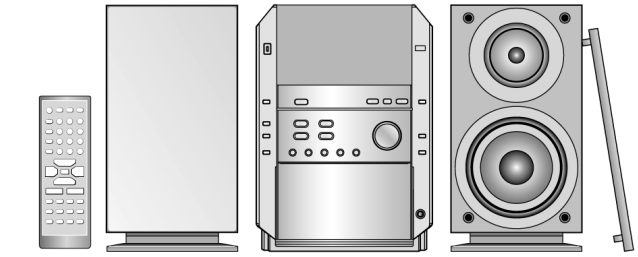
ORDER NO. MD0403117C2

Service Manual

CD Stereo System

COMPACT disc DIGITAL AUDIO



SA-PM19E
SA-PM19EB
SA-PM19EG

Colour
(S)... Silver Type
(K)... Black Type (For E only)

Specification

n Amplifier Section

RMS 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	16Ω - 32 Ω

n FM Tuner Section

Frequency range	87.50 - 108.00 MHz (50 kHz steps)
Sensitivity	1.5 µV (IHF)
S/N 26 dB	1.5 µV
Antenna terminal(s)	75 Ω (unbalanced)

n AM Tuner Section

Frequency range	522 kHz - 1629 kHz (9 kHz steps)
	520 kHz - 1630 kHz (10 kHz steps)
Sensitivity	
S/N 20 dB (at 999 kHz)	560 µV/m

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	45 dB (A weighted)
Wow and flutter	0.10% (WRMS)
Fast forward and rewind times	Approx. 120 seconds with C-60 cassette tape

n CD Section

Disc	
CD, CD-R, CD-RW, MP3	8 cm/12 cm
Sampling frequency	44.1 kHz
Decoding	16 bit linear
Pickup	
Beam source/ Wavelength	Semiconductor laser / 780 nm
Number of channels	Stereo
Frequency response	20 Hz - 20 kHz (+1dB, -2dB)
Wow and flutter	Below measurable limit
Digital filter	8 fs

Panasonic

D/A converter	MASH (1 bit DAC)
MP3	
Bit rate	32kbps-320kbps
Sampling frequency	32kHz, 44.1kHz, 48kHz

n General

Power supply	AC 230 V, 50 Hz (E, EG)
	AC 230 V - 240 V, 50 Hz (EB)
Power consumption	130 W
Dimensions (W x H x D)	179 x 250 x 383 mm
Mass	5.24 kg
Power consumption in standby mode:	0.8W

n System: SC-PM19E-S	Music Center: SA-PM19E-S
	Speaker: SB-PM19E-M
n System: SC-PM19EB-S	Music Center: SA-PM19EB-S
	Speaker: SB-PM19E-M
n System: SC-PM19EG-S	Music Center: SA-PM19EG-S
	Speaker: SB-PM19EG-M
n System: SC-PM19E-K	Music Center: SA-PM19E-S
	Speaker: SB-PM19P-K

Notes:

1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.
3. The labels “HIGH” and “LOW” on the rear of the speakers refer to High frequency and Low frequency.

⚠ 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.

CONTENTS

1 Caution for AC Mains Lead

(For "EB" area code model only.)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use
Remove the connector cover.

How to replace the fuse
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

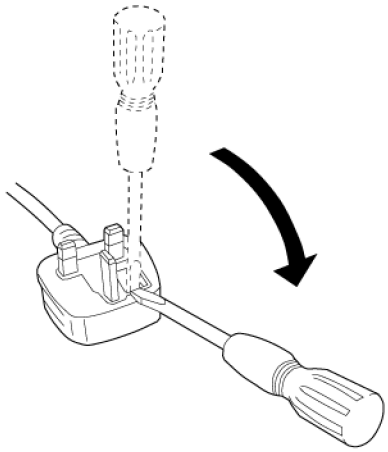
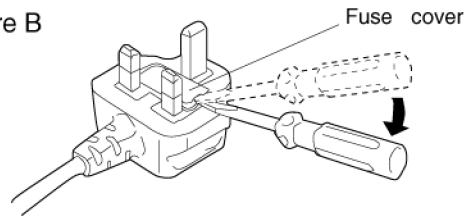


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

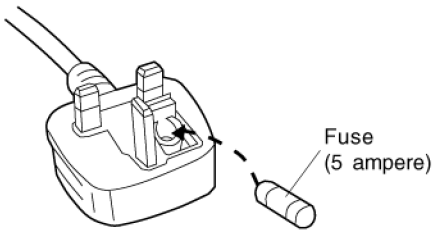
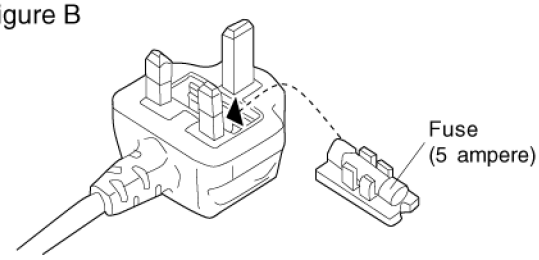


Figure B



2 Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C506, C507, C508, C584 & C311 through a 10Ω, 5W 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 230V, 50 Hz in NO SIGNAL mode should be ~300 mA. (For E, EG)
- Current consumption at AC 230V - 240V, 50 Hz in NO SIGNAL mode should be ~300 mA. (For EB)

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 product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.
Wavelength : 780 nm
Maximum output radiation power from pick up : 100 µW/VDE
Laser radiation from pick up unit is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG :

Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.
Wellenlänge : 780nm
Maximale Strahlungsleistung der Lasereinheit :100µW/VDE
Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

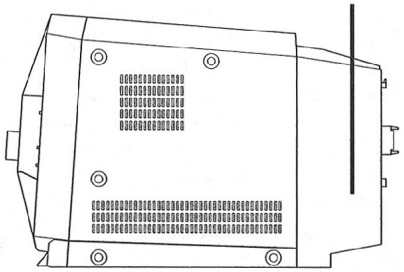
ADVARSEL :

I dette a apparat anvendes laser.

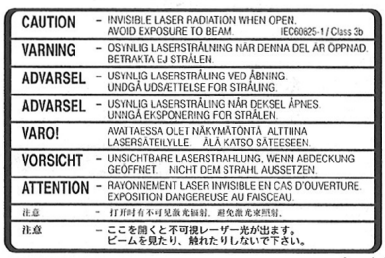
CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

n Use of Caution Labels

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT



Side of product



Inside of product
Tuotteen sisällä
Produktets innside

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).

l Handling of CD 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. The short land between the No.4 (LD) and No.5 (GND) pins on the flexible board (FFC) is shorted with a solder build-up to prevent damage to the laser diode (Fig 1).
3. Take care not to apply excessive stress to the flexible board (FPC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

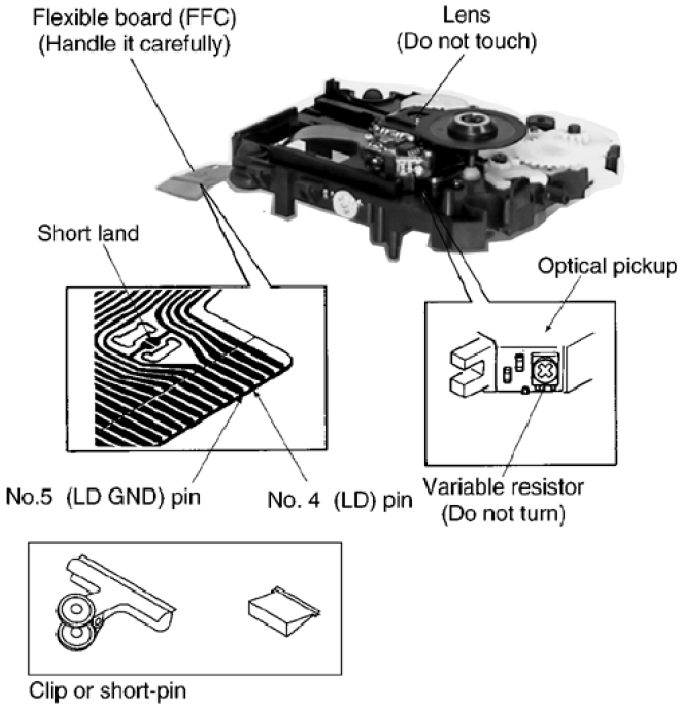


Fig 1

l Grounding for electrostatic breakdown prevention

1. Human body grounding (Fig 2)

   Use the anti-static wrist strap to discharge the static electricity from your body.

2. Work table grounding (Fig 2)

   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, 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).

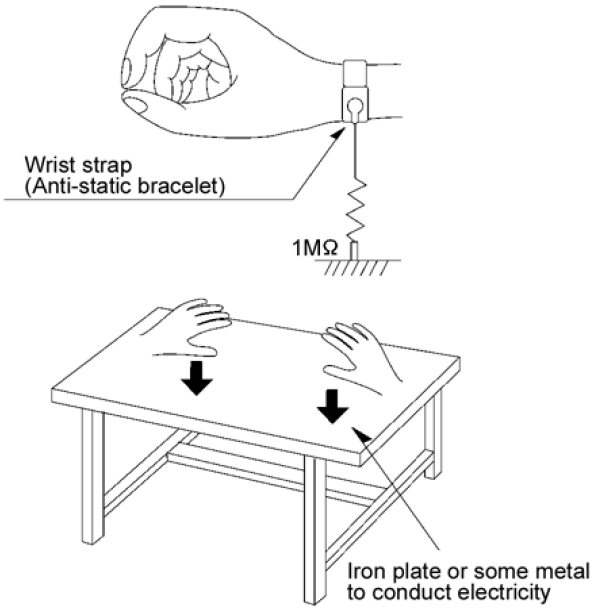


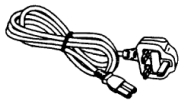
Fig 2

Caution when Replacing the Optical Pickup :

The traverse 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.

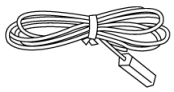
7 Accessories

Note : Refer to Packing Materials & Accessories for part number.

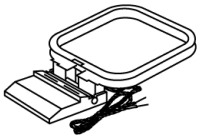


AC mains lead (For EB only)

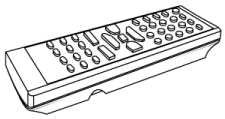
ACmains lead (For E & EG only)



FM indoor antenna



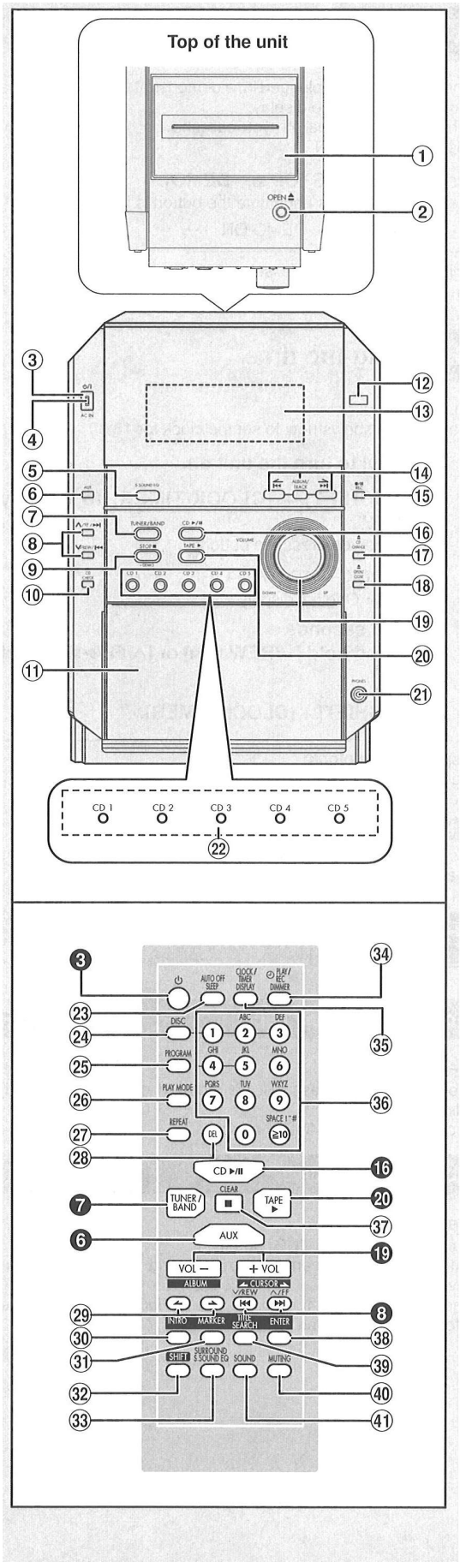
AM loop antenna



Remote control transmitter

Antenna plug adaptor (For EB only)

8 Operation Procedures



Front panel controls

Main unit

① **Cassette lid**
② **Cassette open button (OPEN ▲)**
③ **Standby/on switch (⏻/I)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
④ **AC supply indicator (AC IN)**
This indicator lights when the unit is connected to the AC mains supply.
⑤ **Super sound EQ button (S.SOUND EQ)**
⑥ **Aux button (AUX)**
⑦ **Tuner/band select button (TUNER/BAND)**
⑧ **CD skip/search, tape fast-forward/rewind/TPS, tune/ preset channel select, time adjust buttons (∨/REW/I◄◄, ∧/FF/►►I)**
⑨ **Stop and demonstration button (STOP ■, –DEMO)**
⑩ **Checking CD position (CD CHECK)**
⑪ **CD trays**
⑫ **Remote control sensor**
⑬ **Display**
⑭ **Album/track selection button (ALBUM/TRACK)**
⑮ **Recording start/pause button (●/II REC)**
⑯ **CD play/pause button (CD ►/II)**
⑰ **CD change button (▲ CD CHANGE)**
⑱ **CD tray open/close button (▲ OPEN/CLOSE)**
⑲ **Volume control (VOLUME DOWN, UP)**
⑳ **Tape play button (TAPE ►)**
㉑ **Headphone jack (PHONES)**
㉒ **CD selection (CD 1~CD 5)**

Remote Control

Buttons such as ❸ function in exactly same way as the buttons on the main unit.

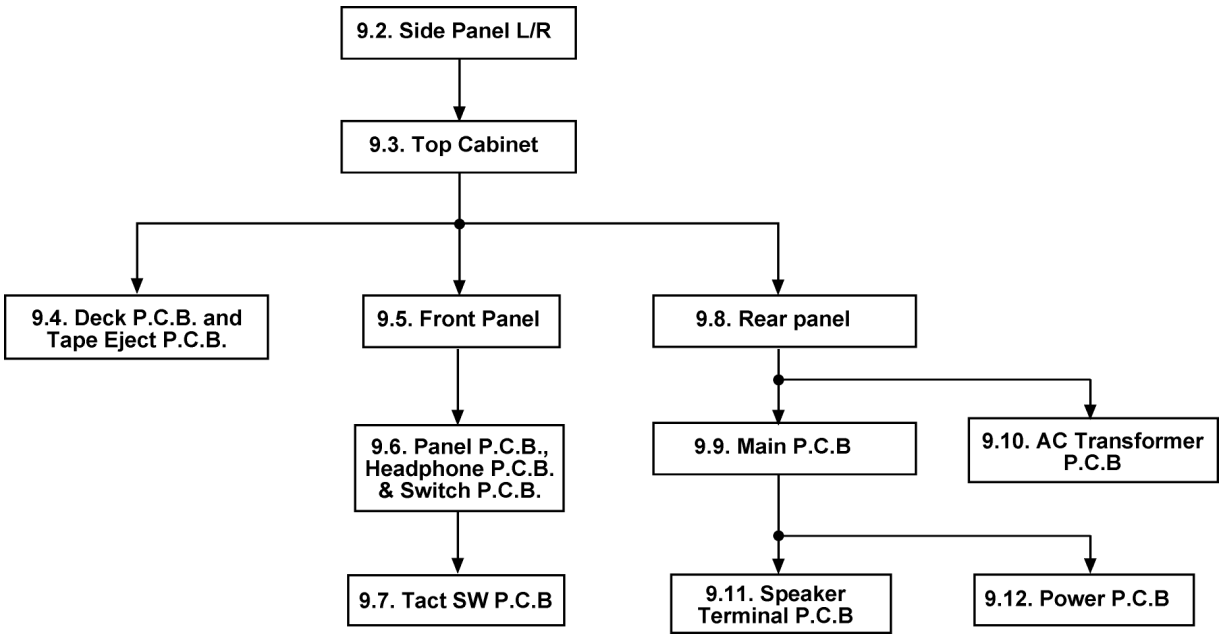
㉓ **Auto off/Sleep timer button (AUTO OFF, SLEEP)**
㉔ **Disc button (DISC)**
㉕ **CD Program, tuner preset button (PROGRAM)**
㉖ **Play mode select button (PLAY MODE)**
Use this for selecting CD play mode, tune mode and FM mode.
㉗ **Repeat button (REPEAT)**
㉘ **Delete button (DEL)**
㉙ **Album selection button (ALBUM, ◄ ►)**
㉚ **Intro button (INTRO)**
㉛ **Marker memory/recall button (MARKER)**
㉜ **Shift button (SHIFT)**
To use functions labelled in orange ※ :
While pressing [SHIFT], press the corresponding button.
※ For buttons [AUTO OFF], [CLOCK/TIMER], [⏲PLAY/REC] and [SURROUND].
㉝ **Surround, Super sound EQ button (SURROUND, S.SOUND EQ)**
㉞ **Play timer/record timer/Dimmer button (⏲PLAY/REC, DIMMER)**
㉟ **Clock/timer/CD display/RDS display button (CLOCK/TIMER, DISPLAY)**
㊱ **Numbered, character buttons (≧10, 1-9, 0, A-Z, SPACE!"#)**
㊲ **Stop/clear button (■ CLEAR)**
㊳ **Enter button (ENTER)**
㊴ **Title search mode select button (TITLE SEARCH)**
㊵ **Muting button (MUTING)**
㊶ **Preset EQ/Manual EQ button (SOUND)**

9 Assembling and Disassembling

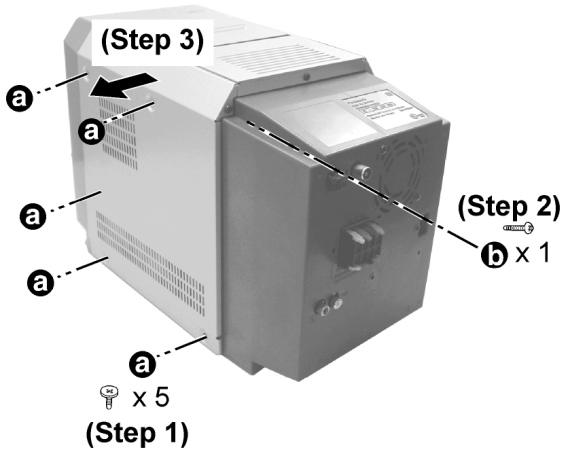
9.1. Disassembly flow chart

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.



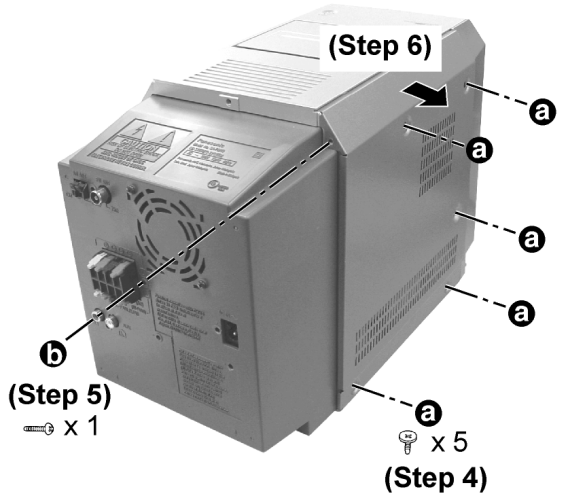
9.2. Disassembly of Side Panel L & R



Step 1 : Remove all the screws.

Step 2 : Remove the screw.

Step 3 : Remove the panel L as arrow shown.



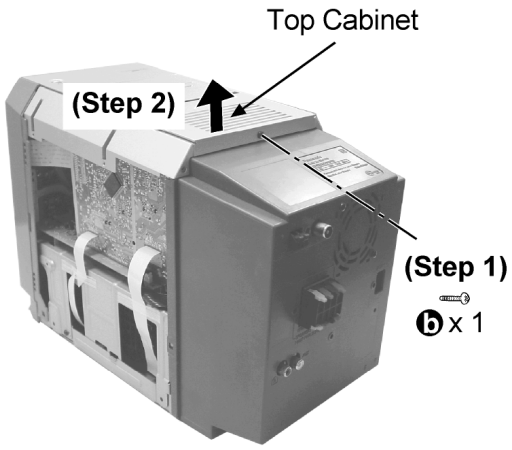
Step 4 : Remove all the screws.

Step 5 : Remove the screw.

Step 6 : Remove the panel R as arrow shown.

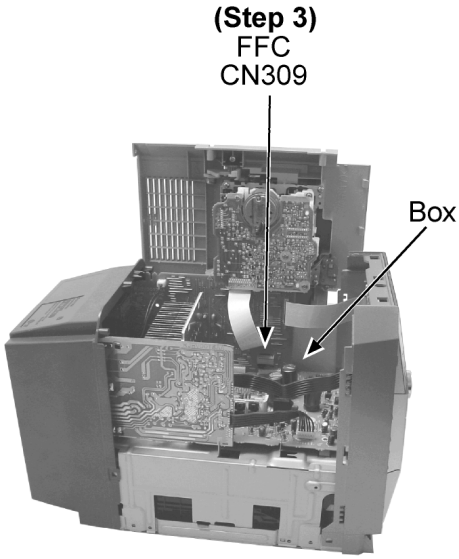
9.3. Disassembly of Top Cabinet

・Follow the (Step 1) - (Step 6) of Item 9.2.



Step 1 : Remove the screws.

Step 2 : Lift up the Top Cabinet and push backward as arrow shown, flip Top Cabinet sideway.

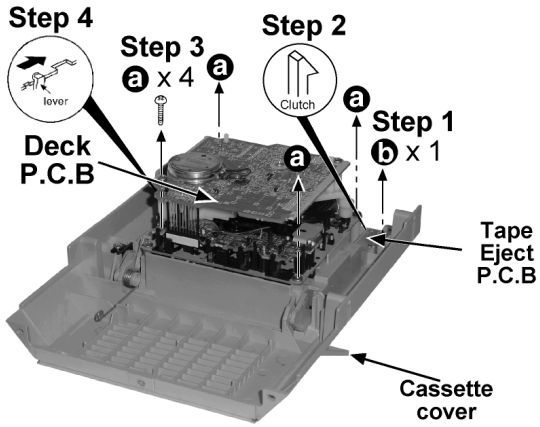


Step 3 : Detach the FFC Connector Board CN309.

9.4. Disassembly of Deck P.C.B. & Tape Eject P.C.B.

・Follow the (Step 1) - (Step 6) of Item 9.2.

・Follow the (Step 1) - (Step 3) of Item 9.3.



Step 1 : Remove the screw.

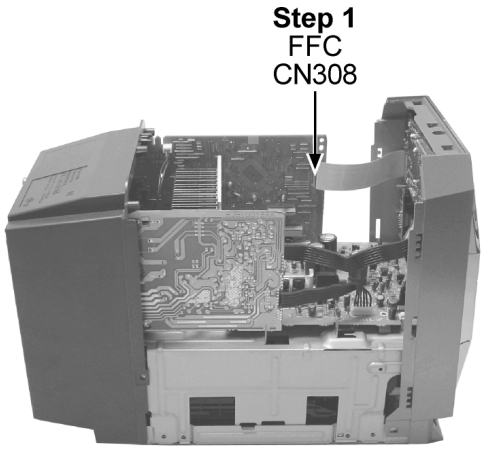
Step 2 : Release the clutch.

Step 3 : Remove all the screws.

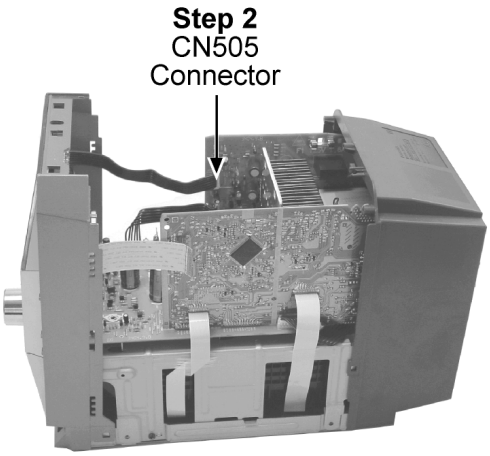
Step 4 : Press the lever as arrow shown and remove the Deck Mechanism.

9.5. Disassembly of Front Panel

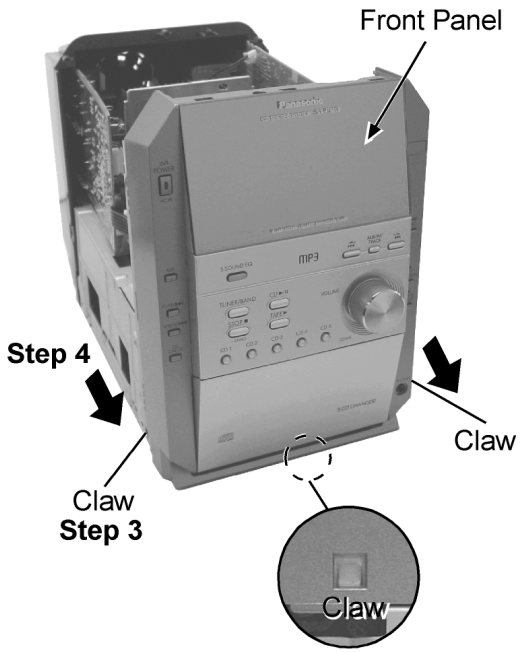
- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.



Step 1 : Detach the FFC Board (CN308).



Step 2 : Detach the wire at CN505 Connector.

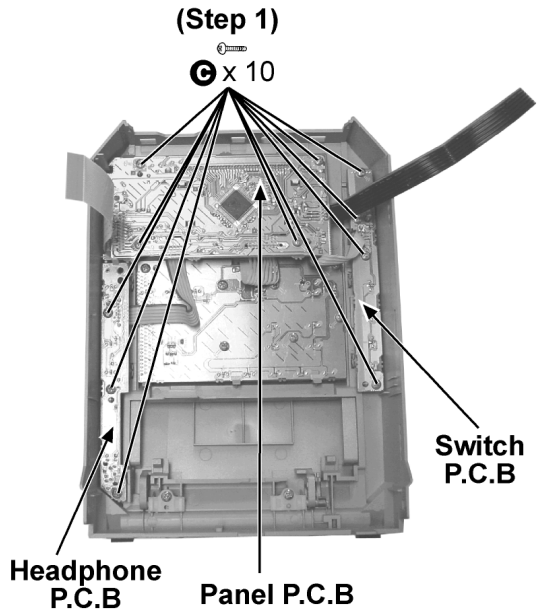


Step 3 : Release all the Claw.

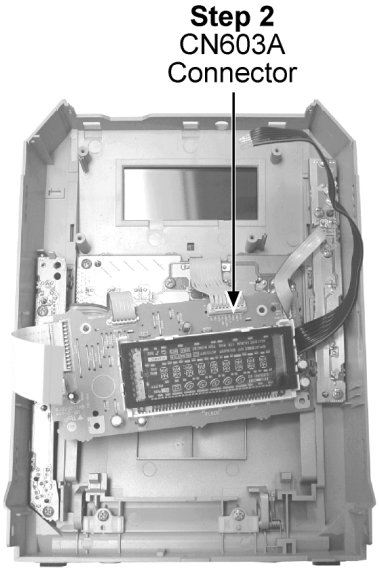
Step 4 : Push the Front Panel as arrow shown.

9.6. Disassembly of Panel P.C.B., Headphone P.C.B. and Switch P.C.B.

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.



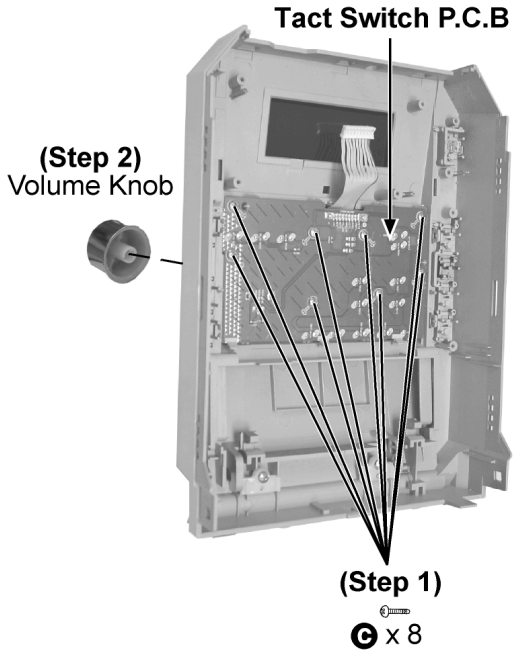
Step 1 : Remove all the screws.



Step 2 : Detach the CN603A Connector.

9.7. Disassembly of Tact Switch P.C.B.

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 2) of Item 9.6.

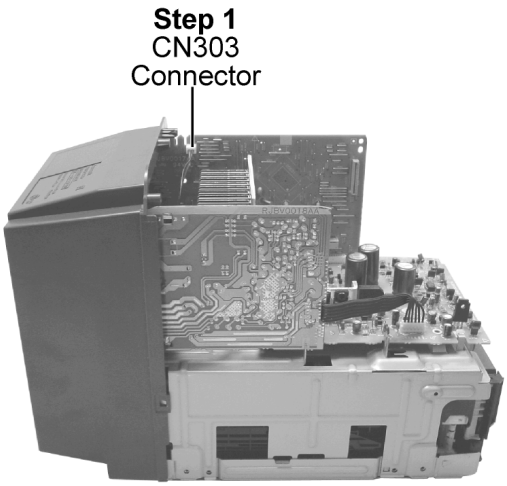


Step 1 : Remove all the screws.

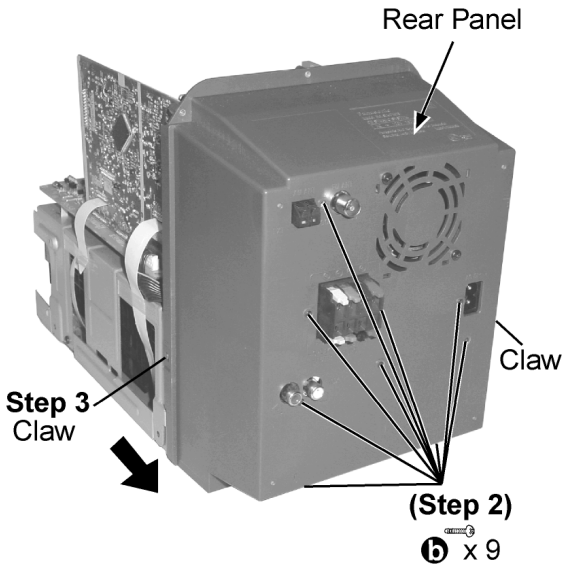
Step 2 : Remove the Volume Knob.

9.8. Disassembly of Rear Panel

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.



Step 1 : Detach the wire at CN303 Connector.

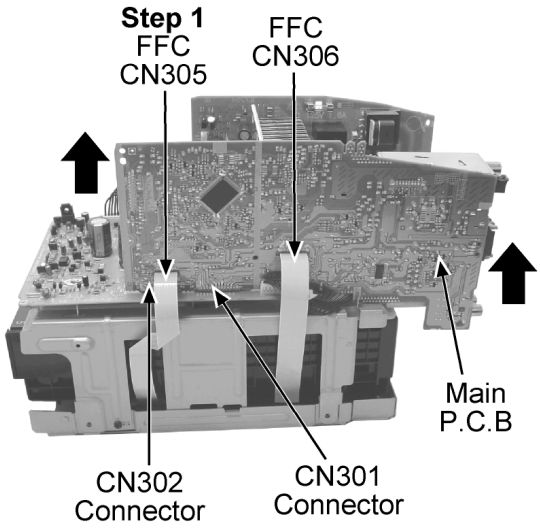


Step 2 : Remove all the screws.

Step 3 : Release the Claws and remove Rear Panel as arrows shown.

9.9. Disassembly of Main P.C.B.

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.

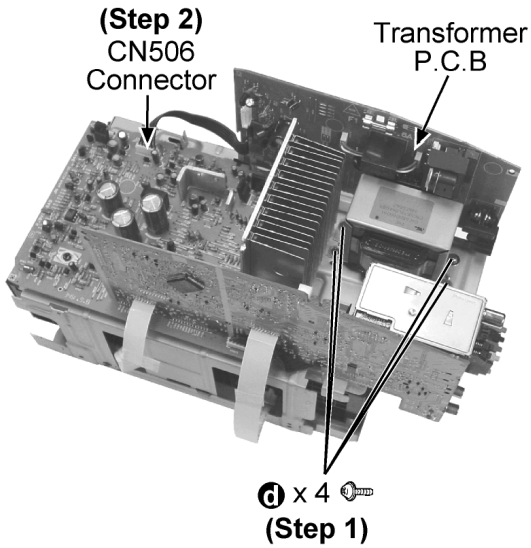


Step 1 : Remove the CN301, CN302 Connector and FFC CN305, CN306 .

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

9.10. Disassembly of Transformer P.C.B.

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.

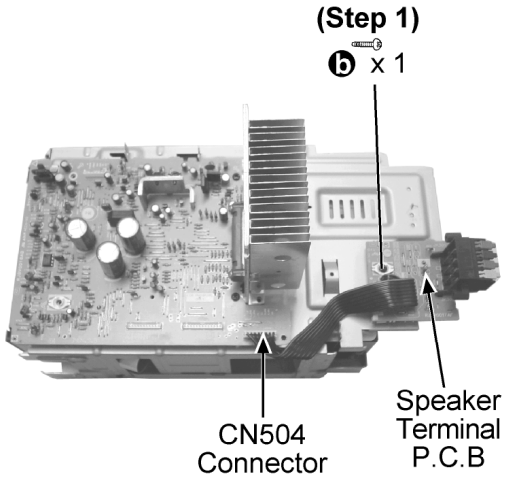


Step 1 : Remove all the screws.

Step 2 : Detach the CN506 Connector.

9.11. Disassembly of Speaker Terminal P.C.B

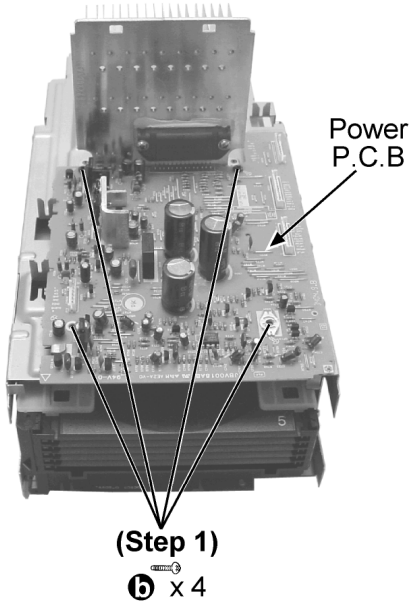
- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) - (Step 2) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.10.



Step 1 : Remove the screw and CN504 Connector.

9.12. Disassembly of Power P.C.B

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) - (Step 2) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.10.
- Follow the (Step 1) of Item 9.11.

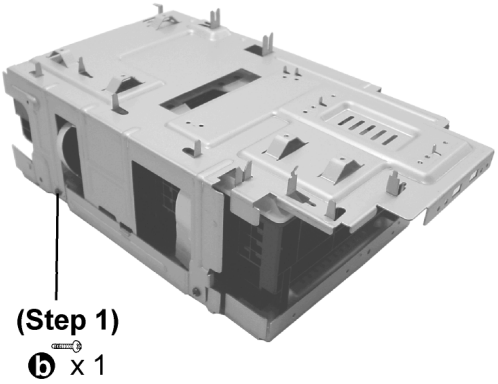


Step 1 : Remove all the screws.

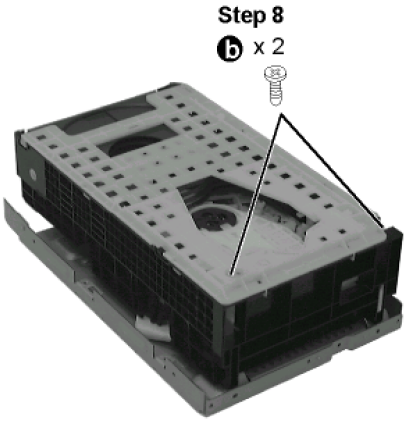
9.13. Disassembly of CR16 Mechanism

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) - (Step 2) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.10.

・Follow the (Step 1) of Item 9.11.
・Follow the (Step 1) of Item 9.12.



Step 1 : Remove the screw.

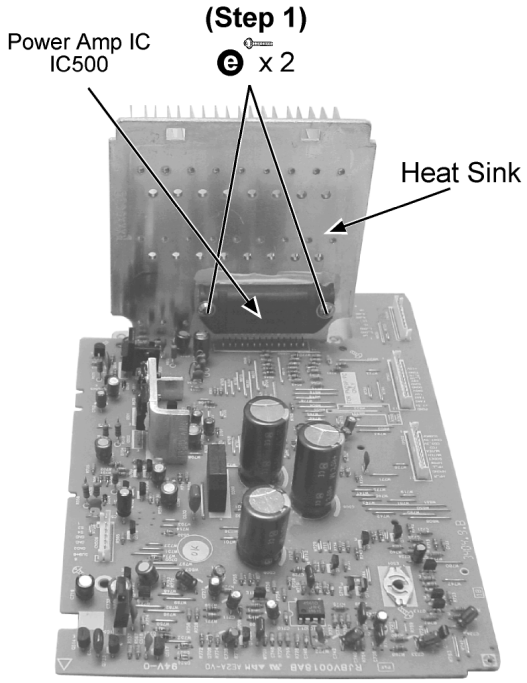


Step 2 : Remove 2 screws. Lift up the CD Mecha Unit.

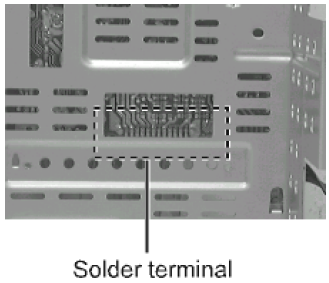
9.14. Checking Procedure for Each Major P.C.B.

9.14.1. Replacement of the Power Amplifier IC

- **Replacement of the Power Amplifier IC**
- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) - (Step 2) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.10.
- Follow the (Step 1) of Item 9.11.
- Follow the (Step 1) of Item 9.12.



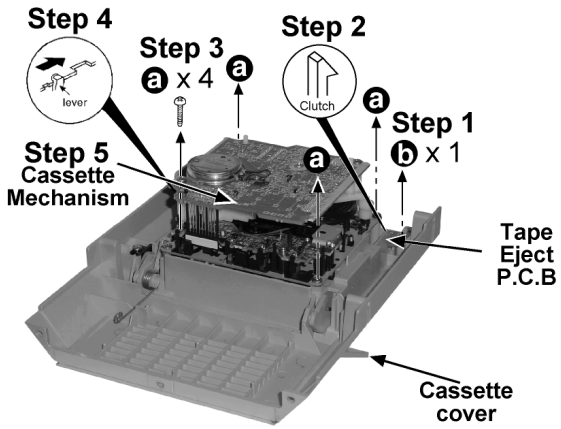
Step 1 : Remove 2 screws fixed to the Power Amp I.C.



Step 2 : Unsolder the terminals of Power Amp IC, transistor and replace the component.

9.15. Procedure for Replacing Cassette Holder

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.



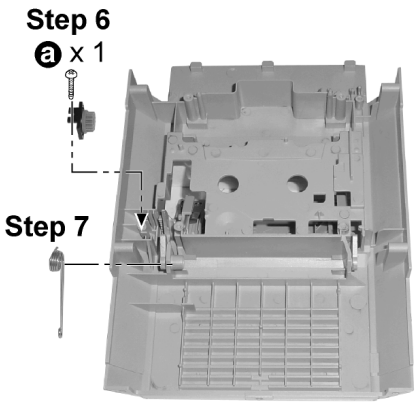
Step 1 : Remove the screw.

Step 2 : Release the clutch.

Step 3 : Remove all the screws.

Step 4 : Press the lever to open the cassette cover.

Step 5 : Remove the cassette mechanism unit.

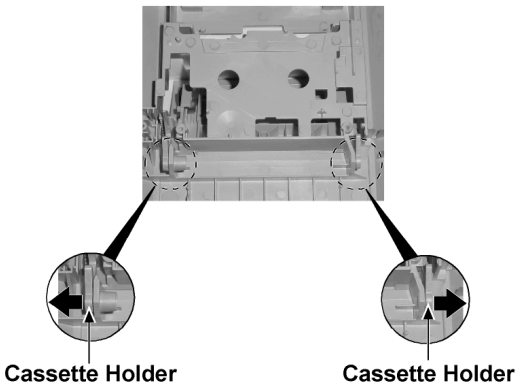


Step 6 : Remove the screw and damper gear.

Step 7 : Remove the cassette open spring.

Step 8 : Pull out the cassette holder to the direction of the arrow shown.

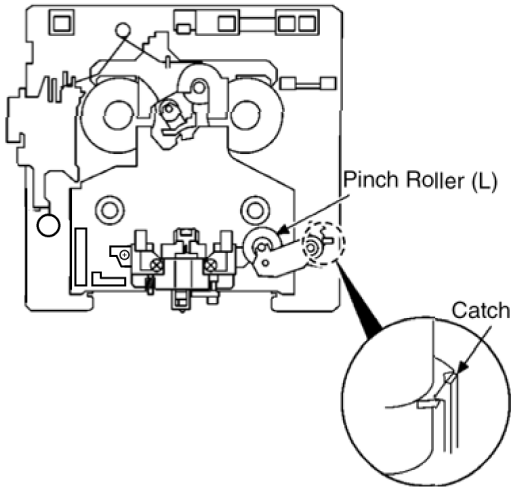
Step 8

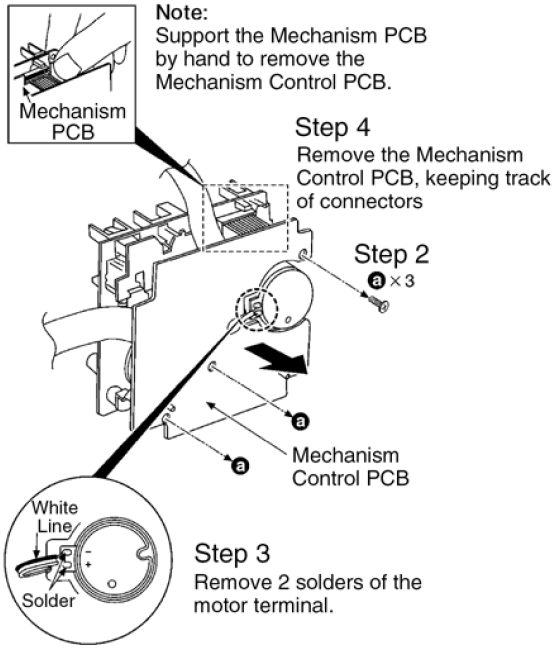


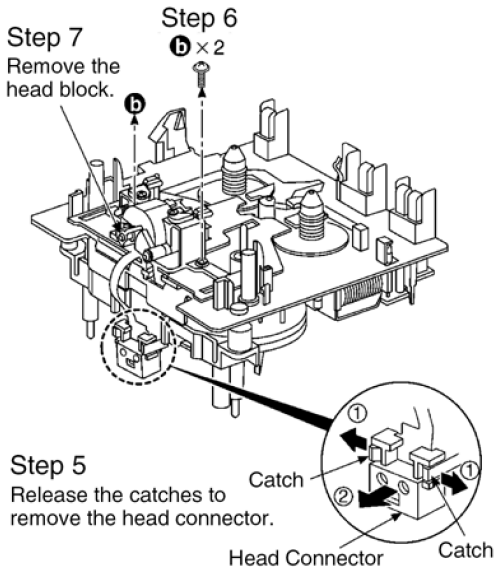
9.16. Procedure for Replacing Pinch Roller and Head Block (Cassette Mechanism Unit)

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 5) of Item 9.15.

Step 1
Release catches to remove the pinch rollers (L).

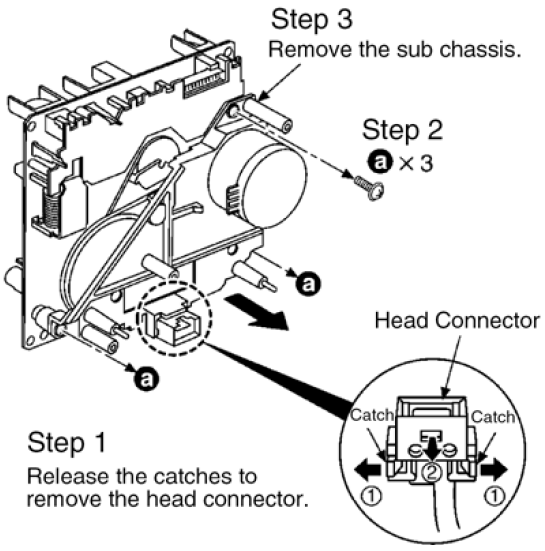


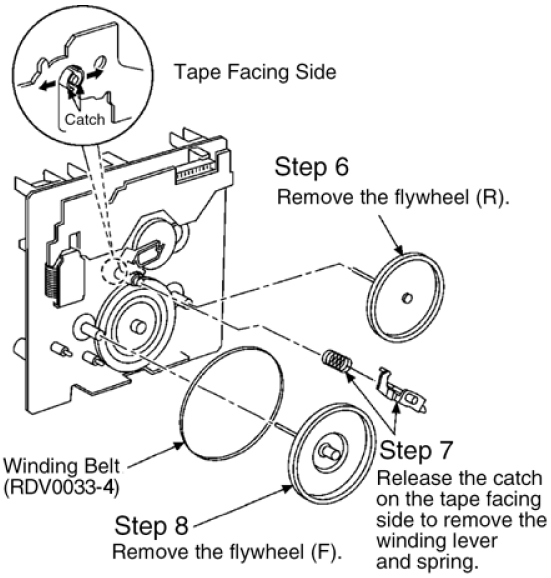


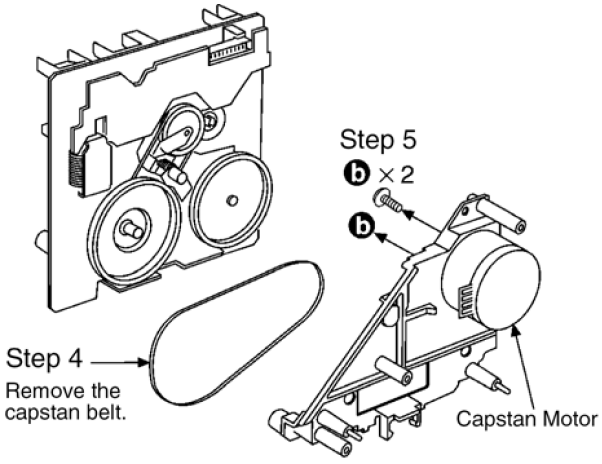


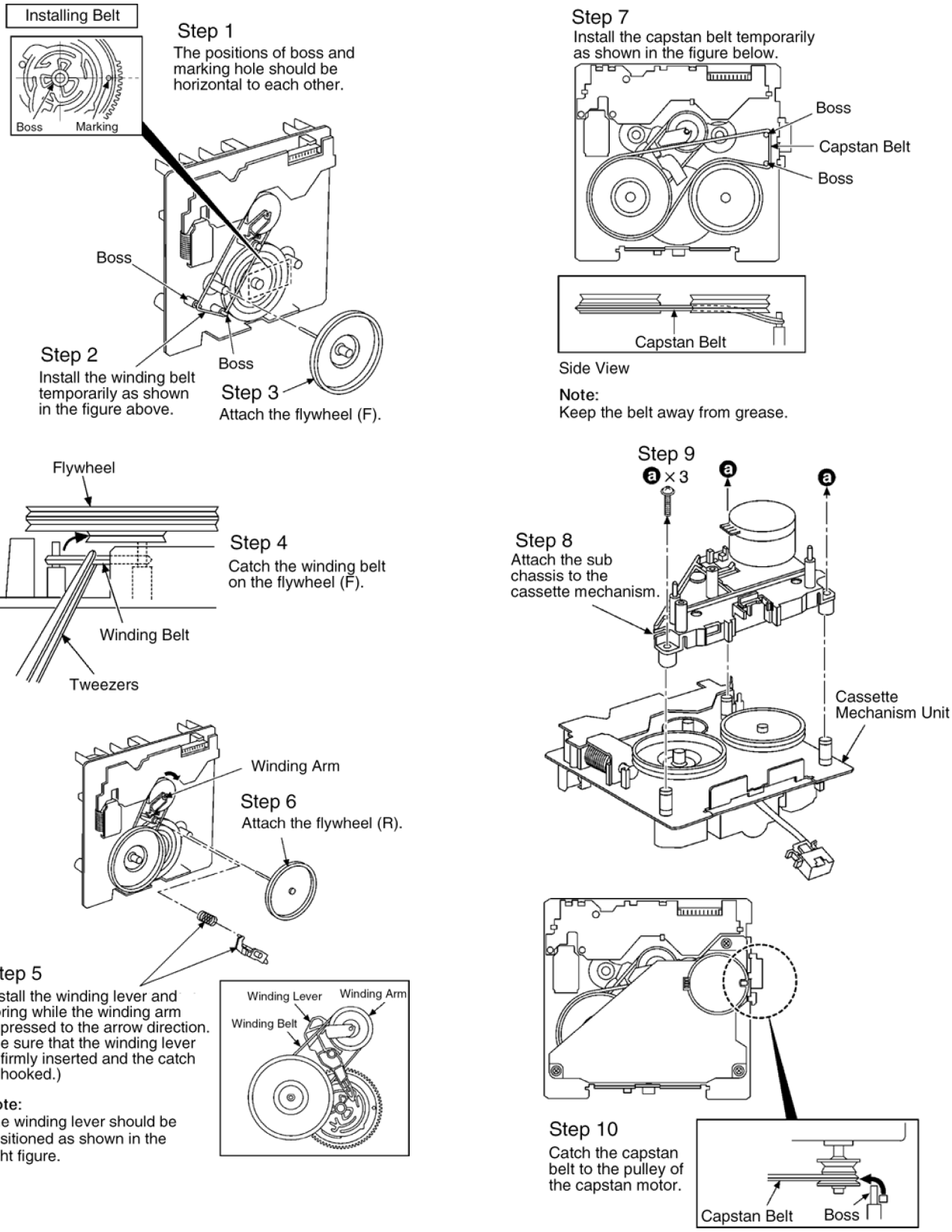
9.17. Procedure for Replacing Motor, Capstan Belt A, Capstan Belt B, and Winding Belt (Cassette Mechanism Unit)

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 5) of Item 9.15.
- Follow the (Step 1) - (Step 5) of Item 9.16.



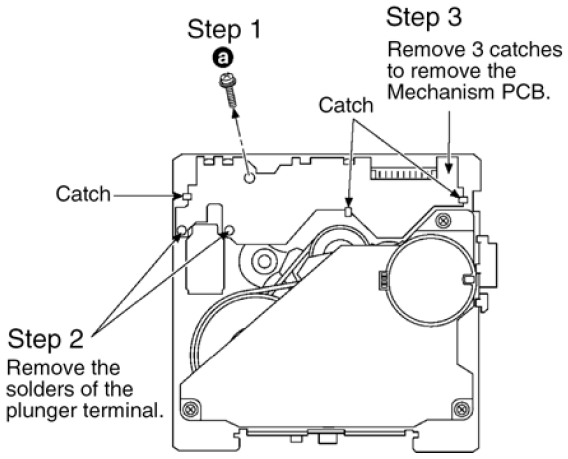






9.18. Procedure for Replacing Parts on Mechanism PCB

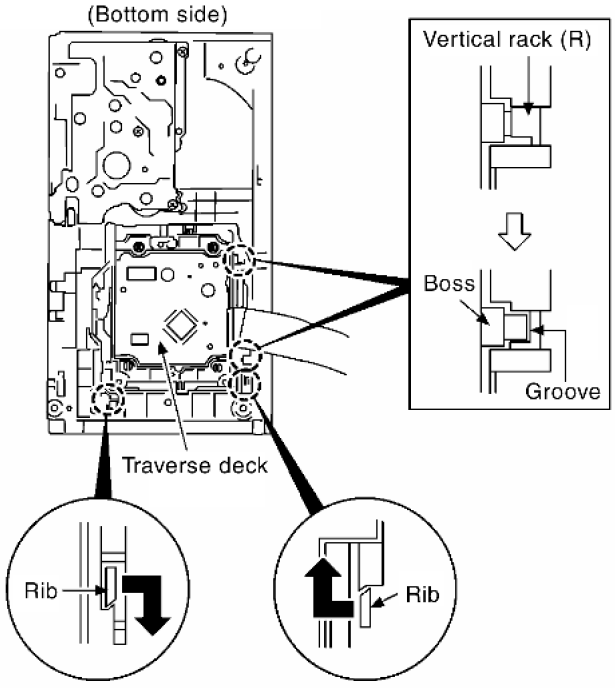
- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 5) of Item 9.15.
- Follow the (Step 1) - (Step 5) of Item 9.16.



