D-451SP

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

Model Name Using Similar Mechanism	D-345
CD Mechanism Type	CDM-451
Optical Pick-Up Name	DAX-01A

SPECIFICATIONS

System
Compact disc digital audio system
Laser diode properties
Material: GaAlAs
Wavelength: λ = 780 nm
Emission duration: Continuous
Laser output: Less than 44.6 µW (measured at 200 mm away from the objective lens surface)
Error correction
Sony Super Strategy Cross Interleave Reed Solomon Code
D-A conversion
1-bit quartz time-axis control
Frequency response
20 - 20,000 Hz ±½dB (measured by EIAJ CP-307)
Output (at 4.5 V input level)
Headphones (stereo minijack)
15 mW + 15 mW at 16 ohms
Line output (stereo minijack)
Output level 0.7 V rms at 50 kilohms
Recommended load impedance over 10 kilohms

General

Power requirements
- Sony BP-DM10 Rechargeable battery: 2.4 V DC, Ni-Cd, 650 mAh
  Sony BP-DM20 Rechargeable battery: 2.4 V DC, NiMH, 1,100 mAh
- Two LR6 (size AA) batteries: 3 V DC
- AC power adaptor (DC IN 4.5 V jack):
  220 - 230 V, 50 Hz (European and Asian model)
  120 V, 60 Hz (USA, Canadian, Central and South American model)
  110 - 240 V, 50/60 Hz (Middle Eastern model)
  230 - 240 V, 50 Hz (U.K. model)
  100 - 240 V, 50/60 Hz (Model for other countries)
  240 V, 50 Hz (Australian model)

Dimensions (w/h/d) (without projecting parts and controls)
Approx. 142 × 36 × 158 mm (5 ⅝ × 1 7/16 × 6 ¼ in.)
Mass (without rechargeable battery)
Approx. 390 g (12.3 oz)
Operating temperature
5°C - 35°C (41°F - 95°F)

Supplied accessories

AC power adaptor (1)
Connecting cord (Phono plug × 2 ↔ stereo miniplug) (1)
Stereo headphones (1)
Rechargeable battery (1)

Design and specifications are subject to change without notice.

COMPACT DISC COMPACT PLAYER

SONY®

TABLE OF CONTENTS

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

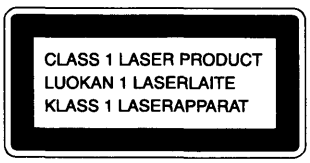
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the bottom exterior.



CAUTION

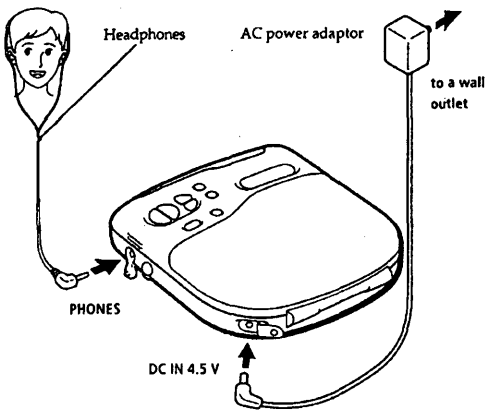
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This section is extracted from instruction manual.

Playing a CD right away!

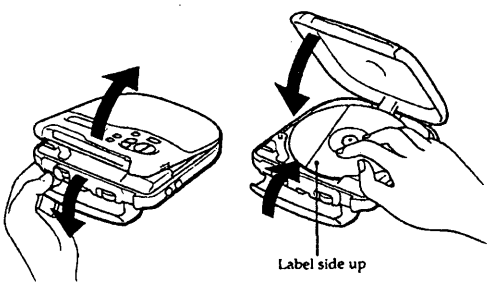
If you want to play a CD right now, choose to use your Discman on house current. Other choices are the following two: rechargeable battery and dry batteries (see "Power Sources" on the reverse side).

1 Connect



For models supplied with the AC plug adaptor
If the AC power adaptor does not fit the wall outlet, use the AC plug adaptor.

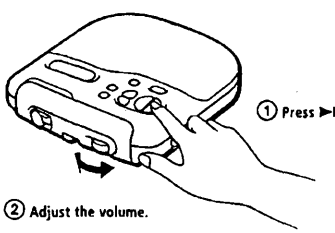
2 Place a CD



① Unfasten the buckle and open the lid.

② Fit the CD to the pivot.

3 Play

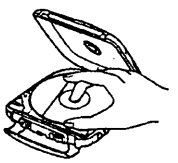


To stop play, press ■.

To	Press
Pause (main unit only)	►II
Resume play after pause (main unit only)	►II
Find the beginning of the current track (AMS*)	I◄◄ once**
Find the beginning of previous tracks (AMS)	I◄◄ repeatedly**
Find the beginning of the next track (AMS)	►►I once**
Find the beginning of succeeding tracks (AMS)	►►I repeatedly**
Go forward quickly	Hold down ►►I**
Go backwards quickly	Hold down I◄◄ **

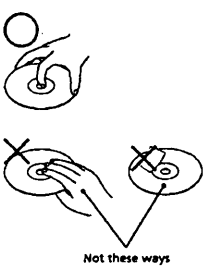
*AMS = Automatic Music Sensor
**These operations are possible during both play and pause.

To remove the CD
Remove the CD while pressing the pivot.



Notes on display
- When you press ►II (when RESUME is set to OFF), the total number of the tracks in the CD and the total playing time appear for 2 seconds.
- During play, the track number and the elapsed playing time of the current track appear.
- During pause, the elapsed playing time flashes in the display.
- Between the tracks, the time to the beginning of the next track will appear with the "–" indication.

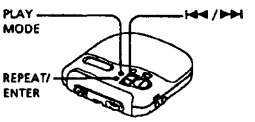
Notes on handling CDs
- To keep the CD clean, handle it by its edge. Do not touch the surface.
- Do not stick paper or tape onto the CD.
- Do not expose the CD to direct sunlight or heat sources such as hot air ducts. Do not leave the CD in a car parked in direct sunlight.



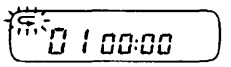
►Other Operations

Playing tracks repeatedly (Repeat Play)

You can play tracks repeatedly in normal, INTRO PGM, shuffle or RMS (Random Music Sensor) play modes. Repeat all the tracks or only one track.

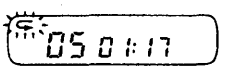


To repeat all the tracks
Press REPEAT/ENTER during play.
The "⇆" indication appears.

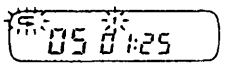


To cancel repeat play, press REPEAT/ENTER again.

To repeat a single track
1 Press REPEAT/ENTER while the track you want to repeat is playing.
The "⇆" indication appears.



2 Press PLAY MODE repeatedly until "1" appears.

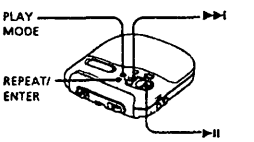


To repeat another track, press I◄◄ or ►►I.

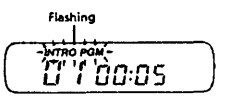
To cancel repeat play, press REPEAT/ENTER again.

Playing only the tracks you want (INTRO PGM Play)

You can choose and play your favorite tracks by scanning through the beginning of each track in a CD.



1 During play, press PLAY MODE repeatedly until "INTRO PGM" flashes.



2 Press ►II to start scanning.
The Discman plays the first 15 seconds of each track and "INTRO PGM" flashes faster.

3 Press REPEAT/ENTER while the track you want is playing. To skip the track, press ►►I or just wait for the next track.

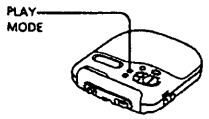
When you go through the CD, "INTRO PGM" stops flashing and the tracks you chose play automatically.

To finish programming before hearing through the CD, press ►II. The selected tracks are played.

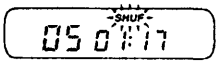
To cancel INTRO PGM play, press PLAY MODE repeatedly until no play mode is indicated in the display.

Playing tracks in random order (Shuffle Play)

You can play the tracks in a CD in random order.



During play, press PLAY MODE repeatedly until "SHUF" appears.
The tracks play in random order.



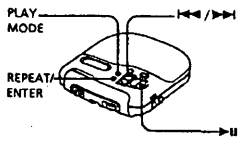
To cancel shuffle play, press PLAY MODE repeatedly until no play mode is indicated in the display.

Note

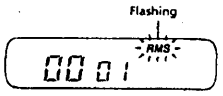
- During shuffle play, you cannot return to previous tracks by pressing ⏮ .

Playing tracks in the order you want (RMS play)

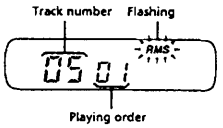
You can program up to 22 tracks to play in any order you choose.



1 During play, press PLAY MODE repeatedly until "RMS" flashes.



2 Press ⏮ or ⏭ to choose a track.
The track number and the playing order appear.



3 Press REPEAT/ENTER to program the track.

4 Repeat steps 2 and 3 to program the remaining tracks.

5 Press ⏯.
"RMS" stops flashing and the tracks you chose play in the order you specified.

To cancel RMS play, press PLAY MODE until "RMS" disappears.

To check the program

To check during programming, press REPEAT/ENTER before step 5. To check during RMS play, press PLAY MODE repeatedly until "RMS" flashes, then press REPEAT/ENTER.
Each time you press the button, the track numbers appear in the order you specified.

Note

- If you program another track after the 22nd track, the first track programed is cleared and the new track is programed instead.

Using other functions

To enjoy more powerful bass sound

You can enjoy a powerful bass-boosted sound.

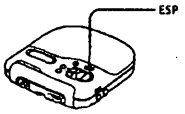
Set BASS BOOST to 1 or 2.

Note

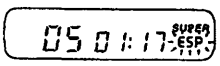
- If the sound is distorted when emphasizing bass, turn down the volume.

To prevent sound from skipping

The SUPER ESP (Super Electronic Shock Protection) function prevents the sound from skipping by using a buffer memory that stores music data for about 10 seconds. Use this function when listening during a walk or playing in a car.



Press ESP.
The SUPER ESP indication appears.

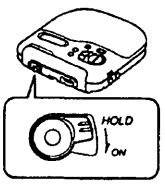


Notes

- Playing may stop when the Discman gets a strong shock even when the SUPER ESP function is on.
- When you record a CD on a cassette tape using a tape recorder that has a blank search function, make sure that the SUPER ESP indication is not displayed (the SUPER ESP function is off).
- You may hear a noise or sound skip when:
  — listening to a dirty or scratched CD,
  — listening to an audio test CD or,
  — the Discman receives continuous shock.
- Sound may drop for a while if you press ESP during play.

To lock the buttons

You can lock your Discman against any accidental operations.

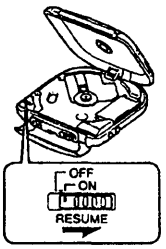


Set HOLD to ON.
When you press any button, "*Hol d*" appears in the display.

To unlock, slide HOLD back.

To resume playing from the point you stopped the CD (Resume Play)

Normally, every time you stop and play, playing starts from the beginning of the CD. The resume play function, however, lets you listen to from the point at which you last turned off the Discman.



Set RESUME to ON.

To cancel resume play, set RESUME to OFF.

Notes

- Even if RESUME is set to ON, playing starts from the beginning when you open the lid.
- The resume point may be inaccurate by about 30 seconds.

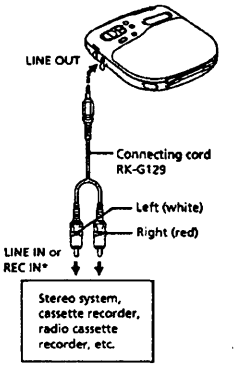
To turn off the beep

You can turn off the beep that sounds as you operate your Discman.

While you press and hold down ■ on the main unit, connect the power source.

Connecting to other stereo equipment

You can listen to the CD through other stereo equipment or record a CD on a cassette tape. Refer to the instruction manual of other equipment for details. Before making connections, turn off each equipment.



*To connect an equipment without LINE IN nor REC IN jack, use the RK-G134 connecting cord and connect to MIC jack.

Notes

- Before you play the CD, turn down the volume of the connected equipment so as not to damage the connected speakers.
- To output the original sound, set BASS BOOST to NORM.

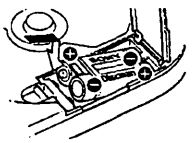
▶Power Sources

Using rechargeable battery

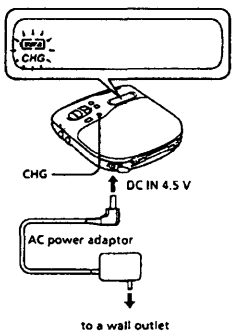
Charge the rechargeable battery before using it for the first time.
You can use either BP-DM10 or BP-DM20 rechargeable battery for this unit. You can use them in the same way, but their charging time and battery life are different. Check the model number of your rechargeable battery, and use it.

1 Open the lid of the battery compartment.

2 Insert the rechargeable battery so that the word "SONY" is facing the same direction as illustrated inside the lid, and close the lid.



3 Connect the AC power adaptor and press CHG. While charging, the indication "CHG" lights. Charge for about 2 hours (for BP-DM10) or 3 hours (for BP-DM20).



4 When fully charged, disconnect the AC power adaptor.

When to charge the battery

When the battery is used up, indication flashes in the display. Charge the rechargeable battery.

