ORDER NO. AD9802025C1
A6

# Service Manual

COMPACT disc DIGITAL AUDIO

MASH※ multi-stage noise shaping

※ • MASH is a trademark of NTT.

Portable CD Player

# SL-SX300

**Colour**

(S) ..... Silver Type

**Areas**

P .....U.S.A.

PC .....Canada.

**Traverse Deck: RAE0145Z Mechanism Series**

## Specifications

**Audio**

| | |
|---|---|
| **No. of channels:** | 2 channels (left and right, stereo) |
| **Output voltage:** | 0.6 V (50 kohm) |
| **Frequency response:** | 20 ~ 20,000 Hz (+0.5 dB, -1.5 dB) |
| **S/N:** | more than 96 dB* |
| **Wow and flutter:** | Below measurable limit |
| **DA converter:** | 1 bit, MASH ※ |
| **Headphones output level:** | max. 9 mW+9 mW/16 ohm (variable) |

**Pickup***

| | |
|---|---|
| **Light source:** | Semiconductor laser |
| **Wavelength:** | 780 nm |

**Play time**

(When used in hold mode, at 25 degree (77 fahrenheit) temperature and on flat and stable surface.)

| | |
|---|---|
| **Batteries used:** | ANTI-SHOCK OFF/ON |
| **2 Alkaline batteries :** | About 20h/ About 21h |
| **Rechargeable batteries :** | About 10h/About 10.5h |
| **4 Alkaline batteries :** | About 45h/About 48h |
| **2 Rechargeable and 2 Alkaline batteries:** | About 29h/ About 30h |

The play time may be less depending on the operating conditions.

**General**

| | |
|---|---|
| **Operation temperature range:** | 0 – 40 degree (32 – 104 fahrenheit) |
| **Rechargeable temperature range:** | 5 – 40 degree (41 – 104 fahrenheit) |
| **Power supply:** | DC 4.5 V |

**Power consumption**

| | |
|---|---|
| **Power source:** | ANTI-SHOCK OFF/ON |
| **When using AC adaptor:** | 2.0 W/2.4 W |
| **When recharging:** | Approx . 4.8 W |

| | |
|---|---|
| **Dimensions:** | 128(Wide)/25.7(High)/134.5(Depth) mm ($5^{1}/_{16}$" × 1" × $5^{5}/_{16}$") |
| **Weight:** | 225 g (7.9 oz) without batteries<br>270 g (9.5 oz) with batteries |
| **Recarging time:** | About 3 h |

*These specifications were measured in the ANTI-SHOCK OFF mode.

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

**⚠ 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



## Precaution of Laser Diode

**CAUTION:** This unit utilizes a class 1 laser. Invisible laser radiation is emitted from the optical pickup lens when the unit is turned on:

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

# Accessories

- AC adaptor (RFEA415C-S) ..... 1 pc.
- Stereo earphones
  - For (P) only: (RFEV705P-KS) ..... 1 pc.
  - For (PC) only: (RFEV317P-KS) ..... 1 pc.
- Battery case (RFA0627-K4) ..... 1 pc.
- Rechargeable Ni-Cd batteries (RFKFP3GAVABA) ..... 1 pc.
- Battery carrying case (RFKNLS370-K) ..... 1 pc.

# Power Supply Preparations

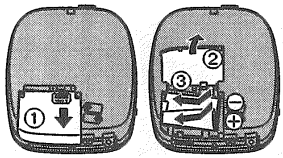
Refer to the specifications (cover page) for information on operating times when using rechargeable batteries or dry-cell batteries.

## Using rechargeable batteries

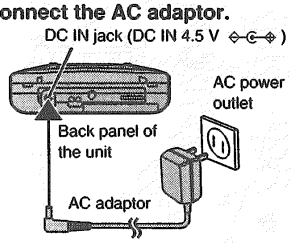
Make sure to recharge the batteries before using them. The unit cannot be used to charge rechargeable batteries other than those specifically designed for it.
- Supplied batteries (P-3GAVA)
- Optional batteries (P-3GAVA/2B; SH-CDB8D)

### Recharging procedure

**1 Insert the special rechargeable batteries into the unit.**



**2 Connect the AC adaptor.**

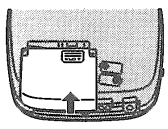



Recharging starts and the "⏍" charging indicator flashes on and off on the unit's display panel.
When the rechargeable batteries are fully recharged the charging indicator disappears. (It takes approximately 3 hours to fully recharge the supplied rechargeable batteries.)

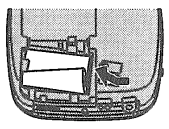
**3 When recharging is complete, unplug the AC adaptor from the power outlet and the DC IN jack.**

Notes
- Rechargeable batteries have a service life of approximately 300 charge-discharge cycles. If the operating time on one full charge becomes noticeably shorter than it used to be, the battery has reached the end of its service life and should be replaced.
- Recharging may only be performed when the unit is powered off. (It is not possible to recharge the batteries while playing a CD.)
- The AC adaptor and rechargeable batteries may become warm while recharging is in progress. This is not a malfunction.

**If the battery lid comes loose**
Slide the lid back into place horizontally.



**Removing batteries**
Push up on the battery in the direction indicated by the arrow. Then lift it out.



## Using the AC adaptor

**Connect the AC adaptor supplied.**
Refer to the step 2 in "Using rechargeable batteries" for connection instructions.

## Using the car adaptor (not included)

Be sure to obtain the car adaptor (SH-CDC9), available as an optional accessory.

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

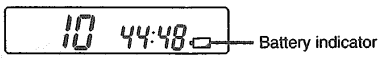
The car adaptor can be used to recharge the unit's batteries while in the car.

## Using dry-cell batteries (not included)

After disconnecting the AC adaptor, insert two "AA" (LR6) alkaline batteries.

**The procedure for inserting and removing dry-cell batteries is identical to that for rechargeable batteries.**

## When the battery indicator flashes




Power is cut off a short while later. Recharge the rechargeable batteries or replace the dry cell batteries with new ones.

Notes
- The length of time the unit will continue to operate after the battery indicator starts flashing depends on the type of batteries used.
- The battery indicator may not flash if rechargeable batteries, other than those designated by Panasonic, are used.

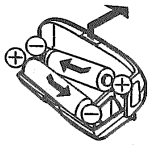
## Using the battery case

The battery case allows you to extend the maximum playing time of the unit by loading an additional two "AA" (LR6) alkaline batteries.

Notes
- When using the battery case, always insert batteries in the unit body as well. (The unit cannot be operated on the batteries in the external battery case alone.)
- Though you can use rechargeable batteries in the battery case, it does not recharge them. (Use dry cell batteries if possible.)
- When using rechargeable batteries in the unit body, and dry-cell batteries in the battery case, be sure to use fully charged rechargeable batteries and new dry-cell batteries.
- When using four dry-cell batteries, do not mix new and old batteries.

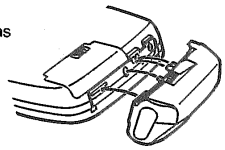
**1 Open the cover of the battery case and insert the batteries.**

Insert the end marked (−) first.



**2 Mount the battery case on the unit body.**

Insert the protrusions on the battery case into the four indentations in the unit body.



**3 Secure in place with the screw.**

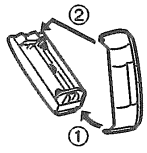
Reverse the above procedure to remove the external battery case.

### For your reference:

The maximum playing time will differ depending on the type of batteries (rechargeable/dry-cell) loaded in the unit body.

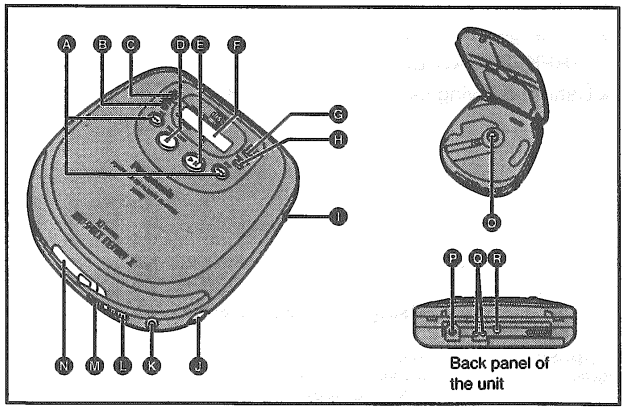
### If the cover of the battery case comes loose:

Insert the protrusions into the holes on either end of the lid.



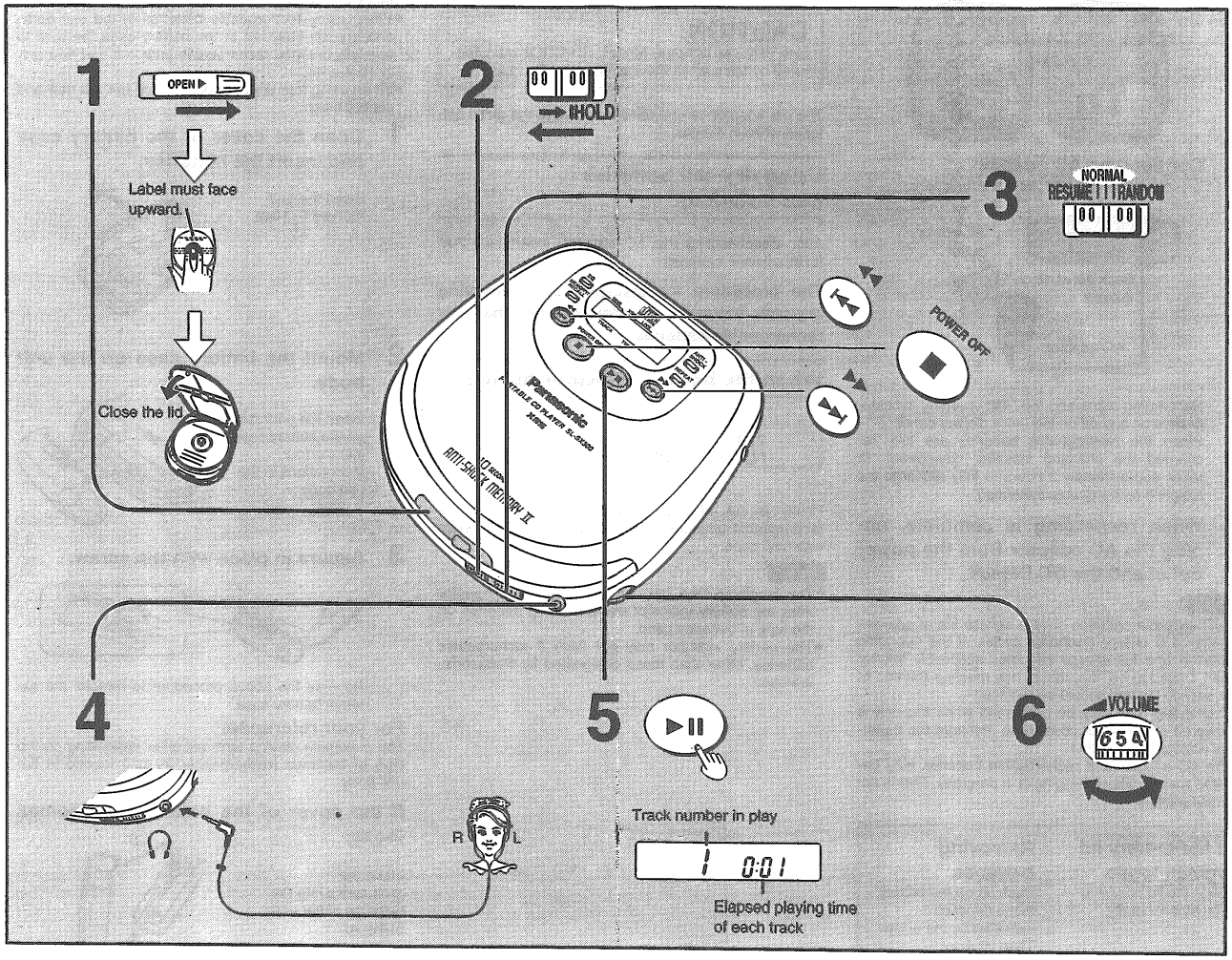
**If the unit malfunctions or freezes during use, then disconnect the power sources (the AC adaptor and battery case). Re-connect the power source and continue operation.**

## Location of Controls




- Ⓐ Skip/search buttons (⏮, ⏭/◀◀, ▶▶)
- Ⓑ Memory/recall button (MEMORY/RECALL)
- Ⓒ EQ button (EQ)
- Ⓓ Stop/power off button (■, POWER OFF)
- Ⓔ Play/pause button (▶ ❚❚)
- Ⓕ Display
- Ⓖ Anti-shock button (ANTI-SHOCK)
- Ⓗ Repeat button (REPEAT)
- Ⓘ Out jack (OUT)
- Ⓙ Headphones volume control (VOLUME)
- Ⓚ Headphones jack (Ω)
- Ⓛ Play mode selector (RESUME, NORMAL, RANDOM)
- Ⓜ Hold switch (HOLD)
- Ⓝ Open switch (OPEN)
- Ⓞ CD release button (PUSH)
- Ⓟ DC in jack (DC IN 4.5 V ⟐⊂⟐)
- Ⓠ Connection terminal for battery case
- Ⓡ Hole for car mounting base/battery case

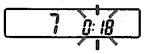
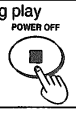
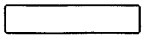
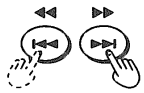
## Sequential Play (Basic Play)



**Following steps 1–6.**

In step 4, connect the stereo headphone/stereo earphones to the ∩ jack. **(Plug in firmly)**

- Play stops automatically when all the tracks have been played.
- If the unit has been connected to the car audio system, adjust the volume level between 4 and 6 on the unit, then adjust the volume level on the system.

| Operation | Button | Display/reference |
|---|---|---|
| To pause play | Press during play  |  Press again to resume play |
| To stop play Stop mode | Press during play POWER OFF  | Total number of tracks  Total playing time |
| To turn off the unit Off mode | Press during stop mode POWER OFF  |  |
| Skip forward/ backward (skip function) | Press during play Backward Forward  | ●During program play, these buttons are used to skip forward or back through the programmed sequence of tracks. ●During random play, the skip buttons cannot be used to skip back to tracks that were played previously in the random sequence. ●During program play, random play or 1 track repeat play, search operation is limited to the current track only. (See page 4.) |
| Rapid forward/ backward (search function) | Keep depressed during play | |

**For your reference:**

**"no dISC" indication**

This indication appears for about 30 seconds if the ▶ II is pressed when no disc is loaded in the unit or if the disc is not completely seated.

**"OPEn" indication**

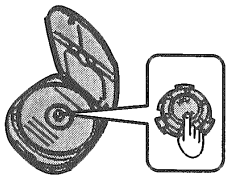
This indication appears for about 10 minutes when the cover is opened. (However, the indication does not appear when the unit is powered off.)

**Auto power off function**

If the unit is left in stop or paused status for approximately 10 minutes, the unit powers itself off automatically in order to prevent the batteries from running down.
(If no disc is loaded in the unit it powers itself off in 30 seconds.)

**Removing discs**

After the disc has stopped rotating, press the PUSH button to release the disc. (To protect the disc, never open the cover while it is playing.)



Note

Never insert foreign objects into the unit body.

# ■ Other Play Methods

**The letters such as Ⓐ in the various illustrations refer to the descriptions in the "Location of Controls" section.**

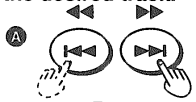
## Skip play

The disc plays from the specific track through to the last track, then play stops automatically.

**Preparation:** Put unit in stop mode.

**1**

**2 Select the desired track.**



**3**

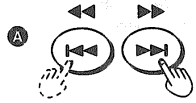
## Program play

Up to 24 tracks can be entered in the programmed sequence.

**Preparation:** Put unit in stop mode.

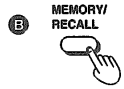
**1**

**2 Select the desired track.**



**3 Register in sequence.**

(The indication "M" and the programmed sequence appear on the display panel.)



**4 Repeat steps 2 and 3 to program all the desired tracks.**

**5**

**■ To program the same track in the sequence more than once**

After step 3, press MEMORY/RECALL the desired number of times.

**■ If "F" is displayed**

No more tracks may be added to the sequence.

**■ To confirm the contents of the programmed sequence**

Press MEMORY/RECALL while the disc is playing. (The numbers of the programmed tracks appear on the display panel in sequence.)

**■ To delete the entire programmed sequence**

Press ■, POWER OFF.

## Random play

**1**

**2**

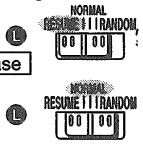
Release

**For your reference:**

- It is also possible to press the ▶▶| while the unit is in stop status to change the first track to be played. (All tracks are played eventually, regardless of which is played first.)
- Program play is not possible in the random mode.

## Resume play

This function allows you to listen from the beginning of the track where play stopped because the unit was powered off (or switched to stop status). It is useful when listening to CDs in the car, etc.

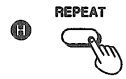


**For your reference:**

- If the RESUME, NORMAL, RANDOM (play mode selector) switch is put in the RESUME position, the all-repeat function will be activated automatically as soon as the unit is powered on.
- If power is cut off near the end of a track (power off status), playback may resume from the beginning of the next track in some cases.
- If the unit is powered off while a disc was playing and then a new disc is inserted, play will begin from the middle of the new disc because the unit remembers the position where play stopped on the previous disc.

### Repeat function

**Press during play or stop mode.**




The setting switches in the sequence indicated below each time REPEAT is pressed.

**1-track repeat (1 ↻)**
One track is repeated.
↓
**All-track repeat (ALL ↻)**
All the tracks on the disc are repeated.
↓
**Cancel**

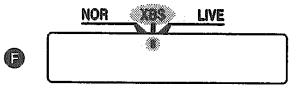
**For your reference:**
If REPEAT is pressed during program play, only the tracks in the programmed sequence are repeated. (The indication "ALL" is not displayed.)

### Changing the sound quality

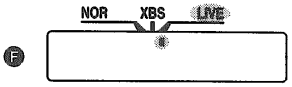
**Press during play or stop mode.**


The setting switches in the sequence indicated below each time EQ is pressed.
NOR→XBS→LIVE

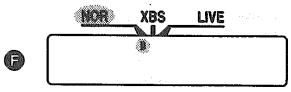
**XBS:**
Select this setting to boost the low-range response.




**LIVE:**
Select this setting to reproduce the sound as if it would be heard in a concert hall.




**NOR:**
Select this setting to turn off the XBS, LIVE function. Normal sound is heard.

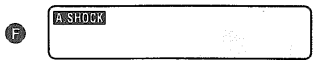



## Anti-Shock Function

Anti-shock works by reading audio data and storing it in memory (up to 10 seconds worth). The unit then fills in interruptions caused by bumps and vibrations with data from the memory. This unit also incorporates a powerful anti-shock mechanism that prevents skipping caused when play speed is changed by swinging of the unit.

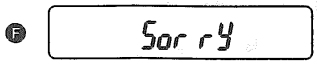
**Press during play or stop mode.**


The following indicator appears on the display panel.




Note
If you have pressed ANTI-SHOCK when the unit is in stop status, press ▶ ❚❚.

