	[M]
348	RMM0239	UD RACK L	[M]
349	RMM0240	UD.RACK R	[M]
350	RMM0241	TRV. SLIDE PLATE L	[M]
351	RMM0242	TRV. SLIDE PLATE R	[M]
352	RMM0243	SELECT RACK PART	[M]
353	RMM0244	SELECT GUIDE	[M]
354	RMQ1051	PITCH PLATE PART	[M]
355	RMQ1052	UD BASE PART	[M]
356	RMQ1056	TRAY GUIDE L	[M]
357	RMQ1057	TRAY GUIDE R	[M]
358	RMQ1058	GEAR HOLDER	[M]
359	RMQ1059	TOP COVER	[M]
360	RMQ1060	CLAMP GUIDE	[M]
361	RMQ1061	TG.PLATE	[M]
362	RMR0334	FIXTURE	[M]
363	RMR0624-W5	CLAMPER	[M]
364	RMR1407A-H6	TRAY 1	[M]
365	RMR1407B-H6	TRAY 2	[M]
366	RMR1407C-H6	TRAY 3	[M]
367	RMR1407D-H6	TRAY 4	[M]

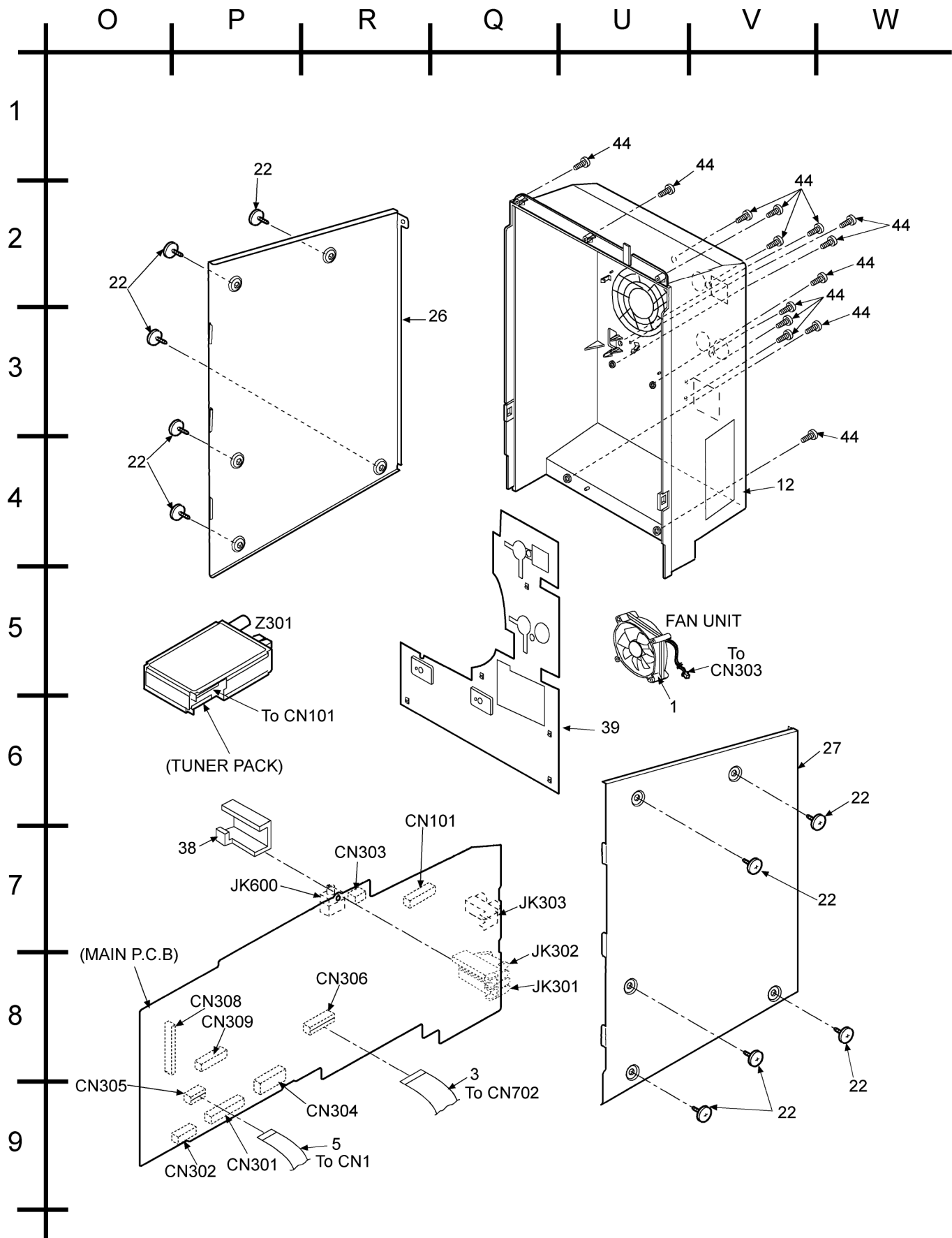
Ref. No.	Part No.	Part Name & Description	Remarks
368	RMR1407E-H6	TRAY 5	[M]
369	RFKNAPM77MDS	MECHA BASE ASS'Y	[M]
370	RMR1427-X	MIDDLE CHASSIS	[M]
371	RMS0757-1	FIXED PIN	[M]
375	RMS0762	TRAY GEAR SHAFT	[M]
376	RXG0053	TRAY DRIVE GEAR ASSY	[M]
377	RXQ0999	OPU UNIT	[M]
378	RXQ0803	LOADING MOTOR ASS'Y	[M]
379	RXQ0804	UD MOTOR ASS'Y	[M]
380	XTB3+10JFJ	SCREW	[M]
381	XTN2+6GFJ	SCREW	[M]
382	RMC0472	TRAY SPRING	[M]
383	RHD26045-L	SCREW	[M]

25.3. Cabinet Part List

25.3.1. Cabinet Parts Location







25.3.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	L6FALEFH0023	DC FAN	[M]
2	REEV0026	21P FFC (DECK PCB)	[M]
3	REEV0039	17P FFC (CR16-MAIN)	[M]
4	REEV0077	19P FFC	[M]
5	REEX0166	14P FFC WIRE (CR16)	[M]
6	RFKGAPM41PCS	FRONT PANEL ASS'Y	[M]
6-1	RGPV0066B-Q	FL WINDOW	[M]
7	RGKV0090-S	LEFT STRIP ORNAMENT	[M]
8	RGKV0091-S	RIGHT STRIP ORNAMENT	[M]
9	RFKLAPM41PCS	CD LID ASS'Y	[M]
10	RGLV0046	AC IN LIGHTING TIP	[M]
11	RGLV0047	SSEQ LIGHTING TIP	[M]
12	RFKHAPM41PCS	REAR CABINET ASS'Y	[M] PC
12	RKSV0024F-H	REAR CABINET	[M] P
13	RGU2280-S	CASS EJECT BUTTON	[M]
14	RGUV0112-S	FUNCTION BUTTON	[M]
15	RGUV0110-S	CD SELECTION BUTTON	[M]
16	RGUV0111-S	POWER BUTTON	[M]
17	RGUV0125-S	MAIN CONTROL BUTTON	[M]
18	RGUV0126-S	ALBUM BUTTON	[M]
19	RFKDAPM41PCS	VOLUME KNOB ASS'Y	[M]
20	RHD26046-L	SCREW	[M]
21	RHD26049	SCREW	[M]
22	RHD30007-1SJ	SCREW	[M]
23	RHGV0008	LEG CUSHION	[M]
24	RKF0688-S	CASS HOLDER/LID	[M]
25	RKMV0045-S	TOP CABINET	[M]
26	RKMV0046-S	SIDE PANEL LEFT	[M]
27	RKMV0047-S	SIDE PANEL RIGHT	[M]
28	RMB0448-J	LOCK ROD SPRING	[M]
29	RMB0780	CASS OPEN SPRING	[M]
30	RMB0783	CD LID OPEN SPRING	[M]
31	RMK0595	BOTTOM CHASSIS	[M]
32	RMKV0037	INNER CHASSIS	[M]
33	RMM0163-1	CASSETTE LOCK ROD	[M]
34	RMN0780	CD LID SUPPORT	[M]
35	RMNV0015	FL HOLDER	[M]
36	RMNV0053	SSEQ LED COVER	[M]
37	RMV0260	HEAT SINK	[M]
38	RSC0669	SP EARTH R	[M]
39	RSCV0052	REAR SHIELD PLATE	[M]
40	RSCV0057	FL RR SHIELD	[M]
41	RUS757ZAA	CASS HALF SPRING	[M]
42	RXGX0003	DAMPER GEAR UNIT	[M]
43	RXXV0037	HEAT SINK UNIT	[M]
44	XTB3+10JFJK	SCREW	[M]
45	XTB3+8JFJK	SCREW	[M]
46	XTV3+10GFJ-M	SCREW	[M]
47	XTW3+15TFJ	SCREW	[M]
48	XTWS3+6TFJ	SCREW	[M]
49	RGL0660-Q1	VOLUME RING LIGHT	[M]
50	RGLV0053-W	KIMOTO SHEET	[M]
51	RGLV0054-Q	BTN DIFF PLATE	[M]
52	RGLV0060-W	REFLECTIVE SHEET	[M]
53	RMNV0057	LED HOLDER	[M]
54	RSCV0058	FL PLATE (BUTTON)	[M]
57	RMBV0037	EARTH SPRING	[M]
60	REXV0061	11P WIRE	[M]

25.4. Electrical Part List

Ref. No.	Part No.	Part Name & Description	Remarks
		Printed Circuit Board	
	REPVO039A	CD SERVO P.C.B.	[M] RTL
	REPVO062A	MAIN P.C.B. / MAIN CONTROL P.C.B. / PANEL P.C.B. / POWER IN P.C.B. / FUNCTION P.C.B.	[M] RTL
	REPX0321H	DECK MECHANISM P.C.B.	[M] RTL
	REPVO016B	DECK P.C.B. / TAPE EJECT P.C.B.	[M] RTL
	REPVO038F	POWER P.C.B. / TRANSFORMER P.C.B.	[M] RTL
	REPV3569A	CD LOADING P.C.B.	[M] RTL
		INTEGRATED CIRCUITS	
IC11	C0GAG0000007	IC UP/DOWN MOTOR DRIVE	[M]
IC21	C0GAG0000007	IC LOADING MOTOR DRIVE	[M]
IC300	C1BB00000757	IC ASP	[M]
IC301	C3FBHA000004	IC FLASH MEMORY	[M]
IC302	C2CBJG000575	IC MICROPROCESSOR	[M]
IC305	C0DBZGC00067	IC 3.3V REGULATOR	[M]
IC500	RSN315H41-P	IC POWER HIC	[M]
IC501	COAABB000125	IC OP AMP	[M]
IC601	COHBB0000039	IC SLAVE	[M]
IC602	COHBB0000039	IC MASTER	[M]
IC702	MN6627953HB	IC SERVO PROCESSOR DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER/D/A CONVERTER	[M]
IC703	BA5948FPE2	IC 4 CH DRIVE	[M]
IC903	COABBB000067	IC OP AMP	[M]
IC905	COABBB000067	IC OP AMP	[M]
IC906	COABBB000067	IC OP AMP	[M]
IC971	CNB13030R2AU	IC PHOTO INTERRUPTOR	[M]
IC1000	C1AA00000612	IC ANALOG SW	[M]
IC1001	AN7326K	IC P/B REC AMP	[M]
		TRANSISTORS	
Q1	B3NAA0000068	TRANSISTOR	[M]
Q200	KRA102STA	TRANSISTOR	[M]
Q201	BIABCE000016	TRANSISTOR	[M]
Q222	BIABCE000016	TRANSISTOR	[M]
Q223	BIABCE000016	TRANSISTOR	[M]
Q224	BIABCE000016	TRANSISTOR	[M]
Q301	KTA1504GRTA	TRANSISTOR	[M]
Q302	KRC102STA	TRANSISTOR	[M]
Q303	KTA1504GRTA	TRANSISTOR	[M]
Q304	B1GBCFGG0001	TRANSISTOR	[M]
Q305	B1GBCFGG0001	TRANSISTOR	[M]
Q306	KRC103STA	TRANSISTOR	[M]
Q307	BIABCE000016	TRANSISTOR	[M]
Q308	BIABCE000016	TRANSISTOR	[M]
Q309	KRC101STA	TRANSISTOR	[M]
Q310	KRC101STA	TRANSISTOR	[M]
Q390	B1GBCFGG0001	TRANSISTOR	[M]
Q400	KRA102STA	TRANSISTOR	[M]
Q422	BIABCE000016	TRANSISTOR	[M]
Q423	BIABCE000016	TRANSISTOR	[M]
Q424	BIABCE000016	TRANSISTOR	[M]
Q501	B1BACG000023	TRANSISTOR	[M]
Q502	B1BCCG000002	TRANSISTOR	[M]
Q505	BIACCF000063	TRANSISTOR	[M]
Q506	B1BCCG000002	TRANSISTOR	[M]
Q508	KTC3199GRTA	TRANSISTOR	[M]
Q509	KRA110MTA	TRANSISTOR	[M]
Q514	2SD0592ARA	TRANSISTOR	[M]
Q515	KTC3199GRTA	TRANSISTOR	[M]
Q516	KTC3199GRTA	TRANSISTOR	[M]
Q517	KTC32030YTA	TRANSISTOR	[M]
