D-101

SERVICE MANUAL

US Model
Tourist Model

Model Name Using Similar Mechanism	D-202
CD Mechanism Name	KSM-330AAN

SPECIFICATIONS

System	Compact disc digital audio system
Laser diode properties	Material: GaAlAs Wavelength: $\lambda = 780$ nm Emission duration: Continuous Laser output: Less than 44.6 μW (This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.)
Error correction	Sony Super Strategy Cross Interleave Read Solomon Code
D-A conversion	16-bit linear 8fs digital filter
Frequency response	20–20,000 Hz $\pm\frac{1}{3}$ dB (measured by EIAJ CP-307)
Output (at 6 V input level)	Line output (stereo minijack) Output level 0.55 V rms at 50 kilohms Load impedance over 10 kilohms Headphones (stereo minijack) 9 mW+9 mW at 16Ω

General

Power requirements	Supplied: • DC 2.4 V Rechargeable battery pack BP-DM1 • DC IN 6 V jack accepts the Sony AC power adaptor for use on: —120 V AC, 60 Hz in USA, —240 V AC, 50 Hz in United Kingdom/Australia Not supplied: • DC IN 6 V accepts the Sony CPM-203P/CPM-200P mount plate and CPM-200PK/CPM-203PK Car mount arm for use on 12 V car battery. • DC 3 V two size AA (LR6) alkaline batteries
Power consumption	1.4 W DC
Dimensions	Approx. 132.3 × 26.8 × 150.1 mm ($5\frac{1}{4} \times 1\frac{1}{16} \times 6$ in.) (w/h/d) incl. projecting parts and controls
Weight	Approx. 320 g (11.3 oz.) incl. rechargeable battery
Supplied accessories	AC power adaptor (1) Rechargeable battery (1) Connecting cord (phono plug × 2↔stereo miniplug) (1) Stereo headphones (1) Car mount adaptor (1)

Design and specifications subject to change without notice.

Accessories not supplied
Plate arm CPM-200A
Mount plate CPM-203P/CPM-200P
Car mount arm CPM-200PK/CPM-203PK
Car connecting pack CPA-2
Car battery cord DCC-60/DCC-E160L
Active speaker system SRS-57
Rechargeable battery BP-DM1

Your dealer may not handle some of the above listed accessories. Please ask the dealer for detailed information about the accessories in your country.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

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

COMPACT DISC COMPACT PLAYER

SONY®

REVISED

TABLE OF CONTENTS

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!

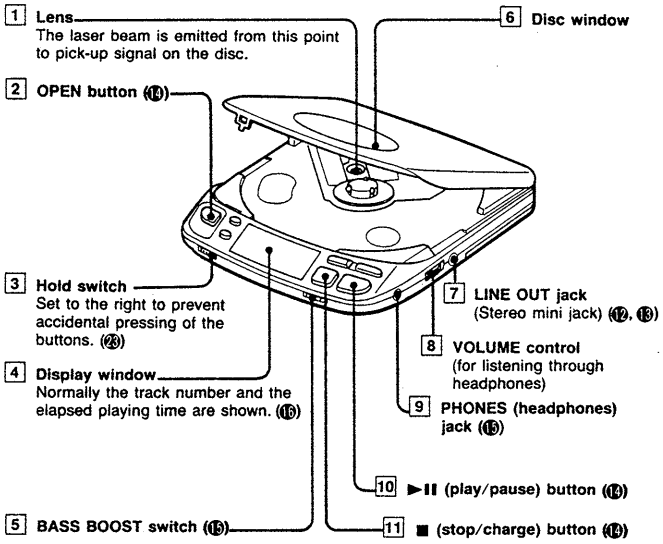
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

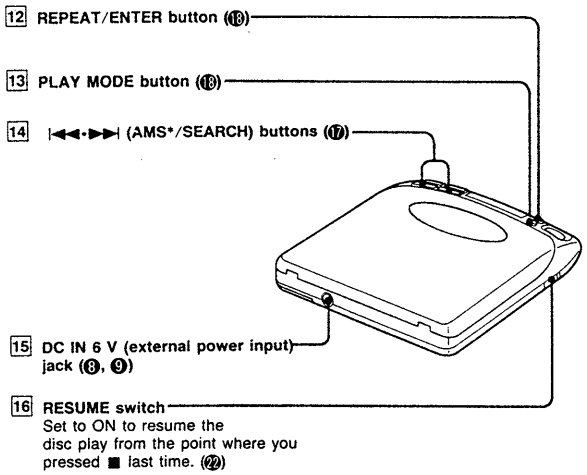
SECTION 1
GENERAL

This section is extracted from instruction manual.

Location and Function of Controls

See the pages in ( ) for more details.





*AMS is the abbreviation of Automatic Music Sensor.

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SECTION 2
SERVICING NOTES

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.

Before Replacing the Optical Block

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

- FOK output : IC801 ㊿ pin
- S carve P-to-P value : 2.5Vp-p
  When checking FOK and S carve P-to-P value, remove the lead wire to disc motor and unsolder and open IC801 ㊿ pin.
- Adjusted part for focus gain adjustment : RV505
- RF signal P-to-P value : 0.85 – 1.35Vp-p
- Traverse signal P-to-P value : 2Vp-p
- The grating holder can not repair.
- Adjusted part for tracking gain adjustment : RV501

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270℃ 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.

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 more than 30cm away from the objective lens.

Laser Diode Check Procedure

The laser diode on this set will not emit unless the top panel is closed and S809 (leaf SW type) is turned on. The laser diode will always emit even if focus search is not performed in service mode.

The laser diode if checked using the current value which flows to the laser diode inside the optical pick-up.

Procedure 1 (service mode or normal operation)

Check the laser diode emission with the eye.

1. Open top panel.
2. S809 on as Fig. 1.
   (In service mode, this operation is not necessary.)
3. Observe the objective lens and confirm that the laser diode goes on about 2.5 seconds due to focus search. If it does not, APC circuit or the optical pick-up is defective.

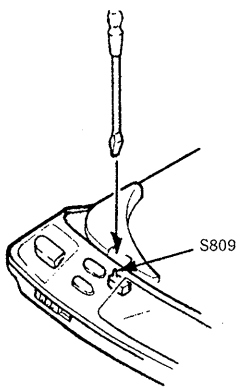
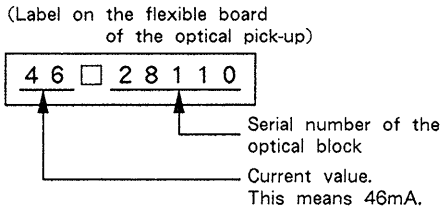


Fig. 1 Turning S809 Connection

Procedure 2 (service mode or normal operation)

Check by the current with flows in the laser diode.

1. Open the top panel.
2. Remove the main board and read the current value on the label affixed to the optical pick-up.



The current value varies with the set.

3. Connect a VOM as shown in Fig. 2.(both side of R510 : 10 Ω)
4. Press the ▶II key.
5. Calculate the current by the VOM reading.
   VOM reading (V) ÷10=current (A)
   ex. VOM reading=0.46V
   0.46÷10=0.046 (A) =46 (mA)
6. Confirm that the ammeter reading is within the range given below.
   value on label$^{+5}_{-11}$ mA (25℃)
   variation relative to temperature : 0.4mA／℃
   (Current increases when temperature rises and decreases when it drops.)
   If the value is more than the range given, diode has deteriorated. If it is less, APC circuit or the optical pick-up is defective.

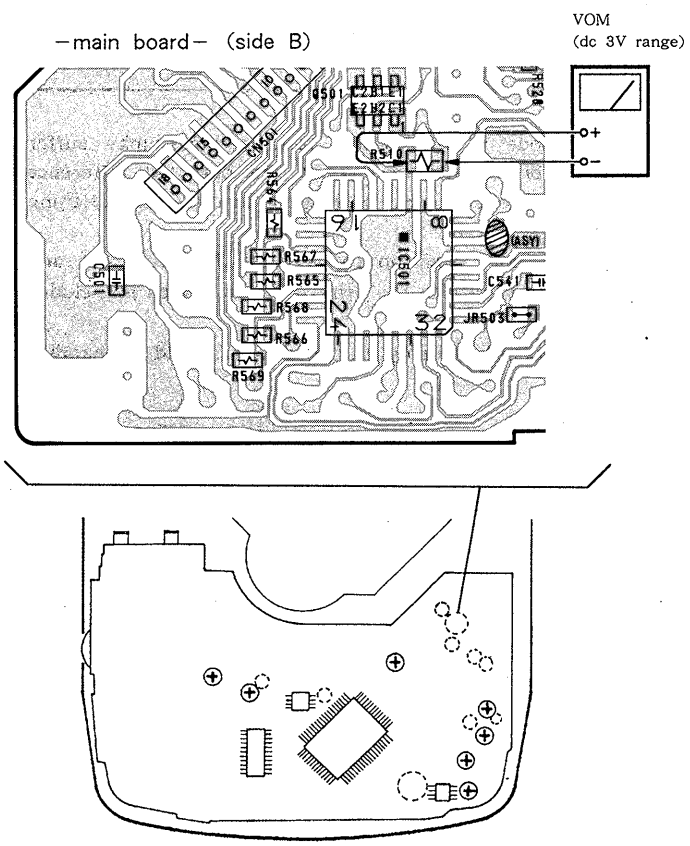
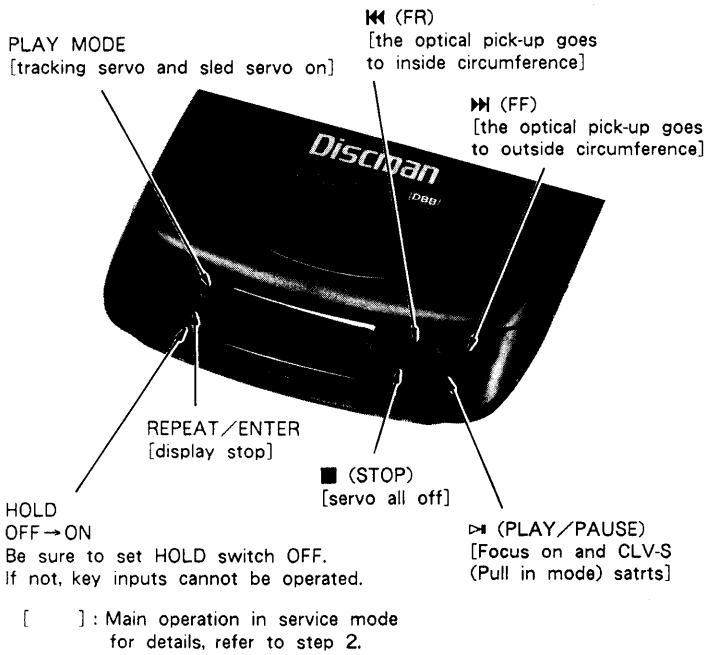


Fig. 2 VOM Connection

SERVICE MODE (service program)

This set has built-in service program in the microcomputer as usual sets.

The operation method of service program is explained below.



[ ] : Main operation in service mode
for details, refer to step 2.

Fig. 3 Key Positions

• Step 1 (Service Mode setting method)

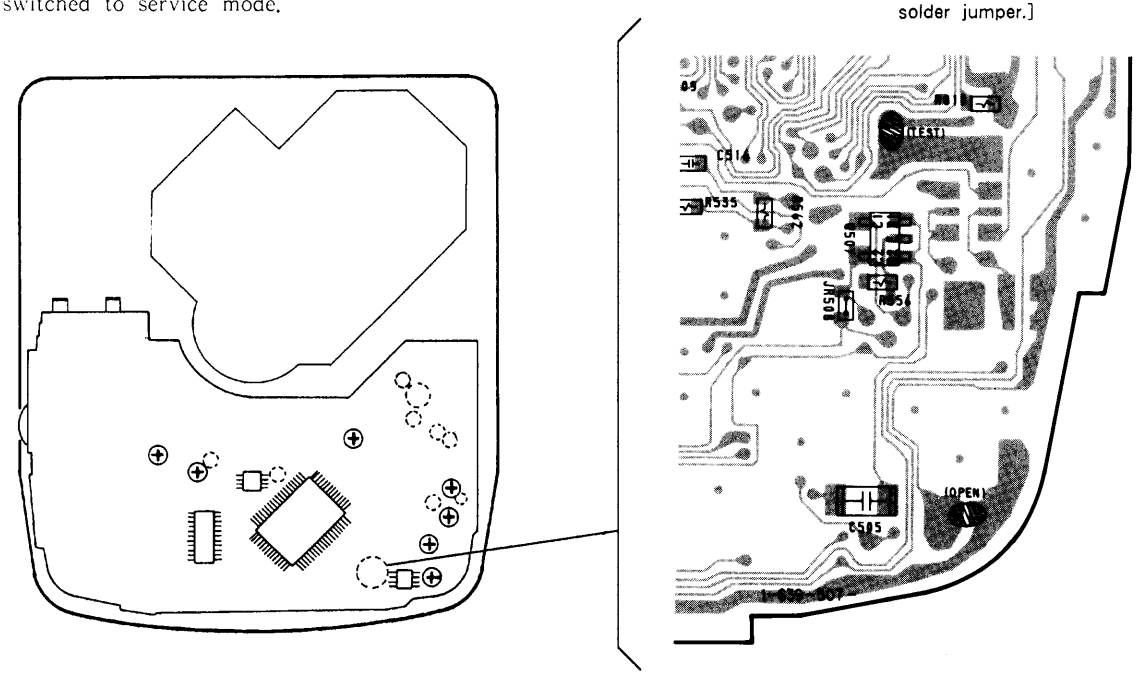
1. Turn the HOLD switch to OFF with the external power supply not plugged in (no power applied to set)
2. Solder to connect the TEST terminal and the OPEN terminal (S809). (IC801 pin㊹ (TEST) pin is grounded.)
3. Connect the external power source while pressing the ▶II key.
   After preforming the above proceduress, the set is switched to service mode.

