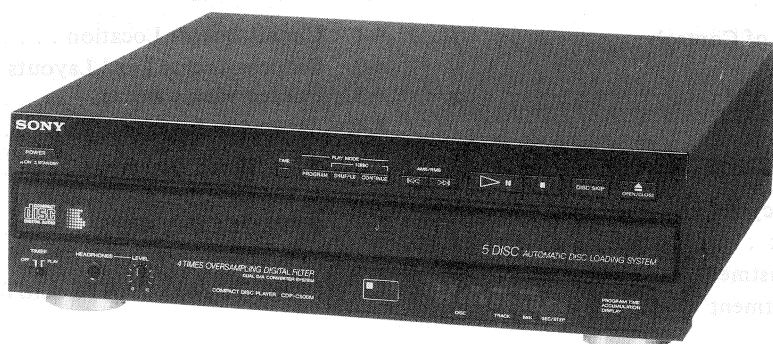


# CDP-C500M

## SERVICE MANUAL

AEP Model  
UK Model  
E Model



COMPACT  
disc  
DIGITAL AUDIO

### SPECIFICATIONS

#### COMPACT DISC PLAYER

System	Compact disc digital audio system
Laser	Semiconductor laser ( $\lambda = 780 \text{ nm}$ )
Laser output	Emission duration: continuous Max. $44.6 \mu\text{W}^*$ * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.
Frequency response	2 Hz - 20 kHz ( $\pm 1 \text{ dB}$ )
Signal to noise ratio	More than 100 dB
Dynamic range	More than 90 dB
Harmonic distortion	Less than 0.05% (1 kHz)
Channel separation	More than 95 dB (1 kHz)
Wow and flutter	Below measurable limit
Outputs	LINE OUT (phono jacks) Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms PHONES (stereo phone jack) Output level 0 - 10 mW (variable) (at 32 ohms)

#### GENERAL

Power requirements	UK model : 240 V AC, 50 Hz AEP model : 220 V AC, 50/60 Hz E model : 110-120, 220-240 V AC adjustable, 50/60 Hz
Power consumption	10 W
Dimensions	Approx. 355 × 105 × 385 mm (w/h/d) (14 × 4¼ × 15¼ inches) not including projecting parts and controls
Weight	Approx. 5.1 kg (11.4 lb)

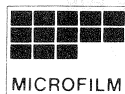
#### REMOTE COMMANDER (RM-D505)

Remote control system	Infrared control
Power requirements	3 V DC with two size AA (R6) batteries
Dimensions	Approx. 43 × 20 × 175 mm (w/h/d) (1 11/16 × 13/16 × 6 15/16 inches)
Weight	Approx. 110 g (4 oz) including batteries

#### SUPPLIED ACCESSORIES

- Audio signal connecting cord  
(phono plug X 2 ↔ phono plug X 2) (1)
- Remote commander (1)
- AC plug Adaptor (1) (for countries other than UK and EC only)
- Sony SUM-3 (NS) batteries (2)
- Operating Manual (1)

Design and specifications subject to change without notice.



# COMPACT DISC PLAYER

# SONY®

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**SERVICING NOTE**

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

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

**Laser Diode Properties**

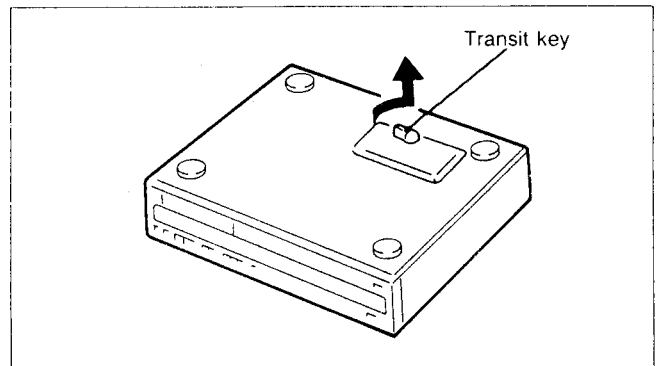
- Material: GaAlAs
  - Wavelength: 780 nm
  - Emission Duration: continuous
  - Laser Output Power: less than 44.6  $\mu$ W\*
- \* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

**CAUTION**

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

During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

**Note on the Transit Key**



The white transit key on the bottom exterior of the unit protects the optical system against shock during transportation. Before operating the CD player, be sure to remove the key by following the instructions on the label, and store it in a safe place.