Battery life

(approx. hours)

	BP-DM10	BP-DM20
with ESP on	3	5.5
with ESP off	3.5	7

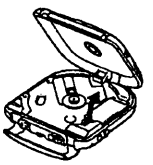
(When you use the Discman on a flat and stable place)

Notes

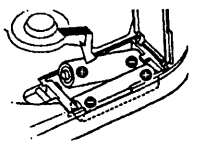
- If the rechargeable battery is inserted incorrectly, the unit may be damaged.
- Close the lid of the battery compartment and the lid of the unit firmly. When they are not firmly closed, the CD may not turn or may be damaged.
- Charging time varies depending on how the rechargeable battery is used.
- If the battery is new or has not been used for a long time, it may not be charged completely until you charge and discharge it several times.
- If the battery life becomes shorter by about half, replace it with Sony BP-DM10 or BP-DM20 rechargeable battery. Do not use any other rechargeable battery.

Using dry batteries

1 Open the lid of the battery compartment.



2 Insert two LR6 (size AA) alkaline batteries by matching the ⊕ and ⊖ to the diagram inside the battery compartment and close the lid.



When to replace the dry batteries

When the battery is used up, indication flashes in the display. Replace all the batteries with new ones.

Alkaline battery life

When you use the Discman on a flat and stable place, approx. 8 hours (with ESP on) or 12 hour (with ESP off) of continuous play is possible.

Notes

- Close the lid of the battery compartment and the lid of the unit firmly. When they are not firmly closed, the CD may not turn or may be damaged.
- Do not charge the dry batteries.
- Do not mix new batteries with old ones.
- Do not use different types of batteries together.

▶Additional Information

Precautions

On safety

- Should any solid objects or liquid fall into the unit, unplug it and have it checked by qualified personnel before operating it any further.
- Do not put any foreign objects in the DC IN 4.5 V (external power input) jack.

On power sources

- When you are not using the unit for a long time, disconnect all power sources from the unit.
- The nameplate indicating operating voltage, power consumption, etc. is located at the back of the AC power adaptor (for Middle East only.)

On the AC power adaptor

- Use only the supplied AC power adaptor. If your unit is not supplied with it, use AC-E45HG AC power adaptor. Do not use any other AC power adaptor.

Polarity of the plug

- To unplug the AC power adaptor from the wall outlet, grasp the adaptor itself, do not pull its cord.

On dry and rechargeable batteries

- Do not throw the batteries into fire.
- Do not carry the rechargeable battery with coins or other metallic objects. It can generate heat if the positive and negative terminals of the battery are accidentally contacted by a metallic object.

On the unit

- Keep the lens on the unit clean and do not touch it. If you do so, the lens may be damaged and the unit will not operate properly.
- Do not put any heavy object on top of the unit. The unit and the CD may be damaged.
- Do not leave the unit in a location near heat sources, or in a place subject to direct sunlight, excessive dust or sand, moisture, rain, mechanical shock, unleveled surface, or in a car with its windows closed.
- If the unit causes interference to the radio or television reception, turn off the unit or move it away from the radio or television.
- Do not wrap the unit in a cloth or blanket during use as it may cause malfunction or serious accidents.

On headphones

Road safety

Do not use headphones while driving, cycling, or operating any motorized vehicle. It may create a traffic hazard and is illegal in some areas. It can also be potentially dangerous to play your headsets at high volume while walking, especially at pedestrian crossings. You should exercise extreme caution or discontinue use in potentially hazardous situations.

Preventing hearing damage

Avoid using headphones at high volume. Hearing experts advise against continuous, loud and extended play. If you experience a ringing in your ears, reduce volume or discontinue use.

Caring for others

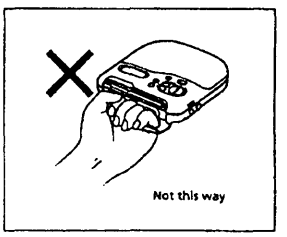
Keep the volume at a moderate level. This will allow you to hear outside sounds and to be considerate to the people around you.

On the water resistance

- Before unfastening the buckle to open the lid, be sure to wipe off water, dust or sand on the exterior of the unit. Open and close the lid where water or sand cannot fall in the unit, and make sure that your hands are dry. If water or sand falls in the unit, trouble may occur.
- When closing the lid, check that there is no dust or sand on the rubber packing around the lid. Then close the lid firmly with the buckle.
- If the unit or the headphones are immersed in salt water, be sure to wash them in still fresh water. Never wash them under running water and never use soap or detergent.
- The supplied headphones are not meant to be immersed in water or come in continuous contact with water. If they are accidentally dropped into water or get wet, dry them with a soft cloth. Never use an electric hair dryer.
- Cover the DC IN 4.5 V jack, LINE OUT jack and PHONES jack with the attached rubber caps when nothing is connected to these jacks. If the inside of the jacks are contaminated with water or sand, rust may develop and caused trouble.

Notes

- Since the unit is airtight, you may not be able to open the lid because of a sudden change in air pressure inside the unit which happens after being transported on a plane or moving from a warm place to a cold place. In this case, try to open the rubber cap on the DC IN 4.5 V jack.
- To prevent intrusion of water, the buckle is designed to be slightly stiff. When unfastening the buckle, be careful not to be caught on a nail.



If you have any questions or problem concerning your unit, please consult your nearest Sony dealer.

SECTION 2
SERVICE NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

Before Replacing the Optical Pick-Up Block

Please be sure to check thoroughly the parameters as par the "Optical Pick-Up Block Checking Procedures" (Part No.: 9-960-027-11) issued separately before replacing the optical pick-up block.
Note and specifications required to check are given below.

- FOK output: IC501 ⑫ pin
  When checking FOK, remove the lead wire to disc motor.
- S curve P-to-P value: 2.4±1.2 Vp-p IC501 ⑬ pin
  When checking S curve P-to-P value, remove the lead wire to disc motor.
- Adjusted part for focus gain adjustment: RV602
- RF signal P-to-P value: 0.8 – 1.3 Vp-p
- Traverse signal P-to-P value: 1 – 2.6 Vp-p
- The repairing grating holder is impossible.
- Adjusted part for tracking gain adjustment: RV601

Precautions for Checking Emission of Laser Diode

Laser light of the equipment is focused by the object lens in the optical pick-up so that the light focuses on the reflection surface of the disc. Therefore, be sure to keep your eyes more then 30 cm apart from the object lens when you check the emission of laser diode.

Laser Diode Checking Methods

During normal operation of the equipment, emission of the laser diode is prohibited unless the upper panel is closed while turning ON the S808 (push switch type).
The following two checking methods for the laser diode are operable.

- **Method (In the service mode or normal operation): Emission of the laser diode is visually checked.**

1. Open the upper panel.
2. Push the S808 as shown in Fig. 1.
3. Press the ▶II key.
4. Check the object lens for confirming normal emission of the laser diode. If not emitting, there is a trouble in the automatic power control circuit or the optical pick-up.
   During normal operation, the laser diode is turned ON about 2.5 seconds for focus searching.

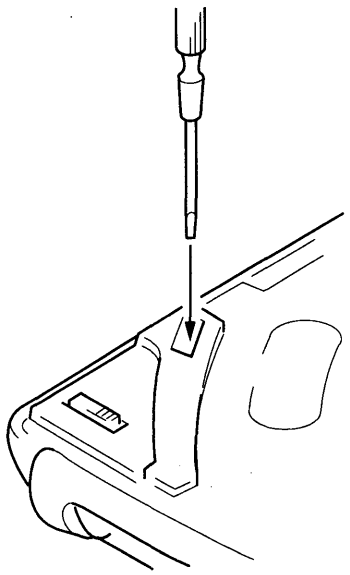
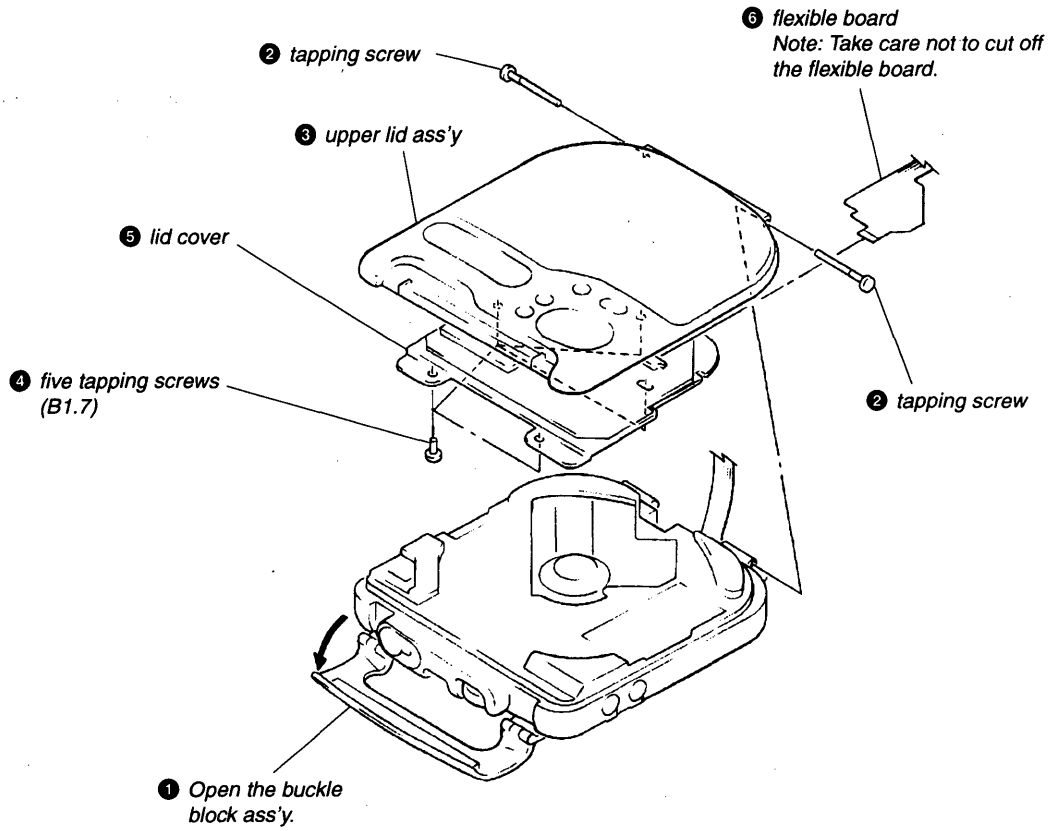


Fig. 1 Method to push the S808

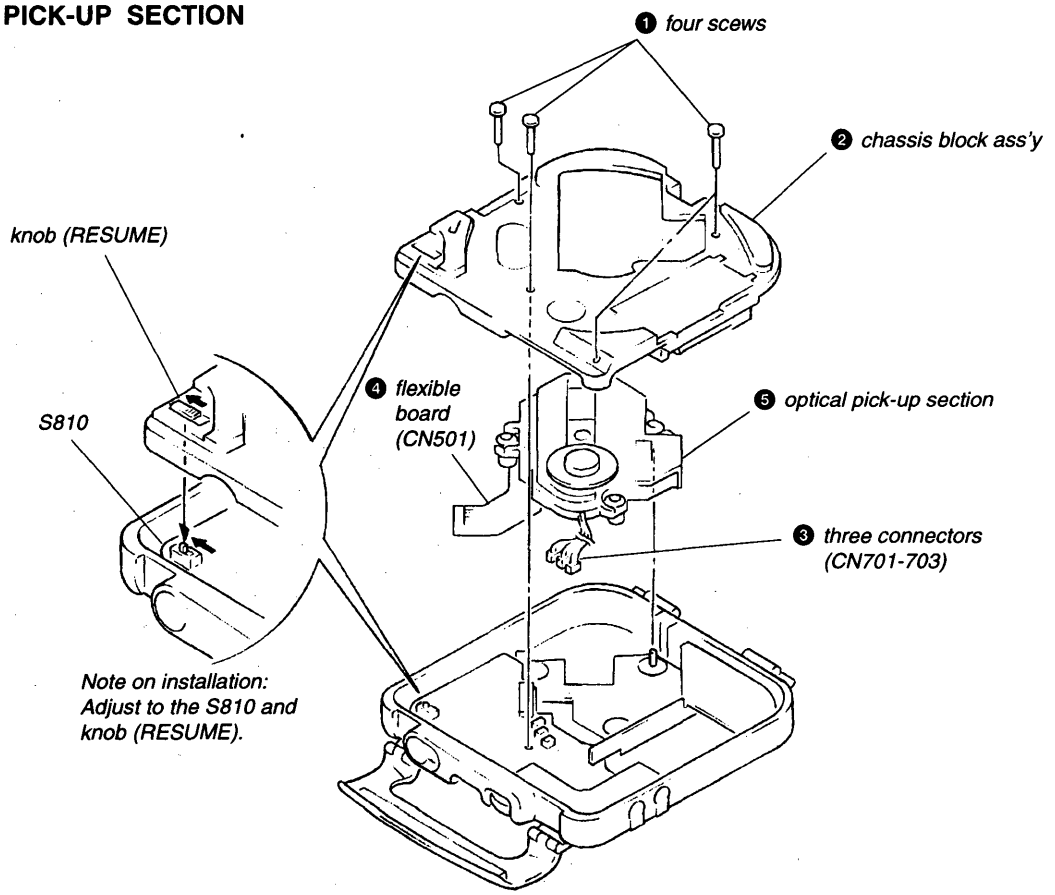
SECTION 3
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

UPPER LID ASS'Y, LID COVER



OPTICAL PICK-UP SECTION

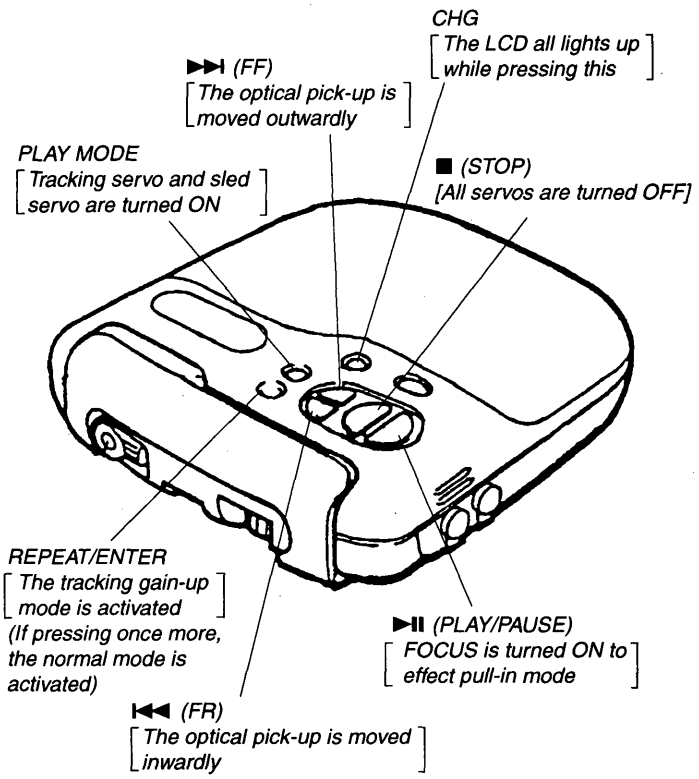


SECTION 4
SERVICE MODE

Service Mode (Service program)

The equipment is provided with a service program built in the microcomputer, like conventional models.

