D-88

SERVICE MANUAL

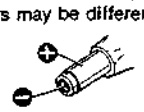
US Model
AEP Model
UK Model
E Model

Discman

SPECIFICATIONS

CD section	
System	Compact disc digital audio system
Laser diode properties	Material: GaAlAs Wavelength: 780 nm Emission duration: Continuous Laser output: Max. 44.6 μW* *This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.
Spindle spped	500 r.p.m. to 200 r.p.m. (CLV)
Error correction	Sony Super Strategy Cross Interleave Reed Solomon Code
D-A conversion	16-bit linear 2fs digital filter
Frequency response	20–20,000 Hz
Outputs (at 9 V input level)	Headphones (stereo minijack) 9 mW + 9 mW at 32 ohms
General	
Power requirements	Supplied rechargeable battery pack BP-2 DC IN 9 V jack accepts: Supplied AC power adaptor for use on 120 V AC, 60 Hz
Power consumption	1.7 W DC
Dimension	Approx. 94.0×29.9×98.5 mm (3¾×1³⁄₁₆×4) (w/h/d) not incl. inclined part (depth), projecting parts and controls Approx. 94.5×32.9×99 mm (3¾×1³⁄₁₆×4) (w/h/d) incl. projecting parts and controls
Weight	Approx. 300 g (10.6 oz), not incl. rechargeable battery pack and case Approx. 400 g (14.2 oz) incl. rechargeable battery pack and case
Supplied accessories	AC power adaptor (1) Rechargeable battery pack (1) Carrying bag (1) Connecting cord (1) (stereo miniplug ⟷ two phono plugs) Battery pack case (1) Headphones (1)

Notes
Use only the supplied AC power adaptor or the recommended battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



CAUTION

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

MICROFILM

COMPACT DISC COMPACT PLAYER

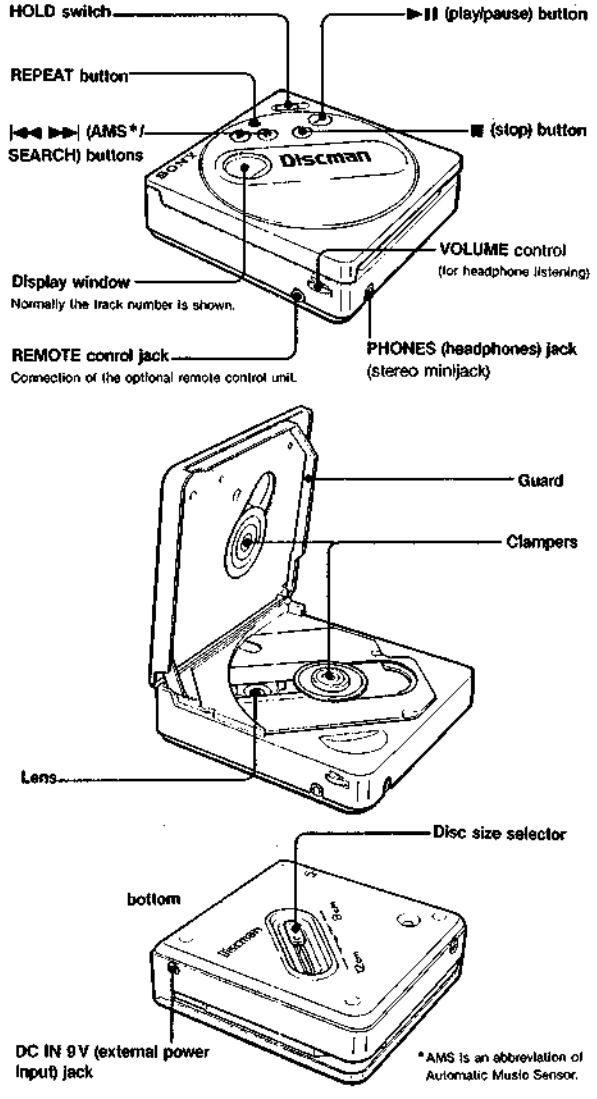
SONY®

TABLE OF CONTENTS

SAFETY-RELATED COMPONENT WARNING!!

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

Location and Function of Controls



SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK

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.

Flexible Circuit Board Repairing

1. Keep the temperature of the soldering iron at 270° ± 10°C during repairing.
2. Do not touch the soldering iron more than 4 seconds or 3 times on the same conductor of the circuit board.
3. Do not 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.

How to use the heat shiel connector

Removal:
Remove the heat shiel connector by a pair of tweezers and wipe off stains by thinner.
(Never re-use a disconnect heat shiel connector.)

Assembly:
Arrenge the pattern of PC board, LCD panel and heat shiel connector, and heat and press the arrenged portion by soldering iron.

- Not use the solder.
- Heat and press at less than 200°C.

  Example method:
  Put the separation paper of the both-side adhesive tape on the heat shiel connector and heat and press separation paper with the convertional soldering iron.

- Heat and press the black pattern portion of heat shiel connector mainly.

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: IC501 (9) pin
  When checking FOK, remove the lead wire to disc motor and ansolder and open IC801 (19) pin.
- S carve P-to-P value: 2.95 Vp-p
- Adjusted part for focus gain adjustment: RV503
- RF signal P-to-P value: 0.75 – 1.4 Vp-p
- Traverse signal P-to-P value: 1.8 Vp-p
- The grating holder can not repair.
- Adjusted part for tracking gain adjustment: RV504

NOTES ON LASER DIODE EMISSION CHECK

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

Laser Diode Check Procedure

The laser diode on this set will not emit unless the top panel is closed and S701 (leaf SW type) is turned on.
The laser diode is checked using the current value which flows to the laser diode inside the UPF.

Procedure 1 (service mode or normal operation)
Check the laser diode emission with the eye.

1. Open upper panel.
2. Remove bottom panel and S701 on.
3. Press the ▶II key.
   (In service mode, this operation is not necessary.)
4. Observe the objective lens and confirm that the laser diode is emitting light. At this time, the laser diode goes on about 10 seconds due to focus serarch. If it does not, APC circuit or UPF is defective.

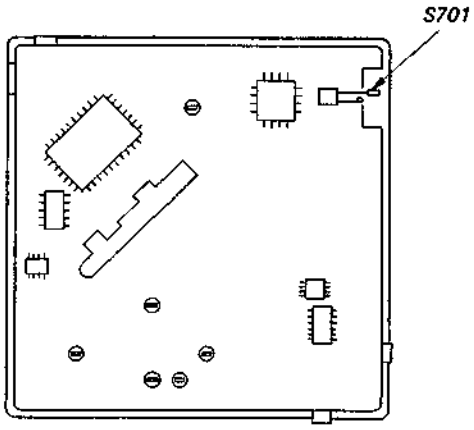
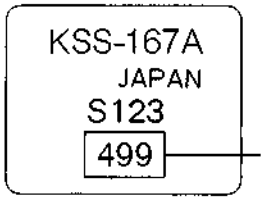


Fig. 1 Turning S701 on

Procedrue 2 (service mode or normal operation)
Check by the curent with flows in the laser diode.

1. Close the top panel.
2. Remove the main board and read the current value on the label affixed to the UPF.
   (Label on UPF)



   The current value varies with the set.
3. Connect a VOM as shown in Fig. 2.
4. Press the ▶II key.
5. Calculate the current by the VOM reading.
   VOM reading (V) ÷ 10 = current (A)
   ex. VOM reading = 0.49 V
   0.49 ÷ 10 = 0.049 (A) = 49 (mA)
6. Confirm that the ammeter reading is within the range given below.
   value on label $^{+5}_{-11}$ mA (25°C)
   variation relative to temperature:
   0.4 mA/°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 UPF is defective.

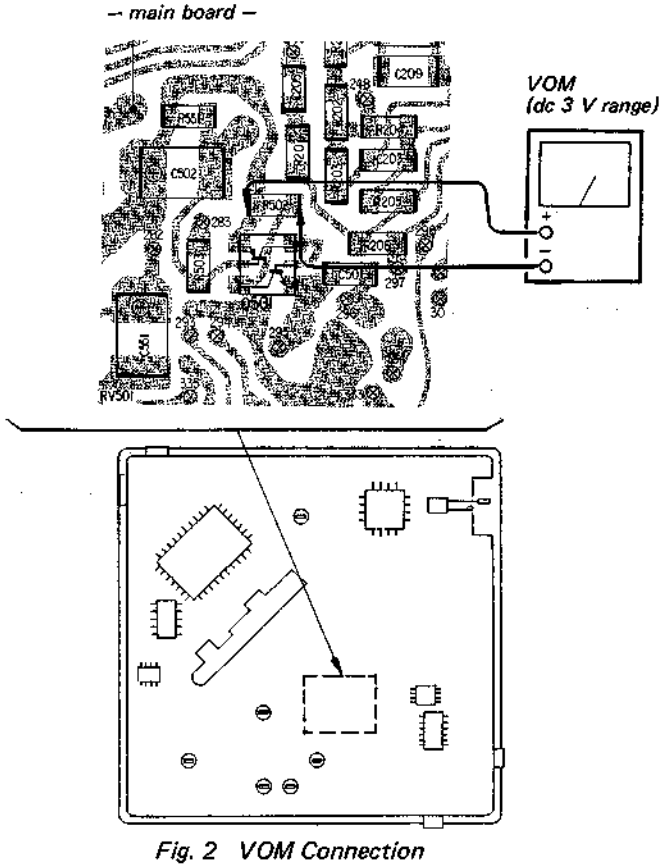
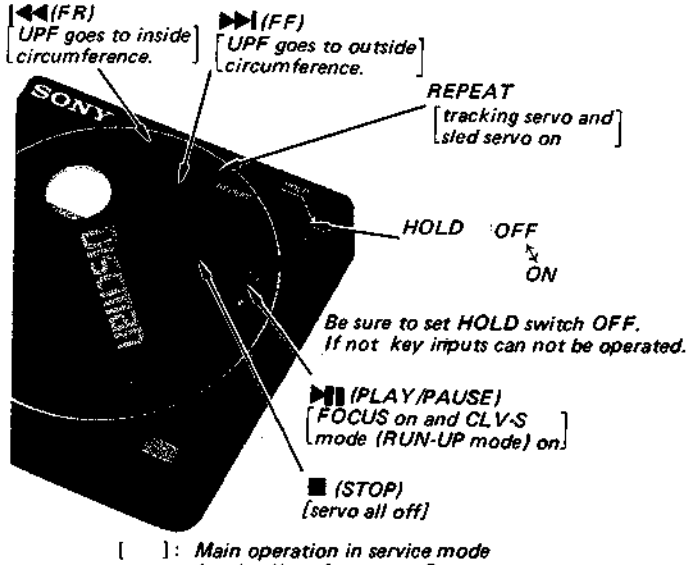


Fig. 2 VOM Connection

SERVICE MODE (service program)

This set has built-in service program in the micro-computer as usual sets.
The operation method of service program is explained below.



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

Fig. 3 Key Positions

Step 1 (Service Mode setting method)

1. Turn the HOLD switch OFF with the external power supply not plugged in (no power applied to set) and press the ▶II key.
2. Solder jumper BATT-E point.
   (IC801 pin ⑭ (BATT-E) pin is grounded.
3. Remove BATT-W lead wire (BLK).
4. Plug in external power supply.
   This puts the set into 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 UPF moves to the inside or outside circumference. Tracking servo and sled servo go off when this is done. press KEY-MODE to turn on the tracking servo if necessary.
3. When ▶II 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.
4. When REPEAT key is pressed, tracking servo, sled servo and CLV-A (servo during PLAY) go ON.
5. When 3 and 4 are performed, the disc begins to play. At this time, the top panel should be closed and S701 are to be ON.
6. 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 BATT-E point solder jumper and connect BATT-W lead wire.
2. The set will now operated normally.

