D-125

SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model

NOTE: ALL CORRECTIONS AND SUPPLEMENTS ARE ATTACHED TO THE BACK OF THE MANUAL.

Model Name Using Similar Mechanism	NEW
CD Mechanism Name	KSM-331AAN (S)

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
(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: 1-bit quartz time-axis control
Frequency response: 20 – 20,000 Hz $^{+1}_{-2}$ dB
(measured by EIAJ CP-307)
Output (at 4.5 V input level): Line output (stereo minijack)
Output level 0.8 V rms at 50 kilohms
Load impedance over 10 kilohms
Headphones (stereo minijack)
15 mW + 15 mW at 16 Ω

General
Power requirements: Supplied:
- DC 2.4 V Rechargeable battery pack
- DC IN 4.5 V jack accepts the Sony AC power adaptor for use on:

Where purchased	Operating voltage
European countries	220 – 230 V AC, 50 Hz
U.S.A., Canada	120 V AC, 60 Hz
United Kingdom	240 V AC, 50 Hz
Other countries	100 – 240 V AC, 50/60 Hz

Not supplied:
- DC IN 4.5 V accepts the Sony CPM-300P mount plate and CPM-300PK mount arm for use on car battery.
- DC 3 V two size AA (LR6) alkaline batteries

Dimensions: Approx. 132 × 30.2 × 155 mm (5 1/4 × 1 1/4 × 6 1/8 in.) (w/h/d) incl. projecting parts and controls
Mass: Approx. 350 g (12.4 oz.) incl. rechargeable battery
Supplied accessories: AC power adaptor (1)
Rechargeable battery (1)
Connecting cord (phono plug × 2 ↔ stereo miniplug) (1)
Stereo headphones (1)

Design and specifications subject to change without notice.

For the Customers in the United Kingdom and European Countries

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

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

MICROFILM

COMPACT DISC COMPACT PLAYER

SONY®

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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.

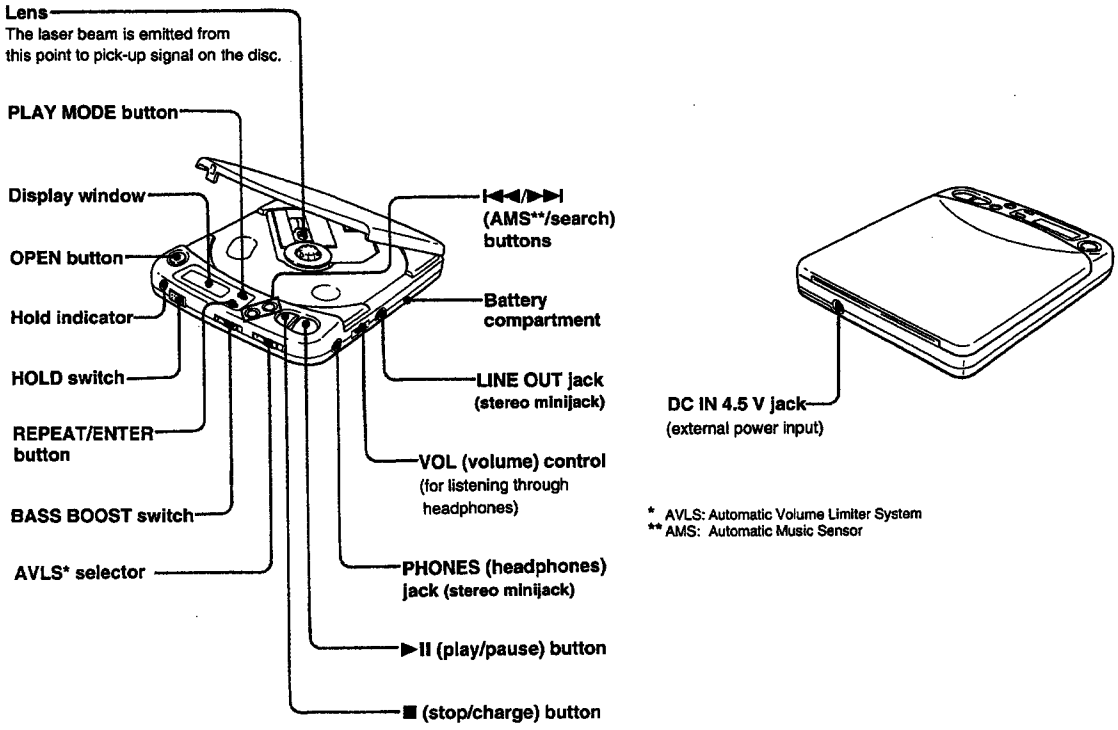
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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 section is extracted from instruction manual

SECTION 1
GENERAL

Location and Function of Controls



* AVLS: Automatic Volume Limiter System
** AMS: Automatic Music Sensor

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 : IC601 ① 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 IC601 ① pin.
- Adjusted part for focus gain adjustment : RV502
- RF signal P-to-P value : 0.8 ~ 1.2Vp-p
- Traverse signal P-to-P value : 2Vp-p
- The grating holder can not repair.
- Adjusted part for tracking gain adjustment : RV504

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 S802 (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. S802 on as Fig. 1.
   (In service mode, this operation is not necessary.)
3. Press the ▶II key.
   (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.

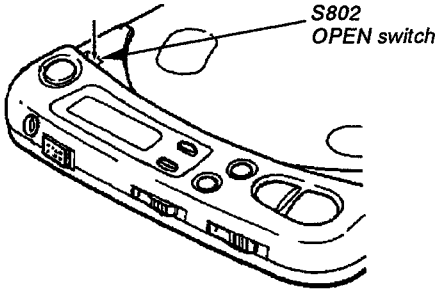


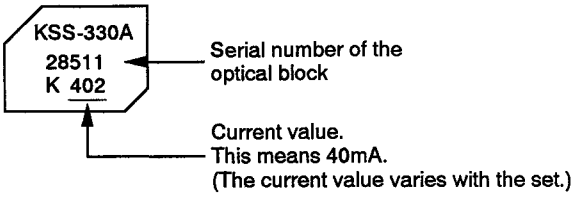
Fig. 1 Turning S802 Connection

Procedure 2 (service mode or normal operation)

Check by the current with flows in the laser diode.

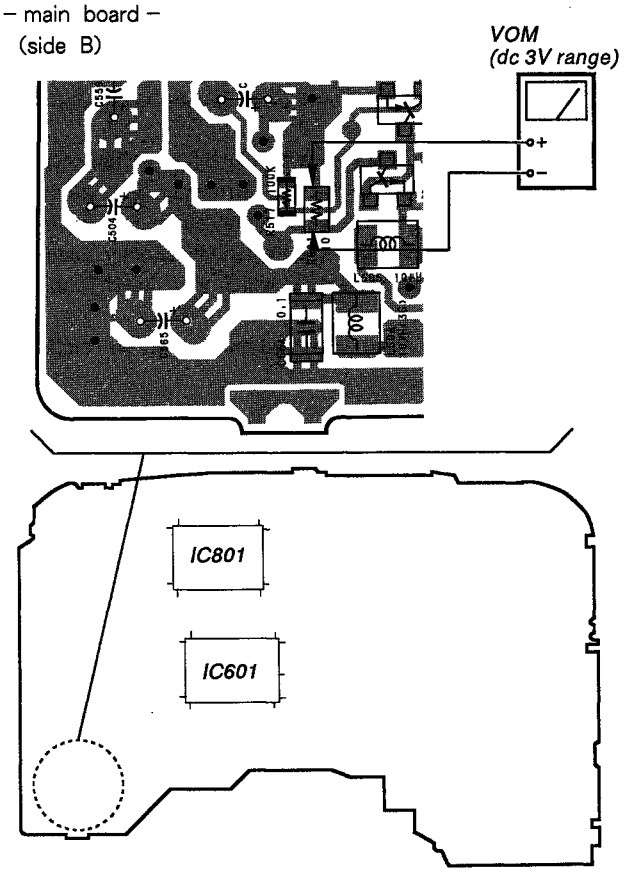
1. Open the top panel.
2. Remove the main board and read the current value on the label affixed to the optical pick-up.

(Label on optical pick-up block)



3. Connect a VOM as shown in Fig. 2. (both side of R501:10 Ω)
4. Press the ▶II key.
5. Calculate the current by the VOM reading.
   VOM reading(V) ÷ 10 = current (A)
   ex. VOM reading = 0.40V
   0.40 ÷ 10 = 0.040 (A) = 40 (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.