When transporting the unit, replace the key in its original hole and lock it in place.

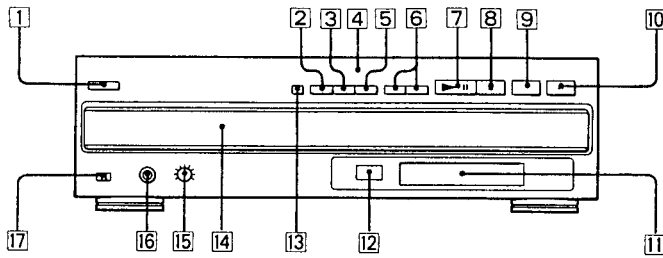
**SAFETY-RELATED COMPONENT WARNING!!**

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.

# SECTION 1 OUTLINE

## 1-1. LOCATION AND CONTROLS

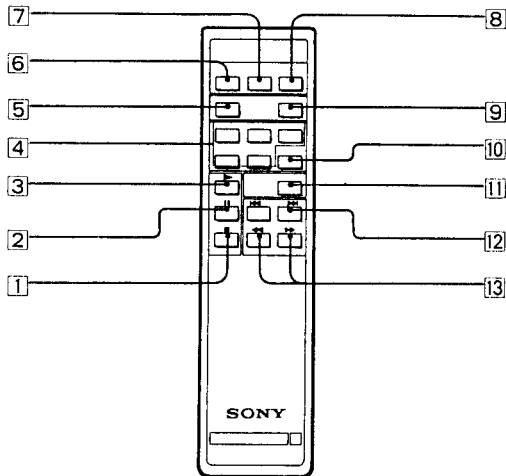
### Front Panel



- 1 POWER switch
- 2 PROGRAM button
- 3 SHUFFLE button
- 4 1 DISC indicator
- 5 CONTINUE button
- 6 ◀▶(AMS\*/RMS\*\*) buttons
- 7 ▶|| (play/pause) button
- 8 ■ (stop) button
- 9 DISC SKIP button
- 10 ▲ OPEN/CLOSE button
- 11 Display window
- 12 Remote sensor
- 13 TIME button
- 14 DISC tray
- 15 (headphone) LEVEL control
- 16 PHONES (headphones) jack
- 17 TIMER switch

\* AMS is the abbreviation of Automatic Music Sensor.  
 \*\* RMS is the abbreviation of Random Music Sensor.

### REMOTE COMMANDER RM-D505



- 1 ■ (stop) button
- 2 || (pause) button
- 3 ▶ (play) button
- 4 DISC 1 - 5 buttons
- 5 TIME button
- 6 PGM (program) button
- 7 SHUFFLE button
- 8 CONTINUE button
- 9 REPEAT button
- 10 DISC SKIP button
- 11 FADER button
- 12 ◀▶(AMS\*) buttons
- 13 ◀▶ (manual search) buttons