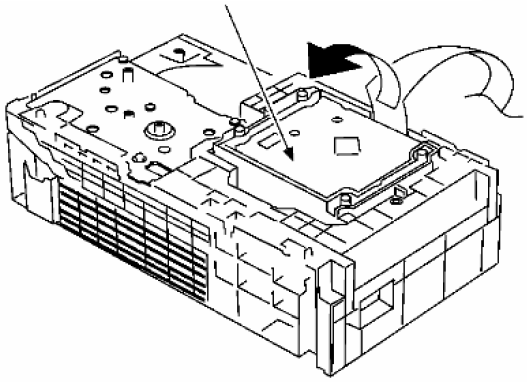
9.19. Replacement of CD traverse deck

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.13.

Step 1
Move ribs at both sides to the arrow direction
(The vertical rack (R) slides and the groove opens)

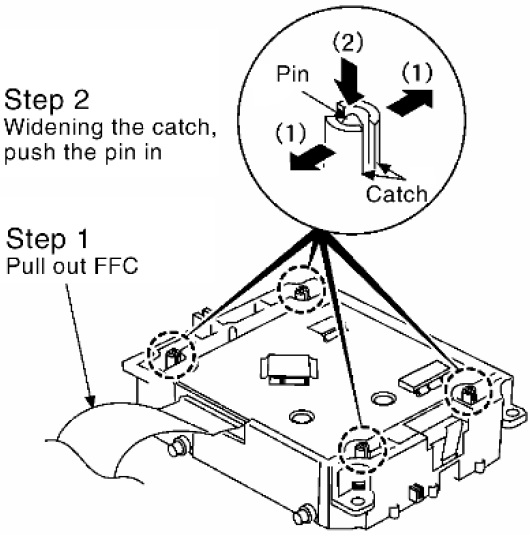


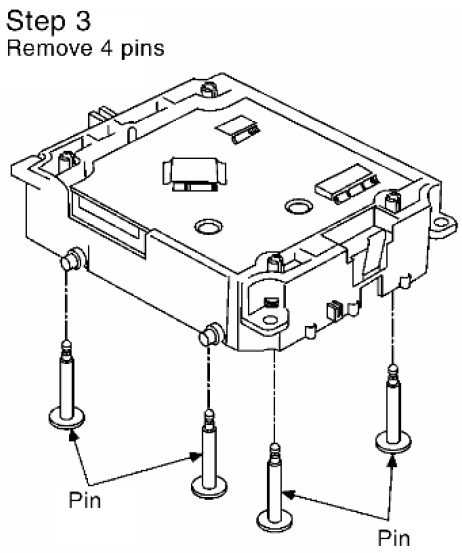
Step 2
Remove CD traverse deck rotating to the arrow direction.

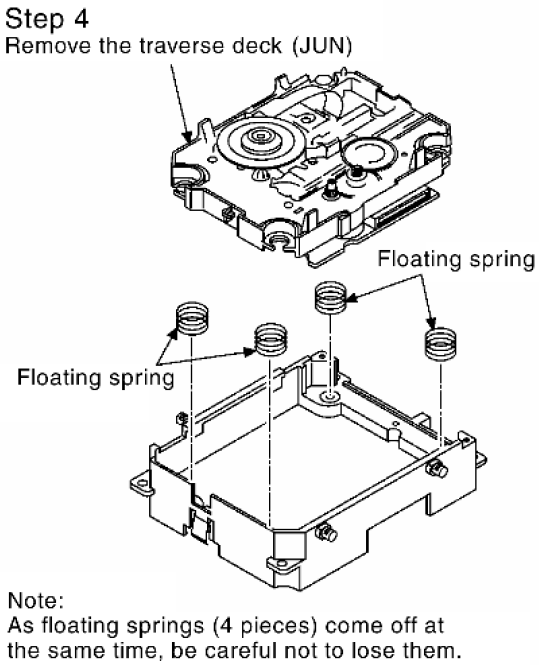


9.20. Replacement of optical pickup unit (CD mechanism)

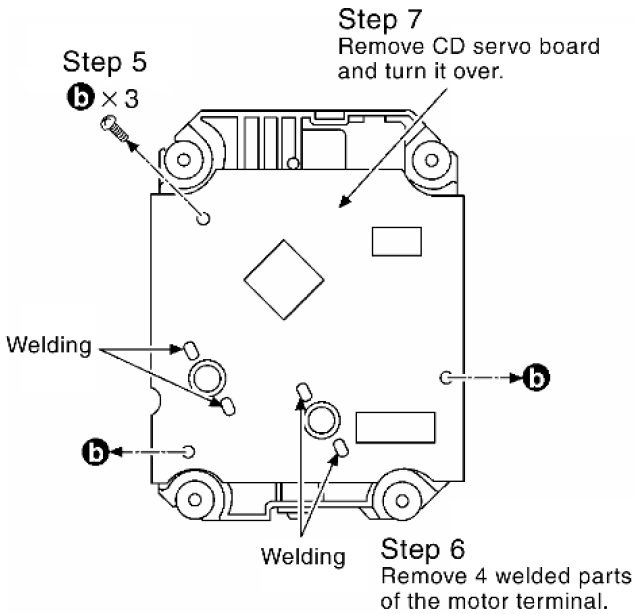
- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.13.
- Follow the (Step 1) - (Step 2) of Item 9.19.



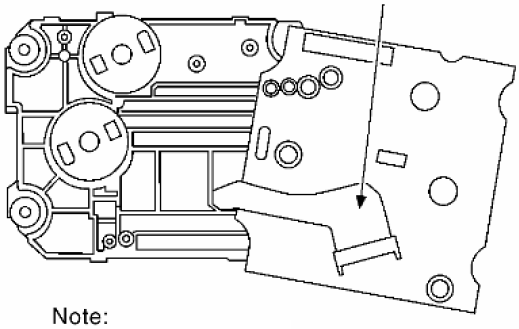




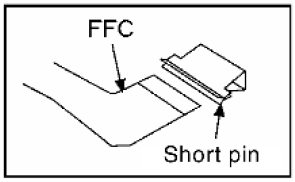
Note:
As floating springs (4 pieces) come off at the same time, be careful not to lose them.

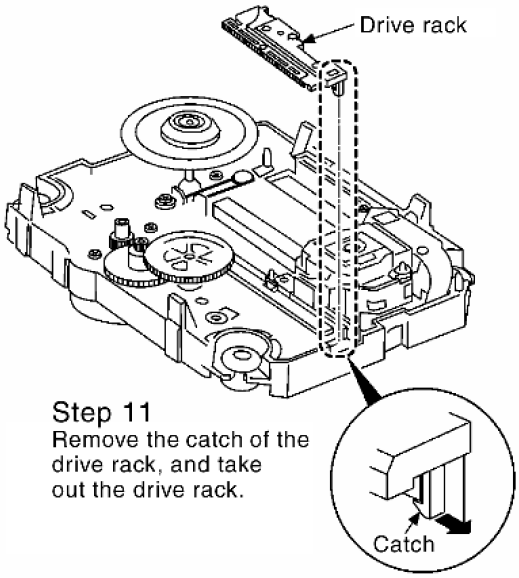


Step 8
Pull FFC out from the connector.



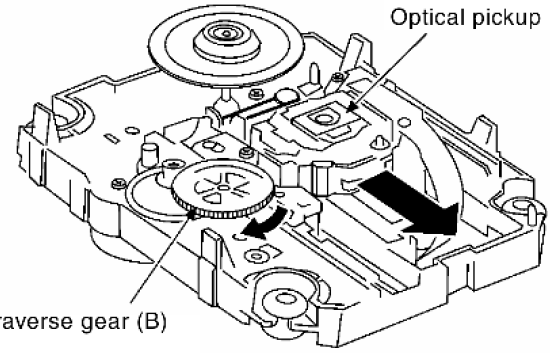
Note:
Insert a short pin into FFC of the optical pickup. [See "Notice on handling of the optical pickup"]

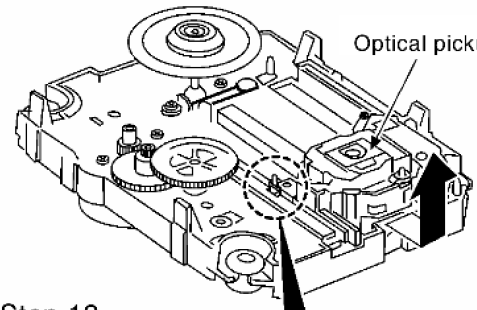




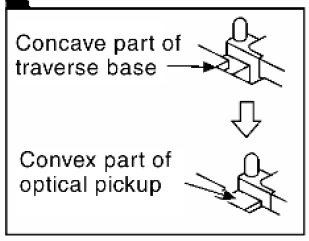
Step 11
Remove the catch of the drive rack, and take out the drive rack.

Step 9
Rotate the traverse deck (B) to the arrow direction and shift the optical pickup to the furthest backward.

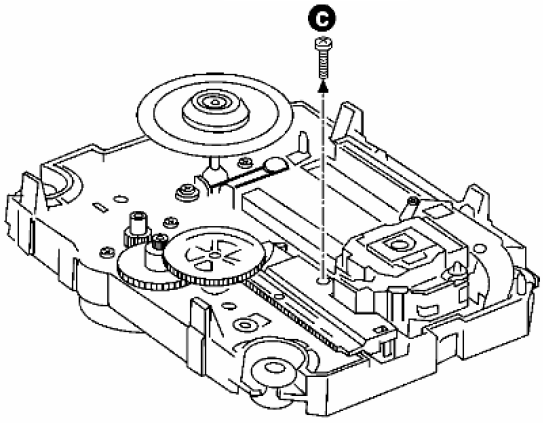


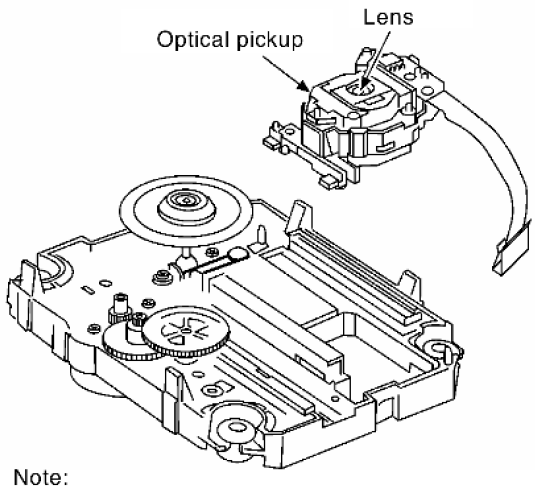


Step 12
Place the convex part of an optical pickup to the concave part of a traverse base, then take out the optical pickup.



Step 10





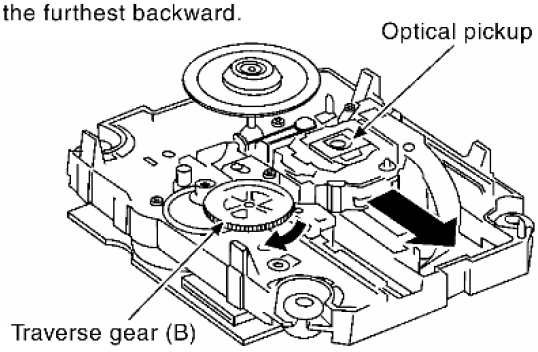
Note:
Do not touch the lens of the optical pickup

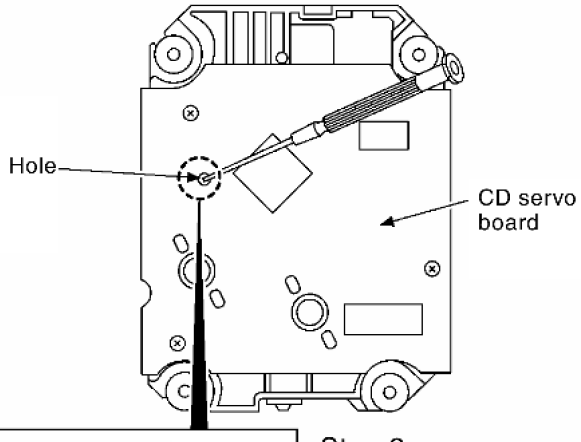
9.21. Replacement of a traverse gear A and a traverse gear B

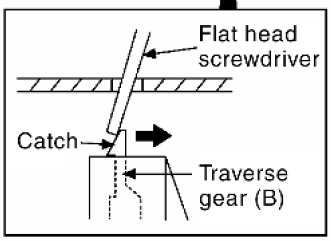
- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.

- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.13.
- Follow the (Step 1) - (Step 2) of Item 9.19.
- Follow the (Step 1) - (Step 12) of Item 9.20.

Step 1
Rotate the traverse gear (B) to the arrow direction, and shift the optical pickup to the furthest backward.





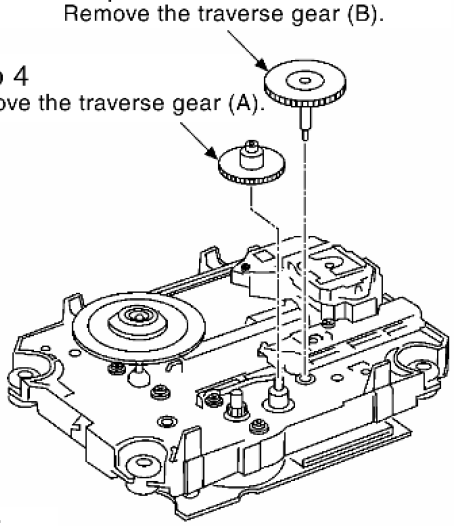


Step 2
Insert a fine edged flat head screwdriver into the hole of CD servo board and push the catch of the traverse gear (B), then pull the traverse gear (B) out.

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.

9.22. Procedure for removing CD loading mechanism

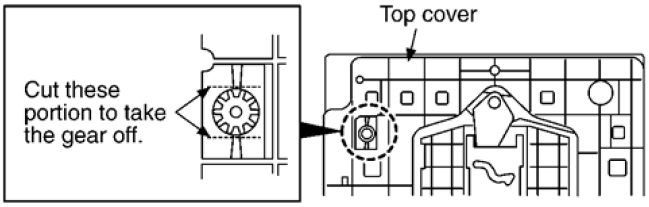
1. Turn off by pressing power SW in the body.
2. Unplug AC power cord after the indication of [GOOD-BYE], then disassemble the body.
3. Disassemble the body, and take out CD loading mechanism.
4. Perform disassembly according to the following procedure for disassembly.

9.23. CR16 mechanism disassembly procedure

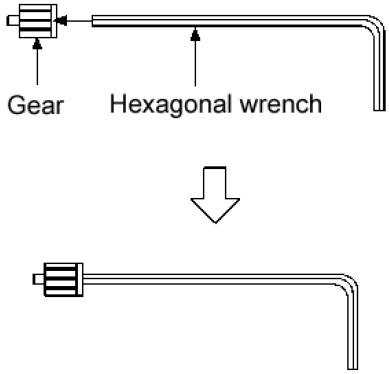
9.23.1. Gear for servicing information

- 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 hexgonal wrench (2.5mm) into the gear.

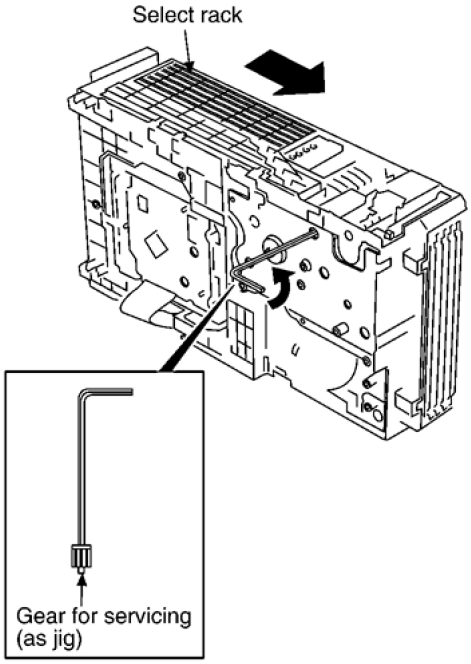


(Preparation of gear as jig is completed)

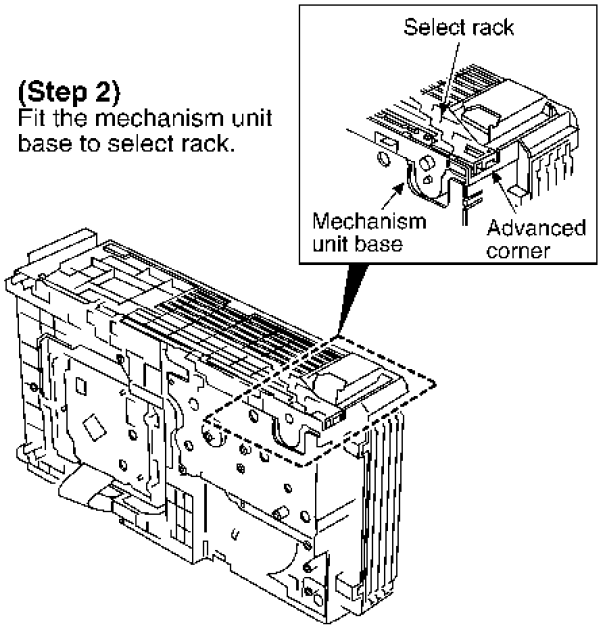
9.23.2. Replacement for the disc tray

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.13.

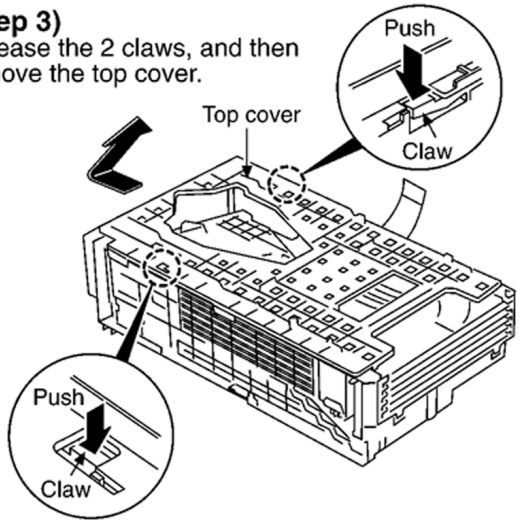
(Step 1)
Rotate the gear for servicing and move the select rack to advanced corner.



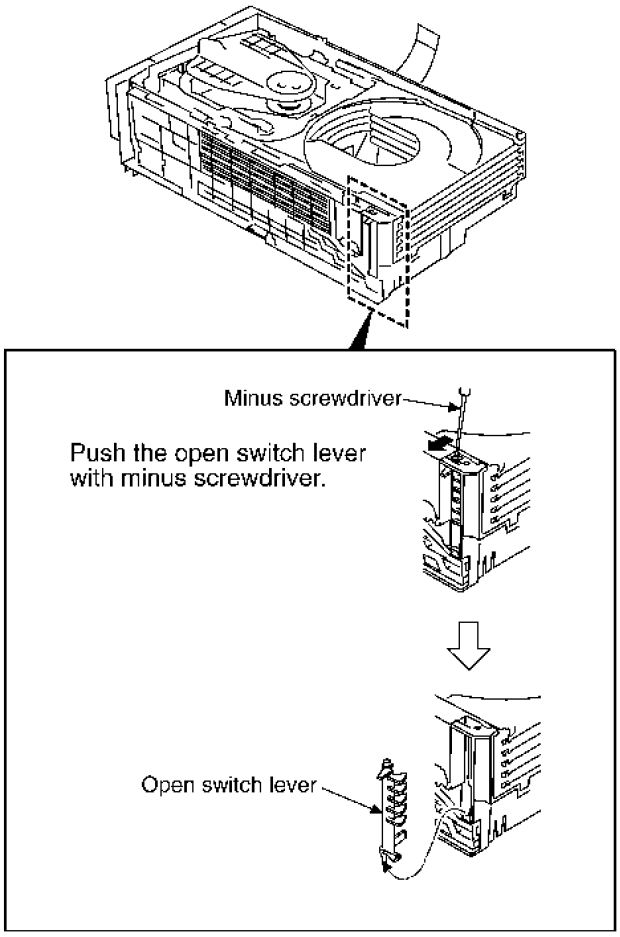
(Step 2)
Fit the mechanism unit base to select rack.



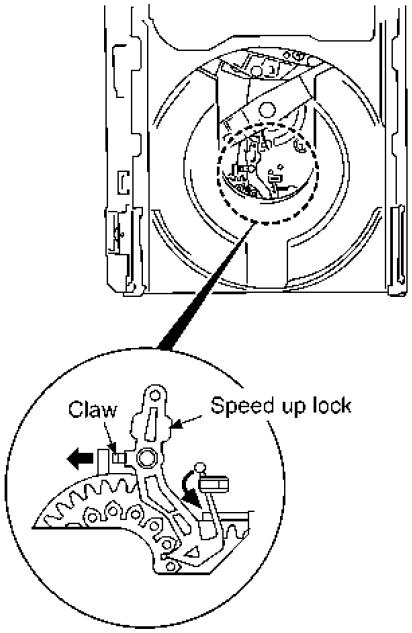
(Step 3)
Release the 2 claws, and then remove the top cover.



(Step 4)
Remove the open switch lever.



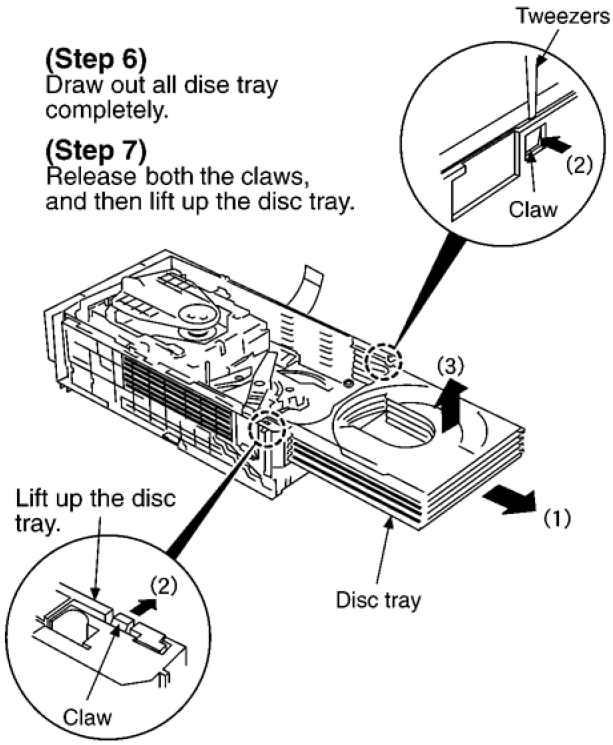
(Step 5)
Release the claw, and then remove the speed up lock.



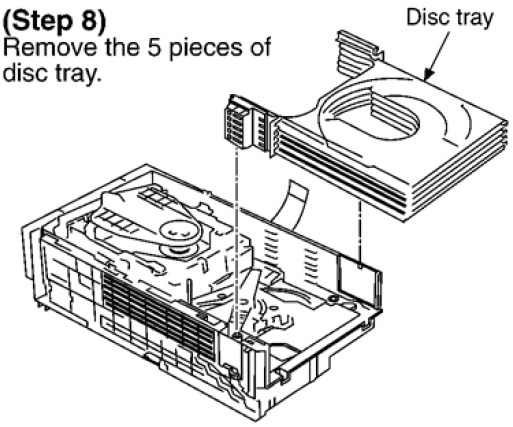
Insert the tweezers between the mechanism base and disc tray, and then lift up the disc tray.

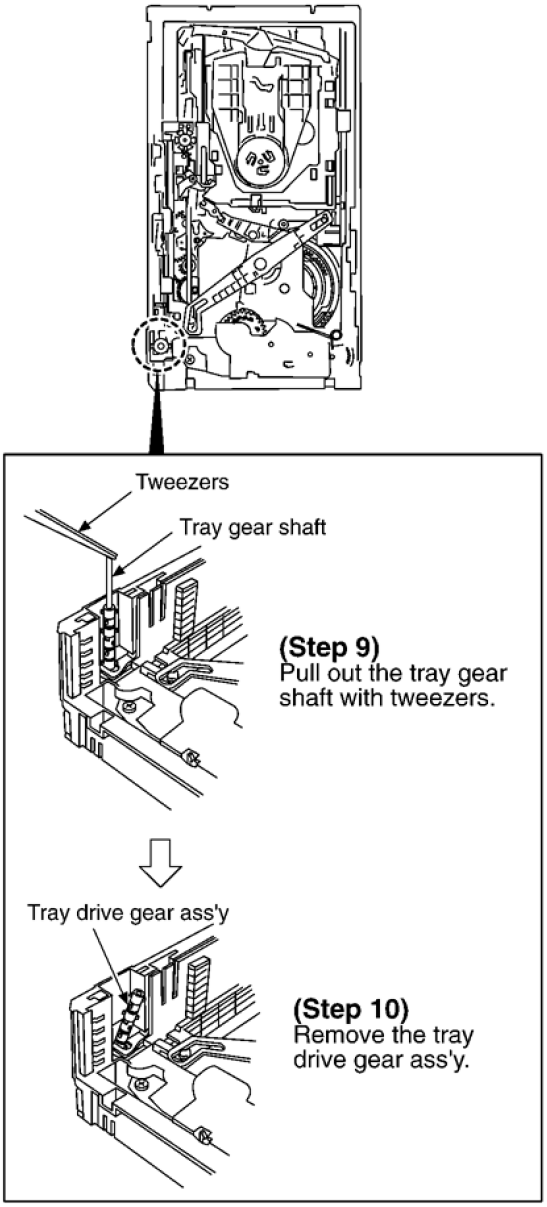
(Step 6)
Draw out all dise tray completely.

(Step 7)
Release both the claws, and then lift up the disc tray.



(Step 8)
Remove the 5 pieces of disc tray.



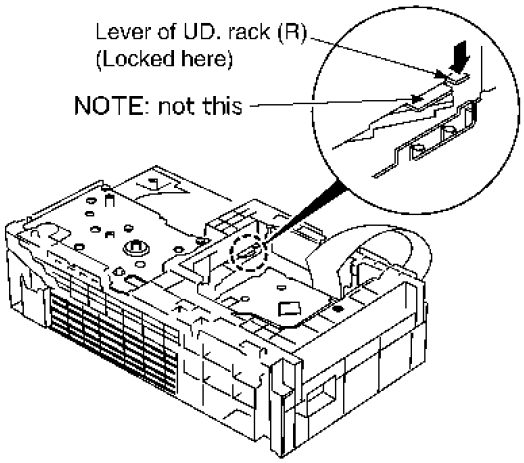


9.23.3. Replacement for the traverse deck

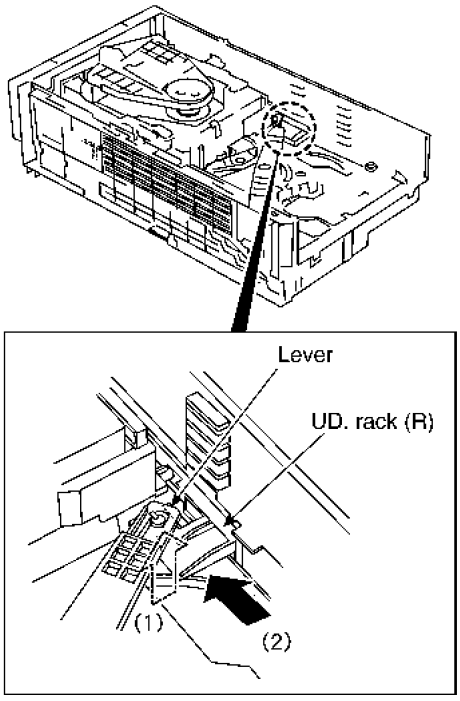
- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.13.
- Follow the (Step 1) - (Step 10) of item 9.23.2.

(Step 1)
Confirm the position for lever of UD. rack (R) to remove traverse unit.

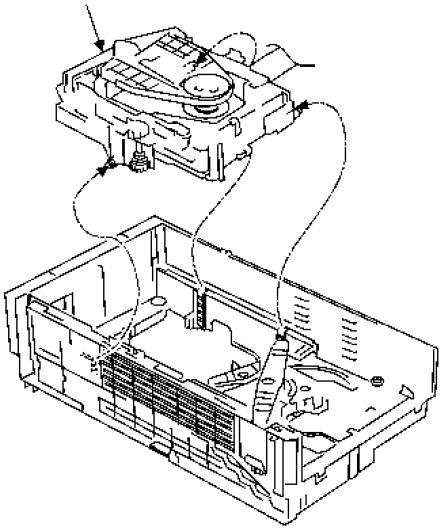
(Step 2)
Turn the unit over. (Upside: P.C.B.)



(Step 3)
Turn the unit over again, slide UD. rack (R) while pushing up the lever from the bottom.

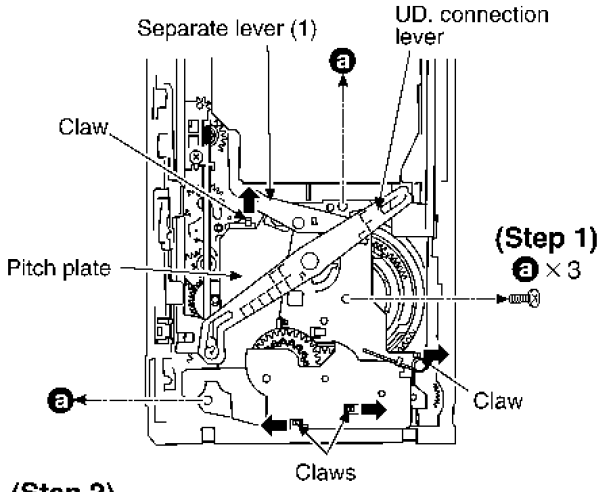


(Step 4)
Remove the traverse unit.



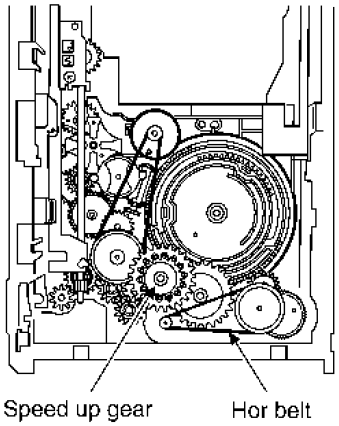
9.23.4. Disassembly for CD loading unit

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.13.
- Follow the (Step 1) - (Step 10) of item 9.23.2.
- Follow the (Step 1) - (Step 4) of item 9.23.3.

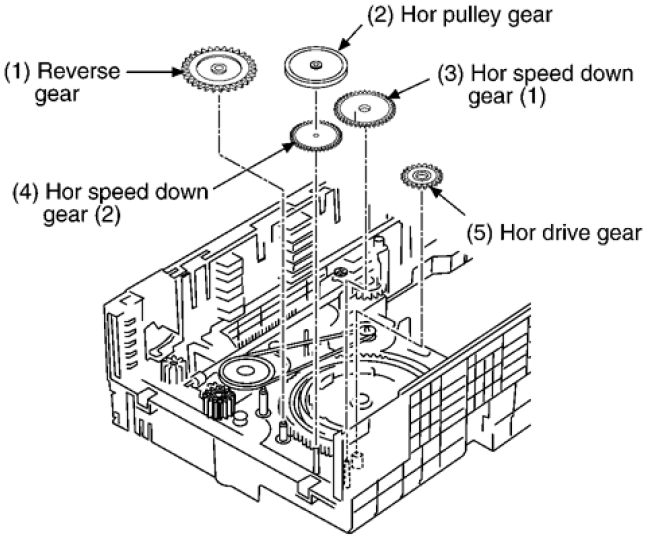


(Step 2)
Release the 4 claws, and then remove the pitch plate together with separate lever (1) and UD. connection lever.

(Step 3)
Remove the speed up gear and hor belt.

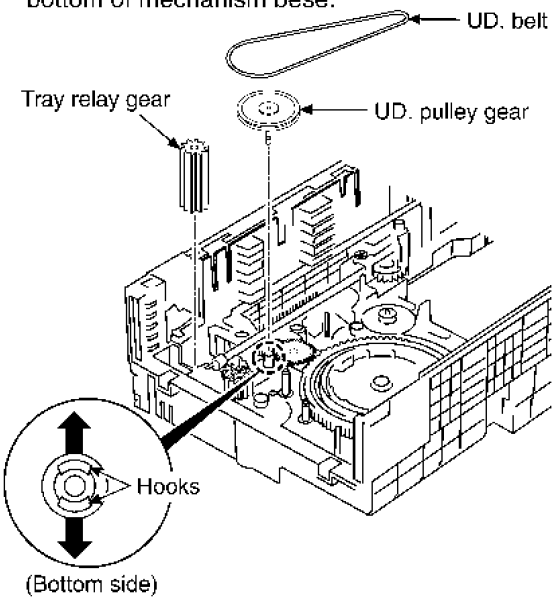


(Step 4)
Remove the reverse gear, hor pulley gear, hor speed down gear (1), hor speed down gear (2) and hor drive gear.

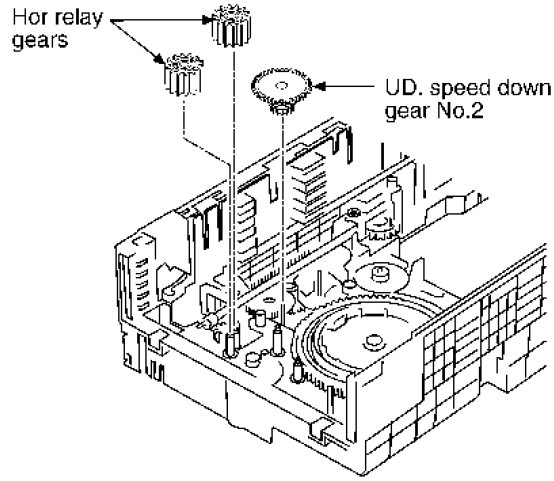


(Step 5)
Remove the UD. belt and tray relay gear.

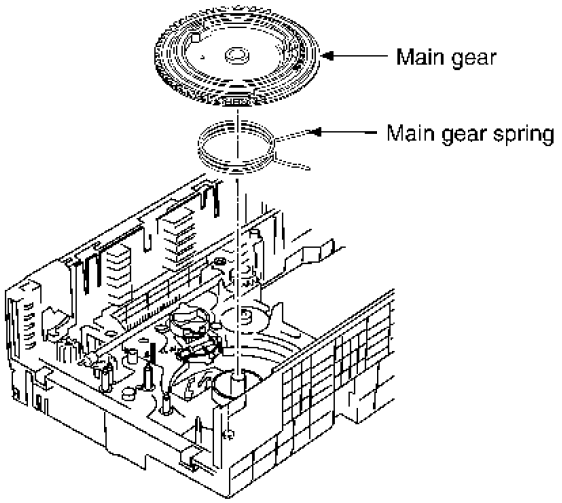
(Step 6)
Pull out the UD. pulley gear, loosen 2 hooks of the bottom of mechanism bese.



(Step 7)
Remove the 2 hor relay gears and UD. speed down gear No.2.

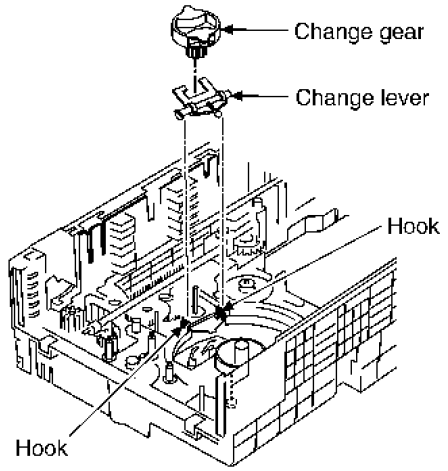


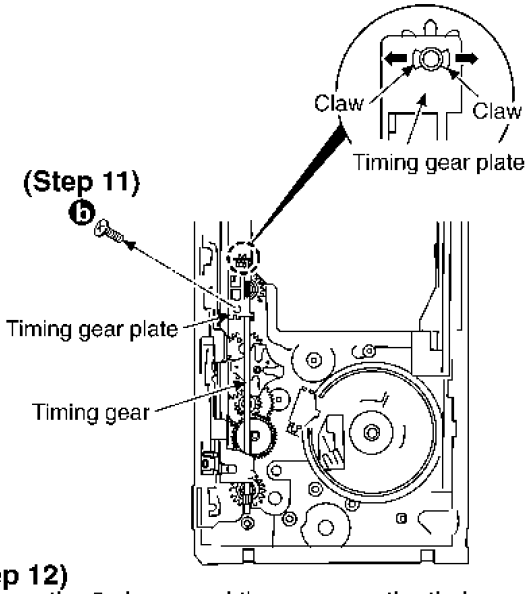
(Step 8)
Remove the main gear and main gear spring.



(Step 9)
Remove the change gear.

(Step 10)
Raise the change lever upright, and pull it out of hook.

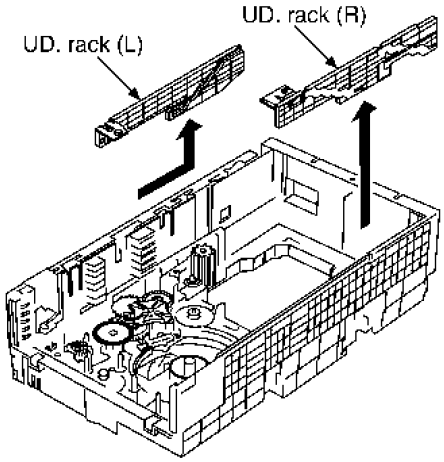




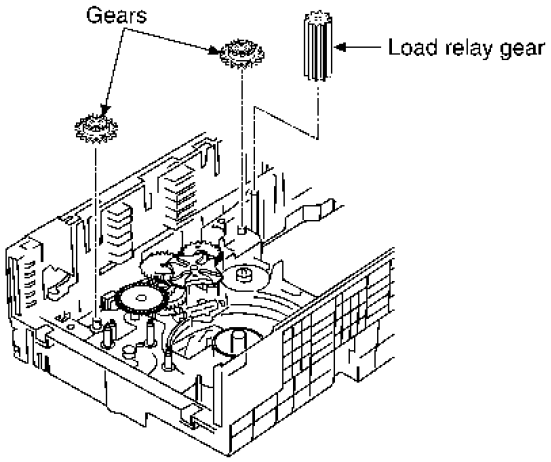
(Step 12)
Release the 2 claws, and then remove the timing gear and timing gear plate.

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

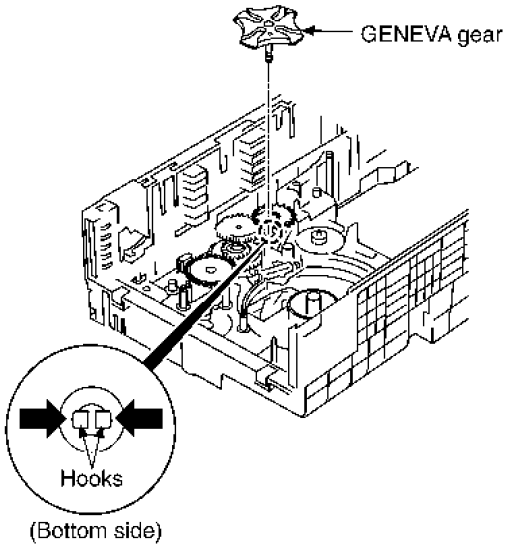
(Step 14)
Remove the UD. rack (R).



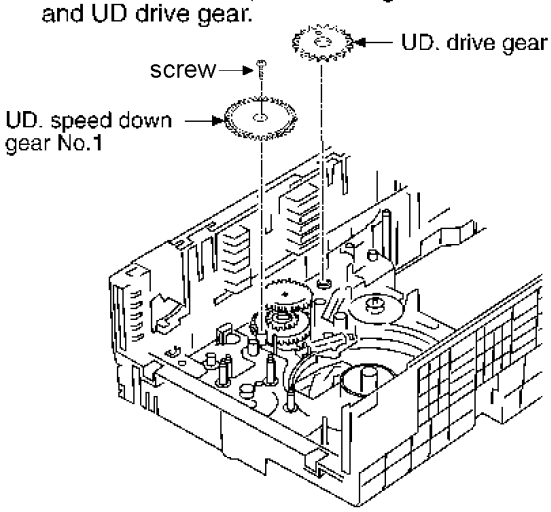
(Step 15)
Remove the 2 gears and load relay gear.



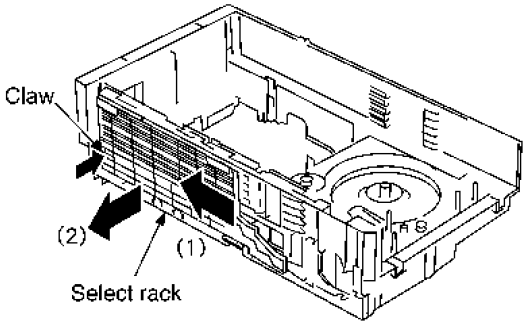
(Step 16)
Pull out the GENEVA gear, loosen 2 hooks of the bottom of mechanism base.

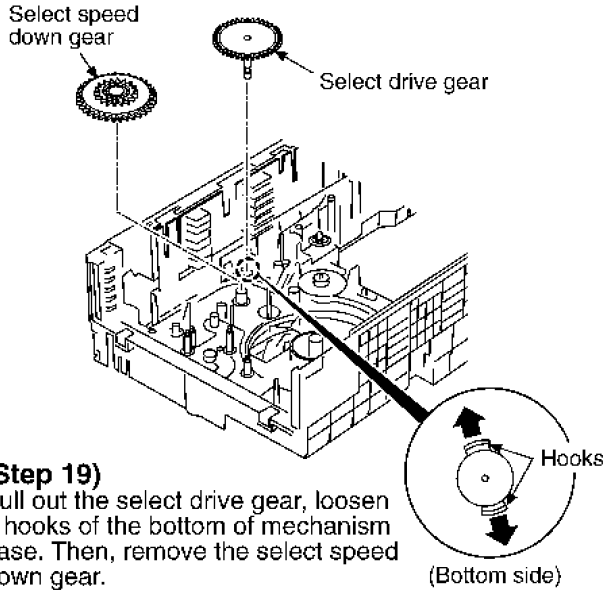


(Step 17)
Remove the UD. speed down gear No.1 and UD drive gear.



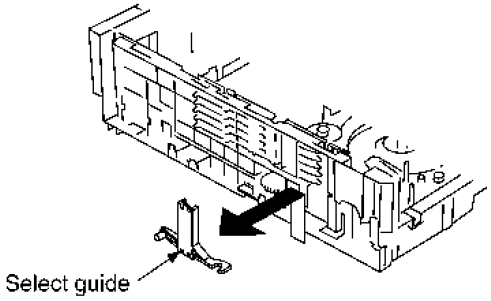
(Step 18)
Slide the select rack to the edge direction of the arrow (1). Push the claw and pull out to arrow (2) while sliding the select rack to the arrow (1).



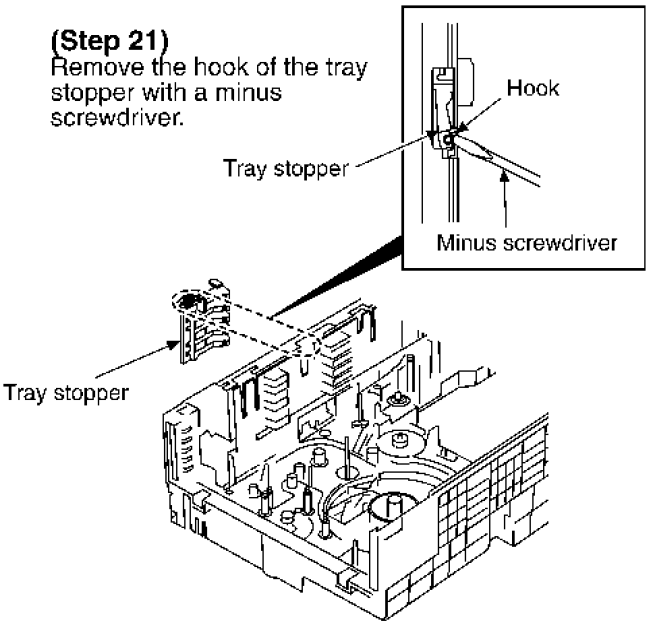


(Step 19)
Pull out the select drive gear, loosen 2 hooks of the bottom of mechanism base. Then, remove the select speed down gear.

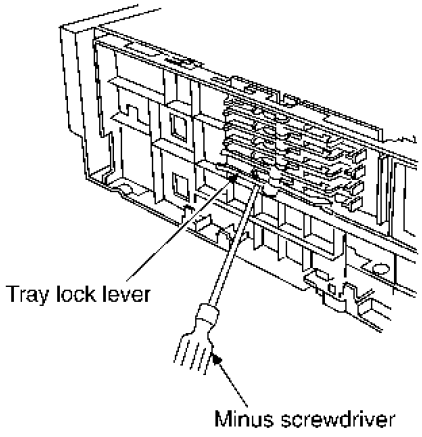
(Step 20)
Remove the select guide after sliding upside.



(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.



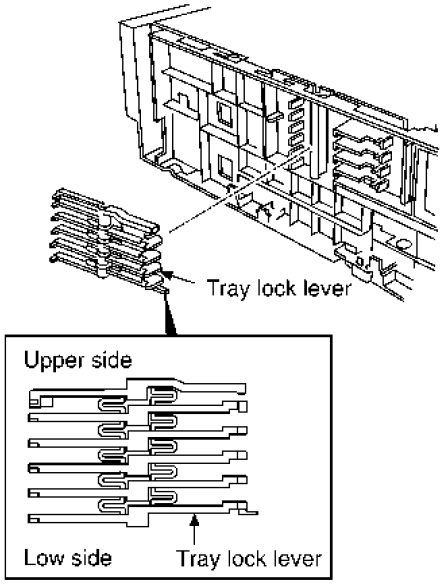
9.24. CR16 MECHANISM ASSEMBLY PROCEDURE

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

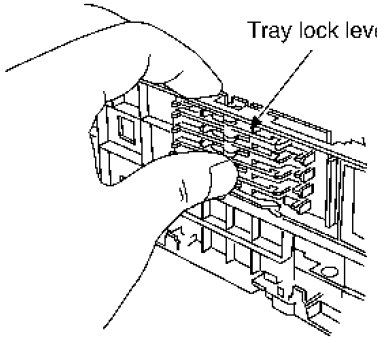
1. Floil grease (VFK1298) : The floil grease must be applied to tray, tray (L) and tray (R).
2. Hanarl oil (VFK1700) : The hanarl oil must be applied to any parts with grease other than the said parts.

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of item 9.3.
- Follow the (Step 1) - (Step 4) of item 9.5.
- Follow the (Step 1) - (Step 3) of item 9.8.
- Follow the (Step 1) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.13.
- Follow the (Step 1) - (Step 10) of item 9.23.2.
- Follow the (Step 1) - (Step 4) of item 9.23.3.
- Follow the (Step 1) - (Step 22) of item 9.23.4.

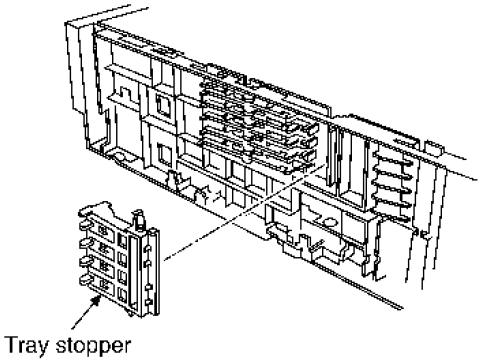
(Step 1)
Install the tray lock lever to mechanism base.



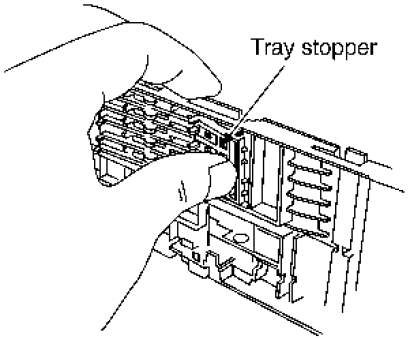
(Step 2)
Push the tray lock lever with a hand and install it.



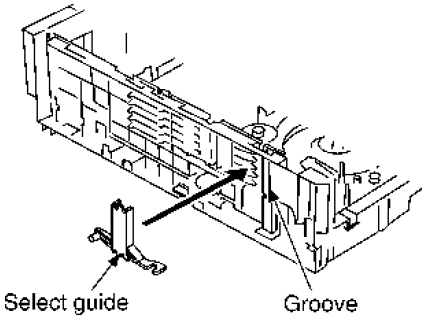
(Step 3)
Install the tray stopper to mechanism bese.



(Step 4)
Push the tray stopper with a hand and install it.

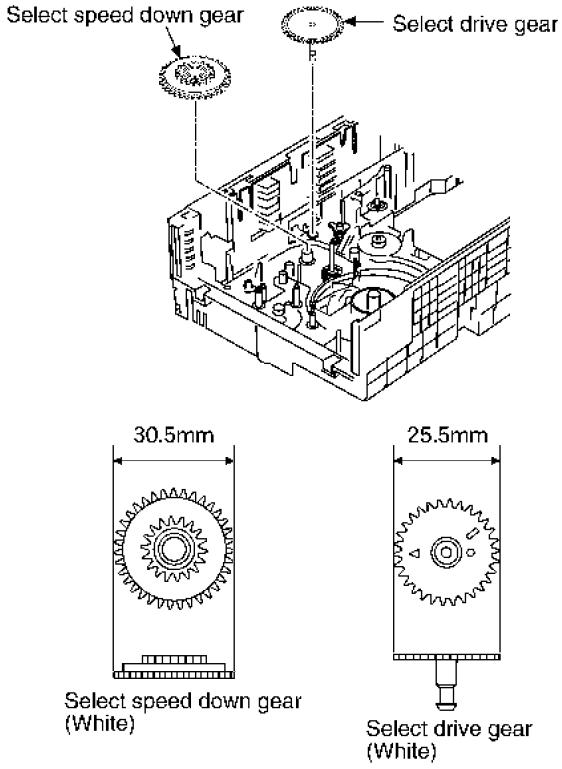


(Step 5)
Insert the select guide with a groove of the mechanism base and move it below.

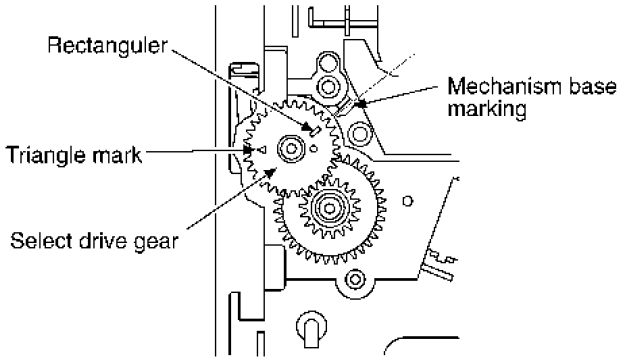


(Step 6)
Install the select speed down gear to mechanism base.

(Step 7)
Install the select drive gear to mechanism base.

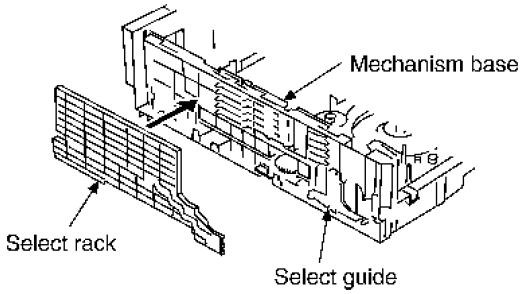


(Step 8)
Fit a mechanism base marking to the rectanguler mark of gear so that the triangle mark can indicate the sideward direction.