**When bumps continue repeatedly**
The following indicator appears on the display panel and sound is interrupted.

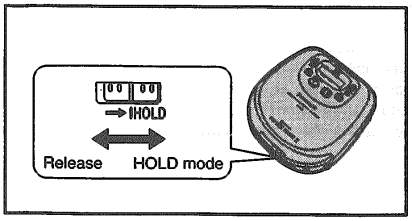



**To cancel the anti-shock function**
Press ANTI-SHOCK again.

Note
The ANTI-SHOCK setting can be changed during play, but this may cause a slight interruption in the sound because the disc's rotational speed changes.

**Using the unit with an audio system**
The anti-shock function uses digital signal compression technology. It is recommended that the anti-shock function be canceled if the unit is connected to a home audio system.

## Hold Function




This function causes the unit to ignore short, accidental button presses. (The disc lid can still be opened and closed.)

**HOLD function prevents the following:**
- Powering on the unit accidentally (which can cause the batteries to go dead).
- Play being cut off unexpectedly in the middle of a selection.

**To use HOLD function**
Set the HOLD switch to the HOLD position.

**"hold" Indication**
When the unit is in HOLD status, pressing any operation button causes the indication "hold" to appear on the display.

**When the unit is powered off:**
The "hold" indication appears only when the ▶ ❚❚ is pressed.

# Using the Unit with Optical Accessories

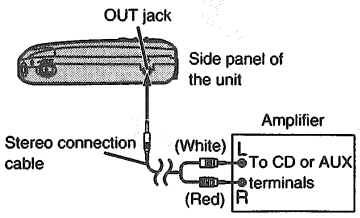
## Using the unit with an audio system

Using the stereo connection cable (not included), you can listen to CDs on your audio system.

- Turn off the amplifier power and connect the cable.
- Do not connect the cable to the PHONO jacks on the amplifier.
- Obtain the optional connection cable if the amplifier comes with mini-phone jacks.
- Adjust the volume level on the amplifier.
- Sound quality changes when XBS or LIVE is selected, but volume is reduced by approximately fifty percent.

Note

When using active speakers or other speakers, ensure that they have an input impedance of 1 kΩ or less.




## Using the unit with a car audio system

### Items to be purchased

**For connection to the car audio system:**

- Car stereo cassette adaptor (SH-CDM10A)
- Car adaptor (SH-CDC9)

**Connect the car stereo cassette adaptor to the unit's headphones jack. (When doing this, keep the unit's VOLUME control at a setting between 4 and 6.)**

**For securing the unit and connecting the power supply:**

Car mounting kit (SH-CDF20)

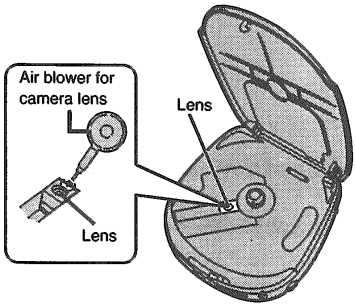
Note

It may not be possible to use the unit with some types of car stereo owing to restrictions imposed by the construction of the car stereo cassette adaptor.

For further details, refer to the instructions of the part concerned.

# Maintaining the Lens

Open the lid and clean the lens as shown in the figure.
Use a cotton swab to gently wipe off any finger-prints.
Recommended product: Lens cleaner kit (SZZP1038C)



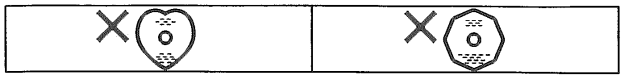

# Troubleshooting Guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.
If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.
(In U.S.A. consult PASC Authorized Servicenters for detailed instructions or call 1-800-211-7262 for the address of an authorized factory servicenter.)

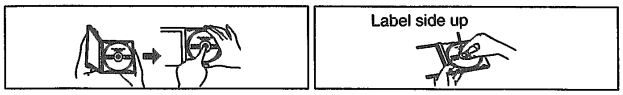
| Problem | Check this |
|---|---|
| **Cannot close cover.** | Is the disc properly secured in place? |
| **Cannot play discs.** | • Is the unit in HOLD status?<br>• Is the disc properly secured in place?<br>• Is there moisture condensation on the lens? (Wait for about an hour and then try again.) |
| **Cannot remove disc.** | Did you press the PUSH button to release the disc? |
| **Tracks on disc do not play in order, starting with the first track.** | Is the RESUME, NORMAL, RANDOM (play mode) selector in the NORMAL position? |
| **Cannot hear music—too noisy.** | • Is the headphones/earphones plug inserted all the way?<br>• Is the plug dirty? (Wipe away dirt on plug.) |
| **TV picture is distorted. Radio reception is noisy.** | Are you using the unit body too near a TV or tuner? (If the TV or tuner is connected to a simple indoor antenna, connect it to an outdoor antenna.) |

# Concerning Compact Discs

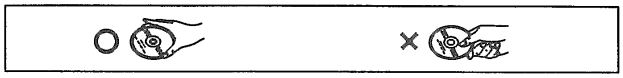
Only compact discs bearing this mark can be used with this unit.
However, continued use of irregular shape CDs (heart-shape, octagonal, etc.) can damage the unit.



**How to remove a disc from its case** | **How to store the disc in its case**

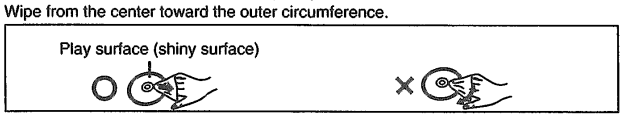



**How to hold a disc**



**If the surface is dirty**

Wipe it with a damp cloth and then wipe dry.
Wipe from the center toward the outer circumference.




**If moisture has formed on a disc**

When moisture has formed because the disc was brought suddenly into a warm room from a cold environment, wipe it off using a soft dry cloth.

**When storing discs**

Avoid locations which are

- Exposed to direct sunlight.
- Susceptible to high levels of humidity or dust.
- Directly exposed to heat from a heating appliance.
- On top of a car dashboard or near the rear window.

**Handling precautions**

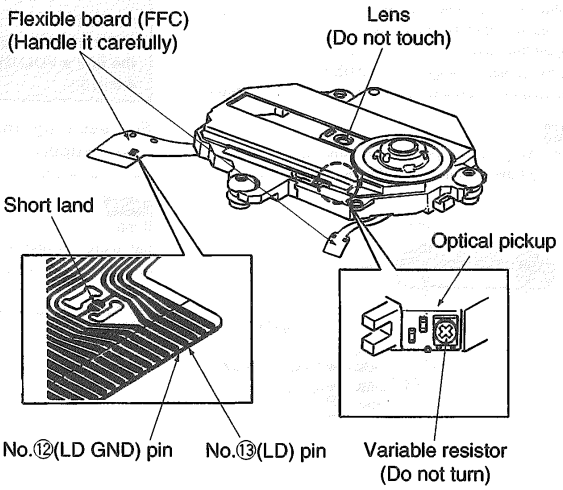
- On the label side (the side with writing) Do not write anything using a pencil, ball-point pen, etc. Do not stick paper or labels.
- On the disc (shiny) side Handle this side carefully to keep it free from fingerprints or scratches. Do not use record cleaners, solvents, etc.
- Do not attach labels or stickers to CD's. Do not use CDs with exposed adhesive from tape or left over peeled off stickers.
- Do not use scratch-proof protectors or covers other than those specified for use with this 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)

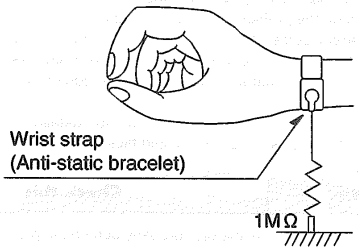
1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No. ⑫ (LD GND) and No. ⑬ (LD) pins on the flexible board (FFC) is shorted with a solder build-up to prevent damage to the laser diode.
   To connect to the PC board, be sure to open by removing the solder build-up, and finish the work quickly.
3. Take care not to apply excessive stress to the flexible board (FFC).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

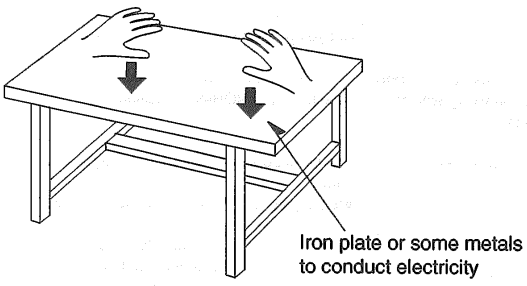



### • Grounding for electrostatic breakdown prevention

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 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).



# ■ Operation Checks and 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. **[ ] indicates parts No.**

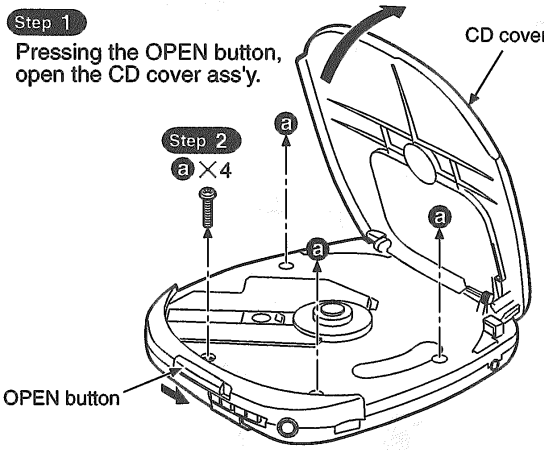
## • Contents



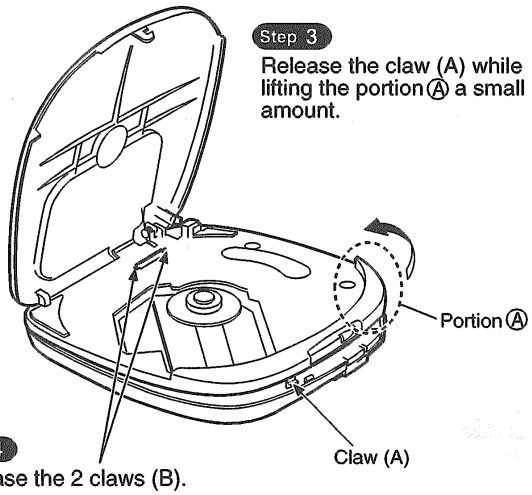
## ■ Checking Procedures for each P.C.B.

### 1. Checking for the main P.C.B.

Step 1
Pressing the OPEN button, open the CD cover ass'y.

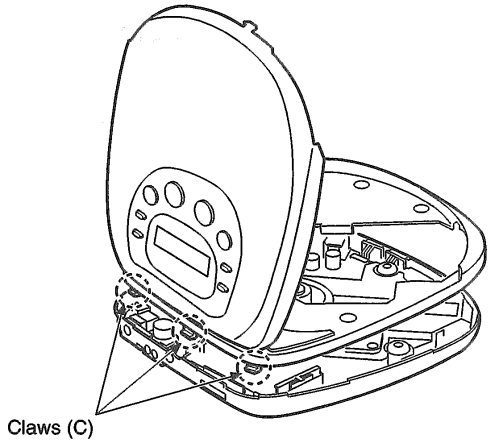



Step 3
Release the claw (A) while lifting the portion Ⓐ a small amount.

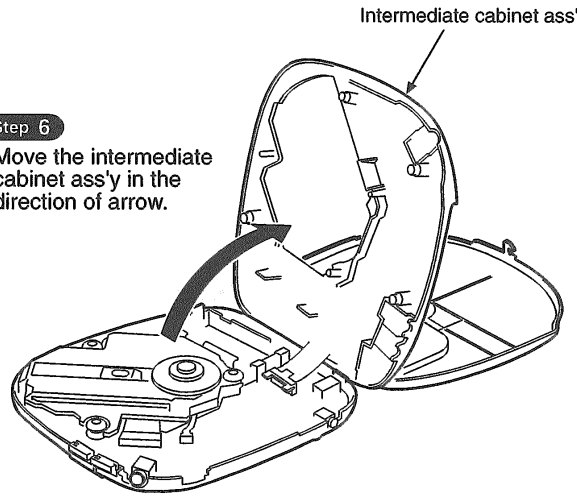



Step 4
Release the 2 claws (B).

Step 5
Release the 3 claws (C) at the rear of unit.

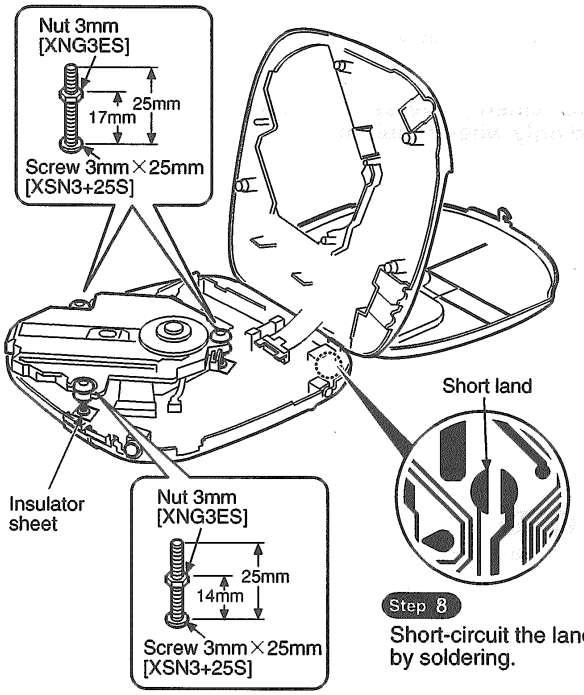



Step 6
Move the intermediate cabinet ass'y in the direction of arrow.



Step 7

Sustain the traverse deck with the floating rubber inserted screws and nuts as shown above.




Step 8

Short-circuit the land by soldering.

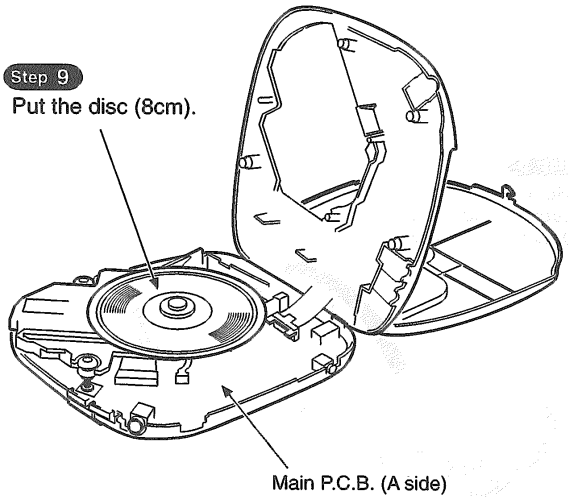
**NOTE**

- After checking, unsolder the short land to open circuit.
- The tip of screw must not protrude above the floating rubber.
- To keep insulation, place the insulator sheet (paper etc.) between the P.C.B. and the head of screws.

- **Check the main P.C.B. (A side) as shown below.**

Step 9

Put the disc (8cm).



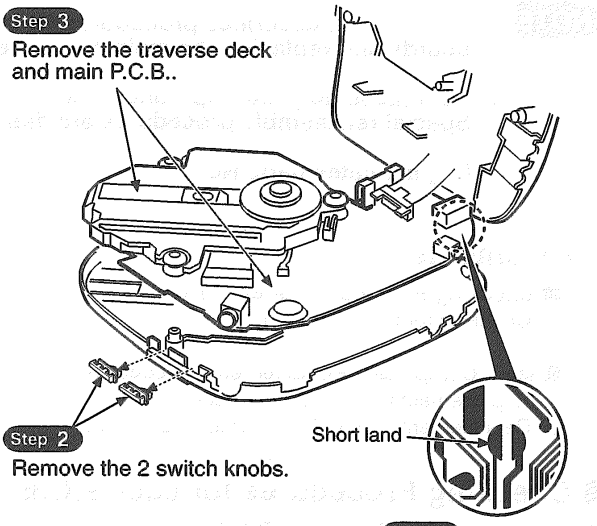

〈Checking for the main P.C.B. (B side)〉

Step 3

Remove the traverse deck and main P.C.B..

Step 2

Remove the 2 switch knobs.

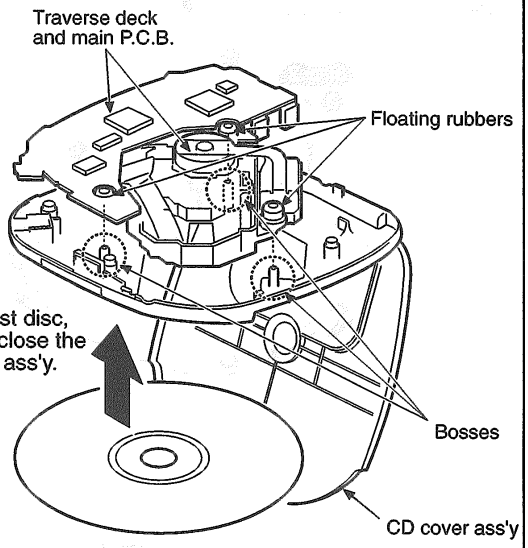



Step 1

Short-circuit the land by soldering.

Step 4

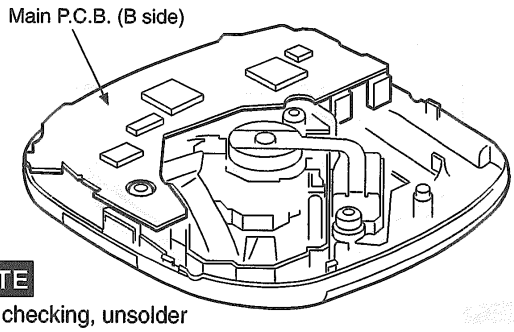
Align the floating rubber with the boss.




Step 5

Put the test disc, and then close the CD cover ass'y.

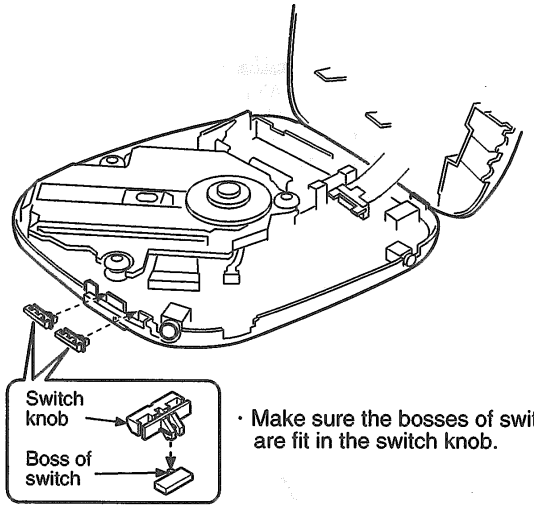
- **Check the main P.C.B. (B side) as shown below.**




**NOTE**

After checking, unsolder the short land to open circuit.

**Notice for installation of switch knobs**

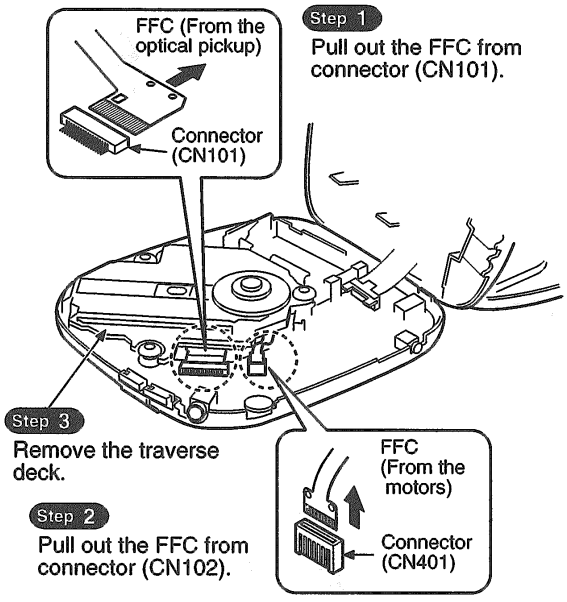



· Make sure the bosses of switch are fit in the switch knob.

