ORDER NO. AD9311290C8

Service Manual

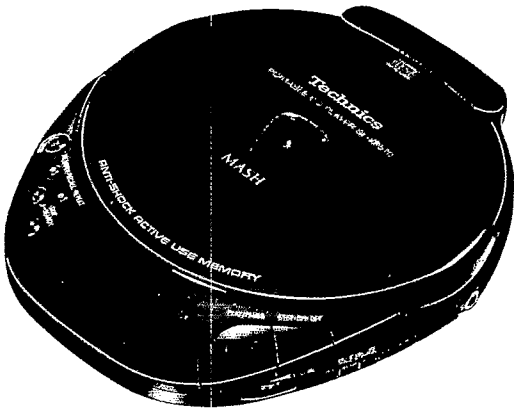
COMPACT disc DIGITAL AUDIO

DIGITAL

MASH※ multi-stage noise shaping

Portable CD Player

SL-XP570



Colour

(A)... Blue Type

Area

Suffix for Model No.	Area	Colour
(E)	Europe.	(A)
(EB)	Great Britain.	
(GC)	Asia, Latin America, Middle Near East and Africa.	
(GN)	Oceania.	

※
- 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.

TRAVERSE DECK: RAE0132Z MECHANISM SERIES

SPECIFICATIONS

Audio

No. of channels: 2 (left and right, stereo)
Frequency response: 20~20,000 Hz (+0.5 dB, −1.5 dB)
Output voltage: 0.7 V (50 kΩ)
S/N: more than 96 dB*
Wow and flutter: Below measurable limit
DA converter: 1 bit, MASH
Headphones output level: Max. 5 mW+5 mW/16 Ω (variable) φ3.5

Pickup

Light source: Semiconductor laser
Wavelength: 780 nm
Lens: Glass pressed lens

General

Power requirement: AC; with an included panasonic AC adaptor
(RFEA406B-W): (EB)
(RFEA401E-1S): (E)
(RFEA402Z-W): (GC)
(RFEA404A-W): (GN)
Batteries; DC 3 V (two "AA" size batteries, not included)
(Panasonic LR6 (UM-3) or equivalent, not included)
Rechargeable Batterries; DC 2.4 V with an included Panasonic Rechargeable Batteries
(RP-BP60EY) × 2
Car Battery; with an optional panasonic car adaptor (SH-CDC9)

DC IN: DC 4.5 V

Power consumption:

Type of power supply	Anti-shock memory OFF/ON
AC adaptor	3.7 W/4.3 W
Battery	0.6 W/1.0 W

Dimensions (W × H × D): 140 × 30.9 × 172.1 mm
Weight: 335 g (with batteries)
295 g (without batteries)

* These specifications were measured with anti-shock memory in the off state.

Note: Design and specifications are subject to change without notice.
Weight and dimensions are approximate.

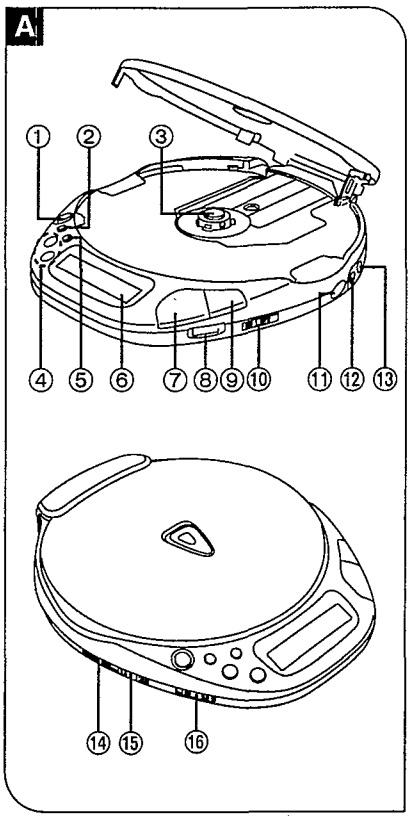
Technics

■ CONTENTS

■ LOCATION OF CONTROLS

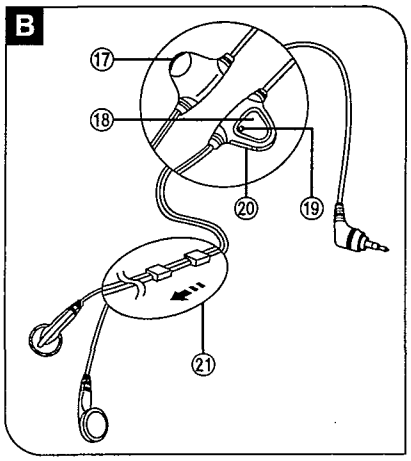
Portable CD player A

① Open button (OPEN)
② Memory/recall button (MEMORY/RECALL)
③ Push button (PUSH)
④ Skip/search buttons (|◀◀-SKIP/–SEARCH ▶▶|)
⑤ Repeat button (REPEAT)
⑥ Display
⑦ Play/pause button (▶ ❚❚ PLAY/PAUSE)
⑧ Earphones/headphones volume control (VOLUME)
⑨ Stop/operation off button (■ STOP/OPR OFF)
⑩ ASC/S-XBS selector (ASC, S-XBS, OFF)
⑪ Earphones/headphones jack (∩) 16Ω φ3.5
⑫ Out jack (OUT)
⑬ DC in jack (DC IN 4.5 V ⟐⊖⟐)
⑭ Anti-shock memory switch (ANTI-SHOCK MEMORY)
⑮ Play mode selector (PLAY MODE)
⑯ Hold switch (HOLD)

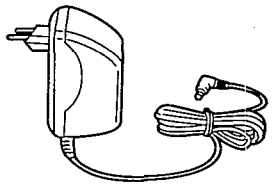


Remote control B

⑰ Volume control (VOLUME)
⑱ Remote control button
⑲ Operation indicator (OPR)
⑳ Hold switch (HOLD)
㉑ Slider
Slide up to prevent entangling of the cord when the stereo earphones are not in use.

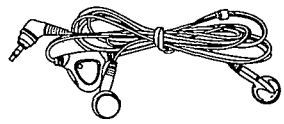


■ ACCESSORIES

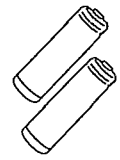


AC adaptor..... 1 pc.
[(RFEA401E-1S): (E) (RFEA406B-W): (EB)
(RFEA402Z-W): (GC) (RFEA404A-W): (GN)]

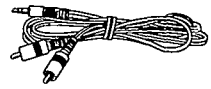
Note:
The configuration of the AC adaptor differs according to area.



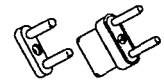
Stereo earphones..... 1 pc.
with remote control
(RFEV116ACKA)



Rechargeable batteries..... 2 pcs.
(RP-BP60EY)



Stereo connection cable .... 1 pc.
(RJL2P001X10)



Power plug adaptor..... 1 pc.
(RJP120ZDS-K): (GC)

■ PRECAUTION OF LASER DIODE

CAUTION: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.
Wave length: 780nm
Maximum output radiation power from pickup: 100μW/VDE

Laser radiation from the pickup lens is safety level, but be sure the followings:

1. Do not disassemble the optical pickup 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 pickup lens for a long time.

ACHTUNG: Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

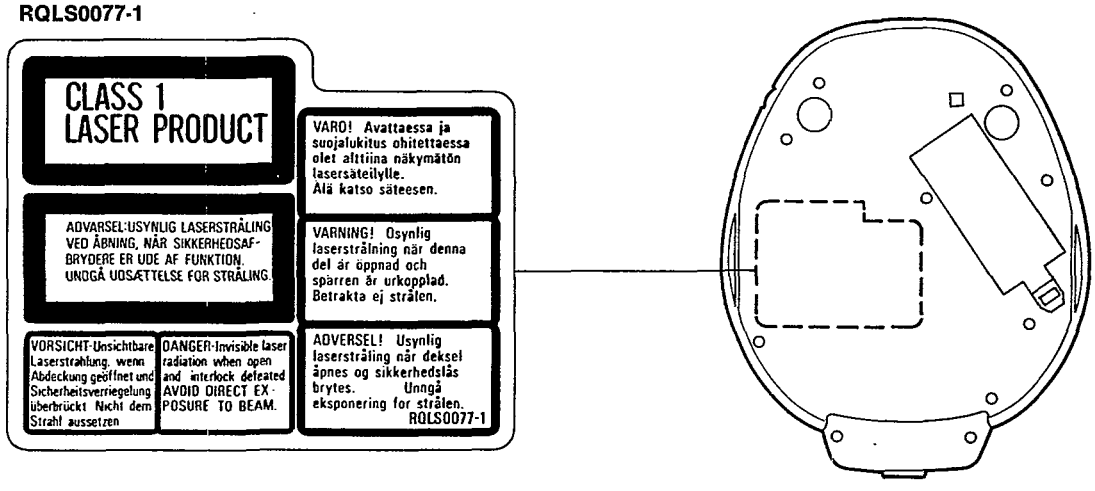
Wellenlänge: 780nm
Maximale Strahlungsleistung der Lasereinheit: 100μW/VDE

Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

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

ADVARSEL: I dette a apparat anvendes laser.

RQLS0077-1



(Bottom side)

■ ACCIDENTAL OPERATION PREVENTION FUNCTION

When this function is in use, the unit will not operate even if a control button is accidentally pressed. (The disc lid, however, can still be opened and closed.)
Use this function to prevent the following types of situations.

- While the unit is not in use, the power is turned on and the batteries become worn down.
- While the unit is in use, the music being played gets turned off.

There are hold switches on both the main unit and the remote control.

■ To use the accidental operation prevention function

Move the hold switch on the control source being used (i.e., the unit or the remote control) to the HOLD position, as shown in the diagram.

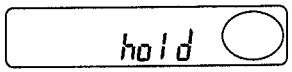
■ To cancel the accidental operation prevention function

Move the hold switch to the position opposite the HOLD position.

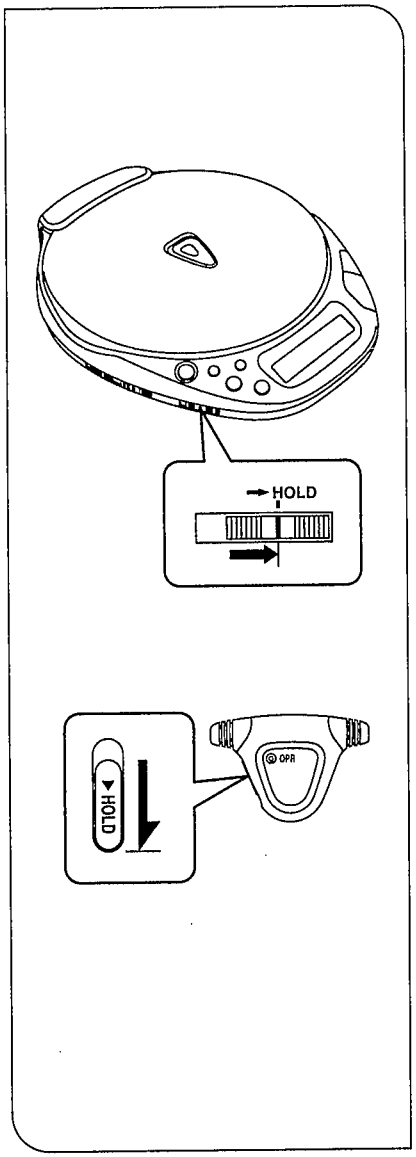
> Before using the control buttons, be sure to release the unit from the **hold state**.

■ The HOLD indicator

If "hold" appears on the display when the control buttons on the main unit are pressed, this indicates that the unit is in the hold mode.



When the power is off, however, this indicator only appears when PLAY/PAUSE is pressed.



■ POWER SOURCE

Rechargeable batteries

Make sure that the batteries have been charged before use.

■ Recharging batteries A

1 Install two rechargeable batteries.

2 Connect the AC adaptor.
It takes about 3 hours to fully recharge them.

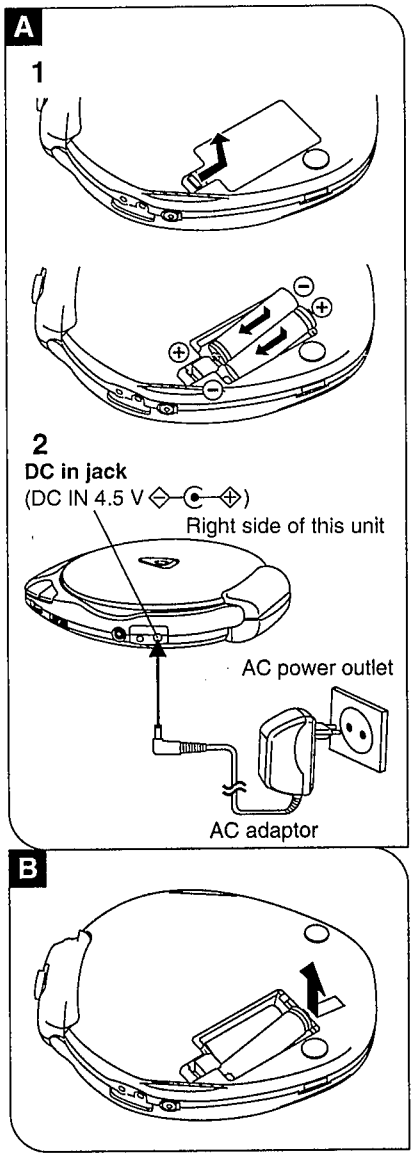
- When fully recharged, the unit can be used for about 2 hours 30 minutes with anti-shock memory off, or for about 2 hours with anti-shock memory on (when the unit is used at 25°C on a flat and stable surface). The play time may be shorter depending on the operating conditions.
- While recharging, the AC adaptor and rechargeable batteries may get warm. This is normal.

3 After completing recharging of the batteries, disconnect the AC adaptor from the DC in jack and the AC power outlet.

■ Battery removal B

Press and push up batteries in the direction of the arrow to remove them.

- You can continue to recharge the same batteries for about 10 months (300 times). After that, their operating time will be shortened, and you will need to replace them.
  Obtain new rechargeable batteries (SH-CDB8D) designed exclusively for the unit.
- You can operate the unit with the AC adaptor while recharging the batteries, but it will lengthen the recharging time.



For areas except Continental Europe, United Kingdom and Australia
If the power supply in your area is 110 V or 220 V, the time for complete recharging takes 5 hours, which is different from the time described in this booklet.

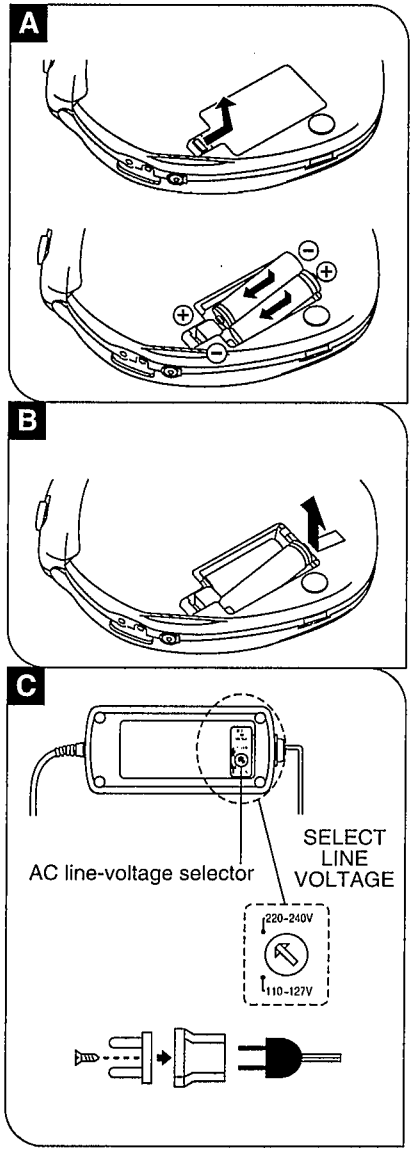
Dry cell batteries (not included)

Install two LR6 (UM-3) type alkaline batteries as shown in the figure. A
Make sure that the AC adaptor is disconnected from the AC power outlet and the unit. Two LR6 alkaline batteries will provide about 7 hours of playing time with anti-shock memory off, or about 4 hours of playing time with anti-shock memory on (when the unit is used at 25°C on a flat and stable surface). The play time may be shorter depending on the operating conditions.

■ Battery removal B
Press and push up batteries in the direction of the arrow to remove them.
Be sure to do this with the power off.

AC adaptor

Before use C
(For areas except Continental Europe, United Kingdom and Australia)
Make sure the preset voltage of your AC adaptor fits to your local voltage before plugging it into the AC power outlet. If it doesn't, turn the AC line-voltage selector with a screwdriver so that it corresponds to your local voltage.
If the power plug will not fit your socket, use the power plug adaptor.



Connect the AC adaptor. A
Use only the AC adaptor provided with this unit.

CAUTION
Do not use the AC adaptor provided with this unit for other products.

Note:
The unit is in the standby condition when the AC adaptor is connected. The primary circuit is always "live" as long as the AC adaptor is connected to an electrical outlet.

