ORDER NO. AD9805087C0
A6

Service Manual

COMPACT disc DIGITAL AUDIO

MASH※ multi-stage noise shaping

※ •MASH is a trademark of NTT.

Portable CD Player

SL-SW505
SL-SW511C
SL-SW515

Colours (A) ..... Blue Type
(K) ..... Black Type
(S) ..... Silver Type
(Y) ..... Yellow Type

Areas
P ..... U.S.A.
PC ..... Canada.
EB ..... Great Britain.
EG ..... Germany and Italy, etc.
GC ..... Asia, Latin America, Middle Near East and Africa.
GN ..... Oceania.

Areas and Colours for Every Models
SL-SW505(P) ..... (A,Y)
SL-SW505(PC) ..... (Y)
SL-SW511C(PC) ..... (K)
SL-SW515(P,EB,EG,GC,GN) ..... (S)
SL-SW515(PC) ..... (A,S)

Traverse Deck: RAE0145Z Mechanism Series

Specifications

Audio
No. of channels:	2 channels (left and right, stereo)
Output voltage:	0.6V (50 kohm) diameter 3.5 stereo mini jack
Frequency response:	20 - 20,000 Hz (+0.5 dB, -1.5 dB)
S/N:	More than 94 dB*
Wow and flutter:	Below measurable limit
DA converter:	1 bit, MASH*
Headphones output level:	Max. 9 mW+9 mW/16 ohm (variable) stereo mini jack diameter 3.5
Digital filter:	8 times over sampling

Signal Format
Correction system:	Technics New Super Decoding Algorithm

Pickup
Type:	One beam
Light source:	Semiconductor laser
Wavelength:	780 nm
Lens:	Glass pressed lens

Playing 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:	Approx. 18h/20h
Rechargeable batteries	
[Option: For (P,PC) areas] P-3GAVA/2B:	Approx. 9.0h/10h
[For (EB,EG) areas] RFKFP3GAVE2S:	Approx. 9.0h/10h
[For (GC,GN) areas] RFKFP3GAVT2S :	Approx. 9.0h/10h
SH-CDB8D :	Approx. 5.0h/6.0h

Recharging time
[For (P,PC) areas] P-3GAVA/2B:	Approx. 5 hours
[For (EB,EG) areas] RFKFP3GAVE2S:	Approx. 5hours
[For (GC,GN) areas] RFKFP3GAVT2S:	Approx. 5 hours
SH-CDB8D:	Approx. 3 hours

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 4.5V
Power consumption(Anti-shock ON/OFF)	
AC adaptor;	2.3W/2.5W [For (P,PC) areas] 3.0W/3.2W [For (EB,EG,GC,GN) areas]
When recharging;	3.8W [For (P,PC) areas] 4.3W [For (EB,EG,GC,GN) areas]
Dimensions:	136.0(Wide)/30.0(High)/150(Depth)mm 5 11/32"(Wide)/ 1 3/16"(High)/ 5 29/32"(Depth) inch
Weight:	359 g(12.6 oz) (with batteries)

*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

Contents

Precaution of Laser Diode

[For (P,PC) areas only]

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.

[For (EB, EG, GC, GN) areas only]

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

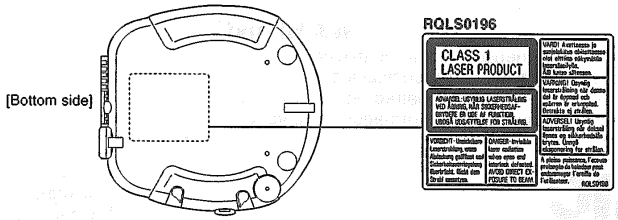
ACHTUNG: Dieses Produkt enthält eine Laserdiode. Im eingeshalteten Zustand wird unsichtbare Leserstrahlung von der Lasereinheit abgestrahlt.

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

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

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

ADVARSEL: I dette a apparat anvendes laser.



Accessories

- Stereo headphones ..... 1 pc.
  - SL-SW505
  - For (P) area: [RFEV701P-A1S (blue) or RFEV701P-Y1S (yellow)]
  - For (PC) area: (RFEV701P-Y1S)
  - SL-SW515
  - For (P, EB, EG, GC, GN) areas: (RFEV707P-S1S)
  - For (PC) area: [RFEV707P-S1S (silver) or RFEV707P-A1S (blue)]
  - SL-SW511C: (RFEV701P-K1S)
- AC adaptor ..... 1 pc.
  - For (P, PC) areas: (RFEA415C-S)
  - For (EB) area: (RFEA403B-S)
  - For (EG) area: (RFEA414E-M)
  - For (GC) area: (RFEA403Z-S)
  - For (GN) area: (RFEA403A-S)

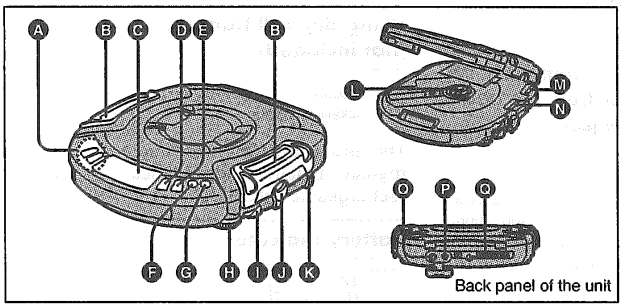
SL-SW515 only

- Rechargeable batteries ..... 1 pc.
  - For (EB, EG) areas: (RFKFP3GAVE2S)
  - For (GC, GN) areas: (RFKFP3GAVT2S)

SL-SW511C only

- Car adaptor (SH-CDC11PCY) ..... 1 pc.
- Car stereo cassette adaptor (SH-CDM10BYK) ..... 1 pc.

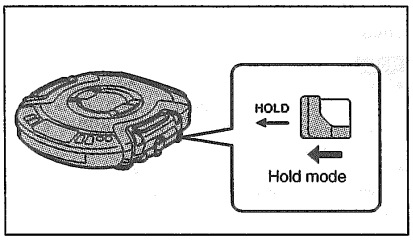
Location of Controls



Back panel of the unit

- Ⓐ Skip/search buttons (⏮, ⏭/◀◀, ▶▶)
- Ⓑ Dual lock (OPEN)
- Ⓒ Display
- Ⓓ Play/pause button (▶ ⏸)
- Ⓔ Stop/power off button (■, POWER OFF)
- Ⓕ Memory/recall button (MEMORY/RECALL)
- Ⓖ Repeat button (REPEAT)
- Ⓗ Headphones volume control (VOLUME)
- Ⓘ SL-SW505/SL-SW511C: XBS switch (XBS)
  SL-SW515: VMSS switch (VMSS)
- Ⓙ Headphones jack (Ω)
- Ⓚ Hold switch (HOLD)
- Ⓛ CD release button (PUSH)
- Ⓜ Anti-shock switch (ANTI-SHOCK)
- Ⓝ Play mode selector (MODE)
- Ⓞ Out jack (OUT)
- Ⓟ DC in jack (DC IN 4.5 V ⟡⊖⟡)
- Ⓠ Hole for car mounting base

Accidental Operation Prevention Function



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

The 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 the HOLD function

Set HOLD to the HOLD position.

"hold" indication

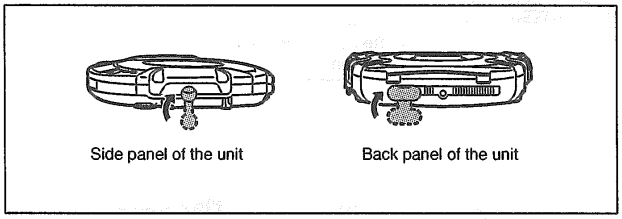
When the unit is in hold status, pressing any button causes the indication "hold" to appear on the display.

When the unit is powered off

The "hold" indication appears only when ▶ ⏸ is pressed.

Before operating the buttons

Be absolutely sure to move HOLD to release the unit from the hold mode.



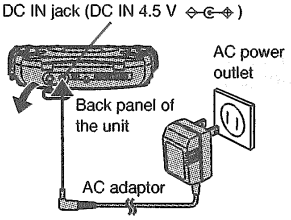
Be sure to cover the headphones jack, OUT jack and DC IN jack with the rubber caps when they are not in use.

Power Supply Preparations

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

Using the AC adaptor

Take off the attached rubber cap and connect the AC adaptor supplied.



Using rechargeable batteries (not included)

Obtain the optional rechargeable batteries.

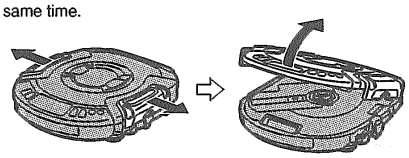
- Batteries [For (EB, EG) areas: (RFKFP3GAVE2S), For (GC, GN) areas: (RFKFP3GAVT2S), For (P, PC) areas: (P-3GAVA/2B; option)]

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.

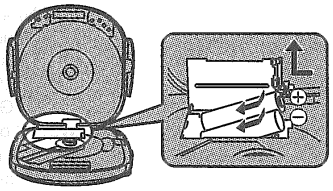
Recharging procedure

1 Open the disc lid.

Open and close dual locks using both hands at the same time.



2 Open the battery compartment lid, and place the rechargeable batteries inside the unit.



3 Take off the attached rubber cap and connect the AC adaptor.

Refer to "Using the AC adaptor" for instructions. When recharging starts, the "⊡" charging indicator flashes on and off on the unit's display.

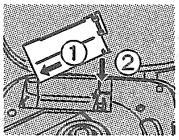
4 When recharging is complete, unplug the AC adaptor from the power outlet and the DC IN jack.

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.

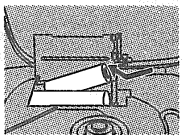
If the battery compartment lid comes loose

Insert the protrusions on the lid into the cutouts on both sides of the compartment.



Removing batteries

Push up on the battery in the direction indicated by the arrow, then lift out.



Using the car adaptor

The SL-SW511C comes with a car adaptor. Be sure to use the adaptor specially designed for this model. (Refer to the separate installation instructions.)

Be sure to obtain the car adaptor (SH-CDC9), available as an optional accessory for SL-SW505 and SL-SW515. The car adaptor can be used to recharge the unit's batteries while in the car.

For SL-SW505/SL-SW515

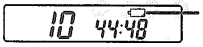
CAUTION:
Use only car adaptor, Model: SH-CDC9 manufactured by Matsushita Electric Industrial Co., Ltd.

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.

Battery indicator



This indicator flashes on and off when the batteries are almost out of power. Power is cut off completely a short while later.

Rechargeable batteries: Recharge batteries.
Dry-cell batteries: Replace batteries with new ones.

Notes

- The length of time the unit will continue to operate between when the battery indicator starts flashing and when the power is cut off differs depending on the type of batteries used.
- The battery indicator may not flash if rechargeable batteries, other than those designated by Panasonic, are used.

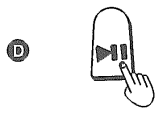
If the unit malfunctions or freezes during use, then disconnect the power sources (the AC adaptor and batteries).
Re-connect the power source and continue operation.

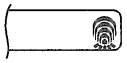
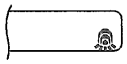
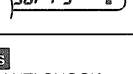
Anti-Shock Function

Anti shock works by reading audio data and storing it in memory (up to 40 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.

1

2



M.RESERVE indicator status	Unit body status	Play status (audio data status)
	Stable	Normal (plenty of data is stored)
	Bump encountered	Normal (stored data is used)
	Bumping stops	Normal (data again starts to be stored)
	Bumps continue repeatedly	Sound is interrupted (data buffer empty)

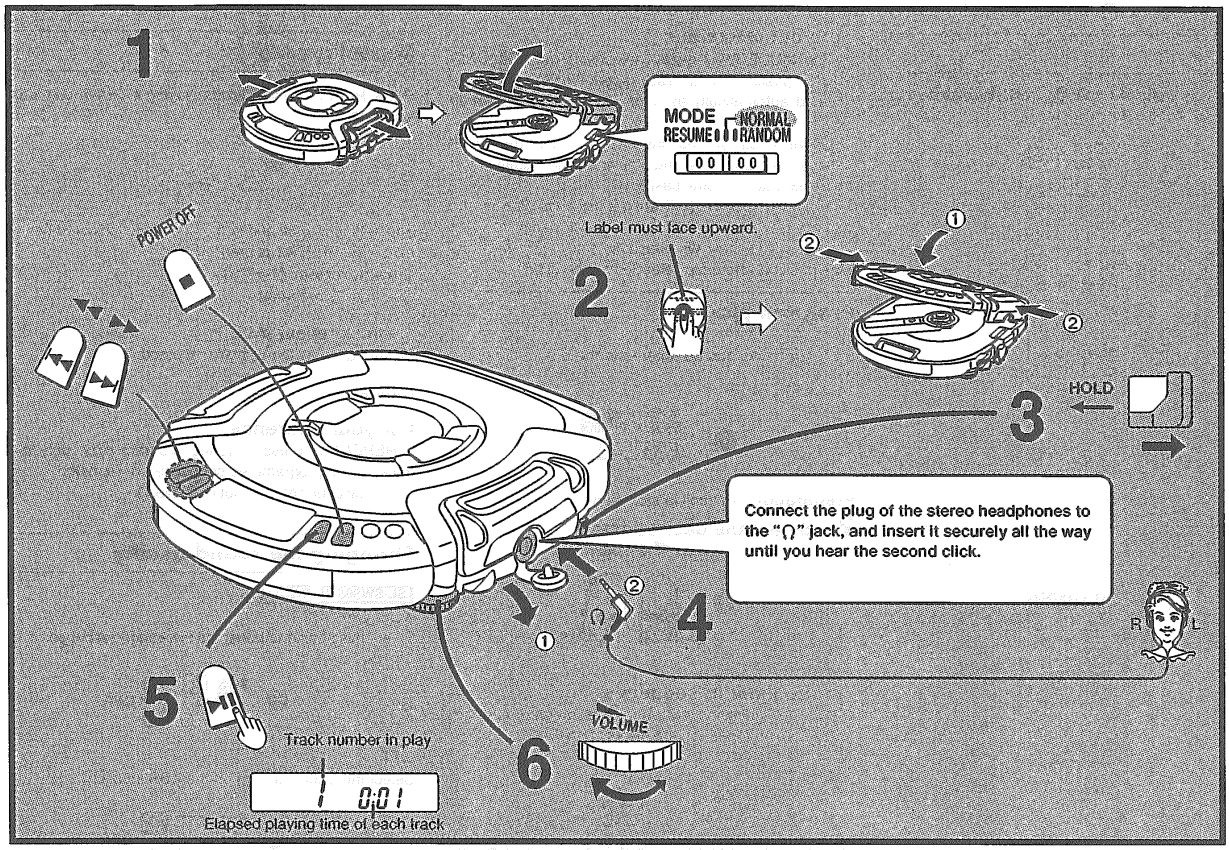
Notes

- The ANTI-SHOCK control cannot be set while play is in progress. Stop play, open the cover and then select the setting for this control.
- During anti-shock operation, the disc rotates at a higher rate than usual in collecting extra audio data. This could result in a slight increase in disc rotation noise.

Using the unit with an audio system

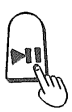
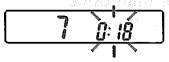
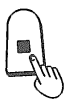
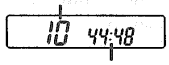
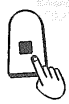
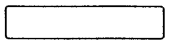
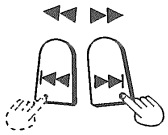
The anti-shock uses digital signal compression technology. It is recommended that the anti-shock be kept in the OFF position if the unit is connected to a home audio system.

Sequential Play



Follow steps 1–6.

- 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.
Rapid forward/ backward (search function)	Keep depressed during play	(See page 6.)

For your reference:

"no dISC" indication

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

"OPEn" indication

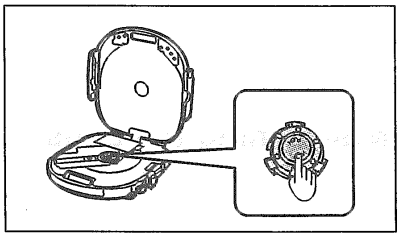
This indication appears for about 10 minutes when the cover is opened. (However, the indication does not appear when the unit is powered off.)

Notes

- When you open and/or close the lid, be sure to disconnect the stereo headphones plug from the headphones jack to avoid accidental breakage.
- Never insert foreign objects into the unit body.

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.)



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 battery from running down.
(If no disc is loaded in the unit, it powers itself off in about 30 seconds.)

Other Play Methods

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

Skip play

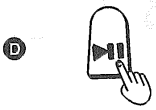
The disc plays from the specific track through to the end, then play stops automatically.

1

Preparation: Put unit in stop mode.

2 **Select the desired track.**

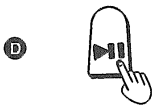
3



Random play

1

2



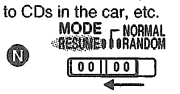
Release

For your reference:

- It is also possible to press ▶▶| while 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.



Release

For your reference:

- If the MODE (play mode) selector is put in the RESUME position, the all-track 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 old disc.

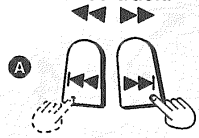
Program play

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

1

Preparation: Put unit in stop mode.

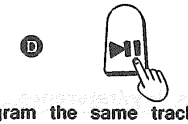
2 **Select the desired track.**



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 "ƒ" 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 number of the programmed tracks appear on the display panel in sequence.)

■ To delete the entire programmed sequence

Press ■, POWER OFF.

Repeat function

Press REPEAT while disc is playing or when unit is in stop status.

The setting is switched 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:

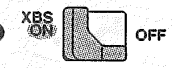
If REPEAT is pressed during program play, only the tracks in the programmed sequence are repeated.
(The indication "ALL" is not displayed.)

Changing the sound quality

SL-SW505/SL-SW511C

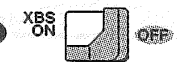
XBS ON:

Select this setting to boost the low-range response.