Service program operation methods are described in the following.



Description in [ ] indicate major operations in the service mode. For more information, see Step 2.

Fig 2. Layout of each key

• Step 1 (Service mode setting methods)

1. Turn OFF the HOLD switch with external power supply disconnected (power is not applied to the set.)
2. Solder across the TEST terminals (pin ⑲, IC801 (XTEST) is grounded).
3. Connect an external power supply.

   Thus, the set is switched to the service mode.

• Step 2 (Operation in the service mode)

1. Once the service mode is effected, the LCD displays 5 indications each of which is repeatedly displayed.
   However, the following operations can be activated even if LCD indication is effected.
2. By pressing the ▶▶I or I◀◀ key, the optical pick-up is movable inwardly or outwardly. However, if this is activated, tracking servo and sled servo are turned OFF, so it can be turned ON by pressing the PLAY MODE key if required.
3. By pressing the REPEAT/ENTER key, the tracking gain-up mode becomes active.
4. By pressing the ▶II key, focus is turned ON from focus searching while entering CLV-S (pull-in mode).
   Without disc, focus searching is repeated continuously.
5. By pressing the PLAY MODE key, tracking servo, sled servo and CLV-A (servo in PLAY) are turned ON.
6. When 4. and 5. are performed, playing begins. No muting is ON in the service mode.
7. By pressing the ■ key, all servos (focus, tracking and sled) are turned OFF. However, the disc motor revolves for a while by inertia.

• Step 3 (Resetting of service mode)

1. Be sure to disconnect the external power supply and remove the solder bridge at the TEST terminal connected before in setting.
2. The set thus becomes available for normal operation.

– MAIN BOARD – (Component Side)

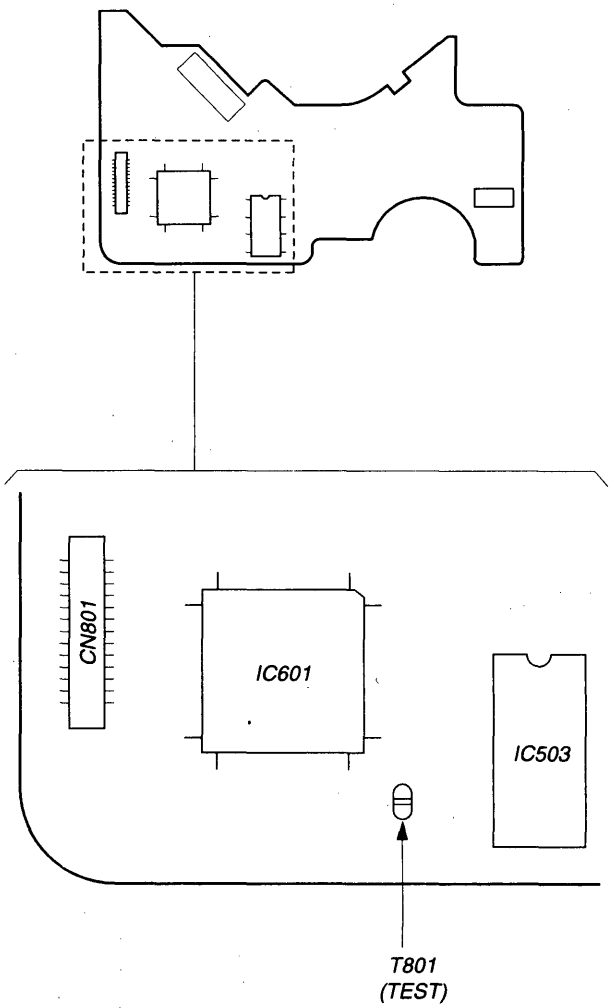


Fig 3. Location of TEST terminal

SECTION 5
ELECTRICAL ADJUSTMENTS

Precautions for Adjustment

1. Before beginning adjustment, set the equipment to service mode. After the completion of adjustment, be sure to reset the service mode.
   For more information, see "Service Mode (service program)" on page 8.
2. Perform adjustments in the order given.
3. Use YEDS-18 disc (Part No.: 3-702-101-01) unless otherwise indicated.
4. Power supply voltage requirement: DC4.5 V
   HOLD switch : OFF
   VOLUME control : Minimum
   ESP switch : OFF
   BASS BOOST switch : OFF
   RESUME switch : OFF

Before Beginning Adjustment

Set the equipment to service mode (See page 8) and check the following. If there is an error, repair the equipment.

• Checking of the sled motor

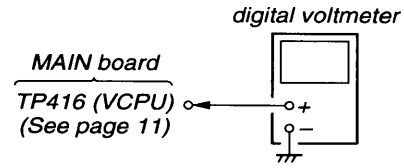
1. Open the upper panel.
2. Press the ▶▶I and I◀◀ keys and check that the optical pick-up can move smoothly without sluggishness or abnormal noise in innermost periphery → outermost periphery → innermost periphery.
   ▶▶I : The optical pick-up moves outwardly.
   I◀◀ : The optical pick-up moves inwardly.

• Checking of focus searching

1. Open the upper panel.
2. Press the ▶II key. (Focus searching operation is activated continu-ously.)
3. Check the object lens of the optical pick-up for smooth up/down motion without sluggishness or abnormal noise.
4. Press the ■ key.
   Check that focus searching operation is deactivated. If not, again press the ■ key slightly longer.

VCPU Adjustment

Adjustment Procedure:



1. Set the equipment to service mode stop state. (See page 8.)
2. Connect the level meter to TP416 (VCPU) of the MAIN board.
3. Adjust RV401 on the MAIN board so that the reading on digital voltmeter goes 3.0±0.05 V.
4. After the completion of adjustment, reset service mode. (See page 8.)

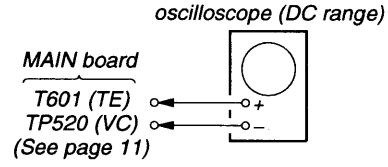
Adjustment Location: MAIN board

Tracking Balance Adjustment

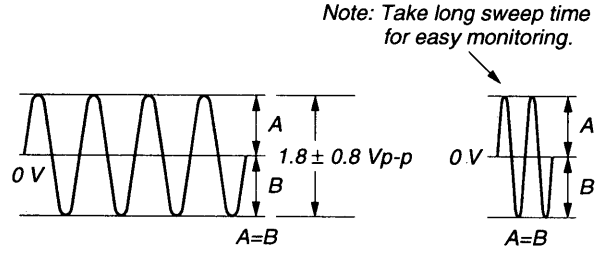
Condition:

• Hold the set in horizontal state.

Adjustment Procedure:



1. Connect the oscilloscope to T601 (TE) of the MAIN board.
2. Set the equipment to service mode stop state. (See page 8.)
3. Move the optical pick-up to the center by pressing the ▶▶I and I◀◀ keys.
4. Put the disc (YEDS-18).
5. Press the ▶II key.
   [From focus searching, focus is turned ON while entering CLV drawing-in mode. Tracking and sled are turned OFF.]
6. Adjust RV501 so that the waveform on the oscilloscope becomes up/down symmetrical with an axis of 0 V.



7. Stop removing of the disc motor by pressing the ■ key.
8. After the completion of adjustment, reset service mode. (See page 8.)

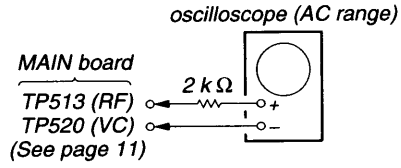
Adjustment Location: MAIN board

Focus Bias Check

Condition:

- Hold the set in horizontal state.

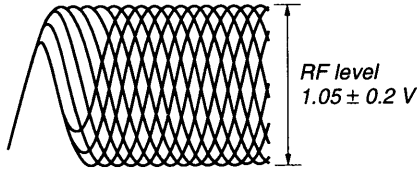
Adjustment Procedure:



1. Set the equipment to service mode stop state. (See page 8.)
2. Connect the oscilloscope to the test point TP513 (RF) of the MAIN board.
3. Move the optical pick-up by pressing the ▶▶I and I◀◀ keys.
4. Put the disc (YEDS-18).
5. Put the ▶II key.
   [From focus searching, focus is turned ON while entering CLV drawing-in mode. Tracking and sled are turned OFF.]
6. Press the PLAY MODE key. (Both tracking and sled are turned ON.)
7. Check the oscilloscope waveform is as shown below.
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

RF SIGNAL REFERENCE WAVEFORM (EYE PATTERN)

VOLT/DIV : 200 mV (With the 10:1 probe in use)
TIME/DIV : 500 nS



To watch the eye pattern, set the oscilloscope to AC range and increase the vertical sensitivity of the oscilloscope for easy watching.

8. Stop revolving of the disc motor by pressing the ■ key.
9. After the completion of adjustment, reset service mode. (See page 8.)

Adjustment Location: MAIN Board

Focus/Tracking Gain Adjustment

A servo analayzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no probrem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up relative to mechanical noise and mechanical shock when the 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is rased, the noise when 2-axis device operates increase.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

This adjustment has to be performed upon replacing any of the following parts.

- Optical pick-up
- RV602 (Focus gain VR)
- RV601 (Tracking gain VR)

Normally, be sure not to move RV602 (focus gain VR) and RV601 (tracking gain VR).

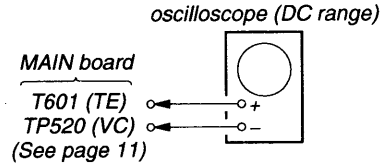
Adjustment method:

– Focus Gain Adjustment –

This adjustment is not performed.
If focus gain VR RV602 is turned, set to mechanical center.

– Tracking Gain Adjustment –

(perform at normal operation)



1. Place the optical pick-up level, horizontally. (If the optical pick-up is not level, the 2-axis device will be weighted and adjustment cannot be done.)
2. Connect the osilloscope to T601 (TE) and TP520 (VC) on MAIN board.
3. Set the disc (YEDS-18) and press the ▶II key.
4. Turn RV601 slightly clockwise (tracking gain drops) and obtain a waveform with a fundamental wave (waveform has large waves) as in Figure 1.
5. Turn RV601 slowly counterclockwise (tracking gain rises) until the fundemental wave disappears (no large waves) as in Figure 2.
6. Set RV601 to the position about 30° counterclockwise form the position obtained in step 5. If RV601 contact point is more than 90° counterclockwise from mechanical center, tracking gain is too high. In this case, readjust from step 4.
7. Press ▶▶I or I◀◀ key and observe the 100 track jump waveform. Check that no traverse waveform appears for both ▶▶I or I◀◀ directions. (See Figures 3 and 4.) It is acceptable if the traverse waveform appears only now and then, but if it appears constantly, raise tracking gain slightly and check step 7 again.
8. Check that there is not abnormal amount of operation noise (white noise) from the 2-axis device. If there is, tracking gain is too high, readjust starting with step 4.

The waveforms are those measured with the oscilloscope set as shown below.

- VOLT/DIV: 50 mV
- TIME/DIV: 5 ms

- Waveform when tracking gain is lowered.
  Fundamental wave appears (large waves).

Fig. 1

- Waveform when fundamental wave disappears (no large waves).

Fig. 2

- Waveform with no traverse waveform during 100 track jump.
  (Brake application is smooth because of adjustment.)

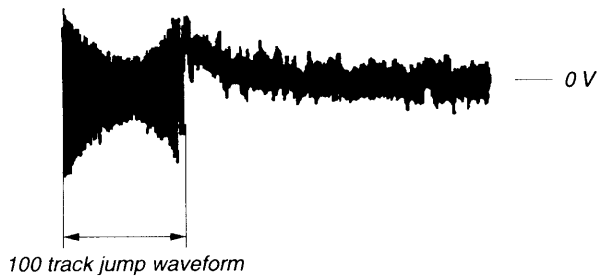


Fig. 3

- Waveform with traverse waveform during 100 track jump.
  (Brake application is poor because of adjustment.)