Car adaptor (not included)

CAUTION
Use only car adaptor, Model: SH-CDC9, manufactured by Matsushita Electric Industrial Co., Ltd.

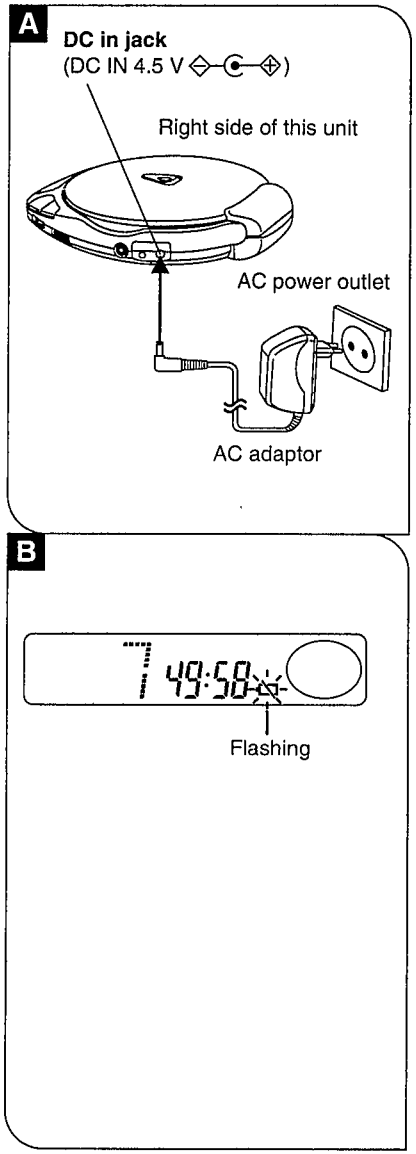
For installations details, refer to the operating instructions for the SH-CDC9. The rechargeable battery can be recharged with the car adaptor.

When the car adaptor or AC adaptor is used, the backlight of the display comes on.

Battery indicator B

The period during which the battery indicator flashes differs depending on the power source.

Type of battery	When the indicator flashes	Remedial action
Rechargeable batteries	The battery is fully-used.	In a short while the unit will be automatically turned off. Recharge the batteries.
Dry cell batteries	The battery is half-used.	Play is still possible while the indicator is flashing.



■ LISTENING TO CD TRACKS IN THEIR ORIGINAL SEQUENCE (Normal play)

1 **Press OPEN to open the disc lid.**

2 **Insert the disc.**
Press the portion near the center hole of the disc until a "click" sound can be heard.

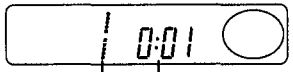
3 **Close the disc lid.**

4 **Release the unit from the hold state.**

5 **Set PLAY MODE to NORMAL.**

6 **Connect the plug of the stereo earphones with remote controller (included) to the earphones/headphones jack.**
(Plug in firmly.)

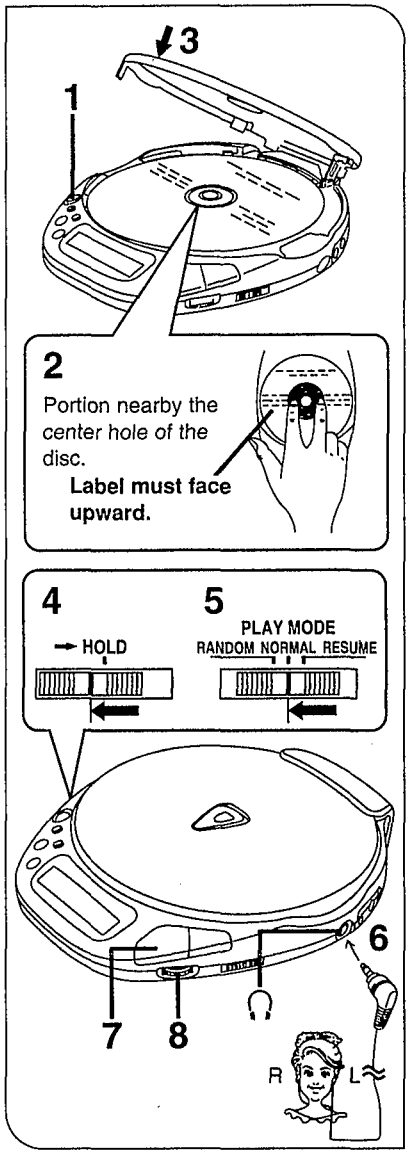
7 **Press PLAY/PAUSE.**
This turns on the unit and begins the first track.



Track number in play — Elapsed playing time of each track

8 **Adjust the volume level.**

The unit plays the tracks on the disc in order and stops automatically when the last track ends.



■ The " OPEN " display

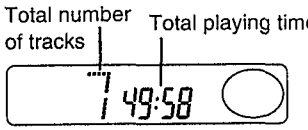
When the disc lid is opened, this indicator is displayed for about four minutes. It is not displayed, however, when the power is off.

■ The " no dISC " display

When the PLAY/PAUSE button is pressed with no disc installed or with a disc improperly installed, this indicator is displayed for about 30 seconds.

■ To stop play A

Press STOP/OPR OFF in the play mode.

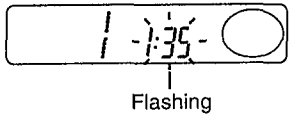


The disc will stop rotating, and the display will show the total number of tracks and total playing time on the disc.

To turn off the unit:
Press **STOP/OPR OFF** again.

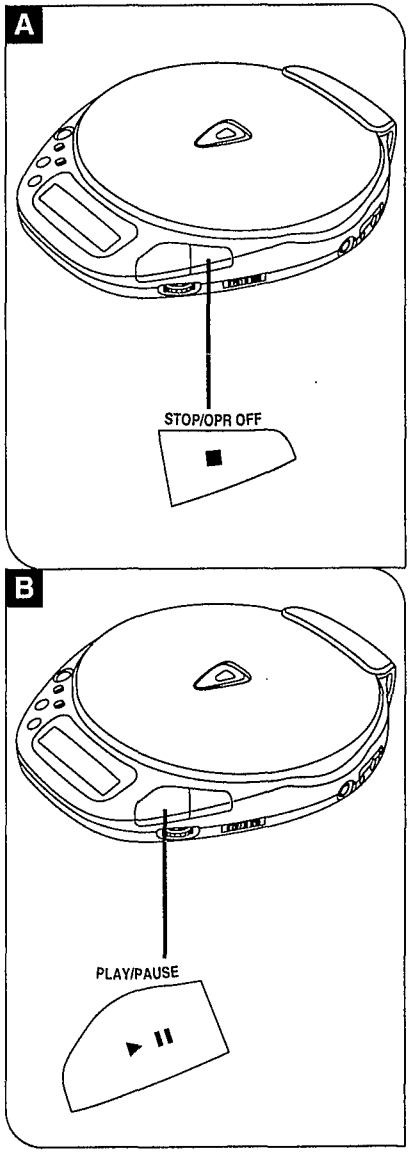
■ To temporarily stop disc play B

Press PLAY/PAUSE in the play mode.



To resume play:
Press **PLAY/PAUSE** again.

Automatic Shut-Off
This function, in order to prevent rechargeable and other batteries to become worn down, causes the power to automatically shut off if you leave the unit in the stop mode or pause mode for about four minutes.



■ USING THE REMOTE CONTROL

Using the provided stereo earphones, a variety of operations can be performed by hand using a single button.

Before operation, release the remote control from the hold state (as shown in the diagram).

■ To use the remote control (see diagram at lower right)

The remote control can be operated regardless of the hold mode of the unit.

■ The operation (confirmation) tone

An operation tone ("Beep") sounds whenever the remote control button is pressed. In addition, a confirmation tone sounds following every operation (see diagram at lower right).

- When pressing the remote control button two or three times, do so as quickly and evenly as possible.
- When the button is pressed three times and then three times again, the unit will skip to the beginning of the previous track.

(When the play mode switch on the unit is in the RANDOM position, however, this operation is not possible.)

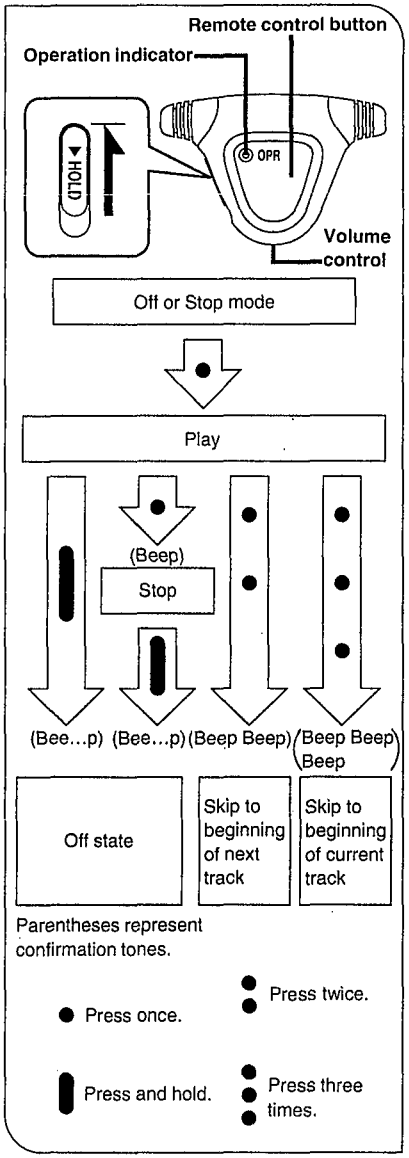
■ To adjust the volume

When adjusting the volume using the remote control, position the volume control on the unit to between 5 and 7.

■ OPR indicator

This indicator is illuminated when the unit is playing a track, and flashes when the unit is halted.

It is not illuminated when the power is off.



■ USING THE UNIT WITH OPTIONAL ACCESSORIES

Listening through an audio system A

Discs can be played as part of an audio system by connecting the portable CD player to the system using the stereo connection cable (included).

- Before connecting the portable CD player to your audio system, make sure to turn off the power on all other system components.
- Do not connect the cable to the turntable (PHONO) connectors on the amplifier.
- If you have an amplifier which is equipped with mini phone jack, obtain the optional connecting cable (RP-CA102A).

Using the unit together with a car audio system B

The car kit, available as an optional accessory, makes it possible to listen to CDs in a car.

The structure of the cassette adaptor may not allow connection to some car stereo systems.

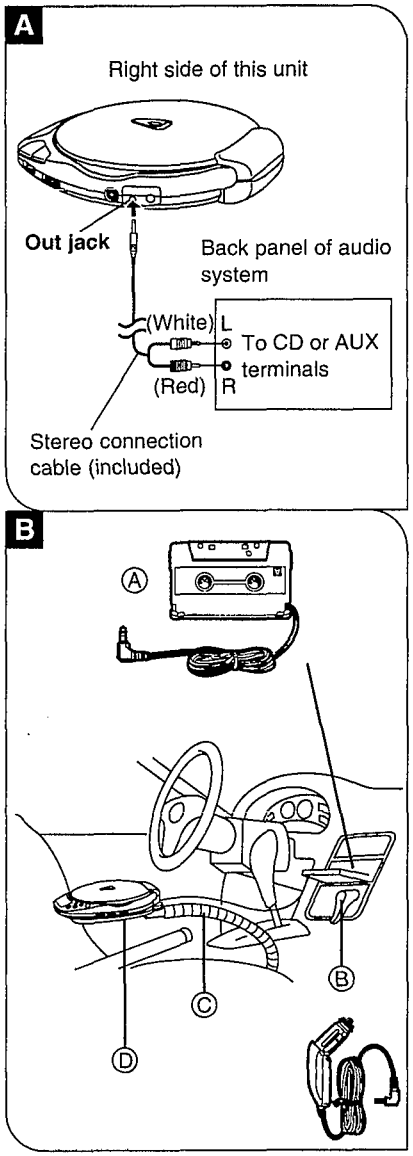
■ What should be purchased

For connection to the car audio system:
Car stereo cassette adaptor (SH-CDM9) Ⓐ

For securing the unit and connecting the power supply:

- Car adaptor (SH-CDC9) Ⓑ
- Car mounting arm Ⓒ, Car mounting base Ⓓ (SH-CDF20)

For further details, refer to the Operating Instructions of the respective products.



■ ANTI-SHOCK MEMORY FUNCTION

This function reduces the number of sound jumps which result from vibrations when listening to the unit while walking, riding in a car or train, etc.

When the anti-shock memory is in use, a maximum of about three seconds of playback data can be stored. As a result, even if the unit is jolted, the stored data is utilized, and interruptions during playback are minimized.

Before operation, release the unit from the hold state.

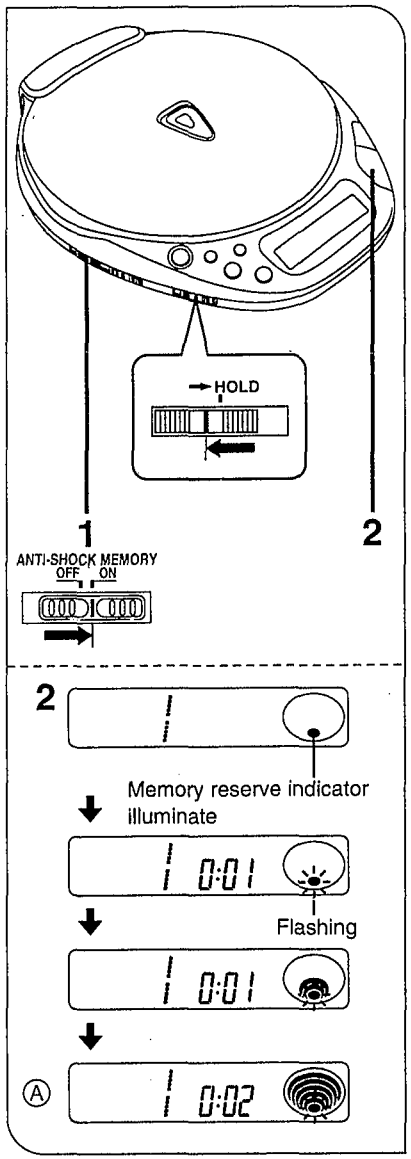
1 Set ANTI-SHOCK MEMORY to ON.

2 Press PLAY/PAUSE.
Storage of playback data begins, and the memory reserve indicator displays the data storage volume.

When the display shown in Ⓐ is achieved:
This indicates that a sufficient amount of playback data has been stored.

■ To cancel the anti-shock memory function

Set ANTI-SHOCK MEMORY to OFF.

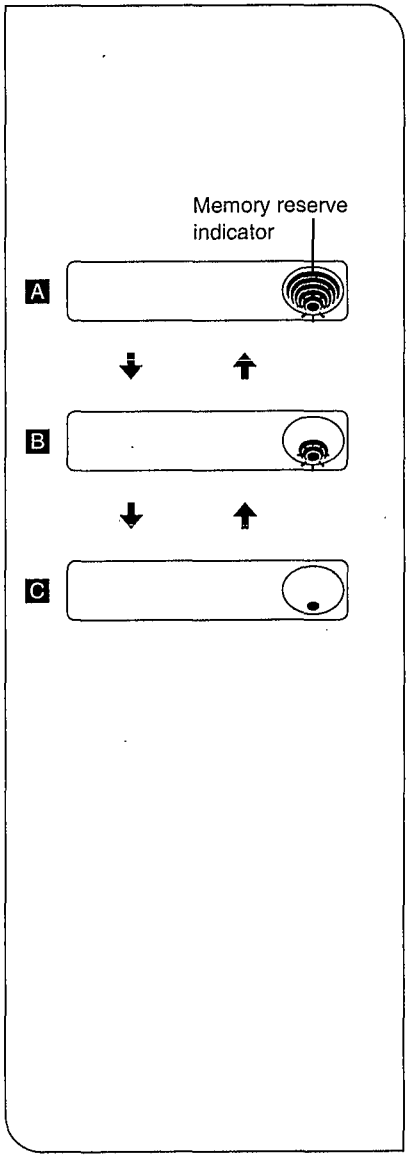


■ *The memory reserve indicator*

This indicator varies based on the state of the unit.

	State of Unit	State of Playback (State of Playback Data)
A	Stable	•Normal (Sufficient amount of data is stored)
B	Unit jolted	•Normal (Stored data is utilized)
	Jolt dies down	•Normal (Data storage is begun)
C	Unit repeatedly jolted	•Interruptions occur (Data is used up)

Notes:
- When anti-shock memory is operating, the disc rotation speed increases in order to store playback data, causing a decrease in battery life and a slight increase in the sound of the rotating disc.
- The anti-shock memory switch can be re-positioned during playback, but due to the resulting change in the disc's rotation speed, a short interruption will be heard.
- When using functions such as random and repeat, it may not be possible to activate the anti-shock memory function during the last three seconds of a track.