• Step 2 (Service Mode operation)

1. When service mode is set, the display will change 6 times, and those 6 changes will be repeated over and over.
   With this the LCD display should be present in service mode. Even if LCD dose not display, other operations will be perfoemed.
2. When ⏭ or ⏮ key is pressed, the optical pick-up moves to the inside or outside circumference. Tracking servo and sled servo go off when this is done, so press ▶II key to turn on the tracking servo if necessary.
3. When REPEAT/ENTER key is pressed, the display stops.
   When REPEAT/ENTER key is released, the display continues to change.
   This allows check of each segment.
4. When ▶II key is pressed, CLV-S (pull-in mode) starts while performing focus search. When there is no disc nstalled, focus search is repeated several times while disc motor is rotating.
5. When ▶II key is pressed, tracking servo, sled servo and CLV-A (servo during PLAY) go ON.
6. When performing steps 4 and 5, the set starts to play. There is no muting in the service mode.
7. All servo (focus, tracking, sled and spindle) go off when ■ key is pressed. But disc motor continues rotating for a while by inartia.

• Step 3 (Service Mode release)

1. First be sure to unplug the external power supply, then remove the TEST terminal and the OPEN terminal solder jumper.
2. The set will now operated normally.



SECTION 3
ELECTRICAL ADJUSTMENTS

Notes on Adjustment

1. Perform adjustments except for RECHARGEABLE VOLTAGE ADJUSTMENT in service mode.
   Be sure to release service mode after completing adjustment.
   (Refer to "Service Mode (service program)" on page 5.)
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 : DC 6V
   HOLD switch : OFF
   VOLUME knob : Minimum
   BASS BOOST switch : NORM

PREPARATION

Put the set into service mode (See page 5.) and perform the following checks. Repair if there are any abnormalities.

• Sled Motor Check

1. Press the OPEN button and open the top panel.
2. Press the ⏭, ⏮ keys and make sure that the optical pick-up moves smoothly, without catching, from the inmost → outmost → inmost circumference.
   ⏭ : The optical pick-up moves outward
   ⏮ : The optical pick-up moves inward

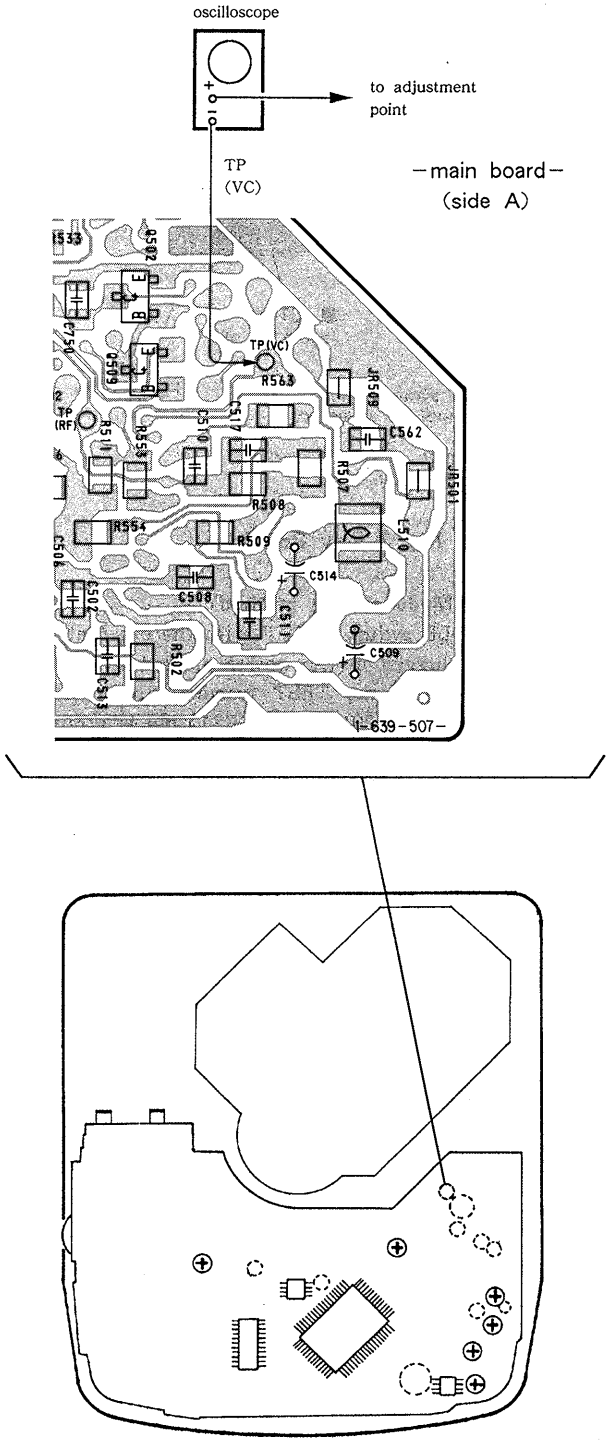
• Focus Search Check

1. Press the OPEN button and open the top panel.
2. Press the ⏯ key. (Focus search is performed continuously.)
3. Observe the optical pick-up objective lens and check that it moves smoothly up and down with no catching or noises.
4. Press the ■ key.
   Check that focus search operation stops. If it does not, stop press the ■ key again longer than before.

VC (1/2Vcc) Connecting Point

FOCUS BIAS ADJUSTMENT
TRACKING BALANCE ADJUSTMENT

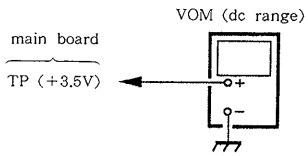
When the adjustments above are performed, connect the ⊖ side of oscilloscope to the point below.



+3.5V Adjustment

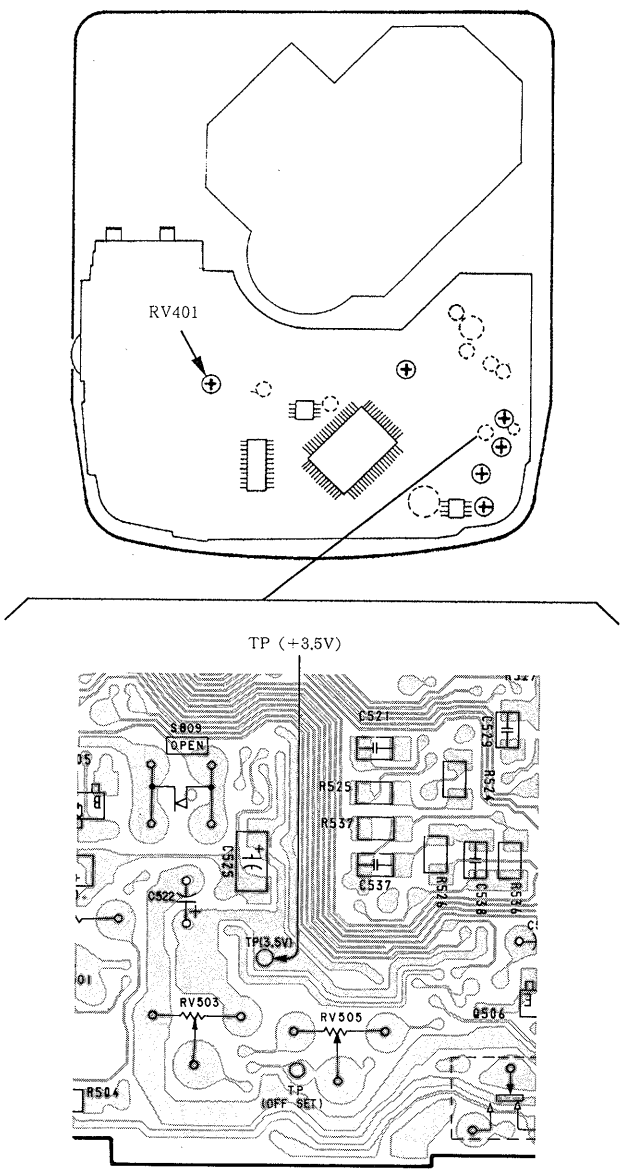
* Perform the +3.5V adjustment after applyig 2V from the battery terinal.

Adjustment Procedure :



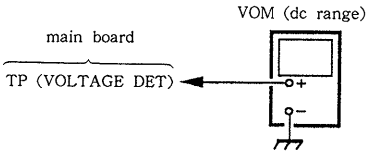
1. Connect the VOM to main board TP (+3.5V)
2. Adjust RV401 for 3.45V−3.50V reading on the VOM.

Adjustment Location : main board (side A)



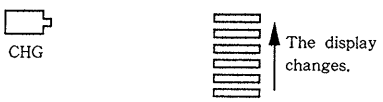
Recharging Detection Voltage Adjustment

Adjustment Procedure :

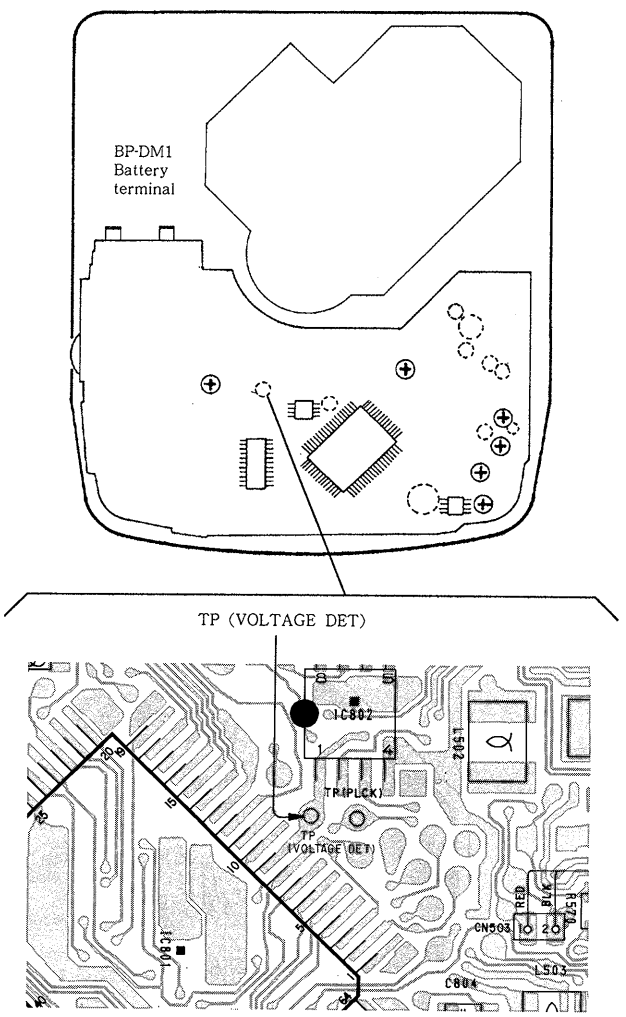


1. Connect TP (recharge detection) of the main circuit board of the tester.
   (Connect 6V DC from the power supply jack via a 12Ω resistor to supply power.)
2. Depress the STOP/CHARGE button (■) so that the charge indication lights on the LCD, and confirm that the display changes as shown below.