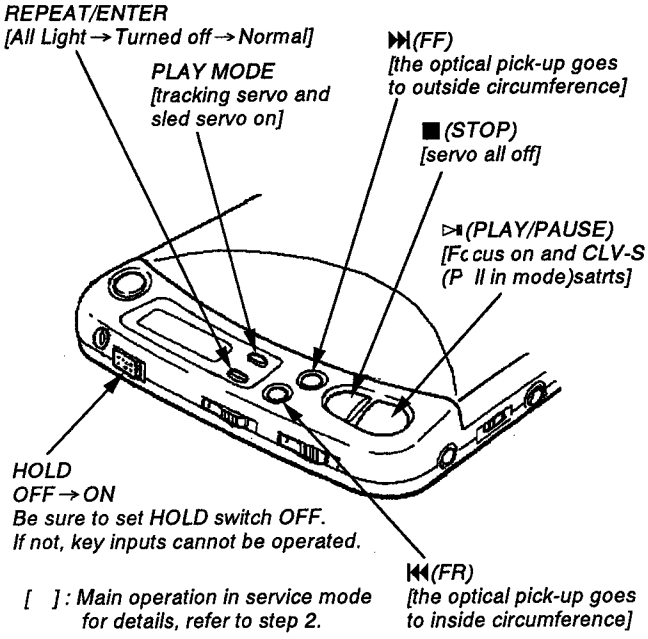


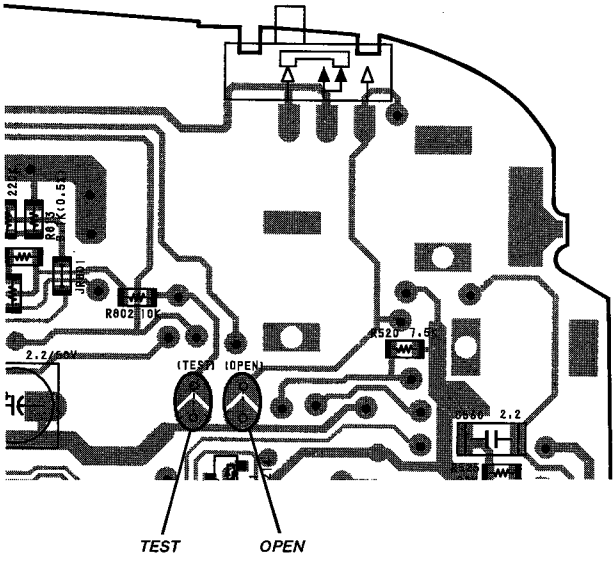
Fig. 3 Key Positions

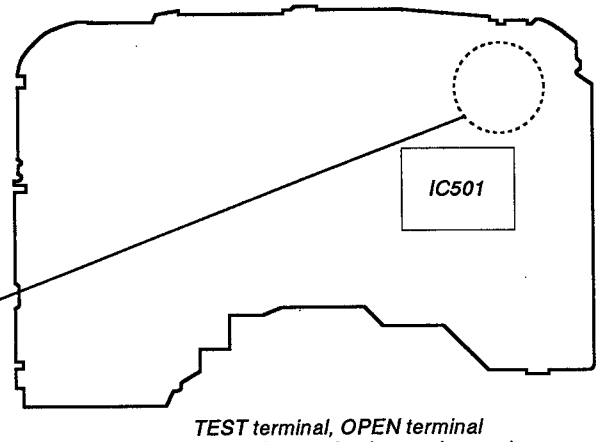
- **Step 1 (Service Mode setting method)**
  1. Turn the HOLD switch to OFF with the external power supply not plugged in (no power applied to set)
  2. Solder to connect the TEST terminal and the OPEN terminal (S802). (IC801 pin ⑥④ (TEST) is grounded.) and OPEN terminal (IC801 pin ⑰ (OPEN) is grounded.
  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 PLAY MODE 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.

– main board –
(side A)





TEST terminal, OPEN terminal Solder jumper for the service mode. [After checking or adjusting in the service mode, be sure to remove this solder jumper.]

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 4.5V
   HOLD switch : OFF
   VOLUME knob : Minimum
   BASS BOOST switch : OFF
   AVLS selector : OFF

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

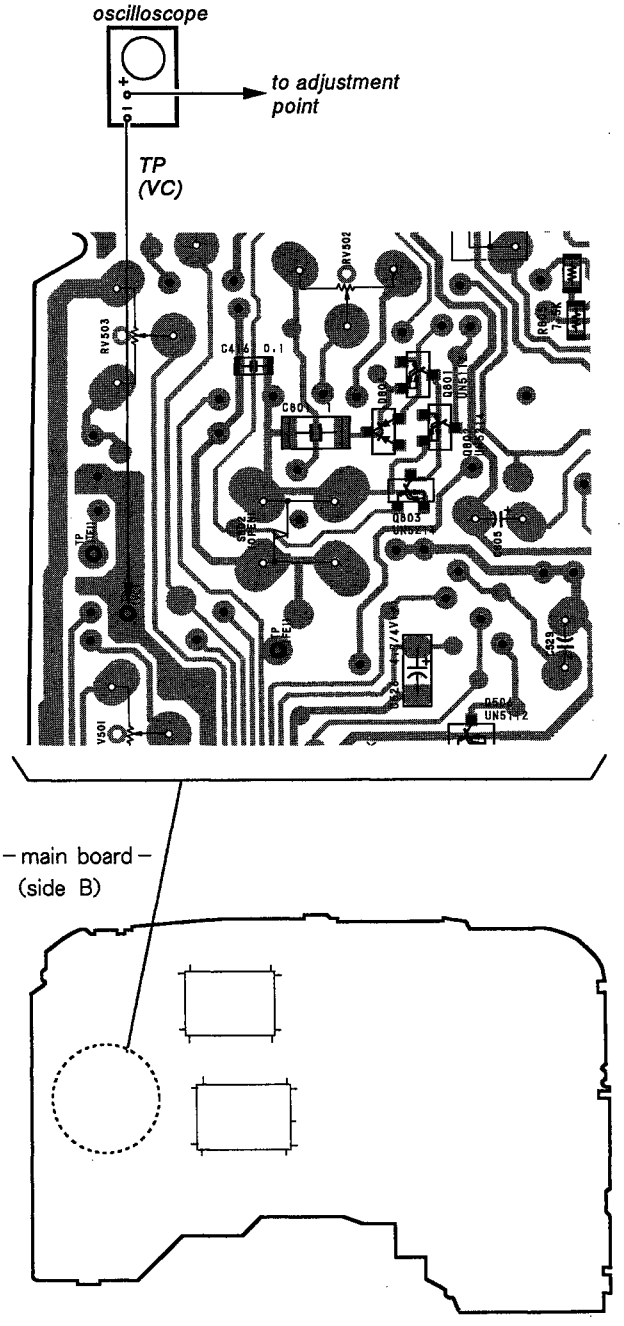
• Focus Search Check

1. Press the OPEN button and open the top panel.
2. Press the ⏯ key.
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

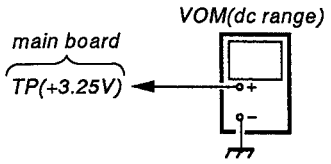
FOCUS BIAS ADJUSTMENT
TRACKING BALANCE ADJUSTMENT

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



+3.25V Check

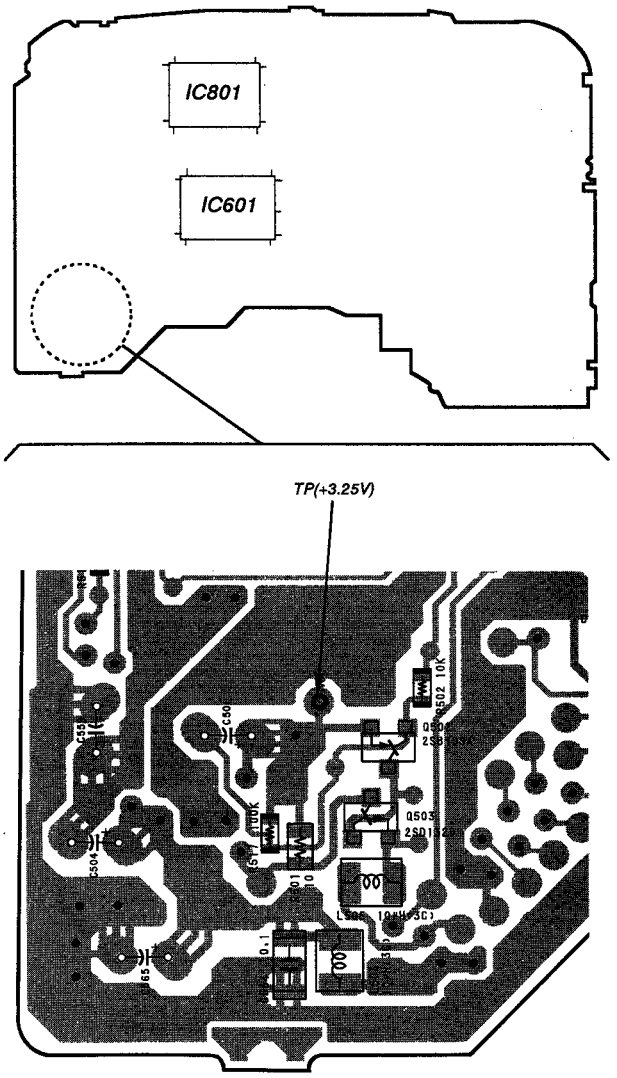
* Perform the +3.25V check after applyig 2.5V from the battery terinal.