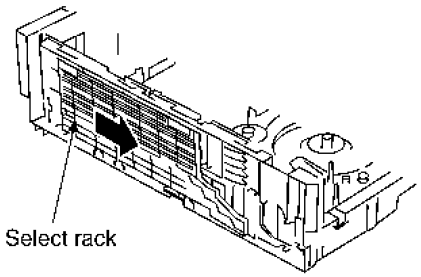


(Step 9)
Install the select rack to mechanism base.
Checking items before the installation.
1. Check select guide is completely in lowest position.
2. Check its phase of select drive gear is correct position.(Rectangle/Trianguler mark)(Refer to Step 8)

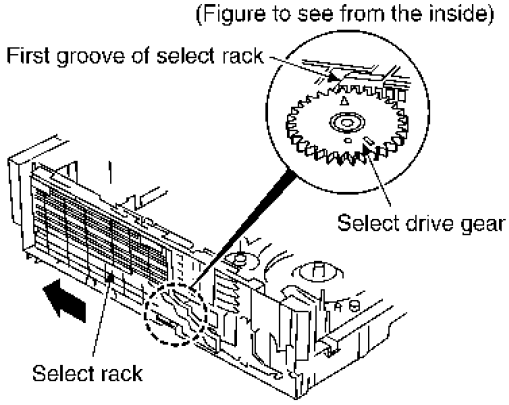
1. Put a select rack down with it fitted to its circumference of mechanism base.



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

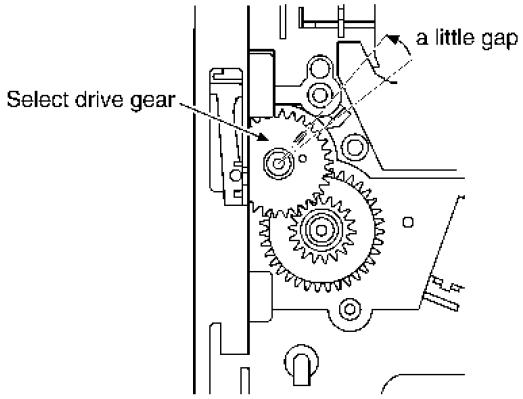


(Figure to see from the inside)

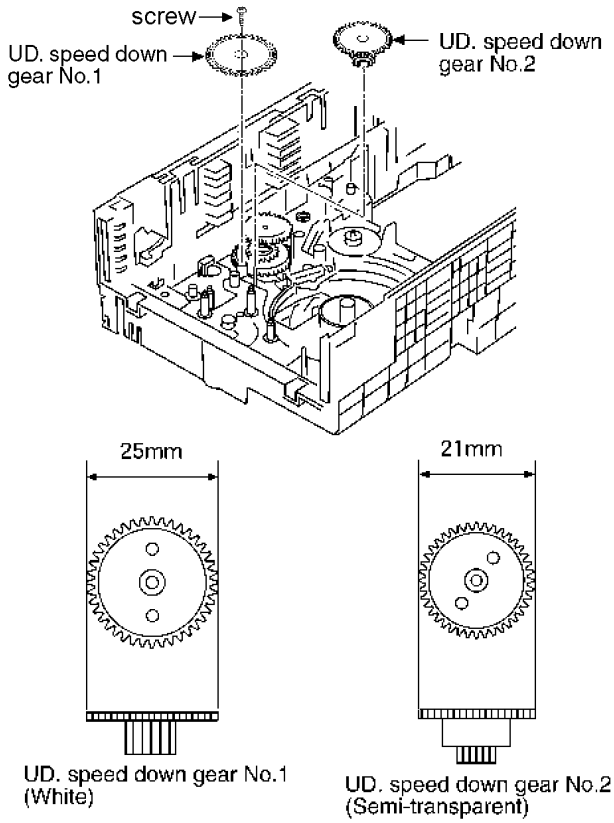


3. Check whether its end of triangular mark is in first groove of select rack, after fixing.
4. After insertion of select rack, continue the following work until the indication that it gose forward. And, all the while it must be checked that select rack is in the extreme end.

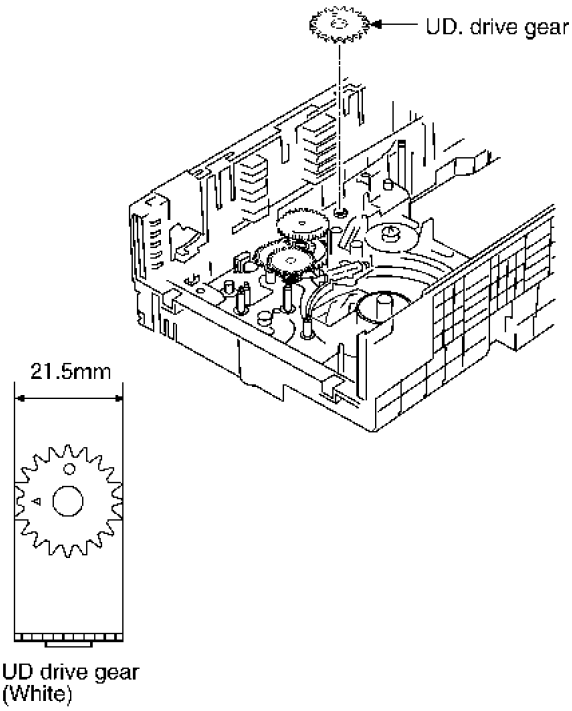
5. After insertion the select rack, the marking of select gear has a little gap when it is in the extreme end.



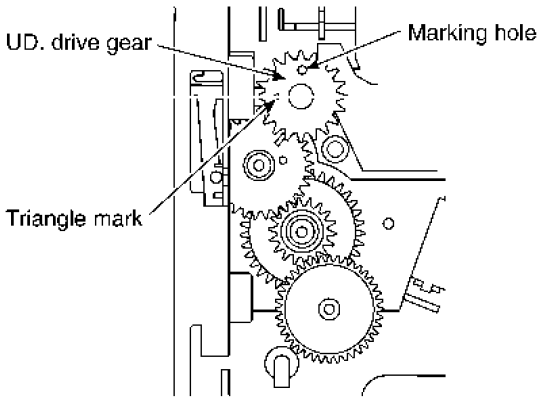
(Step 10)
Install the UD. speed down gear No.1 and UD. speed down gear No.2.



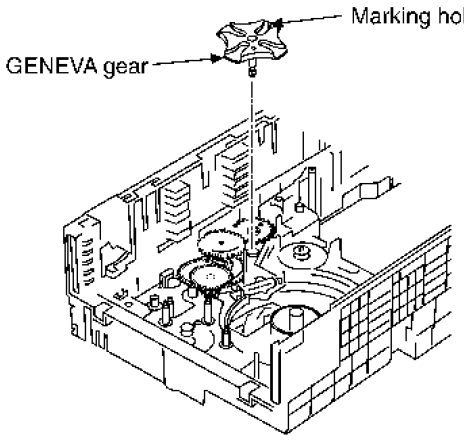
(Step 11)
Install the UD. drive gear to mechanism base.

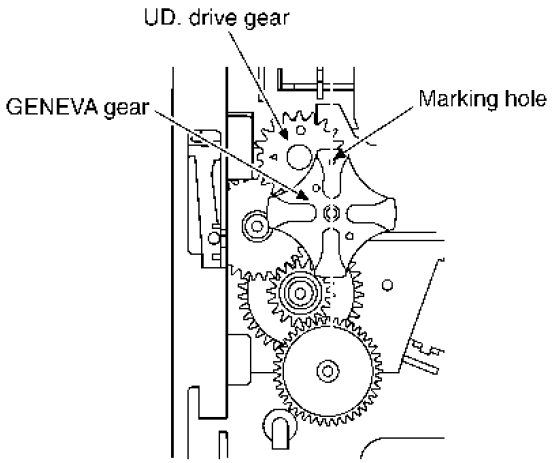


(Step 12)
Insert the UD. drive gear with its marking hole upward. At that time, its triangle mark should be sideways.

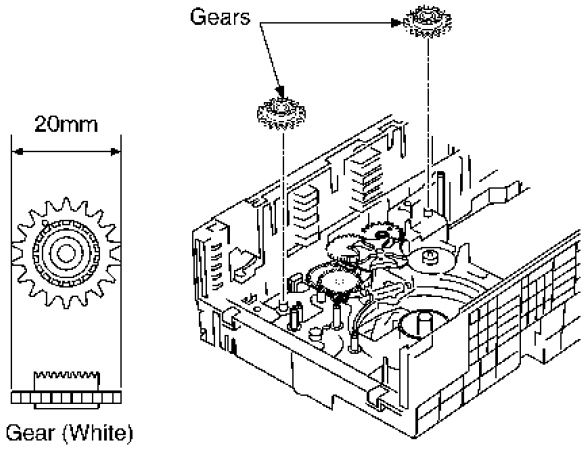


(Step 13)
Insert the GENEVA gear with its marking hole upward, and fix it by 2 hooks on bottom of mechanism base. At that time, UD. drive gear mustn't be moved.

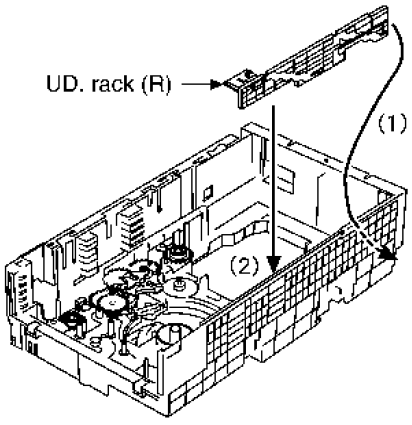




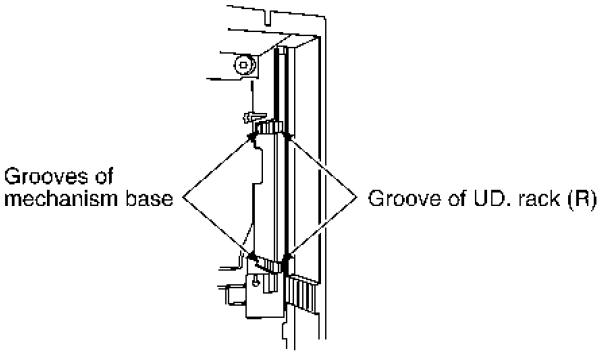
(Step 14)
Install the 2 gears to mechanism base.

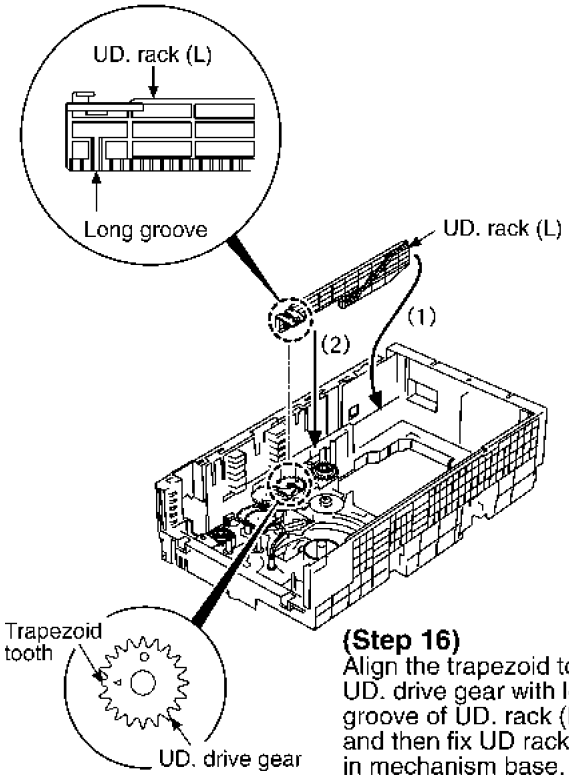


(Step 15)
Insert the UD. rack (R) to (2) from arrow (1).



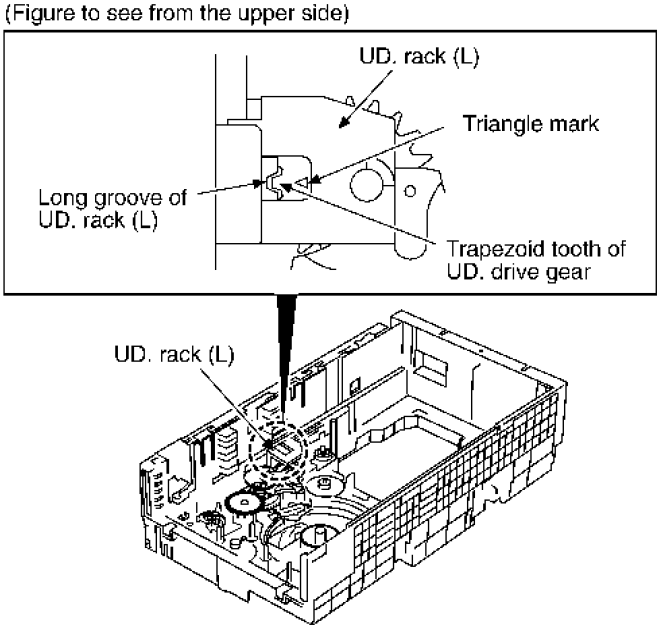
NOTE:
Put a groove of the mechanism base to the UD. rack (R).



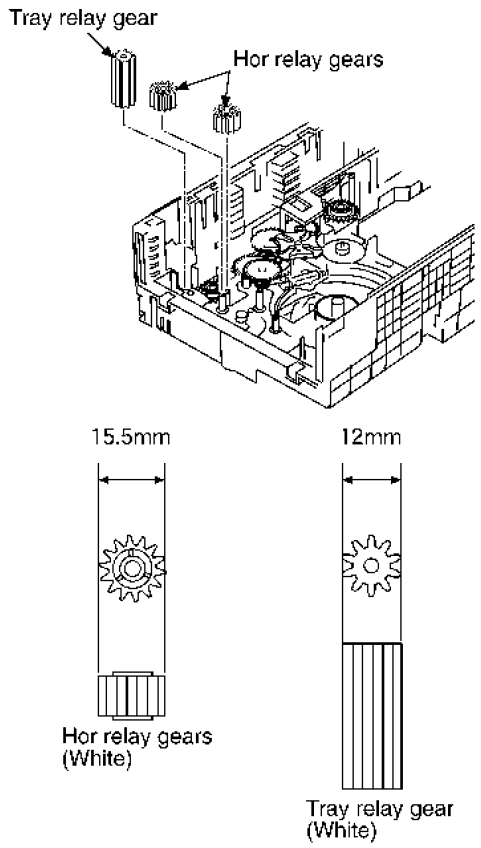


(Step 16)
Align the trapezoid tooth of UD. drive gear with long groove of UD. rack (L), and then fix UD rack (L) in mechanism base.

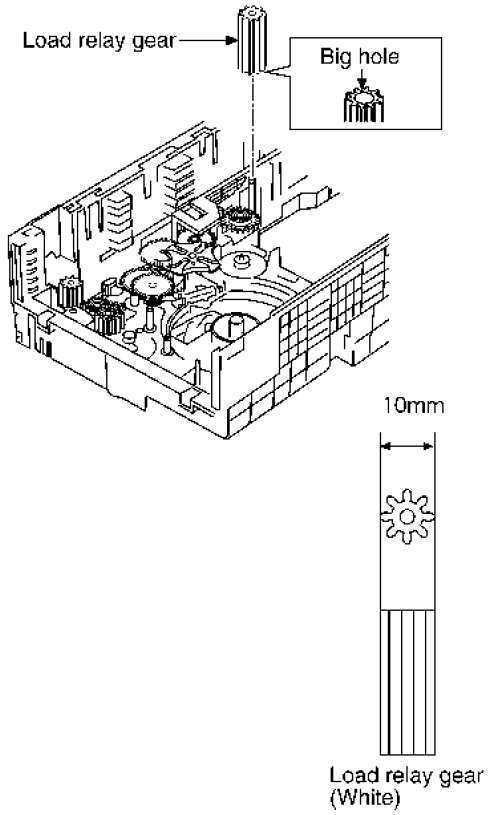
(Figure to see from the upper side)



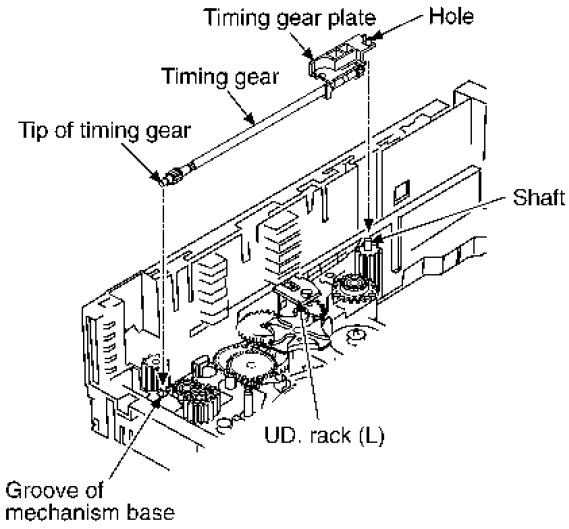
(Step 17)
Install the tray relay gear and 2 hor relay gears.



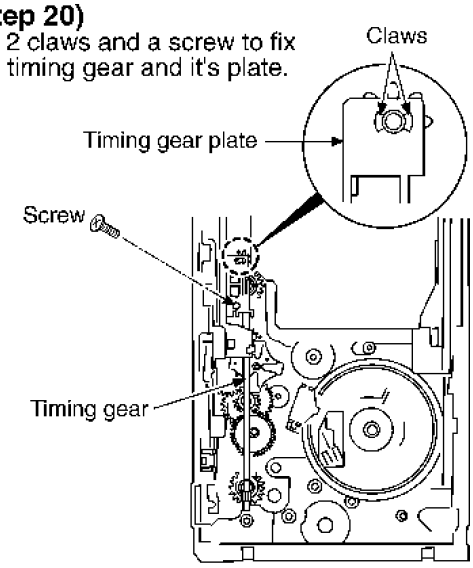
(Step 18)
Install the load relay gear to mechanism base.
(Fit load relay gear with its big hole downward.)



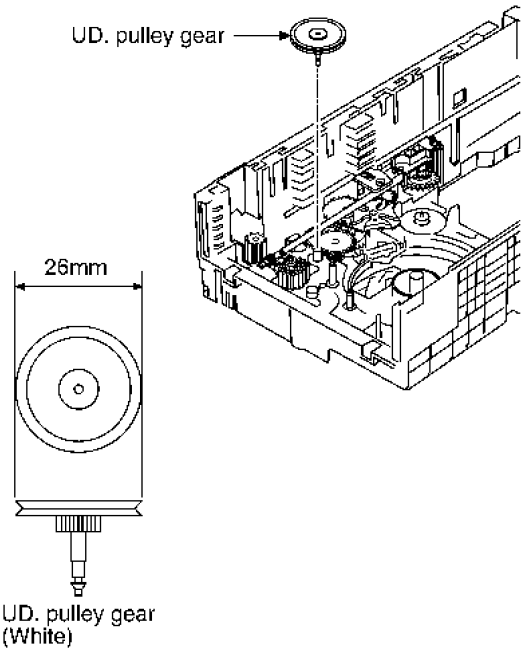
(Step 19)
Put on the top of the timing gear, then, install the timing gear and it's plate.
At that time avoid the UD. rack (L).



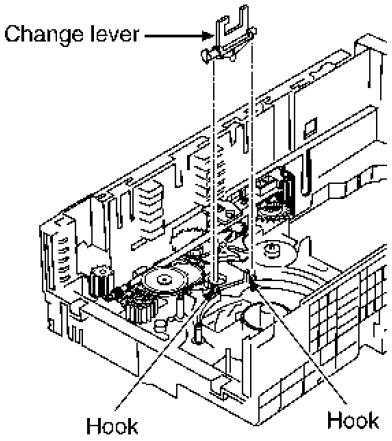
(Step 20)
Fix 2 claws and a screw to fix the timing gear and it's plate.



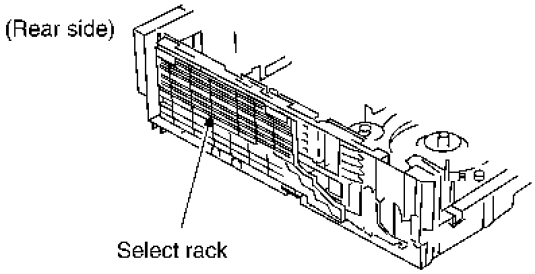
(Step 21)
Install the UD. pulley gear to mechanism base.

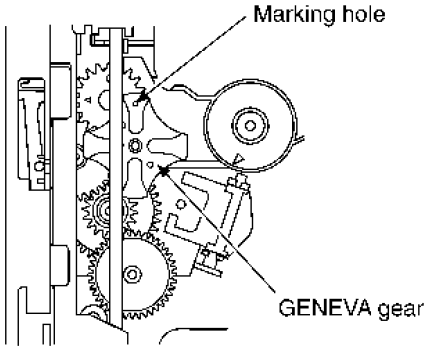


(Step 22)
Insert the change lever with it upright.

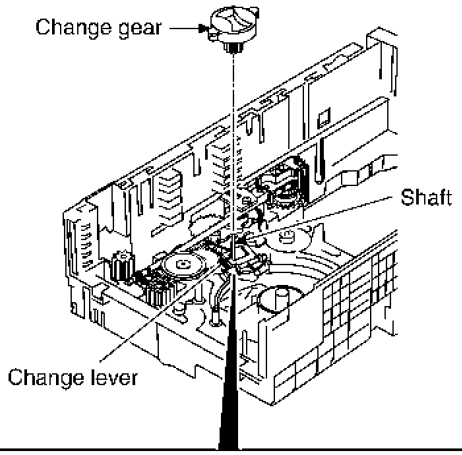


(Step 23)
Be sure the notice of bellow before fixing the change gear.
1. Select track should be in the rear of mechanism base.
2. Its hole of GENEVA gear should turn up.

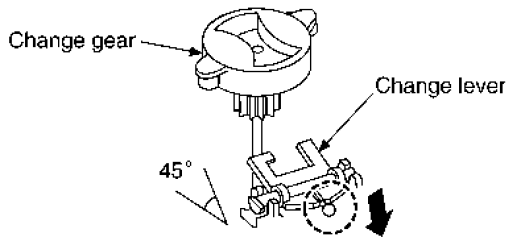




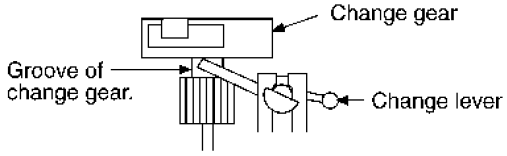
(Step 24)
Install the change gear as insert the change lever into the groove of change gear.



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

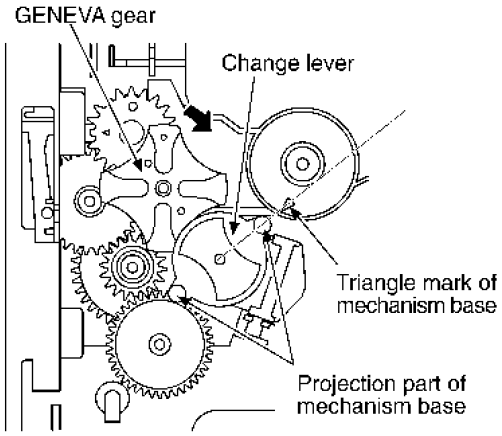


2. Insert the change lever into the groove of change gear.

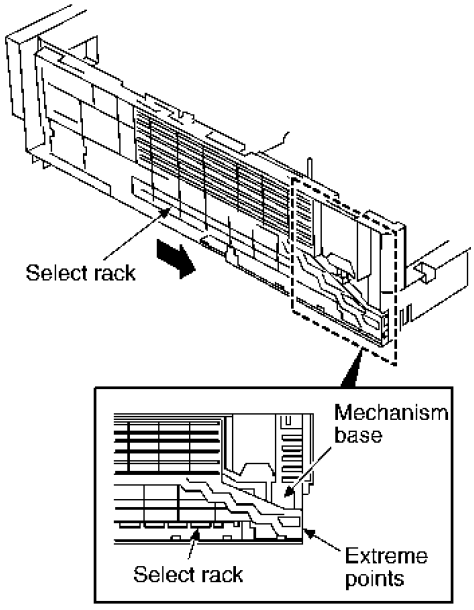


(Step 25)
Put change gear down with projection part of change gear fitted to triangle mark of mechanism base, when fixing change gear.
At that time, check change gear is inserted into the groove of change lever.

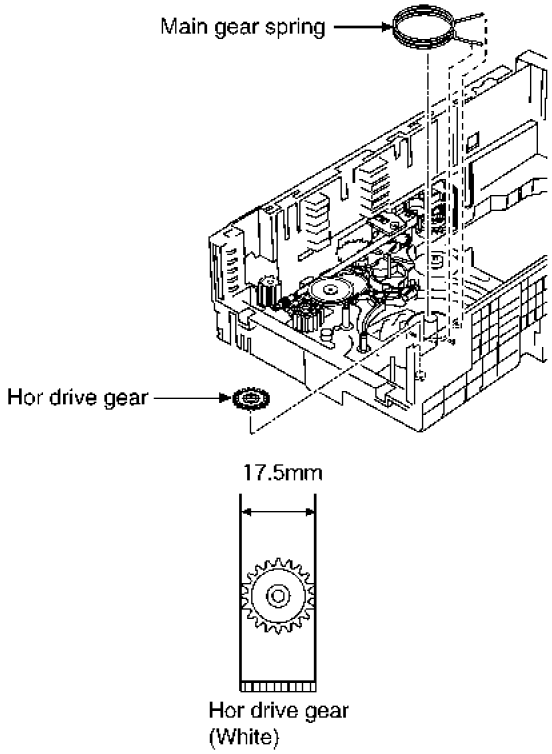
(Step 26)
Lastly, turn GENEVA gear clockwise slightly and drop change gear to mechanism base.



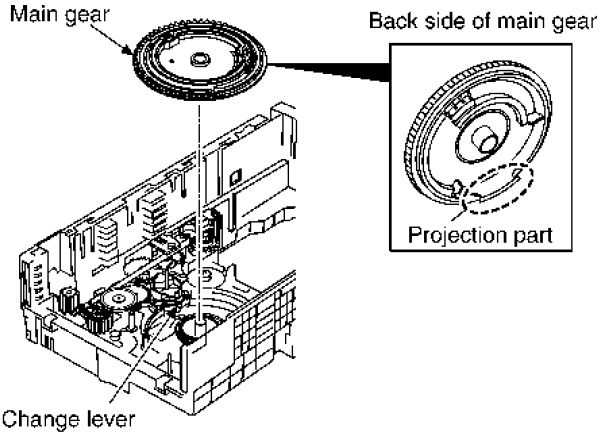
(Step 27)
Move the select rack smoothly forward manually until 2 extreme points of both select track and mechanism base.



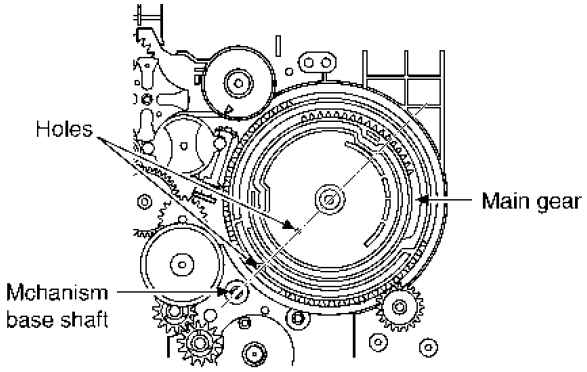
(Step 28)
Install the main gear spring and hor drive gear.



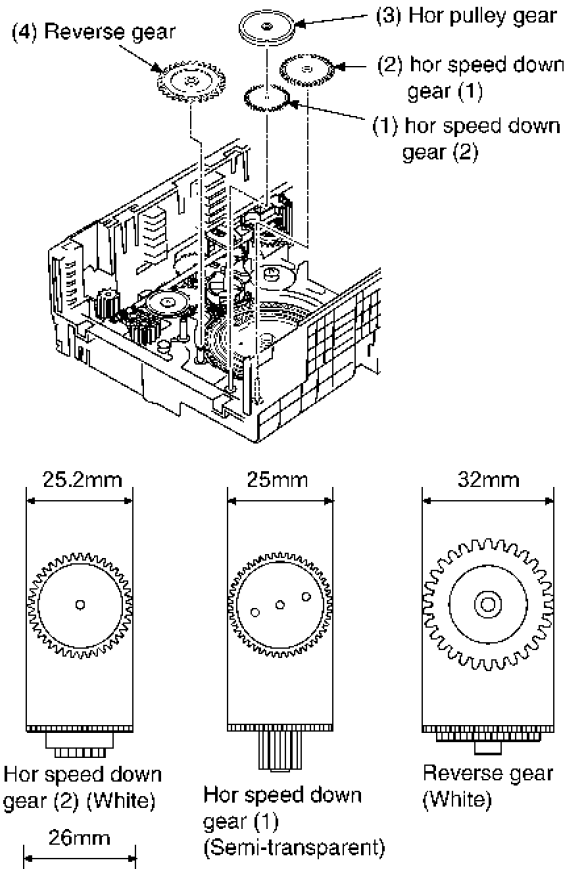
(Step 29)
Don't bring change lever into touch to projection part of main gear, when fixing main gear in mechanism base.



(Step 30)
After that, turn main gear so that 2 holes inside main gear would be in alignment with mechanism base.

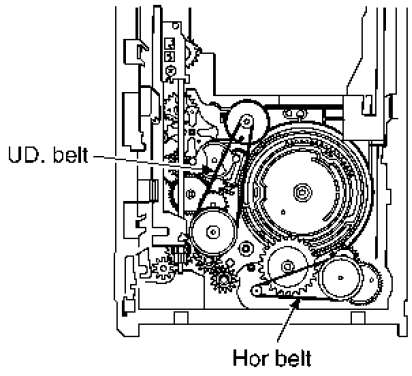


(Step 31)
Install the hor speed down gear (2), hor speed down gear (1), hor pullry gear and reverse gear.

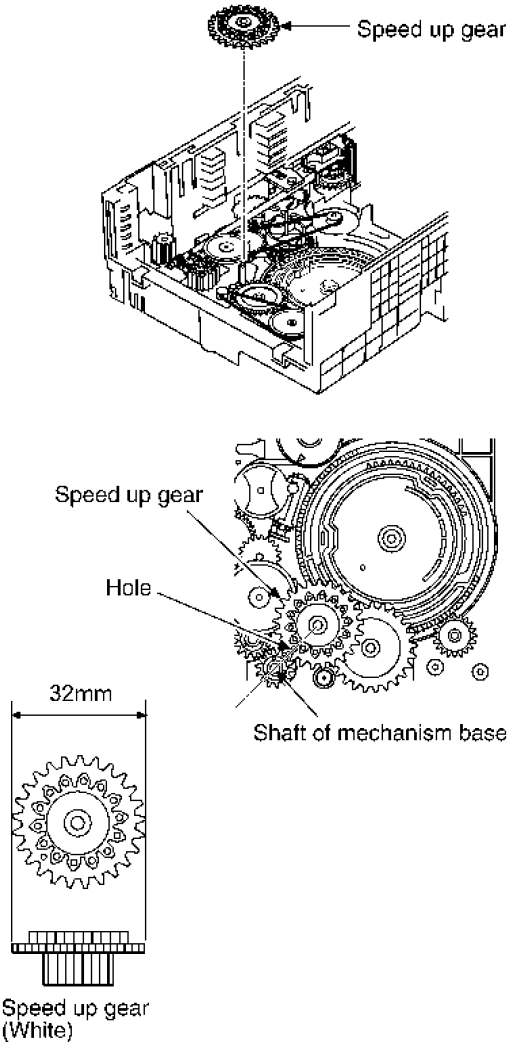


(Step 32)
Install the UD. belt and hor belt.

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

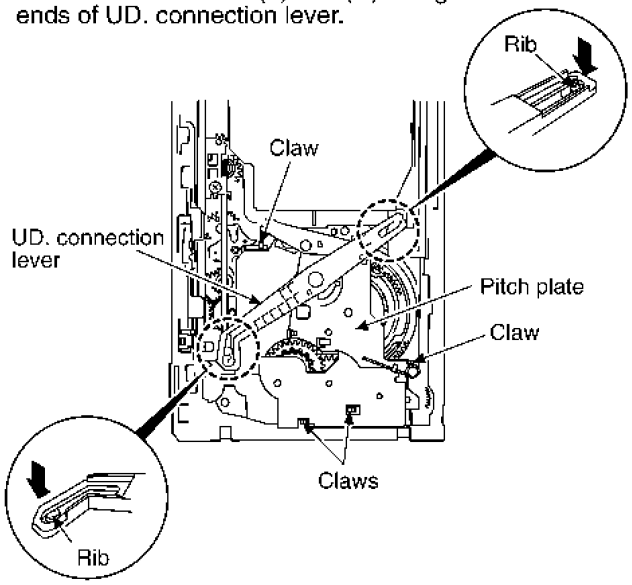


(Step 33)
Install speed up gear to its shaft of mechanism base with 2 fitting.

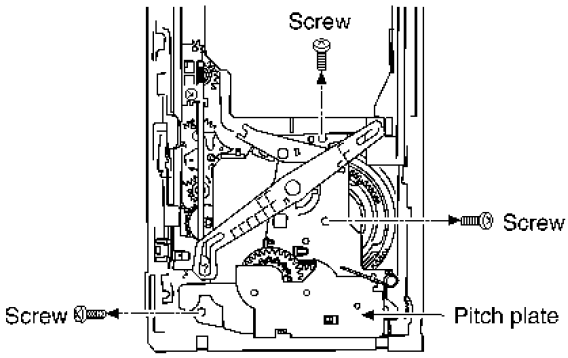


(Step 34)
Install the pitch plate. (The 4 claws should be latched.)

(Step 35)
Fix 2 ribs of UD. rack (L) and (R) into groove of both ends of UD. connection lever.

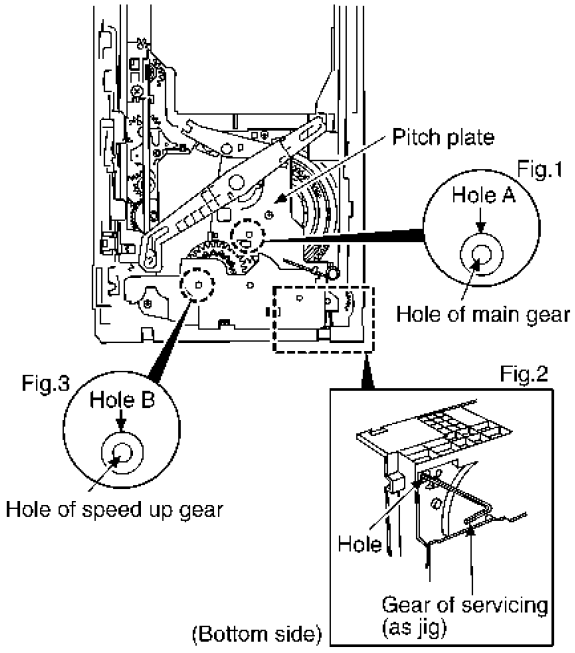


(Step 36)
Fixed it by three screws further.

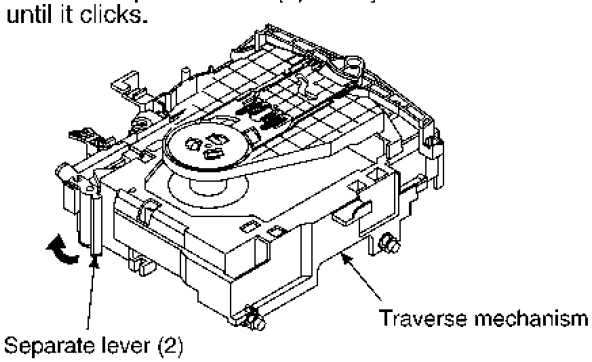


(Step 37)
Be sure the notice of below before fixing the traverse mechanism.

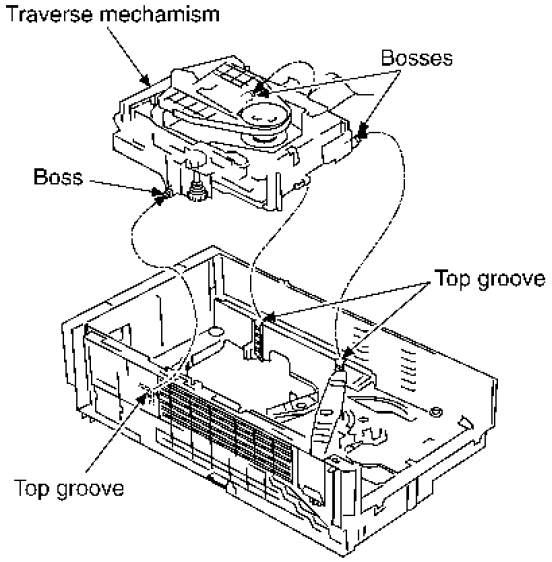
1. Check that 2 holes of both pitch plate and main gear is fitted. (Refer to Fig.1)
   If it's not fitted, put the gear for servicing in the hole of the bottom side and adjust it. (Refer to Fig.2)
2. Check that 2 holed of both pitch plate and speed up gear is futted. (Refer Fig.3)
   If it's not fitted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



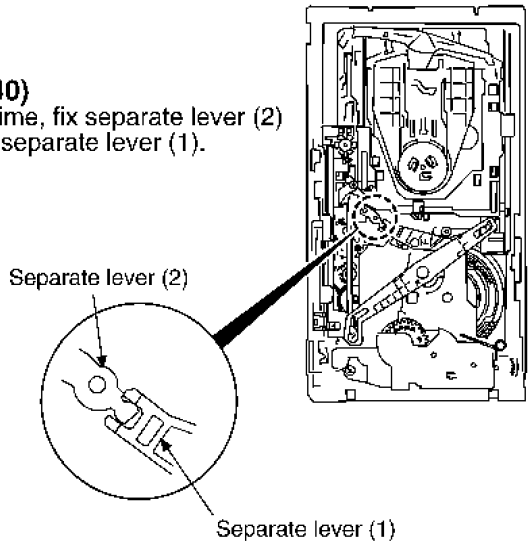
(Step 38)
Turn the separate lever (2) slowly toward left side until it clicks.



(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).

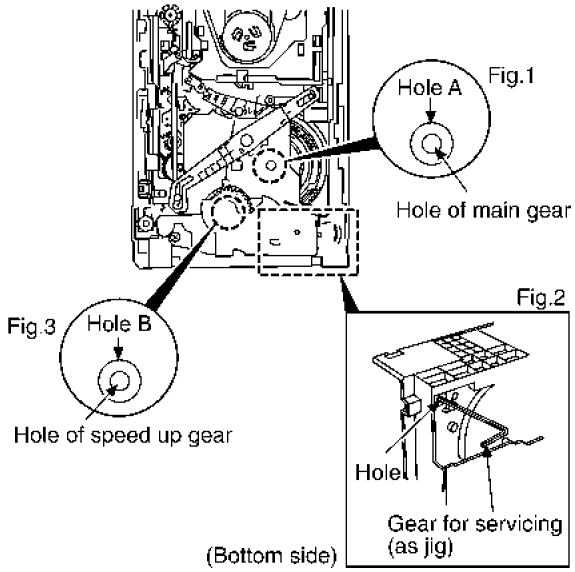


(Step 40)
At that time, fix separate lever (2) into the separate lever (1).

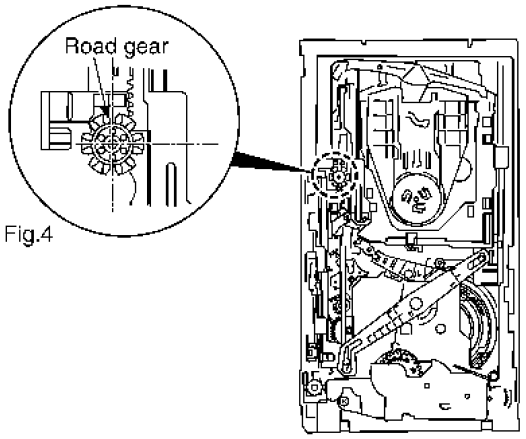


(Step 41)
After the traverse mechanism fixed,
confirm the phase in order below.

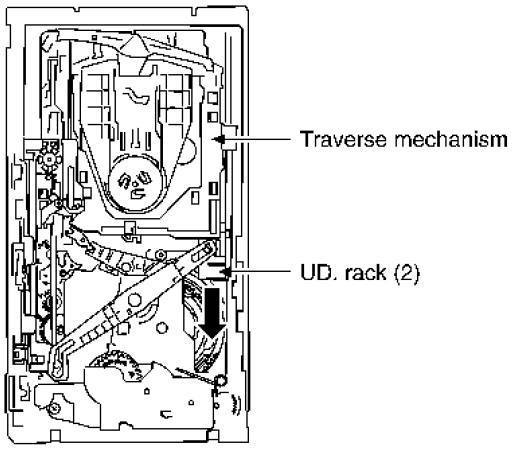
1. Check that 2 holes of both pitch plate and main gear is fitted. (Refer to Fig.1)
   If it's not fitted, put the gear for servicing in the hole of the bottom side and adjust it. (Refer to Fig.2)
2. Check that 2 holed of both pitch plate and speed up gear is futted. (Refer Fig.3)
   If it's not fitted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

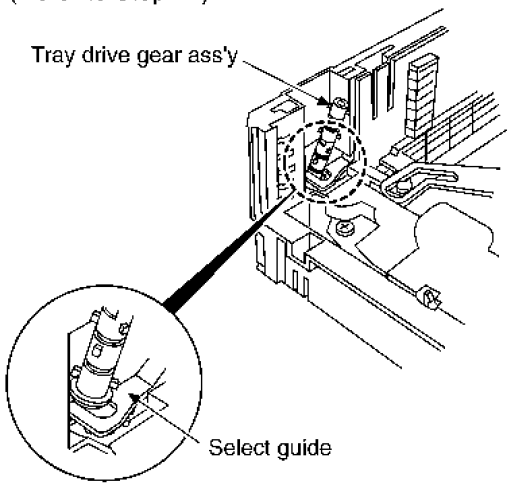


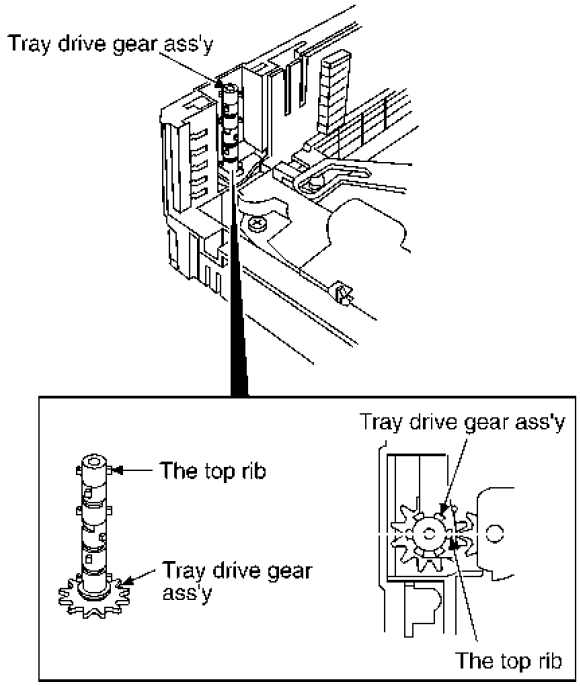
(Step 42)
After insertion of traverse mechanism, pull the UD. rack (R) on this side that each phase is "OK" and then lock the traverse mechanism.



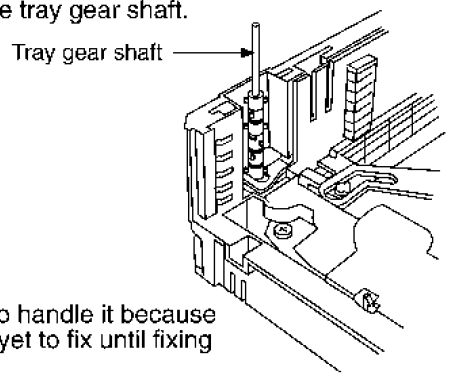
(Step 43)
Install the tray drive gear to select guide.
(Install the top rib of the tray drive gear with side ward.)

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



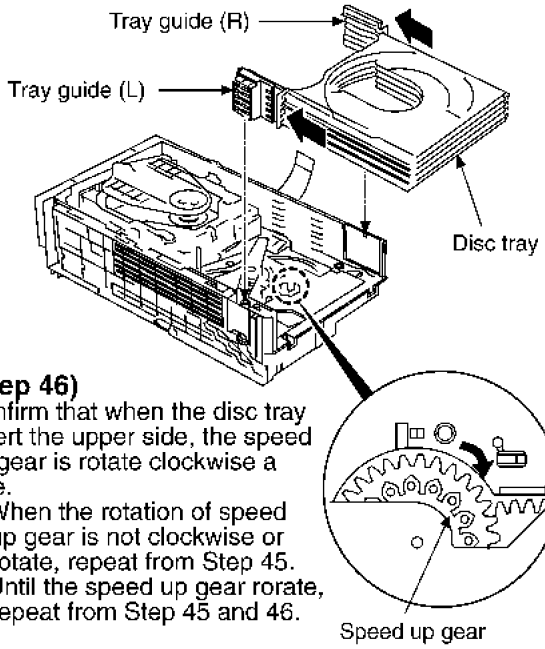


(Step 44)
Insert the tray gear shaft.



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

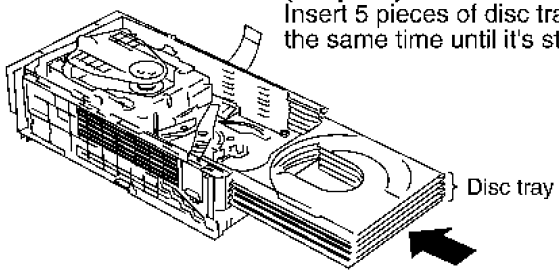
(Step 45)
Move the tray guide (R) and (L) to direction of arrow that fixed (stopped) it and install 5 pieces of disc tray.



(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 rorate, repeat from Step 45 and 46.

NOTE:
While keeping all postion, install 5 pieces of disc tray.

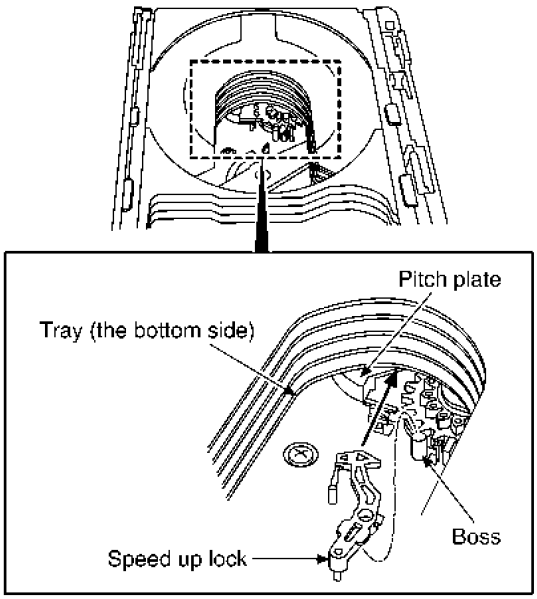
(Step 47)
Insert 5 pieces of disc tray at the same time until it's stop.



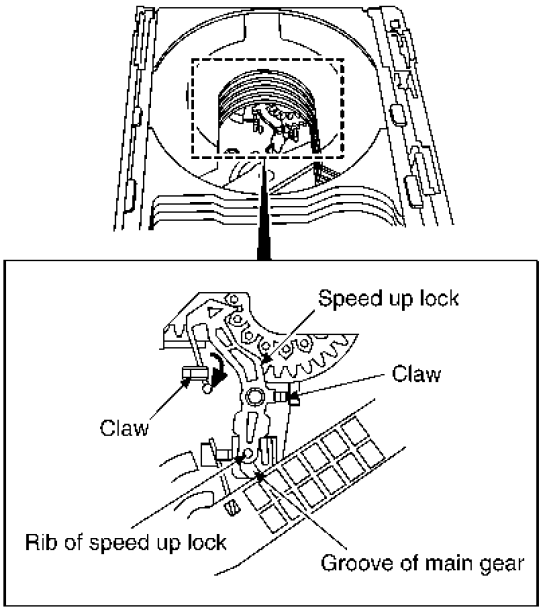
(Step 48)
Turn the traverse side 180°.

(Step 49)
While install the tip of speed up lock beween 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.

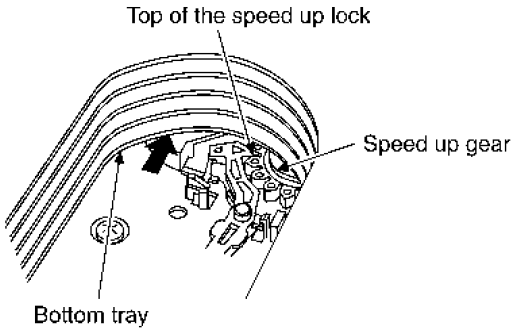
NOTE:
At that time, do not move the tray.
(See the tray the most front side)



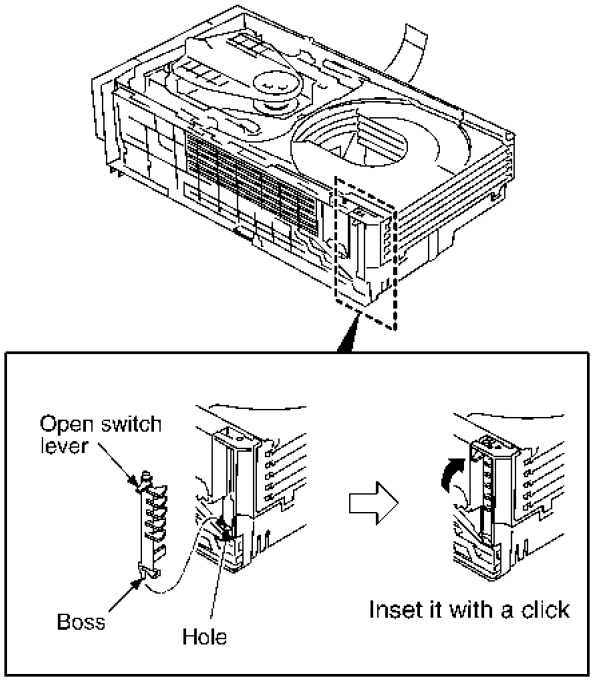
(Step 50)
Insert the rib of speed up lock into a groove of main gear, and lock it with 2 claws.



(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.

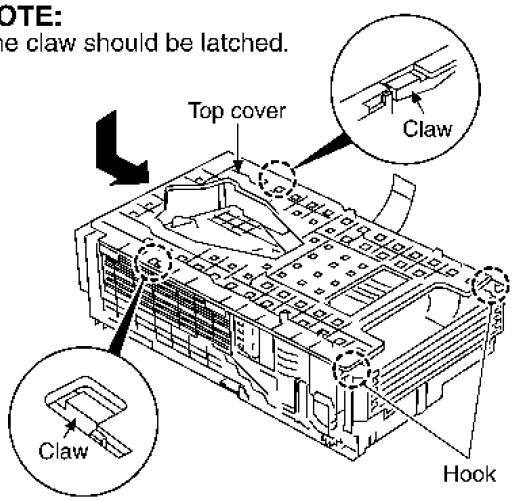


(Step 52)
Install the open switch lever.
(Put the boss into the hole of the mechanism base.)



(Step 53)
Install the top cover.
Fix it into hooks and slide direction to the arrow.

NOTE:
The claw should be latched.