Q519	B1AAGC000006	TRANSISTOR	[M]
Q520	B1BACG000023	TRANSISTOR	[M]
Q575	B1AAGC000006	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q577	2SC3940ARA	TRANSISTOR	[M]
Q578	KRC102MTA	TRANSISTOR	[M]
Q579	2SB0621AHA	TRANSISTOR	[M]
Q600	KRC119STA	TRANSISTOR	[M]
Q602	KRC119STA	TRANSISTOR	[M]
Q603	KRC119STA	TRANSISTOR	[M]
Q604	B1ABCE000016	TRANSISTOR	[M]
Q700	B1AACF000063	TRANSISTOR	[M]
Q701	B1ADCF000001	TRANSISTOR	[M]
Q701	KTA12710YTA	TRANSISTOR	[M]
Q702	B1AACF000063	TRANSISTOR	[M]
Q703	B1AACF000063	TRANSISTOR	[M]
Q704	KRA102MTA	TRANSISTOR	[M]
Q710	B1AAGC000006	TRANSISTOR	[M]
Q711	B1AAGC000006	TRANSISTOR	[M]
Q714	KTC3199GRTA	TRANSISTOR	[M]
Q715	KTC3199GRTA	TRANSISTOR	[M]
Q716	KTC3199GRTA	TRANSISTOR	[M]
Q717	KTC3199GRTA	TRANSISTOR	[M]
Q718	B1AAGC000006	TRANSISTOR	[M]
Q719	B1AAGC000006	TRANSISTOR	[M]
Q720	KTC3199GRTA	TRANSISTOR	[M]
Q721	KTC3199GRTA	TRANSISTOR	[M]
Q725	B1AAGC000006	TRANSISTOR	[M]
Q726	B1AAGC000006	TRANSISTOR	[M]
Q902	KRA101STA	TRANSISTOR	[M]
Q903	KRA101STA	TRANSISTOR	[M]
Q908	BIABCE000016	TRANSISTOR	[M]
Q909	BIABCE000016	TRANSISTOR	[M]
Q1101	B1ABGC000005	TRANSISTOR	[M]
Q1201	B1ABGC000005	TRANSISTOR	[M]
Q1302	B1GDCFJJ0002	TRANSISTOR	[M]
Q1303	B1GBCFGH0001	TRANSISTOR	[M]
Q1304	B1GDCFJG0002	TRANSISTOR	[M]
Q1309	B1AAGC000006	TRANSISTOR	[M]
Q1310	B1AAGC000006	TRANSISTOR	[M]
Q1312	B1ABCF000011	TRANSISTOR	[M]
Q1314	B1GDCFJG0002	TRANSISTOR	[M]
Q1315	KTA12710YTA	TRANSISTOR	[M]
Q1316	2SD09650RA	TRANSISTOR	[M]
Q1317	B1ABGC000005	TRANSISTOR	[M]
		DIODES	
D201	B0BC01000014	DIODE	[M]
D302	B0ACCE000003	DIODE	[M]
D303	B0ACCE000003	DIODE	[M]
D304	MA729TX	DIODE	[M]
D305	B0ACKK000005	DIODE	[M]
D306	B0ACCE000003	DIODE	[M]
D307	B0ACCE000003	DIODE	[M]
D308	B0ACCE000003	DIODE	[M]
D500	B0FBAM000009	DIODE	[M]
D505	B0AACK000004	DIODE	[M]
D508	MTZJ15BTA	DIODE	[M]
D515	B0BA9R600002	DIODE	[M]
D517	B0BA5R600016	DIODE	[M]
D520	B0BA9R600002	DIODE	[M]
D524	B0BA01100004	DIODE	[M]
D525	B0AACK000004	DIODE	[M]
D526	B0AACK000004	DIODE	[M]
D530	B0AACK000004	DIODE	[M]
D531	B0BA8R200005	DIODE	[M]
D578	B0EAKM000117	DIODE	[M]
D579	B0EAKM000117	DIODE	[M]
D580	B0EAKM000117	DIODE	[M]
D581	B0EAKM000117	DIODE	[M]
D582	B0BA6R600008	DIODE	[M]
D584	B0EAKM000117	DIODE	[M]
D585	B0EAKM000117	DIODE	[M]
D586	B0EAKM000117	DIODE	[M]
D587	B0EAKM000117	DIODE	[M]
D588	B0EAKM000117	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D589	B0EAKM000117	DIODE	[M]
D592	B0EAKM000117	DIODE	[M]
D593	B0EAKM000117	DIODE	[M]
D595	B0BA03100016	DIODE	[M]
D600	B0BC6R700006	DIODE	[M]
D601	B3ADA0000087	DIODE	[M]
D609	B3AAA0000487	DIODE	[M]
D612	B3AEA0000058	DIODE	[M]
D613	B0BC8R100004	DIODE	[M]
D614	B3AEA0000058	DIODE	[M]
D615	B0BC8R100004	DIODE	[M]
D700	B0AACK000004	DIODE	[M]
D701	B0AACK000004	DIODE	[M]
D702	B0AACK000004	DIODE	[M]
D703	B0AACK000004	DIODE	[M]
D704	B0AACK000004	DIODE	[M]
D705	B0AACK000004	DIODE	[M]
D706	B0AACK000004	DIODE	[M]
D707	B0AACK000004	DIODE	[M]
D708	MA2C16500E	DIODE	[M]
D709	MA2C16500E	DIODE	[M]
D750	MAZ80560ML	DIODE	[M]
D971	MA2C16500E	DIODE	[M]
D1301	B0ACCK000005	DIODE	[M]
		VARIABLE RESISTOR	
VR600	EVEJ1F42224B	VR VOLUME ENCODER	[M]
		SWITCHES	
S1	K0L1BA000065	SW STOCK	[M]
S2	K0L1BA000065	SW PLAY	[M]
S3	K0L1BA000078	SW BOTTOM	[M]
S4	RSH1A045-1A	SW OPEN	[M]
S5	K0L1BA000065	SW CHANGE	[M]
S601	EVQ21405RJ	SW CD 1	[M]
S602	EVQ21405RJ	SW CD 2	[M]
S603	EVQ21405RJ	SW CD 3	[M]
S604	EVQ21405RJ	SW CD 4	[M]
S605	EVQ21405RJ	SW CD 5	[M]
S606	EVQ21405RJ	SW OPEN/CLOSE	[M]
S607	EVQ21405RJ	SW CD PLAY/PAUSE	[M]
S608	EVQ21405RJ	SW TAPE PLAY	[M]
S609	EVQ21405RJ	SW ENTER	[M]
S610	EVQ21405RJ	SW TRACK UP	[M]
S611	EVQ21405RJ	SW HARMONIC	[M]
S612	EVQ21405RJ	SW TREBLE	[M]
S613	EVQ21405RJ	SW TRACK DOWN	[M]
S614	EVQ21405RJ	SW POWER	[M]
S615	EVQ21405RJ	SW REC	[M]
S616	EVQ21405RJ	SW AUX	[M]
S617	EVQ21405RJ	SW CD CHECK	[M]
S618	EVQ21405RJ	SW TUNER/BAND	[M]
S619	EVQ21405RJ	SW BASS	[M]
S620	EVQ21405RJ	SW CD CHANGE	[M]
S621	EVQ21405RJ	SW REVERSE	[M]
S622	EVQ21405RJ	SW FORWARD	[M]
S623	EVQ21405RJ	SW RETURN	[M]
S624	EVQ21405RJ	SW STOP	[M]
S625	EVQ21405RJ	SW PLAY LIST	[M]
S701	RSH1A048-A	SW REST	[M]
S971	RSH1A018-3U	SW MODE	[M]
S972	RSH1A019-2U	SW HALF	[M]
S973	RSH1A019-2U	SW CR02	[M]
S975	RSH1A019-2U	SW RECINH_F	[M]
S1901	EVQ21405RJ	SW TAPE EJECT	[M]
		CONNECTORS	
CN1	K1MN14B00066	14P FFC CONNECTOR	[M]
CN101	K1KA10A00263	10P CONNECTOR	[M]
CN301	K1KB13B00017	13P CONNECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
CN302	K1KB07A00018	7P CONNECTOR	[M]
CN303	K1KA02A00008	2P CONNECTOR (FAN)	[M]
CN304	K1KA08B00255	8P CONNECTOR	[M]
CN305	K1MN14C00004	14P FFC CONNECTOR	[M]
CN306	K1MN17C00002	17P FFC CONNECTOR	[M]
CN308	K1MN19A00036	19P FFC CONNECTOR	[M]
CN309	K1MN21A00031	21P CONNECTOR	[M]
CN504	K1KB08A00100	8P CONNECTOR	[M]
CN505	K1KB07A00016	7P CONNECTOR	[M]
CN506	RJT119W06V	6P CONNECTOR	[M]
CN603A	K1KA11B00066	11P CONNECTOR	[M]
CN606	K1MN19B00072	19P FFC CONNECTOR	[M]
CN701	RJS2A8616	16P FPC CONNECTOR	[M]
CN702	RJS2A7717	17P FFC CONNECTOR	[M]
CN1305	K1MN21B00010	21P FFC CONNECTOR	[M]
CP501	K1KA13A00100	13P CONNECTOR	[M]
CP502	K1KA07A00082	7P CONNECTOR	[M]
CP1301	K1MN05A00019	5P CONNECTOR	[M]
CP1902	K1KA09B00058	9P CONNECTOR	[M]
CS971	RJU071H09M1	9P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L203	J0JBC0000019	CHIP INDUCTOR	[M]
L300	G0C3R3JA0027	COIL	[M]