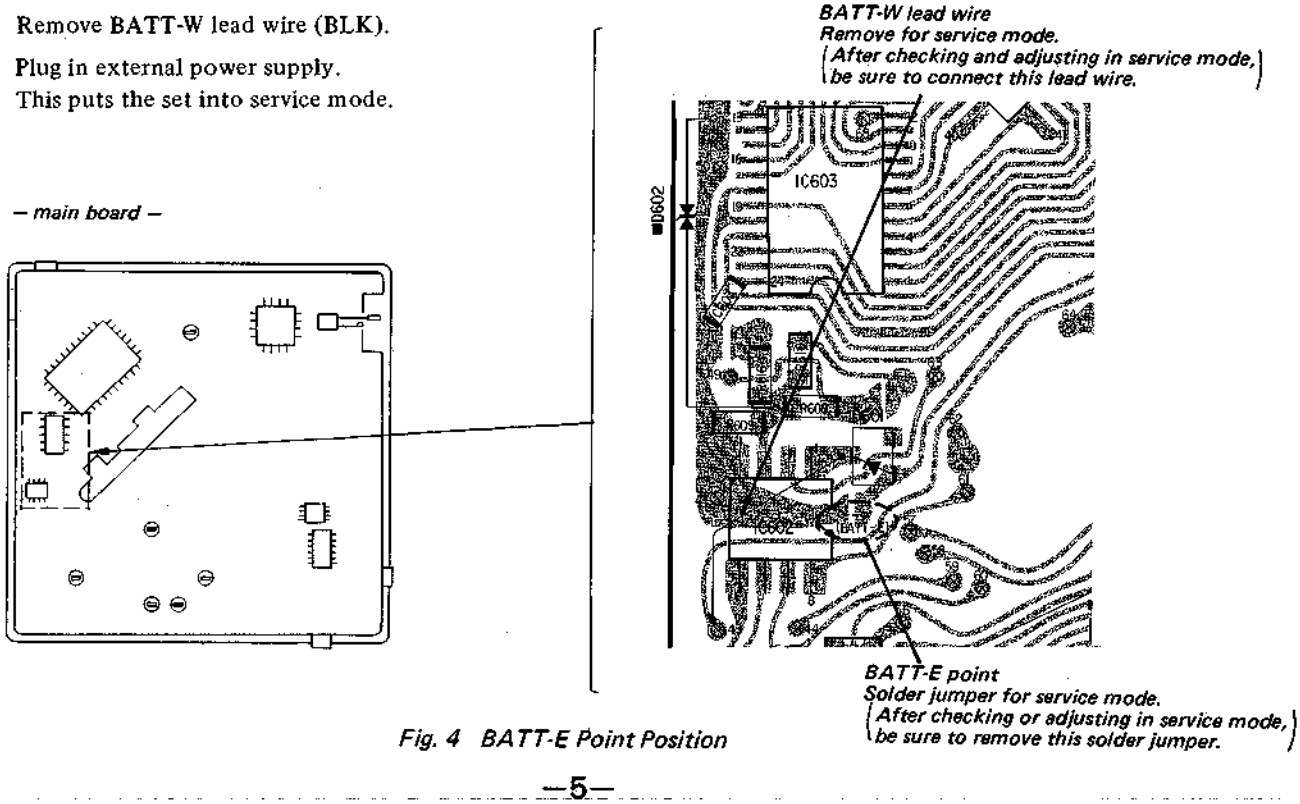


Fig. 4 BATT-E Point Position

SECTION 1
ELECTRICAL ADJUSTMENTS

Notes on Adjustment

1. Perform adjustments 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 9 V
   HOLD switch: OFF
   VOLUME control: min.
   Disc size selector: 12 cm

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. Open the top panel.
2. Press the ▶▶| , |◀◀ keys and make sure that the UPF moves smoothly, without catching, from the inmost → outmost → inmost circumference.
   ▶▶| : UPF moves outward
   |◀◀ : UPF moves inward

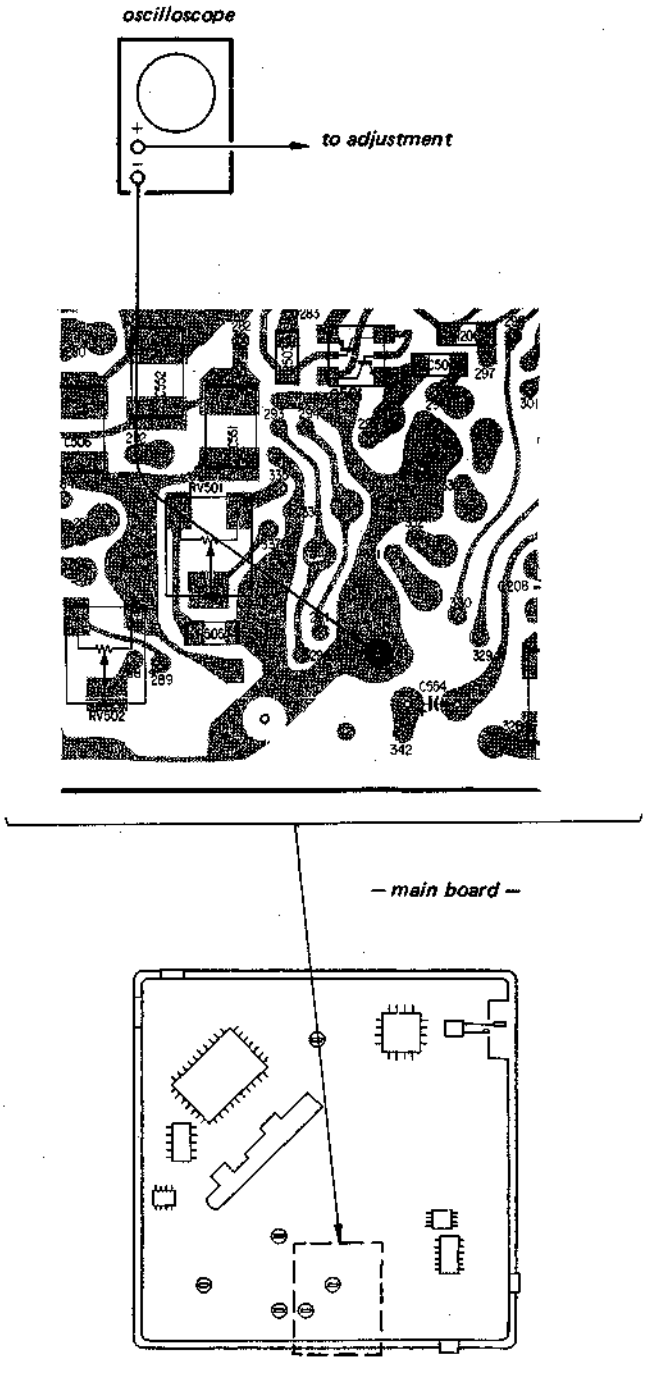
- **Focus Search Check**

1. Open the top panel.
2. Press the ▶II key. (Focus search is performed continuously.)
3. Observe the UPF 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. But disc motor continues rotating for a while by inartia.

VC (1/2 Vcc) Connecting Point

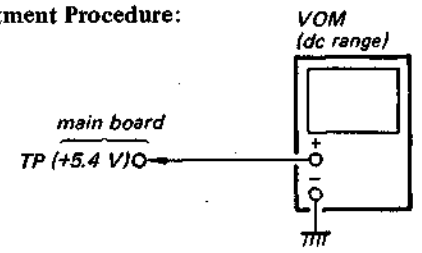
FOCUS BIAS ADJUSTMENT
TRACKING BALANCE ADJUSTMENT

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



+5.4 V Adjustment

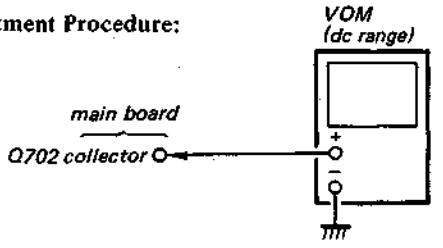
Adjustment Procedure:



1. Put the set into service mode (see page 5).
2. Connect the VOM to main board TP (+5.4 V).
3. Adjust RV401 for +5.4 ±0.1 V reading on the VOM.
4. After adjustment, release service mode (see page 5).

+3.4 V Adjustment

Adjustment Procedure:



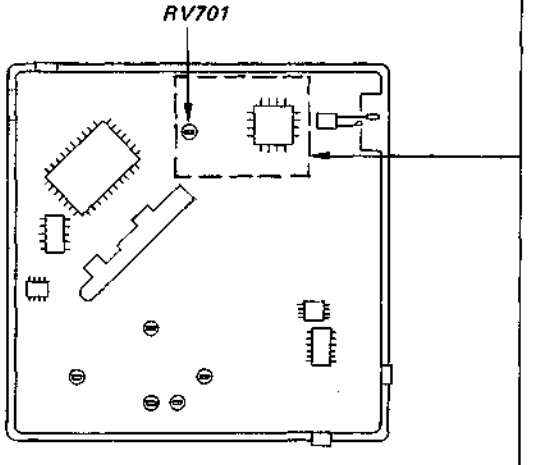
1. Put the set into service mode (see page 5).
2. Connect the VOM to main board Q702 collector.
3. Adjust the pattern connecting (Ⓐ or Ⓑ) to obtain 3.4 to 3.6 V reading on the VOM.

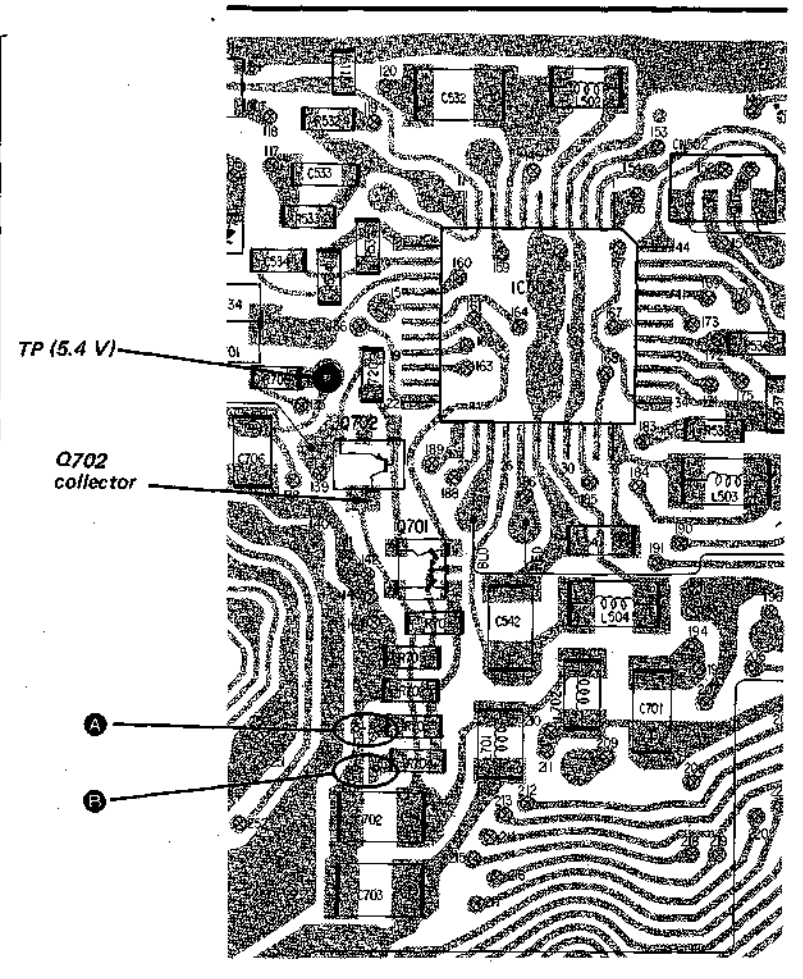
pattern connection		VOM reading
Ⓐ	Ⓑ	
X	X	down
O	X	
O	O	up

O: short X: open

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

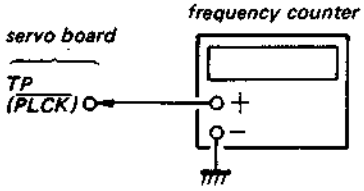
Adjustment Location: main board



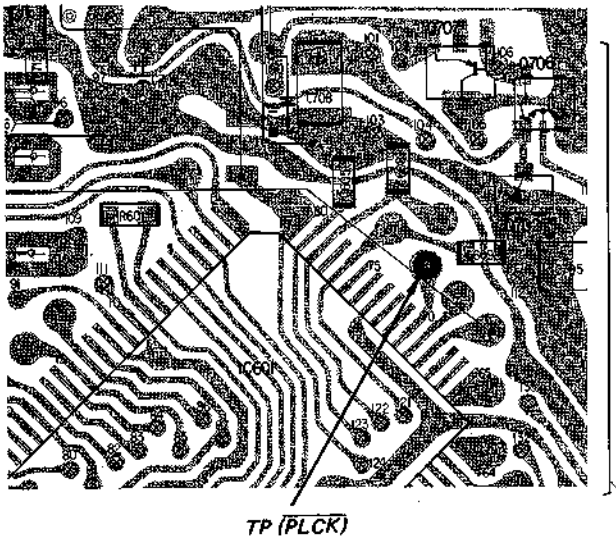


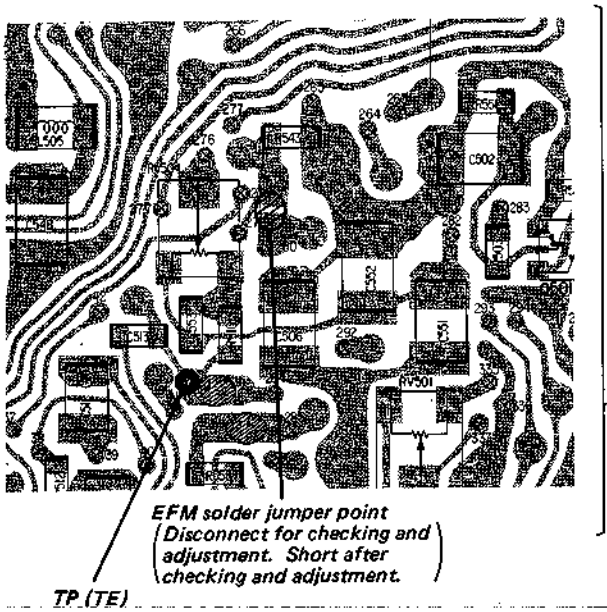
PLL Free Run Frequency Check and Adjustment

Check/Adjustment Procedure:



1. Disconnect the EFM solder jumper point in the diagram below.
2. Connect a frequency counter to main board test point TP ($\overline{\text{PLCK}}$).
3. Put the set into service mode (see page 5).
4. Check that the frequency counter reading is 4.3218 ±0.01 MHz. If not, adjust RV505 so that it is 4.3218 ±0.01 MHz.
5. After adjustment, release service mode (see page 5).
6. Short the jumper point disconnected in step 1.

