ORDER NO. AD9611200C3

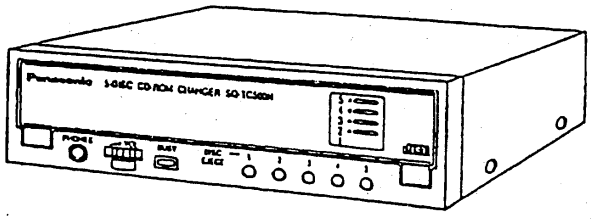
Service Manual

5-Disc CD-ROM Changer

CD-ROM Drive

SQ-TC500N

COMPACT disc DIGITAL AUDIO COMPACT disc



Colour

(W) : White

Area

Suffix for Model No.	Colour
(GU)	(W)

Specifications

Interface	ATAPI Interface (40 pin connector)
Playable disc format	CD-ROM (mode 1 and mode 2) CD-ROM XA (mode 2 form 1 and form 2) PHOTO CD (Single and multisession) CD-DA Video CD
Data transfer rate	600 KB/s
Access time 1/3 Stroke	 220 msec Typ.
Buffer memory capacity	256 KB
ERROR RATES Hard read errors Soft read errors	 Less than 10^{-12} Less than 10^{-9}
Output level (Impedance) Headphone Line out	 0.6 Vrms (32 Ω) 0.8 Vrms (50 kΩ)

Frequency response Line out	 20 Hz – 20 kHz
S/N ratio Line out	 More than 85 dB
Temperature Operating Storage	 5 to 45°C – 20 to 60°C
Humidity Operating Storage	 20 to 90% Rh (Non-condensing) – 20 to 90% Rh (Non-condensing)
Laser Type Wave length	 Semiconductor lasser GaAlAs 780 nm
Source voltage	DC 5 V ± 5% DC 12 V ± 10%
Source current	DC 5 V, 0.4 A DC 12 V, 2.0 A
Dimensions (W×H×D)	146×41.3×224 mm (5-3/4"×1-5/8"×8-12/16")
Weight	1.3 kg typ. (2.9 lb.)

⚠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.

Panasonic®

Contents

■ Contents

CAUTION:

1) The use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
2) The drive is designed to be incorporated into a computer-based system or until which has an enclosed cover. Your CD-ROM drive may not be used as a stand-alone unit.

■ 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).

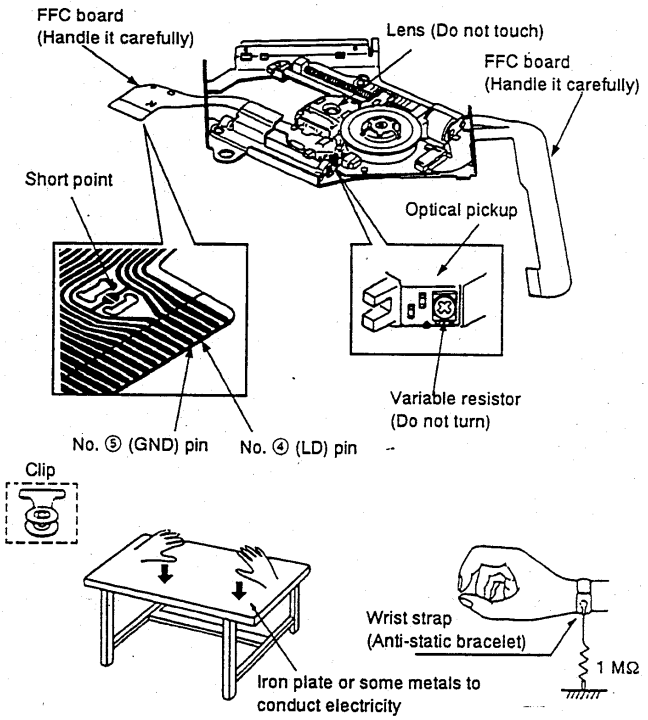
• Handling of traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To protect the laser diode against electrostatic breakdown, short the flexible board (FFC board) with a clip or similar object.
3. Take care not to apply excessive stress to the flexible board (FFC 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 conducive 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 trap. So, take care not to let your clothes touch the traverse deck (optical pickup).



Caution when Replacing the Traverse Deck:

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

■ 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 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 lock at the focus lens using optical instruments.
4. Recommend not to lock at pick up lens for a long time.

■ Federal Communications Commission (FCC) Rdio Frequency Interference Statement

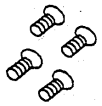
Class B Computing Device

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

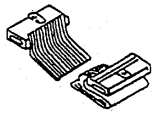
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

■ Accessories

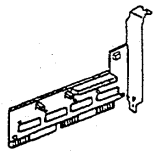
- Mounting Screws (XYN3+C4) 4



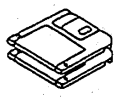
- Interface Cable (REX0820) 1



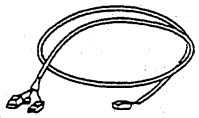
- Interface Board (RFA0722-K) 1



- Setuo Disks
  (RFE0029) 1
  (RFE0031) 1



- Audio Cbale (REX0821) 1



- Emergency Pin (RFE0030) 1

■ Supports Major CD-ROM Formats

CD-DA (Audio), (CD-ROM, CD-ROM XA, Photo CD Multisession
Video for Windows*, Quick Time for Windows*, CD-I**, Video-CD**

* Requires Microsoft Video for Windows or Apple QuickTime for Windows (not included)
** Requires MPEG decoder board or MPEG decoder software, and CD-I and/or Video-CD playback software (not included)

■ System Requirements

80286, 80386, 80486 or Pentium based ISA Computer.
8 MB of RAM
3 MB of free space on Hard Disk (HDD.)
16 bit ISA expansion slot or most EIDE hard disk (HDD) controllers.

Windows 95 Ready
Supports DOS 5.0 & Higher, Windows 3.1 & 3.11

■ Operation Guide

Before you begin installing your Panasonic CD-ROM drive, please take a few minutes to read the following Operation Guidelines.

1.1 WHEN TRANSPORTING

To avoid damage

- keep the original packing materials for the drive unit.
- Before transporting the drive unit, remove CD-ROM disc from the drive unit and repack the drive unit in its original packing.

1.2 WHEN INSTALLING

Do not install the CD-ROM drive in environments where the drive would be subjected to

- High-temperature, high-humidity, or extreme temperature changes.
- Dust
- Excessive vibration/sudden shock.
- Inclines or angled operation.
- Direct sunlight
- Do not place the CD-ROM drive in a vertical position.

1.3 WHEN USING

- Never push objects of any kind through the cabinet slots.
- Never spill liquid of any kind on the unit.
- Do not place objects on the unit.
- This drive is not user serviceable, do not open or remove cover.
- Do not place foreign objects in the disc insertion slot and attempt to operate.

1.4 WHEN OPERATING

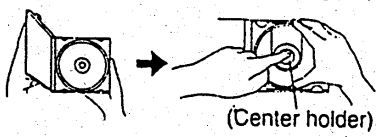
To avoid data errors

- Do not move the drive unit while operating.
- Do not operate the unit immediately after a sudden increase in temperature.

1.5 WHEN HANDLING DISCS

To remove a disc from its case

Press the holder and lift the disc by grasping the edges.

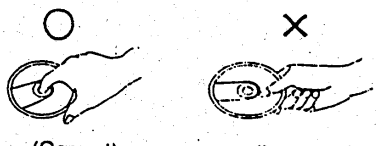


(Center holder)

To hold the disc

Hold the disc by the edges so the surface is not soiled with fingerprints.

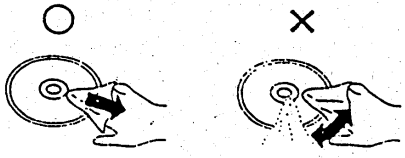
Fingerprints, dirt and scratches can cause skipping and distortion.



(Correct) (Incorrect)

If the surface is soiled

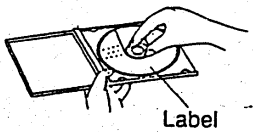
Wipe gentry with a soft, damp (water only) cloth.



(Correct) (Incorrect)

To store a disc in its case

Insert the disc with label facing upwards and press downwards at the center.



Label

If the disc is brought from a cold to a warm environment, moisture may form on the disc

Wipe this moisture off with a soft, lintfree cloth before using the disc.

Improper disc storage:

You can damage discs if you store them in the following places:

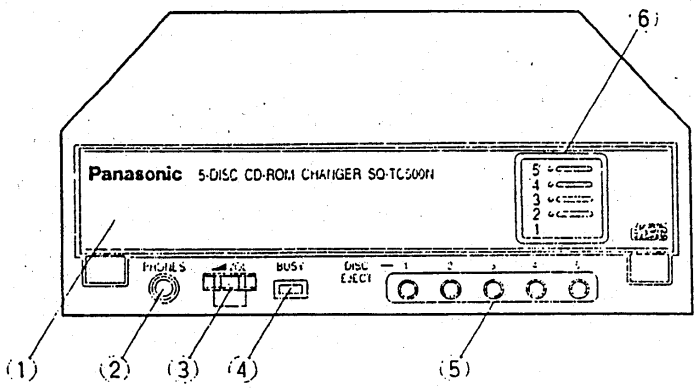
- Areas exposed to direct sunlight
- Humid or dusty areas
- Areas directly exposed to a heat outlet or heating appliance

Handling precautions:

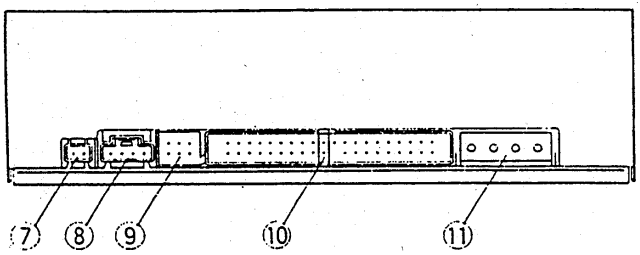
- Do not write on the disc with a ballpoint pen or other writing utensils.
- Do not use record cleaning splays, benzene, thinner, static electricity prevention liquids or any other solvent.
- Do not soil with fingerprints.

■ Parts and Functions

FRONT VIEW



REAR VIEW



① DISC TRAY
Accepts up to 5 discs of CD-ROM or digital audio.

② HEADPHONE JACK
Accepts standard 3.5mm stereo mini plug to connect your headphones to the CD-ROM drive.

③ VOLUME
Adjusts Headphone audio output level.

④ BUSY INDICATOR
Lights when data is being accessed from the disc or when the drive is playing an audio CD.

⑤ EJECT BUTTONS (DISC 1 - DISC 5)
Ejects each disc tray.

⑥ DISC WINDOW
Easy visible "DISC WINDOWS" for viewing the installed DISC. Visual confirmation of which disc is loaded. The slot with the white mark missing is the disc which is currently loaded in the CD-ROM dirve.

⑦ DIGITAL AUDIO CONNECTOR
Serves as a link from the CD-ROM drive to an external digital equipment.

⑧ AUDIO CONNECTOR
Serves as a link from the CD-ROM drive to an external amplifier or sound board.
An audio cable is included for connecting to a sound board.

⑨ JUMPER PIN
These are used to set the ID. Please refer to pages 7 and 9 for more information.

⑩ INTERFACE CONNECTOR
Connects your CD-ROM drive to the included interface board or your computer's EIDE interface port via the included interface ribbon cable.

⑪ DC POWER CONNECTOR

■ Installing the Hardware

Your CD-ROM drive comes with an interface board. This interface board connects the CD-ROM drive to the computer's communication system, allowing the CD-ROM drive to send/receive information to/from your computer. The following instructions will guide you through the process of installing the CD-ROM drive and the interface board.
Of course, you will have to set-up the hardware and remove the shipping spacer from the disc tray (page 10) before you can install the Driver and Utility.

I) The System

Consult your system operation manual before proceeding.

A. Turn off your system and all connected devices.
B. Disconnect all AC power cables.
C. Remove the top cover from your system.
D. Remove the bezel on a vacant disk drive bay.

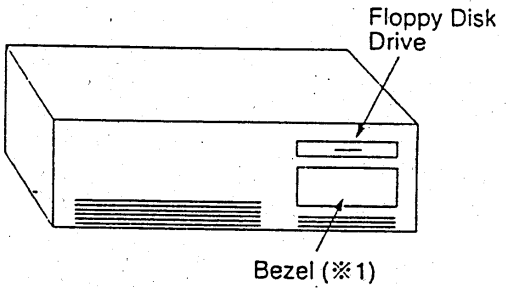


Fig.1

II) The CD-ROM Drive

A. Remove the drive from its packaging.
B. Check jumper for proper ID. master. (Fig. 3)
C. Look above your vacant disk drive bay. If it is occupied by a floppy disk drive, slide the floppy disk drive forward a couple of inches. Do not disconnect its cables. This will allow for easier CD-ROM drive installation. (Fig. 2)
D. Slide the CD-ROM drive into the vacant bay until it is parallel with the floppy drive.
E. Connect the DC power cable, interface (See III) INTERFACE BOARD first) and audio cable to the back of the drive. (Fig. 3)
F. Firmly slide the drive into the drive bay. Secure with included screws.

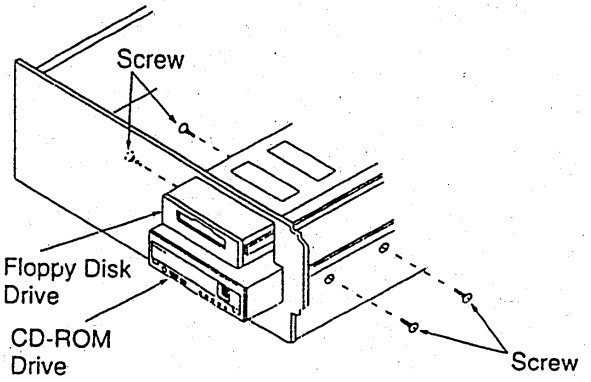


Fig.2

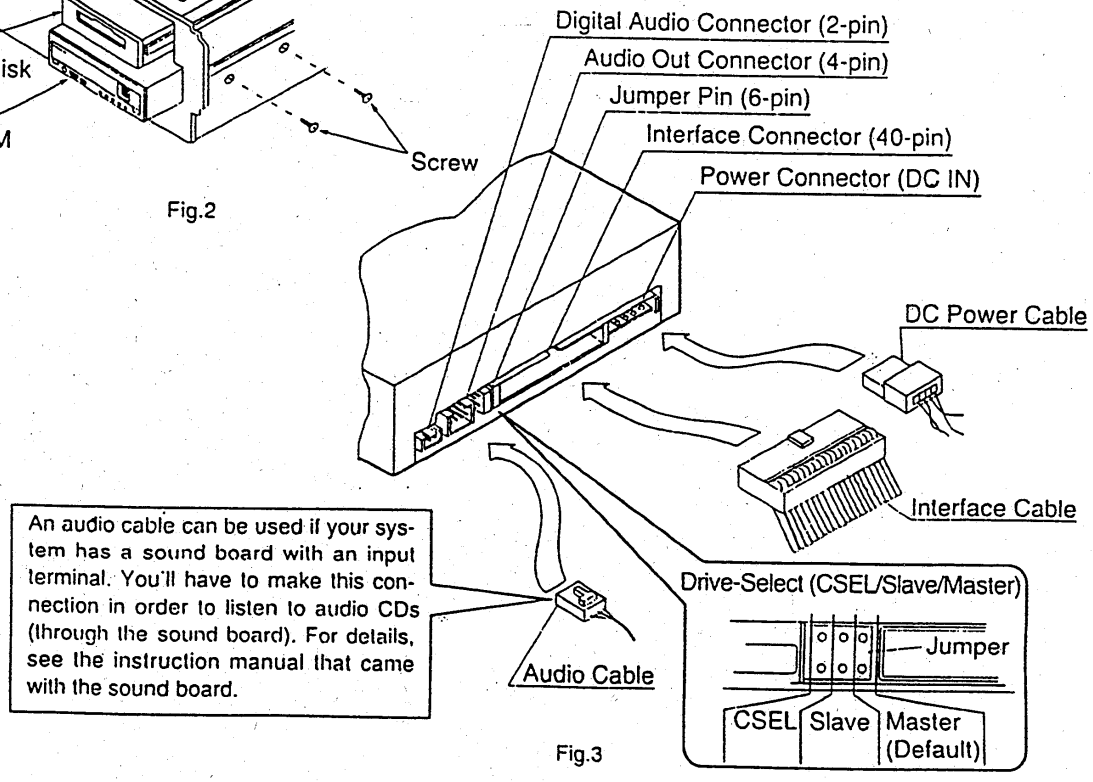


Fig.3

III) INTERFACE BOARD

When your personal computer is Enhanced IDE type.
Newer PCs may include a built-in Enhanced IDE Controller which can connect the SQ-TC500N directly to the built-in secondary port. (See Fig.4)

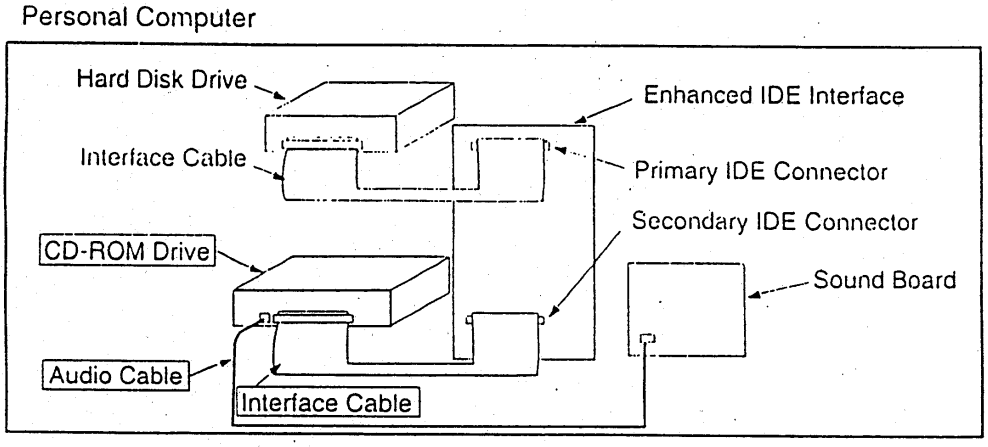


Fig.4

When your personal computer is not the Enhanced IDE type, you must use the included interface board

A. Static electricity can damage the interface board. Before removing the board, touch a metal plate on your system to ground yourself.
B. Remove the interface board. Check that a jumper is set on IOCHRDY(JP2) and IRQ 15(JP1). The interface board for your CD-ROM drive uses IRQ level jumper setting IRQ 15. This identifies the board and CD-ROM drive to the system. If IRQ is assigned to another device, it will need to change to another IRQ level. Consult the manual for that device.
   Note
   Do not change JP3 and 4 (for setting address) and JP2 (for selecting IOCHRDY) jumper pin settings.
C. Locate an empty 16-bit expansion slot in your computer. Gently but firmly insert the interface board into the expansion slot.
D. Connect the interface cable from CD-ROM drive to the interface board.
E. Check to see if a sound board is installed. If so, attach the audio cable from CD-ROM drive to the sound board.

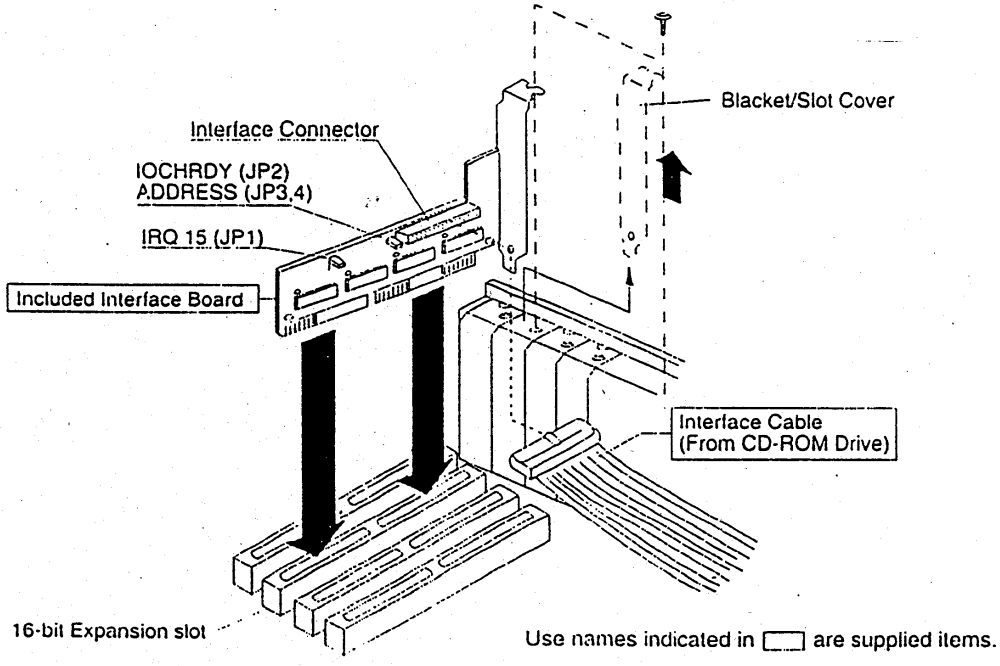


Fig.5

Other connections and settings

We recommend that you connect the SQ-TC500N as described on pages 7 and 8. If for some reason, your computer won't allow you to do so, note the following.

· Jumper pin setting (on drive rear)
You will have to change the master-slave jumper pin on the drive's rear in the following instance.

When the SQ-TC500N and another IDE device are both connected to the IDE connector by a single cable
If the other IDE device cannot be set to slave, then change the SQ-TC500N's jumper pin from master to slave.

· Changing IRQ on the included interface board
If the SQ-TC500N's IRQ has to compete with that of another device in the system and you cannot change the IRQ of the other device, you can change the IRQ of the included interface board. In such case, match the device driver IRQ designation to the interface board from inside the SOS utility (See Driver & Utility manual.)