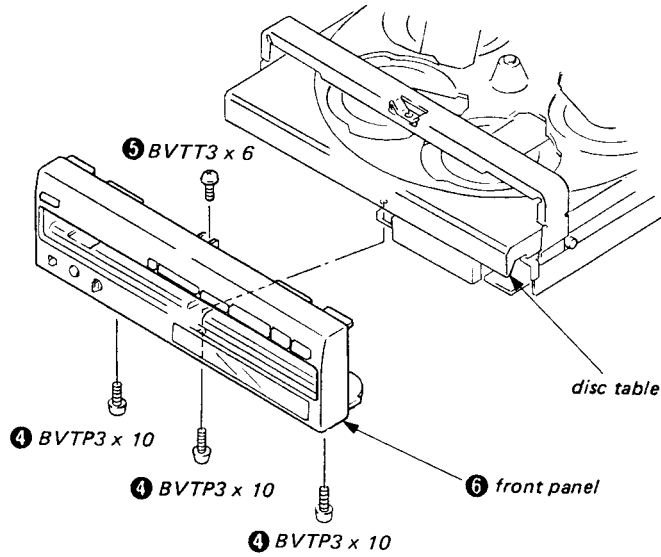
## SECTION 2 DISASSEMBLY

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

### FRONT PANEL

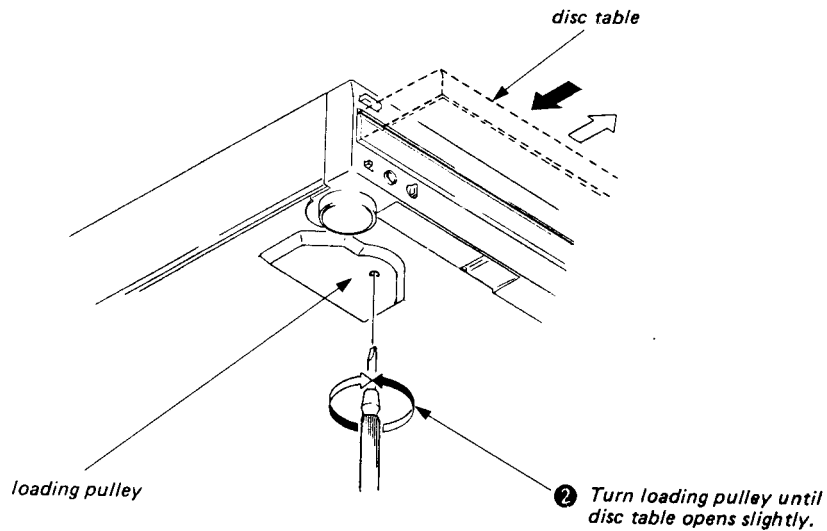
A. When disc table opens automatically by pressing OPEN/CLOSE button;

- ① Remove top cover.
- ② Press POWER switch to turn the power on.
- ③ Press OPEN/CLOSE button to open disc table.



B. When disc table does not open even if OPEN/CLOSE button is pressed;

- ① Remove top cover.
- ③ Perform steps A-4 to A-6.



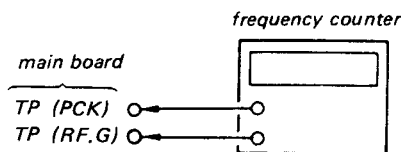
## SECTION 3

### ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 (Part No.: 3-702-101-01) disc unless otherwise indicated.
3. Use the oscilloscope with more than 10 M $\Omega$  impedance.

#### RF PLL Frequency Adjustment/Lock Frequency Check

##### Procedure:

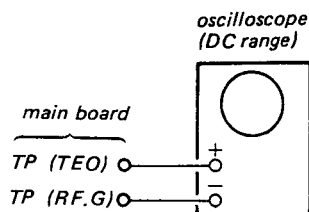


1. Connect test point TP (ASY) to ground with lead wire.
2. Turn POWER switch on.
3. Connect the frequency counter to test points TP (PCK).
4. Adjust RV5 so that the reading on frequency counter is 4.3218 MHz  $\pm$ 30 kHz.  
     . . . . . (RF PLL frequency adjustment)
5. Remove lead wire connecting TP (ASY) to ground.
6. Put disc (YEDS-18) in and press  $\triangleright$  button.
7. Confirm that the reading on frequency counter is 4.3218 MHz.

#### E-F Balance Adjustment

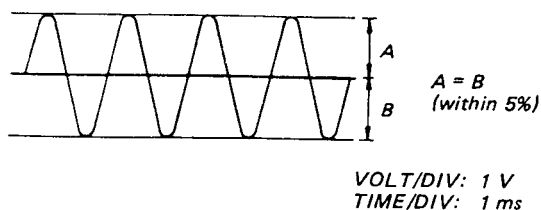
This adjustment should be made when replacing TOP (T-type Optical Pick-up).

##### Procedure:



1. Connect test point TP (ADJ) and TP (TES) to ground with lead wire.
2. Connect oscilloscope to test point TP (TEO).
3. Turn POWER switch on.
4. Put disc (YEDS-18) in and press  $\triangleright$  button.
5. Adjust RV1 so that the traverse waveform is symmetrical above and below.

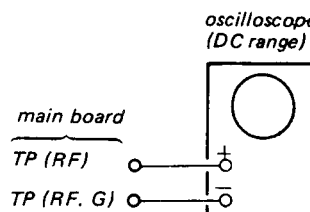
6. After adjustment, remove the lead wire connected in step 1.



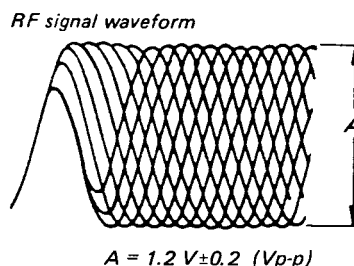
#### Focus Bias Adjustment

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

##### Procedure:



1. Connect oscilloscope to test points TP (RF) and test point TP (RF.G).
2. Turn POWER switch on.
3. Put disc (YEDS-18) in and press  $\triangleright$  button.
4. Adjust RV2 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.



REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer 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 raised, the noise when the 2-axis device operates increases.
• When gain is lowered, mechanical shock and skipping occurs more easily.
• When gain adjustment is off, the symptoms below appear.

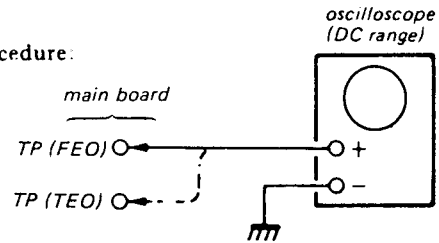
Table with 3 columns: Symptoms, Gain, Focus, Tracking. It lists various symptoms like 'The time until music starts becomes longer for STOP' and maps them to specific gain levels for focus and tracking.

The following is a simple adjustment method.

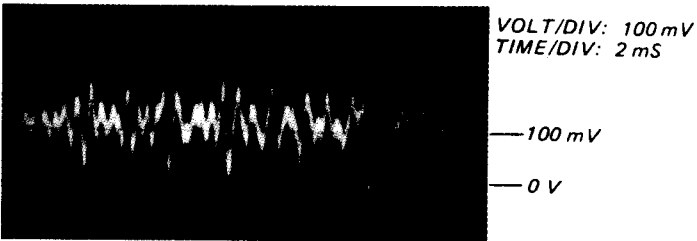
Primary Adjustment

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the primary adjustment are only a little different, return the controls to the original position.

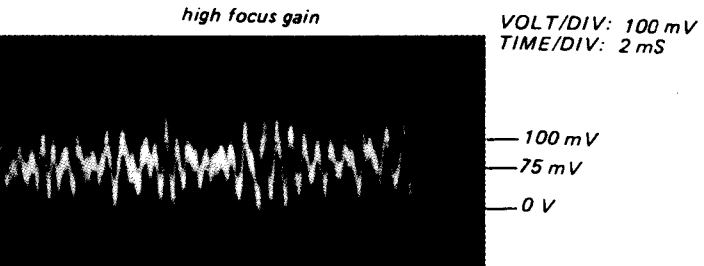
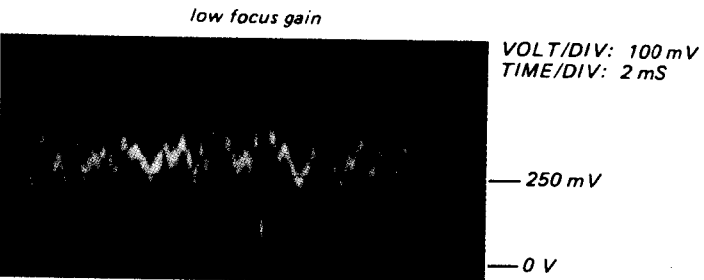
Procedure:



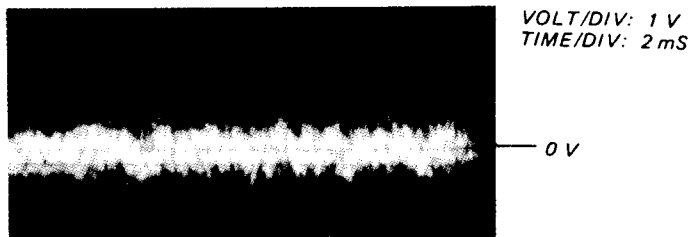
- 1. Keep the set horizontal.
2. Insert disc (YEDS-18: Fifth Selection) and press PLAY button.
3. Connect oscilloscope to main amp board TP (FEO).
4. Adjust RV3 so that the waveform is as shown in the figure below. (focus gain adjustment)