L301	G0A200D00002	RF CHOKE COIL	[M]
L503	G0B371HA0005	LINE FILTER	[M] 
L600	J0JBC0000019	CHIP INDUCTOR	[M]
L601	J0JBC0000019	CHIP INDUCTOR	[M]
L602	G0C100JA0030	INDUCTOR	[M]
L603	G0C101JA0027	COIL	[M]
L604	G0C3R3JA0027	COIL	[M]
L1301	7L1A62N	BIAS OCS COIL	[M]
L1302	RLQB470JTD-D	RF CHOKE COIL	[M]
T501	G4C7AFD00015	TRANSFORMER	[M] 
T502	G4C2AAD00004	SUB TRANSFORMER	[M] 
		COMPONENT COMBINATIONS	
Z301	ENG06810QF	TUNER	[M]
Z501	ERZVA5Z471	ZENER	[M] 
Z601	B3RAB0000040	REMOTE SENSOR	[M]
		RELAY	
RL501	K6B1ADA00011	RELAY	[M] 
		OSCILLATORS	
X301	H2A100500006	10MHZ RESONATOR	[M]
X302	RSXD32K7S02	CRYSTAL OSCILLATOR	[M]
X701	RSXC16M9S04	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBE	
FL600	A2BB00000130	FL	[M]
		FUSE	
F1	K5D202APA008	FUSE	[M] 
		FUSE HOLDERS	
FC1	EYF52BCY	FUSE CLIP	[M]
FC2	EYF52BCY	FUSE CLIP	[M]
		FUSE PROTECTOR	
FP501	K5G402A00025	FUSE PROTECTOR	[M] 
FP502	K5G102A00023	FUSE PROTECTOR	[M] 

Ref. No.	Part No.	Part Name & Description	Remarks
		HOLDERS	
H503	K1YF06000002	6P WIRE HOLDER	[M]
H601A	RMR0312	3P CABLE HOLDER	[M]
H601B	RMR0312	3P CABLE HOLDER	[M]
H603B	RMR0320	11P WIRE HOLDER	[M]
H605A	RMR0312	3P CABLE HOLDER	[M]
H605B	RMR0312	3P CABLE HOLDER	[M]
H606	RMR0316	7P WIRE HOLDER	[M]
		JACKS	
JK301	K4BC04B00060	JK RED/BLACK SPEAKER	[M]
JK302	K4BC04B00059	JK BLUE/HOAR SPEAKER	[M]
JK303	K4BK02B00007	JK AUX- IN	[M]
JK501	K2AB2B000002	JK AC INLET	[M] 
JK600	K2HC103B0049	JK HEADPHONE	[M]
		EARTH TERMINALS	
E501	SNE1004- 2	EARTH TERMINAL	[M]
E601	K9ZZ00000424	EARTH TERMINAL	[M]
JW503	REXV0020	6P WIRE (PWR-TRAN)	[M]
JW601	RWJ1103120XX	3P WIRE (OPEN-DECK)	[M]
JW605	RWJ1103160XX	8P WIRE	[M]
JW606	RWJ0207180XQ	7P WIRE (PANEL-TRAN)	[M]
WR1308A	RWJ0102110SS	2P (MTR WIRE)	[M]
WR1903	RWJ0102050KR	2P (MOTOR WIRE)	[M]
WA100	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA101	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA102	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA103	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA104	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA105	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA106	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA107	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA108	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA109	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA110	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA111	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA112	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA113	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA114	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA114	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA115	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA116	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA117	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA118	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA119	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA120	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA122	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA123	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA124	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA214	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA402	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA403	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA414	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA500	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA502	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA617	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA618	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA620	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA621	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA622	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA623	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA630	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA631	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA632	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA633	ERJ3GEY0R00V	CHIP JUMPER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
WA634	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA635	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA636	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA637	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA638	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA640	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA641	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA642	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA643	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA644	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA645	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA901	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA902	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA903	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA904	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA905	ERJ6GEY0R00V	CHIP JUMPER	[M]
WA906	ERJ8GEY0R00V	CHIP JUMPER	[M]
WB201	ERJ8GEY0R00V	CHIP JUMPER	[M]
WB202	ERJ8GEY0R00V	CHIP JUMPER	[M]
WB203	ERJ8GEY0R00V	CHIP JUMPER	[M]
