

# D-111

## SERVICE MANUAL



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

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

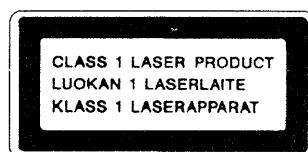
### SPECIFICATIONS

System	Compact disc digital audio system	Power consumption	1.4 W DC
Laser diode properties	Material: GaAlAs Wavelength: $\lambda = 780 \text{ nm}$ Emission duration: Continuous Laser output: Less than $44.6 \mu\text{W}$ (This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.)	Dimensions	Approx. $132.3 \times 30.3 \times 150.8 \text{ mm}$ ( $5\frac{1}{4} \times 1\frac{1}{4} \times 6 \text{ in.}$ ) (w/h/d) incl. projecting parts and controls
Error correction	Sony Super Strategy Cross Interleave Reed Solomon Code	Weight	Approx. 340 g (12 oz.) incl. rechargeable battery
D-A conversion	1-bit quartz time-axis control	Supplied accessories	AC power adaptor (1) Connecting cord (phono plug x 2 ↔ stereo miniplug (1)) Stereo headphones (1) Car mount adaptor (1)
Frequency response	20–20,000 Hz ±3 dB (measured by EIAJ CP-307)		
Output (at 6 V input level)	Line output (stereo minijack) Output level 0.75 V rms at 50 kilohms Load impedance over 10 kilohms Headphones (stereo minijack) 15 mW + 15 mW at 16Ω		Design and specifications subject to change without notice.
General		Note	This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.
Power requirements	<ul style="list-style-type: none"> <li>DC 2.4 V Rechargeable battery pack BP-DM1 (not supplied)</li> <li>DC 3 V two LR6 (size AA) alkaline batteries (not supplied)</li> <li>DC IN 6 V jack accepts the Sony AC power adaptor (supplied) for use on:</li> </ul>		

Where purchased	operating voltage
U.S.A.	120V AC, 60 Hz
United Kingdom/Australia	240V AC, 50 Hz
European countries	220V ~ 230V AC, 50 Hz
Canada	120V AC, 60 Hz
Saudi Arabia	110V ~ 240V AC, 50/60 Hz
other countries	100V ~ 240V AC, 50/60 Hz

- Sony CPM-200P/CPM-203P mount plate and CPM-200PK/CPM-203PK Car mount arm (not supplied) for use on 12 V car battery.

For the Customers in the United Kingdom, European and Australia countries.



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

COMPACT DISC COMPACT PLAYER  
**SONY**®



## TABLE OF CONTENTS

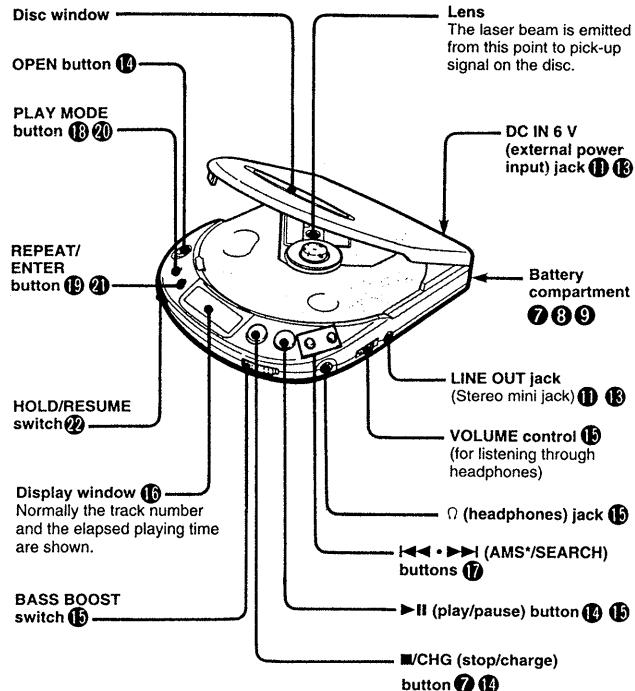
<i>Section</i>	<i>Title</i>	<i>Page</i>
Specifications		1
<b>1. GENERAL</b>	Location and Function of Controls	2
<b>2. SERVICING NOTES</b>		3
<b>3. ELECTRICAL ADJUSTMENTS</b>		6
<b>4. DIAGRAMS</b>		
4-1. Block Diagrams		11
4-2. Printed Wiring Boards		15
4-3. Schematic Diagram		19
<b>5. EXPLODED VIEWS</b>		
4-1. Cabinet section		23
4-2. Optical Pick-up Mechanism (KSM-330AAN(S))		24
<b>6. ELECTRICAL PARTS LIST</b>		25

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.

## 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 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.

### Flexible Circuit Board Repairing

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

### Notes on chip component replacement

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

### Before Replacing the Optical Block

Please be sure to check thoroughly the parameters as per 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 ② pin
- S curve P-to-P value : 2.5 — 3.4Vp-p  
When checking FOK and S curve P-to-P value.  
Remove the lead wire to disc motor and unsolder to open IC801 ② pin.
- Adjusted part for focus gain adjustment : RV505
- RF signal P-to-P value : 0.9 — 1.2Vp-p
- Traverse signal P-to-P value : 1.2 — 2.6p-p
- The grating holder can not repair.
- Adjusted part for tracking gain adjustment : RV501

### 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 30 cm away from the objective lens.

### Laser Diode Check Procedure

The laser diode on this set will not emit unless the upper panel is closed and S809 (push SW type) is turned on.

The laser diode will always emit even if focus search is not performed in service mode.

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

### Procedure 1 (service mode or normal operation)

Check the laser diode emission with the eye.

1. Open upper panel by pushing the OPEN button.
2. Remove a screw M1.4 X 3 a side of the upper panel and then, lift up the upper panel to vertical position.
3. S809 on as Fig. 1.  
(In service mode, this operation is not necessary.)
4. Press the ► key.  
(In service mode, this operation is not necessary.)
5. 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 optical pick-up block is defective.

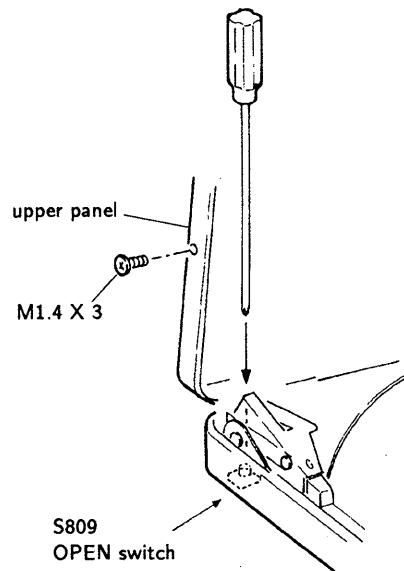


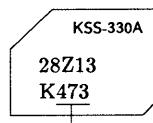
Fig. 1 Turning S809 on

**Procedure 2 (service mode or normal operation)**

Check by the current with flows in the laser diode.

1. Remove the cabinet.
2. Pick up the optical block by hand and look the rear side of it to see the following the label and read the current value on the label.

(Label on optical pick-up block)



current value

This means 47.3mA.

(The current value varies with the set.)

3. Connect a VOM as shown in fig. 2.
- (both side of R510 : 10Ω)
4. Press the **▶■** key.
5. Calculate the current by the VOM reading.  
VOM reading (V) ÷ 10 = current (A)  
ex. VOM reading = 0.47V  
 $0.47 \div 10 = 0.047$  (A) = 47 (mA)
6. Confirm that the ammeter reading is within the range given below.  
value on label  $\pm 5$  mA (25°C)  
variation relative to temperature :  $0.4\text{mA}/^{\circ}\text{C}$   
(Current increases when temperature rises and decreases when it drops.)

If the value is more than the range given, APC circuit has been defective or the laser diode has deteriorated.

If it is less, APC circuit or optical pick-up block is defective.

MAIN BOARD (SIDE A)

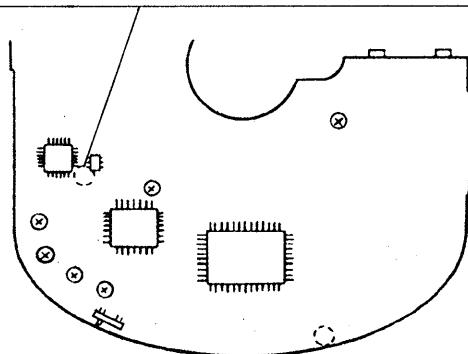
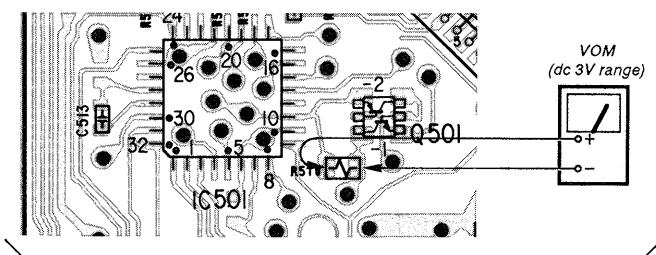


Fig. 2 VOM connecting

**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.

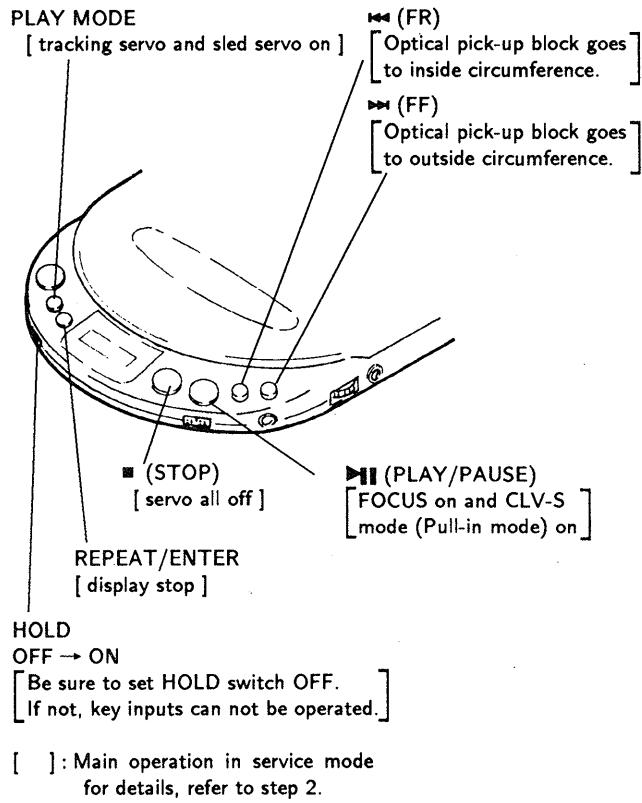


Fig. 3 Key Positions

**• Step 1 (Service Mode setting method)**

1. Turn the HOLD switch OFF with the external power supply not plugged in (no power applied to set) and press the **▶■** key.
2. Solder jumper the TEST terminal (IC801 pin ⑪ (TEST) is grounded.) and OPEN terminal (S809 is on.).
3. Plug in the external power supply while pressing the **▶■** key.

After performing the above procedure, the set is switched to service mode.

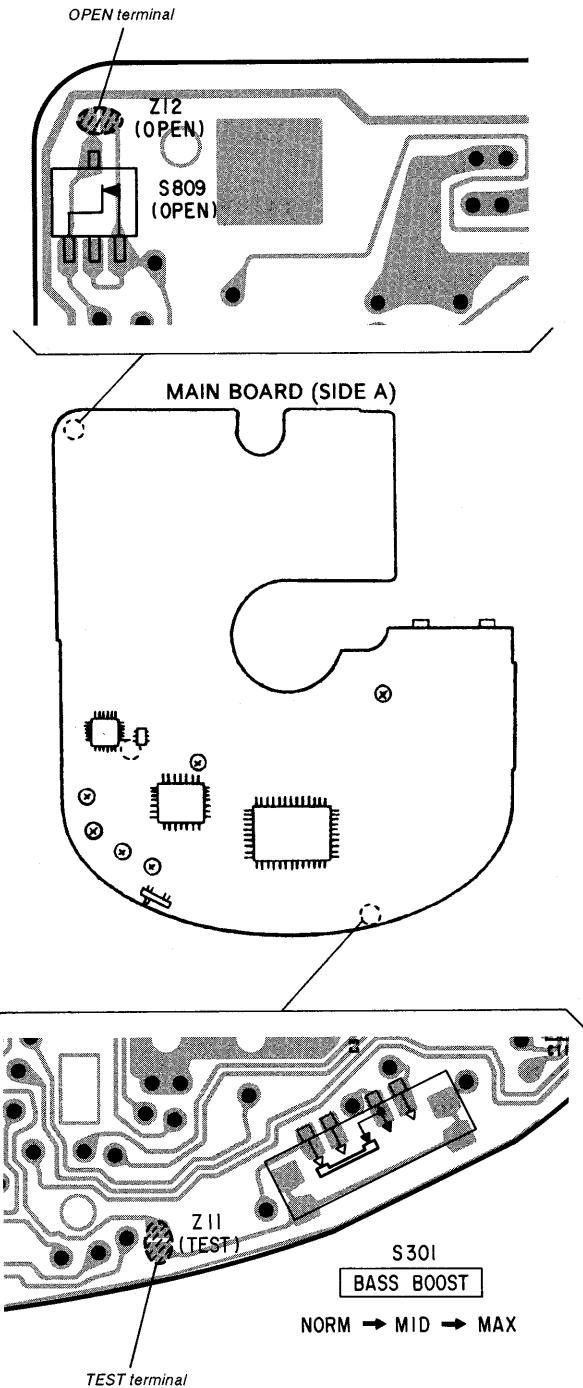
• Step 2 (Service Mode operation)

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 does not display, other operations will be performed.
2. When **▶▶** or **◀◀** key is pressed, the optical pick-up block moves to the inside or outside circumference. Tracking servo and sled servo go off when this is done, so press PLAY MODE to turn on the tracking servo if necessary.
3. When REPET/ENTER key is pressed, the display stops. When REPET/ENTER key is released, the display continues to change.
4. When **▶■** key is pressed, CLV-S (pull-in mode) starts while performing focus search. When there is no disc installed, focus search is repeated several times while disc motor is rotating.
5. When PLAY MODE 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 rotaing for a while by inertia.

• Step 3 (Service Mode release)

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

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 in service mode.  
Be sure to release service mode after completing adjustments.  
(Refer to "Service Mode (service program)" on page 4.)
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 STOP condition in service mode (See page 4) and perform the following checks. Repair if there are any abnormalities.

##### Sled Motor Check

1. Press the  $\blacktriangleright$ ,  $\blacktriangleleft$  keys and make sure that the optical pick-up block moves smoothly, without catching, from the inmost  $\rightarrow$  outmost  $\rightarrow$  inmost circumference.  
 $\blacktriangleright$  : optical pick-up block moves outward  
 $\blacktriangleleft$  : optical pick-up block moves inward

##### Focus Search Check

1. Press the  $\blacktriangleright\blacktriangleleft$  key. (Focus search is performed continuously.)
2. Observe the optical pick-up block objective lens and check that it moves smoothly up and down with no catching or noises.
3. Press the ■ key.