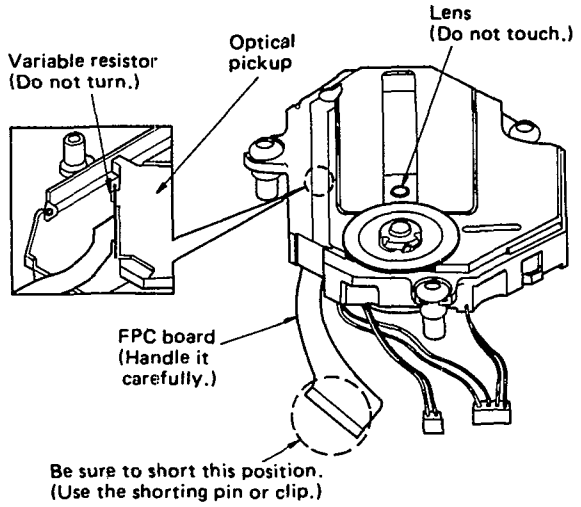


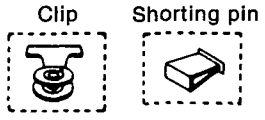
■ HANDLING PRECAUTIONS FOR TRAVERSE DECK

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

• Handling of traverse deck (optical pickup)

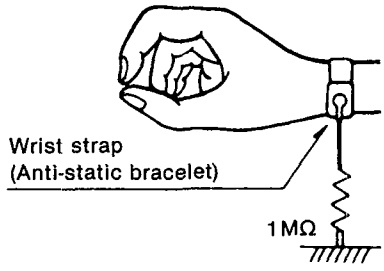
1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FPC board).
   When removing or connecting the short pin, finish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



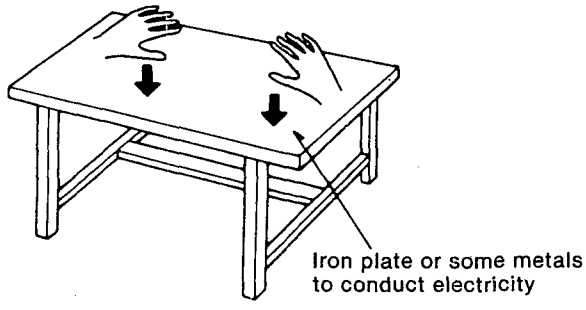


• Grounding for electrostatic breakdown prevention

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).



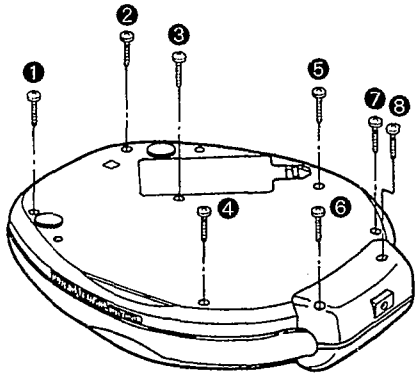
■ DISASSEMBLY INSTRUCTION

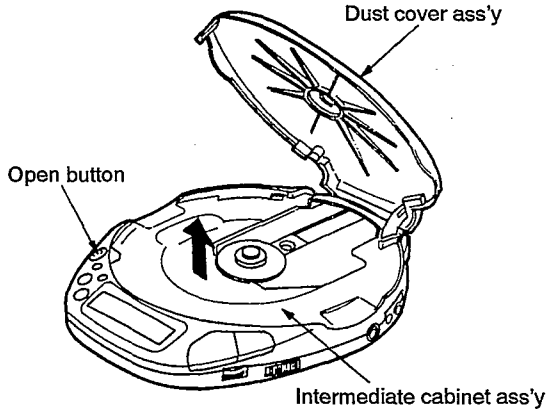
Warning: This product uses a laser diode. Refer to caution statements on page 3.

ACHTUNG: • Die lasereinheit nicht zerlegen.
• Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

※ This CD player is equipped with FPC boards, so handle them with care during disassembly and reassembly.

Ref.No. 1	Removal of the intermediate cabinet ass'y
Procedure 1	

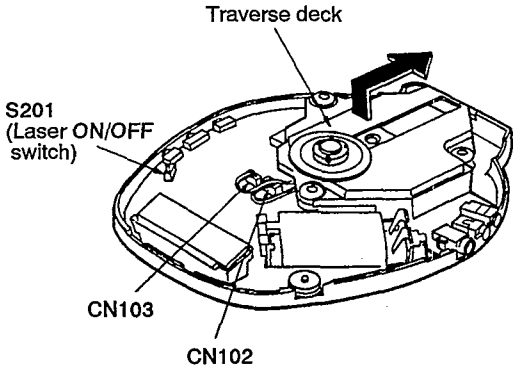




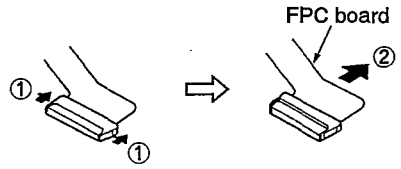
1. Remove the 8 screws(❶~❽).

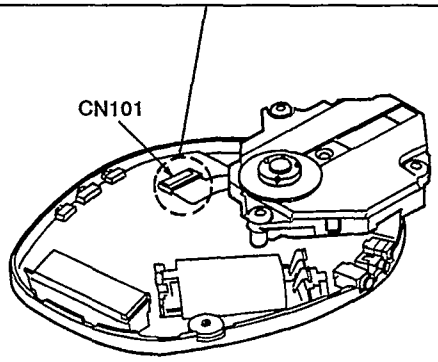
2. Push the open button and open the dust cover ass'y.
3. Remove the intermediate cabinet ass'y in the direction of arrow.

Ref.No. 2	Removal of the traverse deck
Procedure 1→2	



1. Release the connector in the directon of arrow ①.
2. Remove the FPC board in the direction of arrow ②.

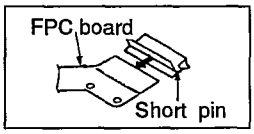




1. Disconnect the 2 connectors(CN102, CN103).
2. Move the traverse deck in the direction of arrow.

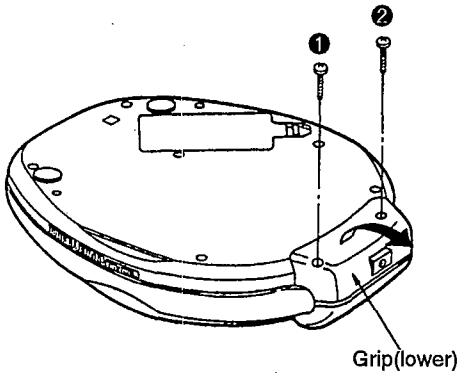
3. Remove the FPC board(CN101).

Caution:
Insert a short pin into the traverse deck's FPC board. (Refer to "handling precautions for traverse deck" on page 9.)



Ref.No. 3	Removal of the grip(lower)

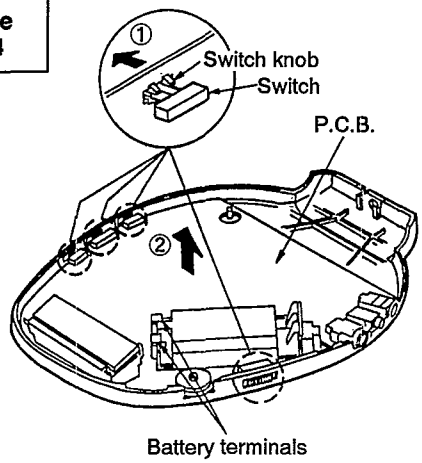
Procedure 3



1. Remove the 2 screws(❶, ❷).
2. Remove the grip(lower) in the direction of arrow.

Ref.No. 4	Removal of the P.C.B.

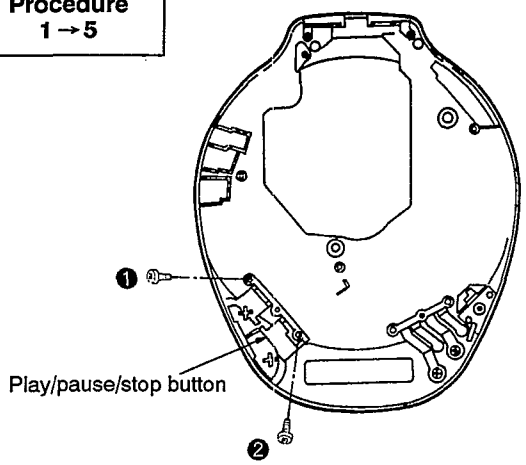
Procedure 1→2→4



1. Put out the switch knob from the inboard sides with a tweezers in the direction of arrow ①.(4 points)
2. Remove the P.C.B. and battery terminals in the direction of arrow ②.

Ref.No. 5	Removal of the play/pause/stop button

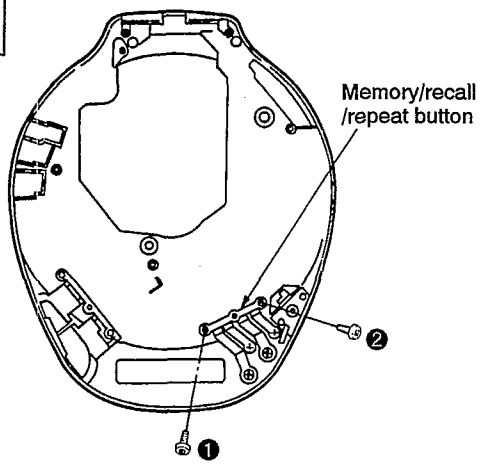
Procedure 1→5



• Remove the 2 screws(❶, ❷).

Ref.No. 6	Removal of the memory/recall/repeat button

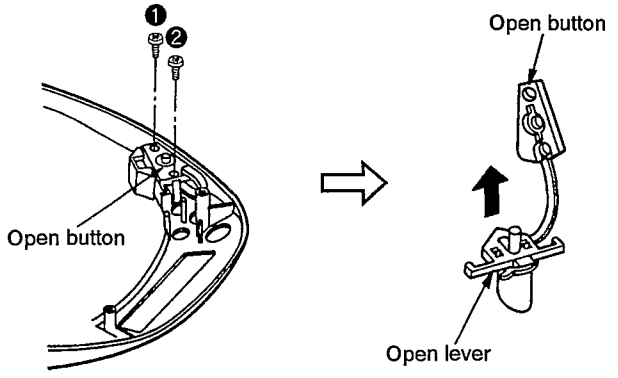
Procedure 1→6



• Remove the 2 screws(❶, ❷).

Ref.No. 7	Removal of the open button and open lever

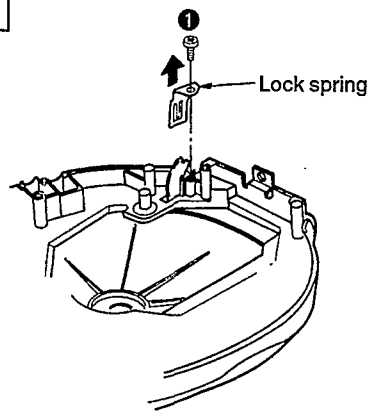
Procedure 1→6→7



1. Remove the 2 screws(❶, ❷) and the open button.
2. Remove the open lever in the direction of arrow.

Ref.No. 8	Removal of the lock spring

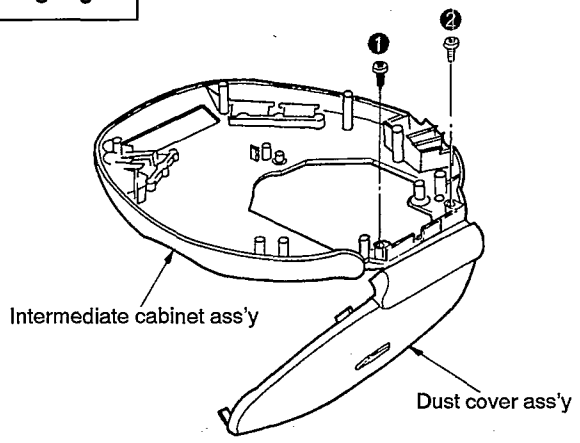
Procedure 1→8



1. Remove the 1 screw(❶).
2. Remove the lock spring in the direction of arrow.

Ref.No. 9	Removal of the dust cover ass'y

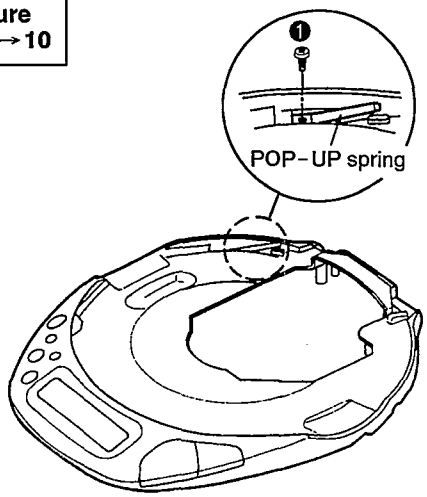
Procedure 1→8→9



• Remove the 2 screws(❶, ❷)

Ref.No. 10	Removal of the POP-UP spring

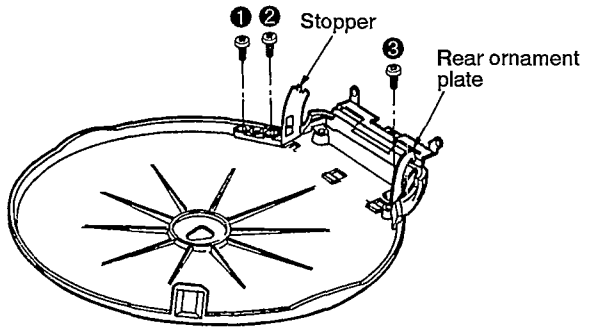
Procedure 1→8→9→10



• Remove the 1 screw(❶).

Ref.No. 11	Removal of the stopper and rear ornament plate

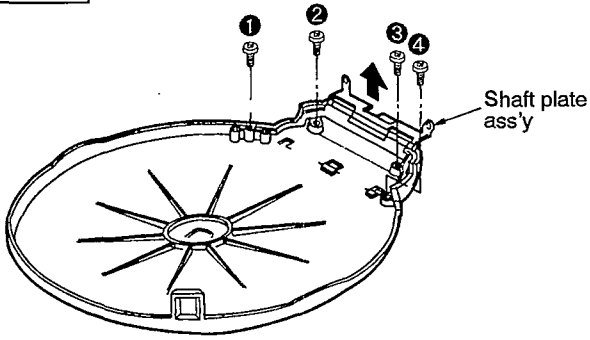
Procedure 1→8→9→11



1. Remove the 2 screws(❶, ❷), and then remove the stopper.
2. Remove the 1 screw(❸), and then remove the rear ornament plate.

Ref.No. 12	Removal of the shaft plate ass'y

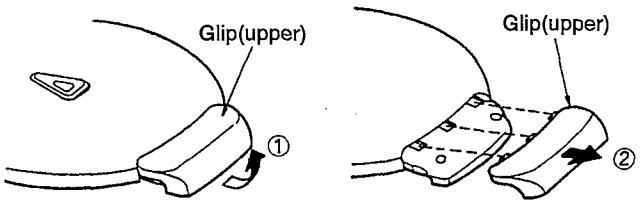
Procedure 1→8→9→11→12



1. Remove the 4 screws(❶~❹).
2. Remove the shaft plate ass'y in the direction of arrow.

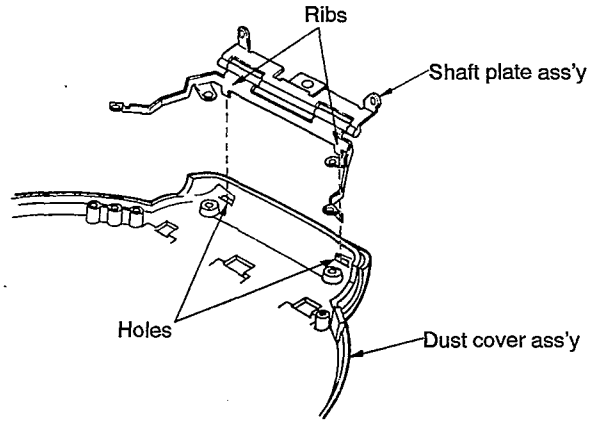
Ref.No. 13	Removal of the glip (upper)

Procedure 1→8→9→11→12→13



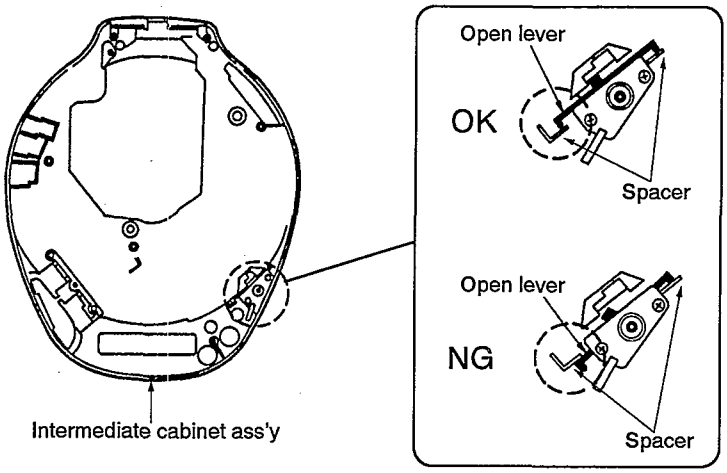
• Lift up the grip(upper) in the direction of arrow①, and then remove it in the direction of arrow②.