OFF:

Select this setting to turn off the XBS function.



SL-SW515

VMSS ON:

Boosts the low frequency range. The vibration of the earpieces of the included headphones makes the sound more vigorous.
Raising the volume level makes the VMSS effect intensify.

OFF:

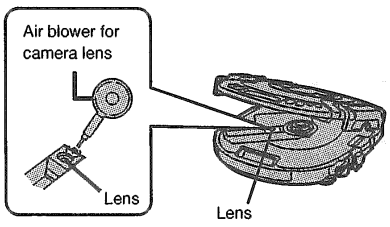
Select this setting to turn off the VMSS functions.

Notes

- VMSS is less effective with some sources.
- If you experience ringing or discomfort in your ears while in VMSS mode, reduce volume or turn VMSS OFF.

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)



Using the Unit with Optional Accessories

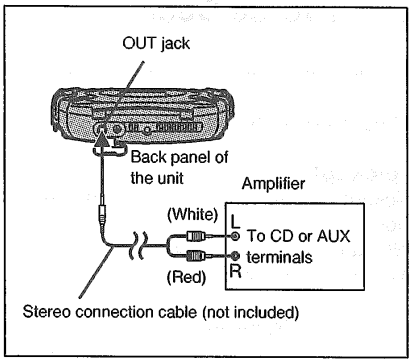
Using the unit with an audio system

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

- Connect the cable to the amplifier after turning off its power.
- Do not connect the cable to the PHONO jacks on the amplifier.
- Obtain the optional connecting cable if the amplifier comes with mini-phone jacks.
- Adjust the volume level on the amplifier.

Note

Sound quality changes when XBS (SL-SW505/SL-SW511C) or VMSS (SL-SW515) is selected, but volume is reduced by approximately fifty percent.



Using the unit with a car audio system

SL-SW511C comes with a car adaptor and car stereo cassette adaptor.

Items to be purchased (SL-SW505/SL-SW515)

For connection to the car audio system:

Car stereo cassette adaptor (SH-CDM10A)

Connect the car stereo cassette adaptor to the unit's headphone jack.
(When doing this, keep the unit's VOLUME control at a setting between 5 and 8.)

For securing the unit and connecting the power supply:

- Car mounting kit (SH-CDF20)
- Car adaptor (SH-CDC9)

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.

Cautions

Water Resistant (Splash Proof)

This unit is splash-proof and is not designed to be used under water.

Please note the following points to avoid possible damage to the unit and the included headphones.

- **Do not immerse in water.**
- **Do not splash water onto the unit.**
- **Water in the headphones jack, OUT jack, and DC IN jack may damage the unit. Cover them with the attached rubber caps when they are not in use.**
- **To prevent water from entering the unit, the dual locks should be locked to close the disc lid.**
- If the unit or the headphones get wet with water or sweat, dry them with a soft cloth.
- Do not open the disc lid near water or sand. Before opening or closing the disc lid, be sure to wipe off water, dust or sand on the unit and operate with a dry hand.
- Make sure there is no sand or dust around the disc lid. The disc lid will not seal properly if there is, and water may get into the unit, possibly causing a malfunction.
- Do not expose the unit or the headphones to salt water. If the unit and headphones are immersed in salt water, wash them with a little fresh water then dry with soft cloth. Never wash them under running water.
- Do not place the unit and the headphones for a long period of time in high temperature and high humidity areas such as bathrooms or damp basements, etc.

Rechargeable batteries

- Only the RFKFP3GAVE2S [For (EB, EG) areas], RFKFP3GAVT2S [For (GC, GN) areas], P-3GAVA/2B [For (P, PC) areas: option] batteries can be recharged.
- If the power delivered by the batteries lasts for a very short time after recharging, it means that the batteries' service life is over. Do not use them any more.
- Recharging already charged batteries will shorten their service life.
- When recharging batteries for the first time or when they have not been used for a long period of time, the play time may be shorter than usual. In a case like this, repeatedly recharge and discharge the batteries. This will restore them to their regular state.
- Do not allow any metal objects to touch the terminals of rechargeable batteries since this may cause short-circuiting which is dangerous.
- Do not peel off the plastic covering on the rechargeable batteries. Short-circuiting may occur which is dangerous.

Dry cell batteries/rechargeable batteries

To prevent damage to the batteries and electrolyte leakage, heed the following points.

- Align the ⊕ and ⊖ polarities properly when inserting the batteries.
- Do not mix different types or makes of batteries or old and new batteries.
- Remove the batteries if you do not plan to use the unit for a long period of time.
- Do not throw batteries into a fire, and do not short-circuit, disassemble or subject them to excessive heat.
- Do not attempt to recharge dry cell batteries.

Carrying dry cell batteries/ rechargeable batteries around

When putting dry cell or rechargeable batteries in a pocket or bag, ensure that no other metal objects such as a necklace are placed together with them. Contact with metal may cause short-circuiting which, in turn, may cause a fire.

Be absolutely sure to carry the rechargeable batteries in the battery carrying case.

When purchasing rechargeable batteries

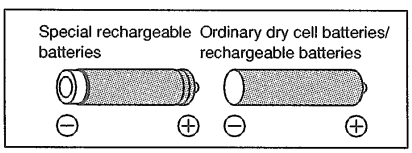
As a safety precaution, the portable CD players made by Panasonic have a construction designed to make it impossible to recharge ordinary batteries.

To use rechargeable batteries, be absolutely sure to purchase the rechargeable Ni-Cd batteries designed especially for this unit.

Special rechargeable Ni-Cd batteries:

RFKFP3GAVE2S [For (EB, EG) areas], RFKFP3GAVT2S [For (GC, GN) areas], P-3GAVA/2B [For (P, PC) areas: option] (set of 2)

For details, check with your dealer.



When driving a car

In the interest of traffic safety, do not operate the unit while driving.

Listening caution

Do not play your headphones or earphones at a high volume. Hearing experts advise against continuous extended play.

If you experience a ringing in your ears, reduce volume or discontinue use.

Do not use while operating a motorized vehicle. It may create a traffic hazard and is illegal in many areas.

You should use extreme caution or temporarily discontinue use in potentially hazardous situations.

Even if your headphones or earphones is an open-air type designed to let you hear outside sounds, don't turn up the volume so high that you can't hear what's around you.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.

Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

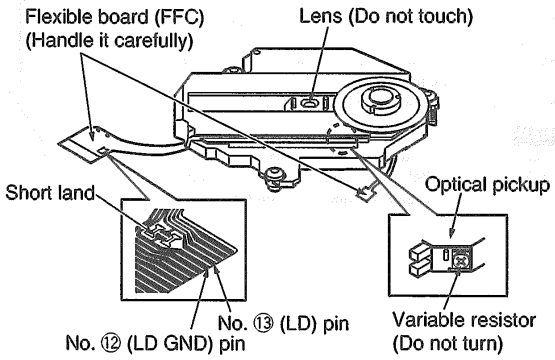
- Set the dial and leave it there.

■ 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)

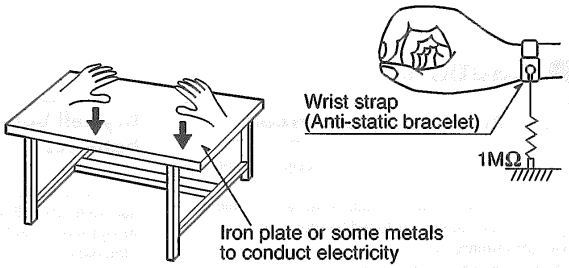
1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No. ⑫ (LD GND) and No. ⑬ (LD) pins on the flexible board (FFC) is shorted with a solder build-up to prevent damage to the laser diode.
   To connect 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

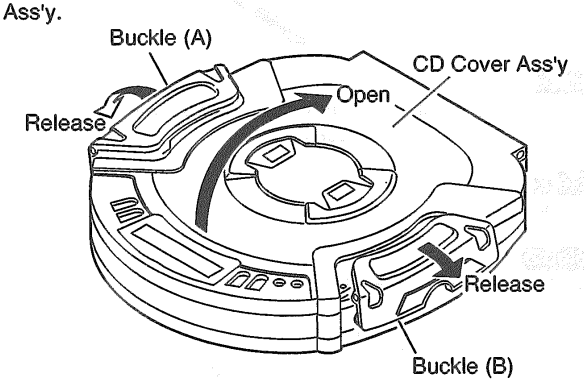
1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **[ ] indicates parts No.**

• Contents

1. Checking for the P.C.B. (Component side)

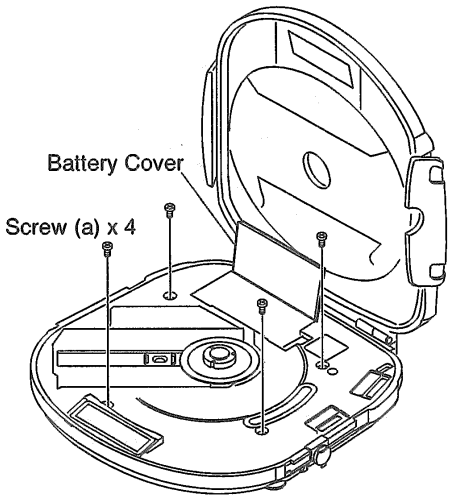
Step 1

Release the Buckles (A), (B), and then open the CD Cover Ass'y.



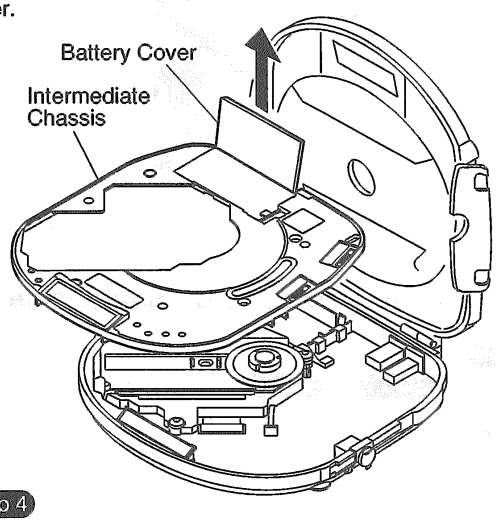
Step 2

Remove 4 Screws (a) and open the Battery Cover.



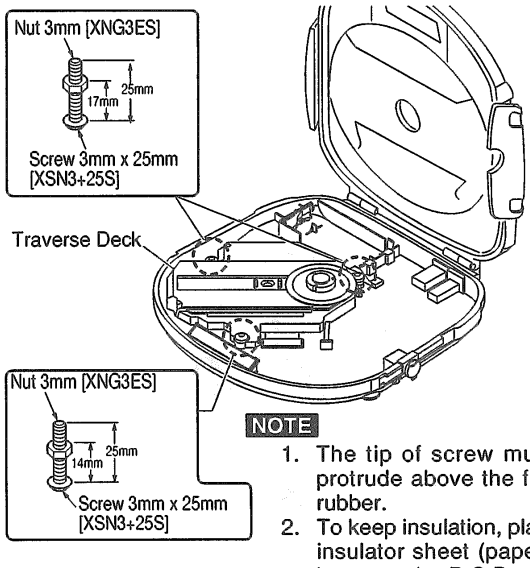
Step 3

Remove the Intermediate Chassis while holding the Battery Cover.



Step 4

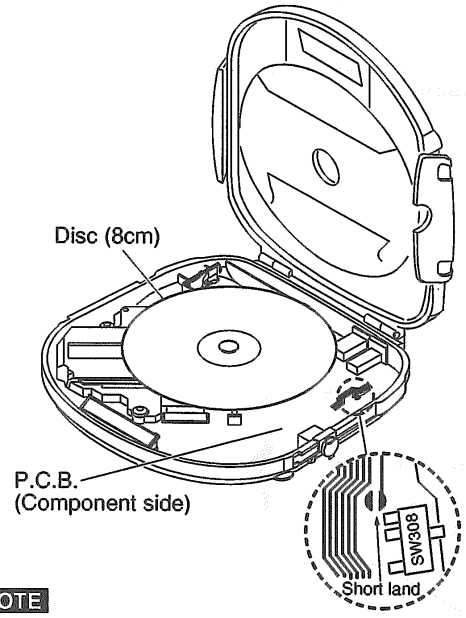
Sustain the Traverse Deck with the floating rubber inserted screws and nuts as shown below.



NOTE

1. The tip of screw must not protrude above the floating rubber.
2. To keep insulation, place the insulator sheet (paper etc.) between the P.C.B. and the head of screws.

Step 5
Short- circuit the land by soldering, and then put the disc.
Check the P.C.B. (Component side) as shown below.



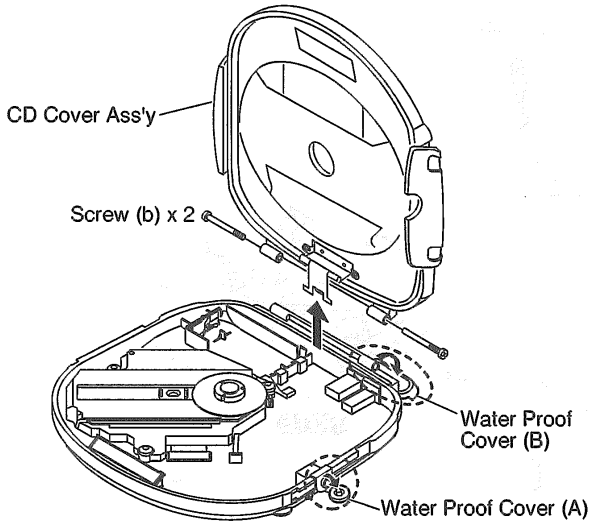
NOTE
1. After checking, unsolder the short land to open circuit.

2. Checking for the P.C.B. (Solder side)

Step 1
Follow the Step 1 to Step 3 in Item 1 on page 9.

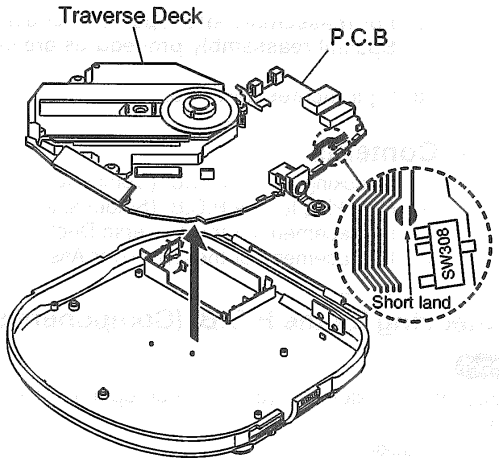
Step 2
Open the Water Proof Covers (A) and (B).

Step 3
Remove 2 Screws (b), and then remove the CD Cover Ass'y.



Step 4
Remove the Traverse Deck and P.C.B.

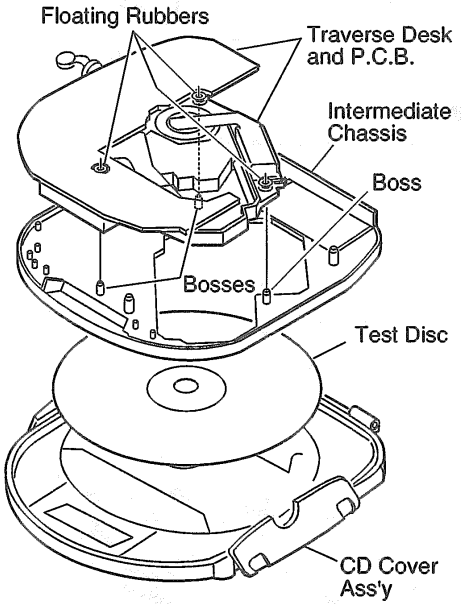
Step 5
Short- circuit the land by soldering as shown below.



Step 6
Align the bosses of the Intermediate Chassis with the floating rubbers of the Traverse Deck Ass'y.

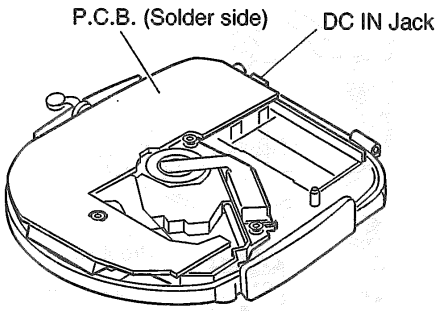
Step 7
Put the Test Disc.

Step 8
Locate the items on the CD Cover Ass'y.



Step 9
Connect the AC Adaptor to the DC IN Jack, and then apply DC Power.

Step 10
Check the P.C.B. (Solder side) as shown below.



NOTE
After checking, unsolder the short land to open circuit.

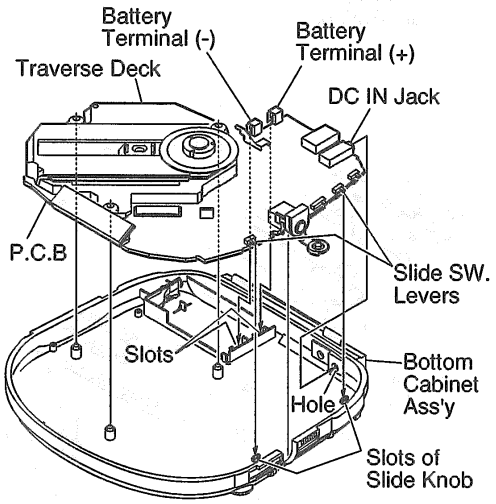
Notice for Installation

1. Installing the P.C.B. to the Bottom Cabinet Ass'y

Step 1
Insert the DC IN Jack into the hole of Bottom Cabinet Ass'y.