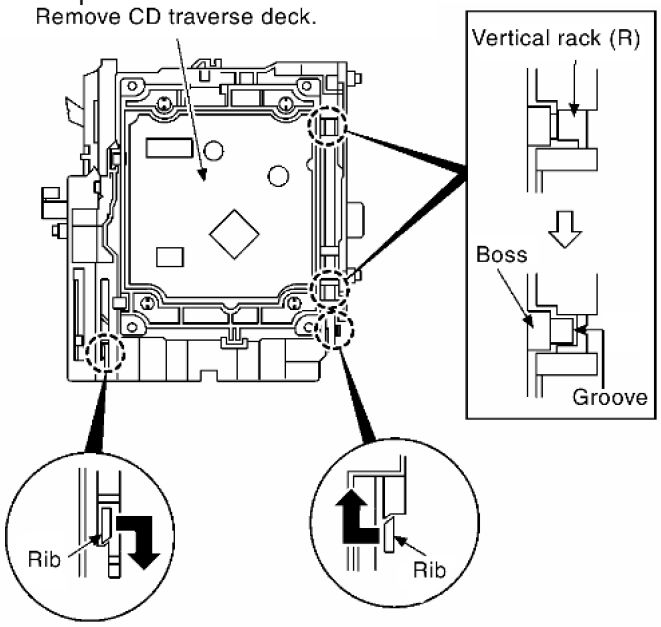


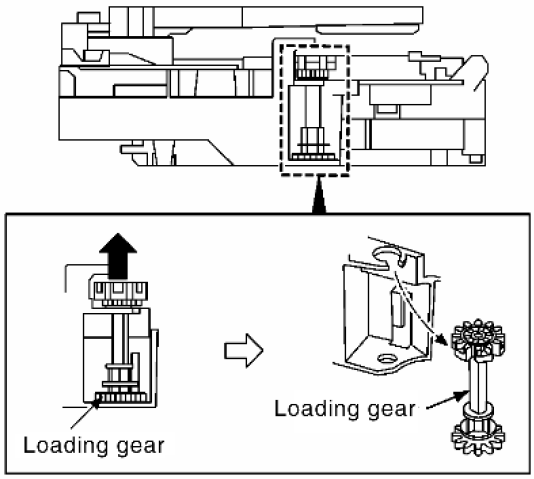
9.25. Disassembly of traverse mechanism

- Follow the (Step 1) - (Step 6) of Item 9.2.
- Follow the (Step 1) - (Step 3) of Item 9.3.
- Follow the (Step 1) - (Step 4) of Item 9.5.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) of Item 9.9.
- Follow the (Step 1) - (Step 2) of Item 9.13.
- Follow the (Step 1) - (Step 2) of Item 9.19.

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.

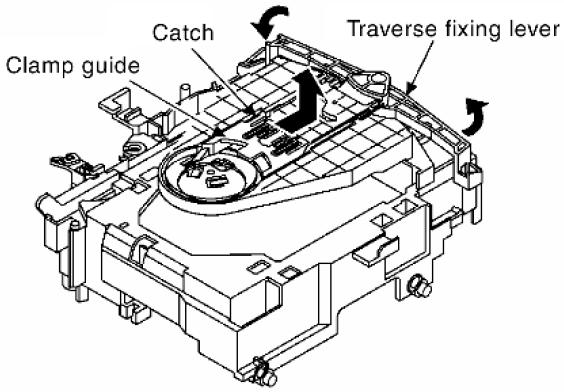




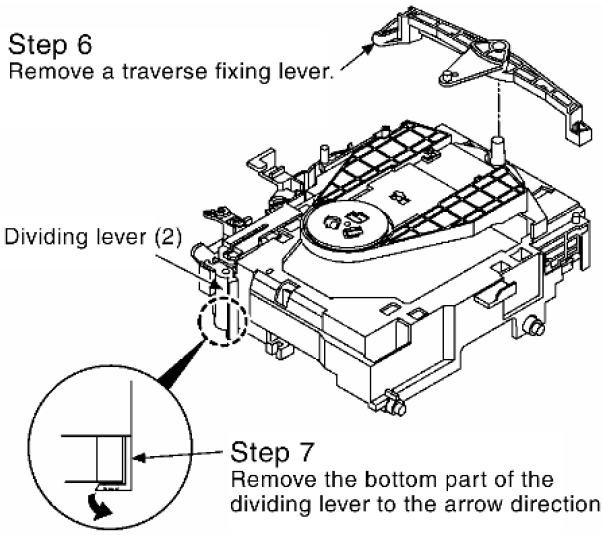
Step 3
Lift a loading gear slightly and pull out.

Step 4
Fixing lever to the arrow direction, rotate a traverse.

Step 5
Remove catch and take out a clamp guide.

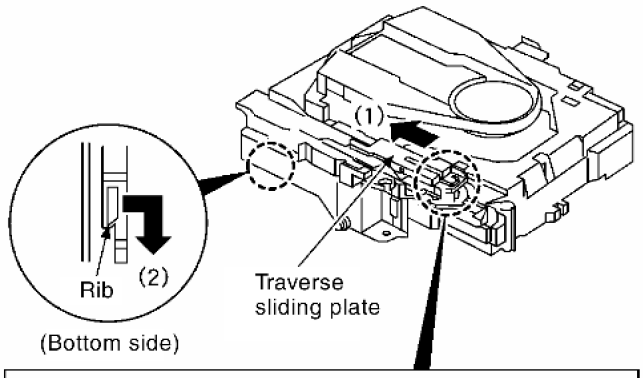


Step 6
Remove a traverse fixing lever.

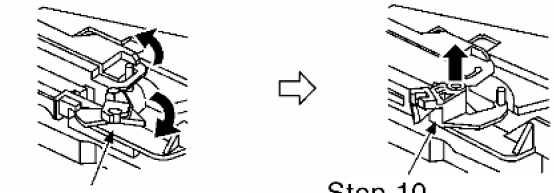


Step 7
Remove the bottom part of the dividing lever to the arrow direction.

Step 8
Slide a traverse sliding plate to the arrow direction (1), and shift a rib to the arrow direction (2).

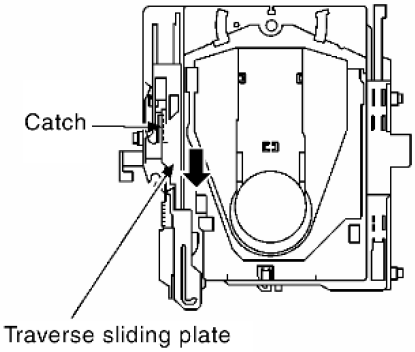


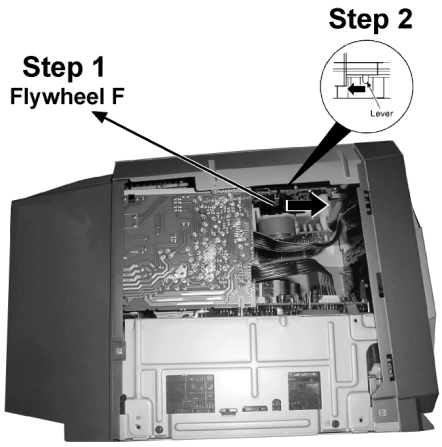
Step 9
Shifting a traverse sliding plate slightly and rotate a tray change lever.



Step 10
Remove a tray change lever.

Step 11
Holding the catch down, slide a traverse sliding plate to the arrow direction and remove it.





Step 1 : If the cassette tape is not ejected due to twinng around capstan or pinch roller during playing or recording, rotate a flywheel F to the arrow direction to remove twined tape.

Step 2 : Push the lever to the arrow direction, open the cassette cover and take out the cassette tape.

9.26. Handling of cassette tape jam

・Follow the (Step 1) - (Step 6) of Item 9.2.

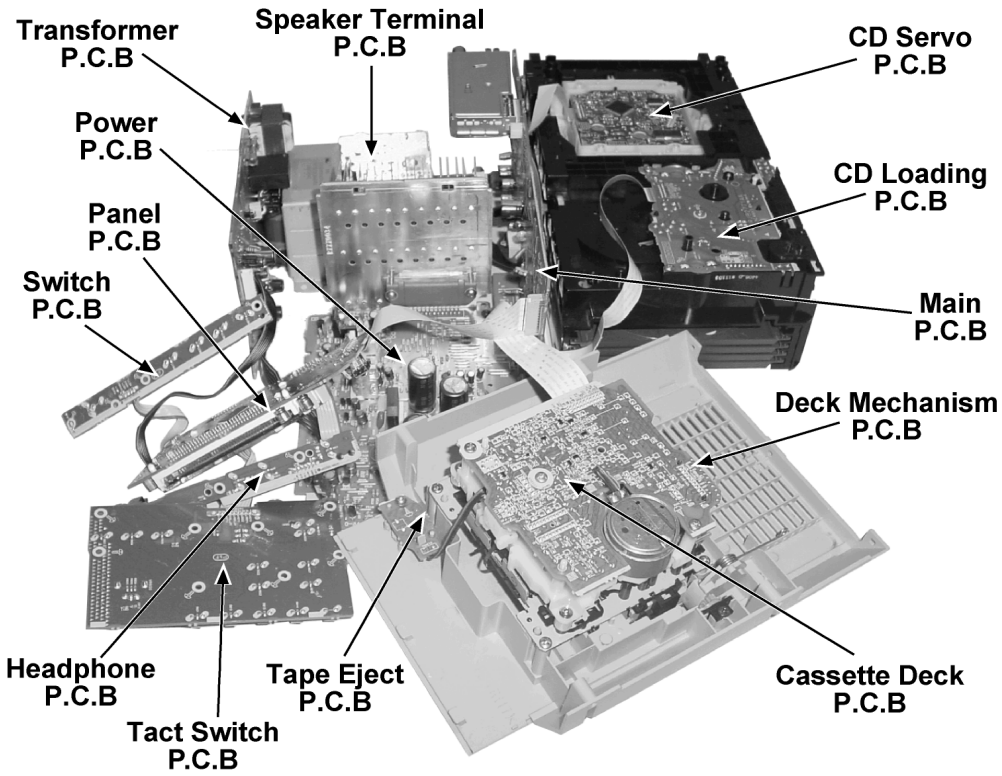
10 Service Positions

10.1. Checking procedure

Note : For the disassembling procedure, see the section 9.

10.2. Checking the major P.C.B.

1. Disassembly of Side Panel L & R
2. Disassembly of Top Cabinet
3. Disassembly of Deck Mechanism
4. Disassembly of Front Panel
5. Disassembly of Panel P.C.B., Headphone P.C.B. and Switch P.C.B.
6. Disassembly of Tact Switch P.C.B.
7. Disassembly of Rear Panel P.C.B.
8. Disassembly of Main P.C.B.
9. Disassembly of Transformer P.C.B.
10. Disassembly of Speaker Terminal P.C.B.
11. Disassembly of Power P.C.B.
12. Disassembly of CR16 Mechanism



11 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.

11.1. Preparations

1. A Cr02-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.

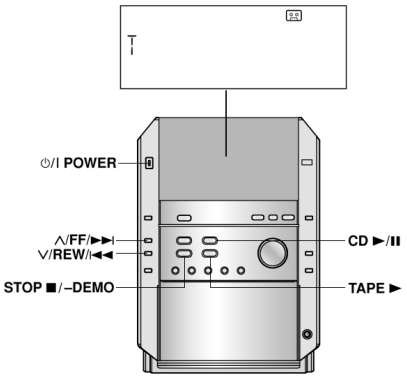
11.2. Setting of the Self-Diagnostic Mode

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

11.3. Restoring Normal Display

・From the F76 display, the normal display does not appear till an error is recovered.

・For displays other than F76, press “POWER” button to turn off the power, and then turn on the power.



11.4. Clearing Self-Diagnostic Memory

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

1. Enter a self-diagnostic mode.
2. Press "STOPn/-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 "STOPn/-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 "STOPn/-DEMO" button is pressed.

11.5. Displaying Self-Diagnostic Results

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

1. Enter the self-diagnostic mode, following the instructions described in [11.2. Entering 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 [STOPn /-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/ ▶▶I] 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/ I◀◀] button. The tape will be rewound and automatically stops after two seconds.
8. Press [STOPn/-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 [STOPn/-DEMO] button is pressed repeatedly. (Ex.: H01 - H02 - F01 - H01)

If no error is found, only the message, “CD TEST” 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.

11.5.1. Error detection for CD Block

Error Code	Abnormal Items	Possible Cause
F15	CD REST SW abnormal	CD traverse position intial setting operation failsafe counter (1000 ms) waiting for REST SW to turn on. Error No. shall be clear by force or during coldstart.
H15	The CD tray closes	CD disc tray detect switch NG. (Check and replace)
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 o 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.
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.
Abnormal item	Error Display	Method of detection
F75	CD power abnormal	Under normal operation (self-diagnostic mode inclusive), check if CDRST is H for SELECTOR at CD. If it is not H after 1 sec, it shall be memorised as an error.

11.5.2. Error detection code for Cassette Mechanism Block

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.
H02	REC INH SW abnormal	The content of abnormality can be confirmed in the abnormal detection mode explained in the later section.
H03	HALF SW abnormal	
F01	Reel pulse abnormal	
F02	TPS abnormal	

11.5.3. Doctor Mode set up

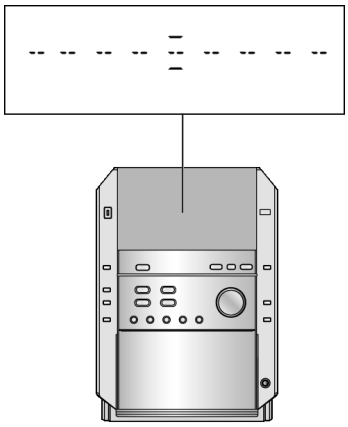
a) At any more (CD, TAPE, TUNER).

b) To enter Doctor Mode, press Doctor Mode key [C2DF] of special remote control or input 4 then 7 from the remote control while pressing STOP n key of the main set.

11.5.4. Cold start setting

1. Doctor mode ON.
2. Remote control SLEEP/AUTO OFF key ON.

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

12.1. Operation Check with Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Cf. Fig. 6)
2. Supply DC5V to MOTOR. (→ MOTOR rotates.) (Cf. 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) (Cf. 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.

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

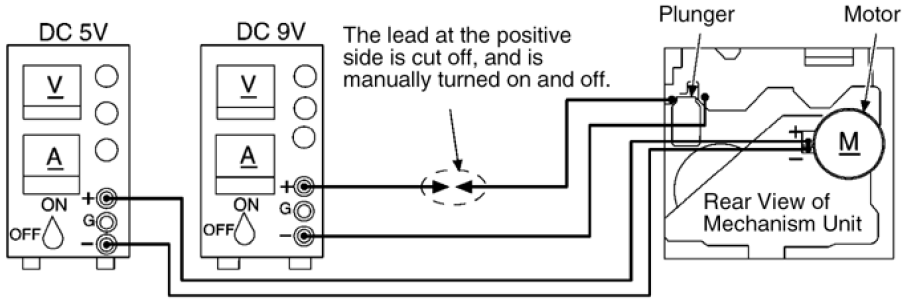


Fig. 5

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

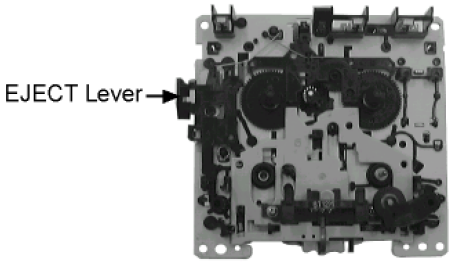


Fig. 6

12.2. Operation Check without Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Cf. 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. (Cf. Fig. 7)

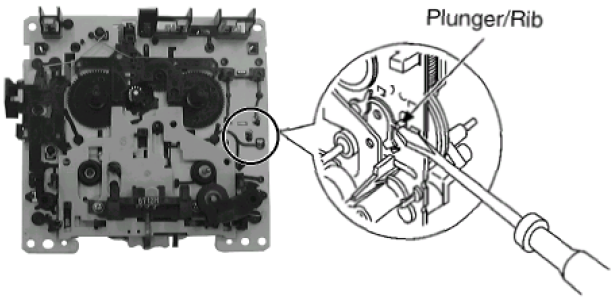


Fig. 7

13 Measurement And Adjustments

13.1. Tuner/CD Sections

No adjustment required.

13.2. Cassette Deck Section

13.2.1. Requirements

- Test tape (QZZCFM) (QZZCWAT)
- Normal blank cassette tape (QZZCRA)
- Frequency indicator
- Oscilloscope
- Electrical voltmeter
- Headphone jack output jig (Cf. Fig. 8)

13.2.2. Setting of Unit

- VOLUME: MAX

13.2.3. Preparations

1. Apply [9. Assembling and Disassembling].
2. Remove 4 screws from the mechanism unit to disassemble. [9. Assembling and Disassembling].
3. Connect the headphone jack output jig (Cf. Fig. 8) to headphone jack.

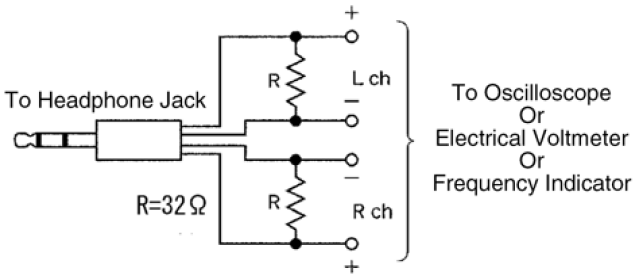


Fig. 8

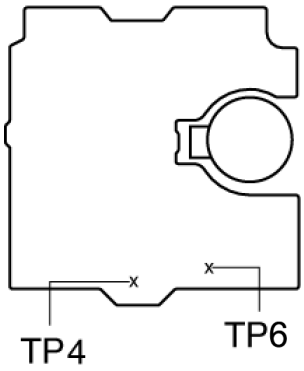


Fig. 9

13.2.4. Tape Speed Adjustment

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

1. Connect a frequency indicator. (Cf. 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. (Cf. Fig. 10)
   Adjustment Range: 3,000 ± 90Hz (a constant speed)

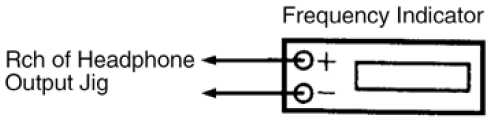


Fig. 10

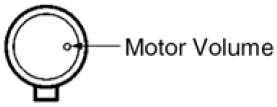


Fig. 11

13.2.5. Bias Voltage Check

1. Connect an electrical voltmeter. (Cf. Fig. 9) (Cf. 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: 14 ± 4mV

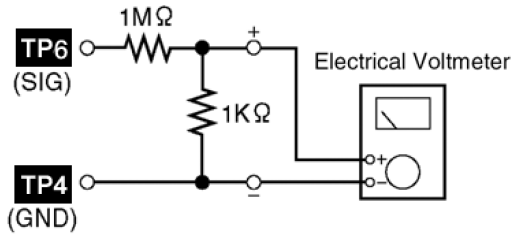


Fig. 12

13.2.6. Bias Frequency Check

1. Connect a digital frequency counter (Figure 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 ±8 kHz

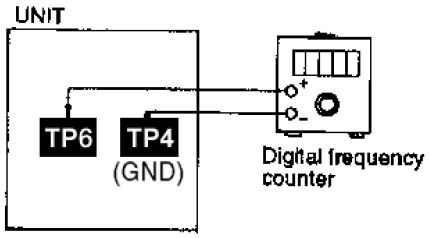
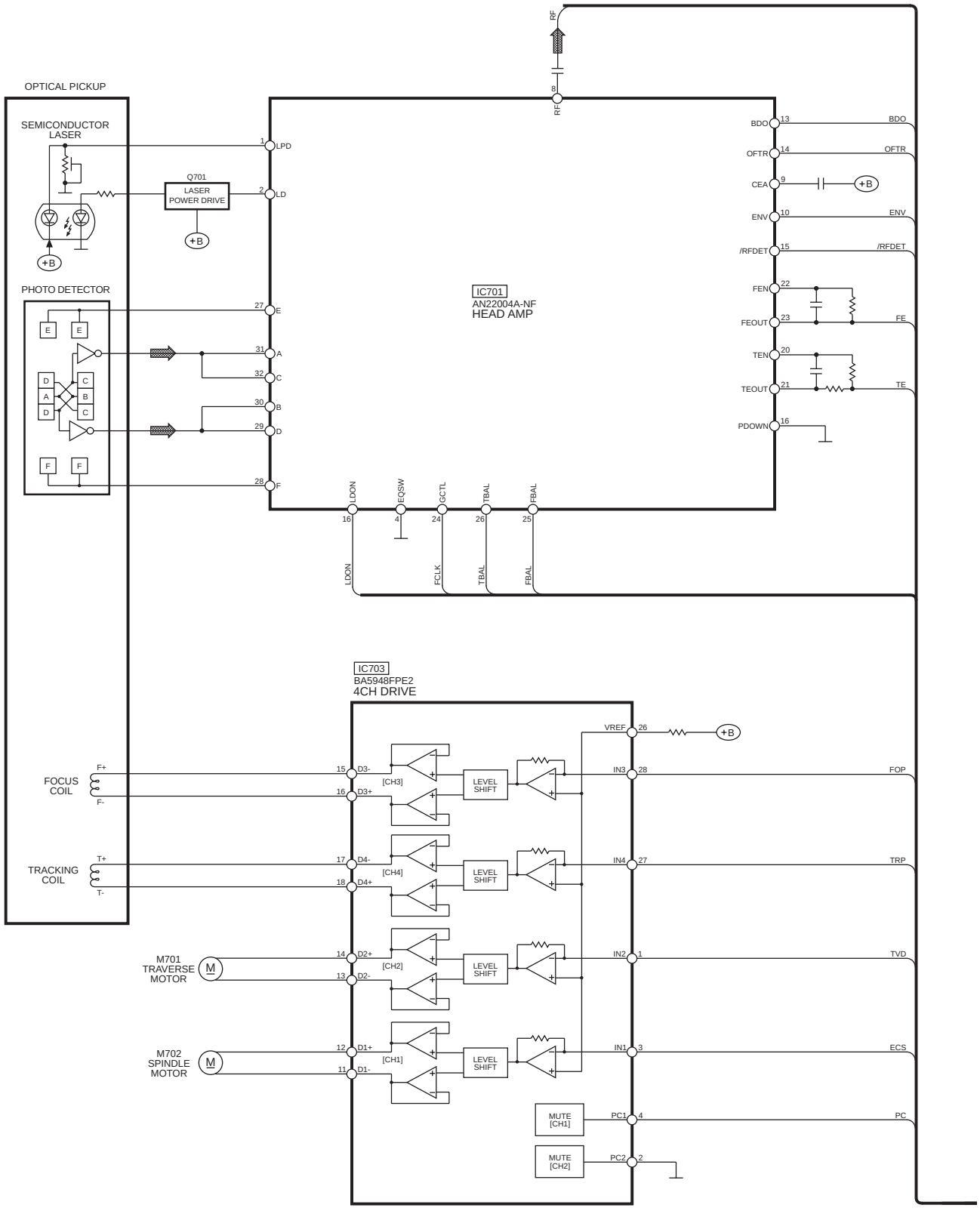
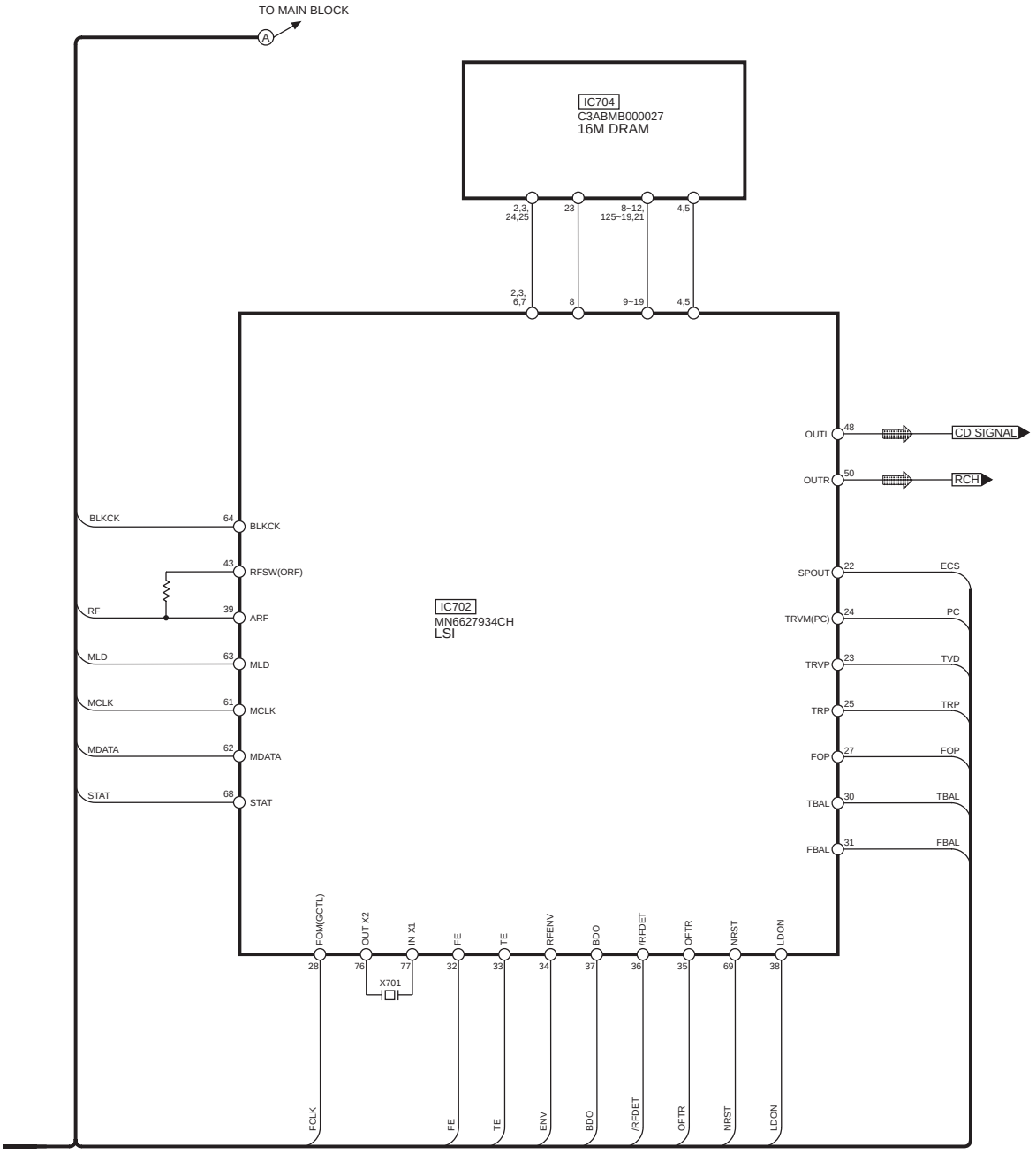


Fig. 13

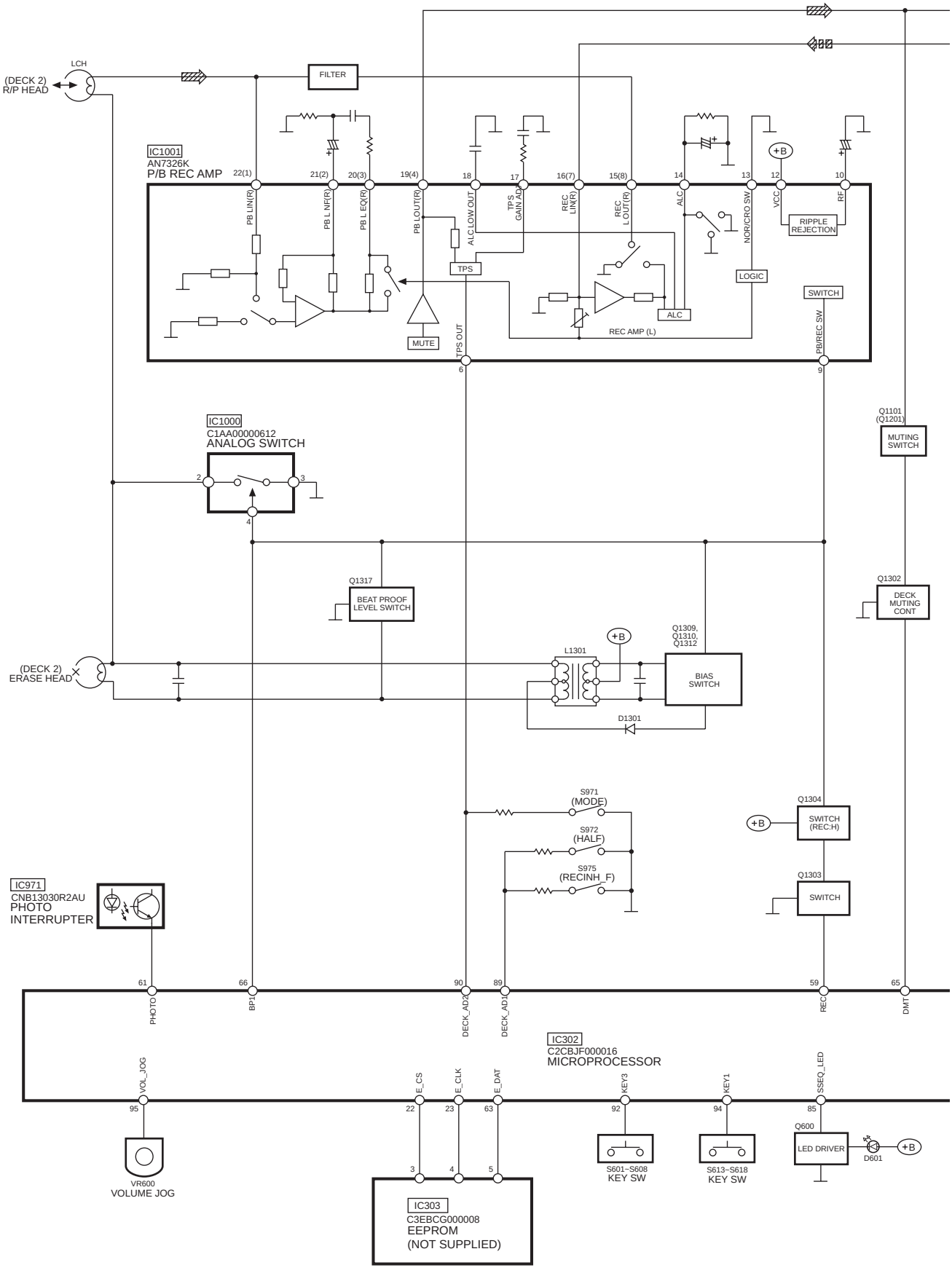
14 Block Diagram

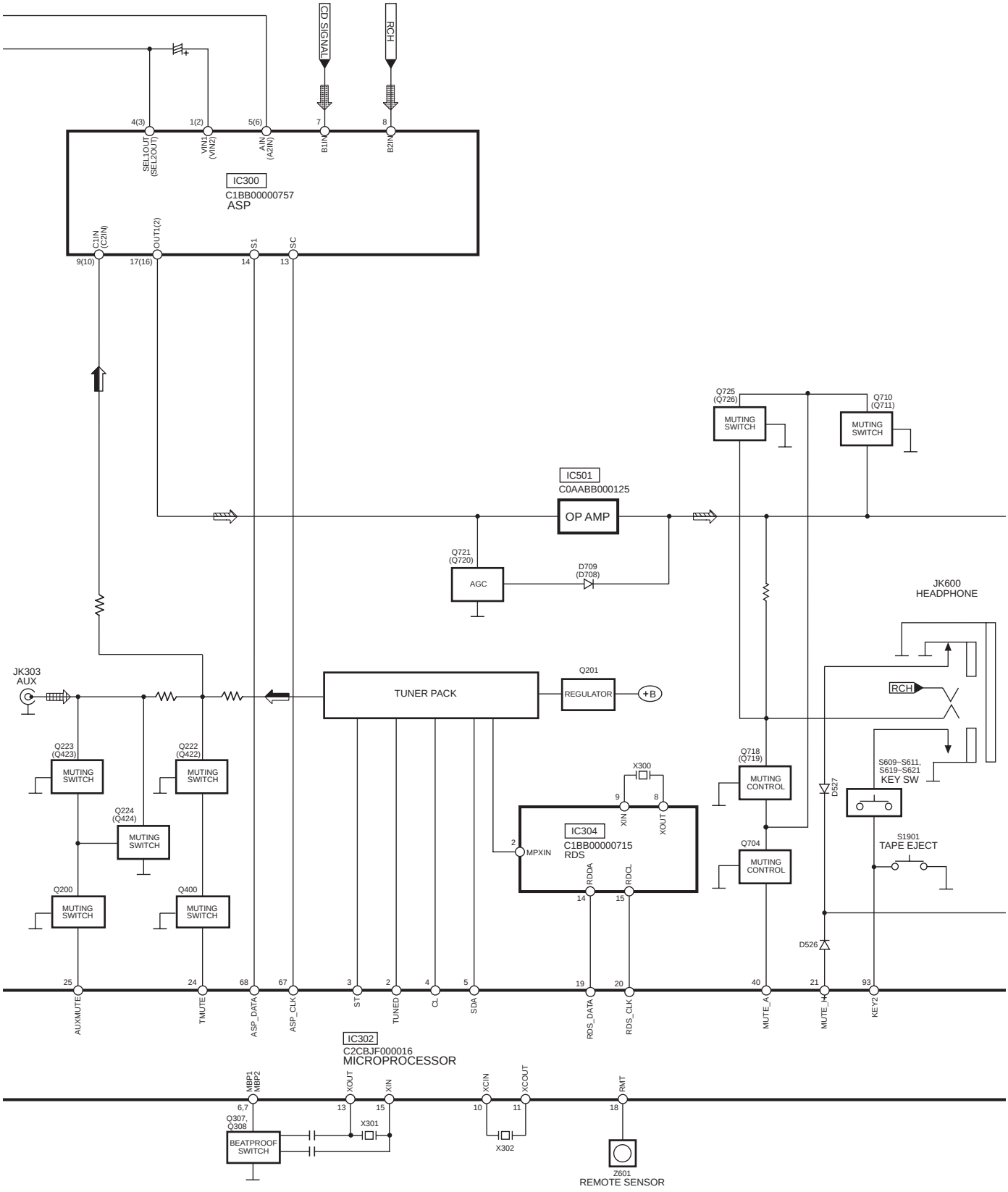
14.1. CD Servo Block

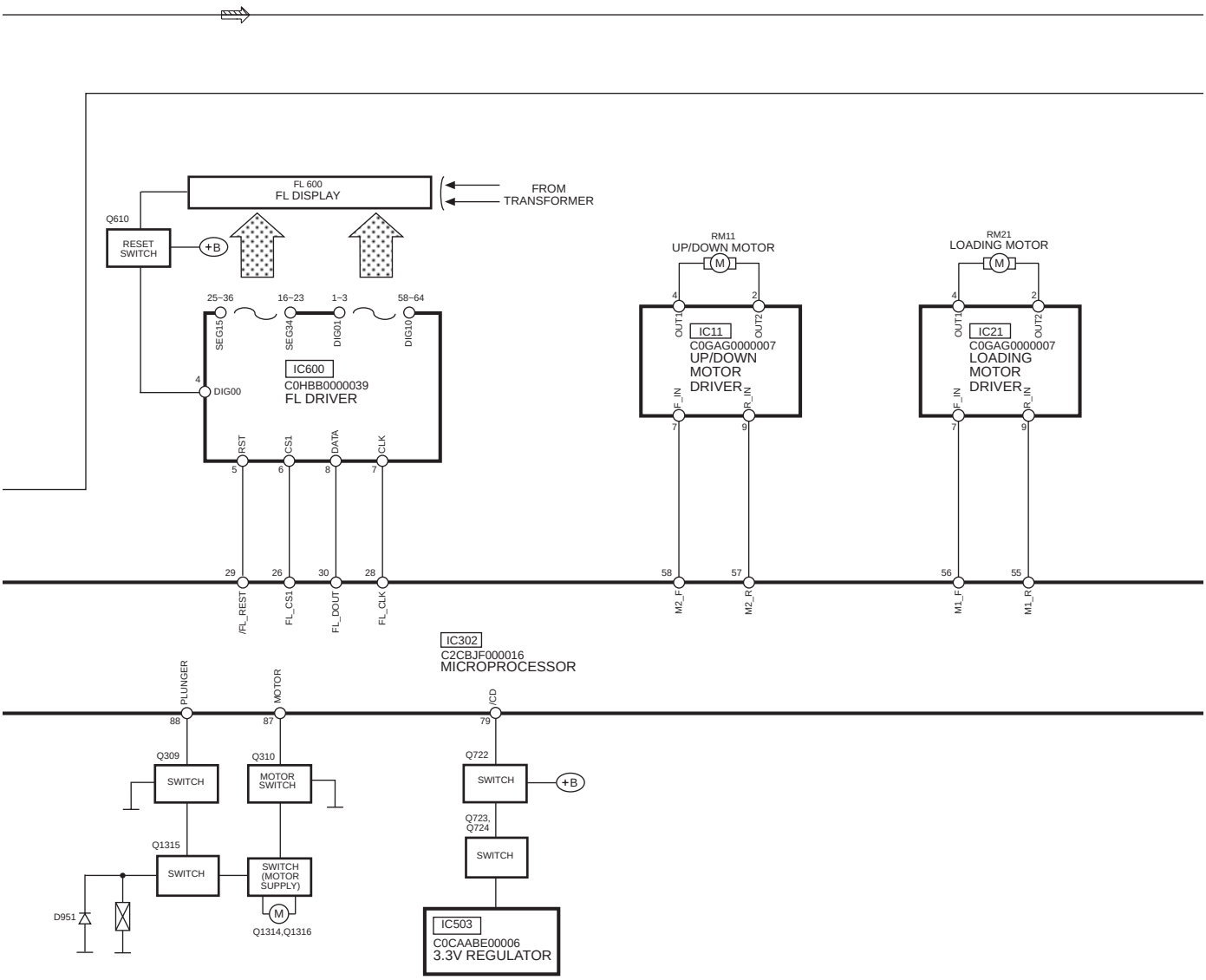


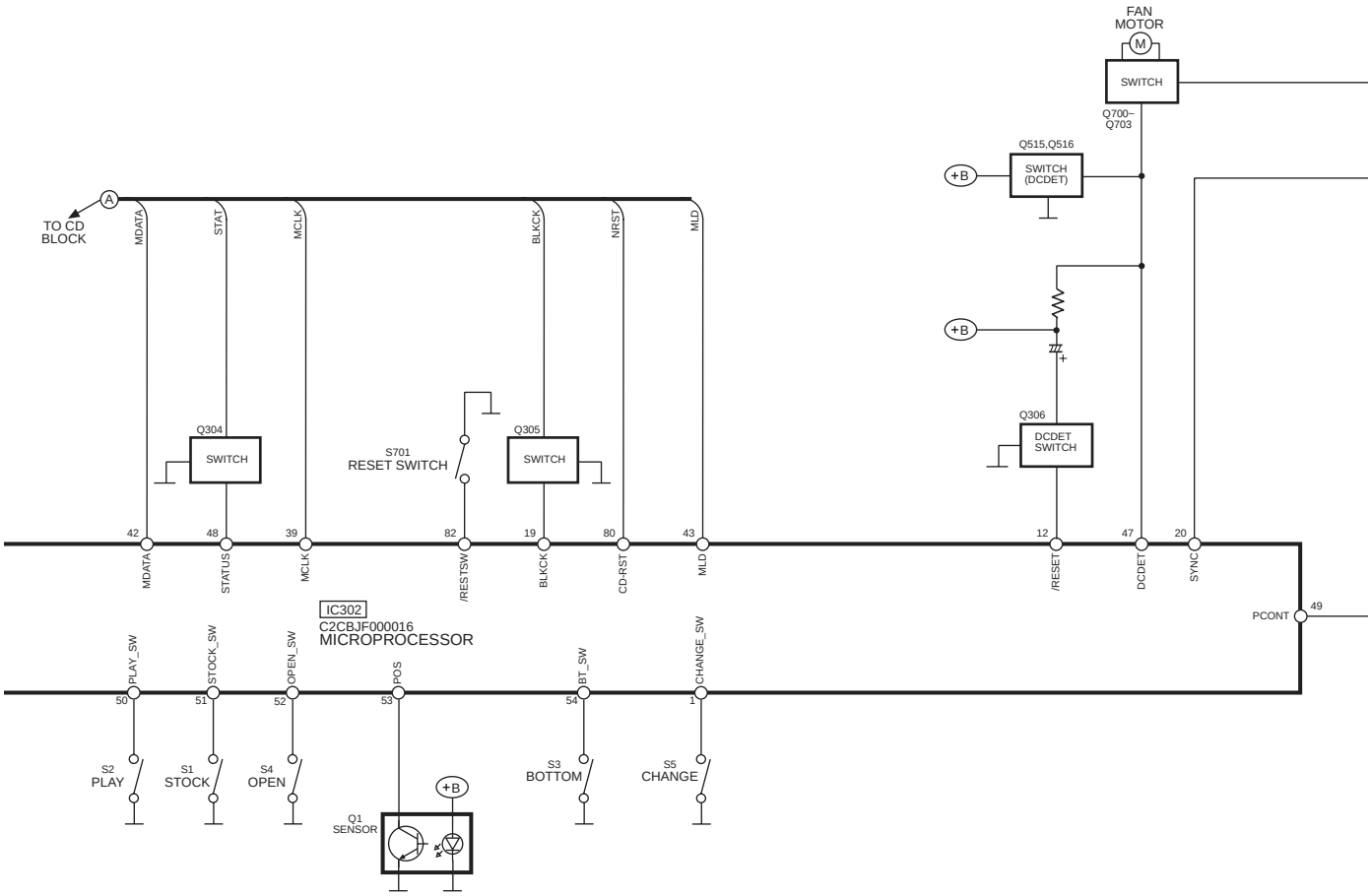

TO MAIN BLOCK
A
IC704
C3ABMB000027
16M DRAM
2,3,
24,25
23
8–12,
125–19,21
4,5
2,3,
6,7
8
9–19
4,5
IC702
MN6627934CH
LSI
OUTL
48
CD SIGNAL
OUTR
50
RCH
BLKCK
64
BLKCK
43
RFSW(ORF)
RF
39
ARF
MLD
63
MLD
MCLK
61
MCLK
MDATA
62
MDATA
STAT
68
STAT
SPOUT
22
ECS
TRVM(PC)
24
PC
TRVP
23
TVD
TRP
25
TRP
FOP
27
FOP
TBAL
30
TBAL
FBAL
31
FBAL
FOM(GCTL)
OUT X2
IN X1
FE
TE
RFENV
BDO
/RFDET
OFTR
NRST
LDON
28
76
77
32
33
34
37
36
35
69
38
X701
FCLK
FE
TE
ENV
BDO
/RFDET
OFTR
NRST
LDON

14.2. Main Block



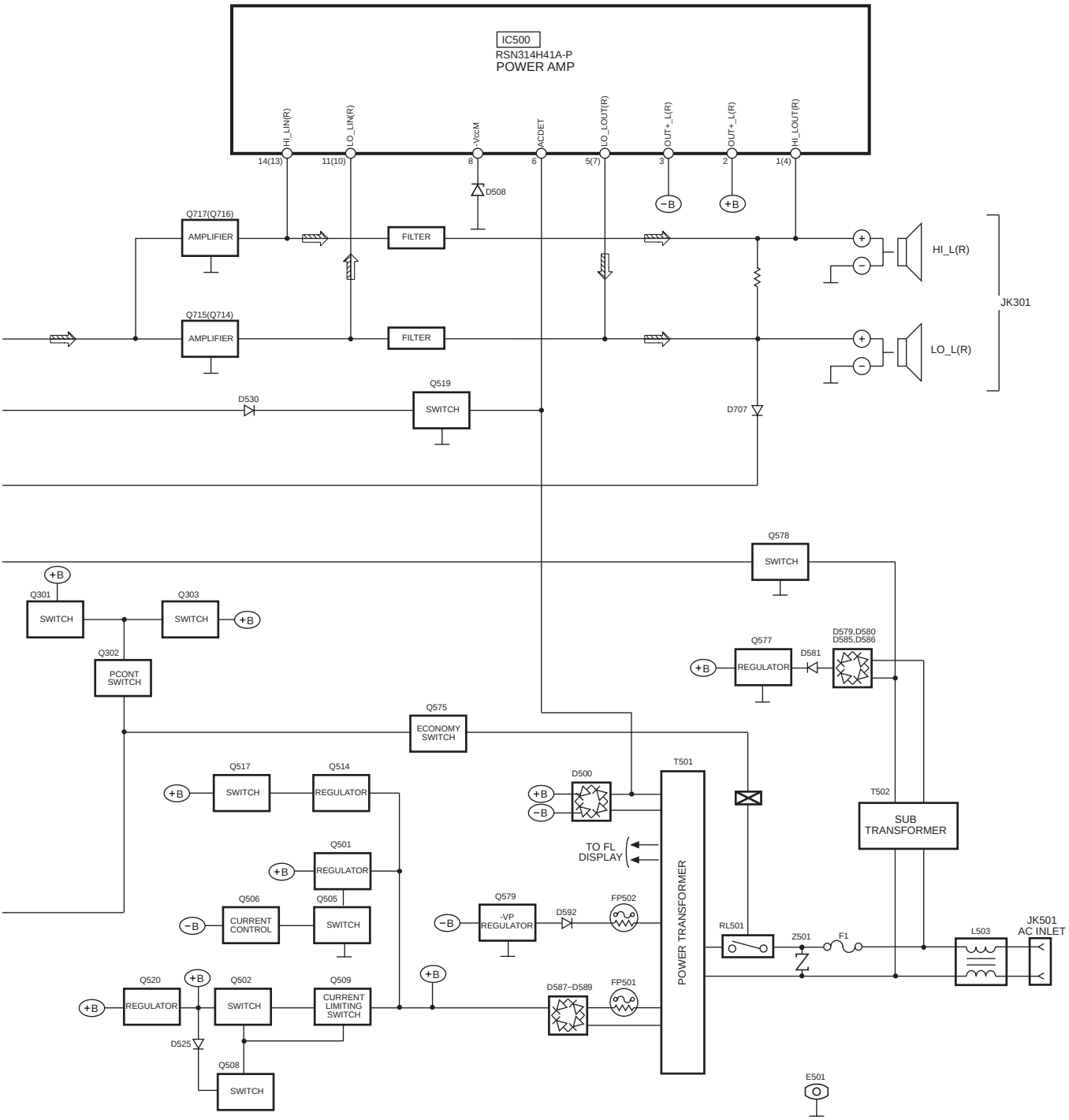

CD SIGNAL
RCH
IC300
C1BB00000757
ASP
SEL1OUT (SEL2OUT)
VIN1 (VIN2)
AIN (A2IN)
B1IN
B2IN
C1IN (C2IN)
OUT1(2)
S1
SC
IC501
C0AABB000125
OP AMP
Q725 (Q726)
Q710 (Q711)
MUTING SWITCH
Q721 (Q720)
AGC
D709 (D708)
JK600
HEADPHONE
JK303
AUX
TUNER PACK
Q201
REGULATOR
+B
RCH
Q223 (Q423)
Q222 (Q422)
Q224 (Q424)
Q200
Q400
X300
IC304
C1BB00000715
RDS
XIN
XOUT
MPXIN
RDDA
RDCL
Q718 (Q719)
MUTING CONTROL
Q704
D527
S609~S611, S619~S621
KEY SW
S1901
TAPE EJECT
D526
AUXMUTE
TMUTE
ASP_DATA
ASP_CLK
ST
TUNED
CL
SDA
RDS_DATA
RDS_CLK
MUTE_A
MUTE_H
KEY2
IC302
C2CBJF000016
MICROPROCESSOR
MBP1
MBP2
XOUT
XIN
XCIN
XCOUT
RMT
Q307, Q308
BEATPROOF SWITCH
X301
X302
Z601
REMOTE SENSOR


FL 600
FL DISPLAY
FROM
TRANSFORMER
Q610
RESET
SWITCH
+B
25~36
16~23
1~3
58~64
SEG15
SEG34
DIG01
DIG10
IC600
C0HBB0000039
FL DRIVER
DIG00
RST
CS1
DATA
CLK
RM11
UP/DOWN MOTOR
IC11
C0GAG0000007
UP/DOWN
MOTOR
DRIVER
OUT1
OUT2
F_IN
R_IN
RM21
LOADING MOTOR
IC21
C0GAG0000007
LOADING
MOTOR
DRIVER
/FL_REST
FL_CS1
FL_DOUT
FL_CLK
M2_F
M2_R
M1_F
M1_R
IC302
C2CBJF000016
MICROPROCESSOR
PLUNGER
MOTOR
/CD
Q309
SWITCH
Q310
MOTOR
SWITCH
Q722
SWITCH
+B
Q723,
Q724
SWITCH
Q1315
SWITCH
SWITCH
(MOTOR
SUPPLY)
D951
Q1314,Q1316
IC503
C0CAABE00006
3.3V REGULATOR


FAN
MOTOR
M
SWITCH
Q700~
Q703
Q515,Q516
+B
SWITCH
(DCDET)
+B
Q306
DCDET
SWITCH
A
TO CD
BLOCK
MDATA
STAT
MCLK
BLKCK
NRST
MLD
Q304
SWITCH
S701
RESET SWITCH
Q305
SWITCH
42
48
39
82
19
80
43
12
47
20
MDATA
STATUS
MCLK
/RESTSW
BLKCK
CD-RST
MLD
/RESET
DCDET
SYNC
PCONT
49
IC302
C2CBJF000016
MICROPROCESSOR
PLAY_SW
STOCK_SW
OPEN_SW
POS
BT_SW
CHANGE_SW
50
51
52
53
54
1
S2
PLAY
S1
STOCK
S4
OPEN
Q1
SENSOR
+B
S3
BOTTOM
S5
CHANGE

SIGNAL LINES

: MAIN SIGNAL LINE
: TAPE PLAYBACK SIGNAL LINE
: CD SIGNAL LINE
: FM/AM SIGNAL LINE
: TAPE RECORD SIGNAL LINE
: AUX SIGNAL LINE
( ) Indicates Pin No. of Right Channel
Note : Signal Lines are applicable to the Left Channel only.



15 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	CD switch
S607	Tape switch
S608	Tuner/Band switch
S609	Track up switch
S610	Track Down switch
S611	Enter switch
S613	Stop/Demo switch
S614	Power switch
S615	AUX switch
S616	REV switch
S617	All Disc switch
S618	FF switch
S619	REC switch
S620	Open/Close switch
S621	CD Change switch
S623	SSEQ switch
S701	Reset switch
S971	Mode switch
S972	Half switch
S973	CR02 switch
S975	Recinh_F switch
S1901	Tape Eject switch
VR600	Volume VR

- 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.

No mark	: Playback
<< >>	: Rec
(( ))	: CD
< >	: FM
( )	: AM

- **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.

- 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.