■ NOTE FOR ASSEMBLING THE SHAFT PLATE ASS'Y



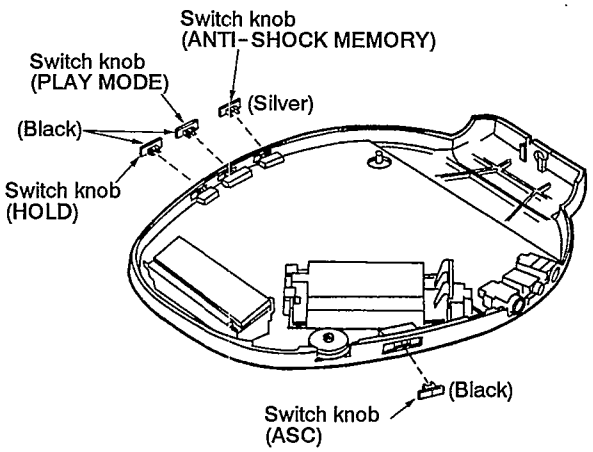
• Align the 2 ribs of shaft plate ass'y with the holes of dust cover ass'y.

■ NOTE FOR ASSEMBLING THE OPEN LEVER



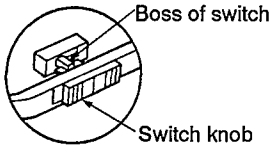
• When installing the open lever and open button, put the both ends of open lever inside the spacer.

■ HOW TO INSTALL THE SWITCH KNOB (HOLD, PLAY MODE, ANTI-SHOCK MEMORY, ASC)



• Make sure the bosses of the switch are fit in the claws of switch knobs when inserting the switch knob.

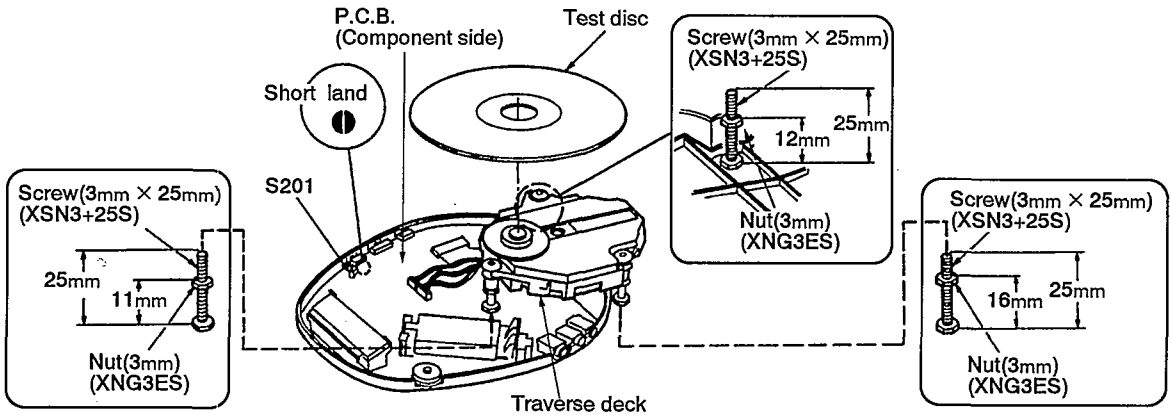
※ Before installing the switch knob, be sure to check the claws for defects that would render the claws unserviceable. (If a white line like white wax on a claw is found, the claw may be broken when installing the switch knob.)



■ HOW TO CHECK THE P.C.B. (Component Side)

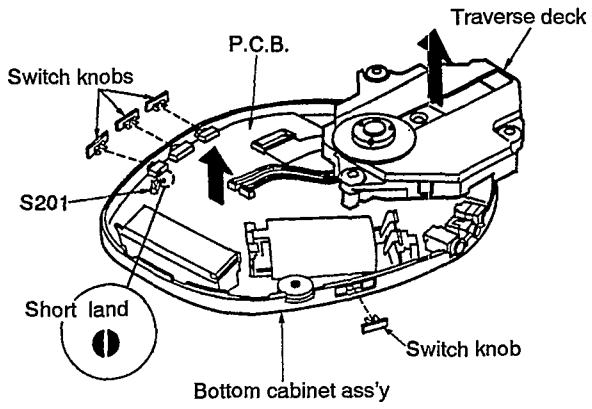
1. Remove the intermediate cabinet according to the disassembly instructions, procedure 1 " Removal of the intermediate cabinet ass'y " on page 10.
2. Lift up the traverse deck and keep it with 3 screws as shown below.
3. Put the test disc on the traverse deck .
4. Short-circuit the short lands of the laser ON/OFF SW(S201) by soldering them. (See page 16.)

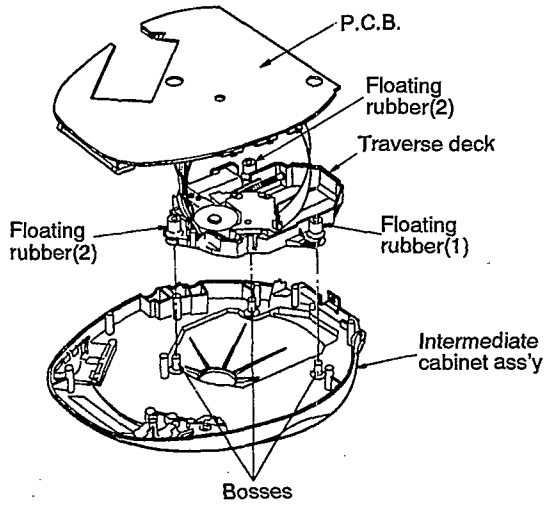
Note: • After checking the P.C.B., remove the solders from the short lands.
• The tip of screw must not protrude out the floating rubber.
(The protruded screw will damage the test disc.)



■ HOW TO CHECK THE MAIN P.C.B. (Solder Side)

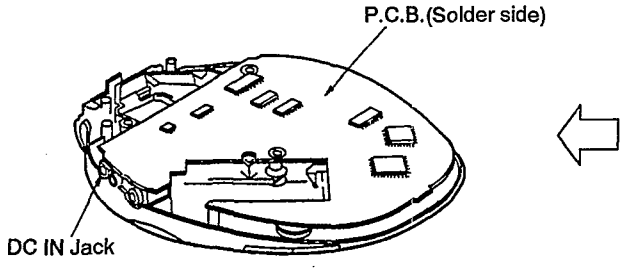
1. Remove the intermediate cabinet ass'y according to the disassembly instructions, procedure 1 " Removal of the intermediate cabinet ass'y " on page 10.

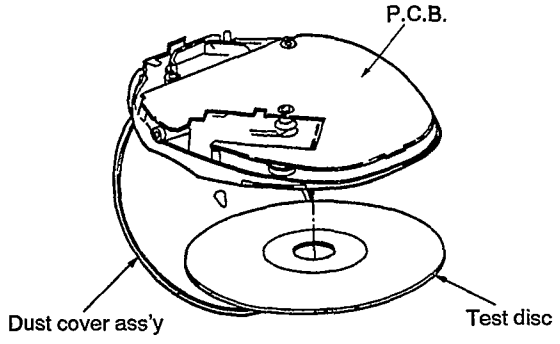




2. Remove the 4 switch knobs.
3. Remove the P.C.B. and traverse deck from the bottom cabinet ass'y.
4. Short-circuit the lands of the laser ON/OFF SW(S201) by soldering them. (See page 16.)
   Note: After checking the P.C.B., remove the solders from the short lands.

5. Place the traverse deck and P.C.B.on the intermediate cabinet ass'y.
   Note: Engage the rubber sections of the traverse deck in the bosses on the intermediate cabinet ass'y.





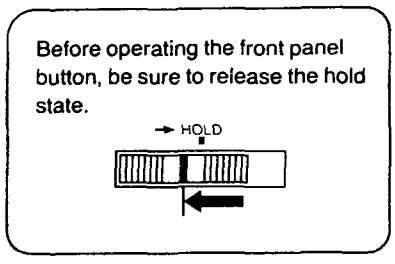
9. With the P.C.B. in place as shown in the figure above, connect the AC adapter to the DC IN Jack, and then check the voltage and waveform in play mode.

6. Open the dust cover ass'y.
7. Install the unit in place by holding the traverse deck and P.C.B. firmly, and then install the test disc.
8. Close the dust cover ass'y.

■ NOTE FOR SERVICE

• About hold switch

Before checking the operation problems and adjustments, be sure to release the hold state.

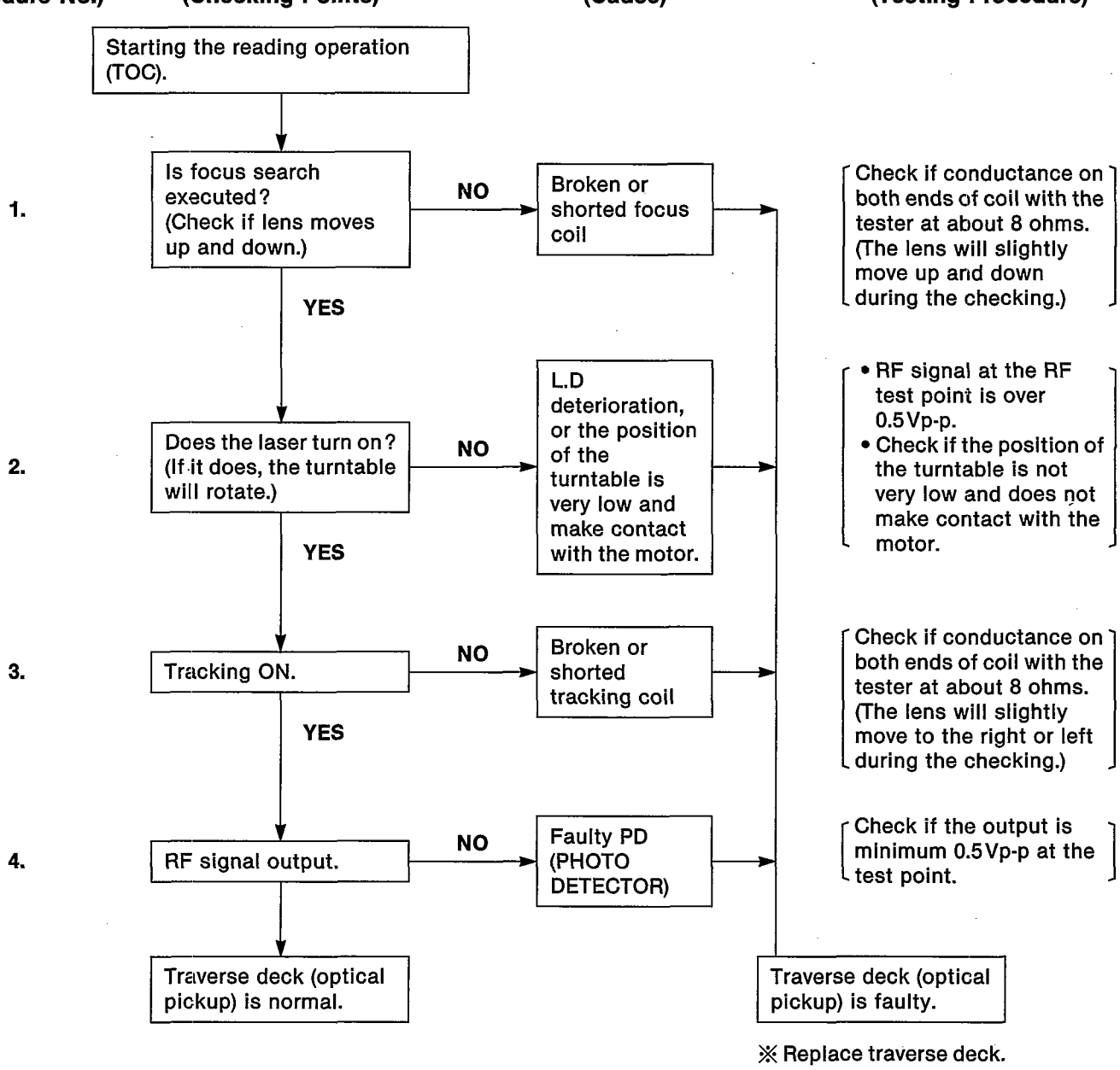


• Connection of the FPC board of the optical pickup

Before you put the power supply to work from the AC adaptor or batteries to check the set's operations and voltage, be sure to connect the FPC board of the optical pickup to the connector CN101 on the P.C.B. If you disconnected the FPC board from the connector CN101, the protection circuitry may be operated when the PLAY/PAUSE button is pressed with the FPC board disconnected.

■ CHECKING THE OPERATION PROBLEMS ON THE TRAVERSE DECK (OPTICAL PICKUP)

Make sure to follow the procedures below to check the operation problems of the traverse deck (optical pickup) before replacing it. Replace the traverse deck only after the problem is identified.



- Check electrical circuit.
- Check for flaws on disc or if it is warped or not centered.

• Check the operations described below on the traverse deck after replacing it.

* Checking Skip Search
1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

* Checking Manual Search
1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

* Checking Playability
1. Play the 0.7mm black dot and the 0.7mm wedge on the playability test disc (SZZP1054C) and verify that no sound skip or noise occurs.
2. Play the middle tracks of the uneven test disc (SZZP1056C) and verify that no sound skip or noise occurs.

■ MEASUREMENTS AND ADJUSTMENTS

Warning: This product uses a laser diode. Refer to caution statements on page 3.

• Measuring instruments and special tools

• Test discs

1. Playability test disc (SZZP1054C)
2. Uneven test disc (SZZP1056C)

- Musical program disc (ordinary)
- DC voltmeter
- Lead wire (for test points)

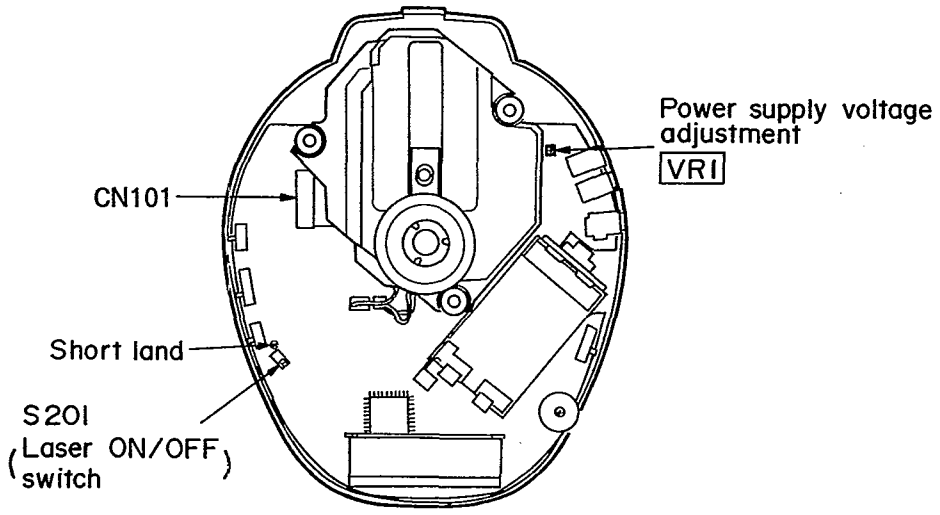
• Test short land

Short-circuit the lands of the laser ON/OFF switch (S201) by soldering them. It turns "ON" position. (Refer to below figure or printed circuit board and wiring connection diagram for short land location on pages 30~32.)

Note: Remove the solders from the lands after adjustment.

• Adjustment point

Notes: 1. Please refer to the printed circuit board and wiring connection diagram for test point locations.
2. Take care to connect CN101.



• Adjustment procedure

(1) POWER SUPPLY VOLTAGE ADJUSTMENT

1. Connect the DC voltmeter to TP3 (VCC) (+) and TP4 (GND) on the P.C.B.
2. Connect the AC adaptor cord to the DC (IN) port and move the PLAY switch to the ON position.
   (Use a new dry cell battery or a rechargeable battery that is full charged.)
3. Insert the test disc, and switch the player power ON.
4. Adjust **VR1** on the P.C.B. at **3.55±0.05V.**

(2) CHECK OF PLAY OPERATION

∗Checking Skip Search

1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and backward directions).

∗Checking Manual Search

1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and backward directions).

∗Checking Playability

1. Play the 0.7mm black dot and the 0.7mm wedge on the playability test disc (SZZP1054C) and verify that no sound skip or noise occurs.
2. Play the middle tracks of the uneven test disc (SZZP1056C) and verify that no sound skip or noise occurs.

• Automatic adjustment

On our conventional type portable CD player, there were mounted 6 semi-fixed controls for each adjustment. Since the SL-XP570 servo circuit is equipped with an automatic adjusting circuit, these controls are removed from SL-XP570.