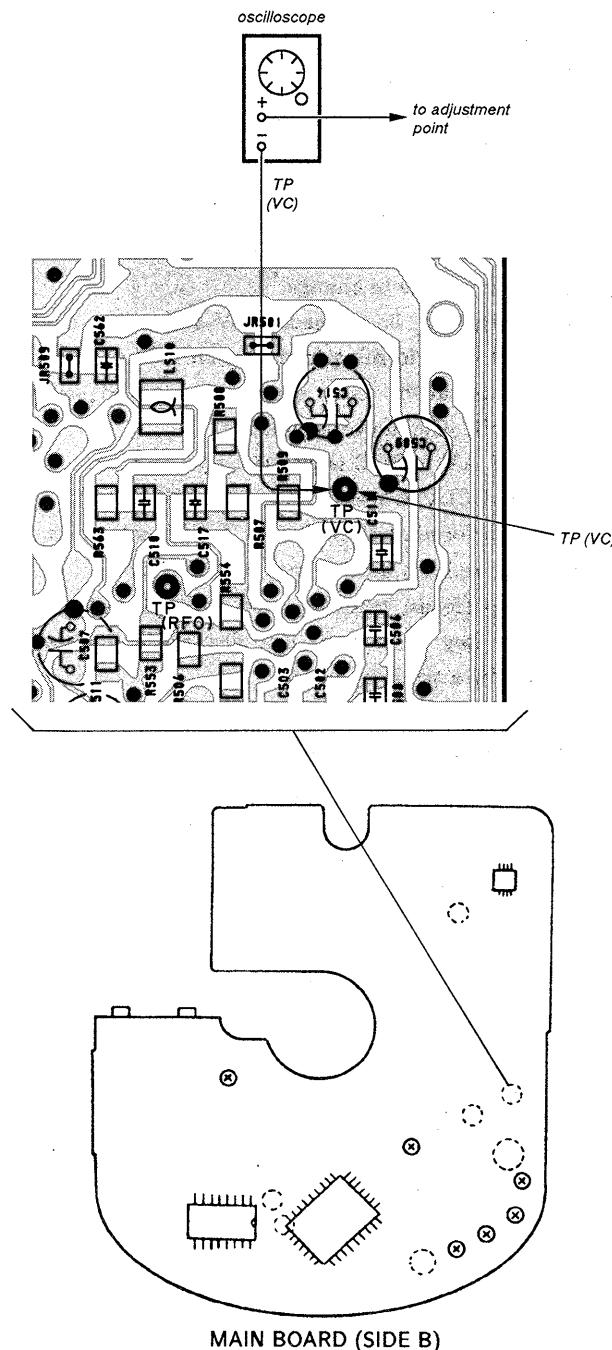
Check that focus search operation stops. If it does not, press the ■ key again a little longer time.

#### VC (1/2 VCC) Connecting Point

##### FOCUS BIAS ADJUSTMENT

##### TRACKING BALANCE ADJUSTMENT

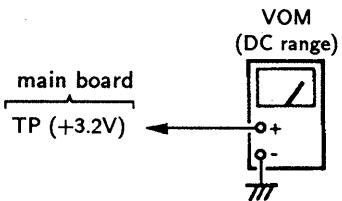
When the adjustments above are performed, connect the  $\ominus$  side of oscilloscope to the point below.



### +3.2V Adjustment

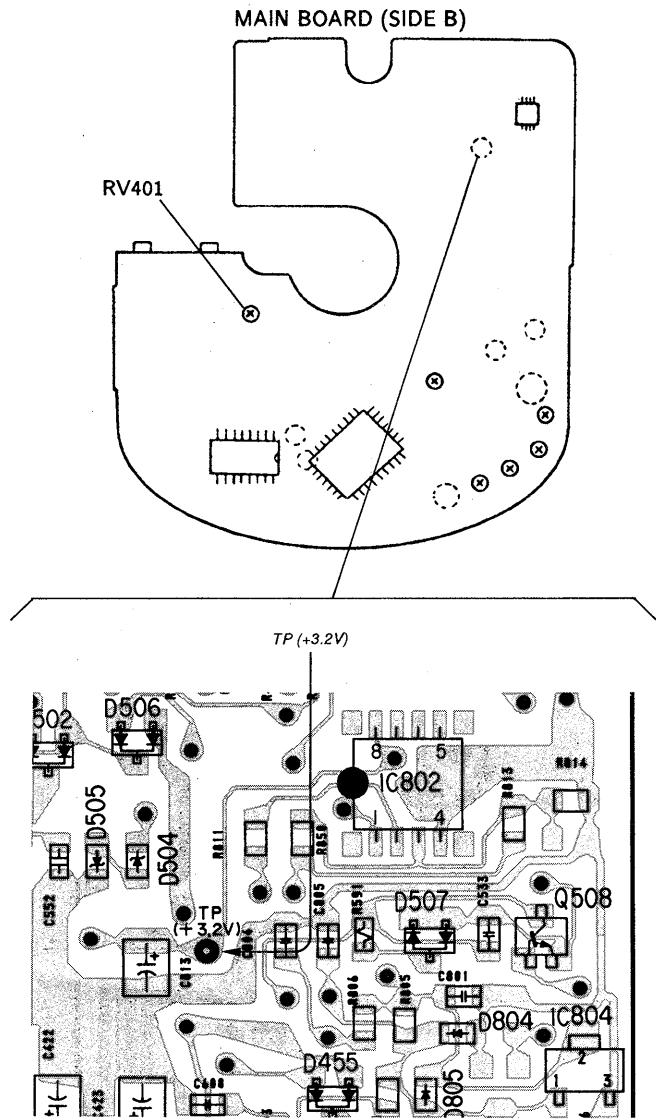
Note : Perform the +3.2V adjustment after applying 2.1 V from the battery terminal.

#### Adjustment Procedure :



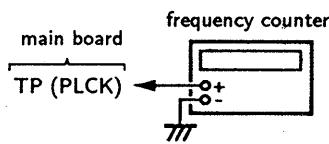
1. Connect the VOM to main board test point TP (+3.2V).
2. Adjust RV401 for  $3.2 \pm 0.03$ V reading on the VOM.
3. After adjustment, release service mode (see page 5).

#### Adjustment Location : main board (side B)



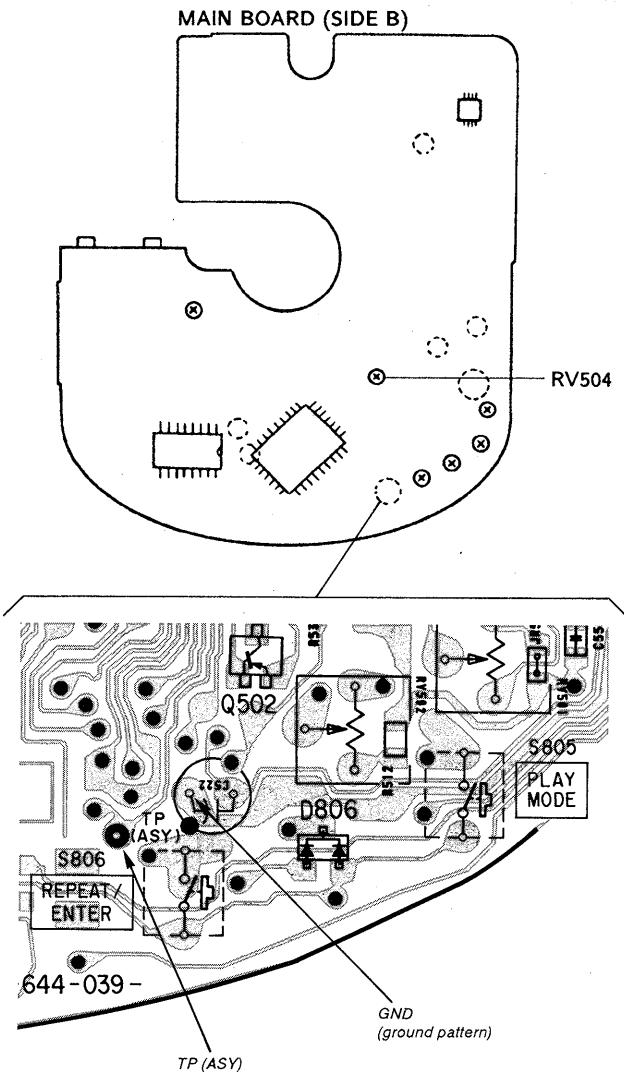
### PLL Free Run Frequency Check and Adjustment

#### Check / Adjustment Procedure :



1. Short-circuit between TP(ASY) and GND circuit by lead wire.
2. Connect a frequency counter to main board test point TP (PLCK).
3. Put the set into STOP condition in service mode (See page 5).
4. Check that the frequency counter reading is  $4.3218 \pm 0.01$ MHz. If not, adjust RV504 so that it is  $4.3218 \pm 0.01$ MHz.
5. After adjustment, release service mode (See page 5).
6. Disconnected the lead wire in step 1.

#### Check/Adjustment Location : main board (side B)

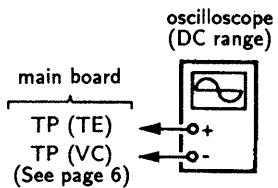


## Tracking Balance Adjustment

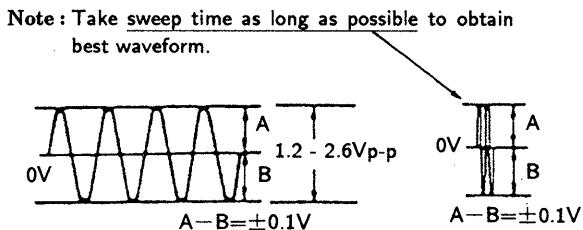
### Conditions :

The set should be placed either horizontally.

### Adjustment Procedure :

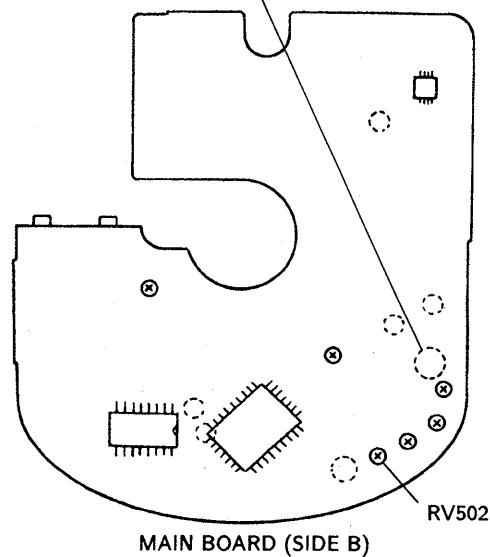
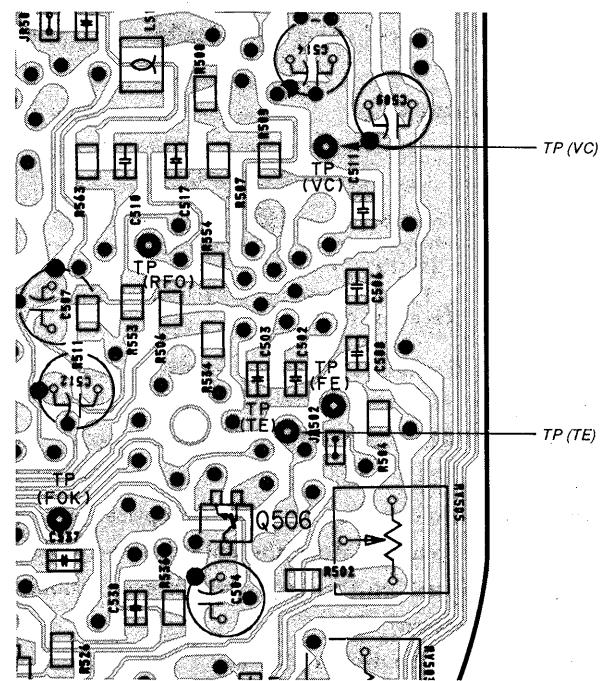


1. Connect a oscilloscope to main board test point TP (TE).
2. Put the set into STOP condition in service mode (See page 5).
3. Press the  $\blacktriangleright$  and  $\blacktriangleleft$  keys to move the optical pick-up block to the center.
4. Put and push the disc (YEDS-18).
5. Press the  $\blacksquare\text{--}$  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 waveform is symmetrical on the top and bottom in relation to 0V.



7. Press the  $\blacksquare$  key.
8. After adjustment, release service mode (see page 5).

Adjustment Location : main board (side B)

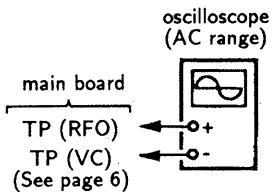


## Focus Bias Adjustment

### Conditions :

The set should be placed either horizontally.

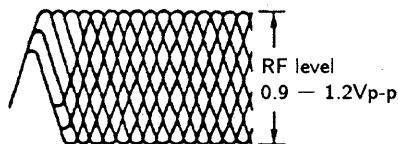
### Adjustment Procedure :



1. Put the set into STOP condition in service mode (See page 5).
2. Connect a osilloscope to main board test point TP (RFO).
3. Press the  $\blacktriangleright$  and  $\blacktriangleleft$  key to move the optical pick-up block to the center. (Move the optical pick-up block to the music area on the disc to enable easy visibility of the eye pattern).
4. Put and push the disc (YESD-18).
5. Press the  $\blacktriangleright\blacktriangledown$  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 button (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 ( $\diamond$ ) in the center of the waveform can be clearly distinguished.

#### • RF Signal Reference Waveform (eye pattern)

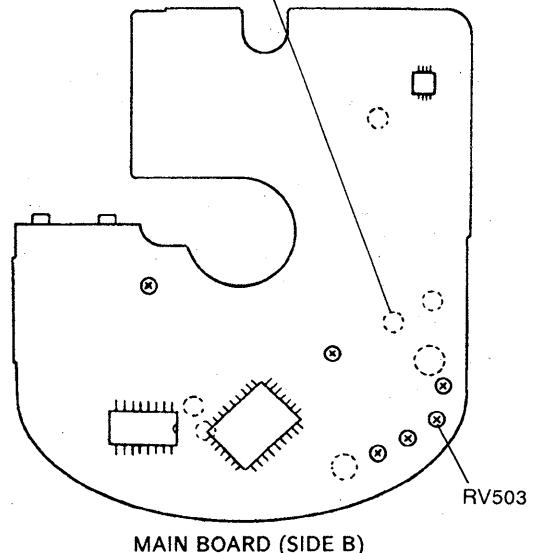
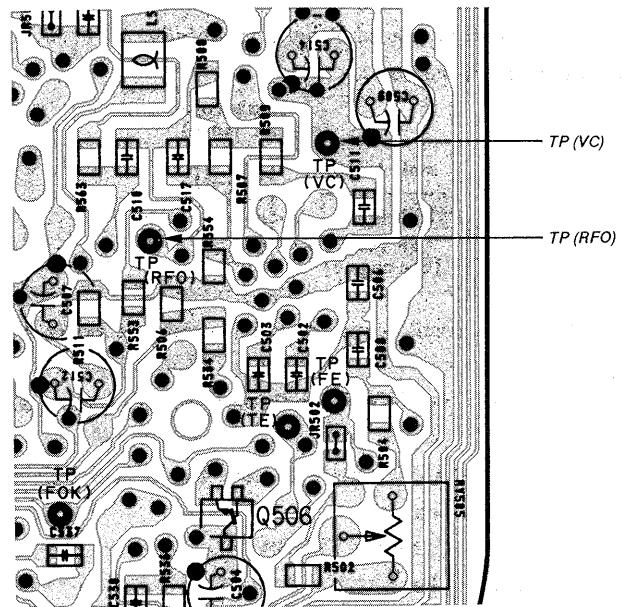
VOLT/DIV : 200mV  
TIME/DIV : 500nS



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

8. Press the ■ key.
9. After adjustment, release service mode (see page 5).

**Adjustment Location : main board (side B)**



## Reference

### Focus/Tracking Gain Adjustment

A frequency response 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 perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (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 :

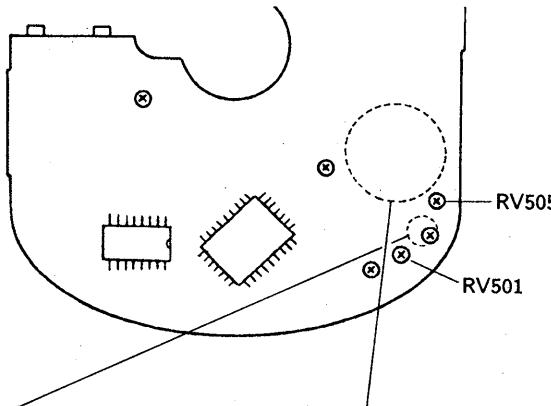
- optical pick-up block
- RV501 (tracking gain volume)
- RV505 (focus gain volume)

