

Service Manual

Compact Disc Player

SL-PG560A

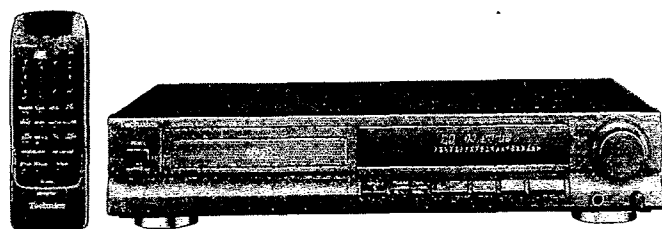
COMPACT
disc
DIGITAL AUDIO

DIGITAL

MASH
multi-stage noise shaping

Colour

(K) Black Type



Areas

Suffix for Model No.	Area	Colour
(E)	Europe	(K)
(EB)	Great Britain	
(EG)	Germany and Italy	

TRAVERSE DECK: RAE1100Z MECHANISM SERIES

Specifications

■ Audio

No. of channels	2 (left and right, stereo)
Frequency response	2–20,000 Hz, ± 0.5 dB
Output voltage	2 V (at 0 dB)
Dynamic range	98 dB
S/N	107 dB
Harmonic distortion	0.002% (1 kHz, 0 dB)
Total harmonic distortion	0.0027% (1 kHz, 0 dB)
Wow and flutter	Below measurable limit
DA converter	MASH (1 bit)
Output impedance	600 Ω
Load impedance	More than 10 k Ω
Headphone output level	15 mW max. 32 Ω (adjustable)

■ Pickup

Wavelength	780 nm
Laser Power	No hazardous radiation is emitted (with safety protection)

■ General

Power consumption	15 W
Power supply	AC 50/60 Hz, 230–240 V
Dimensions (W×H×D)	430×92×298 mm
Weight	3.3 kg

Note:

Specifications are subject to change without notice.
Weight and dimensions are approximate.

For United Kingdom only:

This apparatus was produced to BS 800.

- Technics (or Panasonic) developed the world's first MASH type DAC and ADC. MASH technology was invented by NTT (LSI Labs).
- MASH is a trademark of NTT.

Technics

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■ Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.

So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

● Handling of traverse deck (optical pickup)

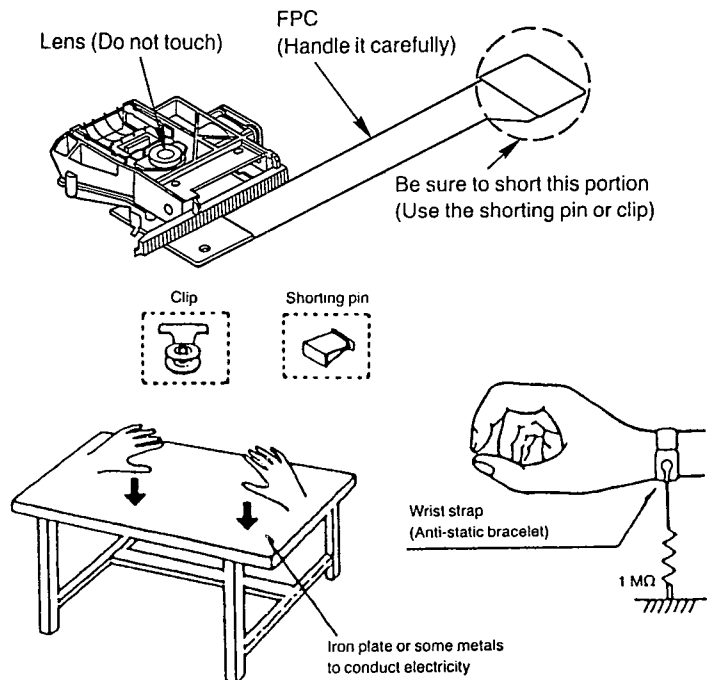
1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an anti-static shorting pin is inserted into the flexible board (FPC board). When removing or connecting the short pin, finish the job in as short time as possible.
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.

● Grounding for electrostatic breakdown prevention

1. Human body grounding
Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
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).



■ 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.

Wave length: 780 nm

Maximum output radiation power from pick up: 100 μW/VDE

Laser radiation from the 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 pickup 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.

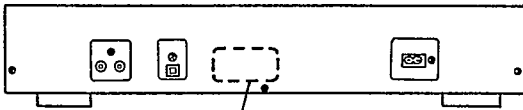
ACHTUNG: Dieses produkt enthält eine laserdiode. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit abgestrahlt.

Wellenlänge: 780 nm

Maximale strahlungsleistung der lasereinheit: 100 μW/VDE

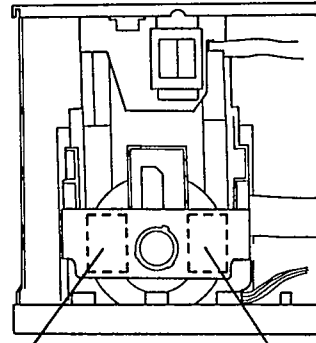
Die strahlung an der lasereinheit ist ungefährlich, wenn folgende punkte beachtet werden:

1. Die lasereinheit nicht zerlegen, da die strahlung an der freigelegten laserdiode gefährlich ist.
2. Den werksseitig justierten einstellregler der lasereinheit nicht verstellen.
3. Nicht mit optischen instrumenten in die fokussierlinse blicken.
4. Nicht über längere zeit in die fokussierlinse blicken.



**CLASS 1
LASER PRODUCT**

**LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT**



VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymätön lasersäteilylle. Älä katso säteeseen.

ADVERSE! Usynlig laserstråling når deksel åpnes og sikkerhetslås brytes. Unngå eksponering for strålen.

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.

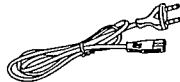
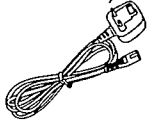
WARNING! Osynlig laserstråling når denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VORSICHT - Unsichtbare Laserstrahlung, wenn Abdeckung geöffnet. Nicht dem Strahl aussetzen.

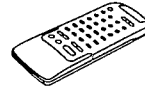
DANGER-invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

Accessories

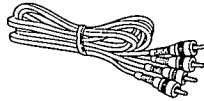
- AC mains lead 1 pc.
(For United Kingdom: RJA0034-P) (For others: RJA0043-C)



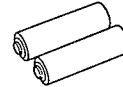
- Remote control 1 pc.
(EUR642100)



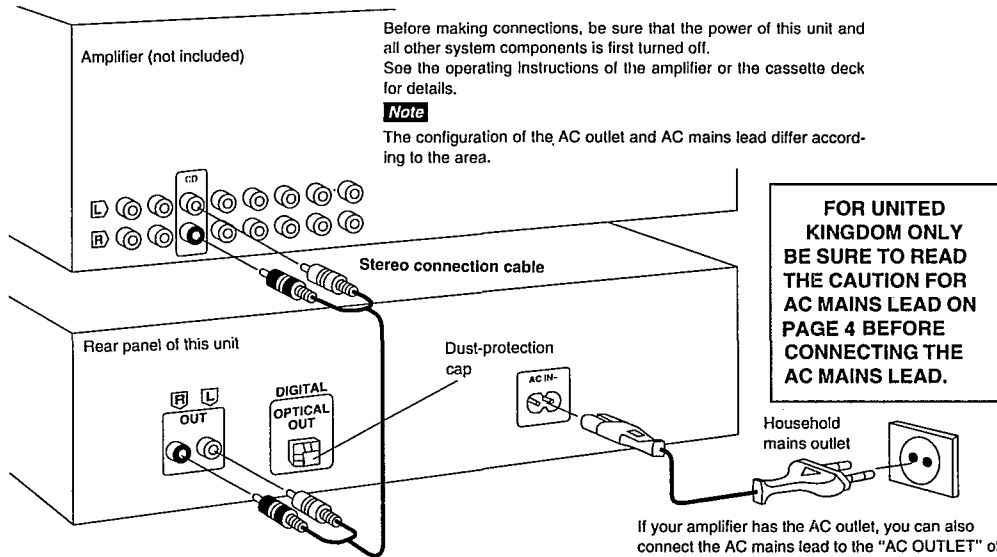
- Stereo connection cable 1 pc.
(SJP2249-3)



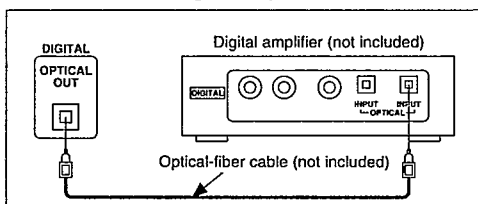
- Batteries for remote control 2 pcs.
(UM-4, AAA, R03)



Connections



To connect the digital amplifier



Note

Remove a dust-protection cap which is inserted in DIGITAL OPTICAL OUT terminal only when you connect to the digital amplifier. When this terminal is not being used, attach the cap as shown in the illustration above.

■ Caution for AC Mains Lead (For United Kingdom)



("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 OF 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

If the socket outlets in the home are not suitable for the plug supplied with this appliance it should be cut off and an appropriate three pin plug fitted.

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

Blue: Neutral

Brown: Live

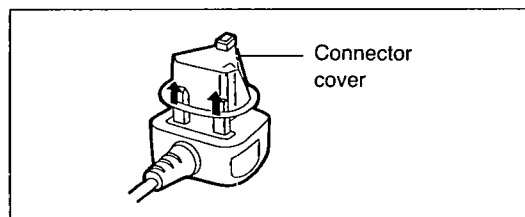
Do not connect either wire to the earth terminal in the plug which is marked by the letter "E" or by the safety earth symbol  or coloured green or green-and-yellow.

As the colours of the wires in the mains lead of this apparatus 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.

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

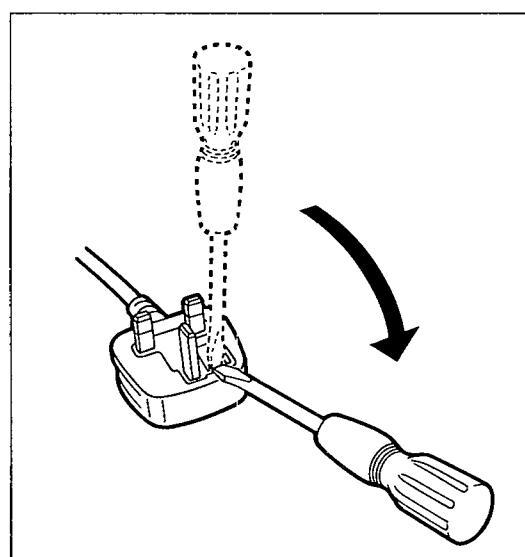
Before use

Remove the connector cover as follows.

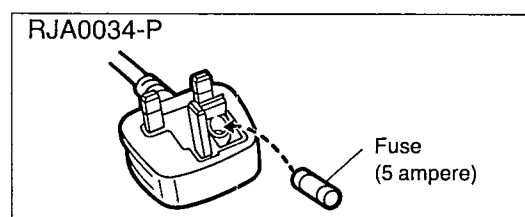


How to replace the fuse

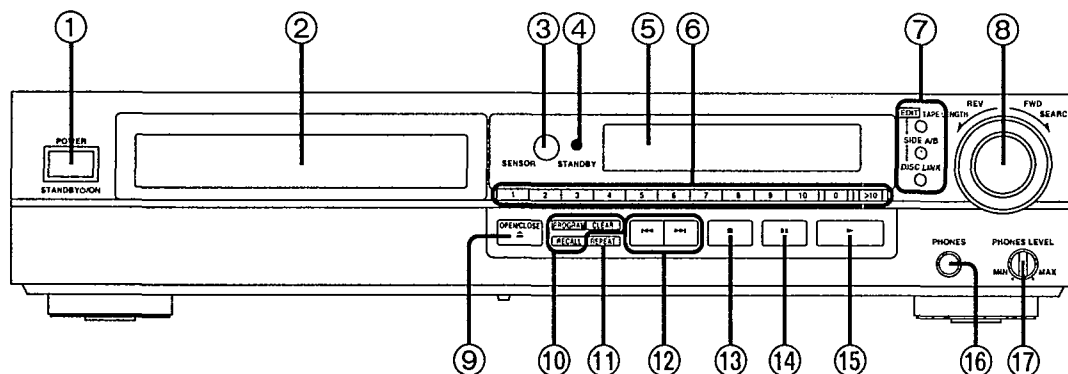
1. Open the fuse cover with a screwdriver.



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



■ Location of Controls

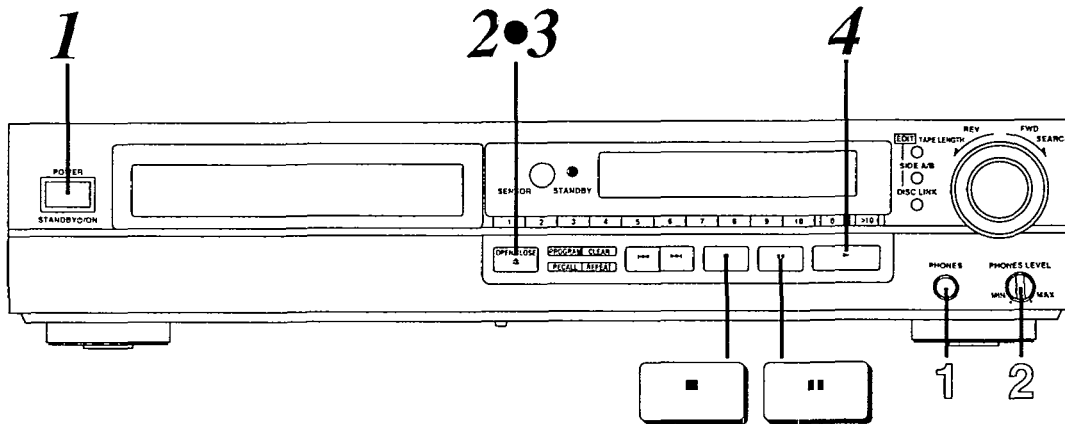


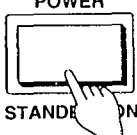
No.	Name
①	Power “STANDBY ⏻/ON” switch (POWER, STANDBY ⏻/ON) Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
②	Disc tray
③	Remote control signal sensor (SENSOR) You can also turn this unit on and off by using the remote control included with the amplifier or receiver compatible with the New Technics Remote Control System. Amplifier: SU-V500/A700MK2/A800MK2/A900MK2 Receiver: SA-GX170/GX370/GX470/GX670 (as of April, 1994) [See the operating instructions of the amplifier or the receiver for details.]
④	Standby indicator (STANDBY) When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
⑤	Display panel
⑥	Numeric buttons (1–10, 0, >10)
⑦	CD edit record buttons (EDIT) <ul style="list-style-type: none"> •Tape length button (TAPE LENGTH) •Tape side switch button (SIDE A/B) •Disc link button (DISC LINK)


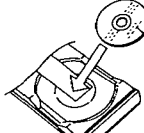
No.	Name
⑧	Search dial (SEARCH)
⑨	Disc tray open/close button (\blacktriangle OPEN/CLOSE)
⑩	Program play buttons <ul style="list-style-type: none"> •Program button (PROGRAM) •Clear button (CLEAR) •Recall button (RECALL)
⑪	Repeat button (REPEAT)
⑫	Skip buttons (\blacktriangleleft , \blacktriangleright)
⑬	Stop button (\blacksquare)
⑭	Pause button ()
⑮	Play button (\blacktriangleright)
⑯	Headphones jack (PHONES)
⑰	Headphones volume level knob (PHONES LEVEL)


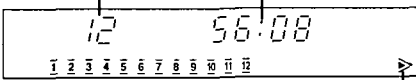
Basic Operating Procedure

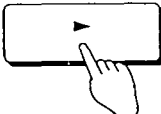
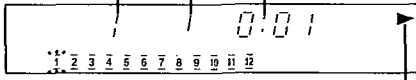
With this function, a disc is played from the first track to the last track and then stops automatically.