Check Procedure :

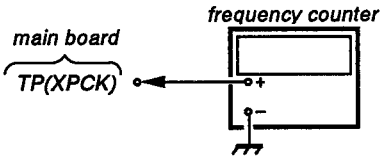
1. Remove the optical pik-up mechanism (KSM-331AAN(S))
2. Connect the VOM to main board test point TP (+3.25V.)
3. Check that the VOM reading is 3.25 ± 0.1V.
4. After check release service mode (see page 5).
5. Install the optical pik-up mechanism (KSM-331AAN(S)).

Adjustment Location : main board (side B)



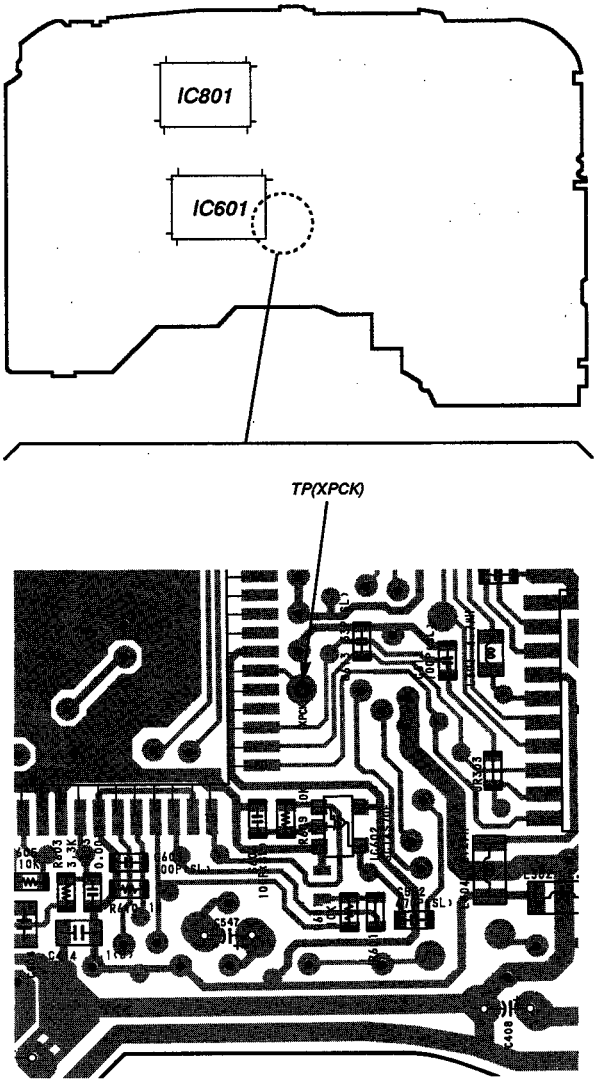
PLL Free Run Frequency Check

Check Procedure :



1. Connect a frequency counter to main board IC601 pin ㉕ test point TP (XPCK).
2. Put the set into service mode stop state (see page 5).
3. Check that the frequency counter reading is 4.3218 ± 0.01MHz.
4. After adjustment, release service mode (see page 5).

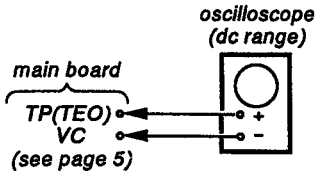
Check Location : main board (side B)



Tracking Balance Adjustment

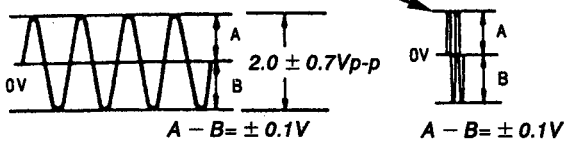
Conditions :
The set should be placed either horizontally.

Adjustment Procedure :



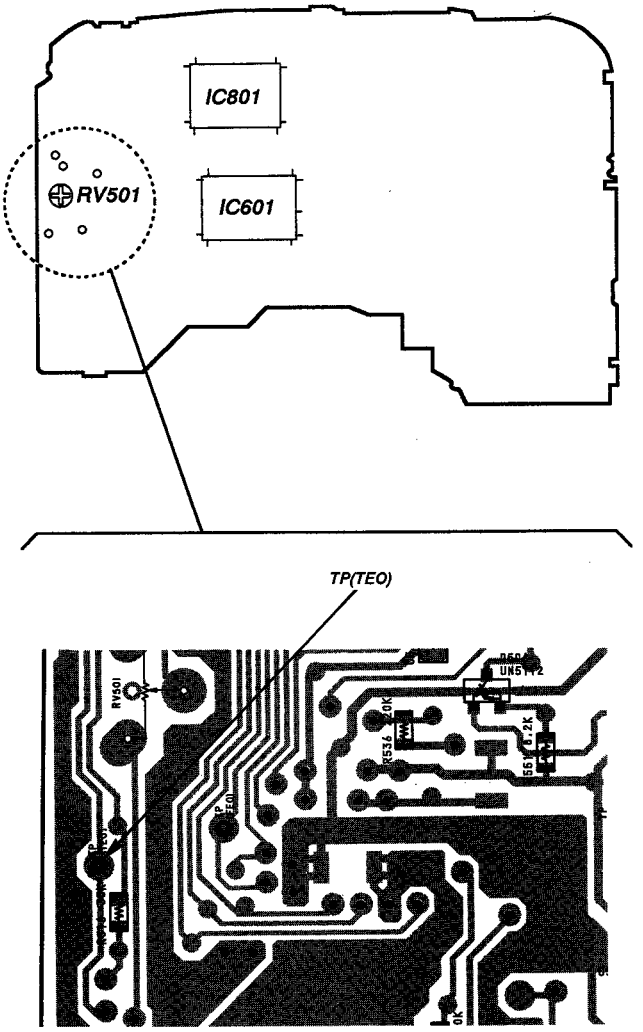
1. Connect the oscilloscope to main board TP (TEO).
2. Put the set into service mode stop state (See page 5).
3. Press the ⏭ and ⏮ keys to move the optical pick-up to the center.
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the ⏯ key.
   It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.
6. Adjust RV501 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).

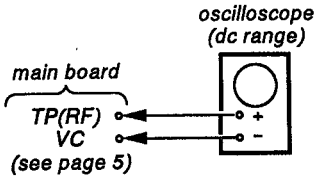
Adjustment Location : main board (side B)



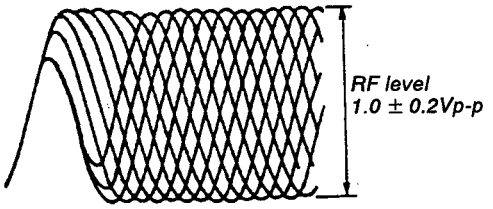
Focus Bias Adjustment

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 ⏯ key.
   (It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.)
6. Press the PLAY MODE 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)
  When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