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

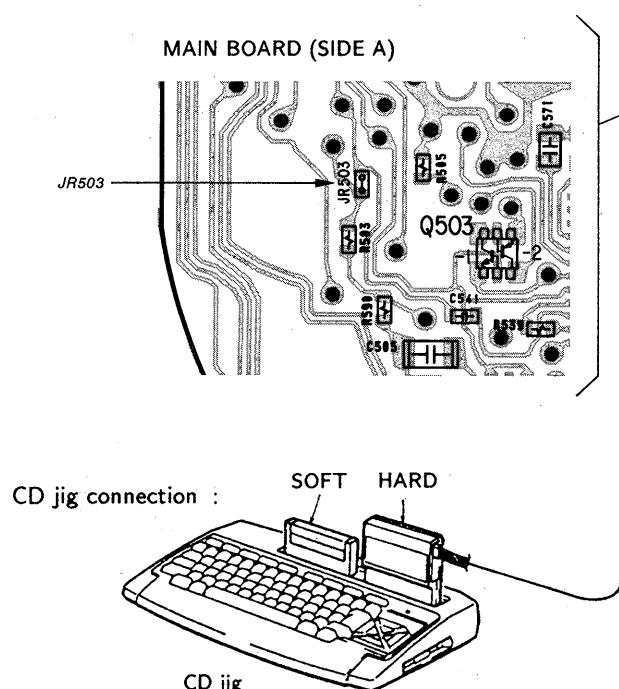
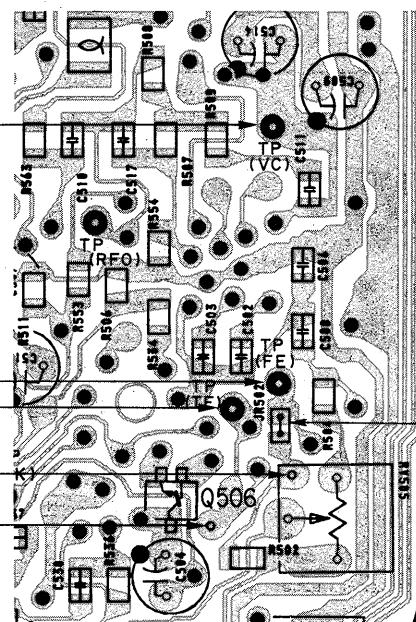
On this set, it is very difficult to simplify this adjustment. For those sets on which symptoms such as "occasional skipping" are hard to discover, or it is hard to tell if the set has been repaired, use the CD jig and perform this adjustment. Refer to the diagram below for connection of the CD jig.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

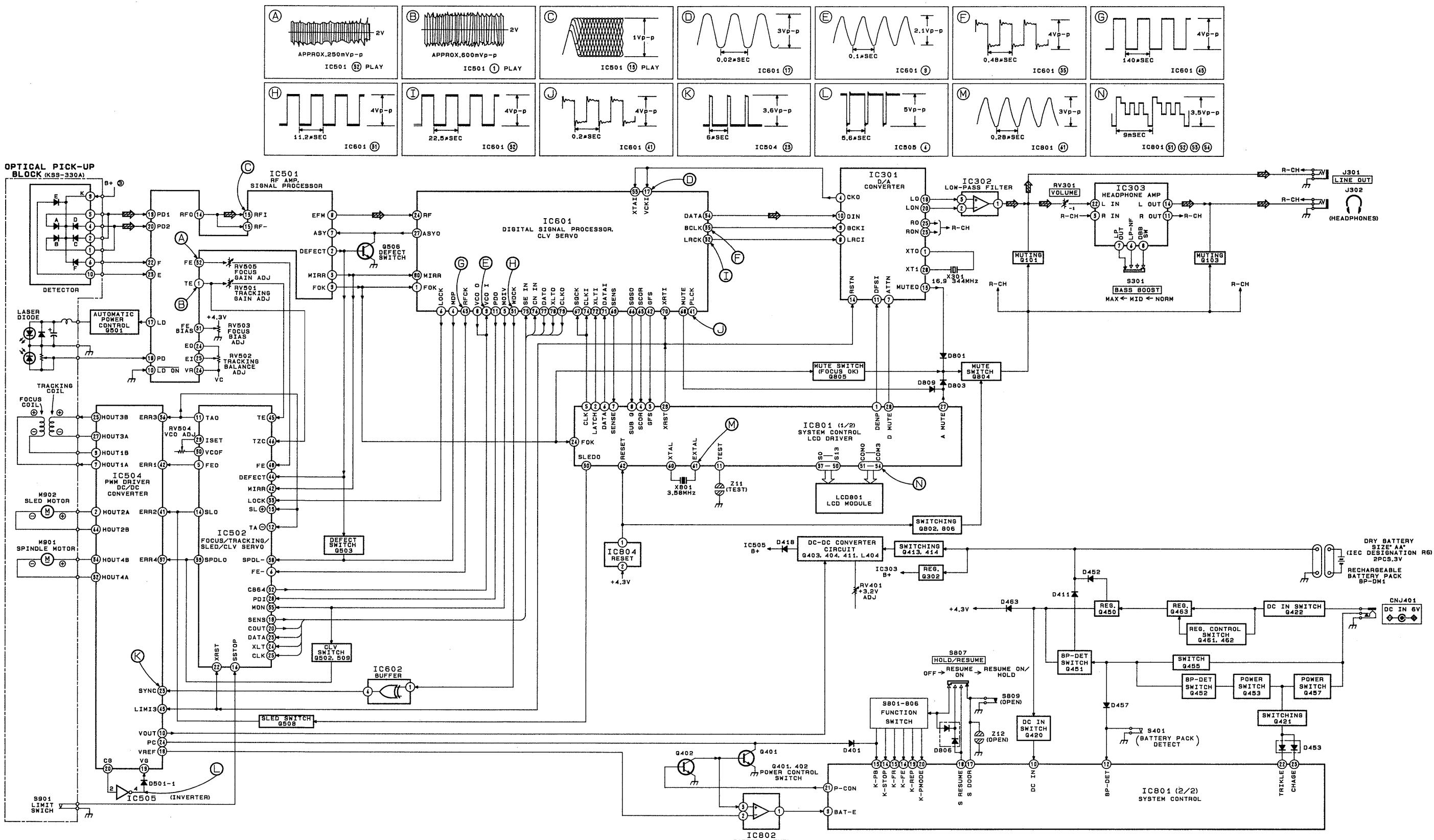


MAIN BOARD (SIDE B)