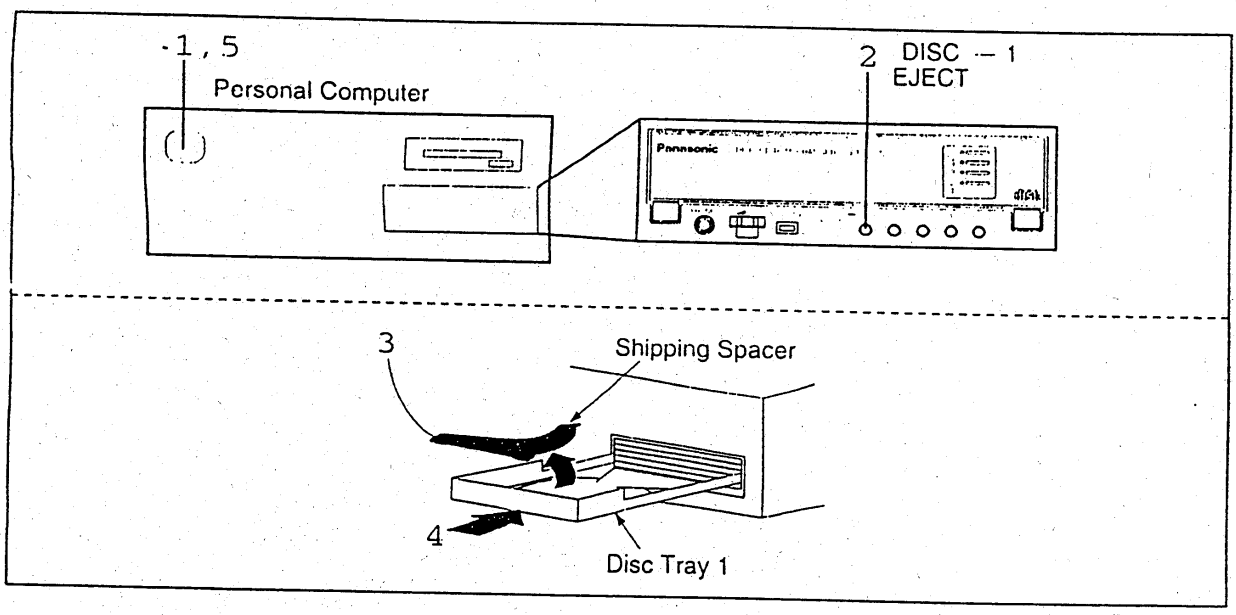
· Restrictions with Windows 95
Only one type of device can be connected to the same EIDE interface connector. For example, a hard disk and a CD-ROM drive cannot both be connected to the same EIDE connector.

■ Guide to Operation

4.1 BEFORE OPERATION

Before using the drive, don't forget to remove the shipping spacer from the disc tray. Install the Driver and Utility only after you have taken the spacer out.

Removing the shipping spacer



1. Turn your computer ON. (The drive will turn ON as well.)
2. Press DISC EJECT button 1.
3. Remove the spacer from disc tray 1.
4. Push the tray back until it retracts automatically.
5. Turn OFF your computer.

Note

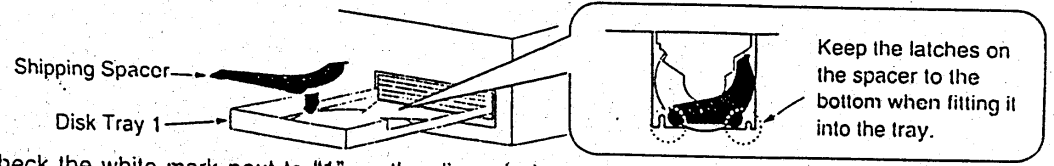
Save your shipping spacer and the box your drive came in. You will need them when moving or shipping your equipment.

DO THE FOLLOWING when moving your drive a considerable distance, shipping it or taking it in for service.

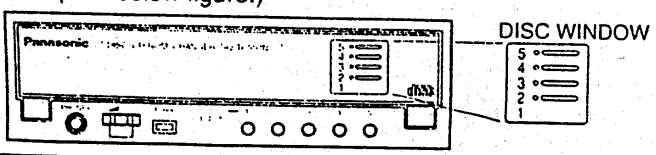
- Pack the drive in the box it came in.
- Insert the shipping spacer into disc tray 1. (This ia also necessary if moving your computer with the CD-ROM drive still inserted.)

How to reinsert the spacer

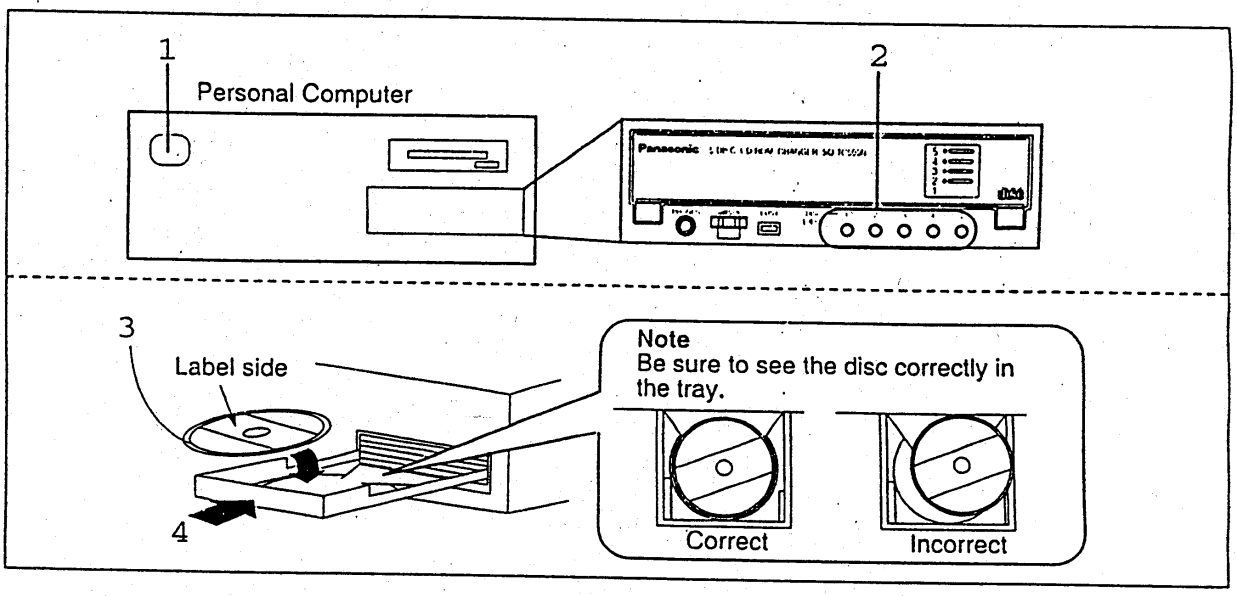
Perform the above procedure for removing the spacer. but in step 3, insert it (RMQ0654) into disc tray 1.



- Check the white mark next to "1" on the disc window goes out. If the white mark is still there, repeat steps 2 and 4 until it goes out. (See below figure.)



4.2 STARTING THE DRIVE



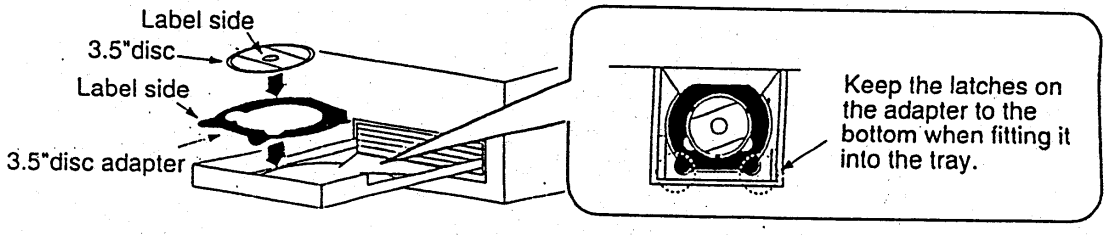
1. Turn your computer ON. (The drive will turn ON as well.)
2. Press one of the tray eject buttons. The tray will slide out.
3. Set the disc in the tray with the label facing upwards.
4. Push the tray back until it retracts automatically.
5. Repeat steps 2 and 3 until you have loaded your discs.

Notes:

- Do not insert any objects other than a CD and a CD-ROM disc into the disc tray. This could result in a malfunction.
- Do not manually force the tray open or press down hard on the tray when loading a disc, since this may result in damage or malfunction of the tray.
- When the drive is not in use, keep the tray closed to protect it from dust and dirt.
- You cannot open/close the disc tray while using the headphones jack.

For 3.5" discs

Use the disc adapter (option RMQ0611) designed specifically for this unit. As shown the below, insert the adapter in the tray, then the disc in the adapter.

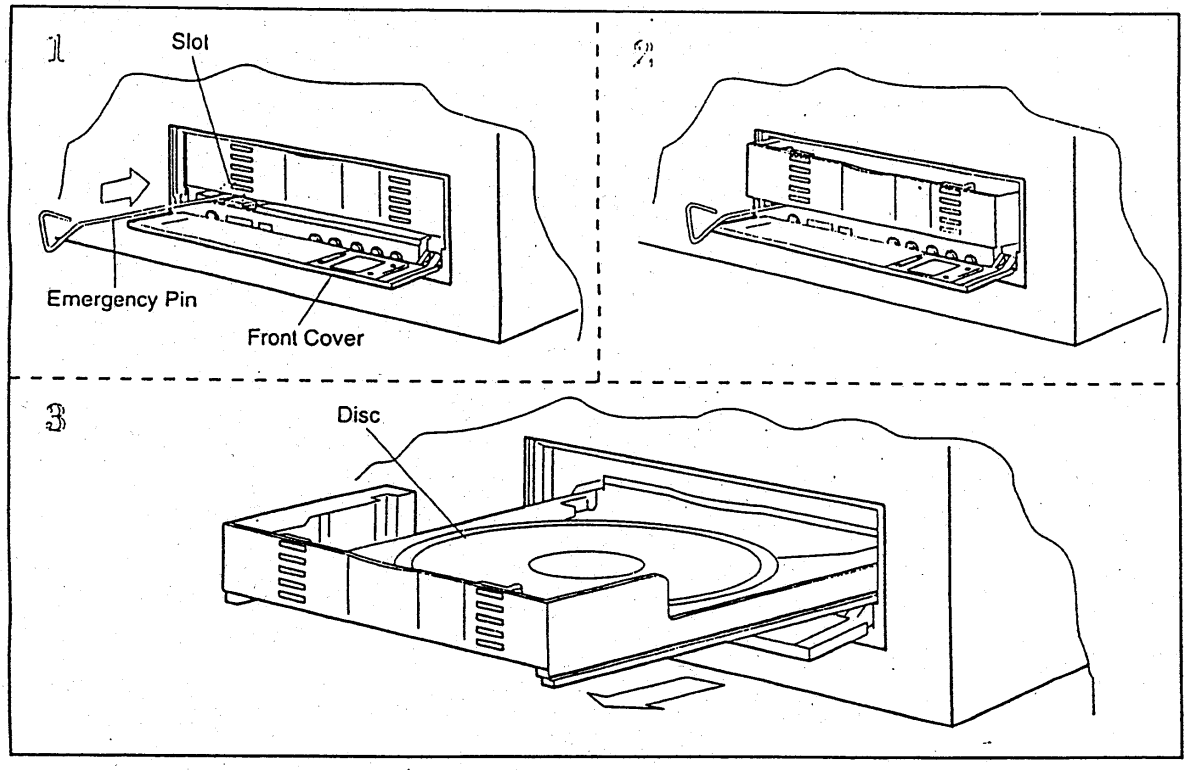


Caution:

Do not use other types of CD adapters. Incompatible products could cause the equipment to malfunction.

When the tray does not eject automatically, do the following.

1. Turn OFF your computer and open the front cover of the CD-ROM drive. Then, gently push the emagency pin into the left slot until the tray comes out. (The tray will come out slowly.)
2. Insert the eject *pin as far* as you can about 4 times, until the tray is extended enough that you can pull it out by hand.
3. Pull the tray the rest of the way out by hand. (The tray currently in the play position and the tray immediately below it can both be pulled out by hand.)
4. Remove the CD from the tray and turn ON your computer again. (This is to check the drive returns to normal.)
5. If the CD-ROM drive still seems jammed, please contact our hotline for assistance. (1800726-2797)



■ Troubleshooting Guide

Problem	Check these possibilities:
Tray doesn't eject.	Is the power cord plugged in correctly? Is the CD inserted properly? Is the component (headphones, etc.) disconnected from the headphones jack?
Computer doesn't boot.	Is there a disk in the floppy drive? Is the IDE cable plugged into the expansion card correctly? Is the expansion card installed correctly?
CD player doesn't respond to computer commands.	Is the device driver installed correctly? Is the IDE cable plugged into the expansion card correctly? Is the expansion card installed correctly?
CD or CD-ROM won't play.	Are you trying to use a CD or CD-ROM that is not compatible with this machine? Are you using the appropriate CD or CD-ROM software? Is the CD or CD-ROM inserted into the tray properly? Is the CD or CD-ROM inserted with the label side up? Is the CD or CD-ROM damaged, broken, warped or dirty? Is there condensation on the machine? (If so, leave the machine on for an hour and try again.)
No sound comes out of headphones.	Is the volume adjusted properly? Are the headphones properly connected?

■ Operation Check and Main Component Replacement Procedures

NOTE

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**
4. **Illustrated screws are equivalent to actual size.**
5. **Refer the parts No. on the page of "Main Component Replacement Procedures", if necessary.**

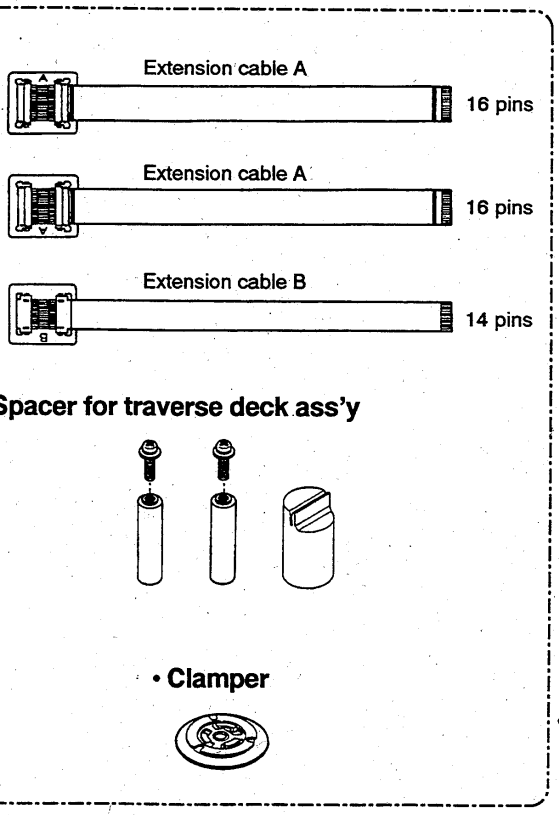
• Contents

page.

■ Preparation

• For checking the P.C.B., following service kit should be prepared.

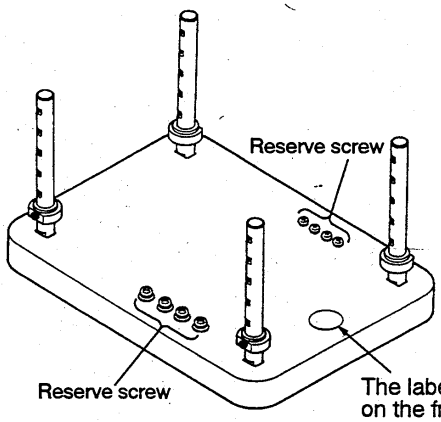
• Service kit No. RFKZ0077 (• Extension cable × 3 • Spacer for traverse deck • Clamper)



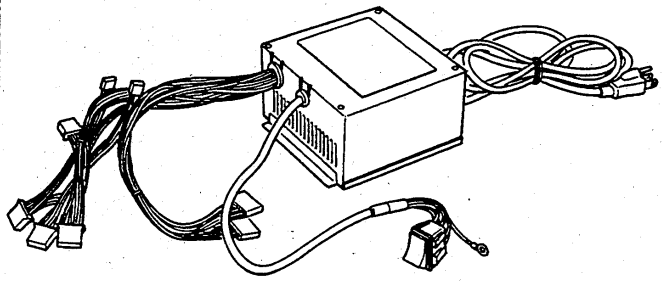
• Spacer for traverse deck ass'y

• Clamper

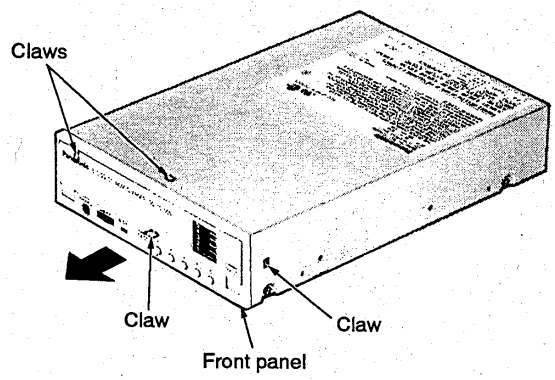
• Mechanism stand



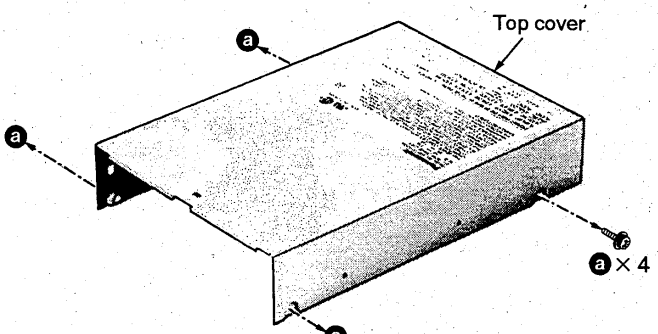
• Power supply unit (DC5V,12V)



■ Checking procedure for main P.C.B.

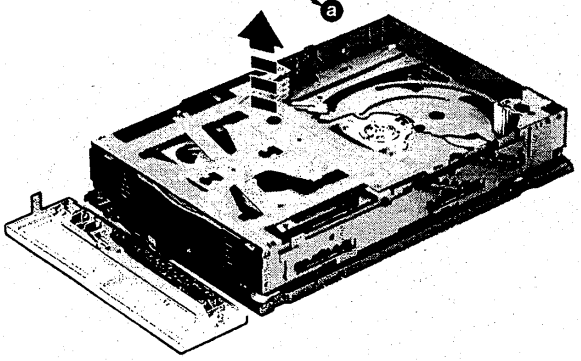


Step 1 Releace the 4 claws, and then pull the front panel.

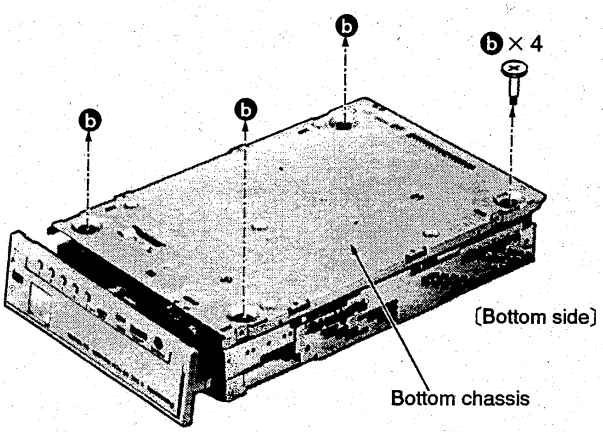


Step 2 Remove the 4 screws.

[XYN26+C4]



Step 3 Remove the top cover.

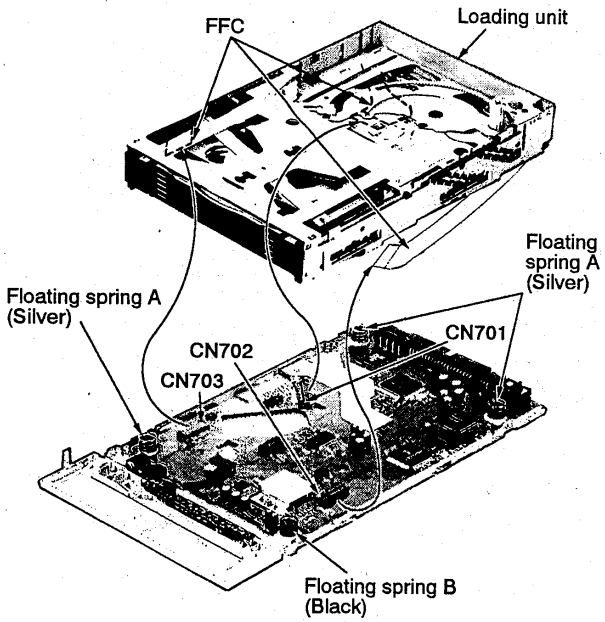


Step 4 Remove the 4 screws.

[RHD26025]

NOTE

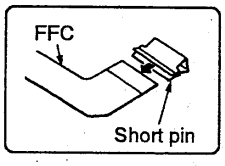
When mounting the screws, force the bottom chassis.



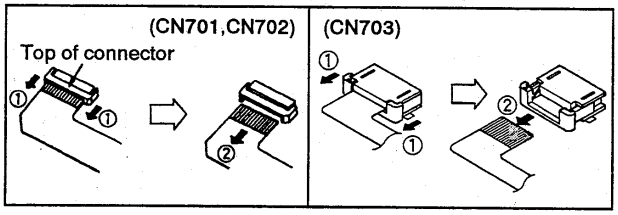
Step 5 Lift up the loading unit, and then remove the FFC.

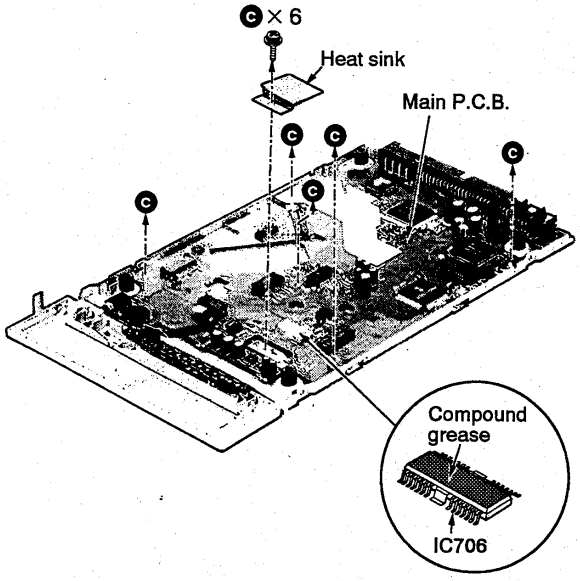
NOTE

1.. Take care not lose the floating spring A and B.
2. Take care the installation position of floating spling. Install the floating spling B on the right side of front.
3. Install a short pin into the optical pickup FFC.

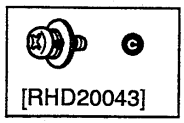


Remove of the connector





Step 6 Remove the 6 screws.