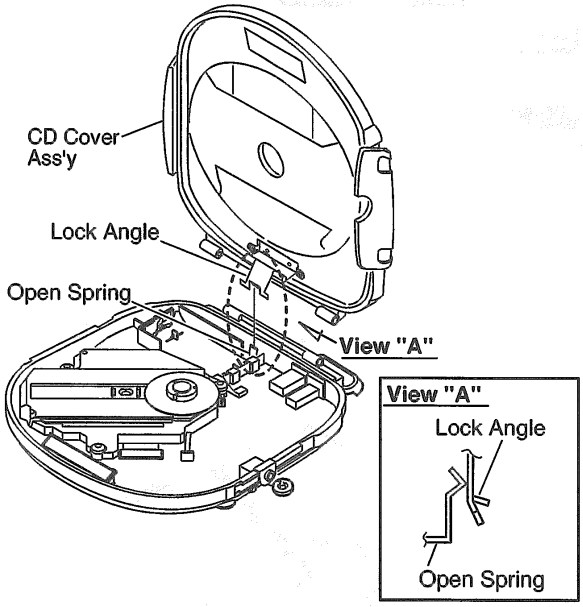
Step 2
Align the Battery Terminals (+) and (-) with slots of Bottom Cabinet Ass'y.

Step 3
Install the P.C.B. and Traverse Deck while aligning the slots of Slide Knob with the Slide SW. Levers of P.C.B.



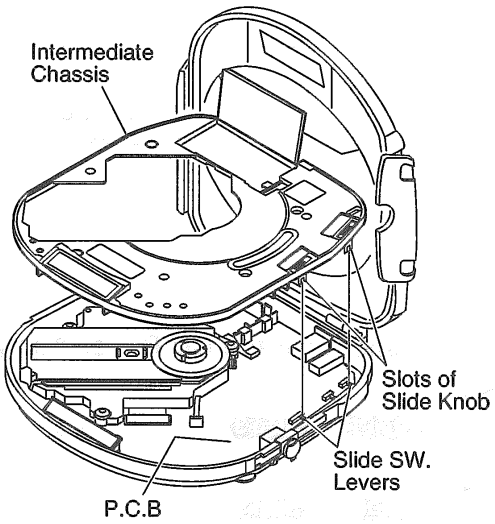
2. Installing the CD Cover Ass'y

The Lock Angle and Open Spring should be positioned as shown below (View "A").



3. Installing the Intermediate Chassis

Align the slots of Slide Knob with the slide SW. Lever of P.C.B.

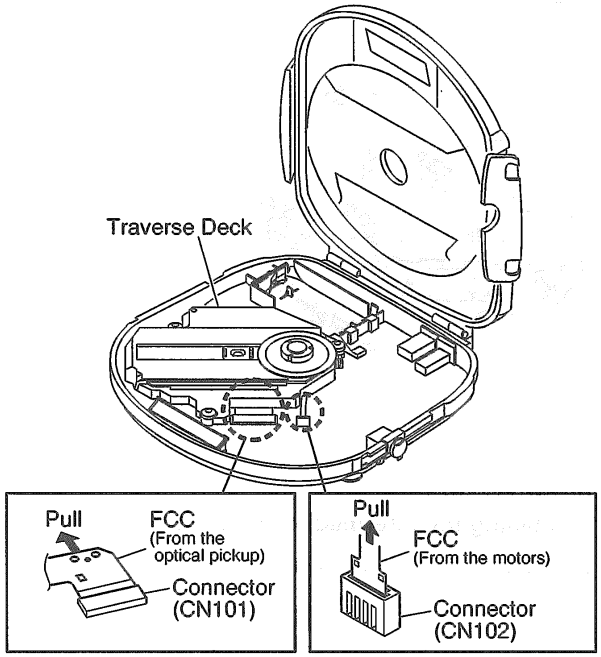


3. Replacement for the Traverse Deck

Step 1
Follow the Step 1 to Step 3 in Item 1 on page 9.

Step 2
Pull out the FFC from the Connector (CN101).

Step 3
Pull out the FFC from the Connector (CN102).



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

4. Replacement for the CD Cover Ass'y

Step 1
Follow the Step 1 to Step 3 in Item 1 on page 9.

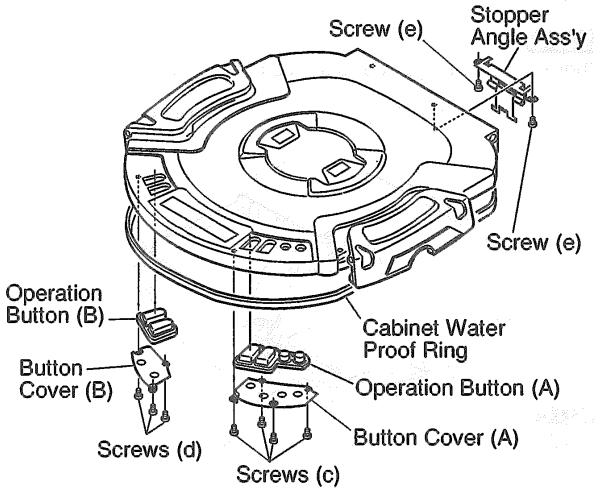
Step 2
Follow the Step 2 to Step 3 in Item 2 on page 10.

Step 3
Remove 4 Screws (c). Then, remove the Button Cover (A) and Operation Button (A).

Step 4
Remove 3 Screws (d). Then, remove the Button Cover (B) and Operation Button (B).

Step 5
Remove 2 Screws (e) and Stopper Angle Ass'y.

Step 6
Remove the Cabinet Water Proof Ring.

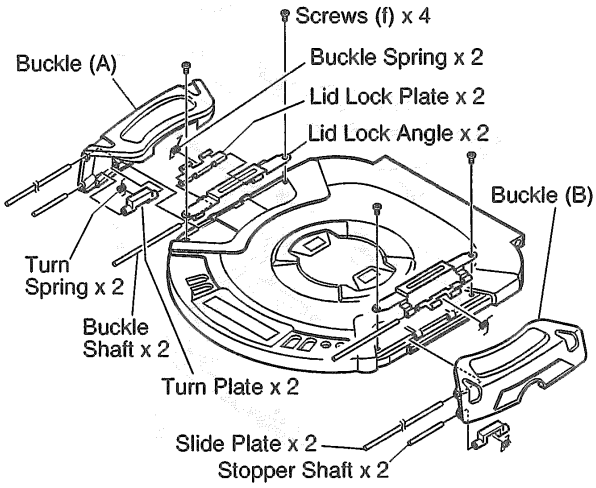


Step 7
Remove the 2 Slide Plate. Then, remove the Buckle (A), Buckle (B), and the 2 Buckle Springs.

Step 8
Remove the 4 Screws (f). Then, remove the 2 Lid Lock Angles.

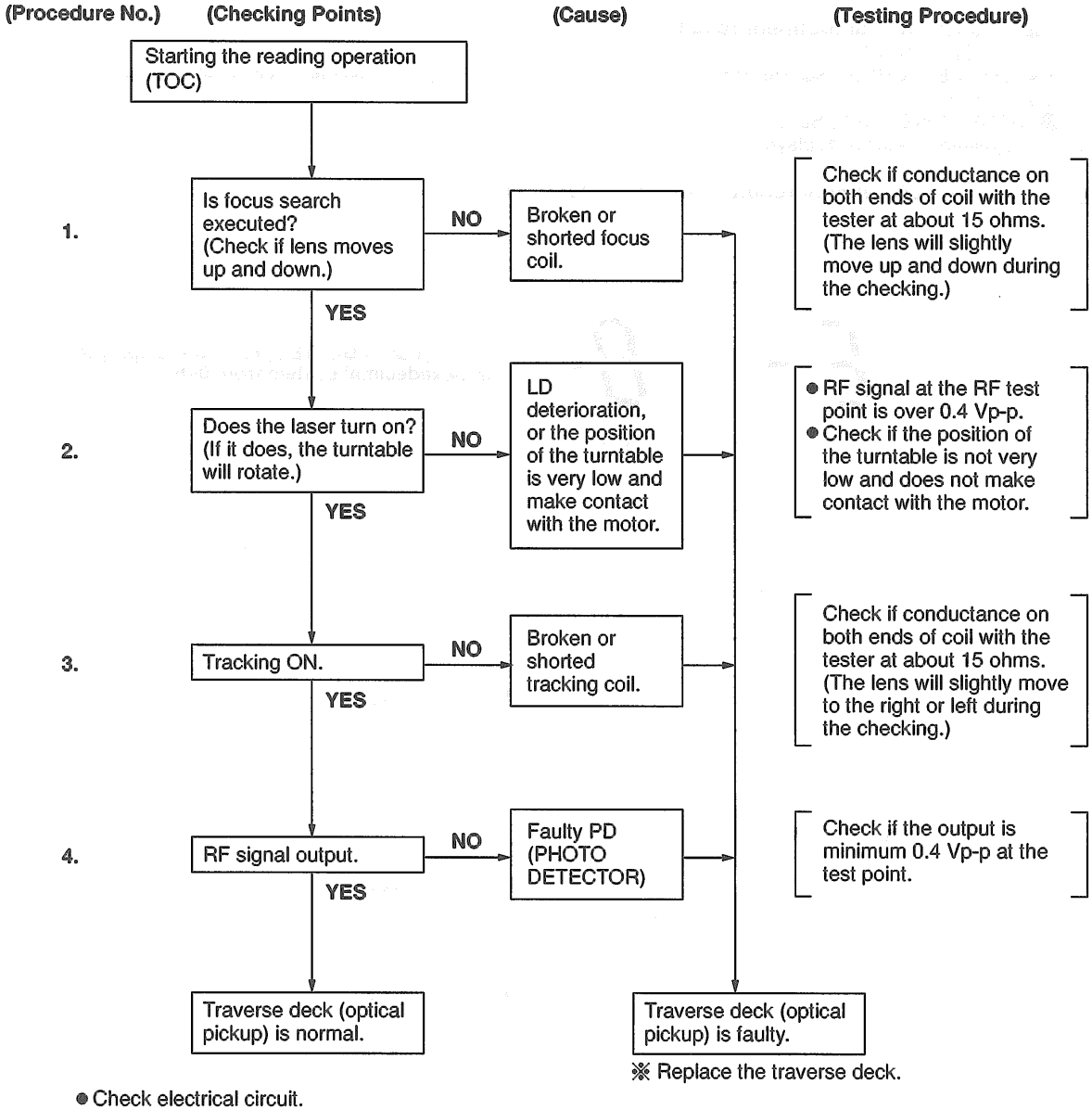
Step 9
Remove the 2 Buckle Shafts. Then, remove the 2 Lid Lock Plates.

Step 10
Remove the 2 Stopper Shafts. Then, remove the 2 Turn Plates and the 2 Turn Springs.



■ Checking the Operation Problems on the Traverse Deck (Optical Pickup)

Make sure to follow the procedures below to check the operational 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 on 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.

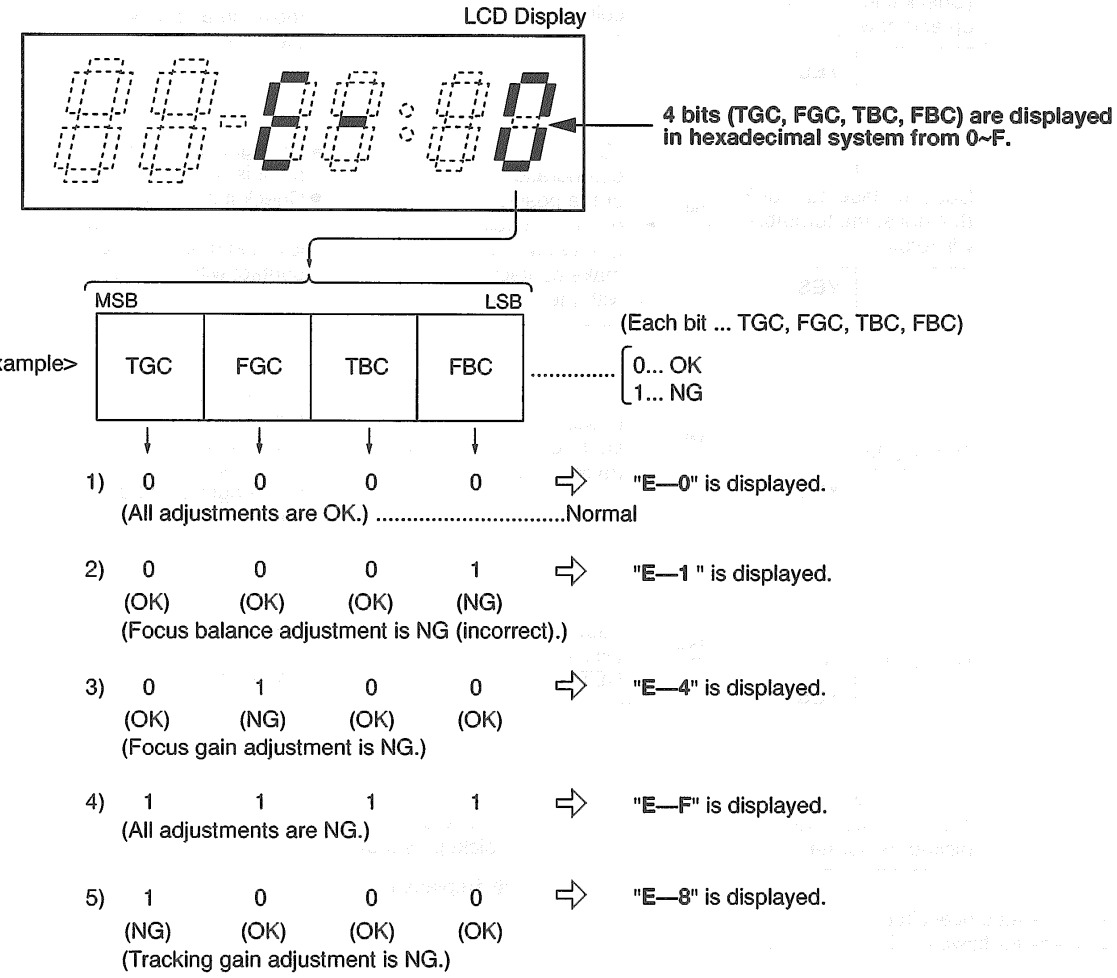
■ Automatic Adjustment Results Display Function (Self-check Function)

On this unit (SL-SW505/SW511C/SW515), each automatic adjustment results 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 ▶/II (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)**



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 ein vom hersteller spezifizierte einheit ausgetauscht werden.

• Measuring instruments and special tools

• **Test discs**	• Musical program disc (ordinary)
1. Playability test disc (SZZP1054C)	• DC voltmeter
2. Uneven test disc (SZZP1056C)	• Lead wire (for test points)

• Test short land

Short-circuit the lands of the laser ON/OFF switch (SW201) 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 (as shown in **Fig. 1**).

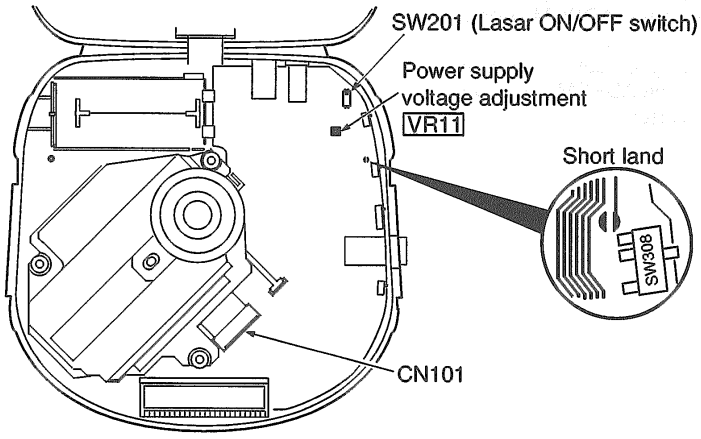


Fig. 1

(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. Anti-shock is set in OFF 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 **2.75 + 0.04V**, 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 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.

Outline of 40-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 16M bit memory for securing the accumulation time of about 40 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

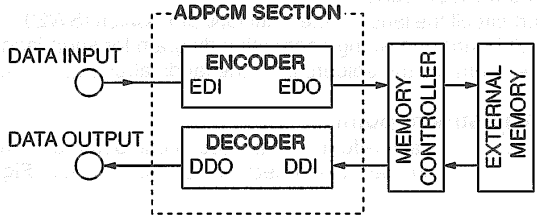


Fig. 1

■Schematic Diagram (See parts list on pages 34, 35.)

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

Notes:

- **SW201**: Laser ON/OFF switch in "OFF" position.
  (It turns "ON" with disc holder closed.)
- **SW202**: Rest detector in "OFF" position.
  (It turns "ON" when optical pickup comes to innermost periphery.)
- **SW301**: Memory/recall (MEMORY/RECALL) switch.
- **SW302**: Repeat (REPEAT) switch.
- **SW303**: Skip/search (⏮) switch.
- **SW304**: Skip/search (⏭) switch.
- **SW305**: Stop/power off (■, POWER OFF) switch.
- **SW306**: Play/pause (▶/⏸) switch.
- **SW307**: Play mode selector (MODE) in "NORMAL" position.
  [NORMAL ⟺ RANDOM ⟺ RESUME]
- **SW308**: Hold lock (HOLD-LOCK) switch in "OFF" position.
- **SW501**: Anti-shock (ANTI-SHOCK) switch in "OFF" position.
- **SW701**: XBS (XBS) 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.