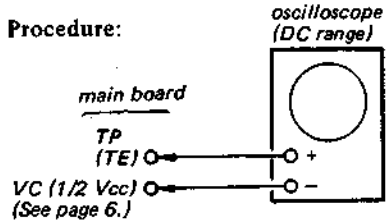




Tracking Balance Adjustment

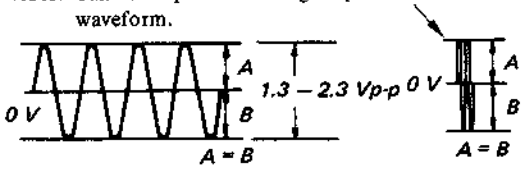
Conditions:
The set should be placed either horizontally.

Adjustment Procedure:



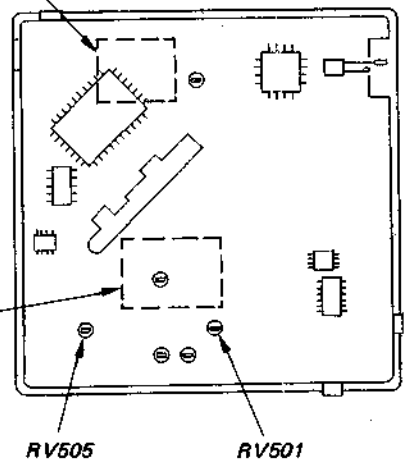
1. Connect the oscilloscope to main board TP (TE).
2. Put the set into service mode (see page 5).
3. Press the ▶▶| and |◀◀ keys to move the UPF to the center.
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the ▶II key.
   (It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.)
6. Adjust RV501 so that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0 V.

   Note: Take sweep time as long as possible to obtain best waveform.



7. Unplug the external power supply to stop spindle motor from rotating.
8. After adjustment, release service mode (see page 5).

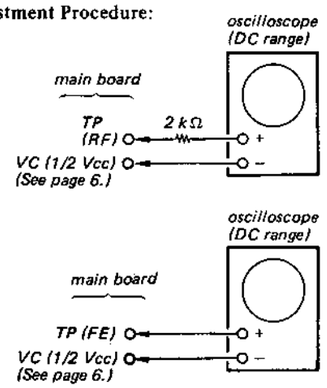
Adjustment Location: main board



Focus Bias Adjustment

Conditions:
The set should be placed either horizontally.

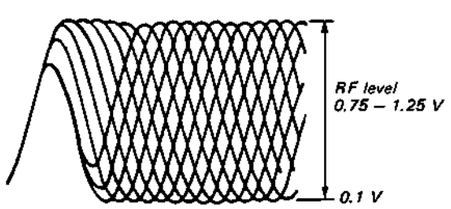
Adjustment Procedure:



1. Put the set into service mode (see page 5).
2. Connect the oscilloscope to main board test point TP (RF).
3. Press the ▶▶| and |◀◀ keys to move the UPF to the center. (Move the UPF to the music area on the disc to enable easy visibility of the eye pattern).
4. Insert the disc (YEDS-18) and close the top panel.
5. Press the ▶II key.
   (It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.)
6. Press the REPEAT key. (Tracking and sled go ON.)
7. Adjust RV502 so that the oscilloscope waveform eye pattern is good. A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

- **RF Signal Reference Waveform (eye pattern)**

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



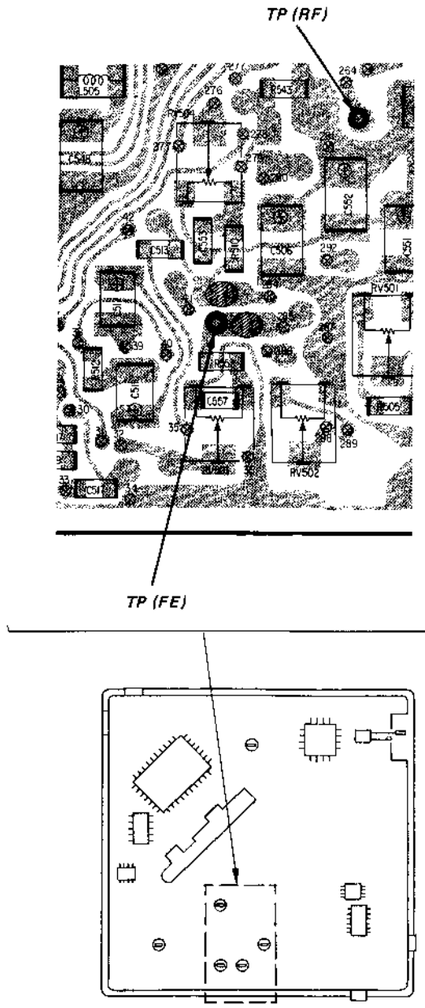
When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

8. Unplug the external power supply to stop spindle motor from rotating and remove the disc.
9. Remove the disc and connect the oscilloscope to main board TP (FE).
10. Adjust RV502 again refering to the table followed.

oscilloscope reading	adjustment
more than 200 mV	Not adjust again.
less than 200 mV	Adjust RV502 again for 220 mV reading on oscilloscope.

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

Adjustment Location: main board



Reference

Focus/Tracking Gain Adjustment

A frequency responce analyzer or CD jig is necessary in order to perform this adjustment exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perfrom this adjustment.
Focus/tracking gain determines the pick-up followup (vertical and horizontal) relative to mechanical noise and metchnical 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.

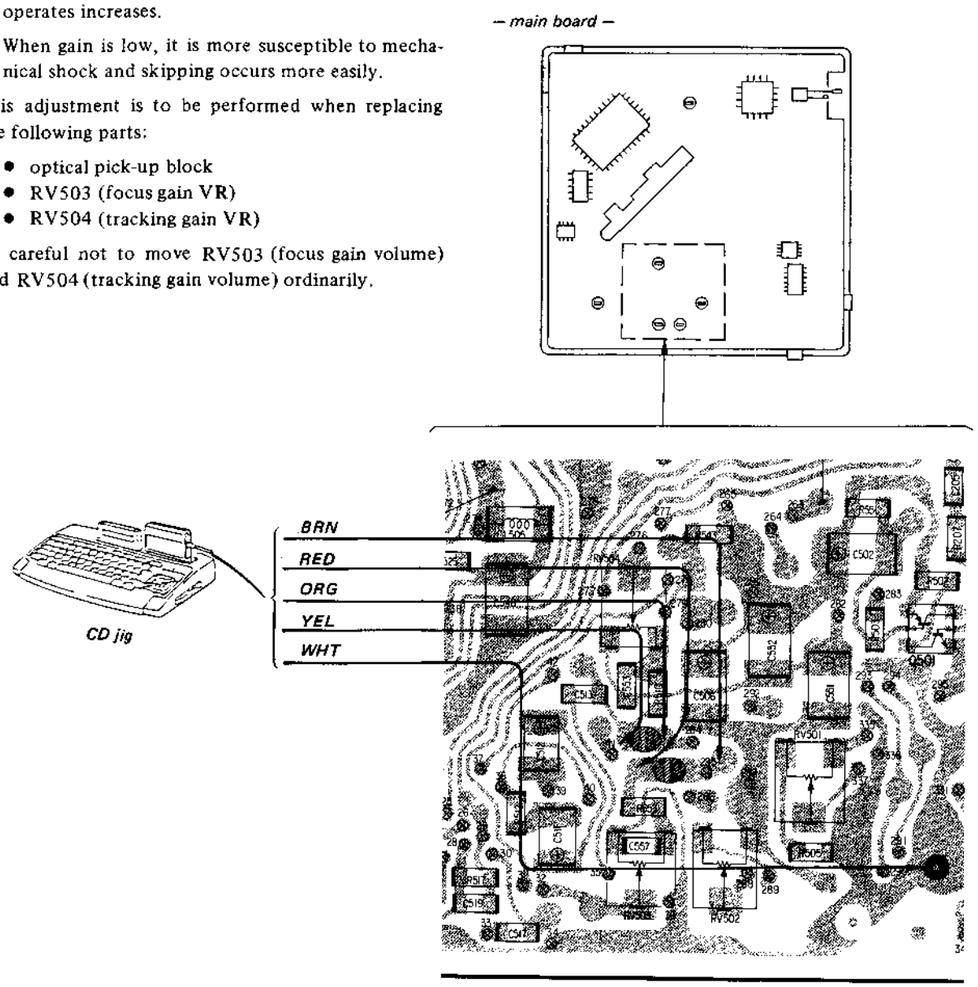
This adjustment is to be performed when replacing the following parts:

- optical pick-up block
- RV503 (focus gain VR)
- RV504 (tracking gain VR)

Be careful not to move RV503 (focus gain volume) and RV504 (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 Connecting Procedure:
Remove the solder jumpers at the TE and FE locations and connect the DC jig.



Adjustment

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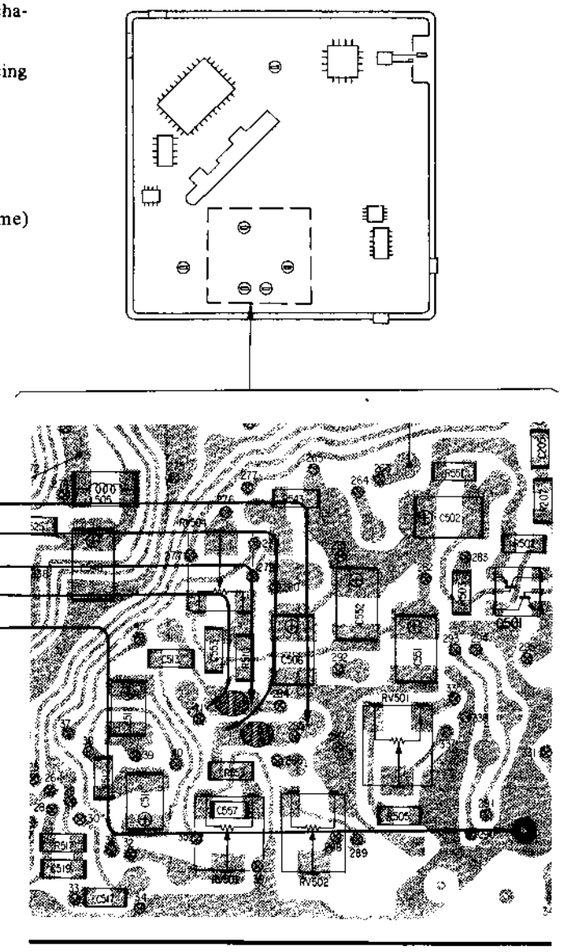
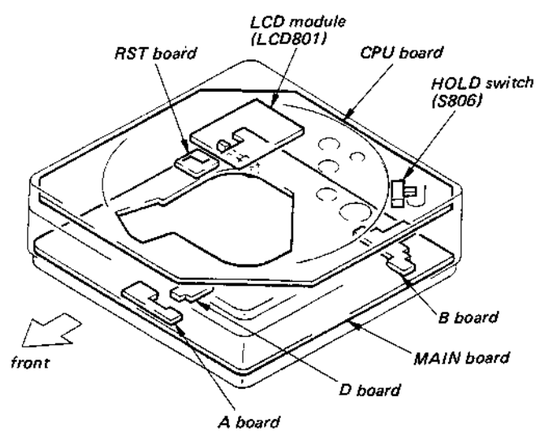
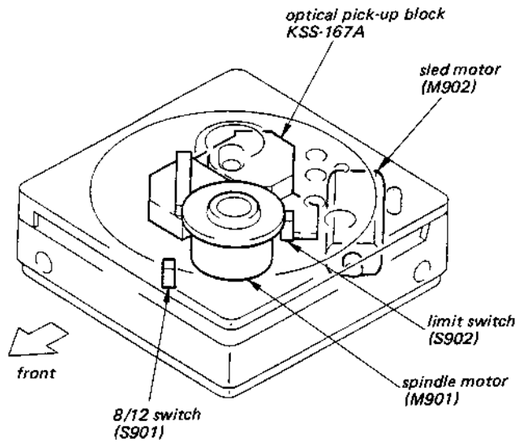