Standard value
Charging current : 320±25mA

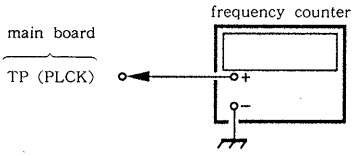


Adjustment Location : main board (side A)



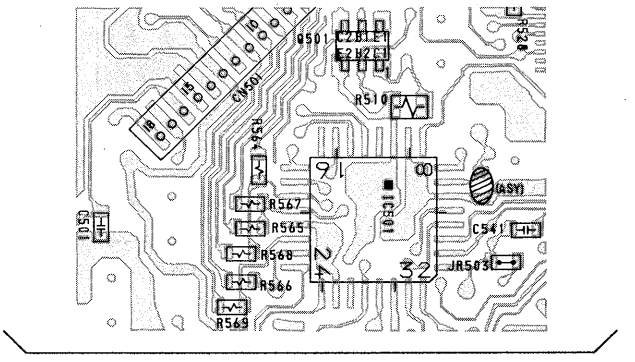
PLL Free Run Frequency Check and Adjustment

Check／Adjustment Procedure :

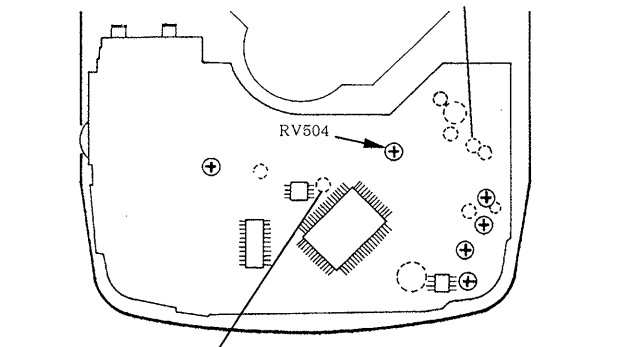


1. Short-circuit the jumper terminal of IC501 ⑦pin (ASY) to GND.
2. Connect a frequency counter to main board test point TP (PLCK).
3. Put the set into service mode stop state (see page 5).
4. Check that the frequency counter reading is 4.3218±0.01MHz.
   If not, adjust RV504 so that it is 4.3218±0.01MHz.
5. After adjustment, release service mode (see page 5).
6. Short the jumper point disconnected in step 1.

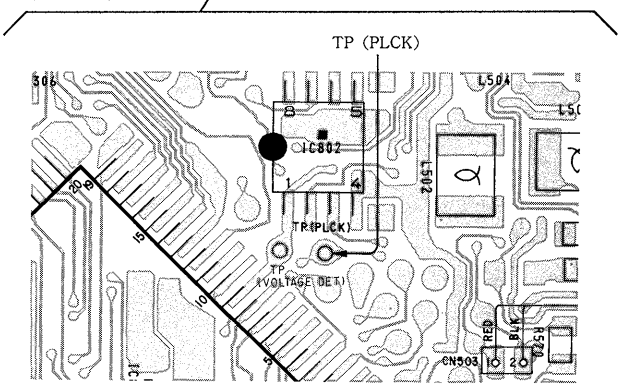
Check／Adjustment Location : main board
(Side B)



ASY solder point
Solder after checking and adjusting.
Unsolder for checking and adjusting.



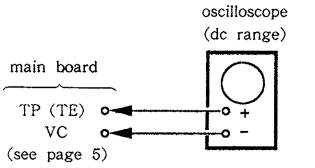
(Side A)



Tracking Balance Adjustment

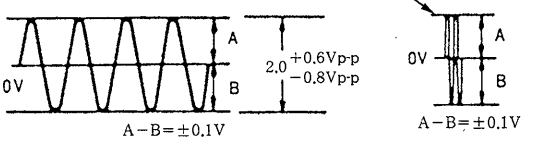
Conditions :
The set should be placed either horizontally.

Adjustment Procedure :



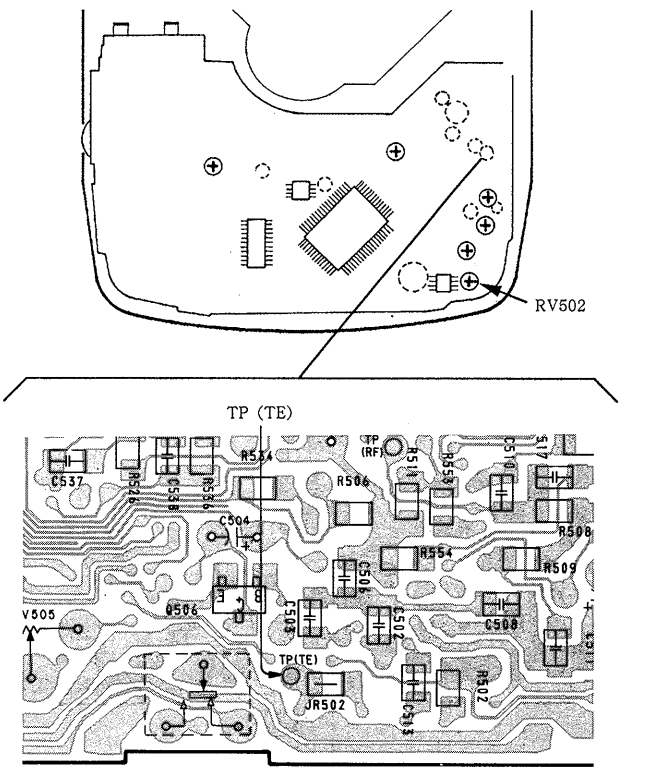
1. Connect the oscilloscope to main board TP (TE).
2. Put the set into service mode stop state (See page 5).
3. Press the ⏭ and ⏮ keys to move the optical pick-up to the center.
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the ▶II key.
   It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.
6. Adjust RV502 so that the oscilloscope wavaform is symmetrical on the top and bottom in relation to 0V.

Note : Take sweep time as long as possible to obtain best wave-form.



7. Press the ■ key to stop spindle motor from rotaing.
8. After adjustment, release service mode (see page 5).

Adjustment Location : main board (side B)

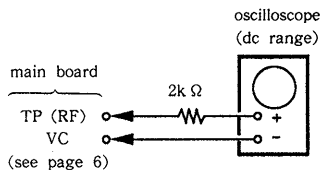


Focus Bias Adjustment

Conditions :

The set should be placed either horizontally.

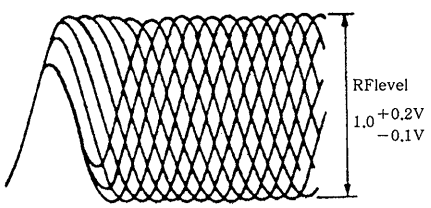
Adjustment Procedure :



1. Put the set into STOP state in service mode (See page 5).
2. Connect the oscilloscope to main board test point TP (RF).
3. Press the ⏭ and ⏮ key to move the optical pick-up to the center.(Move the optical pick-up to the music area on the disc to enable easy visibility of the eye pattern).
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the ▶II key.
   It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.
6. Press the ▶II key.(Tracking and sled go ON.)
7. Adjust RV503 so that the oscilloscope waveform eye pattern is good. 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)

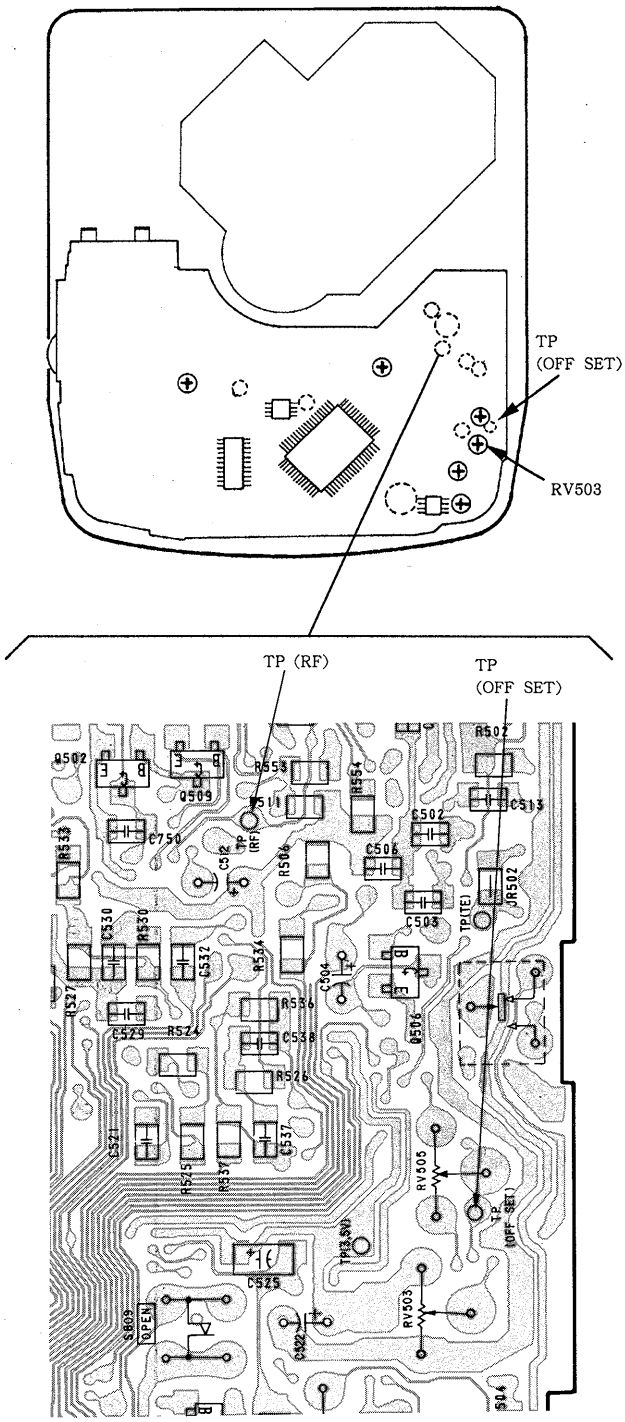
VOLT/DIV : 200mV
TIME/DIV : 500nS



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

8. Measure the voltage of pin㊽TP (OFF SET) of IC502. Readjust RV503 according to the voltage range.
   +70mV — +25mV : → +70mV
   +24mV — −20mV : → −20mV
9. Press the ■ key to stop spindle from rotating.
10. After adjustment, release service mode (see psge 5).

Adjustment Procedure : main board (side A)



Reference

Focus/Tracking Gain Adjustment

A frequency responce analyzer or CD jig 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 problem. Therefore, do not perfrom this adjustment.

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

- When gain is high, the noise when the 2-axis device operates increases.
- When gain is low, it is more susceptible to mechanical shock and skipping occurs more easily.

This adjustment is to be performed when replacing the following parts :

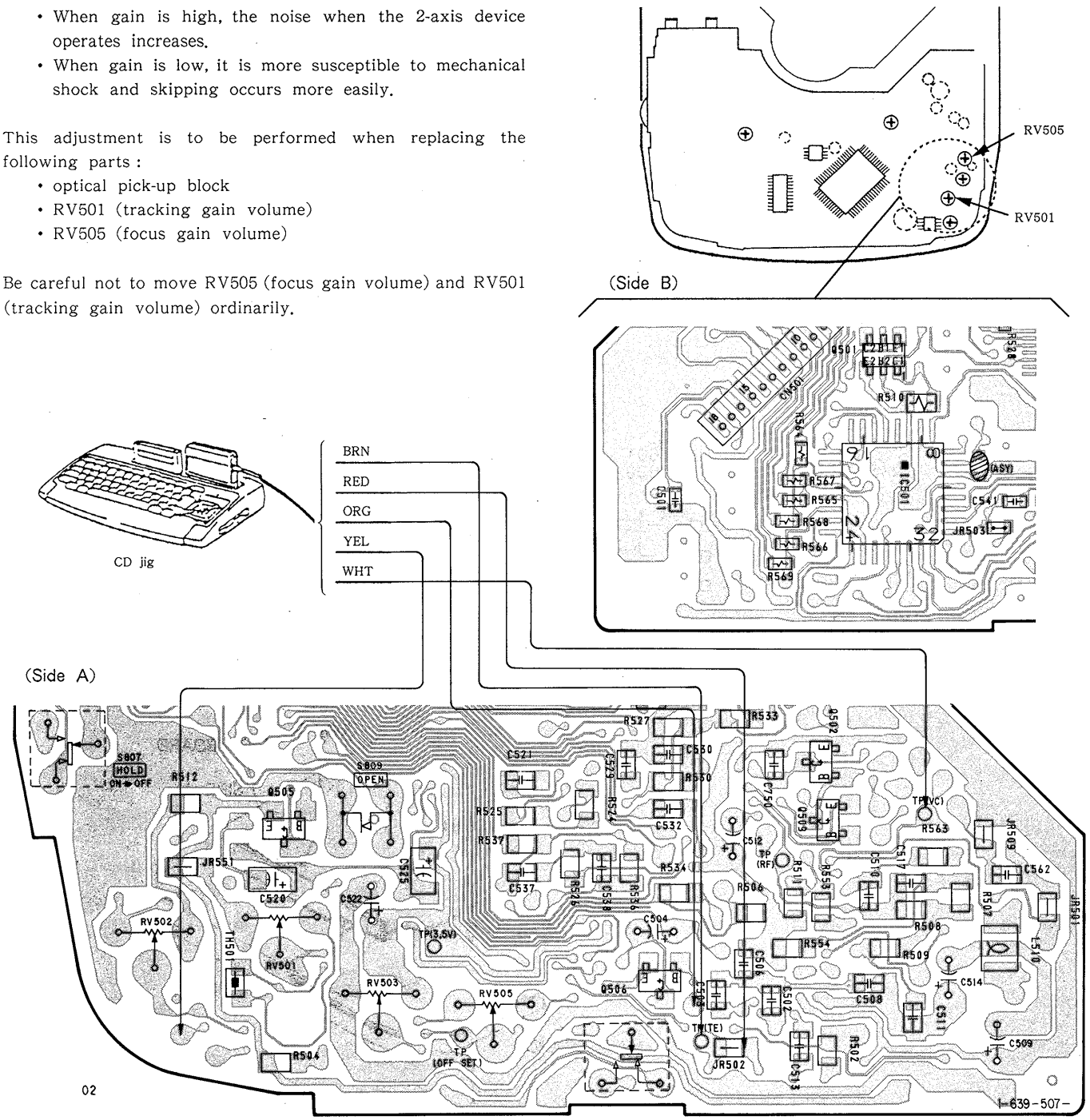
- optical pick-up block
- RV501 (tracking gain volume)
- RV505 (focus gain volume)

Be careful not to move RV505 (focus gain volume) and RV501 (tracking gain volume) ordinarily.