## ■ Main Component Replacement Procedures

### 1. Replacement for the traverse deck

· Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B. on page 9.




Step 1
Pull out the FFC from connector (CN101).

Step 2
Pull out the FFC from connector (CN102).

Step 3
Remove the traverse deck.

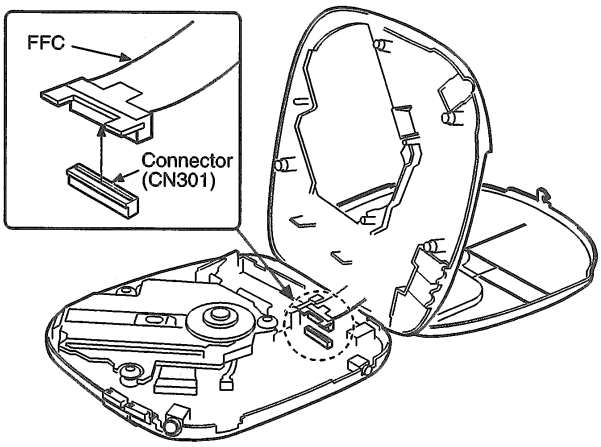
**NOTE**

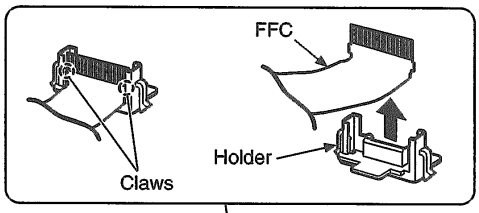
Solder the point between pin ⑫ (LD GND) and pin ⑬ (LD) of FFC.
(Refer to "Handling Precautions for Traverse Deck" on page 8.

### 2. Replacement for the CD cover ass'y and LCD

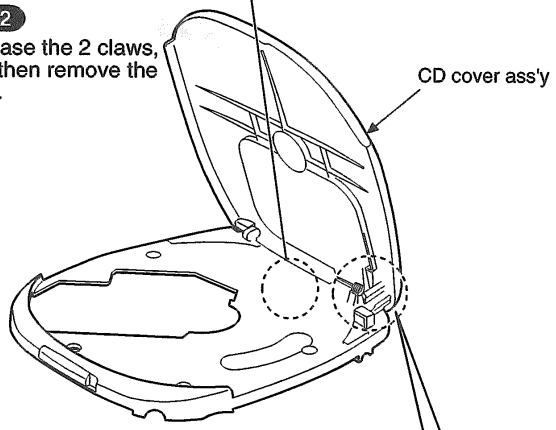
· Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B. on page 9.

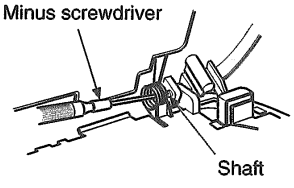
Step 1
Remove the FFC from connector (CN301).



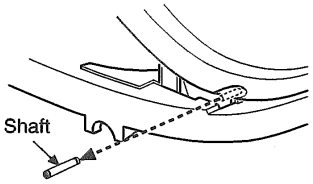




Step 2
Release the 2 claws, and then remove the FFC.



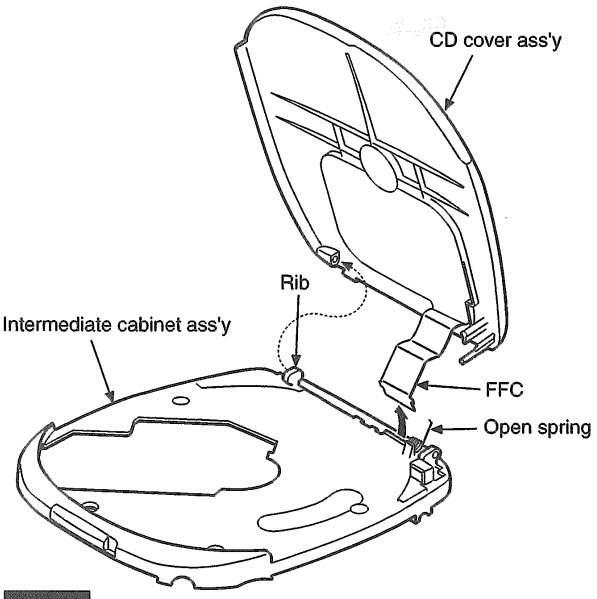

Step 3
Extrude the shaft with thin tip of minus screwdriver.




Step 4
Draw the projected shaft.

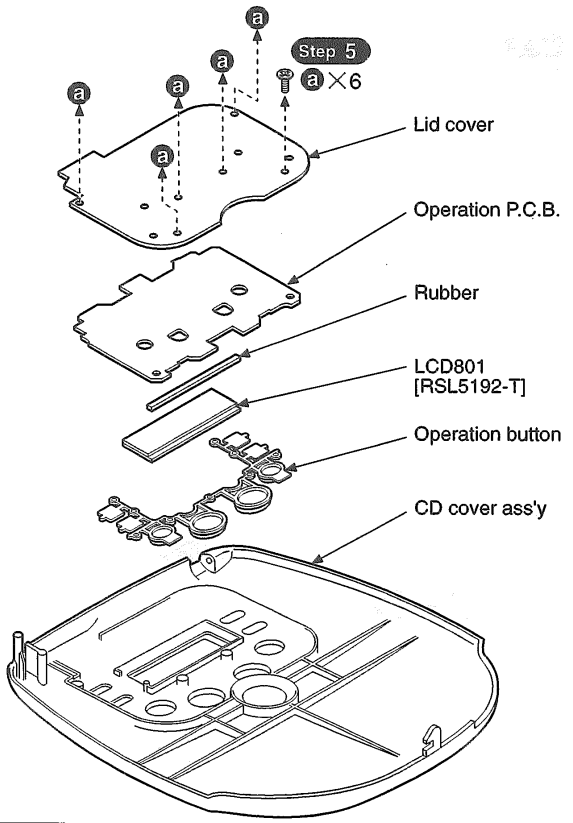
Step 4

Release the CD cover ass'y from the rib of intermediate cabinet.




**NOTE**

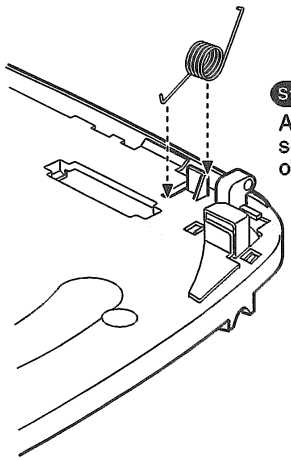
1. Take care not to damege the FFC.
2. Take care not lose the open spring.




**NOTE**

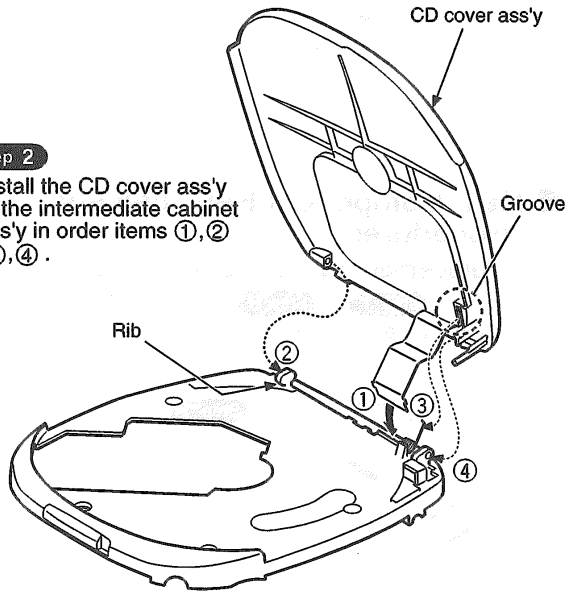
Be careful not to be applied the dust or smudge on the surface of rubber.

## Installation of CD cover ass'y



Step 1

Align the end of spring with the slot, and then locate the spring on the intermediate cabinet ass'y.

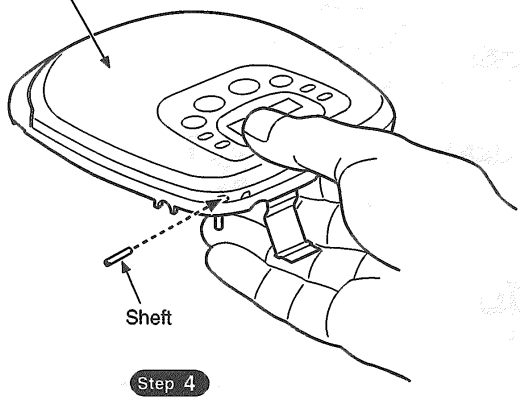



Step 2

Install the CD cover ass'y to the intermediate cabinet ass'y in order items ①,② ③,④.

Step 3

Close the CD cover ass'y.

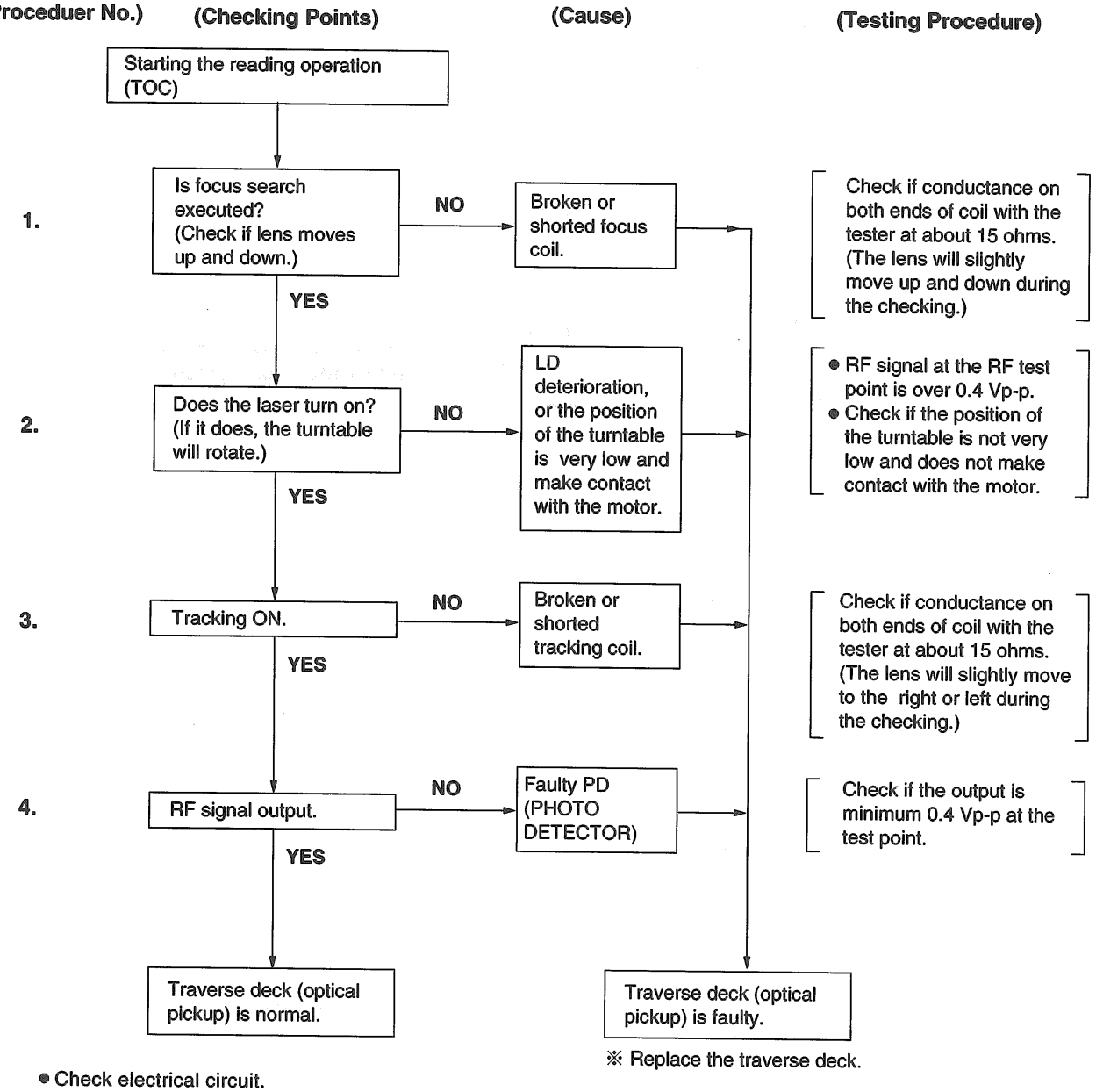



Step 4

Hold the CD cove ass'y with finger, and then put the shaft into CD cover ass'y.

## ■ 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 0.7 mm black dot and the 0.7 mm 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.

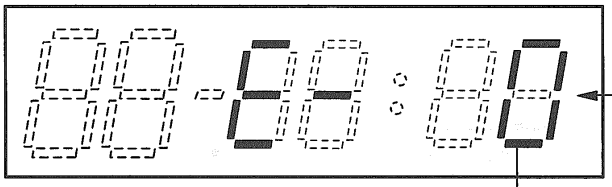
## ■ Automatic Adjustment Results Display Function (Self-check Function)

On this unit (SL-SX300), each automatic adjustment 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 automatic adjustment result displays (self-check function).

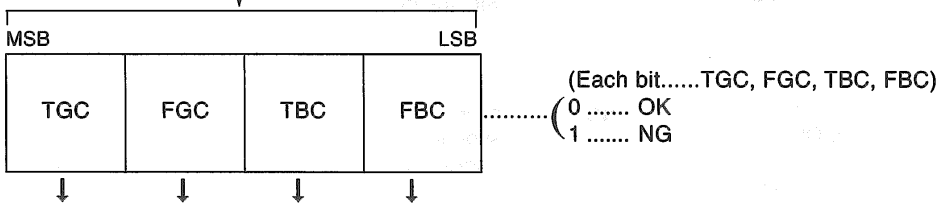
### ● How to display automatic adjustment results

1. Load the test disc (SZZP1054C).
2. Press the ⏮ (SKIP/SEARCH) and ⏭ (SKIP/SEARCH) Buttons simultaneously and hold them, and additionally press the ▶/⏸ (PLAY/PAUSE) Button.
3. Press the ■ (STOP/POWER OFF) Button once.
4. An automatic adjustment result is displayed on the LCD.

### ● Display of automatic adjustment results (self-check function)



**4 bits (TGC, FGC, TBC, FBC) are displayed in hexadecimal system from 0~F.**




1) 0 0 0 0 ⇨ **"E—0"** is displayed.
(All adjustments are OK) ..... Normal

2) 0 0 0 1 ⇨ **"E—1"** is displayed.
(OK) (OK) (OK) (NG)
(Focus balance adjustment is NG(incorrect).)

3) 0 1 0 0 ⇨ **"E—4"** is displayed.
(OK) (NG) (OK) (OK)
(Focus gain adjustment is NG.)

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

5) 1 0 0 0 ⇨ **"E—8"** is displayed.
(NG) (OK) (OK) (OK)
(Tracking gain adjustment is NG.)

**Note:** If any other disc than the test disc (SZZP1054C) is used, an **"E—8"** may be displayed.

〈Example〉 **Follow the below steps when "E—1" is displayed.**

(Cause: Focus balance (FBC) is set beyond the limit.)
- Check if

(1) the waveform or voltage of the focus servo circuit is correct.
(2) the optical pickup returns to the normal state by exchanging the traverse deck.

**Follow the below steps when "E — 4" is displayed.**

(Cause: Focus gain (FGC) 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 15 ohms).
(3) the optical pickup returns to the normal state by exchanging the traverse deck.

**Follow the below steps when "E — F" is displayed.**

(Cause : All adjustments (TGC, FGC, TBC, FBC) are set beyond the limit.)
- Check if

(1) the optical pickup returns to the normal state by exchanging the traverse deck.
(2) the waveform or voltage of the servo IC's (IC101, 501) are correct.

**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.

## ■ Measurements and Adjustments

**Warning:** This product uses a laser diode. Refer to caution statements on page 2.
**ACHTUNG:** • Die lasereinheit nicht zerlegen.
• Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

### • 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 **Fig. 1** or printed circuit board and wiring connection diagram for short land location on page 27.)
**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 on page 27.
2. Take care to connect CN101 and CN102, as shown in **Fig. 1**.

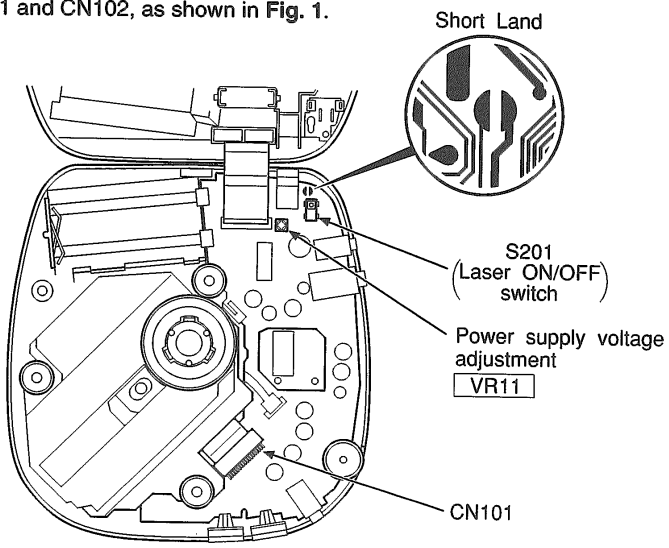



**Fig. 1**

### (1) POWER SUPPLY VOLTAGE ADJUSTMENT

1. Connect the DC voltmeter to TP103 (VCC) (+) and TP104 (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 **VR11** on the P.C.B. at **2.45 ± 0.02 V**, as shown in **Fig. 1.**

### (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 0.7 mm black dot and the 0.7 mm 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-SX300 servo circuit is equipped with an automatic adjusting circuit, these controls are removed from SL-SX300.

| **On conventional portable CD player**<br>Use for Old Servo IC (AN8373SE2, AN8374SE2) | | **On SL-SX300**<br>Use for New Servo IC (AN8839NSBE1, MN662780RPS2) |
|---|---|---|
| 1. Tracking Offset Adjustment VR (TOC) | ➡ | Non Adjustment |
| 2. Focus Offset Adjustment VR (FOC) | | |
| 3. Tracking Gain Adjustment VR (TGC) | ➡ | Automatic Adjusting Circuit |
| 4. Focus Gain Adjustment VR (FGC) | | |
| 5. Tracking Balance Adjustment VR (TBC) | | |
| 6. Focus Balance Adjustment VR (FBC) | | |
| 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-SX300 automatically controls the servo circuit to obtain optimum performance according to any disc's characteristics.
Therefore, no malfunction occurs because of mis-adjustment.