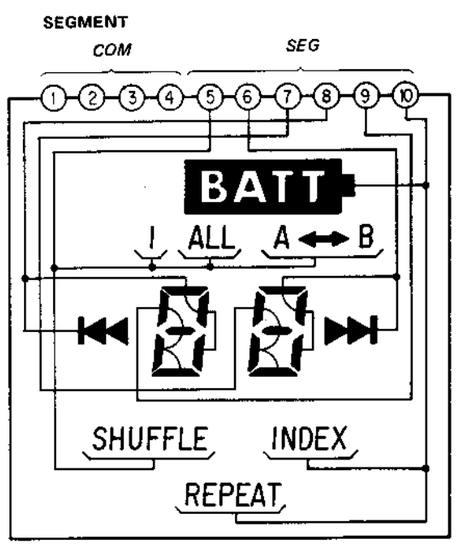
SECTION 2
DIAGRAMS

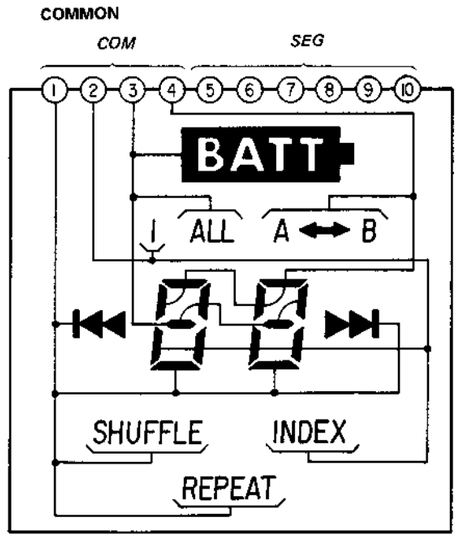
2-1. PC BOARD/SWITCH/MOTOR LAYOUTS





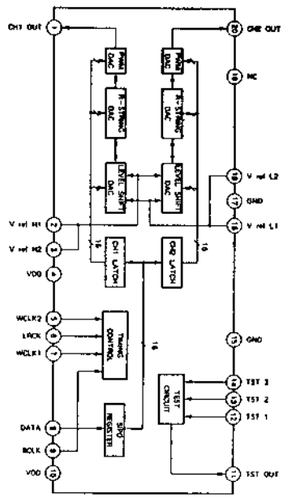
2-2. LCD MODULE



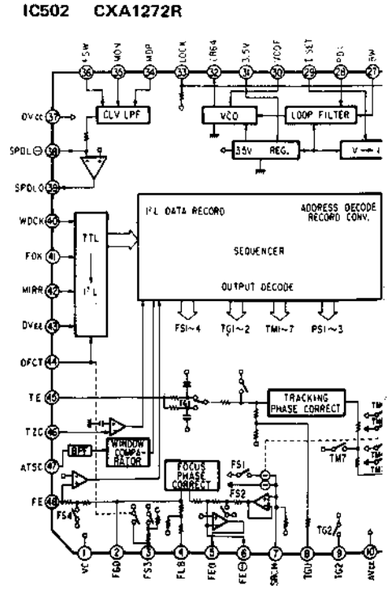


2-3. IC BLOCK DIAGRAMS

IC301 CXD1161M



IC502 CXA1272R



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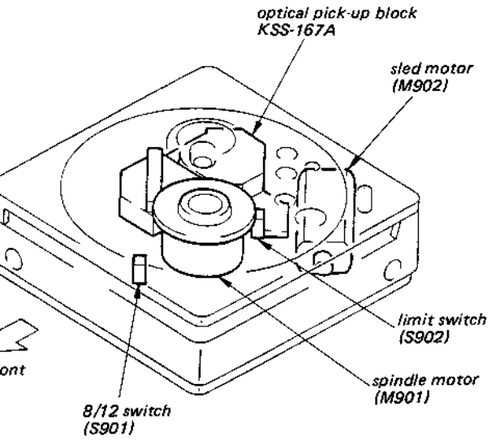
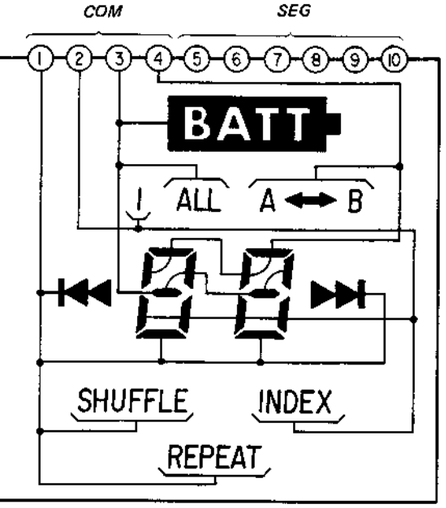
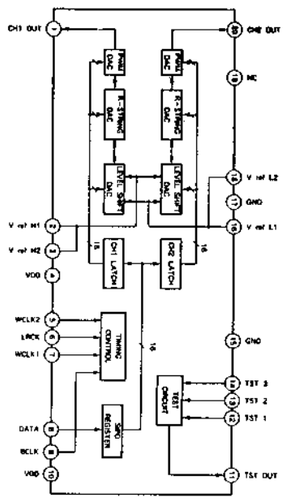
IS



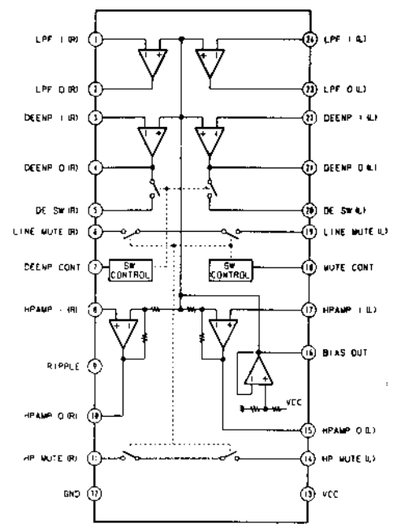


2-3. IC BLOCK DIAGRAMS

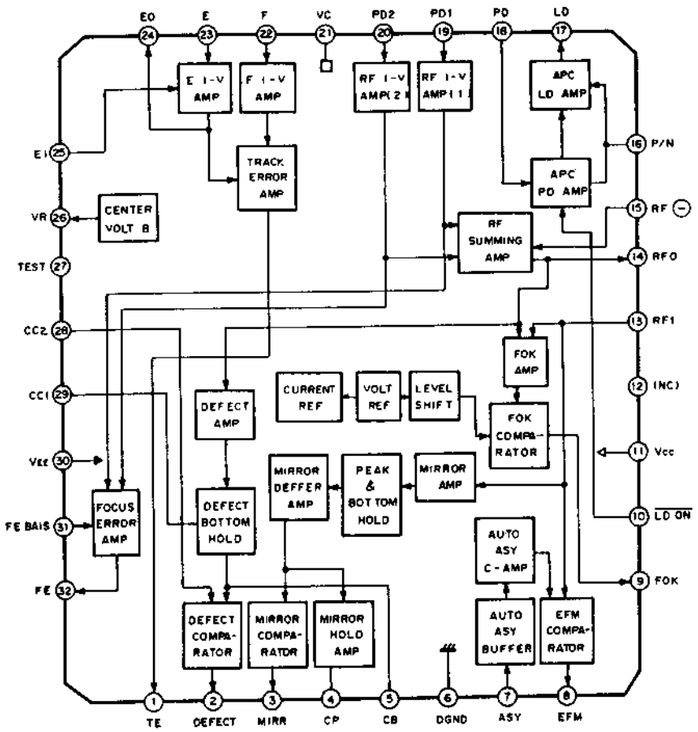
IC301 CXD1161M



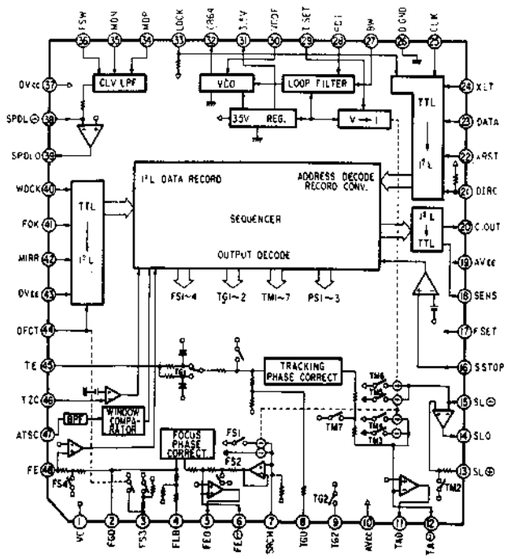
IC302 M51568FP



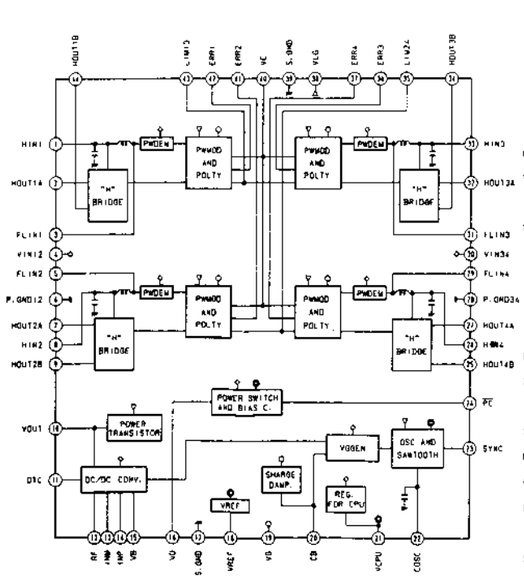
IC501 CXA1271Q



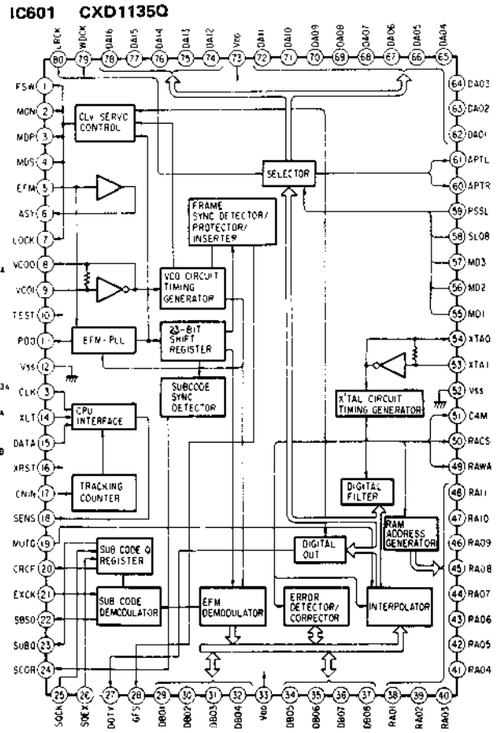
IC502 CXA1272R



IC504 MPC1715



IC601 CXD1135Q

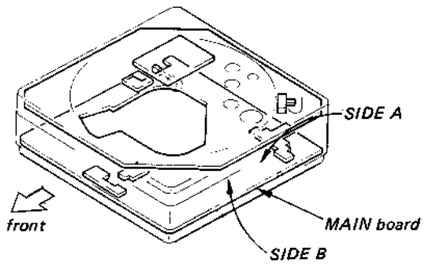


2-4. PRINTED WIRING BOARDS

• See page 22 for Semiconductor Lead Layouts.

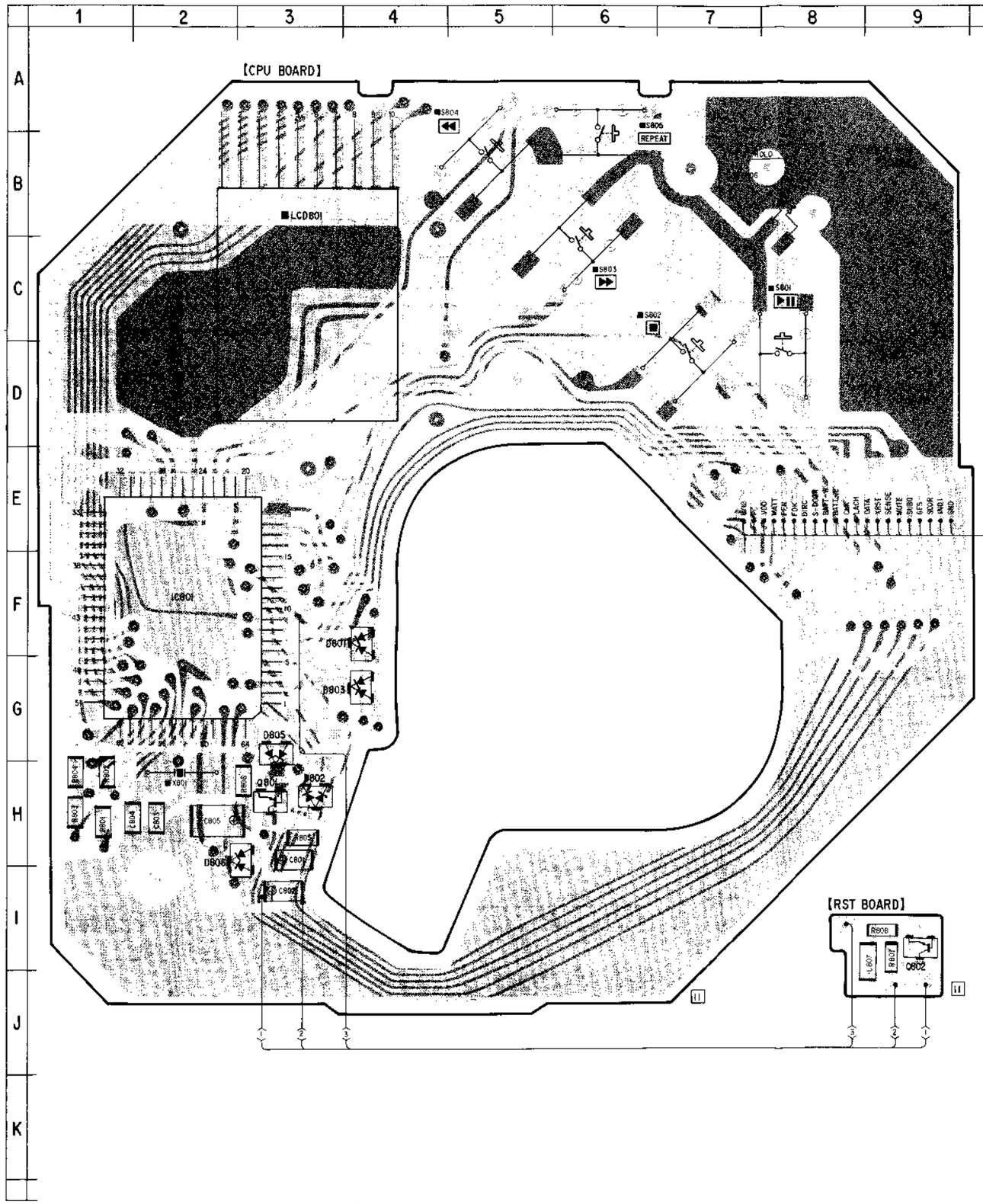
Note:

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



• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D301	F-29	Q101	H-12
D501	C-15	Q201	H-12
D502	C-15	Q301	F-29
D503	B-16	Q501	H-26
D504	I-32	Q506	J-15
D601	G-21	Q507	G-15
D602	E-20	Q508	I-32
D701	B-25	Q509	H-16
D702	B-24	Q701	D-26
D704	A-17	Q702	C-26
D705	A-21	Q704	B-15
D801	F-4	Q706	B-24
D802	H-3	Q707	B-24
D803	G-4	Q708	B-16
D805	G-3	Q709	B-17
D806	H-3	Q711	D-29
D807	G-30	Q712	B-16
		Q713	H-32
IC301	F-12	Q801	H-3
IC302	G-28	Q802	I-9
IC303	G-28		
IC501	H-15		
IC502	I-17		
IC503	C-27		
IC504	C-16		
IC601	D-22		
IC602	G-21		
IC603	E-21		
IC701	A-25		
IC702	B-17		
IC801	F-2		

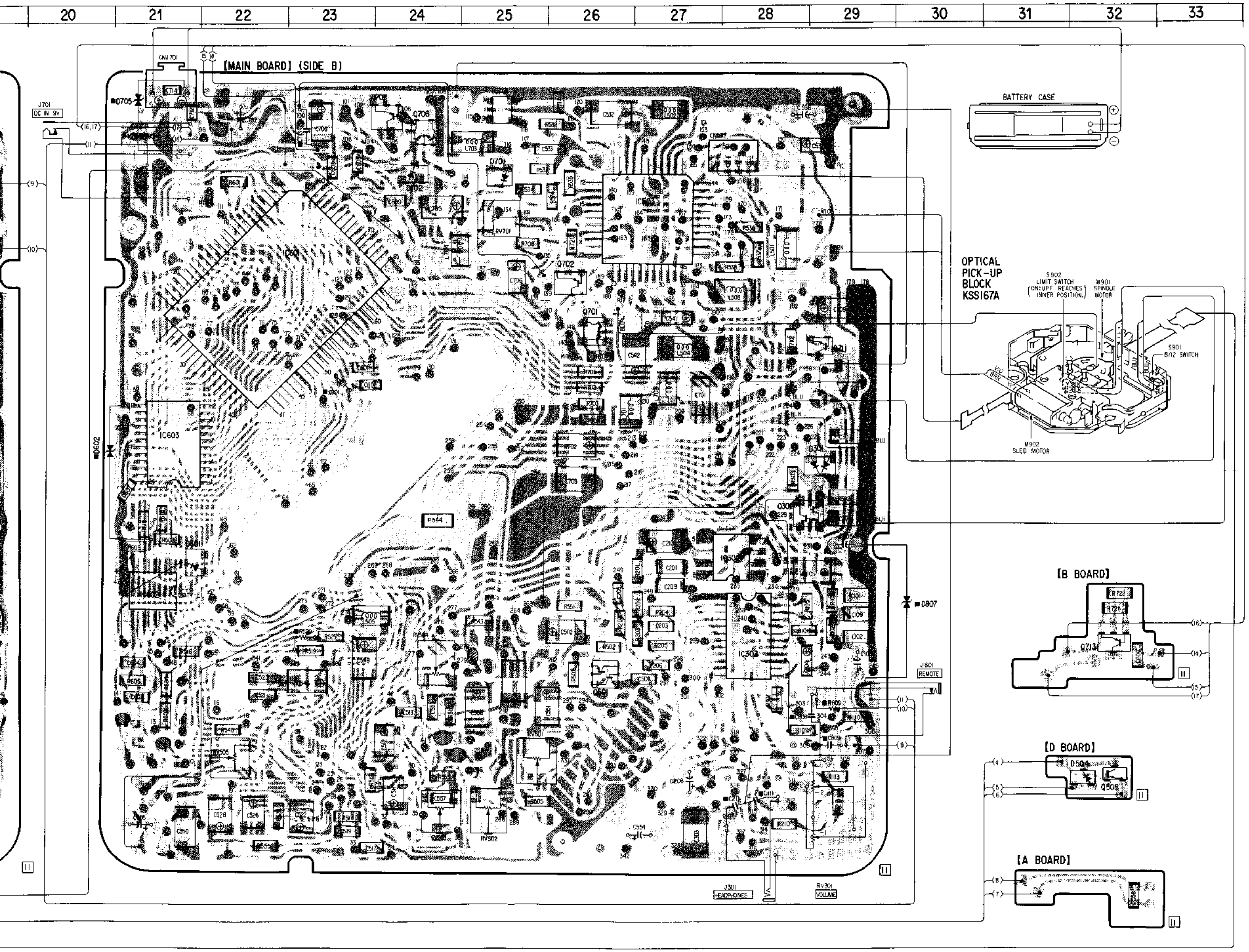


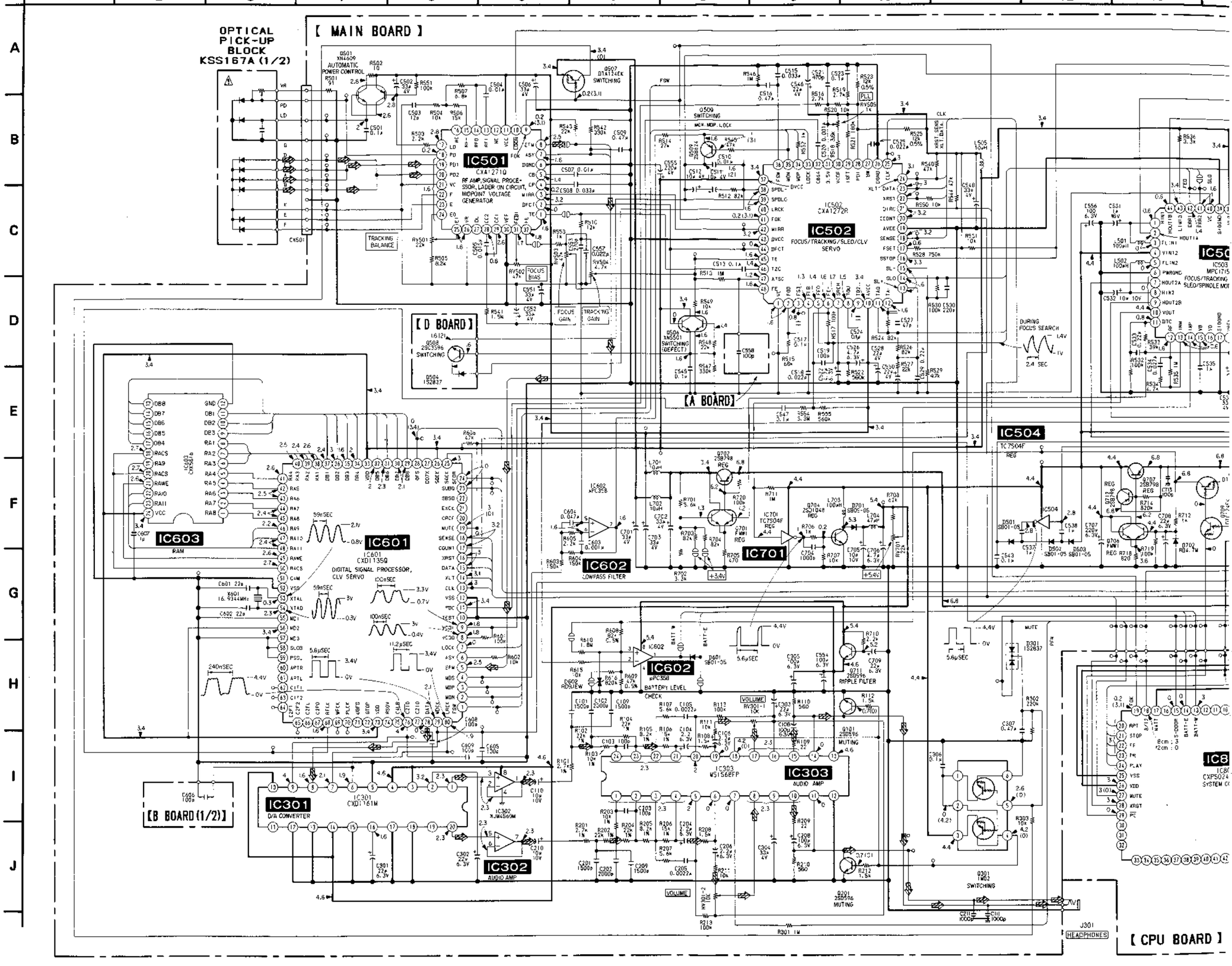
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

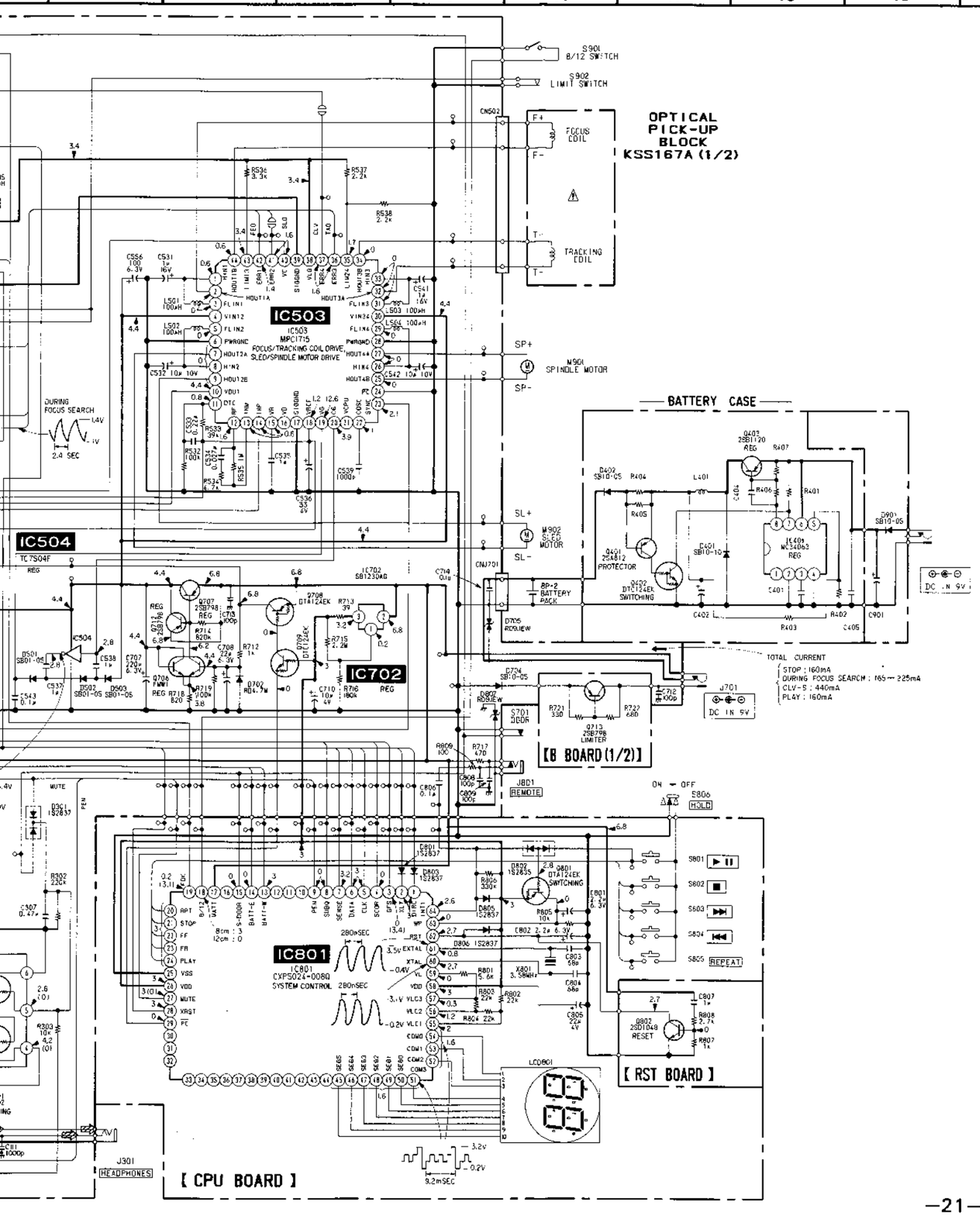
【MAIN BOARD】 (SIDE A)

【MAIN BOARD】 (SIDE B)

【RST BOARD】


20 21 22 23 24 25 26 27 28 29 30 31 32 33
[MAIN BOARD] (SIDE B)
J701
DC IN 9V
BATTERY CASE
OPTICAL
PICK-UP
BLOCK
KSS167A
S902
LIMIT SWITCH
(ON:UPF REACHES INNER POSITION)
M901
SPINDLE
MOTOR
S901
8/12 SWITCH
M902
SLED MOTOR
IC603
IC302
J801
REMOTE
J301
HEADPHONES
RV301
VOLUME
RV502
[B BOARD]
[D BOARD]
[A BOARD]