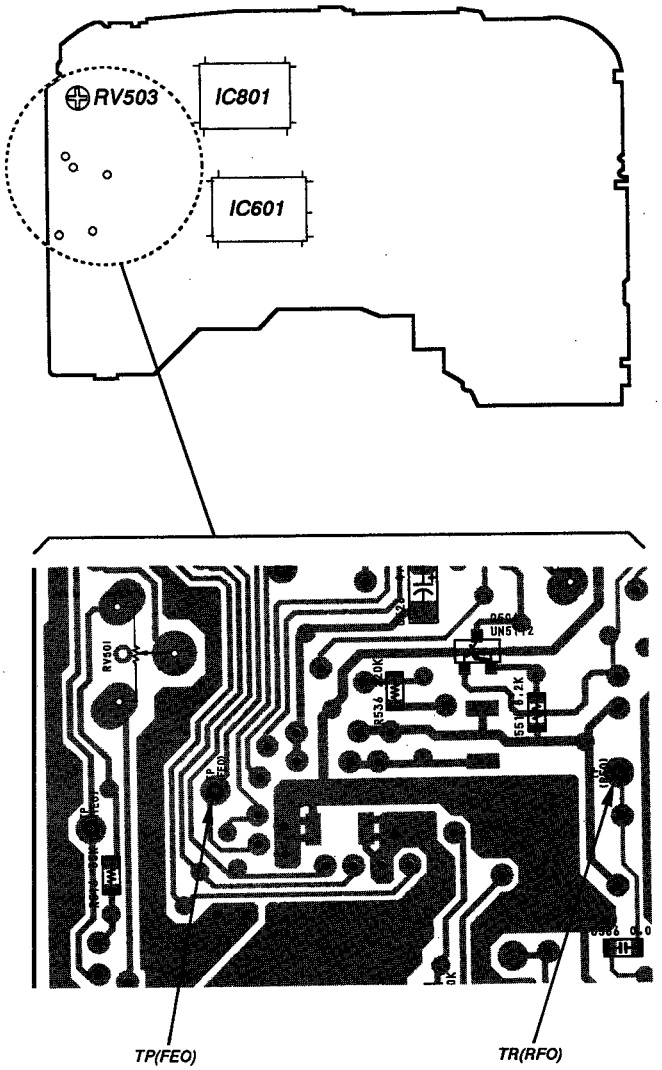
8. Measure the voltage between IC501 pin ㉝ (FE) and VC at focus on position and memorized the measurement voltage.
9. Press the ■ key to stop spindole from rotating.

   Adjust RV503 according to the voltage range within ± 20mV between IC501 pin ② (FE) and VC at the focus on position.

[For example]
The voltage value was +10mV between IC501 pin ② (FE) and VC at the focus on position.
Readjust RV503 according the voltage range +10 ± 20mV (− 10mV ~ +30mV) between IC501 pin ② (FE) and VC at the stop position.

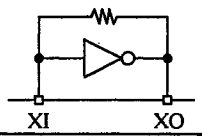
10. After adjustment, release service mode (see page 5).

Adjustment Location : main board (side B)



SECTION 5
EXPLANATION OF IC TERMINALS

IC301 TC9276F

Pin No.	Mark	I/O	Functional description	Remarks
1	V_{DD}	–	Power source terminal for digital section	
2	T1	I	Test terminal. Normally use this terminal in "L"	
3	GNDA	–	Ground terminal of analog section for R channel	
4	RO	O	R channel data normal rotation output terminal	
5	$\overline{RO}$	O	R channel data reversed rotation output terminal	
6	VDA	–	Power source terminal for analog section	
7	$\overline{LO}$	O	L channal data normal rotation output terminal	
8	LO	O	L channel data reversed rotation output terminal	
9	GNDA	–	Ground terminal of analog section for L channel	
10	GNDD	–	Ground terminal for digital section	
11	GNDX	–	Ground terminal for quartz oscillator section	
12	XI	I	Connection terminal for quartz oscillator section	
13	XO	O	This generates the required clock for the system Power source terminal for quartz osillator section	
14	VDX	–		
15	MCK	O	System clock output terminal	
16	EMP	I	De-emphasis filter control terminal De-emphasis filter is ON in "H" De-emphasis filter is OFF in "L"	
17	$\overline{SM}$	I	Soft mute terminal Soft mute is ON in "H" Soft mute is OFF in "L"	
18	DATA	I	Data input terminal	
19	BCK	I	Bit clock input terminal	
20	LRCK	I	LR clock input terminal	

IC 601 CXD2517Q

Pin No.	Mark	I/O	Functional description
1	FOK	I	Focus OK input terminal. This is used for SENS output and servo auto sequencer
2	MON	O	ON/OFF control output for spindle motor
3	MDP	O	Servo control for spindle motor
4	MDS	O	Servo control for spindle motor (Not used)
5	LOCK	O	This samples GFS at 460Hz and outputs H when GFS is in "H", This outputs L when GFS is "L" eight times continuously (Not used)
6	TEST	I	Test terminal. Normally this is used for GND
7	FILO	O	Filter output for master PLL (Slave = digital PLL)
8	FILI	I	Filter output for master PLL
9	PCO	O	Charge pump output for master PLL
10	V_{SS}	–	GND
11	AV_{SS}	–	Analog GND
12	CLTV	I	VCO control voltage output for master
13	AV_{DD}	–	Analog power source (+5V)
14	RF	I	EFM signal input
15	BIAS	I	Asymmetry circuit constant current input
16	ASYI	I	Asymmetry comparator voltage input
17	ASYO	O	EFM full swing output (L =V_{SS}, H=V_{DD})
18	ASYE	I	L : Asymmetry circuit is OFF, H : Asymmetry circuit is ON
19	WDCK	O	D/A interface. Ward clock f=2Fs
20	LRCK	O	D/A interface. LR clock f=Fs
21	PCMD	O	D/A interface. Serial data (2's COMP, MSB fast)
22	BCK	O	D/A interface. Bit clock
23	GTOP	O	GTOP output (Not used)
24	XUGF	O	XUGF output (Not used)
25	XPCK	O	XPLCK output
26	V_{DD}	–	Power source (+5V)
27	GFS	O	GFS output (Not used)
28	RFCK	O	RFCK output
29	C2PO	O	C2PO output (Not used)
30	XROF	O	XRAOF output
31	MNT3	O	XNT3 output
32	MNT1	O	XNT1 output
33	MNT0	O	XNT0 output
34	XTAI	I	Xtal oscillator circuit input of 16.9344MHz or 33.8688MHz input
35	XTAO	O	Xtal oscillator circuit output of 16.9344MHz (Not used)

Pin No.	Mark	I/O	Functional description
36	XTSL	I	Xtal section input terminal. L when Xtal is 16.9344MHz. H when Xtal is 33.8688MHz.
37	FSTT	O	3/2 dividing output of pins 34 and 35
38	C4M	O	4.2336MHz output (Not used)
39	DOUT	O	Digital Out output terminal
40	EMPH	O	H output when playing disc has emphasis
41	WFCK	O	WFCK output (Not used)
42	Vss	–	GND
43	SCOR	O	H output when either sub-code Sync S0 or S1 is detected
44	SBSO	O	Sub P-W serial output (Not used)
45	EXCK	I	Clock input for SBSO read out
46	SQSO	O	Serial output of subQ 80 bit
47	SQCK	I	Clock input for SQSO read out
48	MUTE	I	H : Mute, L : Reset
49	SENS	O	SENS output. Output for CPU
50	XRST	I	System reset. Reset with L.
51	DATA	I	Serial data input from CPU
52	XLAT	I	Latch input from CPU. This latches the serial data in trailing edge
53	CLOK	I	Serial data transmission clock input from CPU
54	SEIN	I	Sense input from SSP
55	CNIN	I	Track jump couting signal input
56	DATO	O	Serial data output for SSP
57	XLTO	O	Serial data latch output for SSP. This latches the serial data in trailing edge
58	VDD	–	Power source (+5V)
59	CLKO	O	Serial data transmission clock output for SSP
60	SPOA	I	Micro computer expanding interface (Input A)
61	SPOB	I	Micro computer expanding interface (Input B)
62	SPOC	I	Micro computer expanding interface (Input C) (Not used)
63	SPOD	I	Micro computer expanding interface (Input D)
64	XLON	O	Micro computer expanding interface (Input)

Note)

- PCMD is 2's complement output of MSB fast.
- GTOP monitors the protection status of Frame Sync. (H : Sync protection window is released.)
- XUGF is a Frame Sync obtained from EFM signal and is a negative pulse. This is a signal before the Sync is protected.
- XPLCK is reversed rotation of the clock of EFN PLL. PLL is made so that the changing points of the EFM signal and the trailing edge become same point.
- GFS signal is a signal which becomes "H" when the Frame Sync and the interpolation protection timing coincide.
- RFCK is a 136 μ frequency signal obtained with Xtal precision.
- C2PO is a signal which indicates an error status of the data.
- XRAOF is a signal which is generated when 16 K RAM exceeds $\pm$ 4F of the jitter margin.