On conventional portable CD player Use for Old Servo IC (AN8373, AN8374)		**On SL-XP570** Use for New Servo IC (AN8383, AN8384)
1. Tracking Offset Adjustment VR (TOC) 2. Focus Offset Adjustment VR (FOC)	➡	Non Adjustment
3. Tracking Gain Adjustment VR (TGC) 4. Focus Gain Adjustment VR (FGC) 5. Tracking Balance Adjustment VR (TBC) 6. Focus Balance Adjustment VR (FBC)	➡	Automatic Adjusting Circuit
Total 6 Adjustment VRs	➡	No Adjustment VR

Although all discs are manufactured according to the same specifications, their characteristics are not always precisely the same because they are produced by different manufacturers in various lots, or have different warp etc.
SL-XP570 automatically controls the servo circuit to obtain optimum performance according to any disc's characteristics. Therefore, no malfunction occurs because of mis-adjustment.

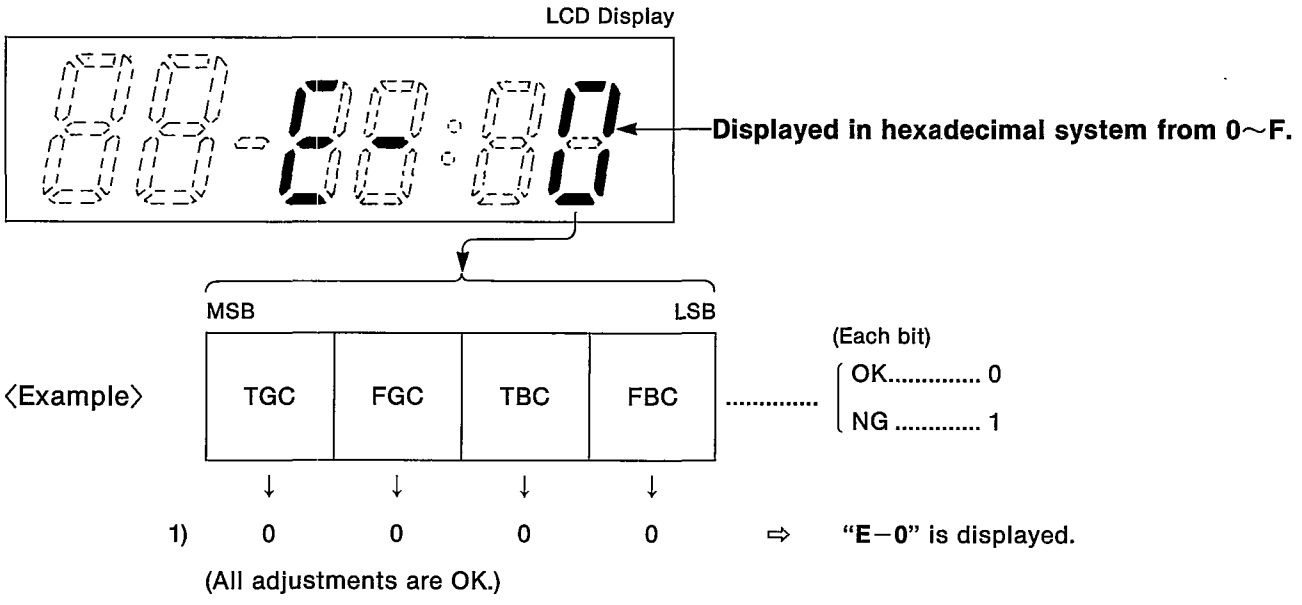
■ DISPLAY FUNCTION OF AUTOMATICALLY-ADJUSTED RESULTS (SELF-CHECK FUNCTION)

On this nuit (SL-XP570), each automatically-adjusted result are displayed on the LCD. This function is convenient to check or identify which automatic adjustment circuit is incorrect. The followings are the contents of the automatically-adjusted result displays (self-check function).

• How to display automatically-adjusted results

1. Load the test disc (SZZP1054C).
2. Press the I◀◀ (SKIP/SEARCH) and ▶▶I (SKIP/SEARCH) Buttons simultaneously and hold them, and additionally press the ▶/II (PLAY/PAUSE) Button.
3. Press the ■ (STOP/POWER OFF) Button once.
4. An automatically-adjusted result is displayed on the LCD. (Refer to the next page.)

• Display of automtically-adjusted results (self-check function)



2) 0 (OK) 1 (NG) 0 (OK) 0 (OK) ⇨ **"E−4"** is displayed.
(Focus gain adjustment is NG (incorrect.)

3) 1 (NG) 0 (OK) 1 (NG) 0 (OK) ⇨ **"E−A"** is displayed.
(Tracking gain and tracking balance adjustments are NG.)

4) 1 1 1 1 ⇨ **"E−F"** is displayed.
(All adjustments are NG.)

〈Example〉 **Follow the below steps when "E−4" is displayed.**

(Cause: Focus gain is set beyond the limit.)
• Check if
(1) the waveform or voltage of the focus servo circuit is correct,
(2) the focus coil of the optical pickup is correct (around 8 ohms), and
(3) the optical pickup returns to the normal state by exchanging the traverse deck.

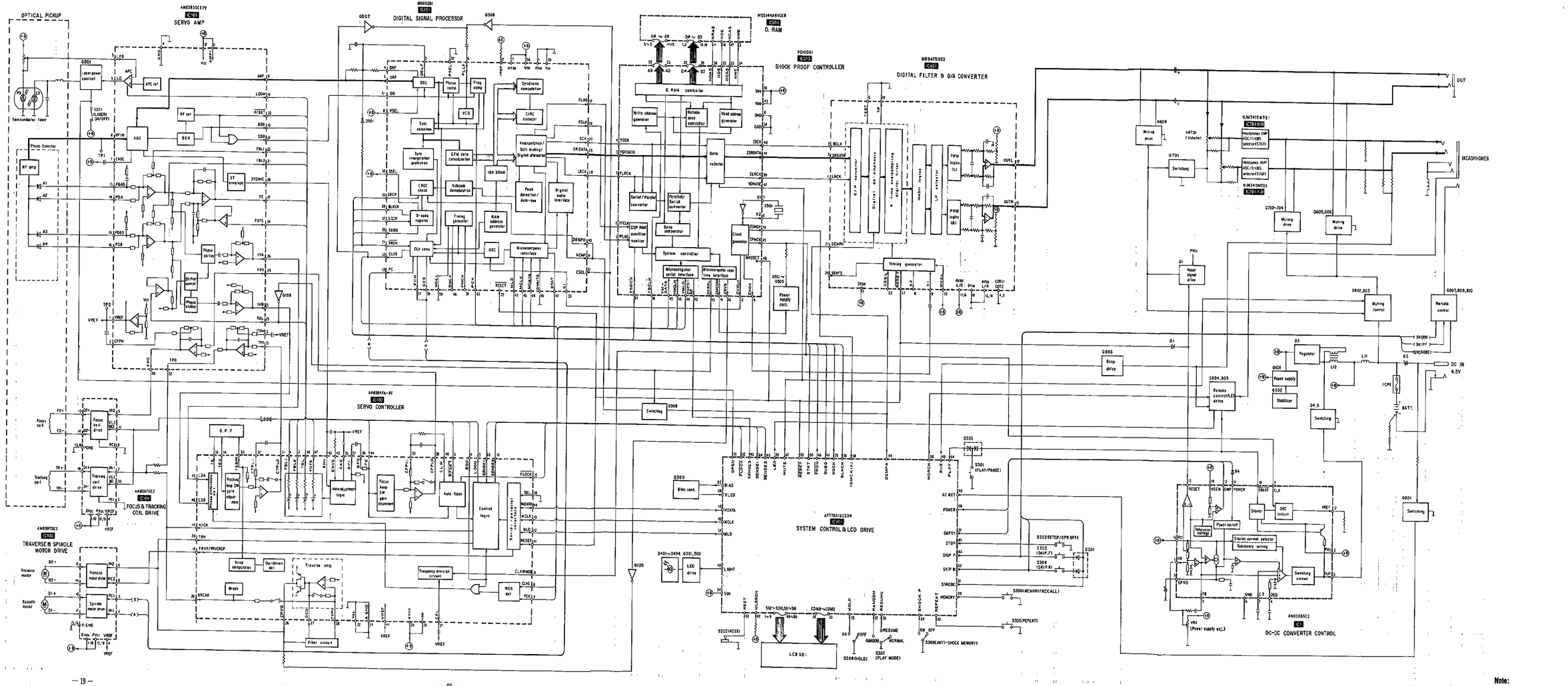
Follow the below steps when "E−1" is displayed.

(Cause: Focus balance is set beyond the limit.)
• Check if
(1) R127 (4 resistors) is not defective by measuring the value,
(2) the waveform or voltage of the focus servo circuit is correct, and
(3) the optical pickup returns to the normal state by exchanging the traverse deck.

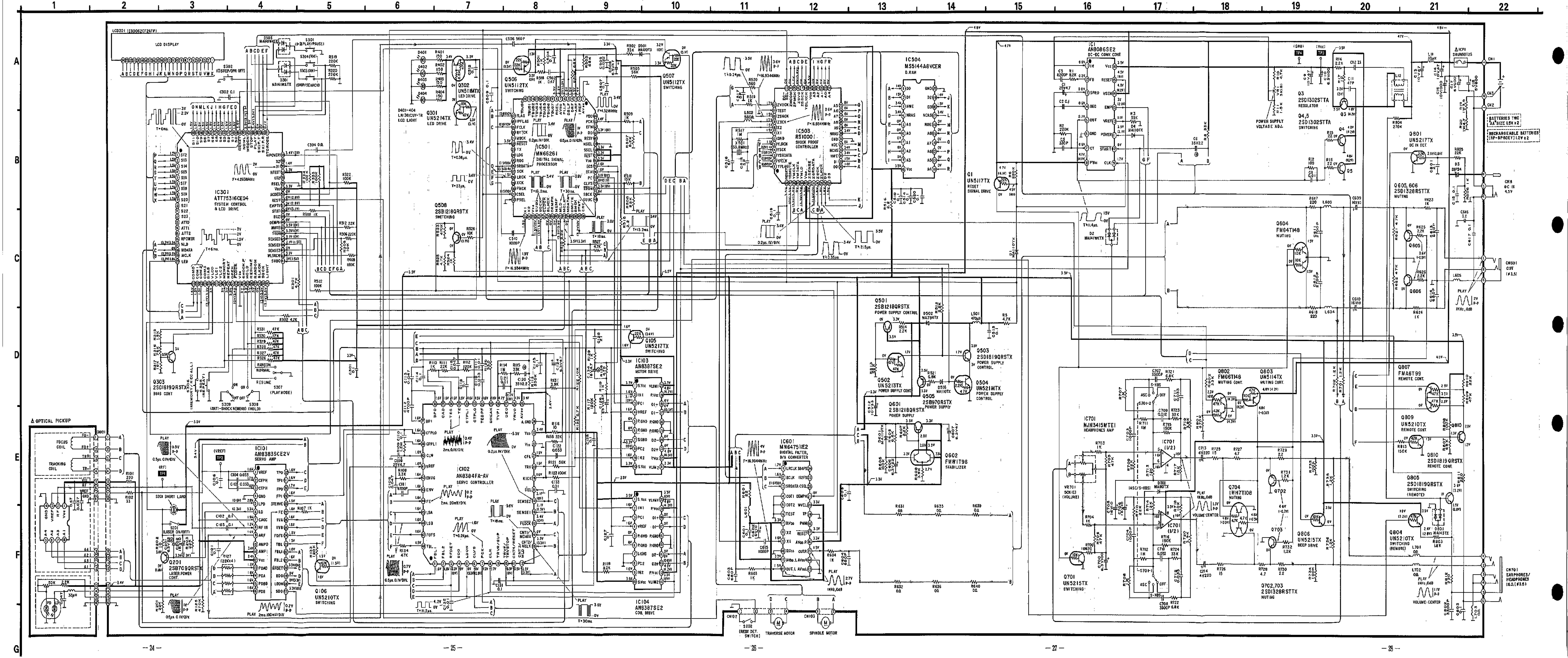
Note:
It is not always necessary to exchange the traverse deck when an error message is displayed. Be sure to check if the circuit is defective or not before exchanging the traverse deck.

Note:
If any other disc than the test disc (SZZP1054C) is used, an error message may be displayed. This is not a malfunction.

BLOCK DIAGRAM



Note:
Audio signal


LCD DISPLAY
IC301
SYSTEM CONTROL & LCD DRIVE
IC501 MN66261
DIGITAL SIGNAL PROCESSOR
SHOCK PROOF CONTROLLER
D.RAM
IC101 AN8383SCE2V
SERVO AMP
IC102 AN8384FA-AV
SERVO CONTROLLER
IC103 AN8387SE2
MOTOR DRIVE
IC104 AN8387SE2
COIL DRIVE
IC601
DIGITAL FILTER, D/A CONVERTER
IC1
DC-DC CONV. CONT
IC701
HEADPHONES AMP
OPTICAL PICKUP
FOCUS COIL
TRACKING COIL
TRAVERSE MOTOR
SPINDLE MOTOR
BATTERIES TWO "AA" SIZE 1.5V x 2
RECHARGEABLE BATTERIES
DC IN 4.5V
EARPHONES/HEADPHONES
VOLUME-CENTER

■SCHEMATIC DIAGRAM (Parts list on pages 39, 40, 42, 43)

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

Notes:

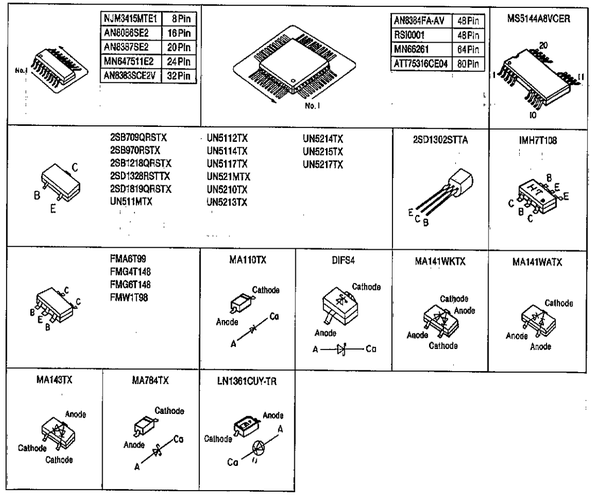
- S201 : Laser ON/OFF switch in "OFF" position. (It turns "ON" with disc holder closed.)
- S202 : Rest detector in "OFF" position. (It turns "ON" when optical pickup comes to innermost periphery.)
- S301 : Play/pause (▶ ▮▮ PLAY/PAUSE) switch.
- S302 : Stop/operation off (■ STOP/OFF) switch.
- S303, S304: Skip/search (|◀◀ -SKIP/-SEARCH ▶▶|) switches. (S303: ▶▶|, S304: |◀◀)
- S305 : Repeat (REPEAT) switch.
- S306 : Memory/recall (MEMORY/RECALL) switch.
- S307 : Play mode selector (PLAY MODE) switch in "NORMAL" position. (RANDOM ↔ NORMAL ↔ RESUME)
- S308 : Hold (HOLD) switch in "OFF" position.
- S309 : Anti-shock memory (ANTI-SHOCK MEMORY) switch in "OFF" position.
- S701 : ASC/S-XBS (ASC, S-XBS, OFF) selector switch in "OFF" position. (ASC ↔ S-XBS ↔ OFF)
- The voltage value and waveforms are the reference voltage of this measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of GND terminal (DC IN Jack). Accordingly, there may arise some errors in the voltage values and waveforms depending upon the internal impedance of the tester or measuring unit.
- * The parenthesized is the voltage for test disc (1kHz, L+R, 0dB) in play mode, and the other, for no disc in stop mode.
- * AC adaptor is used for power supply.
- ▬▬ : Positive voltage lines.
- ⟹ : Audio signal lines.
- Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
- The supply part number is described alone in the replacement parts.

Caution!

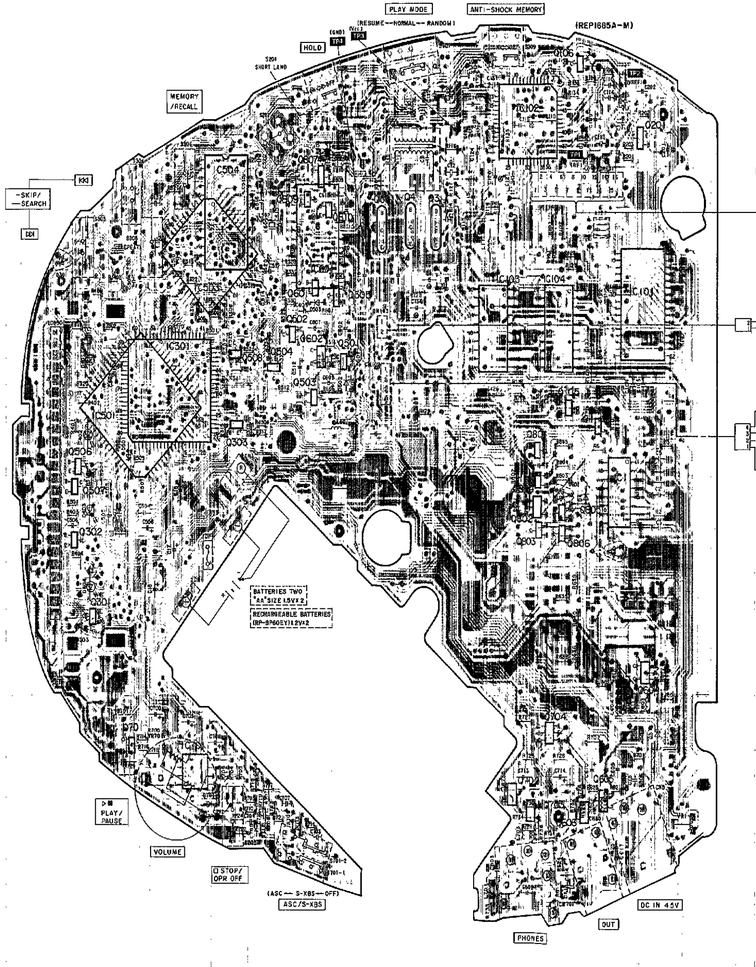
IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.