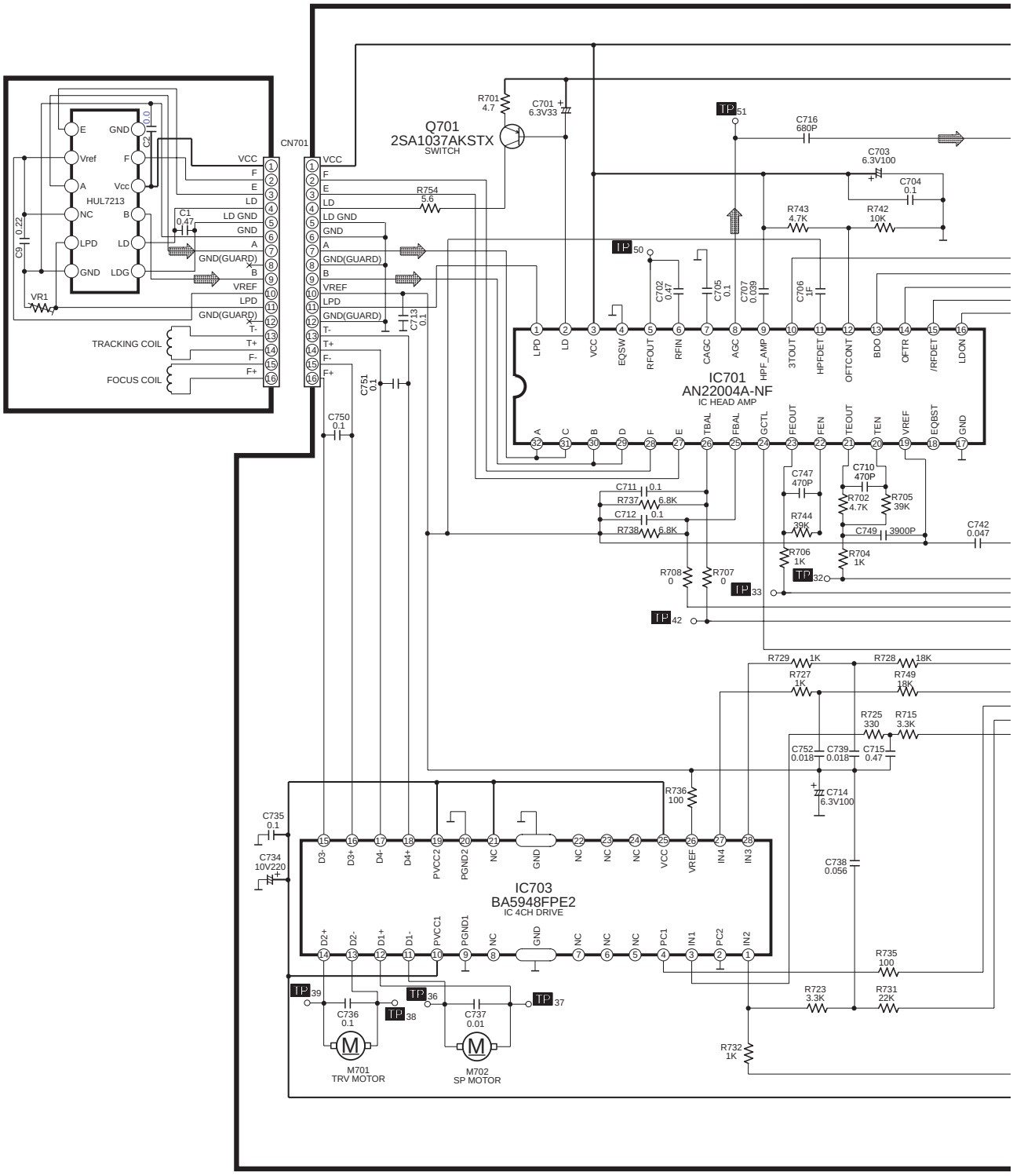
16 Schematic Diagram

16.1. CD Servo Circuit

SCHEMATIC DIAGRAM-1

A CD SERVO CIRCUIT

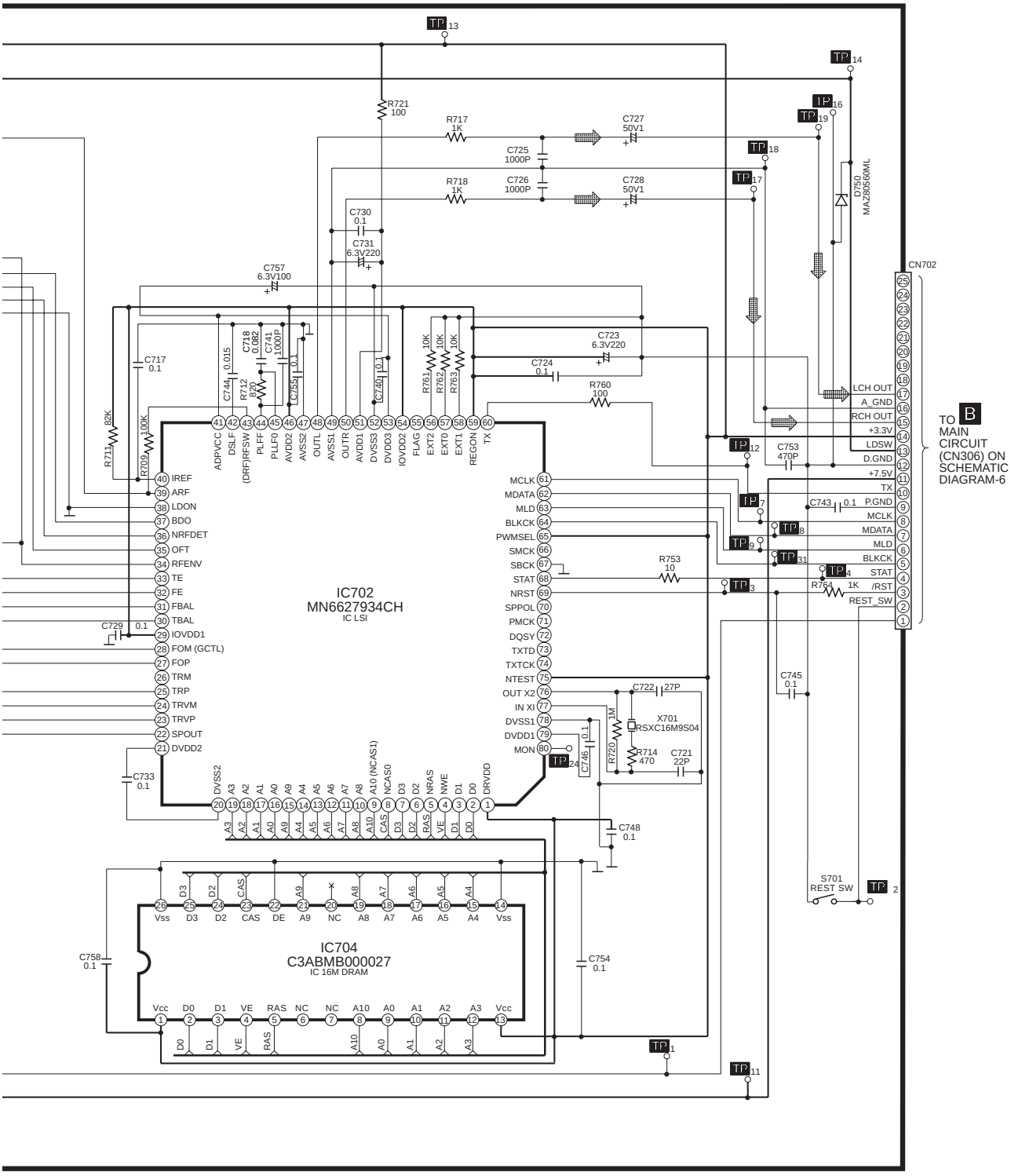
: +B SIGNAL LINE : CD SIGNAL LINE



SCHEMATIC DIAGRAM-2

A CD SERVO CIRCUIT

: +B SIGNAL LINE : CD SIGNAL LINE



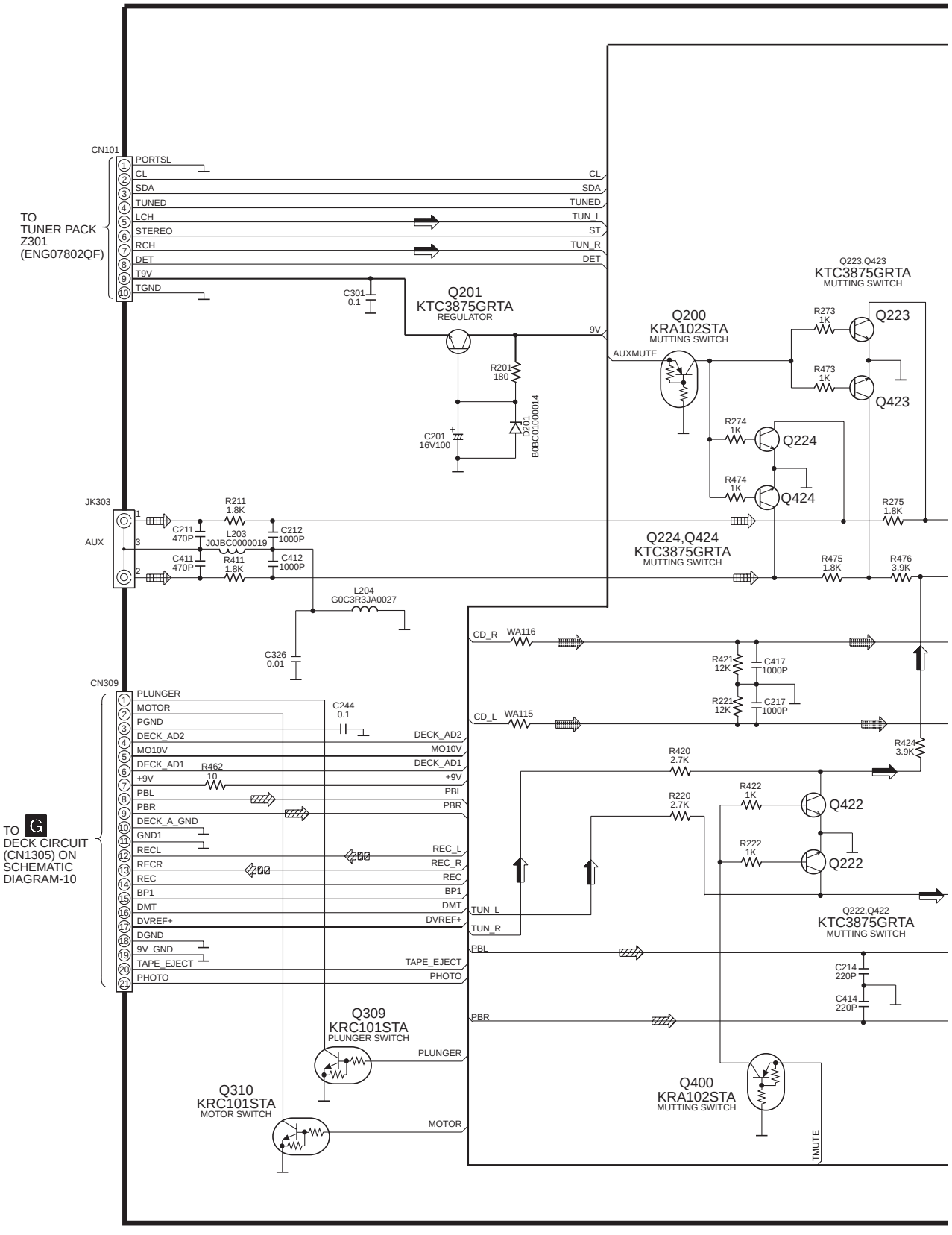
16.2. Main Circuit

SCHEMATIC DIAGRAM-3

B MAIN CIRCUIT

——— : +B SIGNAL LINE

: FM/AM SIGNAL LINE
: TAPE PLAYBACK SIGNAL LINE
: TAPE RECORD SIGNAL LINE
: CD SIGNAL LINE
: AUX SIGNAL LINE

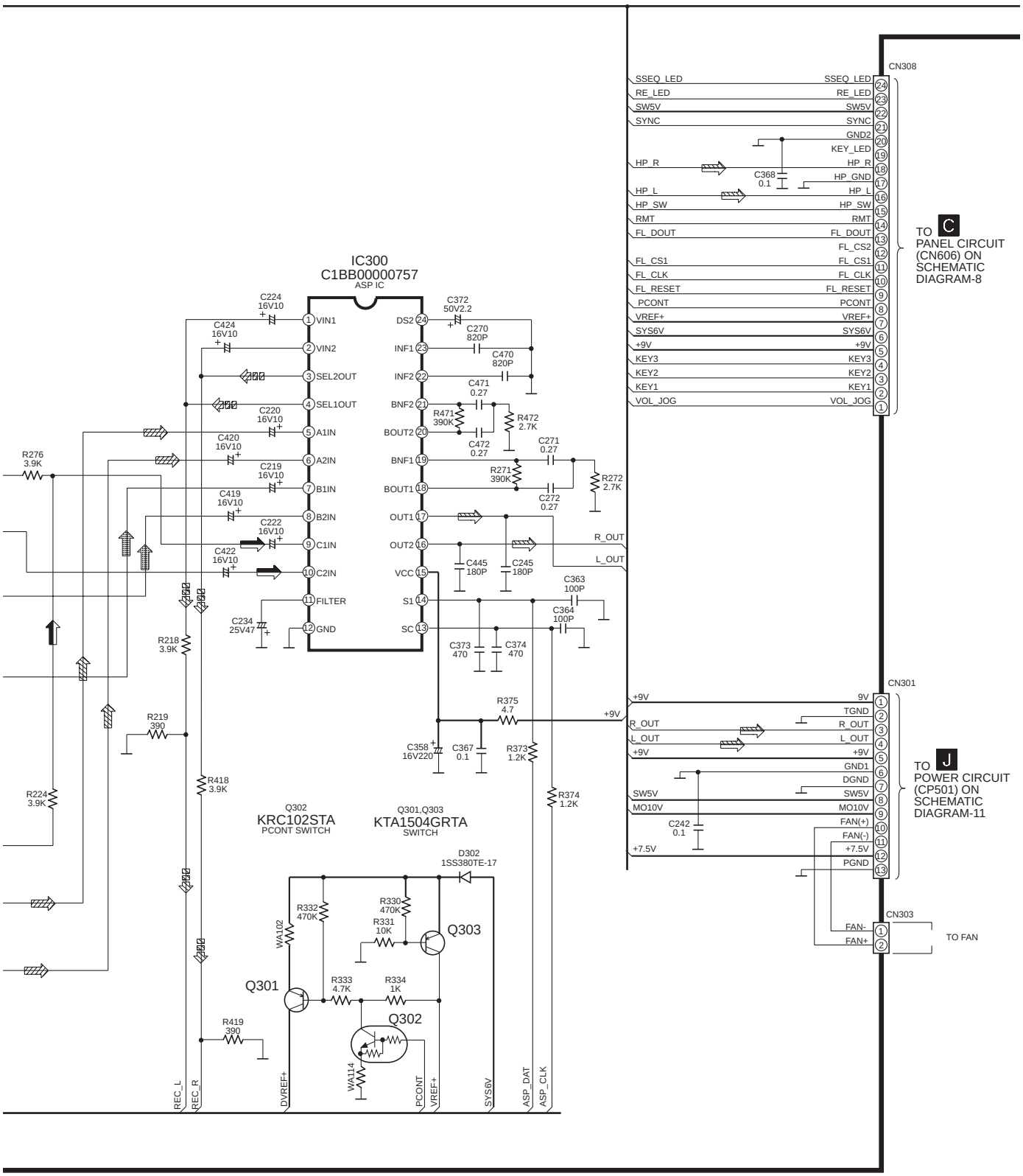


SCHEMATIC DIAGRAM-4

B MAIN CIRCUIT

: +B SIGNAL LINE

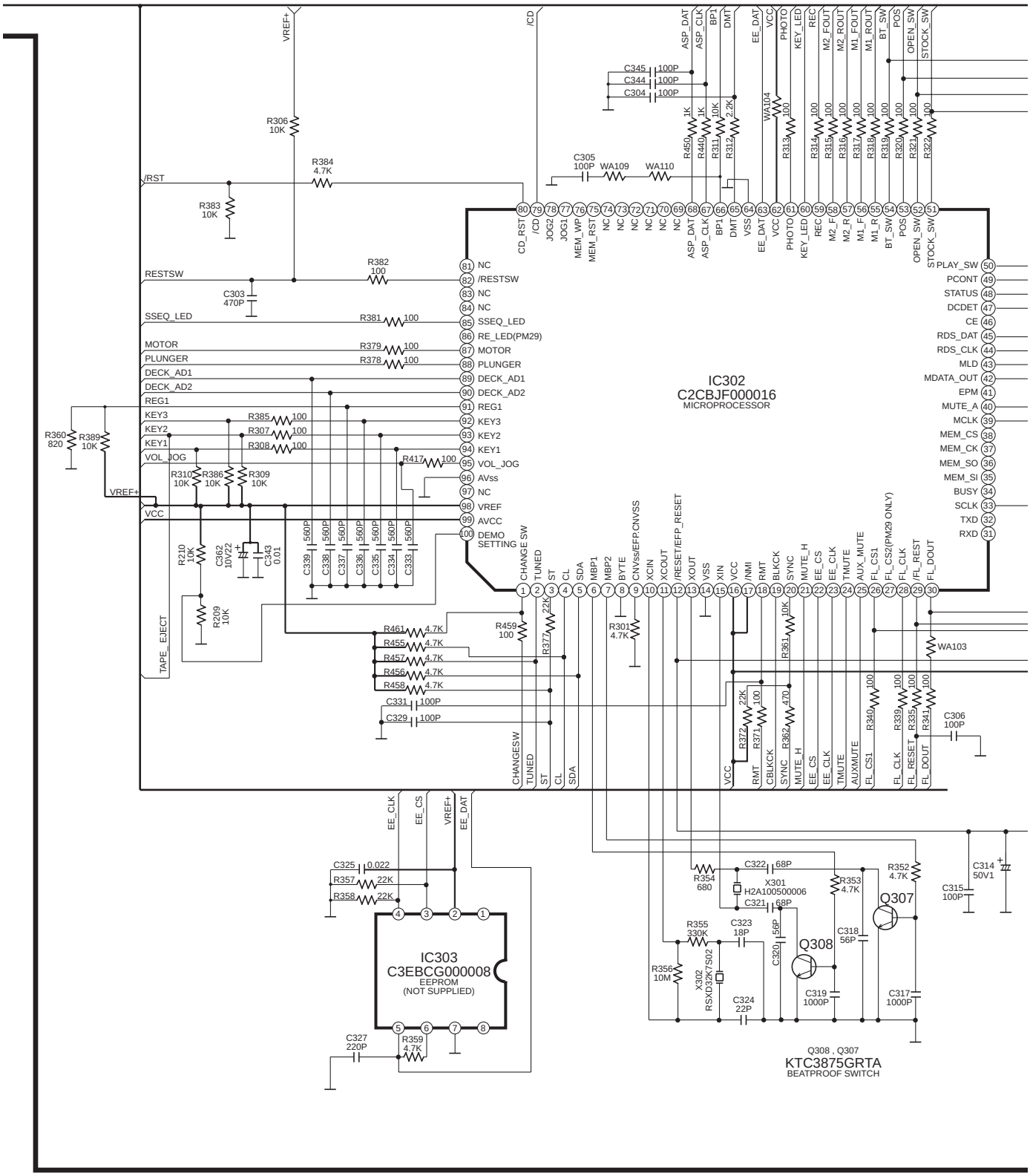
: MAIN SIGNAL LINE
: FM/AM SIGNAL LINE
: TAPE PLAYBACK SIGNAL LINE
: TAPE RECORD SIGNAL LINE
: CD SIGNAL LINE



SCHEMATIC DIAGRAM-5

B MAIN CIRCUIT

——— : +B SIGNAL LINE



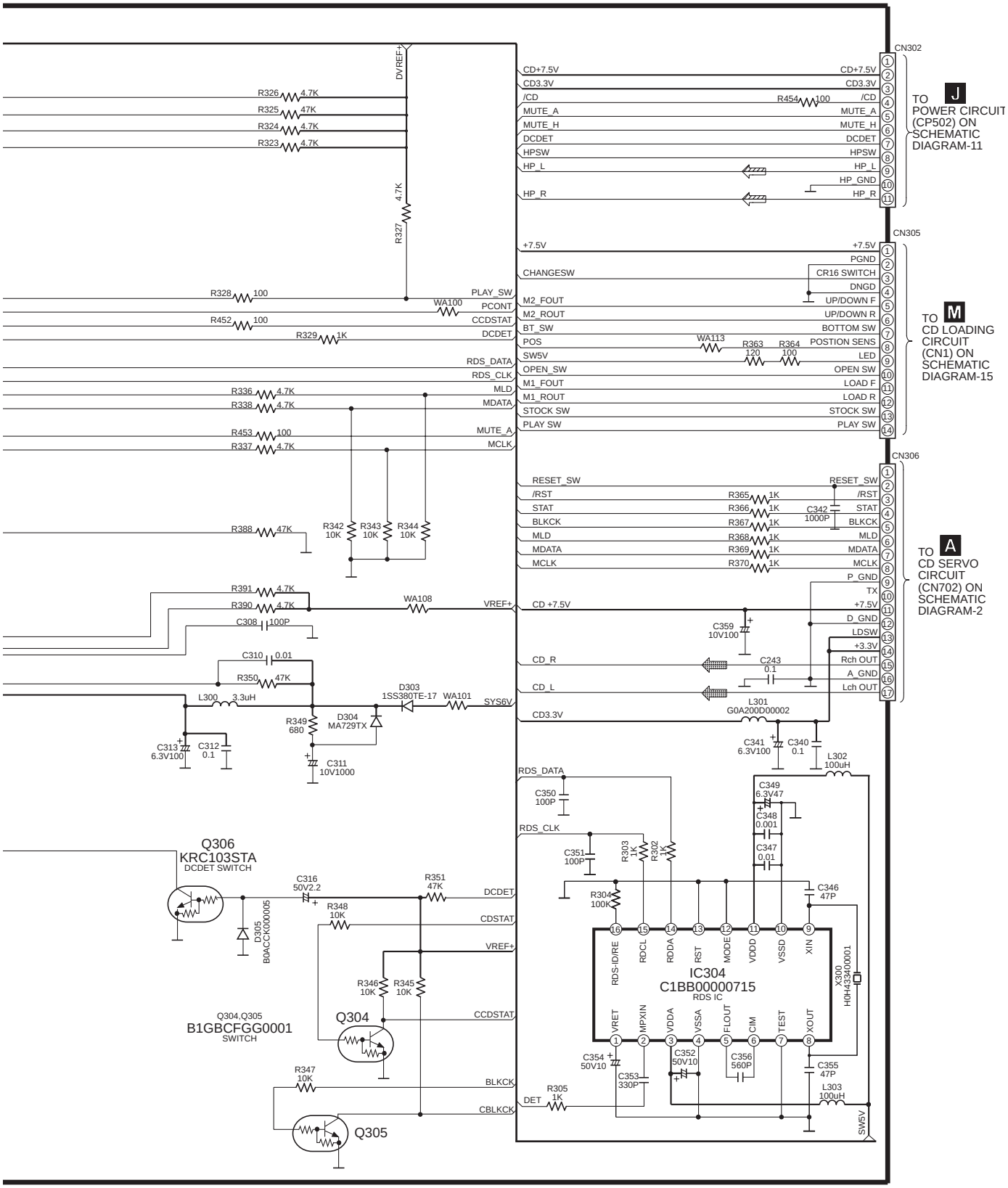
SCHEMATIC DIAGRAM-6

B MAIN CIRCUIT

: +B SIGNAL LINE

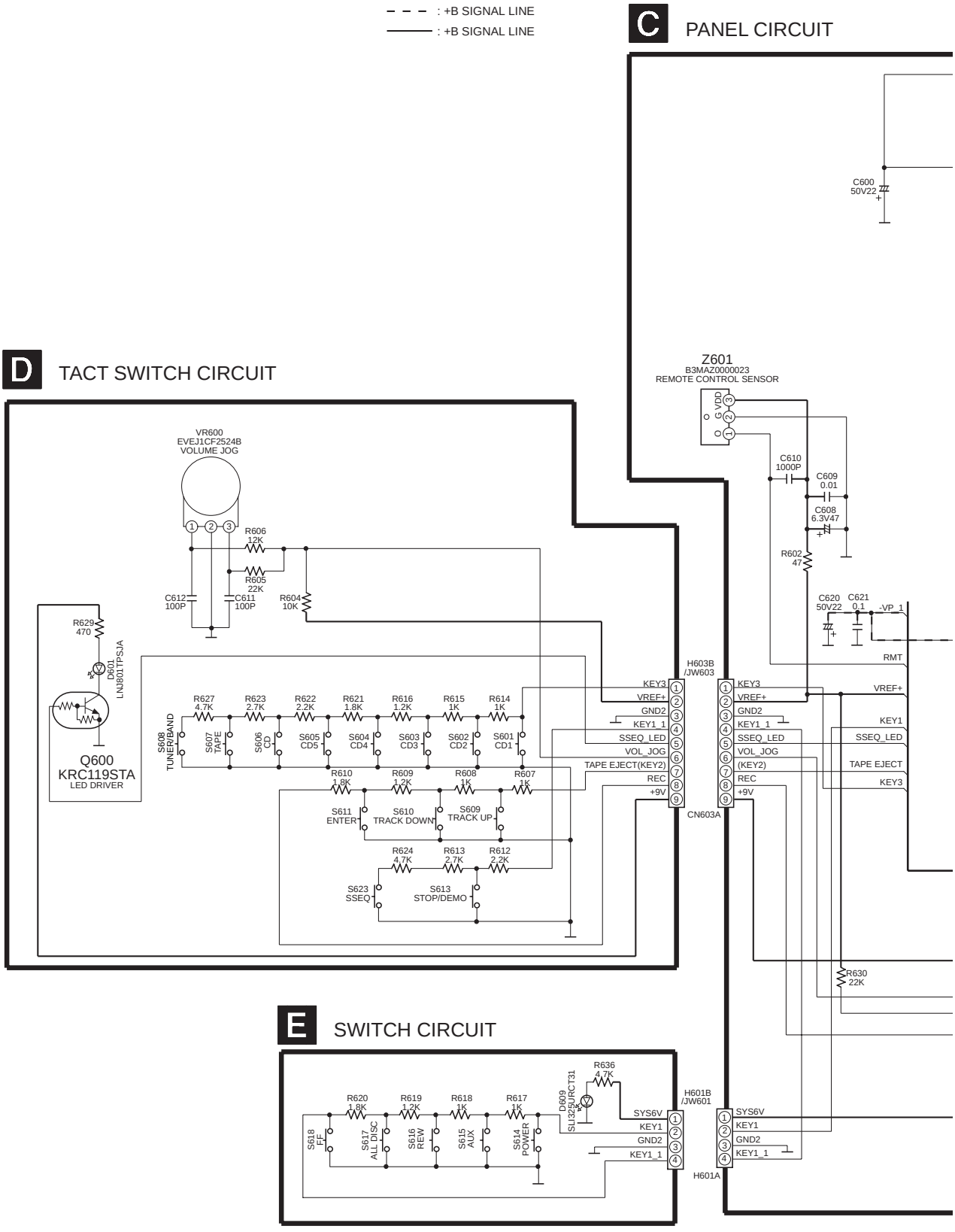
: MAIN SIGNAL LINE

: CD SIGNAL LINE



16.3. Panel Circuit, Tact Switch Circuit, Switch Circuit and Headphone Circuit

SCHEMATIC DIAGRAM-7

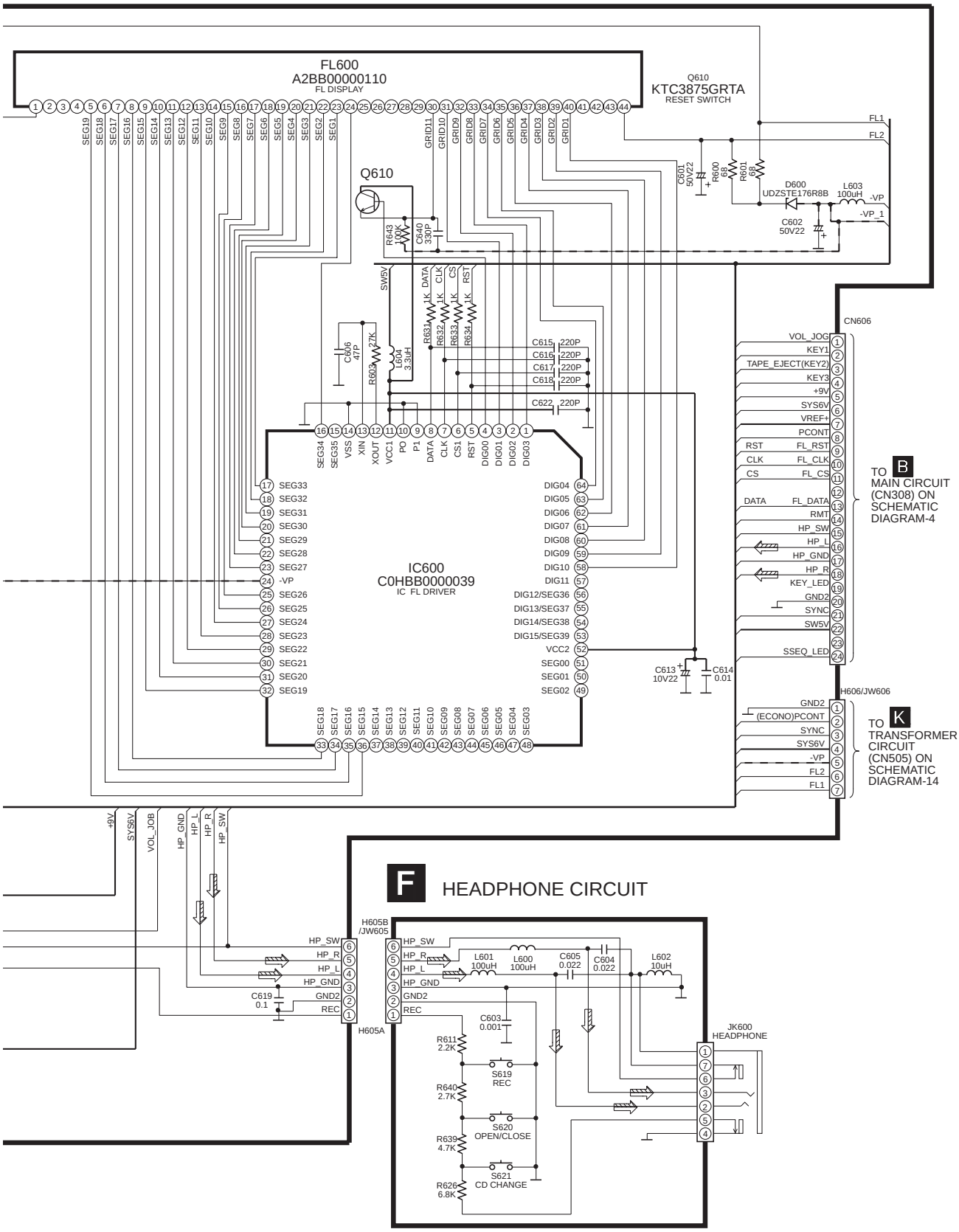


SCHEMATIC DIAGRAM-8

C PANEL CIRCUIT

: +B SIGNAL LINE

: +B SIGNAL LINE : MAIN SIGNAL LINE



16.4. Cassette Deck Circuit, Deck Mechanism Circuit and Tape Eject Circuit

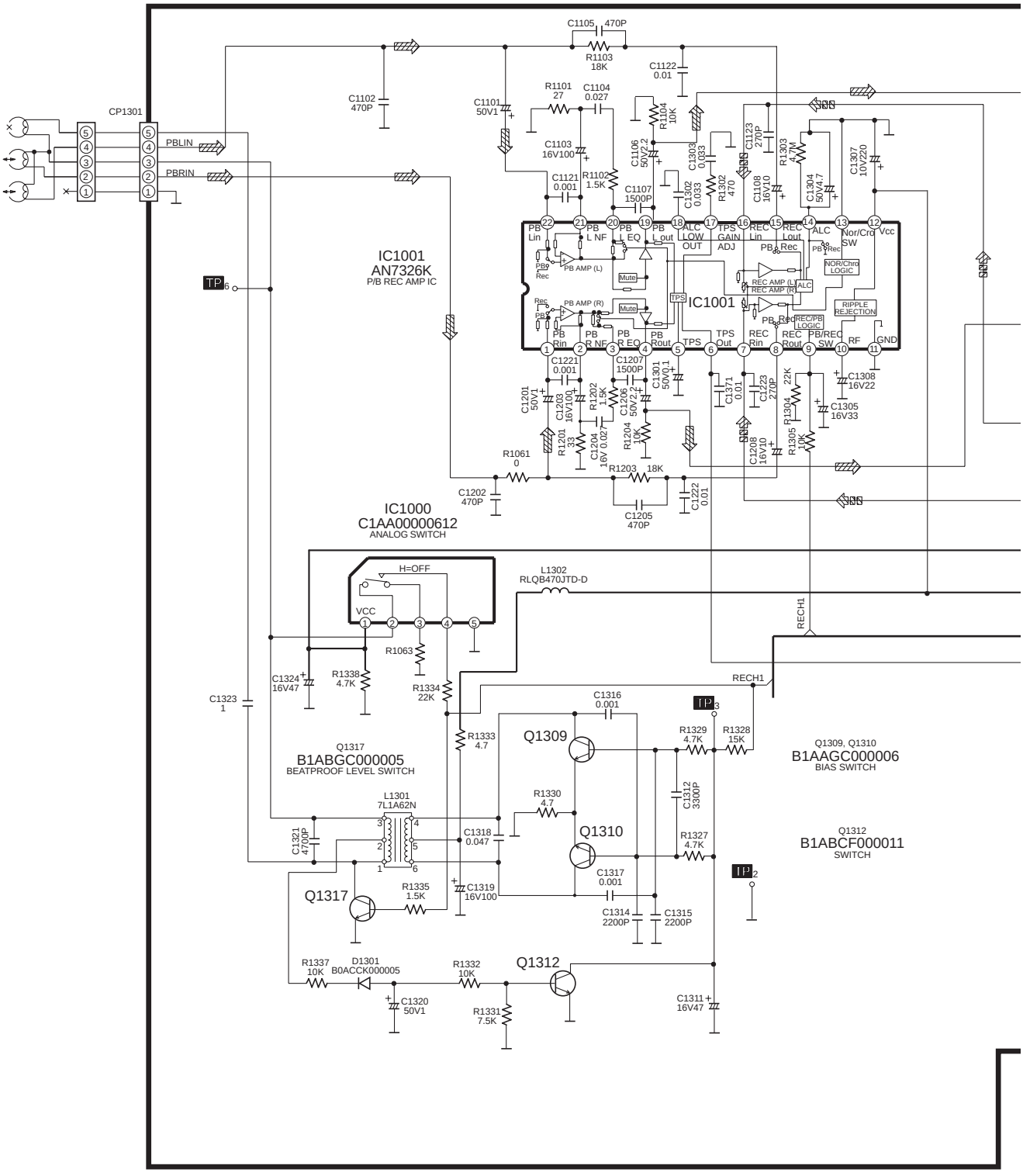
SCHEMATIC DIAGRAM-9

G DECK CIRCUIT

: +B SIGNAL LINE

: TAPE PLAYBACK SIGNAL LINE

: TAPE RECORD SIGNAL LINE



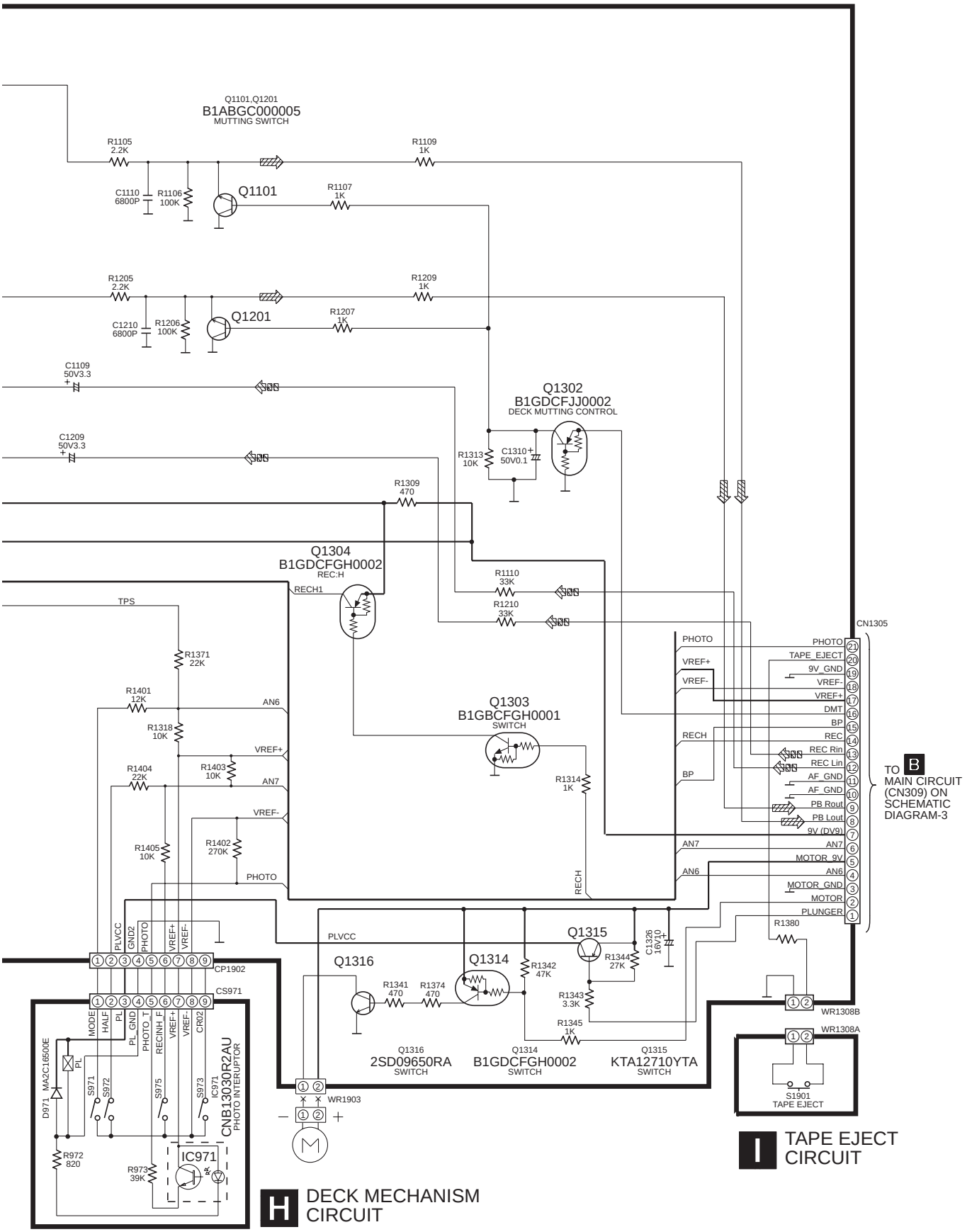
SCHEMATIC DIAGRAM-10

G DECK CIRCUIT

: +B SIGNAL LINE

: TAPE PLAYBACK SIGNAL LINE

: TAPE RECORD SIGNAL LINE



H DECK MECHANISM CIRCUIT

I TAPE EJECT CIRCUIT

16.5. Power Circuit

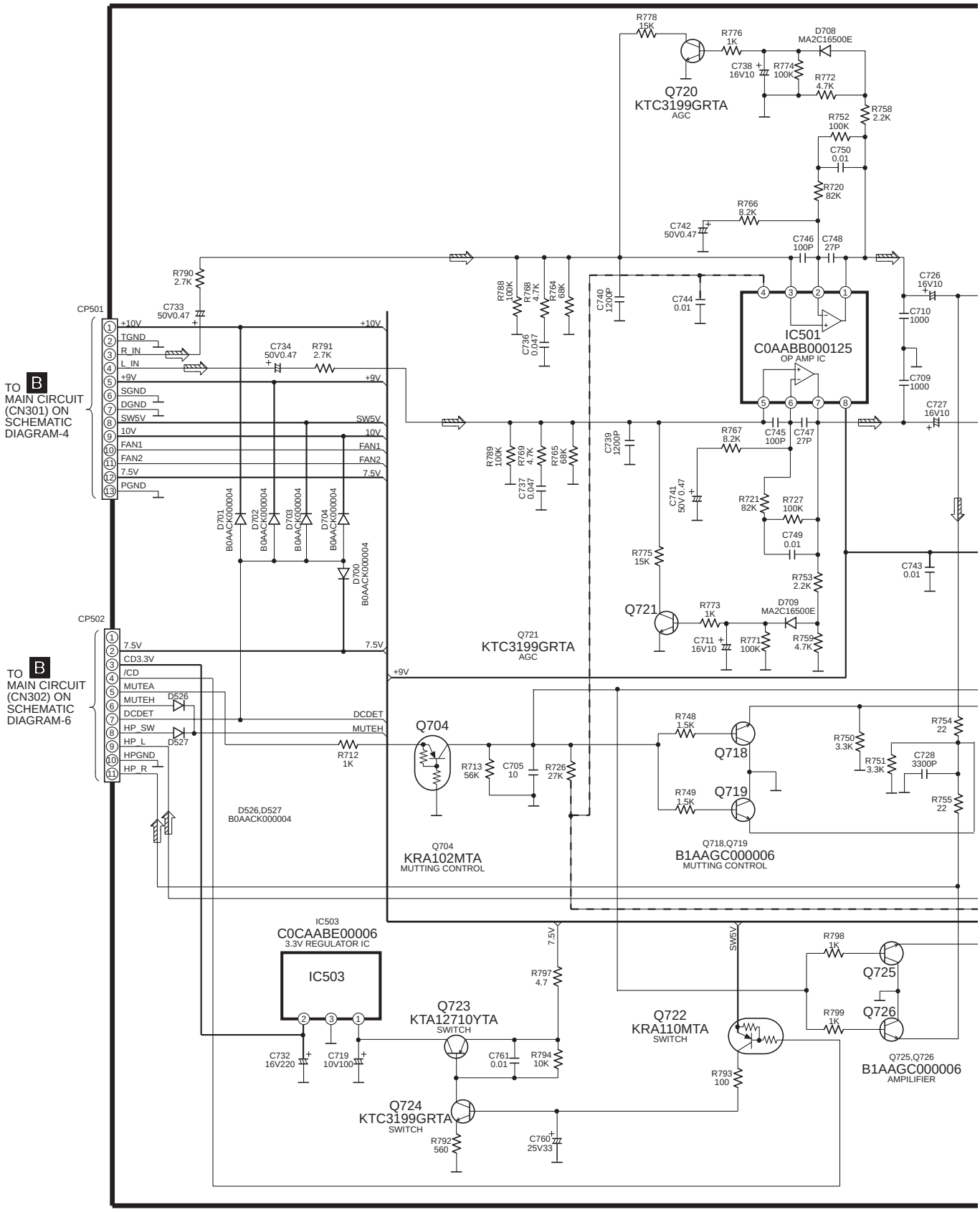
SCHEMATIC DIAGRAM-11

J POWER CIRCUIT

: -B SIGNAL LINE

: +B SIGNAL LINE

: MAIN SIGNAL LINE



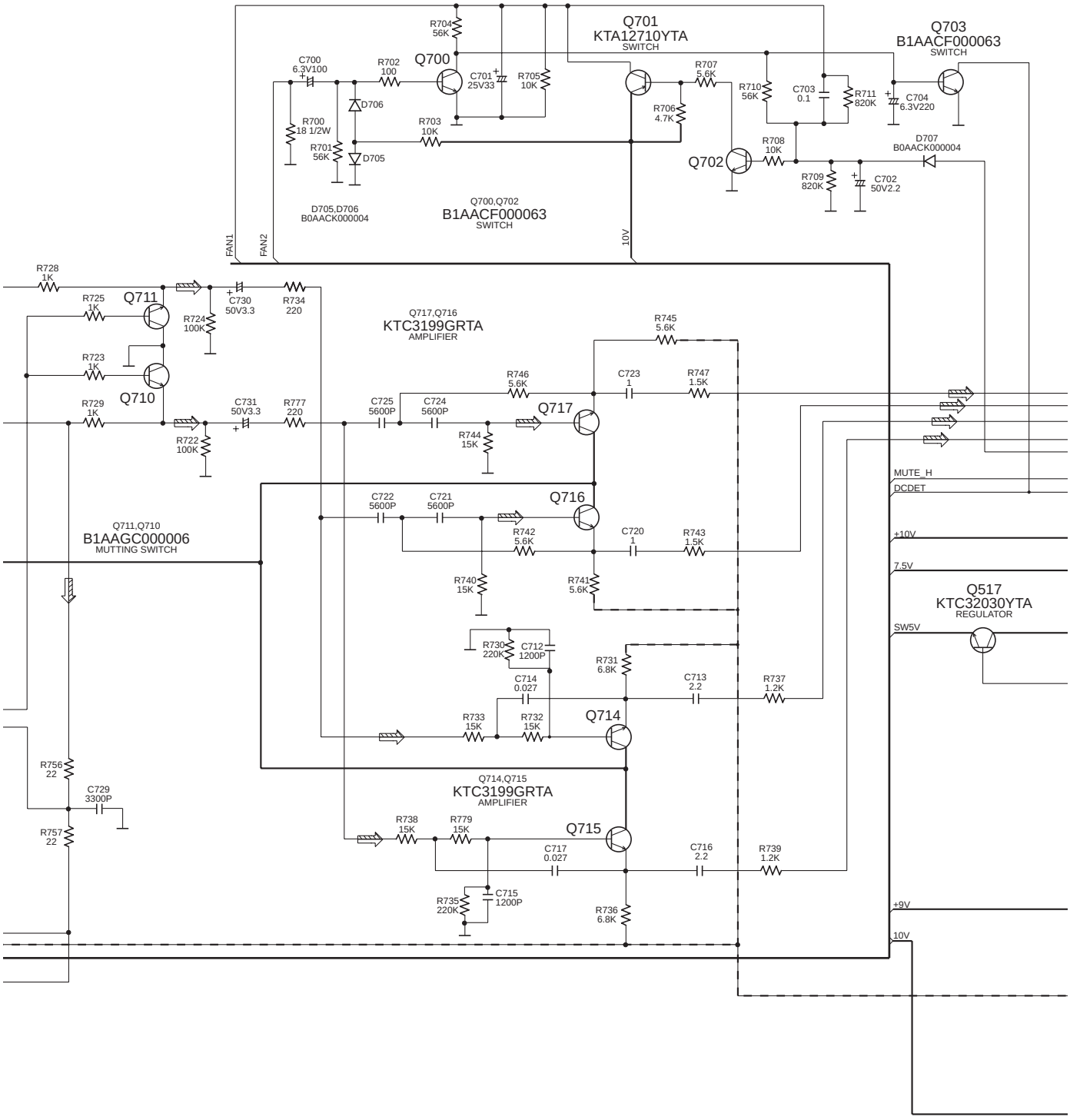
SCHEMATIC DIAGRAM-12

J POWER CIRCUIT

– – – : - B SIGNAL LINE

——— : +B SIGNAL LINE

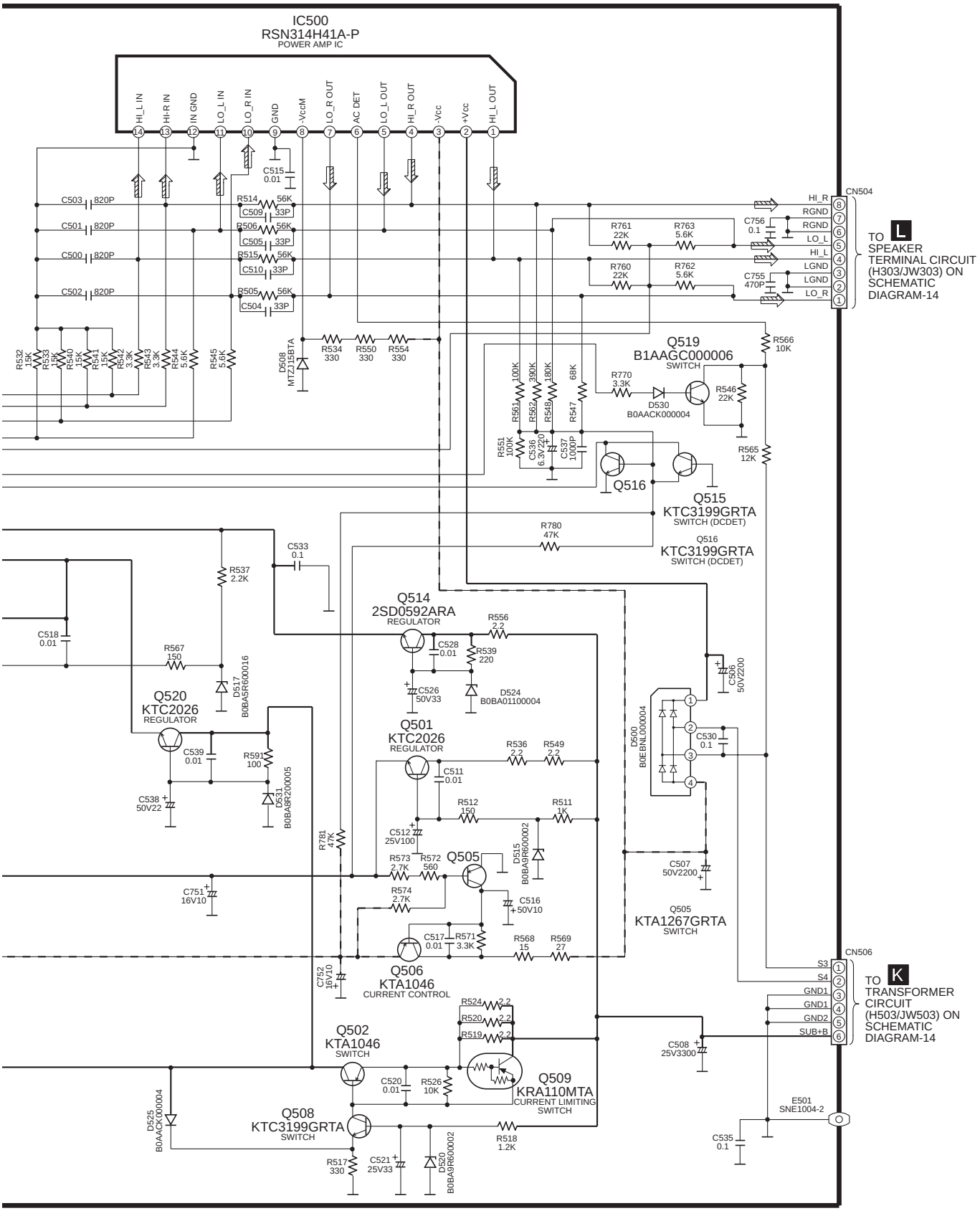
⇒ : MAIN SIGNAL LINE



SCHEMATIC DIAGRAM-13

J POWER CIRCUIT

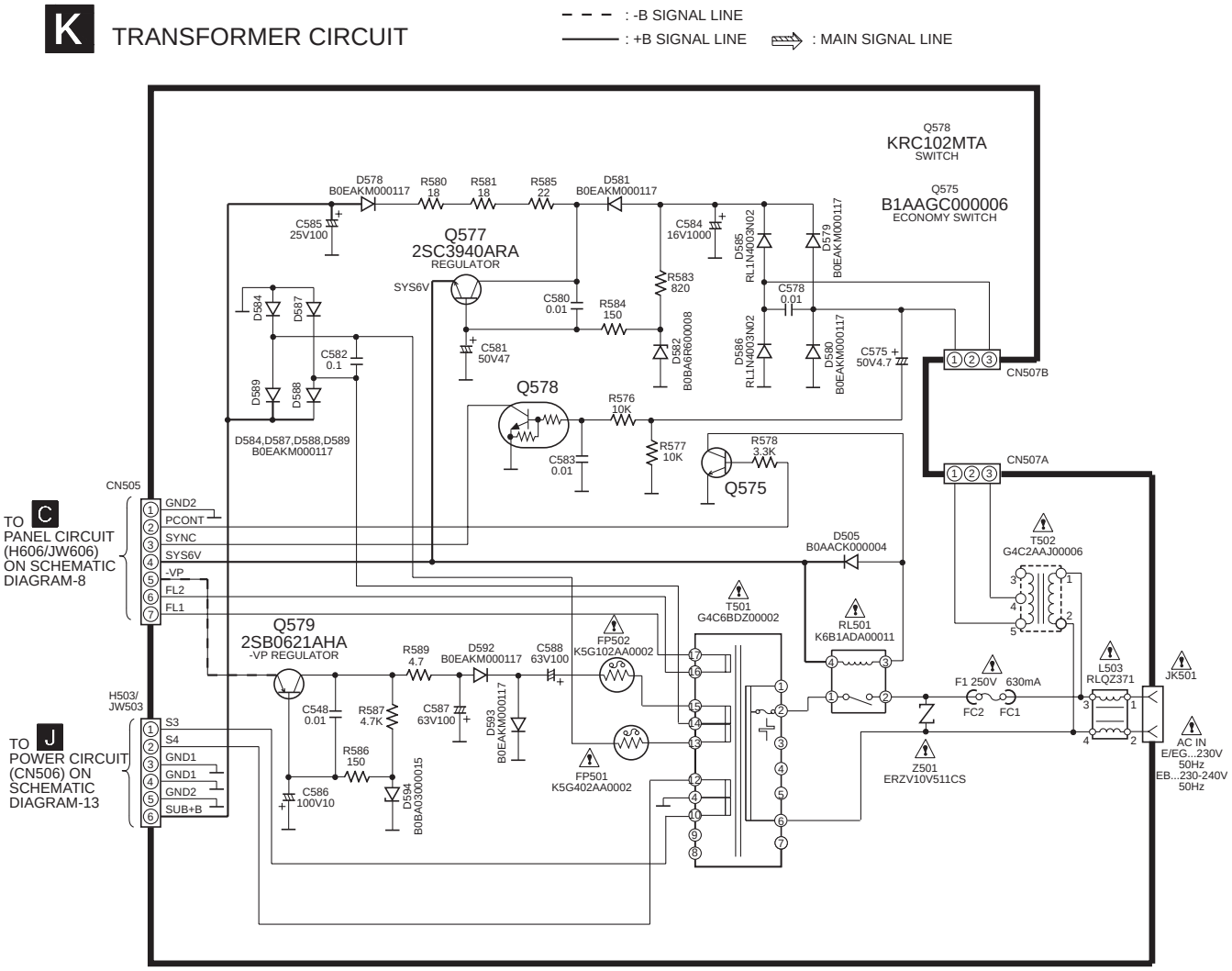
– – – : - B SIGNAL LINE
——— : +B SIGNAL LINE
⇨ : MAIN SIGNAL LINE