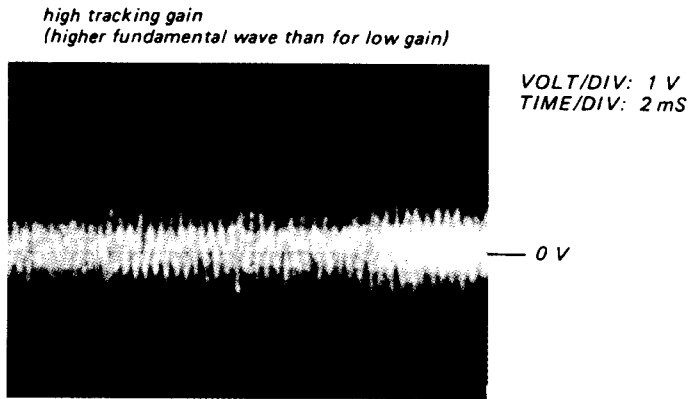
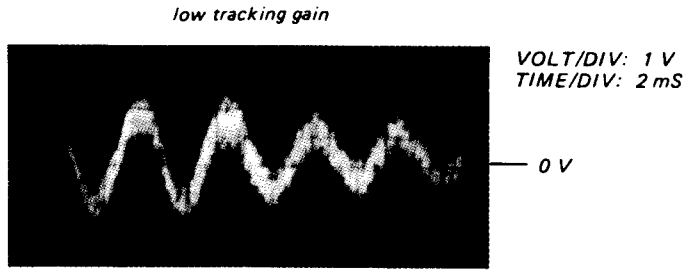
- Incorrect Examples (DC level changes more than on adjusted waveform)



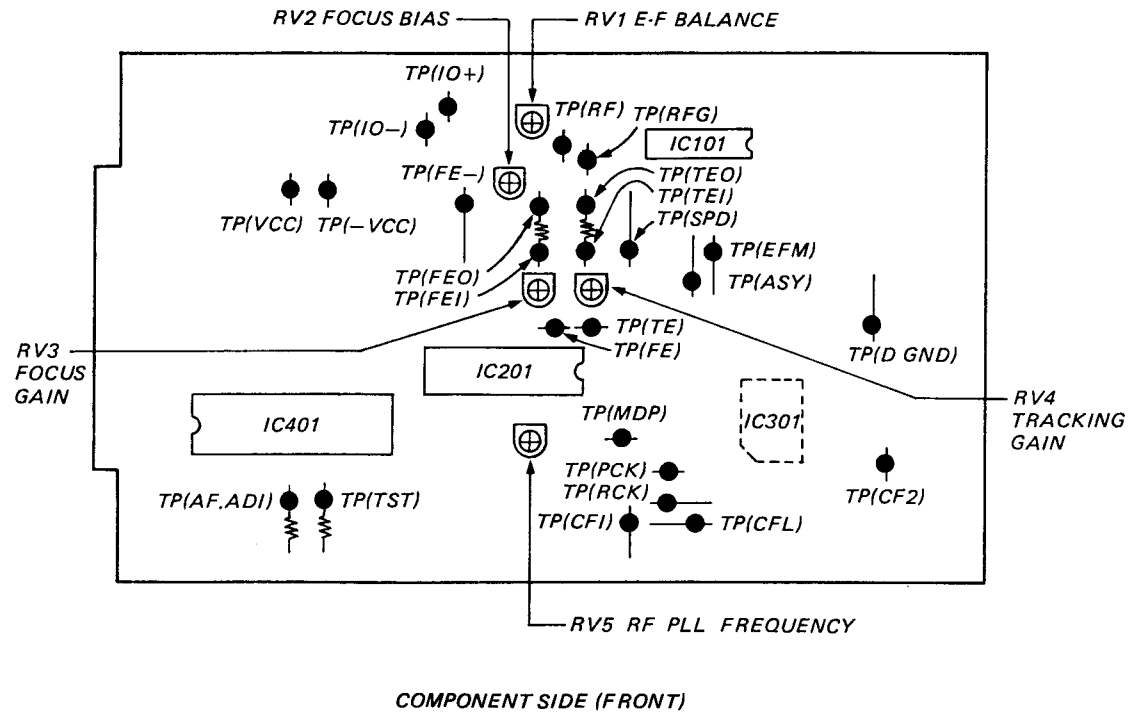
- 5. Connect oscilloscope to main board TP (TEO).
6. Adjust RV4 so that the waveform is as shown in the figure below. (tracking gain adjustment)



- Incorrect Examples (fundamental wave appears)