		RESISTORS	
R201	D0GB181JA007	180 1/16W	[M]
R210	ERJ3GEYJ103V	10K 1/16W	[M]
R211	D0GB182JA007	1.8K 1/16W	[M]
R214	ERJ3GEYJ103V	10K 1/16W	[M]
R218	D0GB392JA041	3.9K 1/16W	[M]
R219	D0GB391JA041	390 1/16W	[M]
R220	D0GB272JA041	2.7K 1/16W	[M]
R221	D0GB123JA007	12K 1/16W	[M]
R222	ERJ3GEYJ102V	1K 1/16W	[M]
R224	D0GB392JA041	3.9K 1/16W	[M]
R230	D0AF100JA039	10 1/4W	[M]
R231	D0AF100JA039	10 1/4W	[M]
R237	ERJ3GEY0R00V	0 1/16W	[M]
R238	ERJ3GEY0R00V	0 1/16W	[M]
R271	ERJ6GEYJ394V	390K 1/10W	[M]
R272	ERJ6GEYJ272V	2.7K 1/10W	[M]
R273	ERJ3GEYJ102V	1K 1/16W	[M]
R274	ERJ3GEYJ102V	1K 1/16W	[M]
R275	D0GB182JA007	1.8K 1/16W	[M]
R276	D0GB392JA041	3.9K 1/16W	[M]
R300	D0GB101JA007	100 1/16W	[M]
R301	D0GB472JA041	4.7K 1/16W	[M]
R306	ERJ3GEYJ103V	10K 1/16W	[M]
R307	D0GB101JA007	100 1/16W	[M]
R308	D0GB101JA007	100 1/16W	[M]
R309	ERJ3GEYJ103V	10K 1/16W	[M]
R310	ERJ3GEYJ103V	10K 1/16W	[M]
R312	D0GB222JA041	2.2K 1/16W	[M]
R313	D0GB101JA007	100 1/16W	[M]
R314	D0GB101JA007	100 1/16W	[M]
R315	D0GB101JA007	100 1/16W	[M]
R316	D0GB101JA007	100 1/16W	[M]
R317	D0GB101JA007	100 1/16W	[M]
R318	D0GB101JA007	100 1/16W	[M]
R319	D0GB101JA007	100 1/16W	[M]
R320	D0GB101JA007	100 1/16W	[M]
R321	D0GB101JA007	100 1/16W	[M]
R322	D0GB101JA007	100 1/16W	[M]
R323	D0GB472JA041	4.7K 1/16W	[M]
R324	D0GB472JA041	4.7K 1/16W	[M]
R325	D0GB473JA041	47K 1/16W	[M]
R326	D0GB472JA041	4.7K 1/16W	[M]
R327	D0GB472JA041	4.7K 1/16W	[M]
R328	D0GB101JA007	100 1/16W	[M]
R329	ERJ3GEYJ102V	1K 1/16W	[M]
R330	D0GB474JA041	470K 1/16W	[M]
R331	ERJ3GEYJ103V	10K 1/16W	[M]
R332	D0GB474JA041	470K 1/16W	[M]
R333	D0GB472JA041	4.7K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R334	ERJ3GEYJ102V	1K 1/16W	[M]
R335	D0GB101JA007	100 1/16W	[M]
R336	D0GB472JA041	4.7K 1/16W	[M]
R337	D0GB472JA041	4.7K 1/16W	[M]
R338	D0GB472JA041	4.7K 1/16W	[M]
R339	D0GB101JA007	100 1/16W	[M]
R340	D0GB101JA007	100 1/16W	[M]
R341	D0GB101JA007	100 1/16W	[M]
R342	ERJ3GEYJ103V	10K 1/16W	[M]
R343	ERJ3GEYJ103V	10K 1/16W	[M]
R344	ERJ3GEYJ103V	10K 1/16W	[M]
R345	ERJ3GEYJ103V	10K 1/16W	[M]
R346	ERJ3GEYJ103V	10K 1/16W	[M]
R347	ERJ3GEYJ103V	10K 1/16W	[M]
R348	ERJ3GEYJ103V	10K 1/16W	[M]
R349	ERJ3GEYJ681V	680 1/16W	[M]
R350	D0GB473JA041	47K 1/16W	[M]
R351	D0GB473JA041	47K 1/16W	[M]
R352	D0GB472JA041	4.7K 1/16W	[M]
R353	D0GB472JA041	4.7K 1/16W	[M]
R354	ERJ3GEYJ681V	680 1/16W	[M]
R355	D0GB334JA041	330K 1/16W	[M]
R356	ERJ3GEYJ106V	10M 1/16W	[M]
R357	D0GB223JA041	22K 1/16W	[M]
R358	D0GB223JA041	22K 1/16W	[M]
R359	D0GB472JA041	4.7K 1/16W	[M]
R360	D0GB821JA007	820 1/16W	[M]
R361	ERJ3GEYJ103V	10K 1/16W	[M]
R362	D0GB471JA041	470 1/16W	[M]
R363	ERJ3GEYJ121V	120 1/16W	[M]
R364	D0GB101JA007	100 1/16W	[M]
R365	ERJ3GEYJ102V	1K 1/16W	[M]
R366	ERJ3GEYJ102V	1K 1/16W	[M]
R367	ERJ3GEYJ102V	1K 1/16W	[M]
R368	ERJ3GEYJ102V	1K 1/16W	[M]
R369	ERJ3GEYJ102V	1K 1/16W	[M]
R370	ERJ3GEYJ102V	1K 1/16W	[M]
R371	D0GB101JA007	100 1/16W	[M]
R372	D0GB223JA041	22K 1/16W	[M]
R373	ERJ3GEYJ122V	1.2K 1/16W	[M]
R374	ERJ3GEYJ122V	1.2K 1/16W	[M]
R375	ERD2FCVJ4R7T	4.7 1/4W	[M]
R377	D0GB223JA041	22K 1/16W	[M]
R378	D0GB101JA007	100 1/16W	[M]
R379	D0GB101JA007	100 1/16W	[M]
R380	D0GB101JA007	100 1/16W	[M]
R381	D0GB101JA007	100 1/16W	[M]
R382	D0GB101JA007	100 1/16W	[M]
R383	ERJ3GEYJ103V	10K 1/16W	[M]
R384	D0GB472JA041	4.7K 1/16W	[M]
R385	D0GB101JA007	100 1/16W	[M]
R386	ERJ3GEYJ103V	10K 1/16W	[M]
R388	D0GB473JA041	47K 1/16W	[M]
R389	ERJ3GEYJ103V	10K 1/16W	[M]
R390	D0GB472JA041	4.7K 1/16W	[M]
R391	D0GB472JA041	4.7K 1/16W	[M]
R393	D0GB101JA007	100 1/16W	[M]
R394	D0GB101JA007	100 1/16W	[M]
R395	D0GB101JA007	100 1/16W	[M]
R396	D0GB101JA007	100 1/16W	[M]
R397	D0GB101JA007	100 1/16W	[M]
R398	ERJ3GEYJ103V	10K 1/16W	[M]
R399	D0GB101JA007	100 1/16W	[M]
R400	ERJ3GEYJ103V	10K 1/16W	[M]
R401	ERJ3GEYJ103V	10K 1/16W	[M]
R402	ERJ3GEYJ103V	10K 1/16W	[M]
R403	ERJ3GEYJ103V	10K 1/16W	[M]
R404	ERJ3GEYJ103V	10K 1/16W	[M]
R405	ERJ3GEYJ103V	10K 1/16W	[M]
R411	D0GB182JA007	1.8K 1/16W	[M]
R414	ERJ3GEYJ103V	10K 1/16W	[M]
R417	D0GB101JA007	100 1/16W	[M]
R418	D0GB392JA041	3.9K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R419	D0GB391JA041	390 1/16W	[M]
R420	D0GB272JA041	2.7K 1/16W	[M]
R421	D0GB123JA007	12K 1/16W	[M]
R422	ERJ3GEYJ102V	1K 1/16W	[M]
R424	D0GB392JA041	3.9K 1/16W	[M]
R431	D0AF100JA039	10 1/4W	[M]
R432	D0AF100JA039	10 1/4W	[M]
R440	ERJ3GEYJ102V	1K 1/16W	[M]
R450	ERJ3GEYJ102V	1K 1/16W	[M]
R452	D0GB101JA007	100 1/16W	[M]
R453	D0GB101JA007	100 1/16W	[M]
R455	D0GB472JA041	4.7K 1/16W	[M]
R456	D0GB472JA041	4.7K 1/16W	[M]
R457	D0GB472JA041	4.7K 1/16W	[M]
R458	D0GB472JA041	4.7K 1/16W	[M]
R459	D0GB101JA007	100 1/16W	[M]
R461	D0GB472JA041	4.7K 1/16W	[M]
R462	ERD2FCVG100T	10 1/4W	[M]
R471	ERJ6GEYJ394V	390K 1/10W	[M]
R472	ERJ6GEYJ272V	2.7K 1/10W	[M]
R473	ERJ3GEYJ102V	1K 1/16W	[M]
R474	ERJ3GEYJ102V	1K 1/16W	[M]
R475	D0GB182JA007	1.8K 1/16W	[M]
R476	D0GB392JA041	3.9K 1/16W	[M]
R479	ERJ3GEYJ102V	1K 1/16W	[M]
R480	D0GB473JA041	47K 1/16W	[M]
R503	ERC12UGK335D	3.3M 1/2W	[M]
R505	D0AE563JA048	56K 1/4W	[M]
R506	D0AE563JA048	56K 1/4W	[M]
R511	D0AF102JA039	1K 1/4W	[M]
R512	D0AF151JA039	150 1/4W	[M]
R514	D0AE563JA048	56K 1/4W	[M]
R515	D0AE563JA048	56K 1/4W	[M]
R517	D0AE331JA048	330 1/4W	[M]
R518	D0AE122JA048	1.2K 1/4W	[M]
R519	ERDS2TJ2R2T	2.2 1/4W	[M]
R520	ERDS2TJ2R2T	2.2 1/4W	[M]