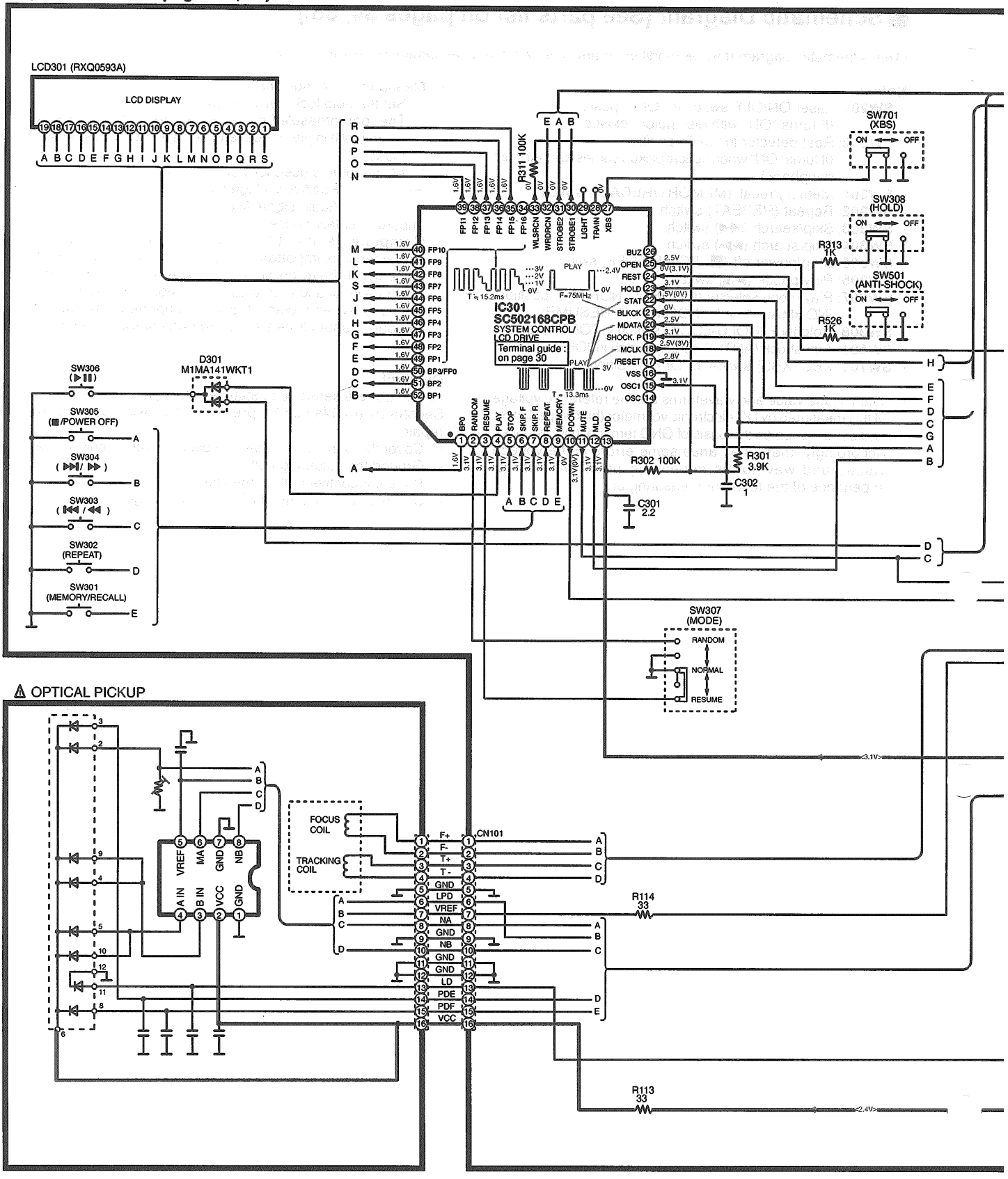
- Measurement conditions:
  * Set the hold lock switch to ON.
  * The parenthesized is the voltage for test disc (1 kHz, L + R, 0 dB) in play mode, and the other, for no disc in stop mode.
  * AC adaptor is used for power supply.
- ➡ : Positive voltage lines.
- ⇨ : Audio signal lines.
- Important safety 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!

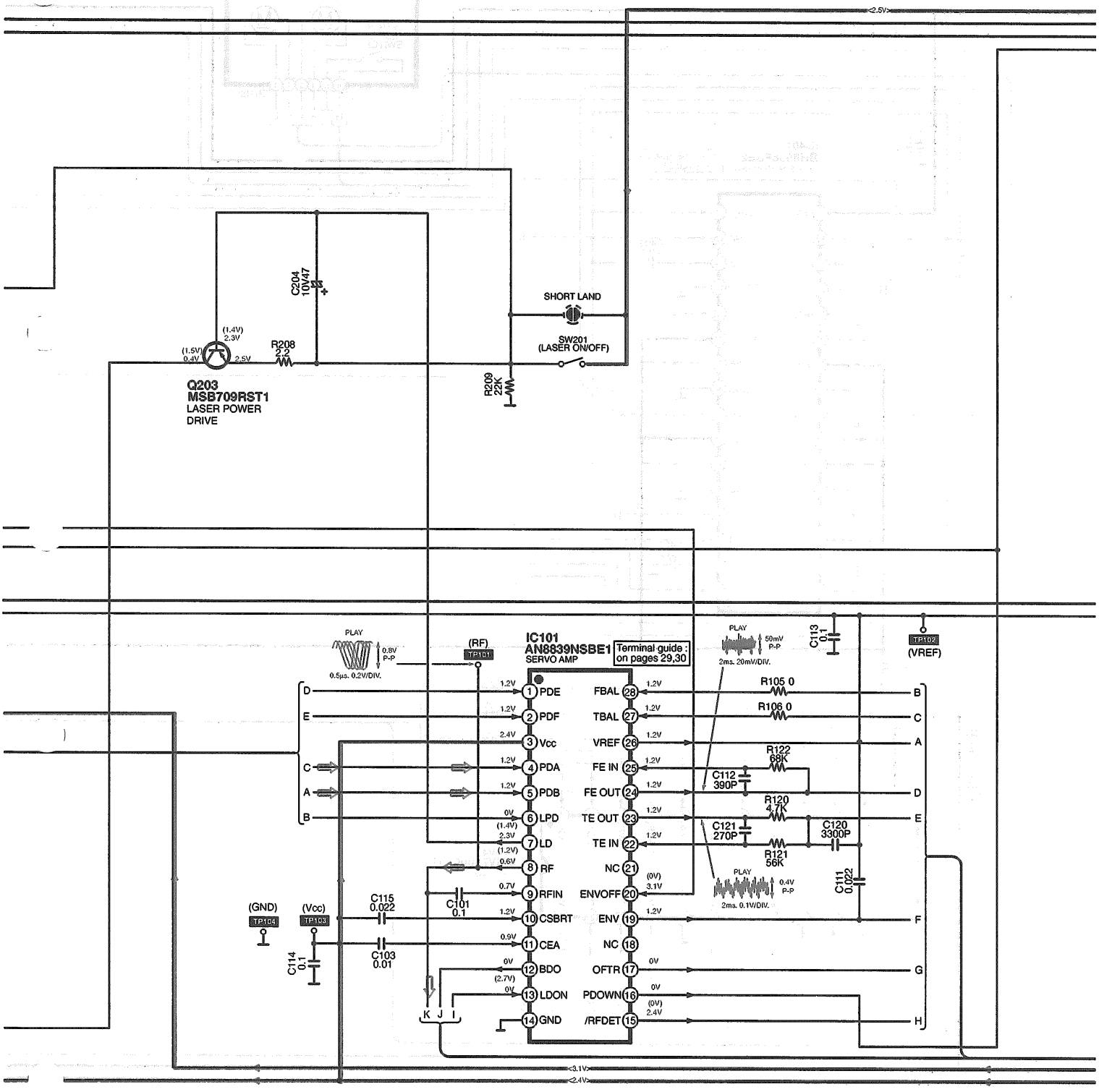
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- 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.

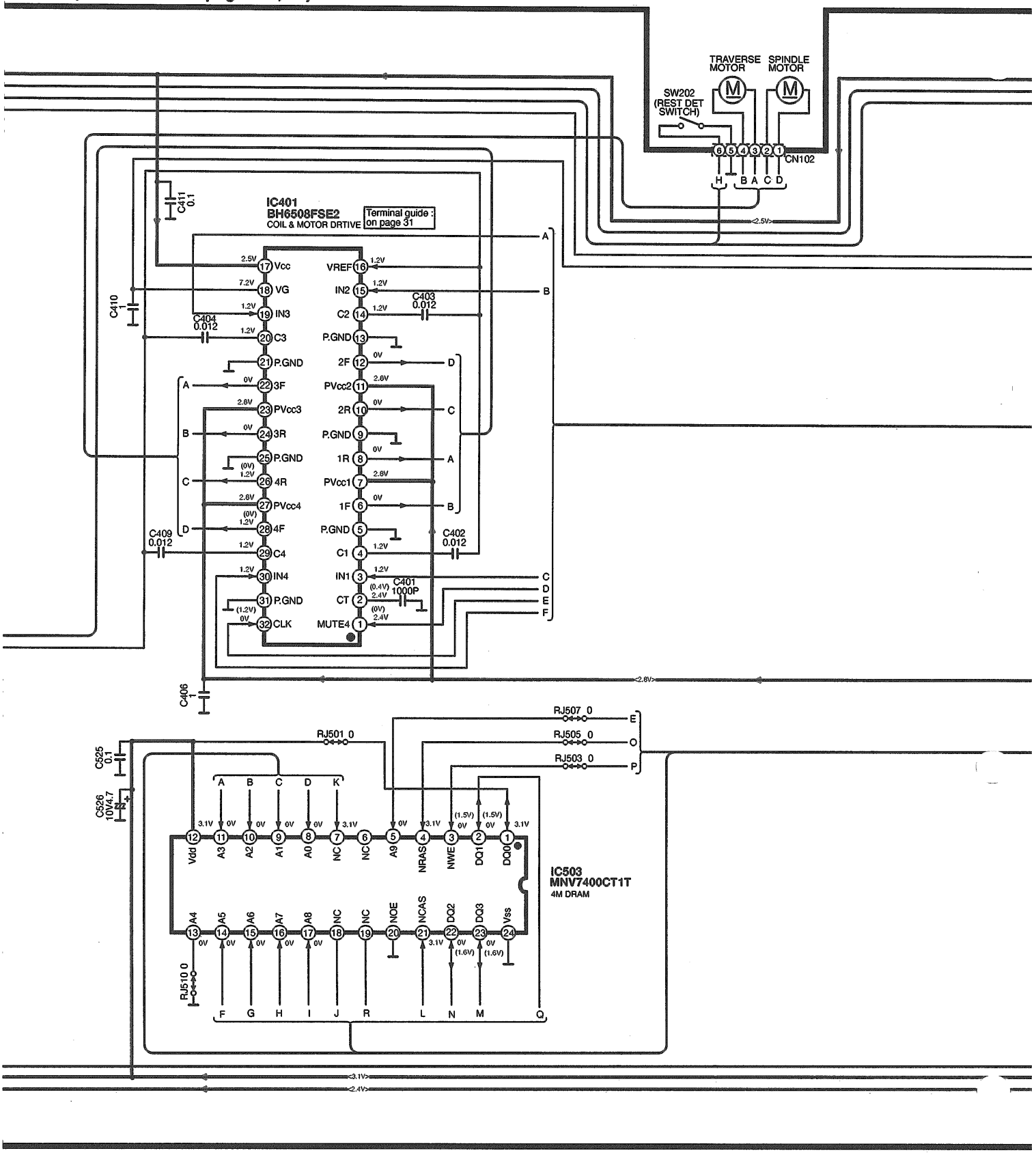
(P. C. Board: on pages 27, 28)



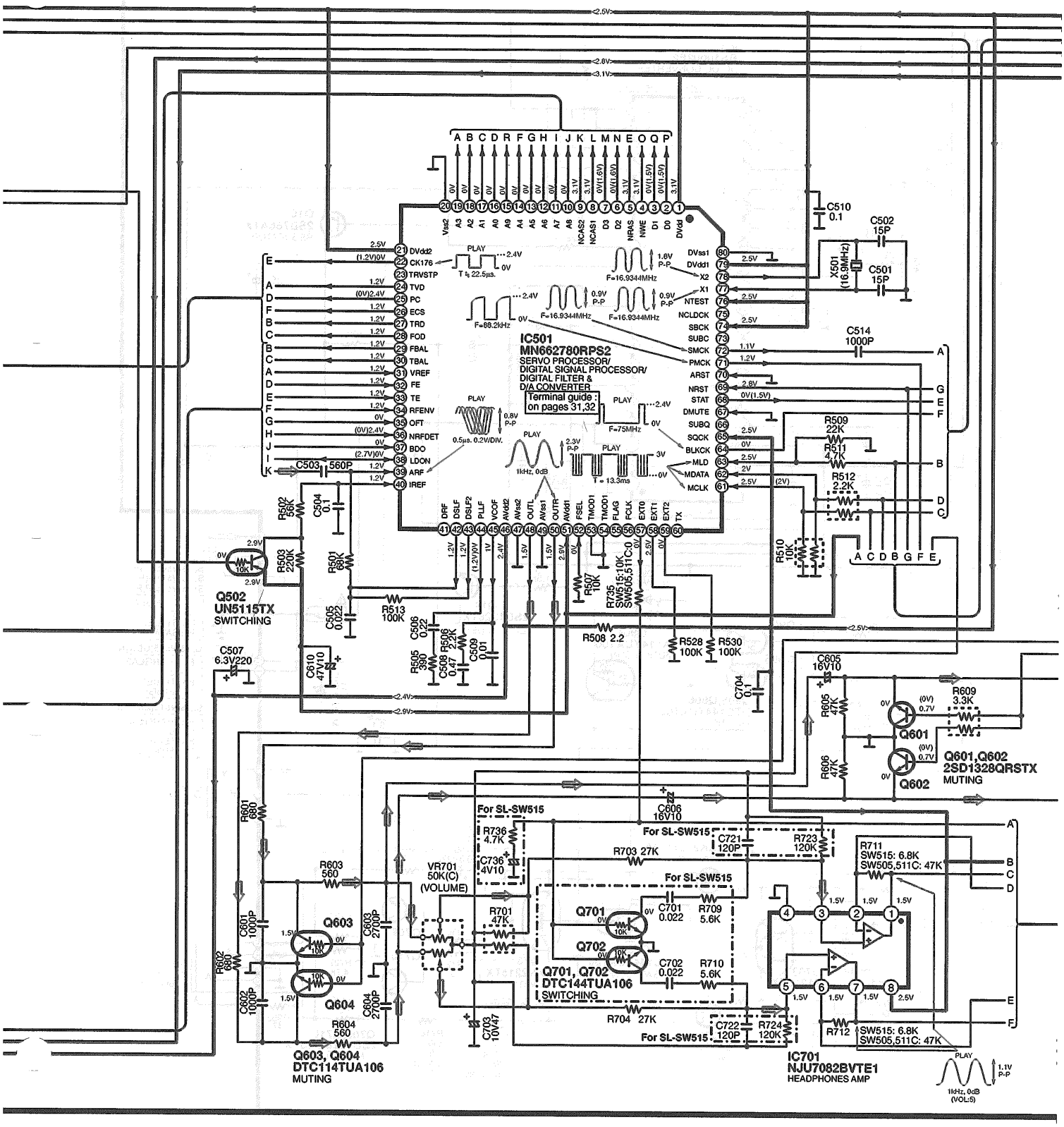
Note: • ⇨ :Audio signal line



(P. C. Board: on pages 27, 28)