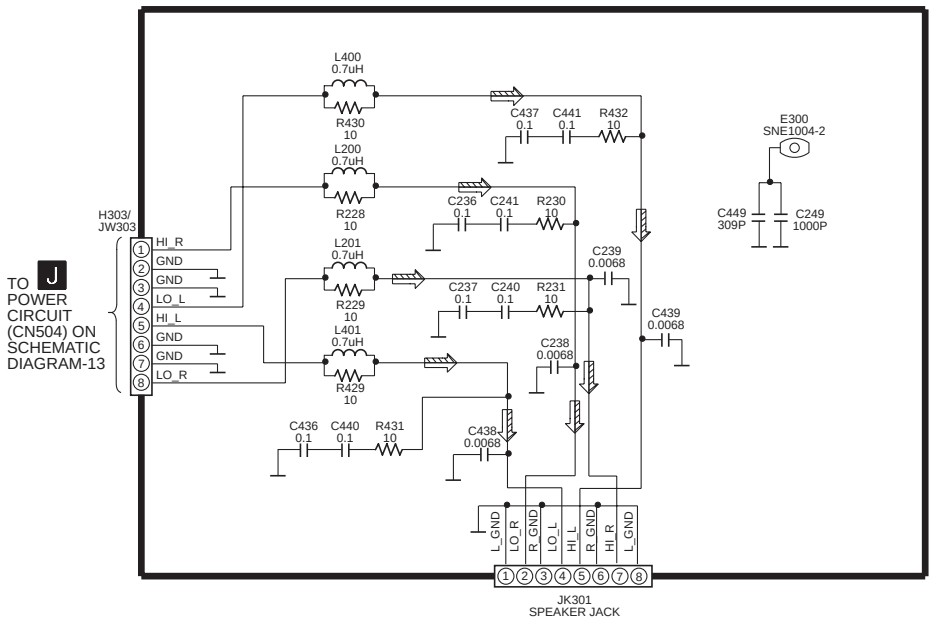
16.6. Transformer Circuit and Speaker Terminal Circuit

SCHEMATIC DIAGRAM-14

K TRANSFORMER CIRCUIT

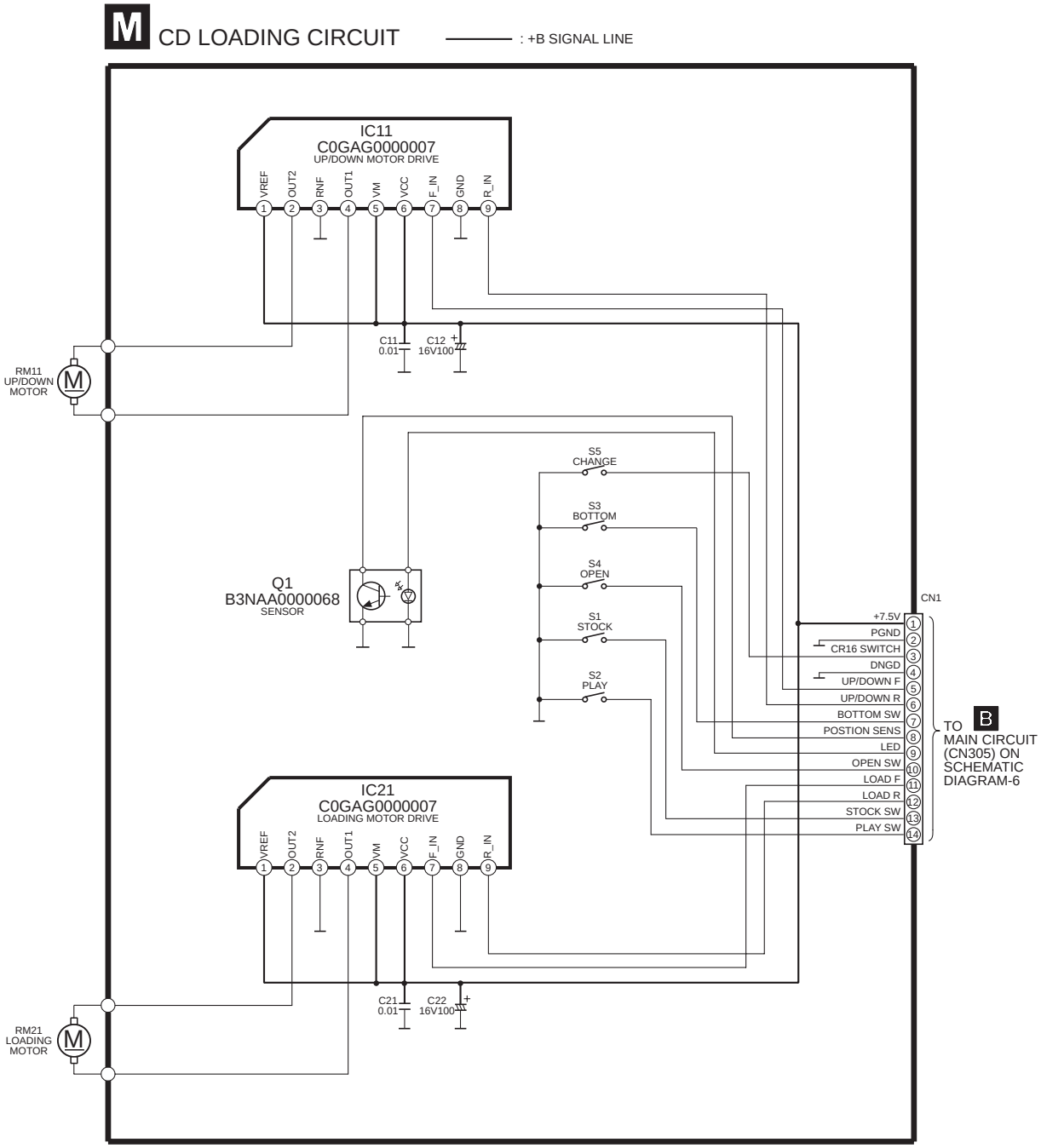


L SPEAKER TERMINAL CIRCUIT



16.7. CD Loading Circuit

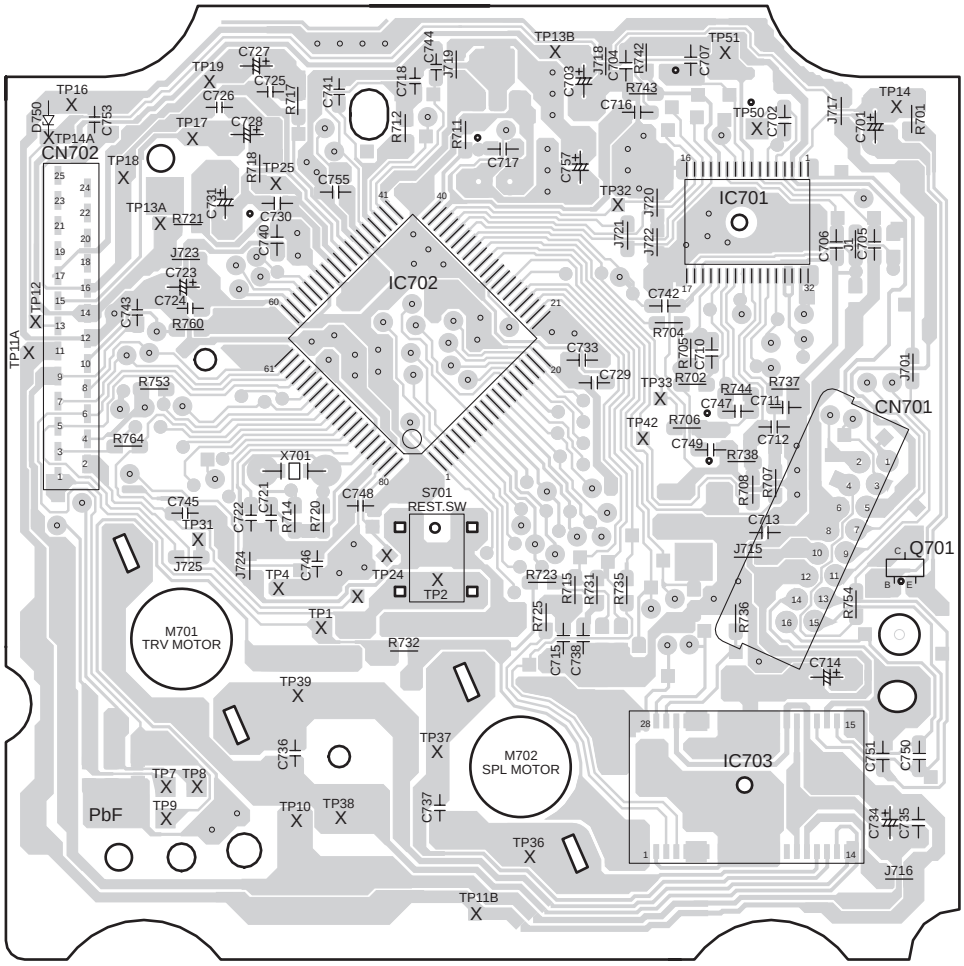
SCHEMATIC DIAGRAM-15



17 Printed Circuit Board

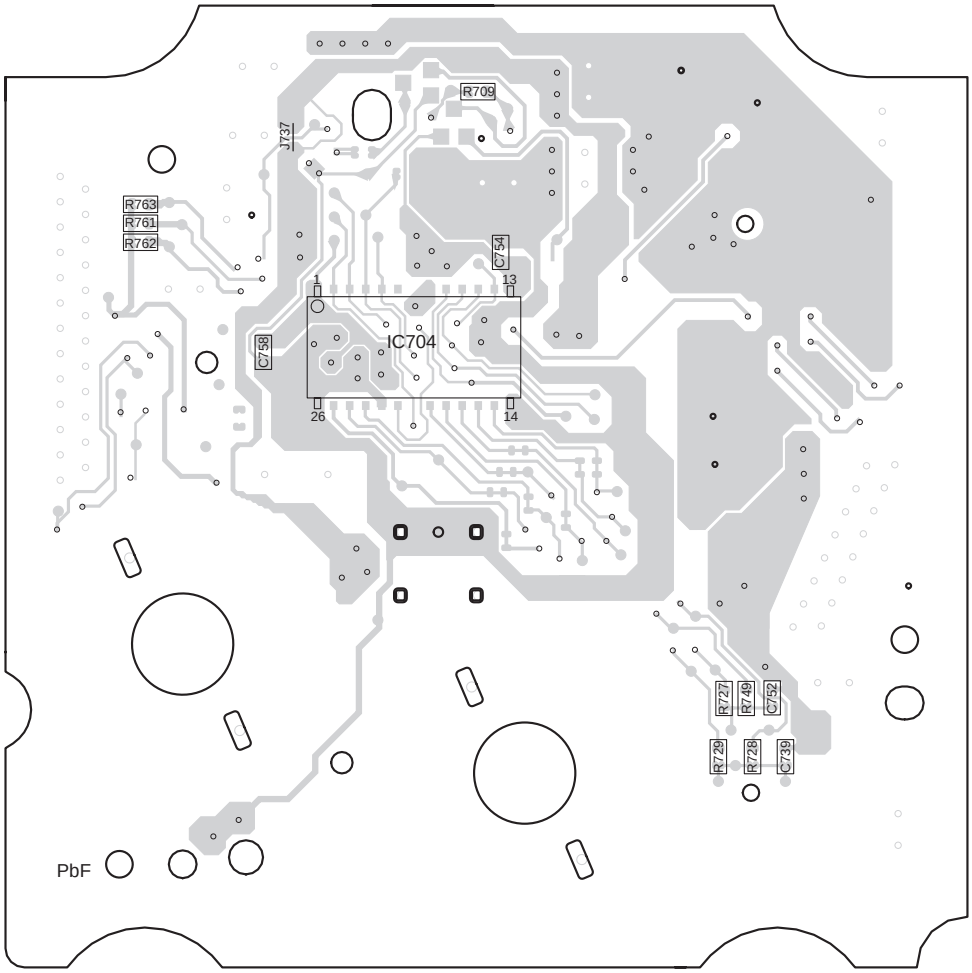
17.1. CD Servo P.C.B. (SIDE A and SIDE B)

A CD SERVO P.C.B (REPV0010A)



(SIDE A)

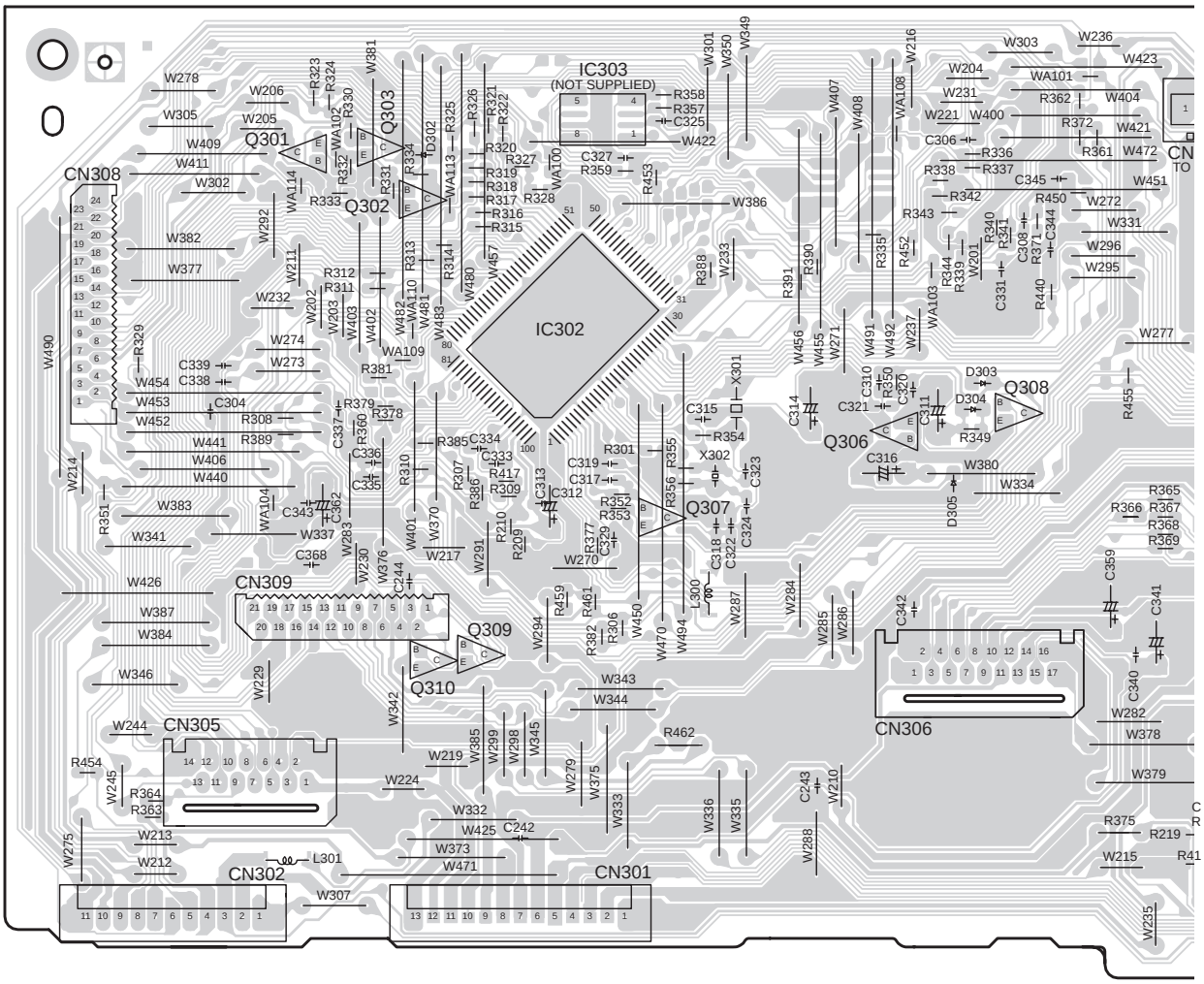
A CD SERVO P.C.B (REPV0010A)



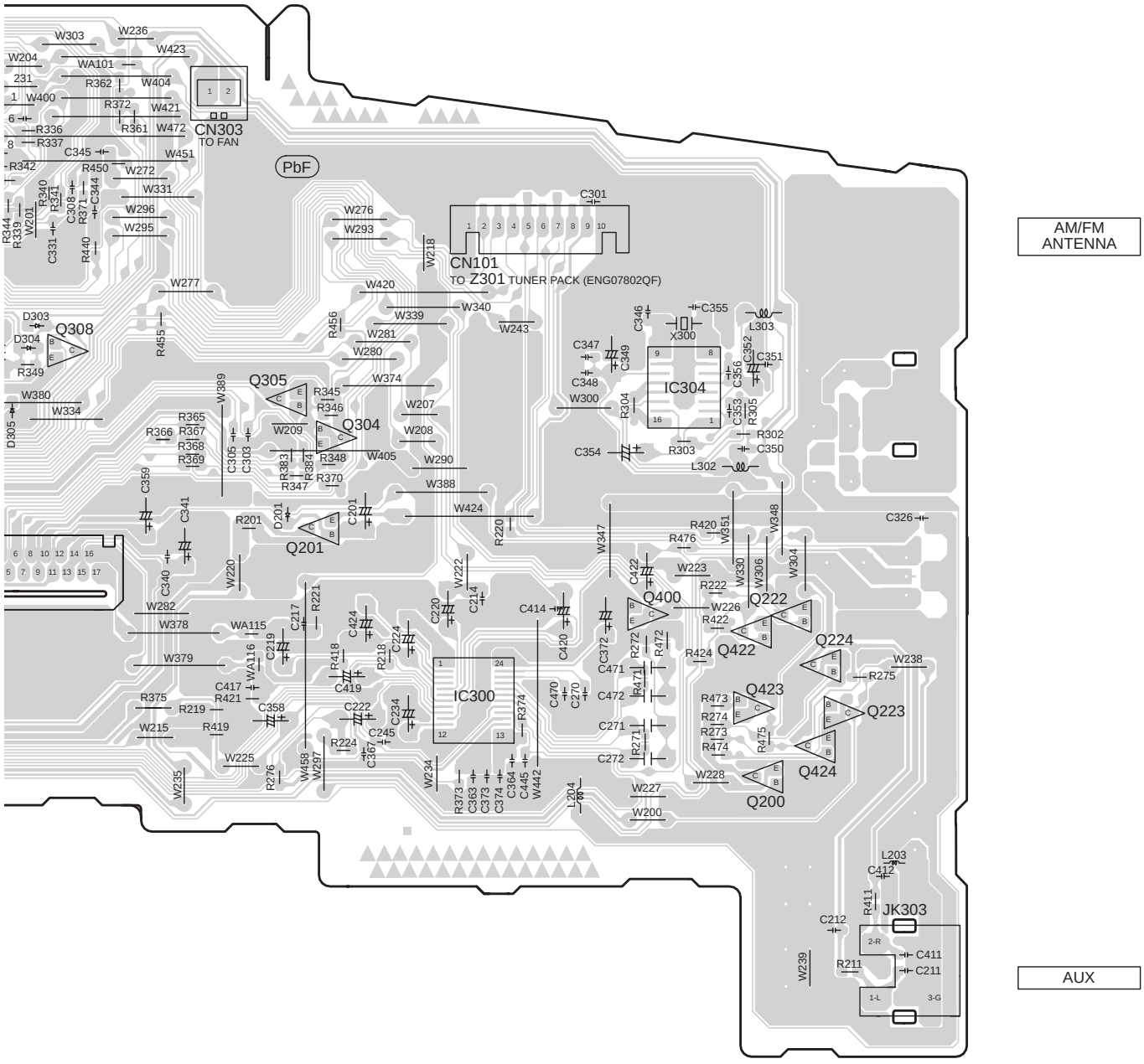
(SIDE B)

17.2. Main P.C.B.

B MAIN P.C.B (REPV0017B)

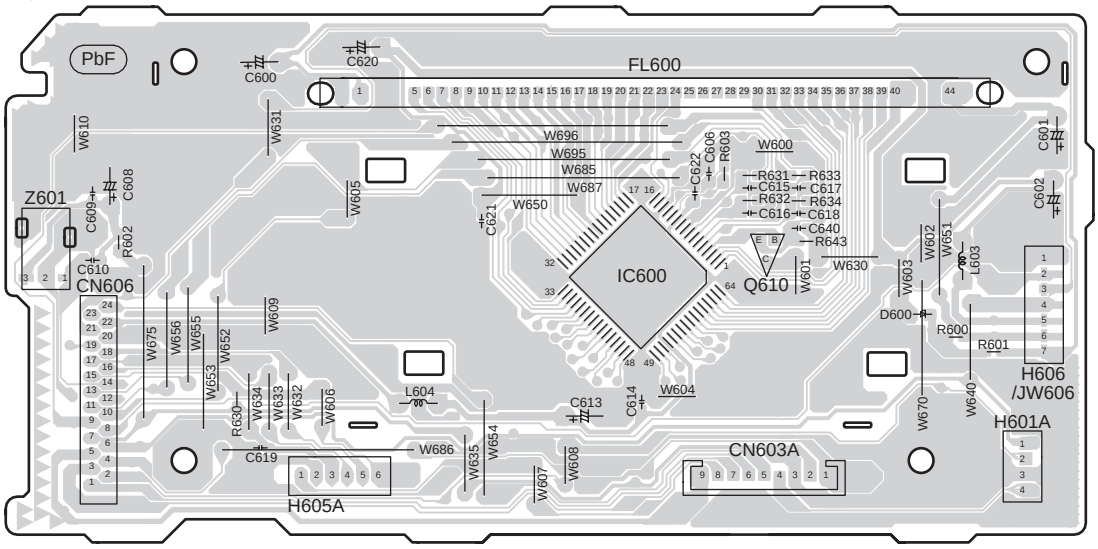


G H I J K L M


CN303
TO FAN
PbF
CN101
TO Z301 TUNER PACK (ENG07802QF)
AM/FM ANTENNA
AUX
JK303
IC304
IC300
X300
Q308
Q305
Q304
Q201
Q400
Q222
Q422
Q224
Q423
Q223
Q424
Q200

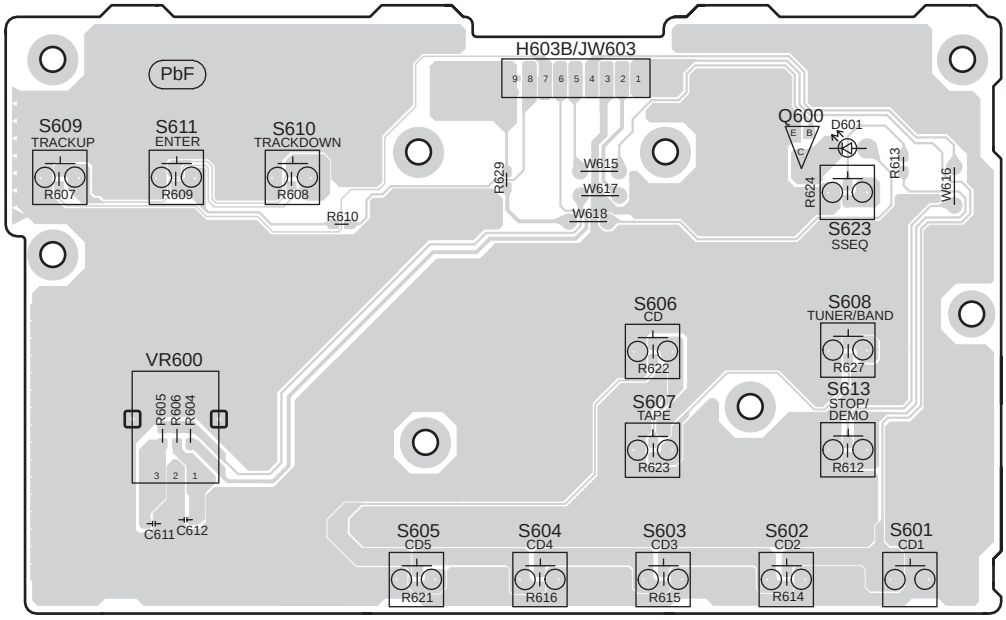
17.3. Panel P.C.B. and Tact Switch P.C.B.

C PANEL P.C.B (REPV0017B)



SENSOR

D TACT SWITCH P.C.B (REPV0017B)



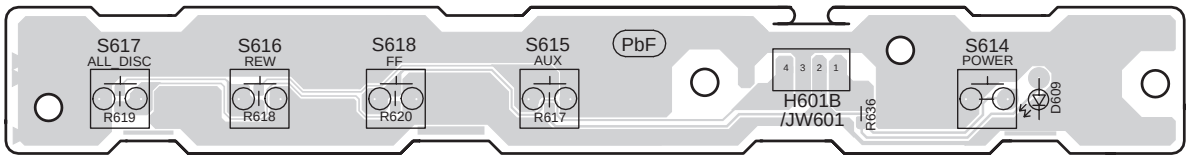
VOLUME

17.4. Switch P.C.B., Headphone P.C.B. and Speaker Terminal P.C.B.

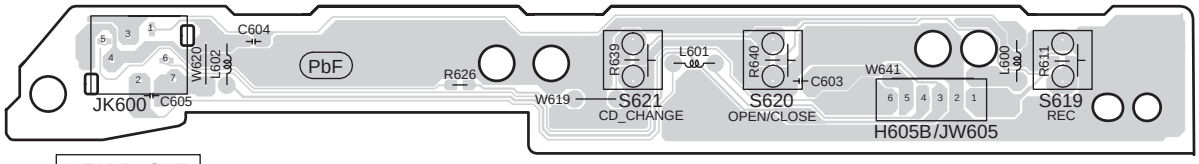
A B C D E F G

1 2 3 4 5 6 7 8 9

E SWITCH P.C.B (REPV0017B)



F HEADPHONE P.C.B (REPV0017B)

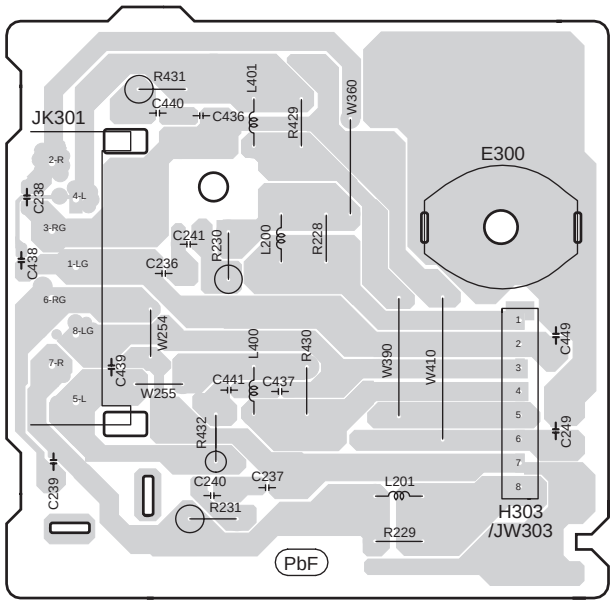


HEADPHONE

L SPEAKER TERMINAL P.C.B (REPV0017B)

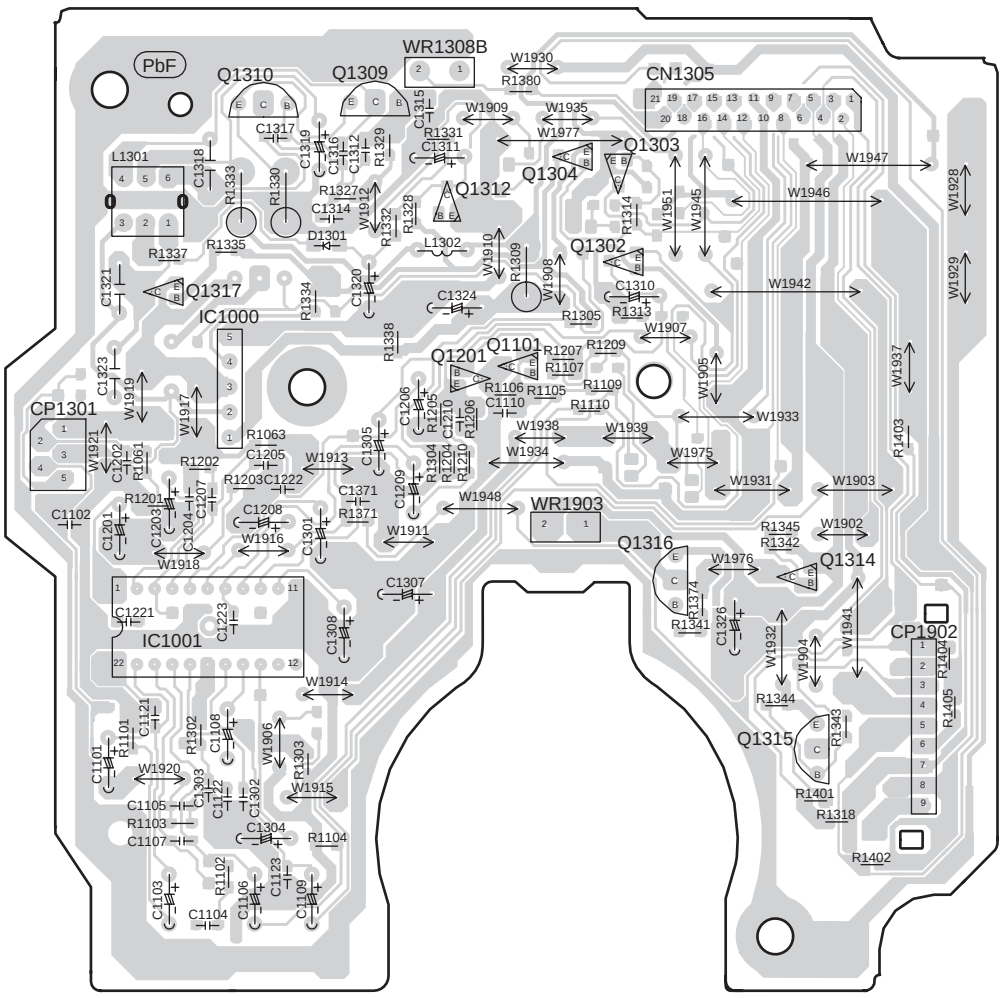
LOW CHANNEL SPEAKERS

HIGH CHANNEL SPEAKERS

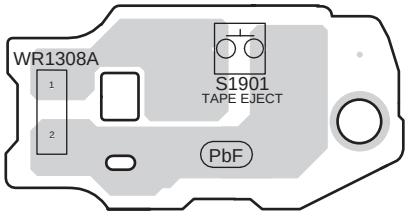


17.5. Deck P.C.B. and Tape Eject P.C.B.

G DECK P.C.B (REPV0016B)



I TAPE EJECT P.C.B (REPV0016B)

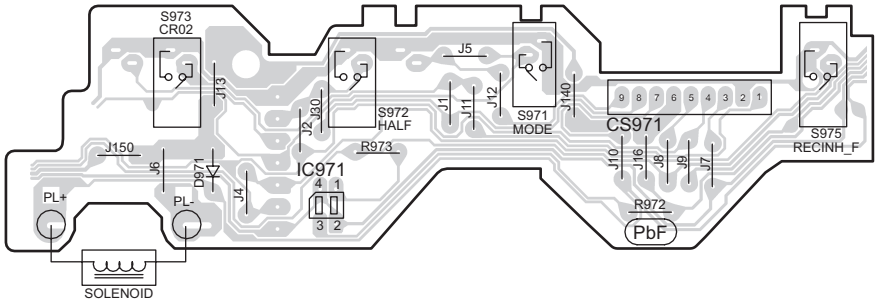


17.6. Deck Mechanism P.C.B. and CD Loading P.C.B.

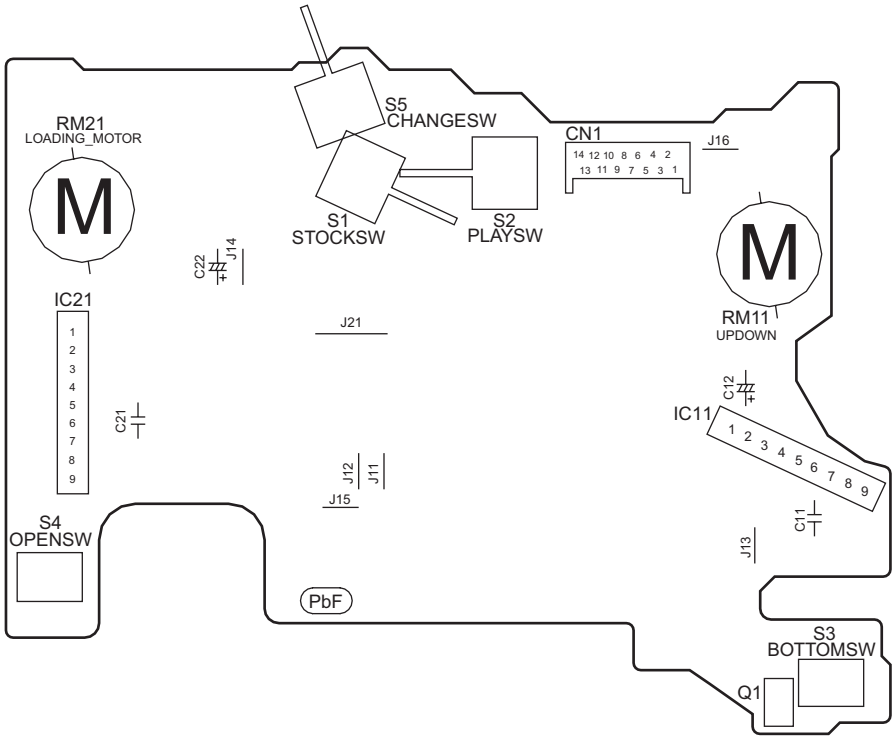
A B C D E F G

1 2 3 4 5 6 7 8 9

H DECK MECHANISM P.C.B (REPX0321H)

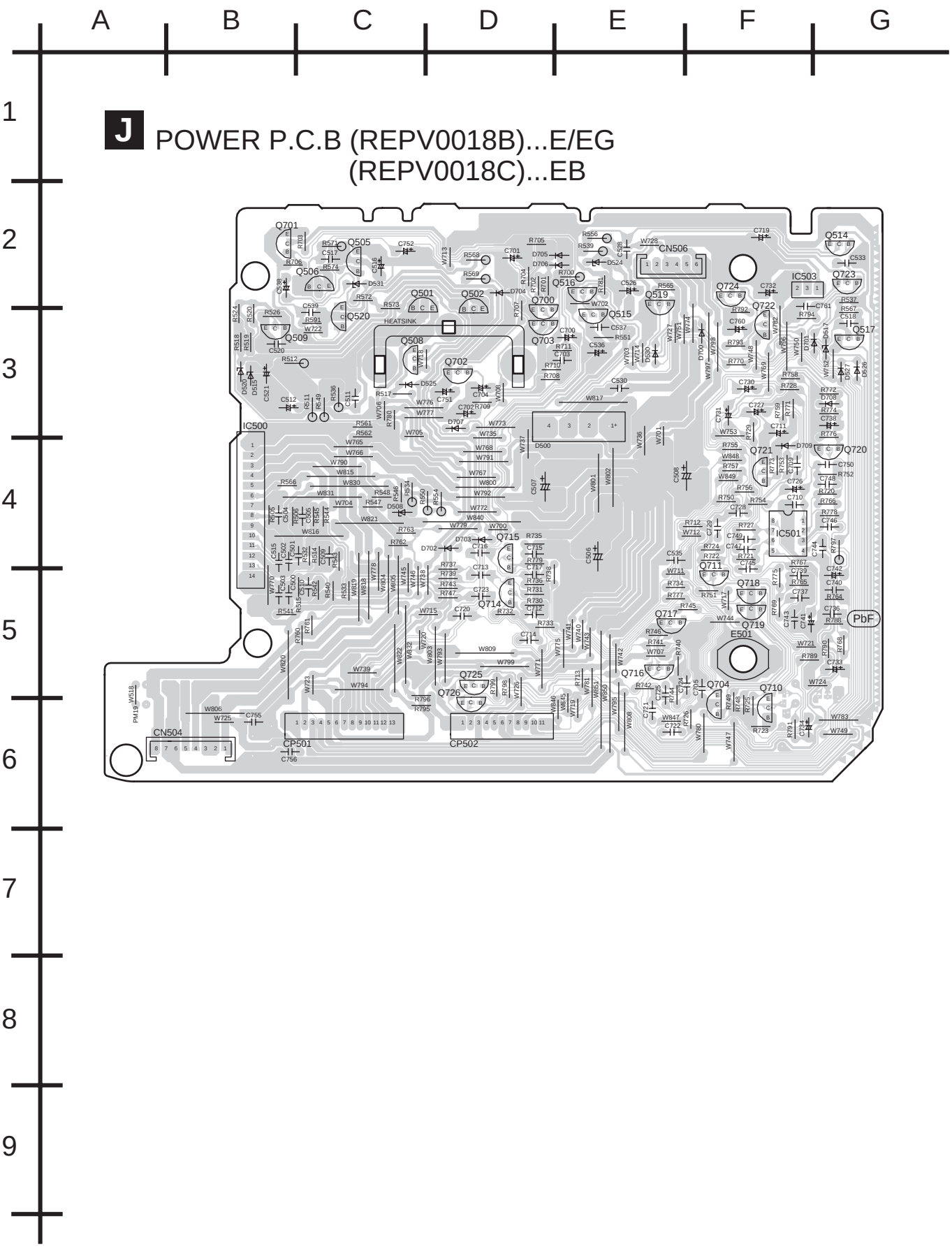


M CD LOADING P.C.B (REP3569A)

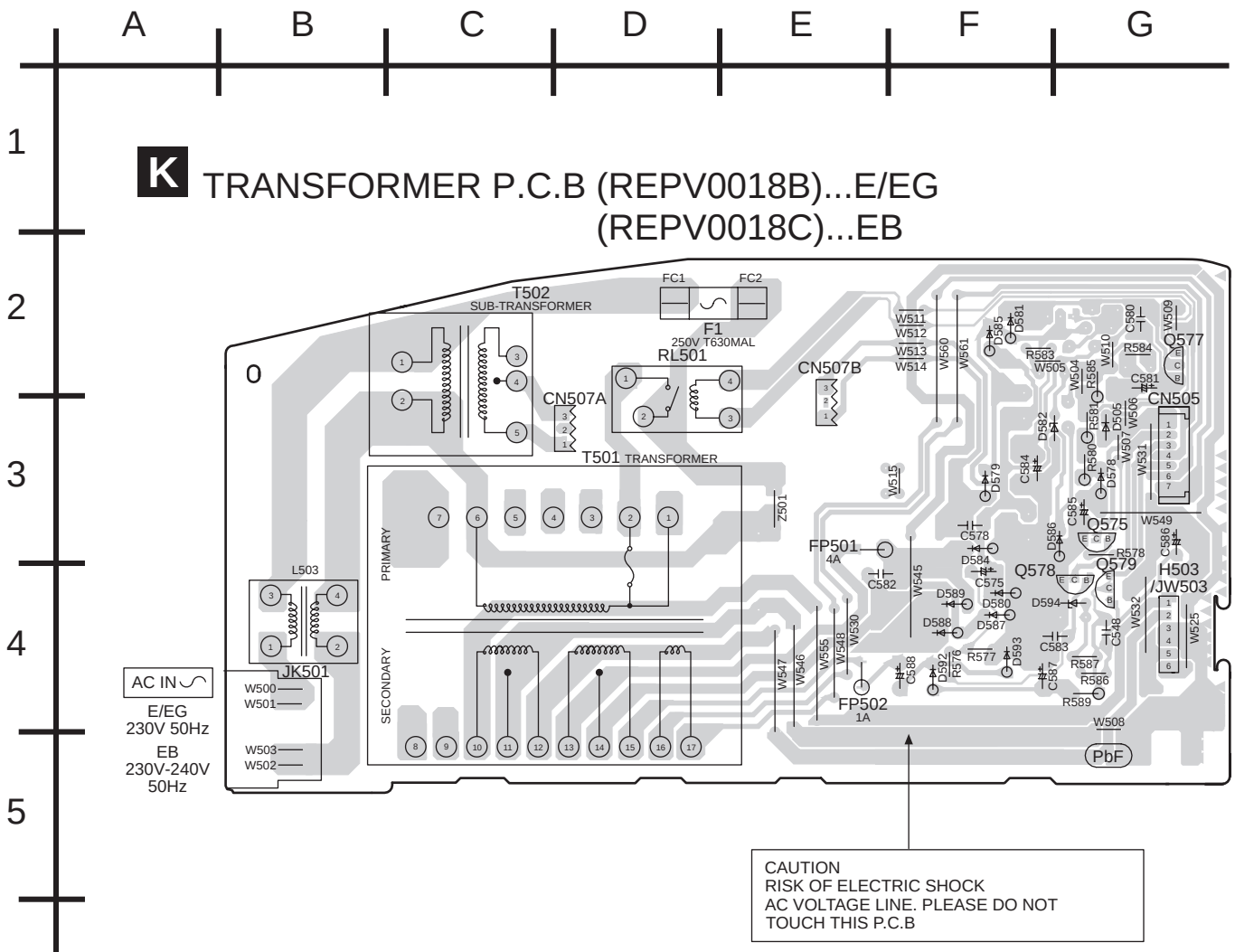


17.7. Power P.C.B.

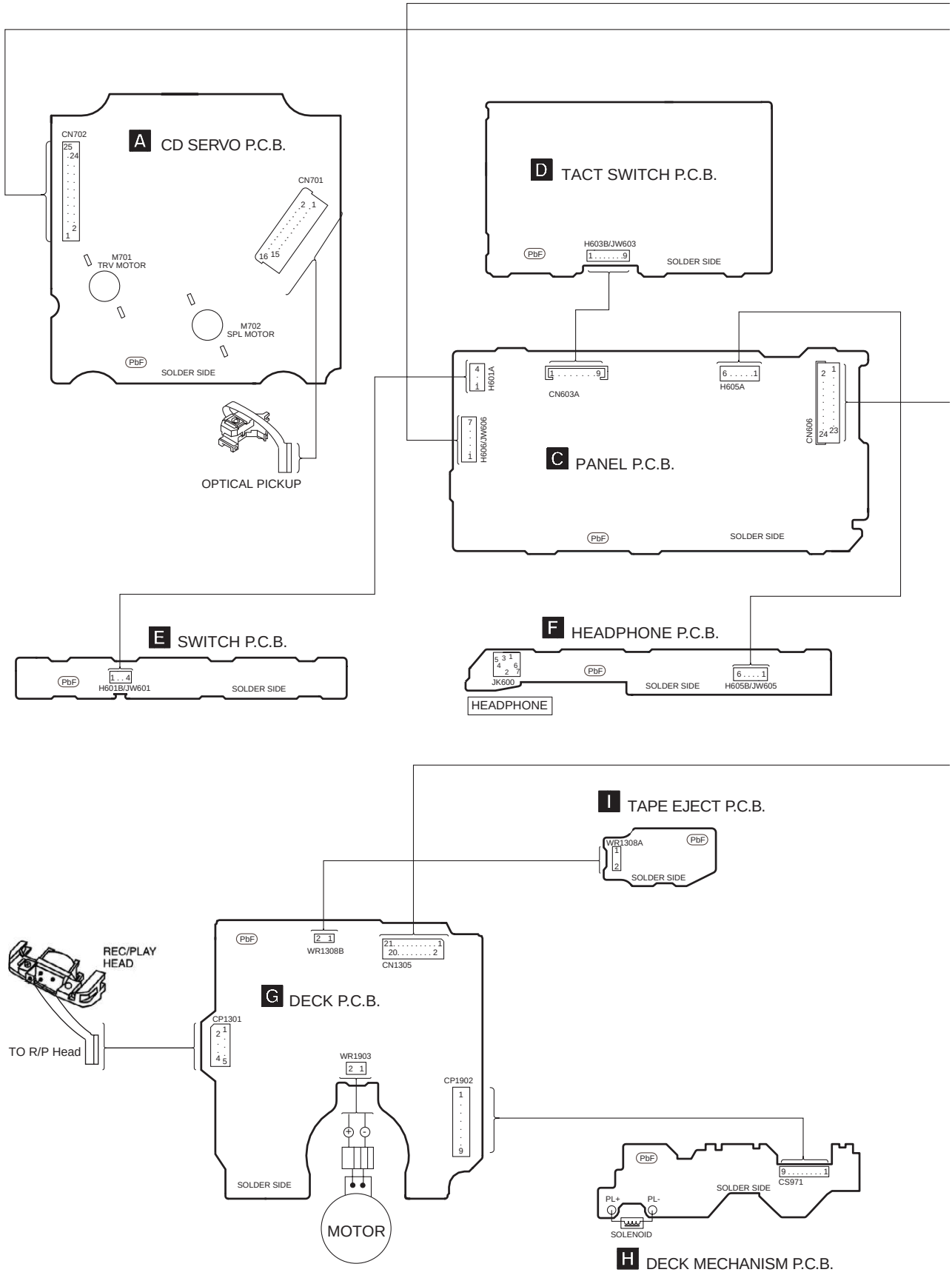
J POWER P.C.B (REPV0018B)...E/EG
(REPV0018C)...EB

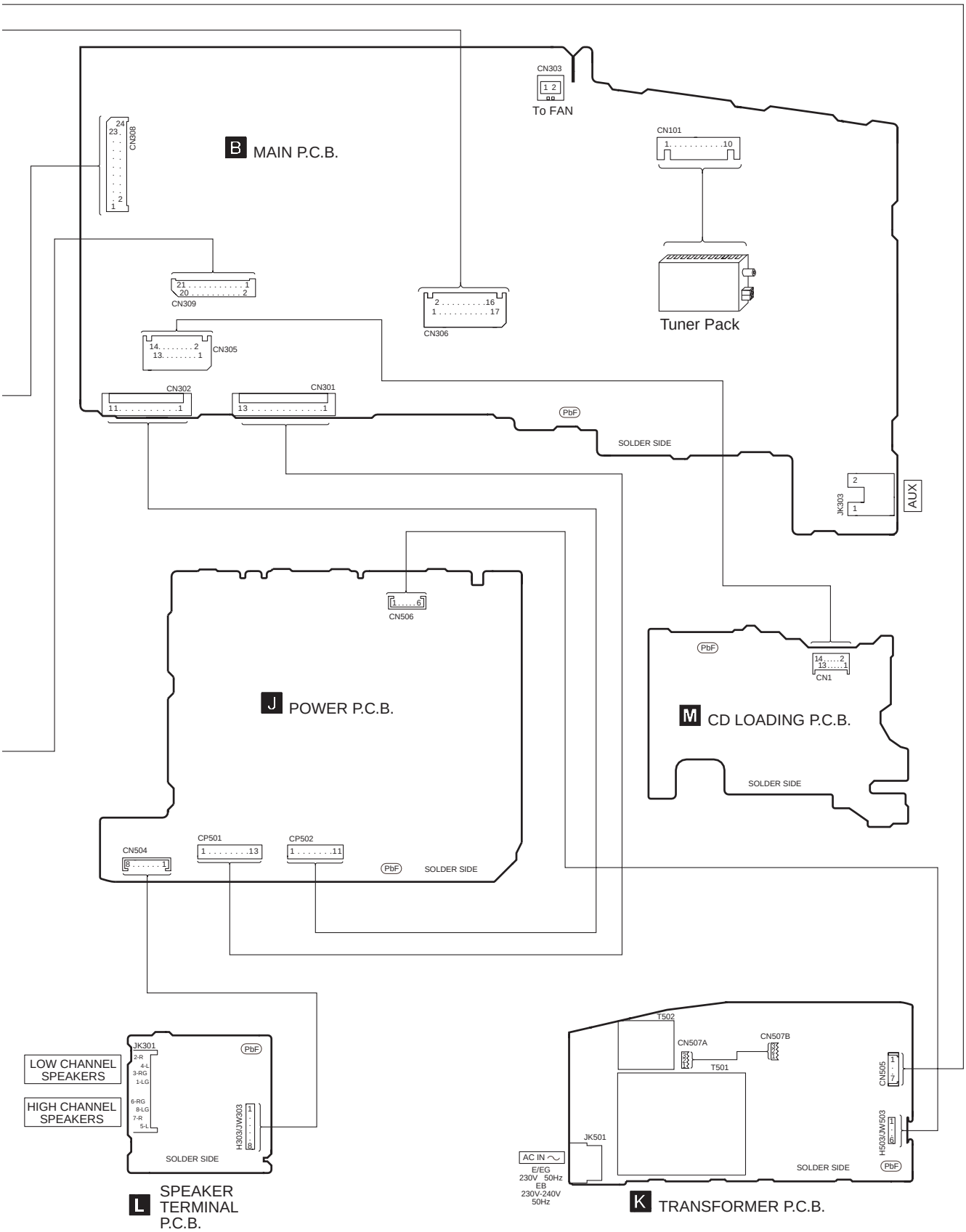


17.8. Transformer P.C.B.



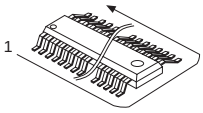
18 Wiring Connection Diagram



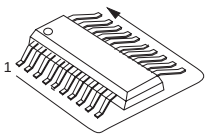

B MAIN P.C.B.
CN303
1 2
To FAN
CN101
1 10
Tuner Pack
CN308
24
23 .
2
1
CN309
21 1
20 2
CN306
2 16
1 17
CN305
14 2
13 1
CN302
11 1
CN301
13 1
PbF
SOLDER SIDE
JK303
2
1
AUX
CN506
1 6
J POWER P.C.B.
CN504
8 1
CP501
1 13
CP502
1 11
PbF
SOLDER SIDE
PbF
14 2
13 1
CN1
M CD LOADING P.C.B.
SOLDER SIDE
LOW CHANNEL SPEAKERS
HIGH CHANNEL SPEAKERS
JK301
2-R
4-L
3-RG
1-LG
6-RG
8-LG
7-R
5-L
PbF
H3003/JW3003
1 8
SOLDER SIDE
L SPEAKER TERMINAL P.C.B.
T502
CN507A
CN507B
T501
CN505
1 7
JK501
H503/JW503
1 6
AC IN
E/EG
230V 50Hz
EB
230V-240V
50Hz
SOLDER SIDE
PbF
K TRANSFORMER P.C.B.