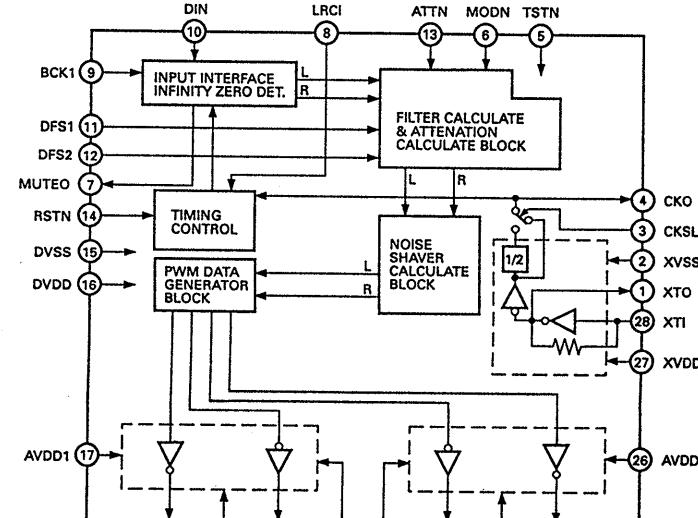
## SECTION 4 DIAGRAMS

### 4-1. BLOCK DIAGRAMS

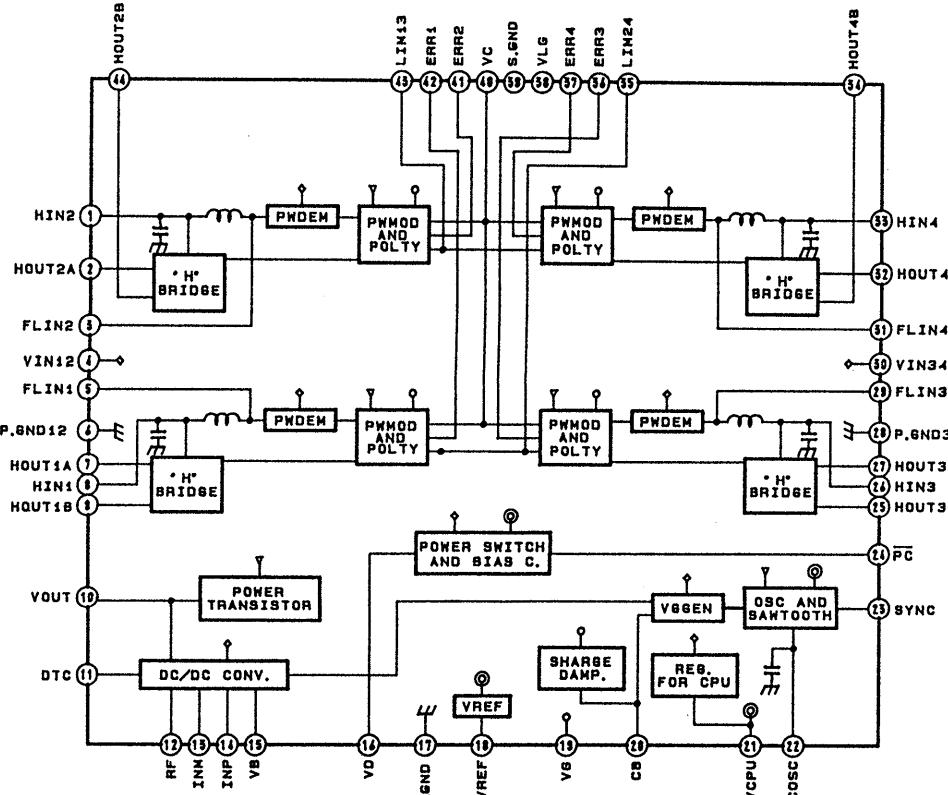


• IC BLOCK DIAGRAMS

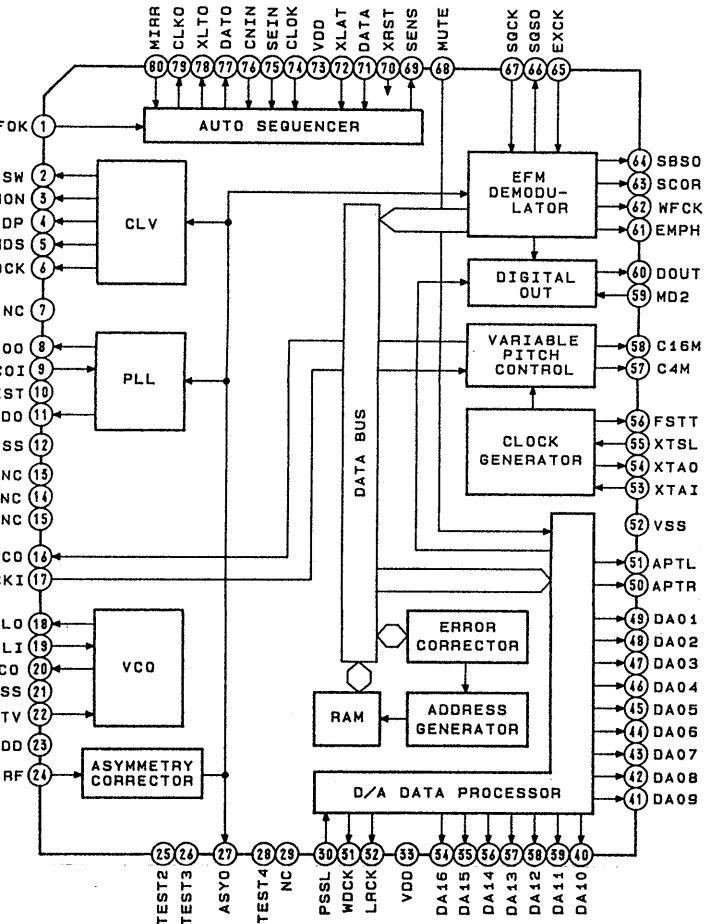
IC301 CXD8426M



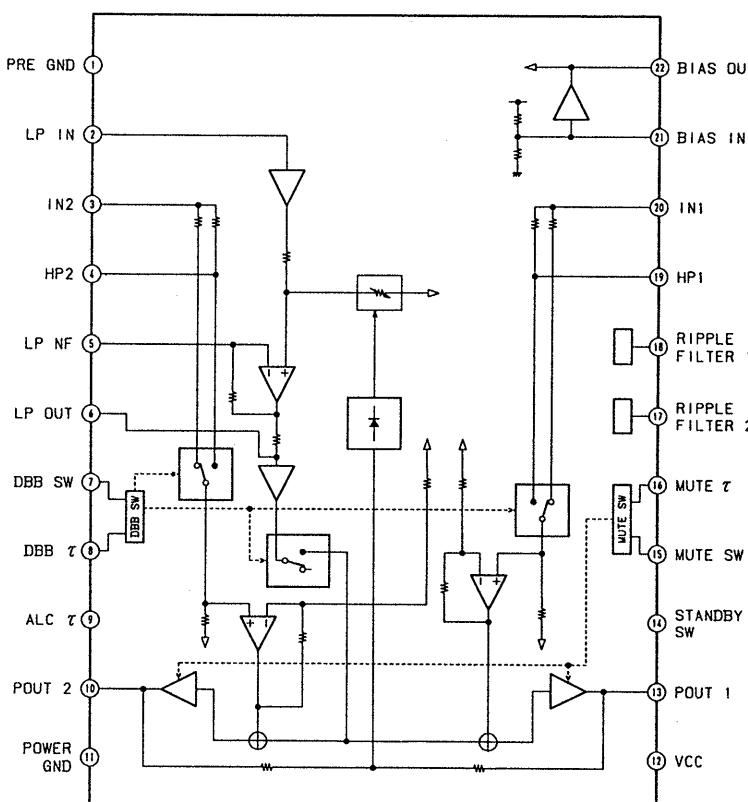
IC504 MPC1716AFU



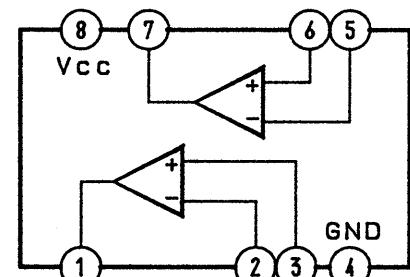
IC601 CXD2500AQ



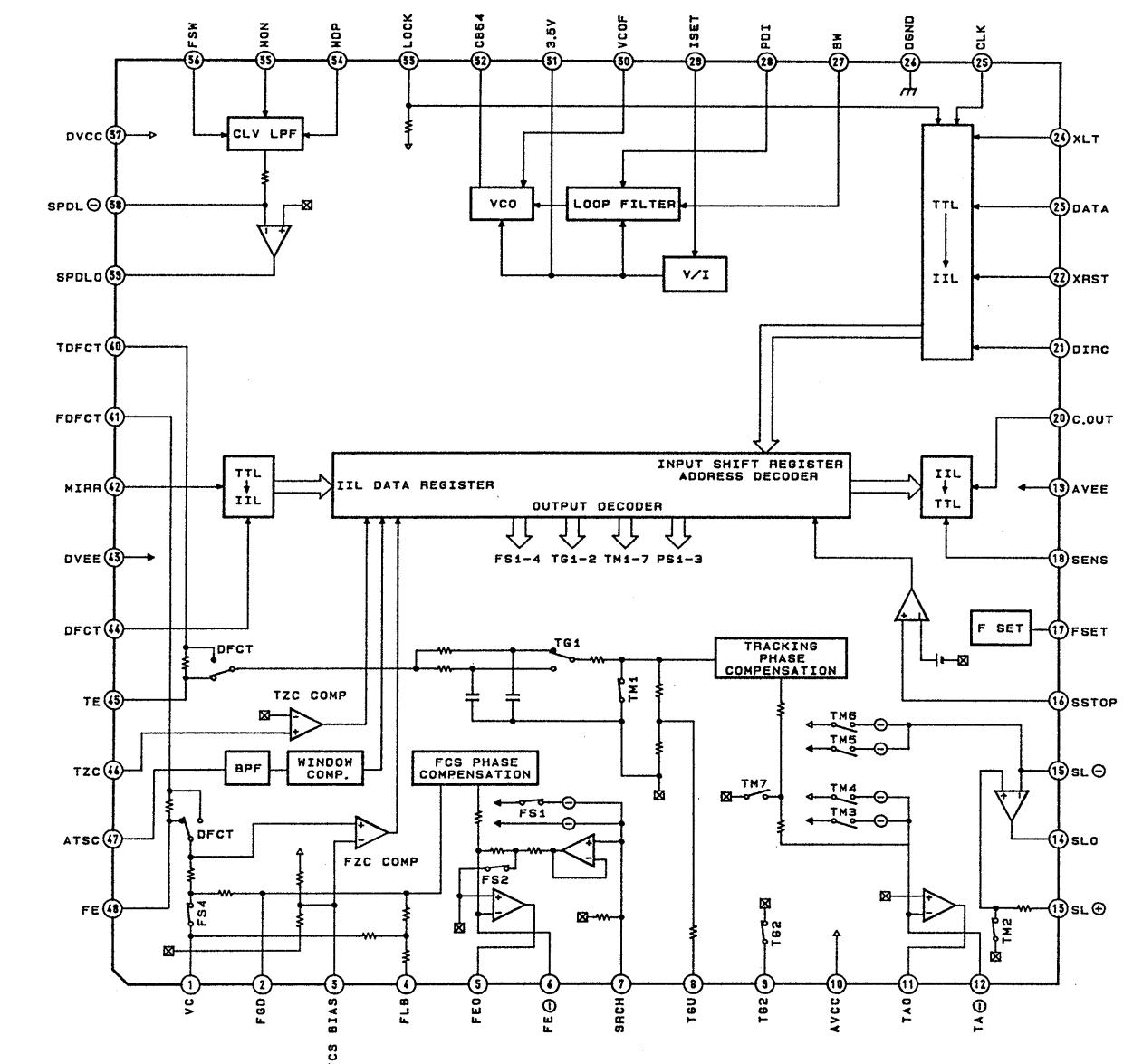
IC303 BA3570FS



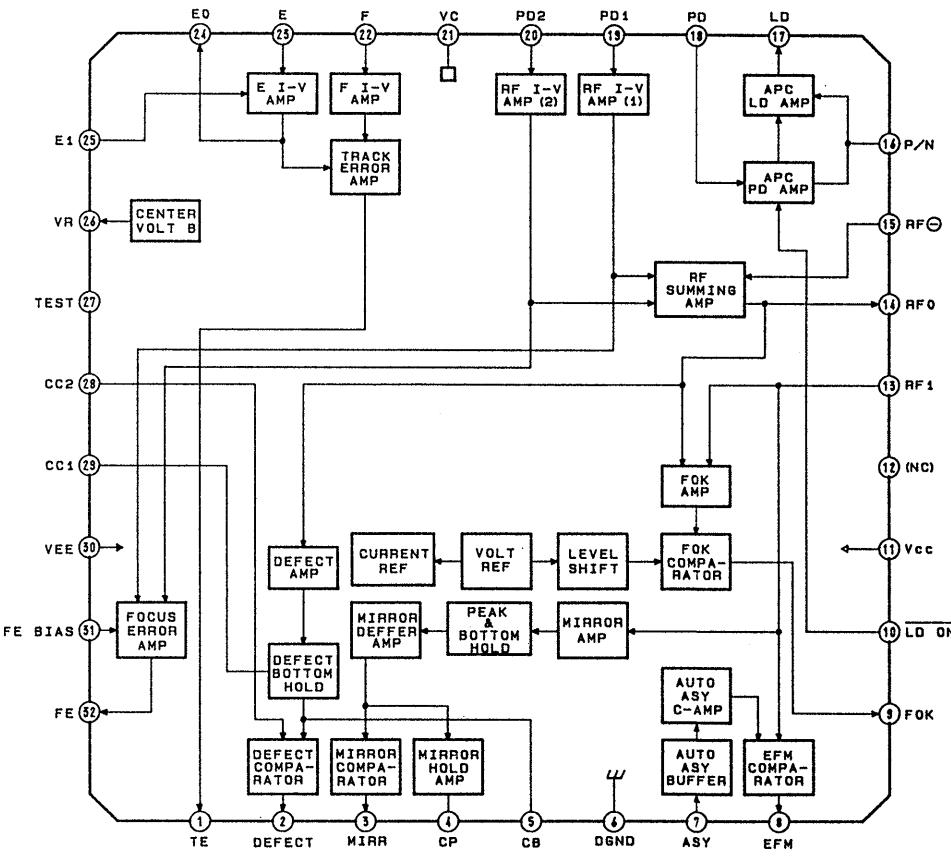
IC302 NJM2100M



IC502 CXA1602A



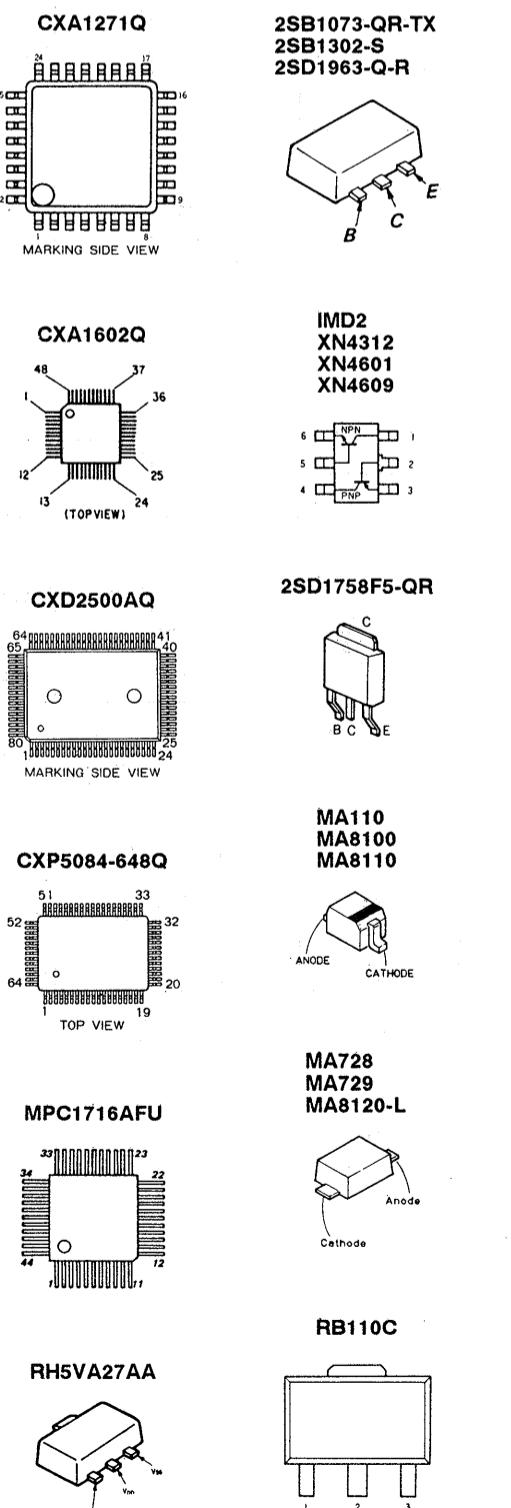
IC501 CXA1271Q



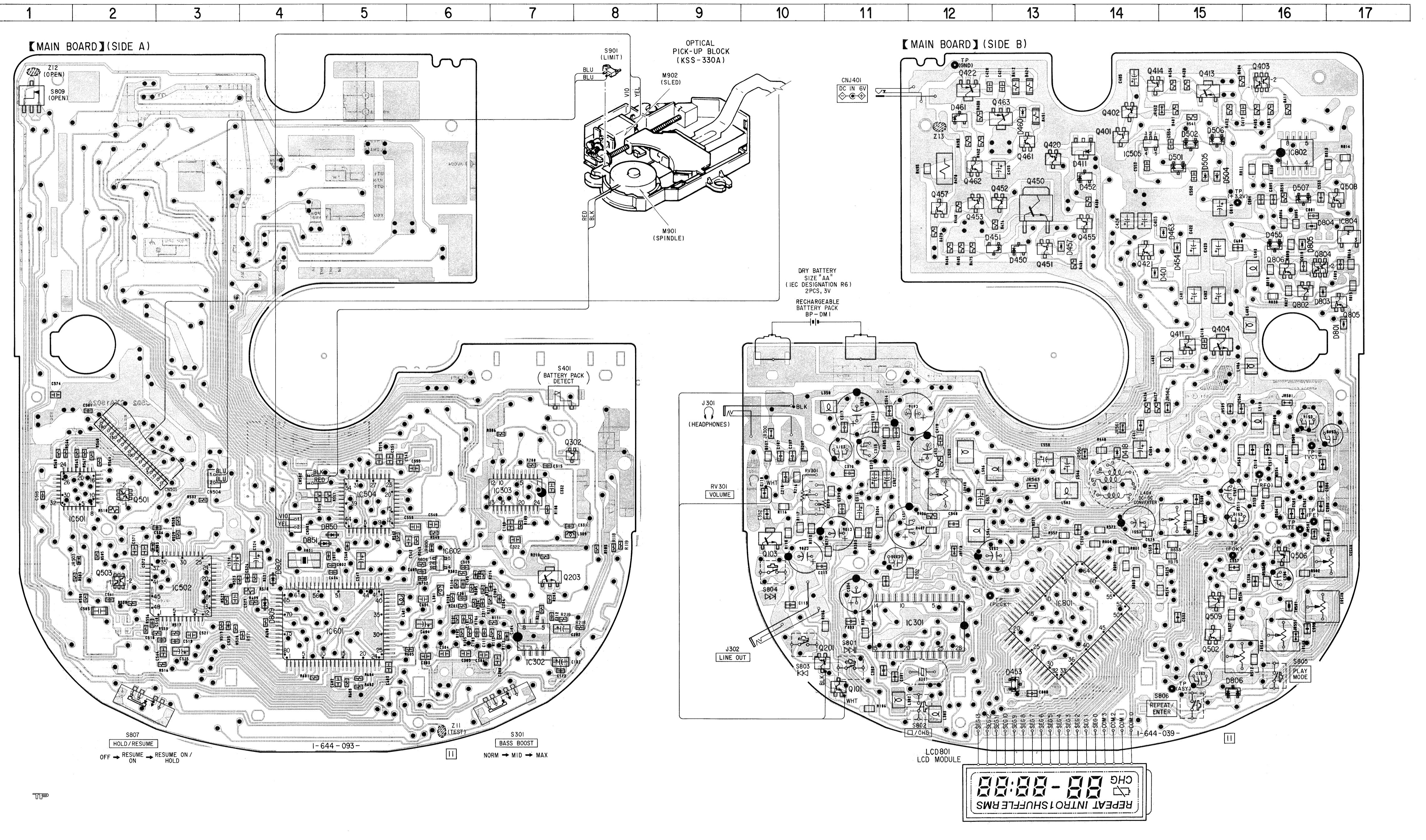
• SEMICONDUCTOR LOCATION

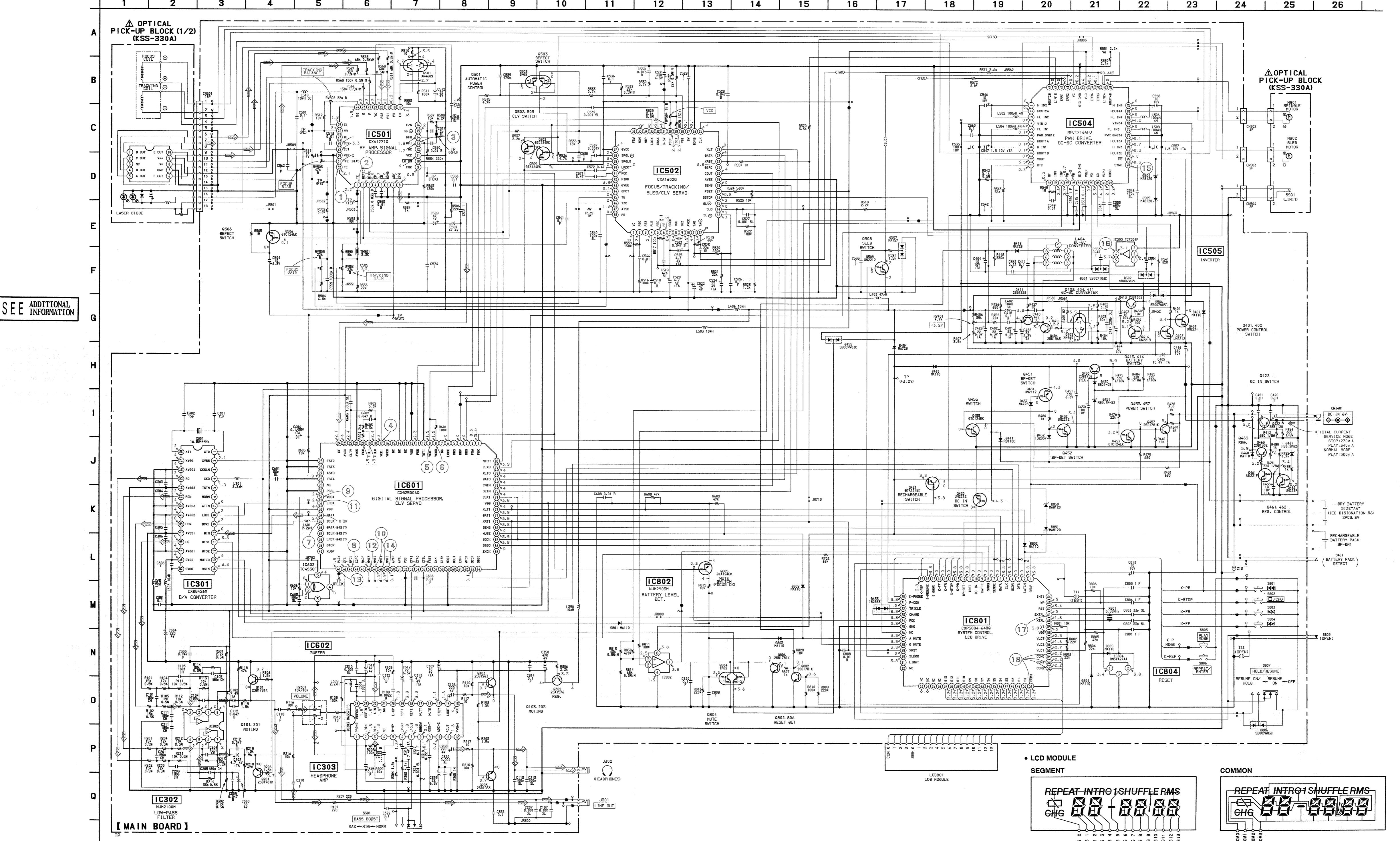
Ref. No.	Location	Ref. No.	Location
D401	D - 14	IC802	B - 16
D411	B - 14	IC804	C - 17
D418	F - 14		
D450	C - 13		
D451	C - 13		
D452	B - 14	Q101	I - 11
D453	I - 13	Q103	G - 10
D454	C - 15	Q201	H - 10
D455	C - 16	Q203	G - 7
D457	C - 13	Q302	F - 7
D460	B - 13	Q401	B - 14
D461	B - 12	Q402	A - 16
D463	C - 15	Q403	D - 15
D501	B - 15	Q411	D - 15
D502	B - 15	Q413	A - 15
D504	B - 15	Q414	B - 14
D505	B - 15	Q420	B - 13
D506	B - 15	Q421	C - 14
D507	C - 16	Q422	A - 12
D801	D - 17	Q450	C - 13
D802	G - 4	Q451	C - 13
D803	D - 16	Q452	C - 13
D804	C - 16	Q453	C - 12
D805	C - 16	Q501	F - 2
D806	I - 15	Q502	H - 15
D809	H - 4	Q503	G - 2
D850	G - 5	Q506	G - 16
D851	G - 5	Q508	C - 17
IC301	H - 12	Q509	H - 15
IC302	H - 7	Q802	D - 16
IC303	F - 7	Q804	D - 16
IC501	F - 2	Q805	D - 17
IC502	G - 3	Q806	D - 16
IC504	F - 5		
IC505	B - 14		
IC801	H - 5		
IC802	G - 6		
IC801	H - 13		

• SEMICONDUCTOR LEAD LAYOUTS



4-2. PRINTED WIRING BOARDS  
SEE ADDITIONAL INFORMATION



**Note :**• All capacitors are in  $\mu$  F unless otherwise noted, pF:  $\mu$  F 50W or less are not indicated except for electrolytics and tantalums.• All resistors are in  $\Omega$  and  $\frac{1}{4}W$  or less unless otherwise specified.