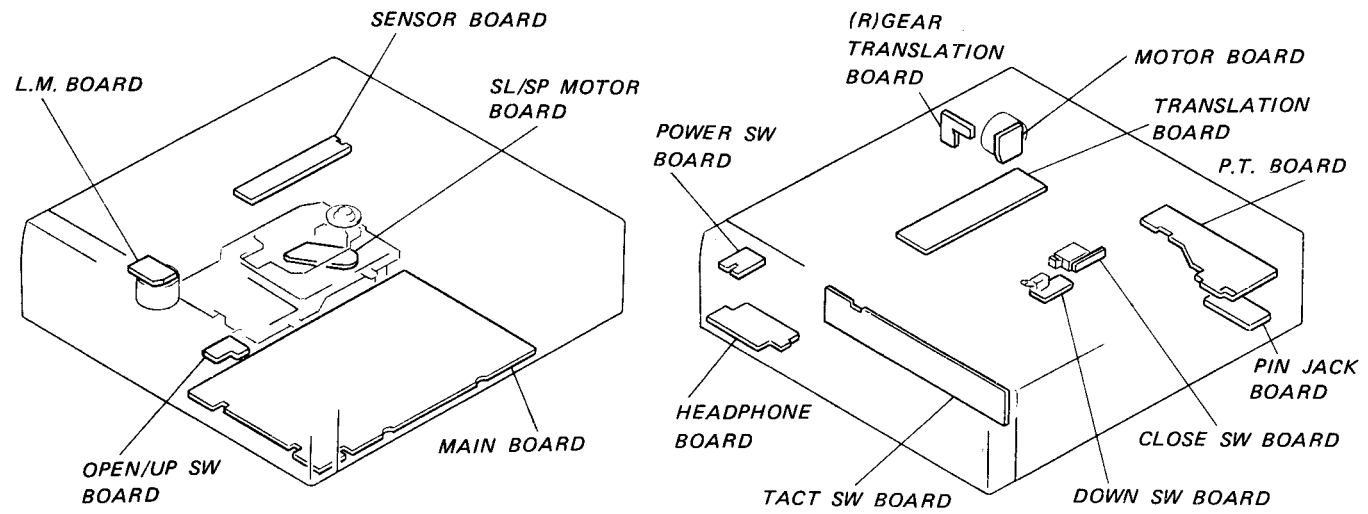


Adjustment Location: main board

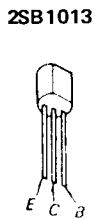
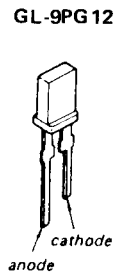
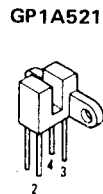
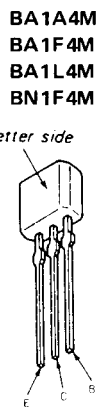
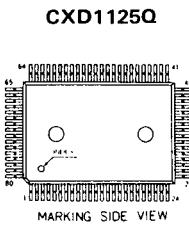
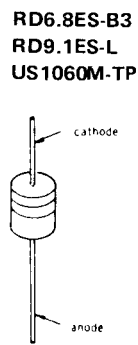
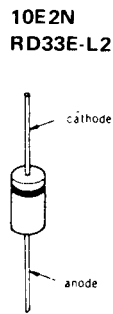
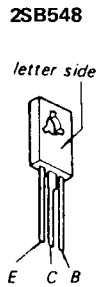
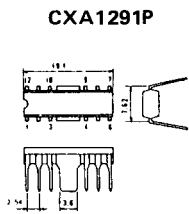