# ■ Outline of 10-Second Sound Keeper Technique Used for Prevention of Sound from Skipping

### 1. Conventional Shockproofing Technique

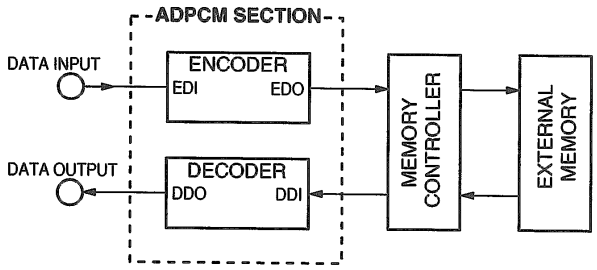
Input information read out of the CD at double speed is demodulated, stored in the memory, and while sound-marking signal is supplied at normal speed from the memory to the D/A converter, the residual data is accumulated in the memory.
If reaccess to the break point is accomplished before the memory becomes empty, apparent playback sound is entirely kept free from breaking even when information pauses due to vibration, etc. It was necessary to use the 4M bit memory for securing the accumulation time of about 10 seconds.

### 2. Compression-shockproofing [Outline]

Fig. 1 is a block diagram showing the compression-shockproofing mechanism, the difference of which from the conventional mechanism is as follows: Input information read out at double speed undergoes data compression (16 bits → 4 bits) by the encoder in the ADPCM (Adaptive Difference PCM) and stored in the external memory; the stored memory information undergoes data elongation (4 bits → 16 bits) by the decoder in the ADPCM and supplied at normal speed to the D/A converter.

The data compression technique has conduced to reduction of required memory capacity from 4M bits to 1M bit for securing the accumulation time equivalent to the conventional.

**All-inclusive Block Diagram**




## ■ Schematic Diagram (See parts list on pages 35, 36.)

(This schematic diagram may be modified at any time with the 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 mode selector (MODE) in "NORMAL" position. [NORMAL⇔RANDOM⇔RESUME]
- **S302**: Hold lock (HOLD-LOCK) switch in "OFF" position.
- **S801**: Play/pause (▶II) switch.
- **S802**: Stop/power off (■, POWER OFF) switch.
- **S803**: Skip/search (▶▶I/▶▶) switch.
- **S804**: Skip/search (I◀◀/◀◀) switch.
- **S805**: Repeat (REPEAT) switch.
- **S806**: Memory/recall (MEMORY/RECALL) switch.
- **S807**: EQ (EQ) switch.
- **S808**: Anti-shock (ANTI-SHOCK) switch in "OFF" position.

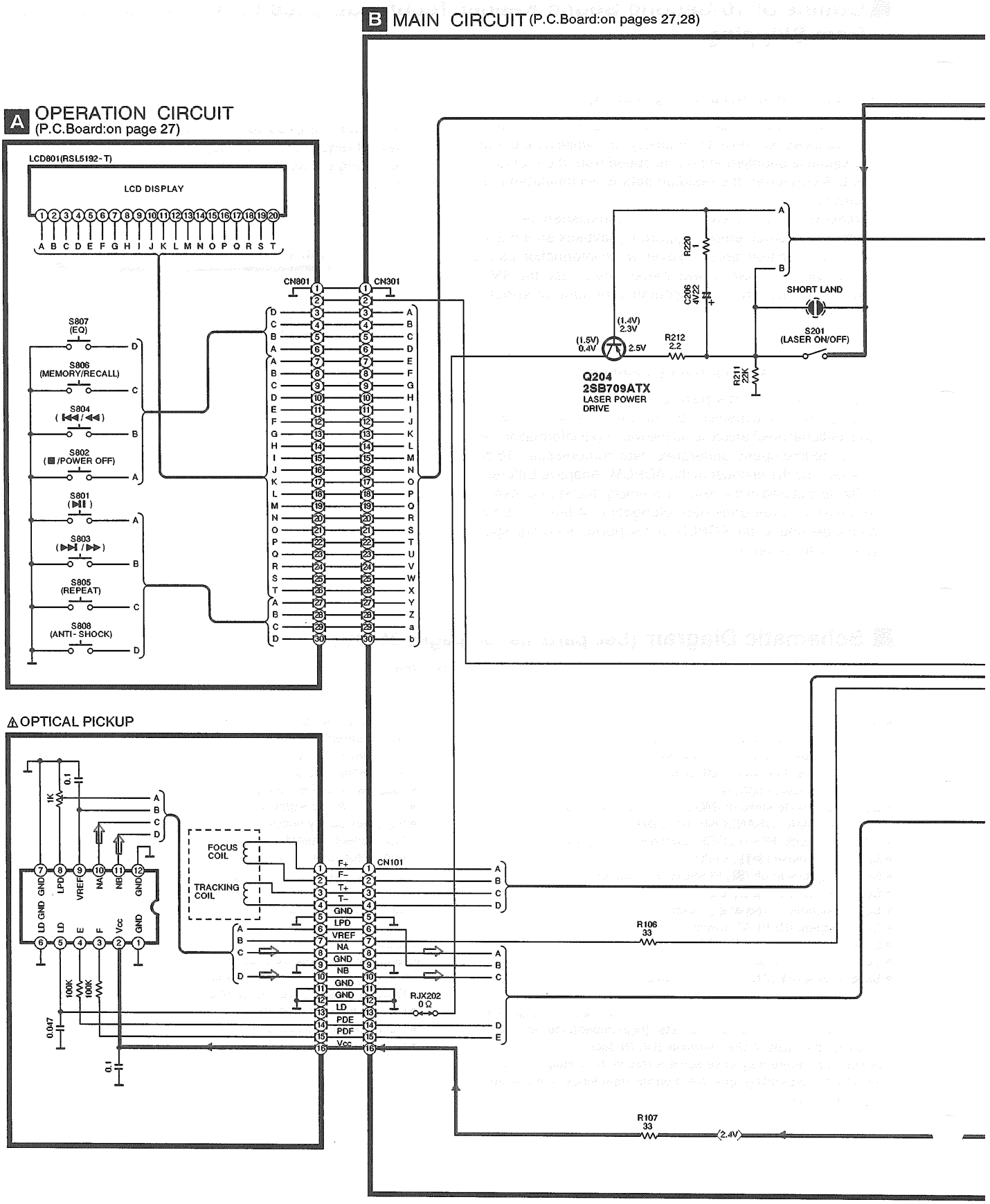
- The voltage value and waveforms are the reference voltage of this measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of GND terminal (DC IN Jack). Accordingly, there may arise some errors in the voltage values and waveforms depending upon the internal impedance of the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

- Mesurement conditions:
  * Set the hold lock switch to ON.
  * The parenthesized is the voltage for test disc (1 kHz, L + R, 0 dB) 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 manufacture's specified parts shown in the parts list.

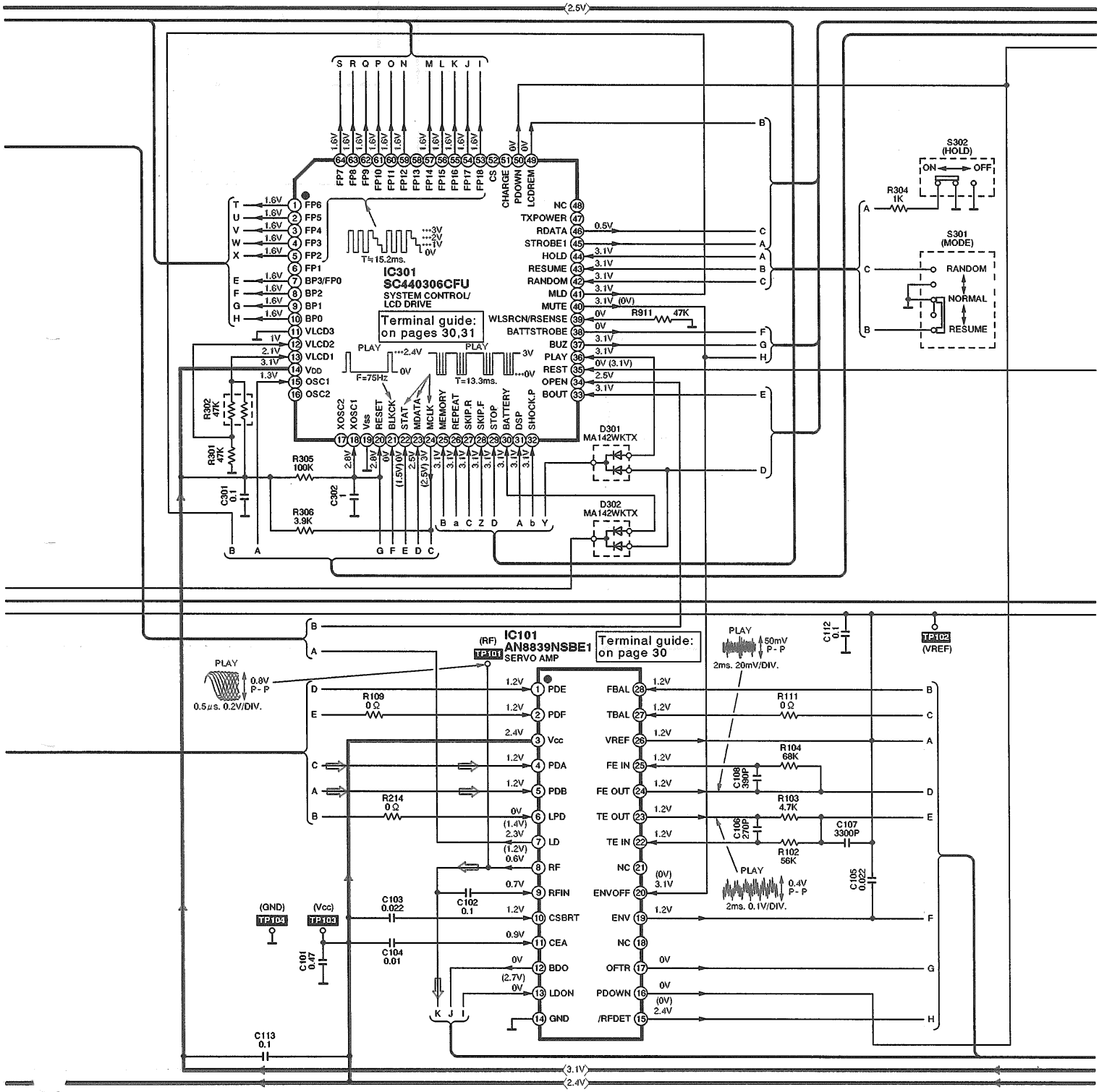
**Caution!**

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

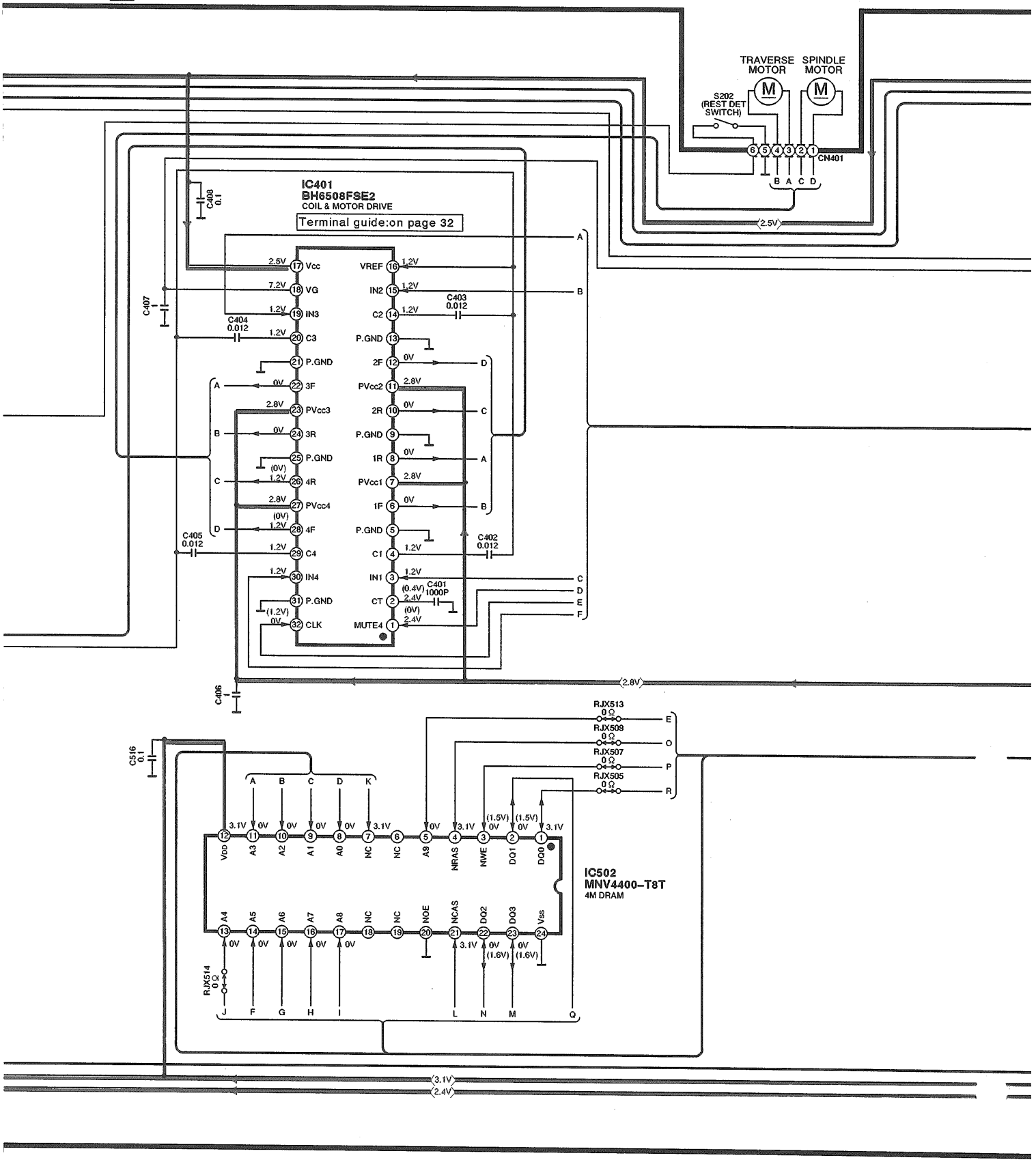
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the pins of IC or LSI with fingers directly.


B MAIN CIRCUIT (P.C.Board:on pages 27,28)
A OPERATION CIRCUIT
(P.C.Board:on page 27)
LCD801(RSL5192-T)
LCD DISPLAY
CN801
CN301
S807 (EQ)
S806 (MEMORY/RECALL)
S804
S802 (■/POWER OFF)
S801
S803
S805 (REPEAT)
S808 (ANTI-SHOCK)
R220
C266 4.7µ
SHORT LAND
S201 (LASER ON/OFF)
(1.4V) 2.3V
(1.5V) 0.4V
2.5V
R212 2.2
R211 22K
Q204
2SB709ATX
LASER POWER DRIVE
⚠OPTICAL PICKUP
FOCUS COIL
TRACKING COIL
CN101
F+
F−
T+
T−
GND
LPD
VREF
NA
NB
LD
PDE
PDF
Vcc
RJX202 0Ω
R106 33
R107 33
2.4V