- 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.

• Terminal guide of IC's, transistors and diodes



■PRINTED CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

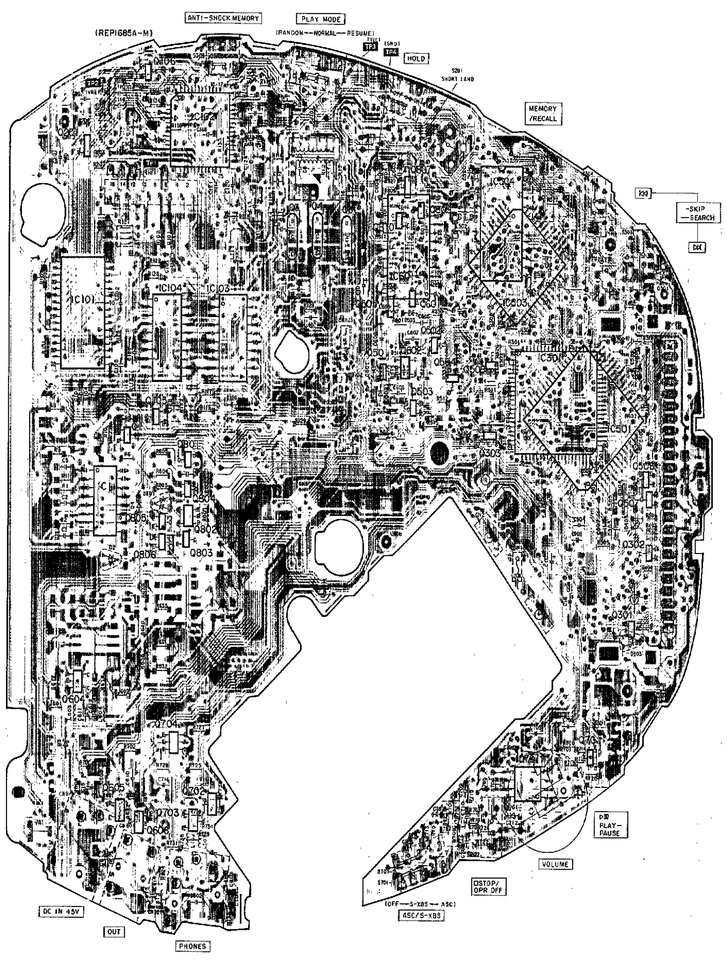


Notes:

WHT.....White
BLU.....Blue
RED.....Red
BLK.....Black
ORG.....Orange

Notes:

- In this printed circuit board diagram, the parts and foil patterns on the board facing toward you are printed in black. The opposite side is printed in blue.
- The "●" and "●" marks denote the connection points of double-faced foil patterns (through holes) on both sides of the printed circuit board.
- This printed circuit board diagram may be modified at any time with the development of new technology.



■TERMINAL FUNCTION OF IC'S

• IC101 (AN8383SCE2V): Servo amp

Pin No.	Mark	I/O Division	Function
1	VREF	O	Reference voltage output
2	CFPH	I	Focus phase compensating capacitor terminal
3	CTPH	I	Tracking phase compensating capacitor terminal
4	GND	—	Ground terminal
5	LFD	I	Non-inverting laser power input
6	LD	O	Laser power auto control output
7	CAGC	I	AGC detecting capacitor terminal
8	RFIN	I	RF signal input
9	ARF	O	RF signal output
10	AMP0	O	RF signal output (Not used, open)
11	AMP1	I	RF signal input (×30 amp)
12	VCC	I	Power supply terminal
13	PDAD	I	Photo detector current input
14	PDA	I	Photo detector current input
15	PDBD	I	Photo detector current input
16	PDB	I	Photo detector current input
17	SDO	O	Dropout detection pulse output
18	LDON	I	Laser ON/OFF control input
19	BDO	O	Dropout detection output
20	$\overline{\text{RFDET}}$	O	RF detection signal output
21	FBL2	I	PD balance adjustment terminal (PDB)
22	FBL1	I	PD balance adjustment terminal (PDA)
23	TBL	I	Tracking balance adjustment terminal
24	FOFS	I	Focus offset adjustment terminal
25	IVB	O	Current/voltage conversion output (B)
26	IVA	O	Current/voltage conversion output (A)
27	FE	O	Focus error signal output
28	3TENVE	O	3T envelope signal output
29	FPI	I	Focus phase compensating amp input
30	FPO	O	Focus phase compensating output
31	TPI	I	Tracking phase compensating input
32	TPO	O	Tracking phase compensating output

• IC103, 104 (AN8387SE2): Motor/coil drive

Pin No.	Mark	I/O Division	Function
1	S. VCC	I	Power supply terminal
2	IN1	I	Spindle motor drive signal input and tracking coil drive signal input
3	PC1	I	Spindle motor power control signal input
4	VREF	I	Reference voltage input
5, 6	P. GND	—	Ground terminal
7	S. GND	—	Ground terminal
8	PC2	I	Traverse motor power control input (Not used, connected to GND)
9	IN2	I	Traverse motor drive signal input and focus coil drive signal input
10	S. VCC	I	Power supply terminal
11	VLIM2	I	Voltage limit terminal
12	P. VCC	I	Power supply terminal
13	D2+	O	Traverse motor drive signal output and focus coil drive signal output
14	D2−		
15, 16	P. GND	—	Ground terminal
17	D1−	O	Spindle motor drive signal output and tracking coil drive signal output
18	D1+		
19	P. VCC	I	Power supply terminal
20	VLIM1	I	Voltage limit terminal

• IC102 (AN8384FA-AV): Servo controller

Pin No.	Mark	I/O Division	Function
1	FBL1	O	PD balance adjustment (PDA) terminal
2	FBL2	O	PD balance adjustment (PDB) terminal
3	RFDET	I	RF detection signal input
4	BDO	I	Dropout detection input
5	LDON	O	Laser ON/OFF control output
6	CLVS	I	Spindle servo condition det. terminal ("H": CLV, "L": Rough servo)
7	PCK	I	PLL extract clock (f=4.3218MHz)
8	CLK	I	Frequency division clock signal (f=88.2kHz) input
9	TRVR/ GUP	I/O	Traverse backward input/gain up output (Not used, open)
10	TRVF/ TRV STOP	I/O	Traverse forward input/stop output terminal
11	CNT4/ RESET	I/O	CNT4 input/reset signal output terminal
12	CNT3/ MLD	I/O	CNT3 input/command load signal output terminal
13	CNT2/ MCLK	I/O	CNT2 input/command clock signal output terminal
14	CNT1/ MDATA	I/O	CNT1 input/command data signal output terminal
15	$\overline{\text{FLOCK}}$	O	Focus lock signal output
16	SENSE1	O	Selector output (1) terminal
17	SENSE2	O	Selector output (2) terminal
18	SEL	I	Parrallel/serial select terminal (Not used, connected to GND)
19	KICK	O	Track kick F/B control terminal
20	TRV	O	Traverse F/B control terminal
21	CFL	I	Capacitor connection terminal
22	VSS	—	Ground terminal
23	VDD	I	Power supply terminal
24	A. GND	—	Ground terminal
25	A. VCC	I	Power supply terminal
26	TRVO	O	Traverse amp. output terminal (2)
27	DED	O	Traverse amp. output terminal (1)
28	TVPI	I	Traverse amp. input terminal
29	BREAK	I	Break input terminal
30	TEBPF	I	Tracking error gain detecting filter
31	CTPLO	O	Tracking low level compensation amp. output terminal
32	CTPLI	I	Tracking low level compensation amp. input terminal
33	TE	O	Tracking error output
34	TEG	I	Tracking SW amp. input
35	CAD	O	Auto adjustment multiplicator output terminal
36	BPO	O	Focus error for B.P.F. output terminal
37	BPI	I	Focus error for B.P.F. input terminal
38	CFPLO	O	Focus low level compensation amp. output terminal
39	CFPLI	I	Focus low level compensation amp. input terminal
40	CLW	O	Triangular wave oscillator output
41	VREF	I	Reference voltage input
42	ENVG	I	Envelope amp. gain adjustment terminal
43	ENV	I	Envelope amp. input terminal
44	FE	I	Focus SW amp. input terminal
45	LSA	I	Current/voltage conversion input (A)
46	LSB	I	Current/voltage conversion input (B)
47	FOFS	O	Focus offset adjustment output terminal
48	TBL	O	Tracking balance adjustment output terminal

• IC1 (AN8086SE2): DC-DC converter control

Pin No.	Mark	I/O Division	Function
1	IN	I	Error amp input
2	FB	O	Error amp output
3	SPRO	I	Short protect input
4	DED	I	Dead time input
5	OUT	O	Switching output
6	GND	—	Ground terminal
7	CT	I	Triangular wave oscillator capacitor input
8	PVCC	I	Power supply terminal
9	CLK	I	Clock signal input (f=88.2kHz)
10	$\overline{\text{START}}$	I	Start detection input
11	POWER	I	Power ON/OFF detection terminal
12	VREF	O	Reference voltage output
13	EMP	O	Empty detection output
14	VSEN	I	Empty detection input
15	RESET	O	Reset signal output
16	VCC	I	Power supply terminal

• IC301 (ATT75316CE04): System cont./LCD drive

Pin No.	Mark	I/O Division	Function
1 ~ 9	S12 ~ S20	O	LCD segment signal output
10 ~ 12	S21 ~ S23	O	Segment signal output (Not used open)
13 ~ 15	ATT0 ~ ATT2	O	Attenuator control terminal
16	RPOWER	O	Remote control power supply output terminal
17	MLD	O	Command load signal output
18	MDATA	O	Command data signal output
19	MCLK	O	Command clock signal output
20	LED	O	Remote control detection
21 ~ 24	COM0 ~ COM3	O	LCD common signal output
25	BIAS	O	Bias terminal
26 ~ 28	VLC0 ~ VLC2	—	Power supply terminal
29	MEMORY	I	Key switch (MEMORY/ RECALL) input terminal
30	REPEAT	I	Key switch (REPEAT) input terminal
31	OPEN	I	Disc holder open detection terminal
32	$\overline{\text{FLOCK}}$	I	Focus lock signal output
33	VSS	—	GND terminal
34	SHOCK. P	I	Anti-shock memory signal input terminal
35	HOLD	I	Hold signal ON/OFF detection terminal
36	RESUME	I	Key switch (PLAY MODE: RESUME) input terminal
37	RANDOM	I	Key switch (PLAY MODE: RANDOM) input terminal
38	BLKCK	I	Sub-code block (Q data) clock (75Hz) output
39	SQCK	O	Sub-code Q resistor clock output
40	LIGHT	O	LED drive command signal (Not used open)
41	SUBQ	I	Sub-code (Q data) output
42	WLSRCN	I	Selector input (1) terminal (Not used open)
43	SENSE3	I	Selector (3) input terminal
44	SENSE1	I	Selector (1) input terminal
45	SENSE2	I	Selector (2) input terminal
46	$\overline{\text{TRON}}$	O	Tracking servo ON signal (Tracking servo ON at "L")
47	MUTE	O	Muting signal output ("H": MUTE)
48	DEMPH	O	De-emphasis signal output
49	BUZ	O	Beep control output terminal
50	STAT	I	Processing condition (CRU, CUE, CLVS, FCLV, TTSTOP) input
51	EMPTY	I	Empty detection input terminal
52	REST	I	Rest detection terminal
53	ACDET	I	Power supply detection signal input
54	VDD	I	Power supply terminal
55	RSEL	—	Connected to GND (Not used)
56	XT2	—	Not used open
57	NTEST	—	Connected to power supply (Not used)
58	X1	I	Main-system clock input terminal
59	X2	—	Not used open
60	POWER	O	Power ON/OFF output terminal
61	STOROBE	O	Strobe detection output terminal
62	SKIP. R	I	Key switch (SKIP/SEARCH. R) input terminal
63	SKIP. F	I	Key switch (SKIP/SEARCH. F) input terminal
64	PLAY	I	Key switch (PLAY/PAUSE) input terminal
65	STOP	I	Key switch (STOP/POWER OFF) input terminal
66	WRDCN	O	Remote control signal output
67	NOWL	—	Connected to GND (Not used)
68	$\overline{\text{RESET}}$	I	Reset signal input terminal
69 ~ 80	S0 ~ S11	O	LCD segment signal output

• IC501 (MN66261): Digital signal processor

Pin No.	Mark	I/O Division	Function
1	AVSS	—	GND terminal
2	IREF	I	Reference current input
3	ARF	I	RF signal input
4	DRF	I	DSL bias terminal (Not used, open)
5	DSLF	I/O	DSL loop filter terminal
6	PLLF	I/O	PLL loop filter terminal
7	AVDD	I	Power supply terminal
8	RSEL	I	RF signal polarity setting terminal (Not used, connected to VDD)
9 ~ 16	TBUS7 ~ TBUS0	O	Test terminal
17	FLAG	O	Flag terminal (Not used, open)
18	IPFLAG	O	Interpolation flag terminal (Not used, open)
19	FCLK	O	Crystal frame clock (Not used, open)
20	BYTCK	O	Byte clock (Not used, open)
21	WDCK	O	Word clock (Not used, open)
22	$\overline{\text{RESET}}$	I	Reset terminal
23	TX	O	Digital audio signal
24	LDG	O	Lch deglitch signal (Not used, open)
25	RDG	O	Rch deglitch signal (Not used, open)
26	SRDATA	O	Serial data output (MSB first)
27	SCK	O	Serial bit clock output
28	LRCK	O	L/R discriminating signal
29	XCK	O	Crystal OSC terminal (f=16.9344MHz) (Not used, open)
30	PMCK	O	Frequency division clock signal (Not used, open) ($f=\frac{1}{192}\times CK=88.2kHz$)
31	CSEL	I	Test terminal (Connected to GND)
32	PSEL		
33	X1	I	Crystal OSC terminal (f=16.9344MHz)
34	X2	O	Crystal OSC terminal (f=16.9344MHz) (Not used, open)
35	VSS	—	GND terminal
36	SUBQ	O	Sub-code Q data
37	SQCK	I	Sub-code Q register clock
38	$\overline{\text{CLDCK}}$	O	Sub-code frame clock (f=7.35kHz) (Not used, open)
39	BLKCK	O	Sub-code block clock (f=75Hz)
40	DEMPH	O	De-emphasis ON signal ("H": ON)
41	MEMP	I	Emphasis signal
42	MLD	I	Command load signal ("L": LOAD)
43	MCLK	I	Command clock signal
44	MDATA	I	Command data signal
45	D MUTE	I	Muting Input ("H": MUTE)
46	SMCK	O	System clock (f=4.2336MHz)
47	STAT	O	Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK)
48	CRC	O	Sub-code CRC check terminal ("H": OK, "L": NG)
49	SUBC	O	Sub-code serial output data (Not used, open)
50	SBCK	I	Sub-code serial input clock (Not used, connected to GND)
51	$\overline{\text{TRON}}$	I	Tracking servo ON signal ("L": ON)
52	CLVS	O	Turntable servo phase synchro signal ("H": CLV, "L": Rough servo)
53	PC	O	Turntable motor ON signal ("L": ON)
54	ECM	O	Turntable motor drive signal (Forced mode)
55	ECS	O	Turntable motor drive signal (Servo error signal)
56	VDD	I	Power supply terminal
57	$\overline{\text{TEST}}$	I	Test terminal (Normal: "H")
58	SSEL	I	"SUBQ" terminal mode select ("H": Q code buffer)
59	MSEL	I	"SMCK" terminal frequency select ("L": SMCK=4.2336MHz) (Connected to GND)
60	RESY	O	Re-synchronizing signal of frame sync. (Not used, open)
61	DO	I	Drop-out detection signal ("H": Drop-out)
62	EFM	O	EFM signal (Not used, open)
63	PCK	O	PLL extract clock (f=4.3218MHz)
64	PDO	O	Phase comparated signal of EFM and PCK (Not used, open)