R524	ERDS2TJ2R2T	2.2 1/4W	[M]
R526	D0AE103JA048	10K 1/4W	[M]
R532	D0AE153JA048	15K 1/4W	[M]
R533	D0AE153JA048	15K 1/4W	[M]
R534	D0AF331JA039	330 1/4W	[M]
R536	ERDS1FVJ2R2T	2.2 1/2W	[M]
R537	ERDS2TJ222T	2.2K 1/4W	[M]
R539	D0AF221JA039	220 1/4W	[M]
R540	D0AE153JA048	15K 1/4W	[M]
R541	D0AE153JA048	15K 1/4W	[M]
R542	ERDS2TJ332T	3.3K 1/4W	[M]
R543	ERDS2TJ332T	3.3K 1/4W	[M]
R544	D0AE562JA048	5.6K 1/4W	[M]
R545	D0AE562JA048	5.6K 1/4W	[M]
R546	D0AE223JA048	22K 1/4W	[M]
R547	ERDS2TJ683T	68K 1/4W	[M]
R548	ERDS2TJ184T	180K 1/4W	[M]
R549	ERDS1FVJ2R2T	2.2 1/2W	[M]
R550	D0AF331JA039	330 1/4W	[M]
R551	D0AE104JA048	100K 1/4W	[M]
R554	D0AF331JA039	330 1/4W	[M]
R556	ERDS1FVJ2R2T	2.2 1/2W	[M]
R561	D0AE104JA048	100K 1/4W	[M]
R562	ERDS2TJ394T	390K 1/4W	[M]
R565	D0AE123JA048	12K 1/4W	[M]
R566	D0AE103JA048	10K 1/4W	[M]
R567	ERDS2TJ151T	150 1/4W	[M]
R568	D0AF150JA039	15 1/4W	[M]
R569	D0AF270JA039	27 1/4W	[M]
R571	D0AF332JA039	3.3K 1/4W	[M]
R572	ERDS2TJ561T	560 1/4W	[M]
R573	D0AE272JA048	2.7K 1/4W	[M]
R574	D0AE272JA048	2.7K 1/4W	[M]
R576	D0AE103JA048	10K 1/4W	[M]
R577	D0AE103JA048	10K 1/4W	[M]
R578	ERDS2TJ332T	3.3K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R580	D0AF180JA039	18 1/4W	[M]
R581	D0AF180JA039	18 1/4W	[M]
R583	ERDS2TJ821T	820 1/4W	[M]
R584	ERDS2TJ151T	150 1/4W	[M]
R585	D0AF220JA039	22 1/4W	[M]
R586	ERDS2TJ151T	150 1/4W	[M]
R587	D0AE472JA048	4.7K 1/4W	[M]
R589	ERD2FCVJ4R7T	4.7 1/4W	[M]
R591	D0AE101JA048	100 1/4W	[M]
R600	ERJ3GEYJ680V	68 1/16W	[M]
R601	ERJ3GEYJ680V	68 1/16W	[M]
R602	D0GB470JA008	47 1/16W	[M]
R603	D0GB153JA007	15K 1/16W	[M]
R604	ERJ3GEYJ103V	10K 1/16W	[M]
R605	D0GB223JA041	22K 1/16W	[M]
R606	D0GB123JA007	12K 1/16W	[M]
R607	ERJ3GEYJ102V	1K 1/16W	[M]
R608	ERJ3GEYJ102V	1K 1/16W	[M]
R609	D0GB182JA007	1.8K 1/16W	[M]
R610	D0GB222JA041	2.2K 1/16W	[M]
R611	D0GB272JA041	2.7K 1/16W	[M]
R614	ERJ3GEYJ102V	1K 1/16W	[M]
R615	ERJ3GEYJ102V	1K 1/16W	[M]
R616	ERJ3GEYJ122V	1.2K 1/16W	[M]
R617	ERJ3GEYJ102V	1K 1/16W	[M]
R618	ERJ3GEYJ102V	1K 1/16W	[M]
R619	ERJ3GEYJ122V	1.2K 1/16W	[M]
R620	ERJ3GEYJ682V	6.8K 1/16W	[M]
R621	D0GB182JA007	1.8K 1/16W	[M]
R622	D0GB222JA041	2.2K 1/16W	[M]
R623	D0GB272JA041	2.7K 1/16W	[M]
R624	ERJ3GEYJ122V	1.2K 1/16W	[M]
R626	D0GB223JA041	22K 1/16W	[M]
R627	D0GB472JA041	4.7K 1/16W	[M]
R628	D0GB683JA007	68K 1/16W	[M]
R629	D0GB391JA041	390 1/16W	[M]
R630	D0GB472JA041	4.7K 1/16W	[M]
R631	ERJ3GEYJ102V	1K 1/16W	[M]
R632	ERJ3GEYJ102V	1K 1/16W	[M]
R633	ERJ3GEYJ102V	1K 1/16W	[M]
R634	ERJ3GEYJ102V	1K 1/16W	[M]
R635	ERJ3GEYJ103V	10K 1/16W	[M]
R636	D0GB471JA041	470 1/16W	[M]
R637	D0GB331JA007	330 1/16W	[M]
R638	D0GB331JA007	330 1/16W	[M]
R639	ERJ3GEYJ103V	10K 1/16W	[M]
R640	ERJ3GEYJ682V	6.8K 1/16W	[M]
R643	ERJ3GEYJ102V	1K 1/16W	[M]
R644	ERJ3GEYJ102V	1K 1/16W	[M]
R645	ERJ3GEYJ102V	1K 1/16W	[M]
R646	ERJ3GEYJ102V	1K 1/16W	[M]
R647	D0GB104JA007	100K 1/16W	[M]
R700	D0AF180JA039	18 1/4W	[M]
R701	D0AE563JA048	56K 1/4W	[M]
R701	D0GB47JA007	4.7 1/16W	[M]
R702	D0AE101JA048	100 1/4W	[M]
R702	D0GB472JA041	4.7K 1/16W	[M]
R703	D0AE103JA048	10K 1/4W	[M]
R704	D0AE563JA048	56K 1/4W	[M]
R704	ERJ3GEYJ102V	1K 1/16W	[M]
R705	D0AE103JA048	10K 1/4W	[M]
R705	D0GB393JA041	39K 1/16W	[M]
R706	D0AE472JA048	4.7K 1/4W	[M]
R706	ERJ3GEYJ102V	1K 1/16W	[M]
R707	D0AE562JA048	5.6K 1/4W	[M]
R708	D0AE103JA048	10K 1/4W	[M]
R709	ERDS2TJ824T	820K 1/4W	[M]
R710	D0AE563JA048	56K 1/4W	[M]
R711	D0GB823JA007	82K 1/16W	[M]
R711	ERDS2TJ824T	820K 1/4W	[M]
R712	D0AE102JA048	1K 1/4W	[M]
R712	D0GB821JA007	820 1/16W	[M]
R713	D0AE563JA048	56K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R714	D0GB471JA041	470 1/16W	[M]
R715	D0GB332JA007	3.3K 1/16W	[M]
R717	ERJ3GEYJ102V	1K 1/16W	[M]
R718	ERJ3GEYJ102V	1K 1/16W	[M]
R720	D0GB105JA007	1M 1/16W	[M]
R720	ERDS2TJ823T	82K 1/4W	[M]
R721	D0GB101JA007	100 1/16W	[M]
R721	ERDS2TJ823T	82K 1/4W	[M]
R722	D0AE104JA048	100K 1/4W	[M]
R723	D0AE102JA048	1K 1/4W	[M]
R723	D0GB332JA007	3.3K 1/16W	[M]
R724	D0AE104JA048	100K 1/4W	[M]
R725	D0AE102JA048	1K 1/4W	[M]
R725	D0GB331JA007	330 1/16W	[M]
R726	ERDS2TJ273T	27K 1/4W	[M]
R727	D0AE104JA048	100K 1/4W	[M]
R727	ERJ3GEYJ102V	1K 1/16W	[M]
R728	D0AE102JA048	1K 1/4W	[M]
R728	ERJ3GEYJ103V	10K 1/16W	[M]
R729	D0AE102JA048	1K 1/4W	[M]
R729	ERJ3GEYJ102V	1K 1/16W	[M]
R730	ERDS2TJ224T	220K 1/4W	[M]
R731	D0GB223JA041	22K 1/16W	[M]
R731	ERDS2TJ682T	6.8K 1/4W	[M]
R732	ERDS2TJ822T	8.2K 1/4W	[M]
R732	ERJ3GEYJ102V	1K 1/16W	[M]
R733	ERDS2TJ822T	8.2K 1/4W	[M]
R734	ERDS2TJ222T	2.2K 1/4W	[M]
R735	D0GB101JA007	100 1/16W	[M]
R735	ERDS2TJ224T	220K 1/4W	[M]
R736	D0GB101JA007	100 1/16W	[M]
R736	ERDS2TJ682T	6.8K 1/4W	[M]
R737	ERDS2TJ681T	680 1/4W	[M]
R738	ERDS2TJ822T	8.2K 1/4W	[M]
R739	ERDS2TJ681T	680 1/4W	[M]
R739	ERJ3GEYJ102V	1K 1/16W	[M]
R740	ERDS2TJ183T	18K 1/4W	[M]
R741	D0AE562JA048	5.6K 1/4W	[M]
R742	ERDS2TJ392T	3.9K 1/4W	[M]
R743	ERDS2TJ271T	270 1/4W	[M]
R744	D0GB473JA041	47K 1/16W	[M]
R744	ERDS2TJ183T	18K 1/4W	[M]
R745	D0AE562JA048	5.6K 1/4W	[M]
R746	ERDS2TJ392T	3.9K 1/4W	[M]
R747	ERDS2TJ271T	270 1/4W	[M]
R748	ERDS2TJ152T	1.5K 1/4W	[M]
R749	D0GB183JA007	18K 1/16W	[M]
R749	ERDS2TJ152T	1.5K 1/4W	[M]
R750	ERDS2TJ332T	3.3K 1/4W	[M]
R751	ERDS2TJ332T	3.3K 1/4W	[M]
R752	D0AE104JA048	100K 1/4W	[M]
R753	D0GB100JA007	10 1/16W	[M]
R753	ERDS2TJ222T	2.2K 1/4W	[M]
R754	D0GB5R6JA007	5.6 1/16W	[M]