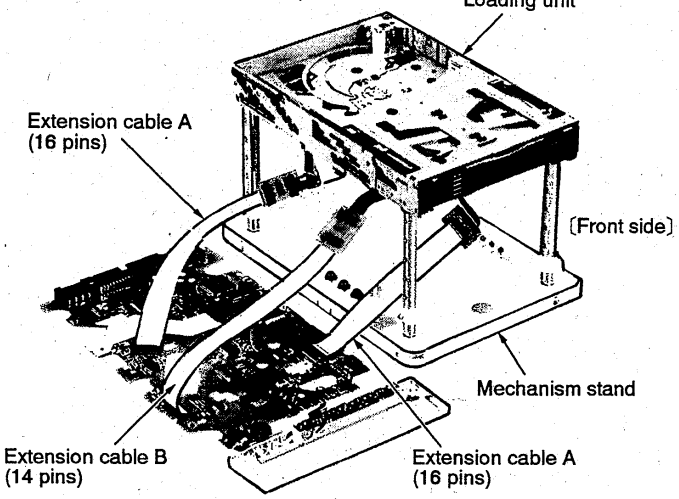


Step 7 Remove the heat sink.

NOTE

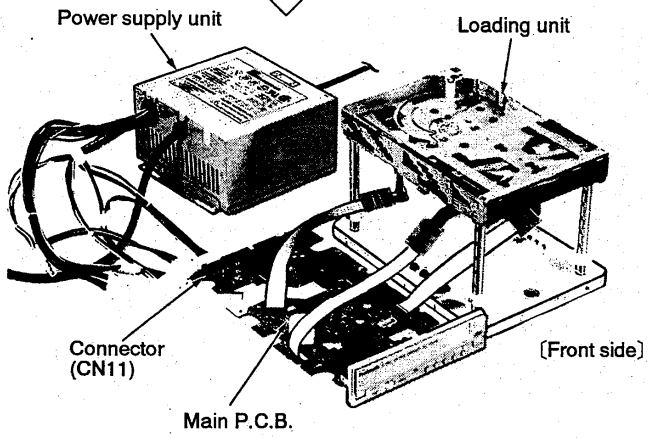
When mounting the heat sink, apply the compound grease (RFKX0002 or equivalent agent) on the surface of IC706.

Step 8 Remove the main P.C.B..



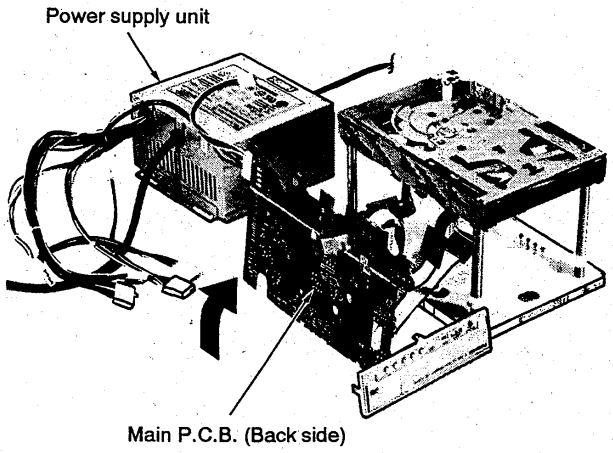
Step 9 Place the loading unit on the mechanism stand.

Step 10 Connect the extension cables between the FFCs and connectors.



Step 11 Connect the power supply unit to the connector (CN11), and then apply the DC power.

Check the main P.C.B..



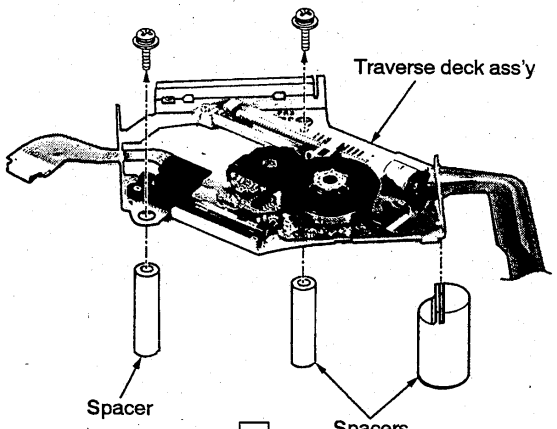
■ Checking the back side of main P.C.B.

- Place the main P.C.B. as shown left, and then check the back side P.C.B..

Checking the traverse deck ass'y separated from the loading unit.

Follow the traverse deck ass'y replacing procedures (Step 1 ~ Step 5) on the main components replacement procedures. (See pages xx and xx.)

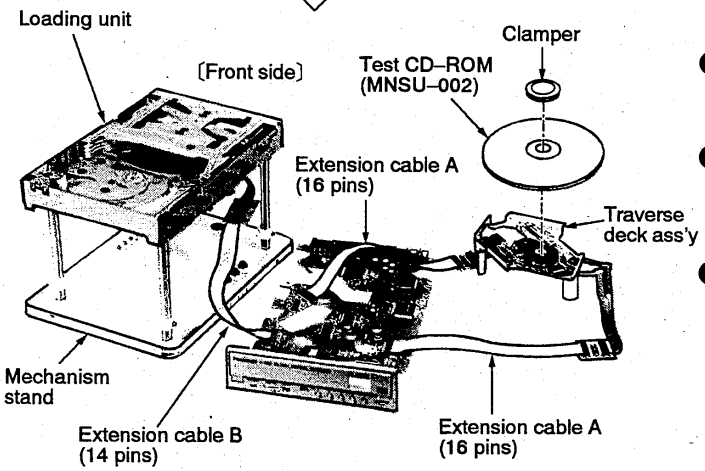
Step 1 Install the spacers (3 points) to the traverse deck ass'y.



Step 2 Place the loading unit on the mechanism stand.

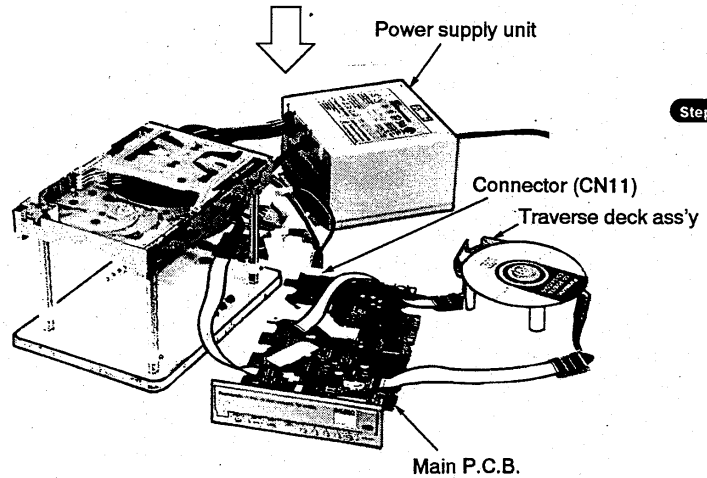
Step 3 Connect the extension cables between the FFCs and connectors.

Step 4 Install the CD–ROM to the traverse deck ass'y and fix it with clamper.



Step 5 Connect the power supply unit to the connector (CN11), and the apply the DC power.

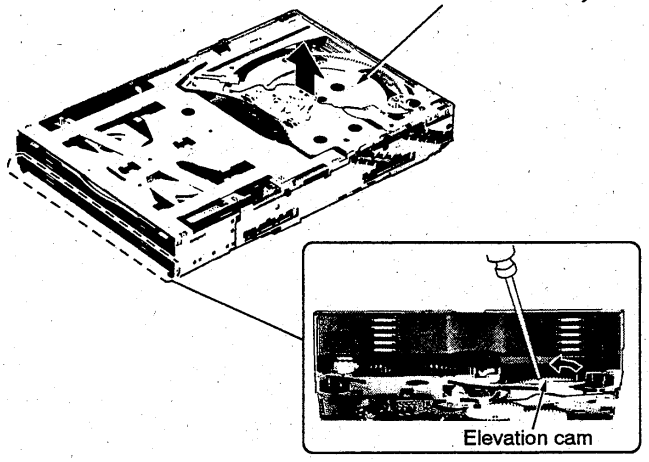
Check the main P.C.B..



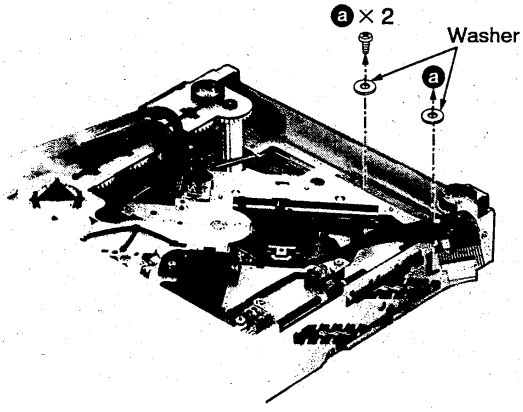
■ Main Component Replacement Procedures

Replacement of the traverse deck ass'y and traverse motor ass'y.

Follow the items (Step 1 ~ Step 5) of main P.C.B. checking. (See pages xx and xx.)

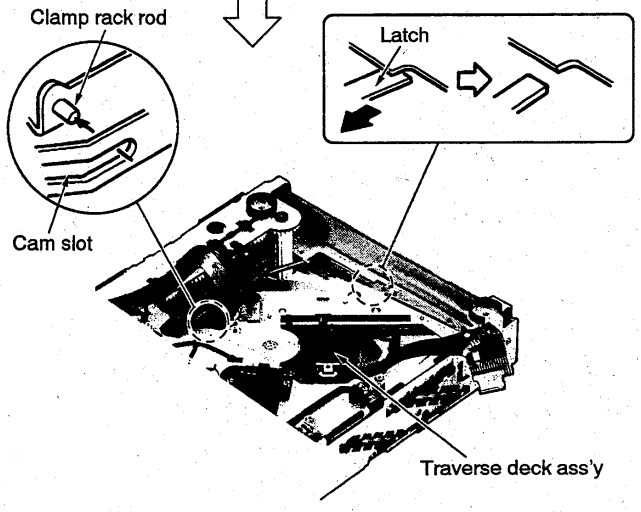


Step 1 Rotate the elevation cam in the direction of arrow (counterclockwise), and then rise the elevation block ass'y.



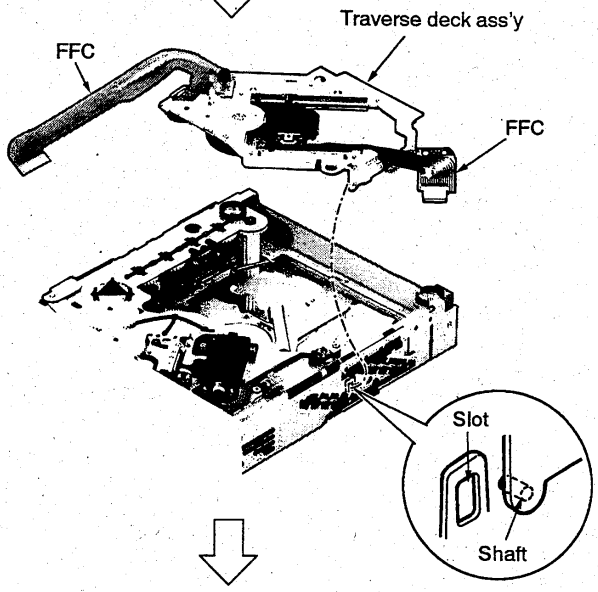
Step 2 Remove the 2 screws.

ⓐ [XQN2+AF3]



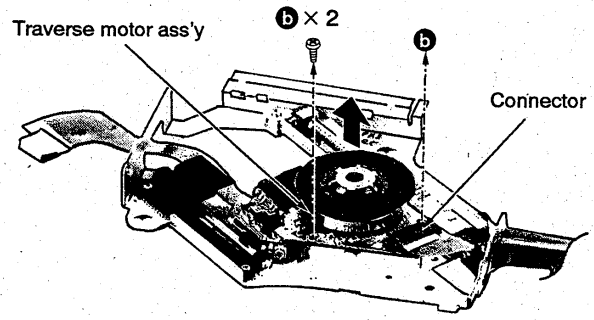
Step 3 Release the latch of traverse deck ass'y.

Step 4 Release the cam slot of traverse deck ass'y from the clamp reck rod.



Step 5 Release the traverse deck ass'y shaft from the slot, and then remove the traverse deck ass'y.

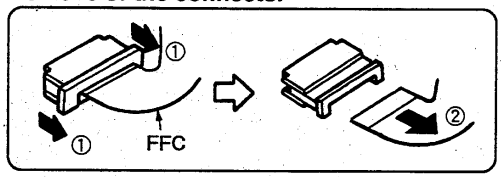
NOTE
Take care not to damage the FFC.



Step 6 Remove the 2 screws. — b [XQN17+CM3FZ]

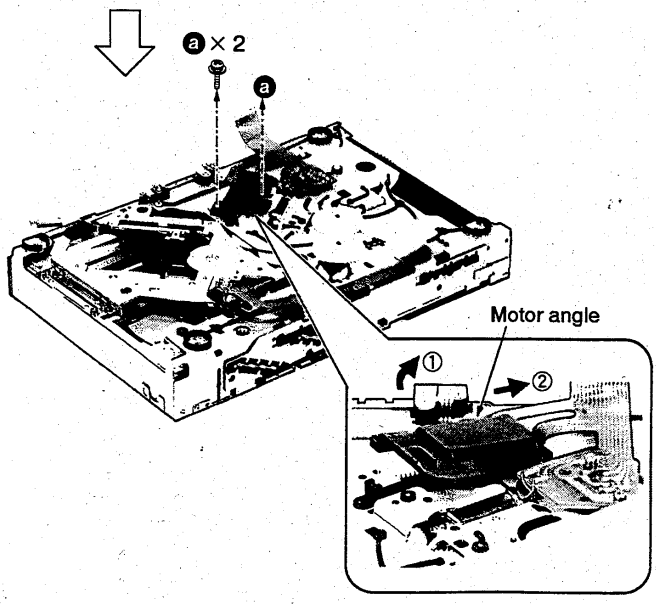
Step 7 Detach the connector, and then remove the traverse motor ass'y.

Remove of the connector



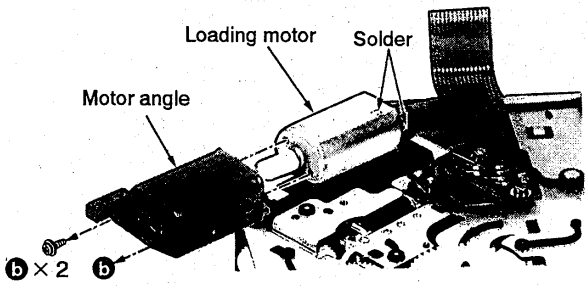
Replacement of the loading motor.

Follow the items (Step 1 ~ Step 5) of main P.C.B. checking. (See pages xx and xx.)



Step 1 Remove the 2 screws. — a [XYN2+C6]

Step 2 Lift the motor angle in the direction of arrow ①, and then remove it with pushing in the direction of arrow ②.



Step 3 Remove the 2 screws. ⓑ [XYN2+A3]

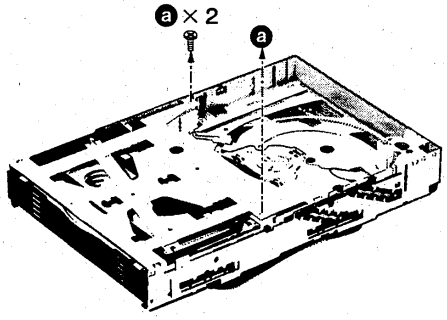
↓

Remove the motor angle.

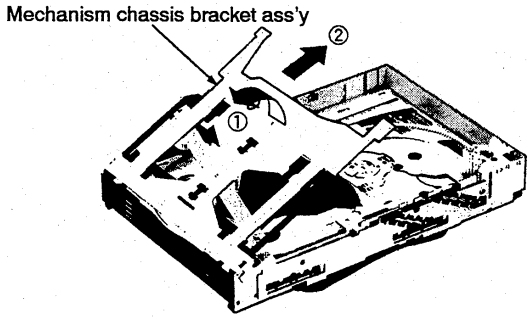
↓

Unsolder the motor terminals (2 points).

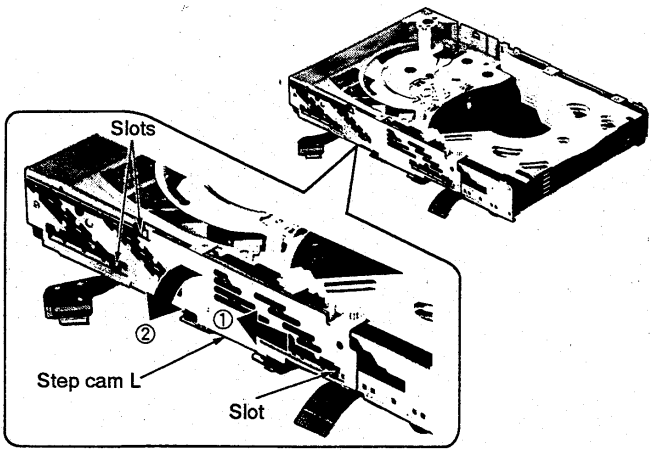
■ Loading unit component diassembly/reassembly



Step 1 Remove the 2 screws (ⓐ). ⓐ [XQN2+A2]



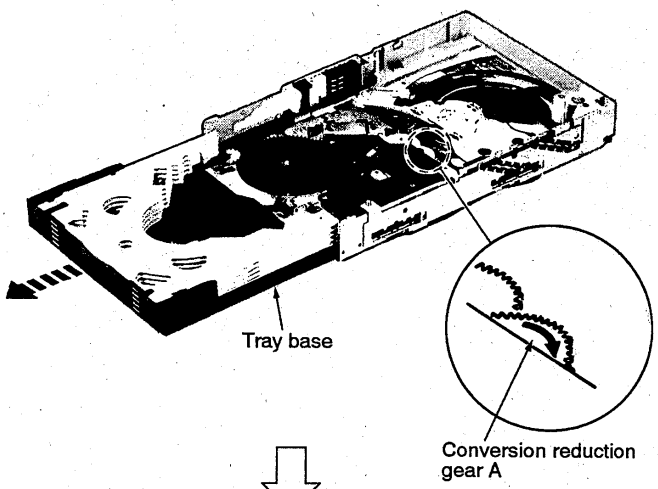
Step 2 Lift the mechanism chassis bracket ass'y in the direction of arrow ①, and them remove it in the direction of arrow ②.



Step 3 Move the step cam L in the direction of arrow ①, and then align it with the slots.

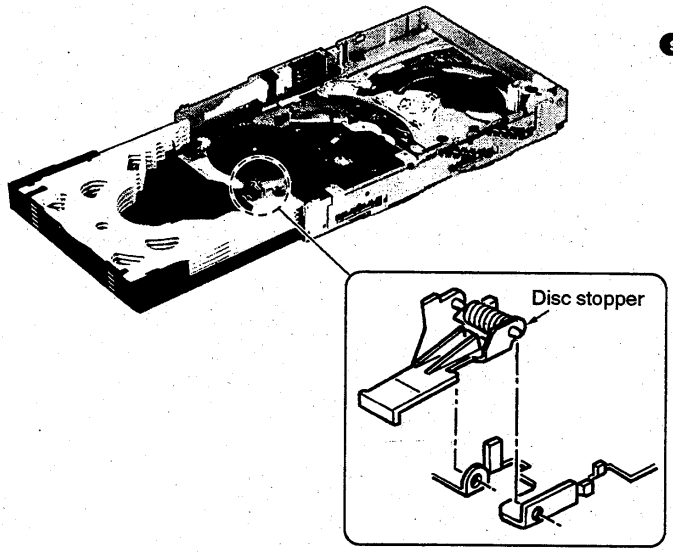
↓

Step 4 Remove the step cam L in the direction of arrow ②.

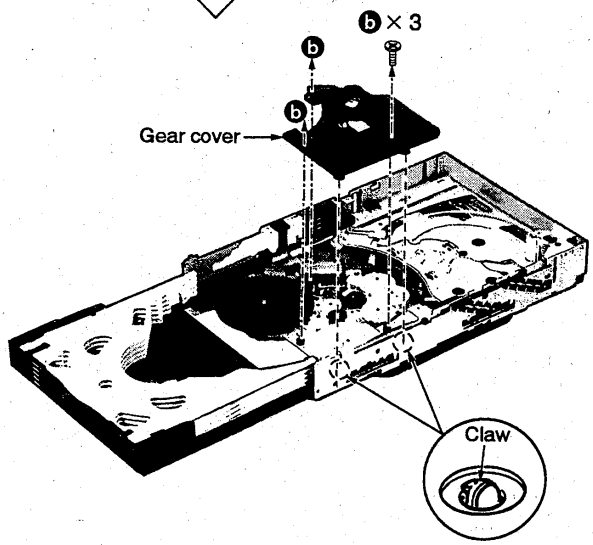


Step 5 Rotate the conversion reduction gear A in the direction of arrow (clockwise).

Step 6 Slide the tray base toward the front. then, pull the tray base fully.



Step 7 Remove the disc stopper.

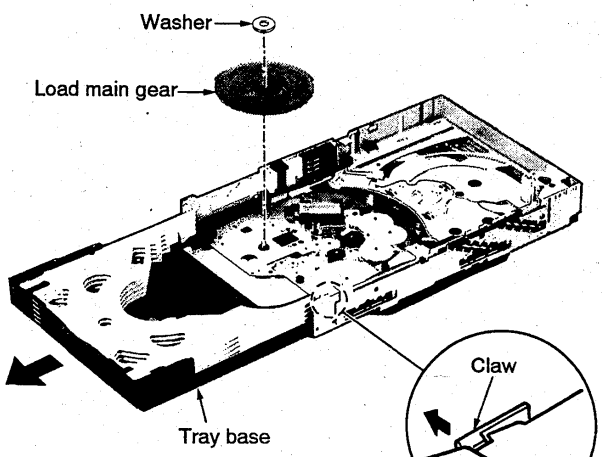


Step 8 Remove the 3 screws.

ⓑ

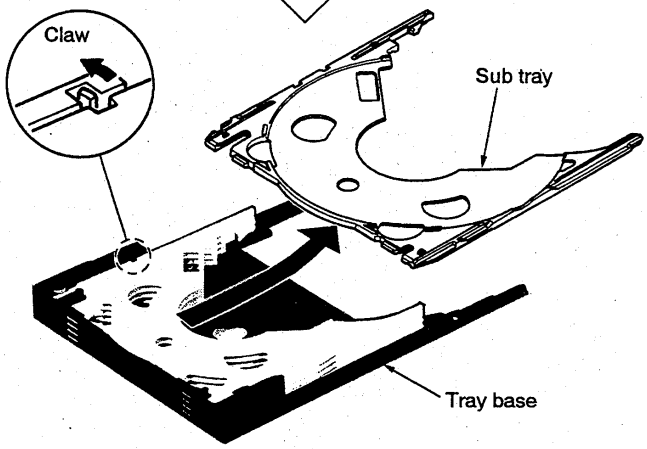
[XQN2+AJ5]

Step 9 Release the 2 claws, and then remove the gear cover.