• IC503 (RSI0001): Shock proof controller

Pin No.	Mark	I/O Division	Function
1	YFLAG	I	Signal processing flag input terminal
2	YFCLK	I	Frame clock input terminal ANTI-SHOCK MEMORY selector (ON: 14.7kHz, OFF: 7.35kHz)
3	YSRDATA	I	Serial data input terminal
4	YSCK	I	Shyft clock input terminal ANTI-SHOCK MEMORY selector (ON: 5.64MHz, OFF: 2.82MHz)
5	YLRCK	I	L/R clock input terminal ANTI-SHOCK MEMORY selector (ON: 88.2kHz, OFF: 44.1kHz)
6	GND	—	GND terminal
7	X1	I	Crystal OSC terminal (F=33.9MHz)
8	X2	O	
9	ZXCK	O	Clock output terminal (F=16.9MHz)
10	ZSMCK	O	Clock output terminal (F=4.23MHz)
11	TEST	I	Test input terminal (Normal: "L")
12	ZVXCK	O	Clock output terminal ANTI-SHOCK MEMORY selector (ON: 33.9MHz, OFF: 16.9MHz)
13	ZCSEL	O	Playback speed select output terminal ANTI-SHOCK MEMORY selector (ON: "H, OFF: "L")
14	ZMCOM	O	Voltage select output terminal ANTI-SHOCK MEMORY selector (ON: "H, OFF: "L")
15	ZPMCK	O	Clock output terminal (F=88.2kHz)
16	ZSVG	O	Traverse drive select output terminal
17	ZSBCK	O	Flag read out clock output terminal

Pin No.	Mark	I/O Division	Function
18	YBLKCK	I	Block clock input terminal ANTI-SHOCK MEMORY selector (ON: 150Hz, OFF: 75Hz)
19	VDD	I	Power supply terminal
20 ∫ 29	A0 ∫ A9	O	Address output terminal
30	NRAS	O	Low address strobe terminal
31	GND	—	GND terminal
32	NOE	O	Output enable terminal
33	NCAS	O	Column address strobe terminal
34	NWE	O	Write enable terminal
35 ∫ 38	D0 ∫ D3	I/O	Data input/output terminal
39	ZLRCK	O	L/R clock output terminal (F=44.1kHz)
40	ZSCK	O	Shyft clock output terminal (F=2.82MHz)
41	ZSRDATA	O	Serial data output terminal
42	ZSENSE	O	States output terminal
43	VDD	I	Power supply terminal
44	YMLD	I	Microcomputer command load input terminal
45	YMDATA	I	Microcomputer command data input terminal
46	YMCLK	I	Microcomputer command clock input
47	YDMUTE	I	Mute input terminal ("H"-MUTE: ON, "L"-MUTE: OFF)
48	RESET	I	Reset input terminal (Normal: "H", RESET: "L")

• IC504 (MS5144A8VCER): D. RAM

Pin No.	Mark	I/O Division	Function
1	D0	I/O	Data input/output terminal
2	D1	I/O	Data input/output terminal
3	NWE	I	Write enable terminal
4	NRAS	I	Low address strobe terminal
5	A9	I	Address input terminal
6	A0	I	Address input terminal
7 ∫ 9	A1 ∫ A3	I	Address input terminal
10	VCC	I	Power supply terminal

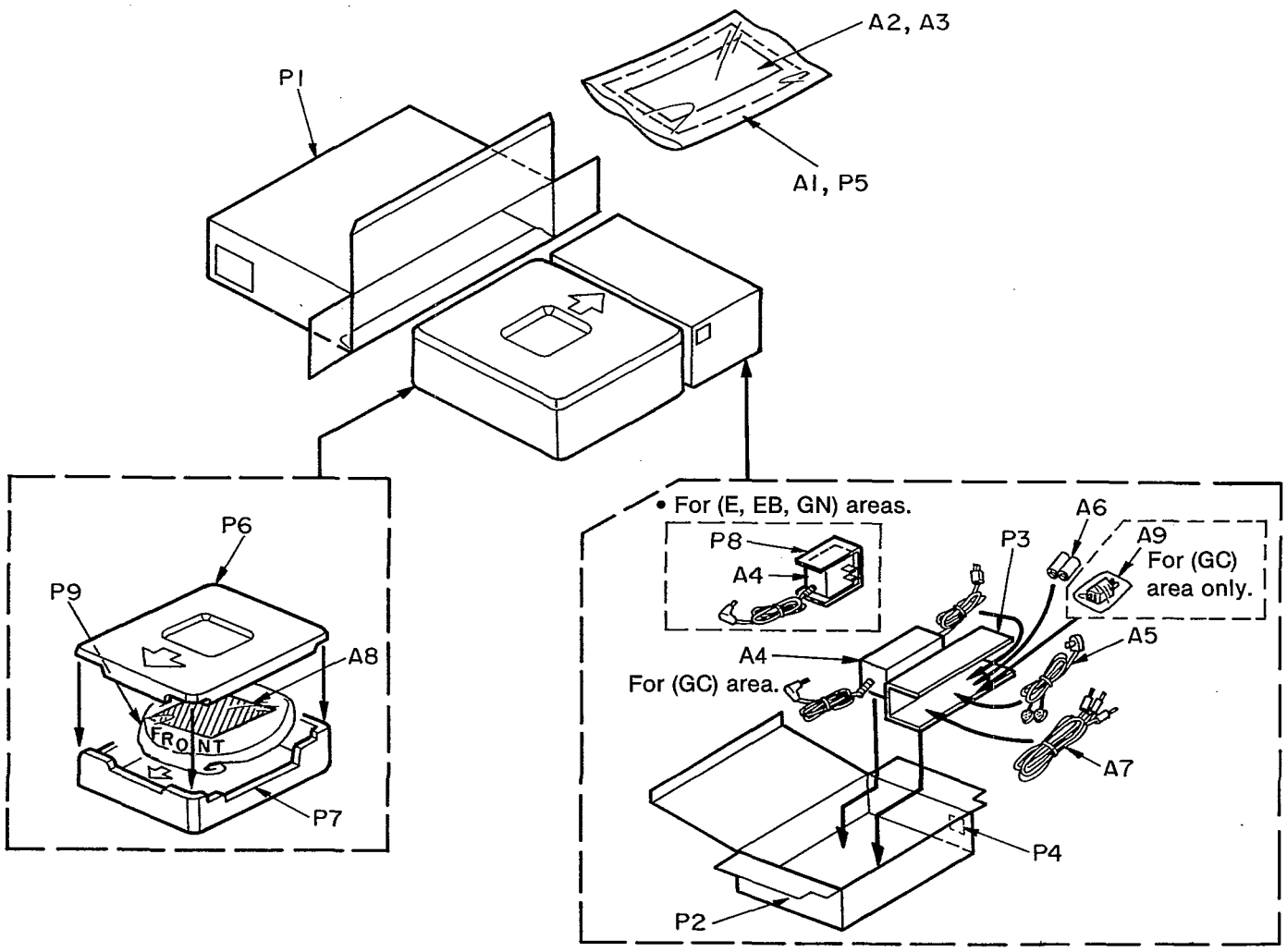
Pin No.	Mark	I/O Division	Function
11 ∫ 15	A4 ∫ A8	I	Address input terminal
16	NOE	I	Output enable terminal
17	NCAS	I	Column address strobe terminal
18	D3	I/O	Data input/output terminal
19	D2	I/O	Data input/output terminal
20	GND	—	GND terminal

• **IC601 (MN647511E2): Digital filter & D/A converter**

Pin No.	Mark	I/O Division	Function
1	LRCLK	I	L/R discriminating signal
2	BCLK	I	Serial bit clock input
3	SRDATA	I	Serial data output (MSB first)
4	COT 1	—	Test terminal (Ordinaly: L)
5	COT 2		
6	TEST		
7	DV_{DD}	I	Digital power supply terminal
8	X2	O	Clock terminal (F=33.8688MHz)
9	X1	I	
10	DV_{SS}	—	Digital GND terminal
11	AV_{DD} L	I	Analog power supply terminal 1
12	OUT. L	O	Analog signal output 1
13	AV_{SS} L	—	Analog GND terminal
14	AV_{SS} R		
15	OUT. R	O	Analog signal output 2

Pin No.	Mark	I/O Division	Function
16	AV_{DD} R	I	Analog power supply terminal 2
17	$\overline{RESET}$	I	Reset signal input (Active: L)
18	PWM	O	PWM output (TP..."H": output "L": High impedance) (Not used, open)
19	TP	—	Test terminal (ordinaly: L)
20	WVEL	I	Double velocity ("H": double, "L": single)
21	DEMPH	I	Digital de -emphasis ON/OFF ("H": ON)
22	CSEL	I	Clock freqeuncy select of CK 192 (Not used, connected to GND)
23	192FS	O	192fs (8.4672MHz) signal output (Not used, open)
24	384FS	O	Clock output terminal (384FS=16.9344MHz)

■ PACKAGING



■ REPLACEMENT PARTS LIST

Notes: *Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of 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.
*Warning: This product uses a laser diode. Refer to caution statements on page 3.
*ACHTUNG: Die lasereinheit nicht zerlegen.
Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC1	AN8086SE2	DC-DC CONV. CONTROL	
IC101	AN8383SCE2V	SERVO AMP	
IC102	AN8384FA-AV	SERVO CONTROLLER	
IC103, 104	AN8387SE2	MOTOR/COIL DRIVE	
IC301	ATT75316CE04	SYSTEM CONT. /LCD DRIVE	
IC501	MN66261	DIGITAL SIGNAL PROCESSOR	
IC503	RSI0001	SHOCK PROOF CONTROLLER	
IC504	MS5144A8VCER	D. RAM	
IC601	MN647511E2	DIGITAL FILTER&D/A CONV.	
IC701	NJM3415MTE1	HEADPHONES AMP	
		TRANSISTOR(S)	
Q1	UN5117TX	TRANSISTOR	
Q3-5	2SD1302STTA	TRANSISTOR	
Q105	UN5217TX	TRANSISTOR	
Q106	UN5210TX	TRANSISTOR	
Q201	2SB709QRSTX	TRANSISTOR	
Q301	UN5214TX	TRANSISTOR	
Q302	UN511MTX	TRANSISTOR	
Q303	2SD1819QRSTX	TRANSISTOR	
Q501	2SB1218QRSTX	TRANSISTOR	
Q502	UN5213TX	TRANSISTOR	
Q503	2SD1819QRSTX	TRANSISTOR	
Q504	UN521MTX	TRANSISTOR	
Q505	2SB970RSTX	TRANSISTOR	
Q506, 507	UN5112TX	TRANSISTOR	
Q508	2SB1218QRSTX	TRANSISTOR	
Q601	2SB1218QRSTX	TRANSISTOR	
Q602	FMW1T98	TRANSISTOR	
Q604	FMG4T148	TRANSISTOR	
Q605, 606	2SD1328QRSTX	TRANSISTOR	
Q701	UN5215TX	TRANSISTOR	
Q702, 703	2SD1328QRSTX	TRANSISTOR	
Q704	IMH7T108	TRANSISTOR	
Q801	UN5217TX	TRANSISTOR	
Q802	FMG6T148	TRANSISTOR	
Q803	UN5114TX	TRANSISTOR	
Q804	UN5210TX	TRANSISTOR	
Q805	2SD1819QRSTX	TRANSISTOR	
Q806	UN5215TX	TRANSISTOR	
Q807	FMA6T99	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q809	UN5210TX	TRANSISTOR	
Q810	2SD1819QRSTX	TRANSISTOR	
		DIODE(S)	
D1	MA110TX	DIODE	
D2	MA141WKTX	DIODE	
D3	D1FS4	DIODE	
D4	MA110TX	DIODE	
D301	MA141WATX	DIODE	
D303	MA141WKTX	DIODE	
D401-404	LN1361CUY-TR	L. E. D.	
D501	MA110TX	DIODE	
D502	MA784TX	DIODE	
D503	MA110TX	DIODE	
D601	MA110TX	DIODE	
D701	MA110TX	DIODE	
D801	MA143TX	DIODE	
		IC PROTECTOR(S)	
ICP1	SRUN50T25	IC PROTECTOR	⚠
		VARIABLE RESISTOR(S)	
VR1	EVM1YSX30B33	POWER SUPPLY VOLT. ADJ.	
VR701	EVUAMAT43C54	VOLUME	
		COIL(S)	
L11	RLQB330KT-K	COIL	
L12	RLZ0007-0	COIL	
L501	RLQB471KT-K	COIL	
L601	RLB0003	COIL	
L603-605	RLB0003	COIL	
		OSCILLATOR(S)	
X501	RSXZ33M8M01T	OSCILLATOR(33. 8688MHz)	
		LCD(S)	
LCD301	EDD062CF2AFP	LCD	
		SWITCH(ES)	

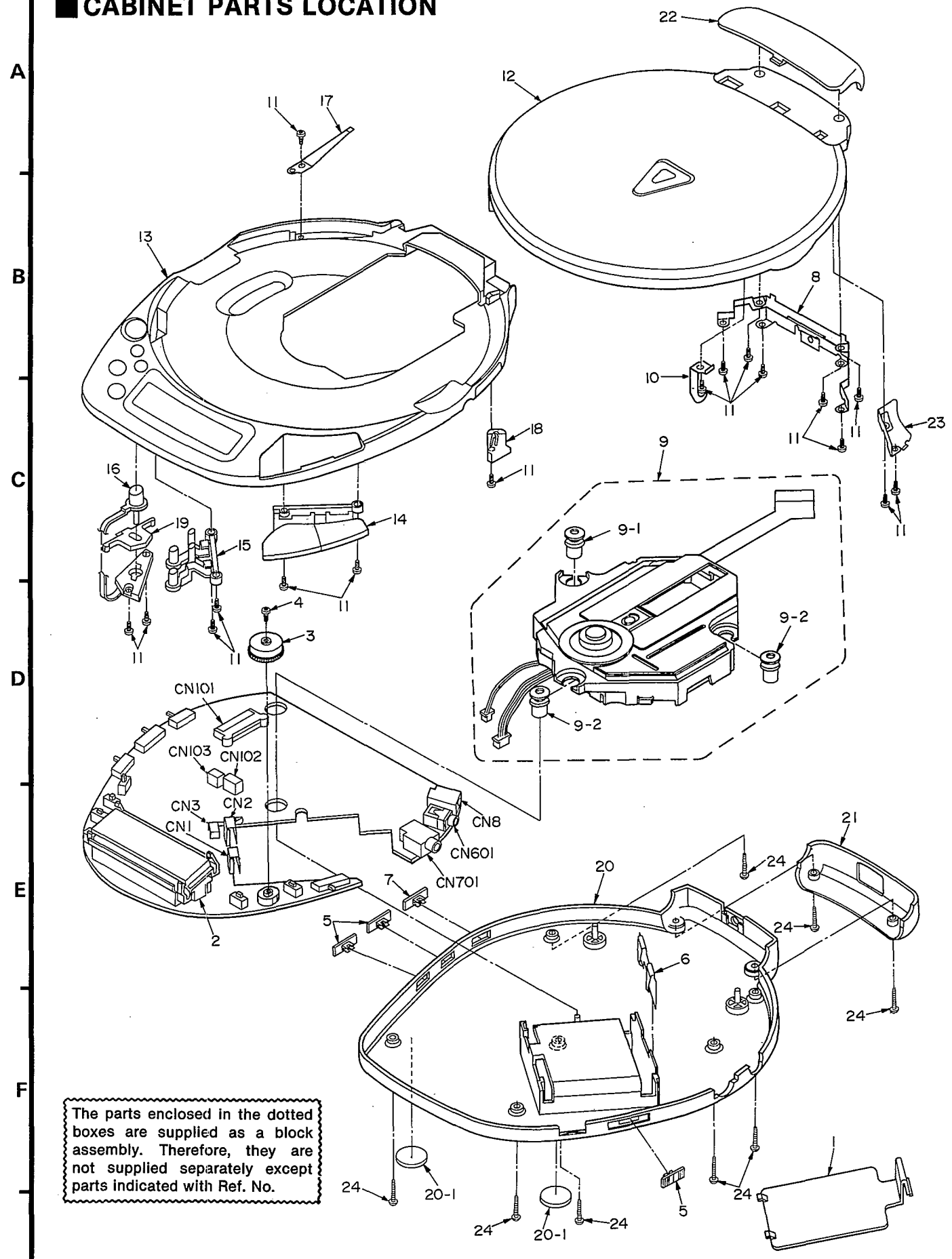
Ref. No.	Part No.	Part Name & Description	Remarks
S201	RSH1A91ZA-A	LASER ON/OFF	
S202	SSHD5	REST DETECTOR	
S301	RSG0024-A	PLAY/PAUSE	
S302	RSG0024-A	STOP/OPR OFF	
S303	RSG0024-A	SKIP/SEARCH(F)	
S304	RSG0024-A	SKIP/SEARCH(B)	
S305	RSG0024-A	REPEAT	
S306	RSG0024-A	MEMORY/RECALL	
S307	ESD11H230	PLAY MODE	
S308	ESD11H220	HOLD	
S309	ESD11H220	ANTI-SHOCK MEMORY	
S701	ESD11H230	ASC/S-XBS SELECTOR	
		CONNECTOR(S) AND JACK(S)	
CN1, 2	RJC93015	BATTERY TERMINAL	
CN3	RJH5102-1	RECHARGEABLE BATT. TERMINAL	
CN8	RJJ4303-1	DC IN JACK	
CN101	RJU035T016-1	FPC SOCKET(16P)	
CN102	RJT068W04V	CONNECTOR(4P)	
CN103	RJT068W02V	CONNECTOR(2P)	
CN601	RJJD3S5ZB-C	OUT JACK	
CN701	RJJ36T02-C	HEADPHONES JACK	
		CABINET AND CHASSIS	
1	RKK0059-K	BATTERY COVER(A)	
2	RJF0019	LCD HOLDER	
3	SBND90ZK0A	VOLUME KNOB	
4	XQN17+C3FZ	SCREW	
5	RGV0052-K	ASC, HOLD, PLAY MODE KNOB	
6	RJC93007	COMMON BATTERY TERMINAL	
7	RGV0120-K	ANTI-SHOCK MEMORY KNOB	
8	RXA0137	SHAFT PLATE ASS'Y	
9	RAE0132Z	TRAVERSE DECK	
9-1	SHGD157	FLOATIONG RUBBER(1)	
9-2	SHGD165	FLOATIONG RUBBER(2)	
10	RMA0770	REAR ORNAMENT PLATE	
11	RHE5079YA	SCREW	
12	RFKLLXP570EA	DUST COVER ASS'Y	
13	RFKKLXP570EA	INTERMEDIATE CABINET ASS'Y	
14	RGU0962-K	PLAY/PAUSE/STOP BUTTON	
15	RGU0963-K	MEMORY/RECALL, REPEAT BUTTON	
16	RGU0964-K	OPEN BUTTON	
17	RMC0147	POP-UP SPRING	
18	RMC0223	LOCK SPRING	
19	RML0318	OPEN LEVER	
20	RFKJLXP570E	BOTTOM CABINET ASS'Y	(E)
20	RFKJLXP570EB	BOTTOM CABINET ASS'Y	(EB, GC, GN)
20-1	RKA0063-K	FOOT	
21	RGK0586-K	GRIP(LOWER)	
22	RGK0585-K	GRIP(UPPER)	
23	RMA0743	STOPPER	
24	XTN17+6GFZ	SCREW	
		PACKING MATERIALS	
P1	RPK0440	PACKING CASE	(E)
P1	RPK0441	PACKING CASE	(EB, GC, GN)
P2	RPQF0108	ACCESSORIES BOX	
P3	RPQ00072	PAD	(E)
P3	RPQ00341	PAD	(EB)
P3	RPQ00069	PAD	(GC)
P3	RPQ00070	PAD	(GN)
P4	SQZD3	AREA LABEL	(E)
P4	SQZD7	AREA LABEL	(EB)
P4	RQLA0066	AREA LABEL	(GC)
P4	RQLA0067	AREA LABEL	(GN)
P5	RPF0046	PROTECTION BAG(F. B.)	
P6	RPN0727	CUSHION(UPPER)	
P7	RPN0740	CUSHION(LOWER)	
P8	RPQ00059	SPACER	
P9	RPF0111	PROTECTION BAG(UNIT)	
		ACCESSORIES	
A1	RFKSLXP570E	INSTRUCTION MANUAL ASS'Y	(E)
A1	RFKSLXP570GC	INSTRUCTION MANUAL ASS'Y	(GC)
A1	RQT2165-B	INSTRUCTION MANUAL	(EB, GN)
A2	RQA0013	WARRANTY CARD	(E, EB)
A2	RQX7433ZA	WARRANTY CARD	(GN)
A3	RQCB0169	SERVICENTER LIST	
A4	RFEA401E-1S	AC ADAPTOR	(E)⚠
A4	RFEA406B-W	AC ADAPTOR	(EB)⚠
A4	RFEA402Z-W	AC ADAPTOR	(GC)⚠
A4	RFEA404A-W	AC ADAPTOR	(GN)⚠
A5	RFEV116ACKA	STEREO EARPHONES WITH R.C.	
A6	RP-BP60EY	RECHARGEABLE BATTERIES	
A7	RJL2P001X10	STEREO CONNECTION CABLE	
A8	RQCA0276	SUPPLEMENTARY INST. MANUAL	
A9	RJP120ZDS-K	POWER PLUG ADAPTOR	(GC)⚠
A10 ※	RKB205ZA-0	EAR PADS	
		<PRINTED CIRCUIT BOARDS	
		ASS'Y>	
PCB1	REP1685A-M	MAIN P.C.B.	(RTL)