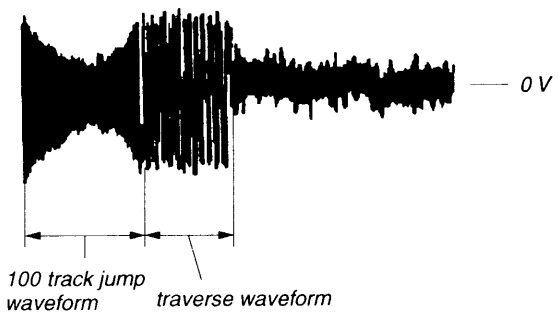
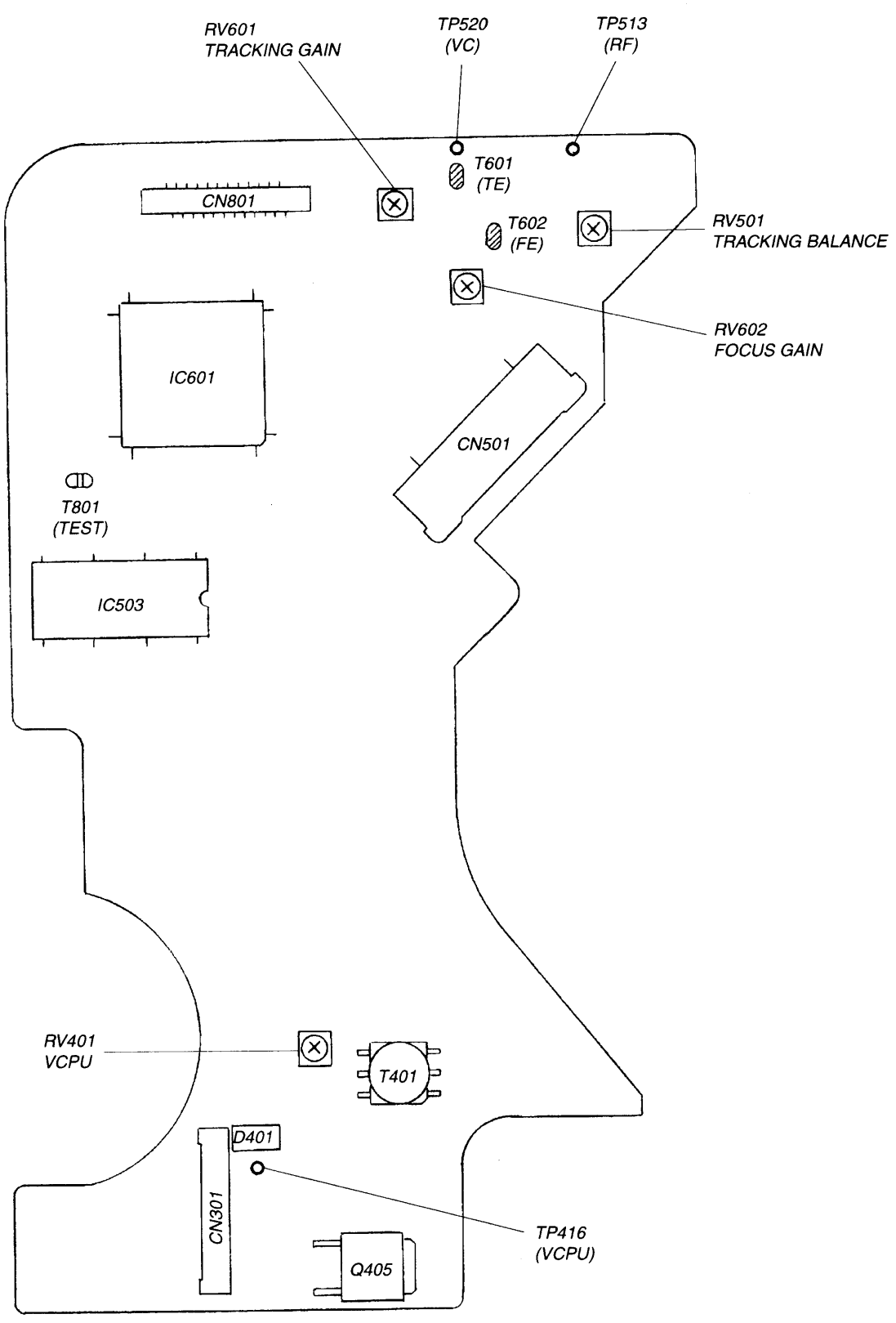


Fig. 4

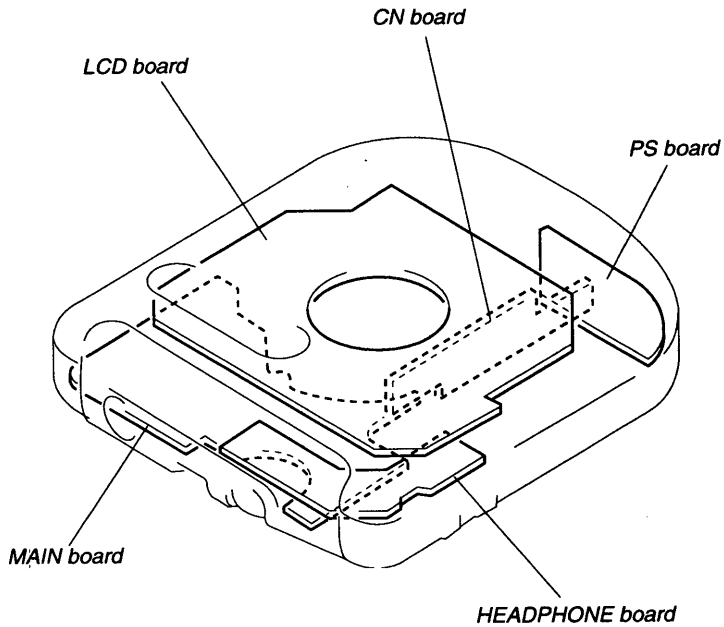
Adjustment Parts Location:

– MAIN BOARD – (Components Side)



SECTION 6
DIAGRAMS

• **Circuit Boards Location**



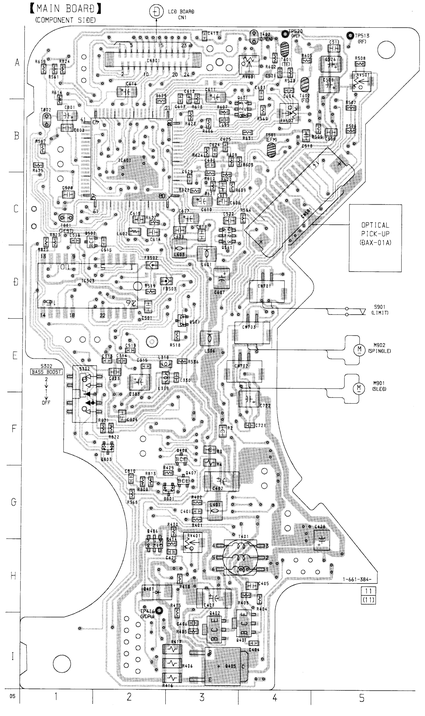
6-1. PRINTED WIRING BOARDS

• See page 13 for Circuit Boards Location.

【MAIN BOARD】
(COMPONENT SIDE)

• **Semiconductor Location (Component Side)**

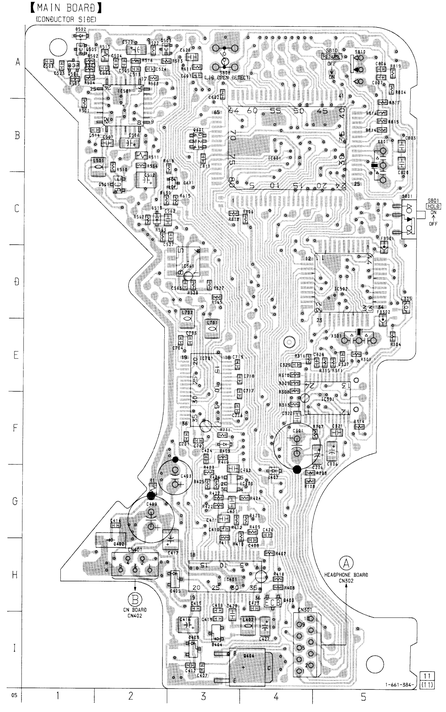
Ref. No.	Location
D401	H-2
D501	E-3
D801	G-3
D803	F-2
IC503	D-1
IC601	B-2
Q401	I-4
Q402	I-3
Q405	I-3
Q406	G-2
Q407	G-3
Q408	F-3
Q502	C-1
Q561	C-3
Q601	B-3



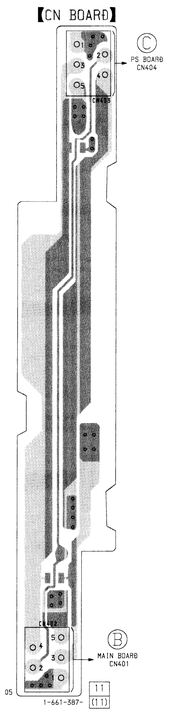
【MAIN BOARD】
(CONDUCTOR SIDE)

• **Semiconductor Location (Conductor Side)**

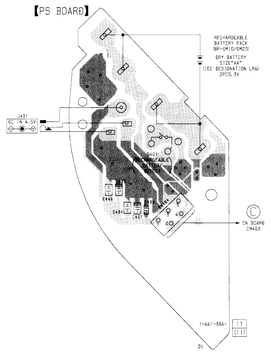
Ref. No.	Location
D402	H-2
D403	I-3
D404	I-3
D405	H-3
D407	G-4
D409	F-3
D502	A-1
D510	C-2
D611	C-3
IC301	F-5
IC401	H-3
IC403	G-3
IC501	A-2
IC502	D-5
IC561	D-3
IC701	E-3
IC801	B-4
Q301	B-3
Q403	H-4
Q404	I-4
Q501	C-2
Q503	A-2
Q505	A-1
Q506	A-1



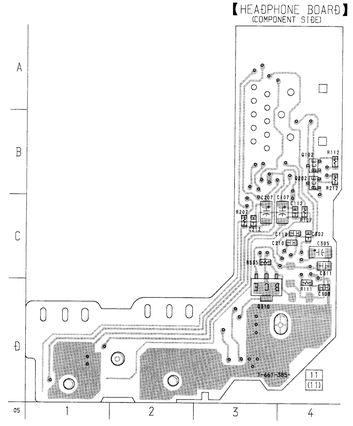
【CN BOARD】



【PS BOARD】



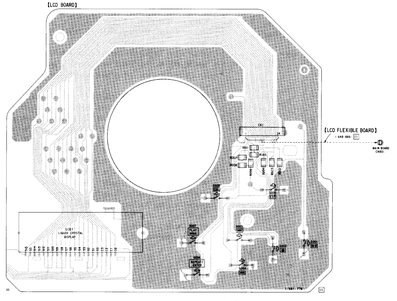
【HEADPHONE BOARD】
(COMPONENT SIDE)



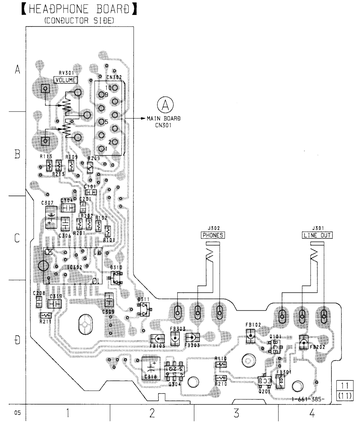
• **Semiconductor Location (Component Side)**

Ref. No.	Location
Q102	B-4
Q202	B-4
Q310	D-3

【LCD BOARD】



【HEADPHONE BOARD】
(CONDUCTOR SIDE)



• **Semiconductor Location (Conductor Side)**

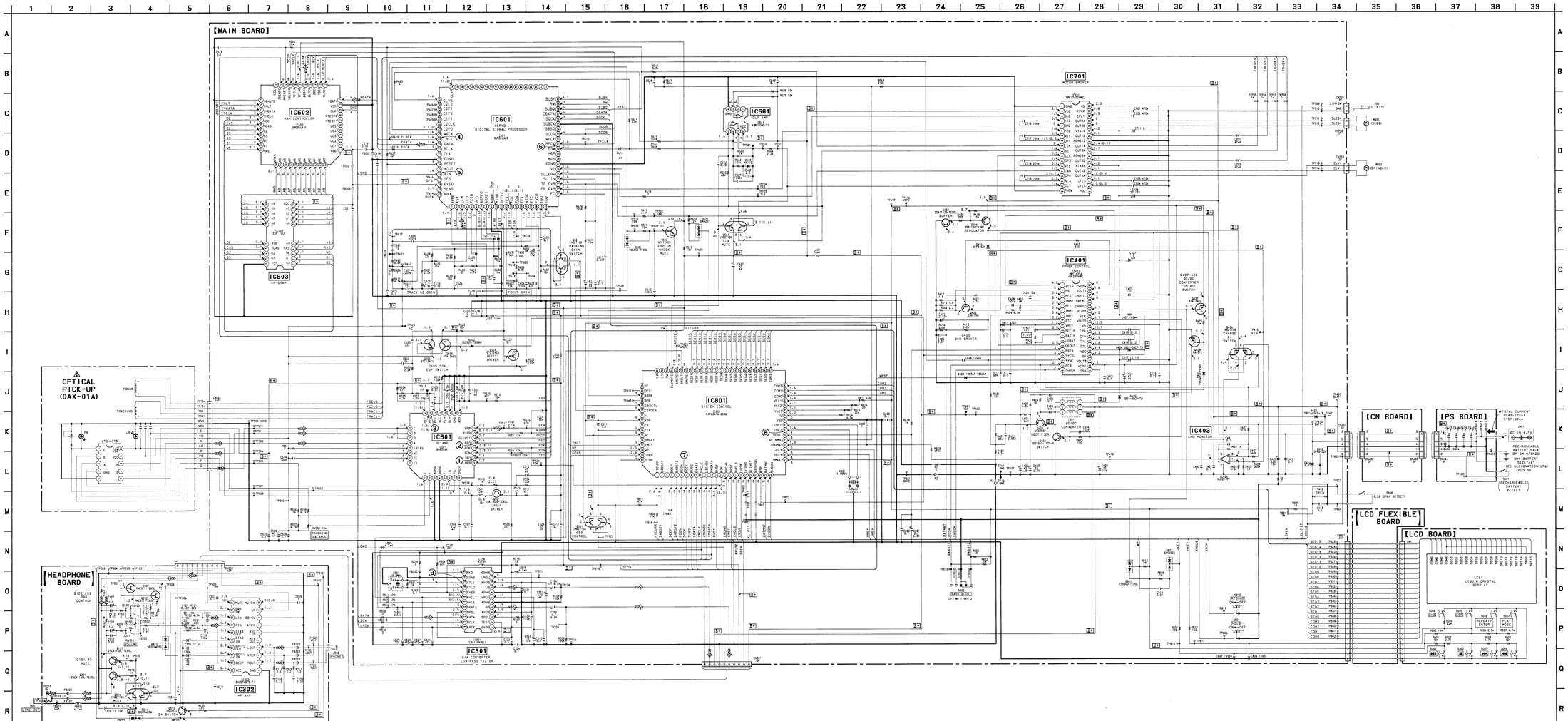
Ref. No.	Location
D310	C-2
D311	D-2
IC302	C-1
Q101	D-3
Q201	D-3
Q304	D-2

Note on Printed Wiring Board:

- ⟷ : parts extracted from the component side.
- △ : internal component.
- : Pattern of the rear side.
- : Pattern from the side which enables seeing.