• % : indicates tolerance.

**Note :**  
The components identified by a mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Ne les remplacer que par une pièce portant le numéro spécifié.**Note :**  
Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

•  $\text{---}$  : B+ Line•  $\square$  : adjustment for repair.

• Power voltage is dc 8V 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 (service mode)

( ) : PLAY (service mode)

• Voltages are taken with a VOM (input impedance 10M  $\Omega$ ). Voltage variations may be noted due to normal production tolerances.

• Waveforms are taken with an oscilloscope.

Voltage variations may be noted due to normal production tolerances.

• Circled numbers refer to waveforms.

• Signal path:

 $\Rightarrow$  : CD

# REVISED

## 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)

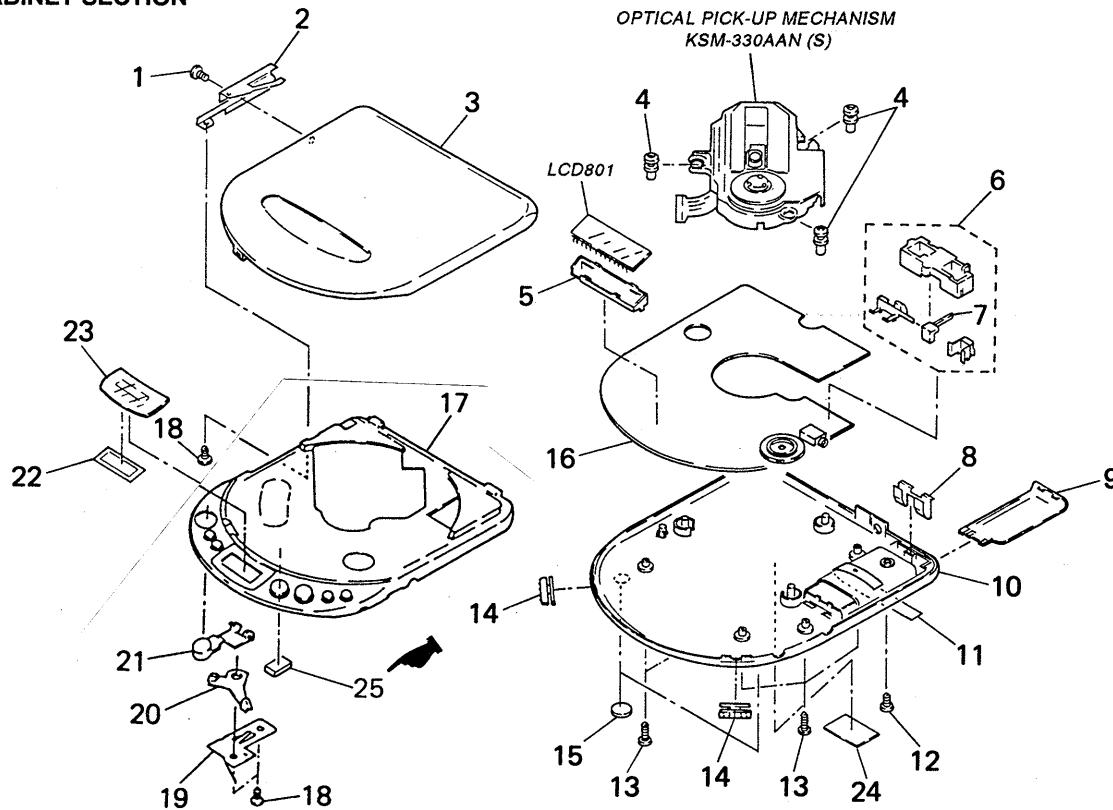
↑                      ↑  
Parts color      Cabinet's color

- 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  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

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

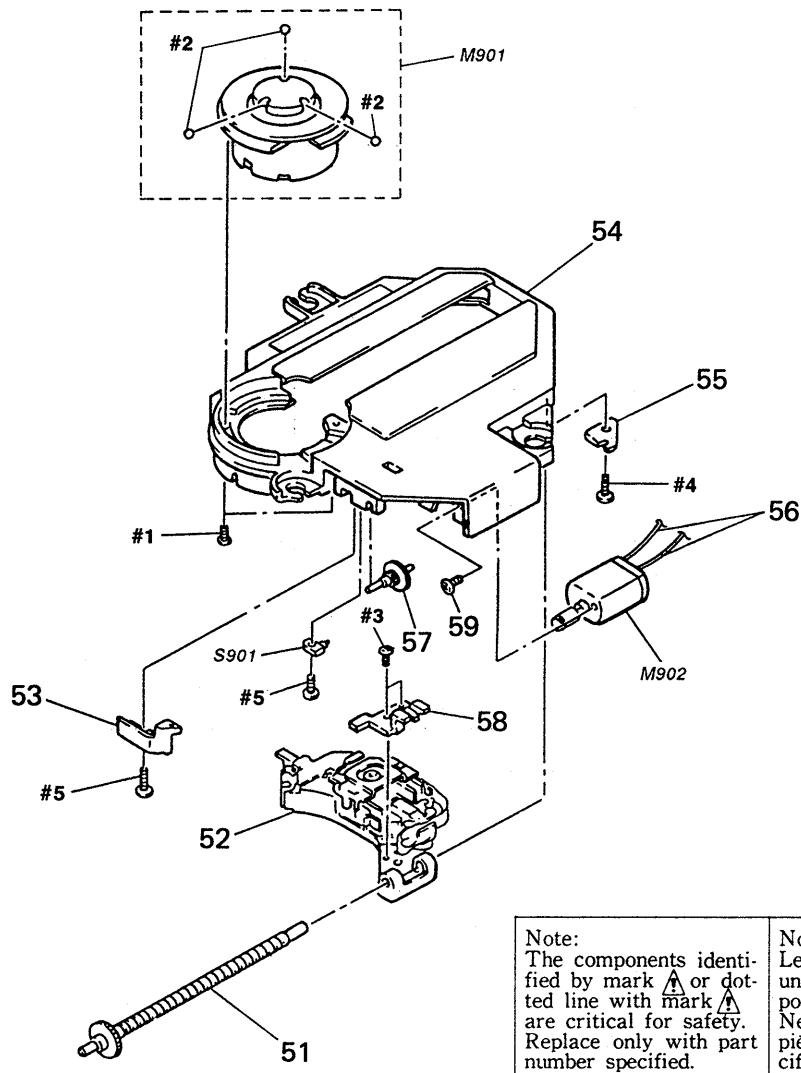
### 5 -1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-704-197-32	SCREW (M1.4X3.0)	
2	X-4942-661-1	PLATE ASSY, SWITCHING	
3	X-4942-662-1	PANEL ASSY, UPPER (GRAY).....(BLACK)	
3	X-4942-700-1	PANEL ASSY (N), UPPER (GOLD)....(GOLD)	
3	X-4942-701-1	PANEL ASSY (Z), UPPER (PINK)....(PINK)	
4	4-947-759-01	INSULATOR	
5	4-952-176-01	HOLDER (LCD)	
6	X-4942-665-1	HOLDER (T) ASSY	
7	4-952-504-01	SEPARATOR	
8	4-944-349-01	TERMINAL BOARD (RELAY), BATTERY	
9	4-952-169-01	LID, BATTERY CASE (BLACK)....(BLACK)	
9	4-952-169-11	LID, BATTERY CASE (GREEN)....(GOLD)	
9	4-952-169-21	LID, BATTERY CASE (BLUE)....(PINK)	
10	X-4942-664-1	PANEL ASSY, BOTTOM (BLACK).....(BLACK)	
10	X-4942-704-1	PANEL ASSY (N), BOTTOM (GREEN)....(GOLD)	
10	X-4942-705-1	PANEL ASSY (Z), BOTTOM (BLUE)....(PINK)	
11	4-944-367-01	RIBBON, BATTERY	
12	4-947-203-11	SCREW (US, Canadian, AEP, E, JE, AUS)	
13	3-336-395-01	SCREW (B2X10) (G), TAPPING	

Ref. No.	Part No.	Description	Remark
14	4-952-167-01	KNOB (HOLD/BASS) (BLACK)....(BLACK)	
14	4-952-167-11	KNOB (HOLD/BASS) (GREEN)....(GOLD)	
14	4-952-167-21	KNOB (HOLD/BASS) (BLUE)....(PINK)	
15	4-912-641-01	FOOT, RUBBER	
16	A-3275-432-A	MAIN BOARD, COMPLETE (US, Canadian, AEP, E, FRENCH, Tourist, Australian)	
16	A-3275-648-A	MAIN BOARD, COMPLETE (UK)	
17	X-4942-663-1	CABINET ASSY (BLACK).....(BLACK)	
17	X-4942-702-1	CABINET ASSY (N) (GREEN)....(GOLD)	
17	X-4942-703-1	CABINET ASSY (Z) (BLUE)....(PINK)	
18	3-318-203-71	SCREW (B1.7X5), TAPPING	
* 19	4-952-164-01	RETAINER	
20	4-952-165-01	CLAW, LOCK	
21	4-952-157-01	BUTTON (OPEN)	
22	4-952-175-01	SHEET, ADHESIVE	
23	4-952-173-01	WINDOW (LCD)	
* 24	3-703-034-21	LABEL, CAUTION (JE)	
LCD801	1-809-777-11	DISPLAY PANEL, LIQUID CRYSTAL	
25	9-911-839-99	RETAINER(B), MICROPHONE(UK)	

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



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

**Note:**  
Les composants identifiés par une marque  $\triangle$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
51	X-2625-173-2	SCREW ASSY, SLED	
$\triangle$ 52	8-848-212-11	DEVICE, OPTICAL KSS-330A	
53	2-625-412-02	SPRING, SLED	
54	2-625-415-02	CHASSIS, MD	
55	2-625-411-01	RETAINER, SHAFT	
56	1-948-418-21	HARNESS	

Ref. No.	Part No.	Description	Remark
57	2-625-410-01	GEAR (B)	
58	2-625-414-02	RACK	
59	3-732-988-01	SCREW (M2X2.5)	
M901	X-2625-219-1	MOTOR ASSY (K), T.T.	
M902	X-2625-171-2	MOTOR ASSY, SLED	
S901	1-570-771-11	SWITCH (LIMIT)	

**SECTION 6**  
**ELECTRICAL PARTS LIST**

**REVISED**

**SEE ADDITIONAL INFORMATION**

**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 and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable

- 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:  $\mu$ , for example:  
uA .. :  $\mu$ A .. uPA .. :  $\mu$ PA ..  
uPB .. :  $\mu$ PB .. uPC .. :  $\mu$ PC .. uPD .. :  $\mu$ PD ..
- CAPACITORS  
uF:  $\mu$ F
- COILS  
uH:  $\mu$ H

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

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

AUS: Australian

JE: Tourist

Ref. No.	Part No.	Description	Remark
	A-3275-432-A	MAIN BOARD, COMPLETE [US, Canadian, AEP, French, AUS, Saudi Arabia ]	
	A-3275-648-A	MAIN BOARD, COMPLETE (UK)	
	A-3275-684-A	MAIN BOARD, COMPLETE (E, JE)	
*****			
	4-952-504-01	SEPARATOR	
	4-952-176-01	HOLDER (LCD)	
< CAPACITOR >			

C101	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C102	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C103	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C104	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C105	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C106	1-124-434-00	ELECT	220uF	20%	4V
C107	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C108	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C110	1-164-346-11	CERAMIC CHIP	1uF	16V	
C111	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C112	1-164-361-11	CERAMIC CHIP	0.047uF	16V	
C113	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C201	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C202	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C203	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C204	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C205	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C206	1-124-434-00	ELECT	220uF	20%	4V
C207	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C209	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C210	1-164-346-11	CERAMIC CHIP	1uF	16V	
C211	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C212	1-164-361-11	CERAMIC CHIP	0.047uF	16V	
C213	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C301	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C302	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C303	1-164-346-11	CERAMIC CHIP	1uF	16V	
C304	1-164-346-11	CERAMIC CHIP	1uF	16V	
C305	1-164-346-11	CERAMIC CHIP	1uF	16V	

Ref. No.	Part No.	Description	Remark
C306	1-164-346-11	CERAMIC CHIP	1uF
C307	1-135-201-11	TANTALUM CHIP	10uF
C308	1-164-346-11	CERAMIC CHIP	1uF
C309	1-164-361-11	CERAMIC CHIP	0.047uF
C310	1-163-141-00	CERAMIC CHIP	0.001uF
C311	1-126-154-11	ELECT	47uF
C312	1-126-153-11	ELECT	22uF
C313	1-135-151-21	TANTALUM CHIP	4.7uF
C314	1-163-038-00	CERAMIC CHIP	0.1uF
C315	1-164-156-11	CERAMIC CHIP	0.1uF
C316	1-135-151-21	TANTALUM CHIP	4.7uF
C317	1-163-038-00	CERAMIC CHIP	0.1uF
C318	1-164-222-11	CERAMIC CHIP	0.22uF
C319	1-126-153-11	ELECT	22uF
C320	1-163-141-00	CERAMIC CHIP	0.001uF
C321	1-163-141-00	CERAMIC CHIP	0.001uF
C322	1-163-038-00	CERAMIC CHIP	0.1uF
C330	1-124-431-00	ELECT	33uF
C331	1-162-953-11	CERAMIC CHIP	100PF
C332	1-164-004-11	CERAMIC CHIP	0.1uF
C333	1-163-809-11	CERAMIC CHIP	0.047uF
C334	1-124-434-00	ELECT	220uF
C350	1-126-518-11	ELECT	470uF
C351	1-163-038-00	CERAMIC CHIP	0.1uF
C352	1-163-038-00	CERAMIC CHIP	0.1uF
C401	1-135-162-21	TANTAL. CHIP	33uF
C402	1-135-162-21	TANTAL. CHIP	33uF
C403	1-135-216-11	TANTALUM CHIP	10uF
C404	1-135-216-11	TANTALUM CHIP	10uF
C405	1-135-201-11	TANTALUM CHIP	10uF
C410	1-163-109-00	CERAMIC CHIP	47PF
C411	1-163-038-00	CERAMIC CHIP	0.1uF
C416	1-128-241-11	ELECT	220uF
C417	1-163-125-00	CERAMIC CHIP	220PF
C418	1-164-004-11	CERAMIC CHIP	0.1uF
C420	1-164-232-11	CERAMIC CHIP	0.01uF
C421	1-164-232-11	CERAMIC CHIP	0.01uF
C422	1-135-162-21	TANTAL. CHIP	33uF
C423	1-135-162-21	TANTAL. CHIP	33uF