※ This parts is supplied only with replacement parts list.

Note:

The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

■CABINET PARTS LOCATION



The parts enclosed in the dotted boxes are supplied as a block assembly. Therefore, they are not supplied separately except parts indicated with Ref. No.

■ RESISTORS AND CAPACITORS

Notes : * Capacity values 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
R1	ERJ3GEYJ822V	1/16W 8.2K
R2	ERJ3GEYJ224V	1/16W 220K
R3	ERJ3GEYJ333V	1/16W 33K
R5	ERJ3GEYJ472V	1/16W 4.7K
R6	ERJ3GEYJ224V	1/16W 220K
R8	ERJ3GEYJ333V	1/16W 33K
R10	ERJ3GEYJ472V	1/16W 4.7K
R11	ERJ3GEYJ152V	1/16W 1.5K
R12	ERJ3GEYJ101V	1/16W 100
R14	ERJ3GEYJ222V	1/16W 2.2K
R15, 16	ERJ3GEYJ220V	1/16W 22
R17	ERJ3GEYJ100V	1/16W 10
R19	ERJ1WYK3R9H	1W 3.9
R20	ERJ1WYK4R7H	1W 4.7
R101	ERJ3GEYJ221V	1/16W 220
R102	ERJ3GEYJ330V	1/16W 33
R107	ERJ3GEYJ102V	1/16W 1K
R108	ERJ3GEYJ332V	1/16W 3.3K
R109	ERJ3GEYJ125V	1/16W 1.2M
R110	ERJ3GEYJ102V	1/16W 1K
R111	ERJ3GEYJ223V	1/16W 22K
R112	ERJ3GEYJ124V	1/16W 120K
R113	ERJ3GEYJ334V	1/16W 330K
R114	ERJ3GEYJ105V	1/16W 1M
R115	ERJ3GEYJ333V	1/16W 33K
R116	ERJ6GEYJ100	1/10W 10
R117	ERJ3GEYJ124V	1/16W 120K
R118	ERJ3GEYJ822V	1/16W 8.2K
R119	ERJ3GEYJ102V	1/16W 1K
R121	ERJ3GEYJ563V	1/16W 56K
R122	ERJ3GEYJ103V	1/16W 10K
R123	ERJ3GEYJ104V	1/16W 100K
R125	ERJ3GEYJ474V	1/16W 470K
R126	ERJ3GEYJ331V	1/16W 330
R127	EXBV8V223J	1/16W 22K
R128	ERJ3GEYJ472V	1/16W 4.7K
R129	ERJ3GEYJ102V	1/16W 1K
R131	ERJ3GEYJ392V	1/16W 3.9K
R132	ERJ3GEYJ272V	1/16W 2.7K
R133	ERJ3GEYJ124V	1/16W 120K
R134	ERJ3GEYJ473V	1/16W 47K
R135	ERJ3GEYJ223V	1/16W 22K
R201	ERJ3GEYJ223V	1/16W 22K
R202	ERJ3GEYJ100V	1/16W 10
R203	ERJ3GEYJ223V	1/16W 22K
R301, 302	ERJ3GEYJ472V	1/16W 4.7K
R305	ERJ3GEYJ103V	1/16W 10K
R306	ERJ3GEYJ224V	1/16W 220K
R308	ERJ3GEYJ102V	1/16W 1K
R312	ERJ3GEYJ223V	1/16W 22K
R315	ERJ3GEYJ152V	1/16W 1.5K
R316	ERJ3GEYJ753V	1/16W 75K
R317	ERJ3GEYJ183V	1/16W 18K
R319, 320	ERJ3GEYJ224V	1/16W 220K
R322	ERJ3GEYJ104V	1/16W 100K
R326-331	ERJ3GEYJ473V	1/16W 47K
R333, 334	ERJ3GEYJ104V	1/16W 100K
R401-404	ERJ3GEYJ151V	1/16W 150
R408	ERJ3GEYJ104V	1/16W 100K
R501	ERJ3GEYJ102V	1/16W 1K
R502	ERJ3GEYJ333V	1/16W 33K
L502	MCR03PZHJ561	1/16W 560
R503, 504	ERJ3GEYJ683V	1/16W 68K
R505	ERJ3GEYJ563V	1/16W 56K
R507	ERJ3GEYJ822V	1/16W 8.2K
R508	ERJ3GEYJ823V	1/16W 82K
R509	ERJ3GEYJ102V	1/16W 1K
R510	ERJ3GEYJ222V	1/16W 2.2K
R511	ERJ3GEYJ103V	1/16W 10K
R512	ERJ3GEYJ222V	1/16W 2.2K
R513	ERJ3GEYJ223V	1/16W 22K
R514	ERJ3GEYJ222V	1/16W 2.2K
R515, 516	ERJ6GEYJ2R2V	1/10W 2.2
R517	ERJ3GEYJ105V	1/16W 1M
R518, 519	ERJ3GEYJ102V	1/16W 1K
R520	MCR03PZHJ561	1/16W 560
R521	ERJ3GEYJ682V	1/16W 6.8K
R522	ERJ3GEYJ104V	1/16W 100K
R523	ERJ3GEYJ474V	1/16W 470K
R524	ERJ3GEYJ102V	1/16W 1K
R525	ERJ3GEYJ472V	1/16W 4.7K
R526	ERJ3GEYJ103V	1/16W 10K
R527	ERJ3GEYJ472V	1/16W 4.7K
R601	ERJ3GEYJ220V	1/16W 22
R603, 604	ERJ3GEYJ102V	1/16W 1K
R605	ERJ3GEYJ682V	1/16W 6.8K
R606	ERJ3GEYJ104V	1/16W 100K
R607	ERJ3GEYJ222V	1/16W 2.2K
R608	ERJ3GEYJ392V	1/16W 3.9K
R617, 618	ERJ3GEYJ221V	1/16W 220
R621, 622	ERJ3GEYJ473V	1/16W 47K
R623, 624	ERJ3GEYJ102V	1/16W 1K
R625, 626	ERJ3GEYJ222V	1/16W 2.2K
R631, 632	ERJ3GEYOR00V	1/16W 0.00
R635, 636	ERJ3GEYOR00V	1/16W 0.00
R639, 640	ERJ3GEYOR00V	1/16W 0.00
R700	ERJ3GEYJ471V	1/16W 470
R701, 702	ERJ3GEYJ122V	1/16W 1.2K
R703, 704	ERJ3GEYJ102V	1/16W 1K
R705, 706	ERJ3GEYJ473V	1/16W 47K
R707, 708	ERJ3GEYJ105V	1/16W 1M
R709, 710	ERJ3GEYJ223V	1/16W 22K
R711, 712	ERJ3GEYJ105V	1/16W 1M
R713, 714	ERJ3GEYJ123V	1/16W 12K
R715, 716	ERJ3GEYJ154V	1/16W 150K
R717, 718	ERJ3GEYJ103V	1/16W 10K
R719, 720	ERJ3GEYJ392V	1/16W 3.9K
R721, 722	ERJ3GEYJ682V	1/16W 6.8K
R723, 724	ERJ3GEYJ333V	1/16W 33K
R725, 726	ERJ3GEYJ150V	1/16W 15
R727, 728	ERJ3GEYJ4R7V	1/16W 4.7
R729, 730	ERJ6GEYJ2R2V	1/10W 2.2
R731, 732	ERJ3GEYJ122V	1/16W 1.2K
R733, 734	ERJ3GEYJ104V	1/16W 100K
R735, 736	ERJ3GEYJ122V	1/16W 1.2K
R801	ERJ3GEYJ474V	1/16W 470K
R802	ERJ3GEYJ333V	1/16W 33K
R803	ERJ3GEYJ182V	1/16W 1.8K
R804	ERJ3GEYJ274V	1/16W 270K
R805	ERJ3GEYJ223V	1/16W 22K
R806	ERJ3GEYJ102V	1/16W 1K
R807	ERJ3GEYJ683V	1/16W 68K
R808	ERJ3GEYJ104V	1/16W 100K
R809	ERJ3GEYJ473V	1/16W 47K
R810	ERJ3GEYJ223V	1/16W 22K
R811, 812	ERJ3GEYJ221V	1/16W 220
R813	ERJ3GEYJ154V	1/16W 150K
		CHIP JUMPERS
RJ101	ERJ6GEYOR00V	CHIP JUMPER
RJ302	ERJ3GEYOR00V	CHIP JUMPER
RJ304	ERJ3GEYOR00V	CHIP JUMPER
RJ307	ERJ3GEYOR00V	CHIP JUMPER
RJ402	ERJ3GEYOR00V	CHIP JUMPER
RJ601, 602	ERJ3GEYOR00V	CHIP JUMPER
C304	ERJ3GEYOR00V	CHIP JUMPER
L701-703	ERJ3GEYOR00V	CHIP JUMPER
		CAPACITORS
C1	ECEA1EKA4R7I	25V 4.7U
C2	ECUV1C104KBN	16V 0.1U
C3	ECUV1H331KBV	50V 330P

Ref. No.	Part No.	Values & Remarks
C5	ECUV1E822KBV	25V 8200P
C6	ECEA1VSN2R2	35V 2.2U
C8	ECUV1E103KBV	25V 0.01U
C9	RCE1ASC470IX	10V 47U
C10	ECEA0JKA101I	6.3V 100U
C11	ECUV1H470KCV	50V 47P
C12	ECUVNC105ZFN	16V 1U
C13, 14	ECEA1AKA470I	10V 47U
C15	ECUV1C104ZFV	16V 0.1U
C16	ECA1AM102B	10V 1000U
C17, 18	ECA05M601I	5V 600U
C101	ECUV1C104ZFV	16V 0.1U
C102, 103	ECUV1C104KBN	16V 0.1U
C104, 105	ECUV1C333KBV	16V 0.033U
C106	ECUV1C104ZFV	16V 0.1U
C108	ECUV1C473KBN	16V 0.047U
C109	ECEA1EKA4R7I	25V 4.7U
C110	ECUV1C104KBN	16V 0.1U
C111, 112	ECUV1H472MBV	50V 4700P
C113	ECUV1C473KBN	16V 0.047U
C114	ECUV1C104KBN	16V 0.1U
C115	ECUV1C473KBN	16V 0.047U
C116	ECUV1C104KBN	16V 0.1U
C117	ECUV1E103KBV	25V 0.01U
C118	ECUV1C333KBV	16V 0.033U
C120	ECEA1VKN2R2I	35V 2.2U
C121	ECUV1E103KBV	25V 0.01U
C122	ECUV1C333KBV	16V 0.033U
C123	ECUV1C104ZFV	16V 0.1U
C124	ECEA0JKA470I	6.3V 47U
C125	ECUV1C104ZFV	16V 0.1U
C126	RCST1EY474LE	25V 0.47U
C127	ECUV1C104ZFV	16V 0.1U
C128	ECUVNC105ZFN	16V 1U
C131	ECUV1C104ZFV	16V 0.1U
C132, 133	ECUV1E103KBV	25V 0.01U
C134	ECEA1CSN4R7I	16V 4.7U
C201	ECEA0JSN220I	6.3V 22U
C202	ECEA1CKA100I	16V 10U
C301, 302	ECUV1C104ZFV	16V 0.1U
C312	ECUV1C104ZFV	16V 0.1U
C502	ECUV1C474KBM	16V 0.47U
C504	ECUV1C104KBN	16V 0.1U
C505	ECUV1E223KBV	25V 0.022U
C506	ECUV1H561KBV	50V 560P
C507	ECUV1C104KBN	16V 0.1U
C508	ECEA0JKA470I	6.3V 47U
C509	ECUV1C104ZFV	16V 0.1U
C510	ECUV1H102KBV	50V 1000P
C512	RCE1ASL330IX	10V 33U
C513, 514	ECUV1C104ZFV	16V 0.1U
C515-517	ECUV1H050CCV	50V 5P

Ref. No.	Part No.	Values & Remarks
C518-520	ECUV1C104ZFV	16V 0.1U
C601	ECUV1C104ZFV	16V 0.1U
C602	ECEA1CKS100I	16V 10U
C603, 604	ECUV1H681KBV	50V 680P
C605	ECUV1C104ZFV	16V 0.1U
C606	ECEA0JKA220	6.3V 22U
C607	ECEA0JKS470	6.3V 47U
C609, 610	ECEA1CPK100I	16V 10U
C611, 612	ECUV1H272MBV	50V 2700P
C613, 614	ECUV1H681KBV	50V 680P
C615	ECUV1H102KBV	50V 1000P
C616, 617	ECUV1C104ZFV	16V 0.1U
C700	ECEA0JPD101I	6.3V 100U
C703, 704	ECUV1H102KBV	50V 1000P
C705, 706	ECEA1CPD100I	16V 10U
C707, 708	ECUV1H332KBV	50V 3300P
C709, 710	ECUV1C123MBV	16V 0.012U
C711, 712	ECUV1C333KBV	16V 0.033U
C713, 714	ECEA0GPK221I	4V 220U
C801	ECUVNC105ZFN	16V 1U
C802	ECUV1H332ZFV	50V 3300P
C803	ECUV1C104ZFV	16V 0.1U

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