[MAIN BOARD]
OPTICAL PICK-UP BLOCK KSS167A (1/2)
IC501
CXA1271Q
RF AMP, SIGNAL PROCESSOR, LADER ON CIRCUIT, MIDPOINT VOLTAGE GENERATOR
IC502
CXA1272R
FOCUS/TRACKING/SLED/CLV SERVO
IC504
TC7S04F
IC603
RAM
IC601
CXD1135Q
DIGITAL SIGNAL PROCESSOR, CLV SERVO
IC602
μPC358
LOWPASS FILTER
IC701
TC7S04F
IC301
CXD1161M
D/A CONVERTER
IC302
NJM4560M
AUDIO AMP
IC303
AUDIO AMP
[D BOARD]
[A BOARD]
[B BOARD (1/2)]
[CPU BOARD]
TRACKING BALANCE
FOCUS BIAS
FOCUS GAIN
TRACKING GAIN
DURING FOCUS SEARCH
2.4 SEC
J301
HEADPHONES



Note:

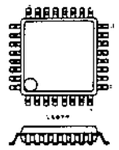
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- ▬▬ : B+ Line
- ▭ : adjustment for repair.
- Total current and voltages and waveforms are measured with top panel closed.
- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground in service mode.
  no mark : STOP
  ( ) : PLAY
- Voltages are taken with a VOM (50 kΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
  ⇨ : CD
- Switch

Ref. No.	Switch	Position
S701	DOOR	ON
S801	PLAY/PAUSE	OFF
S802	STOP	OFF
S803	FF	OFF
S804	FR	OFF
S805	REPEAT	OFF
S806	HOLD	OFF
S901	8/12	OFF
S902	LIMIT	OFF

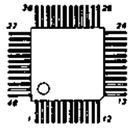
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

• Semiconductor Lead Layouts

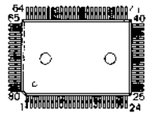
CXA1271Q



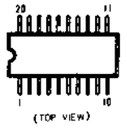
CXA1272R4



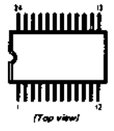
CXD1135Q



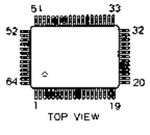
CXD1161M-3



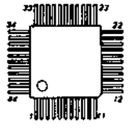
CXK5816MA-15L
M51568FP
PCM60P



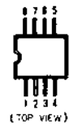
CXP5024-051Q



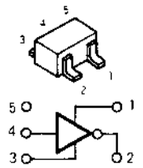
MPC1715



NJM4560M
μPC358G2

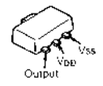


TC7S04F-TE85R

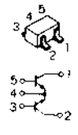


DTA124EK
DTC124EK
2SB624-BV4
2SD1048
2SD596

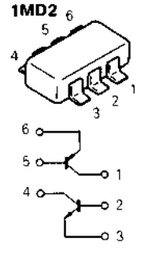
S-81230AG-RB



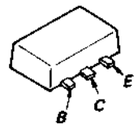
FMW1



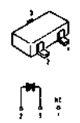
XN4609
XN5501
1MD2



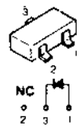
2SB798



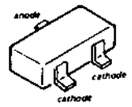
RD4.7M-B2
SB01-05CP



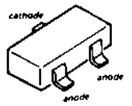
SB05-05CP
SB10-05PCP



1S2835



1S2837

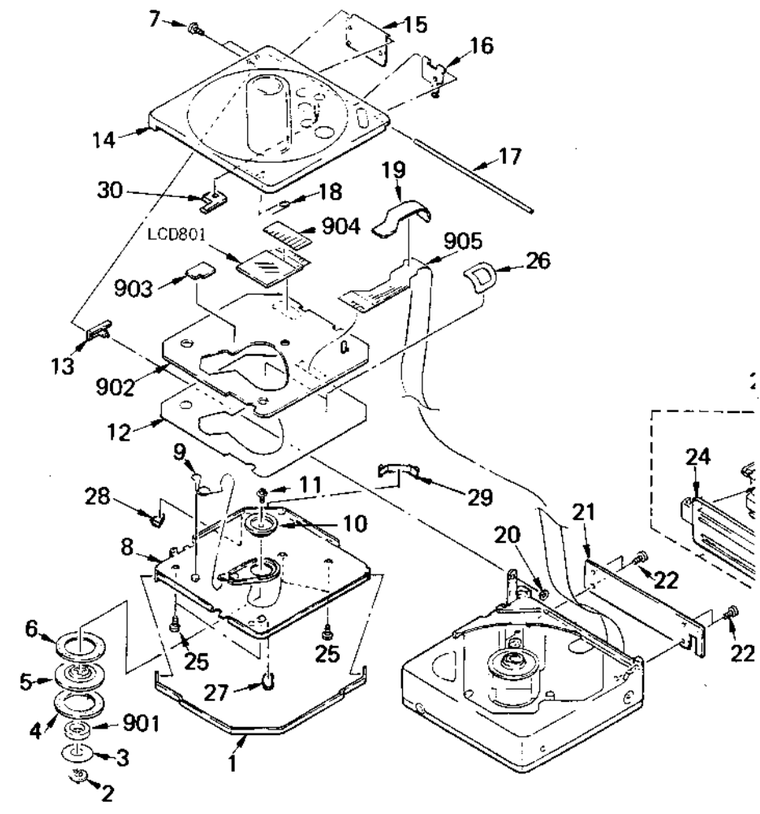


SECTION 3
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts Color

(1) TOP PANEL SECTION



No.	Part No.	Description	Remarks
1	4-926-509-01	ADAPTER	
2	4-926-513-01	SHAFT, CENTER	
3	4-924-184-01	WASHER (CHUCKING)	
4	4-926-011-11	RUBBER, FRICTION	
5	4-924-127-01	PLATE (A), CHUCK	
6	4-926-570-01	WASHER (A)	
7	3-703-816-72	SCREW (M1.4X3.0), SPECIAL HEAD	
8	X-4917-744-1	COVER ASSY, UPPER PANEL	
9	4-926-299-01	SPRING	
10	4-926-294-01	PLATE (B), CHUCK	
11	X-4917-748-1	SCREW ASSY, CHUCKING RETAINER	
12	4-926-553-01	SHEET, INSULATING, CPU PC BOARD	
13	X-4917-745-1	PLATE ASSY, PANEL	
14	X-4917-743-1	PANEL ASSY, UPPER	
15	4-926-501-01	HINGE (L)	
16	4-926-541-01	HINGE (R)	
17	4-926-502-01	SHAFT, FULUCRUM	
18	4-926-537-11	SPRING	

No.	Part No.	Description
19	4-926-557-01	SHEET, INSU
20	3-681-678-00	WASHER, SL
21	4-926-514-01	SLIDER (A)
22	3-703-816-22	SCREW (M1.4
23	A-3045-020-A	CASE ASSY,
24	4-926-516-01	LID, BATTE
25	3-703-816-02	SCREW (M1.4
26	4-926-552-01	SHEET, ADHE
27	4-926-561-01	RUBBER (B),
28	4-926-568-01	RUBBER, RE
29	4-926-539-01	CLAW, LOCK
30	4-926-583-01	CONDUCTOR
901	1-452-473-11	MAGNET
902	*1-626-981-11	PC BOARD,
903	*1-627-209-11	PC BOARD, F
904	1-565-564-11	CONNECTOR,
905	1-626-985-11	PC BOARD, F
LCD801	1-808-440-11	DISPLAY PAI

SECTION 3
EXPLODED VIEWS

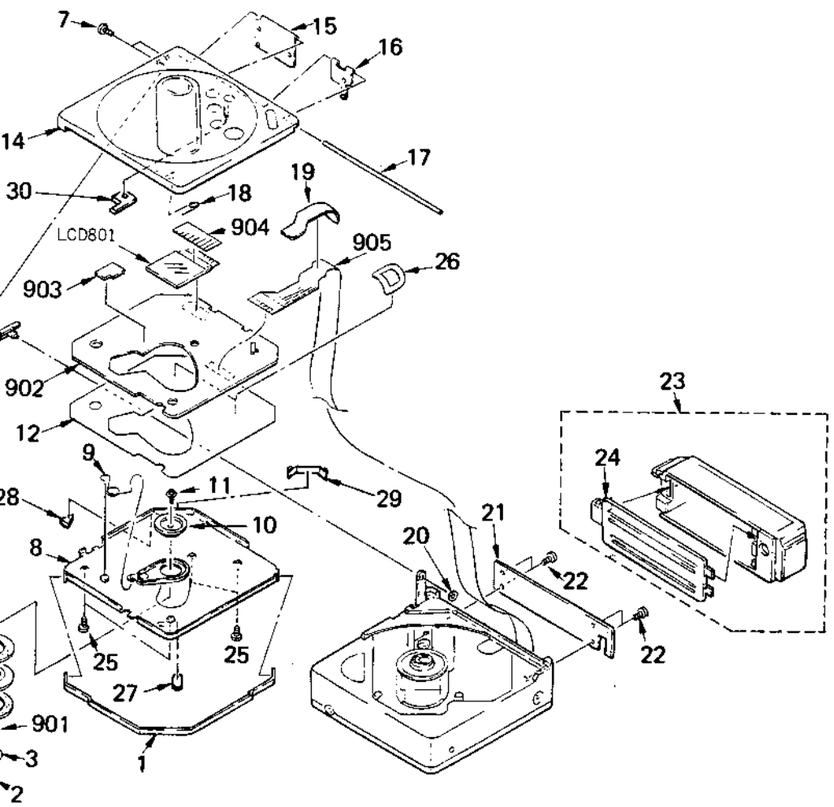
cal parts with no reference
ne exploded views are not

tion parts of an assembled
cated with a collation num-
ark column.
"★" are not stocked since
dom required for routine
ne delay should be antici-
rdering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

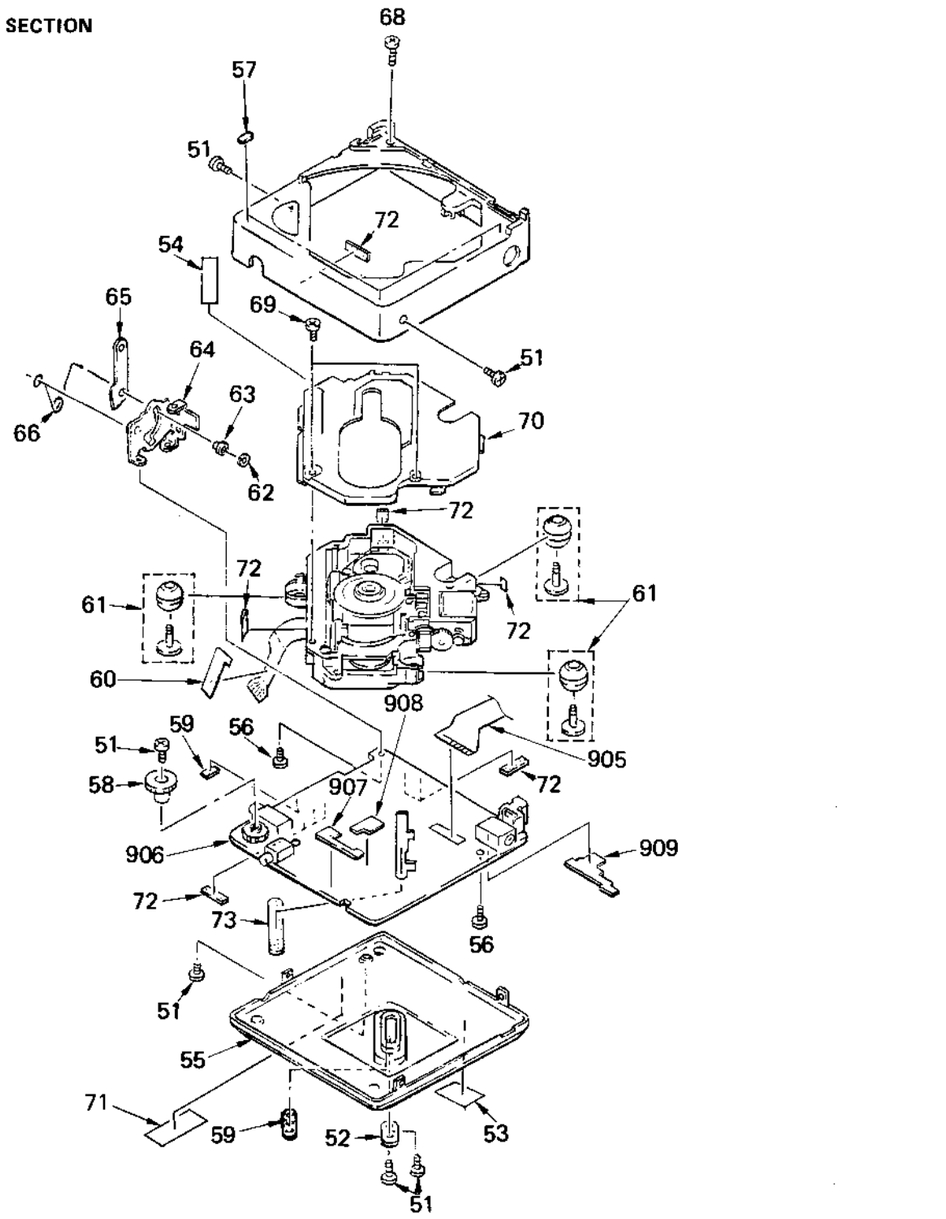
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