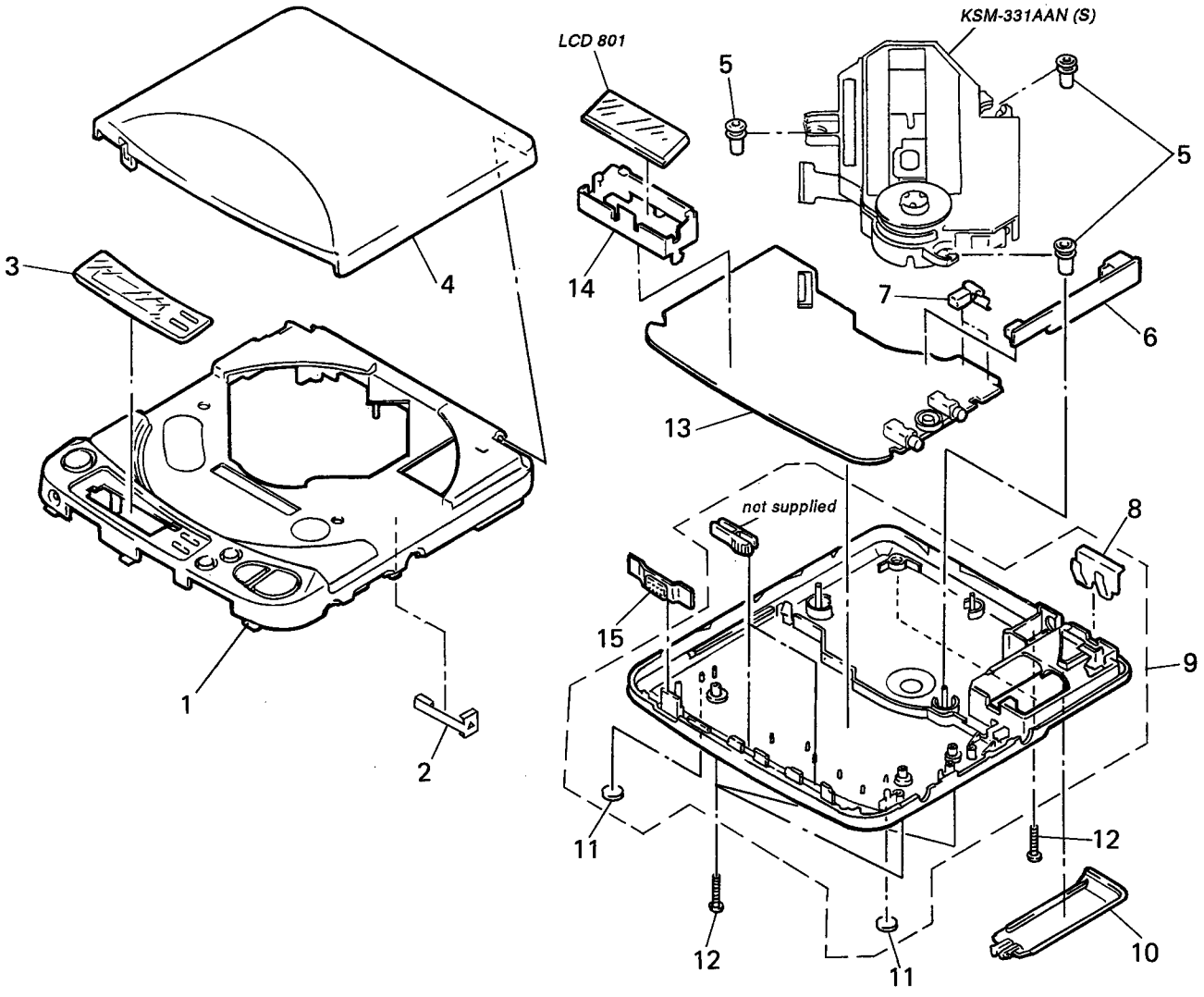
SECTION 6
EXPLODED VIEWS

NOTE :
- -XX, -X mean standardized parts, so they may have some difference 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.

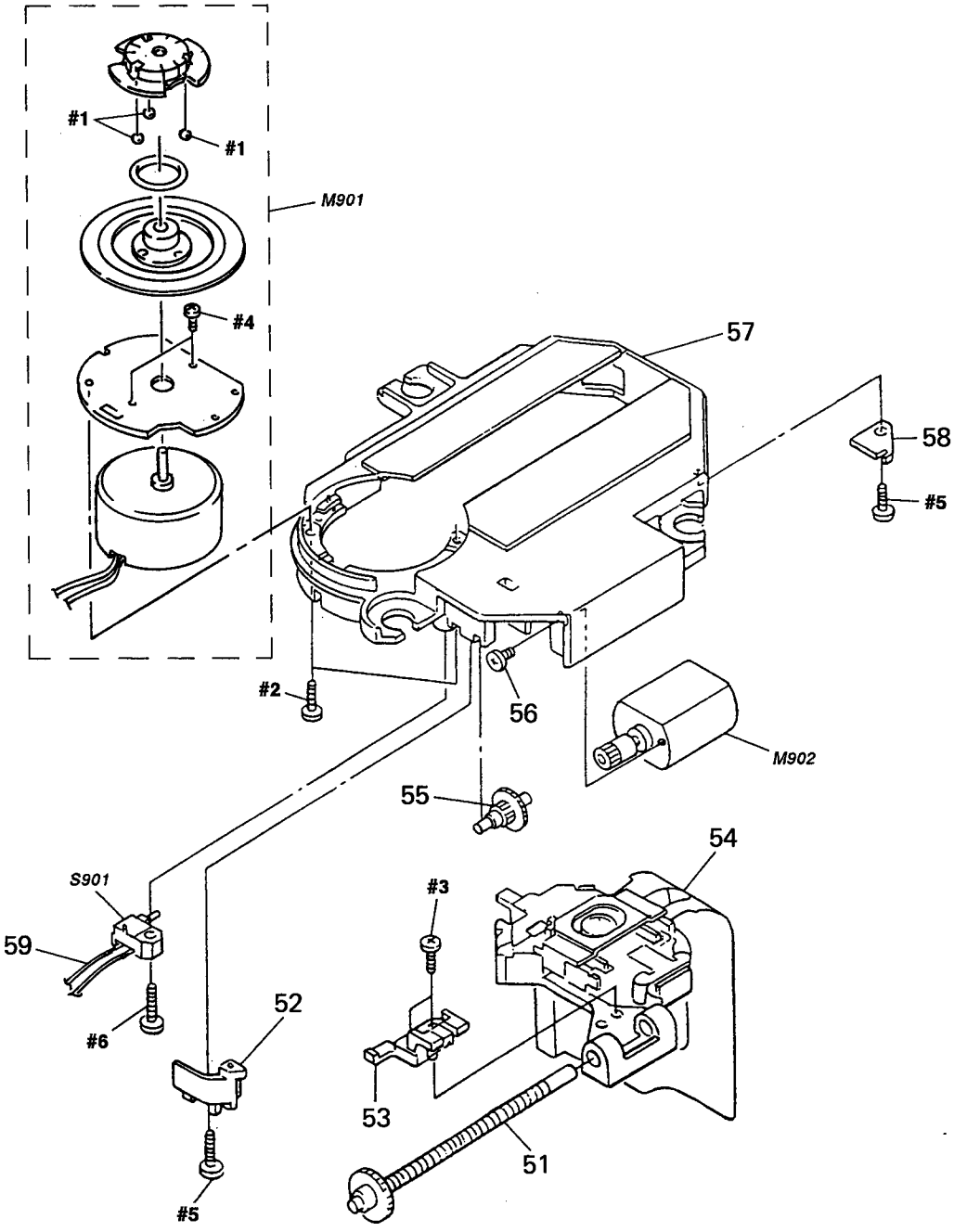
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	X-4943-761-1	CABINET (FRONT)ASSY	
2	4-958-017-01	SPRING (S)	
3	4-958-019-01	WINDOW (LCD)	
4	4-958-028-11	LID, UPPER	
5	4-947-759-01	INSULATOR (I)	
6	1-647-713-11	DC JACK BOARD	
7	4-958-021-01	TERMINAL BOARD, BATTERY	
8	4-944-349-01	TERMINAL BOARD (RELAY), BATTERY	
* 9	X-4943-677-1	CABINET (REAR) ASSY	
10	4-958-026-01	LID, BATTERY CASE	
11	4-912-641-01	FOOT, RUBBER	
12	4-958-597-01	SCREW +PTP B1.7X9	
13	A-3264-285-A	MOUNTED PCB (LEAD), MAIN	
14	4-958-018-01	HOLDER (LCD)	
15	4-958-025-01	KNOB (HOLD)	
LCD801	1-810-043-11	DISPLAY PANEL, LIQUID CRYSTAL	

6-2. OPTICAL PICK-UP MECHANISM (KSM-331AAN(S))



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.