**MAIN****SEE ADDITIONAL INFORMATION****REVISED**

Ref. No.	Part No.	Description	Remark		Ref. No.	Part No.	Description	Remark		
C424	1-135-216-11	TANTALUM CHIP	10uF	20%	10V	C549	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C450	1-124-584-00	ELECT	100uF	20%	10V	C550	1-164-346-11	CERAMIC CHIP	1uF	16V
C451	1-128-057-11	ELECT	330uF	20%	6.3V	C551	1-163-038-00	CERAMIC CHIP	0.1uF	25V
C455	1-135-216-11	TANTALUM CHIP	10uF	20%	10V	C552	1-164-222-11	CERAMIC CHIP	0.22uF	25V
C501	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C553	1-164-005-11	CERAMIC CHIP	0.47uF	25V
C502	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	C554	1-164-346-11	CERAMIC CHIP	1uF	16V
C503	1-164-232-11	CERAMIC CHIP	0.01uF		50V	C555	1-163-137-00	CERAMIC CHIP	680PF	5% 50V
C504	1-126-157-11	ELECT	10uF	20%	16V	C557	1-135-148-21	TANTAL. CHIP	1.5uF	20% 10V
C505	1-164-337-11	CERAMIC CHIP	2.2uF		16V	C558	1-135-216-11	TANTALUM CHIP	10uF	20% 10V
C506	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C559	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V
C507	1-126-154-11	ELECT	47uF	20%	6.3V	C560	1-164-156-11	CERAMIC CHIP	0.1uF	25V
C508	1-164-346-11	CERAMIC CHIP	1uF		16V	C562	1-164-346-11	CERAMIC CHIP	1uF	16V
C509	1-126-154-11	ELECT	47uF	20%	6.3V	C571	1-164-005-11	CERAMIC CHIP	0.47uF	25V
C510	1-164-232-11	CERAMIC CHIP	0.01uF		50V	C572	1-164-005-11	CERAMIC CHIP	0.47uF	25V
C511	1-163-095-00	CERAMIC CHIP	12PF	5%	50V	C574	1-164-346-11	CERAMIC CHIP	1uF	16V
C512	1-124-431-00	ELECT	33uF	20%	4V	C601	1-163-105-00	CERAMIC CHIP	33PF	5% 50V
C513	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C602	1-163-809-11	CERAMIC CHIP	0.047uF	10% 25V
C514	1-126-154-11	ELECT	47uF	20%	6.3V	C603	1-163-145-00	CERAMIC CHIP	0.0015uF	5% 50V
C515	1-164-346-11	CERAMIC CHIP	1uF		16V	C604	1-135-070-00	TANTALUM CHIP	0.1uF	10% 35V
C517	1-163-085-00	CERAMIC CHIP	2PF		50V	C605	1-162-953-11	CERAMIC CHIP	100PF	5% 50V
C518	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C606	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V
C519	1-162-949-11	CERAMIC CHIP	47PF	5%	50V	C608	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C520	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V	C801	1-164-346-11	CERAMIC CHIP	1uF	16V
C521	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	C802	1-162-947-11	CERAMIC CHIP	33PF	5% 50V
C522	1-126-154-11	ELECT	47uF	20%	6.3V	C803	1-162-947-11	CERAMIC CHIP	33PF	5% 50V
C523	1-162-945-11	CERAMIC CHIP	22PF	5%	50V	C804	1-164-346-11	CERAMIC CHIP	1uF	16V
C524	1-135-202-21	TANTAL. CHIP	22uF	20%	4V	C805	1-164-346-11	CERAMIC CHIP	1uF	16V
C525	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V	C808	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C526	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C809	1-164-346-11	CERAMIC CHIP	1uF	16V
C527	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	C810	1-163-038-00	CERAMIC CHIP	0.1uF	25V
C528	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	C813	1-135-216-11	TANTALUM CHIP	10uF	20% 10V
C529	1-164-346-11	CERAMIC CHIP	1uF		16V					
C530	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V					
C531	1-128-057-11	ELECT	330uF	20%	6.3V					
C532	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V					
C533	1-164-346-11	CERAMIC CHIP	1uF		16V					
C535	1-124-584-00	ELECT	100uF	20%	10V					
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	1-164-232-11	CERAMIC CHIP	0.01uF		50V					
C546	1-135-216-11	TANTALUM CHIP	10uF	20%	10V					
C547	1-135-148-21	TANTAL. CHIP	1.5uF	20%	10V					
C548	1-163-133-00	CERAMIC CHIP	470PF	5%	50V					

&lt; CONNECTOR &gt;

CN501 1-566-534-11 CONNECTOR, FPC (ZIF) 18P

\* CN502 1-695-320-11 PIN, CONNECTOR (1.5MM) (SMD) 2P

\* CN503 1-695-320-31 PIN, CONNECTOR (1.5MM) (SMD) 2P

\* CN504 1-695-320-51 PIN, CONNECTOR (1.5MM) (SMD) 2P

&lt; CONNECTOR &gt;

CNJ401 1-568-907-21 JACK, EXTERNAL POWER (DC IN 6V)

&lt; DIODE &gt;

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

**SEE ADDITIONAL INFORMATION**

**MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D452	8-719-400-18	DIODE	MA152WK	JR509	1-216-295-00	METAL CHIP	0 5% 1/10W
D453	8-719-104-34	DIODE	1S2836	JR551	1-216-295-00	METAL CHIP	0 5% 1/10W
D454	8-719-420-51	DIODE	MA729	JR560	1-216-295-00	METAL CHIP	0 5% 1/10W
D455	8-719-986-76	DIODE	SB007W03C	JR561	1-216-295-00	METAL CHIP	0 5% 1/10W
D457	8-719-421-27	DIODE	MA728	JR562	1-216-295-00	METAL CHIP	0 5% 1/10W
D460	8-719-404-46	DIODE	MA110	JR563	1-216-295-00	METAL CHIP	0 5% 1/10W
D461	8-719-106-08	DIODE	RD6.2M-B2	JR702	1-216-864-11	METAL CHIP	0 5% 1/16W
D463	8-719-404-46	DIODE	MA110	JR710	1-216-295-00	METAL CHIP	0 5% 1/10W
D501	8-719-989-73	DIODE	SB007T03C	JR800	1-216-864-11	METAL CHIP	0 5% 1/16W
D502	8-719-986-76	DIODE	SB007W03C	JR903	1-216-864-11	METAL CHIP	0 5% 1/16W
D504	8-719-421-21	DIODE	MA8120-L	< COIL >			
D505	8-719-421-21	DIODE	MA8120-L	L301	1-410-997-31	INDUCTOR CHIP	2.2uH
D506	8-719-986-76	DIODE	SB007W03C	L302	1-412-029-11	INDUCTOR CHIP	10uH
D507	8-719-800-76	DIODE	1SS226	L303	1-412-029-11	INDUCTOR CHIP	10uH
D801	8-719-404-46	DIODE	MA110	L309	1-410-997-31	INDUCTOR CHIP	2.2uH
D802	8-719-404-46	DIODE	MA110	L350	1-412-029-11	INDUCTOR CHIP	10uH
D803	8-719-404-46	DIODE	MA110	L402	1-412-029-11	INDUCTOR CHIP	10uH
D804	8-719-404-46	DIODE	MA110	L403	1-412-031-11	INDUCTOR CHIP	47uH
D805	8-719-404-46	DIODE	MA110	L404	1-450-401-11	TRANSFORMER, CONVERTER DC-DC	
D806	8-719-986-76	DIODE	SB007W03C	L406	1-412-029-11	INDUCTOR CHIP	10uH
D809	8-719-404-46	DIODE	MA110	L502	1-412-039-51	INDUCTOR CHIP	100uH
D850	8-719-421-21	DIODE	MA8120-L	L503	1-412-029-11	INDUCTOR CHIP	10uH
D851	8-719-421-21	DIODE	MA8120-L	L504	1-412-039-51	INDUCTOR CHIP	100uH
< IC >				L506	1-412-039-51	INDUCTOR CHIP	100uH
IC301	8-759-070-34	IC	CXD8426M	L508	1-412-039-51	INDUCTOR CHIP	100uH
IC302	8-759-710-55	IC	NJM2100M	L510	1-412-029-11	INDUCTOR CHIP	10uH
IC303	8-759-510-56	IC	BA3570FS	L601	1-410-997-31	INDUCTOR CHIP	2.2uH
IC501	8-752-033-55	IC	CXA1271Q	< TRANSISTOR >			
IC502	8-752-055-93	IC	CXA1602Q	Q101	8-729-921-73	TRANSISTOR	2SD1781K-QR
IC504	8-759-039-13	IC	MPC1716AFU	Q103	8-729-923-36	TRANSISTOR	2SD1963-Q.R
IC505	8-759-031-84	IC	SC7S04F	Q201	8-729-921-73	TRANSISTOR	2SD1781K-QR
IC601	8-752-337-26	IC	CXD2500AQ	Q203	8-729-923-36	TRANSISTOR	2SD1963-Q.R
IC602	8-759-234-13	IC	TC4S30F	Q302	8-729-905-23	TRANSISTOR	2SA1576-R
IC801	8-752-836-56	IC	CXP5084-648Q	Q401	8-729-424-84	TRANSISTOR	UN221F
IC802	8-759-981-65	IC	LM2903M	Q402	8-729-424-59	TRANSISTOR	UN2212
IC804	8-759-080-88	IC	RH5VA27AA	Q403	8-729-402-84	TRANSISTOR	XN4601
< JACK >				Q404	8-729-923-36	TRANSISTOR	2SD1963-Q.R
J301	1-565-287-41	JACK (LINE OUT)		Q411	8-729-420-74	TRANSISTOR	2SD1328-RST
J302	1-565-287-11	JACK (HEADPHONES)		Q413	8-729-822-60	TRANSISTOR	2SB1302-S
< JUMPER RESISTOR >				Q414	8-729-424-73	TRANSISTOR	UN2219
JR300	1-216-295-00	METAL CHIP	0 5% 1/10W	Q420	8-729-424-59	TRANSISTOR	UN2212
JR452	1-216-295-00	METAL CHIP	0 5% 1/10W	Q421	8-729-901-04	TRANSISTOR	DTA114EK
JR501	1-216-295-00	METAL CHIP	0 5% 1/10W	Q422	8-729-806-75	TRANSISTOR	2SB1120-F
JR502	1-216-295-00	METAL CHIP	0 5% 1/10W	Q450	8-729-922-34	TRANSISTOR	2SD1758F5-QR
JR503	1-216-864-11	METAL CHIP	0 5% 1/16W	Q451	8-729-424-12	TRANSISTOR	UN2112
				Q452	8-729-424-59	TRANSISTOR	UN2212
				Q453	8-729-901-00	TRANSISTOR	DTC124EK
				Q455	8-729-901-00	TRANSISTOR	DTC124EK

SEE ADDITIONAL INFORMATION

**MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q457	8-729-921-72	TRANSISTOR	2SD1781K-R	R217	1-216-001-00	METAL CHIP	10 5% 1/10W
Q461	8-729-424-84	TRANSISTOR	UN221F	R218	1-216-841-11	METAL CHIP	47K 5% 1/16W
Q462	8-729-424-84	TRANSISTOR	UN221F	R219	1-216-823-11	METAL CHIP	1.5K 5% 1/16W
Q463	8-729-822-60	TRANSISTOR	2SB1302-S	R301	1-216-659-11	METAL CHIP	2.2K 0.5% 1/10W
Q501	8-729-402-90	TRANSISTOR	XN4609	R302	1-218-700-11	METAL CHIP	2.2K 0.50% 1/16W
Q502	8-729-901-00	TRANSISTOR	DTC124EK	R303	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
Q503	8-729-907-39	TRANSISTOR	IMD2	R304	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
Q506	8-729-901-00	TRANSISTOR	DTC124EK	R305	1-216-121-00	METAL CHIP	1M 5% 1/10W
Q508	8-729-424-59	TRANSISTOR	UN2212	R306	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
Q509	8-729-901-05	TRANSISTOR	DTA124EK	R310	1-216-001-00	METAL CHIP	10 5% 1/10W
Q802	8-729-921-73	TRANSISTOR	2SD1781K-QR	R401	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q804	8-729-907-39	TRANSISTOR	IMD2	R402	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
Q805	8-729-901-05	TRANSISTOR	DTA124EK	R403	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q806	8-729-921-73	TRANSISTOR	2SD1781K-QR	R404	1-216-073-00	METAL CHIP	10K 5% 1/10W
<b>&lt; RESISTOR &gt;</b>				R405	1-216-023-00	METAL CHIP	82 5% 1/10W
R101	1-218-720-11	METAL CHIP	15K 0.50% 1/16W	R406	1-216-689-11	METAL CHIP	39K 0.5% 1/10W
R102	1-218-720-11	METAL CHIP	15K 0.50% 1/16W	R407	1-216-063-00	METAL CHIP	3.9K 5% 1/10W
R103	1-218-823-11	METAL CHIP	1.5K 5% 1/16W	R411	1-216-298-00	METAL CHIP	2.2 5% 1/10W
R104	1-216-834-11	METAL CHIP	12K 5% 1/16W	R412	1-216-194-00	METAL CHIP	680 5% 1/8W
R105	1-216-834-11	METAL CHIP	12K 5% 1/16W	R424	1-216-194-00	METAL CHIP	680 5% 1/8W
R106	1-216-053-00	METAL CHIP	1.5K 5% 1/10W	R426	1-216-045-00	METAL CHIP	680 5% 1/10W
R107	1-216-033-00	METAL CHIP	220 5% 1/10W	R427	1-216-001-00	METAL CHIP	10 5% 1/10W
R108	1-216-845-11	METAL CHIP	100K 5% 1/16W	R430	1-216-073-00	METAL CHIP	10K 5% 1/10W
R109	1-216-833-11	METAL CHIP	10K 5% 1/16W	R434	1-216-025-00	METAL CHIP	100 5% 1/10W
R110	1-216-073-00	METAL CHIP	10K 5% 1/10W	R440	1-216-073-00	METAL CHIP	10K 5% 1/10W
R111	1-218-716-11	METAL CHIP	10K 0.50% 1/16W	R448	1-216-109-00	METAL CHIP	330K 5% 1/10W
R112	1-218-716-11	METAL CHIP	10K 0.50% 1/16W	R452	1-216-081-00	METAL CHIP	22K 5% 1/10W
R113	1-218-728-11	METAL CHIP	33K 0.50% 1/16W	R475	1-216-037-00	METAL CHIP	330 5% 1/10W
R114	1-218-728-11	METAL CHIP	33K 0.50% 1/16W	R476	1-216-081-00	METAL CHIP	22K 5% 1/10W
R116	1-216-073-00	METAL CHIP	10K 5% 1/10W	R478	1-218-609-11	METAL CHIP	3.9 5% 1W
R117	1-216-001-00	METAL CHIP	10 5% 1/10W	R479	1-216-045-00	METAL CHIP	680 5% 1/10W
R118	1-216-841-11	METAL CHIP	47K 5% 1/16W	R480	1-216-049-00	METAL CHIP	1K 5% 1/10W
R119	1-216-823-11	METAL CHIP	1.5K 5% 1/16W	R481	1-216-045-00	METAL CHIP	680 5% 1/10W
R201	1-218-720-11	METAL CHIP	15K 0.50% 1/16W	R484	1-216-037-00	METAL CHIP	330 5% 1/10W
R202	1-218-720-11	METAL CHIP	15K 0.50% 1/16W	R485	1-216-037-00	METAL CHIP	330 5% 1/10W
R203	1-216-823-11	METAL CHIP	1.5K 5% 1/16W	R490	1-216-049-00	METAL CHIP	1K 5% 1/10W
R204	1-216-834-11	METAL CHIP	12K 5% 1/16W	R491	1-216-186-00	METAL GLAZE	330 5% 1/8W
R205	1-216-834-11	METAL CHIP	12K 5% 1/16W	R492	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R206	1-216-053-00	METAL CHIP	1.5K 5% 1/10W	R493	1-216-049-00	METAL CHIP	1K 5% 1/10W
R207	1-216-033-00	METAL CHIP	220 5% 1/10W	R495	1-216-005-00	METAL CHIP	15 5% 1/10W
R208	1-216-845-11	METAL CHIP	100K 5% 1/16W	R502	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R209	1-216-073-00	METAL CHIP	10K 5% 1/10W	R503	1-216-836-11	METAL CHIP	18K 5% 1/16W
R210	1-216-833-11	METAL CHIP	10K 5% 1/16W	R504	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R211	1-218-716-11	METAL CHIP	10K 0.50% 1/16W	R505	1-216-857-11	METAL CHIP	1M 5% 1/16W
R212	1-218-716-11	METAL CHIP	10K 0.50% 1/16W	R506	1-216-081-00	METAL CHIP	22K 5% 1/10W
R213	1-218-728-11	METAL CHIP	33K 0.50% 1/16W	R507	1-216-077-00	METAL CHIP	15K 5% 1/10W
R214	1-218-728-11	METAL CHIP	33K 0.50% 1/16W	R508	1-216-068-00	METAL CHIP	6.2K 5% 1/10W
R216	1-216-073-00	METAL CHIP	10K 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