EL SECTION



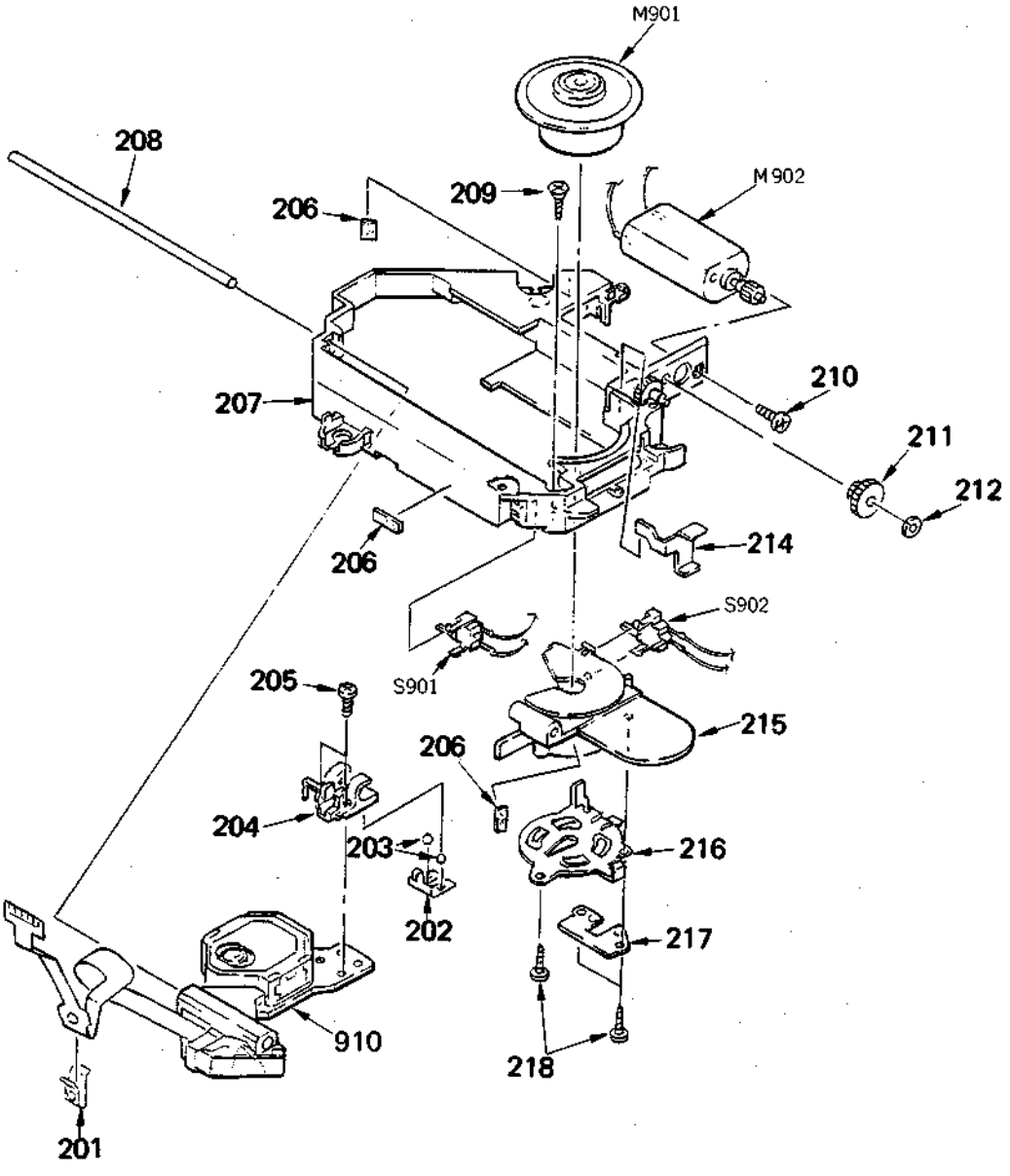
Description	Remarks	No.	Part No.	Description	Remarks
ADAPTER		19	4-926-557-01	SHEET, INSULATING, CPU UP FLESIBLE	
SHAFT, CENTER		20	3-681-678-00	WASHER, SLIT	
WASHER (CHUCKING)		21	4-926-514-01	SLIDER (A)	
RUBBER, FRICTION		22	3-703-816-22	SCREW (M1.4X5.0), SPECIAL HEAD	
PLATE (A), CHUCK		23	A-3045-020-A	CASE ASSY, BATTERY	24
WASHER (A)		24	4-926-516-01	LID, BATTERY CASE	
SCREW (M1.4X3.0), SPECIAL HEAD		25	3-703-816-02	SCREW (M1.4X2.0), SPECIAL HEAD	
COVER ASSY, UPPER PANEL		26	4-926-552-01	SHEET, ADHESIVE, CPU PC BOARD	
SPRING		27	4-926-561-01	RUBBER (B), RETAINER, DISC	
PLATE (B), CHUCK		28	4-926-568-01	RUBBER, RETAINER, P COVER	
SCREW ASSY, CHUCKING RETAINER		29	4-926-539-01	CLAW, LOCK	
SHEET, INSULATING, CPU PC BOARD		30	4-926-583-01	CONDUCTOR	
PLATE ASSY, PANEL		901	1-452-473-11	MAGNET	
PANEL ASSY, UPPER		902	*1-626-981-11	PC BOARD, CPU	
HINGE (L)		903	*1-627-209-11	PC BOARD, RST	
HINGE (R)		904	1-565-564-11	CONNECTOR, HEAT SHIEL	
SHAFT, FULUCRUM		905	1-626-985-11	PC BOARD, FLEXIBLE	
SPRING		LCD801	1-808-440-11	DISPLAY PANEL, LIQUID CRYSTAL	

(2) GENERAL SECTION



No.	Part No.	Description	Remarks
51	3-703-816-72	SCREW (M1.4X3.0), SPECIAL HEAD	
54	4-908-711-01	LABEL, CAUTION, LENS	
55	X-4917-747-1	PANEL ASSY, LOWER	
56	4-908-792-31	SCREW (B2) (M2X4), TAPPING	
57	4-926-543-01	RUBBER, DISC RETAINER	
58	4-926-510-01	KNOB, VOLUME	
59	4-926-560-01	SHEET, BLIND	
60	4-926-559-01	PAPER, SHIELD, PAL FLEXIBLE	
61	X-4917-723-1	INSULATOR ASSY	
62	3-681-678-00	WASHER, SLIT	
63	4-926-505-01	ROLLER	
64	X-4917-741-1	BRACKET ASSY, SWITCHING	
65	X-4917-742-1	ARM ASSY, SWITCHING	
66	4-926-538-01	SPRING	
67	4-926-286-01	CABINET	
68	3-703-816-22	SCREW (M1.4X5.0), SPECIAL HEAD	
69	3-895-823-01	SCREW (B1.4X2.3), TAPPING	
70	X-4917-749-1	COVER ASSY, MD	
71	4-926-591-01	(AEP,UK)...LABEL, CLASS 1	
72	3-831-441-XX	CUSHION	
73	4-926-525-01	SHEET, BLIND, BOTTOM	
905	1-626-985-11	PC BOARD, FLEXIBLE	
906	A-3015-650-A	PC BOARD ASSY, MAIN	
907	*1-627-296-11	PC BOARD, A	
908	*1-627-341-11	PC BOARD, D	
909	*1-627-297-11	PC BOARD, B	

(3) MECHANISM SECTION (CDM-88)



No.	Part No.	Description	Remarks
201	4-917-622-01	RETAINER, FLEXIBLE	
202	4-921-296-01	SPRING	
203	7-671-111-11	STEEL, BOUL 1.5MM	
204	4-926-283-01	RACK (A)	
205	7-627-552-38	SCREW, PRECISION +P 1.7X3	
206	3-831-441-XX	CUSHION	
207	X-4905-163-1	CHASSIS ASSY, MD	
208	4-926-277-01	SHAFT (A)	
209	7-685-205-14	SCREW (B2X8), TAPPING, (+) (K)	
210	7-627-553-38	SCREW, PRECISION +P 2X3	
211	4-921-292-01	GEAR (B)	
212	3-315-384-11	WASHER, STOPPER	
214	4-926-276-01	SPRING	
215	X-4917-740-1	TABLE ASSY, FITTING, MOTOR	
216	4-926-282-01	RETAINER, MOTOR	
217	X-4917-746-1	BRACKET ASSY, KNOB	
218	4-912-432-01	SCREW (B1.4X5), TAPPING	
910	⚠8-848-111-11	PIK-UP, OPTICS KSS-167A	
M901	A-3133-351-A	MOTOR ASSY, CLV	
M902	A-3133-334-A	MOTOR SUB ASSY, FEED	
S901	1-571-099-11	SWITCH	
S902	1-571-099-11	SWITCH	

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

SECTION 4
ELECTRICAL PARTS LIST

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.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

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

Ref.No.	Part No.	Description		
901	1-452-473-11	MAGNET		
902	*1-626-981-11	PC BOARD, CPU		
903	*1-627-209-11	PC BOARD, RST		
904	1-565-564-11	CONNECTOR, HEAT SHIEL		
905	1-626-985-11	PC BOARD, FLEXIBLE		
906	A-3015-650-A	PC BOARD ASSY, MAIN		
907	*1-627-296-11	PC BOARD, A		
908	*1-627-341-11	PC BOARD, D		
909	*1-627-297-11	PC BOARD, B		
910	⚠8-848-111-11	PIK-UP, OPTICS KSS-167A		
C101	1-163-209-00	CERAMIC CHIP 0.0015MF	5%	50V
C102	1-163-212-00	CERAMIC CHIP 0.002MF	5%	50V
C103	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C104	1-135-099-00	TANTAL. CHIP 2.2MF	20%	6.3V
C105	1-163-013-00	CERAMIC CHIP 0.0022MF	10%	50V
C106	1-135-099-00	TANTAL. CHIP 2.2MF	20%	6.3V
C108	1-124-225-00	ELECT 100MF	20%	6.3V
C109	1-163-209-00	CERAMIC CHIP 0.0015MF	5%	50V
C110	1-135-174-11	TANTAL. CHIP 10MF	20%	10V
C111	1-162-294-31	CERAMIC 0.001MF	10%	50V
C201	1-163-209-00	CERAMIC CHIP 0.0015MF	5%	50V
C202	1-163-212-00	CERAMIC CHIP 0.002MF	5%	50V
C203	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C204	1-135-099-00	TANTAL. CHIP 2.2MF	20%	6.3V
C205	1-163-013-00	CERAMIC CHIP 0.0022MF	10%	50V
C206	1-135-099-00	TANTAL. CHIP 2.2MF	20%	6.3V
C208	1-124-225-00	ELECT 100MF	20%	6.3V
C209	1-163-209-00	CERAMIC CHIP 0.0015MF	5%	50V
C210	1-135-174-11	TANTAL. CHIP 10MF	20%	10V
C211	1-162-294-31	CERAMIC 0.001MF	10%	50V
C301	1-135-101-21	TANTAL. CHIP 22MF	20%	6.3V
C302	1-135-101-21	TANTAL. CHIP 22MF	20%	6.3V
C303	1-135-101-21	TANTAL. CHIP 22MF	20%	6.3V
C304	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C305	1-124-225-00	ELECT 100MF	20%	6.3V
C306	1-163-077-00	CERAMIC CHIP 0.1MF		50V
C307	1-162-637-11	CERAMIC CHIP 0.47MF		16V
C501	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C502	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C503	1-163-095-00	CERAMIC CHIP 12PF	5%	50V
C504	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V
C505	1-163-023-00	CERAMIC CHIP 0.015MF	10%	50V
C506	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C507	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V
C508	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V
C509	1-162-637-11	CERAMIC CHIP 0.47MF		16V
C510	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V
C511	1-135-104-00	TANTAL. CHIP 10MF	20%	4V
C512	1-135-104-00	TANTAL. CHIP 10MF	20%	4V
C513	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C515	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V
C516	1-162-637-11	CERAMIC CHIP 0.47MF		16V
C517	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C518	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C519	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C520	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C521	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
C522	1-135-130-11	TANTAL. CHIP 4.7MF	20%	6.3V
C523	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C524	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C525	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C526	1-135-130-11	TANTAL. CHIP 4.7MF	20%	6.3V
C527	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C528	1-135-131-11	TANTAL. CHIP 22MF	10%	4V
C529	1-163-081-00	CERAMIC CHIP 0.22MF		25V
C530	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C531	1-135-091-00	TANTAL. CHIP 1MF	20%	16V
C532	1-135-174-11	TANTAL. CHIP 10MF	20%	10V
C533	1-163-081-00	CERAMIC CHIP 0.22MF		25V
C534	1-163-986-00	CERAMIC CHIP 0.027MF	10%	25V
C535	1-162-638-11	CERAMIC CHIP 1MF		16V
C536	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C537	1-162-638-11	CERAMIC CHIP 1MF		16V
C538	1-162-638-11	CERAMIC CHIP 1MF		16V
C539	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C541	1-135-091-00	TANTAL. CHIP 1MF	20%	16V
C542	1-135-174-11	TANTAL. CHIP 10MF	20%	10V
C543	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C545	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C546	1-135-131-11	TANTAL. CHIP 22MF	10%	4V
C547	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C548	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C550	1-135-131-11	TANTAL. CHIP 22MF	10%	4V
C551	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C552	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C553	1-163-127-00	CERAMIC CHIP 270PF	5%	50V
C554	1-124-225-00	ELECT 100MF	20%	6.3V
C555	1-124-434-00	ELECT 220MF	20%	4V
C556	1-124-225-00	ELECT 100MF	20%	6.3V
C557	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C558	1-163-117-00	CERAMIC CHIP 100PF	5%	50V