> On this set, it is very difficult to simplify this adjustment. For those sets on which symptoms such as "occasional skipping" are hard to discover, or it is hard to tell if the set has been repaired, use the CD jig and perform this adjustment. Refer to the diagram below for connection of the CD jig. The adjustment procedure is described in the separate CD Jig Instruction Manual.

CD Jig Connection Procedure :

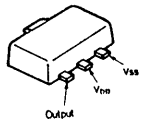
Remove the two jumpers of JR502 and JR503 and connect the cord to the CD jig as shown in the figure below. At this time, connect the cord of the IC501 side to the output terminal for the CD jig and connect the volume side cords to the input terminal from the CD jig.



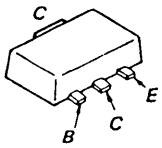
SECTION 4
DIAGRAMS

4-1. SEMICONDUCTOR LEAD LAYOUTS

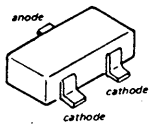
S-8052ANB-NE-S



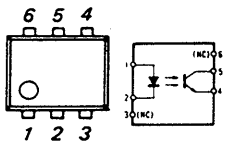
2SB1302-S
2SD1963-Q•R



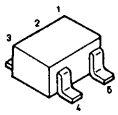
1S2836



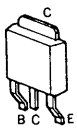
RD3.9M-B1



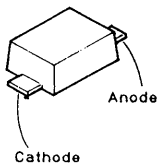
SC7S04F
TC4S30F



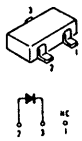
2SD1758F5-QR



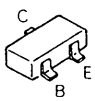
M110
MA728
MA729
MA8120-L



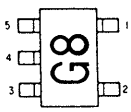
RD6.2M-B2
SB01-05CP

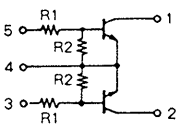


2SA1576-R
2SD1328-RST
2SD1781K-R
DTA114EK
DTA124EK
DTC113ZU
DTC124EK
DTC143XU
UN5112



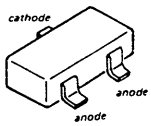
FMG8



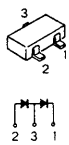


R1 = 4.7k Ω
R2 = 4.7k Ω

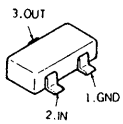
MA152WK
SB007W03C



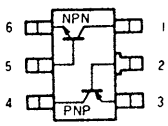
MA157
SB007T03C



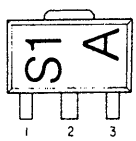
DTC114EU



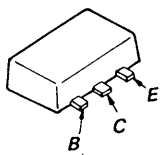
IMD2
XN4601
XN4609

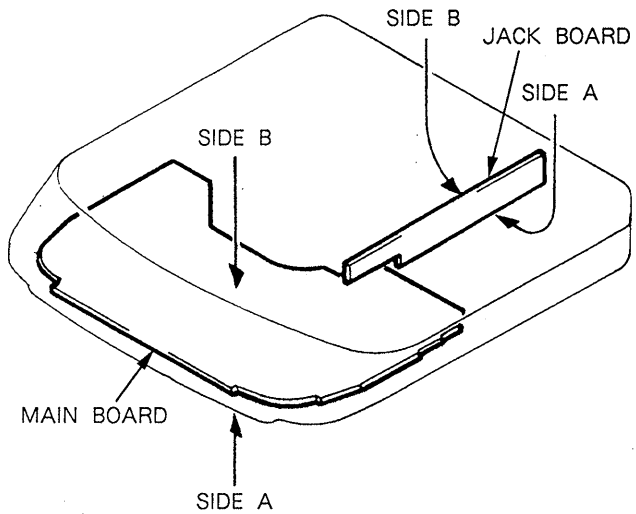


RB110C



2SB1020-F





REVISED

4-2. PRINTED WIRING BOARDS

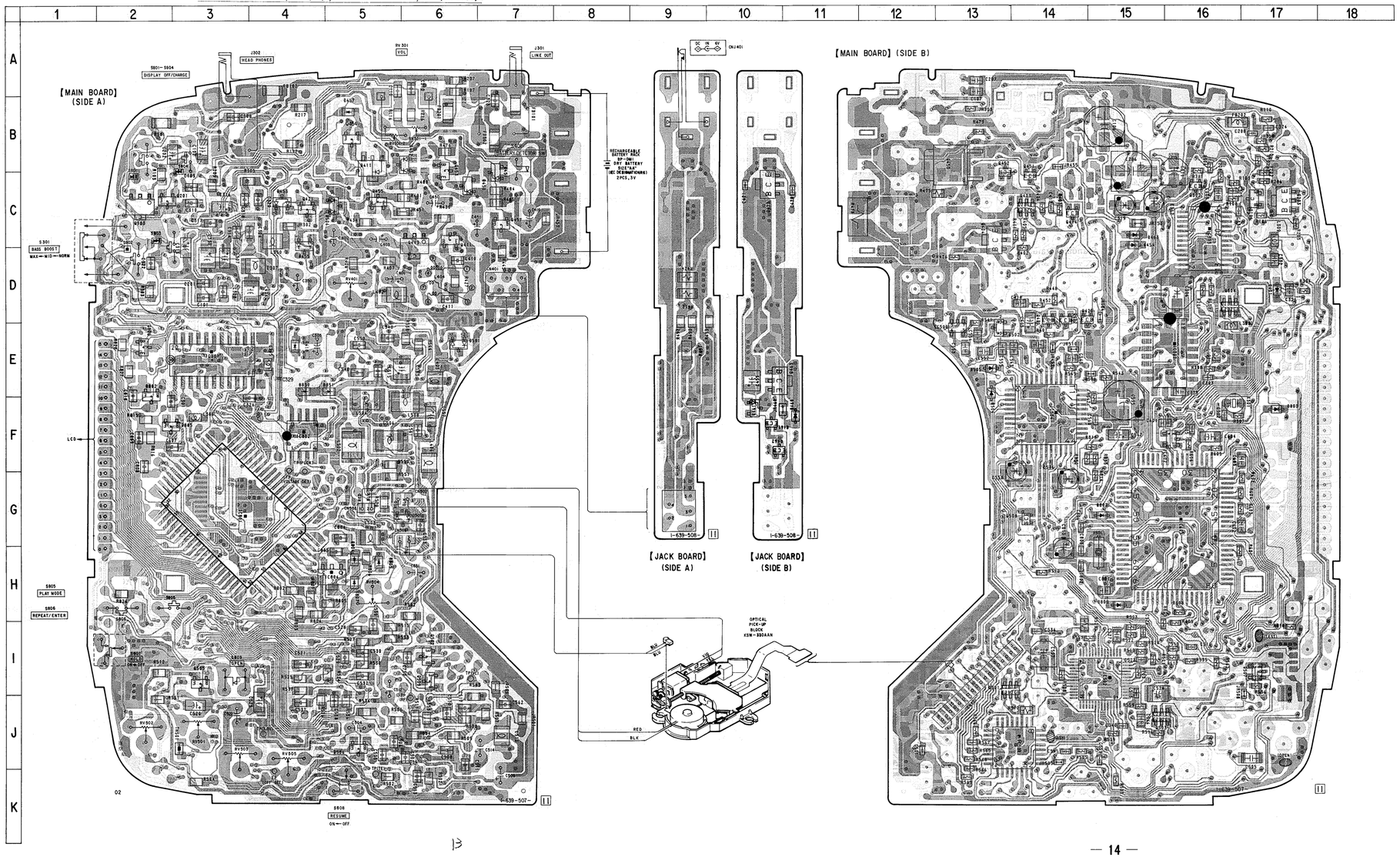
Until Serial No. 72,000 (US), Until Serial No. 118,000 (Tourist)

• **SEMICONDUCTOR LOCATION**

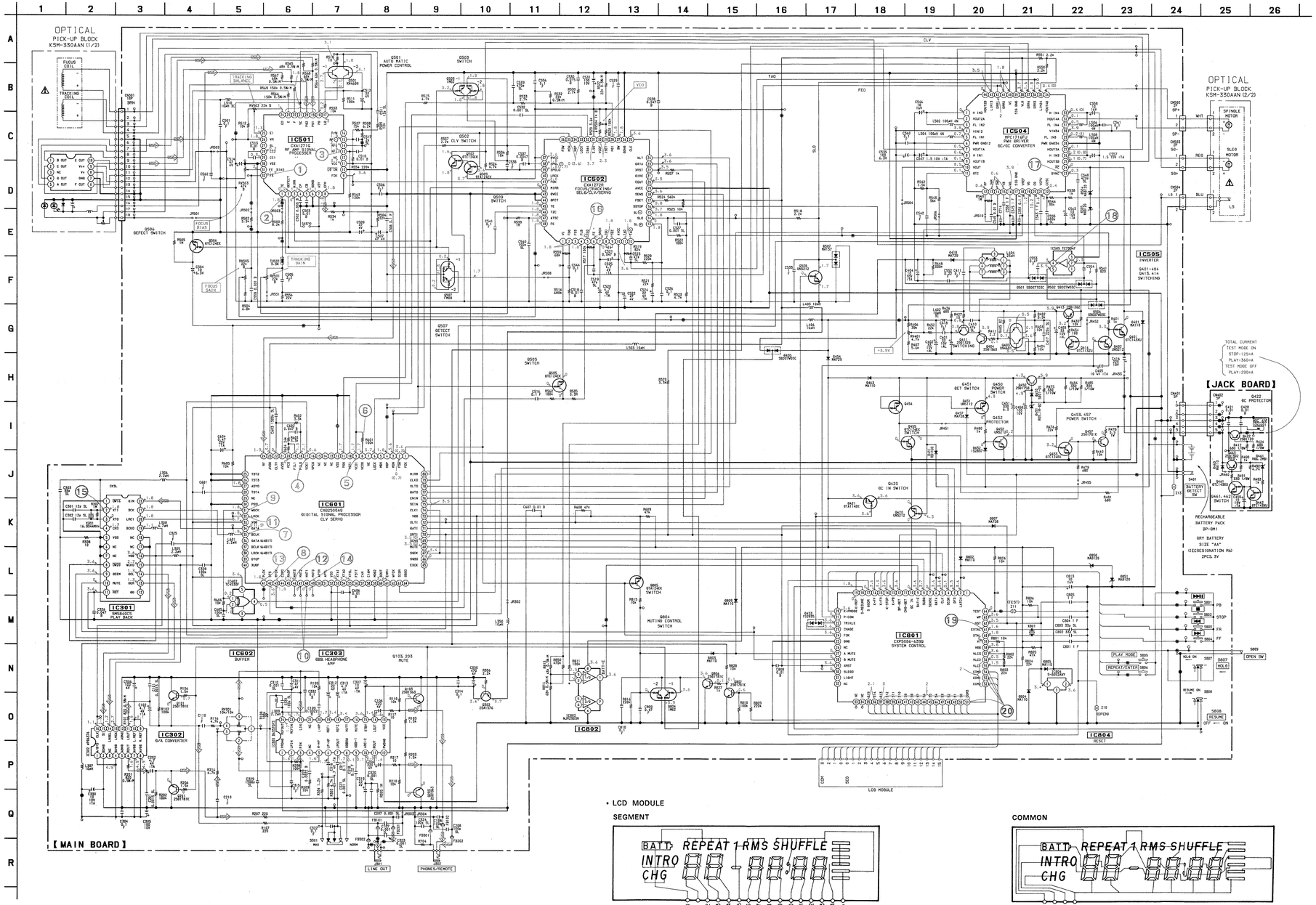
Ref. No.	Location	Ref. No.	Location
IC301	E-3	Q506	J-5
IC302	E-16	Q507	I-17
IC303	C-16	Q508	G-14
IC501	J-14	Q509	I-6
IC502	I-15	Q802	F-2
IC504	F-14	Q804	D-16
IC505	E-13	Q805	F-3
IC601	G-16	Q806	E-2
IC602	F-16		
IC801	G-3		
		D401	D-17
IC802	F-4	D411	B-5
IC804	H-5	D418	E-4
		D450	C-6
		D451	C-7
Q101	C-17		
Q103	C-2	D452	B-6
Q201	C-3	D453	C-4
Q203	C-17	D454	C-15
Q302	C-16	D455	D-4
		D457	B-5
Q401	D-14		
Q402	D-14	D460	F-11
Q403	C-14	D461	F-10
Q404	C-13	D463	C-15
Q411	C-6	D501	E-6
		D502	E-13
Q413	C-6		
Q414	C-14	D504	E-13
Q420	D-14	D505	E-13
Q421	C-4	D506	C-5
Q422	C-10	D507	G-6
		D802	G-15
Q450	B-13		
Q451	C-14	D803	F-17
Q452	C-13	D804	H-5
Q453	C-6	D805	H-5
Q455	C-5	D807	H-5
		D809	H-15
Q457	C-7		
Q461	F-10	D850	E-4
Q462	F-10	D851	E-5
Q463	E-11		
Q501	I-13		
Q502	I-6		
Q503	J-15		
Q505	I-3		

Note :

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ⊗ : Through hole.
- ▒ : Pattern on the side which is seen.
- ▒ : Pattern of the rear side.