**SEE ADDITIONAL INFORMATION**

**MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R511	1-216-097-00	METAL CHIP	100K 5% 1/10W	R603	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
R512	1-216-073-00	METAL CHIP	10K 5% 1/10W	R604	1-216-293-11	METAL GLAZE	24K 5% 1/16W
R515	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R605	1-216-833-11	METAL CHIP	10K 5% 1/16W
R516	1-216-845-11	METAL CHIP	100K 5% 1/16W	R606	1-216-833-11	METAL CHIP	10K 5% 1/16W
R517	1-216-845-11	METAL CHIP	100K 5% 1/16W	R608	1-216-841-11	METAL CHIP	47K 5% 1/16W
R518	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R609	1-216-841-11	METAL CHIP	47K 5% 1/16W
R519	1-216-843-11	METAL CHIP	68K 5% 1/16W	R702	1-216-773-11	METAL GLAZE	68K 1% 1/10W
R520	1-216-849-11	METAL CHIP	220K 5% 1/16W	R801	1-216-073-00	METAL CHIP	10K 5% 1/10W
R521	1-216-837-11	METAL CHIP	22K 5% 1/16W	R802	1-216-081-00	METAL CHIP	22K 5% 1/10W
R522	1-216-845-11	METAL CHIP	100K 5% 1/16W	R803	1-216-081-00	METAL CHIP	22K 5% 1/10W
R523	1-216-822-11	METAL CHIP	1.2K 5% 1/16W	R804	1-216-081-00	METAL CHIP	22K 5% 1/10W
R524	1-216-115-00	METAL CHIP	560K 5% 1/10W	R805	1-216-089-00	METAL CHIP	47K 5% 1/10W
R525	1-216-073-00	METAL CHIP	10K 5% 1/10W	R806	1-216-073-00	METAL CHIP	10K 5% 1/10W
R526	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R809	1-216-105-00	METAL CHIP	220K 5% 1/10W
R527	1-216-683-11	METAL CHIP	22K 0.5% 1/10W	R810	1-216-097-00	METAL CHIP	100K 5% 1/10W
R528	1-216-847-11	METAL CHIP	150K 5% 1/16W	R811	1-216-097-00	METAL CHIP	100K 5% 1/10W
R529	1-216-705-11	METAL CHIP	3.6K 0.50% 1/16W	R813	1-216-690-11	METAL CHIP	43K 0.5% 1/10W
R530	1-216-059-00	METAL CHIP	2.7K 5% 1/10W	R814	1-216-695-11	METAL CHIP	68K 0.5% 1/10W
R532	1-216-724-11	METAL CHIP	22K 0.50% 1/16W	R815	1-216-073-00	METAL CHIP	10K 5% 1/10W
R533	1-216-059-00	METAL CHIP	2.7K 5% 1/10W	R816	1-216-105-00	METAL CHIP	220K 5% 1/10W
R534	1-216-049-00	METAL CHIP	1K 5% 1/10W	R827	1-216-049-00	METAL CHIP	1K 5% 1/10W
R536	1-216-079-00	METAL CHIP	18K 5% 1/10W	R828	1-216-073-00	METAL CHIP	10K 5% 1/10W
R537	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R850	1-216-113-00	METAL CHIP	470K 5% 1/10W
R539	1-216-857-11	METAL CHIP	1M 5% 1/16W	< VARIABLE RESISTOR >			
R541	1-216-047-00	METAL CHIP	820 5% 1/10W	RV301	1-238-072-31	RES, VAR, CABON 10K/10K (VOLUME)	
R542	1-218-272-11	METAL CHIP	5.1K 0.50% 1/16W	RV401	1-238-599-11	RES, ADJ, CARBON 4.7K	
R543	1-216-842-11	METAL CHIP	56K 5% 1/16W	RV501	1-238-601-11	RES, ADJ, CARBON 22K	
R549	1-216-857-11	METAL CHIP	1M 5% 1/16W	RV502	1-238-601-11	RES, ADJ, CARBON 22K	
R550	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	RV503	1-238-602-11	RES, ADJ, CARBON 47K	
R551	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	RV504	1-238-597-11	RES, ADJ, CARBON 1K	
R553	1-216-073-00	METAL CHIP	10K 5% 1/10W	RV505	1-238-601-11	RES, ADJ, CARBON 22K	
R554	1-216-105-00	METAL CHIP	220K 5% 1/10W	< SWITCH >			
R556	1-216-837-11	METAL CHIP	22K 5% 1/16W	S301	1-571-506-41	SWITCH, SLIDE (BASS BOOST)	
R557	1-216-049-00	METAL CHIP	1K 5% 1/10W	S401	1-571-754-31	SWITCH, PUSH (1 KEY)	
R559	1-216-847-11	METAL CHIP	150K 5% 1/16W	S801	1-572-596-11	SWITCH, KEY BOARD (▷ II )	
R563	1-216-099-00	METAL CHIP	120K 5% 1/10W	S802	1-572-596-11	SWITCH, KEY BOARD ( ■ )	
R564	1-218-736-11	METAL CHIP	68K 0.50% 1/16W	S803	1-572-596-11	SWITCH, KEY BOARD ( KII )	
R565	1-218-736-11	METAL CHIP	68K 0.50% 1/16W	S804	1-572-596-11	SWITCH, KEY BOARD ( ▷N )	
R566	1-218-744-11	METAL CHIP	150K 0.50% 1/16W	S805	1-572-596-11	SWITCH, KEY BOARD ( PLAY MODE )	
R567	1-218-736-11	METAL CHIP	68K 0.50% 1/16W	S806	1-572-596-11	SWITCH, KEY BOARD ( REPEAT/ENTER )	
R568	1-218-736-11	METAL CHIP	68K 0.50% 1/16W	S807	1-571-506-41	SWITCH, SLIDE (HOLD/RESUME)	
R569	1-218-744-11	METAL CHIP	150K 0.50% 1/16W	S809	1-572-572-11	SWITCH, MECH DRIVING DETECTION	
R570	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	< THERMISTOR >			
R571	1-220-158-91	METAL GLAZE	3.6K 5% 1/16W	TH501	1-809-468-11	THERMISTOR, CHIP	
R572	1-216-062-00	METAL CHIP	3.6K 5% 1/10W				
R590	1-216-833-11	METAL CHIP	10K 5% 1/16W				
R591	1-216-053-00	METAL CHIP	1.5K 5% 1/10W				
R601	1-216-845-11	METAL CHIP	100K 5% 1/16W				
R602	1-216-827-11	METAL CHIP	3.3K 5% 1/16W				

**SEE ADDITIONAL INFORMATION**

**MAIN**

Ref. No.	Part No.	Description	Remark
< VIBRATOR >			

X301 1-567-908-11 VIBRATOR, CRYSTAL (16.9344MHz)  
 X801 1-578-769-11 VIBRATOR, CERAMIC (3.58MHz)

MISCELLANEOUS  
 \*\*\*\*\*

△52 8-848-212-11 DEVICE, OPTICAL KSS-330A  
 56 1-948-418-21 HARNESS  
 LCD801 1-809-777-11 DISPLAY PANEL, LIQUID CRYSTAL  
 M901 X-2625-219-1 MOTOR ASSY (K), T. T.  
 M902 X-2625-171-2 MOTOR ASSY, SLED  
 S901 1-570-771-11 SWITCH (LIMIT)

**ACCESSORIES & PACKING MATERIALS**

△ 1-465-269-11 ADAPTOR, AC (AC-64N(UK)) (UK)  
 △ 1-465-270-11 ADAPTOR, AC (AC-64N(AU)) (AUS)  
 △ 1-465-520-41 ADAPTOR, AC (AC-64NA) (E, JE)  
 △ 1-465-608-11 ADAPTOR, AC (AC-64NA) (US)  
 △ 1-465-833-11 ADAPTOR, AC (AC-64NEM) (AEP, FRENCH)  
 △ 1-693-031-11 ADAPTOR, AC (AC-64NC) (Canadian)  
  
 1-528-350-11 BATTERY PACK(BP-DM1)  
 (US, Canadian, UK, FRENCH, JE)  
 △ 1-555-658-21 CORD, CONNECTION  
 △ 1-569-007-11 ADAPTER, CONVERSION 2P (E, JE)  
  
 3-755-303-11 MANUAL, INSTRUCTION (ENGLISH/FRENCH/  
 SPANISH) (Canadian, AEP, E, FRENCH, JE)  
 3-755-303-21 MANUAL, INSTRUCTION(ENGLISH) (US, UK, AUS)  
 3-755-303-41 MANUAL, INSTRUCTION (DUTCH/SWEDISH/  
 PORTUGUESE) (AEP)  
 3-755-303-51 MANUAL, INSTRUCTION (GERMAN/ITALIAN)  
 (AEP)  
 3-755-303-61 MANUAL, INSTRUCTION (JAPANESE/KOREAN/  
 CHINESE) (JE)  
  
 \* 4-952-329-01 CUSHION (UPPER)  
 \* 4-952-330-01 CUSHION (LOWER) (Canadian, E, JE)  
 \* 4-952-331-01 CUSHION (LOWER) (US)  
 \* 4-952-332-01 CUSHION (LOWER) (AEP, UK, FRENCH, AUS)  
  
 \* 4-952-334-01 INDIVIDUAL CARTON (US)  
 \* 4-952-335-01 INDIVIDUAL CARTON (AEP, AUS)  
 \* 4-952-336-01 INDIVIDUAL CARTON (Canadian, JE)  
 \* 4-952-337-01 INDIVIDUAL CARTON (UK, FRENCH)  
 \* 4-953-922-01 INDIVIDUAL CARTON (E)  
  
 8-953-400-90 HEADPHONE MDR-E552//K SET  
 (Canadian, AEP, UK, E, FRENCH, JE, AUS)  
 8-953-487-90 HEADPHONE MDR-14B SET (US)  
 X-4941-730-1 ADAPTOR ASSY, CAR MOUNT

Ref. No.	Part No.	Description	Remark
----------	----------	-------------	--------

\*\*\*\*\*  
**HARDWE LIST**  
\*\*\*\*\*

- #1 7-627-552-48 SCREW, PRECISION +P 1.7X4
- #2 7-671-155-01 STEEL BALL 3.0
- #3 7-627-852-17 +P 1.7X4
- #4 7-685-104-19 SCREW (2X6), TAPPING (B)
- #5 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.

**Sony Corporation**  
**General Audio Group**

9-957-330-11

English  
 92F0297-1  
 Printed in Japan  
 ©1992.6

Published by Customer Relations and Service Group

# SONY® SERVICE MANUAL

## SUPPLEMENT-1

File this Supplement with the Service Manual.

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

**Subject :**

1. Saudi Arabia Model is added.
2. The circuit change due to added the muting circuit.

**1. Saudi Arabia Model is added.**

This model is the almost same as E model.

See D-111 service manual previously issued for the information of this set.

The following parts differ from those in E model.

• **DIFFERENT PARTS  
(SECTION 5)**

	E model		Saudi Arabia model	
Ref. No.	Parts No.	Description	Parts No.	Description
16	A-3275-684-A	MAIN BOARD, COMPLETE	A-3275-432-A	MAIN BOARD, COMPLETE

**(SECTION 6)**

	E model					Saudi Arabia model	
Ref. No.	Parts No.	Description				Parts No.	Description
	A-3275-684-A	MAIN BOARD, COMPLETE				A-3275-432-A	MAIN BOARD, COMPLETE
		*****					*****
JR301 L304	1-216-295-00	METAL CHIP	0	5%	1/10W	1-410-997-31	INDUCTOR CHIP 2.2uH
		—————					
		ACCESSORIES & PACKING MATERIALS				ACCESSORIES & PACKING MATERIALS	
		*****				*****	
	△1-465-520-41	ADAPTOR, AC(AC-64NA)				△1-465-268-21	ADAPTOR, AC(AC-64N)
	△1-569-007-11	ADAPTOR, CONVERSION 2P				△1-569-008-11	ADAPTOR, CONVERSION 2P
	* 4-952-330-01	CUSHION (LOWER)				* 4-952-332-01	CUSHION (LOWER)
	* 4-953-922-01	INDIVIDUAL CARTON				* 4-952-335-01	INDIVIDUAL CARTON

## 2. The circuit change due to added the muting circuit.

The MAIN board has been changed to the part number 1-644-093-12 from 1-644-093-11 in the midst of production.

Accompanying these changes, only the SCHEMATIC DIAGRAM, the PRINTED WIRING BOARDS and the electrical parts list with have been added and changed are described in this SUPPLEMENT.

### • DIFFERENCE PARTS LIST

	FORMER TYPE					NEW TYPE					Remarks
Ref. No.	Parts No.	Description				Parts No.	Description				
C107	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	_____					Deleted
C207	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	_____					Deleted
C352	1-163-038-00	CERAMIC CHIP	0.1uF		25V	_____					Deleted
C529	1-164-364-11	CERAMIC CHIP	1uF		16V	1-162-638-11	CERAMIC CHIP	1uF		16V	
C536	1-164-156-11	CERAMIC CHIP	0.1uF		25V	1-163-077-00	CERAMIC CHIP	0.1uF		25V	
IC601	8-752-337-26	IC CXD2500AQ				8-752-352-93	IC CXD2500BQ				
IC602	8-759-234-13	IC TC4S30F				8-759-082-16	IC SC14S70F				
JR300	1-216-295-00	METAL CHIP	0	5%	1/10W	_____					Deleted
JR301	_____					1-216-295-00	METAL CHIP	0	5%	1/10W (E, JE)	Added
JR563	1-216-295-00	METAL CHIP	0	5%	1/10W	_____					Deleted
L304	_____					1-410-997-31	INDUCTOR CHIP	2.2uH (US, Canadian, AEP, FRENCH, AUS, Saudi Arabia, UK)			Added
Q102	_____					8-729-921-73	TRANSISTOR 2SD1781K-QR				Added
Q202	_____					8-729-921-73	TRANSISTOR 2SD1781K-QR				Added
Q421	8-729-901-14	TRANSISTOR DTA114EK				8-729-424-08	TRANSISTOR UN2111				
Q453	8-729-901-00	TRANSISTOR DTC124EK				8-729-424-59	TRANSISTOR UN2212				
Q455	8-729-901-00	TRANSISTOR DTC124EK				8-729-424-59	TRANSISTOR UN2212				
Q502	8-729-901-00	TRANSISTOR DTC124EK				8-729-424-59	TRANSISTOR UN2212				
Q503	8-729-907-39	TRANSISTOR IMD2				8-729-420-20	TRANSISTOR XN4312				
Q506	8-729-901-00	TRANSISTOR DTC124EK				8-729-424-59	TRANSISTOR UN2212				
Q509	8-729-901-05	TRANSISTOR DTA124EK				8-729-421-12	TRANSISTOR UN2112				
R113	1-218-728-11	METAL CHIP	33K	0.50%	1/16W	1-218-883-11	METAL CHIP	33K	0.50%	1/16W	
R114	1-218-728-11	METAL CHIP	33K	0.50%	1/16W	1-218-883-11	METAL CHIP	33K	0.50%	1/16W	
R119	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R120	_____					1-216-053-00	METAL CHIP	1.5K	5%	1/10W	Added
R213	1-218-728-11	METAL CHIP	33K	0.50%	1/16W	1-218-883-11	METAL CHIP	33K	0.50%	1/16W	
R214	1-218-728-11	METAL CHIP	33K	0.50%	1/16W	1-218-883-11	METAL CHIP	33K	0.50%	1/16W	
R219	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R220	_____					1-216-053-00	METAL CHIP	1.5K	5%	1/10W	Added
R503	1-216-836-11	METAL CHIP	18K	5%	1/16W	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R571	1-220-158-91	METAL GLAZE	3.6K	5%	1/16W	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	

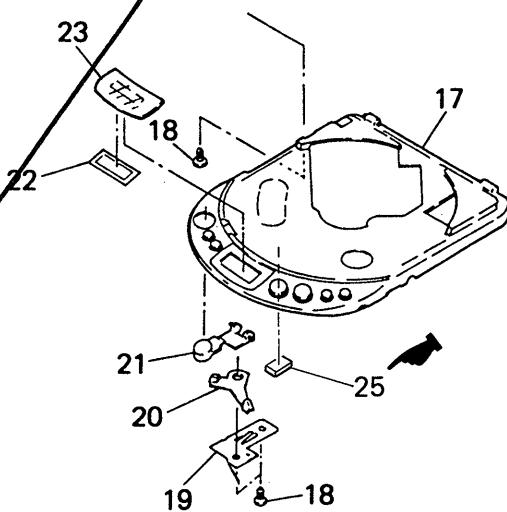
**REVISED****CORRECTION**

Correct your service manual as shown below.