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

6-2. SCHEMATIC DIAGRAM • See page 24 to 27 for IC Block Diagrams. • See page 24 for waveforms.



Note on Schematic Diagram:

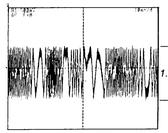
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

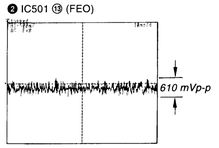
- B+ : B+ Line.
- : panel designation.
- : adjustment for repair.
- Power voltage is dc 4.5 V and fed with regulated dc power supply from external power voltage jack.
- Voltages and waveforms are dc with respect to ground in service mode.
  no mark : STOP
  ( ) : PLAY
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

• Waveforms

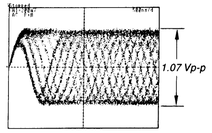
❶ IC501 ⑲ (TEO) (SERVO OFF)



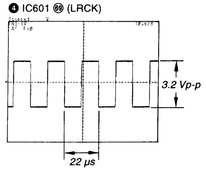
❷ IC501 ⑬ (FEO)



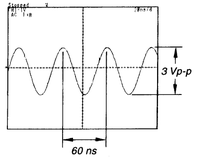
❸ IC501 ㉓ (RFO)



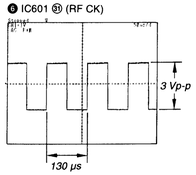
❹ IC601 ㊽ (LRCK)



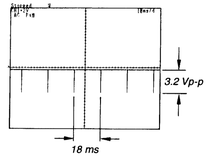
❺ IC601 ㊻ (X IN)



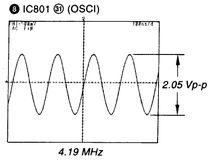
❻ IC601 ㉛ (RF CK)



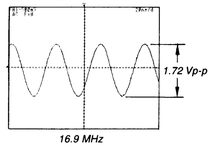
❼ IC801 ⑦ (SQCK)



❽ IC801 ㉛ (OSCI)

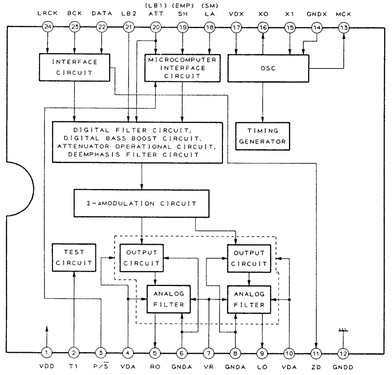


❾ IC301 ⑯ (XTLI)

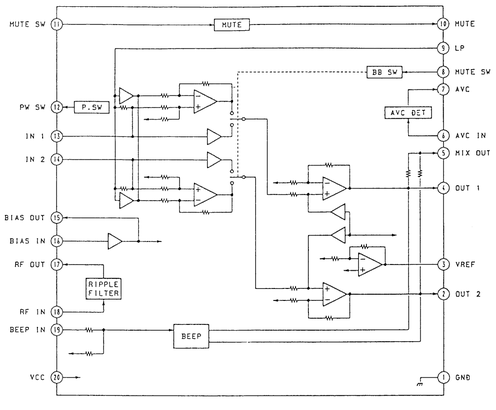


• IC Block Diagrams

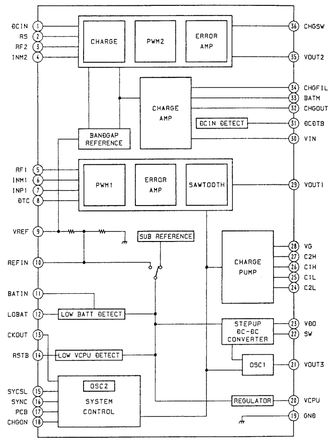
IC301 TC9414FNEL (MAIN BOARD)



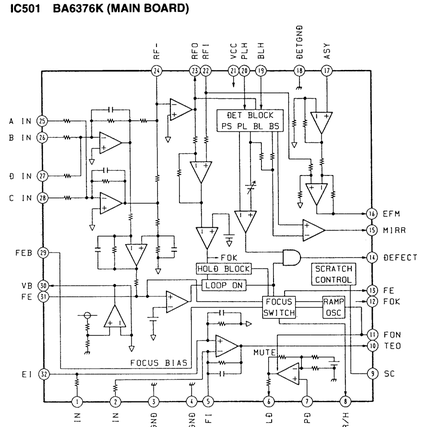
IC302 BA3574BFS-TI (HEADPHONE BOARD)



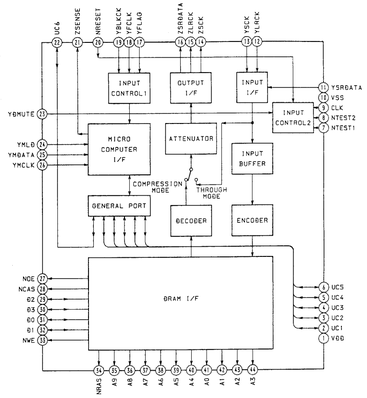
IC401 MPC1825A/SC285VMEL (MAIN BOARD)



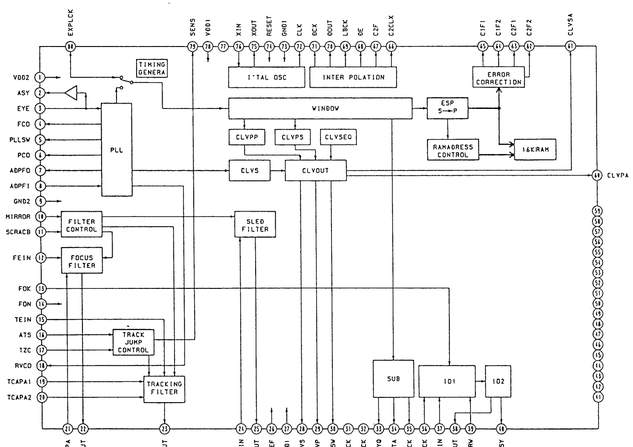
IC501 BA6376K (MAIN BOARD)



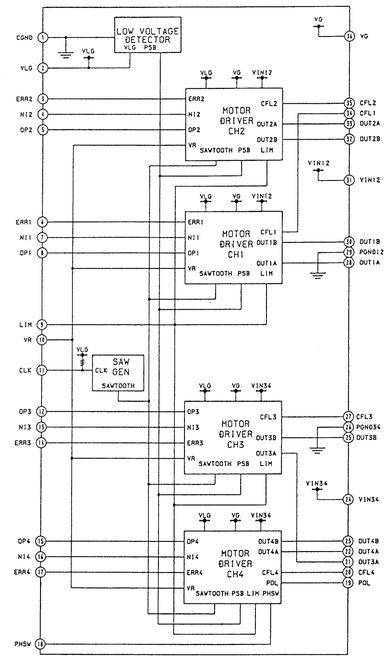
IC502 SM5856A1F (MAIN BOARD)



IC601 BU9312AKS (MAIN BOARD)



IC701 MPC17A50VMEL (MAIN BOARD)



6-3. IC PIN FUNCTION DESCRIPTION

MAIN BOARD IC801 CXP83416-028Q (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Function
1	HICURR	I	Inputs overcurrent detection "L": Overcurrent
2	BABST1	I	Bass Boost switch input terminal "L": OFF
3		–	Not used (idle pin)
4	BEEP	O	Outputs beep sounds
5	BABST2	I	Bass Boost switch input terminal "L": 2
6	PCON	O	Outputs power control signal to the MPC1825A/SC285VMEL (IC401) "L": Power ON, "H": Power OFF
7	SQCK	O	Outputs clock signal to the BU9312AKS (IC601) to input SUB-Q signal from BU9312AKS (IC601)
8	SUBQ	I	Inputs SUB-Q signal from BU9312AKS (IC601)
9	CDATA	O	Outputs serial data signal to the BU9312AKS (IC601)
10	YMCLK	O	Outputs clock signal for reading/writing serial data to the D/A converter (IC301) and RAM controller (IC502)
11	ZSENSE	I	Inputs internal status (SENSE signal) detection signal from RAM controller (IC502)
12	YMDATA	O	Outputs serial data to the D/A converter (IC301) and RAM controller (IC502)
13	BUSY	I	Inputs BUSY signal from BU9312AKS (IC601) "L": At track jump, "H": At servo loop ON
14	FOK	I	Inputs focus OK signal from RF amplifier (IC501) "H": OK, "L": NG
15	XRCHG	I	Inputs detection signal whether a rechargeable battery is connected "L": When rechargeable battery is connected "H": When rechargeable battery is not connected
16	XRST	O	Outputs RESET signal "L": Reset
17	XHOLD	I	Inputs HOLD switch (S801) "L": HOLD ON, "H": HOLD OFF
18	XRSM	I	Inputs RESUME switch (S810) "L": RESUME ON, "H": RESUME OFF
19	XTEST	I	Inputs SERVICE mode setting signal "H": Normal mode, "L": SERVICE mode
20	XLIMIT	I	Inputs detection signal from limit switch (S901) "L": Limit SW ON
21	XESPSEL	–	Not used (Open)
22	ESP	O	Outputs ESP switch (Q505, Q506) "L": ESP switch OFF, "H": ESP switch ON
23	BATMNT	I	Inputs monitored voltage of connected power supply (rechargeable battery/dry cells) (Battery remaining capacity)
24	CHGON	O	Outputs charging control signal "H": At charging
25	RMKEY	–	Not used (fixed at "H")
26	HKEY	I	Inputs A/D key from REPEAT/ENTER, PLAY MODE, ESP, and CHG switches
27	JKEY	I	Inputs A/D key from ▶II, ■, ▶▶I, I◀◀ switches
28	CHGMNT	I	Inputs charging voltage and charging completion monitor signal (A/D input)
29	DCINMNT	I	Inputs DC input voltage monitor signal (A/D input)
30	RESET	I	Inputs SYSTEM RESET signal "L": Reset
31	OSCI	I	Inputs the clock (4.19 MHz)
32	OSCO	O	Outputs the clock (4.19 MHz)
33	VSS	–	Ground
34	VL	–	Control pin to cut off the current flowing into the bias resistor for LCD at the standby status
35-37	VLC3-VLC1	–	Bias power supply to the LCD
38-41	COM0-COM3	O	Outputs common signals to the LCD
42-57	SEG0-SEG15	O	Outputs segment signals to the LCD
58	DMUTE	O	Not used (idle pin)
59	DACLT	O	Outputs latch signal for serial data inputs to the D/A converter (IC301)
60	AMUTE	O	Outputs analog mute control "H": Mute ON
61	CLVMUTE	O	Outputs CLV mute control "L": Mute ON

Pin No.	Pin Name	I/O	Function
62	RW	O	Outputs read/write selection signal to the BU9312AKS (IC601) "H": Read mode, "L": Write mode
63, 64	L1, L2	O	Not used (idle pin)
65	H1	O	Not used (idle pin)
66	GFS	–	Not used (idel pin)
67	XBRK	O	Outputs tracking brake signal "L": Brake
68	BRK	–	Not used (idle pin)
69	DBBCTL	O	DBB control signal output
70	C2POEN	O	Outputs C2PO control signal "H": Stop, "L": Search
71	–	–	Not used (idle pin)
72	VDD	–	Power supply (+3V)
73	TX	I	Not used (idle pin)
74	TEX	O	Not used (fixed at "L")
75	NC	–	Connected to High
76	RMDAT	O	Outputs serial data to the remote controller LCD (Not used)
77	YMLT	O	Outputs latch signal for serial data input to the RAM controller (IC502)
78	WP	I	Inputs a signal to reset the system standby status. The standby status is reset by a falling edge of signal.
79	OPEN	I	Inputs OPEN switch (S808) detection "H": OPEN When the system is in standby status, the standby status is reset by a falling edge.
80	SCOR	I	Inputs sub code sync. (SO+SI) signal from BU9312AKS (IC601)