19 Illustration of IC's, Transistors and Diodes

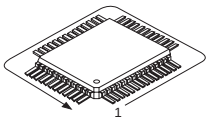
BA5948FPE2 (28P)
AN7326K (26P)



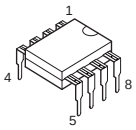
AN22004A-NF (32P)
C1BB00000757 (24P)
C3EBCG000008 (16P)
C3ABMB000027 (26P)
C1BB00000715 (16P)



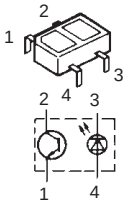
MN6627934CH(80P)
C2CBJF000016(100P)
C0HBB0000039(64P)



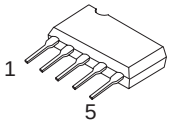
C0AABB000125



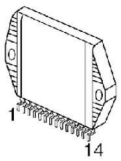
CNB13030R2AU



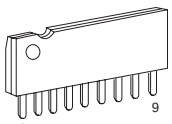
C1AA00000612



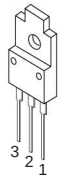
RSN314H41A-P



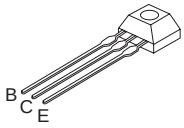
C0GAG0000007



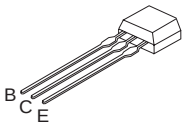
C0CAABE00006



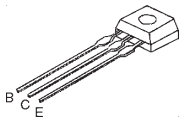
KRA102MTA
KRC102MTA
KRA110MTA



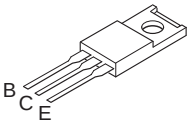
B1AAGC000006



KTC3199GRTA
B1AACF000063

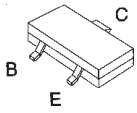


KTA1046
KTC2026

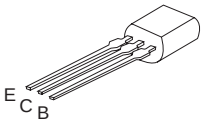


B1ABGC000005
KTC3875GRTA
KRA102STA
KRC101STA
KRC102STA
KRC103STA
2SA1037AKSTX
B1GBCFGG0001
B1GDCFJJ0002

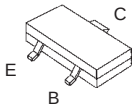
B1GBCFGH0001
B1GDCFGH0002
B1ABCF000011



2SD0592ARA
2SD09650RA
KTA12710YTA
KTA1504GRTA
KTC32030YTA
KTA1267GRTA



KRC119STA



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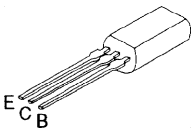

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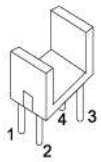

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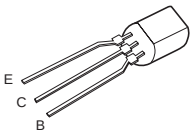

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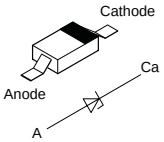

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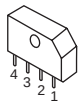

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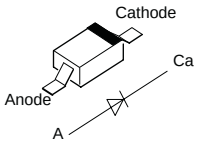

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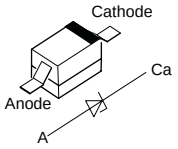

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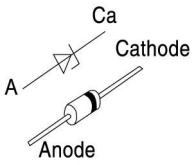

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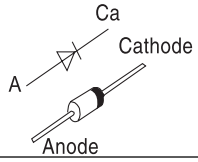

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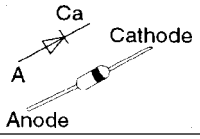

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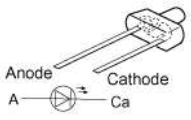

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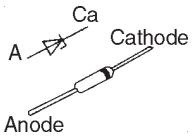


20 Terminal Function of IC´s

20.1. IC701 (AN22004A-NF) IC HEAD AMP

Pin No.	Mark	I/O	Function
1	LPD	I	APC Amp input terminal
2	LD	O	APC Amp. output terminal
3	VCC	I	Power source terminal
4	EQSW	-	Equalizer switch terminal
5	RFOUT	O	RF summing Amp output terminal
6	RFIN	I	AGC input terminal
7	AGC	-	AGC loop filter connecting capacitor terminal
8	AGC	O	AGC output terminal
9	HPF-AMP	-	HPF Amp connecting capacitor terminal
10	3TOUT	O	3TOUT output terminal
11	HPFDET	-	Detection system's HPF connecting capacitor terminal
12	OFTCNT	-	PFTR detection level adjustment terminal
13	BDO	O	BDO output terminal
14	OFTR	O	OFTR output terminal
15	/RFDET	O	NRFDET output terminal
16	LDON	-	LDON terminal
17	GND	-	Earth terminal
18	EQBST	-	Equalizer boost adjustment terminal
19	VREF	O	VREF output terminal
20	TEN	I	Amp inverting input terminal
21	TEOUT	O	TE amp output terminal
22	FEN	I	Amp inverting input terminal
23	FEOUT	O	FE amp output terminal
24	GCTL	-	GCTL terminal
25	FBAL	I	FBAL control terminal
26	TBAL	I	TBAL control terminal
27	E	O	Tracking signal input terminal 1
28	F	O	Tracking signal input terminal 2
29	D	O	Tracking signal input terminal 4
30	B	O	Tracking signal input terminal 2
31	C	O	Tracking signal input terminal 3
32	A	O	Tracking signal input terminal 1

20.2. IC702 (MN6627934CH) IC LSI

Pin No.	Mark	I/O	Function
1	DRVDD	I	DRAM interface power supply
2	D0	I/O	DRAM data input-output 0
3	D1	I/O	DRAM data input-output 1
4	NEW	O	DRAM ROM enable signal
5	NRAS	O	DRAM RAS control signal
6	D2	I/O	DRAM data input-output 2
7	D3	I/O	DRAM data input-output 3
8	NCASO	O	DRAM CAS control 0
9	NCASI	O	DRAM CAS control 1
10	A8	O	DRAM Address 8
11	A7	O	DRAM Address 7
12	A6	O	DRAM Address 6
13	A5	O	DRAM Address 5
14	A4	O	DRAM Address 4
15	A9	O	DRAM Address 9
16	A0	O	DRAM Address 0
17	A1	O	DRAM Address 1
18	A2	O	DRAM Address 2
19	A3	O	DRAM Address 3
20	DVSS2	-	Digital GND
21	DVDD2	-	Digital power supply
22	SPOUT	O	Spindle motor drive output signal (absolute value output)
23	TRVP	O	Traverse drive output (+output)
24	TRVM	O	Traverse drive output (-output)
25	TRP	O	Tracking drive output (+output)
26	TRM	O	Tracking drive output (-output)
27	FOP	O	Focus drive output (+output)
28	FOM	O	Focus drive output (-output)
29	IOVDD1	-	IO power supply
30	TBAL	O	Tracking balance adjustment output
31	FBAL	O	Focus balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input (analog input)
35	OFT	I	Off track signal input (H: off track)
36	NRFDET	I	RF detective signal input (L: detection)
37	BDO	I	Drop out signal input (H: drop out)
38	LDON	O	Laser ON signal input (H: ON)
39	ARF	I	RF signal input
40	IREF	I/O	Resistance terminal for current electricity setting
41	ADPVCC	I	Analog power supply voltage monitor input
42	DSLF	I/O	DSL loop filter terminal
43	RFSW	I/O	DSL loop filter terminal
44	PLLF	I/O	PLL loop filter terminal (phase comparison)
45	PLLFO	I/O	PLL loop filter terminal (speed comparison)
46	AVDD2	-	”Analog power supply
47	AVSS2	-	”Analog ground
48	OUTL	O	L ch audio output
49	AVSS1	-	Analog ground (audio output)
50	OUTR	O	R ch audio output
51	AVDD1	-	Analog power supply (audio output)
52	DVSS3	-	Digital GND
53	DVDD3	-	Digital power supply
54	IOVDD2	-	IO power supply
55	FLAG	O	Flag output
56	EXT2	I/O	Extension input-output port 2
57	EXT0	I/O	Extension input-output port 0
58	EXT1	I/O	Extension input-output port 1
59	REGON	I	”In-housed regulator control (H: ON
60	TX	O	Digital audio interface output
61	MCLK	I	Micon command clock input
62	MDATA	I	Micon command data input
63	MLD	I	Micon command load input (L: Load)
64	BLKCK	O	Sub code block clock (f-75Hz: normal play)
65	PWMSEL	I	”PWM output mode switch input (L: direct
66	SMCK	O	4.2336MHz/8.4672MHz clock output

Pin No.	Mark	I/O	Function
67	SBCK	I/O	Sub code serial output clock input
68	STAT	O	Status output
69	NRST	I	Reset input (L: reset)
70	SPPOL	O	Spindle motor drive output signal (polarity output)
71	PMCK	O	88.2kHz clock output
72	DQSY	O	CD TEXT data back output
73	TXTD	O	CD TEXT data output

Pin No.	Mark	I/O	Function
74	TXTCK	I/O	CD TEXT resister outer clock input
75	NTEST	I	Test input (H: normal)
76	X2	O	Oscillator output
77	X1	I	Oscillator input
78	DVSS1	-	Digital GND
79	DVDD1	I	Digital power supply
80	MON	I/O	Monitor terminal

20.3. 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
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
13	D2-	O	Motor Driver (2) reverse - action output

Pin No.	Mark	I/O	Function
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
27	IN3	I	Motor Driver (3) Input

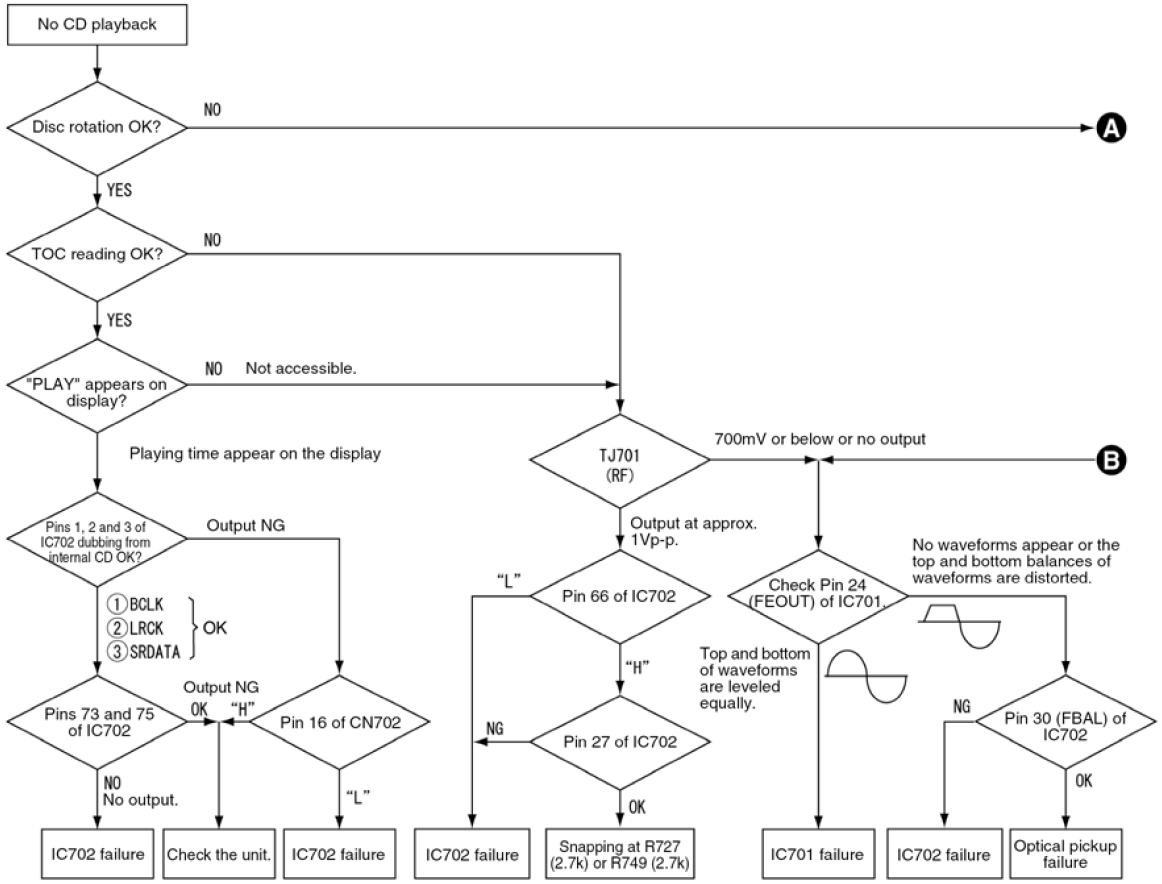
20.4. IC302 (C2CBJF000016) MICRO PROCESSOR

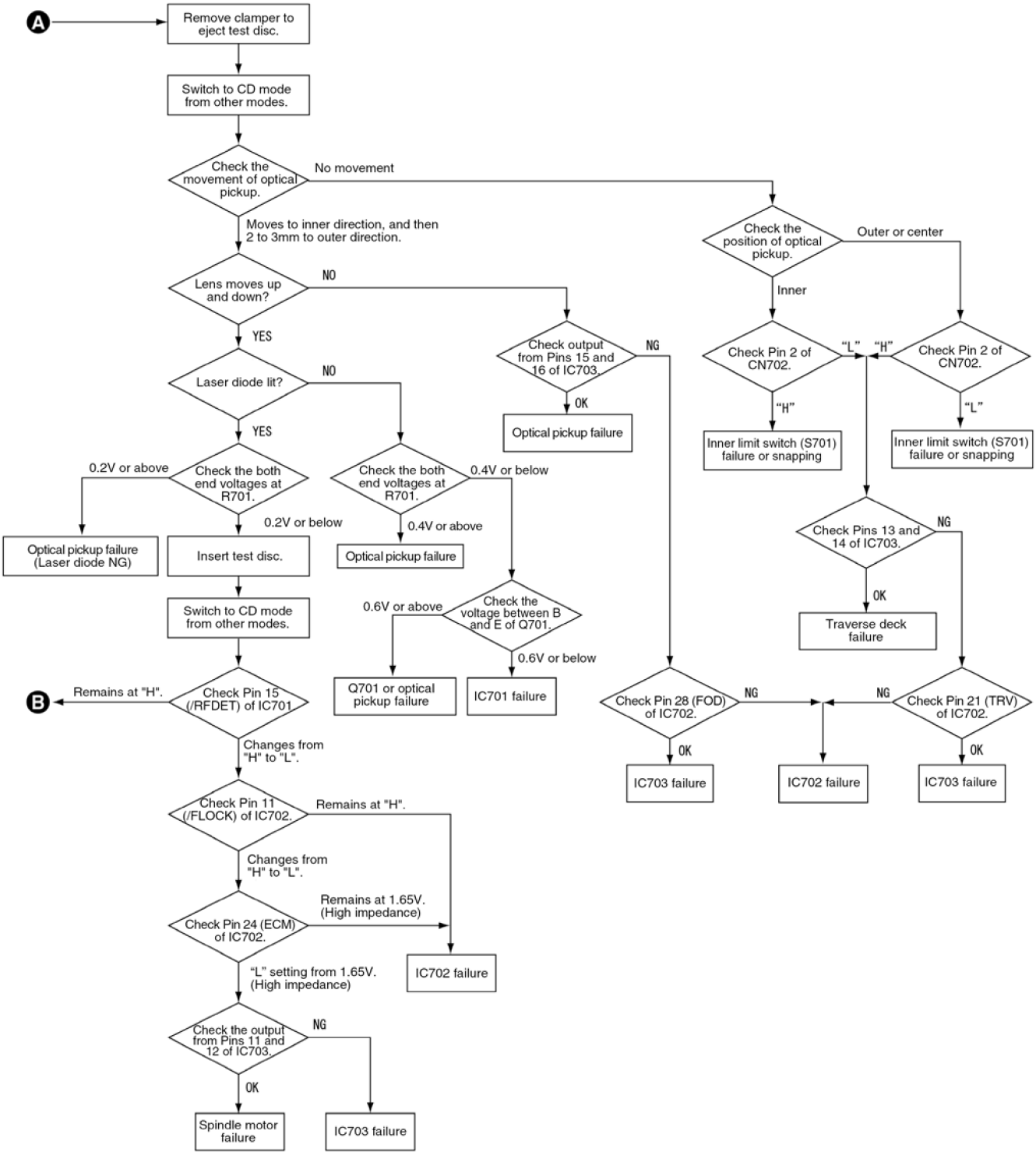
Pin No.	Mark	I/O	Function
1	CH_SW	I	Change Switch (CR16)
2	TU_TUNED	I	Tuner tuned signal
3	TU_ST	I	Tuner Stereo signal
4	TU_CK	I	Tuner Serial Clock Input
5	TU_SDA	I	Tuner Serial Data Input
6	MBP1	O	Microcomputer Beat Proof Output 1 (CONTROL)
7	MBP2	O	Microcomputer Beat Proof Output 2 (CONTROL)
8	BYTE	-	External Data Bus Width Select Input (Connect To Ground)
9	CNVSS	-	Flash Mode Terminal (Connect To Ground)
10	XCIN	-	32.768 kHz Sub Clock
11	XCOUT	-	32.768 kHz Sub Clock
12	/RESET	-	Reset Input (ACTIVEL)
13	XOUT	-	10 MHz Main Clock
14	VSS	-	Ground (0V)
15	XIN	-	10 MHz Main Clock
16	VCC	-	Power Sipply (+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	FL_CS1	O	FL Driver Chip Select (Master)

Pin No.	Mark	I/O	Function
27	FL_CS2	O	FL Driver Chip Select (PM 29 ONLY)
28	FL_CLK	O	Serial Clock to FL Driver
29	/FL_RESET	O	Reset Input (ACTIVEL)
30	FL_DOUT	O	Sarial Data To FL Driver (Output)
31	RXD	-	No Connection
32	TXD	-	No Connection
33	SCLK	-	No Connection
34	BUSY	-	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	-	-
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_DAT	I/O	EE_DAT
64	VSS	-	Ground (0V)
65	DMT	O	Deck Mute at mecha transition L=mute OFF, H=mute ON
66	BP1	O	AM beatproof 1 output L=BP1, H=BP2
67	ASP_CLK	O	ASP CLK
68	ASP_DAT	O	ASP DATA
69	N.C.	-	No Connection
70	N.C.	-	No Connection
71	N.C.	-	No Connection
72	N.C.	-	No Connection
73	N.C.	-	No Connection
74	N.C.	-	No Connection
75	MEM_RST	O	Flash memory reset
76	MEM_WP	O	Flash Memory Write Protect
77	JOG1	I	JOG SEARCH 1
78	JOG2	I	JOG SEARCH 2
79	/CD	O	CD POWER CONTROL (Active Low)
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.	-	No Connection
84	N.C.	-	No Connection
85	SSEQ_LED	O	Super Sound EQ LED Control
86	RE_LED	O	MP3/WMA Re-master Control
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	N.C.	-	No Connection

21 Troubleshooting Flowchart (CD Section Circuit)




A
Remove clamper to eject test disc.
Switch to CD mode from other modes.
Check the movement of optical pickup.
No movement
Moves to inner direction, and then 2 to 3mm to outer direction.
Lens moves up and down?
NO
YES
Laser diode lit?
NO
YES
Check the both end voltages at R701.
0.2V or above
Optical pickup failure (Laser diode NG)
0.2V or below
Insert test disc.
Switch to CD mode from other modes.
Check the both end voltages at R701.
0.4V or below
0.4V or above
Optical pickup failure
Check the voltage between B and E of Q701.
0.6V or above
Q701 or optical pickup failure
0.6V or below
IC701 failure
Check output from Pins 15 and 16 of IC703.
NG
OK
Optical pickup failure
Check the position of optical pickup.
Outer or center
Inner
Check Pin 2 of CN702.
"L"
"H"
Check Pin 2 of CN702.
"H"
Inner limit switch (S701) failure or snapping
"L"
Inner limit switch (S701) failure or snapping
Check Pins 13 and 14 of IC703.
NG
OK
Traverse deck failure
B
Remains at "H".
Check Pin 15 (/RFDET) of IC701
Changes from "H" to "L".
Check Pin 11 (/FLOCK) of IC702.
Remains at "H".
Changes from "H" to "L".
Check Pin 24 (ECM) of IC702.
Remains at 1.65V. (High impedance)
IC702 failure
"L" setting from 1.65V. (High impedance)
Check the output from Pins 11 and 12 of IC703.
NG
OK
Spindle motor failure
IC703 failure
Check Pin 28 (FOD) of IC702.
NG
OK
IC703 failure
NG
IC702 failure
Check Pin 21 (TRV) of IC702.
OK
IC703 failure

22 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-retardent (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.

  ACTUNG:

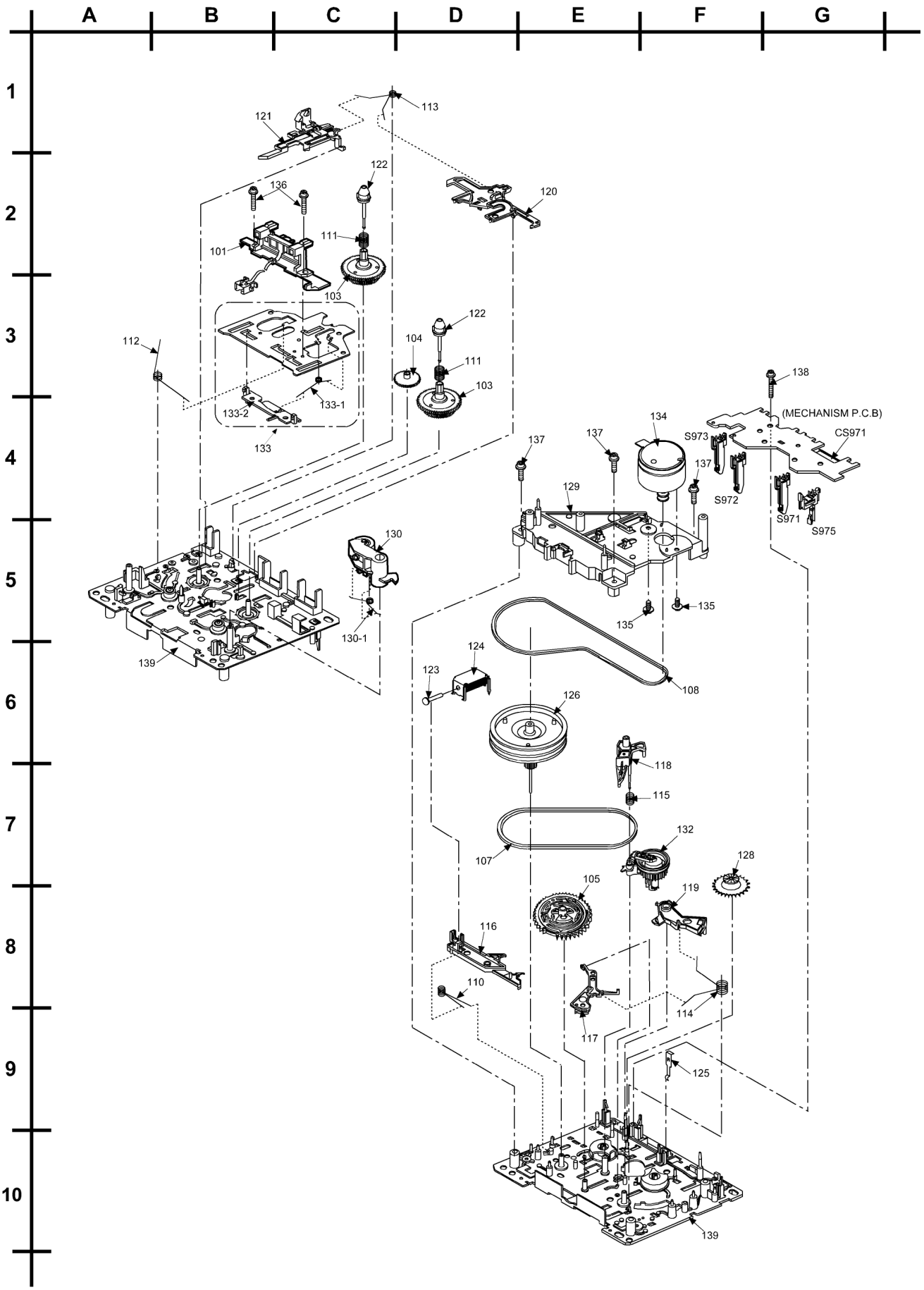
  Die Lasereinheit nicht zerlegen.

  Die Lasereinheit darf nur gegen eine vom Hertsteller spezifizierte Einheit ausgetauscht werden.
- 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						

22.1. Deck Mechanism

22.1.1. Deck Mechanism Parts Location (RAA4402-S)

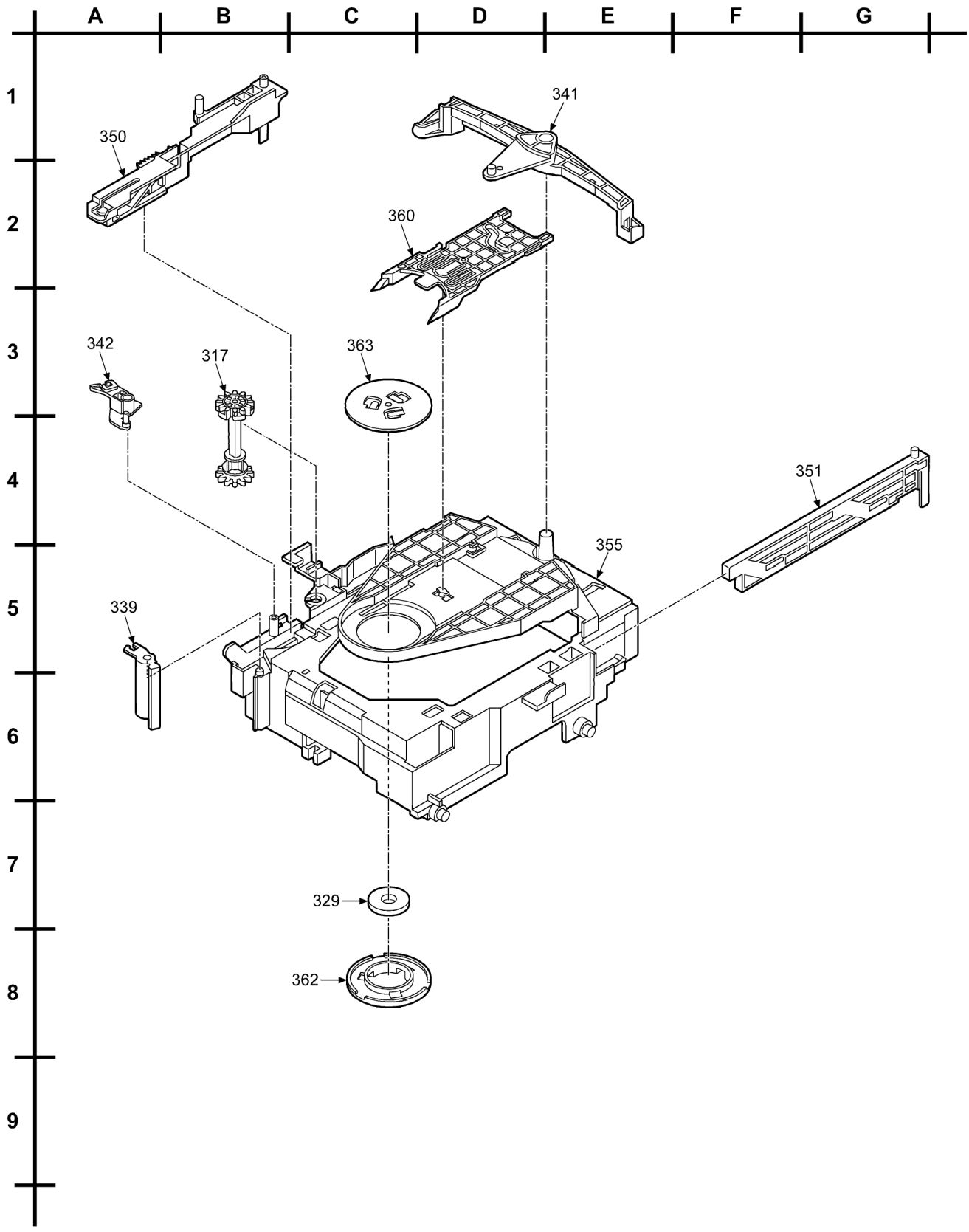


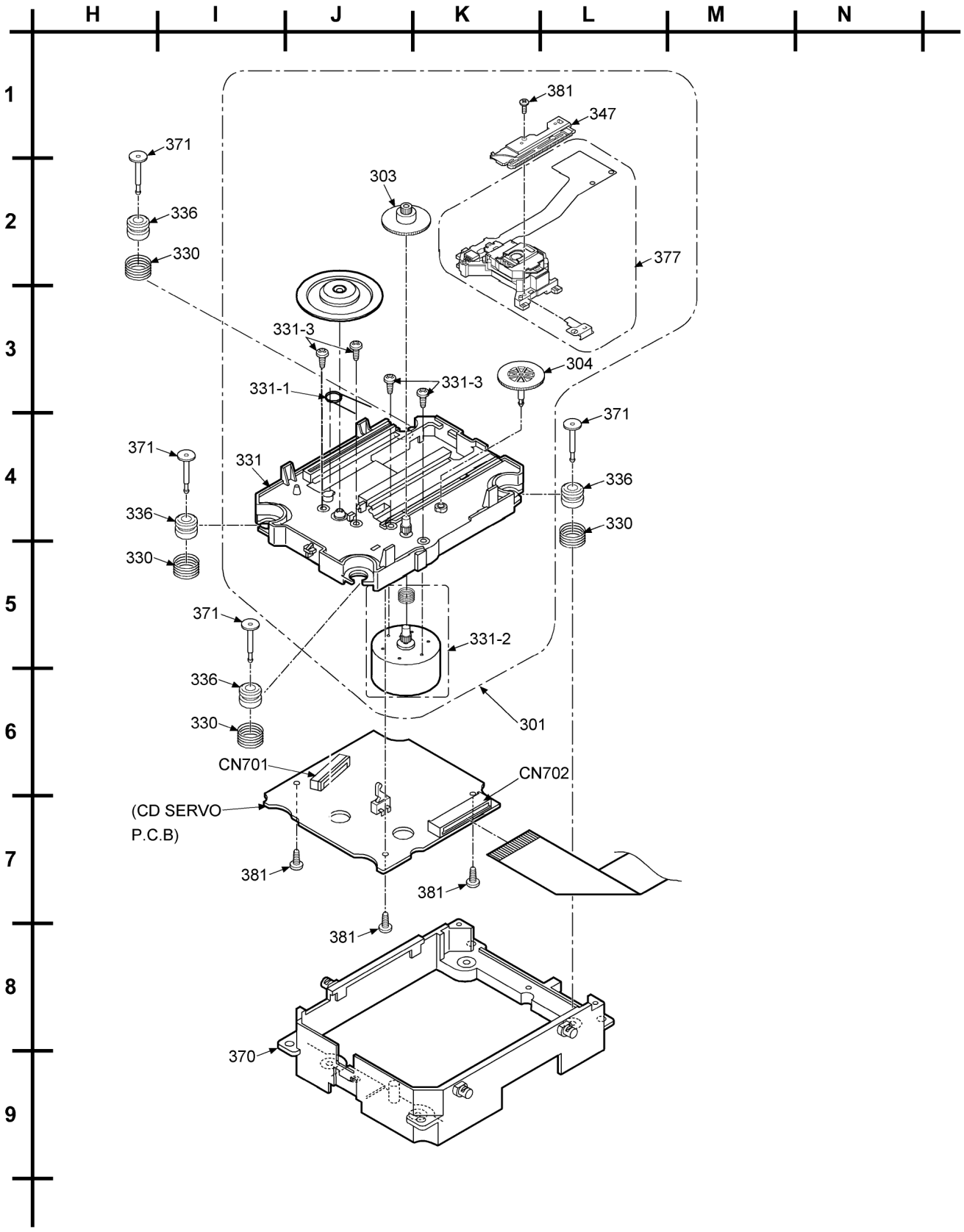
22.1.2. Deck Mechanism Parts List

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 ASSY	[M]
128	RXG0040	FF RELAY GEAR ASSY	[M]
129	RMK0283A-J	SUB-CHASSIS	[M]
130	RXL0124	PINCH ROLLER F ASSY	[M]
130-1	RMB0401	PINCH ARM SPRING F	[M]
132	RXL0126	WINDING ARM ASSY	[M]
133	RXQ0412	HEAD PANEL ASSY	[M]
133-1	RMB0405	FR ROD SPRING	[M]
133-2	RMM0132	FR ROD	[M]
134	REM0098	CAP MOTOR ASSY	[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	RFKJSTR280PP	CHASSIS ASS'Y	[M]

22.2. CD Loading Mechanism

22.2.1. CD Loading Mechanism Parts Location




H
I
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CN701
CN702
(CD SERVO
P.C.B)
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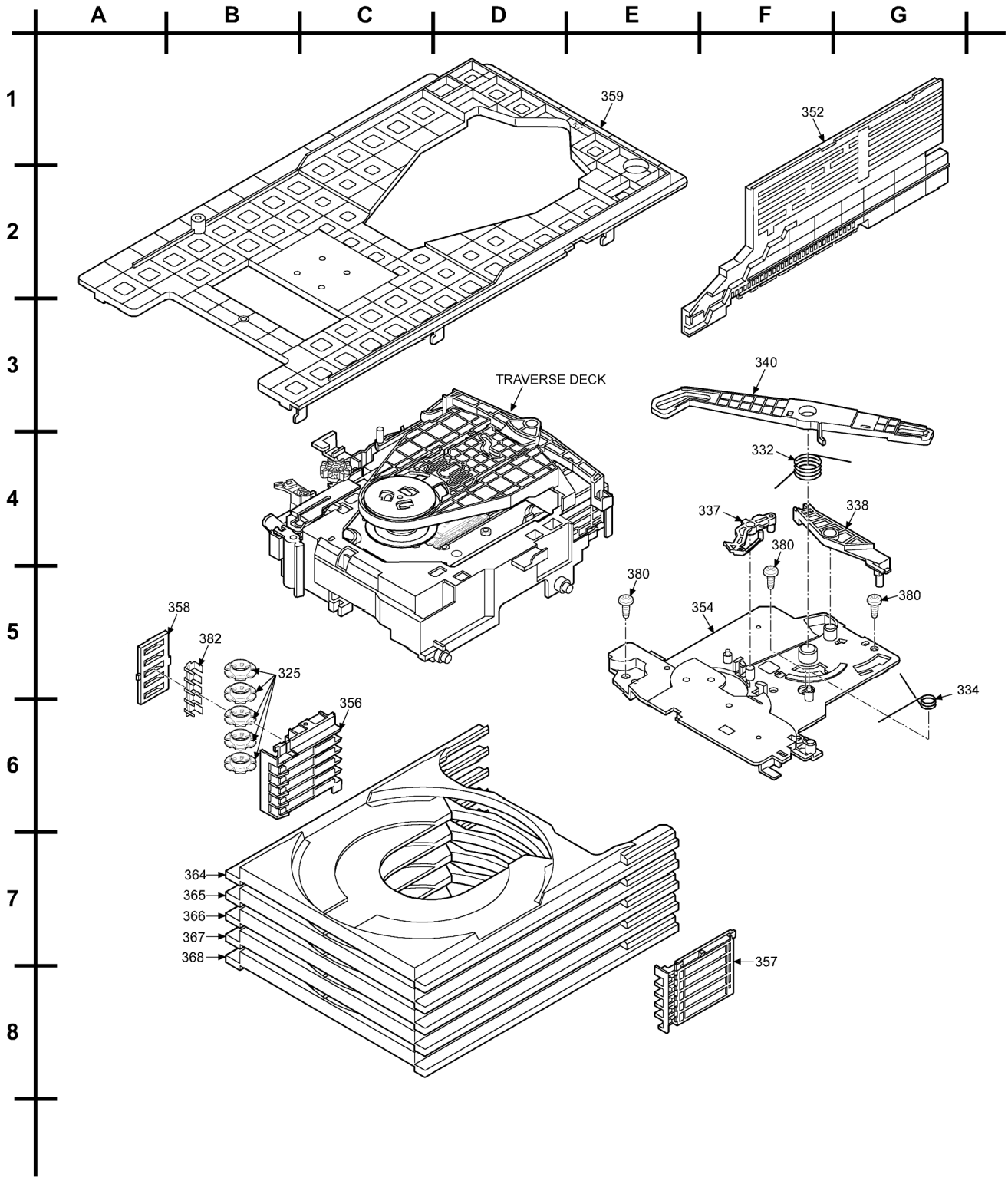
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TRAVERSE DECK
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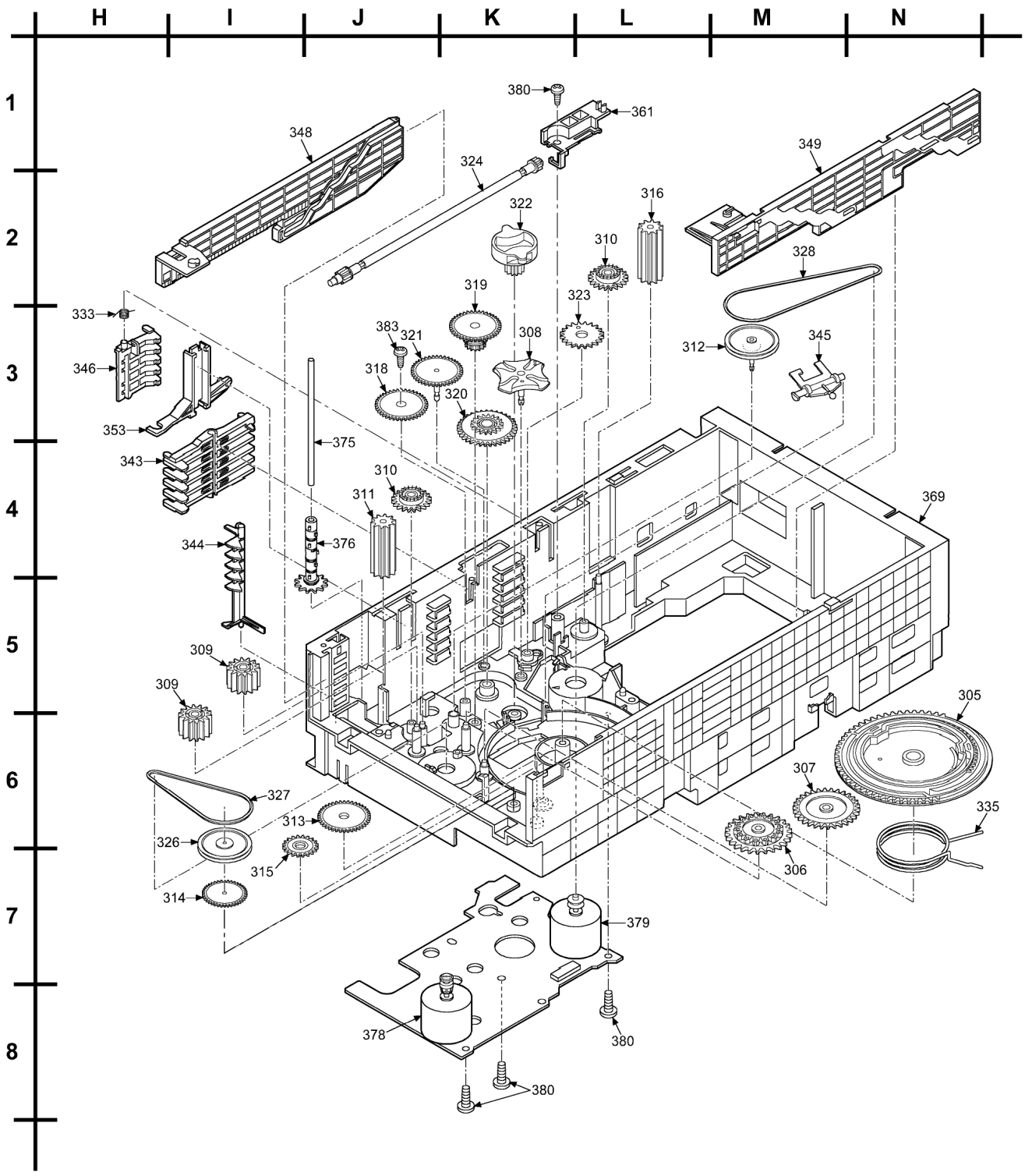
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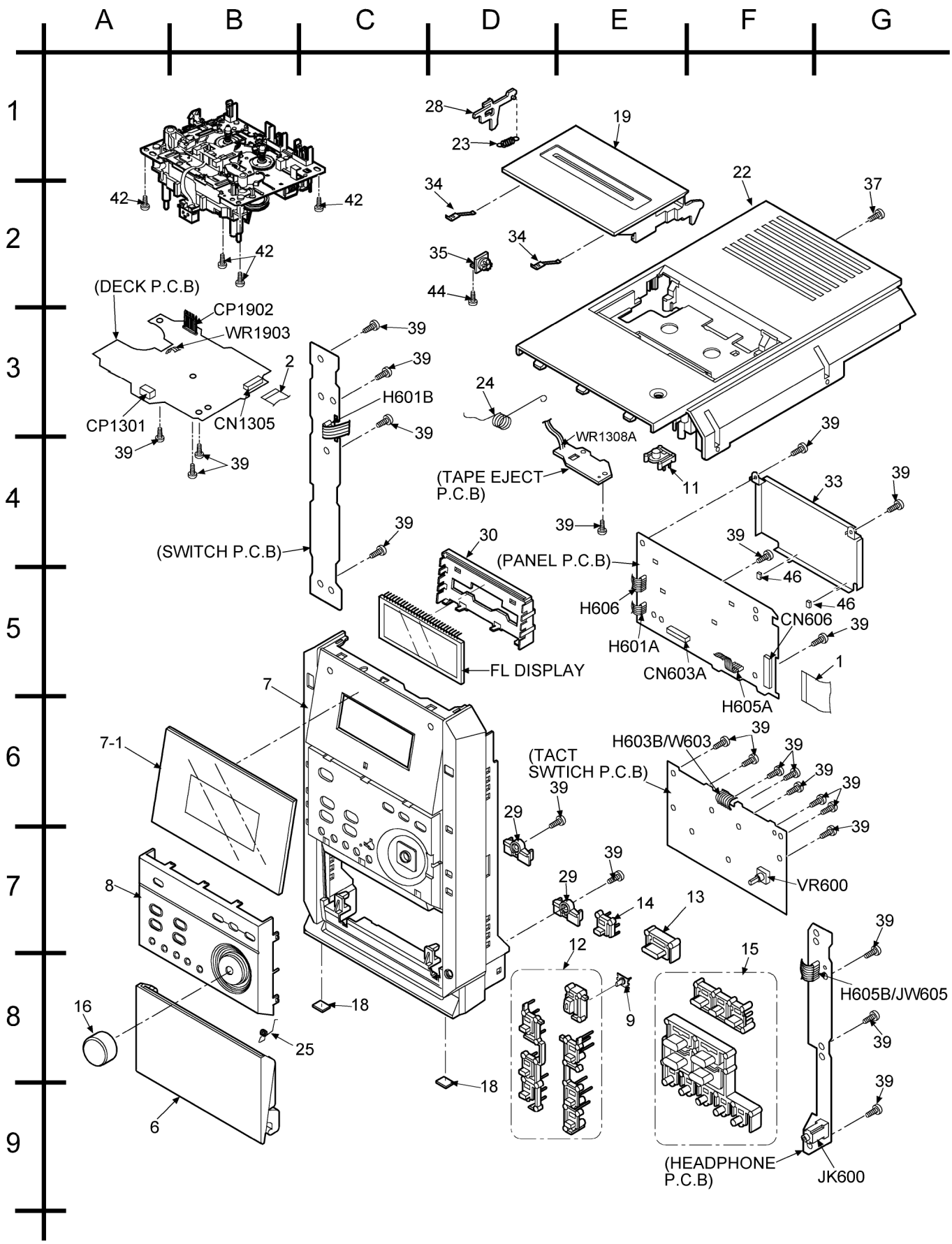
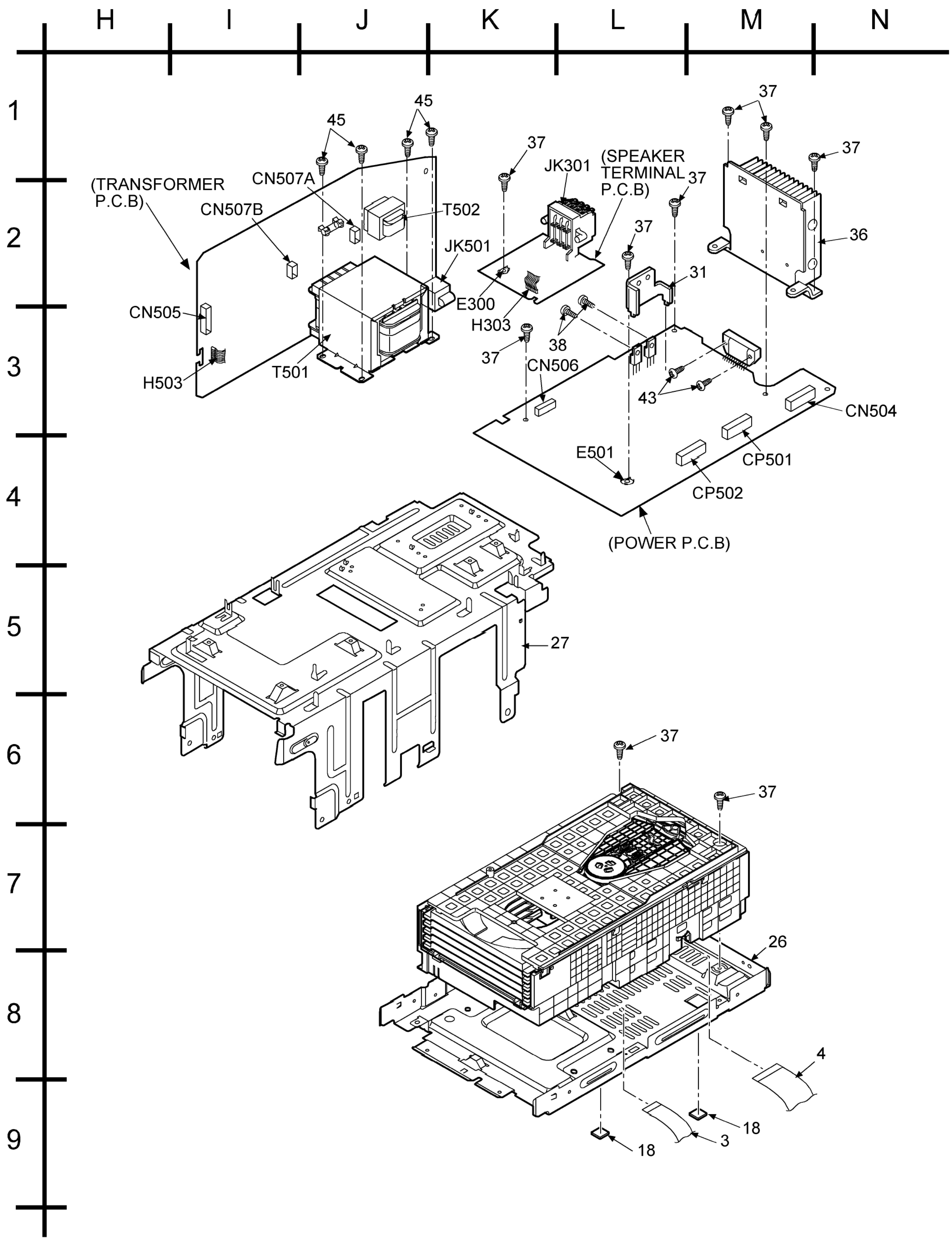
22.2.2. CD Loading Mechanism Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RAE0157A-V	TRAVERSE UNIT	[M]
303	RDG0455	TRV GEAR (A)	[M]
304	RDG0456	TRV 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	RDG0534	UD SPEED DOWN GEAR	[M]
319	RDG0535	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 ASS'Y	[M]
331-1	RME0369	PRESS SPRING	[M]
331-2	RXQ0632	TRAVERSE MOTOR UNIT	[M]
331-3	XQN17+C28F	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	CHANGE 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	[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-H1	TRAY	[M]
365	RMR1407B-H1	TRAY	[M]
366	RMR1407C-H1	TRAY	[M]
367	RMR1407D-H1	TRAY	[M]
368	RMR1407E-H1	TRAY	[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+10J	SCREW	[M]
381	XTN2+6G	SCREW	[M]
382	RMC0472	TRAY SPRING	[M]
383	XTBS26+8J	SCREW	[M]

22.3. Cabinet

22.3.1. Cabinet Parts Location

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(TRANSFORMER
P.C.B)
CN507A
CN507B
T502
JK501
CN505
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JK301
(SPEAKER
TERMINAL
P.C.B)
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E300
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CN506
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CN504
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CP501
CP502
(POWER P.C.B)
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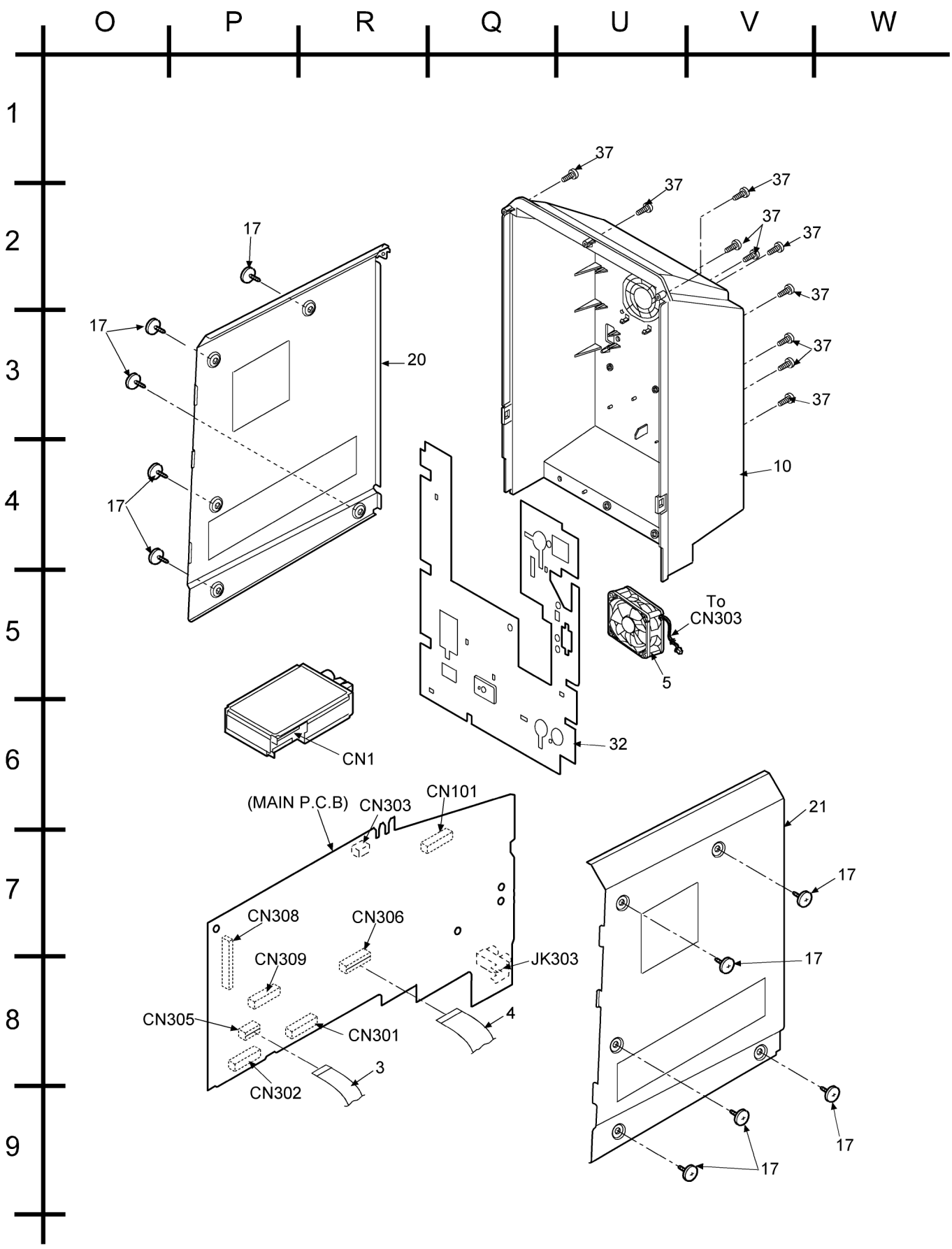
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CN303
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CN1
(MAIN P.C.B)
CN303
CN101
CN308
CN306
CN309
JK303
CN305
CN301
CN302
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22.3.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEV0025	24FFC (PANEL-MAIN)	[M]
2	REEV0026	21P FFC (DECK PCB)	[M]
3	REEX0166	14P FFC WIRE	[M]
4	REEV0039	17P FFC (CR16-MAIN)	[M]
5	REM0094A	COOLING FAN	[M]
6	RFKLAPM19PCS	CD LID ASS'Y	[M]
7	RFKGAPM19EBS	FRONT PANEL ASS'Y	[M]
7-1	RGPV0021A-Q	FL WINDOW	[M]
8	RGKV0043-S	CENTER ORNAMENT	[M]
9	RGLV0011	AC IN LIGHTING TIP	[M]
10	RKSX0056K-H	REAR PANEL	[M]EG E
10	RKSX0056L-H	REAR PANEL	[M]EB
11	RGU2280-S	CASS EJECT BUTTON	[M]
12	RGU2281-1S	FAMILY BUTTON A	[M]
13	RGUV0040-S	SSEQ BUTTON	[M]
14	RGUV0064-S	FF BUTTON	[M]
15	RGUV0066-S	FAMILY BUTTON B	[M]
16	RGW0406-S	VOLUME KNOB	[M]
17	RHD30007-1SJ	SCREW	[M]
18	RHGV0008	LEG CUSHION	[M]
19	RKF0688-S	CASS HOLDER/LID	[M]
20	RKM0502-1S	SIDE PANEL L	[M]
21	RKM0503-1S	SIDE PANEL R	[M]
22	RKM0504B-S	TOP PANEL	[M]
23	RMB0448-J	LOCK ROD SPRING	[M]
24	RMB0780	CASS OPEN SPRING	[M]
25	RMB0783	CD LID OPEN SPRING	[M]
26	RMK0595	BOTTOM CHASSIS	[M]
27	RMKX0090	INNER CHASSIS	[M]
28	RMM0163-1	CASS LOCK ROD	[M]
29	RMN0780	CD LID SUPPORT	[M]
30	RMNV0014	FL HOLDER	[M]
31	RMY0260	HEAT SINK	[M]
32	RSCV0019	REAR SHIELD PLATE	[M]
33	RSCV0023	FL SHIELD PLATE	[M]
34	RUS757ZAA	CASS HALF SPRING	[M]
35	RXGX0003	DAMPER GEAR	[M]
36	RXXX0043	HEAT SINK UNIT	[M]
37	XTB3+10JFZ	SCREW	[M]
38	XTB3+8JFZ	SCREW	[M]
39	XTBS26+10J	SCREW	[M]
42	XTV3+10G	SCREW	[M]
43	XTW3+15T	SCREW	[M]
44	XTWS26+10Q	SCREW	[M]
45	XTWS3+6T	SCREW	[M]
46	RHGV0010	FL CUSHION	[M]