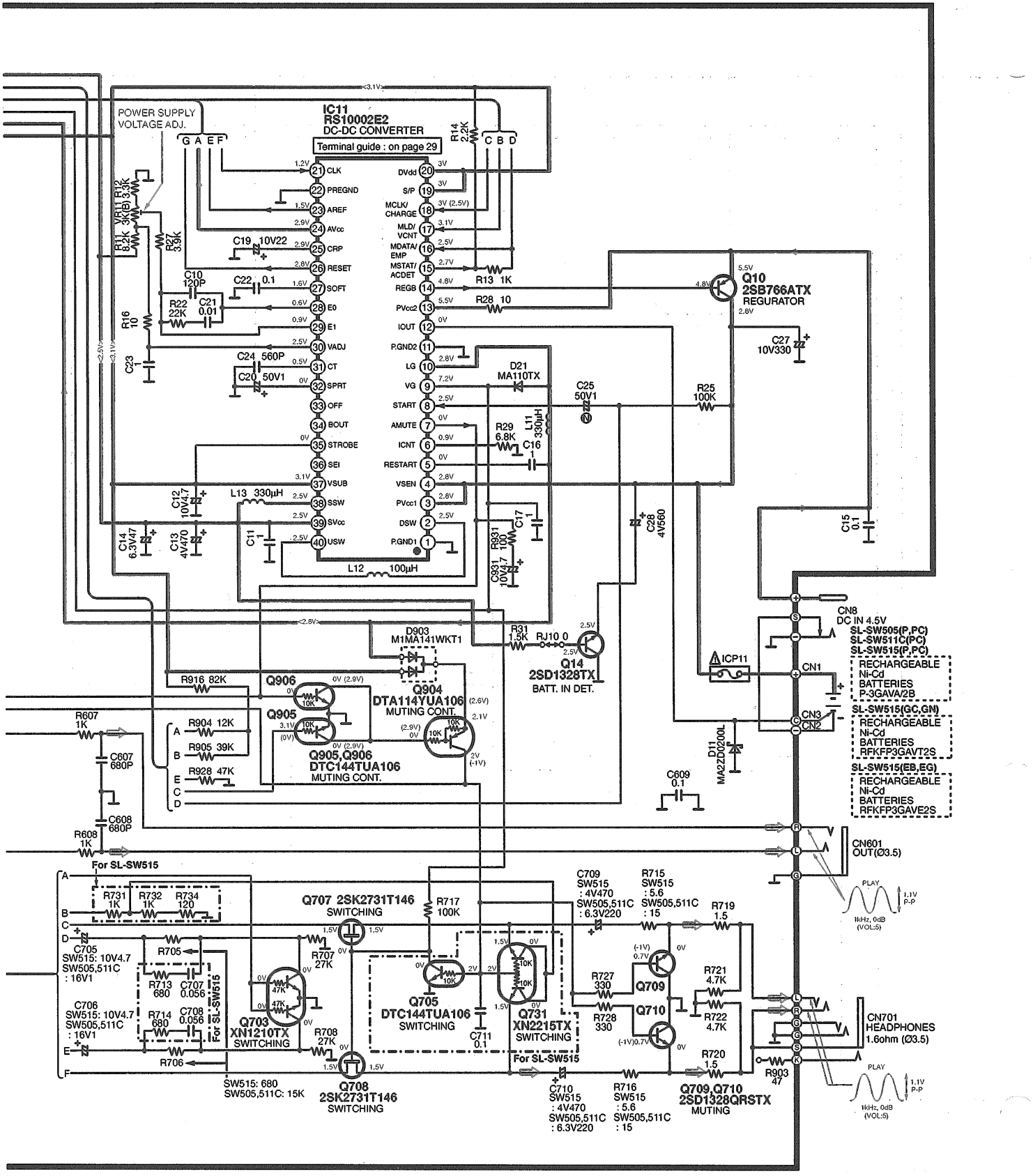


Note: • ⇨ :Audio signal line

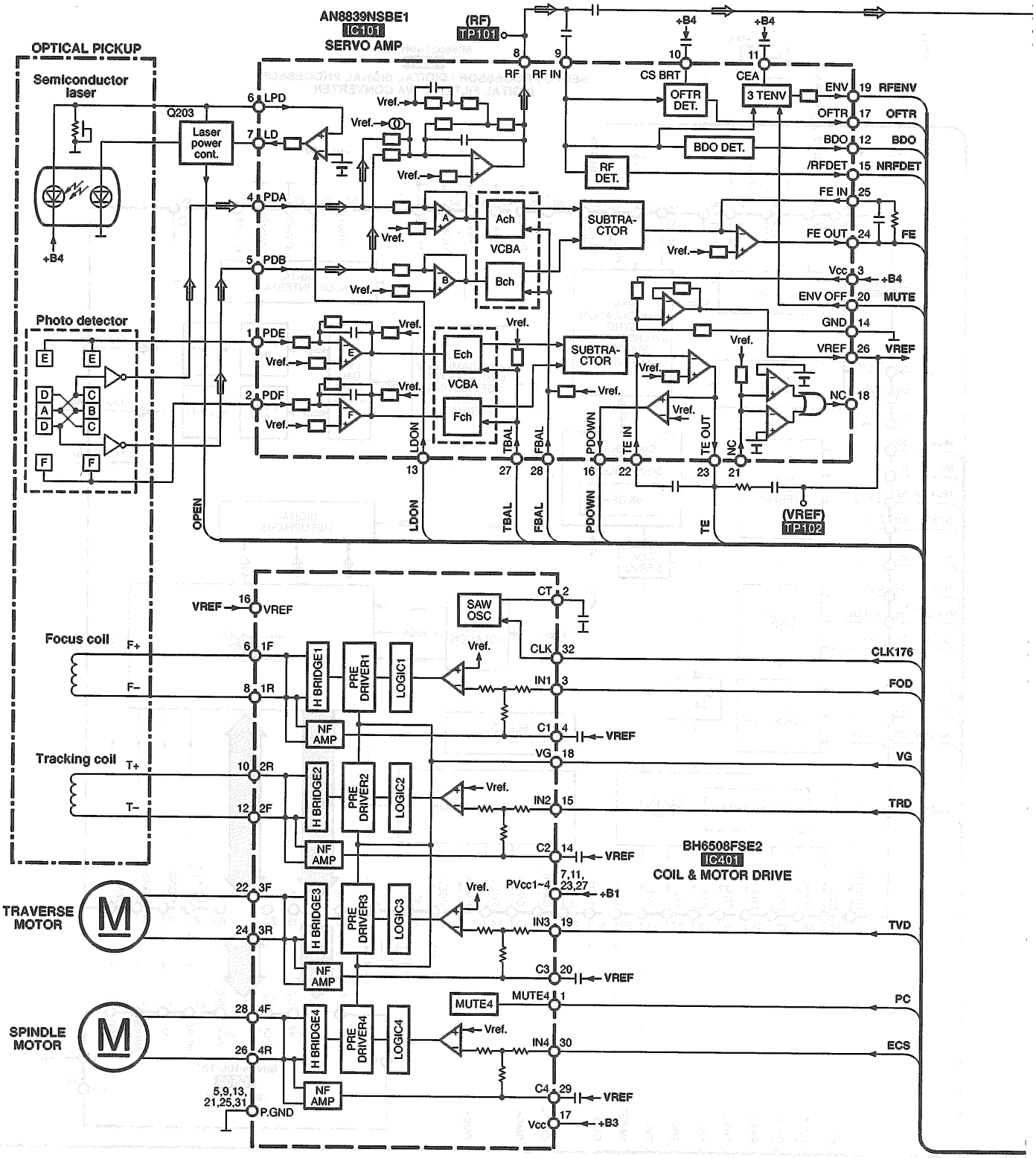


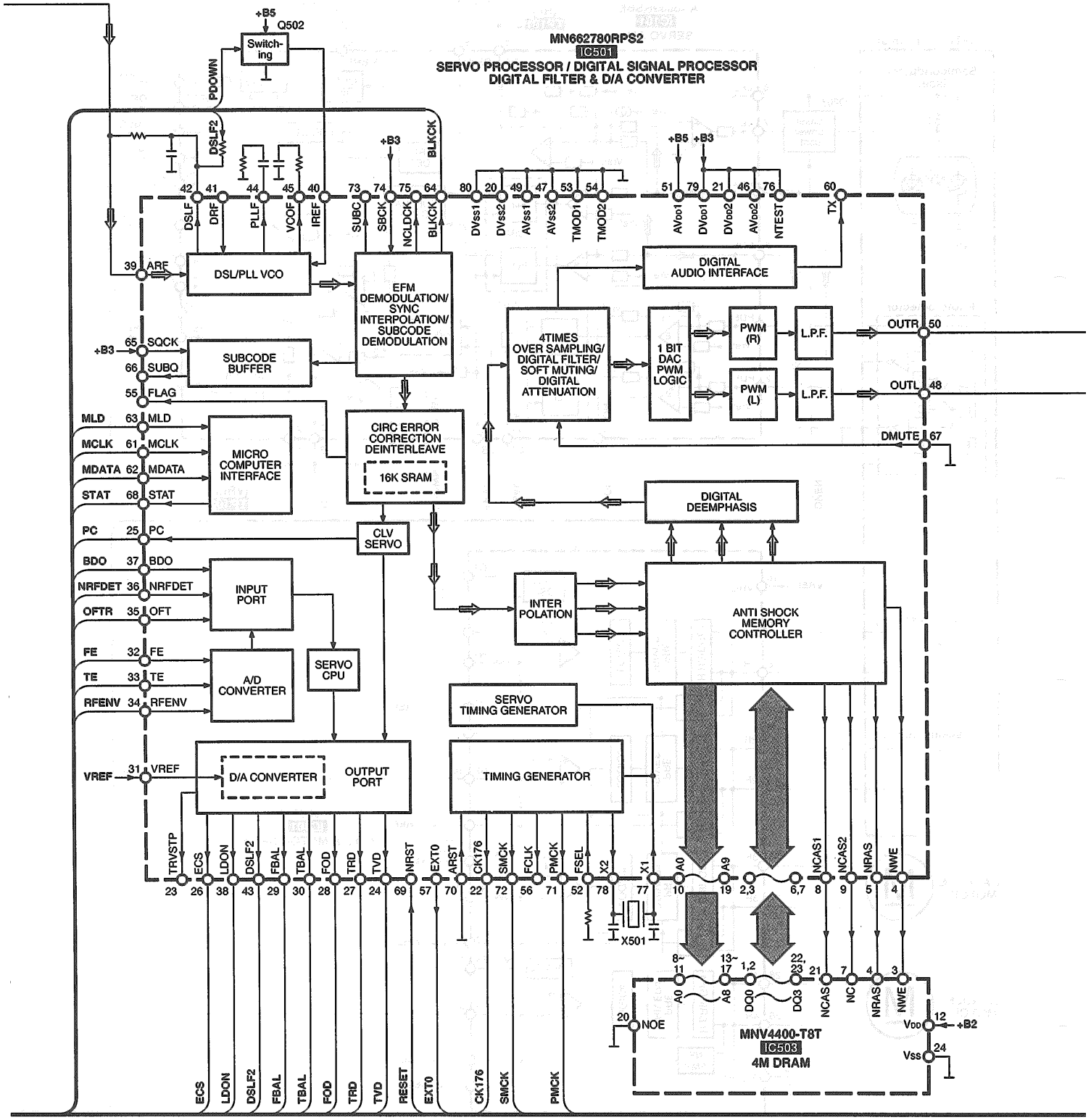
(P. C. Board: on pages 27, 28)

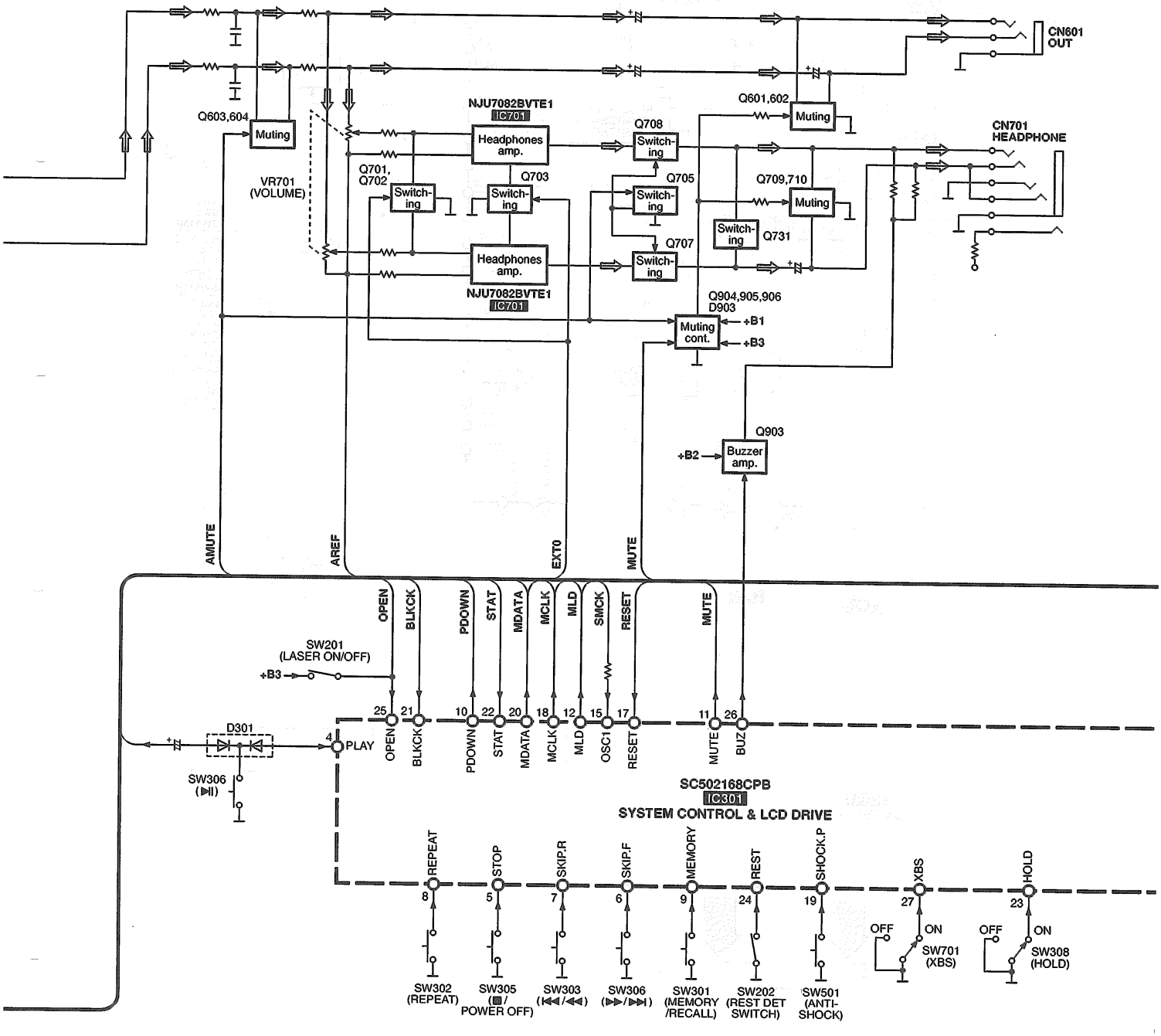
Note: • ⇨ :Audio signal line

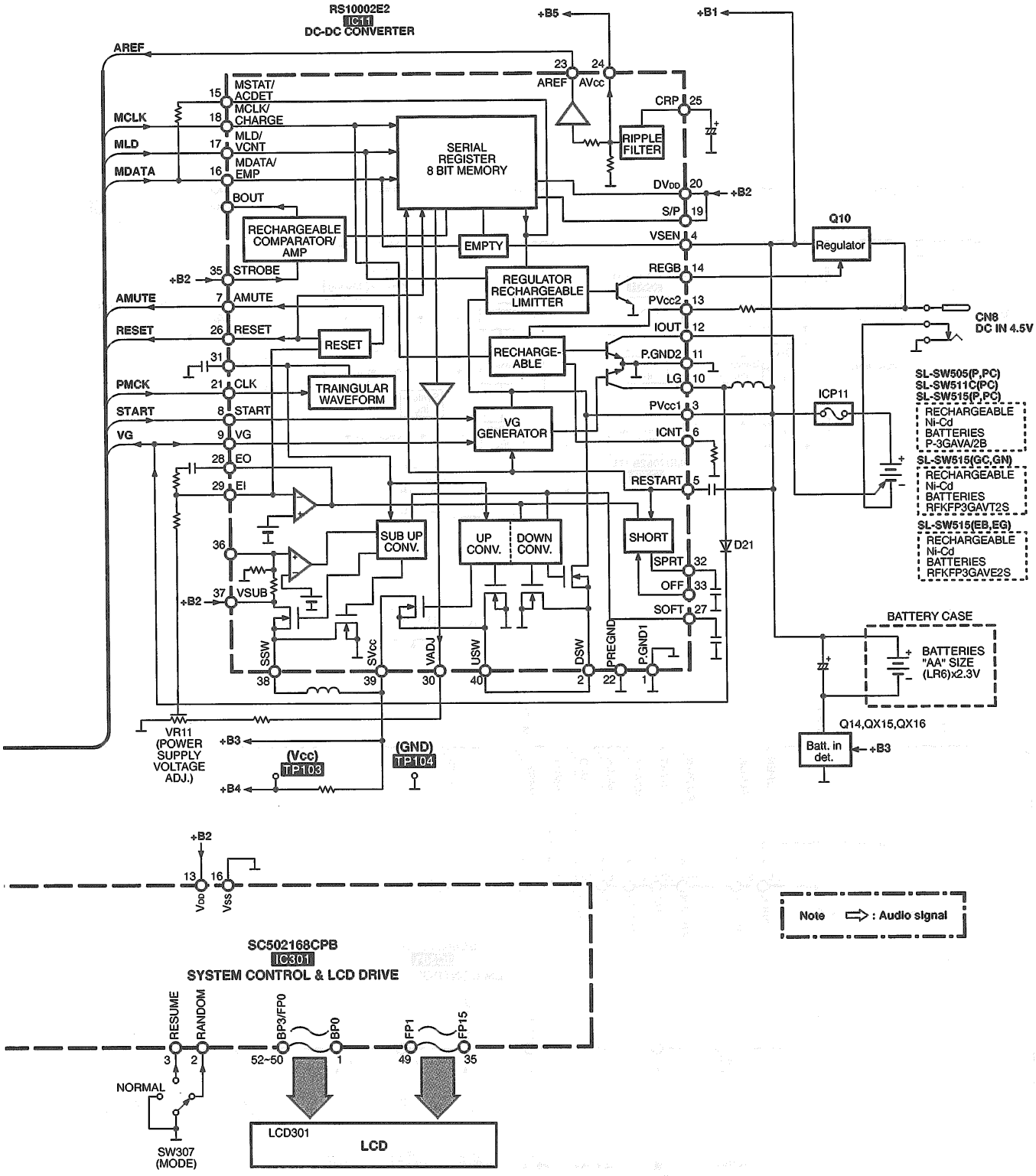


Block Diagram




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
4TIMES OVER SAMPLING/ DIGITAL FILTER/ SOFT MUTING/ DIGITAL ATTENUATION
1 BIT DAC PWM LOGIC
PWM (R)
PWM (L)
L.P.F.
L.P.F.
OUTR
OUTL
SQCK
SUBQ
FLAG
SUBCODE BUFFER
DMUTE
MLD
MCLK
MDATA
STAT
MICRO COMPUTER INTERFACE
CIRC ERROR CORRECTION DEINTERLEAVE
16K SRAM
DIGITAL DEEMPHASIS
PC
BDO
NRFDET
OFTR
CLV SERVO
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
IC503
4M DRAM
VDD
+B2
VSS
RESET


CN601
OUT
Q603,604
Muting
NJU7082BVTE1
IC701
Headphones amp.
Q708
Switch-ing
Q601,602
Muting
CN701
HEADPHONE
VR701
(VOLUME)
Q701,
Q702
Switch-ing
Q703
Switch-ing
Q705
Switch-ing
Q709,710
Muting
Switch-ing
Q731
Q707
Switch-ing
Headphones amp.
NJU7082BVTE1
IC701
Q904,905,906
D903
Muting cont.
+B1
+B3
Q903
+B2
Buzzer amp.
AMUTE
AREF
EXT0
MUTE
OPEN
BLKCK
PDOWN
STAT
MDATA
MCLK
MLD
SMCK
RESET
MUTE
SW201
(LASER ON/OFF)
+B3
25
21
10
22
20
18
12
15
17
11
26
D301
4
PLAY
OPEN
BLKCK
PDOWN
STAT
MDATA
MCLK
MLD
OSC1
RESET
MUTE
BUZ
SW306
(▶II)
SC502168CPB
IC301
SYSTEM CONTROL & LCD DRIVE
REPEAT
STOP
SKIP.R
SKIP.F
MEMORY
REST
SHOCK.P
XBS
HOLD
8
5
7
6
9
24
19
27
23
OFF
ON
SW701
(XBS)
OFF
ON
SW308
(HOLD)
SW302
(REPEAT)
SW305
(■/
POWER OFF)
SW303
(I◀◀/◀◀)
SW306
(▶▶/▶▶I)
SW301
(MEMORY
/RECALL)
SW202
(REST DET
SWITCH)
SW501
(ANTI-
SHOCK)