Ref. No.	Part No.	Description	Remark
51	X-2625-483-1	SCREW ASSY, SLED	
52	2-625-412-02	SPLING, SLED	
53	2-625-414-02	RACK	
⚠54	8-848-289-11	DEVICE, OPTICAL (KSS-331A)	
55	2-625-410-01	GEAR(B)	
56	3-732-988-01	SCREW (M2X2, 5)	
57	2-625-415-02	CHASSIS, MD	
58	2-625-411-01	RETAINER, SHAFT	
59	1-948-418-21	HARNESS	
M901	X-2625-485-1	MOTOR ASSY, T.T. (SPINDLE)	
M902	X-2625-171-2	MOTOR ASSY, SLED	
S901	1-570-771-11	SWITCH (LIMIT)	

SECTION 7
ELECTRICAL PARTS LIST

DC 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.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H

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.

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

Ref. No.	Part No.	Description				Remark
*	1-647-713-11	DC JACK BOARD				
		**********				
		< CAPACITOR >				
C701	1-164-360-11	CERAMIC CHIP	0. 1uF			16V
C702	1-164-360-11	CERAMIC CHIP	0. 1uF			16V
		< JACK >				
CNJ701	1-568-907-31	JACK, DC(POLARITY UNIFEID TYPE)				(DC IN 4. 5V)
		< TRANSISTOR >				
Q701	8-729-806-76	TRANSISTOR	2SB1120-G			
Q702	8-729-402-32	TRANSISTOR	2SD1819A-R			
		< RESISTOR >				
R701	1-216-037-00	METAL CHIP	330	5%	1/10W	
R702	1-216-835-11	METAL CHIP	15K	5%	1/16W	
**********						
	A-3264-285-A	MOUNTED PCB (LEAD), MAIN				
		**********				
	4-958-018-01	HOLDER (LCD)				
	4-958-021-01	TERMINAL BOARD, BATTERY				
		< CAPACITOR >				
C101	1-164-217-11	CERAMIC CHIP	150PF	5%	50V	
C102	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C103	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C104	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	
C105	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	
C107	1-126-603-11	ELECT CHIP	4. 7uF	20%	35V	
C108	1-135-091-00	TANTALUM CHIP	1uF	20%	16V	
C117	1-162-966-11	CERAMIC CHIP	0. 0022uF	10%	50V	
C129	1-164-222-11	CERAMIC CHIP	0. 22uF		25V	
C201	1-164-217-11	CERAMIC CHIP	150PF	5%	50V	
C202	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C203	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C204	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	
C205	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	
C207	1-126-603-11	ELECT CHIP	4. 7uF	20%	35V	
C208	1-135-091-00	TANTALUM CHIP	1uF	20%	16V	
C217	1-162-966-11	CERAMIC CHIP	0. 0022uF	10%	50V	
C229	1-164-222-11	CERAMIC CHIP	0. 22uF		25V	
C301	1-162-945-11	CERAMIC CHIP	22PF	5%	50V	
C302	1-162-947-11	CERAMIC CHIP	33PF	5%	50V	
C303	1-164-234-11	CERAMIC CHIP	1uF		10V	
C304	1-126-153-11	ELECT	22uF	20%	6. 3V	
C305	1-124-778-00	ELECT CHIP	22uF	20%	6. 3V	
C306	1-164-360-11	CERAMIC CHIP	0. 1uF		16V	
C307	1-164-360-11	CERAMIC CHIP	0. 1uF		16V	
C310	1-163-077-00	CERAMIC CHIP	0. 1uF	10%	25V	
C318	1-126-246-11	ELECT CHIP	220uF	20%	4V	
C319	1-124-779-00	ELECT CHIP	10uF	20%	16V	
C320	1-162-637-11	CERAMIC CHIP	0. 47uF		16V	
C324	1-162-638-11	CERAMIC CHIP	1uF		16V	
C326	1-164-360-11	CERAMIC CHIP	0. 1uF		16V	
C327	1-162-637-11	CERAMIC CHIP	0. 47uF		16V	
C328	1-126-602-11	ELECT CHIP	3. 3uF	20%	50V	
C329	1-126-601-11	ELECT CHIP	2. 2uF	20%	50V	
C331	1-126-602-11	ELECT CHIP	3. 3uF	20%	50V	
C336	1-126-603-11	ELECT CHIP	4. 7uF	20%	35V	
C338	1-126-603-11	ELECT CHIP	4. 7uF	20%	35V	
C341	1-126-603-11	ELECT CHIP	4. 7uF	20%	35V	
C346	1-164-234-11	CERAMIC CHIP	1uF		10V	
C347	1-164-234-11	CERAMIC CHIP	1uF		10V	
C348	1-126-602-11	ELECT CHIP	3. 3uF	20%	50V	
C350	1-124-778-00	ELECT CHIP	22uF	20%	6. 3V	
C361	1-126-603-11	ELECT CHIP	4. 7uF	20%	35V	
C364	1-164-234-11	CERAMIC CHIP	1uF		10V	
C365	1-164-336-11	CERAMIC CHIP	0. 33uF		25V	

Ref. No.	Part No.	Description		Remark	
C366	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C368	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C370	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C371	1-164-234-11	CERAMIC CHIP	1uF		10V
C372	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C373	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C374	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C375	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C402	1-124-779-00	ELECT CHIP	10uF	20%	16V
C403	1-124-584-00	ELECT	100uF	20%	10V
C404	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C405	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C406	1-164-234-11	CERAMIC CHIP	1uF		10V
C407	1-127-561-11	ELECT(SOLID)	33uF	20%	10V
C408	1-127-561-11	ELECT(SOLID)	33uF	20%	10V
C409	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C411	1-124-584-00	ELECT	100uF	20%	10V
C412	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C413	1-126-153-11	ELECT	22uF	20%	6.3V
C414	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C415	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C416	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C418	1-164-234-11	CERAMIC CHIP	1uF		10V
C419	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C421	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C422	1-164-234-11	CERAMIC CHIP	1uF		10V
C501	1-124-229-00	ELECT	33uF	20%	10V
C502	1-162-942-11	CERAMIC CHIP	12PF	5%	50V
C503	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C504	1-124-229-00	ELECT	33uF	20%	10V
C505	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C506	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C508	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C512	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C519	1-164-234-11	CERAMIC CHIP	1uF		10V
C523	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C524	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C525	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C526	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C527	1-164-234-11	CERAMIC CHIP	1uF		10V
C528	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C529	1-126-153-11	ELECT	22uF	20%	6.3V
C530	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C531	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C532	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C533	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C534	1-128-065-11	ELECT CHIP	68uF	20%	10V
C535	1-124-779-00	ELECT CHIP	10uF	20%	16V
C536	1-124-256-00	ELECT	1.5uF	20%	50V
C537	1-164-234-11	CERAMIC CHIP	1uF		10V
C538	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C539	1-164-234-11	CERAMIC CHIP	1uF		10V
C540	1-162-638-11	CERAMIC CHIP	1uF		16V
C541	1-164-234-11	CERAMIC CHIP	1uF		10V
C542	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C543	1-164-234-11	CERAMIC CHIP	1uF		10V
C544	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C545	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C546	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C547	1-124-256-00	ELECT	1.5uF	20%	50V
C548	1-124-779-00	ELECT CHIP	10uF	20%	16V
C549	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C550	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C551	1-164-234-11	CERAMIC CHIP	1uF		10V
C552	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C553	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C555	1-162-932-11	CERAMIC CHIP	2PF	0.25PF	50V
C556	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C557	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C558	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C559	1-124-229-00	ELECT	33uF	20%	10V
C560	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C561	1-162-638-11	CERAMIC CHIP	1uF		16V
C562	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C563	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C564	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C565	1-124-584-00	ELECT	100uF	20%	10V
C566	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C601	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C602	1-162-637-11	CERAMIC CHIP	0.47uF		16V
C603	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C604	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C606	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C607	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C609	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C610	1-126-157-11	ELECT	10uF	20%	16V
C612	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C613	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C801	1-162-638-11	CERAMIC CHIP	1uF		16V
C804	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C805	1-124-257-00	ELECT	2.2uF	20%	50V
C806	1-162-638-11	CERAMIC CHIP	1uF		16V