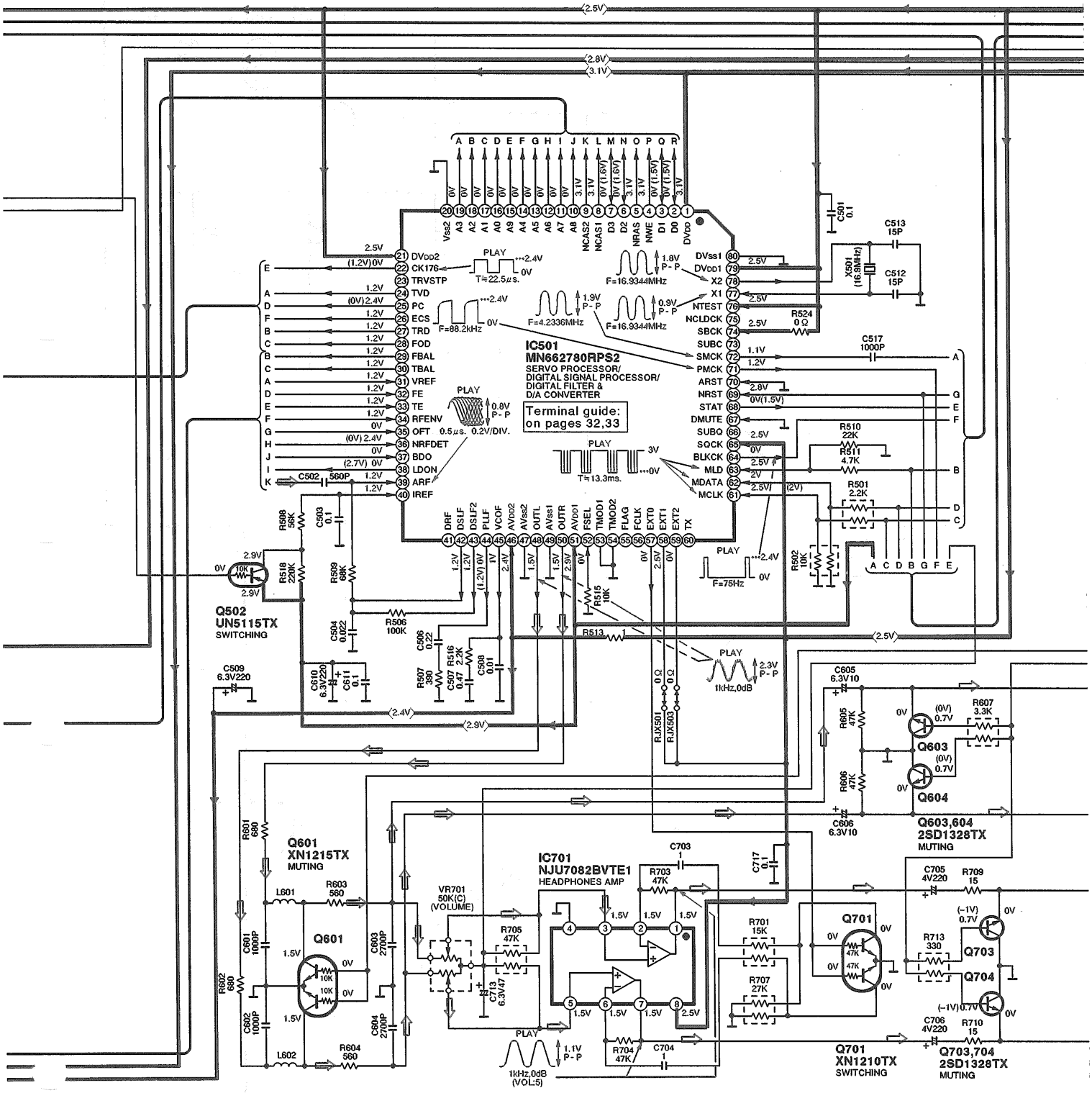
Note: ● ⇨ : Audio signal line



## B MAIN CIRCUIT (P.C.Board:on pages 27,28)

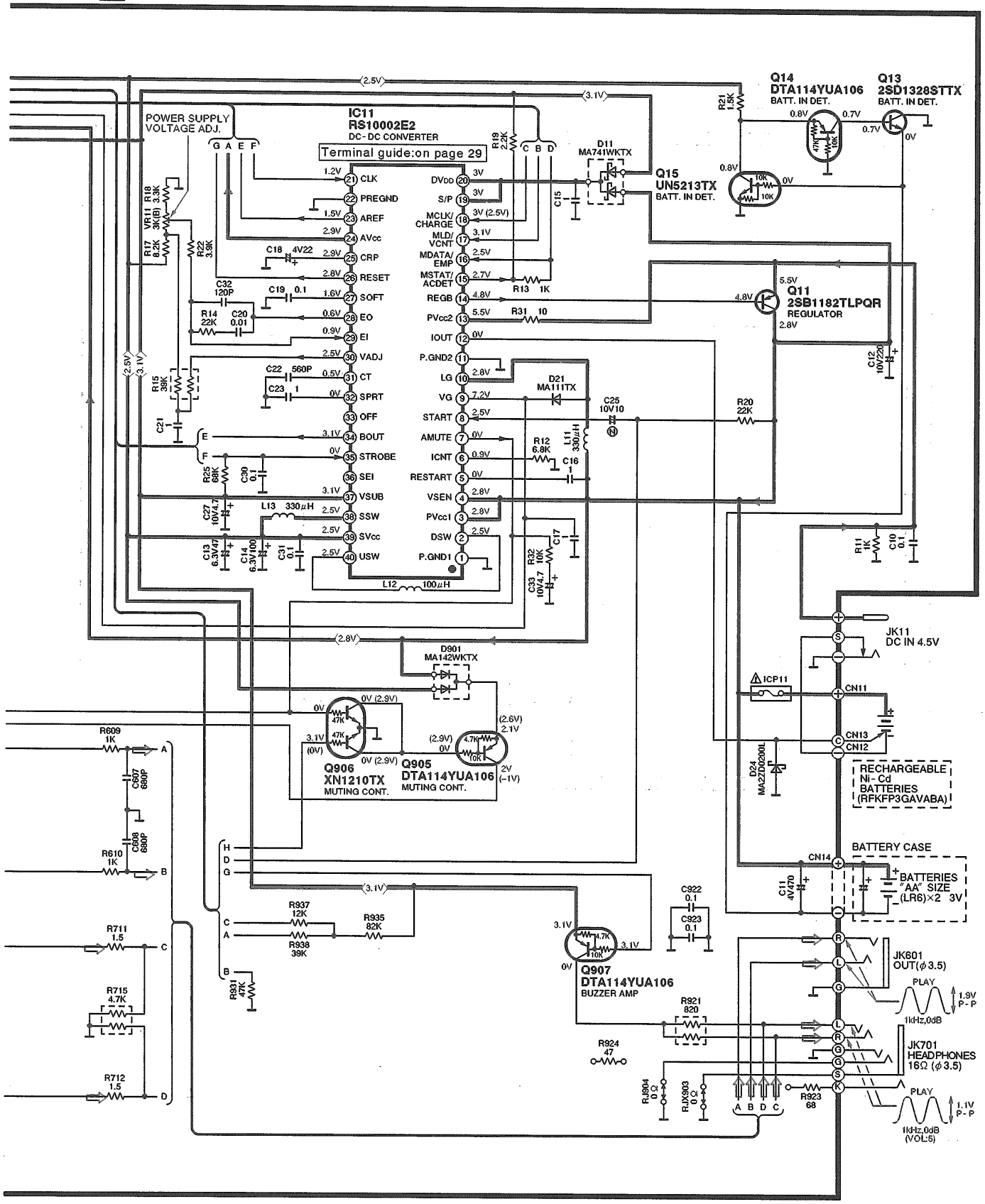


Note: ● ⇨ : Audio signal line

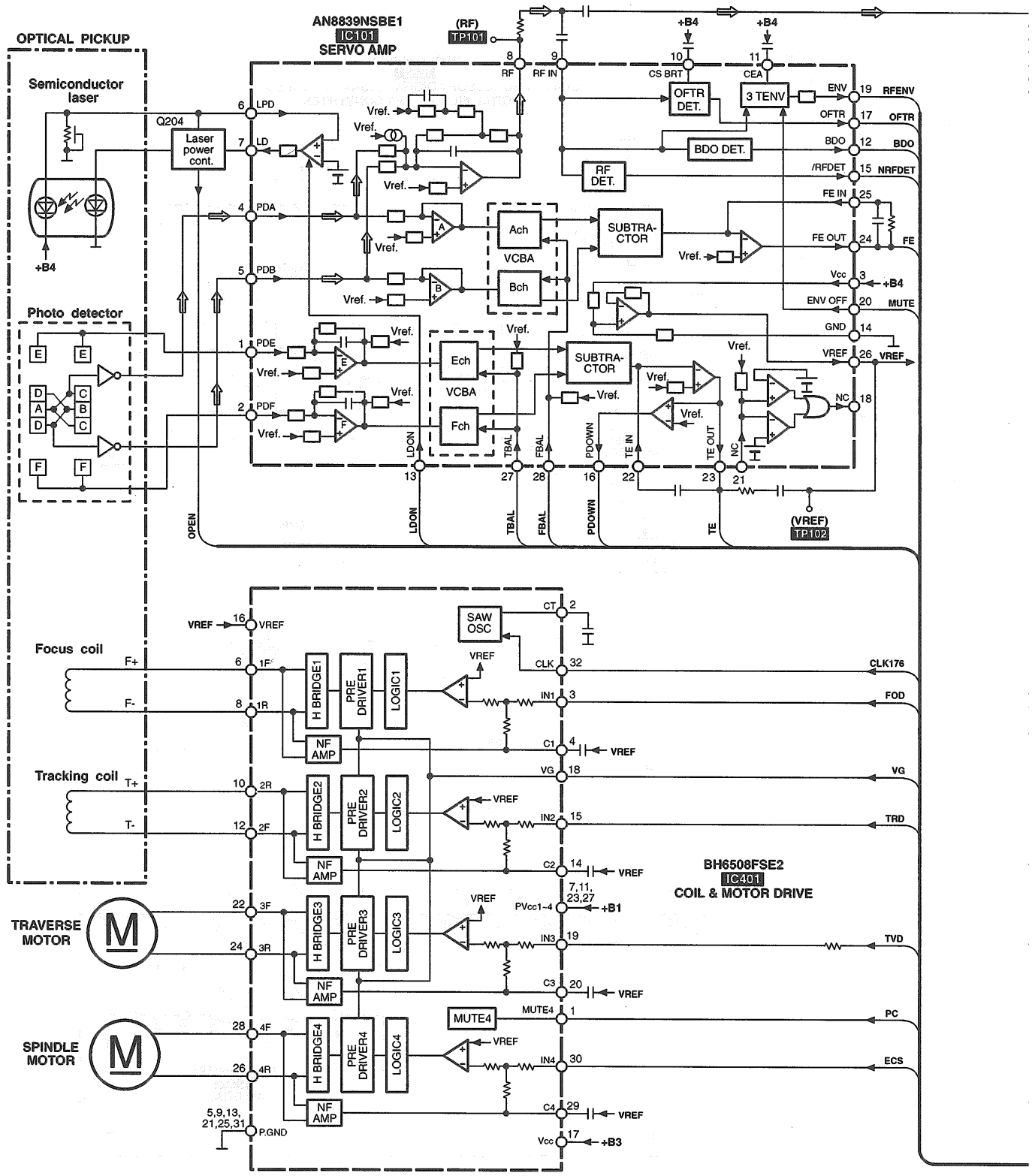


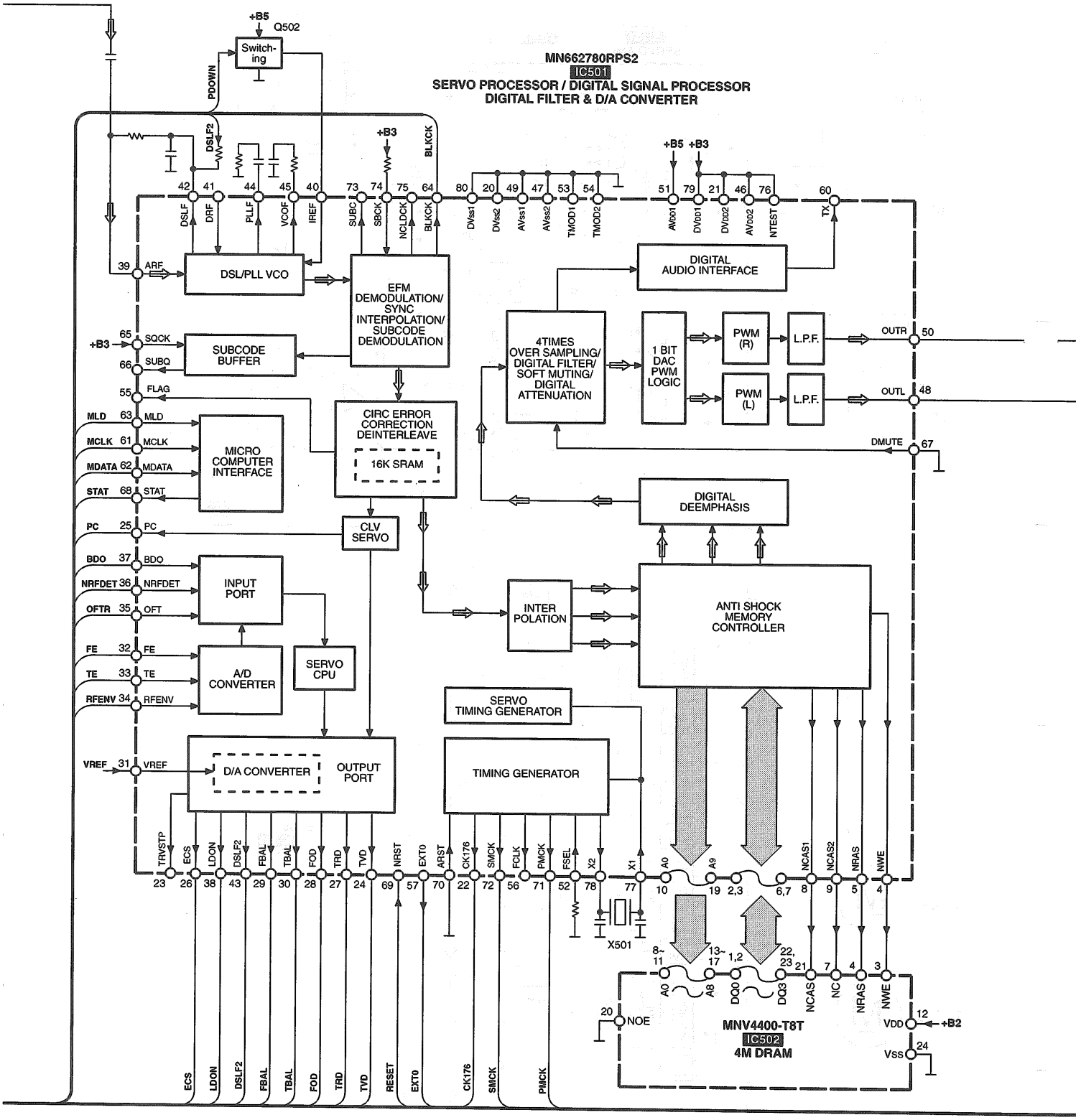
Note: ● ⟹ : Audio signal line

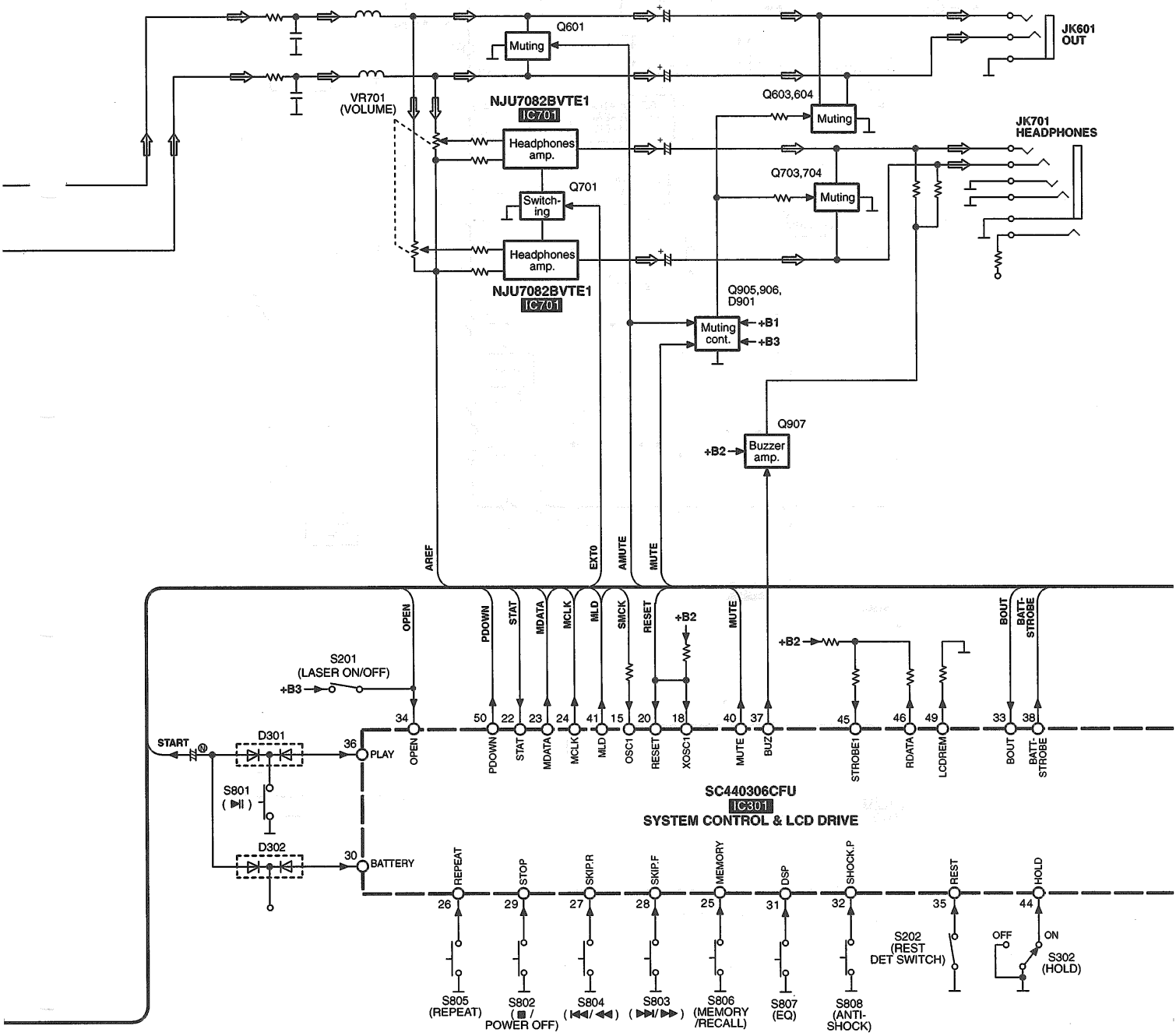
## B MAIN CIRCUIT (P.C.Board:on pages 27,28)