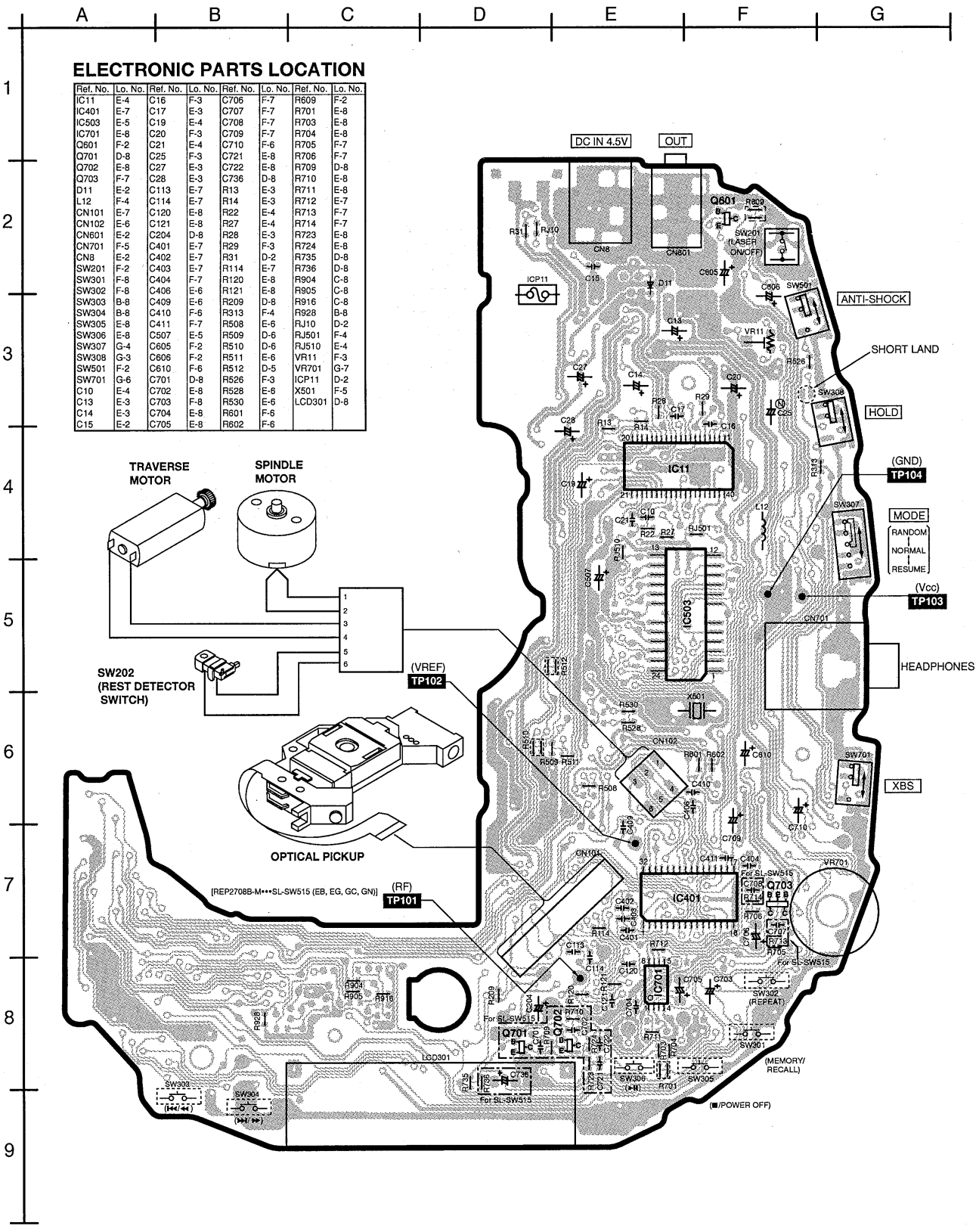

RS10002E2
IC11
DC-DC CONVERTER
+B5
+B1
AREF
23
24
AREF
AVcc
CRP
25
RIPPLE FILTER
SERIAL REGISTER 8 BIT MEMORY
MCLK
MLD
MDATA
15
MSTAT/ ACDET
18
MCLK/ CHARGE
17
MLD/ VCNT
16
MDATA/ EMP
BOUT
DVDD
20
+B2
S/P
19
Q10
Regulator
RECHARGEABLE COMPARATOR/ AMP
EMPTY
VSEN
4
+B2
35
STROBE
REGULATOR RECHARGEABLE LIMITTER
REGB
14
AMUTE
7
AMUTE
PVcc2
13
RESET
26
RESET
RESET
IOUT
12
CN8
DC IN 4.5V
RECHARGE-ABLE
P.GND2
11
31
LG
10
PMCK
21
CLK
TRAINGULAR WAVEFORM
ICP11
SL-SW505(P,PC)
SL-SW511C(PC)
SL-SW515(P,PC)
RECHARGEABLE Ni-Cd BATTERIES P-3GAVA/2B
START
8
START
PVcc1
3
VG
9
VG
VG GENERATOR
ICNT
6
SL-SW515(GC,GN)
RECHARGEABLE Ni-Cd BATTERIES RFKFP3GAVT2S
28
EO
RESTART
5
29
EI
SL-SW515(EB,EG)
RECHARGEABLE Ni-Cd BATTERIES RFKFP3GAVE2S
SUB UP CONV.
UP CONV.
DOWN CONV.
SHORT
D21
36
SPRT
32
OFF
33
+B2
37
VSUB
SOFT
27
BATTERY CASE
BATTERIES "AA" SIZE (LR6)x2.3V
SSW
SVcc
VADJ
USW
DSW
PREGND
P.GND1
38
39
30
40
2
22
1
Q14,QX15,QX16
Batt. in det.
+B3
VR11 (POWER SUPPLY VOLTAGE ADJ.)
+B3
(Vcc)
TP103
(GND)
TP104
+B4
+B2
13
16
VDD
VSS
Note
: Audio signal
SC502168CPB
IC301
SYSTEM CONTROL & LCD DRIVE
RESUME
RANDOM
BP3/FP0
BP0
FP1
FP15
3
2
52~50
1
49
35
NORMAL
SW307 (MODE)
LCD301
LCD

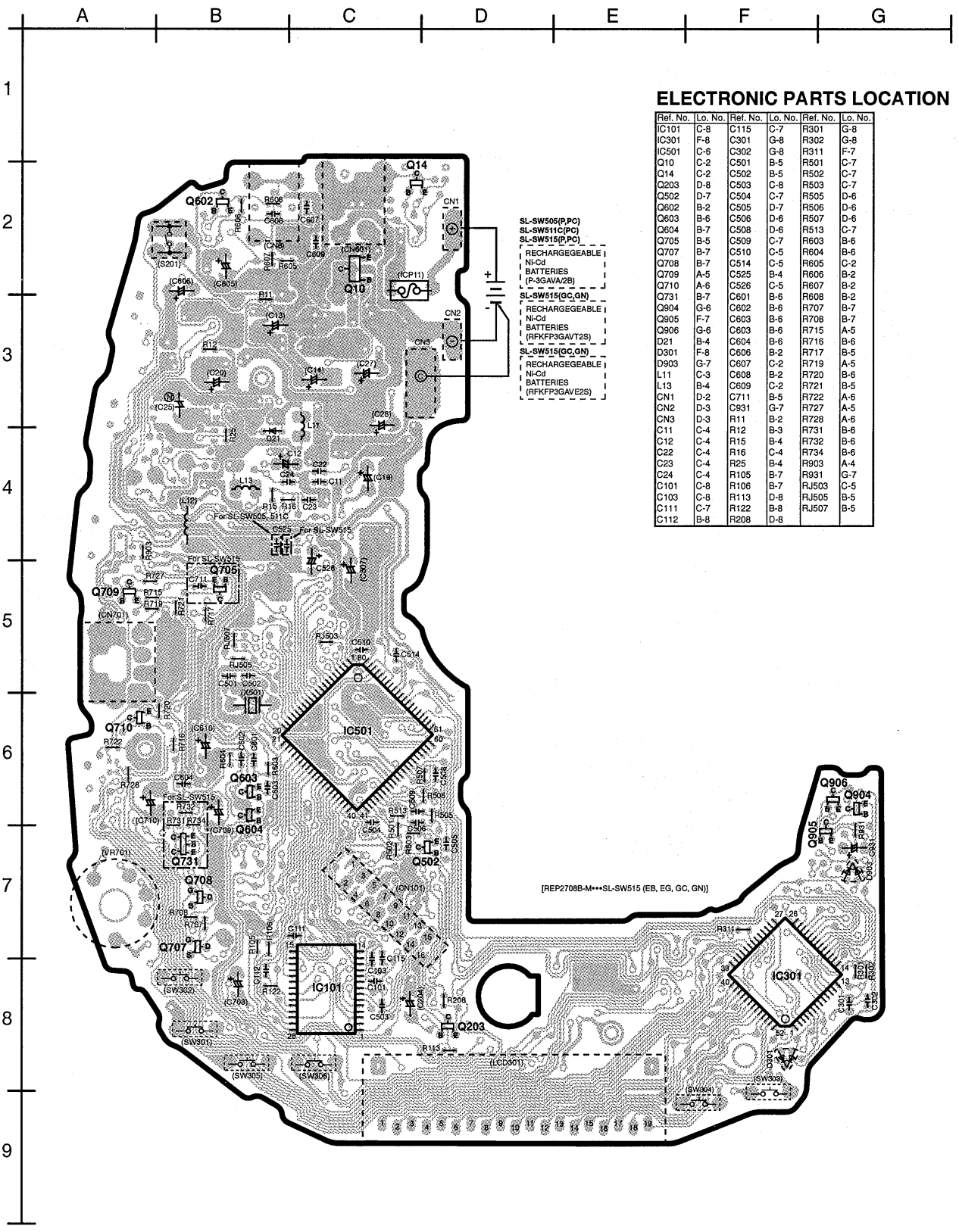
■ Printed Circuit Board and Wiring Connection Diagram

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

ELECTRONIC PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
IC11	E-4	C16	F-3	C706	F-7	R609	F-2
IC401	E-7	C17	E-3	C707	F-7	R701	E-8
IC503	E-5	C19	E-4	C708	F-7	R703	E-8
IC701	E-8	C20	F-3	C709	F-7	R704	E-8
Q601	F-2	C21	E-4	C710	F-6	R705	F-7
Q701	D-8	C25	F-3	C721	E-8	R706	F-7
Q702	E-8	C27	E-3	C722	E-8	R709	D-8
Q703	F-7	C28	E-3	C736	D-8	R710	E-8
D11	E-2	C113	E-7	R13	E-3	R711	E-8
L12	F-4	C114	E-7	R14	E-3	R712	E-7
CN101	E-7	C120	E-8	R22	E-4	R713	F-7
CN102	E-6	C121	E-8	R27	E-4	R714	F-7
CN601	E-2	C204	D-8	R28	E-3	R723	E-8
CN701	F-5	C401	E-7	R29	F-3	R724	E-8
CN8	E-2	C402	E-7	R31	D-2	R735	D-8
SW201	F-2	C403	E-7	R114	E-7	R736	D-8
SW301	F-8	C404	F-7	R120	E-8	R904	C-8
SW302	F-8	C406	E-6	R121	E-8	R905	C-8
SW303	B-8	C409	E-6	R209	D-8	R916	C-8
SW304	B-8	C410	F-6	R313	F-4	R928	B-8
SW305	E-8	C411	F-7	R508	E-6	RJ10	D-2
SW306	E-8	C507	E-5	R509	D-6	RJ501	F-4
SW307	G-4	C605	F-2	R510	D-6	RJ510	E-4
SW308	G-3	C606	F-2	R511	E-6	VR11	F-3
SW501	F-2	C610	F-6	R512	D-5	VR701	G-7
SW701	G-6	C701	D-8	R526	F-3	ICP11	D-2
C10	E-4	C702	E-8	R528	E-6	X501	F-5
C13	E-3	C703	F-8	R530	E-6	LCD301	D-8
C14	E-3	C704	E-8	R601	F-6		
C15	E-2	C705	E-8	R602	F-6		





ELECTRONIC PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
IC101	C-8	C115	C-7	R301	G-8
IC301	F-8	C301	G-8	R302	G-8
IC501	C-6	C302	G-8	R311	F-7
Q10	C-2	C501	B-5	R501	C-7
Q14	C-2	C502	B-5	R502	C-7
Q203	D-8	C503	C-8	R503	C-7
Q502	D-7	C504	C-7	R505	D-6
Q602	B-2	C505	D-7	R506	D-6
Q603	B-6	C506	D-6	R507	D-6
Q604	B-7	C508	D-6	R513	C-7
Q705	B-5	C509	C-7	R603	B-6
Q707	B-7	C510	C-5	R604	B-6
Q708	B-7	C514	C-5	R605	C-2
Q709	A-5	C525	B-4	R606	B-2
Q710	A-6	C526	C-5	R607	B-2
Q731	B-7	C601	B-6	R608	B-2
Q904	G-6	C602	B-6	R707	B-7
Q905	F-7	C603	B-6	R708	B-7
Q906	G-6	C603	B-6	R715	A-5
D21	B-4	C604	B-6	R716	B-6
D301	F-8	C606	B-2	R717	B-5
D903	G-7	C607	C-2	R719	A-5
L11	C-3	C608	B-2	R720	B-6
L13	B-4	C609	C-2	R721	B-5
CN1	D-2	C711	B-5	R722	A-6
CN2	D-3	C931	G-7	R727	A-5
CN3	D-3	R11	B-2	R728	A-6
C11	C-4	R12	B-3	R731	B-6
C12	C-4	R15	B-4	R732	B-6
C22	C-4	R16	C-4	R734	B-6
C23	C-4	R25	B-4	R903	A-4
C24	C-4	R105	B-7	R931	G-7
C101	C-8	R106	B-7	RJ503	C-5
C103	C-8	R113	D-8	RJ505	B-5
C111	C-7	R122	B-8	RJ507	B-5
C112	B-8	R208	D-8		

■ Terminal Function of IC's

• IC11 (RS10002E2): DC-DC CONVERTER

Pin No.	Mark	I/O Division	Function
1	PGND1	—	GND terminal
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
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	Reset 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
33	OFF	I	DC/DC converter off terminal (Not used, open)
34	BOUT	O	Amp output terminal (Not used, open)
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 inut 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
15	/RFDET	O	RF det. signal output terminal ("L": Det.)
16	PDOWN	O	Power down output 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

Pin No.	Mark	I/O Division	Function
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

Pin No.	Mark	I/O Division	Function
26	VREF	O	Reference voltage output terminal
27	TBAL	I	Tracking balance signal input terminal
28	FBAL	I	Focus balance signal input terminal

• IC301 (SC502168CPB): SYSTEM CONTROL/LCD DRIVE

Pin No.	Mark	I/O Division	Function
1	BPO	O	LCD segment signal output terminal
2	RANDOM	I	RANDOM switch input terminal
3	RESUME	I	RESUME switch input terminal
4	PLAY	I	PLAY key input terminal
5	STOP	I	STOP key input terminal
6	SKIP.F	I	SKIP.F key input terminal
7	SKIP.R	I	SKIP.R key input terminal
8	REPEAT	I	REPEAT key input terminal
9	MEMORY	I	MEMORY key input terminal
10	PDOWN	O	Head amp OFF output terminal
11	MUTE	O	Hard muting output terminal
12	MLD	O	Command latch output terminal
13	VDD	I	Power supply terminal
14	OSC	O	Not used, open
15	OSC1	I	Clock signal input terminal
16	VSS	—	GND terminal
17	RESET	I	Reset detect input terminal
18	MCLK	O	Serial command clock output terminal
19	SHOCK.P	I	SHOCK.P key input terminal
20	MDATA	O	Serial command data output terminal
21	BLKCK	I	Block clock input terminal
22	STAT	I	Status signal input terminal
23	HOLD	I	HOLD switch input terminal
24	REST	I	Rest (innermost position) detection input terminal
25	OPEN	I	CD cover open detection terminal
26	BUZ	O	Beep control output terminal

Pin No.	Mark	I/O Division	Function
27	XBS	I	XBS switch input terminal
28	TRAIN	I	Not used, open
29	LIGHT	O	Not used, open
30	STROBE1	O	Remote control data 1 signal output terminal
31	STROBE2	O	Remote control data 2 signal output terminal
32	WRDRCN	I	Remote control detection input terminal
33	WLSRCN	I	Wireless remote control data input terminal (Not used)
34	FP16	O	Not used, open
35	FP15	O	LCD segment signal output terminal
36	FP14		
37	FP13		
38	FP12		
39	FP11		
40	FP10		
41	FP9		
42	FP8		
43	FP7		
44	FP6		
45	FP5		
46	FP4		
47	FP3		
48	FP2		
49	FP1		
50	BP3/FPO		
51	BP2		
52	BP1		

• 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 (Conncted to capacitor)
15	IN2	I	CH2 input terminal
16	VREF	I	Reference voltage input terminal
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

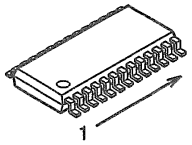
• IC501 (MN662780RPS2): SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER/D/A

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
10	A8	O	Address 8 output terminal
11	A7	O	Address 7 output terminal
12	A6	O	Address 6 output terminal
13	A5	O	Address 5 output terminal
14	A4	O	Address 4 output terminal
15	A9	O	Address 9 output terminal
16	A0	O	Address 0 output terminal
17	A1	O	Address 1 output terminal
18	A2	O	Address 2 output terminal
19	A3	O	Address 3 output terminal
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)
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

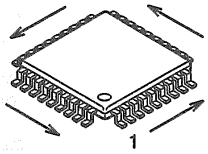
Pin No.	Mark	I/O Division	Function
29	FBAL	O	Focus balance adj. output terminal
30	TBAL	O	Tracking balance adj. output terminal
31	VREF	I	Reference voltage input terminal
32	FE	I	Focus error signal input terminal
33	TE	I	Tracking error signal input terminal
34	RFENV	I	RF envelope signal input terminal
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)
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)

Pin No.	Mark	I/O Division	Function
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

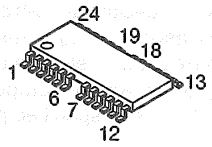
Type Illustration of IC's, Transistors and Diodes



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



SC502168CPB	52PIN
MN662780RPS2	80PIN



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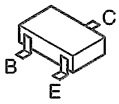

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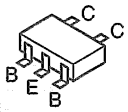
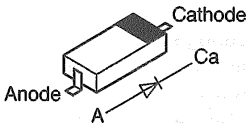
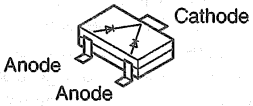
2SD1328QRSTX MSB709RST1
2SK2731T146 UN5115TX
DTA114YUA106 UN5213TX



XN1210TX



MA110TX
MA2ZD0200L



M1MA141WKT1

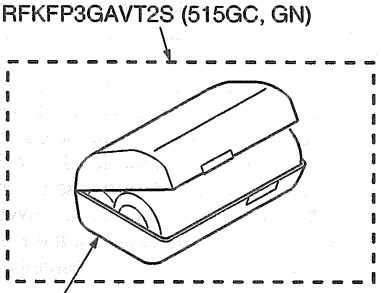
Supply of Rechargeable Battery Ass'y as Replacement Parts

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 [RFKFP3GAVE2S (515EB, EG), RFKFP3GAVT2S (515GC, GN)] 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.