Ref.No.	Part No.	Description		
C601	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C602	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C603	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C604	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C605	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C606	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C607	1-162-638-11	CERAMIC 1MF		16V
C608	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C609	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C701	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C702	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C703	1-135-105-00	TANTAL. CHIP 33MF	20%	4V
C704	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C705	1-135-174-11	TANTAL. CHIP 10MF	20%	10V
C706	1-135-130-11	TANTAL. CHIP 4.7MF	20%	6.3V
C707	1-126-369-11	ELECT 220MF	20%	6.3V
C708	1-135-101-21	TANTAL. CHIP 22MF	20%	6.3V
C709	1-135-101-21	TANTAL. CHIP 22MF	20%	6.3V
C710	1-135-104-00	TANTAL. CHIP 10MF	20%	4V
C712	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C713	1-162-282-31	CERAMIC 100PF	10%	50V
C714	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C801	1-135-099-00	TANTAL. CHIP 2.2MF	20%	6.3V
C802	1-135-099-00	TANTAL. CHIP 2.2MF	20%	6.3V
C803	1-163-113-00	CERAMIC CHIP 68PF	5%	50V
C804	1-163-113-00	CERAMIC CHIP 68PF	5%	50V
C805	1-135-131-11	TANTAL. CHIP 22MF	10%	4V
C806	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C807	1-162-638-11	CERAMIC CHIP 1MF		16V
C808	1-162-282-31	CERAMIC 100PF	10%	50V
C809	1-162-282-31	CERAMIC 100PF	10%	50V
CN501	1-563-546-11	HOUSING, CONNECTOR 12P		
CN502	1-563-552-11	SOCKET, CONNECTOR 4P		
CNJ701	1-535-724-11	TERMINAL, BATTERY		
D301	8-719-100-05	DIODE 1S2837		
D501	8-719-938-72	DIODE SB01-05CP		
D502	8-719-938-72	DIODE SB01-05CP		
D503	8-719-938-72	DIODE SB01-05CP		
D504	8-719-100-05	DIODE 1S2837		
D601	8-719-938-72	DIODE SB01-05CP		
D602	8-719-108-12	DIODE RD9.1EW		
D701	8-719-938-75	DIODE SB05-05CP		
D702	8-719-105-73	DIODE RD4.7M-B2		
D704	8-719-938-78	DIODE SB10-05PCP		
D705	8-719-108-12	DIODE RD9.1EW		
D801	8-719-100-03	DIODE 1S2837		

Ref.No.	Part No.	Description			
D802	8-719-100-03	DIODE 1S2835			
D803	8-719-100-05	DIODE 1S2837			
D805	8-719-100-05	DIODE 1S2837			
D806	8-719-100-05	DIODE 1S2837			
D807	8-719-108-12	DIODE RD9.1EW			
IC301	8-759-805-34	IC CXD1161M-3			
IC302	8-759-745-64	IC NJM4560M			
IC303	8-759-630-75	IC M51568FP			
IC501	8-752-033-55	IC CXA1271Q			
IC502	8-752-034-64	IC CXA1272R4			
IC503	8-759-030-17	IC MPC1715FU			
IC504	8-759-230-43	IC TC7S04F			
IC601	8-752-947-61	IC CXD1135Q			
IC602	8-759-100-94	IC UPC358G2			
IC603	8-752-328-67	IC CXK5816MA-15L			
IC701	8-759-230-43	IC TC7S04F			
IC702	8-759-939-41	IC S-8123OAG-R8			
IC801	8-752-805-42	IC CXP5024-051Q			
J301	1-563-280-11	JACK (HEADPHONES)			
J701	1-562-961-11	JACK (DC IN 9V)			
J801	1-563-280-31	JACK (REMOTE)			
JR301	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR501	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR503	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR504	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR701	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR702	1-216-296-00	METAL GLAZE	0	5%	1/8W
L501	1-412-039-51	INDUCTOR CHIP 100UH			
L502	1-412-038-11	INDUCTOR CHIP 100UH			
L503	1-412-039-51	INDUCTOR CHIP 100UH			
L504	1-412-039-51	INDUCTOR CHIP 100UH			
L505	1-412-036-11	INDUCTOR CHIP 10UH			
L701	1-412-036-11	INDUCTOR CHIP 10UH			
L702	1-412-036-11	INDUCTOR CHIP 10UH			
L703	1-412-039-51	INDUCTOR CHIP 100UH			
L704	1-412-037-11	INDUCTOR CHIP 47UH			
LCD801	1-808-440-11	DISPLAY PANEL, LIQUID CRYSTAL			
M901	A-3133-351-A	MOTOR ASSY, CLV			
M902	A-3133-334-A	MOTOR SUB ASSY, FEED			
Q101	8-729-159-64	TRANSISTOR 2SD596			
Q201	8-729-159-64	TRANSISTOR 2SD596			
Q301	8-729-907-39	TRANSISTOR IMD2			
Q501	8-729-402-90	TRANSISTOR XN4609			
Q506	8-729-402-75	TRANSISTOR XN5501			
Q507	8-729-901-05	TRANSISTOR DTA124EK			

Ref.No.	Part No.	Description			
Q508	8-729-805-43	TRANSISTOR 2SC3396			
Q509	8-729-162-44	TRANSISTOR 2SB624-BV4			
Q701	8-729-903-10	TRANSISTOR FMW1			
Q702	8-729-101-07	TRANSISTOR 2SB798			
Q704	8-729-800-36	TRANSISTOR 2SD1048			
Q706	8-729-903-10	TRANSISTOR FMW1			
Q707	8-729-101-07	TRANSISTOR 2SB798			
Q708	8-729-901-05	TRANSISTOR DTA124EK			
Q709	8-729-901-00	TRANSISTOR DTC124EK			
Q711	8-729-162-44	TRANSISTOR 2SD596			
Q712	8-729-101-07	TRANSISTOR 2SB798			
Q713	8-729-101-07	TRANSISTOR 2SB798			
Q801	8-729-901-05	TRANSISTOR DTA124EK			
Q802	8-729-800-36	TRANSISTOR 2SD1048			
R101	1-216-596-11	METAL GLAZE	2.7K	1%	1/10W
R102	1-216-334-11	METAL GLAZE	22K	1%	1/10W
R103	1-216-324-11	METAL GLAZE	10K	1%	1/10W
R104	1-216-334-11	METAL GLAZE	22K	1%	1/10W
R105	1-218-156-11	METAL GLAZE	8.2K	1%	1/10W
R106	1-216-333-11	METAL GLAZE	15K	1%	1/10W
R107	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R108	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R109	1-216-009-00	METAL GLAZE	22	5%	1/10W
R110	1-216-043-00	METAL GLAZE	560	5%	1/10W
R111	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R112	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R113	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R201	1-216-596-11	METAL GLAZE	2.7K	1%	1/10W
R202	1-216-334-11	METAL GLAZE	22K	1%	1/10W
R203	1-216-324-11	METAL GLAZE	10K	1%	1/10W
R204	1-216-334-11	METAL GLAZE	22K	1%	1/10W
R205	1-218-156-11	METAL GLAZE	8.2K	1%	1/10W
R206	1-216-333-11	METAL GLAZE	15K	1%	1/10W
R207	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R208	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R209	1-216-009-00	METAL GLAZE	22	5%	1/10W
R210	1-216-043-00	METAL GLAZE	560	5%	1/10W
R211	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R212	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R213	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R301	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R302	1-216-254-00	METAL GLAZE	220K	5%	1/8W
R303	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R501	1-216-024-00	METAL GLAZE	91	5%	1/10W

Ref.No.	Part No.	Description			
R502	1-216-001-00	METAL GLAZE	10	5%	1/10W
R503	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R504	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R505	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R506	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R507	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R510	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R512	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R513	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R514	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R515	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R516	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R517	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R518	1-216-062-00	METAL GLAZE	3.6K	5%	1/10W
R519	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R520	1-249-429-11	CARBON	10K	5%	1/4W
R521	1-216-103-00	METAL GLAZE	180K	5%	1/10W
R522	1-216-115-00	METAL GLAZE	560K	5%	1/10W
R523	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R524	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R525	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R526	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R527	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R528	1-216-118-00	METAL GLAZE	750K	5%	1/10W
R529	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R530	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R531	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R532	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R533	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R534	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R535	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R536	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R537	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R538	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R540	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R541	1-216-125-00	METAL GLAZE	1.5M	5%	1/10W
R542	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R543	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R544	1-216-238-00	METAL GLAZE	47K	5%	1/8W
R545	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R546	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R547	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R548	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R549	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R550	1-216-073-00	METAL GLAZE	10K	5%	1/10W

Ref.No.	Part No.	Description			
R551	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R552	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R553	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R554	1-216-133-00	METAL GLAZE	3.3M	5%	1/10W
R555	1-216-115-00	METAL GLAZE	560K	5%	1/10W
R601	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R602	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R603	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R604	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R605	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R606	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R608	1-216-697-11	METAL CHIP	82K	0.50%	1/10W
R609	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R610	1-216-127-11	METAL GLAZE	1.8M	5%	1/10W
R615	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R616	1-216-119-00	METAL GLAZE	820K	5%	1/10W
R701	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R702	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R703	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R704	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R705	1-216-041-00	METAL GLAZE	470	5%	1/10W
R706	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R707	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R708	1-216-092-00	METAL GLAZE	62K	5%	1/10W
R710	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R711	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R712	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R713	1-216-015-00	METAL GLAZE	39	5%	1/10W
R714	1-216-119-00	METAL GLAZE	820K	5%	1/10W
R715	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W
R716	1-216-103-00	METAL GLAZE	180K	5%	1/10W
R717	1-216-041-00	METAL GLAZE	470	5%	1/10W
R718	1-216-047-00	METAL GLAZE	820	5%	1/10W
R719	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R720	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R721	1-216-037-00	METAL GLAZE	330	5%	1/10W
R722	1-216-045-00	METAL GLAZE	680	5%	1/10W
R801	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R802	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R803	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R804	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R805	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R806	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R807	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R808	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R809	1-249-405-11	CARBON	100	5%	1/4W

Ref.No.	Part No.	Description
RV301	1-230-485-21	RES, VAR, CARBON 10K/10K (VOLUME)
RV501	1-237-119-11	RES, ADJ, METAL GLAZE 22K
RV502	1-237-328-11	RES, ADJ, METAL GLAZE 47K
RV503	1-237-328-11	RES, ADJ, METAL GLAZE 47K
RV504	1-237-325-11	RES, ADJ, METAL GLAZE 4.7K
RV505	1-237-323-11	RES, ADJ, METAL GLAZE 1K
RV701	1-237-119-11	RES, ADJ, METAL GLAZE 22K
S701	1-554-911-11	SWITCH, LEAF
S801	1-570-533-31	SWITCH, KEY BOARD (PLAY/PAUSE)
S802	1-570-533-31	SWITCH, KEY BOARD (STOP)
S803	1-570-533-31	SWITCH, KEY BOARD (FF)
S804	1-570-533-31	SWITCH, KEY BOARD (FR)
S805	1-570-533-31	SWITCH, KEY BOARD (REPEAT)
S806	1-570-397-11	SWITCH, SLIDE (HOLD)
S901	1-571-099-11	SWITCH
S902	1-571-099-11	SWITCH
X601	1-567-737-11	VIBRATOR, CRYSTAL (16.9344MHz)
X801	1-577-064-11	VIBRATOR, CHIP CERAMIC (3.58MHz)

ACCESSORY & PACKING MATERIAL

1-463-700-11	(UK)....ADAPTOR, AC (AC-930A)
1-463-702-11	(E).....ADAPTOR, AC (AC-940W)
1-463-705-11	(AEP)...ADAPTOR, AC (AC-930A AEP)
1-463-968-11	(US)....ADAPTOR, AC (AC-940)
1-555-658-21	CORD, CONNECTION
3-786-059-21	(US).....MANUAL, INSTRUCTION
3-786-059-11	(AEP,UK,E)...MANUAL INSTRUCTION
3-786-059-41	(AEP).....MANUAL INSTRUCTION
4-926-516-01	LID, BATTERY CASE
4-926-575-01	CASE, CARRYING
*4-926-544-01	CUSHION (UPPER)
*4-926-545-01	CUSHION (LOWER)
*4-926-549-01	(US).....INDIVIDUAL CARTON
*4-926-551-01	(AEP,UK,E)...INDIVIDUAL CARTON
8-952-408-90	HEADPHONE MDR-E464L SET
A-3045-020-A	CASE ASSY, BATTERY