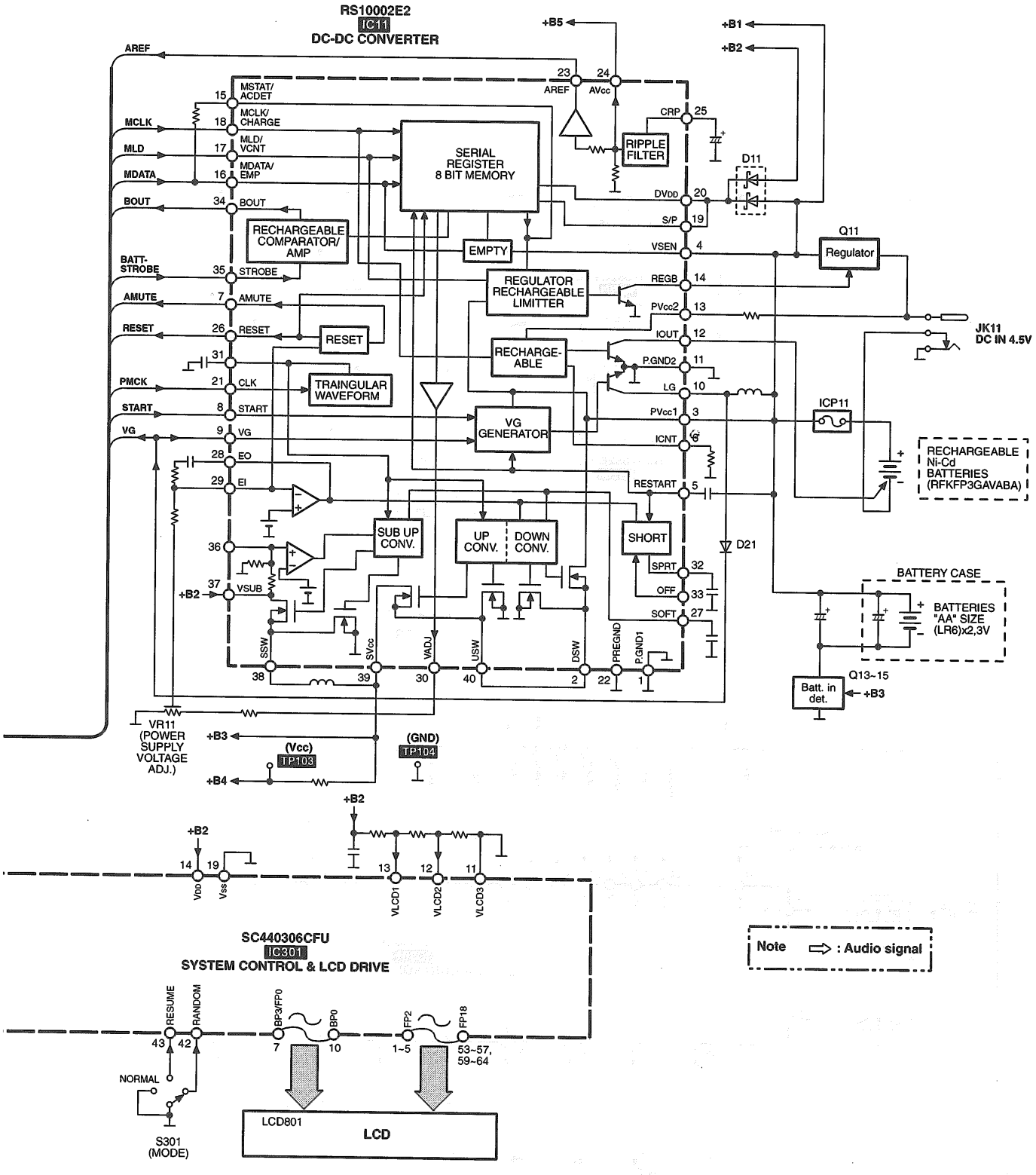


## Block Diagram



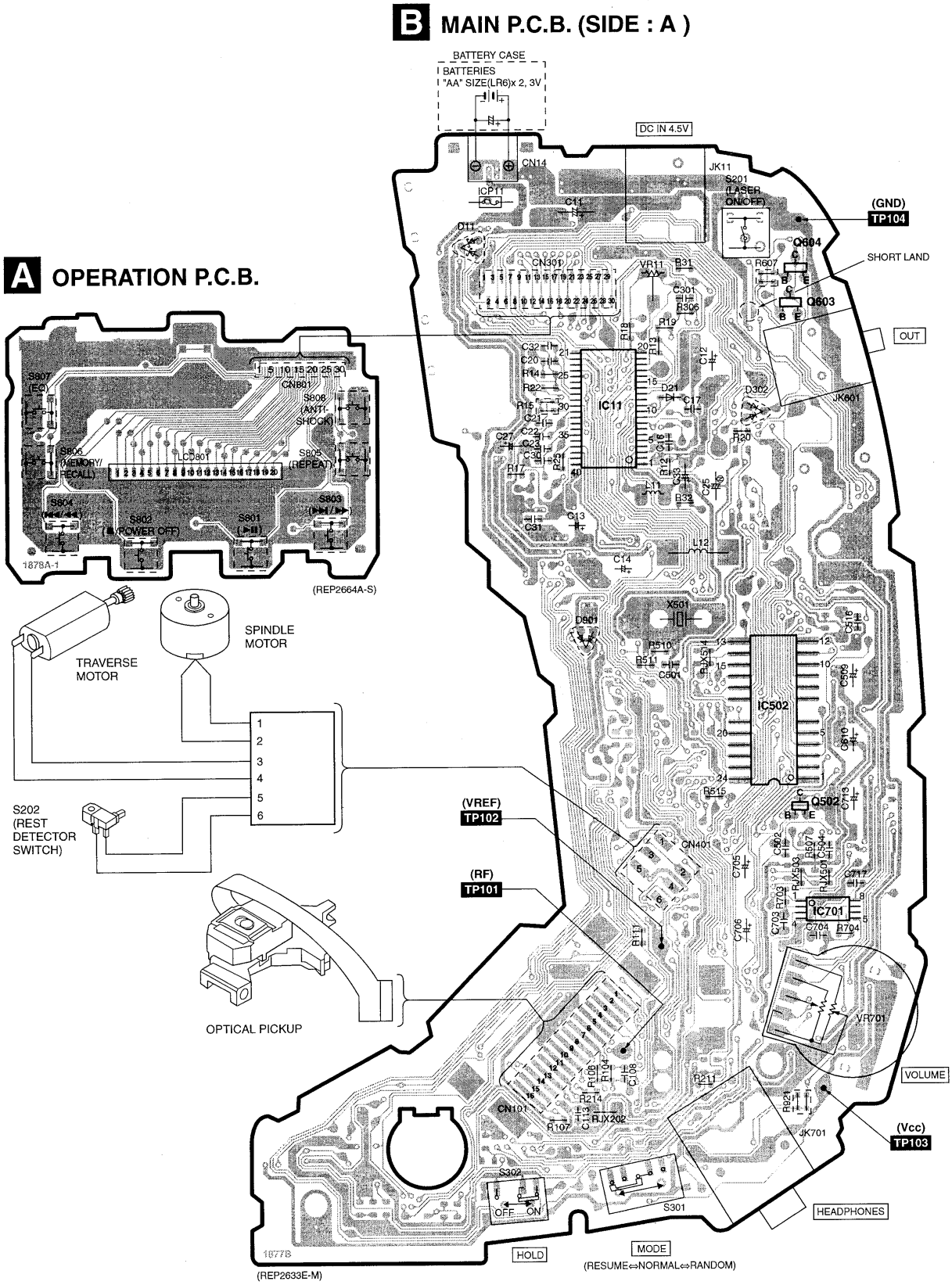

MN662780RPS2
IC501
SERVO PROCESSOR / DIGITAL SIGNAL PROCESSOR
DIGITAL FILTER & D/A CONVERTER
+B5
Q502
Switch-ing
PDOWN
DSLF2
+B3
BLKCK
+B5 +B3
DSLF
DRF
PLLF
VCOF
IREF
SUBC
SBCK
NCLDCK
BLKCK
DVss1
DVss2
AVss1
AVss2
TMOD1
TMOD2
AVdd1
DVdd1
DVdd2
AVdd2
NTEST
TX
ARF
DSL/PLL VCO
EFM DEMODULATION/ SYNC INTERPOLATION/ SUBCODE DEMODULATION
DIGITAL AUDIO INTERFACE
SQCK
SUBQ
SUBCODE BUFFER
FLAG
4TIMES OVER SAMPLING/ DIGITAL FILTER/ SOFT MUTING/ DIGITAL ATTENUATION
1 BIT DAC PWM LOGIC
PWM (R)
PWM (L)
L.P.F.
OUTR
OUTL
DMUTE
MLD
MCLK
MDATA
STAT
MICRO COMPUTER INTERFACE
CIRC ERROR CORRECTION DEINTERLEAVE
16K SRAM
DIGITAL DEEMPHASIS
PC
CLV SERVO
BDO
NRFDET
OFTR
INPUT PORT
INTER POLATION
ANTI SHOCK MEMORY CONTROLLER
FE
TE
RFENV
A/D CONVERTER
SERVO CPU
SERVO TIMING GENERATOR
VREF
D/A CONVERTER
OUTPUT PORT
TIMING GENERATOR
TRVSTP
ECS
LDON
DSLF2
FBAL
TBAL
FOD
TRD
TVD
NRST
EXT0
ARST
CK176
SMCK
FCLK
PMCK
FSEL
X2
X1
A0
A9
NCAS1
NCAS2
NRAS
NWE
X501
A0
A8
DQ0
DQ3
NCAS
NC
NRAS
NWE
NOE
MNV4400-T8T
IC502
4M DRAM
VDD
+B2
Vss
RESET


Q601
Muting
JK601
OUT
VR701
(VOLUME)
NJU7082BVTE1
IC701
Q603,604
Muting
JK701
HEADPHONES
Headphones
amp.
Q703,704
Muting
Q701
Switch-
ing
Headphones
amp.
NJU7082BVTE1
IC701
Q905,906,
D901
Muting
cont.
+B1
+B3
Q907
+B2
Buzzer
amp.
AREF
EXT0
AMUTE
MUTE
OPEN
PDOWN
STAT
MDATA
MCLK
MLD
SMCK
RESET
+B2
MUTE
+B2
BOUT
BATT-
STROBE
S201
(LASER ON/OFF)
+B3
34
50
22
23
24
41
15
20
18
40
37
45
46
49
33
38
START
D301
36
PLAY
OPEN
PDOWN
STAT
MDATA
MCLK
MLD
OSC1
RESET
XOSC1
MUTE
BUZ
STROBE1
RDATA
LCDREM
BOUT
BATT-
STROBE
S801
( ⏯ )
SC440306CFU
IC301
SYSTEM CONTROL & LCD DRIVE
D302
30
BATTERY
REPEAT
STOP
SKIP.R
SKIP.F
MEMORY
DSP
SHOCK.P
REST
HOLD
26
29
27
28
25
31
32
35
44
S202
(REST
DET SWITCH)
OFF
ON
S302
(HOLD)
S805
(REPEAT)
S802
( ■ /
POWER OFF)
S804
( ⏮/ ◀◀ )
S803
( ▶▶⏭/ ▶▶ )
S806
(MEMORY
/RECALL)
S807
(EQ)
S808
(ANTI-
SHOCK)

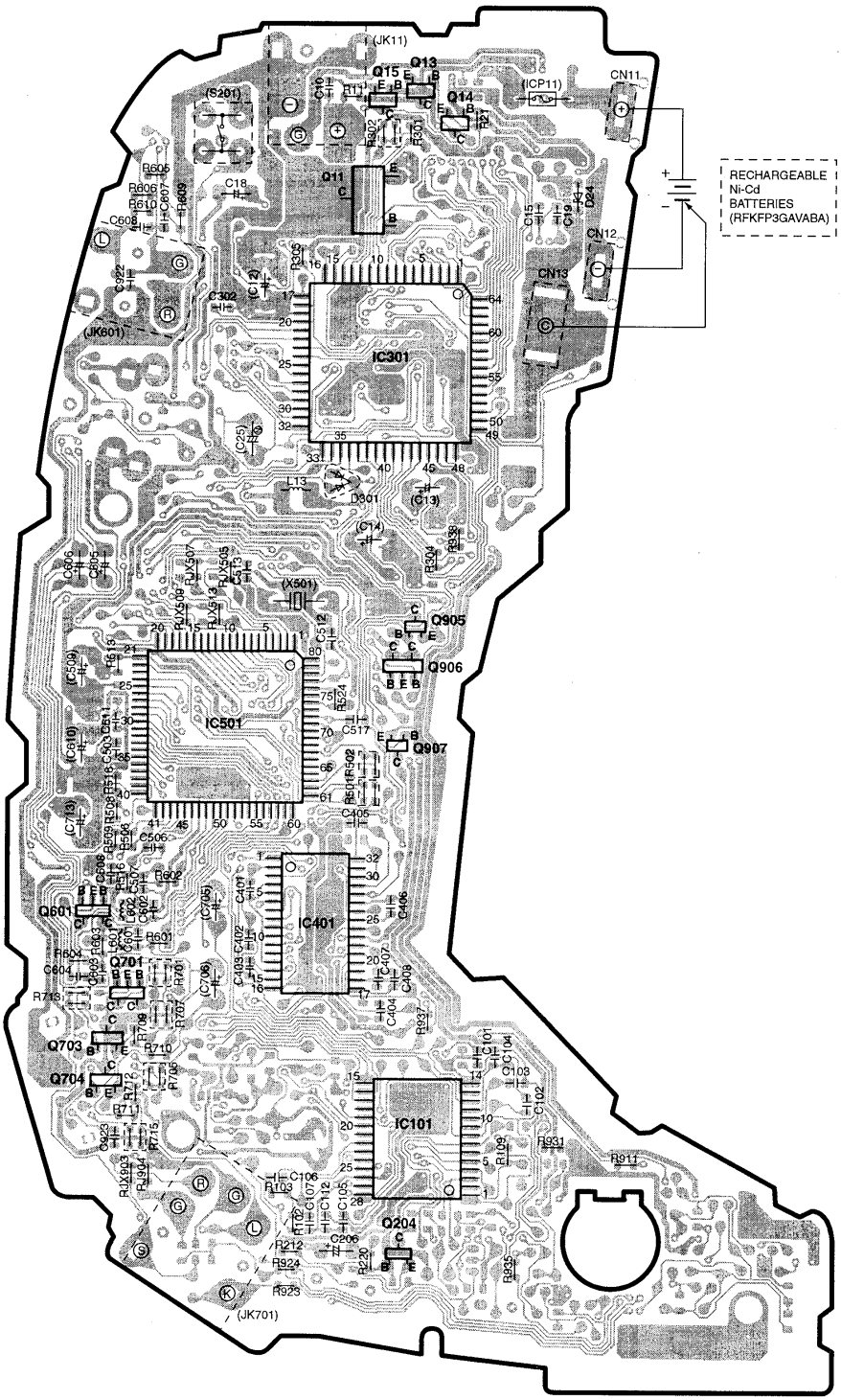

RS10002E2
IC11
DC-DC CONVERTER
AREF
MCLK
MLD
MDATA
BOUT
BATT-STROBE
AMUTE
RESET
PMCK
START
VG
MSTAT/ ACDET
MCLK/ CHARGE
MLD/ VCNT
MDATA/ EMP
BOUT
STROBE
AMUTE
RESET
CLK
START
VG
EO
EI
VSUB
SSW
SVcc
VADJ
USW
DSW
PREGND
P.GND1
SERIAL REGISTER 8 BIT MEMORY
RECHARGEABLE COMPARATOR/ AMP
EMPTY
REGULATOR RECHARGEABLE LIMITTER
RECHARGE-ABLE
TRAINGULAR WAVEFORM
VG GENERATOR
RESET
SUB UP CONV.
UP CONV.
DOWN CONV.
SHORT
RIPPLE FILTER
+B5
+B1
+B2
AREF
AVcc
CRP
DVDD
S/P
VSEN
REGB
PVcc2
IOUT
P.GND2
LG
PVcc1
ICNT
RESTART
SPRT
OFF
SOFT
D11
Q11
Regulator
JK11
DC IN 4.5V
ICP11
RECHARGEABLE Ni-Cd BATTERIES (RFKFP3GAVABA)
D21
BATTERY CASE
BATTERIES "AA" SIZE (LR6)x2,3V
Batt. in det.
Q13~15
+B3
VR11 (POWER SUPPLY VOLTAGE ADJ.)
(Vcc)
TP103
(GND)
TP104
+B4
VDD
VSS
VLCD1
VLCD2
VLCD3
SC440306CFU
IC301
SYSTEM CONTROL & LCD DRIVE
RESUME
RANDOM
BP3/FP0
BP0
FP2
FP18
1~5
53~57, 59~64
NORMAL
S301 (MODE)
LCD801
LCD
Note
: Audio signal

# ■ Printed Circuit Board and Wiring Connection Diagram

(This printed circuit board diagram may be modified at any time with the development of new technology.)



## B MAIN P.C.B. (SIDE : B )



# ■ Terminal Function of IC's

## ● IC11 (RS10002E2): DC-DC CONVERTER

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 1 | PGND1 | — | GND termianl |
| 2 | DSW | O | DC/DC converter coil drive terminal |
| 3 | PVCC1 | I | Power supply terminal |
| 4 | VSEN | I | Empty supply terminal (Power supply terminal) |
| 5 | RESTART | I | DC/DC converter drive terminal |
| 6 | ICNT | I | Charge current setting terminal |
| 7 | AMUTE | O | Muting signal output terminal |
| 8 | START | I | DC/DC converter start terminal |
| 9 | VG | I | Power supply terminal |
| 10 | LG | I | Connected to power supply |
| 11 | PGND2 | — | GND terminal |
| 12 | IOUT | O | Charge signal output terminal |
| 13 | PVCC2 | I | Power supply terminal |
| 14 | PEGB | O | Regulator drive signal output terminal |
| 15 | MSTAT/ AC DET | O | DC jack detect signal output terminal |
| 16 | M DATA/ EMP | I | Decline voltage detect input terminal |
| 17 | MLD/VCNT | I | Regulator voltage select input terminal |
| 18 | MCLK/ CHARGE | I | Charge ON/OFF terminal |
| 19 | S/P | I | Serial/Parallel select terminal (Connected to power supply) |
| 20 | DVDD | I | Power supply terminal |

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 21 | CLK | I | Clock signal input terminal |
| 22 | PREGND | — | GND terminal |
| 23 | AREF | O | Audio reference output terminal |
| 24 | AVCC | O | Ripple filter output terminal |
| 25 | CRP | I | Connected to capacitor |
| 26 | RESET | O | Reser detect signal output terminal |
| 27 | SOFT | O | Soft start setting terminal (Connected to capacitor) |
| 28 | EO | O | DC/DC converter error amp output terminal |
| 29 | EI | I | DC/DC converter error amp input terminal |
| 30 | VADJ | O | DC/DC converter variable output terminal |
| 31 | CT | O | Triangular wave output terminal (Connected to capacitor) |
| 32 | SPRT | O | Power off time-constat setting terminal (Connected to capacitor) |
| 33 | OFF | I | DC/DC converter off terminal (Not used, open) |
| 34 | BOUT | O | Amp output terminal |
| 35 | STROBE | I | Strobe input terminal |
| 36 | SEI | I | Sub DC/DC converter, error amp input terminal (Not used, open) |
| 37 | VSUB | I | Power supply terminal |
| 38 | SSW | | |
| 39 | SVCC | | |
| 40 | USW | I | DC/DC converter coil drive terminal |

## ● IC101 (AN8839NSBE1): SERVO AMP

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 1 | PDE | I | Tracking signal input terminal (1) |
| 2 | PDF | I | Tracking signal input terminal (2) |
| 3 | Vcc | I | Power supply terminal |
| 4 | PDA | I | Focus signal input terminal (1) |
| 5 | PDB | I | Focus signal input terminal (2) |
| 6 | LPD | I | APC amp input terminal |
| 7 | LD | O | APC amp output terminal |
| 8 | RF | O | RF summing output terminal |
| 9 | RF IN | I | RF signal input terminal |
| 10 | CSBRT | I | Capacitor connection terminal for OFTR |
| 11 | CEA | I | Capacitor connection terminal for H.P.F. amp |
| 12 | BDO | O | Dropout signal output terminal ("H": Dropout) |
| 13 | LDON | I | APC control input terminal |
| 14 | GND | — | GND terminal |

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 15 | /RFDET | O | RF det. signal output terminal ("L": Det.) |
| 16 | PDOWN | O | Power down input terminal |
| 17 | OFTR | O | Off track signal output terminal ("H": Off track) |
| 18 | NC | — | Not used, open |
| 19 | ENV | O | RF envelope signal output terminal |
| 20 | ENV OFF | I | ENV control input terminal |
| 21 | NC | — | Not used, open |
| 22 | TE IN | I | Tracking error amp input terminal |
| 23 | TE OUT | O | Tracking error amp output terminal |
| 24 | FE OUT | O | Focus error amp output terminal |
| 25 | FE IN | I | Focus error amp input terminal |
| 26 | VREF | O | Reference voltage output terminal |
| 27 | TBAL | I | Tracking balance signal input terminal |
| 28 | FBAL | I | Focus balance signal input terminal |

## ● IC301 (SC440306CFU): SYSTEM CONTROL/LCD DRIVE

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 1 ∫ 5 | FP6 ∫ FP2 | O | LCD segment signal output terminal |
| 6 | FP1 | O | LCD segment signal output terminal (Not used, open) |
| 7 | BP3/BP0 | O | LCD segment signal output terminal |
| 8 ∫ 10 | BP2 ∫ BP0 | O | LCD segment signal output terminal |
| 11 | VLCD3 | I | Not used, connected to GND |
| 12 | VLCD2 | I | Power supply terminal |

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 13 | VLCD1 | I | Power supply terminal |
| 14 | VDD | I | Power supply terminal |
| 15 | OSC1 | I | System clock (f=4.2336MHz) |
| 16 | OSC2 | — | Not used, open |
| 17 | XOSC2 | | |
| 18 | XOSC1 | I | Connected to reset detect |
| 19 | VSS | — | GND terminal |

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 20 | RESET | I | Reset detect input terminal |
| 21 | BLKCK | I | Block clock input terminal |
| 22 | STAT | I | Status signal input terminal |
| 23 | MDATA | O | Command data output terminal |
| 24 | MCLK | O | Serial command output terminal |
| 25 | MEMORY | I | MEMORY key input terminal |
| 26 | REPEAT | I | REPEAT key input terminal |
| 27 | SKIP.R | I | SKIP.R key input terminal |
| 28 | SKIP.F | I | SKIP.F key input terminal |
| 29 | STOP | I | STOP key input terminal |
| 30 | BATTERY | I | Batt check key input terminal |
| 31 | DSP | I | DSP key input terminal |
| 32 | SHOCK.P | I | SHOCK.P key input terminal |
| 33 | BOUT | I | Charging control input terminal ("L": OFF) |
| 34 | OPEN | I | CD cover open detection terminal |
| 35 | REST | I | Rest (innermost position) detection input terminal |
| 36 | PLAY | I | PLAY key input terminal |
| 37 | BUZ | O | Beep control output terminal |
| 38 | BATTSTROBE | O | Rechargeable battery voltage measurment output terminal |