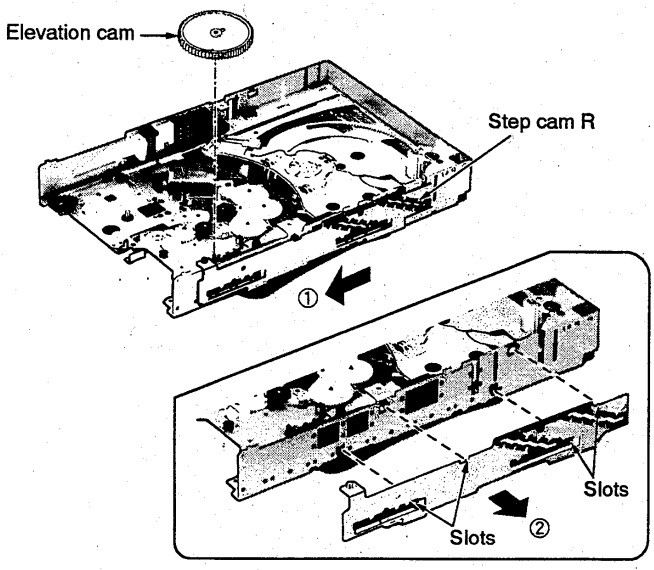
Step 10 Remove the washer and load main gear.

Step 11 Release the 1 claw, and then pull the tray base.



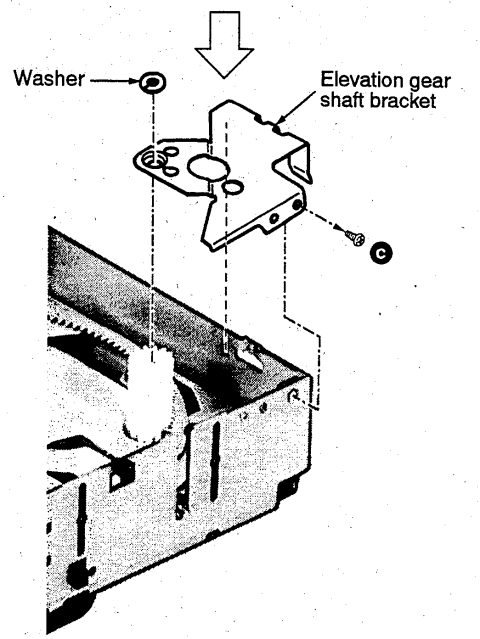
Step 12 With pressing the claw in the direction of arrow, pull the sub tray one by one.

- Tray base has 5 sub trays. When mounting the sub tray to the tray base, the mounting order is not cared.



Step 13 Remove the elevation cam.

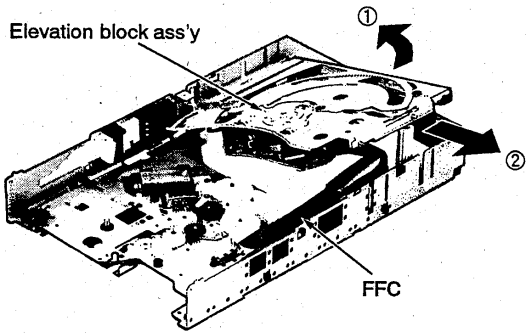
Step 14 Slide the step cam R in the direction of arrow ① and align it with the slots, then remove the step cam R in the direction of arrow ②.



Step 15 Remove the 1 screw.

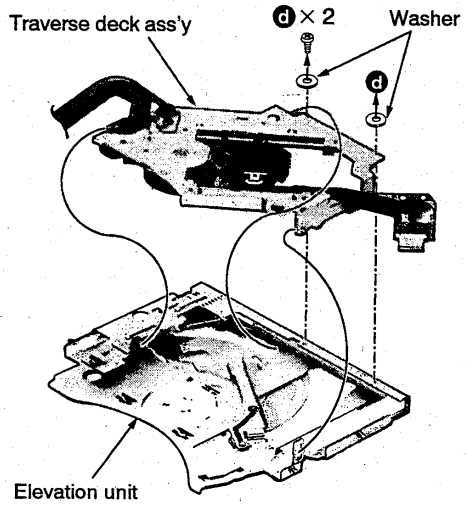
c [XQN2+A2]

Step 16 Remove the washer and the elevation gear shaft bracket.



Step 17 Lift the elevation block ass'y in the direction of arrow ①, and then remove it in the direction of arrow ②.

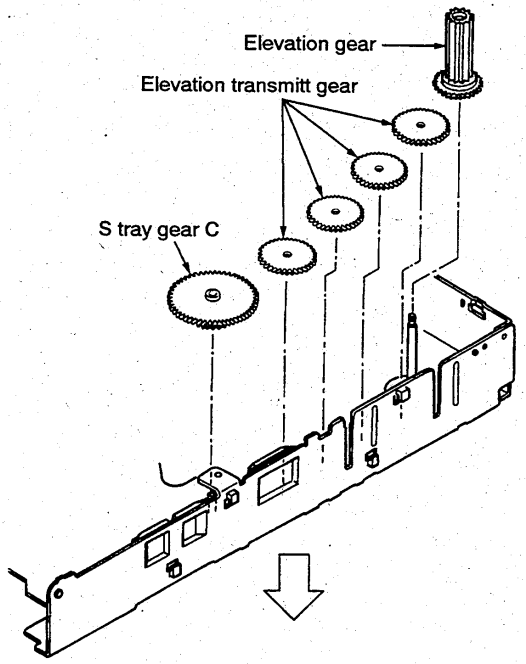
NOTE
Take care not to bend or damage the FFC.



Step 18 Remove the 2 screws and 2 washer.

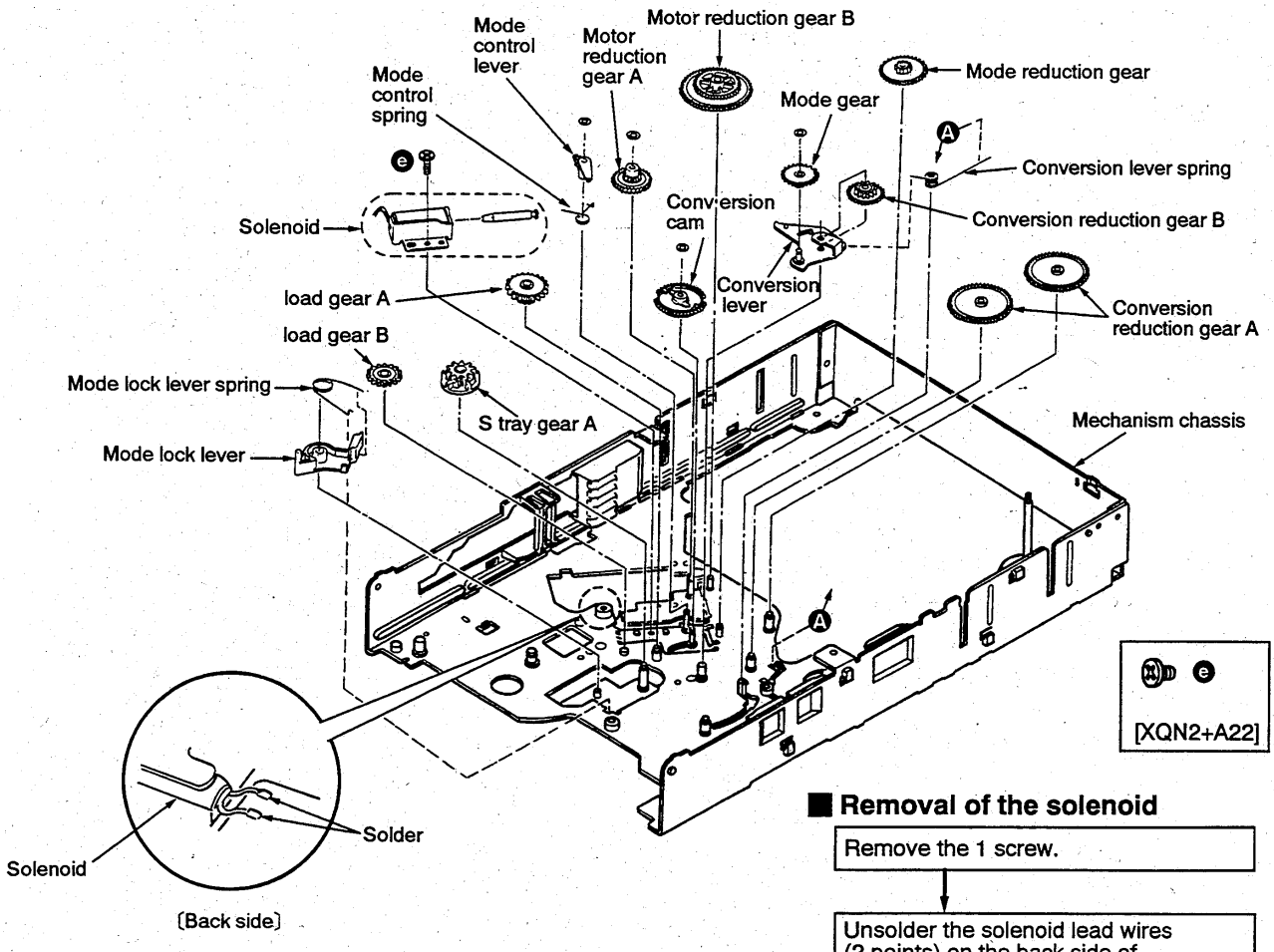
d [XQN2+AF3]

Step 19 Remove the traverse deck ass'y



Step 20 Remove the elevation gear, elevation transmitt gear and S tray gear C.

Step 21 Remove the gears, lever, spring and etc, as shown below.



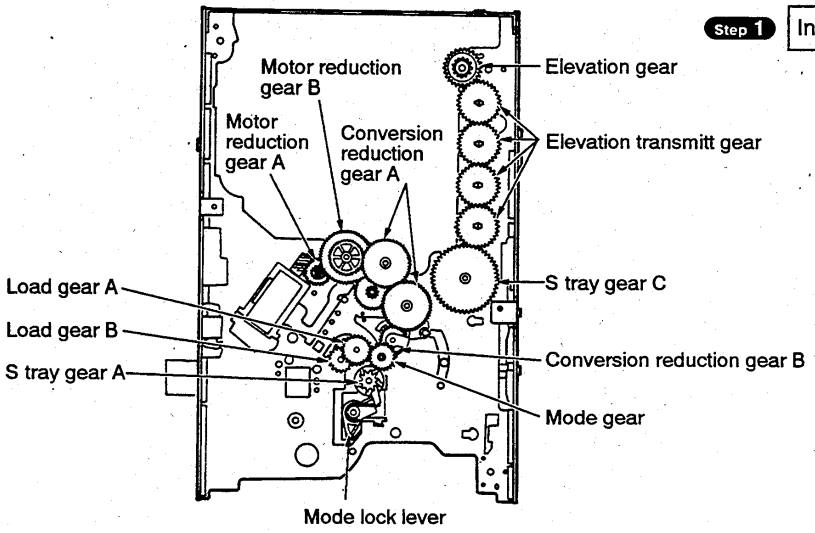
■ Removal of the solenoid

Remove the 1 screw.

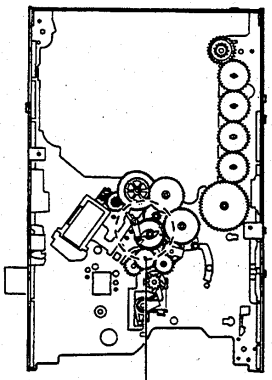
↓

Unsolder the solenoid lead wires (2 points) on the back side of mechanism chassis.

Loading unit component reassembly.



Step 1 Install the gears and levers as shown left.



Step 2 Install the mode control spring to the boss A, and then align the portion ⓐ of spring with the slot. (Refer to figure 1)

Step 3 Install the conversion cam to the boss B, and then install the washer. (Refer to figure 1)

NOTE

Set the conversion cam so that the round slot is located at direction A. (Refer to figure 2)

Step 4 Install the mode control lever to the boss A. (Refer to figure 1)

NOTE

Align the portion ⓑ of mode control spring with the hook of mode control lever. (Refer to figure 1)

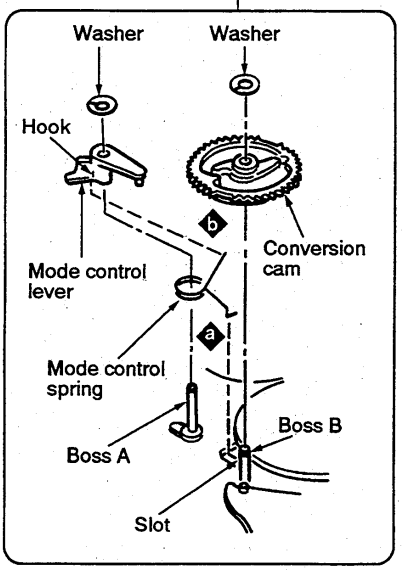


Figure 1

■ Mounting position of mode control lever and conversion cam.

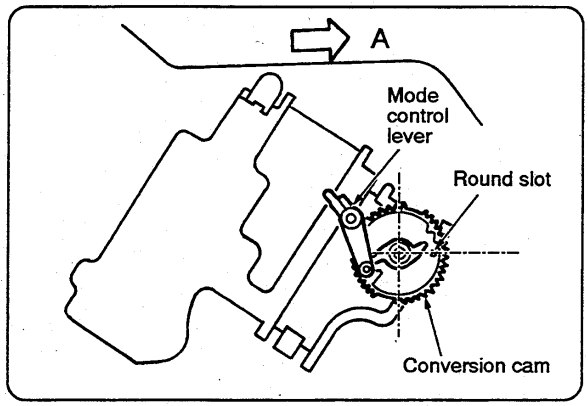
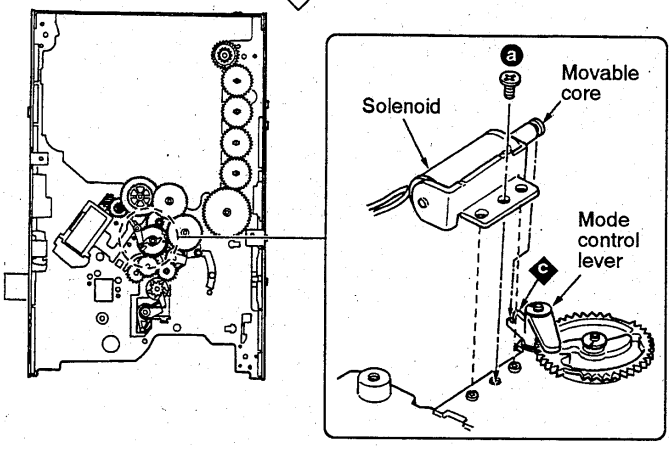


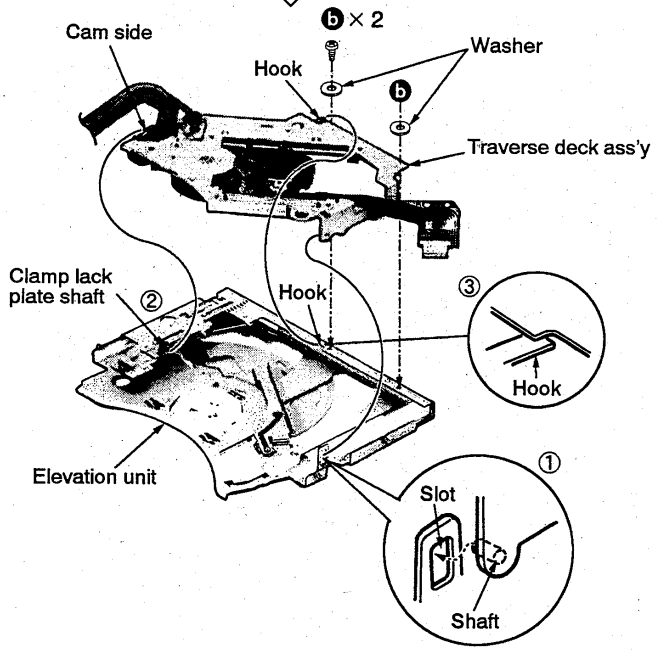
Figure 2



Step 5 Align the bent of movable core with the portion ◆c of mode control lever.

Step 6 Install the solenoid, and then tighten the screw.

Ⓧ a
[XQN2+A22]

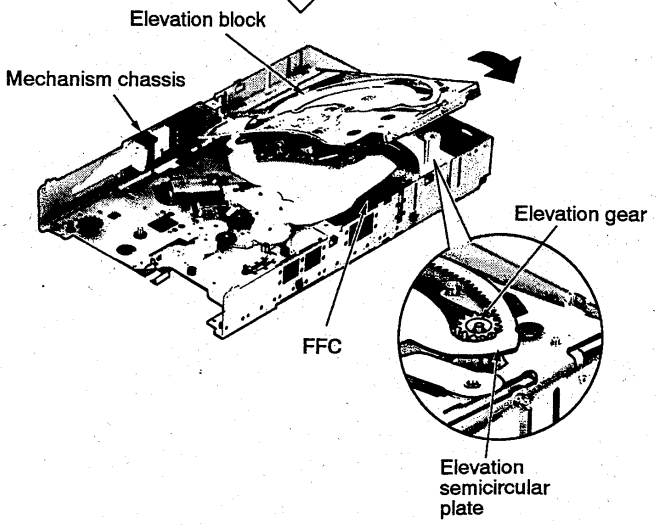


Step 7 Install the traverse deck ass'y to the elevation unit.

① Align the shaft of traverse deck ass'y with the slot.
② Align the cam side of traverse deck ass'y with the clamp lack plate shaft.
③ Align the hook of traverse deck ass'y with the lower side of slot.

Step 8 Fix with 2 screws and washers.

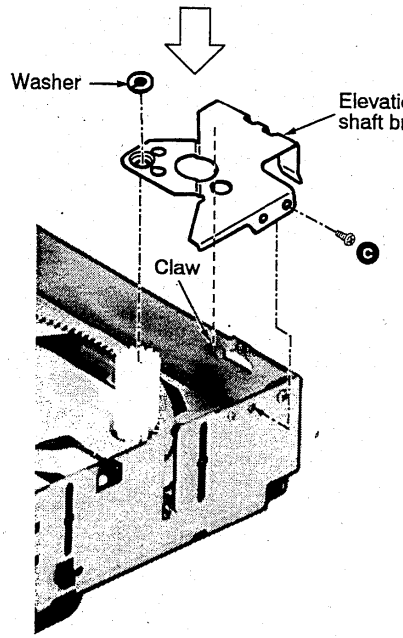
Ⓧ b
[XQN2+AF3]



Step 9 Install the elevation block to the mechanism chassis.

NOTE
When inserting, take care to interfere the elevation semicircular plate with the elevation gear. (Engage the tooth of gear.)

NOTE
Do not pinch the FFC.



Step 10 Install the elevation gear shaft braket.
- Assure the claw is latched.

Step 11 Install the washer, and then tighten screw.

C [XQN2+A2]

• Phase Adjustment

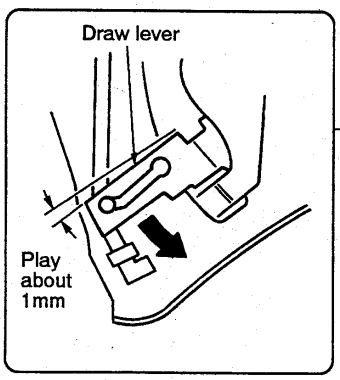
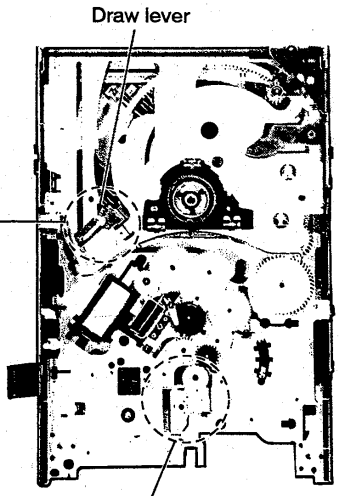


Figure 1



1. Locate the draw lever in the direction of arrow. (Refer to figure 1.)
2. Engage the claw of mode lock lever with the tooth of S tray gear A. (Refer to figure 2.)
3. After engagement, the play of draw lever must be less then 1mm.
4. If the play is more than 1mm, unlock the draw lever. Then, rotate the S tray gear A in the direction of arrow and engage the mode lock lever with the block. (Refer to figure 2.)
5. Depending on the engagement above, select the appropriate position.

NOTE
Take care to engage the tooth of gear. (Refer to figure 3.)