: indicates corrected portion

Page	INCORRECT	CORRECT
	No. <u>Parts No.</u> Description	<u>Parts No.</u> Description
23	7 4-944-363-01 SEPARATOR	4-952-504-01 SEPARATOR 9-911-839-99 RETAINER(B), MICROPHONE(UK)
25	A-3275-432-A MAIN BOARD, COMPLETE (US, Canadian, AEP, E, FRENCH, JE, AUS)  4-944-363-01 SEPARATOR	A-3275-432-A MAIN BOARD, COMPLETE (US, Canadian, AEP, FRENCH, AUS)  A-3275-684-A MAIN BOARD, COMPLETE (E, JE)  4-952-504-01 SEPARATOR
26	*CN502 1-695-320-21 PIN, CONNECTOR(1.5MM) (SMD) 2P  *CN503 1-695-320-41 PIN, CONNECTOR(1.5MM) (SMD) 2P  *CN504 1-695-320-61 PIN, CONNECTOR(1.5MM) (SMD) 2P	* 1-695-320-11 PIN, CONNECTOR(1.5MM) (SMD) 2P  * 1-695-320-31 PIN, CONNECTOR(1.5MM) (SMD) 2P  * 1-695-320-51 PIN, CONNECTOR(1.5MM) (SMD) 2P

Page 23

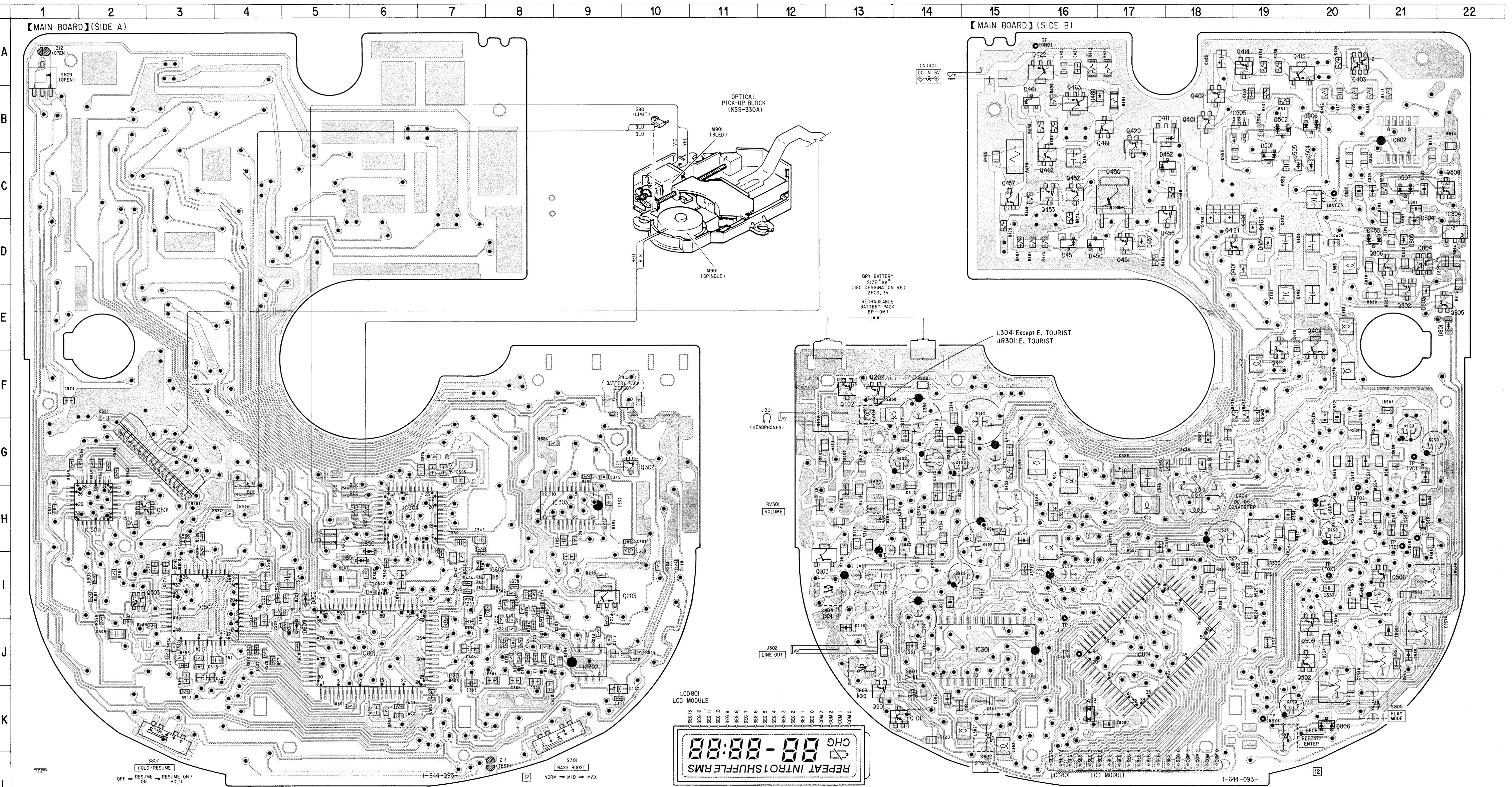




• SEMICONDUCTOR LOCATION

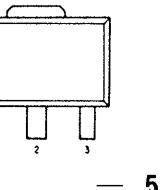
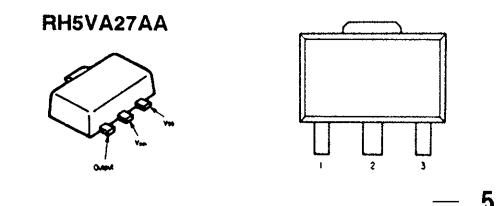
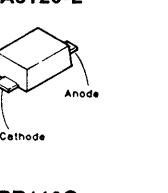
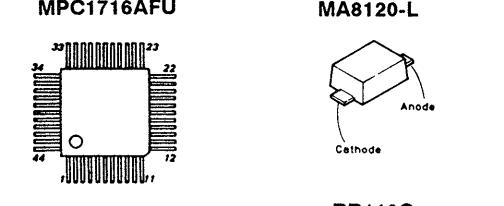
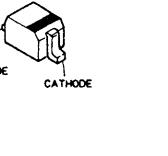
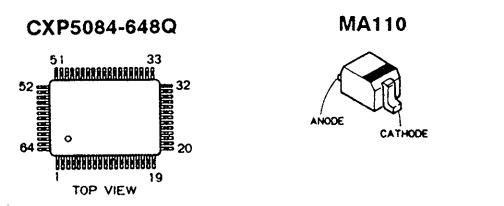
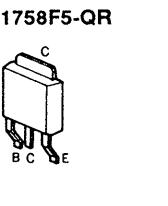
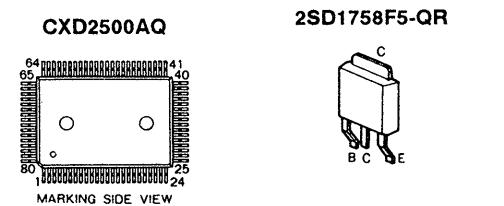
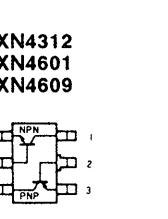
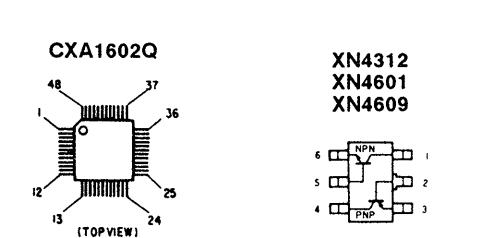
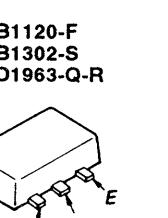
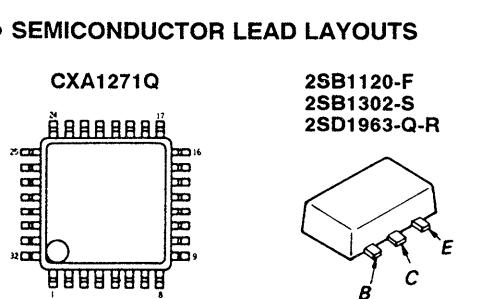
Ref. No.	Location	Ref. No.	Location
D401	D - 19	Q101	K - 14
D411	B - 18	Q102	F - 13
D418	G - 18	Q103	I - 12
D450	D - 16	Q201	K - 13
D451	D - 16	Q202	F - 13
D452	C - 18	Q203	I - 9
D453	K - 16	Q302	G - 10
D454	D - 19	Q401	B - 18
D455	D - 21	Q402	B - 18
D457	D - 17	Q403	A - 20
D460	B - 17	Q404	E - 20
D461	B - 16	Q411	E - 19
D463	D - 19	Q413	A - 20
D501	C - 19	Q414	A - 19
D502	B - 19	Q420	B - 17
D504	C - 20	Q421	D - 19
D505	C - 19	Q422	A - 16
D506	B - 20	Q450	C - 17
D507	C - 21	Q451	D - 17
D801	E - 22	Q452	C - 16
D802	I - 5	Q453	C - 16
D803	E - 21	Q455	C - 18
D804	D - 21	Q457	C - 15
D805	D - 21	Q461	B - 17
D806	K - 20	Q462	C - 16
D809	J - 5	Q463	B - 16
D850	I - 6	Q501	H - 2
D851	I - 6	Q502	J - 20
IC301	J - 15	Q503	I - 2
IC302	J - 9	Q506	I - 21
IC303	H - 9	Q508	C - 22
IC501	H - 2	Q509	J - 20
IC502	I - 3	Q802	E - 21
IC504	H - 6	Q804	D - 21
IC505	B - 19	Q805	E - 22
IC601	J - 6	Q806	D - 21
IC602	I - 8		
IC801	J - 17		
IC802	B - 21		
IC804	D - 22		

PRINTED WIRING BOARDS

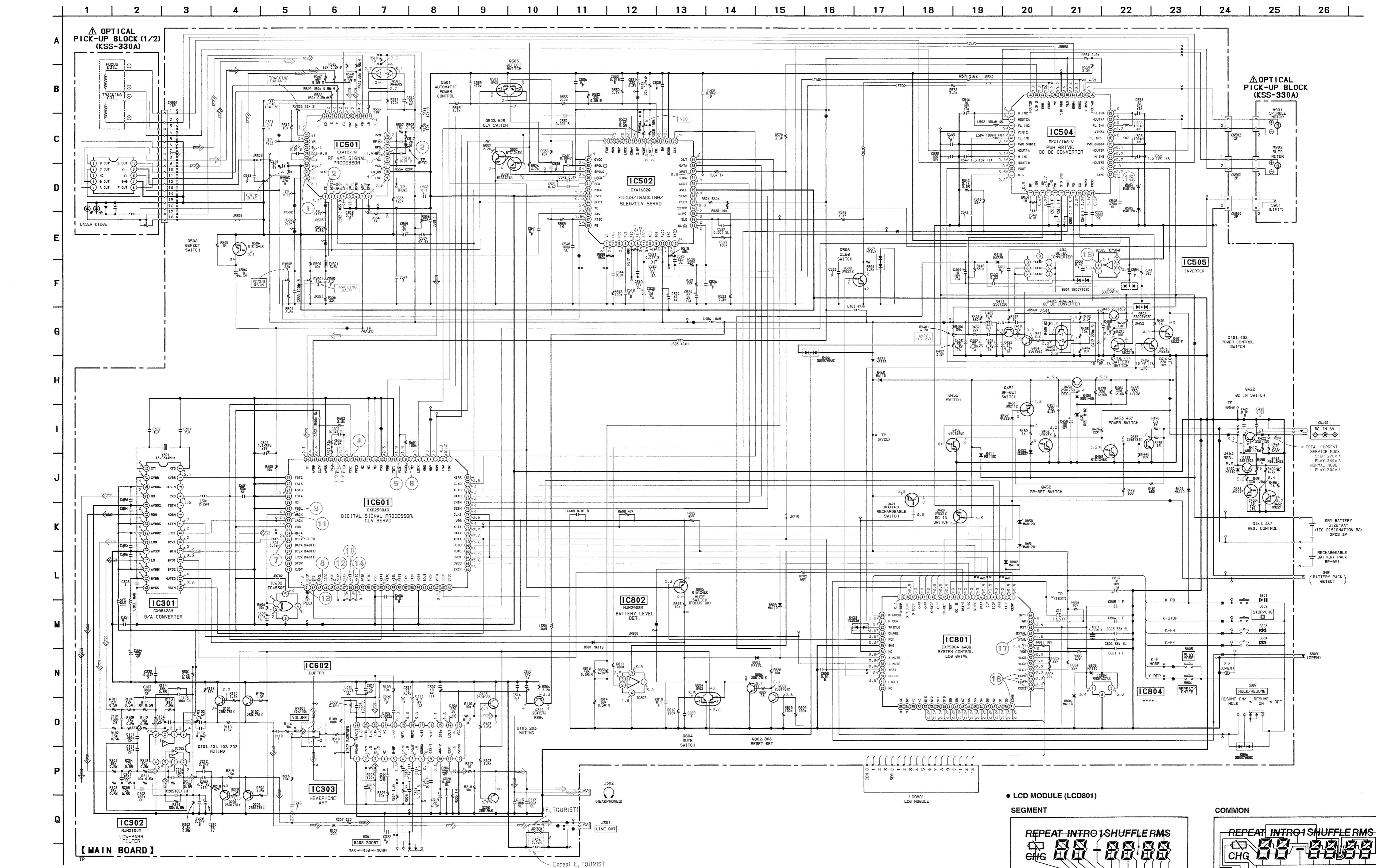


Note:

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



### SCHEMATIC DIAGRAM



REPEAT INTRO1 SHUFFLE RMS  
CHG

REPEAT INTRO1 SHUFFLE RMS  
CHG