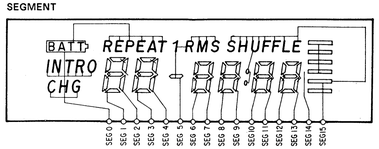


REVISED

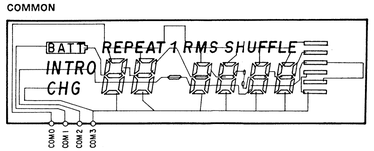


• LCD MODULE

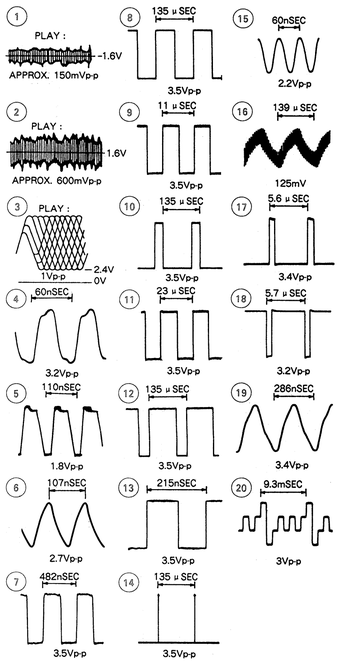
SEGMENT



COMMON



• WAVEFORMS



Note :

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

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

- ▬ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 6V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under the service mode.
- no mark : STOP
  ( ) : PLAY
- Voltages are taken with a VOM (Input impedance 10M Ω). 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

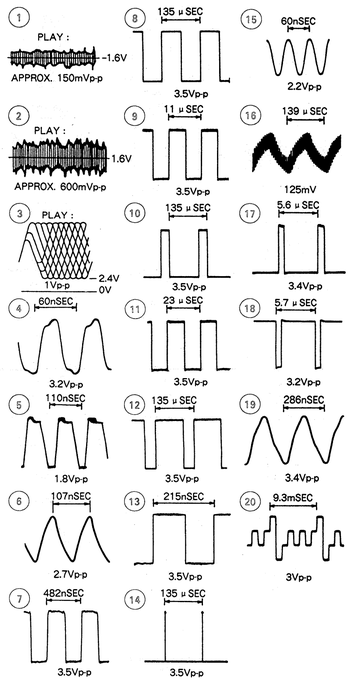
REVISED

4-4. SCHEMATIC DIAGRAM

Serial No. 72,001 and later (US), Serial No.118,001 and later(Tourist)

• Refer to page 26 for IC Block Diagrams.

• WAVEFORMS

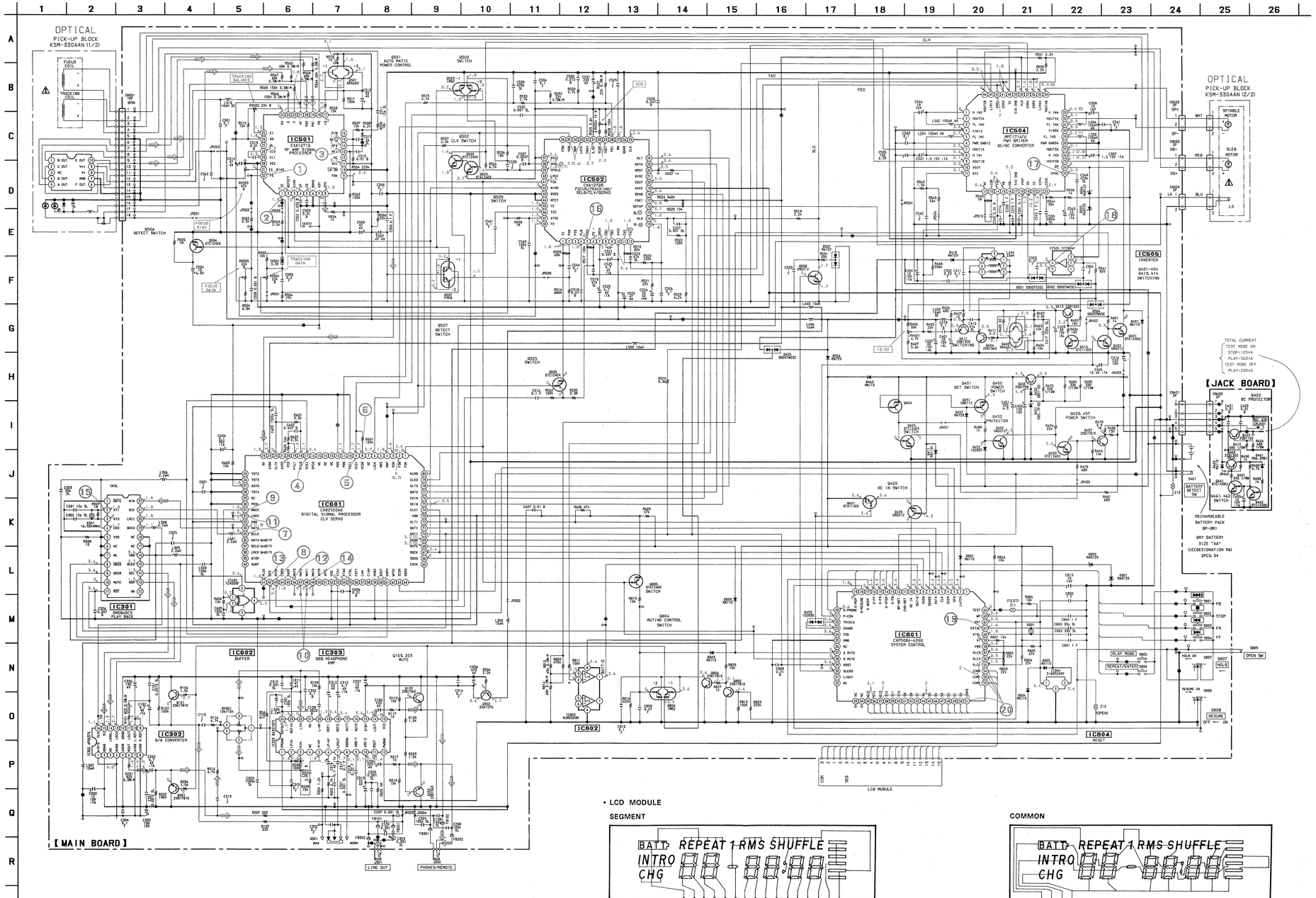


Note :

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

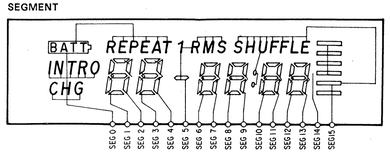
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▬▬ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 6V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under the service mode.
- no mark : STOP
  ( ) : PLAY
- Voltages are taken with a VOM (Input impedance 10M Ω). 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

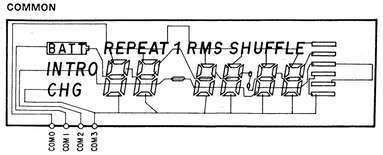


• LCD MODULE

SEGMENT



COMMON



REVISED

4-5. PRINTED WIRING BOARDS

Serial No. 72,001 and later (US), Serial No.118,001 and later(Tourist)

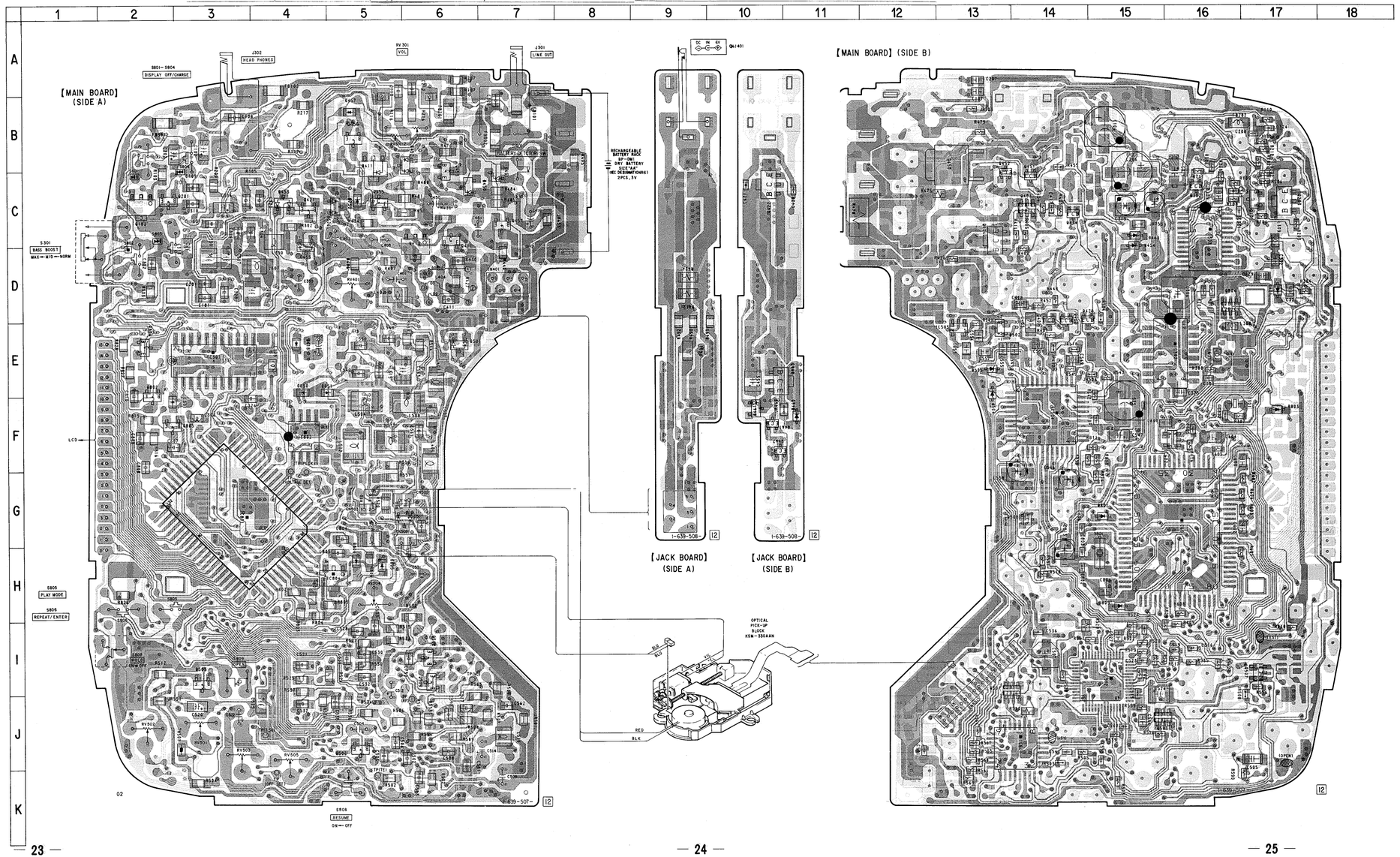
• Refer to page 11 for Semiconductor Lead Layout.