22.4. Electrical Part List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARD	
	REPV0016B	DECK P.C.B. / TAPE EJECT P.C.B.	[M] (RTL)
	REPV0017B	MAIN P.C.B./ SPEAKER TERMINAL P.C.B. / TACT SWITCH P.C.B. / SWITCH P.C.B. / PANEL P.C.B. / HEADPHONE P.C.B. /	[M] (RTL)
	REPV0018B	POWER P.C.B. / TRANSFORMER P.C.B.	[M]E/EG (RTL)
	REPV0018C	POWER P.C.B. / TRANSFORMER P.C.B.	[M] EB (RTL)
	REPX0321H	DECK MECHANISM P.C.B.	[M] (RTL)
	REP3569A	CD LOADING P.C.B.	[M] (RTL)
	REPV0010A	CD SERVO P.C.B.	[M] (RTL)
		INTEGRATED CIRCUITS	
IC11	C0GAG0000007	IC DRIVER	[M]
IC21	C0GAG0000007	IC DRIVER	[M]
IC300	C1BB00000757	IC ASP	[M]
IC302	C2CBJF000016	IC MICRO PROCESSOR	[M]
IC304	C1BB00000715	IC RDS	[M]
IC500	RSN314H41A-P	IC POWER AMP HIC	[M]
IC501	C0AABB000125	IC OP AMP	[M]
IC503	C0CAABE00006	IC 3.3V REGULATOR	[M]
IC600	C0HBB0000039	IC FL DRIVER	[M]
IC701	AN22004A-NF	IC HEAD AMP	[M]
IC702	MN6627934CH	IC LSI	[M]
IC703	BA5948FPE2	IC 4 CH DRIVE	[M]
IC704	C3ABMB000027	IC 16M DRAM	[M]
IC971	CNB13030R2AU	IC PHOTO INTERUPTOR	[M]
IC1000	C1AA00000612	IC ANALOG SW	[M]
IC1001	AN7326K	IC DECK R/P	[M]
		TRANSISTORS	
Q1	B3NAA0000068	TRANSISTOR	[M]
Q200	KRA102STA	TRANSISTOR	[M]
Q201	KTC3875GRTA	TRANSISTOR	[M]
Q222	KTC3875GRTA	TRANSISTOR	[M]
Q223	KTC3875GRTA	TRANSISTOR	[M]
Q224	KTC3875GRTA	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	KTC3875GRTA	TRANSISTOR	[M]
Q308	KTC3875GRTA	TRANSISTOR	[M]
Q309	KRC101STA	TRANSISTOR	[M]
Q310	KRC101STA	TRANSISTOR	[M]
Q400	KRA102STA	TRANSISTOR	[M]
Q422	KTC3875GRTA	TRANSISTOR	[M]
Q423	KTC3875GRTA	TRANSISTOR	[M]
Q424	KTC3875GRTA	TRANSISTOR	[M]
Q501	KTC2026	TRANSISTOR	[M]
Q502	KTA1046	TRANSISTOR	[M]
Q505	KTA1267GRTA	TRANSISTOR	[M]
Q506	KTA1046	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	KTC2026	TRANSISTOR	[M]
Q575	B1AAGC000006	TRANSISTOR	[M]
Q577	2SC3940ARA	TRANSISTOR	[M]
Q578	KRC102MTA	TRANSISTOR	[M]
Q579	2SB0621AHA	TRANSISTOR	[M]
Q600	KRC119STA	TRANSISTOR	[M]
Q610	KTC3875GRTA	TRANSISTOR	[M]
Q700	B1AACF000063	TRANSISTOR	[M]
Q701	2SA1037AKSTX	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]

Ref. No.	Part No.	Part Name & Description	Remarks
Q717	KTC3199GRTA	TRANSISTOR	[M]
Q718	B1AAGC000006	TRANSISTOR	[M]
Q719	B1AAGC000006	TRANSISTOR	[M]
Q720	KTC3199GRTA	TRANSISTOR	[M]
Q721	KTC3199GRTA	TRANSISTOR	[M]
Q722	KRA110MTA	TRANSISTOR	[M]
Q723	KTA12710YTA	TRANSISTOR	[M]
Q724	KTC3199GRTA	TRANSISTOR	[M]
Q725	B1AAGC000006	TRANSISTOR	[M]
Q726	B1AAGC000006	TRANSISTOR	[M]
Q1101	B1ABGC000005	TRANSISTOR	[M]
Q1201	B1ABGC000005	TRANSISTOR	[M]
Q1302	B1GDCFJJ0002	TRANSISTOR	[M]
Q1303	B1GBCFGH0001	TRANSISTOR	[M]
Q1304	B1GDCFGH0002	TRANSISTOR	[M]
Q1309	B1AAGC000006	TRANSISTOR	[M]
Q1310	B1AAGC000006	TRANSISTOR	[M]
Q1312	B1ABCF000011	TRANSISTOR	[M]
Q1314	B1GDCFGH0002	TRANSISTOR	[M]
Q1315	KTA12710YTA	TRANSISTOR	[M]
Q1316	2SD09650RA	TRANSISTOR	[M]
Q1317	B1ABGC000005	TRANSISTOR	[M]
		DIODES	
D201	B0BC01000014	DIODE	[M]
D302	1SS380TE-17	DIODE	[M]
D303	1SS380TE-17	DIODE	[M]
D304	MA729TX	DIODE	[M]
D305	B0ACCK000005	DIODE	[M]
D500	B0EBNL000004	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]
D527	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	RL1N4003N02	DIODE	[M]
D586	RL1N4003N02	DIODE	[M]
D587	B0EAKM000117	DIODE	[M]
D588	B0EAKM000117	DIODE	[M]
D589	B0EAKM000117	DIODE	[M]
D592	B0EAKM000117	DIODE	[M]
D593	B0EAKM000117	DIODE	[M]
D594	B0BA03000015	DIODE	[M]
D600	UDZSTE176R8B	DIODE	[M]
D601	LNJ801TPSJA	DIODE	[M]
D609	SLI325URCT31	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 RESISTORS	

Ref. No.	Part No.	Part Name & Description	Remarks
VR600	EVEJ1CF2524B	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 CD1	[M]
S602	EVQ21405RJ	SW CD2	[M]
S603	EVQ21405RJ	SW CD3	[M]
S604	EVQ21405RJ	SW CD4	[M]
S605	EVQ21405RJ	SW CD5	[M]
S606	EVQ21405RJ	SW CD	[M]
S607	EVQ21405RJ	SW TAPE	[M]
S608	EVQ21405RJ	SW TUNER/BAND	[M]
S609	EVQ21405RJ	SW TRACK UP	[M]
S610	EVQ21405RJ	SW TRACK DOWN	[M]
S611	EVQ21405RJ	SW ENTER	[M]
S613	EVQ21405RJ	SW STOP/DEMO	[M]
S614	EVQ21405RJ	SW POWER	[M]
S615	EVQ21405RJ	SW AUX	[M]
S616	EVQ21405RJ	SW REV	[M]
S617	EVQ21405RJ	SW ALL DISC	[M]
S618	EVQ21405RJ	SW FF	[M]
S619	EVQ21405RJ	SW REC	[M]
S620	EVQ21405RJ	SW OPEN/CLOSE	[M]
S621	EVQ21405RJ	SW CD CHANGE	[M]
S623	EVQ21405RJ	SW SSEQ	[M]
S701	RSH1A048-A	SW RESET	[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	RJU100W13	13P CONNECTOR	[M]
CN302	K1KB11A00020	11P CONNECTOR	[M]
CN303	K1KA02A00008	FAN CONNECTOR	[M]
CN305	K1MN14C00004	14P FFC CONNECTOR	[M]
CN306	K1MN17C00002	17P FFC CONNECTOR	[M]
CN308	K1MN24B00090	24P FFC CONNECTOR	[M]
CN309	K1MN21A00031	21P CONNECTOR	[M]
CN504	RJT119W08V	8P CONNECTOR	[M]
CN505	K1KB07A00016	7P CONNECTOR	[M]
CN506	RJT119W06V	6P CONNECTOR	[M]
CN507B	REXX0320	2P STANDBY WIRE	[M]
CN603A	K1KA09A00099	CONNECTOR	[M]
CN606	K1MN24A00040	24P FFC CONNECTOR	[M]
CN701	RJS2A8616	16P FPC CONNECTOR	[M]
CN702	RJS2A7717	17P FFC CONNECTOR	[M]
CN1305	K1MN21B00010	21P FFC CONNECTOR	[M]
CP501	RJT100W13	13P CONNECTOR	[M]
CP502	K1KA11A00093	11P CONNECTOR	[M]
CP1301	RJS1A6805-J	CONNECTOR	[M]
CP1902	K1KA09B00058	9P CONNECTOR	[M]
CS971	RJU071H09M1	CONNECTOR	[M]
		COILS & TRANSFORMERS	
L200	G0AR76Y00001	COIL	[M]
L201	G0AR76Y00001	COIL	[M]
L203	J0JBC0000019	CHIP INDUCTOR	[M]
L204	G0C3R3JA0027	COIL	[M]
L300	G0C3R3JA0027	COIL	[M]
L301	G0A200D00002	RF CHOKE COIL	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
L302	G0C101JA0030	COIL	[M]
L303	G0C101JA0030	COIL	[M]
L400	G0AR76Y00001	COIL	[M]
L401	G0AR76Y00001	COIL	[M]
L503	RLQZ371	CHOKE COIL	[M] ⚠
L600	RLQB101JTD-D	INDUCTOR	[M]
L601	RLQB101JTD-D	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]EG E
T501	G4C6BDZ00002	TRANSFORMER	[M] ⚠
T502	G4C2AAJ00006	BACKUP TRANSFORMER	[M] ⚠
		COMPONENT COMBINATION	
Z301	ENG07802QF	TUNER PACK	[M]
Z501	ERZV10V511CS	ZENER	[M] ⚠
Z601	B3MAZ0000023	REMOTE CONTROL SENSOR	[M]
		RELAY	
RL501	K6B1ADA00011	RELAY	[M] ⚠
		OSCILLATORS	
X300	H0H433400001	CRYSTAL OSCILLATOR	[M]
X301	H2A100500006	RESONATOR	[M]
X302	RSXD32K7S02	CRYSTAL OSCILLATOR	[M]
X701	RSXC16M9S04	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBE	
FL600	A2BB00000131	FL DISPLAY	[M]
		FUSE	
F1	K5Y630B00001	FUSE	[M] ⚠
		FUSE HOLDERS	
FC1	EYF52BC	FUSE HOLDER	[M]
FC2	EYF52BC	FUSE HOLDER	[M]
		FUSE PROTECTORS	
FP501	K5G402AA0002	FUSE PROTECTOR	[M] ⚠
FP502	K5G102AA0002	FUSE PROTECTOR	[M] ⚠
		HOLDERS	
H303	K1YF08000003	8P WIRE HOLDER	[M]
H503	K1YF06000002	6P WIRE HOLDER	[M]
H601A	RMR0313	CABLE HOLDER	[M]
H601B	RMR0313	CABLE HOLDER	[M]
H603B	RMR0318	9P WIRE HOLDER	[M]
H605A	RMR0315	6P WIRE HOLDER	[M]
H605B	RMR0315	6P WIRE HOLDER	[M]
H606	RMR0316	7P WIRE HOLDER	[M]
		JACKS	
JK301	K4BC08B00013	JK SPEAKER	[M]
JK303	K4BK02B00007	JK AUX-IN	[M]
JK501	K2AA2B000004	JK AC INLET	[M] ⚠
JK600	RJJ37TK07-X	JK HEADPHONE	[M]
		EARTH TERMINALS	
E300	SNE1004-2	EARTH TERMINAL	[M]
E501	SNE1004-2	EARTH TERMINAL	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		CHIP RESISTORS	
WA100	ERJ3GEY0R00V	0 1/16W	[M]
WA101	ERJ3GEY0R00V	0 1/16W	[M]
WA102	ERJ3GEY0R00V	0 1/16W	[M]
WA103	ERJ3GEY0R00V	0 1/16W	[M]
WA104	ERJ3GEY0R00V	0 1/16W	[M]
WA108	ERJ3GEY0R00V	0 1/16W	[M]
WA109	ERJ3GEY0R00V	0 1/16W	[M]
WA110	ERJ3GEY0R00V	0 1/16W	[M]
WA113	ERJ3GEY0R00V	0 1/16W	[M]
WA114	ERJ3GEY0R00V	0 1/16W	[M]
WA115	ERJ3GEY0R00V	0 1/16W	[M]
WA116	ERJ3GEY0R00V	0 1/16W	[M]
		WIRES	
WR1308B	RWJ0102110SS	2P (MTR WIRE)	[M]
WR1903	RWJ0102050KR	2P (MOTOR WIRE)	[M]
JW303	REXV0019	8P WIRE (SP-PWR)	[M]
JW503	REXV0020	6P WIRE (PWR-TRAN)	[M]
JW601	RWJ1104100XX	4P WIRE (PWR IN-PAN)	[M]
JW603	REXV0024	9P WIRE(PANEL-MAIN)	[M]
JW605	RWJ1106120XX	6P WIRE PHONE	[M]
JW606	RWJ0207180XQ	7P WIRE (PANEL-TRAN)	[M]
		RESISTORS	
R201	ERJ3GEYJ181V	180 1/16W	[M]
R209	ERJ3GEYJ103V	10K 1/16W	[M]
R210	ERJ3GEYJ104V	100K 1/16W	[M]
R211	ERJ3GEYJ182V	1.8K 1/16W	[M]
R218	ERJ3GEYJ392V	3.9K 1/16W	[M]
R219	ERJ3GEYJ391V	390 1/16W	[M]
R220	ERJ3GEYJ272V	2.7K 1/16W	[M]
R221	ERJ3GEYJ123V	12K 1/16W	[M]
R222	ERJ3GEYJ102V	1K 1/16W	[M]
R224	ERJ3GEYJ392V	3.9K 1/16W	[M]
R228	ERDS1FVJ100T	10 1/2W	[M]
R229	ERDS1FVJ100T	10 1/2W	[M]
R230	ERDS1FVJ100T	10 1/2W	[M]
R231	ERDS1FVJ100T	10 1/2W	[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	ERJ3GEYJ182V	1.8K 1/16W	[M]
R276	ERJ3GEYJ392V	3.9K 1/16W	[M]
R301	ERJ3GEYJ472V	4.7K 1/16W	[M]
R302	ERJ3GEYJ102V	1K 1/16W	[M]
R303	ERJ3GEYJ102V	1K 1/16W	[M]
R304	ERJ3GEYJ104V	100K 1/16W	[M]
R305	ERJ3GEYJ102V	1K 1/16W	[M]
R306	ERJ3GEYJ103V	10K 1/16W	[M]
R307	ERJ3GEYJ101V	100 1/16W	[M]
R308	ERJ3GEYJ101V	100 1/16W	[M]
R309	ERJ3GEYJ103V	10K 1/16W	[M]
R310	ERJ3GEYJ103V	10K 1/16W	[M]
R311	ERJ3GEYJ103V	10K 1/16W	[M]
R312	ERJ3GEYJ222V	2.2K 1/16W	[M]
R313	ERJ3GEYJ101V	100 1/16W	[M]
R314	ERJ3GEYJ101V	100 1/16W	[M]
R315	ERJ3GEYJ101V	100 1/16W	[M]
R316	ERJ3GEYJ101V	100 1/16W	[M]
R317	ERJ3GEYJ101V	100 1/16W	[M]
R318	ERJ3GEYJ101V	100 1/16W	[M]
R319	ERJ3GEYJ101V	100 1/16W	[M]
R320	ERJ3GEYJ101V	100 1/16W	[M]
R321	ERJ3GEYJ101V	100 1/16W	[M]
R322	ERJ3GEYJ101V	100 1/16W	[M]
R323	ERJ3GEYJ472V	4.7K 1/16W	[M]
R324	ERJ3GEYJ472V	4.7K 1/16W	[M]
R325	ERJ3GEYJ473V	47K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R326	ERJ3GEYJ472V	4.7K 1/16W	[M]
R327	ERJ3GEYJ472V	4.7K 1/16W	[M]
R328	ERJ3GEYJ101V	100 1/16W	[M]
R329	ERJ3GEYJ102V	1K 1/16W	[M]
R330	ERJ3GEYJ474V	470K 1/16W	[M]
R331	ERJ3GEYJ103V	10K 1/16W	[M]
R332	ERJ3GEYJ474V	470K 1/16W	[M]
R333	ERJ3GEYJ472V	4.7K 1/16W	[M]
R334	ERJ3GEYJ102V	1K 1/16W	[M]
R335	ERJ3GEYJ101V	100 1/16W	[M]
R336	ERJ3GEYJ472V	4.7K 1/16W	[M]
R337	ERJ3GEYJ472V	4.7K 1/16W	[M]
R338	ERJ3GEYJ472V	4.7K 1/16W	[M]
R339	ERJ3GEYJ101V	100 1/16W	[M]
R340	ERJ3GEYJ101V	100 1/16W	[M]
R341	ERJ3GEYJ101V	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	ERJ3GEYJ473V	47K 1/16W	[M]
R351	ERJ3GEYJ473V	47K 1/16W	[M]
R352	ERJ3GEYJ472V	4.7K 1/16W	[M]
R353	ERJ3GEYJ472V	4.7K 1/16W	[M]
R354	ERJ3GEYJ681V	680 1/16W	[M]
R355	ERJ3GEYJ334V	330K 1/16W	[M]
R356	ERJ3GEYJ106V	10M 1/16W	[M]
R357	ERJ3GEYJ223V	22K 1/16W	[M]
R358	ERJ3GEYJ223V	22K 1/16W	[M]
R359	ERJ3GEYJ472V	4.7K 1/16W	[M]
R360	ERJ3GEYJ153V	15K 1/16W	[M]
R361	ERJ3GEYJ103V	10K 1/16W	[M]
R362	ERJ3GEYJ471V	470 1/16W	[M]
R363	ERJ3GEYJ121V	120 1/16W	[M]
R364	ERJ3GEYJ101V	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	ERJ3GEYJ101V	100 1/16W	[M]
R372	ERJ3GEYJ223V	22K 1/16W	[M]
R373	ERJ3GEYJ122V	1.2K 1/16W	[M]
R374	ERJ3GEYJ122V	1.2K 1/16W	[M]
R375	ERDS1FVJ4R7T	4.7 1/2W	[M]
R377	ERJ3GEYJ223V	22K 1/16W	[M]
R378	ERJ3GEYJ101V	100 1/16W	[M]
R379	ERJ3GEYJ101V	100 1/16W	[M]
R381	ERJ3GEYJ101V	100 1/16W	[M]
R382	ERJ3GEYJ101V	100 1/16W	[M]
R383	ERJ3GEYJ103V	10K 1/16W	[M]
R384	ERJ3GEYJ472V	4.7K 1/16W	[M]
R385	ERJ3GEYJ101V	100 1/16W	[M]
R386	ERJ3GEYJ103V	10K 1/16W	[M]
R388	ERJ3GEYJ473V	47K 1/16W	[M]
R389	ERJ3GEYJ103V	10K 1/16W	[M]
R390	ERJ3GEYJ472V	4.7K 1/16W	[M]
R391	ERJ3GEYJ472V	4.7K 1/16W	[M]
R411	ERJ3GEYJ182V	1.8K 1/16W	[M]
R417	ERJ3GEYJ101V	100 1/16W	[M]
R418	ERJ3GEYJ392V	3.9K 1/16W	[M]
R419	ERJ3GEYJ391V	390 1/16W	[M]
R420	ERJ3GEYJ272V	2.7K 1/16W	[M]
R421	ERJ3GEYJ123V	12K 1/16W	[M]
R422	ERJ3GEYJ102V	1K 1/16W	[M]
R424	ERJ3GEYJ392V	3.9K 1/16W	[M]
R429	ERDS1FVJ100T	10 1/2W	[M]
R430	ERDS1FVJ100T	10 1/2W	[M]
R431	ERDS1FVJ100T	10 1/2W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R432	ERDS1FVJ100T	10 1/2W	[M]
R440	ERJ3GEYJ102V	1K 1/16W	[M]
R450	ERJ3GEYJ102V	1K 1/16W	[M]
R452	ERJ3GEYJ101V	100 1/16W	[M]
R453	ERJ3GEYJ101V	100 1/16W	[M]
R454	ERJ3GEYJ101V	100 1/16W	[M]
R455	ERJ3GEYJ472V	4.7K 1/16W	[M]
R456	ERJ3GEYJ472V	4.7K 1/16W	[M]
R459	ERJ3GEYJ101V	100 1/16W	[M]
R461	ERJ3GEYJ472V	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	ERJ3GEYJ182V	1.8K 1/16W	[M]
R476	ERJ3GEYJ392V	3.9K 1/16W	[M]
R505	D0AE563JA048	56K 1/4W	[M]
R506	D0AE563JA048	56K 1/4W	[M]
R511	ERDS1FVJ102T	1K 1/2W	[M]
R512	ERDS1FVJ151T	150 1/2W	[M]
R514	D0AE563JA048	56K 1/4W	[M]
R515	D0AE563JA048	56K 1/4W	[M]
R517	ERDS2TJ331T	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	ERDS2TJ103T	10K 1/4W	[M]
R532	ERDS2TJ153T	15K 1/4W	[M]
R533	ERDS2TJ153T	15K 1/4W	[M]
R534	ERDS1FVJ331T	330 1/2W	[M]
R536	ERDS1FVJ2R2T	2.2 1/2W	[M]
R537	ERDS2TJ222T	2.2K 1/4W	[M]
R539	ERDS1FVJ221T	220 1/2W	[M]
R540	ERDS2TJ153T	15K 1/4W	[M]
R541	ERDS2TJ153T	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	ERDS2TJ124T	120K 1/4W	[M]
R548	ERDS2TJ224T	220K 1/4W	[M]
R549	ERDS1FVJ2R2T	2.2 1/2W	[M]
R550	ERDS1FVJ331T	330 1/2W	[M]
R551	ERDS2TJ104T	100K 1/4W	[M]
R554	ERDS1FVJ331T	330 1/2W	[M]
R556	ERDS1FVJ2R2T	2.2 1/2W	[M]
R561	ERDS2TJ104T	100K 1/4W	[M]
R562	ERDS2TJ394T	390K 1/4W	[M]
R565	ERDS2TJ123T	12K 1/4W	[M]
R566	ERDS2TJ103T	10K 1/4W	[M]
R567	ERDS2TJ151T	150 1/4W	[M]
R568	ERDS1FVJ150T	15 1/2W	[M]
R569	ERDS1FVJ270T	27 1/2W	[M]
R571	ERDS1FVJ332T	3.3K 1/2W	[M]
R572	ERDS2TJ561T	560 1/4W	[M]
R573	D0AE272JA048	2.7K 1/4W	[M]
R574	D0AE272JA048	2.7K 1/4W	[M]
R576	ERDS2TJ103T	10K 1/4W	[M]
R577	ERDS2TJ103T	10K 1/4W	[M]
R578	ERDS2TJ332T	3.3K 1/4W	[M]
R580	ERDS1FVJ180T	18 1/2W	[M]
R581	ERDS1FVJ180T	18 1/2W	[M]
R583	ERDS2TJ821T	820 1/4W	[M]
R584	ERDS2TJ151T	150 1/4W	[M]
R585	ERDS1FVJ220T	22 1/2W	[M]
R586	ERDS2TJ151T	150 1/4W	[M]
R587	D0AE472JA048	4.7K 1/4W	[M]
R589	ERD2FCVJ4R7T	4.7 1/4W	[M]
R591	ERDS2TJ101T	100 1/4W	[M]
R600	ERJ3GEYJ680V	68 1/16W	[M]
R601	ERJ3GEYJ680V	68 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R602	D0GB470JA008	47 1/16W	[M]
R603	ERJ3GEYJ273V	27K 1/16W	[M]
R604	ERJ3GEYJ103V	10K 1/16W	[M]
R605	ERJ3GEYJ223V	22K 1/16W	[M]
R606	ERJ3GEYJ123V	12K 1/16W	[M]
R607	ERJ3GEYJ102V	1K 1/16W	[M]
R608	ERJ3GEYJ102V	1K 1/16W	[M]
R609	ERJ3GEYJ122V	1.2K 1/16W	[M]
R610	ERJ3GEYJ182V	1.8K 1/16W	[M]
R611	ERJ3GEYJ222V	2.2K 1/16W	[M]
R612	ERJ3GEYJ222V	2.2K 1/16W	[M]
R613	ERJ3GEYJ272V	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	ERJ3GEYJ182V	1.8K 1/16W	[M]
R621	ERJ3GEYJ182V	1.8K 1/16W	[M]
R622	ERJ3GEYJ222V	2.2K 1/16W	[M]
R623	ERJ3GEYJ272V	2.7K 1/16W	[M]
R624	ERJ3GEYJ472V	4.7K 1/16W	[M]
R626	ERJ3GEYJ682V	6.8K 1/16W	[M]
R627	ERJ3GEYJ472V	4.7K 1/16W	[M]
R629	ERJ6GEYJ471V	470 1/10W	[M]
R630	ERJ3GEYJ223V	22K 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]
R636	ERJ3GEYJ472V	4.7K 1/16W	[M]
R639	ERJ3GEYJ472V	4.7K 1/16W	[M]
R640	ERJ3GEYJ272V	2.7K 1/16W	[M]
R643	ERJ3GEYJ104V	100K 1/16W	[M]
R700	ERDS1FVJ180T	18 1/2W	[M]
R701	D0AE563JA048	56K 1/4W	[M]
R701	ERJ3GEYJ4R7V	4.7 1/16W	[M]
R702	ERDS2TJ101T	100 1/4W	[M]
R702	ERJ3GEYJ472V	4.7K 1/16W	[M]
R703	ERDS2TJ103T	10K 1/4W	[M]
R704	D0AE563JA048	56K 1/4W	[M]
R704	ERJ3GEYJ102V	1K 1/16W	[M]
R705	ERDS2TJ103T	10K 1/4W	[M]
R705	ERJ3GEYJ393V	39K 1/16W	[M]
R706	D0AE472JA048	4.7K 1/4W	[M]
R706	ERJ3GEYJ102V	1K 1/16W	[M]
R707	D0AE562JA048	5.6K 1/4W	[M]
R707	ERJ3GEY0R00V	0 1/16W	[M]
R708	ERDS2TJ103T	10K 1/4W	[M]
R708	ERJ3GEY0R00V	0 1/16W	[M]
R709	ERDS2TJ824T	820K 1/4W	[M]
R709	ERJ3GEYJ104V	100K 1/16W	[M]
R710	D0AE563JA048	56K 1/4W	[M]
R711	ERDS2TJ824T	820K 1/4W	[M]
R711	ERJ3GEYJ823V	82K 1/16W	[M]
R712	ERDS2TJ102T	1K 1/4W	[M]
R712	ERJ3GEYJ821V	820 1/16W	[M]
R713	D0AE563JA048	56K 1/4W	[M]
R714	ERJ3GEYJ471V	470 1/16W	[M]
R715	ERJ3GEYJ332V	3.3K 1/16W	[M]
R717	ERJ3GEYJ102V	1K 1/16W	[M]
R718	ERJ3GEYJ102V	1K 1/16W	[M]
R720	ERDS2TJ823T	82K 1/4W	[M]
R720	ERJ3GEYJ105V	1M 1/16W	[M]
R721	ERDS2TJ823T	82K 1/4W	[M]
R721	ERJ3GEYJ101V	100 1/16W	[M]
R722	ERDS2TJ104T	100K 1/4W	[M]
R723	ERDS2TJ102T	1K 1/4W	[M]
R723	ERJ3GEYJ332V	3.3K 1/16W	[M]
R724	ERDS2TJ104T	100K 1/4W	[M]
R725	ERDS2TJ102T	1K 1/4W	[M]
R725	ERJ3GEYJ331V	330 1/16W	[M]
R726	ERDS2TJ273T	27K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R727	ERDS2TJ104T	100K 1/4W	[M]
R727	ERJ3GEYJ102V	1K 1/16W	[M]
R728	ERDS2TJ102T	1K 1/4W	[M]
R728	ERJ3GEYJ183V	18K 1/16W	[M]
R729	ERDS2TJ102T	1K 1/4W	[M]
R729	ERJ3GEYJ102V	1K 1/16W	[M]
R730	ERDS2TJ224T	220K 1/4W	[M]
R731	ERDS2TJ682T	6.8K 1/4W	[M]
R731	ERJ3GEYJ223V	22K 1/16W	[M]
R732	ERDS2TJ153T	15K 1/4W	[M]
R732	ERJ3GEYJ102V	1K 1/16W	[M]
R733	ERDS2TJ153T	15K 1/4W	[M]
R734	ERDS2TJ221T	220 1/4W	[M]
R735	ERDS2TJ224T	220K 1/4W	[M]
R735	ERJ3GEYJ101V	100 1/16W	[M]
R736	ERDS2TJ682T	6.8K 1/4W	[M]
R736	ERJ3GEYJ101V	100 1/16W	[M]
R737	D0AE122JA048	1.2K 1/4W	[M]
R737	ERJ3GEYJ682V	6.8K 1/16W	[M]
R738	ERDS2TJ153T	15K 1/4W	[M]
R738	ERJ3GEYJ682V	6.8K 1/16W	[M]
R739	D0AE122JA048	1.2K 1/4W	[M]
R740	ERDS2TJ153T	15K 1/4W	[M]
R741	D0AE562JA048	5.6K 1/4W	[M]
R742	D0AE562JA048	5.6K 1/4W	[M]
R742	ERJ3GEYJ103V	10K 1/16W	[M]
R743	ERDS2TJ152T	1.5K 1/4W	[M]
R743	ERJ3GEYJ472V	4.7K 1/16W	[M]
R744	ERDS2TJ153T	15K 1/4W	[M]
R744	ERJ3GEYJ393V	39K 1/16W	[M]
R745	D0AE562JA048	5.6K 1/4W	[M]
R746	D0AE562JA048	5.6K 1/4W	[M]
R747	ERDS2TJ152T	1.5K 1/4W	[M]
R748	ERDS2TJ152T	1.5K 1/4W	[M]
R749	ERDS2TJ152T	1.5K 1/4W	[M]
R749	ERJ3GEYJ183V	18K 1/16W	[M]
R750	ERDS2TJ332T	3.3K 1/4W	[M]
R751	ERDS2TJ332T	3.3K 1/4W	[M]
R752	ERDS2TJ104T	100K 1/4W	[M]
R753	ERDS2TJ222T	2.2K 1/4W	[M]
R753	ERJ3GEYJ100V	10 1/16W	[M]
R754	D0GB5R6JA002	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	ERJ3GEYJ101V	100 1/16W	[M]
R761	D0AE223JA048	22K 1/4W	[M]
R761	ERJ3GEYJ103V	10K 1/16W	[M]
R762	D0AE562JA048	5.6K 1/4W	[M]
R762	ERJ3GEYJ103V	10K 1/16W	[M]
R763	D0AE562JA048	5.6K 1/4W	[M]
R763	ERJ3GEYJ103V	10K 1/16W	[M]
R764	ERDS2TJ683T	68K 1/4W	[M]
R764	ERJ3GEYJ102V	1K 1/16W	[M]
R765	ERDS2TJ683T	68K 1/4W	[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]
R770	ERDS2TJ332T	3.3K 1/4W	[M]
R771	ERDS2TJ104T	100K 1/4W	[M]
R772	D0AE472JA048	4.7K 1/4W	[M]
R773	ERDS2TJ102T	1K 1/4W	[M]
R774	ERDS2TJ104T	100K 1/4W	[M]
R775	ERDS2TJ153T	15K 1/4W	[M]
R776	ERDS2TJ102T	1K 1/4W	[M]
R777	ERDS2TJ221T	220 1/4W	[M]
R778	ERDS2TJ153T	15K 1/4W	[M]
R779	ERDS2TJ153T	15K 1/4W	[M]
R780	D0AE473JA048	47K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R781	D0AE473JA048	47K 1/4W	[M]
R788	ERDS2TJ104T	100K 1/4W	[M]
R789	ERDS2TJ104T	100K 1/4W	[M]
R790	D0AE272JA048	2.7K 1/4W	[M]
R791	ERDS2TJ272T	2.7K 1/4W	[M]
R792	ERDS2TJ561T	560 1/4W	[M]
R793	ERDS2TJ101T	100 1/4W	[M]
R794	ERDS2TJ103T	10K 1/4W	[M]
R797	ERD2FCVJ4R7T	4.7 1/4W	[M]
R798	ERDS2TJ102T	1K 1/4W	[M]
R799	ERDS2TJ102T	1K 1/4W	[M]
R972	ERDS2TJ821T	820 1/4W	[M]
R973	ERDS2TJ393T	39K 1/4W	[M]
R1061	ERJ3GEY0R00V	0 1/16W	[M]
R1063	ERJ3GEY0R00V	0 1/16W	[M]
R1101	ERJ3GEYJ330V	33 1/16W	[M]
R1102	ERJ3GEYJ152V	1.5K 1/16W	[M]
R1103	ERJ3GEYJ183V	18K 1/16W	[M]
R1104	ERJ3GEYJ103V	10K 1/16W	[M]
R1105	ERJ3GEYJ222V	2.2K 1/16W	[M]
R1106	ERJ3GEYJ104V	100K 1/16W	[M]
R1107	ERJ3GEYJ102V	1K 1/16W	[M]
R1109	ERJ3GEYJ102V	1K 1/16W	[M]
R1110	ERJ3GEYJ333V	33K 1/16W	[M]
R1201	ERJ3GEYJ330V	33 1/16W	[M]
R1202	ERJ3GEYJ152V	1.5K 1/16W	[M]
R1203	ERJ3GEYJ183V	18K 1/16W	[M]
R1204	ERJ3GEYJ103V	10K 1/16W	[M]
R1205	ERJ3GEYJ222V	2.2K 1/16W	[M]
R1206	ERJ3GEYJ104V	100K 1/16W	[M]
R1207	ERJ3GEYJ102V	1K 1/16W	[M]
R1209	ERJ3GEYJ102V	1K 1/16W	[M]
R1210	ERJ3GEYJ333V	33K 1/16W	[M]
R1302	ERJ3GEYJ471V	470 1/16W	[M]
R1303	ERJ3GEYJ475V	4.7M 1/16W	[M]
R1304	ERJ3GEYJ223V	22K 1/16W	[M]
R1305	ERJ3GEYJ103V	10K 1/16W	[M]
R1309	ERDS1FVJ471T	470 1/2W	[M]
R1313	ERJ3GEYJ103V	10K 1/16W	[M]
R1314	ERJ3GEYJ102V	1K 1/16W	[M]
R1318	ERJ3GEYJ103V	10K 1/16W	[M]
R1327	ERJ3GEYJ472V	4.7K 1/16W	[M]
R1328	ERJ3GEYJ153V	15K 1/16W	[M]
R1329	ERJ3GEYJ472V	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	ERJ3GEYJ223V	22K 1/16W	[M]
R1335	ERJ3GEYJ152V	1.5K 1/16W	[M]
R1337	ERJ3GEYJ103V	10K 1/16W	[M]
R1338	ERJ3GEYJ472V	4.7K 1/16W	[M]
R1341	ERJ3GEYJ471V	470 1/16W	[M]
R1342	ERJ3GEYJ473V	47K 1/16W	[M]
R1343	ERJ3GEYJ332V	3.3K 1/16W	[M]
R1344	ERJ3GEYJ273V	27K 1/16W	[M]
R1345	ERJ3GEYJ102V	1K 1/16W	[M]
R1371	ERJ3GEYJ223V	22K 1/16W	[M]
R1374	ERJ3GEYJ471V	470 1/16W	[M]
R1380	ERJ3GEY0R00V	0 1/16W	[M]
R1401	ERJ3GEYJ123V	12K 1/16W	[M]
R1402	ERJ3GEYJ274V	270K 1/16W	[M]
R1403	ERJ3GEYJ103V	10K 1/16W	[M]
R1404	ERJ3GEYJ223V	22K 1/16W	[M]
R1405	ERJ3GEYJ103V	10K 1/16W	[M]
		CAPACITORS	
C11	F1D1E103A001	0.01 25V	[M]
C12	F2A1C101A235	100P 16V	[M]
C21	F1D1E103A001	0.01 25V	[M]
C22	F2A1C101A235	100P 16V	[M]
C201	ECA1CAK101XB	100 16V	[M]
C211	ECJ1VB1H471K	470P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C212	ECJ1VB1H102K	1000P 50V	[M]
C214	ECJ1VB1H221K	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]
C238	F1H1H682A219	6800P 50V	[M]
C239	F1H1H682A219	6800P 50V	[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]
C249	ECJ1VC1H102J	1000P 50V	[M]
C270	ECJ1VB1H821K	820P 50V	[M]
C271	ECQV1H274JZ3	0.27 50V	[M]
C272	ECQV1H274JZ3	0.27 50V	[M]
C301	F1H1H104A783	0.1 50V	[M]
C303	ECJ1VB1H471K	470P 50V	[M]
C304	ECJ1VC1H101K	100P 50V	[M]
C305	ECJ1VC1H101K	100P 50V	[M]
C306	ECJ1VC1H101K	100P 50V	[M]
C308	ECJ1VC1H101K	100P 50V	[M]
C310	ECJ1VB1E103K	0.01 25V	[M]
C311	ECA1AM102B	1000 10V	[M]
C312	ECJ2VF1H104Z	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	ECJ1VB1H102K	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	ECJ1VB1E223K	0.022 25V	[M]
C326	F1H1H103A219	0.01 50V	[M]
C327	ECJ1VB1H221K	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	ECJ1VB1H102K	1000P 50V	[M]
C343	ECJ1VB1H103K	0.01 50V	[M]
C344	ECJ1VC1H101J	100P 50V	[M]
C345	ECJ1VC1H101J	100P 50V	[M]
C346	ECJ1VC1H470J	47P 50V	[M]
C347	ECJ1VB1E103K	0.01 25V	[M]
C348	ECJ1VB1H102K	1000P 50V	[M]
C349	ECEA0JKA470B	47 6.3V	[M]
C350	ECJ1VC1H101K	100P 50V	[M]
C351	ECJ1VC1H101K	100P 50V	[M]
C352	ECA1HAK100XB	10 50V	[M]
C353	ECJ1VB1H331K	330P 50V	[M]
C354	ECA1HAK100XB	10 50V	[M]
C355	ECJ1VC1H470J	47P 50V	[M]
C356	ECJ1VC1H561J	560P 50V	[M]
C358	ECA1CAM221XB	220 16V	[M]
C359	ECEA1AKA101B	100 10V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C362	ECA1AAK220XB	22 10V	[M]
C363	ECJ1VC1H101J	100P 50V	[M]
C364	ECJ1VC1H101J	100P 50V	[M]
C367	F1H1H104A783	0.1 50V	[M]
C368	F1H1H104A783	0.1 50V	[M]
C372	ECA1HAK2R2XB	2.2 50V	[M]
C373	ECJ1VB1H471K	470P 50V	[M]
C374	ECJ1VB1H471K	470P 50V	[M]
C411	ECJ1VB1H471K	470P 50V	[M]
C412	ECJ1VB1H102K	1000P 50V	[M]
C414	ECJ1VB1H221K	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]
C438	F1H1H682A219	6800P 50V	[M]
C439	F1H1H682A219	6800P 50V	[M]
C440	F1H1E104A029	0.1 25V	[M]
C441	F1H1E104A029	0.1 25V	[M]
C445	ECJ1VC1H181J	180P 50V	[M]
C449	ECJ1VC1H102J	1000P 50V	[M]
C470	ECJ1VB1H821K	820P 50V	[M]
C471	ECQV1H274JZ3	0.27 50V	[M]
C472	ECQV1H274JZ3	0.27 50V	[M]
C500	F1D1H821A012	820P 50V	[M]
C501	F1D1H821A012	820P 50V	[M]
C502	F1D1H821A012	820P 50V	[M]
C503	F1D1H821A012	820P 50V	[M]
C504	F1D1H390A006	39P 50V	[M]
C505	F1D1H390A006	39P 50V	[M]
C506	ECA1HAM222XE	2200 50V	[M]
C507	ECA1HAM222XE	2200 50V	[M]
C508	ECA1EAM332XE	3300 25V	[M]
C509	F1D1H330A041	33P 50V	[M]
C510	F1D1H330A041	33P 50V	[M]
C511	F1B1H103A007	0.01 50V	[M]
C512	ECA1EAM101XB	100 25V	[M]
C515	F1E1H1030001	0.01 50V	[M]
C516	ECA1HAK100XB	10 50V	[M]
C517	ECKR2H103ZF5	0.01 500V	[M]
C518	F1B1H103A007	0.01 50V	[M]
C520	F1B1H103A007	0.01 50V	[M]
C521	ECA1EAK330XB	33 25V	[M]
C526	ECA1HM330B	33 50V	[M]
C528	F1B1H103A007	0.01 50V	[M]
C530	ECQE1104KF3	0.1 100V	[M]
C533	ECQV1H104JZ3	0.1 50V	[M]
C535	ECQV1H104JZ3	0.1 50V	[M]
C536	ECA0JAK221XB	220 6.3V	[M]
C537	F1D1H102A012	1000P 50V	[M]
C538	ECA1HAK220XB	22 50V	[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	ECA1HAM470XB	47 50V	[M]
C582	ECQE1104KF3	0.1 100V	[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]
C603	ECJ1VB1H102K	1000P 50V	[M]
C604	ECJ1VB1E223K	0.022 25V	[M]
C605	ECJ1VB1E223K	0.022 25V	[M]
C606	ECJ1VC1H470J	47P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C608	ECEA0JKA470B	47 6.3V	[M]
C609	ECJ1VB1H103K	0.01 50V	[M]
C610	ECJ1VB1H102K	1000P 50V	[M]
C611	ECJ1VC1H101J	100P 50V	[M]
C612	ECJ1VC1H101J	100P 50V	[M]
C613	ECA1AAK220XB	22 10V	[M]
C614	ECJ1VB1H103K	0.01 50V	[M]
C615	ECJ1VB1H221K	220P 50V	[M]
C616	ECJ1VB1H221K	220P 50V	[M]
C617	ECJ1VB1H221K	220P 50V	[M]
C618	ECJ1VB1H221K	220P 50V	[M]
C619	F1H1H104A783	0.1 50V	[M]
C620	ECA1HAK220XB	22 50V	[M]
C621	F1H1H104A783	0.1 50V	[M]
C622	ECJ1VB1H221K	220P 50V	[M]
C640	ECJ1VC1H331J	330P 50V	[M]
C700	ECA0JAK101XB	100 6.3V	[M]
C701	ECA1EAK330XB	33 25V	[M]
C701	ECEA0JKA330I	33 6.3V	[M]
C702	ECA1HAK2R2XB	2.2 50V	[M]
C702	F1H1A474A025	0.47 10V	[M]
C703	ECEA0JKA101I	100 6.3V	[M]
C703	F1D1H1040002	0.1 50V	[M]
C704	ECA0JAK221XB	220 6.3V	[M]
C704	F1H1C104A065	0.1 16V	[M]
C705	ECEA1AKN100B	10 10V	[M]
C705	F1H1C104A065	0.1 16V	[M]
C706	ECJ1VF1A105Z	10 10V	[M]
C707	ECJ1VB1C393K	0.039 16V	[M]
C709	F1D1H102A012	1000P 50V	[M]
C710	ECJ1VC1H471J	470P 50V	[M]
C710	F1D1H102A012	1000P 50V	[M]
C711	ECA1CAK100XB	10 16V	[M]
C711	F1H1C104A065	0.1 16V	[M]
C712	F1D1C122A010	1200P 16V	[M]
C712	F1H1C104A065	0.1 16V	[M]
C713	ECEA1HKN2R2B	2.2 50V	[M]
C713	F1H1C104A065	0.1 16V	[M]
C714	ECEA0JKA101I	100 6.3V	[M]
C714	F1C1C273A003	0.027 16V	[M]
C715	F1D1C122A010	1200P 16V	[M]
C715	F1H1A474A025	0.47 10V	[M]
C716	ECEA1HKN2R2B	2.2 50V	[M]
C716	ECJ1VB1H681K	680P 50V	[M]
C717	F1C1C273A003	0.027 16V	[M]
C717	F1H1C104A065	0.1 16V	[M]
C718	ECJ1VB1C823K	0.082 16V	[M]
C719	ECEA1AKA101B	100 10V	[M]
C720	ECEA1HKN010B	1 50V	[M]
C721	F1D1C562A010	5600P 16V	[M]
C721	F1H1H220A230	22P 50V	[M]
C722	ECJ1VC1H270J	27P 50V	[M]
C722	F1D1C562A010	5600P 16V	[M]
C723	ECEA0JKA221I	220 6.3V	[M]
C723	ECEA1HKN010B	1 50V	[M]
C724	F1D1C562A010	5600P 16V	[M]
C724	F1H1C104A065	0.1 16V	[M]
C725	ECJ1VB1H102K	1000P 50V	[M]
C725	F1D1C562A010	5600P 16V	[M]
C726	ECA1CAK100XB	10 16V	[M]
C726	ECJ1VB1H102K	1000P 50V	[M]
C727	ECA1CAK100XB	10 16V	[M]
C727	ECA1HAK010XI	1 50V	[M]
C728	ECA1HAK010XI	1 50V	[M]
C728	F1D1H332A046	3300P 50V	[M]
C729	F1D1H332A046	3300P 50V	[M]
C729	F1H1C104A065	0.1 16V	[M]
C730	ECA1HAK3R3XB	3.3 50V	[M]
C730	F1H1C104A065	0.1 16V	[M]
C731	ECA0JAK221XI	220 6.3V	[M]
C731	ECA1HAK3R3XB	3.3 50V	[M]
C732	ECA1CAK221XB	220 16V	[M]
C733	ECA1HAKR47XB	0.47 50V	[M]
C733	F1H1C104A065	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C734	ECA1HAKR47XB	0.47 50V	[M]
C734	ECEA1AKA221I	220 10V	[M]
C735	F1H1E104A030	0.1 25V	[M]
C736	ECQV1H473JZ3	0.047 50V	[M]
C736	F1H1E104A030	0.1 25V	[M]
C737	ECJ1VB1E103K	0.01 25V	[M]
C737	ECQV1H473JZ3	0.047 50V	[M]
C738	ECA1CAK100XB	10 16V	[M]
C738	ECJ1VB1C563K	0.056 16V	[M]
C739	ECJ1VB1E183K	0.018 25V	[M]
C739	F1D1C122A010	1200P 16V	[M]
C740	F1D1C122A010	1200P 16V	[M]
C740	F1H1C104A065	0.1 16V	[M]
C741	ECA1HAKR47XB	0.47 50V	[M]
C741	ECJ1VB1H102K	1000P 50V	[M]
C742	ECA1HAKR47XB	0.47 50V	[M]
C742	ECJ1VB1C473K	0.047 16V	[M]
C743	F1E1H1030001	0.01 50V	[M]
C743	F1H1E104A030	0.1 25V	[M]
C744	ECJ1VB1E153K	0.015 25V	[M]
C744	F1E1H1030001	0.01 50V	[M]
C745	F1D1H101A012	100P 50V	[M]
C745	F1H1E104A030	0.1 25V	[M]
C746	F1D1H101A012	100P 50V	[M]
C746	F1H1C104A065	0.1 16V	[M]
C747	ECJ1VB1H471K	470P 50V	[M]
C747	F1D1H270A006	27P 50V	[M]
C748	F1D1H270A006	27P 50V	[M]
C748	F1H1C104A065	0.1 16V	[M]
C749	ECJ1VB1H392K	3900P 50V	[M]
C749	ECQB1H103JF3	0.01 50V	[M]
C750	ECQB1H103JF3	0.01 50V	[M]
C750	F1H1C104A065	0.1 16V	[M]
C751	ECA1CAK100XB	10 16V	[M]
C751	F1H1C104A065	0.1 16V	[M]
C752	ECA1CAK100XB	10 16V	[M]
C752	ECJ1VB1E183K	0.018 25V	[M]
C753	ECJ1VB1H471K	470P 50V	[M]
C754	F1H1C104A065	0.1 16V	[M]
C755	F1D1H471A012	470P 50V	[M]
C755	F1H1C104A065	0.1 16V	[M]
C756	F1D1H471A012	470P 50V	[M]
C757	ECEA0JKA101I	100 6.3V	[M]
C758	F1H1C104A065	0.1 16V	[M]
C760	ECA1EAK330XB	33 25V	[M]
C761	F1B1H103A007	0.01 50V	[M]
C1101	ECA1HAK010XB	1 50V	[M]
C1102	ECJ1VB1H471K	470P 50V	[M]
C1103	ECA1CAK101XB	100 16V	[M]
C1104	ECJ1VB1E273K	0.027 25V	[M]
C1105	ECJ1VB1H471K	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	ECJ1VB1H102K	1000P 50V	[M]
C1122	ECJ1VB1E103K	0.01 25V	[M]
C1123	ECJ1VB1H271K	270P 50V	[M]
C1201	ECA1HAK010XB	1 50V	[M]
C1202	ECJ1VB1H471K	470P 50V	[M]
C1203	ECA1CAK101XB	100 16V	[M]
C1204	ECJ1VB1E273K	0.027 25V	[M]
C1205	ECJ1VB1H471K	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	ECJ1VB1H102K	1000P 50V	[M]
C1222	ECJ1VB1E103K	0.01 25V	[M]
C1223	ECJ1VB1H271K	270P 50V	[M]
C1301	ECA1HAK0R1XB	0.1 50V	[M]
C1302	ECJ1VB1C333K	0.033 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1303	ECJ1VB1C333K	0.033 16V	[M]
C1304	ECEA1HKA4R7B	4.7 50V	[M]
C1305	ECA1CAK330XB	33 16V	[M]
C1307	ECA1AAK221XQ	220 10V	[M]
C1308	ECA1CAK220XB	22 16V	[M]
C1310	ECA1HAK0R1XB	0.1 50V	[M]
C1311	ECA1CAK470XB	47 16V	[M]
C1312	ECJ1VB1H332K	3300P 50V	[M]
C1314	ECJ1VB1H222K	2200P 50V	[M]
C1315	ECJ1VB1H222K	2200P 50V	[M]
C1316	ECJ1VB1H102K	1000P 50V	[M]
C1317	ECJ1VB1H102K	1000P 50V	[M]
C1318	ECQV1H473JZ3	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	ECJ1VB1E103K	0.01 25V	[M]
		CHIP JUMPER	
RJ701	ERJ3GEY0R00V	0 1/16W	[M]
RJ715	ERJ3GEY0R00V	0 1/16W	[M]
RJ716	ERJ3GEY0R00V	0 1/16W	[M]
RJ717	ERJ3GEY0R00V	0 1/16W	[M]
RJ718	ERJ3GEY0R00V	0 1/16W	[M]
RJ719	ERJ3GEY0R00V	0 1/16W	[M]
RJ720	ERJ3GEY0R00V	0 1/16W	[M]
RJ721	ERJ3GEY0R00V	0 1/16W	[M]
RJ722	ERJ3GEY0R00V	0 1/16W	[M]
RJ723	ERJ3GEY0R00V	0 1/16W	[M]
RJ724	ERJ3GEY0R00V	0 1/16W	[M]
RJ725	ERJ3GEY0R00V	0 1/16W	[M]

22.5. Packaging Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGV0048	PACKING CASE	[M]
P1	RPGV0114	PACKING CASE	[M] E-K
P2	RPNV0026	POLYFOAM	[M]
P3	RPHV0001	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	EUR7711150	REMOTE CONTROL	[M]
A1-1	UR64EC2337J	R/C BATTERY COVER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
A2	K2CQ2CA00002	AC CORD	[M] EG/E ⚠
A2	RJA0053-3X	AC CORD	[M] EB ⚠
A3	RQT7367-D	O/I BOOK (Ge/It/Fr)	[M] EG
A3	RQT7368-H	O/I BOOK (Du/Da/Sw)	[M] EG
A3	RQT7369-B	O/I BOOK (En)	[M] EB/E
A3	RQT7370-R	O/I BOOK (Sp/Ru/Cz/Po)	[M] E
A4	RSA0007-L	FM ANTENNA WIRE	[M]
A5	N1DAAAA00001	AM LOOP ANTENNA	[M]
A6	K1YZ02000013	ANT ADAPTER	[M] EB

22.6. Packaging