1 **POWER**

Press POWER (Power goes on).
 If a compact disc is already in the disc tray, it automatically begins playing from the first track.

2 **OPEN/CLOSE**

Press ▲ OPEN/CLOSE to open the tray and insert a disc.

 Label must face upward

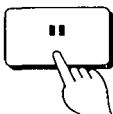
3 **OPEN/CLOSE**

Press ▲ OPEN/CLOSE to close the tray.
 Total number of tracks
 Total playing time

 Displayed if there are 21 or more tracks on the disc

4 **▶**

Press ▶ (Play begins).
 Play stops automatically after all tracks have been played.
 Index number
 (If there is none, " / " is displayed.)
 Track currently playing
 Elapsed time

 Illuminates.

To stop disc play

Press ■.


To pause disc play

Press ||.

 To continue playback, press ▶.

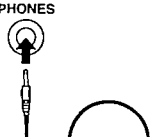
Notes


- The displayed total playing time includes the time between tracks. For this reason, the time may be several seconds longer than that which appears on song cards and the like.
- When you use the timer with other unit, be sure to turn this unit on.

For your reference:

If you skip step 3 and press ▶, the tray automatically closes and play begins from the first track.

To listen with headphones

1 **PHONES**

Connect headphones (not included).
 • Lower the volume before connecting.
 • Plug type: Large stereo type

2 **PHONES LEVEL**

Adjust the volume with the PHONES LEVEL knob.
 To make louder:
 Turn toward the right.
 To make lower:
 Turn toward the left.

Note

Avoid listening for prolonged periods of time to prevent hearing damage.

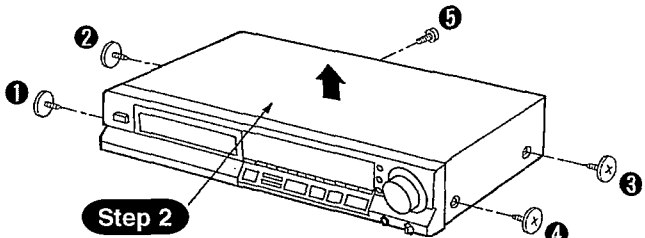
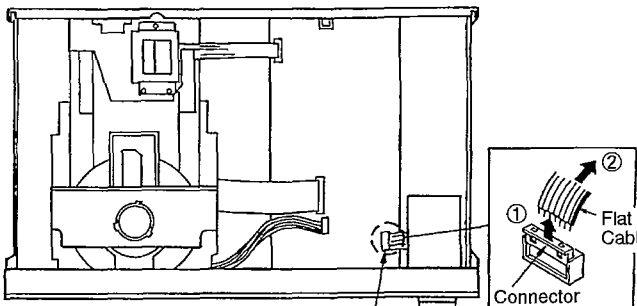
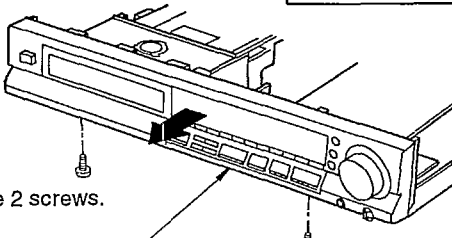
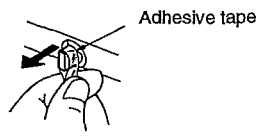
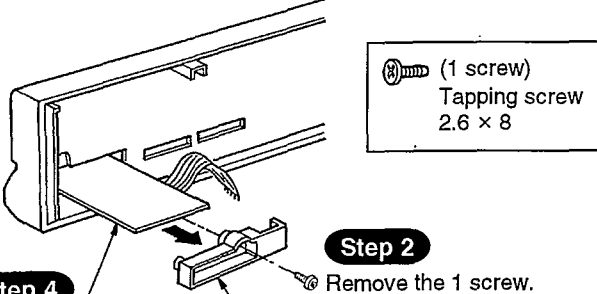
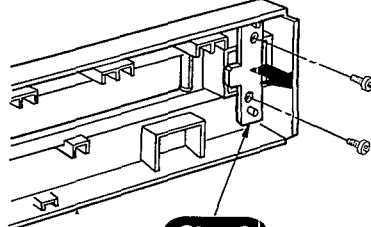
Disassembly Instructions


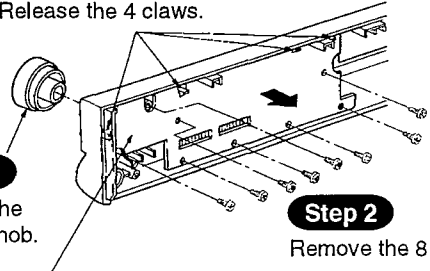
Warning: This product uses a laser diode. Refer to caution statements on page 2.


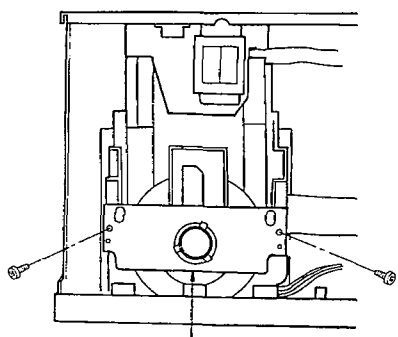
ACHTUNG: Die Lasereinheit nicht zerlegen.

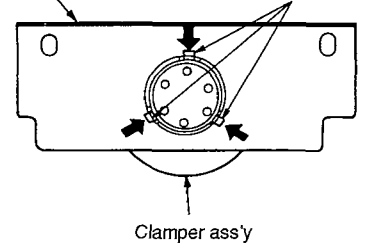
Die Lasereinheit darf nur gegen eine vom hersteller speziferte einheit ausgetauscht werden.



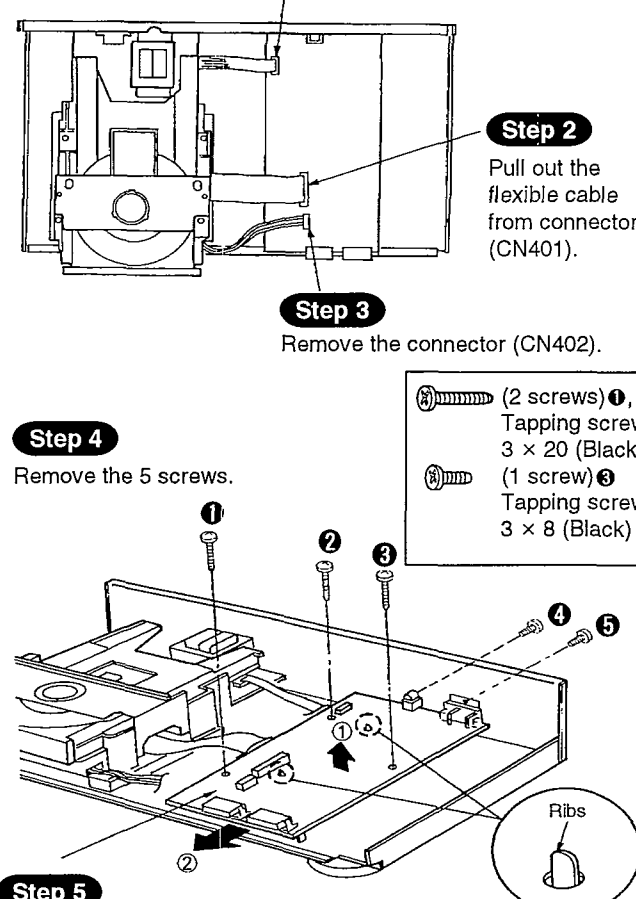
"ATTENTION SERVICER" Some chassis components may have sharp edges. Be careful when disassembling and servicing.


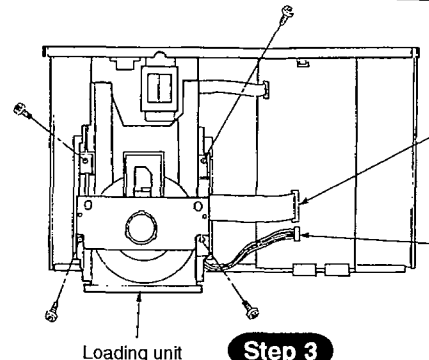
Ref. No. 1	Removal of the cabinet	Ref. No. 2	Removal of the front panel ass'y
Procedure 1		Procedure 1→2	
<p>Step 1 Remove the 5 screws.</p>  <p>Step 2 Remove the cabinet in the direction of arrow.</p> <div data-bbox="526 396 774 578" style="border: 1px solid black; padding: 5px;"> <p>(4 screws) ①~④ (Black)</p> <p>(1 screw) ⑤ Tapping screw 3 × 8 (Black)</p> </div>		 <p>Step 1 Remove the flat cable from connector (CN891).</p>	
Ref. No. 3	Removal of the headphones jack P.C.B.	 <div data-bbox="1228 929 1484 1043" style="border: 1px solid black; padding: 5px;"> <p>(2 screws) Tapping screw 3 × 8 (Black)</p> </div> <p>Step 2 Remove the 2 screws.</p> <p>Step 3 Remove the front panel ass'y in the direction of arrow.</p>	
Procedure 1→2→3			
<p>● Pull out the headphones level knob with using adhesive tape when removing the headphones level knob.</p>  <p>Adhesive tape</p> <p>Step 1 Pull out the headphones level knob.</p>		Ref. No. 4	
 <div data-bbox="542 1587 790 1700" style="border: 1px solid black; padding: 5px;"> <p>(1 screw) Tapping screw 2.6 × 8</p> </div> <p>Step 2 Remove the 1 screw.</p> <p>Step 3 Remove the headphones holder.</p> <p>Step 4 Remove the headphones jack P.C.B. in the direction of arrow.</p>		<p>Procedure 1→2→4</p> <div data-bbox="1236 1530 1492 1644" style="border: 1px solid black; padding: 5px;"> <p>(2 screws) Tapping screw 2.6 × 8</p> </div>  <p>Step 1 Remove the 2 screws.</p> <p>Step 2 Remove the power switch P.C.B. in the direction of arrow.</p>	

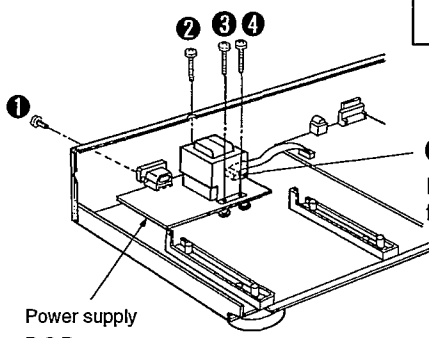
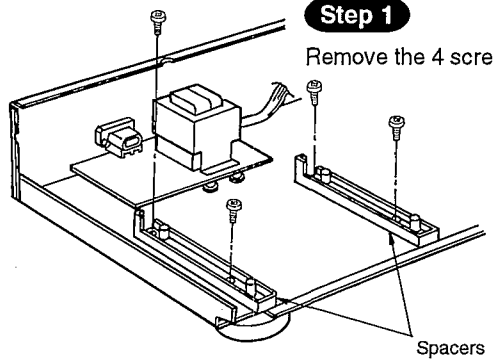
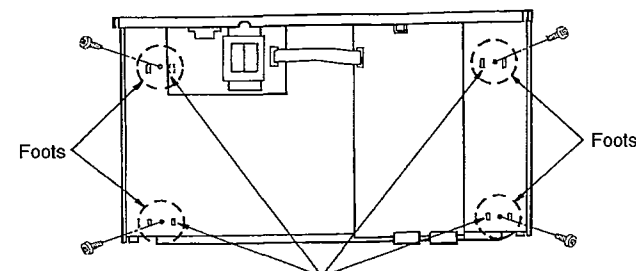
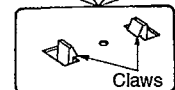
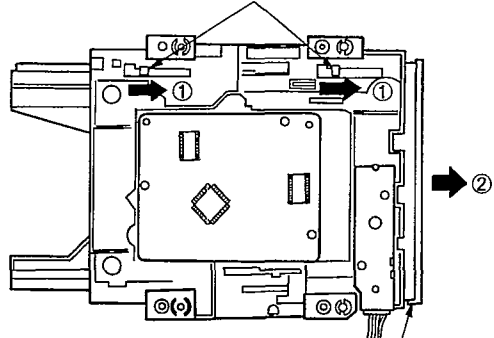
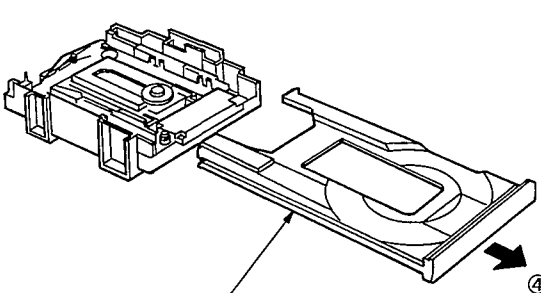
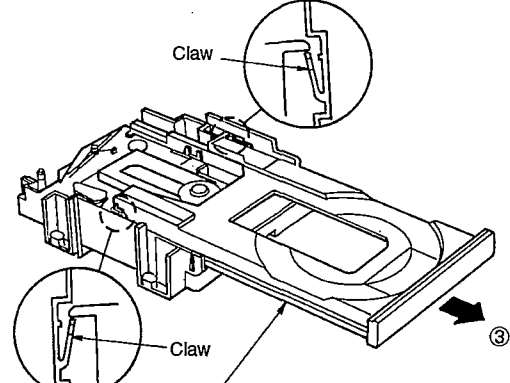
Ref. No. 5	Removal of the operation P.C.B.
Procedure 1→2→3→5	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">  (8 screws) Tapping screw 2.6 × 8 </div> <p>Step 1 Pull out the search knob.</p> <p>Step 2 Remove the 8 screws.</p> <p>Step 3 Release the 4 claws.</p> <p>Step 4 Remove the operation P.C.B. in the direction of arrow.</p> 

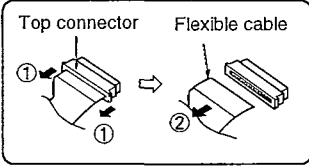
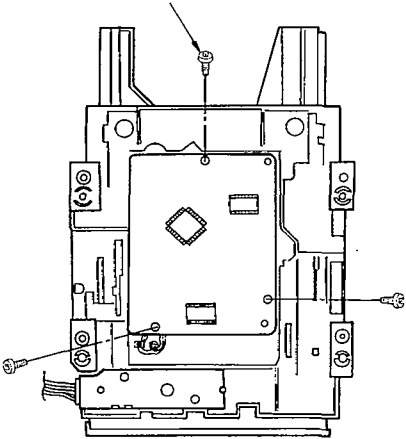
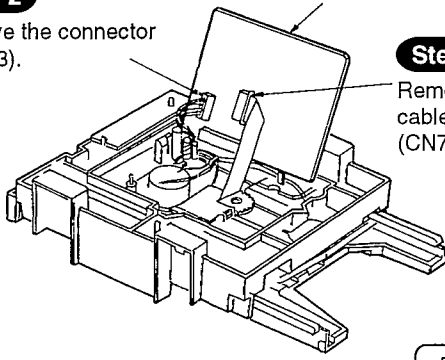
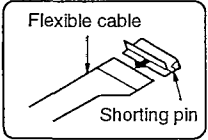
Ref. No. 7	Removal of the clamber plate and clamber ass'y
Procedure 1→7	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">  (2 screws) Tapping screw 3 × 8 (Black) </div> <p>Step 1 Remove the 2 screws.</p> <p>Step 2 Remove the clamber plate.</p> 