R754	ERDS2TJ220T	22 1/4W	[M]
R755	ERDS2TJ220T	22 1/4W	[M]
R756	ERDS2TJ220T	22 1/4W	[M]
R757	ERDS2TJ220T	22 1/4W	[M]
R758	ERDS2TJ222T	2.2K 1/4W	[M]
R759	D0AE472JA048	4.7K 1/4W	[M]
R760	D0AE223JA048	22K 1/4W	[M]
R760	D0GB101JA007	100 1/16W	[M]
R761	D0AE223JA048	22K 1/4W	[M]
R762	D0AE562JA048	5.6K 1/4W	[M]
R763	D0AE562JA048	5.6K 1/4W	[M]
R764	ERDS2TJ683T	68K 1/4W	[M]
R764	ERJ3GEYJ102V	1K 1/16W	[M]
R765	ERDS2TJ683T	68K 1/4W	[M]
R766	D0GB562JA007	5.6K 1/16W	[M]
R766	ERDS2TJ822T	8.2K 1/4W	[M]
R767	ERDS2TJ822T	8.2K 1/4W	[M]
R768	D0AE472JA048	4.7K 1/4W	[M]
R769	D0AE472JA048	4.7K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R770	ERDS2TJ332T	3.3K 1/4W	[M]
R771	D0AE104JA048	100K 1/4W	[M]
R772	D0AE472JA048	4.7K 1/4W	[M]
R773	D0AE102JA048	1K 1/4W	[M]
R774	D0AE104JA048	100K 1/4W	[M]
R775	D0AE153JA048	15K 1/4W	[M]
R776	D0AE102JA048	1K 1/4W	[M]
R777	ERDS2TJ222T	2.2K 1/4W	[M]
R778	D0AE153JA048	15K 1/4W	[M]
R779	ERDS2TJ822T	8.2K 1/4W	[M]
R780	D0AE473JA048	47K 1/4W	[M]
R781	D0AE473JA048	47K 1/4W	[M]
R788	D0AE104JA048	100K 1/4W	[M]
R789	D0AE104JA048	100K 1/4W	[M]
R790	ERDS2TJ332T	3.3K 1/4W	[M]
R791	ERDS2TJ332T	3.3K 1/4W	[M]
R798	D0AE102JA048	1K 1/4W	[M]
R799	D0AE102JA048	1K 1/4W	[M]
R829	ERJ3GEYJ102V	1K 1/16W	[M]
R830	ERJ3GEYJ102V	1K 1/16W	[M]
R831	D0GB472JA041	4.7K 1/16W	[M]
R832	ERJ3GEYJ102V	1K 1/16W	[M]
R833	ERJ3GEYJ103V	10K 1/16W	[M]
R834	D0GB472JA041	4.7K 1/16W	[M]
R835	ERJ3GEYJ102V	1K 1/16W	[M]
R836	ERJ3GEYJ103V	10K 1/16W	[M]
R837	D0GB472JA041	4.7K 1/16W	[M]
R838	D0GB472JA041	4.7K 1/16W	[M]
R929	D0GB473JA041	47K 1/16W	[M]
R930	D0GB473JA041	47K 1/16W	[M]
R931	D0GB153JA007	15K 1/16W	[M]
R932	D0GB153JA007	15K 1/16W	[M]
R933	D0GB184JA007	180K 1/16W	[M]
R934	D0GB184JA007	180K 1/16W	[M]
R941	ERJ3GEYJ103V	10K 1/16W	[M]
R942	ERJ3GEYJ103V	10K 1/16W	[M]
R943	ERJ3GEYJ103V	10K 1/16W	[M]
R944	ERJ3GEYJ103V	10K 1/16W	[M]
R945	ERJ3GEYJ103V	10K 1/16W	[M]
R946	ERJ3GEYJ103V	10K 1/16W	[M]
R947	ERJ3GEYJ103V	10K 1/16W	[M]
R948	ERJ3GEYJ103V	10K 1/16W	[M]
R949	D0GB100JA007	10 1/16W	[M]
R950	D0GB100JA007	10 1/16W	[M]
R965	D0GB104JA007	100K 1/16W	[M]
R966	D0GB104JA007	100K 1/16W	[M]
R967	ERJ3GEYJ102V	1K 1/16W	[M]
R968	D0GB472JA041	4.7K 1/16W	[M]
R969	ERJ3GEYJ103V	10K 1/16W	[M]
R970	ERJ3GEYJ822V	8.2K 1/16W	[M]
R971	D0GB104JA007	100K 1/16W	[M]
R972	D0GB333JA007	33K 1/16W	[M]
R972	ERDS2TJ821T	820 1/4W	[M]
R973	D0GB104JA007	100K 1/16W	[M]
R973	ERDS2TJ393T	39K 1/4W	[M]
R974	D0GB104JA007	100K 1/16W	[M]
R975	D0GB104JA007	100K 1/16W	[M]
R976	ERJ3GEYJ103V	10K 1/16W	[M]
R978	D0GB152JA007	1.5K 1/16W	[M]
R979	ERJ3GEYJ102V	1K 1/16W	[M]
R980	D0GB104JA007	100K 1/16W	[M]
R981	ERJ3GEYJ102V	1K 1/16W	[M]
R982	ERJ3GEYJ102V	1K 1/16W	[M]
R983	ERJ3GEYJ102V	1K 1/16W	[M]
R990	D0GB104JA007	100K 1/16W	[M]
R995	D0GB472JA041	4.7K 1/16W	[M]
R996	D0GB472JA041	4.7K 1/16W	[M]
R1061	ERJ3GEY0R00V	0 1/16W	[M]
R1063	ERJ3GEY0R00V	0 1/16W	[M]
R1064	ERJ3GEY0R00V	0 1/16W	[M]
R1101	D0GB330JA007	33 1/16W	[M]
R1102	D0GB152JA007	1.5K 1/16W	[M]
R1103	D0GB183JA007	18K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R1104	ERJ3GEYJ103V	10K 1/16W	[M]
R1105	D0GB222JA041	2.2K 1/16W	[M]
R1106	D0GB104JA007	100K 1/16W	[M]
R1107	ERJ3GEYJ102V	1K 1/16W	[M]
R1109	ERJ3GEYJ102V	1K 1/16W	[M]
R1110	D0GB333JA007	33K 1/16W	[M]
R1201	D0GB330JA007	33 1/16W	[M]
R1202	D0GB152JA007	1.5K 1/16W	[M]
R1203	D0GB183JA007	18K 1/16W	[M]
R1204	ERJ3GEYJ103V	10K 1/16W	[M]
R1205	D0GB222JA041	2.2K 1/16W	[M]
R1206	D0GB104JA007	100K 1/16W	[M]
R1207	ERJ3GEYJ102V	1K 1/16W	[M]
R1209	ERJ3GEYJ102V	1K 1/16W	[M]
R1210	D0GB333JA007	33K 1/16W	[M]
R1302	D0GB471JA041	470 1/16W	[M]
R1303	ERJ3GEYJ475V	4.7M 1/16W	[M]
R1304	D0GB223JA041	22K 1/16W	[M]
R1305	ERJ3GEYJ103V	10K 1/16W	[M]
R1309	D0AF471JA039	470 1/4W	[M]
R1313	ERJ3GEYJ103V	10K 1/16W	[M]
R1314	ERJ3GEYJ102V	1K 1/16W	[M]
R1318	ERJ3GEYJ103V	10K 1/16W	[M]
R1327	D0GB472JA041	4.7K 1/16W	[M]
R1328	D0GB153JA007	15K 1/16W	[M]
R1329	D0GB472JA041	4.7K 1/16W	[M]
R1330	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1331	ERJ3GEYJ752V	7.5K 1/16W	[M]
R1332	ERJ3GEYJ103V	10K 1/16W	[M]
R1333	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1334	D0GB223JA041	22K 1/16W	[M]
R1335	D0GB152JA007	1.5K 1/16W	[M]
R1337	ERJ3GEYJ103V	10K 1/16W	[M]
R1338	D0GB472JA041	4.7K 1/16W	[M]
R1341	D0GB471JA041	470 1/16W	[M]
R1342	D0GB473JA041	47K 1/16W	[M]
R1343	D0GB332JA007	3.3K 1/16W	[M]
R1344	D0GB273JA007	27K 1/16W	[M]
R1345	ERJ3GEYJ102V	1K 1/16W	[M]
R1371	D0GB223JA041	22K 1/16W	[M]
R1374	D0GB471JA041	470 1/16W	[M]
R1380	ERJ3GEY0R00V	0 1/16W	[M]
R1401	D0GB123JA007	12K 1/16W	[M]
R1402	D0GB274JA007	270K 1/16W	[M]
R1403	ERJ3GEYJ103V	10K 1/16W	[M]
R1404	D0GB223JA041	22K 1/16W	[M]
R1405	ERJ3GEYJ103V	10K 1/16W	[M]
		CAPACITORS	
C11	F1D1E103A001	0.01 25V	[M]
C12	F2A1C101A234	100P 16V	[M]
C21	F1D1E103A001	0.01 25V	[M]
C22	F2A1C101A234	100P 16V	[M]
C200	F1H1E1830001	0.018 25V	[M]
C201	ECA1CM331B	330 16V	[M]
C211	F1H1H471A219	470P 50V	[M]
C212	F1H1H102A219	1000P 50V	[M]
C214	F1H1H2210001	220P 50V	[M]
C217	ECJ1VC1H102J	1000P 50V	[M]
C219	ECA1CAK100XB	10 16V	[M]
C220	ECA1CAK100XB	10 16V	[M]
C222	ECA1CAK100XB	10 16V	[M]
C224	ECA1CAK100XB	10 16V	[M]
C234	ECA1EPX470B	47 25V	[M]
C236	F1H1E104A029	0.1 25V	[M]
C237	F1H1E104A029	0.1 25V	[M]
C240	F1H1E104A029	0.1 25V	[M]
C241	F1H1E104A029	0.1 25V	[M]