< CONNECTOR >

* CN401	1-580-712-21	CONNECTOR, BOARD TO BOARD 5P	
CN501	1-566-534-11	CONNECTOR, FPC (ZIF) 18P	
* CN502	1-695-320-31	PIN, CONNECTOR (1.5MM)(SMD) 2P	

MAIN

Ref. No.	Part No.	Description	Remark
* CN503	1-695-320-11	PIN, CONNECTOR (1.5MM) (SMD) 2P	
* CN504	1-695-320-51	PIN, CONNECTOR (1.5MM) (SMD) 2P	
		< DIODE >	
D101	8-719-422-46	DIODE MA8056	
D201	8-719-422-46	DIODE MA8056	
D301	8-719-941-86	DIODE DAN202U	
D302	8-719-941-86	DIODE DAN202U	
D303	8-719-986-76	DIODE SB007W03C	
D304	8-719-421-27	DIODE MA728	
D305	8-719-941-86	DIODE DAN202U	
D306	8-719-422-46	DIODE MA8056	
D401	8-719-941-86	DIODE DAN202U	
D405	8-719-941-86	DIODE DAN202U	
D406	8-719-975-33	DIODE RB110C	
D407	8-719-938-72	DIODE SB01-05CP	
D408	8-719-941-86	DIODE DAN202U	
D410	8-719-941-09	DIODE DAP202U	
D501	8-719-989-73	DIODE SB007T03C	
D502	8-719-986-76	DIODE SB007W03C	
D503	8-719-986-76	DIODE SB007W03C	
D801	8-719-941-86	DIODE DAN202U	
D804	8-719-941-86	DIODE DAN202U	
D806	8-719-941-86	DIODE DAN202U	
D807	8-719-941-86	DIODE DAN202U	
		< FERRITE BEAD >	
FB101	1-414-135-11	INDUCTOR CHIP 0UH	
FB201	1-414-135-11	INDUCTOR CHIP 0UH	
FB301	1-414-135-11	INDUCTOR CHIP 0UH	
FB302	1-414-135-11	INDUCTOR CHIP 0UH	
		< IC >	
IC301	8-759-164-14	IC TC9276F-EL	
IC302	8-759-710-55	IC NJM2100M	
IC303	8-759-166-95	IC LA4805V-TLM	
IC401	8-759-097-42	IC RH5RA33AA-T1	
IC501	8-752-063-45	IC CXA1672Q	
IC502	8-759-710-55	IC NJM2100M	
IC504	8-759-164-13	IC SC111280FU	
IC505	8-759-031-84	IC SC7S04F	
IC601	8-752-357-68	IC CXD2517Q	
IC602	8-759-082-16	IC SC14S70F	
IC801	8-752-842-16	IC CXP508L4-003Q	
IC802	8-759-998-92	IC LM393D	

Ref. No.	Part No.	Description	Remark
		< JACK >	
J301	1-565-287-11	JACK (HEADPHONES)	
J302	1-565-287-61	JACK (LINE OUT)	
		< JUMPER RESISTOR >	
JR301	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR302	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR303	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR304	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR305	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR401	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR402	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR403	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR404	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR405	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR501	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR502	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR503	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR504	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR505	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR506	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR507	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR508	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR601	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR602	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR801	1-216-864-11	METAL CHIP 0 5% 1/16W	
		< COIL >	
L101	1-410-997-31	INDUCTOR CHIP 2.2uH	
L201	1-410-997-31	INDUCTOR CHIP 2.2uH	
L301	1-412-002-31	INDUCTOR CHIP 4.7uH	
L302	1-410-196-11	INDUCTOR CHIP 2.2uH	
L303	1-410-997-31	INDUCTOR CHIP 2.2uH	
L304	1-410-196-11	INDUCTOR CHIP 2.2uH	
L305	1-410-997-31	INDUCTOR CHIP 2.2uH	
L401	1-412-622-51	INDUCTOR 10uH	
L403	1-412-029-11	INDUCTOR CHIP 10uH	
L404	1-412-029-11	INDUCTOR CHIP 10uH	
L501	1-412-031-11	INDUCTOR CHIP 47uH	
L502	1-412-031-11	INDUCTOR CHIP 47uH	
L503	1-412-031-11	INDUCTOR CHIP 47uH	
L504	1-412-031-11	INDUCTOR CHIP 47uH	
L505	1-412-029-11	INDUCTOR CHIP 10uH	
L506	1-412-029-11	INDUCTOR CHIP 10uH	

Ref. No.	Part No.	Description				Remark
		< LIQUID CRYSTAL >				
LCD801	1-810-043-11	DISPLAY PANEL, LIQUID CRYSTAL				
		< TRANSISTOR >				
Q103	8-729-400-56	TRANSISTOR	2SD1328-T			
Q203	8-729-400-56	TRANSISTOR	2SD1328-T			
Q301	8-729-402-45	TRANSISTOR	UN5212			
Q302	8-729-422-28	TRANSISTOR	2SD601A-R			
Q303	8-729-402-55	TRANSISTOR	2SB1218A-R			
Q306	8-729-810-13	TRANSISTOR	2SA1677			
Q307	8-729-422-28	TRANSISTOR	2SD601A-R			
Q308	8-729-140-75	TRANSISTOR	2SD999-CLCK			
Q310	8-729-810-13	TRANSISTOR	2SA1677			
Q311	8-729-402-93	TRANSISTOR	UN5214			
Q401	8-729-924-39	TRANSISTOR	DTC143XU			
Q402	8-729-402-45	TRANSISTOR	UN5212			
Q403	8-729-806-76	TRANSISTOR	2SB1120-G			
Q404	8-729-924-62	TRANSISTOR	DTC113ZU			
Q406	8-729-923-36	TRANSISTOR	2SD1963-Q. R			
Q407	8-729-400-56	TRANSISTOR	2SD1328-T			
Q409	8-729-903-82	TRANSISTOR	FMW2			
Q411	8-729-422-37	TRANSISTOR	2SB709A-R			
Q412	8-729-422-28	TRANSISTOR	2SD601A-R			
Q413	8-729-922-34	TRANSISTOR	2SD1758F5-QR			
Q414	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
Q416	8-729-902-96	TRANSISTOR	FMS1			
Q417	8-729-402-45	TRANSISTOR	UN5212			
Q418	8-729-141-48	TRANSISTOR	2SB624-BV345			
Q421	8-729-810-13	TRANSISTOR	2SA1677			
Q422	8-729-402-55	TRANSISTOR	2SB1218A-R			
Q423	8-729-402-55	TRANSISTOR	2SB1218A-R			
Q424	8-729-402-32	TRANSISTOR	2SD1819A-R			
Q425	8-729-402-55	TRANSISTOR	2SB1218A-R			
Q426	8-729-402-32	TRANSISTOR	2SD1819A-R			
Q501	8-729-402-93	TRANSISTOR	UN5214			
Q502	8-729-422-37	TRANSISTOR	2SB709A-R			
Q503	8-729-400-56	TRANSISTOR	2SD1328-T			
Q504	8-729-810-13	TRANSISTOR	2SA1677			
Q505	8-729-402-93	TRANSISTOR	UN5214			
Q506	8-729-810-13	TRANSISTOR	2SA1677			
Q601	8-729-402-93	TRANSISTOR	UN5214			
Q801	8-729-420-20	TRANSISTOR	XN4312			
Q802	8-729-402-93	TRANSISTOR	UN5214			
Q803	8-729-402-93	TRANSISTOR	UN5214			
		< RESISTOR >				
R101	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R102	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R103	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R104	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R105	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R106	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R107	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R108	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R110	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R111	1-216-813-11	METAL CHIP	220	5%	1/16W	
R112	1-216-825-11	METAL CHIP	2. 2K	5%	1/16W	
R113	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R120	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R121	1-216-813-11	METAL CHIP	220	5%	1/16W	
R127	1-216-789-11	METAL CHIP	2. 2	5%	1/16W	
R128	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R201	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R202	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R203	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R204	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R205	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R206	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R207	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R208	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R210	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R211	1-216-813-11	METAL CHIP	220	5%	1/16W	
R212	1-216-825-11	METAL CHIP	2. 2K	5%	1/16W	
R213	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R220	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R221	1-216-813-11	METAL CHIP	220	5%	1/16W	
R227	1-216-789-11	METAL CHIP	2. 2	5%	1/16W	
R228	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R301	1-216-825-11	METAL CHIP	2. 2K	5%	1/16W	
R302	1-216-825-11	METAL CHIP	2. 2K	5%	1/16W	
R304	1-216-009-00	METAL CHIP	22	5%	1/10W	
R307	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R314	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R325	1-216-809-11	METAL CHIP	100	5%	1/16W	
R327	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R328	1-216-789-11	METAL CHIP	2. 2	5%	1/16W	
R329	1-218-292-11	METAL GLAZE	20K	5%	1/16W	
R330	1-216-829-11	METAL CHIP	4. 7K	5%	1/16W	
R331	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R332	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R333	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R334	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R335	1-218-347-11	METAL GLAZE	91K	5%	1/16W	
R336	1-216-797-11	METAL CHIP	10	5%	1/16W	
R337	1-216-825-11	METAL CHIP	2. 2K	5%	1/16W	
R338	1-216-819-11	METAL CHIP	680	5%	1/16W	
R401	1-216-821-11	METAL CHIP	1K	5%	1/16W	