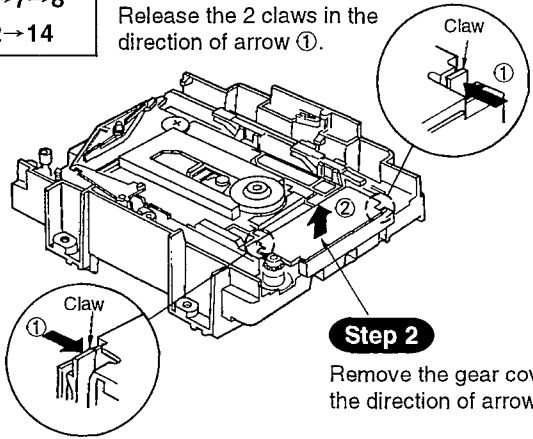
	Removal of the clamber plate and clamber ass'y
	<p>Step 3 Release the 3 claws in the direction of arrow.</p>  <p>Clamber plate</p> <p>Clamber ass'y</p>

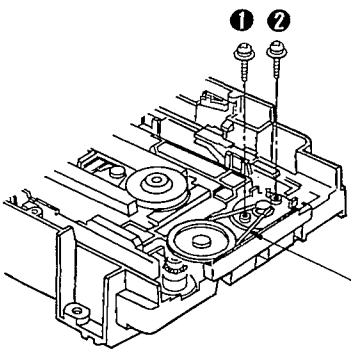
Ref. No. 6	Removal of the main P.C.B.
Procedure 1→2→6	<p>Step 1 Remove the flat cable from connector (CN11).</p> <p>Step 2 Pull out the flexible cable from connector (CN401).</p> <p>Step 3 Remove the connector (CN402).</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">  (2 screws) ①, ② Tapping screw 3 × 20 (Black)  (1 screw) ③ Tapping screw 3 × 8 (Black) </div> <p>Step 4 Remove the 5 screws.</p> <p>Step 5 Lift up the main P.C.B. in the direction of arrow ①, and release the 2 ribs on the chassis ass'y. Then, remove the main P.C.B. in the direction of arrow ②.</p>  <p>Ribs</p>

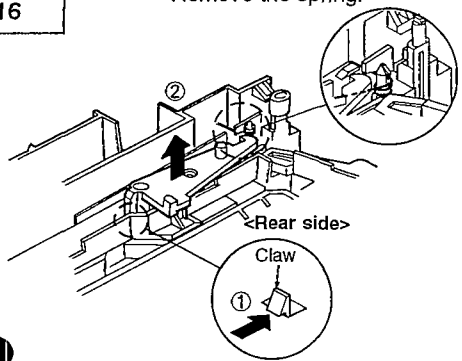
Ref. No. 8	Removal of the loading unit
Procedure 1→2→8	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">  (4 screws) Tapping screw 3 × 8 (Black) </div> <p>Step 1 Pull out the flexible cable from connector (CN401).</p> <p>Step 2 Remove the connector (CN402).</p> <p>Step 3 Remove the 4 screws.</p>  <p>Loading unit</p>

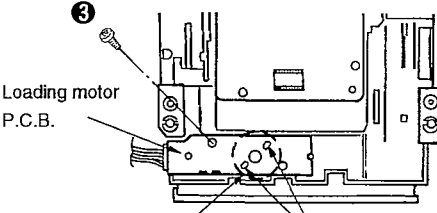
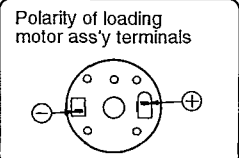
<p>Ref. No. 9</p>	<p>Removal of the power supply P.C.B.</p>	<p>Ref. No. 10</p>	<p>Removal of the spacer</p>
<p>Procedure 1→2→8→9</p>	<p>(1 screw) ① Tapping screw 3 × 8 (Black)</p> <p>(3 screws) ②~④ Tapping screw 3 × 20 (Black)</p>	<p>Procedure 1→2→8→10</p>	<p>(4 screws) Tapping screw 3 × 8 (Black)</p>
<p>Step 1 Remove the 4 screws.</p>  <p>Step 2 Remove the flat cable from connector (CN21).</p> <p>Power supply P.C.B.</p>		<p>Step 1 Remove the 4 screws.</p>  <p>Spacers</p>	
<p>Ref. No. 11</p>	<p>Removal of the foots</p>	<p>Ref. No. 12</p>	<p>Removal of the disc tray</p>
<p>Procedure 1→2→8→10 →11</p>	<p>(4 screws) Tapping screw 3 × 8 (Black)</p>	<p>Procedure 1→2→7→8→12</p>	<p>Step 1 Push the 2 levels fully in the direction of the arrows ①. (Traverse unit in moved down.)</p>
<p>Step 1 Remove the 4 screws.</p>  <p>Foots</p> <p>Step 2 Release the 8 claws.</p>  <p>Claws</p>		 <p>Step 2 Move the disc tray slightly in the direction of arrow ②.</p>	
<p>Step 4 Remove the disc tray in the direction of arrow ④.</p> 		<p>Step 3 Release the 2 claws, and then move the disc tray in the direction of arrow ③.</p>  <p>Claw</p> <p>Claw</p>	

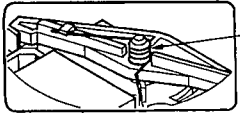
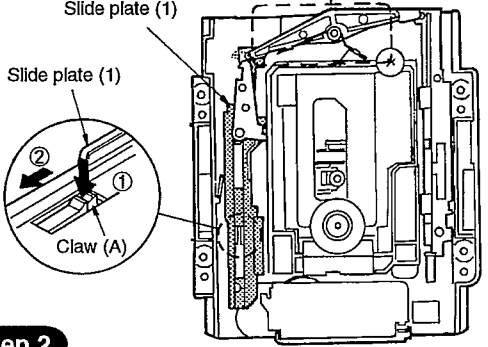
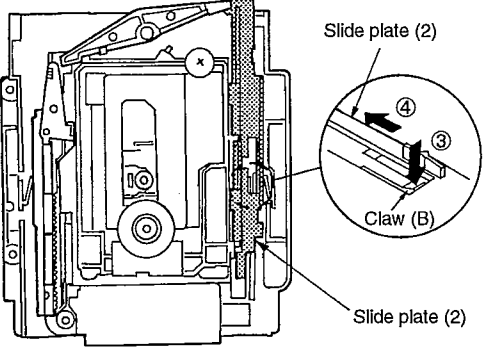
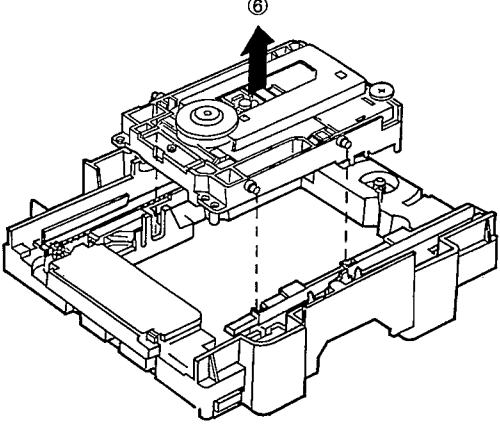
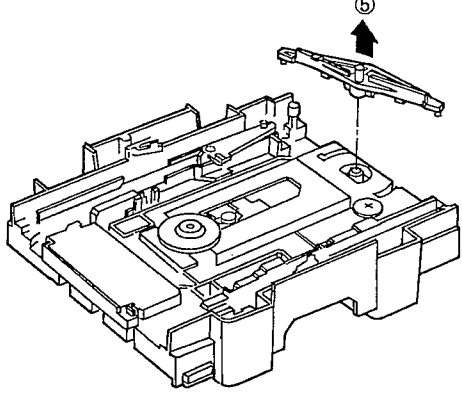
<p>Ref. No. 13</p>	<p>Removal of the servo P.C.B.</p>		<p>■Removal of the flexible cable ● Push the top of the connector in the direction of arrow ①, and then pull out the flexible cable in the direction of arrow ②.</p> 
<p>Procedure 1→2→8→13</p>	<p>(3 screws) Tapping screw 2.6 × 8</p>	<p>Step 1 Remove the 3 screws.</p> 	
<p>Step 2 Remove the connector (CN703).</p>		<p>Step 3 Remove the flexible cable from connector (CN701).</p> 	<p>Note: Insert a shorting pin into the traverse unit flexible cable. (Refer to Handling Precautions for Traverse Deck on page 2.)</p> 

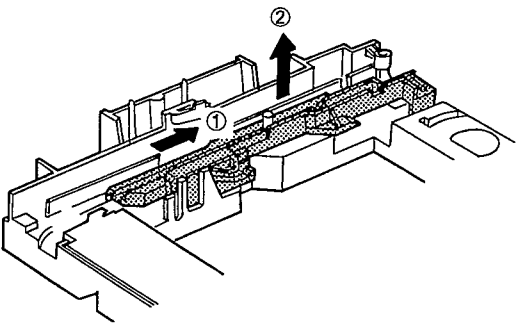
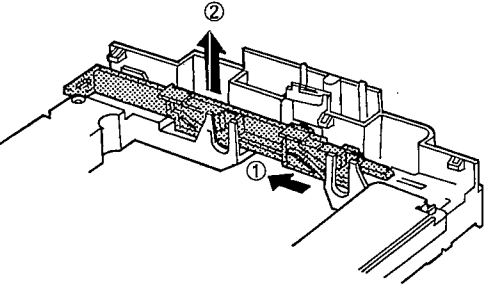
<p>Ref. No. 14</p>	<p>Removal of the gear cover</p>	
<p>Procedure 1→2→7→8 →12→14</p>	<p>Step 1 Release the 2 claws in the direction of arrow ①.</p> 	
<p>Step 2 Remove the gear cover in the direction of arrow ②.</p>		

<p>Ref. No. 15</p>	<p>Removal of the loading motor P.C.B. and loading motor ass'y</p>	
<p>Procedure 1→2→7→8→ 12→14→15</p>	<p>Step 1 Remove the 2 screws.</p> 	
<p>(2 screws) ①, ② Tapping screw 2 × 6 (Black) (1 screw) ③ Tapping screw 2.6 × 8</p>		<p>Step 2 Remove the belt.</p>

<p>Ref. No. 16</p>	<p>Removal of the lock lever</p>	
<p>Procedure 1→2→7→8 →12→16</p>	<p>Step 1 Remove the spring.</p> 	
<p>Step 2 Push the claw in the direction of arrow ① and then lift up the lock lever in the direction of arrow ②.</p>		

<p>Step 3 Remove the 1 screw.</p> 		<p>Polarity of loading motor ass'y terminals</p> 
<p>Step 4 Unsolder the loading motor ass'y terminals (2 points).</p>		

<p>Ref. No. 17</p>	<p>Removal of the converter lever and traverse deck ass'y</p>	<p>Note: Be careful not to damage the claw (A) or (B) because the claw (A) or (B) is breakable.</p>
<p>Procedure 1→2→7→8→ 12→13→17</p>	<p>Step 1 Remove the spring.</p> 	
<p>Step 2 Push the claw (A) in the direction of arrow ①, and then move the slide plate (1) in the direction of arrow ②.</p>		<p>Step 3 Push the claw (B) in the direction of arrow ③, and then move the slide plate (2) in the direction of arrow ④.</p> 
<p>Step 5 Remove the traverse deck ass'y in the direction of arrow ⑥.</p>		
<p>Step 4 Remove the converter lever in the direction of arrow ⑤.</p>		

<p>Ref. No. 18</p>	<p>Removal of the slide plate (1)</p>	<p>Ref. No. 19</p>	<p>Removal of the slide plate (2)</p>
<p>Procedure 1→2→7→8→ 12→13→16→ 17→18</p>	<p>Step 1 Move the slide plate (1) in the direction of arrow ①, and lift up the slide plate (1) in the direction of arrow ②.</p>	<p>Procedure 1→2→7→8→12 →13→17→19</p>	<p>Step 1 Move the slide plate (2) in the direction of arrow ①, and lift up the slide plate (2) in the direction of arrow ②.</p>
			

Ref. No. 20 **Removal of the traverse deck**

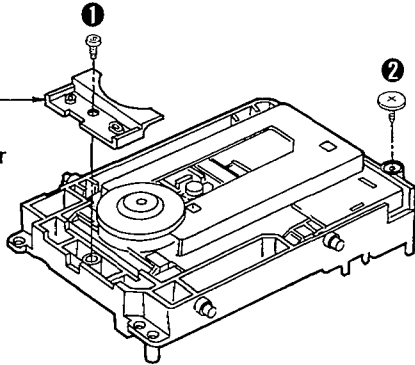
Procedure
1→2→7→8→
12→13→17→
20

Step 1

Remove the 2 screws.

Step 2

Remove the traverse stopper

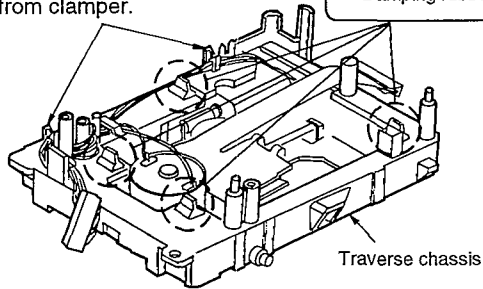
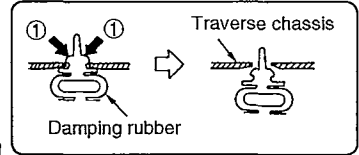


Step 4

Push the damping rubber in the direction of arrow ①, and then remove it from traverse chassis.

Step 3

Remove the lead wire from clamber.

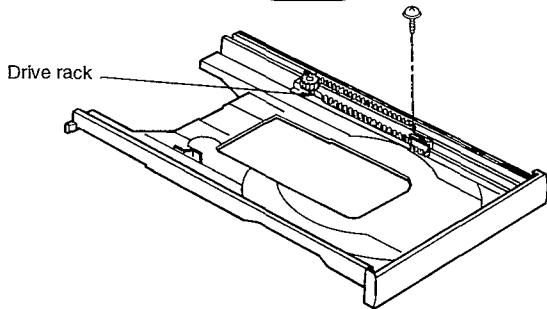


Ref. No. 21 **Removal of the drive rack**

Procedure
1→2→7→8
→12→21

(1 screw) ①
Tapping screw
2 × 5 (Black)

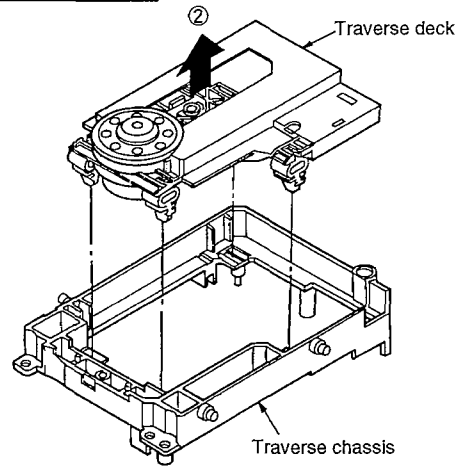
Step 1 Remove the 1 screw.



Step 5

Remove the traverse deck in the direction of arrow ②.

(1 screw) ①
Tapping screw
2.6 × 8 (Black)
(1 screw) ②
Tapping screw
3 × 8

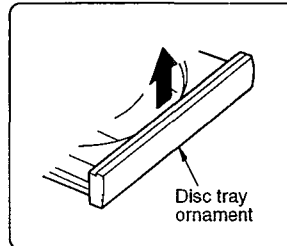
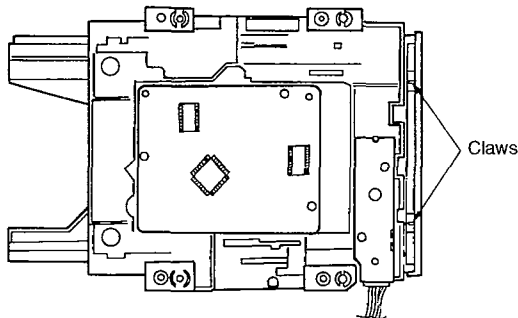


Ref. No. 22 **Removal of the disc tray ornament**

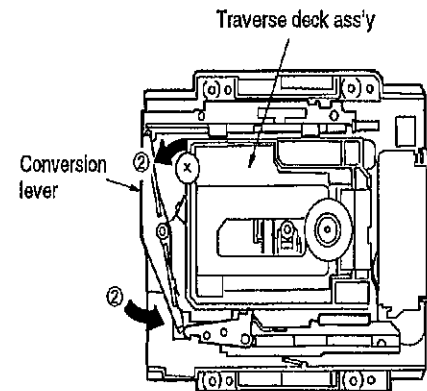
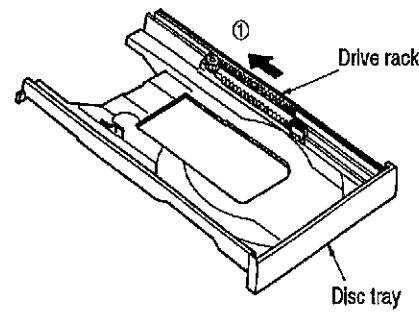
Procedure
1→2→8→21

Step 1

Release the 2 claws, and then remove the disc tray ornament in the direction of arrow.