• **SEMICONDUCTOR LOCATION**

Ref. No.	Location	Ref. No.	Location
IC301	E-3	Q506	J-5
IC302	E-16	Q507	I-17
IC303	C-16	Q508	G-14
IC501	J-14	Q509	I-6
IC502	I-15	Q802	F-2
IC504	F-14	Q804	D-16
IC505	E-13	Q805	F-3
IC601	G-16	Q806	E-2
IC602	F-16		
IC801	G-3		
		D401	D-17
IC802	F-4	D411	B-5
IC804	H-5	D418	E-4
		D450	C-6
		D451	C-7
Q101	C-17		
Q103	C-2	D452	B-6
Q201	C-3	D453	C-4
Q203	C-17	D454	C-15
Q302	C-16	D455	D-4
		D457	B-5
Q401	D-14		
Q402	D-14	D460	F-11
Q403	C-14	D461	F-10
Q404	C-13	D463	C-15
Q411	C-6	D501	E-6
		D502	E-13
Q413	C-6		
Q414	C-14	D504	E-13
Q420	D-14	D505	E-13
Q421	C-4	D506	C-5
Q422	C-10	D507	G-6
		D802	G-15
Q450	B-13		
Q451	C-14	D803	F-17
Q452	C-13	D804	H-5
Q453	C-6	D805	H-5
Q455	C-5	D809	H-15
		D850	E-4
Q457	C-7	D851	E-5
Q461	F-10		
Q462	F-10		
Q463	E-11		
Q501	I-13		
Q502	I-6		
Q503	J-15		
Q505	I-3		

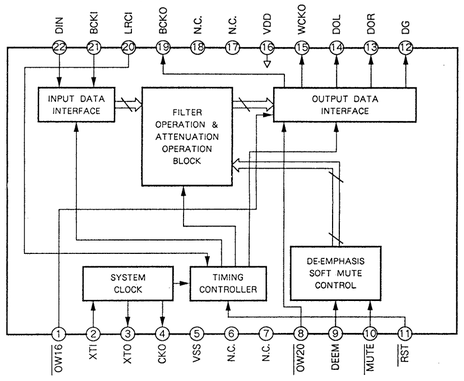
Note :

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ✱ : Through hole.
- ▒ : Pattern on the side which is seen.
- ▒ : Pattern of the rear side.

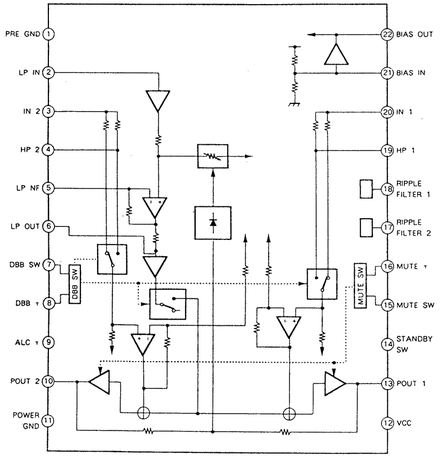


4-6. IC BLOCK DIAGRAMS

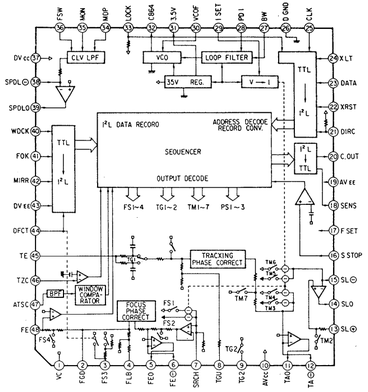
IC301 SM5840CS



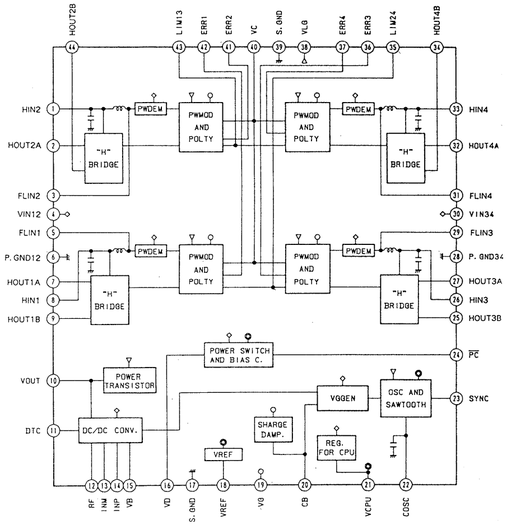
IC303 BA3570FS



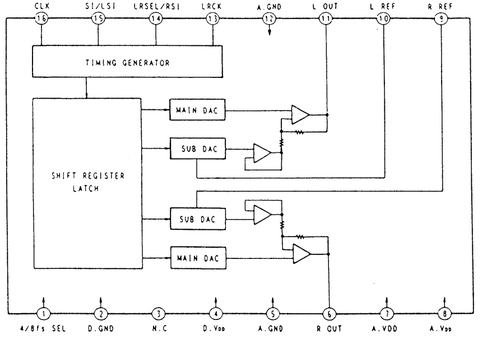
IC502 CXA1272R



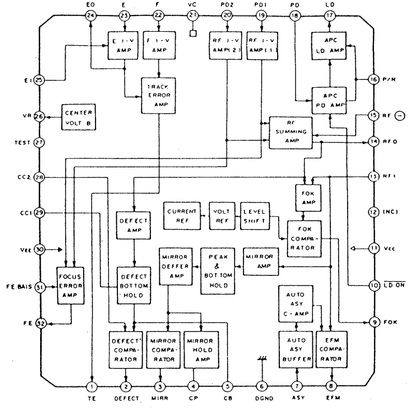
IC504 MPC1716FU



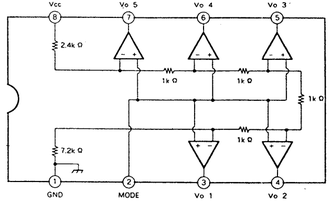
IC302 μPD6376



IC501 CXA1271Q



IC803 BA3818F



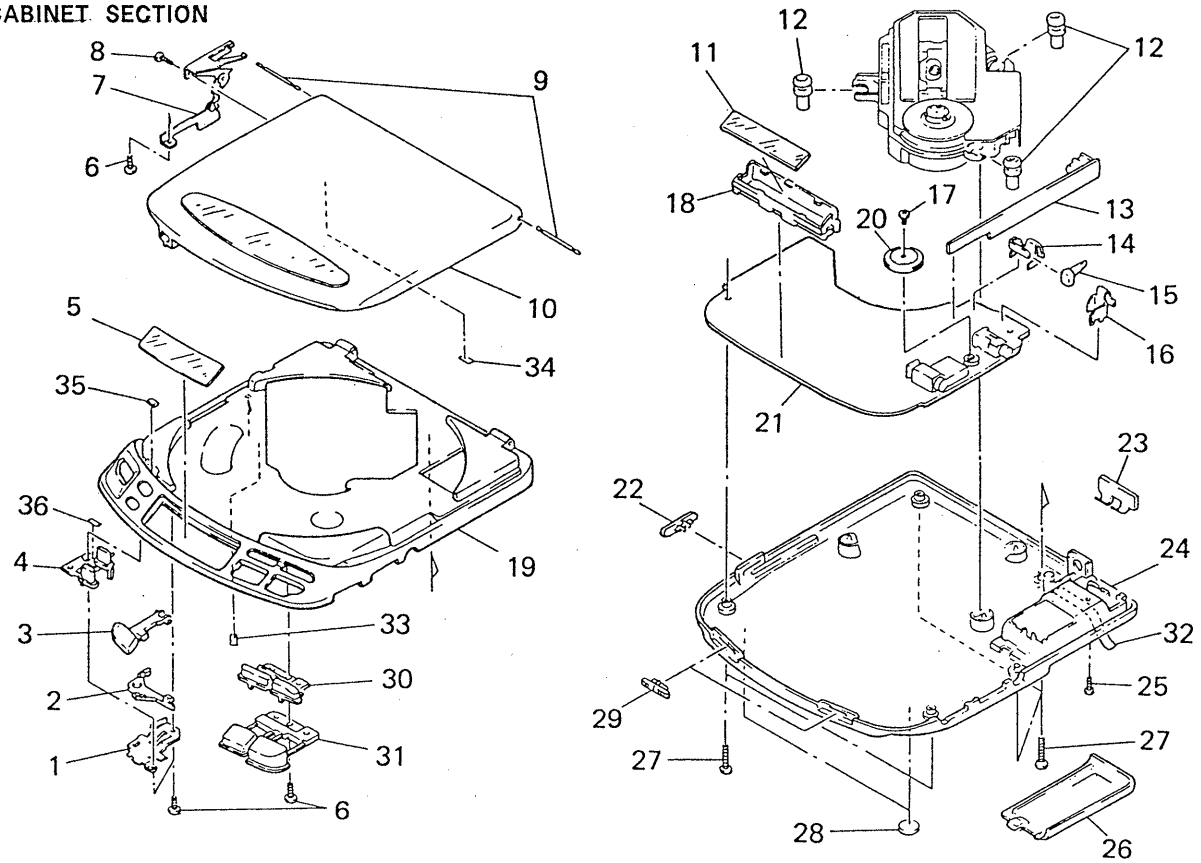
SECTION 5
EXPLODED VIEWS

NOTE:

- –XX, –X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE)....(RED)
  ↑ Parts color ↑ Cabinet's color
- 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.
- Hardware (# mark) list is given in the last of this parts list.

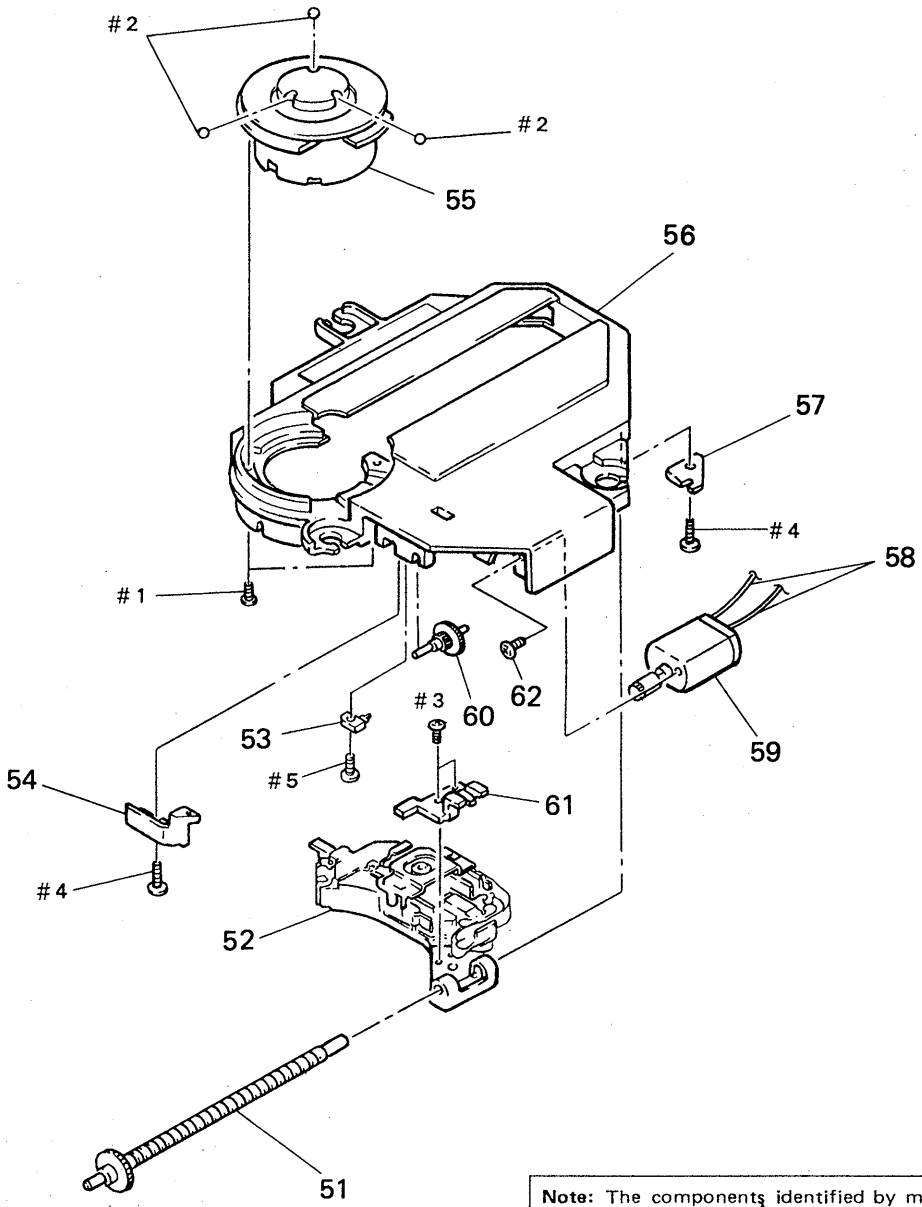
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	4-944-353-01	RETAINER, OPEN	
2	4-944-352-01	CLAW, LID LOCK	
3	4-944-351-11	BUTTON (OPEN)	
4	4-944-354-11	BUTTON (MODE)	
5	4-944-343-01	WINDOW (LCD)	
6	3-318-203-71	SCREW (B1.7X5), TAPPING	
7	X-4941-517-1	PLATE ASSY, SWITCHING	
8	3-704-197-32	SCREW (M1.4X3.0)	
9	4-944-355-01	SHAFT (FULCRUM)	
10	X-4941-834-1	LID ASSY (OVERSEAS), UPPER	
11	1-809-258-11	DISPLAY PANEL, LIQUID CRYSTAL	
12	4-944-338-01	INSULATOR	
13	A-3261-681-A	JACK BOARD, COMPLETE	
14	4-944-348-01	TERMINAL BOARD (-), BATTERY	
15	4-944-363-01	SEPARATOR	
16	4-944-347-01	TERMINAL BOARD (+), BATTERY	
17	3-335-797-21	SCREW (M1.4X3), TOOTHED LOCK	
18	4-944-360-01	HOLDER (LCD)	
19	4-944-368-11	CABINET (UPPER)	
20	4-938-812-01	KNOB (VOLUME)	
21	A-3275-087-A	MAIN BOARD, COMPLETE	
22	4-944-346-11	KNOB (RESUME)	
23	4-944-349-01	TERMINAL BOARD (RELAY), BATTERY	
24	X-4941-709-1	CABINET (LOWER) ASSY	
25	4-945-318-01	SCREW	
26	4-944-350-11	LID, BATTERY CASE	
27	3-336-395-01	SCREW (B2X10) (G), TAPPING	
28	4-912-641-01	FOOT, RUBBER	
29	4-944-345-11	KNOB (HOLD)	
30	4-944-342-11	BUTTON (F/R)	
31	4-944-341-11	BUTTON (S/P)	
32	4-944-367-01	RIBBON, BATTERY	
33	9-911-839-XX	SPACER	
34	9-911-838-XX	CUSHION (MD)	
35	* 4-945-531-01	CUSHION	
36	* 4-945-685-01	SPACER (M)	