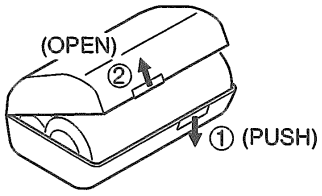
Rechargeable Battery Ass'y
(Rechargeable Batteries with Carrying Case)
RFKFP3GAVE2S (515EB, EG)
RFKFP3GAVT2S (515GC, GN)



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.

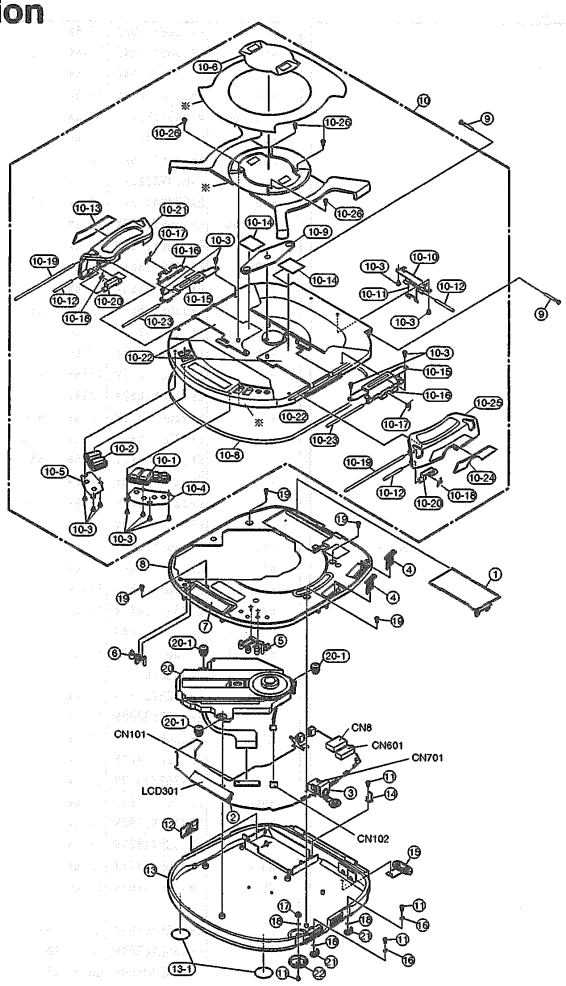
* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.) Parts without these indications can be used for all areas.
* Warning: This product uses a laser diode. Refer to caution statements on page 2.
* ACHTUNG: Die lasereinheit nicht zerlegen.
Die lasereinheit darf nur gegen einc vom hersteller spezifizierte einheit ausgetauscht werden.
* 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> ~ <IJ>" marks in Remarks indicate language of instruction manual.
* "<IA>~<IG>" marks in Remarks indicate language of instruction manual.
[<IA>: English, <IB>: Canadian French, <IC>: English, <ID>: English/Spanish/Swedish, <IE>: German/Italian/French, <IF>: Dutch/Danish/Russian, <IG>: English/Chinese]
* The parenthesized indications in the Remarks columns specify the colour. (Refer to the cover page for colour.) Parts without these indications can be used for all colour.
* (*1) indicates in Values & Remarks columns parts list that can be used only model No. SL-SW505.
* (*2) indicates in Values & Remarks columns parts list that can be used only model No. SL-SW511C.
* (*3) indicates in Values & Remarks columns parts list that can be used only model No. SL-SW515.
• 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.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C10	ECUV1H121KCV	50V 120P	1	
C11	ECUVNA105ZFV	10V 1U	1	
C12	RCST1AY475RE	10V 4.7U	1	
C13	ECEA0GKS471	4V 470U	1	
C14	RCE0JSC4701X	6.3V 47U	1	
C15	ECUZNC104ZFV	16V 0.1U	1	
C16,17	ECUVNA105ZFV	10V 1U	2	
C19	ECEA1AKS220	10V 22U	1	
C20	ECEA1HKS010	50V 1U	1	
C21	ECUV1E103KBV	25V 0.01U	1	
C22	ECUZNC104ZFV	16V 0.1U	1	
C23	ECUVNA105ZFV	10V 1U	1	
C24	ECUV1H561KBV	50V 560P	1	
C25	ECEA1HKS010	50V 1U	1	
C27	RCE1AMT331IV	10V 330U	1	
C28	RCE0GMT561IV	4V 560U	1	
C101	ECUV1C104KBV	16V 0.1U	1	
C103	ECUV1E103KBV	25V 0.01U	1	
C111	ECUV1C223KBV	16V 0.022U	1	
C112	ECUV1H391KBV	50V 390P	1	
C113,14	ECUZNC104ZFV	16V 0.1U	2	
C115	ECUV1C223KBV	16V 0.022U	1	
C120	ECUV1H332KBV	50V 3300P	1	
C121	ECUV1H271KBV	50V 270P	1	
C204	RCE1AKA470IG	10V 47U	1	
C301	ECUVNC225ZFN	16V 2.2U	1	
C302	ECUVNA105ZFV	10V 1U	1	
C401	ECUV1H102KBV	50V 1000P	1	
C402-04	ECUV1E123KBV	25V 0.012U	3	
C406	ECUVNA105ZFV	10V 1U	1	
C409	ECUV1E123KBV	25V 0.012U	1	
C410	ECUVNA105ZFV	10V 1U	1	
C411	ECUZNC104ZFV	16V 0.1U	1	
C501,02	ECUV1H150JCV	50V 15P	2	
C503	ECUV1H561KBV	50V 560P	1	
C504	ECUZNC104ZFV	16V 0.1U	1	
C505	ECUV1C223KBV	16V 0.022U	1	
C506	ECUVNA224KBV	10V 0.22U	1	
C507	RCE0JKA221IG	6.3V 220U	1	
C508	ECUV0J474KBV	6.3V 0.47U	1	
C509	ECUV1E103KBV	25V 0.01U	1	
C510	ECUZNC104ZFV	16V 0.1U	1	
C514	ECUV1H102KBV	50V 1000P	1	
C525	ECUZNC104ZFV	16V 0.1U	1	
C526	RCST1AY475RE	10V 4.7U	1	
C601,02	ECUV1H102KBV	50V 1000P	2	
C603,04	ECUV1H272KBV	50V 2700P	2	
C605,06	ECEA1CKS100	16V 10U	2	
C607,08	ECUV1H681KBV	50V 680P	2	
C609	ECEA1CKA101S	16V 100U	1	
C610	RCE1AKA470IG	10V 47U	1	
C701,02	ECUV1C223KBV	16V 0.022U	2	515
C703	RCE1AKA470IG	10V 47U	1	
C704	ECUZNC104ZFV	16V 0.1U	1	
C705	ECUVNC105ZFN	16V 1U	1	505,511C
C705	RCST1AY475RE	10V 4.7U	1	515
C706	ECUVNC105ZFN	16V 1U	1	505,511C
C706	RCST1AY475RE	10V 4.7U	1	515
C707,08	ECUV1C563KBV	25V 0.056U	2	515
C709	ECA0JAK221XH	6.3V 220U	1	505,511C
C709	ECEA0GKS471	4V 470U	1	515
C710	ECA0JAK221XH	6.3V 220U	1	505,511C
C710	ECEA0GKS471	4V 470U	1	515
C711	ECUZNC104ZFV	16V 0.1U	1	515
C721,22	ECUV1H121KCV	50V 120P	2	515
C736	RCST0GY106RG	4V 10U	1	515
C931	RCST1AY475RE	10V 4.7U	1	
CN1,N2	RJC93015-1	BATTERY TERMINAL(+/-)	2	
CN3	RJR0166	RECHARGE.BATT.TERMINAL	1	
CN8	RJJ43K09-C	JACK,DC IN	1	
CN101	RJS2A4716M1	CONNECTOR(16P)	1	
CN102	RJS2A5106T1	CONNECTOR(6P)	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
CN601	RJJD3S5ZB-C	JACK,LINE OUT	1	
CN701	RJJ35TS03-C	JACK,HEADPHONES	1	
D11	MA2ZD0200L	DIODE	1	
D21	MA110TX	DIODE	1	
D301	M1MA141WKT1	DIODE	1	
D903	M1MA141WKT1	DIODE	1	
IC11	RS10002E2	IC	1	
IC101	AN8839NSBE1	IC	1	
IC301	SC502168CPB	IC	1	
IC401	BH6508FSE2	IC	1	
IC501	MN662780RPS2	IC	1	
IC503	MNV7400CT1T	IC	1	
IC701	NJU7082BVTE1	IC	1	
⚠ ICP11	UNH000700A	IC PROTECTOR	1	
L11	RLQU331KT-W	COIL,CHOKE	1	
L12	RLQB101KT-0	COIL,CHOKE	1	
L13	RLQU331KT-W	COIL,CHOKE	1	
LCD301	RSL5203-C	LCD	1	
PCB1	REP2708B-M	MAIN P.C.B.	1	515(EG,EB,GC,GN)(RTL)
Q10	2SB766ATX	TRANSISTOR	1	
Q14	2SD1328QRSTX	TRANSISTOR	1	
Q203	MSB709RST1	TRANSISTOR	1	
Q502	UN5115TX	TRANSISTOR	1	
Q601,02	2SD1328QRSTX	TRANSISTOR	2	
Q603,04	DTC114TUA106	TRANSISTOR	2	
Q701,02	DTC144TUA106	TRANSISTOR	2	515
Q703	XN1210TX	TRANSISTOR	1	
Q705	DTC144TUA106	TRANSISTOR	1	515
Q707,08	2SK2731T146	TRANSISTOR	2	
Q709,10	2SD1328QRSTX	TRANSISTOR	2	
Q731	XN2215TX	TRANSISTOR	1	515
Q904	DTA114YUA106	TRANSISTOR	1	
Q905,06	DTC144TUA106	TRANSISTOR	2	
R11	ERJ3GEYJ822V	1/16W 8.2K	1	
R12	ERJ3GEYJ332V	1/16W 3.3K	1	
R13	ERJ3GEYJ102Z	1/16W 1K	1	
R14	ERJ3GEYJ222V	1/16W 2.2K	1	
R15,16	ERJ3GEYJ393V	1/16W 39K	2	
R22	ERJ3GEYJ223V	1/16W 22K	1	
R25	ERJ3GEYJ104Z	1/16W 100K	1	
R27	ERJ3GEYJ392V	1/16W 3.9K	1	
R28	ERJ3GEYJ100V	1/16W 10	1	
R29	ERJ3GEYJ682V	1/16W 6.8K	1	
R31	ERJ3GEYJ152V	1/16W 1.5K	1	
R105,06	ERJ3GEY0R00V	1/16W 0	2	
R113,14	ERJ3GEYJ330V	1/16W 33	2	
R120	ERJ3GEYJ472V	1/16W 4.7K	1	
R121	ERJ3GEYJ563V	1/16W 56K	1	
R122	ERJ3GEYJ683V	1/16W 68K	1	
R208	ERJ3GEYJ2R2V	1/16W 2.2	1	
R209	ERJ3GEYJ223V	1/16W 22K	1	
R301	ERJ3GEYJ392V	1/16W 3.9K	1	
R302	ERJ3GEYJ104Z	1/16W 100K	1	
R311	ERJ3GEYJ104Z	1/16W 100K	1	
R313	ERJ3GEYJ102Z	1/16W 1K	1	
R501	ERJ3GEYJ683V	1/16W 68K	1	
R502	ERJ3GEYJ563V	1/16W 56K	1	
R503	ERJ3GEYJ224V	1/16W 220K	1	
R505	ERJ3GEYJ391V	1/16W 390	1	
R506	ERJ3GEYJ222V	1/16W 2.2K	1	
R507	ERJ3GEYJ103Z	1/16W 10K	1	
R508	ERJ3GEYJ2R2V	1/16W 2.2	1	
R509	ERJ3GEYJ223V	1/16W 22K	1	
R510	EXBV4V103JV	1/32W 10K	1	
R511	ERJ3GEYJ472V	1/16W 4.7K	1	
R512	EXBV4V222JV	1/32W 2.2K	1	
R513	ERJ3GEYJ104Z	1/16W 100K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R526	ERJ3GEYJ102Z	1/16W 1K	1	
R528	ERJ3GEYJ104Z	1/16W 100K	1	
R530	ERJ3GEYJ104Z	1/16W 100K	1	
R601,02	ERJ3GEYJ681V	1/16W 680	2	
R603,04	MCR03PZHJ561	1/16W 560	2	
R605,06	ERJ3GEYJ473V	1/16W 47K	2	
R607,08	ERJ3GEYJ102Z	1/16W 1K	2	
R609	EXBV4V332JV	1/32W 3.3K	1	
R701	EXBV4V473JV	1/32W 47K	1	
R703,04	ERJ3GEYJ273V	1/16W 27K	2	
R705	ERJ3GEYJ153V	1/16W 15K	1	505,511C
R705	ERJ3GEYJ681V	1/16W 680	1	515
R706	ERJ3GEYJ153V	1/16W 15K	1	505,511C
R706	ERJ3GEYJ681V	1/16W 680	1	515
R707,08	ERJ3GEYJ273V	1/16W 27K	2	
R709,10	ERJ3GEYJ562V	1/16W 5.6K	2	515
R711	ERJ3GEYJ473V	1/16W 47K	1	505,511C
R711	ERJ3GEYJ682V	1/16W 6.8K	1	515
R712	ERJ3GEYJ473V	1/16W 47K	1	505,511C
R712	ERJ3GEYJ682V	1/16W 6.8K	1	515
R713,14	ERJ3GEYJ681V	1/16W 680	2	515
R715	ERJ3GEYJ150V	1/16W 15	1	505,511C
R715	ERJ3GEYJ5R6V	1/16W 5.6	1	515
R716	ERJ3GEYJ150V	1/16W 15	1	505,511C
R716	ERJ3GEYJ5R6V	1/16W 5.6	1	515
R717	ERJ3GEYJ104Z	1/16W 100K	1	
R719,20	ERJ3GEYJ1R5V	1/16W 1.5	2	
R721,22	ERJ3GEYJ472V	1/16W 4.7K	2	
R723,24	ERJ3GEYJ124V	1/16W 120K	2	515
R727,28	ERJ3GEYJ331V	1/16W 330	2	
R731,32	ERJ3GEYD102V	1/16W 1K	2	515
R734	ERJ3GEYJ121V	1/16W 120	1	515
R735	ERJ3GEY0R00V	1/16W 0	1	505,511C
R735	ERJ3GEYJ103Z	1/16W 10K	1	515
R736	ERJ3GEYJ472V	1/16W 4.7K	1	515
R903	ERJ3GEYJ470V	1/16W 47	1	
R904	ERJ3GEYJ123V	1/16W 12K	1	
R905	ERJ3GEYJ393V	1/16W 39K	1	
R916	ERJ3GEYJ823V	1/16W 82K	1	
R928	ERJ3GEYJ473V	1/16W 47K	1	
R931	ERJ3GEYJ101V	1/16W 100	1	
RJ10	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ501	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ503	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ505	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ507	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ510	ERJ3GEY0R00V	CHIP JUMPER	1	
RJ702	ERJ3GEY0R00V	CHIP JUMPER	1	
SA1	SZZP1054C	PLAYABILITY TEST DISC	1	
SA2	SZZP1056C	UNEVEN TEST DISC	1	
SW201	ESE11SV6	SW,LASER ON/OFF	1	
SW202	ESE11HS4	SW,REST DET.	1	
SW301-06	EVQ11G05R	SW,TACT	6	
SW307	RSS3A007-1A	SW,MODE	1	
SW308	RSS2A010-1A	SW,HOLD	1	
SW501	RSS2A010-1A	SW,SHOCK.P	1	
SW701	RSS2A010-1A	SW,VMSS/XBS	1	
VR11	RRN3A05B33WL	V.R,VOLTAGE ADJ.	1	
VR701	RRV08B02C54A	V.R,VOLUME	1	
X501	RSXZ16M9M01T	OSCILLATOR	1	