■Installing Disc Tray

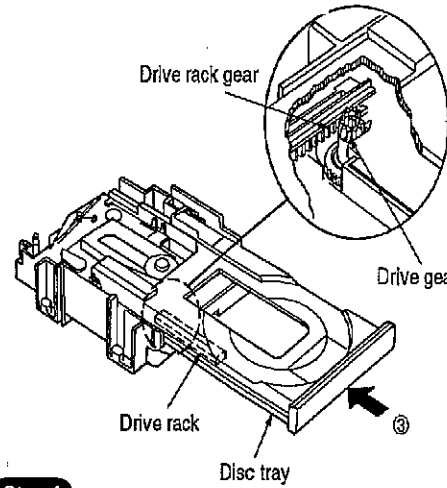
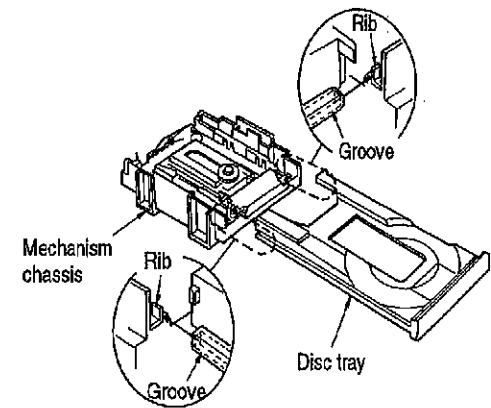


Step 1

Slide the drive rack fully in the direction of arrow ①.

Step 2

Slide the conversion lever in the direction of arrow ②, and then leave the traverse deck ass'y falling.



Step 3

Align the disc tray groove with the mechanism chassis rib.

Step 4

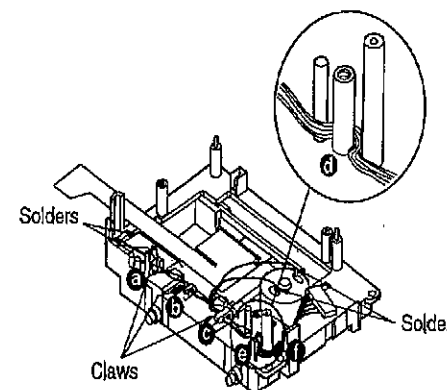
Slide the disc tray in the direction of arrow ③. Then, put the drive rack manually so that the drive gear (1) engages with the drive rack gear.

Step 5

After the drive gear (1) engaged with the drive rack gear, slide the disc tray in the direction of arrow ④.

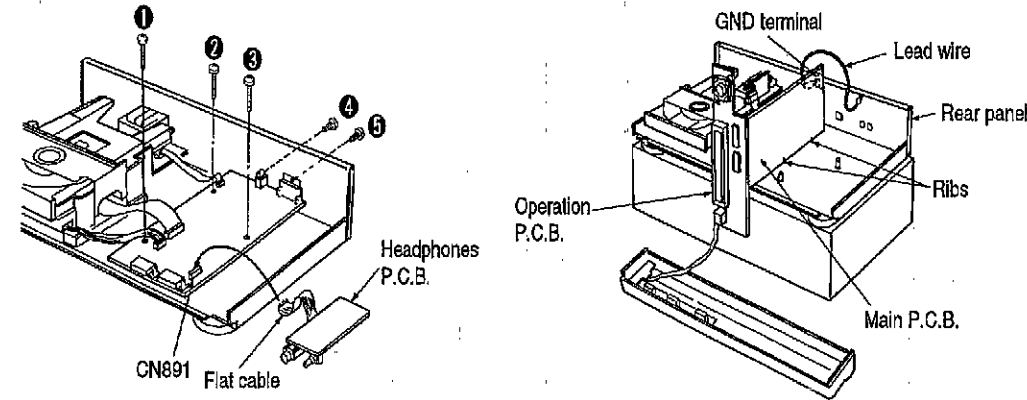
■Dispose of Wire

1. Dispose of wire in due order ⑤ to ⑧.
2. Slacken off the each wire between solder part and each claw.

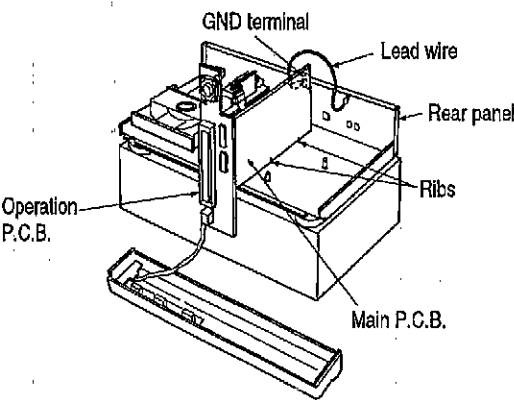


■How to Check the Main P.C.B.

1. Remove the cabinet referring to Procedure 1 "Removal of the cabinet" on page 7.
2. Remove the front panel ass'y referring to Procedure 2 "Removal of the front panel ass'y" on page 7.
3. Remove the headphones P.C.B. referring to Procedure 3 "Removal of the headphones P.C.B." on page 7.
4. Remove the operation P.C.B. referring to Procedure 5 "Removal of the operation P.C.B." on page 8.



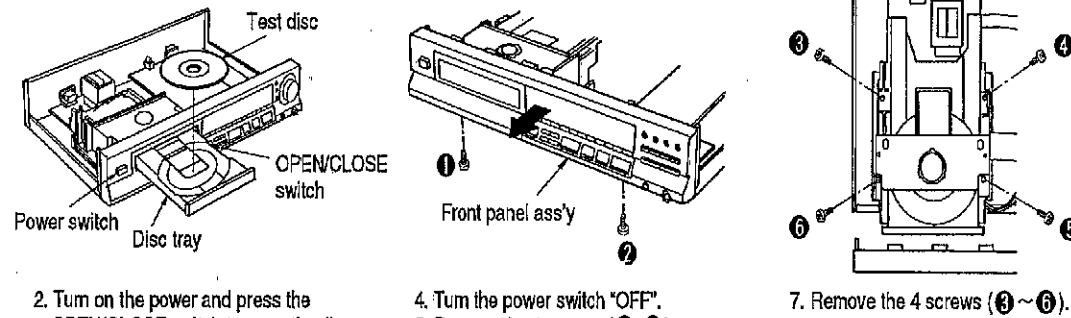
5. Remove the 5 screws (①~⑤).
6. Remove the main P.C.B. and then stand the main P.C.B. at the side of unit.
7. Connect the flat cable with headphones P.C.B. to the connector (CN891) on main P.C.B.



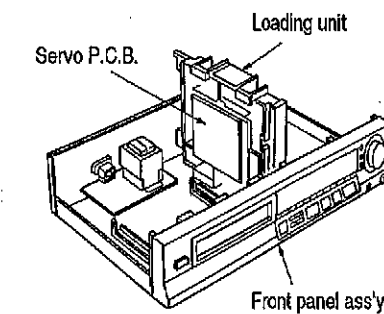
8. Reinstall the operation P.C.B. to the main P.C.B.
9. Connect the GND terminal to the rear panel by the lead wire.
10. When checking the soldered surface of the main P.C.B., do as shown above.

■How to Check the Servo P.C.B.

1. Remove the cabinet referring to Procedure 1 "Removal of the cabinet" on page 7.

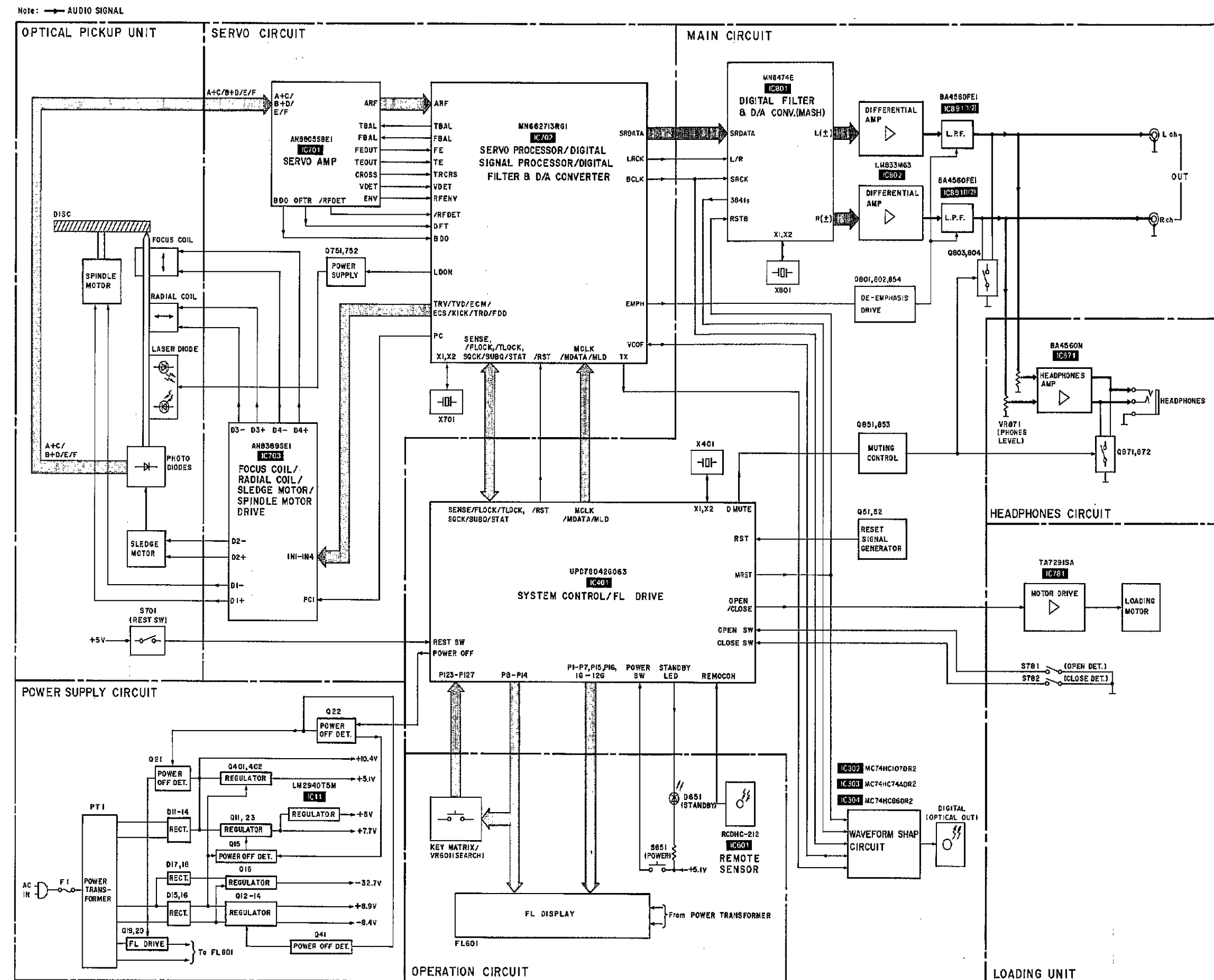


2. Turn on the power and press the OPEN/CLOSE switch to open the disc tray.
3. Load the test disc and press the OPEN/CLOSE switch again to close the disc tray.
4. Turn the power switch "OFF".
5. Remove the 2 screws (①, ②).
6. Draw the front panel ass'y in the direction of arrow.
7. Remove the 4 screws (③~⑥).



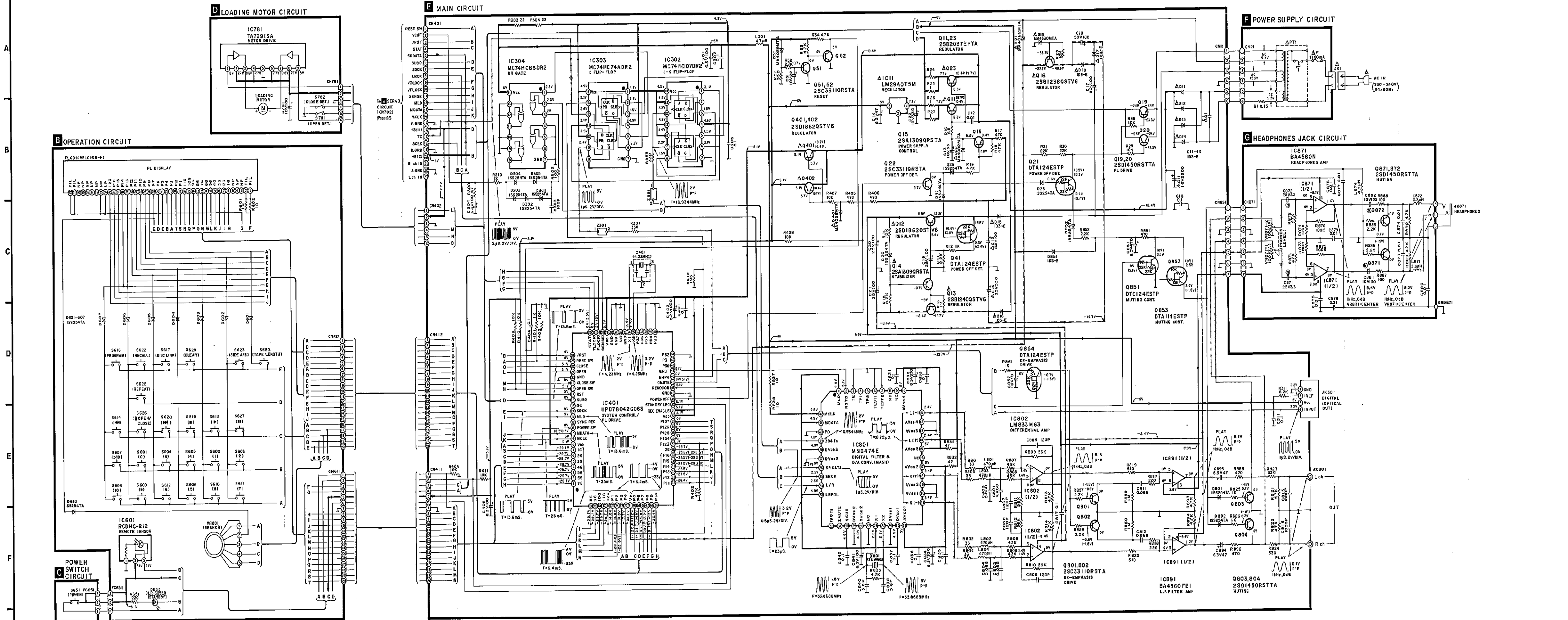
8. Place the loading unit sideways as shown in the figure left.
9. Attach the front panel ass'y to the unit.
10. After placing the unit as shown left, perform check and adjustment of the coil on the servo P.C.B.