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 39 | WLSRCN/ RSENSE | I | Not used, open |
| 40 | MUTE | O | Hard muting output terminal |
| 41 | MLD | O | Serial command latch output terminal |
| 42 | RANDOM | I | RANDOM switch input terminal |
| 43 | RESUME | I | RESUME switch input terminal |
| 44 | HOLD | I | HOLD switch input terminal |
| 45 | STROBE1 | O | Remote control data signal output terminal |
| 46 | RDATA | O | Remote control data output terminal |
| 47 | TXPOWER | O | Digital out ON output terminal (Not used, open) |
| 48 | NC | — | ——— |
| 49 | LCDREM | O | Remote control EL ON output terminal |
| 50 | PDOWN | O | Head amp OFF output terminal |
| 51 | CHARGE | O | Charge signal output terminal (Not used, open) |
| 52 | CS | O | Not used, open |
| 53 ∫ 57 | FP18 ∫ FP14 | O | LCD segment signal output terminal |
| 58 | FP13 | O | LCD segment signal output terminal (Not used, open) |
| 59 ∫ 64 | FP12 ∫ FP7 | O | LCD segment signal output terminal |

## ● IC401 (BH6508FSE2): COIL & MOTOR DRIVE

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 1 | MUTE4 | I | CH4 muting terminal |
| 2 | CT | O | Triangular wave output terminal (Connected to capacitor) |
| 3 | IN1 | I | CH1 input terminal |
| 4 | C1 | O | CH1 filter terminal (Connected to capacitor) |
| 5 | PGND | — | GND terminal |
| 6 | 1F | O | Focus coil driver output terminal |
| 7 | PVCC1 | I | Power supply terminal |
| 8 | 1R | O | Focus coil driver output terminal |
| 9 | PGND | — | GND terminal |
| 10 | 2R | O | Tracking coil driver output terminal |
| 11 | PVCC2 | I | Power supply terminal |
| 12 | 2F | O | Tracking coil driver output terminal |
| 13 | PGND | — | GND terminal |
| 14 | C2 | O | CH2 filter terminal (Connected to capacitor) |
| 15 | IN2 | I | CH2 input terminal |
| 16 | VREF | I | Reference voltage output terminal |

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 17 | VCC | I | Power supply terminal |
| 18 | VG | I | Power supply terminal |
| 19 | IN3 | I | CH3 input terminal |
| 20 | C3 | O | CH3 filter terminal (Connected to capacitor) |
| 21 | PGND | — | GND terminal |
| 22 | 3F | O | Traverse motor drive output terminal |
| 23 | PVCC3 | I | Power supply terminal |
| 24 | 3R | O | Traverse motor drive output terminal |
| 25 | PGND | — | GND terminal |
| 26 | 4R | O | Spindle motor drive output terminal |
| 27 | PVCC4 | I | Power supply terminal |
| 28 | 4F | O | Spindle motor drive output terminal |
| 29 | C4 | O | CH4 filter terminal (Connected to capacitor) |
| 30 | IN4 | I | CH4 input terminal |
| 31 | GND | — | GND terminal |
| 32 | CLK | I | Clock input terminal |

## ● IC501 (MN662780RPS2): SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER/D/A CONVERTER

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 1 | DVDD | I | Power supply terminal |
| 2 | D0 | I/O | Data 0 input/output terminal |
| 3 | D1 | I/O | Data 1 input/output terminal |
| 4 | NWE | O | Write enable output terminal |
| 5 | NRAS | O | RAS control signal output terminal |
| 6 | D2 | I/O | Data 2 input/output terminal |
| 7 | D3 | I/O | Data 3 input/output terminal |
| 8 | NCAS1 | O | CAS control 0 signal output terminal |
| 9 | NCAS2 | O | Address/0 signal output terminal |

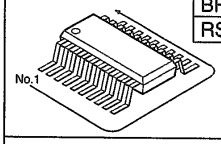
| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 10 ∫ 14 | A8 ∫ A4 | O | Address 8 ~ 4, 9, 0 ~ 3 output terminal |
| 15 | A9 | | |
| 16 ∫ 19 | A0 ∫ A3 | | |
| 20 | VSS2 | — | GND terminal |
| 21 | DVDD2 | I | Power supply terminal |
| 22 | CK176 | O | Clock output terminal (88.2kHz/44.1kHz) |
| 23 | TRVSTP | O | Traverse motor stop control terminal ("H": stop mode) (Not used, open) |

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 24 | TVD | O | Traverse drive signal output terminal |
| 25 | PC | O | Spindle motor drive signal output terminal ("L": ON) |
| 26 | ECS | O | Spindle motor drive signal output terminal |
| 27 | TRD | O | Tracking drive kick pulse output terminal |
| 28 | FOD | O | Focus drive output terminal |
| 29 | FBAL | O | Focus balance adj. output terminal |
| 30 | TBAL | O | Tracking balance adj. output terminal |
| 31 | VREF | I | Reference voltage input terminal |
| 32 | FE | I | Focus error signal input terminal |
| 33 | TE | I | Tracking error signal input terminal |
| 34 | RFENV | I | RF envelope signal input terminal |
| 35 | OFT | I | OFF track signal input terminal ("H": off track) |
| 36 | NRFDET | I | RF detect signal input terminal ("L": detect) |
| 37 | BD0 | I | Drop out signal input terminal ("H": drop out) |
| 38 | LDON | O | Laser on signal output terminal ("H": ON) |
| 39 | ARF | I | RF signal input terminal |
| 40 | IREF | I | Reference current input terminal |
| 41 | DRF | I | DSL bias terminal (Not used, open) |
| 42 | DSLF | O | DSL loop filter output terminal |
| 43 | DSLF2 | O | DSL anbalance current correction output terminal |
| 44 | PLLF | O | PLL loop filter output terminal |
| 45 | VCOF | O | Loop filter output terminal |
| 46 | AVDD2 | I | Power supply terminal |
| 47 | AVSS2 | — | GND terminal |
| 48 | OUTL | O | Audio Lch output terminal |
| 49 | AVSS1 | — | GND terminal |
| 50 | OUTR | O | Audio Rch output terminal |
| 51 | AVDD1 | I | Power supply terminal |
| 52 | FSEL | I | Noise filter select terminal ("H": ON, "L": OFF) |
| 53 | TMOD1 | — | Terminal mode select 1 terminal ("L": normal) |

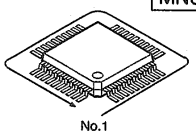
| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 54 | TMOD2 | — | Terminal mode select 2 terminal ("L": normal) |
| 55 | FLAG | — | Flag signal output terminal (Not used, open) |
| 56 | FCLK | — | Crystal frame clock signal output terminal (Not used, open) |
| 57 | EXT0 | O | Expansion port 0 output terminal |
| 58 | EXT1 | — | Expansion port 1 output terminal (Not used, open) |
| 59 | EXT2 | — | Expansion port 2 output terminal (Not used, open) |
| 60 | TX | O | Digital audio interface signal output terminal (Not used, open) |
| 61 | MCLK | I | Micon command clock signal input terminal |
| 62 | MDATA | I | Micon command data input terminal |
| 63 | MLD | I | Micon command load signal input terminal ("L": load) |
| 64 | BLKCK | O | Sub code block clock signal output terminal (f BLKCK=75kHz) |
| 65 | SQCK | I | Sub code Q resistor clock input terminal |
| 66 | SUBQ | — | Sub code Q data output terminal (Not used, open) |
| 67 | DMUTE | I | Muting input terminal ("H": mute) (Not used, connected to GND) |
| 68 | STAT | O | Status signal output terminal (RESY, CLVS, NTTSTOP, SQCK, FLAG6, SENSE, NTLOCK, BSSEL, SUBQ DATA, CD TEXT DATA, ANTI SHOCK LOAD DATA ) |
| 69 | NRST | I | Reset input terminal ("L": reset) |
| 70 | ARST | I | Test terminal ("L": normal) |
| 71 | PMCK | O | Clock signal output terminal (88.2kHz) |
| 72 | SMCK | O | Clock signal output terminal (4.2336MHz) |
| 73 | SUBC | O | Sub code output terminal (Not used, open) |
| 74 | SBCK | I | Sub code output clock input terminal |
| 75 | NCLDCK | O | Sub code frame clock output terminal (f CLDCK= 7.35kHz) (Not used, open) |
| 76 | NTEST | I | Test terminal ("H": normal) |
| 77 | X1 | I | Crystal oscillator input terminal (f=16.9344MHz) |
| 78 | X2 | O | Crystal oscillator output terminal (f=16.9344MHz) |
| 79 | DVDD1 | I | Power supply terminal |
| 80 | DVSS1 | — | GND terminal |

## ■ Type Illustration of IC's, Transistors and Diodes

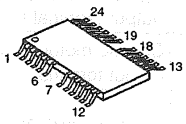
| | |
|---|---|
| NJU7082BVTE1 | 8PIN |
| AN8839NSBE1 | 28PIN |
| BH6508FSE2 | 32PIN |
| RS10002E2 | 40PIN |



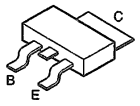

| | |
|---|---|
| SC440306CFU | 64PIN |
| MN662780RPS2 | 80PIN |

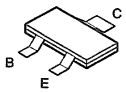



MNV4400-T8T



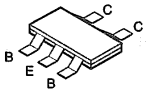

2SB1182TLPQR



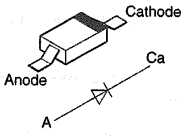




2SB709ATX DTA114YUA106
2SD1328TX UN5115TX
2SD1328STTX UN5213TX

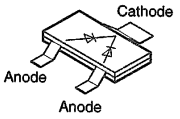
XN1210TX
XN1215TX



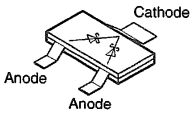

MA111TX
MA2ZD0200L




MA142WKTX




MA741WKTX



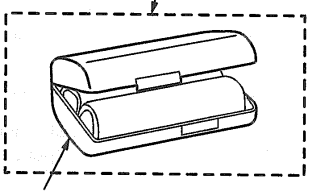

## ■ Supply of Rechargeable Battery Ass'y as Replacement Parts

Please take note of the following points relating to Battery Carrying Case to be used for protection of Rechargeable Battery Ass'y from shorting.

Replacement Parts:

- Rechargeable Battery Ass'y (RFKFP3GAVABA) to be supplied will be provided with Battery Carrying Case (RFKNLS370-K).
- No replacement parts will be supplied for Rechargeable Battery Ass'y without Battery Carrying Case.
- Replacement parts will be supplied for Battery Carrying Case (RFKNLS370-K) without Rechargeable Battery Ass'y.
- To your customers, delivery Rechargeable Battery Ass'y together with Battery Carrying Case to prevent shorting accidents that may occur when Rechargeable Battery Ass'y is carried about without Battery Carrying Case.

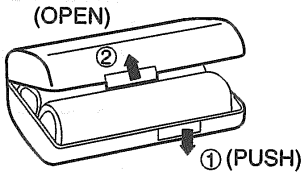
Rechargeable Battery Ass'y
(Rechargeable Batteries with Carrying Case)
(RFKFP3GAVABA)



Battery Carrying Case (RFKNLS370-K)

## ■ Caution in Use of Rechargeable Battery Ass'y

- Take Rechargeable Battery Ass'y out of Battery Carrying Case and use it.
- Be sure to carry Rechargeable Battery Ass'y in this Battery Carrying Case.
  If not, it may either heat or ignite by shorting with a metal.



# 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 2.
*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)
*"<IA>, <IB>" marks in Remarks indicate language of instruction manual.
[<IA>: English, <IB>: Canadian/French]
※This item is not attached to marchandise, but it is supplied as a replacement parts.