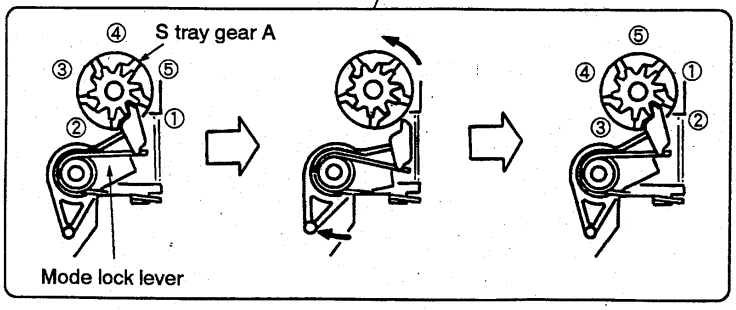


Figure 2

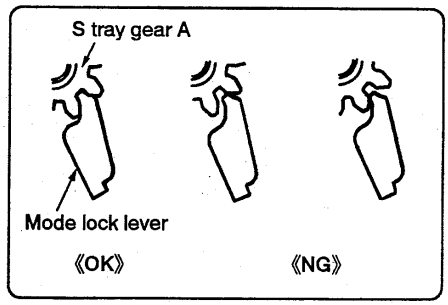
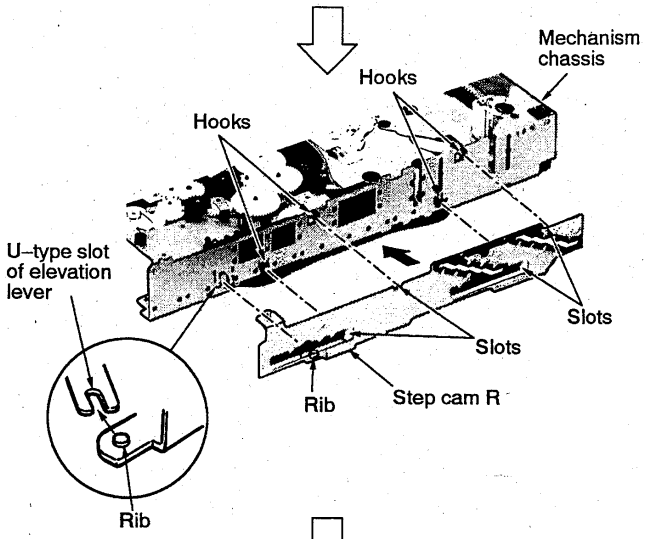


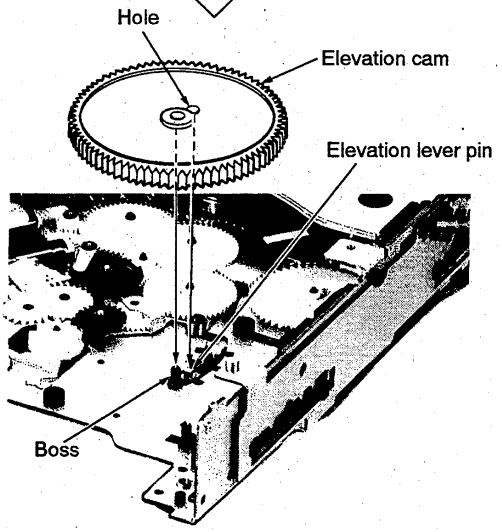
Figure 3



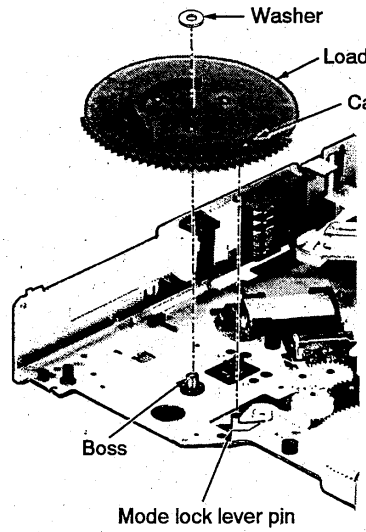
Step 12 Align the slots of step cam R with the hooks of mechanism chassis, and then install the step cam R.

NOTE

The rib of step cam R should be inserted in U-type slot of elevation lever.



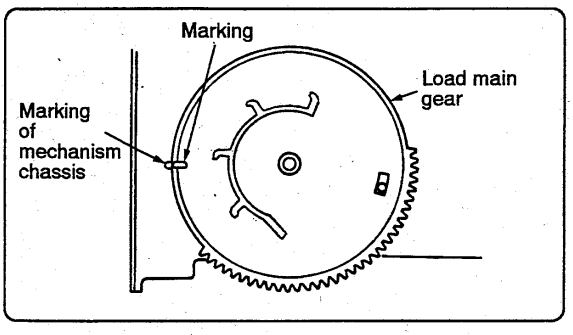
Step 13 Align the hole of elevation cam with the elevation lever pin, and then insert the elevation cam into the boss.

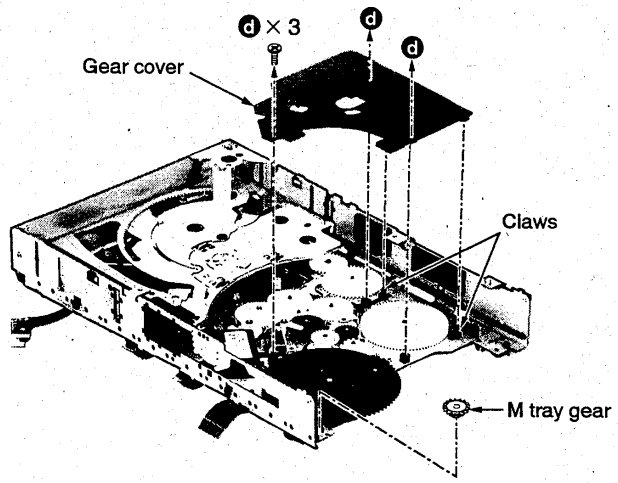


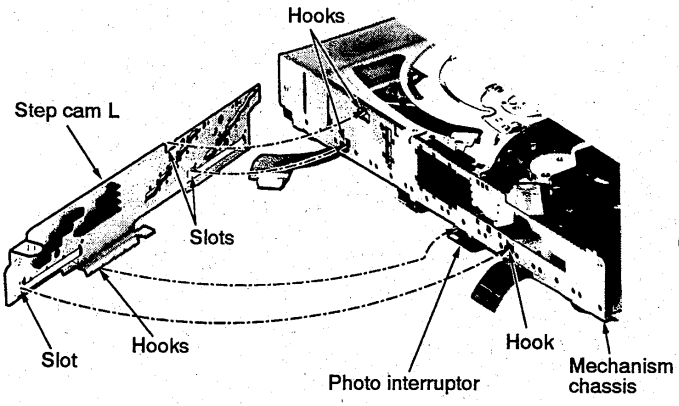
Step 14 Align the cam slot of load main gear with the pin of mode lock lever, and then insert the load main gear into the boss.

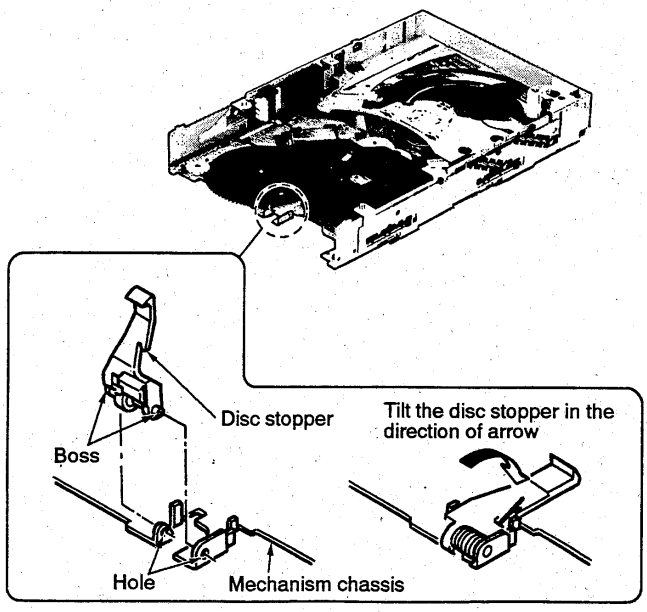
Step 15 Install the washer.

◉ Align the marking of load main gear with that of mechanism chassis. (Refer to figure below.)





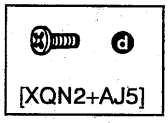




Step 16 Install the gear cover.

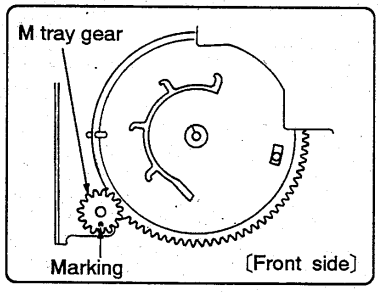
NOTE
The claws (2 points) must be latched.

Step 17 Tighten the screw.



Step 18 Install the M tray gear.

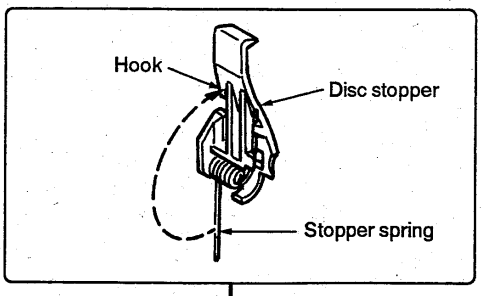
NOTE
Mate the marking toward the front side.
(Refer to figure below.)



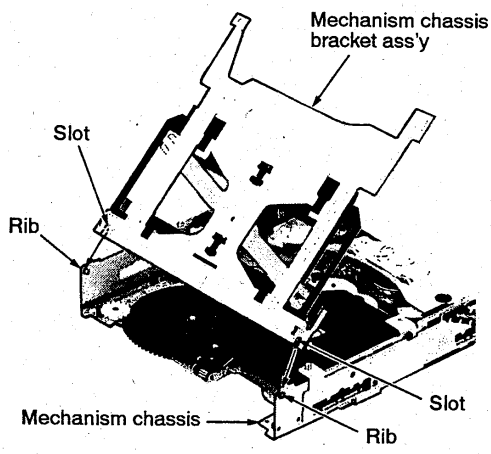
Step 19 Align the slots of step cam L with the hooks of mechanism chassis, and then install the step cam L.

NOTE
Prior to above procedure, insert the hook of step cam L into the photo interruptor.

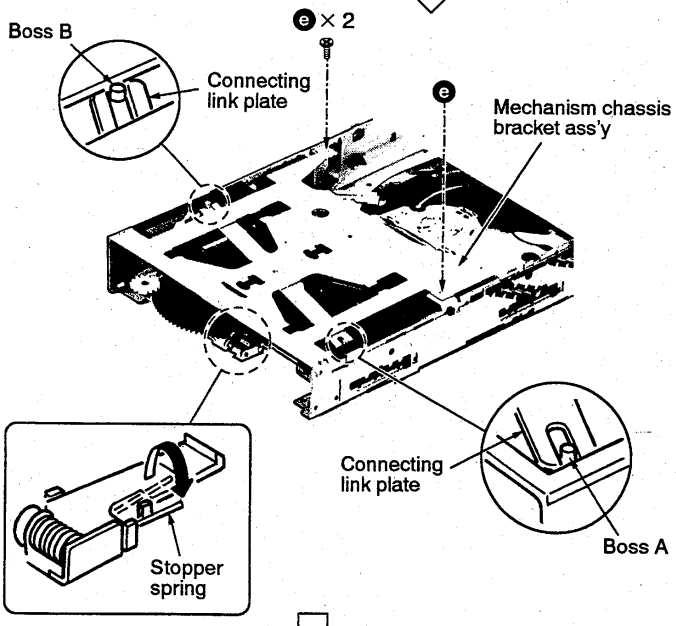
Step 20 Temporarily install the stopper spring on the hook of disc stopper.



Step 21 Align the boss of disc stopper with the hole of mechanism chassis.



Step 22 Install the slot of mechanism chassis bracket ass'y into the rib of mechanism chassis, and then install the mechanism chassis bracket ass'y.

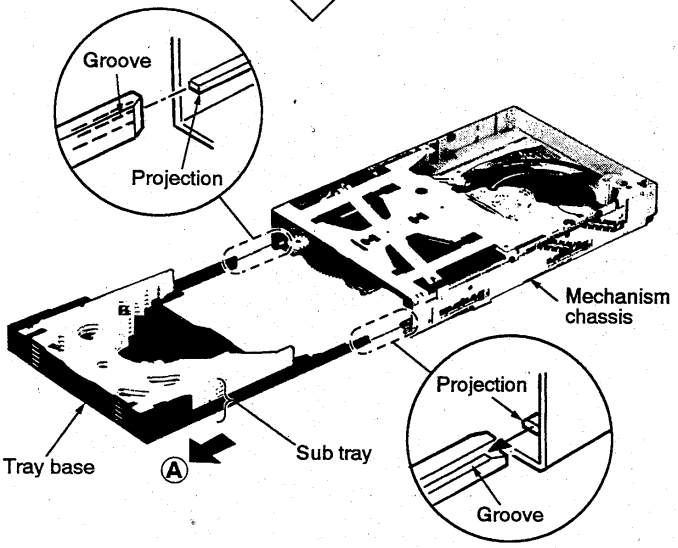


Step 23 Align the connecting link plate with the boss A of step cam R and boss B of step cam L.

Step 24 Tighten screw.

e
[XQN2+A2]

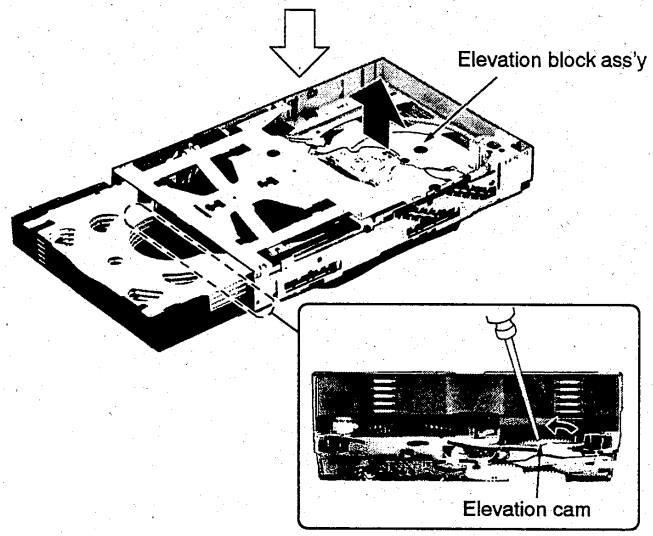
Step 25 Secure the stopper spring temporarily installed with disc stopper.



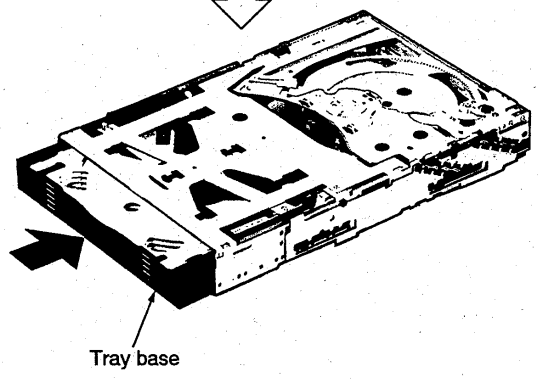
Step 26 Align the groove of tray base with the projection of mechanism chassis, and then insert the tray base.

NOTE

After installing the tray base, make sure that the 5 sub tray bases are located in the direction of arrow Ⓐ.



Step 27 Rotate the elevation cam in the direction of arrow (counterclockwise), and then rise the elevation block ass'y.

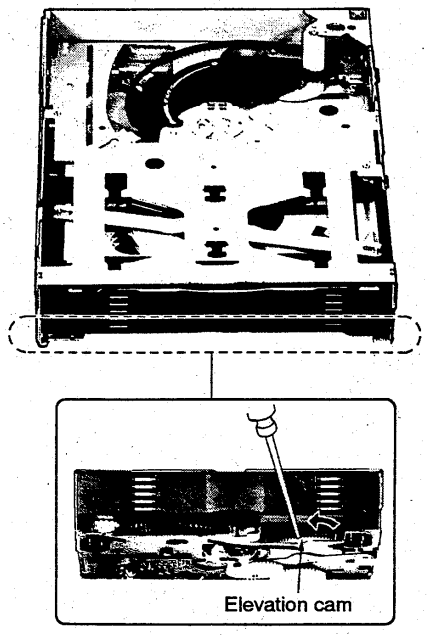


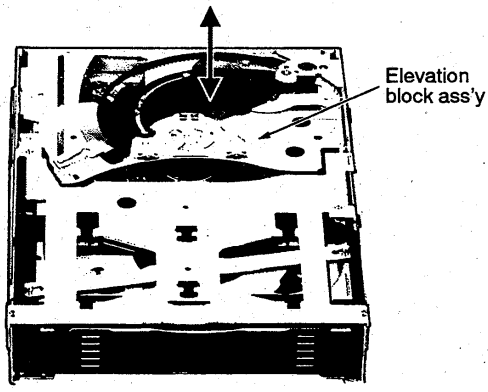
Step 28 Push the tray base.

Loading components assembling complate

Manual operation check of loading components.

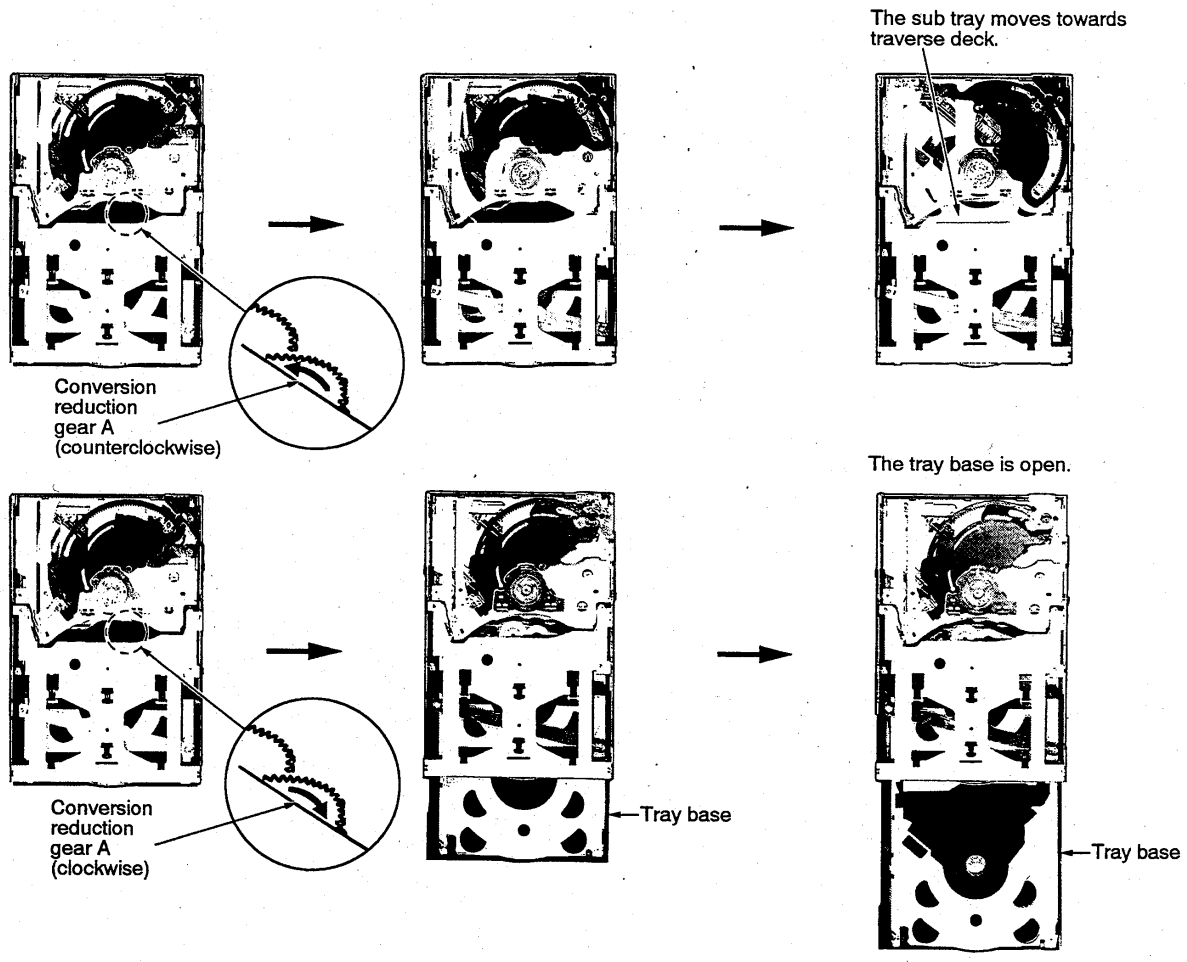
1. Elevation block operation.





Elevation cam	Elevation block ass'y
Rotate counterclockwise : Up ward Rotate clockwise : Down ward	

2. Main tray and sub tray operation



P.I. \ MODE	OPEN	_	CLOSE	_	CLAMP
SW1	H	L	L	L	H
SW2	L	L	H	L	H

P.I. MODE	OPEN	_	CLOSE	_	CLAMP
SW1	H	L	L	L	H
SW2	L	L	H	L	H

TRV
TVD
PC
ECM
ECS
KICK
TRO
TESTX(SVXCK)
FOO
DIRC
VREF
FBAL
DVdd2
TBAL
DVss2
FE
TE
RFENV
VDET
OFT
TRCRS
/RFDET
BDO
LDON
EXTRGM

PRUN
TESTM1
/QVEL
SPAR0
SPAR1
PHCK
SHCK
/RST
STAT
DMUTE
SUBQ
SOCK
BLKCK
/FLOCK
/TLOCK
SENSE
MLD
MDATA
WCLK
TX
DVss1
DVdd1
SRDATA
LRCK
BCLK

SBVLKIN
MSEL/LRCKIN
PSEL/SRDATAIN
CSEL
RSEL
0UTR
AVss1
0UTL
AVdd1
/TEST
IOSEL
RESY
DEMPH
CRC
CLVS
NC7(PH)
NC6(PL)
FLAG
FLH
IPFLAG
FCLK
TESTE(EXEFMIN)
/CLOCK
TESTC(EXPCKIN)
BYTCK/TVS0P

TES
DLAY
/QVEL
CMF
CREF
DMF
DSLF
DFLF
TESTR1(EXTREF)
CMC4(EXPLLF)
VCOF
CMC5(EXPCK)
AVdd2
AVss2
CONFOUT
DEFA
CLSLOUT
SCOCK
DFCS
SSBC
SBCK
Vss
XI
XO
Vdd

SRDATA
LRCK
BCLK
0UTL
0UTR
CRC
IPFLAG
/CLOCK

C750 0.1u
C751 0.1u
C753 0.1u
C791 6.3v 100u
R778 47K
X701 33MHz
R797 100
RLB0003 L701
C752 15P
C754 15P

/QVEL
PRUN
R774 68K
ARF C742 560P
R775 68K
R776 220
R779 220
VCOF
C746 0.1u
C747 0.047u
C748 0.1u
C749 0.22u
R770 15K
R771 10K
R772 15K
R773 1.5K
R777 1.5K
Q705 UN5114TX (10K.47K)
D703 MA151WATX
Q715 UN5211TX (10K.10K)
Q716 UN5214TX (10K.47K)
0.022u C713
0.012u C714
0.047u C715
R781 680
+5V
GND

C103 0.1u
R441 2.2K
A14 A13 A8 A9 A11 OEB A10 CEB D7
NC WRE VCC VPP A16 A15 A12 GND D6 D5 D4 D3 D2 D1
A7 A6 A5 A4 A3 A2 A1 A0 D0
R407 R408 R409 R410 R411 R412 R413 R414 R415 R416 100K 10K 47K
R417 1K
R418 1K
R419 1K
R420 1K
R421 1K
R422 47K
R423 47K
R424 47K
R450 1K
R451 4.7K
R456 470
R457 470
R458 470
C450 680p
C411 0.1u
Q407 UN5114TX (10K.47K)
Q403 UN5214TX (10K.47K)
CLOSE
OPEN
UP
DOWN
POSITION
SW2(CLOSE)
SW1(OPEN)
KEYIN
VREF-
P35
AVSS
VDD
AVDD
VREF+
MA/SL
VSS
R447 56K
A13 A12 A11 A10 A15 P36 D0 D1 D2 D3 D4 D5 D6 D7