5-2. OPTICAL PICK-UP MECHANISM (KSM-330AAN)



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

Ref. No.	Part No.	Description	Remark
51	X-2625-173-2	SCREW ASSY, SLED	
52	⚠·8-848-212-01	DEVICE, OPTICAL KSS-330A	
53	1-570-771-11	SWITCH	
54	2-625-412-02	SPRING, SLED	
55	X-2625-219-1	MOTOR ASSY (K), T.T.	
56	2-625-415-02	CHASSIS, MD	
57	2-625-411-01	RETAINER, SHAFT	
58	1-948-418-21	HARNESS	
59	X-2625-171-2	MOTOR ASSY, SLED	
60	2-625-410-01	GEAR (B)	
61	2-625-414-02	RACK	
62	3-732-988-01	SCREW (M2X2.5)	

SECTION 6
ELECTRICAL PARTS LIST

JACK MAIN

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, —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
- 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.

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

Ref. No.	Part No.	Description			Remark
	A-3261-681-A	JACK BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C420	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C421	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C455	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
		< CONNECTOR >			
CNJ401	1-580-681-21	JACK, DC (POLARITY UNIFIED TYPE)			
		< DIODE >			
D460	8-719-404-46	DIODE MA110			
D461	8-719-106-08	DIODE RD6.2M-B2			
		< JUMPER >			
JR460	1-216-295-00	METAL CHIP	0	5%	1/10W
		< TRANSISTOR >			
Q422	8-729-806-75	TRANSISTOR 2SB1120-F			
Q461	8-729-924-39	TRANSISTOR DTC143XU			
Q462	8-729-924-39	TRANSISTOR DTC143XU			
Q463	8-729-822-60	TRANSISTOR 2SB1302-S			
		< RESISTOR >			
R412	1-216-194-00	METAL CHIP	680	5%	1/8W
R424	1-216-194-00	METAL CHIP	680	5%	1/8W
R490	1-216-049-00	METAL CHIP	1K	5%	1/10W
R491	1-216-186-00	METAL GLAZE	330	5%	1/8W
R492	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R493	1-216-049-00	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
	A-3275-087-A	MAIN BOARD, COMPLETE			
		**********			
	3-335-797-21	SCREW (M1.4X3), TOOTHED LOCK			
	4-938-812-01	KNOB (VOLUME)			
	4-944-347-01	TERMINAL BOARD (+), BATTERY			
	4-944-348-01	TERMINAL BOARD (-), BATTERY			
	4-944-360-01	HOLDER (LCD)			
	4-944-363-01	SEPARATOR			
		< CAPACITOR >			
C101	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C102	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C106	1-126-246-11	ELECT CHIP	220uF	20%	4V
C107	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C108	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C109	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C110	1-164-346-11	CERAMIC CHIP	1uF		16V
C201	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C202	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C206	1-126-246-11	ELECT CHIP	220uF	20%	4V
C207	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C208	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C209	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C210	1-164-346-11	CERAMIC CHIP	1uF		16V
C301	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C302	1-162-942-11	CERAMIC CHIP	12PF	5%	50V
C303	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C304	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C305	1-124-584-00	ELECT	100uF	20%	10V
C306	1-126-209-11	ELECT CHIP	100uF	20%	4V
C307	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C310	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C311	1-126-607-11	ELECT CHIP	47uF	20%	4V
C312	1-128-003-11	ELECT CHIP	22uF	20%	4V
C313	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V

MAIN

Ref. No.	Part No.	Description			Remark
C314	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C315	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C316	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C317	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C318	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C319	1-128-003-11	ELECT CHIP	22uF	20%	4V
C320	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C321	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C322	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C323	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C324	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C325	1-164-346-11	CERAMIC CHIP	1uF		16V
C326	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C328	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C329	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C330	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C331	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C332	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C350	1-126-518-11	ELECT	470uF	20%	4V
C401	1-127-561-11	ELECT(SOLID)	33uF	20%	10V
C402	1-127-561-11	ELECT(SOLID)	33uF	20%	10V
C403	1-127-561-11	ELECT(SOLID)	33uF	20%	10V
C404	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C405	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C410	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C411	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C416	1-128-241-11	ELECT	220uF	20%	10V
C417	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C418	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C450	1-124-584-00	ELECT	100uF	20%	10V
C451	1-128-057-11	ELECT	330uF	20%	6.3V
C501	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C502	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C503	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C504	1-126-157-11	ELECT	10uF	20%	16V
C505	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C506	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C507	1-126-607-11	ELECT CHIP	47uF	20%	4V
C508	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C509	1-126-154-11	ELECT	47uF	20%	6.3V
C510	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C511	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C512	1-124-431-00	ELECT	33uF	20%	4V
C513	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C514	1-126-154-11	ELECT	47uF	20%	6.3V
C515	1-164-346-11	CERAMIC CHIP	1uF		16V
C516	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C517	1-163-085-00	CERAMIC CHIP	2PF		50V
C518	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C519	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C520	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C521	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C522	1-126-154-11	ELECT	47uF	20%	6.3V
C523	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C524	1-135-202-21	TANTAL. CHIP	22uF	20%	4V
C525	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C526	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C527	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C528	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C529	1-164-346-11	CERAMIC CHIP	1uF		16V
C530	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C531	1-124-584-00	ELECT	100uF	20%	10V
			(Until Serial No. 12,000)		
C531	1-124-434-00	ELECT	220uF	20%	4V
			(Serial No. 12,001 and Later)		
C532	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C533	1-164-346-11	CERAMIC CHIP	1uF		16V
C535	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C536	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C537	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C538	1-164-346-11	CERAMIC CHIP	1uF		16V
C539	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C540	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C541	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C542	1-164-346-11	CERAMIC CHIP	1uF		16V
C543	1-164-346-11	CERAMIC CHIP	1uF		16V
C544	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C546	1-128-004-11	ELECT CHIP	10uF	20%	16V
C547	1-135-148-21	TANTAL. CHIP	1.5uF	20%	10V
C548	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C549	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C550	1-164-346-11	CERAMIC CHIP	1uF		16V
C551	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C552	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C553	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C554	1-164-346-11	CERAMIC CHIP	1uF		16V
C555	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C557	1-135-148-21	TANTAL. CHIP	1.5uF	20%	10V
C558	1-128-004-11	ELECT CHIP	10uF	20%	16V
C559	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C560	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C561	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C562	1-164-346-11	CERAMIC CHIP	1uF		16V
C563	1-135-216-11	TANTALUM CHIP	10uF	20%	10V

MAIN

Ref. No.	Part No.	Description			Remark
C601	1-164-346-11	CERAMIC CHIP	1uF		16V
C602	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C603	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C604	1-135-145-11	TANTALUM CHIP	0.47uF	10%	25V
			(Until Serial No. 12,000)		
C604	1-135-083-00	TANTALUM CHIP	0.47uF	10%	25V
			(Serial No. 12,001 and Later)		
C605	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C606	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C607	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C801	1-164-346-11	CERAMIC CHIP	1uF		16V
C802	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C803	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C804	1-164-346-11	CERAMIC CHIP	1uF		16V
C805	1-164-346-11	CERAMIC CHIP	1uF		16V
C808	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C809	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C810	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C813	1-128-004-11	ELECT CHIP	10uF	20%	16V
		< CONNECTOR >			
CN401	* 1-580-712-21	CONNECTOR, BOARD TO BOARD 5P			
CN501	1-566-534-11	CONNECTOR, FPC (ZIF) 18P			
CN502	1-566-757-11	PIN, CONNECTOR (PC BOARD) 2P			
CN503	1-566-757-11	PIN, CONNECTOR (PC BOARD) 2P			
CN504	1-566-757-11	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D401	8-719-404-46	DIODE MA110			
D411	8-719-975-33	DIODE RB110C			
D418	8-719-420-51	DIODE MA729			
D450	8-719-938-72	DIODE SB01-05CP			
D451	8-719-105-82	DIODE RD5.1M-B2			
D452	8-719-400-18	DIODE MA152WK			
D453	8-719-104-34	DIODE 1S2836			
D454	8-719-420-51	DIODE MA729			
D455	8-719-986-76	DIODE SB007W03C			
D457	8-719-421-27	DIODE MA728			
D463	8-719-404-46	DIODE MA110			
D501	8-719-989-73	DIODE SB007T03C			
D502	8-719-986-76	DIODE SB007W03C			
D504	8-719-421-21	DIODE MA8120-L			
D505	8-719-421-21	DIODE MA8120-L			
D506	8-719-986-76	DIODE SB007W03C			
D507	8-719-403-80	DIODE 1S2836			
D802	8-719-404-46	DIODE MA110			
D803	8-719-404-46	DIODE MA110			
D804	8-719-404-46	DIODE MA110			
D805	8-719-404-46	DIODE MA110			
D807	8-719-421-27	DIODE MA728			
		(Until Serial No. 12,000)			
D809	8-719-404-46	DIODE MA110			
D850	8-719-421-21	DIODE MA8120-L			
D851	8-719-421-21	DIODE MA8120-L			
		< BEAD, FERRITE >			
FB101	1-543-813-21	BEAD, FERRITE			
FB102	1-543-813-21	BEAD, FERRITE			
FB201	1-543-813-21	BEAD, FERRITE			
FB202	1-543-813-21	BEAD, FERRITE			
FB301	1-543-813-21	BEAD, FERRITE			
FB302	1-543-813-21	BEAD, FERRITE			
		< IC >			
IC301	8-759-501-31	IC SM5840CS			
IC302	8-759-148-30	IC uPD6376			
IC303	8-759-510-56	IC BA3570FS			
IC501	8-752-033-55	IC CXA1271Q			
IC502	8-752-033-98	IC CXA1272R			
IC504	8-759-031-89	IC MPC1716FU			
IC505	8-759-031-84	IC SC7S04F			
IC601	8-752-337-26	IC CXD2500AQ			
IC602	8-759-234-13	IC TC4S30F			
IC801	8-752-830-88	IC CXP5086-639Q			
IC802	8-759-981-65	IC LM2903M			
IC804	8-759-517-31	IC S-8052ANY-NH			
		< JACK >			
J301	1-565-287-41	JACK (LINE OUT)			
J302	1-565-287-11	JACK (HEADPHONES)			
		< JUMPER >			
JR302	1-216-295-00	METAL CHIP	0	5%	1/10W
JR303	1-216-864-11	METAL CHIP	0		
JR304	1-216-864-11	METAL CHIP	0		
JR451	1-216-295-00	METAL CHIP	0	5%	1/10W
JR452	1-216-864-11	METAL CHIP	0		
JR453	1-216-295-00	METAL CHIP	0	5%	1/10W
JR455	1-216-864-11	METAL CHIP	0		
JR501	1-216-295-00	METAL CHIP	0	5%	1/10W
JR502	1-216-295-00	METAL CHIP	0	5%	1/10W
JR503	1-216-864-11	METAL CHIP	0		
JR504	1-216-864-11	METAL CHIP	0		
JR506	1-216-864-11	METAL CHIP	0		
JR508	1-216-864-11	METAL CHIP	0		
JR509	1-216-295-00	METAL CHIP	0	5%	1/10W
JR510	1-216-864-11	METAL CHIP	0		
JR551	1-216-295-00	METAL CHIP	0	5%	1/10W