■Block Diagram

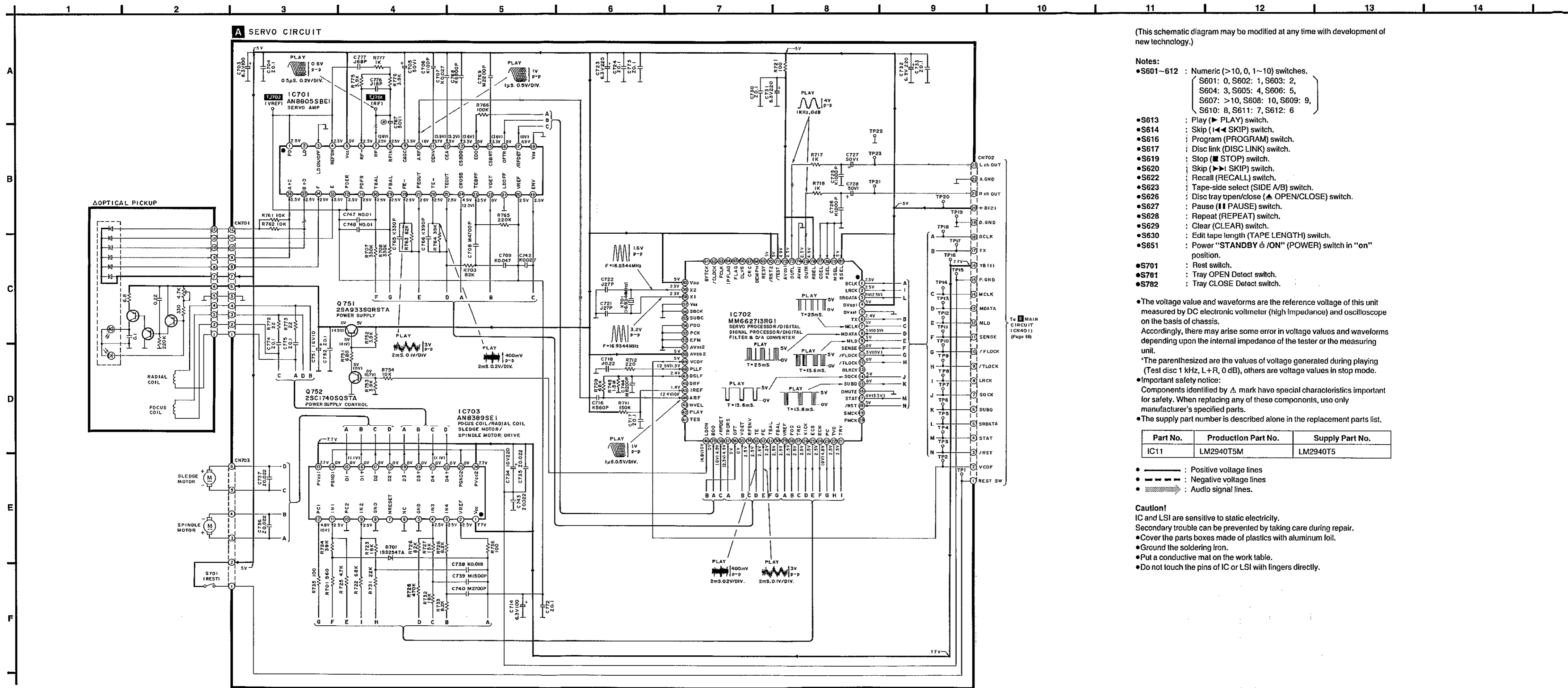


Schematic Diagram Main/Operation/Loading Motor/Power Supply/Headphones Jack Circuit (Parts list on page 35-38.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19



●Optical Pickup/Servo Circuit (Parts list on pages 35~38.)



(This schematic diagram may be modified at any time with development of new technology.)

- Notes:
- S601~612 : Numeric (>10, 0, 1~10) switches.
 - S601: 0, S602: 1, S603: 2,
 - S604: 3, S605: 4, S606: 5,
 - S607: >10, S608: 10, S609: 9,
 - S610: 8, S611: 7, S612: 6
 - S613 : Play (▶) PLAY switch.
 - S614 : Skip (◀◀) SKIP switch.
 - S616 : Program (PROGRAM) switch.
 - S617 : Disc link (DISC LINK) switch.
 - S619 : Stop (■) STOP switch.
 - S620 : Skip (▶▶) SKIP switch.
 - S622 : Recall (RECALL) switch.
 - S623 : Tape-side select (SIDE A/B) switch.
 - S626 : Disc tray open/close (▲ OPEN/CLOSE) switch.
 - S627 : Pause (||) PAUSE switch.
 - S628 : Repeat (REPEAT) switch.
 - S629 : Clear (CLEAR) switch.
 - S630 : Edit tape length (TAPE LENGTH) switch.
 - S651 : Power "STANDBY ◊ /ON" (POWER) switch in "on" position.
 - S701 : Rest switch.
 - S781 : Tray OPEN Detect switch.
 - S782 : Tray CLOSE Detect switch.

●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.

*The parenthesized are the values of voltage generated during playing (Test disc 1 kHz, L+R, 0 dB), others are voltage values in stop mode.

●Important safety notice:
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

●The supply part number is described alone in the replacement parts list.

Part No.	Production Part No.	Supply Part No.
IC11	LM2940T5M	LM2940T5

- ——— : Positive voltage lines
- - - - - : Negative voltage lines
- [Wavy] : Audio signal lines.

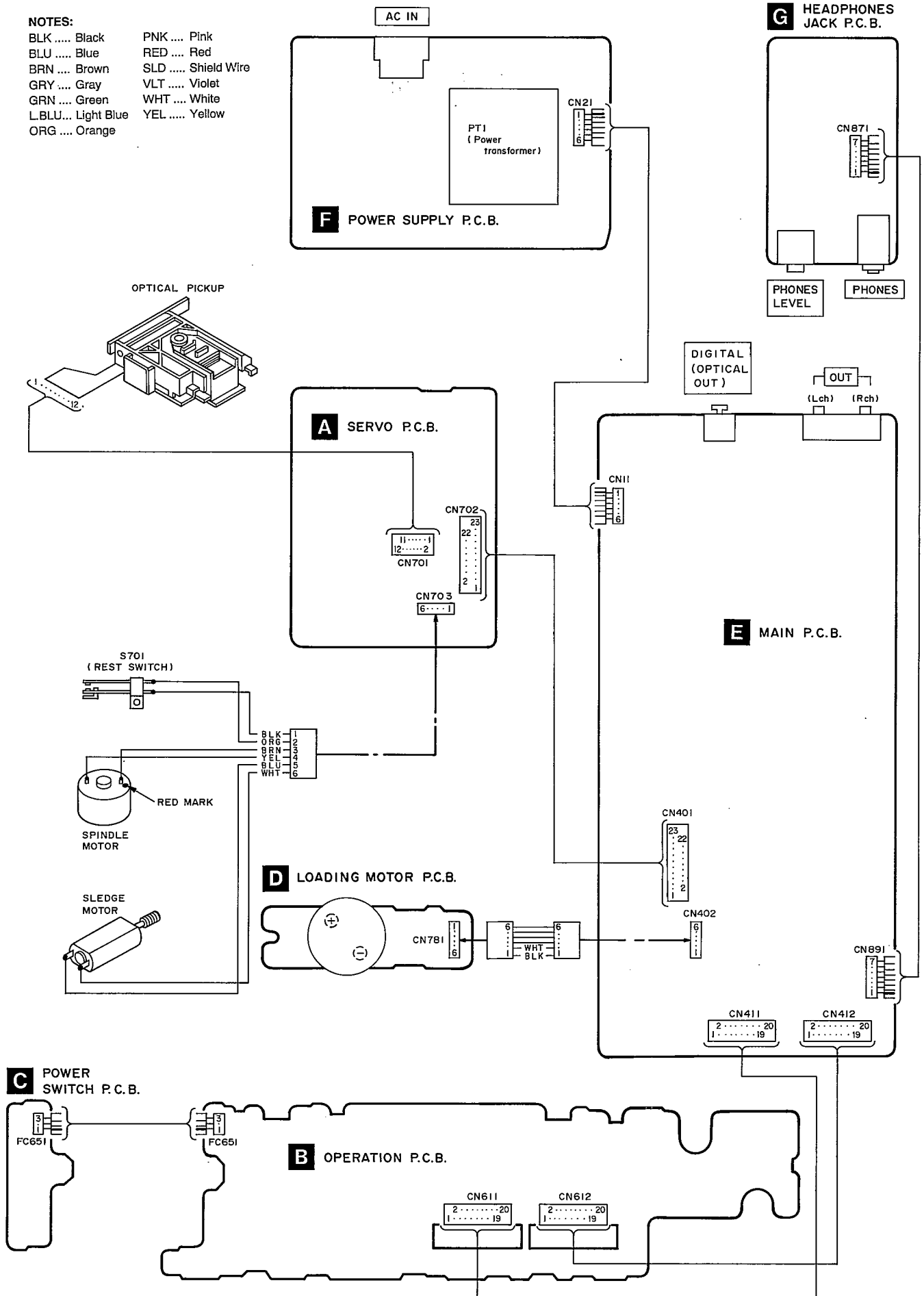
Caution!
IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.

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

Wiring Connection Diagram

NOTES:

- | | |
|---------------------|-----------------------|
| BLK Black | PNK Pink |
| BLU Blue | RED Red |
| BRN Brown | SLD Shield Wire |
| GRY Gray | VLT Violet |
| GRN Green | WHT White |
| L.BLU... Light Blue | YEL Yellow |
| ORG Orange | |



■ Display Function of Automatically-Adjusted Results

(Self-Check Function)

The unit contains a function which displays the result of the automatically adjustment of the servo circuits (tracking, focus servo, etc.) as an error code on the FL display. The error code display serves as a repair guide showing the automatically adjustment circuit is at fault. The procedures for displaying the error codes are given below.

• Procedures to display the error code

(1) Procedure to display the error code before disassembly (finished unit)

1. When the [POWER] key is pressed while holding down the [STOP (■)], [PAUSE (■)], and [PLAY (▶)] keys simultaneously, the FL display illuminates, release the power turns on.
2. When the FL display illuminates, release the [STOP (■)], [PAUSE (■)] and [PLAY (▶)] keys.
3. Press the [OPEN/CLOSE (▲)] key to open the disc tray and load the test disc (SZZP1054C).
4. Press the [PLAY (▶)] key to start the play operation.
5. After the time display appears, press the [STOP (■)] key to display the error code. (e.g. E-0)
6. The error code display can be used as a repair guide showing which servo circuit is at fault. (See Error Code Based Troubleshooting.)

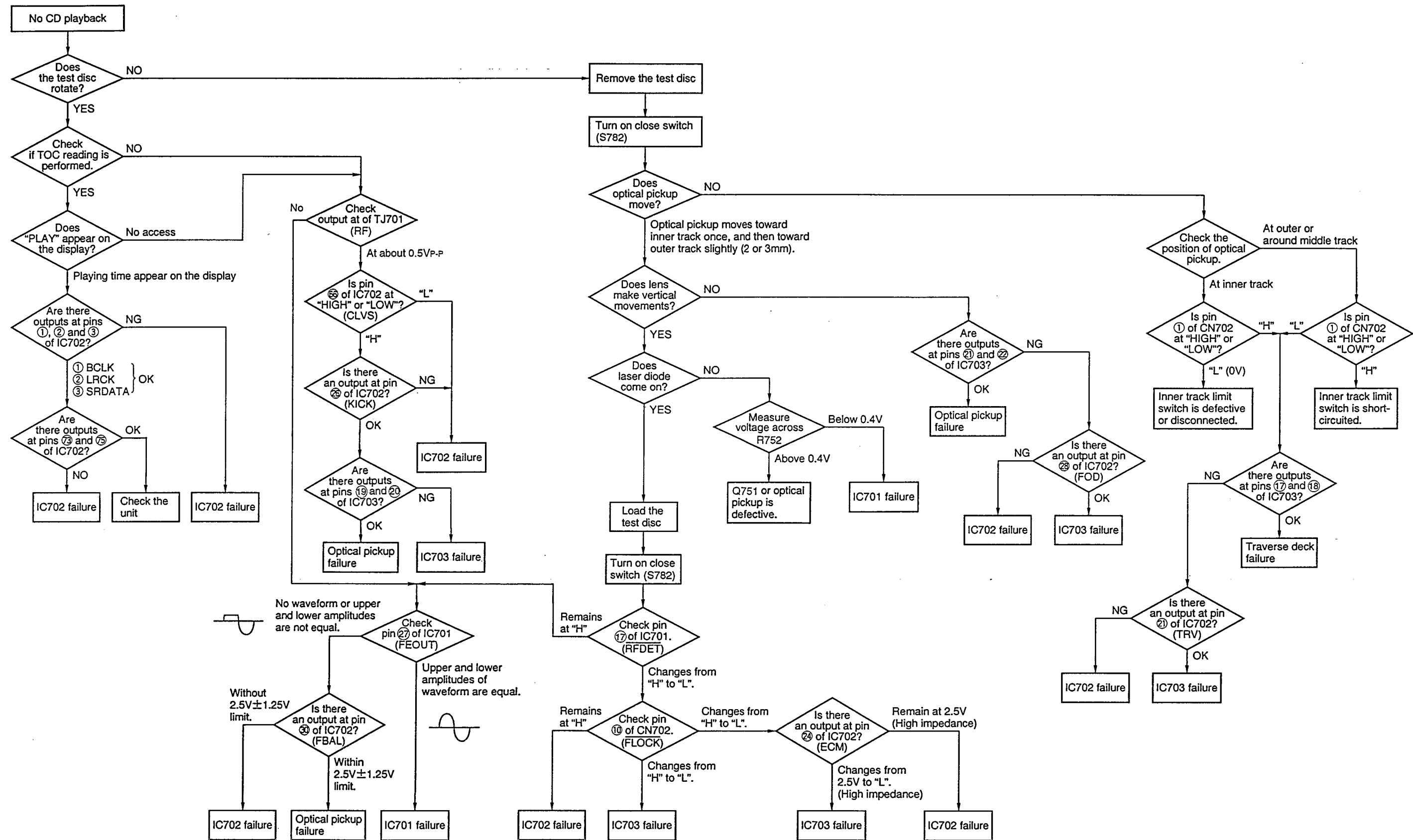
• Error code based troubleshooting

※ The unit is satisfactory if the error code is E-0 of E-2.