D11 MA720TX
D12 MA720TX
TFIANY-0.5A
PQ05RZ5U
C17 0.1u
C18 6.3v 100u
C19 0.1u
C20 6.3v 100u
C21 6.3v 330u
L13
L14
L11
ICP11 ICPS231TN
ICP12 ICPS18TN
CN11 JST PSN A3010YS3
12V
GND
GND
5V

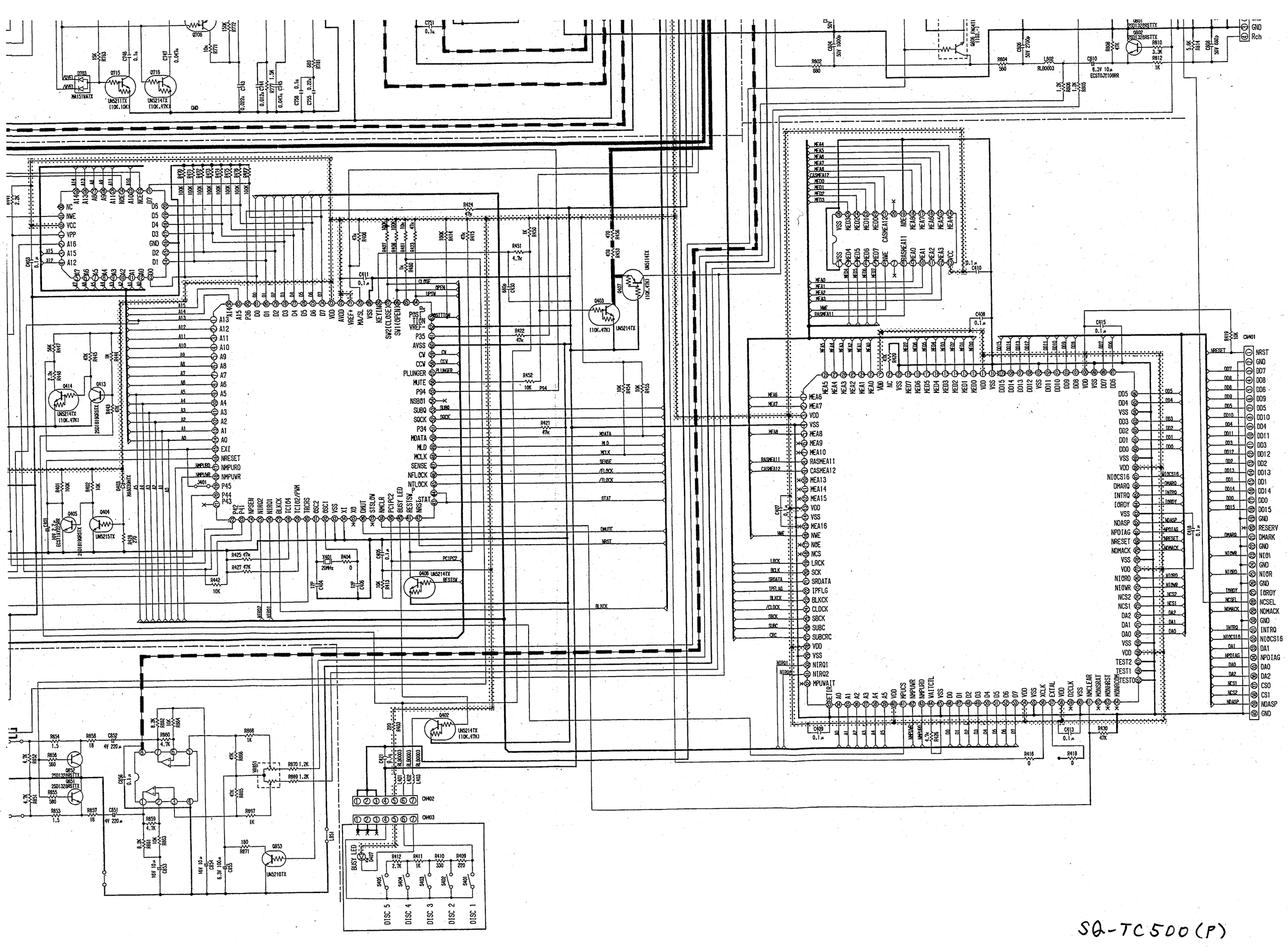
DEGITAL OUT
GND
DEG
CN13

SHORT PIN
MA
SL
CS
MA/SL
CN12

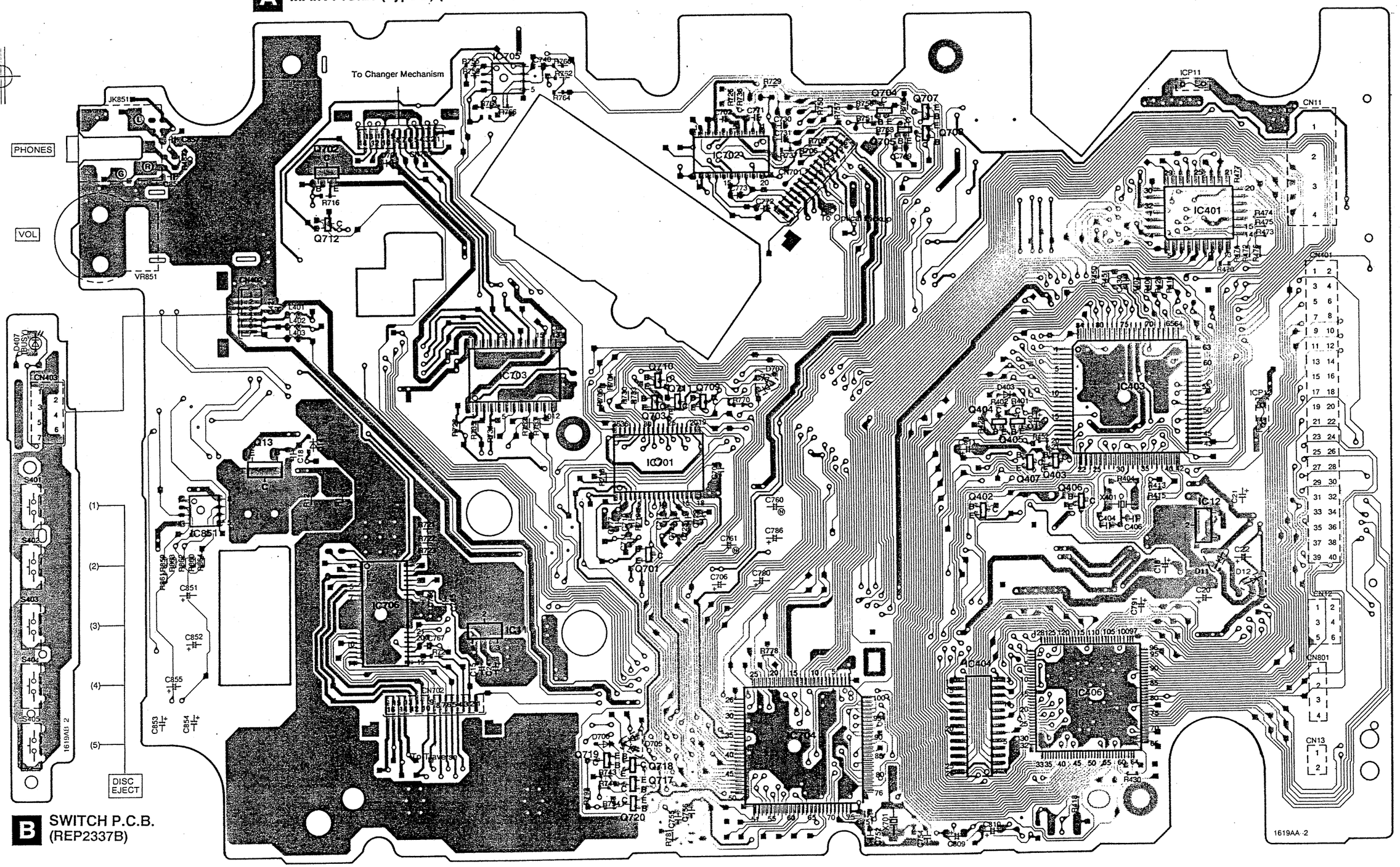
Q11 UN5214TX (10K.47K)
Q12 UN5214TX (10K.47K)
Q805 UN5214TX (10K.47K)
Q804 UN5114TX (10K.47K)
R11 10K
R13 MA8047WTX
ECST1AY475R 10V 4.7u C811

R801 680
C803 50V 1000p
C804 50V 1000p
R802 680
Q806 FMG1148 (10u)
R803 560
C805 50V 2700p
L801 RLB0003
C809 6.3V 10u ECST0JY106RR
R807 47K
Q801 2SD1328RSTTX
R809 3.3K
R811 1K
R808 47K
Q802 2SD1328RSTTX
R810 3.3K
R812 1K
C806 50V 2700p
R804 560
L802 RLB0003
C810 6.3V 10u ECST0JY106RR
1.2K R806
1.2K R805
5.6K R813
5.6K R814
C807 50V 680p
C808 50V 680p
Line Out Jack
CN801
Lch
GND
GND
Rch

MEA4
MEA5
MEA6
MEA7
MEA8
CASMEA12
MED0
MED1
MED2
MED3
VSS MED3 MED4 MED5 MED6 MED7 CASMEA12 WE CASMEA11 MEA9 MEA8 MEA7 MEA6 MEA5
VSS MED2 MED1 MED0 WE CASMEA11 MEA0 MEA1 MEA2 MEA3 VCC
C410 0.1u
MEA0
MEA1
MEA2
MEA3
WE
RASMEA11
C408 0.1u
C415 0.1u
R419 10K
CN401

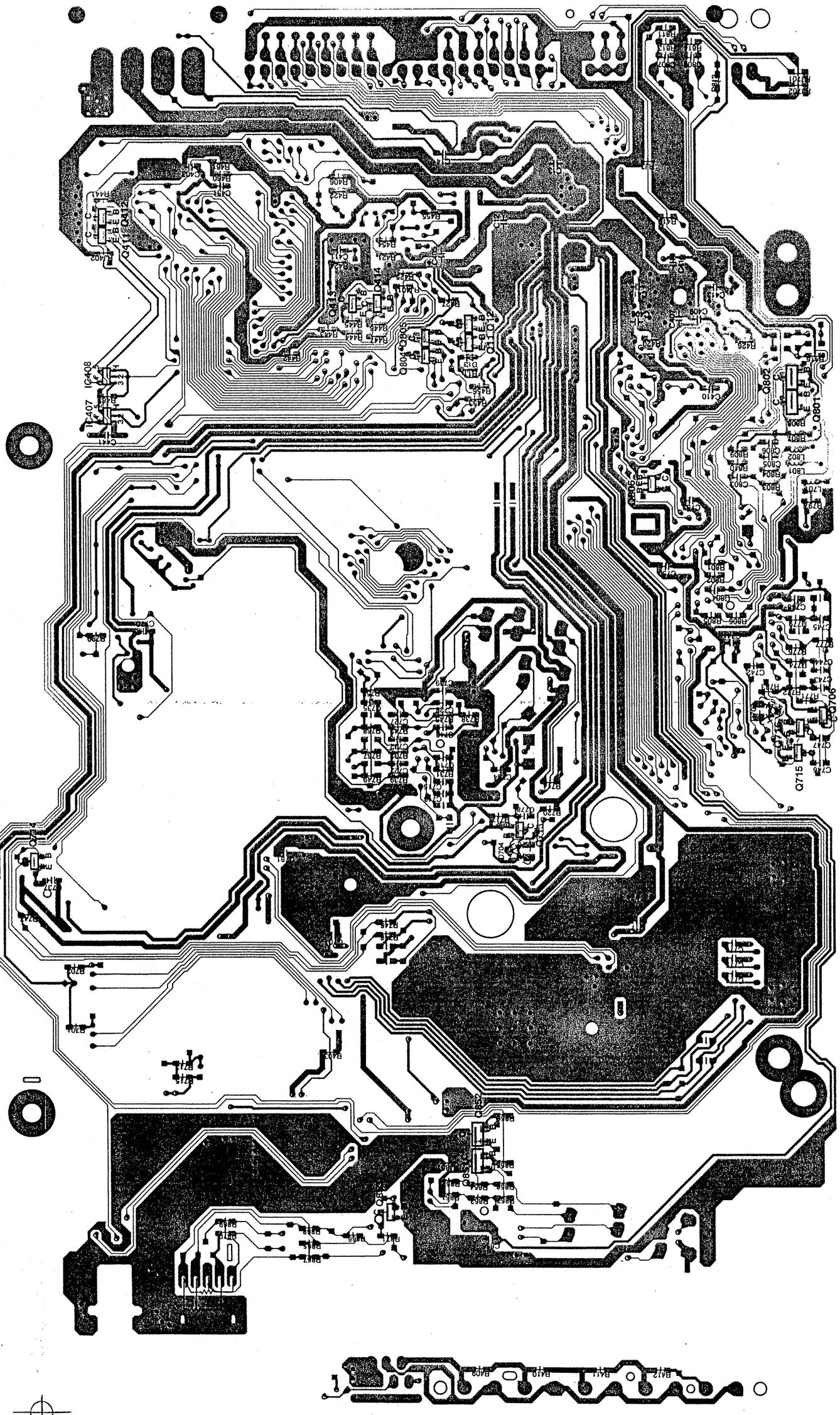

SQ-TC500(P)

A MAIN P.C.B. (Type B) (REP2337B)



B SWITCH P.C.B. (REP2337B)

ヌミ SQ-SX5/SX580(P)B BYType



■ Function of IC Terminals

• IC403 (MNE0823RYAA): System Control

Pin No.	Terminal Name	I/O	Function
1~14	A13~A0	O	Address output
15	EXI	I	External ROM/RAM setting (ordinarily flash memory WRITE)
16	NRESET	I	Microcomputer reset input
17	NMPURD	O	Read terminal
18	NMPUWR	O	Write terminal
19	P45	O	Flash Write "PLL" select switch
20	P44	O	Flash ROM Write power control
21	P43	—	No used, open
22	P42	O	Flash ROM Write enable
23	P41	O	Address output
24	NPSEN	O	Flash ROM chip enable
25	NIRQ2	I	DMA/HOST IF offering input
26	NIRQ1	I	Data input/decode finish/sub-code offering input
27	BLKCK	I	Sub-code block clock signal
28	TC104	—	No used, connect to GND
29	TC102/ PWM	—	No used, connect to GND
30	TRCRS	I	Track loss detection
31	OSC2	O	Osclation output
32	OSC1	I	Osclation input
33	VSS	—	GND terminal
34	XI	—	No used, connect to GND
35	XO	—	NO used, open
36	DMUT	O	Digital mute control signal output
37	STSLOW	—	No used, open
38	NMCLR	O	ECC decoder reset signal output
39	PC1PC2	O	Motor power cut
40	BUSY LED	O	BUSY LED control signal output
41	RESTSW	I	Inmost track switch (mechanism) signal input
42	NRST	O	Reset signal output
43	STAT	I	Status signal input
44	P	—	Connect to Pin 43
45	NTLOCK	I	Tracking lead-in detection
46	NFLOCK	I	Focus lead-in detection
47	SENSE	I	Sense signal input
48	MCLK	O	Microcomputer command clock signal output
49	MLD	O	Microcomputer command load signal output
50	MDATA	O	Microcomputer command data signal output
51	P34	—	No used, connect to GND
52	SQCK	O	Sub-Q code clock output
53	SUBQ	I	Sub-Q data input
54	NSB01	—	No used, open
55	P94	O	After-traverse PU deflection control
56	MUTE	O	Analog mute output
57	PLUNGER	O	Mechanism plunger drive output
58	CCW	O	Motor drive output
59	CW	O	Motor drive output
60	AVSS	—	GND terminal
61	P35	—	No used, connect to GND
62	VREF-	I	At AD's negative reference voltage, connect to GND
63	POSITION	I	Mechanism position detection input
64	UP	I	Mechanism UP switch detection input
65	HPS	I	Headphone detection input
66	OPEN	I	Mechanism OPEN switch detection input
67	CLOSE	I	Mechanism CLOSE switch detection input
68	KEYIN	I	Panel EJECT switch input
69	VSS	—	GND terminal
70	MA/SL	I	Master/Slave select detection input
71	VREF+	I	At AD's positive reference voltage, connect to AVDD
72	AVDD	—	Connect with D +5V
73	VDD	—	Connect with D +5V
74~81	D7~0	I/O	Data input/output
82	P36	—	No used, connect to GND
83, 84	A15, A14	O	Address output

• IC401 (M28F101120-1): Flash ROM

Pin No.	Terminal Name	I/O	Function
1	VPP	—	Write/Erase power source (D +5V/12 V) at 5 V (0 V ~ 6.5 V) Operates in the ROM mode at 12 V (11.4 V ~ 12.6 V) Operation in the RAM mode The number of times of practicable Write/Erase is 10,00 times
2~12	A16, A15 ,A12, A7~A0	I	Address input
13~15	D0~D2	I/O	Data input/output
16	GND	—	GND terminal
17~21	D3~D7	I/O	Data input/output
22	NCE	I	Chip enable
23	A10	I	Address input
24	NOE	I	Output enable
25~29	A11, A9, A8, A13, A14	I	Address input
30	NC	—	No used, open
31	NWE	I	Write enable
32	VCC	—	D +5V

• IC404 (LH62800K-60): DRAM

Pin No.	Terminal Name	I/O	Function
1	VSS	—	GND terminal
2~5	MED4~7	I/O	Data input/output
6	NME	I	Write enable
7	——	—	————
8	RASMEA11	I	Row address strobe (row address latch)
9~12	MEA0~3	I	Address input
13	VCC	—	D +5V
14~18	MEA4~8	I	Address input
19	NOE	I	Output enable
20	——	—	————
21	CASMEA12	I	Column address strobe (column address latch)
22~25	MED0~3	I/O	Data input output
26	VSS	—	GND terminal

• IC406 (MN66404): ROM Decoder

Pin No.	Terminal Name	I/O	Function
1, 2	MEA6, 7	O	Address output
3	VDD	—	D +5V
4	VSS	—	GND terminal
5	MEA8	O	Address output
6, 7	MEA9, MEA10	O	No used, open
8	RASMEA11	O	Address output/RSA control
9	CASMEA12	O	Address output/CAS control
10~12	MEA13, MEA14, MEA15	O	No used, open
13	VDD	—	D +5V
14	VSS	—	GND terminal
15	MEA16	O	No used, open
16	NWE	O	Memory Write enable output
17	NOE	—	No used, open
18	NCS	—	No used, open
19	LRCK	I	LR clock for serial data from CD decoder
20	SCK	I	Bit clock for serial data from CD decoder
21	SRDATA	I	Serial data from CD decoder
22	IPFLAG	I	Error flag from CD decoder
23	BLKCK	I	Block leadoff indication signal
24	CLDCK	I	Frame leadoff indication signal
25	SBCK	O	Sub-code intake clock
26	SUBC	I	Sub-code serial data
27	SUBCRC	I	SUB-Q data CRC error flag
28	VDD	—	D +5V
29	VSS	—	GND terminal
30	NIRQ1	O	Data input/deode finish/sub-code offering output
31	NIRQ2	O	DMA/HOST IF offering output
32	MPUWAIT	—	No used, open
33	SETIR	I	NIRQ1 & NIRQ2 (termianl) active output value selection
34~39	A0~5	I	(Internal register) address input

• IC406 Continued

Pin No.	Terminal Name	I/O	Function
40	VDD	—	D +5V
41	NMPUCS	I	Genuine LSI select signal input
42	NMPUWR	I	Write signal input
43	NMPURD	I	Read signal input
44	WAITCTL	I	Connect with D +5V
45	VSS	—	GND terminal
46~53	D0~7	I/O	Dta input/output to/from microcomputer
54	VDD	—	DC +5V
55	VSS	—	GND terminal
56	XCLK	I	Oscillator connection
57	EXTAL	O	Oscillator connection
58	VDD	—	D +5V
59	D2CLK	O	No used, open
60	VSS	—	GND
61	NMCLEAR	I	Reset terminal
62	MONSRST	O	No used, open
63	MONHRST	O	No used, open
64	MONRCOM	O	No used, open
65~67	TEST0~2	I	Connect to GND
68	VDD	—	D +5V
69	VSS	—	GND terminal
70~72	DA0~2	I	Drive address
73	NCS1	I	Drive chip select 0
74	NCS2	I	Drive chip select 1
75	NIOWR	I	Write signal
76	NIORD	I	Read signal
77	VDD	—	D +5V
78	VSS	—	GND terminal
79	NDMACK	I	DMA acknowledge signal
80	NRESET	I	Drive reset signal
81	NPDIAG	I/O	Passed diagnostic signal

Pin No.	Terminal Name	I/O	Function
82	NDASP	I/O	Drive active/drive 1 present signal
83	VSS	—	GND terminal
84	IORDY	O	I/O Channel delay signal
85	INTRQ	O	Interrupt signal
86	DMARQ	O	DMA request signal
87	NIOCS16	O	16 bit I/O signal
88	VDD	—	D +5V
89	VSS	—	GND termianl
90~93	DD0~3	I/O	Data input/output
94	VSS	—	GND terminal
95~98	DD4~7	I/O	Data input/output
99	VSS	—	GND terminal
100	VDD	—	D +5V
101 ~104	DD8~11	I/O	Data input/output
105	VSS	—	GND terminal
106 ~109	DD12~15	I/O	Data input/output
110	VSS	—	GND terminal
111	VDD	—	D +5V
112 ~119	MED0~7	I/O	Dta input/output to/from buffer RAM
120	VSS	—	GND terminal
121	NC	—	No used, connect to GND
122	VDD	—	D +5V
123 ~128	MEA0~5	O	Address output

● IC701 (AN8846SBE1): Head Amp.