C242	F1H1H104A783	0.1 50V	[M]
C243	F1H1H104A783	0.1 50V	[M]
C244	F1H1H104A783	0.1 50V	[M]
C245	ECJ1VC1H181J	180P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C247	ECA1HAK010XB	1 50V	[M]
C248	ECA1HAK010XB	1 50V	[M]
C270	ECJ1VC1H561K	560P 50V	[M]
C271	ECQV1H154JL3	0.15 50V	[M]
C272	ECQV1H154JL3	0.15 50V	[M]
C301	FlH1H104A783	0.1 50V	[M]
C303	F1H1H471A219	470P 50V	[M]
C304	ECJ1VC1H101K	100P 50V	[M]
C306	ECJ1VC1H101K	100P 50V	[M]
C308	ECJ1VC1H101K	100P 50V	[M]
C310	FlH1E103A029	0.01 25V	[M]
C311	F4D55334A008	0.055	[M]
C312	FlJ1H104A578	0.1 50V	[M]
C313	ECA0JAK101XB	100 6.3V	[M]
C314	ECA1HAK010XB	1 50V	[M]
C315	ECJ1VC1H101K	100P 50V	[M]
C316	ECA1HAK2R2XB	2.2 50V	[M]
C317	ECJ1VC1H102J	1000P 50V	[M]
C318	ECJ1VC1H560J	56P 50V	[M]
C319	F1H1H102A219	1000P 50V	[M]
C320	ECJ1VC1H560J	56P 50V	[M]
C321	ECJ1VC1H680J	68P 50V	[M]
C322	ECJ1VC1H680J	68P 50V	[M]
C323	ECJ1VC1H180J	18P 50V	[M]
C324	ECJ1VC1H220J	22P 50V	[M]
C325	F1H1E223A002	0.022 25V	[M]
C326	F1H1H103A219	0.01 50V	[M]
C327	F1H1H2210001	220P 50V	[M]
C329	ECJ1VC1H101K	100P 50V	[M]
C331	ECJ1VC1H101K	100P 50V	[M]
C333	ECJ1VB1H561K	560P 50V	[M]
C334	ECJ1VB1H561K	560P 50V	[M]
C335	ECJ1VB1H561K	560P 50V	[M]
C336	ECJ1VB1H561K	560P 50V	[M]
C337	ECJ1VB1H561K	560P 50V	[M]
C338	ECJ1VB1H561K	560P 50V	[M]
C339	ECJ1VB1H561K	560P 50V	[M]
C340	F1H1H104A783	0.1 50V	[M]
C341	ECA0JAK101XB	100 6.3V	[M]
C342	F1H1H102A219	1000P 50V	[M]
C343	F1H1H103A219	0.01 50V	[M]
C344	F1H1H101A230	100P 50V	[M]
C345	F1H1H101A230	100P 50V	[M]
C358	ECA1CAM221XB	220 16V	[M]
C359	ECEA1AKA101B	100 10V	[M]
C362	ECA1AAK220XB	22 10V	[M]
C363	F1H1H101A230	100P 50V	[M]
C364	F1H1H101A230	100P 50V	[M]
C367	F1H1H104A783	0.1 50V	[M]
C368	F1H1H104A783	0.1 50V	[M]
C372	ECA1HAK2R2XB	2.2 50V	[M]
C373	F1H1H471A219	470P 50V	[M]
C374	F1H1H471A219	470P 50V	[M]
C380	F1H1H104A783	0.1 50V	[M]
C381	ECA1HAK2R2XB	2.2 50V	[M]
C390	F1H1H102A219	1000P 50V	[M]
C391	F1H1H102A219	1000P 50V	[M]
C392	F1H1H102A219	1000P 50V	[M]
C393	F1H1H102A219	1000P 50V	[M]
C394	F1H1H102A219	1000P 50V	[M]
C395	F1H1H104A783	0.1 50V	[M]
C399	ECJ1VC1H101K	100P 50V	[M]
C400	F1H1E1830001	0.018 25V	[M]
C411	F1H1H471A219	470P 50V	[M]
C412	F1H1H102A219	1000P 50V	[M]
C414	F1H1H2210001	220P 50V	[M]
C417	ECJ1VC1H102J	1000P 50V	[M]
C419	ECA1CAK100XB	10 16V	[M]
C420	ECA1CAK100XB	10 16V	[M]
C422	ECA1CAK100XB	10 16V	[M]
C424	ECA1CAK100XB	10 16V	[M]
C436	F1H1E104A029	0.1 25V	[M]
C437	F1H1E104A029	0.1 25V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C440	F1H1E104A029	0.1 25V	[M]
C441	F1H1E104A029	0.1 25V	[M]
C445	ECJ1VC1H181J	180P 50V	[M]
C470	ECJ1VC1H561K	560P 50V	[M]
C471	ECQV1H154JL3	0.15 50V	[M]
C472	ECQV1H154JL3	0.15 50V	[M]
C500	F1D1H821A012	820P 50V	[M]
C501	F1D1H821A012	820P 50V	[M]
C502	F1D1H821A012	820P 50V	[M]
C503	F1D1H821A012	820P 50V	[M]
C504	F1D1H330A041	33P 50V	[M]
C505	F1D1H330A041	33P 50V	[M]
C506	ECA1SAM222YE	2200 100V	[M]
C507	ECA1SAM222YE	2200 100V	[M]
C508	ECA1EAM332XE	3300 25V	[M]
C509	F1D1H330A041	33P 50V	[M]
C510	F1D1H330A041	33P 50V	[M]
C511	F1B1H103A007	0.01 50V	[M]
C512	ECA1CAM101XB	100 16V	[M]
C515	F1E1H1030001	0.01 50V	[M]
C516	ECA1HAK100XB	10 50V	[M]
C517	F1B2H103A032	0.01 500V	[M]
C518	F1B1H103A007	0.01 50V	[M]
C520	F1B1H103A007	0.01 50V	[M]
C521	ECA1CAK330XB	33 16V	[M]
C526	ECA1HM330B	33 50V	[M]
C528	F1B1H103A007	0.01 50V	[M]
C530	ECQ2E104KF3	0.1 250V	[M]
C533	ECQV1H104JL3	0.1 50V	[M]
C536	ECA0JAK221XB	220 6.3V	[M]
C537	F1D1H102A012	1000P 50V	[M]
C538	ECA1CAK220XB	22 16V	[M]
C539	F1B1H103A007	0.01 50V	[M]
C548	ECKR1H103KB5	0.01 50V	[M]
C575	ECA1HAK4R7XB	4.7 50V	[M]
C578	F1B1H103A007	0.01 50V	[M]
C580	F1B1H103A007	0.01 50V	[M]
C581	ECA1AAK470XB	47 10V	[M]
C582	ECQV1H104JL3	0.1 50V	[M]
C583	F1B1H103A007	0.01 50V	[M]
C584	ECA1CAM102XB	1000 16V	[M]
C585	ECA1EAM101XB	100 25V	[M]
C586	ECA2AM100B	10 100V	[M]
C587	ECA1JM101B	100 63V	[M]
C588	ECA1JM101B	100 63V	[M]
C600	ECA1HAK220XB	22 50V	[M]
C601	ECA1HAK220XB	22 50V	[M]
C602	ECA1HAK220XB	22 50V	[M]
C604	F1H1E223A002	0.022 25V	[M]
C605	F1H1E223A002	0.022 25V	[M]
C606	ECJ1VC1H560J	56P 50V	[M]
C608	ECEA0JKA470B	47 6.3V	[M]
C609	F1H1H103A219	0.01 50V	[M]
C610	F1H1H102A219	1000P 50V	[M]
C611	F1H1H101A230	100P 50V	[M]
C612	F1H1H101A230	100P 50V	[M]
C615	F1H1H470A230	47P 50V	[M]
C616	F1H1H470A230	47P 50V	[M]
C617	F1H1H2210001	220P 50V	[M]
C618	F1H1H2210001	220P 50V	[M]
C620	ECA1HAK220XB	22 50V	[M]
C621	F1H1H104A783	0.1 50V	[M]
C622	F1H1H470A230	47P 50V	[M]
C623	F1H1H470A230	47P 50V	[M]
C624	F1H1H2210001	220P 50V	[M]
C625	F1H1H2210001	220P 50V	[M]
C626	F1H1H104A783	0.1 50V	[M]
C627	ECA1HAK220XB	22 50V	[M]
C628	ECA1HAK220XB	22 50V	[M]
C629	F1H1H104A783	0.1 50V	[M]
C630	ECJ1VC1H331J	330P 50V	[M]
C700	ECA0JAK101XB	100 6.3V	[M]
C701	ECA1CAK330XB	33 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C701	ECEA0JKA330I	33 6.3V	[M]
C702	ECA1HAK2R2XB	2.2 50V	[M]
C702	F1H1A4740009	0.47 10V	[M]
C703	ECEA0JKA101I	100 6.3V	[M]
C703	F1D1H1040002	0.1 50V	[M]
C704	ECA0JAK221XB	220 6.3V	[M]
C704	F1H1C104A041	0.1 16V	[M]
C705	ECEA1AKN100B	10 10V	[M]
C705	F1H1C104A041	0.1 16V	[M]
C706	F1H1C104A041	0.1 16V	[M]
C707	F1H1E223A002	0.022 25V	[M]
C709	F1D1H102A012	1000P 50V	[M]
C710	ECJ1VC1H471J	470P 50V	[M]
C710	F1D1H102A012	1000P 50V	[M]
C711	ECA1CAK100XB	10 16V	[M]