SECTION 7
EXPLODED VIEWS

NOTE:

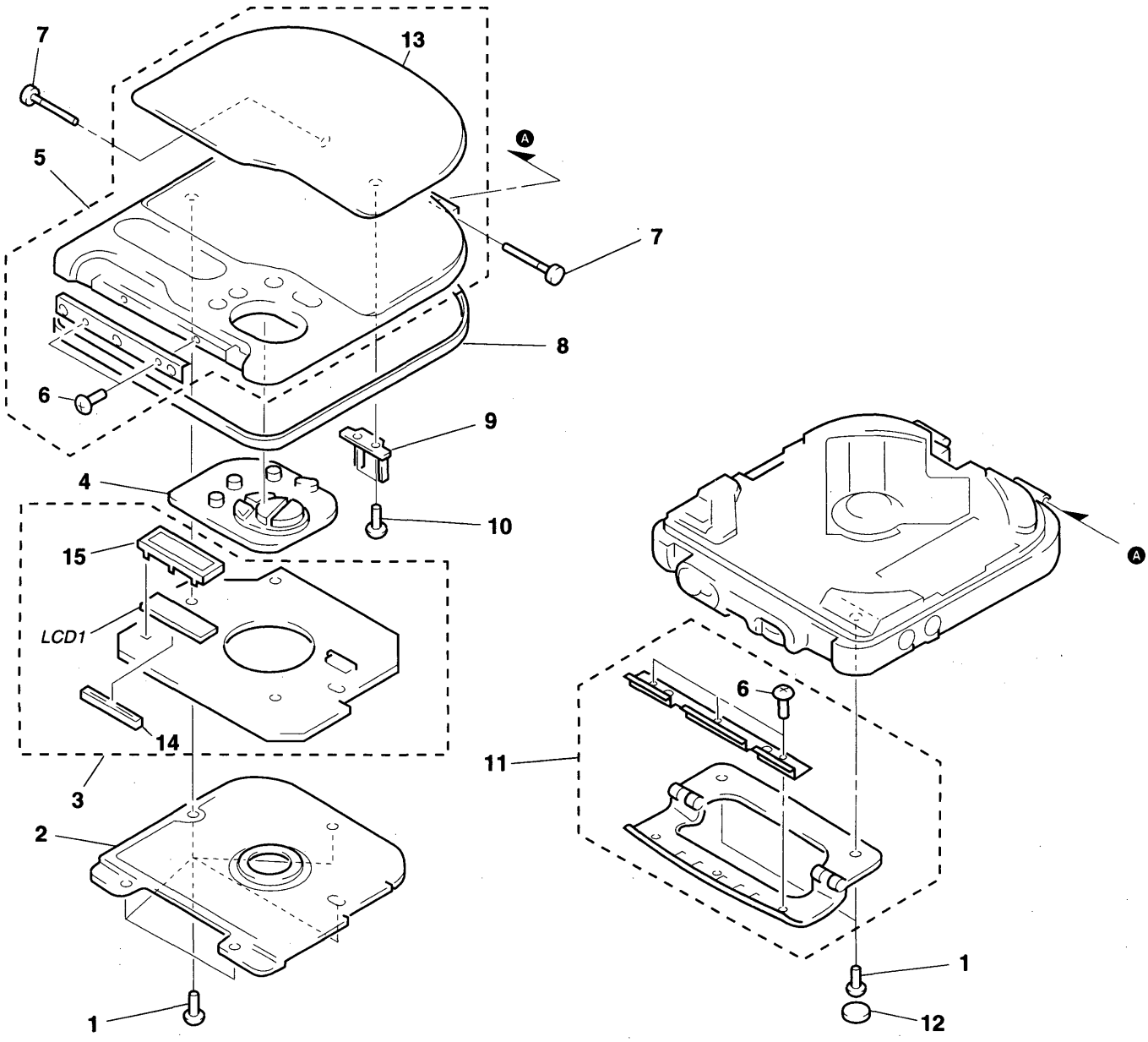
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  AUS: Australian

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

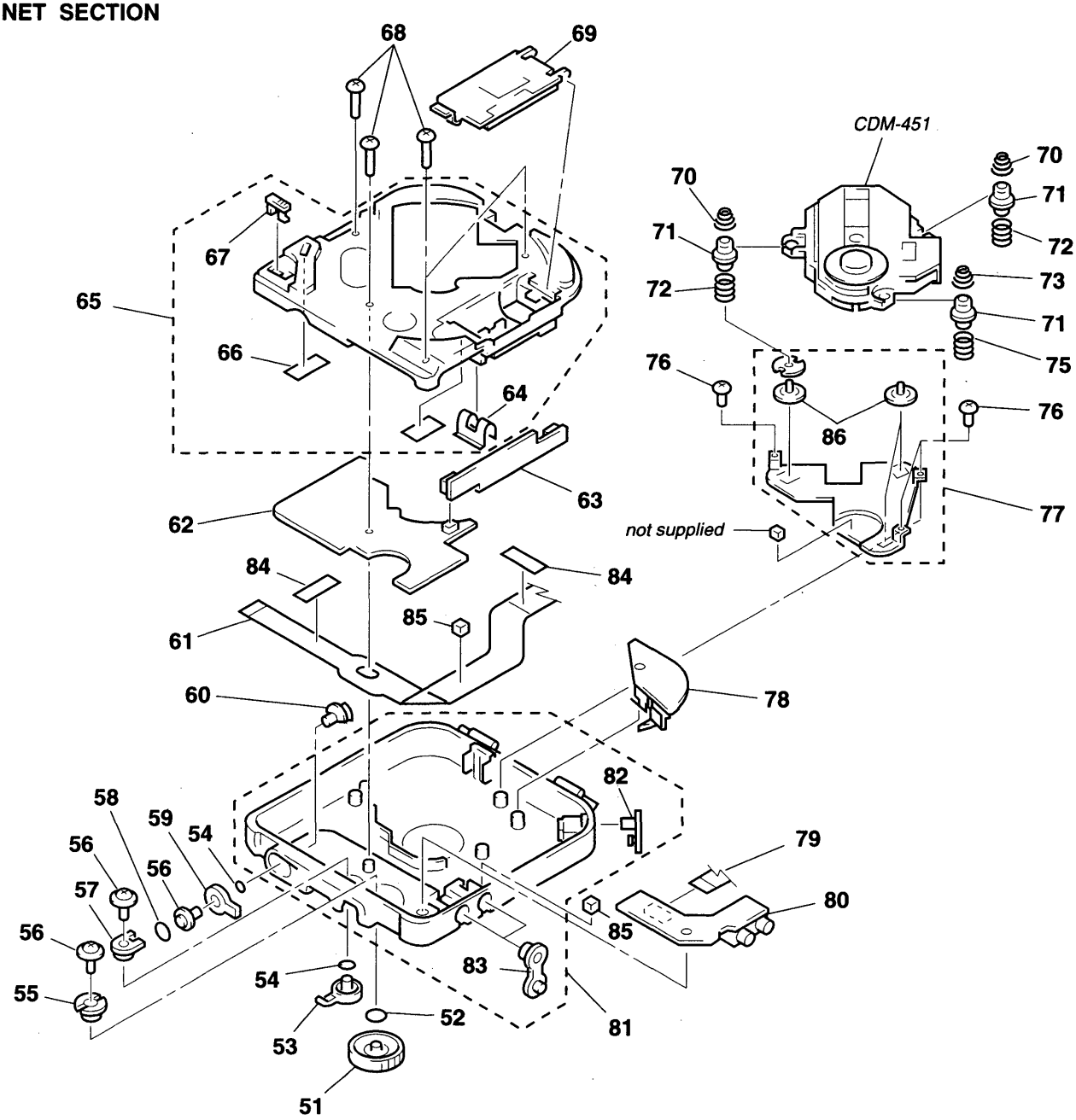
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

(1) UPPER LID SECTION



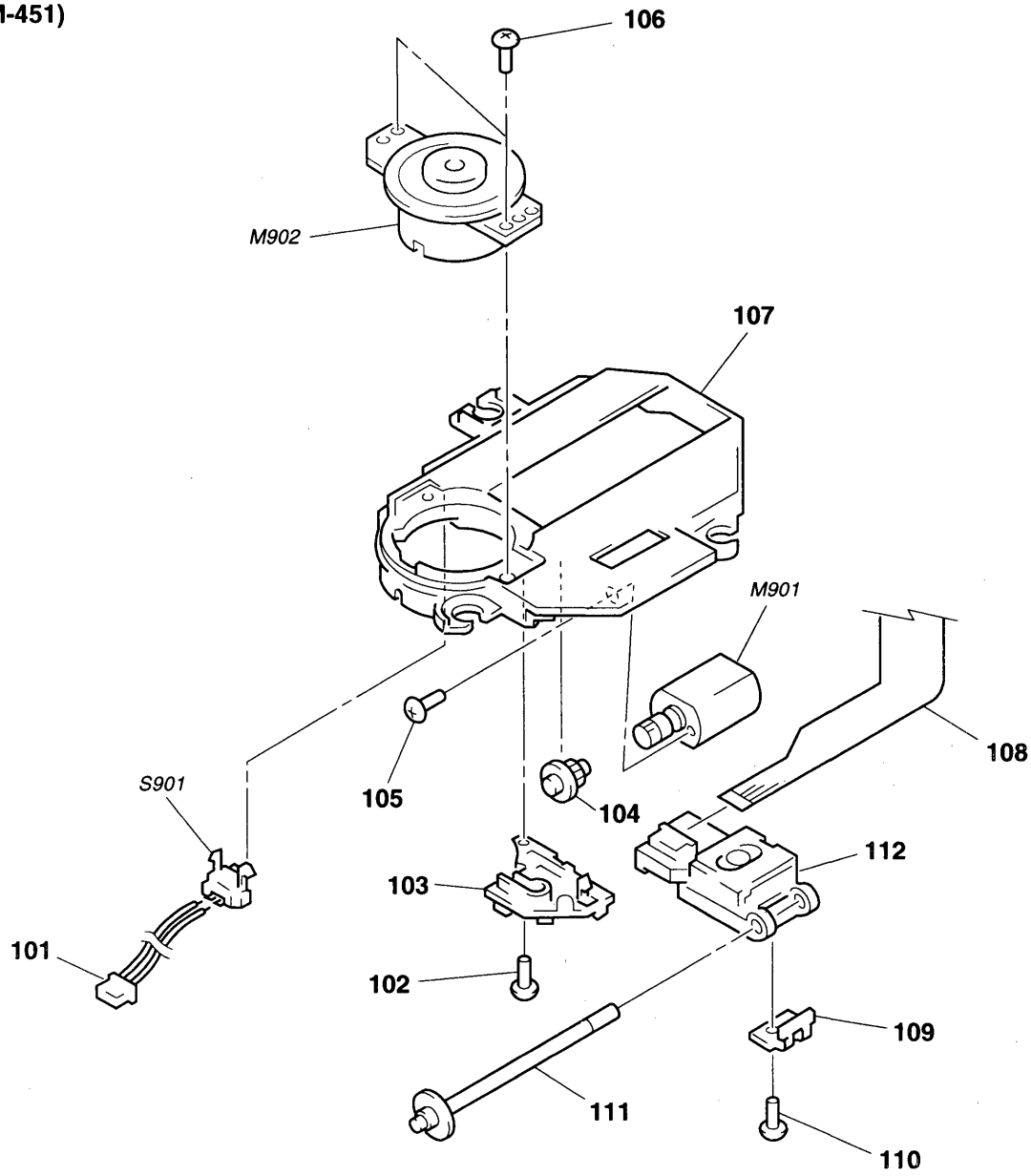
Ref. No.	Part No.	Description	Remark
1	3-893-942-91	SCREW (B1.7), TAPPING	
2	4-959-030-01	COVER, LID	
3	1-589-814-11	LCD BOARD, COMPLETE	
4	X-4943-921-1	KEY BLOCK ASSY, RUBBER	
5	X-4947-195-1	LID BLOCK ASSY, UPPER	
6	4-960-606-01	SCREW (1.7X3)	
7	3-357-460-01	SCREW, TAPPING	
8	4-959-025-01	PACKING, CABINET	
9	4-959-020-01	PLATE (B), CLICK	
10	3-893-942-11	SCREW (1.7X3), TAPPING (B)	
11	X-4947-458-1	BUCKLE BLOCK ASSY	
12	4-912-641-71	FOOT, RUBBER	
13	4-959-028-21	PLATE, ORNAMENTAL	
14	1-537-570-11	CONDUCTIVE BOARD, CONNECTION	
* 15	4-959-979-01	HOLDER (LCD)	
LCD1	1-801-329-11	DISPLAY PANEL, LIQUID CRYSTAL	