MAIN

Ref. No.	Part No.	Description				Remark
R402	1-216-841-11	METAL CHIP	47K	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	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R406	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R407	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R408	1-216-809-11	METAL CHIP	100	5%	1/16W	
R409	1-216-797-11	METAL CHIP	10	5%	1/16W	
R410	1-216-819-11	METAL CHIP	680	5%	1/16W	
R412	1-216-804-11	METAL CHIP	39	5%	1/16W	
R413	1-218-345-11	METAL CHIP	9.1K	0.50%	1/16W	
R416	1-216-817-11	METAL CHIP	470	5%	1/16W	
R417	1-218-605-91	METAL CHIP	1.8	5%	1W	
R418	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R419	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R420	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R421	1-218-330-11	METAL GLAZE	11K	5%	1/16W	
R422	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R423	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R424	1-216-817-11	METAL CHIP	470	5%	1/16W	
R425	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R426	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R427	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R428	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R429	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R430	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R431	1-216-815-11	METAL CHIP	330	5%	1/16W	
R432	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R433	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R501	1-216-001-00	METAL CHIP	10	5%	1/10W	
R502	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R503	1-218-720-11	METAL CHIP	15K	0.50%	1/16W	
R504	1-218-720-11	METAL CHIP	15K	0.50%	1/16W	
R505	1-218-720-11	METAL CHIP	15K	0.50%	1/16W	
R506	1-218-720-11	METAL CHIP	15K	0.50%	1/16W	
R510	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R511	1-218-296-11	METAL GLAZE	75K	5%	1/16W	
R512	1-218-720-11	METAL CHIP	15K	0.50%	1/16W	
R513	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R514	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R516	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R517	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R520	1-218-344-11	METAL GLAZE	7.5K	5%	1/16W	
R521	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R523	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R524	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R525	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R526	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R527	1-216-855-11	METAL CHIP	680K	5%	1/16W	
R528	1-216-855-11	METAL CHIP	680K	5%	1/16W	
R529	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R530	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R531	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R532	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R533	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R535	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R536	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R538	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R539	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R540	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R541	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R542	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R543	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R544	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R545	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R546	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R547	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R548	1-216-820-11	METAL CHIP	820	5%	1/16W	
R549	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R550	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R551	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R601	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R603	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R604	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R605	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R607	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R609	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R610	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R611	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R801	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R802	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R803	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R804	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R805	1-218-344-11	METAL GLAZE	7.5K	5%	1/16W	
R806	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R807	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R808	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R809	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R810	1-216-804-11	METAL CHIP	39	5%	1/16W	
R811	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R812	1-218-732-11	METAL CHIP	47K	0.50%	1/16W	
R813	1-218-345-11	METAL CHIP	9.1K	0.50%	1/16W	
R814	1-218-736-11	METAL CHIP	68K	0.50%	1/16W	
R815	1-218-748-11	METAL CHIP	220K	0.50%	1/16W	
R816	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R817	1-216-837-11	METAL CHIP	22K	5%	1/16W	

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV301	1-223-382-11	RES, VAR, CARBON 10K/10K (VOLUME)	
RV501	1-238-602-11	RES, ADJ, CARBON 47K (TRACKING BALANCE)	
RV502	1-238-601-11	RES, ADJ, CARBON 22K (FOCUS GAIN)	
RV503	1-238-602-11	RES, ADJ, CARBON 47K (FOCUS BIAS)	
RV504	1-238-601-11	RES, ADJ, CARBON 22K (TRACKING GAIN)	
		< SWITCH >	
S301	1-571-506-41	SWITCH, SLIDE (BASS BOOST)	
S302	1-571-506-41	SWITCH, SLIDE (AVLS)	
S801	1-570-397-11	SWITCH, SLIDE (HOLD)	
S802	1-570-953-11	SWITCH, PUSH (1 KEY) (OPEN)	
S803	1-572-198-11	SWITCH, KEYBOARD (PLAY▷II)	
S804	1-572-198-11	SWITCH, KEYBOARD (STOP ■)	
S805	1-572-198-11	SWITCH, KEYBOARD (FR ⏮)	
S806	1-572-198-11	SWITCH, KEYBOARD (FF ⏭)	
S807	1-572-198-11	SWITCH, KEYBOARD (PLAY MODE)	
S808	1-572-198-11	SWITCH, KEYBOARD (REPEAT/ENTER)	
S809	1-572-126-21	SWITCH, PUSH (1 KEY) (BATT DET SW)	
		< TRANSFORMER >	
T401	1-450-401-11	TRANSFORMER, CONVERTER DC-DC	
		< CRYSTAL >	
X301	1-579-345-11	VIBRATOR, CERAMIC (16.9344MHz)	
X801	1-579-956-11	VIBRATOR, CERAMIC (3.58MHz)	

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ACCESSORIES & MATERIALS
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⚠54	8-848-289-11	DEVICE, OPTICAL (KSS-331A)	
M901	X-2625-485-1	MOTOR ASSY, T.T. (SPINDLE)	
M902	X-2625-171-2	MOTOR ASSY, SLED	
S901	1-570-771-11	SWITCH (LIMIT)	

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ACCESSORIES & PACKING MATERIALS
****

⚠	1-467-008-11	ADAPTOR, AC (AC-E455) (AEP)	
⚠	1-467-009-11	ADAPTOR, AC (AC-E455) (US, Canadian, FRENCH)	
⚠	1-467-011-11	ADAPTOR, AC (AC-E455) (E)	
⚠	1-467-145-11	ADAPTOR, AC (AC-E455A) (E)	
	1-528-444-11	BATTERY PACK (US, Canadian, E, FRENCH)	
	1-528-444-21	BATTERY PACK (AEP)	
	1-555-658-21	CORD, CONNECTION	
	1-558-145-24	CORD, CONNECTION (AEP)	
⚠	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
	1-575-195-11	CORD, CONNECTION	
	3-756-637-12	MANUAL, INSTRUCTION (SPANISH) (Canadian, AEP, E)	
	3-756-637-22	MANUAL, INSTRUCTION (ENGLISH) (US, Canadian, AEP, E, FRENCH)	
	3-756-637-32	MANUAL, INSTRUCTION (FRENCH) (AEP, E)	
	3-756-637-41	MANUAL, INSTRUCTION (DUTCH) (AEP)	
	3-756-637-51	MANUAL, INSTRUCTION (SWEDISH) (AEP)	
	3-756-637-61	MANUAL, INSTRUCTION (PORTUGUESE) (AEP)	
	3-756-637-71	MANUAL, INSTRUCTION (GERMAN) (AEP)	
	3-756-637-81	MANUAL, INSTRUCTION (ITALIAN) (AEP)	
*	4-957-222-01	INDIVIDUAL CARTON (AEP, E)	
*	4-957-223-01	INDIVIDUAL CARTON (AEP)	
*	4-957-225-01	CUSHION (LOWER) (AEP, E)	
*	4-957-230-01	CUSHION (UPPER)	
*	4-957-231-01	CUSHION (LOWER) (US, FRENCH)	
*	4-957-234-01	CUSHION (LOWER) (Canadian)	
	8-953-521-90	HEADPHONE MDR-34D SET (US, FRENCH)	
	8-953-538-91	HEADPHONE MDR-E741//K1 SET (Canadian, AEP, E, FRENCH)	

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****
HARDWARE LIST
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#1	7-671-155-01	STEEL BALL 3.0
#2	7-627-552-48	SCREW, PRECISION +P1.7X4 TYPE 1
#3	7-627-852-17	SCREW, PRECISION +P1.7X4 TYPE 3
#4	7-627-552-28	SCREW, PRECISION +P1.7X2
#5	7-685-104-19	SCREW (2X6), TAPPING (B)
#6	7-685-105-19	SCREW (2X8), TAPPING (B)

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.

9-957-699-11

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General Audio Group

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