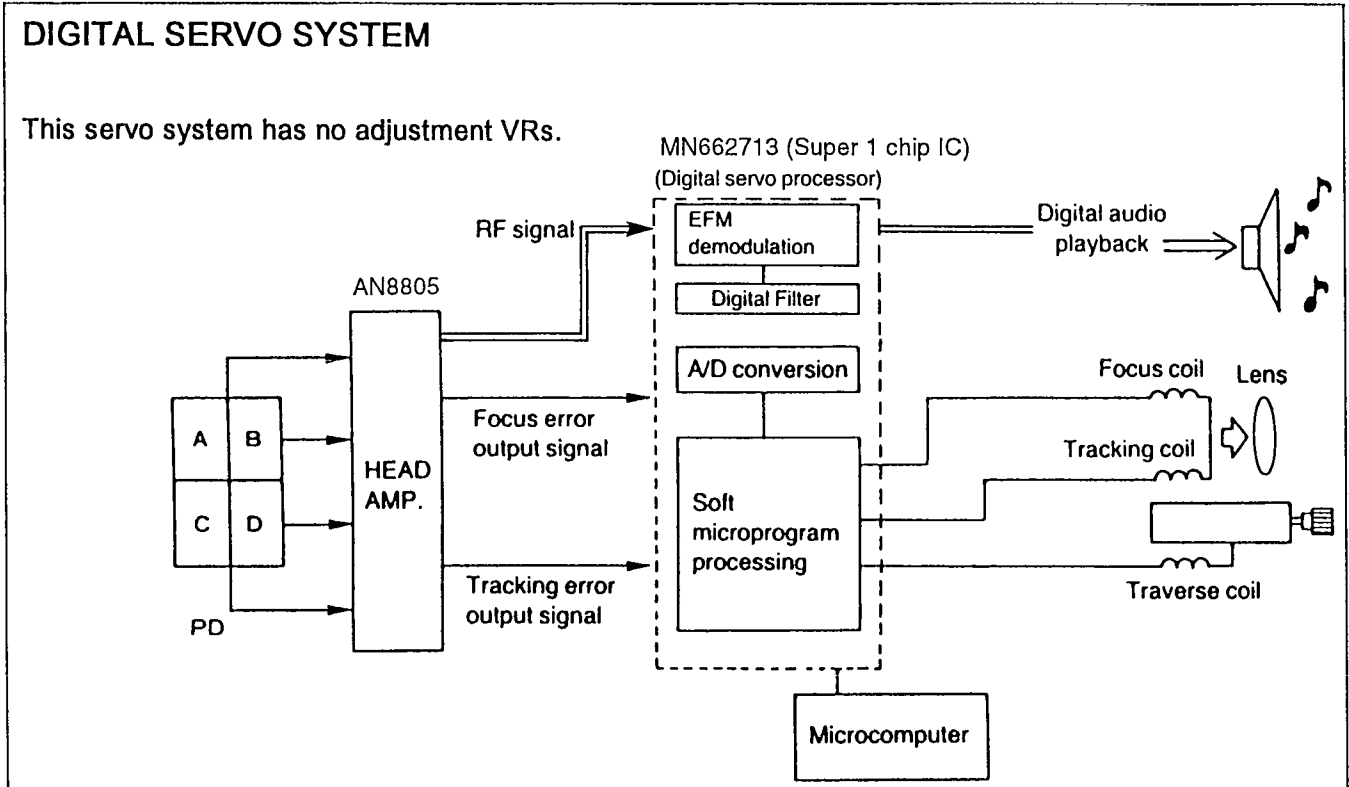
※ Before testing, check that the test disc is free of scratches and dirt and optical pickup is clean.

FL error code display	Symptom	Probable cause	Signal to check		Normal the values of voltage and waveform	
			Signal name	Location	PLAY	STOP
E-1	Focus and tracking offset adjustments did not complete in the specified time period.	① Clocks X1 and X2, power supply VDD, and reset/RST, all on IC702 ② MDATA, MCLK, MLD, and SENSE signals to/from the mechanism controller	MDATA	IC702 ⑧ pin		4.8V
			MCLK	IC702 ⑦ pin		4.8V
			MLD	IC702 ⑨ pin		
			SENSE	IC702 ⑩ pin	0V	0V
			/RST	IC702 ⑬ pin	4.9V	4.9V
			X1	IC702 ④ pin		
E-3 E-5 E-7 E-9 E-B E-D E-F	Disc play unstable	① Scratches or contaminants on disc surface ② Focus and tracking servo circuits (check waveforms, voltages, and part constants.) ③ Spindle driver circuit ④ Optical pickup	FE	IC702 ⑫ pin		2.4V
			TE	IC702 ⑬ pin		2.4V
			FOD	IC702 ⑭ pin	2.4V	2.4V
			TRD	IC702 ⑮ pin	2.4V	2.4V
			KICK	IC702 ⑯ pin	2.4V	2.4V
			/FLOCK	IC702 ⑰ pin	0V	4.9V
			/RF DET	IC702 ⑱ pin	0V	4.8V
			RF	TJ701		3.4V
			STAT	IC702 ⑲ pin	3.5V	0V
			E-4 E-6 E-C E-E	Best Eye (PD Balance) adjustment diode not complete in the specified time period.	① Scratches or contaminants on disc surface ② Focus and Tracking servo circuit (check waveforms, voltages, and part constants.) ③ Optical pickup	FBAL
RF	TJ701					3.4V
FE	IC702 ⑫ pin					0V
/TLOCK	IC702 ⑲ pin	0V				0V
OFT	IC702 ⑳ pin	0V				0V
E-8 E-A	Focus or Tracking gain adjustment did not complete in the specified time period.	① Scratches or contaminants on disc surface ② Focus and Tracking servo circuit (check waveforms, voltages, and part constants.) ③ Optical pickup	FE	IC702 ⑫ pin		2.4V
			TE	IC702 ⑬ pin		2.4V
			/TLOCK	IC702 ⑲ pin	0V	0V
			OFT	IC702 ⑳ pin	0V	0V

■ Troubleshooting Guide

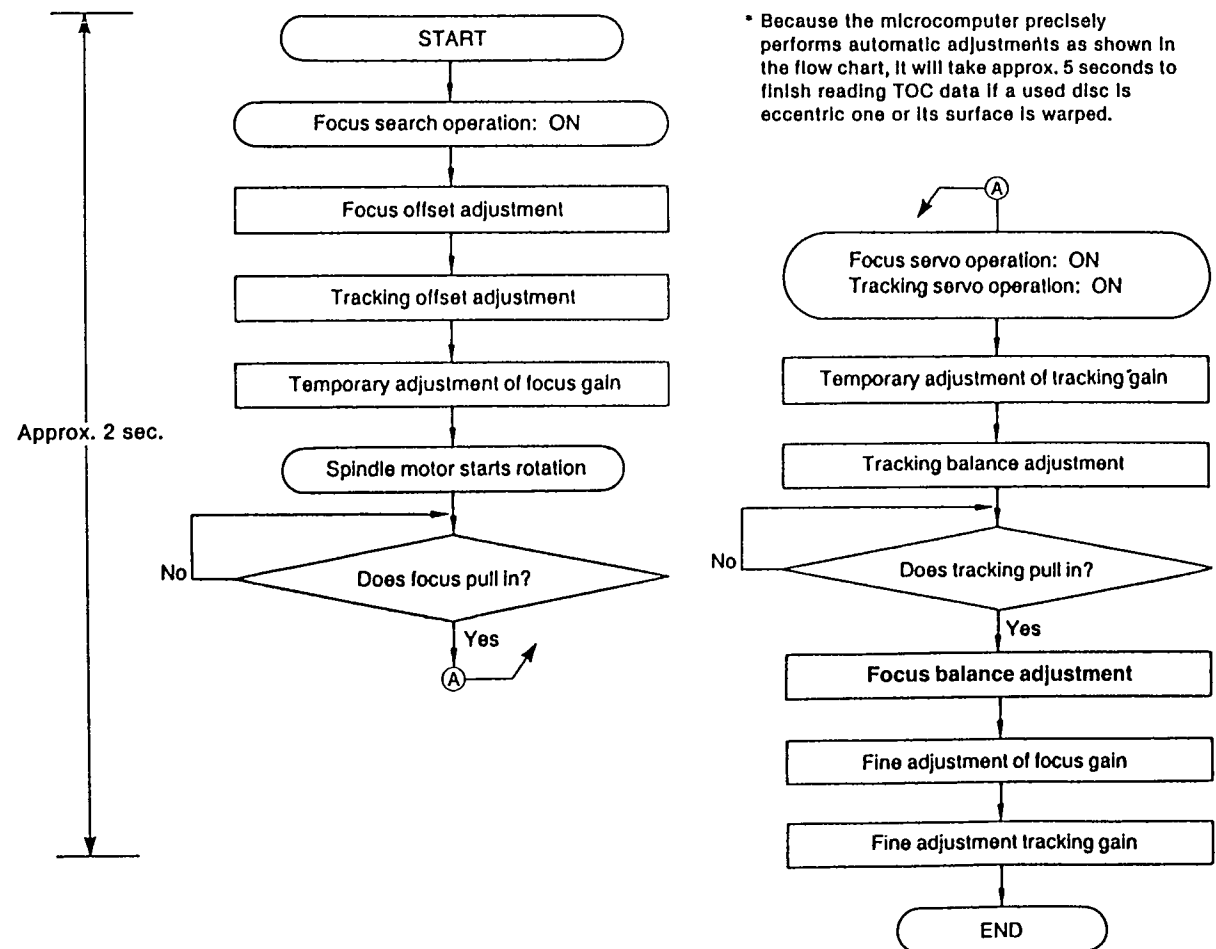


Digital Servo System



This servo system has no adjustment VRs.

The following flow chart shows the sequence of automatic adjustments.
 • Flow chart on automatic adjustment sequence



Function of IC Terminals

•IC401 (UPD78042G063)

Pin No.	Terminal Name	I/O	Function
1	7G	O	FL grid drive signal output
5	5	I	No used, open
7	1G	I	No used, open
8	VDD	—	Power supply
9	MCLK	O	Microprocessor command clock
10	MDATA	O	Microprocessor command data
11	POWER SW	I	Power key switch signal input
12	SYNC REC	O	Synchro REC signal output
13	/MLD	O	Microprocessor command load signal
14	SQCK	O	External clock for subcode Q register
15	NC	—	No used, open
16	SUBQ	I	Subcode Q input
17	RST	I	Reset signal input
18	/OPEN SW	I	Disc tray "open" sense switch status
19	/CLOSE SW	I	Disc tray "close" sense switch status
20	GND	—	GND
21	/OPEN	O	Open Disc Tray command output
22	/CLOSE	O	Close Disc Tray command output
23	REST SW	I	Innermost track sense switch status
24	/RST	O	Reset signal output
25	STAT	I	Status signal input
26	/TLOCK	I	Tracking servo pull-in signal
27	/FLOCK	I	Focus servo pull-in signal
28	SENSE	I	Sense signal input
29	AVDD	—	Power supply (for A/D convert)
30	GND	—	GND
31	GND	—	GND
32	NC	—	No used, open
33	GND	—	GND
34	X1	I	Main clock (4.2336 MHz) input
35	X2	O	Main clock output

•IC703 (AN8389SE1)

Pin No.	Terminal Name	I/O	Function
1	Vcc	—	Power supply
2	VREF	I	VREF input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	Ground connection
6	NC	—	Ground connection
7	NRESET	—	Reset input (no used, open)
8	GND	—	Ground connection
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input

Pin No.	Terminal Name	I/O	Function
36	P37	I	GND
36	P36	I	No used, open
39	P34	I	No used, open
40	P33	I	GND
41	P32	I	No used, open
42	P31	I	No used, open
43	P30	I	No used, open
44	MRST	O	Reset signal for MASH
45	EMPH	O	Emphasis signal (No used, open)
46	/DMUTE	O	Muting signal output
47	REMOCON	I	Remote control signal input
48	GND	—	GND
49	/POWER OFF	O	Power key switch signal output
50	/STANDBY LED	O	STANDBY LED control signal
51	REC ENABLE	I	REC control signal
52	VDD	—	Power supply
53	P127	I	Key return signal
57	P123	I	Key return signal
58	12G	I	Connect FL Display 12G
59	P16	O	FL anode drive signal
60	P15	O	FL anode drive signal
61	P14	O	FL anode drive signal and key scan signal
68	P7	O	FL anode drive signal
69	P6	O	FL anode drive signal
70	P5	O	FL anode drive signal
71	VPP	—	Power supply terminal for FL drive
72	P4	O	FL anode drive signal
75	P1	O	FL anode drive signal
76	12G	O	FL grid drive signal
80	8G	O	FL grid drive signal

Pin No.	Terminal Name	I/O	Function
13	PVcc1	—	Power supply (1) for driver
14	PGND1	—	Ground connection (1) for driver
15	D1-	O	Motor driver (1) reverse-action output
16	D1+	O	Motor driver (1) forward-action output
17	D2-	O	Motor driver (2) reverse-action output
18	D2+	O	Motor driver (2) forward-action output
19	D3-	O	Motor driver (3) reverse-action output
20	D3+	O	Motor driver (3) forward-action output
21	D4-	O	Motor driver (4) reverse-action output
22	D4+	O	Motor driver (4) forward-action output
23	PGND2	—	Ground connection (2) for driver
24	PVcc2	—	Power supply (2) for driver

●IC701 (AN8805SBE1)

Pin No.	Terminal Name	I/O	Function
1	PD	I	APC amplifier input
2	LD	O	APC amplifier output (No used, open)
3	LD ON/OFF	I	APC ON/OFF control signal
4	REFSW	I	Capacitor connection for CROSS
5	VCC	—	Power supply
6	RF-	I	RF amplifier inversion signal input
7	RF	O	RF amplifier signal output
8	RFIN	I	AGC signal input
9	CAGC	I	AGC loop filter connection
10	ARF	O	AGC signal output
11	CENV	I	Capacitor connection for RF detection
12	CEA	I	Capacitor connection for HPF amplifier
13	CSBDO	I	Capacitor connection for -RF envelope detection
14	EDO	O	BDO signal output
15	CSBRT	I	Capacitor connection for RF envelope detection
16	OFTR	O	OFTR signal output
17	/RFDET	O	RFDET signal output
18	Vss	—	GND
19	ENV	O	3TENV signal output
20	VREF	O	VREF signal output
21	LD OFF	—	APC OFF signal control
22	VDET	O	VDET signal output
23	TEBPF	I	VDET signal input
24	CROSS	O	CROSS signal output
25	TEOUT	O	TE amplifier signal output
26	TE-	I	TE amplifier inversion signal input
27	FEOUT	O	FE amplifier signal output
28	FE-	I	FE amplifier inversion signal input
29	FBAL	I	F BAL control signal
30	TBAL	I	T BAL control signal
31	PDFR	—	Adjustment for I-V amplifier conversion resistor
32	PDER	—	Adjustment for I-V amplifier conversion resistor
33	E	I	I-V amplifier signal input
34	F	I	I-V amplifier signal input
35	B+D	I	I-V amplifier signal input
36	A+C	I	I-V amplifier signal input

●IC702 (MN662713RG1)

Pin No.	Terminal Name	I/O	Function
1	BCLK	O	Bit clock output for serial data
2	LRCK	—	L.R identification signal output
3	SRDATA	—	Serial data output
4	DVdd1	—	Power supply input (for digital circuit)
5	DVss1	—	GND (for digital circuit)
6	TX	O	Digital audio interface signal output
7	MCLK	I	Microprocessor command clock signal input (Latches data at first transition)
8	MDATA	I	Microprocessor command data signal input
9	MLD	I	Microprocessor command load signal input
10	SENSE	O	Sense signal output (OFT, FESL, MAGEND, NAJEND, POSAD, SFG)
11	/FLOCK	O	Focus servo feeding signal output ("L": Feed)
12	/TLOCK	O	Tracking servo feeding signal output ("L": Feed)
13	BLKCK	O	Sub-code block clock signal output (fBLKCK = 75 Hz during normal playback) (no used, open)
14	SQCK	I	External clock signal input for sub-code Q register
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H": Mute)
17	STAT	O	Status signal output (CRC, CUE, CLVS, TTSTVP, FCLV, SQCK)
18	/RST	I	Reset input
19	SMCK	—	1/2-divided clock signal of crystal oscillating at MSEL = "H" (fSMCK = 8.4672 MHz) 1/4-divided clock signal of crystal oscillating at MSEL = "L" (fSMCK = 4.2336 MHz) (no used, open)
20	PMCK	—	1/192-divided clock signal of crystal oscillating (fPMCK = 88.2 kHz) (no used, open)
21	TRV	O	Traverse forced feed output
22	TVD	O	Traverse drive output
23	PC	O	Spindle motor ON signal output ("L": ON)
24	ECM	O	Spindle motor drive signal output (forced mode output)
25	ECS	O	Spindle motor drive signal output (servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output (TVD, ECS, TRD, FOD, FBAL, TBAL) reference voltage input
30	FBAL	O	Focus balance adjustment output
31	TBAL	O	Tracking balance adjustment output