## SECTION 4 DIAGRAMS

### 4-1. CIRCUIT BOARD LOCATION



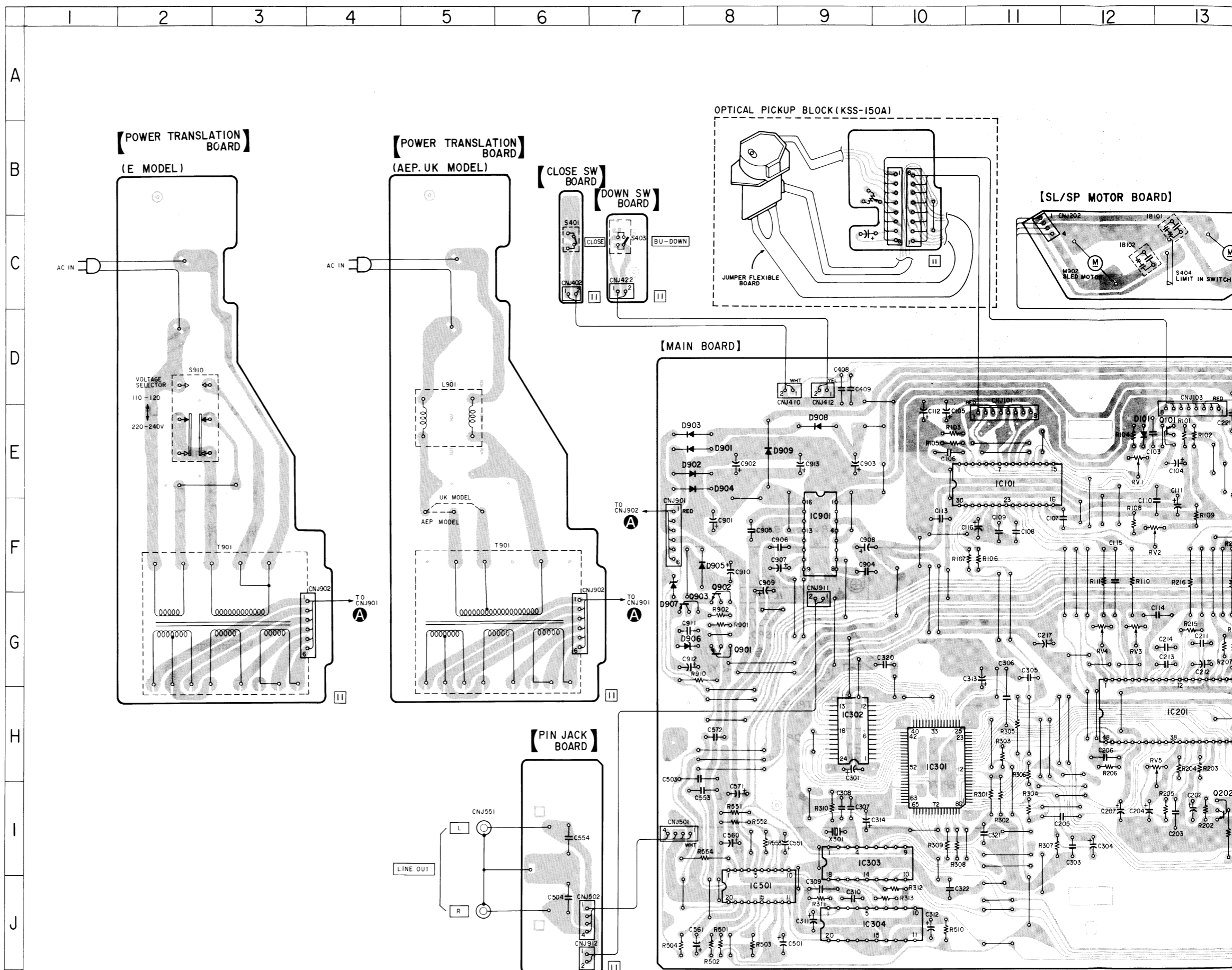
### 4-2. SEMICONDUCTOR LEAD LAYOUTS



4-3. PRINTED WIRING BOARD • See page 8 for Semiconductor lead layouts.