Pin No.	Terminal Name	I/O	Function
1	PD	I	APC Amp input
2	LD	O	APC Amp output
3	VCC	—	A +5 V
4	NQVEL	I	QVEL input
5	EQSW	—	EQ capacity connection
6	RFN	I	RF addition amp reverse input
7	RFOUT	O	RF addition output
8	RFIN	I	AGC input
9	CAGC	—	AGC loop filter connection
10	ARF	O	AGC output
11	CEA	—	HPF amp capacity connection
12	ENV	O	RF envelope output
13	CBDO	—	RF dark-side envelope detection capacity connection
14	BDO	O	BDO output
15	COFTR	—	RF bright-side envelope detection capacity connection
16	OFTR	—	OFTR output
17	NRFDET	O	NRFDET output
18	GND	—	GND terminal
19	LDON	I	APC and masking control
20	VREF	O	VREF output
21	VDET	O	VDET output
22	TEBPF	I	VDET input
23	CCRS	—	Cross capacity connection
24	CROSS	O	Cross output
25	TEOUT	O	TE AMP output
26	TEN	I	TF AMP reverse input
27	FEOUT	O	FE AMP output
28	FEN	I	FE AMP reverse input
29	FBAL	I	FBAL control

Pin No.	Terminal Name	I/O	Function
30	TBAL	I	TBAL control
31	E	I	Tracking signal input 1
32	F	I	Tracking signal input 2
33	D	I	Focus signal input 4
34	B	I	Focus signal input 2
35	C	I	Focus signal input 3
36	A	I	Focus signal input 1

● IC702 (AN8387SE2): Linear Driver

Pin No.	Terminal Name	I/O	Function
1	SVCC	—	A +5 V
2	IN1	I	Tracking drive input
3	PC1	I	No used, connect to GND
4	VREF	I	Reference voltage
5	PGND	—	GND terminal
6	PGND	—	GND terminal
7	SGND	—	GND terminal
8	PC2	I	No used, connect to GND
9	IN2	I	Focus drive input
10	SVCC	—	A +5 V
11	VLIM2	I	Focus drive output voltage restriction
12	PVCC	I	D +5 V
13	D2+	O	Focus drive output (+)
14	D2–	O	Focus drive output (–)
15	PGND	—	GND terminal
16	PGND	—	GND terminal
17	D1+	O	Focus drive output (+)
18	D1–	O	Focus drive output (–)
19	PVCC	I	D +5 V
20	VLIMI	I	Tracking drive output voltage restriction

● IC703 (AN8389SE1): 4 ch BTL Driver

Pin No.	Terminal Name	I/O	Function
1	VCC	—	+12 V
2	VREF	I	Referece power source input
3	IN4	I	Traverse motor drive input 1
4	IN3	I	Traverse motor drive input 2
5	GND	—	GND terminal
6	NC	—	No used, connect to GND
7	NRST	O	Reset output
8	GND	—	GND terminal
9	IN2	I	Motor drive input (CW)
10	PC2	I	Power cut input (CW)
11	IN1	I	Motor drive input (CCW)
12	PC1	I	Power cut input (CCW)
13	PVCC1	—	+12 V
14	PGND1	—	GND terminal
15	D1–	O	No used, open
16	D1+	O	Motor drive output
17	D2–	O	No ude, open
18	D2+	O	Motor drive output
19	D3–	O	Traverse motor output 1 (–)
20	D3+	O	Traverse motor output 1 (+)
21	D4–	O	Traverse motor output 2 (–)
22	D4+	O	Traverse motor output 2 (+)
23	PGND2	—	GND terminal
24	PVCC2	—	+7.5 V

● IC706 (NBC3903MT1): Spindle Motor Driver

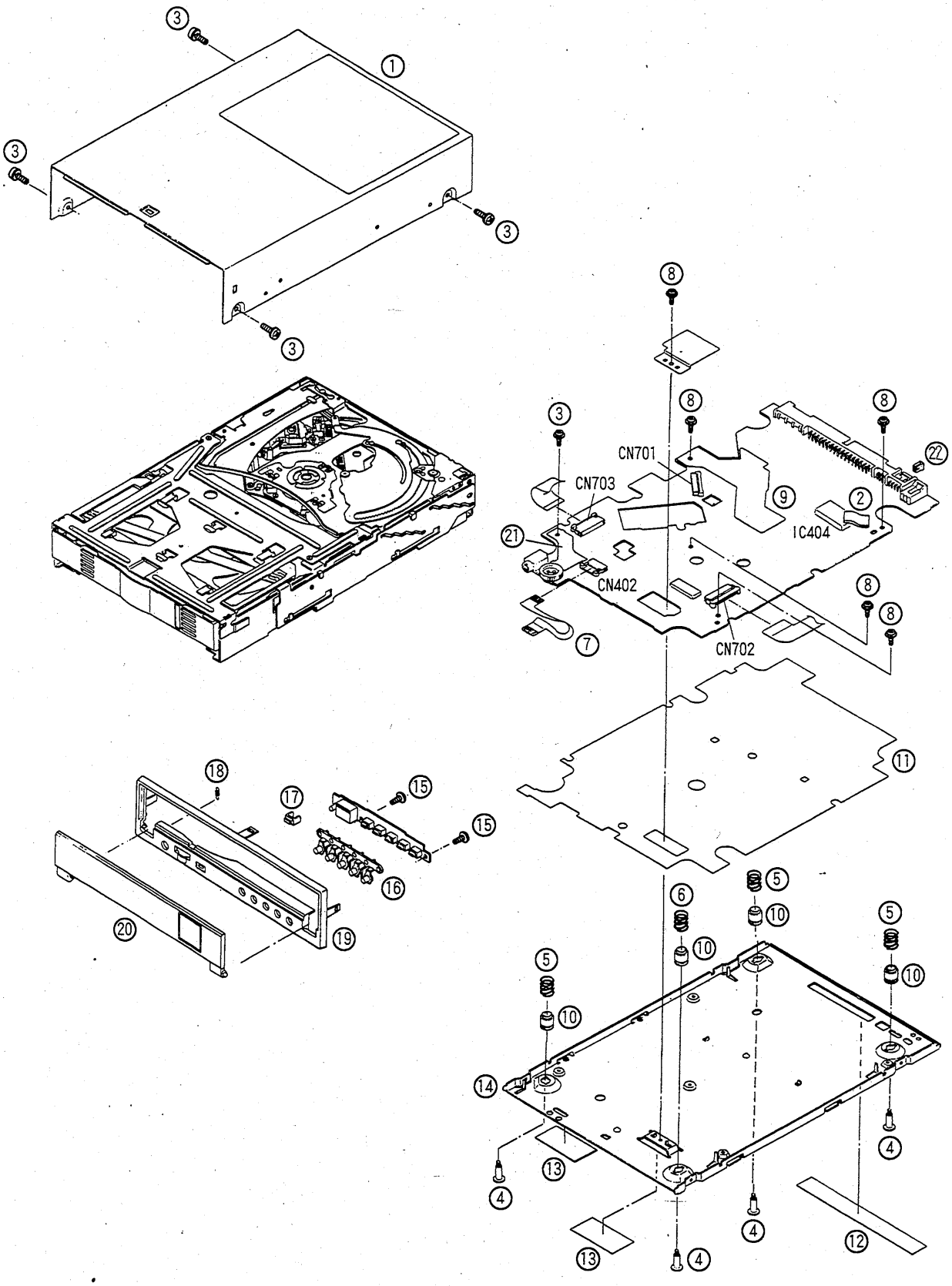
Pin No.	Terminal Name	I/O	Function
1	NC	—	No used, open
2	NC	—	No used, open
3	A3	O	3-phase output
4	NC	—	No used, open
5	A2	O	2-phase output
6	A1	O	1-phase output
7	GND	—	GND terminal
8	H1+	I	1-phase hole positive signal input
9	H1–	I	1-phase hole negaitive signal input
10	NC	—	No used, open
11	NC	—	No used, open
12	H2+	I	2-phase hole positive signal input
13	H2–	I	2-phase hole negaitive signal input
14	H3+	I	3-phase hole positive signal input
15	H3–	I	3-phase hole negaitive signal input
16	VH	O	Hole bias output
17	CNF	—	Phase compensating condenser connection
18	NC	—	No used, open
19	ECR	I	Output voltage control reference voltage
20	EC	I	Output voltage control
21	PS	I	Power saving
22	NC	—	No used, open
23	VCC	—	A +5 V
24	NC	—	No used, open
25	NC	—	No used, open
26	VM	—	A +9 V
27	NC	—	No used, open
28	RNF	—	Output currect detection resistor connection

• IC704 (MN662743CDC1): Signal Processor

Pin No.	Terminal Name	I/O	Function
1	BLK	O	Bit clock output for serial data
2	LRCK	O	L/R identification signal output ("H": L-ch audio data, "L": R-ch audio data)
3	SRDATA	O	Serial data output
4	DVDD1	I	Power supply input (for digital circuit)
5	DVSS1	I	GND terminal (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 ("L": load)
10	SENSE	O	Sense signal output (OFT, FESL, NACEND, NAJEND, POSAD, SFG, NWTEND)
11	/FLOCK	O	Focus servo feeding signal output ("L": Feed)
12	/TLOCL	O	Tracking servo feeding signal output ("L": Feed)
13	BLKCK	O	Sub-code block clock signal output (fBLKCK = 75 Hz)
14	SQCK	I	External clock signal input for sub-code Q resister
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting signal input ("H": mute)
17	STAT	O	Status signal output (CRC, CUE, CLVS, TTSTVP, FCLV, SQCK, FLAG6, SENSE, /FLOCK, /TLOCK)
18	/RST	I	Reset signal input ("L": reset) at IOSEL="L": (472 ns and over = "L")
19	SMCK	O	Clock signal output at MSEL="H" (8.4672 MHz) at MSEL="L" (16.9344 MHz)
20	PMCK	O	Clock signal output (88.2 kHz)
21	SPARI	I	Test terminal (normally "L")
22	SPARO	O	Test terminal (normally "open")
23	/QVEL	O	Quadruple speed status signal output ("L": quadruple speed)
24	TESTMI	I	Test terminal (pull-down terminal) (normally "L")
25	PRUN	O	Optical pickup tracking detection signal output
26	TRV	O	Traverse forced feed signal output
27	TVD	O	Traverse drive signal output
28	PC	O	Spindle motor ON signal output ("L": ON, default)
29	ECM	O	Spindle motor drive signal output (forced mode output)
30	ECS	O	Spindle motor drive signal output (servo error signal output)
31	KICK	O	Kick pulse output
32	TRD	O	Tracking drive signal output
33	TESTX	I	Test terminal (normally "L")
34	FOD	O	Focus drive signal output
35	DIRC	O	Optical pickup tracking direction detection signal output
36	VREF	I	Reference voltage input of D/A (drive) output (TVD, ECS, TRD, FOD, FBAL, TBAL, TOFS)
37	FBAL	O	Focus balance adjustment signal output
38	DVDD2	I	Power supply input (for digital circuit)
39	TBAL	O	Tracking balance adjustment signal output
40	DVSS2	I	GND terminal (for digital circuit)
41	FE	I	Focus error signal input (analog input)
42	TE	I	Tracking error signal input (analog input)
43	RFENV	I	RF envelope signal input (analog input)
44	VDET	I	Vibration detection signal input ("H": detection)
45	OFT	I	Off-track signal input ("H": off-track)
46	TRCRS	I	Track cross signal input
47	/RFDET	I	RF detection signal input ("L": detection)
48	BDO	I	Dropout signal input ("H": Dropout)
49	LDON	O	Laser on signal output ("H": ON)
50	EXTROM	I	Test terminal (normally "L")
51	TES	O	Tracking error shunt signal output ("H": shunt)
52	PLAY	O	Play signal out ("H": PLAY)
53	/WVEL	O	Double speed status signal output ("L": Double speed)
54	ARF	I	RF signal input
55	IREF	I	Reference current input terminal
56	DRF	I	DSL bias terminal
57	DSLF	I/O	DSL loop filter terminal
58	PLLF	I/O	PLL loop filter terminal
59	TESTR	I	Test terminal (EXIREF) (normally "L")

• IC704 continued

Pin No.	Terminal Name	I/O	Function
60	EXPLLF	O	Test terminal (normally "open")
61	VCOF	I/O	VCO loop filter terminal
62	EXPCK	O	Test terminal (normally "open")
63	AVDD2	I	Power supply input for analog circuit (DSL, PLL, DA OUTPUT, AD)
64	AVSS2	I	GND terminal for analog circuit (DSL, PLL, DA OUTPUT, AD)
65	BUFOUT	O	Test terminal (normally "open")
66	EFM	O	at IOSEL="H" EFM signal output at IOSEL="L" Clock signal output (16.9344 MHz)
67	DSLOUT	O	Test terminal (normally "open")
68	PCK	O	PLL extraction clock signal output (fPCK= 4.321 MHz)
69	TOFS	O	Tracking offset adjustments signal output
70	SUBC	O	Sub-code serial data output
71	SBCK	I	Clock signal input for sub-code serial data
72	VSS	I	GND terminal (for oscillating circuit)
73	X1	I	Crystal oscillating circuit input (f = 33.8688 MHz)
74	X2	O	Crystal oscillating circuit output (f = 33.8688 MHz)
75	VDD	I	Power supply input (for oscillating circuit)
76	BYTCK	O	at IOSEL="H" Byte clock signal output at IOSEL="L" Traverse stop signal output ("H": stop mode)
77	TESTC	I	Test terminal (EXPCKIN) (normally "L")
78	/CLDCK	O	Sub-code frame clock signal output (fCLDCK = 7.35 kHz)
79	TESTE	I	Test terminal (EXEFMIN) (normally "L")
80	FCLK	O	Crystal frame clock signal output (fFCLK = 7.35 kHz)
81	IPFLAG	O	Interpolation flag signal output ("H": Interpolation)
82	FLH	O	Speed detection result output (3–state output)
83	FLAG	O	Flag signal output
84	PL	O	Test terminal (normally "open")
85	PH	O	Test terminal (normally "open")
86	CLVS	O	Spindle servo phase synchronizing signal output ("H": CLV, "L": rough servo)
87	CRC	O	Sub-code CRC checked result output ("H": OK, "L": NG)
88	DEMPH	O	De-emphasis detection signal output ("H": ON)
89	RESY	O	at IOSEL="H" Frame sync. resynchronization signal output "H": pull in "L": pull out at IOSEL="L" Error corrction deinterleaving RAM address reset signal FLAG6 output "L": address reset generation
90	IOSEL	I	Mode switching terminal
91	/TEST	I	Test terminal (normally "L")
92	AVDD1	I	Power supply terminal for analog circuit [for audio output (use as L-ch and R-ch)]
93	OUTL	O	Left channel audio signal output
94	AVSS1	I	GND terminal for analog circuit [for audio output (use as L-ch and R-ch)]
95	OUTR	O	Right channel audio signal output
96	RSEL	I	RF signal polarity assignment terminal (at "H" level: RSEL = "H") (at "L" level: RSEL = "L")
97	CSEL	I	Crystal oscillating frequency designation input ("H": 33.8688 MHz)
98	PSEL/ SRDATAIN	I	at IOSEL="H" Test terminal (normally "L") at IOSEL="L" SRDATA input terminal
99	MSEL/ LRCKIN	I	at IOSEL="H" Output frequency switching of SMCK terminal "H": SMCK = 8.4672 MHz "L": SMCK = 16.9344 MHz at IOSEL="L" LRCK input terminal "H": L-ch data, "L": R-ch data (SMCK terminal output = 16.9344 MHz)
100	SSEL/ BCLKIN	I	at IOSEL="H" Output mode switching of SUBQ terminal "H": Q code buffer mode at IOSEL="L" BCLK input terminal "H": L-ch data, "L": R-ch data (SUBQ terminal output mode = Q code buffer mode)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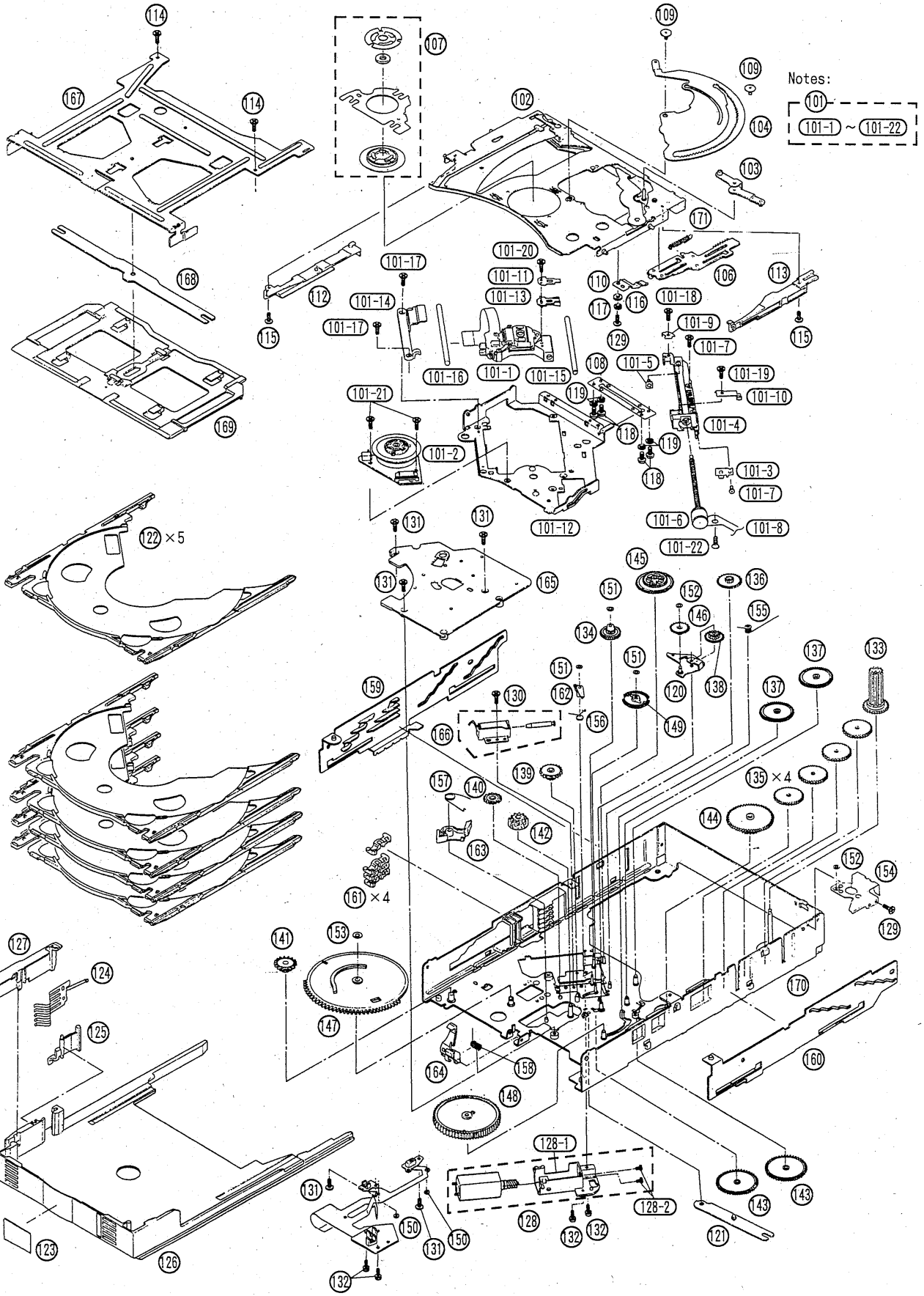
CN703
CN402
CN702
IC404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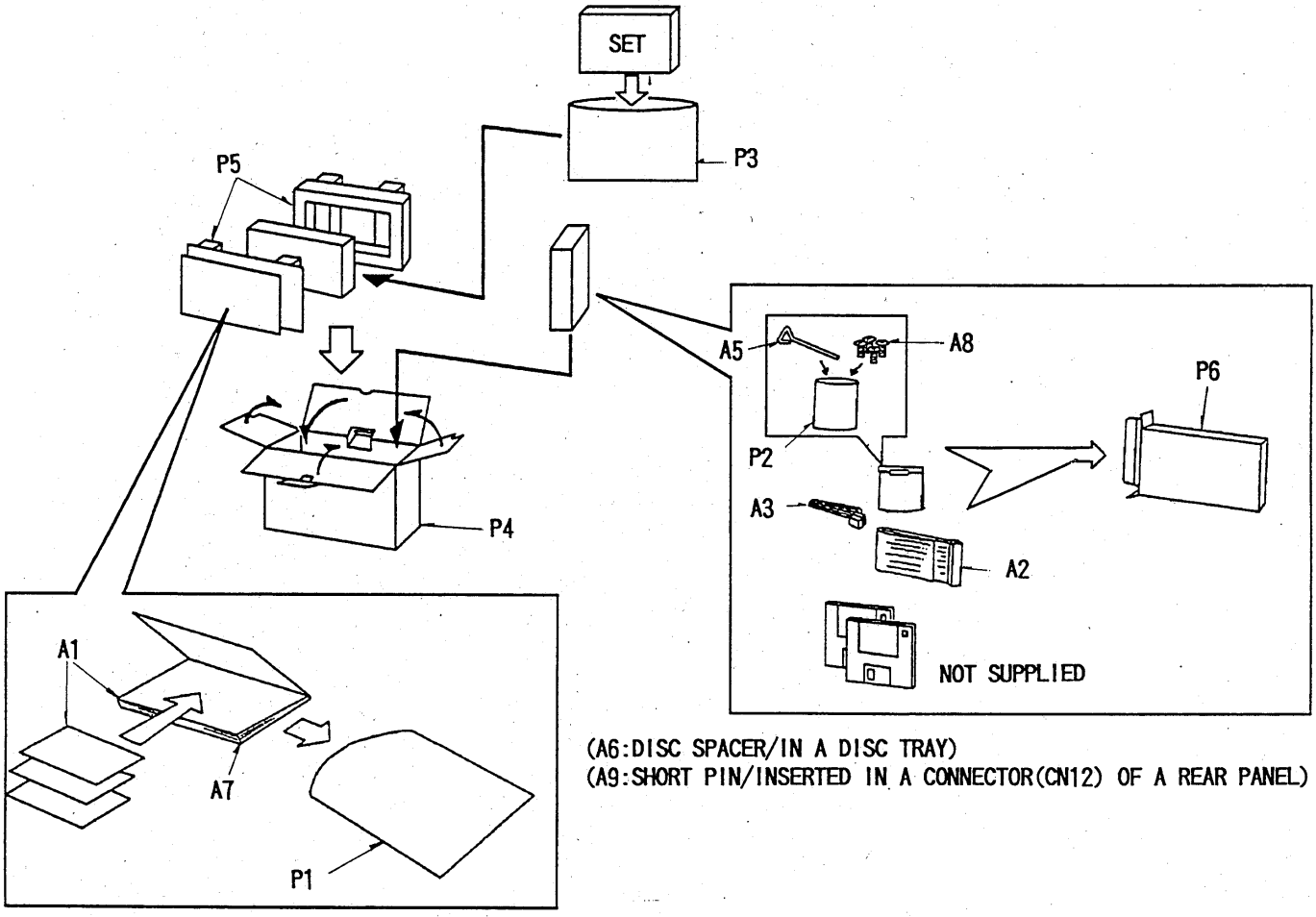
■ Packaging



(A6:DISC SPACER/IN A DISC TRAY)
(A9:SHORT PIN/INSERTED IN A CONNECTOR(CN12) OF A REAR PANEL)

Notes : All parts are supplied by MESA.