●IC702 Continued

Pin No.	Terminal Name	I/O	Function
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
35	VDET	I	Vibration detection signal input ("H": detection)
36	OFT	I	Off-track signal input ("H": off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L": detection)
39	BDO	I	Dropout signal input ("H": Dropout)
40	LDON	O	Laser on signal output ("H": ON)
41	TES	O	Tracking error shunt signal output ("H": shunt) (no used, open)
42	PLAY	O	Play signal out ("H": PLAY) (no used, open)
43	WVEL	O	Double speed status signal output ("H": Double speed) (no used, open)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	—	DSL bias (no used, open)
47	DSL F	I/O	DSL loop filter
48	PLL F	I/O	PLL loop filter
49	VCO F	I/O	VCO loop filter
50	AVdd2	—	Power supply input (for analog circuit)
51	AVss2	—	GND (for analog circuit)
52	EFM	—	EFM signal output (not used, open)
53	PCK	—	PLL extraction clock output (fPCK = 4.321 MHz during normal playback) (no used, open)
54	PDO	—	Phase comparison signal of EFM and PCK signals (no used, open)
55	SUBC	O	Sub-code serial data output (no used, open)
56	SBCK	I	Clock input for sub-code serial data
57	Vss	—	GND
58	X1	I	Crystal oscillating circuit input (f = 16.9344 MHz)
59	X2	O	Crystal oscillating circuit output (f = 16.9344 MHz)
60	Vdd	—	Power supply input (for oscillating circuit)
61	BYTCK	—	Byte clock output (no used, open)
62	/CLDCK	O	Sub-code frame clock signal output (fCLDCK = 7.35 kHz during normal playback)
63	FCLK	—	Crystal frame clock signal output (fFCLK = 7.35 kHz, double = 14.7 kHz)
64	IPFLAG	O	Interpolation flag output ("H": Interpolation) (no used, open)
65	FLAG	O	Flag output (no used, open)

Pin No.	Terminal Name	I/O	Function
66	CLVS	O	Spindle servo phase synchronizing signal output ("H": CLV, "L": rough servo) (no used, open)
67	CRC	O	Sub-code CRC checked output ("H": OK, "L": NG) (no used, open)
68	DEMPH	O	De-emphasis ON signal output ("H": ON) (no used, open)
69	RESY	—	Frame resynchronizing signal output (no used, open)
70	/RST2	I	Reset input through MASH circuit ("L": Reset)
71	/TEST	I	Test input
72	AVdd1	—	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVss1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input (at "H" level: RSEL = "H", at "L" level: RSEL = "L")
77	CSEL	I	Crystal oscillating frequency designation input ("L": 16.9344 MHz, "H": 33.8688 MHz)
78	PSEL	I	Test input (normally, "L")
79	MSEL	I	Output frequency switching for SMCK terminal "H": SMCK = 8.4672 MHz "L": SMCK = 4.2336 MHz
80	SSEL	I	Output mode switching of SUBQ terminal ("H": Q code buffer mode)

Replacement Parts List

Notes: *Important safety notice:

 Components identified by Δ 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.

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

Parts without these indications can be used for all areas.

*Remote Control Ass'y: Supply period for three years from termination of production.

*[MB] Indicates in Remarks columns parts that are supplied by MBV.

*Warning: This product uses a laser diode. Refer to caution statements on page 2.

*ACHTUNG: Die Lasereinheit nicht zerlegen.

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

*The "(SF)" mark denotes the standard part.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT (S)		D19	MA4330MTA	DIODE	Δ
IC11	LM2940T5	I. C, REGULATOR	Δ	D20	1SS254TA	DIODE	
IC302	MC74HC107DR2	I. C, J-K FLIP-FLOP	[MB]	D21, 22	MA4082MTA	DIODE	Δ
IC303	MC74HC74ADR2	I. C, O FLIP-FLOP	[MB]	D25, 26	1SS254TA	DIODE	
IC304	MC74HC86DR2	I. C, OR GATE	[MB]	D41	1SS254TA	DIODE	
IC401	UPD78042G063	I. C, SYSTEM CONTROL	[MB]	D51	MA4039MTA	DIODE	
IC601	RGDHC-212	I. C, REMOTE CONTROL RECEIVER	[MB]	D301-305	1SS254TA	DIODE	
IC701	AN8805SBE1	I. C, SERVO AMP.	[MB]	D401	MA4056MTA	DIODE	Δ
IC702	MN662713RG1	I. C, SERVO PROCESSOR	[MB]	D601-607	1SS254TA	DIODE	
IC703	AN8389SE1	I. C, MOTOR DRIVE		D610	1SS254TA	DIODE	
IC781	TA7291SA	I. C, MOTOR DRIVE		D651	SLR-305LC	LED	
IC801	MN6474E	I. C, DIGITAL FILTER		D701	1SS254TA	DIODE	
IC802	LM833M63	I. C, DIFFERENTIAL AMP.		D801, 802	1SS254TA	DIODE	
IC871	BA4560N	I. C, HEADPHONES AMP.		D851	1D3-E	DIODE	[MB]
IC891	BA4560FE1	I. C, L. P. FILTER AMP.	[MB]	D852	1SS254TA	DIODE	
		TRANSISTOR (S)				VARIABLE RESISTOR (S)	
Q11	2SD2037EFTA	TRANSISTOR	Δ	VR601	RSR4A002-H	V. R. SEARCH	[MB]
Q12	2SD1862-P	TRANSISTOR	Δ	VR871	EVJCE0F02A15	V. R. HEADPHONES LEVEL	[MB]
Q13	2SB1240-P	TRANSISTOR	Δ			COMPONENT COMBINATION (S)	
Q14	2SA1309A-R	TRANSISTOR	Δ	Z301	EXCELDR35V	COMBINATION PART	
Q15	2SA1309A-R	TRANSISTOR		Z851	EXCELDR35V	COMBINATION PART	
Q16	2SB1238QSTV6	TRANSISTOR	Δ			COIL (S)	
Q19, 20	2SD1450RTA	TRANSISTOR		L301	RLQZN4R7KL-D	COIL	
Q21	DTA124ESTP	TRANSISTOR		L801-804	RLQZN471KL-D	COIL	[MB]
Q22	2SC3311A-Q	TRANSISTOR		L871, 872	RLQZN3R3KL-D	COIL	[MB]
Q23	2SD2037EFTA	TRANSISTOR	Δ	L874	RLQZN4R7KL-D	COIL	
Q41	DTA124ESTP	TRANSISTOR				TRANSFORMER (S)	
Q51, 52	2SC3311A-Q	TRANSISTOR		PT1	RTP1K4B020	POWER TRANSFORMER	Δ [MB]
Q401, 402	2SD1862-P	TRANSISTOR	Δ			OSCILLATOR (S)	
Q751	2SA933SQR	TRANSISTOR		X401	RSXY4M23M01T	OSCILLATOR (4. 23MHz)	
Q752	2SC1740SQ	TRANSISTOR		X701	RSXZ16M9M01T	OSCILLATOR (16. 9MHz)	
Q801, 802	2SC3311A-Q	TRANSISTOR		X801	RSXA33M8J01T	OSCILLATOR (33. 8MHz)	[MB]
Q803, 804	2SD1450RTA	TRANSISTOR				DISPLAY TUBE	
Q851	DTC124EST	TRANSISTOR					
Q853	DTA114ESTP	TRANSISTOR					
Q854	DTA124ESTP	TRANSISTOR					
Q871, 872	2SD1450RTA	TRANSISTOR					
		DIODE (S)					
D11-18	1D3-E	DIODE	Δ				

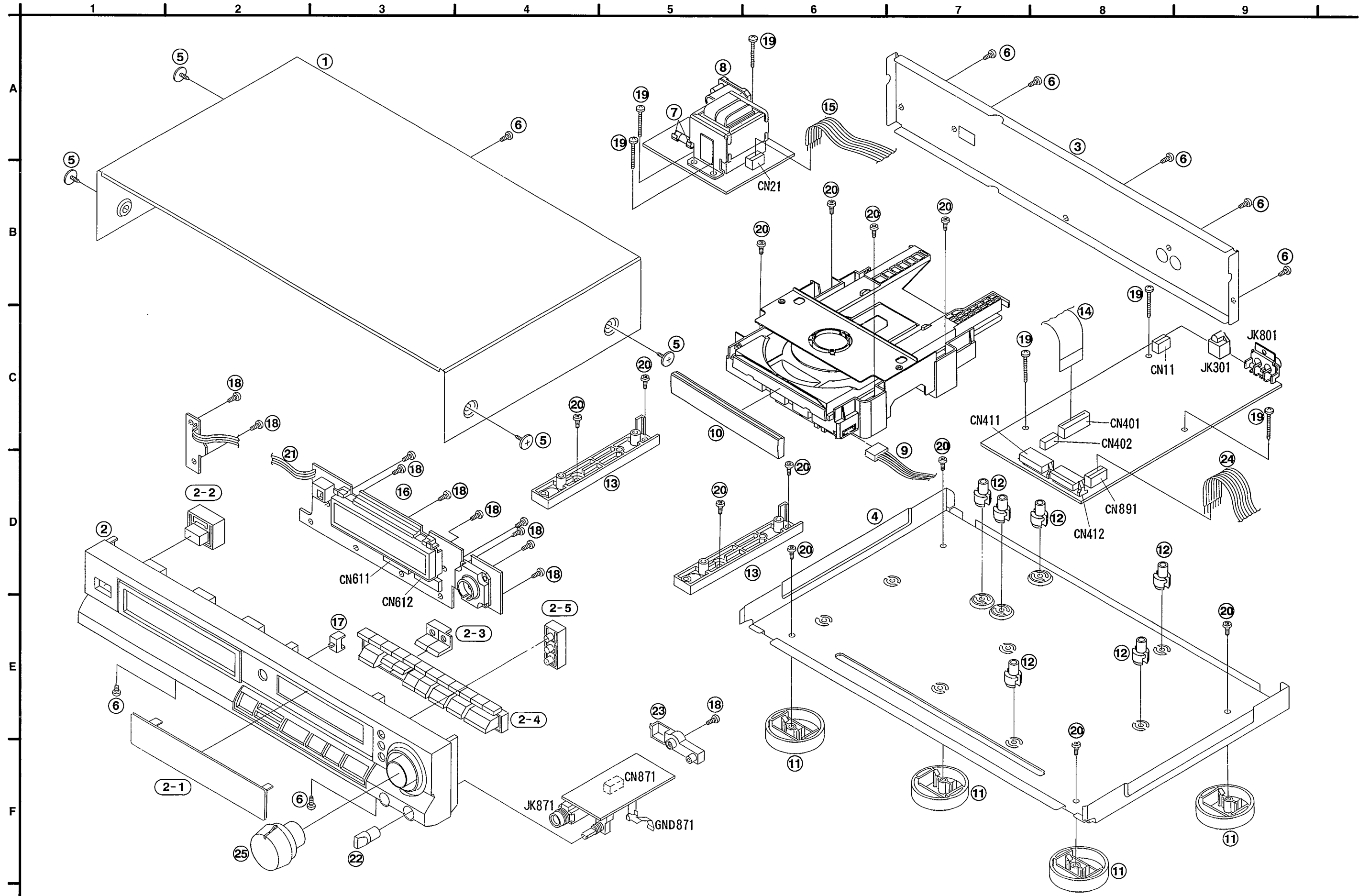
Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
FL601	RSL0168-F	DISPLAY TUBE	[MB]	CN701	RJS12Q9ZA	SOCKET (12P)	[MB]
		SWITCH (ES)		CN702	RJS1A6723-1Q	SOCKET (23P)	
				CN703	RJT029W06VT	CONNECTOR (6P)	
S601	EVQ21405R	SW, 0		CN781	RJP6G17ZA	CONNECTOR (6P)	
S602	EVQ21405R	SW, 1		CN871	RJS1A6607T1	SOCKET (7P)	[MB]
S603	EVQ21405R	SW, 2		CN891	RJS1A6607T1	SOCKET (7P)	[MB]
S604	EVQ21405R	SW, 3				EARTH PLATE	
S605	EVQ21405R	SW, 4					
S606	EVQ21405R	SW, 5		GND871	RMC0184	EARTH PLATE	[MB]
S607	EVQ21405R	SW, >10					
S608	EVQ21405R	SW, 10					
S609	EVQ21405R	SW, 9					
S610	EVQ21405R	SW, 8					
S611	EVQ21405R	SW, 7					
S612	EVQ21405R	SW, 6					
S613	EVQ21405R	SW, PLAY					
S614	EVQ21405R	SW, R. SKIP					
S616	EVQ21405R	SW, PROGRAM					
S617	EVQ21405R	SW, DISC LINK					
S619	EVQ21405R	SW, STOP					
S620	EVQ21405R	SW, F. SKIP					
S622	EVQ21405R	SW, RECALL					
S623	EVQ21405R	SW, SIDE A/B					
S626	EVQ21405R	SW, OPEN/CLOSE					
S627	EVQ21405R	SW, PAUSE					
S628	EVQ21405R	SW, REPEAT					
S629	EVQ21405R	SW, CLEAR					
S630	EVQ21405R	SW, TAPE LENGTH					
S651	EVQ21405R	SW, POWER					
S781	RSH1A005	SW, TRAY OPEN DET.					
S782	RSH1A005	SW, TRAY CLOSE DET.					
		FUSE					
F1	XBA2C01TBO	FUSE, 250V T100mA	△				
		JACK (S)					
JK1	SJS9236	AC INLET	△				
JK301	TOTX174-A	OPTICAL OUT					
JK801	RJH3201N	OUT					
JK871	QJA0455ZC	HEADPHONES JACK					
		CONNECTOR (S)					
CN11	RJS1A6606	SOCKET (6P)					
CN21	RJS1A6606	SOCKET (6P)					
CN401	RJS1A6823	SOCKET (23P)					
CN402	RJT029W06VT	CONNECTOR (6P)					
CN411, 412	RJU076W20M	CONNECTOR (20P)	[MB]				
CN611, 612	RJT076W20M	CONNECTOR (20P)	[MB]				

Notes : * Capacity values are in microfarads (μ F) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
 * Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM) . 1M=1,000k(OHM)