(2) CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	4-959-009-01	KNOB (VOLUME)	
52	3-326-573-01	RING (DIA. 4.9XDIA. 7.1), O	
53	4-959-010-01	KNOB (AVLS)	
54	3-326-560-02	RING (DIA. 2.5XDIA. 4.5), O	
55	4-959-013-01	JOINT (VOL B)	
56	4-968-826-01	SCREW	
57	4-959-016-01	JOINT (AVLS)	
58	4-959-019-01	SHEET, SCREW BLIND	
59	4-959-011-01	KNOB (HOLD)	
60	4-959-014-01	JOINT (HOLD)	
61	1-648-886-11	LCD FLEXIBLE BOARD	
62	A-3305-845-A	MAIN BOARD, COMPLETE (US, Canadian, AEP, E, AUS)	
62	A-3305-897-A	MAIN BOARD, COMPLETE (UK)	
* 63	1-661-387-11	CN BOARD	
64	4-978-000-02	PLATE (RELAY), BATTERY TERMINAL	
65	X-4943-914-1	CHASSIS BLOCK ASSY	
66	4-954-902-01	SHEET, BLIND	
67	4-949-112-01	KNOB (RESUME)	
68	4-962-107-01	SCREW	
69	4-959-033-01	LID, BATTERY CASE	
70	4-985-460-01	SPRING (B) (UPPER), COIL	
71	4-959-412-01	INSULATOR, OIL	
72	4-983-470-01	SPRING (B) (LOWER), COIL	
73	4-983-471-01	SPRING (A) (UPPER), COIL	
75	4-983-469-01	SPRING (A) (LOWER), COIL	
76	4-908-792-71	SCREW (B2)	
* 77	X-4944-018-1	PLATE ASSY, FIXED	
* 78	1-661-386-11	PS BOARD	
79	1-575-356-11	WIRE, FLAT TYPE PVC (10 CORE)	
80	A-3293-102-A	HEADPHONE BOARD, COMPLETE (US, Canadian, AEP, E, AUS)	
80	A-3293-126-A	HEADPHONE BOARD, COMPLETE (UK)	
81	X-4947-246-1	CABINET BLOCK ASSY	
82	4-959-017-01	PACKING, DC IN JACK	
83	3-326-520-01	PACKING, HP JACK	
84	4-017-441-01	CUSHION (B)	
85	9-911-841-XX	CUSHION (B)	
* 86	4-960-322-01	SHAFT, OIL	

(3) OPTICAL PICK SECTION (CDM-451)



Ref. No.	Part No.	Description	Remark
101	1-690-530-21	LEAD (WITH CONNECTOR)	
102	3-318-203-11	SCREW (B1.7X6), TAPPING	
103	4-972-163-03	SPRING, SLED	
104	4-974-003-01	GEAR (B)	
105	7-627-850-17	SCREW, PRECISION +P 1.4X2.5	
106	3-719-401-11	SCREW (B1.7), TAPPING	
* 107	4-972-162-01	CHASSIS	
108	1-660-965-11	SLIDE FLEXIBLE BOARD	
109	4-972-165-01	RACK	
110	4-973-631-01	SCREW	
111	A-3303-970-A	SCREW ASSY, FEED	
⚠112	X-4946-311-1	OPTICAL PICK-UP DAX-01A	
M901	A-3303-403-A	MOTOR ASSY, SLED	
M902	A-3303-458-A	MOTOR ASSY, TURNTABLE (SPINDLE)	
S901	1-571-099-21	SWITCH (1 KEY) (LIMIT)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

SECTION 8
ELECTRICAL PARTS LIST

CN **HEADPHONE**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  AUS : Australian
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. .
  uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description				Remark
*	1-661-387-11	CN BOARD				
		*********				
		< CONNECTOR >				
* CN402	1-580-713-21	CONNECTOR, BOARD TO BOARD 5P				
* CN403	1-580-713-21	CONNECTOR, BOARD TO BOARD 5P				
**********						
	A-3293-102-A	HEADPHONE BOARD, COMPLETE (US, Canadian, AEP, E, AUS)				
	A-3293-126-A	HEADPHONE BOARD, COMPLETE (UK)				
		**********				
	3-318-201-01	SCREW (B) (1.4X3), TAPPING				
	4-959-012-01	JOINT (VOL A)				
		< CAPACITOR >				
C101	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C107	1-135-091-00	TANTALUM CHIP	1uF	20%	16V	
C108	1-165-128-11	CERAMIC CHIP	0.22uF		16V	
C110	1-162-953-11	CERAMIC CHIP	100PF	5%	50V	
C112	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C201	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C207	1-135-091-00	TANTALUM CHIP	1uF	20%	16V	
C208	1-165-128-11	CERAMIC CHIP	0.22uF		16V	
C210	1-162-953-11	CERAMIC CHIP	100PF	5%	50V	
C212	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C302	1-164-360-11	CERAMIC CHIP	0.1uF		16V	
C304	1-164-346-11	CERAMIC CHIP	1uF		16V	
C305	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C306	1-164-346-11	CERAMIC CHIP	1uF		16V	
C307	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
C309	1-164-346-11	CERAMIC CHIP	1uF		16V	
C311	1-164-346-11	CERAMIC CHIP	1uF		16V	
C318	1-135-216-11	TANTALUM CHIP	10uF	20%	10V	
C319	1-164-505-11	CERAMIC CHIP	2.2uF		16V	

Ref. No.	Part No.	Description				Remark
		< CONNECTOR >				
CN302	1-590-018-11	CONNECTOR, FPC/FFC 10P				
		< DIODE >				
D310	8-719-988-78	DIODE SB007W03Q				
D311	8-719-988-78	DIODE SB007W03Q				
		< FERRITE BEAD >				
FB102	1-414-235-11	INDUCTOR, FERRITE BEAD				
FB103	1-414-235-11	INDUCTOR, FERRITE BEAD				
FB202	1-414-235-11	INDUCTOR, FERRITE BEAD				
FB203	1-414-235-11	INDUCTOR, FERRITE BEAD				
FB301	1-412-002-31	INDUCTOR, CHIP 4.7uH				
FB303	1-414-235-11	INDUCTOR, FERRITE BEAD				
		< IC >				
IC302	8-759-386-50	IC BA3574BFS-T1				
		< JACK >				
J301	1-778-224-21	JACK (SMALL TYPE) (WATERPROOF)(LINE OUT)				
J302	1-778-224-11	JACK (SMALL TYPE) (WATERPROOF)(PHONES)				
		< TRANSISTOR >				
Q101	8-729-231-74	TRANSISTOR 2SC4116-GL				
Q102	8-729-014-34	TRANSISTOR RN2311-TE85L				
Q201	8-729-231-74	TRANSISTOR 2SC4116-GL				
Q202	8-729-014-34	TRANSISTOR RN2311-TE85L				
Q304	8-729-907-39	TRANSISTOR IMD2				
Q310	8-729-031-11	TRANSISTOR 2SD2537-T100VW				
		< RESISTOR >				
R101	1-216-813-11	METAL CHIP	220	5%	1/16W	
R102	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R107	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R109	1-216-864-11	METAL CHIP	0	5%	1/16W	
R110	1-216-821-11	METAL CHIP	1K	5%	1/16W	

Ref. No.	Part No.	Description			Remark
R111	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R112	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R113	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R201	1-216-813-11	METAL CHIP	220	5%	1/16W
R202	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R207	1-216-821-11	METAL CHIP	1K	5%	1/16W
R209	1-216-864-11	METAL CHIP	0	5%	1/16W
R210	1-216-821-11	METAL CHIP	1K	5%	1/16W
R211	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R212	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R213	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R535	1-216-817-11	METAL CHIP	470	5%	1/16W
		< VARIABLE RESISTOR >			
RV301	1-241-017-11	RES, VAR, CARBON 10K/10K (VOLUME)			
**********					
	1-589-814-11	LCD BOARD, COMPLETE			
		**********			
	1-537-570-11	CONDUCTIVE BOARD, CONNECTION			
*	4-959-979-01	HOLDER (LCD)			
		< CONNECTOR >			
CN1	1-691-388-11	FPC, CONNECTOR 24P			
		< LIQUID CRYSTAL DISPLAY >			
LCD1	1-801-329-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< RESISTOR >			
R001	1-216-073-00	METAL CHIP	10K	5%	1/10W
R002	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R003	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R004	1-216-075-00	METAL CHIP	12K	5%	1/10W
R005	1-216-073-00	METAL CHIP	10K	5%	1/10W
R006	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R007	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R008	1-216-081-00	METAL CHIP	22K	5%	1/10W
		< SWITCH >			
S001	1-572-473-11	SWITCH, TACTIL (▶II)			
S002	1-572-473-11	SWITCH, TACTIL (■)			
S003	1-572-473-11	SWITCH, TACTIL (▶▶I)			
S004	1-572-473-11	SWITCH, TACTIL (I◀◀)			
S005	1-572-473-11	SWITCH, TACTIL (ESP)			
S006	1-572-473-11	SWITCH, TACTIL (REPEAT/ENTER)			
S007	1-572-473-11	SWITCH, TACTIL (PLAY MODE)			
S008	1-572-473-11	SWITCH, TACTIL (CHG)			
**********					

Ref. No.	Part No.	Description			Remark
	A-3305-845-A	MAIN BOARD, COMPLETE (US, Canadian, AEP, E, AUS)			
	A-3305-897-A	MAIN BOARD, COMPLETE (UK)			
		**********			
		< CAPACITOR >			
C106	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C206	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C301	1-104-483-11	ELECT	470uF	20%	4V
C303	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C313	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C314	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C315	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C321	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C322	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C323	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C324	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C327	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C328	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C329	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C330	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C401	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C402	1-104-753-11	TANTAL. CHIP	47uF	20%	6.3V
C403	1-127-485-00	ELECT(SOLID)	33uF	20%	6.3V
C404	1-162-951-11	CERAMIC CHIP	68PF	5%	50V
C405	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C406	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C407	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C408	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C409	1-128-241-11	ELECT	220uF	20%	10V
C410	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C411	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C412	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C413	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C414	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C415	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C416	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C417	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C418	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C419	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C420	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C421	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C423	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C424	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C425	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C426	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C427	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C428	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C431	1-163-038-00	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remark
C432	1-164-346-11	CERAMIC CHIP	1uF		16V
C501	1-164-346-11	CERAMIC CHIP	1uF		16V
C502	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C503	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C504	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C505	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C506	1-135-187-21	TANTAL. CHIP	2.2uF	20%	4V
C507	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C508	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C509	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C510	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C511	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C512	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C513	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C514	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C515	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C518	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C519	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C520	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C521	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C522	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C523	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C524	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C526	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C527	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C528	1-164-346-11	CERAMIC CHIP	1uF		16V
C562	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C563	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C601	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C602	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C603	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C604	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C605	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C606	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C607	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C610	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C611	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C612	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C613	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C614	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C615	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C616	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C618	1-164-346-11	CERAMIC CHIP	1uF		16V
C619	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C624	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C625	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C626	1-164-346-11	CERAMIC CHIP	1uF		16V
C627	1-104-847-11	TANTAL. CHIP	22uF	20%	4V

Ref. No.	Part No.	Description			Remark
C628	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C629	1-162-914-11	CERAMIC CHIP	9PF	0.5PF	50V
C630	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C701	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C702	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C703	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C704	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C716	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C717	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C718	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C719	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C721	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C722	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C801	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C802	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C803	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C806	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C807	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C810	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C811	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C820	1-164-346-11	CERAMIC CHIP	1uF		16V

< CONNECTOR >

CN301	1-778-225-11	CONNECTOR, FPC/FF 10P	
* CN401	1-580-712-21	CONNECTOR, BOARD TO BOARD 5P	
CN501	1-566-530-11	CONNECTOR, FPC (ZIF) 14P	
* CN701	1-695-320-51	PIN, CONNECTOR (1.5MM)(SMD) 2P	
* CN702	1-695-320-31	PIN, CONNECTOR (1.5MM)(SMD) 2P	
* CN703	1-695-320-21	PIN, CONNECTOR (1.5MM)(SMD) 2P	
CN801	1-750-360-21	CONNECTOR, FFC/FPC (ZIF) 24P	

< DIODE >

D401	8-719-313-73	DIODE	SFPB-52
D402	8-719-313-73	DIODE	SFPB-52
D403	8-719-938-72	DIODE	SB01-05CP
D404	8-719-938-72	DIODE	SB01-05CP
D405	8-719-938-72	DIODE	SB01-05CP
D407	8-719-049-09	DIODE	1SS367-T3SONY
D409	8-719-049-09	DIODE	1SS367-T3SONY
D501	8-719-024-81	DIODE	1SS300-TE85L
D502	8-719-049-09	DIODE	1SS367-T3SONY
D510	8-719-404-46	DIODE	MA110
D611	8-719-941-86	DIODE	DAN202U
D801	8-719-024-81	DIODE	1SS300-TE85L
D803	8-719-941-86	DIODE	DAN202U