MAIN

Ref. No.	Part No.	Description	Remark
		< COIL >	
L305	1-410-997-31	INDUCTOR, CHIP 2.2uH	
L306	1-410-997-31	INDUCTOR, CHIP 2.2uH	
L307	1-412-029-11	INDUCTOR, CHIP 10uH	
L308	1-412-002-31	INDUCTOR, CHIP 4.7uH	
L309	1-410-997-31	INDUCTOR, CHIP 2.2uH	
L350	1-412-029-11	INDUCTOR, CHIP 10uH	
L402	1-412-029-11	INDUCTOR, CHIP 10uH	
L403	1-412-029-11	INDUCTOR, CHIP 10uH	
L404	1-450-401-11	TRANSFORMER, CONVERTER DC-DC	
L406	1-412-029-11	INDUCTOR, CHIP 10uH	
L502	1-412-039-51	INDUCTOR, CHIP 100uH	
L503	1-412-029-11	INDUCTOR, CHIP 10uH	
L504	1-412-039-51	INDUCTOR, CHIP 100uH	
L506	1-412-039-51	INDUCTOR, CHIP 100uH	
L508	1-412-039-51	INDUCTOR, CHIP 100uH	
L510	1-412-029-11	INDUCTOR, CHIP 10uH	
L601	1-410-997-31	INDUCTOR, CHIP 2.2uH	
		< DISPLAY PANEL >	
LCD	1-809-258-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< TRANSISTOR >	
Q101	8-729-921-73	TRANSISTOR 2SD1781K-QR	
Q103	8-729-923-36	TRANSISTOR 2SD1963-Q.R	
Q201	8-729-921-73	TRANSISTOR 2SD1781K-QR	
Q203	8-729-923-36	TRANSISTOR 2SD1963-Q.R	
Q302	8-729-905-23	TRANSISTOR 2SA1576-R	
Q401	8-729-924-39	TRANSISTOR DTC143XU	
Q402	8-729-402-45	TRANSISTOR UN5212	
Q403	8-729-402-84	TRANSISTOR XN4601	
Q404	8-729-923-36	TRANSISTOR 2SD1963-Q.R	
Q411	8-729-420-74	TRANSISTOR 2SD1328-RST	
Q413	8-729-822-60	TRANSISTOR 2SB1302-S	
Q414	8-729-924-62	TRANSISTOR DTC113ZU	
Q420	8-729-402-45	TRANSISTOR UN5212	
Q421	8-729-901-04	TRANSISTOR DTA114EK	
Q450	8-729-922-34	TRANSISTOR 2SD1758F5-QR	
Q451	8-729-402-51	TRANSISTOR UN5112	
Q452	8-729-402-45	TRANSISTOR UN5212	
Q453	8-729-901-00	TRANSISTOR DTC124EK	
Q455	8-729-901-00	TRANSISTOR DTC124EK	
Q457	8-729-921-72	TRANSISTOR 2SD1781K-R	
Q501	8-729-402-90	TRANSISTOR XN4609	
Q502	8-729-901-00	TRANSISTOR DTC124EK	
Q503	8-729-907-39	TRANSISTOR IMD2	
Q505	8-729-901-00	TRANSISTOR DTC124EK	
Q506	8-729-901-00	TRANSISTOR DTC124EK	
Q507	8-729-924-79	TRANSISTOR FMG8	
Q508	8-729-402-45	TRANSISTOR UN5212	
Q509	8-729-901-05	TRANSISTOR DTA124EK	
Q802	8-729-921-73	TRANSISTOR 2SD1781K-QR	
Q804	8-729-907-39	TRANSISTOR IMD2	
Q805	8-729-901-05	TRANSISTOR DTA124EK	
Q806	8-729-921-73	TRANSISTOR 2SD1781K-QR	
		< RESISTOR >	
R101	1-216-820-11	METAL CHIP 820 5% 1/16W	
R101	1-218-845-11	METAL CHIP 820 0.50% 1/16W	
R102	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R103	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R106	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R107	1-216-033-00	METAL CHIP 220 5% 1/10W	
R108	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R109	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R110	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R116	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R117	1-216-001-00	METAL CHIP 10 5% 1/10W	
R201	1-218-845-11	METAL CHIP 820 0.50% 1/16W	
R202	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R203	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R206	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R207	1-216-033-00	METAL CHIP 220 5% 1/10W	
R208	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R209	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R210	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R216	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R217	1-216-001-00	METAL CHIP 10 5% 1/10W	
R303	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R304	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R305	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R306	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R307	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R308	1-216-797-11	METAL CHIP 10 5% 1/16W	
R401	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R402	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R403	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R404	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R405	1-216-808-11	METAL CHIP 82 5% 1/16W	
R406	1-216-748-11	METAL CHIP 39K 5% 1/10W	
R407	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R411	1-216-789-11	METAL CHIP 2.2 5% 1/16W	
R426	1-216-819-11	METAL CHIP 680 5% 1/16W	
R427	1-216-001-00	METAL CHIP 10 5% 1/10W	
R430	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R434	1-216-025-00	METAL CHIP 100 5% 1/10W	
R440	1-216-073-00	METAL CHIP 10K 5% 1/10W	

MAIN

Ref. No.	Part No.	Description				Remark
R448	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R452	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R475	1-216-037-00	METAL CHIP	330	5%	1/10W	
R476	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R478	1-218-609-11	METAL CHIP	3.9	5%	1W	
R479	1-216-819-11	METAL CHIP	680	5%	1/16W	
R480	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R481	1-216-045-00	METAL CHIP	680	5%	1/10W	
R484	1-216-037-00	METAL CHIP	330	5%	1/10W	
R485	1-216-037-00	METAL CHIP	330	5%	1/10W	
R495	1-216-005-00	METAL CHIP	15	5%	1/10W	(Serial No. 12,001 and Later)
R502	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R503	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	(Until Serial No. 12,000)
R503	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	(Serial No. 12,001 and Later)
R504	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R505	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R506	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R507	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R508	1-216-068-00	METAL CHIP	6.2K	5%	1/10W	
R509	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R510	1-216-001-00	METAL CHIP	10	5%	1/10W	
R511	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R512	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R515	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R516	1-216-855-11	METAL CHIP	680K	5%	1/16W	
R517	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R518	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R519	1-216-844-11	METAL CHIP	82K	5%	1/16W	
R520	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R521	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R522	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R523	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R524	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R525	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R526	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R527	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R528	1-216-848-11	METAL CHIP	180K	5%	1/16W	(Until Serial No. 12,000)
R528	1-216-847-11	METAL CHIP	150K	5%	1/16W	(Serial No. 12,001 and Later)
R529	1-216-062-00	METAL CHIP	3.6K	5%	1/10W	
R530	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R532	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R533	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R534	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R535	1-216-863-11	METAL GLAZE	3.3M	5%	1/16W	
R536	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R537	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R538	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R539	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R541	1-216-820-11	METAL CHIP	820	5%	1/16W	
R542	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R543	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R544	1-216-748-11	METAL CHIP	39K	5%	1/10W	
R549	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R550	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R551	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R553	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R554	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R556	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R557	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R559	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R562	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R563	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R564	1-218-891-11	METAL CHIP	68K	0.50%	1/16W	
R565	1-218-891-11	METAL CHIP	68K	0.50%	1/16W	
R566	1-218-744-11	METAL CHIP	150K	0.50%	1/16W	
R567	1-218-891-11	METAL CHIP	68K	0.50%	1/16W	
R568	1-218-891-11	METAL CHIP	68K	0.50%	1/16W	
R569	1-218-744-11	METAL CHIP	150K	0.50%	1/16W	
R570	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R590	1-216-833-11	METAL CHIP	10K	5%	1/16W	(Serial No. 12,001 and Later)
R591	1-216-816-11	METAL CHIP	390	5%	1/16W	(Serial No. 12,001 and Later)
R601	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R602	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R603	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R604	1-218-293-11	METAL GLAZE	24K	5%	1/16W	
R605	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R606	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R608	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R609	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R801	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R802	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R803	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R804	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R805	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R806	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R809	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R810	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R811	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R813	1-218-886-11	METAL CHIP	43K	0.50%	1/16W	

MAIN

Ref. No.	Part No.	Description	Remark
R814	1-216-843-11	METAL CHIP 68K 5% 1/16W	
R815	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R816	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R826	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R827	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R828	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R850	1-216-853-11	METAL CHIP 470K 5% 1/16W	
		< VARIABLE RESISTOR >	
RV301	1-230-485-11	RES, VAR, CARBON 10K/10K (VOLUME)	
RV401	1-238-599-11	RES, ADJ, CARBON 4.7K (+3.5V)	
RV501	1-238-601-11	RES, ADJ, CARBON 22K (TRACKING GAIN)	
RV502	1-238-601-11	RES, ADJ, CARBON 22K (TRACKING BALANCE)	
RV503	1-238-602-11	RES, ADJ, CARBON 47K (FOCUS BIASS)	
RV504	1-238-597-11	RES, ADJ, CARBON 1K (VCO)	
RV505	1-238-601-11	RES, ADJ, CARBON 22K (FOCUS GAIN)	
		< SWITCH >	
S301	1-572-597-21	SWITCH, SLIDE (BASS BOOST)	
S401	1-572-126-11	SWITCH, PUSH (1 KEY) (BATTERY DETECTOR SW)	
S801	1-572-596-11	SWITCH, KEY BOARD (▷II)	
S802	1-572-596-11	SWITCH, KEY BOARD (■)	
S803	1-572-596-11	SWITCH, KEY BOARD (▶▶I)	
S804	1-572-596-11	SWITCH, KEY BOARD (I◀◀)	
S805	1-572-596-11	SWITCH, KEY BOARD (PLAY MODE)	
S806	1-572-596-11	SWITCH, KEY BOARD (REPEAT/ENTER)	
S807	1-572-598-21	SWITCH, SLIDE (HOLD)	
S808	1-572-598-21	SWITCH, SLIDE (RESUME)	
S809	1-570-953-11	SWITCH, PUSH (1 KEY) (OPEN)	
		< THERMISTOR >	
TH501	1-809-468-11	THERMISTOR, CHIP	
		< CRYSTAL >	
X301	1-577-576-11	VIBRATOR, CRYSTAL (16.9344MHz)	
X801	1-578-769-11	VIBLATOR, CERAMIC	

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MISCELLANEOUS
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Ref. No.	Part No.	Description	Remark
52	⚠ 8-848-212-01	DEVICE, OPTICAL KSS-330A	
53	1-570-771-11	SWITCH	
58	1-948-418-21	HARNESS	

ACCESSORIES & PACKING MATERIALS
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Ref. No.	Part No.	Description	Remark
	1-465-520-21	ADAPTOR, AC (AC-64N) (JE)	
	1-465-608-11	ADAPTOR, AC (AC-64NA) (US)	
	1-528-350-11	BATTERY PACK (BP-DM1)	
	1-558-145-14	CORD, CONNECTION	
	1-558-145-24	CORD, CONNECTION	
	1-559-906-12	CORD, CONNECTION	
	1-559-906-22	CORD, CONNECTION	
	1-569-007-11	ADAPTER, CONVERSION 2P (JE)	
	1-575-195-11	CORD, CONNECTION	
	3-701-618-00	BAG, POLYETHYLENE	
*	3-703-034-21	LABEL, CAUTION (JE)	
	3-752-086-01	INSTRUCTION	
	3-753-354-11	MANUAL, INSTRUCTION (JE) (ENGRISH, FRENCH, SPANISH)	
	3-753-354-21	MANUAL, INSTRUCTION (US) (ENGLISH)	
	3-753-354-51	MANUAL, INSTRUCTION (JE) (JAPANESE, CHINESE, KOREAN)	
*	4-943-960-01	CUSHION (UPPER)	
*	4-943-961-01	CUSHION (LOWER)	
*	4-946-391-01	INDIVIDUAL CARTON	
	8-953-307-90	HEADPHONE MDR-A10D SET (US)	
	8-953-400-90	HEADPHONE MDR-E552//K SET (JE)	
	X-4941-730-1	ADAPTOR ASSY, CAR MOUNT	

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HARDWARE LIST
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#1	7-627-552-48	SCREW, PRECISION +P 1.7X4
#2	7-671-155-01	STEEL BALL 3.0
#3	7-627-552-28	SCREW, PRECISION +P 1.7X2
#4	7-685-104-19	SCREW (2X6), TAPPING (B)
#5	7-685-105-19	SCREW (2X8), TAPPING (B)

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

9-956-416-11
(Including 9-956-416-91)

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