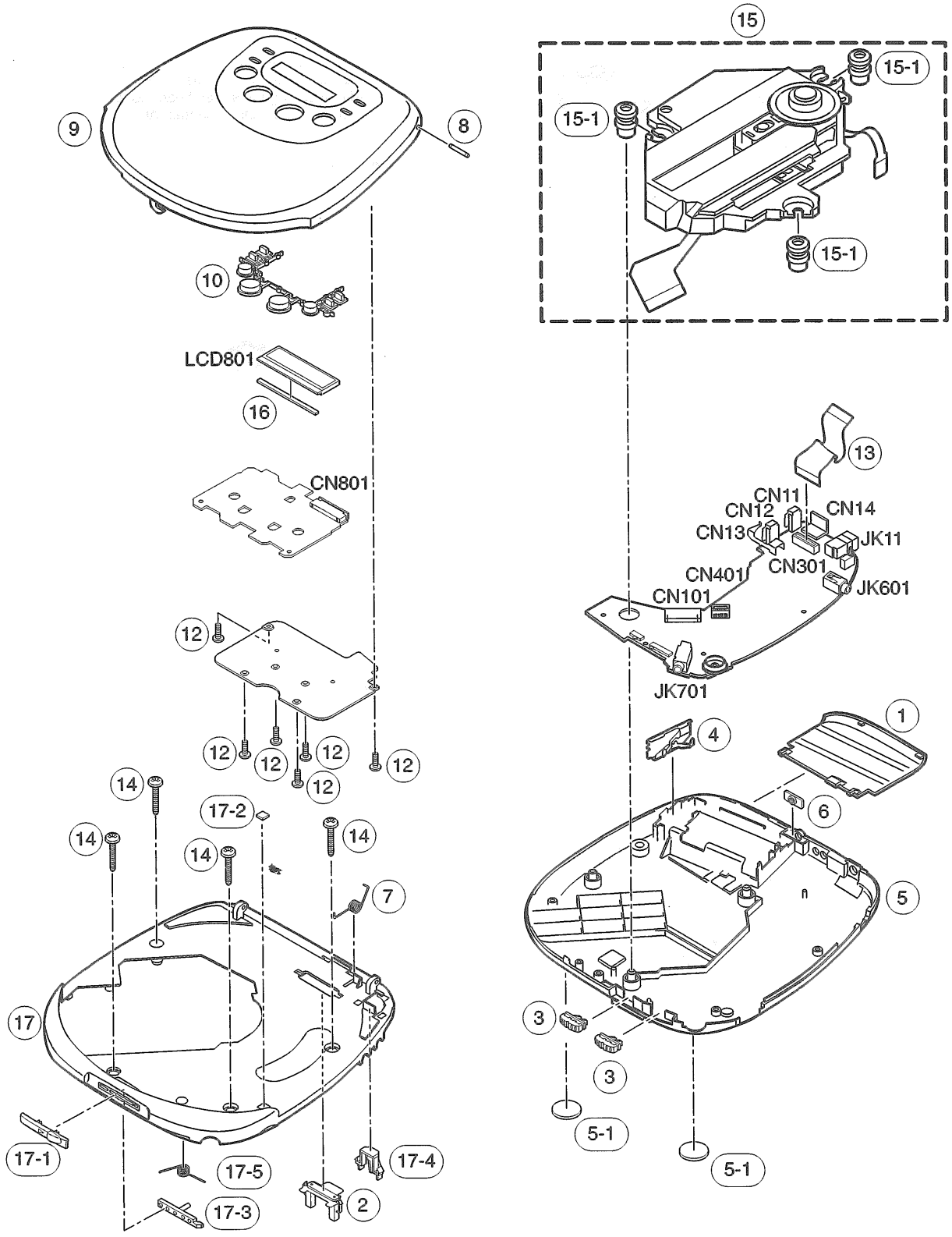
| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |
| 1 | RKK0102-K | BATTERY COVER | 1 | |
| 2 | RMR1142-K | FPC HOLDER | 1 | |
| 3 | RGV0199-H | SLIDE KNOB | 2 | |
| 4 | RJC93020 | COMMON BATTERY TERMINAL | 1 | |
| 5 | RFKJSX300P-S | BOTTOM CABINET ASS'Y | 1 | |
| 5-1 | RKA0063-K | FOOT | 2 | |
| 6 | RMA0677 | REAR ORNAMENT PLATE | 1 | |
| 7 | RME0239 | OPEN SPRING | 1 | |
| 8 | RMS0570 | SHAFT | 1 | |
| 9 | RYF0475A-S | CD COVER ASS'Y | 1 | |
| 10 | RGU1611-H | OPERATION BUTTON | 1 | |
| 12 | RHE5119YA | SCREW | 6 | |
| 13 | RJB1944A | FFC(30P) | 1 | |
| 14 | XTN17+6GFZ | SCREW | 4 | |
| ⚠ 15 | RAE0145Z | TRAVERSE DECK | 1 | |
| 15-1 | RMG0449-H | FLOATING RUBBER | 3 | |
| 16 | RSQ0056 | ZEBRA RUBBER | 1 | |
| 17 | RYK0781A-H | INTERMEDIATE CABINET ASS'Y | 1 | |
| 17-1 | RGV0221-H | OPEN KNOB | 1 | |
| 17-2 | RMG0466-K | CUSHION RUBBER | 1 | |
| 17-3 | RMR1141-K | LOCK PLATE | 1 | |
| 17-4 | RMR1143-K | STOPPER | 1 | |
| 17-5 | RME0265 | SPRING | 1 | |
| | | | | |
| ⚠ A1 | RFEA415C-S | AC ADAPTOR | 1 | |
| A2 | RFA0627-K4 | BATTERY CASE | 1 | |
| A3 | RFKFP3GAVABA | RECHARGEABLE BATTERY ASS'Y | 1 | |
| A3-1 | RFKNLS370-K | RECHARGE.BATT.CARRYING CASE | 1 | |
| A4 | SQX7185 | WARRANTY CARD | 1 | (PC) |
| A5 | RFEV317P-KS | STEREO EARPHONES | 1 | (PC) |
| A5 | RFEV705P-KS | STEREO HEADPHONES | 1 | (P) |
| A6 | RQT4288-P | INSTRUCTION MANUAL | 1 | <IA> |
| A7 | RQT4289-C | INSTRUCTION MANUAL | 1 | (PC)<IB> |
| A8 | RQCB0792 | SERVICENTER LIST | 1 | (PC) |
| A9※ | RKB205ZA-0 | EAR PADS | 1 | (PC) |
| | | | | |
| C10 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C11 | ECEV0GA471P | 4V 470U | 1 | |
| C12 | ECA1AAK221XH | 10V 220U | 1 | |
| | | | | |
| | | | | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C13 | RCE0JSA470IX | 6.3V 47U | 1 | |
| C14 | ECEA0JKA101I | 6.3V 100U | 1 | |
| C15-17 | ECUVNA105ZFV | 10V 1U | 3 | |
| C18 | ECST0GY226RR | 4V 22U | 1 | |
| C19 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C20 | ECUV1E103KBV | 25V 0.01U | 1 | |
| C21 | ECUVNA105ZFV | 10V 1U | 1 | |
| C22 | ECUV1H561KBV | 50V 560P | 1 | |
| C23 | ECUVNA105ZFV | 10V 1U | 1 | |
| C25 | ECEA1AKN100I | 10V 100U | 1 | |
| C27 | ECST1AY475RR | 10V 4.7U | 1 | |
| C30 | ECUV1C104KBV | 16V 0.1U | 1 | |
| C31 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C32 | ECUV1H121JCV | 50V 120P | 1 | |
| C33 | ECST1AY475RR | 10V 4.7U | 1 | |
| C101 | ECUV0J474KBV | 6.3V 0.47U | 1 | |
| C102 | ECUV1C104KBV | 16V 0.1U | 1 | |
| C103 | ECUV1E223KBV | 25V 0.022U | 1 | |
| C104 | ECUV1E103KBV | 25V 0.01U | 1 | |
| C105 | ECUV1E223KBV | 25V 0.022U | 1 | |
| C106 | ECUV1H271KBV | 50V 270P | 1 | |
| C107 | ECUV1H332KBV | 50V 3300P | 1 | |
| C108 | ECUV1H391KBV | 50V 390P | 1 | |
| C112,13 | ECUZNC104ZFV | 16V 0.1U | 2 | |
| C206 | ECST0GY226RR | 4V 22U | 1 | |
| C301 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C302 | ECUVNA105ZFV | 10V 1U | 1 | |
| C401 | ECUV1H102KBV | 50V 1000P | 1 | |
| C402-05 | ECUV1E123KBV | 25V 0.012U | 4 | |
| C406,07 | ECUVNA105ZFV | 10V 1U | 2 | |
| C408 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C501 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C502 | ECUV1H561KBV | 50V 560P | 1 | |
| C503 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C504 | ECUV1E223KBV | 25V 0.022U | 1 | |
| C506 | ECUVNA224KBV | 10V 0.22U | 1 | |
| C507 | ECUV0J474KBV | 6.3V 0.47U | 1 | |
| C508 | ECUV1E103KBV | 25V 0.01U | 1 | |
| C509 | ECEA0JKA221I | 6.3V 220U | 1 | |
| C512,13 | ECUV1H150DCV | 50V 15P | 2 | |
| C516 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C517 | ECUV1H102KBV | 50V 1000P | 1 | |
| C601,02 | ECUV1H102KBV | 50V 1000P | 2 | |
| C603,04 | ECUV1H272KBV | 50V 2700P | 2 | |
| C605,06 | ECST0JY106RR | 6.3V 10U | 2 | |
| C607,08 | ECUV1H681KBV | 50V 680P | 2 | |
| C610 | ECA0JAK221XH | 6.3V 220U | 1 | |
| C611 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C703,04 | ECUVNA105KBN | 10V 1U | 2 | |
| C705,06 | ECEA0GPD221I | 4V 220U | 2 | |
| C713 | ECA0JAK470XH | 6.3V 47U | 1 | |
| C717 | ECUZNC104ZFV | 16V 0.1U | 1 | |
| C922,23 | ECUZNC104ZFV | 16V 0.1U | 2 | |
| | | | | |
| CN11,12 | RJC93015-1 | BATTERY TERMINAL(+)(-) | 2 | |
| CN13 | RJH5104 | RECHARGE.BATT.TERMINAL | 1 | |
| CN14 | RJH9209-1 | BATT.CASE CONNECT.TERMINAL | 1 | |
| CN101 | RJS2A6216T | CONNECTOR(16P) | 1 | |
| CN301 | RJS2A6130T | CONNECTOR(30P) | 1 | |
| CN401 | RJS2A5106T1 | CONNECTOR(6P) | 1 | |
| CN801 | RJS2A4530T | CONNECTOR(30P) | 1 | |
| | | | | |
| D11 | MA741WKTX | DIODE | 1 | |
| D21 | MA111TX | DIODE | 1 | |
| D24 | MA2ZD0200L | DIODE | 1 | |
| D301,02 | MA142WKTX | DIODE | 2 | |
| D901 | MA142WKTX | DIODE | 1 | |
| | | | | |
| IC11 | RS10002E2 | IC | 1 | |
| IC101 | AN8839NSBE1 | IC | 1 | |
| IC301 | SC440306CFU | IC | 1 | |
| IC401 | BH6508FSE2 | IC | 1 | |
| IC501 | MN662780RPS2 | IC | 1 | |
| IC502 | MNV4400-T8T | IC | 1 | |
| IC701 | NJU7082BVTE1 | IC | 1 | |
| | | | | |
| | | | | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |
| ⚠ ICP11 | UNH000700A | IC PROTECTOR | 1 | |
| | | | | |
| JK11 | RJJ43K09-C | JACK,DC IN | 1 | |
| JK601 | RJJD3S5ZB-C | JACK,OUT | 1 | |
| JK701 | RJJ36T02-C | JACK,HEADPHONES | 1 | |
| | | | | |
| L11 | RLQU331KT-W | COIL | 1 | |
| L12 | RLQS101KT1-T | COIL | 1 | |
| L13 | RLQU331KT-W | COIL | 1 | |
| L601,02 | RLBV102V-Y | COIL | 2 | |
| | | | | |
| LCD801 | RSL5192-T | LCD | 1 | |
| | | | | |
| P1 | RPN1044 | COVER | 1 | (P) |
| P2 | RPN1124 | TRAY | 1 | (P) |
| P3 | RPQ0845 | GROUND PAPER | 1 | (P) |
| P4 | RPQ0855 | TRAY | 1 | (P) |
| P5 | RPK1018 | PACKING CASE | 1 | (PC) |
| P6 | RPQ0752 | SPACER | 1 | (PC) |
| P7 | RPQ0836 | PAD | 1 | (PC) |
| P8 | RPF0111 | PROTECTION BAG(UNIT) | 1 | (PC) |
| | | | | |
| Q11 | 2SB1182TLPQR | TRANSISTOR | 1 | |
| Q13 | 2SD1328STTX | TRANSISTOR | 1 | |
| Q14 | DTA114YUA106 | TRANSISTOR | 1 | |
| Q15 | UN5213TX | TRANSISTOR | 1 | |
| Q204 | 2SB709ATX | TRANSISTOR | 1 | |
| Q502 | UN5115TX | TRANSISTOR | 1 | |
| Q601 | XN1215TX | TRANSISTOR | 1 | |
| Q603,04 | 2SD1328TX | TRANSISTOR | 2 | |
| Q701 | XN1210TX | TRANSISTOR | 1 | |
| Q703,04 | 2SD1328TX | TRANSISTOR | 2 | |
| Q905 | DTA114YUA106 | TRANSISTOR | 1 | |
| Q906 | XN1210TX | TRANSISTOR | 1 | |
| Q907 | DTA114YUA106 | TRANSISTOR | 1 | |
| | | | | |
| R11 | ERJ3GEYJ102Z | 1/16W 1K | 1 | |
| R12 | ERJ3GEYJ682V | 1/16W 6.8K | 1 | |
| R13 | ERJ3GEYJ102Z | 1/16W 1K | 1 | |
| R14 | ERJ3GEYJ223V | 1/16W 22K | 1 | |
| R15 | EXBV4V393JV | 1/32W 39K | 1 | |
| R17 | ERJ3GEYJ822V | 1/16W 8.2K | 1 | |
| R18 | ERJ3GEYJ332V | 1/16W 3.3K | 1 | |
| R19 | ERJ3GEYJ222V | 1/16W 2.2K | 1 | |
| R20 | ERJ3GEYJ223V | 1/16W 22K | 1 | |
| R21 | ERJ3GEYJ152V | 1/16W 1.5K | 1 | |
| R22 | ERJ3GEYJ392V | 1/16W 3.9K | 1 | |
| R25 | ERJ3GEYJ683V | 1/16W 68K | 1 | |
| R31 | ERJ3GEYJ100V | 1/16W 10 | 1 | |
| R32 | ERJ3GEYJ103Z | 1/16W 10K | 1 | |
| R102 | ERJ3GEYJ563V | 1/16W 56K | 1 | |
| R103 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | |
| R104 | ERJ3GEYJ683V | 1/16W 68K | 1 | |
| R106,07 | ERJ3GEYJ330V | 1/16W 33 | 2 | |
| R109 | ERJ3GEY0R00V | 1/16W 0 | 1 | |
| R111 | ERJ3GEY0R00V | 1/16W 0 | 1 | |
| R211 | ERJ3GEYJ223V | 1/16W 22K | 1 | |
| R212 | ERJ3GEYJ2R2V | 1/16W 2.2 | 1 | |
| R214 | ERJ3GEY0R00V | 1/16W 0 | 1 | |
| R220 | ERJ3GEYJ1R0V | 1/16W 1 | 1 | |
| R301 | ERJ3GEYJ473V | 1/16W 47K | 1 | |
| R302 | EXBV4V473JV | 1/32W 47K | 1 | |
| R304 | ERJ3GEYJ102Z | 1/16W 1K | 1 | |
| R305 | ERJ3GEYJ104Z | 1/16W 100K | 1 | |
| R306 | ERJ3GEYJ392V | 1/16W 3.9K | 1 | |
| R501 | EXBV4V222JV | 1/32W 2.2K | 1 | |
| R502 | EXBV4V103JV | 1/32W 10K | 1 | |
| R506 | ERJ3GEYJ104Z | 1/16W 100K | 1 | |
| R507 | ERJ3GEYJ391V | 1/16W 390 | 1 | |
| R508 | ERJ3GEYJ563V | 1/16W 56K | 1 | |
| R509 | ERJ3GEYJ683V | 1/16W 68K | 1 | |
| R510 | ERJ3GEYJ223V | 1/16W 22K | 1 | |
| R511 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | |
| R513 | ERJ3GEYJ1R0V | 1/16W 1 | 1 | |

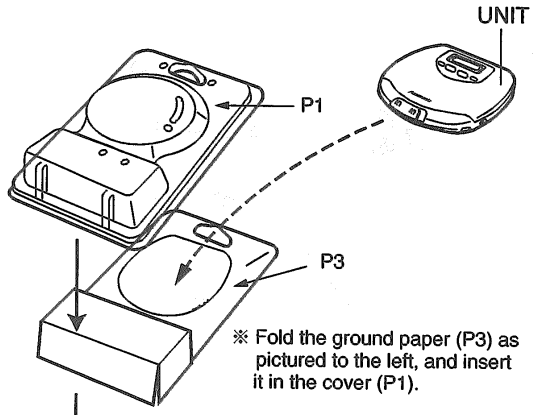
| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R515 | ERJ3GEYJ103Z | 1/16W 10K | 1 | |
| R516 | ERJ3GEYJ222V | 1/16W 2.2K | 1 | |
| R518 | ERJ3GEYJ224V | 1/16W 220K | 1 | |
| R524 | ERJ3GEY0R00V | 1/16W 0 | 1 | |
| R601,02 | ERJ3GEYJ681V | 1/16W 680 | 2 | |
| R603,04 | ERJ3GEYJ561V | 1/16W 560 | 2 | |
| R605,06 | ERJ3GEYJ473V | 1/16W 47K | 2 | |
| R607 | EXBV4V332JV | 1/32W 3.3K | 1 | |
| R609,10 | ERJ3GEYJ102Z | 1/16W 1K | 2 | |
| R701 | EXBV4V153JV | 1/32W 15K | 1 | |
| R703,04 | ERJ3GEYJ473V | 1/16W 47K | 2 | |
| R705 | EXBV4V473JV | 1/32W 47K | 1 | |
| R707 | EXBV4V273JV | 1/32W 27K | 1 | |
| R709,10 | ERJ3GEYJ150V | 1/16W 15 | 2 | |
| R711,12 | ERJ3GEYJ1R5V | 1/16W 1.5 | 2 | |
| R713 | EXBV4V331JV | 1/32W 330 | 1 | |
| R715 | EXBV4V472JV | 1/32W 4.7K | 1 | |
| R911 | ERJ3GEYJ473V | 1/16W 47K | 1 | |
| R921 | EXBV4V821JV | 1/32W 820 | 1 | |
| R923 | ERJ3GEYJ680V | 1/16W 68 | 1 | |
| R924 | ERJ3GEYJ470V | 1/16W 47 | 1 | |
| R931 | ERJ3GEYJ473V | 1/16W 47K | 1 | |
| R935 | ERJ3GEYJ823V | 1/16W 82K | 1 | |
| R937 | ERJ3GEYJ123V | 1/16W 12K | 1 | |
| R938 | ERJ3GEYJ393V | 1/16W 39K | 1 | |
| | | | | |
| RJ904 | ERJ3GEY0R00V | CHIP JUMPER | 1 | |
| | | | | |
| RJX202 | ERJ3GEY0R00V | CHIP JUMPER | 1 | |
| RJX501 | ERJ3GEY0R00V | CHIP JUMPER | 1 | |
| RJX503 | ERJ3GEY0R00V | CHIP JUMPER | 1 | |
| RJX505 | ERJ3GEY0R00V | CHIP JUMPER | 1 | |
| RJX507 | ERJ3GEY0R00V | CHIP JUMPER | 1 | |
| RJX509 | ERJ3GEY0R00V | CHIP JUMPER | 1 | |
| RJX513,14 | ERJ3GEY0R00V | CHIP JUMPER | 2 | |
| RJX903 | ERJ3GEY0R00V | CHIP JUMPER | 1 | |
| | | | | |
| S201 | ESE11SV6 | SW | 1 | |
| S202 | ESE11HS4 | SW | 1 | |
| S301 | RSS3A007-1A | SW | 1 | |
| S302 | RSS2A010-1A | SW | 1 | |
| S801-08 | RSG0038-P | SW | 8 | |
| | | | | |
| SA1 | SZZP1054C | PLAYABILITY TEST DISC | 1 | |
| SA2 | SZZP1056C | UNEVEN TEST DISC | 1 | |
| | | | | |
| VR11 | RRN3A05B33WL | V.R | 1 | |
| VR701 | EVUTUFB11C54 | V.R | 1 | |
| | | | | |
| X501 | RSXZ16M9M04T | OSCILLATOR | 1 | |

## ■ Cabinet Parts Location



# ■ Packaging

● **For SL-SX300 (P) only**

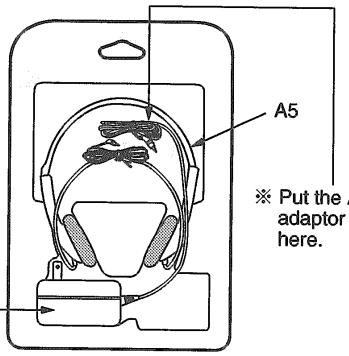


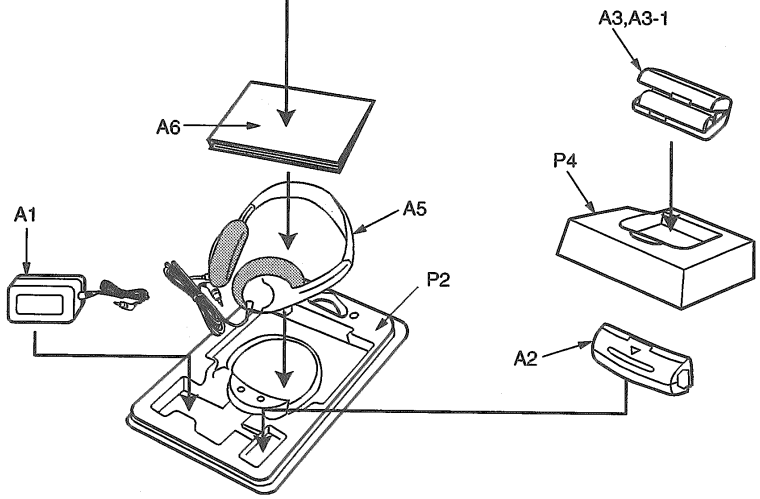

※ Fold the ground paper (P3) as pictured to the left, and insert it in the cover (P1).

※ Remove the AC adaptor, stereo headphones bag, and insert it in the tray (P2).
※ After inserting the stereo headphones (A5), insert the instruction manual (A6).

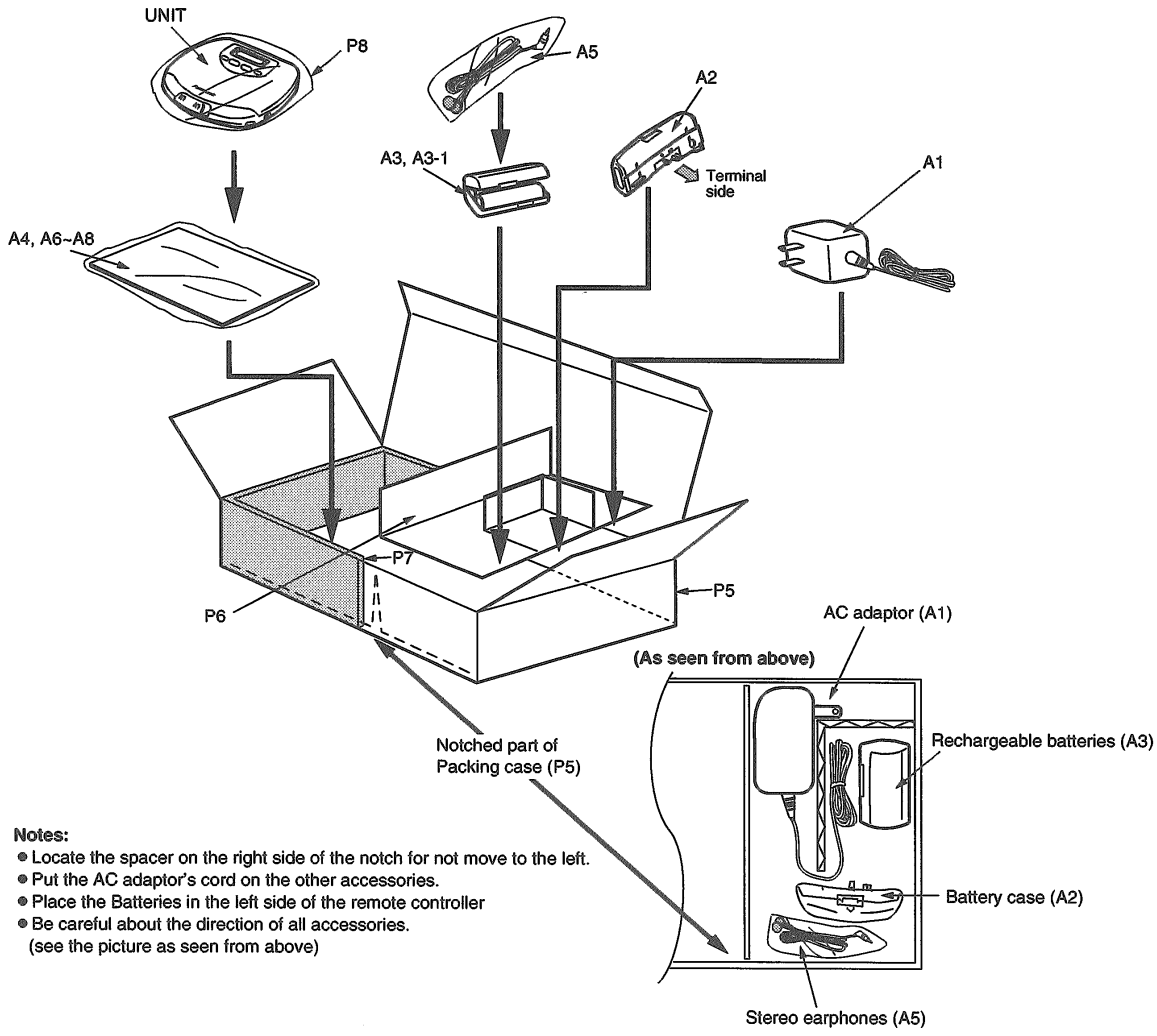
**Tray Ass'y**

※ Trim up the stereo headphones cord as pictured to the below.



## ● For SL-SX300 (PC) only




**Notes:**

- Locate the spacer on the right side of the notch for not move to the left.
- Put the AC adaptor's cord on the other accessories.
- Place the Batteries in the left side of the remote controller
- Be careful about the direction of all accessories.
  (see the picture as seen from above)



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