C712	F1D1C272A010	2700P 16V	[M]
C713	ECEA1HKN010B	1 50V	[M]
C713	F1H1C104A041	0.1 16V	[M]
C714	ECEA0JKA101I	100 6.3V	[M]
C714	F1C1C123A001	0.012 16V	[M]
C715	F1D1C272A010	2700P 16V	[M]
C715	F1H1A4740009	0.47 10V	[M]
C716	ECEA1HKN010B	1 50V	[M]
C716	ECJ1VB1H681K	680P 50V	[M]
C717	F1C1C123A001	0.012 16V	[M]
C717	F1H1C104A041	0.1 16V	[M]
C718	ECJ1VB1C823K	0.082 16V	[M]
C720	ECEA1HKN010B	1 50V	[M]
C721	ECJ1VC1H180J	18P 50V	[M]
C721	F1D1C392A010	3900P 16V	[M]
C722	F1D1C392A010	3900P 16V	[M]
C722	F1H1H220A230	22P 50V	[M]
C723	ECEA0JKA221I	220 6.3V	[M]
C723	ECEA1HKN010B	1 50V	[M]
C724	F1D1C392A010	3900P 16V	[M]
C724	F1H1C104A041	0.1 16V	[M]
C725	F1D1C392A010	3900P 16V	[M]
C725	F1H1H102A219	1000P 50V	[M]
C726	ECA1CAK100XB	10 16V	[M]
C726	F1H1H102A219	1000P 50V	[M]
C727	ECA1CAK100XB	10 16V	[M]
C727	ECA1HAK010XI	1 50V	[M]
C728	ECA1HAK010XI	1 50V	[M]
C728	F1D1H332A046	3300P 50V	[M]
C729	ECEA1CKA100I	10 16V	[M]
C729	F1D1H332A046	3300P 50V	[M]
C730	ECA1HAKR22XB	0.22 50V	[M]
C730	F1H1C104A041	0.1 16V	[M]
C731	ECA0JAK221XI	220 6.3V	[M]
C731	ECA1HAKR22XB	0.22 50V	[M]
C733	ECA1HAKR33XB	0.33 50V	[M]
C733	F1H1C104A041	0.1 16V	[M]
C734	ECA1HAKR33XB	0.33 50V	[M]
C734	ECEA1AKA221I	220 10V	[M]
C735	F1H1E104A030	0.1 25V	[M]
C736	ECQV1H473JL3	0.047 50V	[M]
C737	ECQV1H473JL3	0.047 50V	[M]
C738	ECA1CAK100XB	10 16V	[M]
C738	ECJ1VB1C563K	0.056 16V	[M]
C739	F1D1H471A012	470P 50V	[M]
C739	F1H1E1830001	0.018 25V	[M]
C740	F1D1H471A012	470P 50V	[M]
C740	F1H1C104A041	0.1 16V	[M]
C741	ECA1HAKR47XB	0.47 50V	[M]
C741	F1H1H102A219	1000P 50V	[M]
C742	ECA1HAKR47XB	0.47 50V	[M]
C742	F1H1E223A002	0.022 25V	[M]
C743	F1E1H1030001	0.01 50V	[M]
C743	F1H1E104A030	0.1 25V	[M]
C744	F1E1H1030001	0.01 50V	[M]
C744	F1H1E1530002	0.015 25V	[M]
C745	F1D1H101A012	100P 50V	[M]
C745	F1H1E103A029	0.01 25V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C746	F1D1H101A012	100P 50V	[M]
C746	F1H1C104A041	0.1 16V	[M]
C747	F1D1H270A006	27P 50V	[M]
C747	F1H1H391A013	390P 50V	[M]
C748	F1D1H270A006	27P 50V	[M]
C749	ECQB1H273JF3	0.027 50V	[M]
C749	F1H1H392A013	3900P 50V	[M]
C750	ECQB1H273JF3	0.027 50V	[M]
C751	ECA1CAK100XB	10 16V	[M]
C752	ECA1CAK100XB	10 16V	[M]
C752	F1H1E1830001	0.018 25V	[M]
C753	F1H1H471A219	470P 50V	[M]
C755	F1H1C104A041	0.1 16V	[M]
C759	ECEA1CKA100I	10 16V	[M]
C760	F1H1C104A041	0.1 16V	[M]
C762	F1H1C104A041	0.1 16V	[M]
C909	F1H1H2210001	220P 50V	[M]
C910	F1H1H2210001	220P 50V	[M]
C917	F1H1H272A013	2700P 50V	[M]
C918	F1H1H272A013	2700P 50V	[M]
C949	F1H1H2210001	220P 50V	[M]
C950	F1H1H2210001	220P 50V	[M]
C951	ECA1CAK100XB	10 16V	[M]
C952	ECA1CAK100XB	10 16V	[M]
C953	F1H1H104A783	0.1 50V	[M]
C968	ECJ1VF1H473Z	0.047 50V	[M]
C969	F1H1H101A230	100P 50V	[M]
C970	F1H1H2210001	220P 50V	[M]
C971	F1H1H104A783	0.1 50V	[M]
C972	F1H1H104A783	0.1 50V	[M]
C973	ECJ1VF1H473Z	0.047 50V	[M]
C974	ECA1HAK010XB	1 50V	[M]
C976	ECA1CAK100XB	10 16V	[M]
C977	ECA1HAK47XB	4.7 50V	[M]
C978	ECA1HAKR47XB	0.47 50V	[M]
C979	ECA1CAK100XB	10 16V	[M]
C980	ECA1CAK100XB	10 16V	[M]
C990	ECA1CAK101XB	100 16V	[M]
C995	ECA1CAK100XB	10 16V	[M]
C996	ECA1CAK100XB	10 16V	[M]
C997	F1H1H104A783	0.1 50V	[M]
C998	ECA1CAK101XB	100 16V	[M]
C1101	ECA1HAK010XB	1 50V	[M]
C1102	F1H1H471A219	470P 50V	[M]
C1103	ECA1CAK101XB	100 16V	[M]
C1104	F1H1E273A002	0.027 25V	[M]
C1105	F1H1H471A219	470P 50V	[M]
C1106	ECA1HAK2R2XB	2.2 50V	[M]
C1107	F1H1H152A219	1500P 50V	[M]
C1108	ECA1CAK100XB	10 16V	[M]
C1109	ECA1HAK3R3XB	3.3 50V	[M]
C1110	ECJ1VB1H682K	6800P 50V	[M]
C1121	F1H1H102A219	1000P 50V	[M]
C1122	F1H1E103A029	0.01 25V	[M]
C1123	ECJ1VB1H271K	270P 50V	[M]
C1201	ECA1HAK010XB	1 50V	[M]
C1202	F1H1H471A219	470P 50V	[M]
C1203	ECA1CAK101XB	100 16V	[M]
C1204	F1H1E273A002	0.027 25V	[M]
C1205	F1H1H471A219	470P 50V	[M]
C1206	ECA1HAK2R2XB	2.2 50V	[M]
C1207	F1H1H152A219	1500P 50V	[M]
C1208	ECA1CAK100XB	10 16V	[M]
C1209	ECA1HAK3R3XB	3.3 50V	[M]
C1210	ECJ1VB1H682K	6800P 50V	[M]
C1221	F1H1H102A219	1000P 50V	[M]
C1222	F1H1E103A029	0.01 25V	[M]
C1223	ECJ1VB1H271K	270P 50V	[M]
C1301	ECA1HAK0R1XB	0.1 50V	[M]
C1302	F1H1C3330001	0.033 16V	[M]
C1303	F1H1C3330001	0.033 16V	[M]
C1304	ECEA1HKA4R7B	4.7 50V	[M]
C1305	ECA1CAK330XB	33 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1307	ECA1AAK221XQ	220 10V	[M]
C1308	ECA1CAK220XB	22 16V	[M]
C1310	ECA1HAK0R1XB	0.1 50V	[M]
C1311	ECA1CAK470XB	47 16V	[M]
C1312	F1H1H332A013	3300P 50V	[M]
C1314	F1H1H222A013	2200P 50V	[M]
C1315	F1H1H222A013	2200P 50V	[M]
C1316	F1H1H102A219	1000P 50V	[M]
C1317	F1H1H102A219	1000P 50V	[M]
C1318	ECQV1H473JL3	0.047 50V	[M]
C1319	ECA1CAK101XB	100 16V	[M]
C1320	ECA1HAK010XB	1 50V	[M]
C1321	F0A2A472A019	4700P 100V	[M]
C1323	ECEA1HKN010B	1 50V	[M]
C1324	ECA1CAK470XB	47 16V	[M]
C1326	ECA1CAK100XB	10 16V	[M]
C1371	F1H1E103A029	0.01 25V	[M]

25.5. Packaging Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGV0200	PACKING CASE	[M] P
P1	RPGV0201	PACKING CASE	[M] PC
P2	RPNV0061	POLYFOAM	[M]
P3	RPHV0001-1	MIRAMAT SHEET	[M]
		ACCESSORIES	

Ref. No.	Part No.	Part Name & Description	Remarks
A1	N2QAJB000133	REMOTE CONTROL	[M]
A1-1	RKK-HTR0051K	R/C BATTERY COVER	[M]
A2	K2CB2CB00006	AC CORD	[M] 
A3	RQT8038-P	O/I BOOK (En)	[M]
A3	RQT8039-C	O/I BOOK (Cf)	[M] PC
A3	RQT8040-M	O/I BOOK (Sp)	[M] P
A4	N1DAAA00001	AM LOOP ANTENNA	[M]
A5	RSA0007-L	FM ANTENNA WIRE	[M]

25.6. Packaging