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS	R732	ERDS2TJ183T	1/4W 18K	C15	ECEA1EU101	25V 100U Δ
			R733	ERDS2TJ822	1/4W 8.2K	C16	ECEA1EU331	25V 330U Δ
			R735, 736	ERDS2TJ101	1/4W 100	C17, 18	ECEA1HU101	50V 100U
R1	ERQ16NKWR15E	1W 0.15	R745	ERDS2TJ155	1/4W 1.5M	C19-21	ECEA1EU101	25V 100U
R12, 13	ERDS2TJ102	1/4W 1K	R751	ERDS2TJ681	1/4W 680	C22	ECEA1AU331	10V 330U
R14	ERDS2TJ103	1/4W 10K	R752, 753	ERDS2TJ392T	1/4W 3.9K	C51	ECEA1AKA220B	10V 22U
R15	ERDS2TJ822	1/4W 8.2K	R754	ERDS2TJ103	1/4W 10K	C301	ECEAOJKA101B	6.3V 100U
R16	ERDS2TJ680T	1/4W 68	R761, 762	ERDS2TJ103	1/4W 10K	C302	ECFR1E104ZF5	25V 0.1U
R17	ERDS2TJ471	1/4W 470	R763	ERDS2TJ823T	1/4W 82K	C303	ECBT1H101KB5	50V 100P
R18	ERDS2TJ473	1/4W 47K	R764	ERDS2TJ393	1/4W 39K	C304	ECEAOJKA101B	6.3V 100U
R19	ERDS2TJ472	1/4W 4.7K	R765	ERDS2TJ224T	1/4W 220K	C305	ECFR1E104ZF5	25V 0.1U
R23	ERDS2TJ103	1/4W 10K	R766	ERDS2TJ104	1/4W 100K	C311	ECFR1E104ZF5	25V 0.1U
R24-27	ERDS2TJ1R0	1/4W 1.0	R772, 773	ERDS2TJ220T	1/4W 22	C401	ECFR1E104ZF5	25V 0.1U
R28, 29	ERDS2TJ103	1/4W 10K	R775, 776	ERDS2TJ392T	1/4W 3.9K	C402	ECEAOJU102	6.3V 1000U
R30, 31	ERDS2TJ223	1/4W 22K	R777	ERDS2TJ102	1/4W 1K	C404	ECFR1E104ZF5	25V 0.1U
R41	ERDS2TJ222	1/4W 2.2K	R801-804	ERDS2TJ330	1/4W 33	C405	ECEAOJKA101B	6.3V 100U
R51	ERDS2TJ331	1/4W 330	R805-808	ERDS2TJ433	1/4W 43K	C703	ECEAOJKA1011	6.3V 100U
R52	ERDS2TJ272T	1/4W 2.7K	R809-812	ERDS2TJ563	1/4W 56K	C704	ECFR1E104ZF5	25V 0.1U
R53, 54	ERDS2TJ472	1/4W 4.7K	R813, 814	ERDS2TJ472	1/4W 4.7K	C705	ECEA1HKA0101	50V 1U
R301	ERDS2TJ331	1/4W 330	R817, 818	ERDS2TJ221	1/4W 220	C706	ECBT1H101KB5	50V 100P
R302	ERDS2TJ101	1/4W 100	R819, 820	ERDS2TJ511	1/4W 510	C707	ECFR1C273KR	16V 0.027U
R303, 304	ERDS2TJ220T	1/4W 22	R821, 822	ERDS2TJ473	1/4W 47K	C708	ECBT1C472MR5	16V 4700P
R308	ERDS2TJ470	1/4W 47	R823, 824	ERDS2TJ331	1/4W 330	C709	ECFR1C473KR	16V 0.047U
R310	ERDS2TJ102	1/4W 1K	R825, 826	ERDS2TJ102	1/4W 1K	C714	ECEAOJKA1011	6.3V 100U
R311	ERDS2TJ822	1/4W 8.2K	R831, 832	ERDS2TJ470	1/4W 47	C716	ECBT1H561KB5	50V 560P
R401	ERDS2TJ102	1/4W 1K	R833	ERDS2TJ472	1/4W 4.7K	C717	ECFR1E104ZF5	25V 0.1U
R402	ERDS2TJ473	1/4W 47K	R837, 838	ERDS2TJ100	1/4W 10	C718	ECQV1H224JM3	50V 0.22U
R403, 404	ERDS2TJ103	1/4W 10K	R851	ERDS2TJ471	1/4W 470	C721, 722	ECBT1H270J5	50V 27P
R405, 406	ERDS2TJ471	1/4W 470	R852	ERDS2TJ222	1/4W 2.2K	C723	ECEAOJKA221B	6.3V 220U
R407	ERDS2TJ101	1/4W 100	R853	ERDS2TJ331	1/4W 330	C724	ECFR1E104ZF5	25V 0.1U
R408-412	ERDS2TJ103	1/4W 10K	R857, 858	ERDS2TJ222	1/4W 2.2K	C725, 726	ECBT1H102KB5	50V 1000P
R601, 602	ERDS2TJ100	1/4W 10	R859, 860	ERDS2TJ105T	1/4W 1M	C727, 728	ECEA1HKA0101	50V 1U
R651	ERDS2TJ221	1/4W 220	R861	ERDS2TJ102	1/4W 1K	C730	ECFR1E104ZF5	25V 0.1U
R701	ERDS2TJ561	1/4W 560	R871, 872	ERDS2TJ473	1/4W 47K	C731, 732	ECEAOJKA221B	6.3V 220U
R703	ERDS2TJ823T	1/4W 82K	R873-876	ERDS2TJ104	1/4W 100K	C733	ECFR1E104ZF5	25V 0.1U
R707, 708	ERDS2TJ334	1/4W 330K	R885, 886	ERDS2TJ222	1/4W 2.2K	C734	ECEA1AKA2211	10V 220U
R709	ERDS2TJ683	1/4W 68K	R887, 888	ERDS2TJ101	1/4W 100	C735-737	ECBT1E223ZF	25V 0.022U
R711	ERDS2TJ154	1/4W 150K	R889, 890	ERDS2TJ472	1/4W 4.7K	C738	ECFR1C183KR	16V 0.018U
R712	ERDS2TJ221	1/4W 220	R893, 894	ERDS2TJ472	1/4W 4.7K	C739	ECBT1C152MR5	16V 1500P
R717, 718	ERDS2TJ102	1/4W 1K	R895, 896	ERDS2TJ471	1/4W 470	C740	ECBT1C272MR5	16V 2700P
R721	ERDS2TJ101	1/4W 100				C742	ECFR1C273KR	16V 0.027U
R722	ERDS2TJ683	1/4W 68K			CAPACITORS	C743	ECBT1E223ZF	25V 0.022U
R723	ERDS2TJ183T	1/4W 18K				C744	ECBT1C822MS5	16V 8200P
R724	ERDS2TJ393	1/4W 39K	C1	ECFTD103KXL	50V 0.01U	C747, 748	ECBT1C103NS5	16V 0.01U
R725	ERDS2TJ472	1/4W 4.7K	C10	ECFR1E104ZF5	25V 0.1U	C751	ECEA1CKA1001	16V 10U
R726	ERDS2TJ474	1/4W 470K	C11	ECA1CM222B	16V 2200U Δ	C752	ECFR1E104ZF5	25V 0.1U
R727	ERDS2TJ153	1/4W 15K	C12	ECBT1C103NS5	16V 0.01U	C765	ECBT1H331KB5	50V 330P
R728	ERDS2TJ822	1/4W 8.2K	C13	ECEA1AKA330B	10V 33U	C766	ECBT1H391KB5	50V 390P
R731	ERDS2TJ223	1/4W 22K	C14	ECEAOJKA470B	6.3V 47U	C767	ECEA1HKN0101	50V 1U

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
C768	ECFR1E682KR	25V 6800P			
C769	ECBT1C222MR5	16V 2200P			
C772-775	ECFR1E104ZF5	25V 0.1U			
C776	ECBT1H180J5	50V 18P			
C777	ECBT1H680J5	50V 68P			
C781	ECEA1AKA1011	10V 100U			
C801-804	ECQV1H683JM3	50V 0.068U			
C805-808	ECBT1H121KB5	50V 120P			
C811, 812	ECQV1H683JM3	50V 0.068U			
C815, 816	ECBT1H102KB5	50V 1000P			
C817	ECFR1E104ZF5	25V 0.1U			
C831	ECFR1E104ZF5	25V 0.1U			
C832	ECEAOJU331B	6.3V 330U			
C833	ECFR1E104ZF5	25V 0.1U			
C834	ECEAOJU331B	6.3V 330U			
C835-837	ECFR1E104ZF5	25V 0.1U			
C838	ECBT1H5R6K5	50V 5.6P			
C840	ECBT1H5R6K5	50V 5.6P			
C841	ECEAOJKA101B	6.3V 100U			
C842	ECFR1E104ZF5	25V 0.1U			
C851	ECEAOJU471	6.3V 470U			
C852	ECEA1CKA100B	16V 10U			
C871, 872	ECEA1EKN3R3B	25V 3.3U			
C873, 874	ECQB1H103JF3	50V 0.01U			
C875-880	ECBT1C103NS5	16V 0.01U			
C881, 882	ECEA1AN101XB	10V 100U			
C893, 894	ECEAOJKA470B	6.3V 47U			

■ Cabinet Parts Location



■ Loading Unit Parts Location

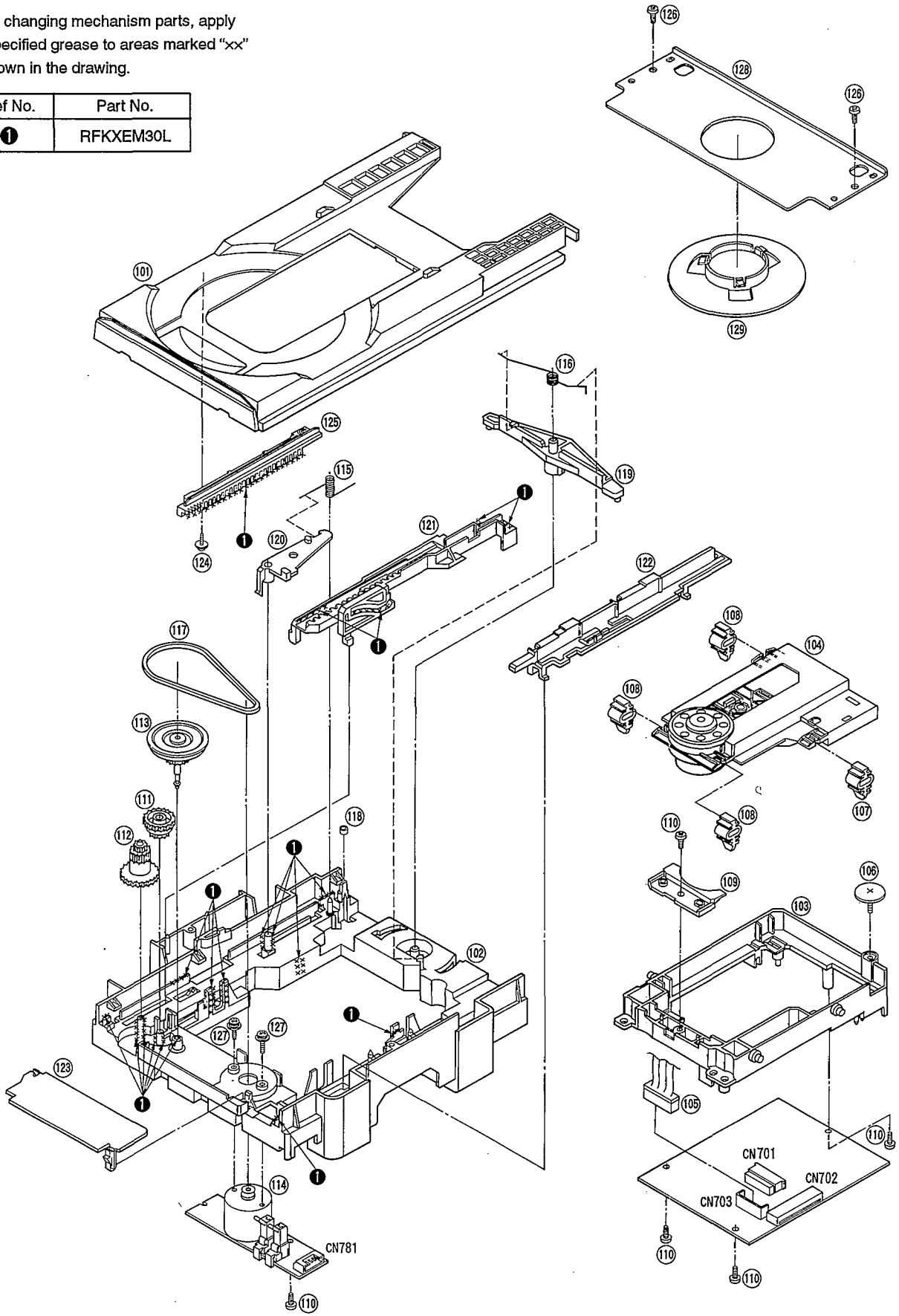
1 | 2 | 3 | 4 | 5

Note:

When changing mechanism parts, apply the specified grease to areas marked "xx" as shown in the drawing.

Ref No.	Part No.
①	RFKXEM30L

A
B
C
D
E
F



Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS		116	RME0087	ASSIST SPRING	
				117	RMG0158	BELT	
1	RKM0098-K	CABINET	[MB]	118	RMG0338-Q	STOPPER RUBBER	[MB]
2	RFKGLPG560AE	FRONT PANEL ASS'Y	[MB]	119	RML0177	CHANGE LEVER	
2-1	RKW0245C-R	WINDOW	[MB]	120	RML0178-1	LOCK LEVER	
2-2	RGU1029-K	POWER BUTTON	[MB]	121	RM0112	SLIDER 1	[MB]
2-3	RFKNLPG460AD	MAIN BUTTON A	[MB]	122	RM0113	SLIDER 2	[MB]
2-4	RFKNLPG460AE	MAIN BUTTON B	[MB]	123	RMRO721-K	GEAR COVER	[MB]
2-5	RGU0810-K	SUB BUTTON	[MB]	124	RHD20009-1	SCREW	
3	RFKHLPG560AE	REAR PANEL ASS'Y	[MB] (E) (EG)	125	RFKNLPG460AA	DRIVE RACK ASS'Y	[MB]
3	RFKHLPG560AB	REAR PANEL ASS'Y	[MB] (EB)	126	XTB3+8JFZ	SCREW	
4	RMK0178-1	BOTTOM CHASSIS	[MB]	127	XYN2+F6FZ	SCREW	
5	RHD30035-K	SCREW		128	RFKNLPG460AB	CLAMP BASE ASS'Y	[MB]
6	XTBS3+8JFZ1	SCREW		129	RFKNLPG460AC	CLAMPER ASS'Y	[MB]
7	EYF52BC	FUSE HOLDER				PACKING MATERIALS	
8	SJS9236	AC INLET (JK1)	△	P1	RPG1904	PACKING CASE	[MB]
9	REX0577	CABLE ASS'Y	[MB]	P2	BPN0647	CUSHION	[MB]
10	RGK0616-K	TRAY LID	[MB]	P3	XZB23X35C03	PROTECTION BAG	
11	RKA0040B	FOOT	[MB]	P4	XZB60X65A01Z	PROTECTION BAG	
12	RMRO377-1	PCB SUPPORT	[MB]			ACCESSORIES	
13	RMRO718-W	MECHANISM SPACER	[MB]	A1	EUR642100	REMOTE CONTROL TRANSMITTER	[MB]
14	RWJ5223180EE	FPC	[MB]	A1-1	UR64EC1326	BATTERY COVER	[MB]
15	RWJ6406180XX	FLAT CABLE	[MB]	A2	RJA0043-C	AC POWER CORD	(E, EG) △ [MB]
16	RMRO659-K	FL HOLDER	[MB]	A2	RJA0034-P	AC POWER CORD	(EB) △ [MB]
17	RGLO228-Q	LED INDICATOR	[MB]	A3	RFKSLPG560AE	INSTRUCTIONS MANUAL	(E) [MB]
18	XTBS26+8J	SCREW		A3	RQT2222-B	INSTRUCTIONS MANUAL	(EB) [MB]
19	XTB3+20JFR	SCREW		A3	RFKSLPG560AG	INSTRUCTIONS MANUAL	(EG) [MB]
20	XTB3+8JFZ	SCREW		A4	SJP2249-3	STEREO PIN CORD	
21	RWJ6403200XX	FLAT CABLE (FC651)	[MB]	A5	RQA0013	WARRANTY CARD	
22	RGW0048	H. P. VOLUME KNOB		A6	RQC00169	SERVICE CENTER LIST	
23	RMRO610-K	H. P. PCB HOLDER	[MB]				
24	RWJ6407100XX	FLAT CABLE	[MB]				
25	RGW0169-K	SEARCH DIAL	[MB]				
		LOADING UNIT PARTS					
101	RGQ0130-K	TRAY	[MB]				
102	RFKJLPG460AE	MECHANISM CHASSIS ASS'Y	[MB]				
103	RMRO719-W	MID. CHASSIS	[MB]				
104	RAE1100Z	TRAVERSE UNIT	[MB]				
105	REX0576	CABLE ASS'Y	[MB]				
106	RHD30047	SCREW	[MB]				
107	RMG0337-K	DAMPING RUBBER	[MB]				
108	RMG0337-Q	DAMPING RUBBER	[MB]				
109	RMRO750-W	STOPPER	[MB]				
110	XTBS26+8J	SCREW					
111	RDG0142	RELAY GEAR					
112	RDG0259	DRIVE GEAR	[MB]				
113	RDPO065	RELAY PULLY					
114	REM0047	MOTOR ASS'Y	[MB]				
115	RME0063	LOCK LEVER SPRING					

■Packaging