Cabinet Parts Location

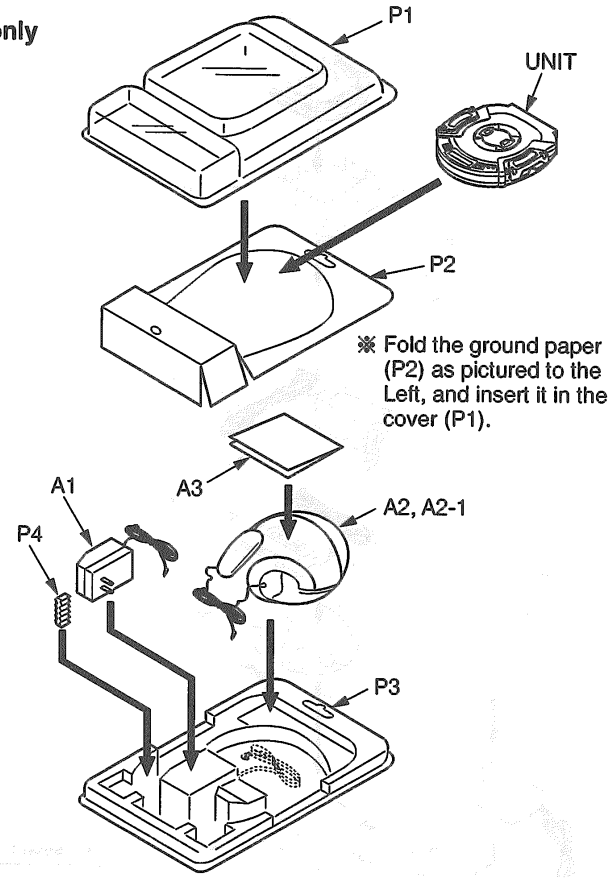


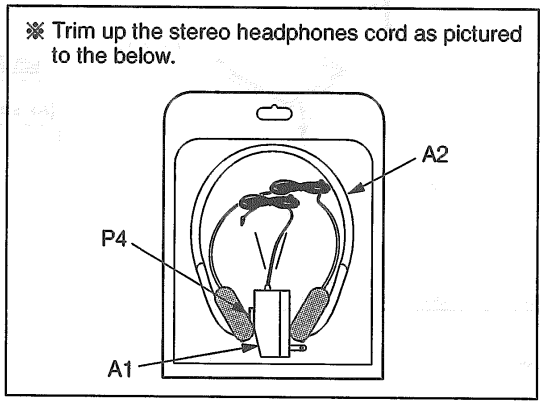
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	RKK0096-K	BATTERY COVER	1	
2	RJF0030	LCD HOLDER	1	
3	RMG0493-H	WATER PROOF COVER(A)	1	
4	RGV0228-H	KNOB	2	
5	RGZ0045-K	OPERATION KEYTOP(A)	1	
6	RGZ0046-K	OPERATION KEY TOP(B)	1	
7	RKW0457-K	LCD PANEL	1	
8	RMK0396	INTERMEDIATE CHASSIS	1	
9	RHD20039-K	SCREW	2	
10	RYF0469-A	CD COVER ASS'Y	1	505(P)(A)
10	RYF0469-Y	CD COVER ASS'Y	1	505(P,PC)(Y)
10	RYF0469A-A	CD COVER ASS'Y	1	515(PC)(A)
10	RYF0469A-S	CD COVER ASS'Y	1	515[PC(S),EG,EB,GC,GN]
10	RYF0469B-K	CD COVER ASS'Y	1	511C
10-1	RGU1656-D	OPERATION BUTTON(A)	1	
10-2	RGU1657-D	OPERATION BUTTON(B)	1	
10-3	RHE5079YA	SCREW	13	
10-4	RKU0077-X	BUTTON COVER(A)	1	
10-5	RKU0078-X	BUTTON COVER(B)	1	
10-6	RKW0545-S	CD COVER PANEL	1	505,511C
10-6	RKW0545A-K	CD COVER PANEL	1	515
10-7	RKW0546-K	LCD PANEL	1	
10-8	RMG0424-D	CABINET WATER PROOF RING	1	
10-9	RML0543	LOCK LEVER	1	
10-10	RMA0959	STOPPER ANGLE	1	
10-11	RMA0984	LOCK ANGLE	1	
10-12	RMS0550	STOPPER SHAFT	3	
10-13	RGK1048-D	LOCK ORNAMENT(A)	1	
10-14	RGK1049-S	LOCK DISPLAY PLATE	2	
10-15	RMA1161	LID LOCK ANGLE	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
10-16	RMA1162	LID LOCK PLATE	2	
10-17	RMB0577	BUCKLE SPRING	2	
10-18	RMB0580	TURN SPRING	2	
10-19	RMS0544	BUCKLE SHAFT(A)	2	
10-20	RMM0209	TURN PLATE	2	
10-21	RMR1166-S	BUCKLE(A)	1	
10-22	RML0544	SLIDE PLATE	2	
10-23	RMS0628	BUCKLE SHAFT	2	
10-24	RGK1048A-D	LOCK ORNAMENT(B)	1	
10-25	RMR1166A-S	BUCKLE(B)	1	
10-26	XQN14+CG5FZ	SCREW	4	
11	RHE5079YA	SCREW	4	
12	RJC93020	COMMON BATTERY TERMINAL	1	
13	RFKLSW505P-A	BOTTOM CABINET ASS'Y	1	505
13	RFKLSW511CPC	BOTTOM CABINET ASS'Y	1	511C
13	RFKLSW515EGS	BOTTOM CABINET ASS'Y	1	515EG,EB
13	RFKLSW515GCS	BOTTOM CABINET ASS'Y	1	515GC
13	RFKLSW515GNS	BOTTOM CABINET ASS'Y	1	515GN
13	RFKLSW515P-S	BOTTOM CABINET ASS'Y	1	515P,PC
13-1	RKA0063-K	FOOT	2	
14	RMC0306	OPEN SPRING	1	
15	RMG0494-H	WATER PROOF COVER(B)	1	
16	RML0541	LEVER	2	
17	RML0542	LEVER	1	
18	RMX0122	WATER PROOF RING	3	
19	XTN17+6GFZ	SCREW	4	
⚠ 20	RAE0145Z	TRAVERSE DECK	1	
20-1	RMG0449-H	FLOATING RUBBER	3	
21	RGV0173-D	KNOB	2	
22	RGW0289-K	KNOB	1	

Packaging

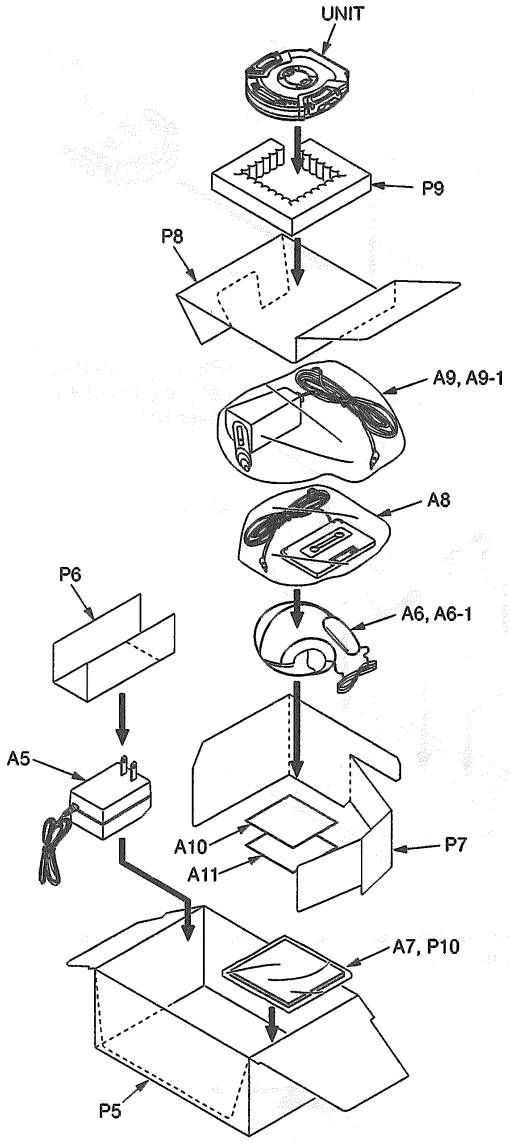
- **For SL-SW505 (P), SW515 (P) only**



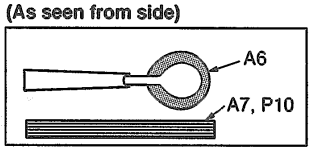


Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ A1	RFEA415C-S	AC ADAPTOR	1	
A2	RFEV701P-A1S	STEREO HEADPHONES	1	505(A)
A2	RFEV707P-S1S	STEREO HEADPHONES	1	515
A2	RFEV701P-Y1S	STEREO HEADPHONES	1	505(Y)
A2-1	RFX1122	EAR PADS	1	
A3	RQT4436-P	INSTRUCTION MANUAL	1	<1A>
P1	RPN1131	COVER	1	
P2	RPQ0858	GROUND PAPER	1	515
P2	RPQ0859	GROUND PAPER	1	505(Y)
P2	RPQ0860	GROUND PAPER	1	505(A)
P3	RPN1130	TRAY	1	
P4	RPH0207	PAD	1	

- **For SL-SW511C (PC) only**



(As seen from side)



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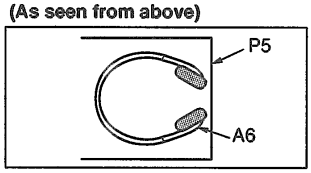
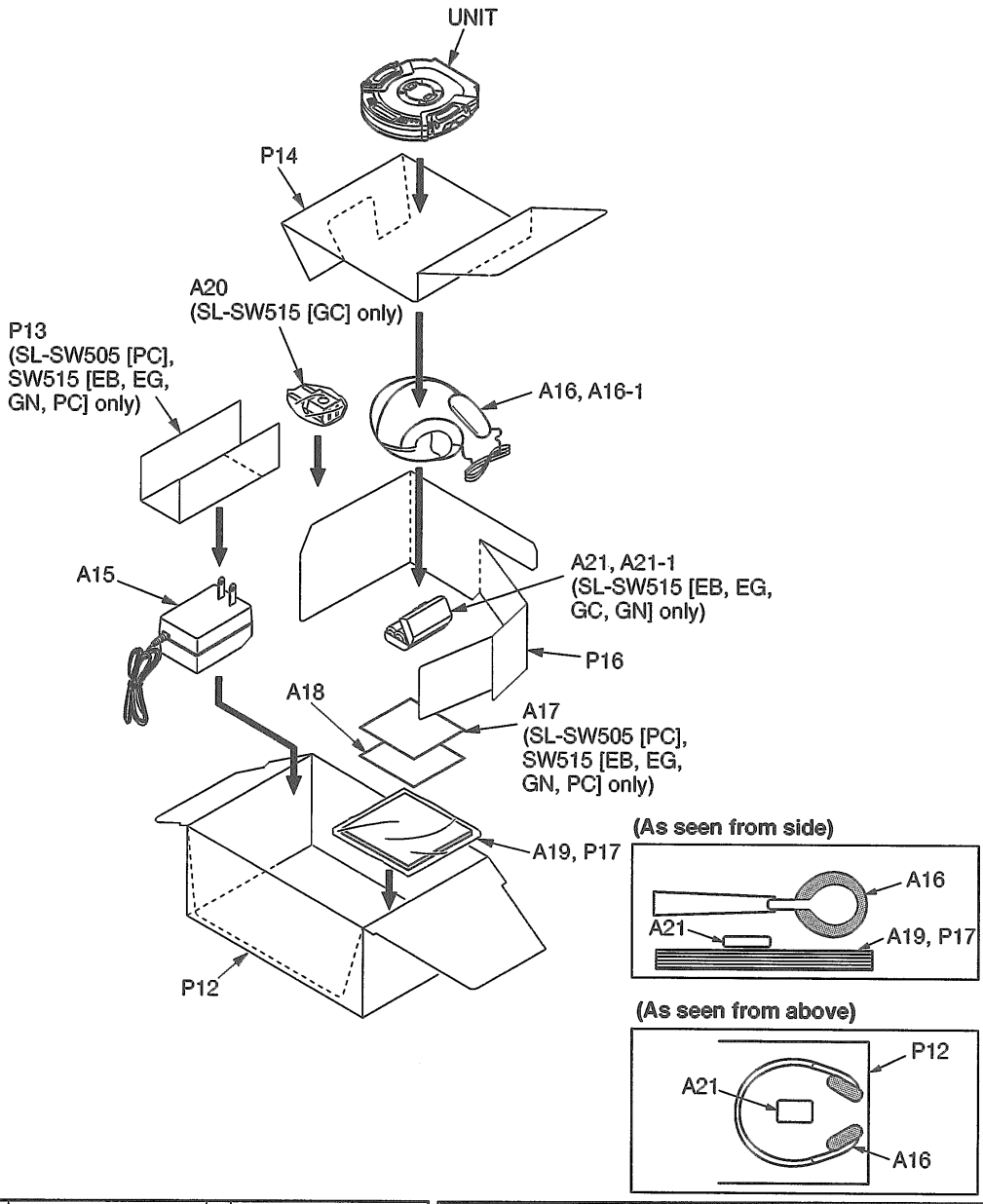


Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ A5	RFEA415C-S	AC ADAPTOR	1	
A6	RFEV701P-K1S	STEREO HEADPHONES	1	
A6-1	RFX1122	EAR PADS	1	
A7	RQT4055-2P	INST. MANUAL (CAR KIT)	1	<1A>
A7	RQT4056-C	INST. MANUAL (CAR KIT)	1	<1B>
A7	RQT4436-P	INSTRUCTION MANUAL	1	<1A>
A7	RQT4440-C	INSTRUCTION MANUAL	1	<1B>
⚠ A8	SH-CDM10BPYK	CASSETTE ADAPTOR	1	
⚠ A9	SH-CDC11PCY	CAR ADAPTOR	1	
⚠ A9-1	XBA2C05NB10	FUSE, 250V 0.5A	1	
A10	SQX7185	WARRANTY CARD	1	
A11	SQX9131	SERVICENTER LIST	1	
P5	RPK1074	PACKING CASE	1	
P6	RPQ0863	SPACER	1	
P7	RPQ0866	SPACER	1	
P8	RPQ0867	PAD	1	
P9	RPH0209	PAD	1	
P10	RPF0046	PROTECTION BAG(F.B.)	1	

• **For SL-SW505 (PC), SW515 (EB, EG, GC, GN, PC) only**



Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ A15	RFEA403A-S	AC ADAPTOR	1	515(GN)
⚠ A15	RFEA403B-S	AC ADAPTOR	1	515(EB)
⚠ A15	RFEA403Z-S	AC ADAPTOR	1	515(GC)
⚠ A15	RFEA414E-M	AC ADAPTOR	1	515(EG)
⚠ A15	RFEA415C-S	AC ADAPTOR	1	505(PC), 515(PC)
A16	RFEV701P-Y1S	STEREO HEADPHONES	1	505
A16	RFEV707P-A1S	STEREO HEADPHONES	1	515(PC)(A)
A16	RFEV707P-S1S	STEREO HEADPHONES	1	515[PC(S), EG, EB, GC, GN]
A16-1	RFX1122	EAR PADS	1	505PC, 515PC, EG, EB, GC, GN
A17	RQA0117	WARRANTY CARD	1	515(EG, EB)
A17	RQA0132-1	WARRANTY CARD	1	505, 515(PC)
A17	RQX7433ZA	WARRANTY CARD	1	515(GN)
A18	RQCB0169	SERVICENTER LIST	1	515(EG, EB, GC, GN)
A18	SQX9131	SERVICENTER LIST	1	505, 515(PC)
A19	RQT4436-P	INSTRUCTION MANUAL	1	515(PC)<IA>
A19	RQT4440-C	INSTRUCTION MANUAL	1	505, 515(PC)<IB>
A19	RQT4441-B	INSTRUCTION MANUAL	1	515(EB, GN)<IC>
A19	RQT4442-E	INSTRUCTION MANUAL	1	515(EG)<ID>

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
A19	RQT4443-D	INSTRUCTION MANUAL	1	515(EG)<IE>
A19	RQT4444-H	INSTRUCTION MANUAL	1	515(EG)<IF>
A19	RQT4447-K	INSTRUCTION MANUAL	1	515(GC)<IG>
⚠ A20	SJP5213-2	PLUG ADAPTOR	1	515(GC)
A21	RFKFP3GAVE2S	RECHARGEABLE BATT. ASS'Y	1	515(EB, EG)
A21	RFKFP3GAVT2S	RECHARGEABLE BATT. ASS'Y	1	515(GC, GN)
A21-1	RFKNLS370-K	RECHARGE. BAT. CARRING CASE	1	515(EB, EB, GC, GN)
P12	RPK1008	PACKING CASE	1	515(EG, EB, GC, GN)
P12	RPK1010	PACKING CASE	1	515(PC)(S)
P12	RPK1072	PACKING CASE	1	505(PC)
P12	RPK1073	PACKING CASE	1	515(PC)(A)
P13	RPQ0863	SPACER	1	505(PC), 515(PC)
P13	RPQ0864	SPACER	1	515(EG, GN)
P13	RPQ0865	SPACER	1	515(EB)
P14	RPQ0867	PAD	1	
P16	RPQ0866	SPACER	1	
P17	RPF0046	PROTECTION BAG(F.B.)	1	

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