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

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT (S)	
IC11	PQ09SZ1T	I. C	
IC12	PQ05SZ5U	I. C	
IC401	M28F101120K1	I. C	TYPE B
IC403	MNE0823RYAA	I. C	
IC404	LH62800K-60	I. C	
IC406	MN66404	I. C	
IC407, 408	TC7S00FTL	I. C	
IC701	AN8846SBE1	I. C	
IC702	AN8387SE2	I. C	
IC703	AN8389SE1	I. C	
IC704	MN662743CDC1	I. C	
IC705	NJM2115MT1	I. C	
IC706	NBC3903MT1	I. C	
IC851	NJU7082AMTE1	I. C	
ICP11	ICPS23TN	I. C	
ICP12	ICPS18TN	I. C	
		TRANSISTOR (S)	
Q11, 12	UN5214TX	TRANSISTOR	
Q13	2SD1758TLPQR	TRANSISTOR	
Q402, 403	UN5214TX	TRANSISTOR	
Q404	UN5215TX	TRANSISTOR	
Q405	2SD1819QRSTX	TRANSISTOR	
Q406	UN5214TX	TRANSISTOR	
Q407	UN5114TX	TRANSISTOR	
Q411	UN5214TX	TRANSISTOR	
Q412	UN5114TX	TRANSISTOR	
Q413	2SD1819QRSTX	TRANSISTOR	
Q414	UN5214TX	TRANSISTOR	
Q701	2SB709QRSTX	TRANSISTOR	
Q702	2SB956RTX	TRANSISTOR	
Q703	UN5210TX	TRANSISTOR	
Q704, 705	UN5210TX	TRANSISTOR	
Q706	UN5114TX	TRANSISTOR	
Q707, 708	UN5210TX	TRANSISTOR	
Q709	UN5210TX	TRANSISTOR	
Q710, 711	UN5210TX	TRANSISTOR	
Q712	UN5214TX	TRANSISTOR	
Q713	UN5210TX	TRANSISTOR	
Q714	UN5114TX	TRANSISTOR	
Q715	UN5211TX	TRANSISTOR	
Q716	UN5214TX	TRANSISTOR	
Q717	UN5111TX	TRANSISTOR	
Q718	UN5214TX	TRANSISTOR	
Q719	UN5111TX	TRANSISTOR	
Q720	UN5211TX	TRANSISTOR	
Q801, 802	2SD1328QRSTX	TRANSISTOR	
Q804	UN5114TX	TRANSISTOR	
Q805	UN5214TX	TRANSISTOR	
Q806	FMG4T148	TRANSISTOR	
Q851, 852	2SD1328QRSTX	TRANSISTOR	
Q853	UN5210TX	TRANSISTOR	
		DIODE (S)	
D11, 12	MA720TX	DIODE	
D13	MA8047MTX	DIODE	
D14	MA110TX	DIODE	
D403	MA8039HTX	DIODE	
D407	SML010DTT86	DIODE	
D701	MA112TX	DIODE	
D703, 704	MA151WATX	DIODE	
D705	MA151WKTX	DIODE	
D706	MA110TX	DIODE	
D707	MA151WATX	DIODE	
		VARIABLE RESISTOR (S)	
VR851	EVUT2EA25C54	V. R	
		COIL (S)	
L11	ERJ6GEY0R00V	CHIP JUMPER	TYPE A
L13, 14	ERJ6GEY0R00V	CHIP JUMPER	TYPE A
L401-403	RLB0003	COIL	
L701	RLB0003	COIL	
L801, 802	RLB0003	COIL	
L851	ERJ6GEY0R00V	CHIP JUMPER	TYPE A
		OSCILLATOR (S)	
X401	RSXZ20M0M01T	OSCILLATOR	
X701	RSXC33M8S04T	OSCILLATOR	
		SWITCH (ES)	
S101	RSH1B003-U	SW	
S401	EVQPJH05K	SW	

Ref. No.	Part No.	Part Name & Description	Remarks
S402	EVQPJH05K	SW	
S403	EVQPJH05K	SW	
S404	EVQPJH05K	SW	
S405	EVQPJH05K	SW	
		CONNECTOR(S)	
CN11	RJS1C0753	CONNECTOR	
CN13	RJT105K02	CONNECTOR	
CN402	RJS2A1807T	CONNECTOR	
CN403	RJS1A6207-1	CONNECTOR	
CN701, 702	RJS1A7116T	CONNECTOR	
CN703	RJS2A1814T	CONNECTOR	
		JACK	
JK851	RJJ35T02-2C	JACK, PHONES	

Notes : * Capacity valuse are in microfarads (uF) 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
		RESISTORS
R11	ERJ6GEYJ103V	1/10W 10K
R12, 13	ERJ1WYK3R9H	1W 3.9
R401	ERJ3GEYJ104V	1/16W 100K
R402	ERJ3GEYJ103V	1/16W 10K
R403	ERJ6GEYJ221V	1/10W 220
R404	ERJ3GEY0R00V	1/16W 0
R406	ERJ6GEYJ473V	1/10W 47K
R407, 408	ERJ3GEYJ104V	1/16W 100K
R409	ERJ6GEYJ221V	1/10W 220
R410	ERJ6GEYJ331V	1/10W 330
R411	ERJ6GEYJ102V	1/10W 1K
R412	ERJ6GEYJ272V	1/10W 2.7K
R413	ERJ3GEYJ103V	1/16W 10K
R414	ERJ3GEYJ104V	1/16W 100K
R415	ERJ3GEYJ473V	1/16W 47K
R416	ERJ6GEY0R00V	1/10W 0
R418	ERJ3GEY0R00V	1/16W 0
R419	ERJ6GEYJ103V	1/10W 10K
R420-422	ERJ6GEYJ473V	1/10W 47K
R423	ERJ3GEYJ473V	1/16W 47K
R424, 425	ERJ6GEYJ473V	1/10W 47K
R426	ERJ6GEYJ472V	1/10W 4.7K
R427	ERJ6GEYJ473V	1/10W 47K
R428	ERJ3GEYJ271V	1/16W 270
R430	ERJ3GEYJ473V	1/16W 47K
R441	ERJ6GEYJ222V	1/10W 2.2K
R442	ERJ6GEYJ103V	1/10W 10K
R443	ERJ6GEYJ473V	1/10W 47K
R444	ERJ6GEYJ105	1/10W 1M
R445	ERJ6GEYJ473V	1/10W 47K
R446	ERJ6GEYJ222V	1/10W 2.2K
R447	ERJ6GEYJ563V	1/10W 56K
R450	ERJ3GEYJ102V	1/16W 1K
R451	ERJ3GEYJ472V	1/16W 4.7K
R452	ERJ3GEYJ103V	1/16W 10K
R453	ERJ6GEYJ471V	1/10W 470
R454, 455	ERJ6GEYJ103V	1/10W 10K
R456	ERJ6GEYJ471V	1/10W 470
R460	ERJ6GEYJ102V	1/10W 1K
R461	ERJ6GEYJ103V	1/10W 10K
R470-477	ERJ3GEYJ104V	1/16W 100K
R481	ERJ6GEYJ222V	1/10W 2.2K
R482 (B)	ERJ3GEYJ103V	1/16W 10K
R701	ERJ6GEYJ151V	1/10W 150
R702	ERJ6GEYJ221V	1/10W 220
R703	ERJ3GEY0R00V	1/16W 0

Ref. No.	Part No.	Values & Remarks
R704, 705	ERJ3GEYJ103V	1/16W 10K
R706	ERJ3GEYJ220V	1/16W 22
R713	ERJ6GEYJ331V	1/10W 330
R714	ERJ6GEYJ4R7V	1/10W 4.7
R715	ERJ6GEYJ331V	1/10W 330
R716	ERJ3GEYJ103V	1/16W 10K
R717	ERJ6GEYJ105	1/10W 1M
R718	ERJ3GEYJ102V	1/16W 1K
R719	ERJ3GEYJ561V	1/16W 560
R720	ERJ6GEYJ103V	1/10W 10K
R721-723	ERJ6GEYJ1R5V	1/10W 1.5
R724	ERJ3GEYJ330V	1/16W 33
R726	ERJ3GEYJ103V	1/16W 10K
R728	ERJ3GEYJ101V	1/16W 100
R729 (A)	ERJ3GEYJ184V	1/16W 180K
R729 (B)	ERJ3GEYJ154V	1/16W 150K
R730	ERJ3GEYJ474V	1/16W 470K
R731	ERJ6GEYJ104V	1/10W 100K
R732	ERJ6GEYJ103V	1/10W 10K
R733	ERJ3GEYJ154V	1/16W 150K
R734	ERJ3GEYJ822V	1/16W 8.2K
R735	ERJ3GEYJ123V	1/16W 12K
R736	ERJ3GEYJ103V	1/16W 10K
R737	ERJ3GEYJ682V	1/16W 6.8K
R738	ERJ6GEYJ104V	1/10W 100K
R742	ERJ6GEYJ103V	1/10W 10K
R743, 744	ERJ3GEYJ103V	1/16W 10K
R745	ERJ6GEYJ823	1/10W 82K
R746	ERJ6GEYJ392V	1/10W 3.9K
R747	ERJ6GEYJ103V	1/10W 10K
R748	ERJ6GEY0R00V	1/10W 0
R749	ERJ6GEYJ105V	1/10W 1M
R750, 751	ERJ3GEYJ105V	1/16W 1M
R752, 753	ERJ3GEYJ103V	1/16W 10K
R755	ERJ3GEYJ103V	1/16W 10K
R756, 757	ERJ3GEYJ105V	1/16W 1M
R758	ERJ6GEYJ105	1/10W 1M
R759	ERJ3GEYJ103V	1/16W 10K
R760	ERJ3GEYJ273V	1/16W 27K
R761	ERJ3GEYJ472V	1/16W 4.7K
R762	ERJ3GEYJ683V	1/16W 68K
R763	ERJ3GEYJ682V	1/16W 6.8K
R764	ERJ3GEYJ563V	1/16W 56K
R765, 766	ERJ3GEYJ103V	1/16W 10K
R767, 768	ERJ6GEYJ105V	1/10W 1M
R770	ERJ3GEYJ103V	1/16W 10K
R771	ERJ6GEYJ103V	1/10W 10K
R772	ERJ6GEYJ154V	1/10W 150K
R774	ERJ6GEYJ683V	1/10W 68K

Ref. No.	Part No.	Values & Remarks
R776	ERJ6GEYJ683V	1/10W 68K
R777	ERJ6GEYJ155V	1/10W 1.5M
R778	ERJ3GEYJ473V	1/16W 47K
R779	ERJ6GEYJ221V	1/10W 220
R781	ERJ3GEYJ681V	1/16W 680
R783	ERJ6GEYJ153V	1/10W 15K
R793, 794	ERJ3GEYJ223V	1/16W 22K
R797	ERJ6GEYJ101V	1/10W 100
R799	ERJ6GEYJ104V	1/10W 100K
R801, 802	ERJ6GEYJ681V	1/10W 680
R803, 804	ERJ6GEYJ561V	1/10W 560
R805, 806	ERJ6GEYJ122V	1/10W 1.2K
R807, 808	ERJ6GEYJ473V	1/10W 47K
R809, 810	ERJ6GEYJ332V	1/10W 3.3K
R811, 812	ERJ6GEYJ102V	1/10W 1K
R813, 814	ERJ6GEYJ562V	1/10W 5.6K
R851, 852	ERJ6GEYJ472V	1/10W 4.7K
R853, 854	ERJ6GEYJ1R5V	1/10W 1.5
R855, 856	ERJ6GEYJ561V	1/10W 560
R857, 858	ERJ6GEYJ180V	1/10W 18
R859, 860	ERJ3GEYJ472V	1/16W 4.7K
R861, 862	ERJ3GEYJ822V	1/16W 8.2K
R863, 864	ERJ3GEYJ103V	1/16W 10K
R865, 866	ERJ6GEYJ473V	1/10W 47K
R867, 868	ERJ6GEYJ102V	1/10W 1K
R869, 870	ERJ6GEYJ122V	1/10W 1.2K
R871	ERJ6GEYJ181V	1/10W 180
		CHIP JUMPER(S)
RJ3	ERJ6GEYJ1R0V	
RJ401, 402	ERJ6GEY0R00V	
RJ701	ERJ6GEY0R00V	
RJ702	ERJ6GEY0R00V	TYPE A
RJ702	ERJ6GEYJ560V	TYPE B
RJ851	ERJ6GEY0R00V	TYPE A
RJ851	RLB0003	TYPE B
RJ852-856	ERJ6GEY0R00V	TYPE A
		CAPACITORS
C12-14	ECUVNE104ZFN	25V 0.1U
C15	ECST1DY155RR	20V 1.5U
C16	ECEA0JKS101I	6.3V 100U
C17, 18	ECUVNE104ZFN	25V 0.1U
C20	ECEA1CKS101I	16V 100U
C21	ECEA0JKS331I	6.3V 330U
C22	ECEA1CKS101I	16V 100U

Ref. No.	Part No.	Values & Remarks
C24	ECST1DY225RR	20V 2.2U
C401	ECST1AY225RR	10V 2.2U
C403	ECUVNE104ZFN	25V 0.1U
C404	ECUV1H120KCN	50V 12P
C405	ECUVNE104ZFN	25V 0.1U
C406	ECUV1H120KCN	50V 12P
C407-411	ECUVNE104ZFN	25V 0.1U
C413	ECUVNE104ZFN	25V 0.1U
C415, 416	ECUVNE104ZFN	25V 0.1U
C421	ECUVNE104KBN	25V 0.1U
C430	ECUV1H681KBN	50V 680P
C431	ECUV1H103KBN	50V 0.01U
C441	ECUVNE104ZFN	25V 0.01U
C701, 702	ECUVNE104ZFN	25V 0.01U
C706	ECEA0JKS101I	6.3V 100U
C708	ECUV1H471KBN	50V 470P
C710	ECUV1H820JCN	50V 82P
C711	ECUV1H680JCN	50V 68P
C713	ECUV1H103KBN	50V 0.01U
C715	ECUV1H103KBN	50V 0.01U
C716	ECUV1H330JCN	50V 33P
C717	ECUV1E273KBN	25V 0.027U
C718	ECUV1H270JCN	50V 27P
C721	ECUV1E273KBN	25V 0.027U
C722	ECUV1H122KBN	50V 1200P
C723	ECUV1H682KBN	50V 6800P
C727	ECUV1C473KBN	16V 0.047U
C728	ECUV1H472KBN	50V 4700P
C729	ECUV1H272KBN	50V 2700P
C730	ECUV1H122KBN	50V 1200P
C731	ECUV1H272KBN	50V 2700P
C732	ECUV1H681KBN	50V 680P
C735	ECUV1H182KBN	50V 1800P
C737	ECUVNE104ZFN	25V 0.1U
C739	ECUVNE104ZFN	25V 0.1U
C740	ECUV1H103KBN	50V 0.01U
C741	ECUVNE104ZFN	25V 0.1U
C742	ECUV1H561KBN	50V 560P
C743	ECUV1C223KBN	16V 0.022U
C744	ECUV1E123KBN	25V 0.012U
C745	ECUV1C473KBN	16V 0.047U
C746	ECUVNE104KBN	25V 0.1U
C747	ECUV1C473KBN	16V 0.047U
C748	ECUVNE104ZFN	25V 0.1U
C749	ECUV1H102KBN	50V 1000P
C750, 751	ECUVNE104ZFN	25V 0.1U
C752	ECUV1H150JCV	50V 15P
C753	ECUVNE104ZFN	25V 0.1U
C754	ECUV1H150JCV	50V 15P
C755	ECUV1C224MBN	16V 0.22U
C756	ECUVNE104KBN	25V 0.1U
C760	ECEA1VSN2R2	35V 2.2U

Ref. No.	Part No.	Values & Remarks
C761	ECEA1HSN010I	50V 1U
C765, 766	ECUVNE104ZFN	25V 0.1U
C767	ECUVNE104KBN	25V 0.1U
C770, 771	ECUVNE104ZFN	25V 0.1U
C772, 773	ECUVNE104KBN	25V 0.1U
C774-776	ECUV1H103KBN	50V 0.01U
C777	ECUVNE104ZFN	25V 0.1U
C778	ECUV1H151JCN	50V 150P
C780	ECEA1AKS330	10V 33U
C781	ECUVNE104ZFN	25V 0.1U
C784	ECUVNE104KBN	25V 0.1U
C786	ECEA1CKS100I	16V 10U
C791	ECEA0JKS101I	6.3V 100U
C803, 804	ECUV1H102KBN	50V 1000P
C805, 806	ECUV1H272KBN	50V 2700P
C807, 808	ECUV1H681KBN	50V 680P
C809, 810	ECST0JY106RR	6.3V 10U
C811	ECST1AY475RR	10V 4.7U
C851, 852	ECEA0GKS221	4V 220U
C853, 854	ECEA1CKS100I	16V 10U
C855	ECEA0JKS101I	6.3V 100U
C856	ECUVNE104ZFN	25V 0.1U
C857, 858	ECUV1H471KBN	50V 470P

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RFKKQTC500NP	TOP COVER ASS'Y	
2	RMZ0392	SHEET	
3	XYN26+C4	SCREW	
4	RHD26025	SCREW	
5	RMB0475	SPRING 1	
6	RMB0486	SPRING 2	
7	RJB1696A	FFC	
8	RHD20043	SCREW	
9	RMV0118	SHEET	
10	RMG0418-K	RUBBER	
11	RMZ0363	SHEET	
12	RMZ0376	SHEET 1	
13	RMZ0377	SHEET 2	
14	RMK0317	CHASSIS	
15	XTN2+6J	SCREW	
16	RGU1374-C	BUTTON	
17	RGL0327-Q	ILLUMINATION LENS	
18	RMB0476	SPRING	
19	RGP0544A-C	PANEL	
20	RYF0417-C	FRONT COVER	
21	RMX0126	SPACER	
22	RSC0463	EARTH PLATE	
1001	RAJ2801	LOADING UNIT	
1003	REP2337B	PCB ASS'Y	
		MECHANISM	
101	RAE0161Z	TRAVERSE UNIT	
101-1	RAF0140A	OPTICAL PICK-UP	
101-2	RFKPQTC500NP	SPRINDLE MOTOR ASS'Y	
101-3	RMA0999	SPRING	
101-4	RMN0353	BASE PLATE	
101-5	RMR0914-X	HOLDER	
101-6	RRD0035	TRAVERSE MOTOR	
101-7	XQN17+CF4	SCREW	
101-8	RJB1631A-1	FFC	
101-9	RMC0286	SPRING	
101-10	RMC0287	HOLD PLATE	
101-11	RMC0289-1	SPRING	
101-12	RMK0319	BASE PLATE	
101-13	RMR0915-K	NUT PLATE	
101-14	RMR0916-K1	SUB SHAFT HOLDER	
101-15	RMS0510	MAIN SHAFT	
101-16	RMS0511	SUB SHAFT	
101-17	XQN17+CF4	SCREW	
101-18	XQN17+CF6	SCREW	
101-19	XQN17+CF8	SCREW	
101-20	XQN17+CG45	SCREW	
101-21	XQN17+CM25	SCREW	

Ref. No.	Part No.	Part Name & Description	Remarks
101-22	XTS26+5FFZ	SCREW	
102	RFKNQTC500NA	BASE PLATE, UP-DOWN	
103	RFKNQTC500NB	LEVER	
104	RFKNQTC500NC	GEAR	
106	RFKNQTC500NE	SLIDE PLATE	
107	RFKNQTC500NF	DISC HOLDER	
108	RMC0304-1	SPRING	
109	RHD20040	SCREW	
110	RMC0305-1	SPRING	
112	RMQ0604	GUIDE 1	
113	RMQ0605	GUIDE 2	
114	XQN2+A2	SCREW	
115	XQN2+A25	SCREW	
116	XWA2B	WASHER	
117	XWE2	WASHER	
118	XQN2+AF3	SCREW	
119	XWA2B	WASHER	
120	RXL0137	LEVER	
121	RXL0138	LEVER	
122	RMR0996-C	SUB TRAY	
123	RGH0137-K	LABEL	
124	RMC0303	SPRING	
125	RML0448	LEVER	
126	RMR0995-K	DISC TRAY	
127	RMR0998-K	TRAY COVER	
128	REM0065	MOTOR	
128-1	RMQ0603	ANGLE	
128-2	XYN2+C3	SCREW	
129	XQN2+A2	SCREW	
130	XQN2+A22FZ	SCREW	
131	XQN2+BJ5	SCREW	
132	XYN2+C6	SCREW	
133	RDG0358	GEAR	
134	RDG0360	GEAR	
135	RDG0361	GEAR	
136	RDG0362	GEAR	
137	RDG0363	GEAR	
138	RDG0364	GEAR	
139	RDG0365	GEAR	
140	RDG0366	GEAR	
141	RDG0367	GEAR	
142	RDG0368	GEAR	
143	RDG0369	GEAR	
144	RDG0370	GEAR	
145	RDG0371	GEAR	
146	RDG0372	GEAR	
147	RDK0028	GEAR	
148	RDK0029	GEAR	
149	RDK0030	GEAR	
150	RHR3331ZB	BUSH	
151	RHW12008	WASHER	
152	RHW15002	WASHER	

Ref. No.	Part No.	Part Name & Description	Remarks
153	RHW26008	WASHER	
154	RMA0956	HOLD PLATE	
155	RME0213	SPRING	
156	RME0214	SPRING	
157	RME0219	SPRING	
158	RME0222	SPRING	
159	RXQ0500	PLATE	
160	RXQ0499	PLATE	
161	RML0445	SPACER	
162	RML0446	LEVER	
163	RML0447	LEVER	
164	RML0459	STOPPER	
165	RMQ0608	COVER	
166	RSJ0016-I	PLUNGER	
167	RMA0954	COVER	
168	RMM0157-1	PLATE	
169	RMQ0607	DISC COVER	
170	RXK0208	CHASSIS	
171	RMB0480	SPRING	
		PACKING MATERIALS	
P1	XZB25X34C03X	POLYETHELENE COVER	
P2	RPF0083	POLYETHELENE COVER	
P3	RPF0204	PROTECTION COVER	
P4	RPK0814-1	GIFT BOX	
P5	RPN0995	PAD	
P6	RPQF0184	ACCESSORIES BOX	
		ACCESORIES	
A1	RQT3783-G	INSTRUCTION MANUAL ASS'Y	
A2	REX0820	INTERFACE CABLE	
A3	REX0821	AUDIO CABLE	
A5	RFE0030	EMERGENCY PIN	
A6	RMQ0654	SPACER	
A7	RQCA0511	QUICK REFERENCE MANUAL	
A8	XYN3+C4	SCREW	
A9	RJS1C0802	SHORT	