< FERRITE BEAD >

FB302	1-414-235-11	INDUCTOR, FERRITE BEAD

MAIN

Ref. No.	Part No.	Description	Remark
FB501	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB502	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB503	1-414-235-11	INDUCTOR, FERRITE BEAD	
		< IC >	
IC301	8-759-351-67	IC TC9414FNEL	
IC401	8-759-373-57	IC MPC1825A/SC285VMEL	
IC403	8-759-710-79	IC NJM2107F	
IC501	8-759-335-59	IC BA6376K	
IC502	8-759-351-65	IC SM5856A1F	
IC503	8-759-355-82	IC ESP10CC	
IC561	8-759-293-74	IC NJM2100E	
IC601	8-759-394-55	IC BU9312AKS	
IC701	8-759-326-66	IC MPC17A50VMEL	
IC801	8-752-873-46	IC CXP83416-028Q	
		< COIL/CONDUCTOR CHIP >	
L305	1-412-002-31	INDUCTOR CHIP 4.7uH	
L318	1-412-002-31	INDUCTOR CHIP 4.7uH	
L319	1-412-002-31	INDUCTOR CHIP 4.7uH	
L401	1-412-029-11	INDUCTOR CHIP 10uH	
L402	1-412-032-11	INDUCTOR CHIP 100uH	
L501	1-412-029-11	INDUCTOR CHIP 10uH	
L506	1-412-029-11	INDUCTOR CHIP 10uH	
L601	1-412-029-11	INDUCTOR CHIP 10uH	
L602	1-216-295-00	CONDUCTOR, CHIP (2012)	
L603	1-412-029-11	INDUCTOR CHIP 10uH	
L701	1-414-402-11	INDUCTOR 47uH	
L702	1-414-402-11	INDUCTOR 47uH	
		< TRANSISTOR >	
Q301	8-729-907-39	TRANSISTOR IMD2	
Q401	8-729-031-11	TRANSISTOR 2SD2537-T100VW	
Q402	8-729-923-36	TRANSISTOR 2SD1963-Q.R	
Q403	8-729-216-22	TRANSISTOR 2SA1162-G	
Q404	8-729-921-93	TRANSISTOR 2SB1182F5-QR	
Q405	8-729-922-34	TRANSISTOR 2SD1758F5-QR	
Q406	8-729-907-39	TRANSISTOR IMD2	
Q407	8-729-905-57	TRANSISTOR DTA124EU	
Q408	8-729-014-12	TRANSISTOR RN1311-TE85L	
Q501	8-729-216-22	TRANSISTOR 2SA1162-G	
Q502	8-729-905-61	TRANSISTOR DTC124EU	
Q503	8-729-905-61	TRANSISTOR DTC124EU	
Q505	8-729-905-57	TRANSISTOR DTA124EU	
Q506	8-729-905-61	TRANSISTOR DTC124EU	
Q561	8-729-907-39	TRANSISTOR IMD2	
Q601	8-729-907-39	TRANSISTOR IMD2	

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R1	1-216-295-00	CONDUCTOR, CHIP (2012)			
R2	1-414-235-11	INDUCTOR, FERRITE BEAD			
R3	1-414-235-11	INDUCTOR, FERRITE BEAD			
R4	1-216-295-00	CONDUCTOR, CHIP (2012)			
R108	1-216-845-11	METAL CHIP	100K	5% 1/16W	
R208	1-216-845-11	METAL CHIP	100K	5% 1/16W	
R301	1-216-857-11	METAL CHIP	1M	5% 1/16W	
R304	1-216-813-11	METAL CHIP	220	5% 1/16W	
R307	1-216-864-11	METAL CHIP	0	5% 1/16W	
R308	1-216-864-11	METAL CHIP	0	5% 1/16W	
R309	1-216-864-11	METAL CHIP	0	5% 1/16W	
R310	1-216-864-11	METAL CHIP	0	5% 1/16W	
R311	1-216-817-11	METAL CHIP	470	5% 1/16W	
R313	1-216-803-11	METAL CHIP	33	5% 1/16W	
R314	1-216-797-11	METAL CHIP	10	5% 1/16W	
R315	1-216-817-11	METAL CHIP	470	5% 1/16W	
R316	1-216-817-11	METAL CHIP	470	5% 1/16W	
R401	1-218-883-11	METAL CHIP	33K	0.50% 1/16W	
R402	1-218-714-11	METAL CHIP	8.2K	0.50% 1/16W	
R403	1-216-827-11	METAL CHIP	3.3K	5% 1/16W	
R404	1-216-797-11	METAL CHIP	10	5% 1/16W	
R405	1-216-809-11	METAL CHIP	100	5% 1/16W	
R406	1-216-134-00	METAL CHIP	2.2	5% 1/8W	
R407	1-216-829-11	METAL CHIP	4.7K	5% 1/16W	
R408	1-216-813-11	METAL CHIP	220	5% 1/16W	
R409	1-216-829-11	METAL CHIP	4.7K	5% 1/16W	
R410	1-216-857-11	METAL CHIP	1M	5% 1/16W	
R411	1-216-853-11	METAL CHIP	470K	5% 1/16W	
R412	1-216-843-11	METAL CHIP	68K	5% 1/16W	
R413	1-218-749-11	METAL CHIP	240K	0.50% 1/16W	
R414	1-218-748-11	METAL CHIP	220K	0.50% 1/16W	
R415	1-216-815-11	METAL CHIP	330	5% 1/16W	
R416	1-219-397-11	METAL GLAZE	1.8	5% 1/8W	
R417	1-219-397-11	METAL GLAZE	1.8	5% 1/8W	
R418	1-216-833-11	METAL CHIP	10K	5% 1/16W	
R419	1-216-821-11	METAL CHIP	1K	5% 1/16W	
R421	1-218-716-11	METAL CHIP	10K	0.50% 1/16W	
R422	1-216-854-11	METAL CHIP	560K	5% 1/16W	
R423	1-216-854-11	METAL CHIP	560K	5% 1/16W	
R424	1-216-857-11	METAL CHIP	1M	5% 1/16W	
R425	1-216-857-11	METAL CHIP	1M	5% 1/16W	
R426	1-202-931-11	METAL GLAZE	910K	5% 1/16W	
R427	1-202-931-11	METAL GLAZE	910K	5% 1/16W	
R429	1-216-833-11	METAL CHIP	10K	5% 1/16W	
R430	1-216-829-11	METAL CHIP	4.7K	5% 1/16W	
R501	1-216-864-11	METAL CHIP	0	5% 1/16W	
R502	1-216-829-11	METAL CHIP	4.7K	5% 1/16W	

Ref. No.	Part No.	Description			Remark
R503	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R504	1-216-841-11	METAL CHIP	47K	5%	1/16W
R505	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R506	1-216-833-11	METAL CHIP	10K	5%	1/16W
R507	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R508	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R509	1-216-837-11	METAL CHIP	22K	5%	1/16W
R510	1-216-821-11	METAL CHIP	1K	5%	1/16W
R511	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R513	1-216-833-11	METAL CHIP	10K	5%	1/16W
R515	1-216-101-00	METAL CHIP	150K	5%	1/10W
R516	1-216-847-11	METAL CHIP	150K	5%	1/16W
R518	1-216-833-11	METAL CHIP	10K	5%	1/16W
R519	1-216-833-11	METAL CHIP	10K	5%	1/16W
R522	1-216-845-11	METAL CHIP	100K	5%	1/16W
R523	1-216-833-11	METAL CHIP	10K	5%	1/16W
R527	1-216-833-11	METAL CHIP	10K	5%	1/16W
R528	1-216-833-11	METAL CHIP	10K	5%	1/16W
R533	1-216-841-11	METAL CHIP	47K	5%	1/16W
R534	1-216-845-11	METAL CHIP	100K	5%	1/16W
R536	1-216-833-11	METAL CHIP	10K	5%	1/16W
R561	1-216-854-11	METAL CHIP	560K	5%	1/16W
R562	1-216-846-11	METAL CHIP	120K	5%	1/16W
R563	1-216-857-11	METAL CHIP	1M	5%	1/16W
R564	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R565	1-216-843-11	METAL CHIP	68K	5%	1/16W
R567	1-218-740-11	METAL CHIP	100K	0.50%	1/16W
R568	1-218-749-11	METAL CHIP	240K	0.50%	1/16W
R569	1-216-841-11	METAL CHIP	47K	5%	1/16W
R602	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R603	1-218-867-11	METAL CHIP	6.8K	0.50%	1/16W
R605	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R606	1-216-857-11	METAL CHIP	1M	5%	1/16W
R607	1-216-836-11	METAL CHIP	18K	5%	1/16W
R608	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R609	1-216-811-11	METAL CHIP	150	5%	1/16W
R610	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W
R611	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R613	1-216-833-11	METAL CHIP	10K	5%	1/16W
R614	1-216-837-11	METAL CHIP	22K	5%	1/16W
R615	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R618	1-216-864-11	METAL CHIP	0	5%	1/16W
R619	1-216-845-11	METAL CHIP	100K	5%	1/16W
R620	1-216-864-11	METAL CHIP	0	5%	1/16W
R621	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R622	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
R623	1-218-735-11	METAL CHIP	62K	0.50%	1/16W
R624	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R625	1-216-864-11	METAL CHIP	0	5%	1/16W
R627	1-216-833-11	METAL CHIP	10K	5%	1/16W
R629	1-216-846-11	METAL CHIP	120K	5%	1/16W
R630	1-216-837-11	METAL CHIP	22K	5%	1/16W
R631	1-216-842-11	METAL CHIP	56K	5%	1/16W
R711	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R804	1-216-809-11	METAL CHIP	100	5%	1/16W
R806	1-216-833-11	METAL CHIP	10K	5%	1/16W
R808	1-216-857-11	METAL CHIP	1M	5%	1/16W
R813	1-216-857-11	METAL CHIP	1M	5%	1/16W
R814	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R815	1-216-837-11	METAL CHIP	22K	5%	1/16W
R816	1-216-837-11	METAL CHIP	22K	5%	1/16W
R817	1-216-837-11	METAL CHIP	22K	5%	1/16W
R818	1-216-841-11	METAL CHIP	47K	5%	1/16W
R819	1-216-809-11	METAL CHIP	100	5%	1/16W
R821	1-216-857-11	METAL CHIP	1M	5%	1/16W
R822	1-216-857-11	METAL CHIP	1M	5%	1/16W
R823	1-216-853-11	METAL CHIP	470K	5%	1/16W
R824	1-216-857-11	METAL CHIP	1M	5%	1/16W
R825	1-216-857-11	METAL CHIP	1M	5%	1/16W

< VARIABLE RESISTOR >

RV401	1-223-612-11	RES, ADJ, METAL GLAZE 47K
RV501	1-223-695-11	RES, ADJ, METAL GLAZE 10K
RV601	1-223-578-11	RES, ADJ, METAL GLAZE 22K
RV602	1-223-578-11	RES, ADJ, METAL GLAZE 22K

< SWITCH >

S302	1-571-733-21	SWITCH, SLIDE (BASS BOOST)
S801	1-572-922-11	SWITCH, SLIDE (HOLD)
S808	1-570-953-11	SWITCH, PUSH (1 KEY)(LID OPEN DETECT)
S810	1-570-857-11	SWITCH, SLIDE (RESUME)

< TRANSFORMER >

T401	1-427-677-11	TRANSFORMER, DC-DC CONVERTER

< VIBRATOR >

X301	1-760-307-11	VIBRATOR, CERAMIC (16.9MHz)
X801	1-760-641-21	VIBRATOR, CERAMIC (4.19MHz)

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PS

Ref. No.	Part No.	Description	Remark
*	1-661-386-11	PS BOARD	
		*********	
	4-944-347-01	TERMINAL BOARD (+), BATTERY	
	4-944-363-01	SEPARATOR	
	4-960-605-01	TERMINAL BOARD (-), BATTERY	
		< CAPACITOR >	
C430	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C437	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C438	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C439	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C440	1-164-505-11	CERAMIC CHIP 2.2uF	16V
		< CONNECTOR >	
* CN404	1-580-712-21	CONNECTOR, BOARD TO BOARD 5P	
		< JACK >	
J401	1-568-907-21	JACK,DC(POLARITY UNIFIED TYPE)(DC IN 4.5V)	
		< SWITCH >	
S401	1-572-126-21	SWITCH, PUSH (1 KEY) (RECHARGEABLE BATTERY DETECT)	
**********			
		MISCELLANEOUS	
		**********	
61	1-648-886-11	LCD FLEXIBLE BOARD	
79	1-575-356-11	WIRE, FLAT TYPE PVC (10 CORE)	
101	1-690-530-21	LEAD (WITH CONNECTOR)	
108	1-660-965-11	SLIDE FLEXIBLE BOARD	
⚠112	X-4946-311-1	OPTICAL PICK-UP DAX-01A	
M901	A-3303-403-A	MOTOR ASSY, SLED	
M902	A-3303-458-A	MOTOR ASSY, TURNTABLE (SPINDLE)	
S901	1-571-099-21	SWITCH (1 KEY) (LIMIT)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-467-007-21	ADAPTOR, AC (AC-E455) (AUS)	
⚠	1-467-009-11	ADAPTOR, AC (AC-E455) (US, Canadian)	
⚠	1-467-550-11	ADAPTOR, AC (AC-E455A) (E)	
⚠	1-473-116-32	ADAPTOR, AC (AC-E455D) (AEP)	
⚠	1-473-572-11	ADAPTOR, AC (AC-E455) (UK)	
	1-528-444-31	BATTERY PACK (BP-DM10) (US)	
	1-528-444-81	BATTERY PACK (BP-DM10) (Canadian, AEP, UK, E, AUS)	
⚠	1-569-007-11	ADAPTOR, CONVERSION 2P (E)	
	1-751-419-11	CORD, CONNECTION (RCA PIN/PHONO)	
	3-856-397-11	MANUAL, INSTRUCTION (SPANISH) (AEP, E)	
	3-856-397-21	MANUAL, INSTRUCTION (ENGLISH)	
	3-856-397-31	MANUAL, INSTRUCTION (FRENCH) (Canadian, AEP)	
	3-856-397-41	MANUAL, INSTRUCTION (DUTCH) (AEP)	
	3-856-397-51	MANUAL, INSTRUCTION (SWEDISH) (AEP)	
	3-856-397-61	MANUAL, INSTRUCTION (PORTUGUESE) (AEP)	
	3-856-397-71	MANUAL, INSTRUCTION (GERMAN) (AEP)	
	3-856-397-81	MANUAL, INSTRUCTION (ITALIAN) (AEP)	
*	4-983-226-01	INDIVIDUAL CARTON (US, E, AUS)	
*	4-983-228-01	INDIVIDUAL CARTON (Canadian, AEP, UK)	
	8-953-142-90	HEADPHONE MDR-W14G//K SET	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

9-923-012-11

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