• Semiconductors Location

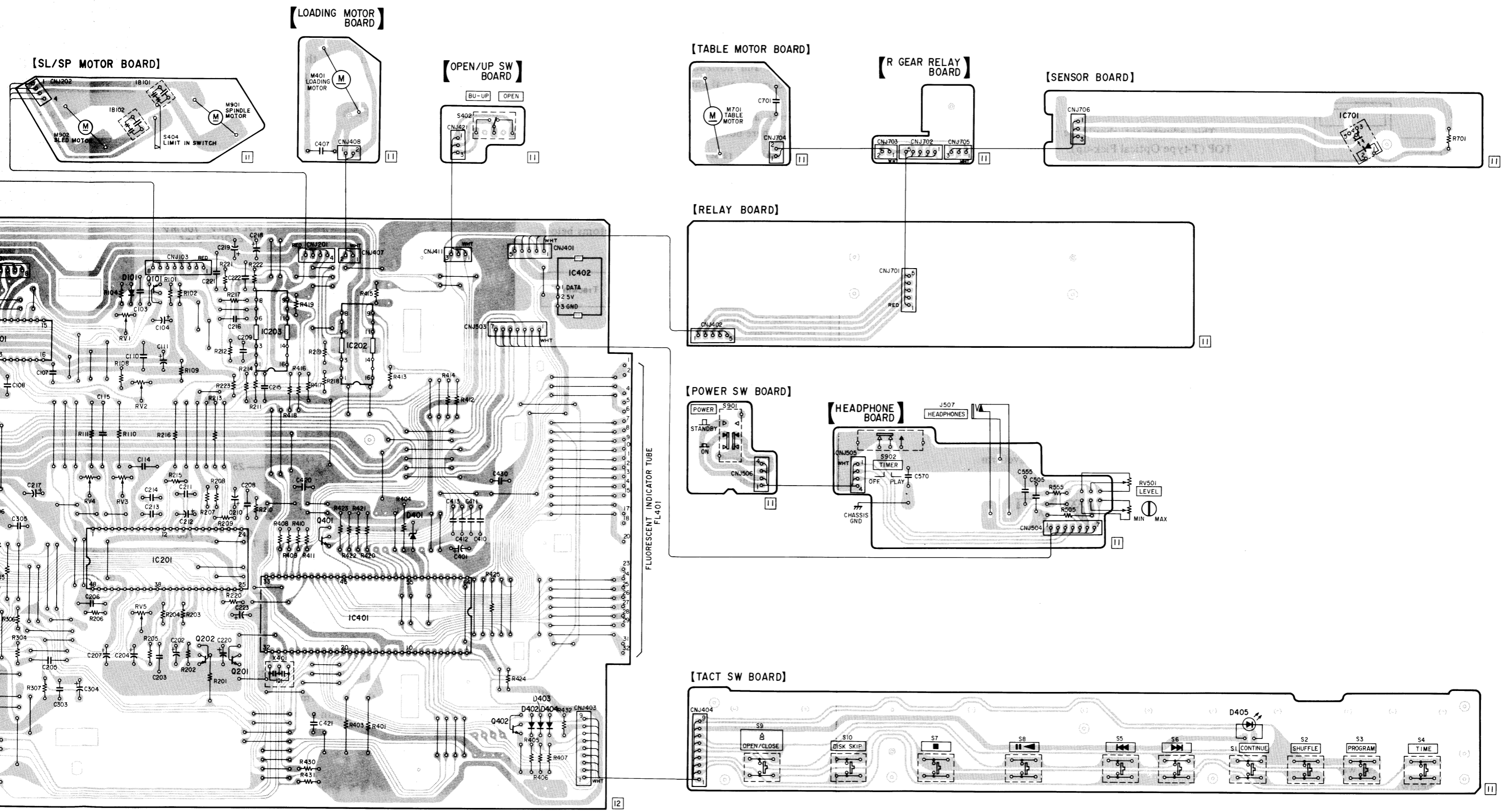
Ref. No.	Location
D101	E-12
D401	H-15
D403	J-17
D404	J-17
D405	J-17
D901	E-8
D902	E-8
D903	E-8
D904	E-8
D905	F-8
D906	G-8
D907	F-7
D908	E-9
D909	E-8
IC101	E-11
IC201	H-13
IC202	E-15
IC203	E-14
IC301	H-10
IC302	H-9
IC303	I-9
IC304	J-9
IC401	H-15
IC402	E-17
IC501	J-8
IC701	C-26
IC901	G-9
Q101	E-13
Q201	I-13
Q202	I-13
Q401	H-15
Q402	J-17
Q901	G-8
Q902	G-8
Q903	G-8



Note on Printed Wiring Boards:

- ○ : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- □ : indicates side identified with part number.
- ○ ○ : Jumper wire connected to the ground pattern on the component side.



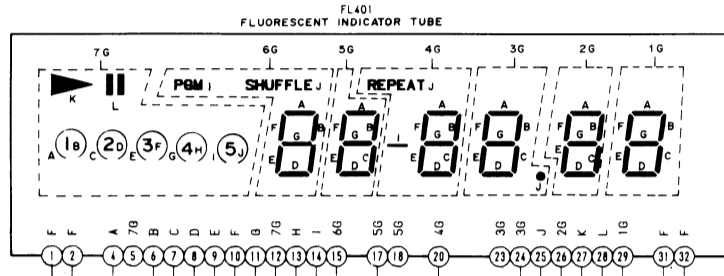


4-4. SCHEMATIC DIAGRAM

[TACT SW BOARD]

[MAIN BOARD]

IC402  
GPU52A  
REMOTE  
SENSOR



IC203  
CXAI291P  
LOADING MOTOR DRIVE/  
SLED MOTOR DRIVE/  
FOCUS COIL DRIVE

[LOADING MOTOR BOARD]

[SL/SP MOTOR BOARD]

IC201  
CXAI082BS  
SLED SERVO

IC202  
CXAI291P  
TRACKING COIL DRIVE/  
SPINDLE MOTOR DRIVE

OPTICAL PICKUP  
BLOCK(KSS-150A)

IC101  
CXAI081S  
RF AMP/SIGNAL/PROCESSOR/  
LASER ON CIRCUIT

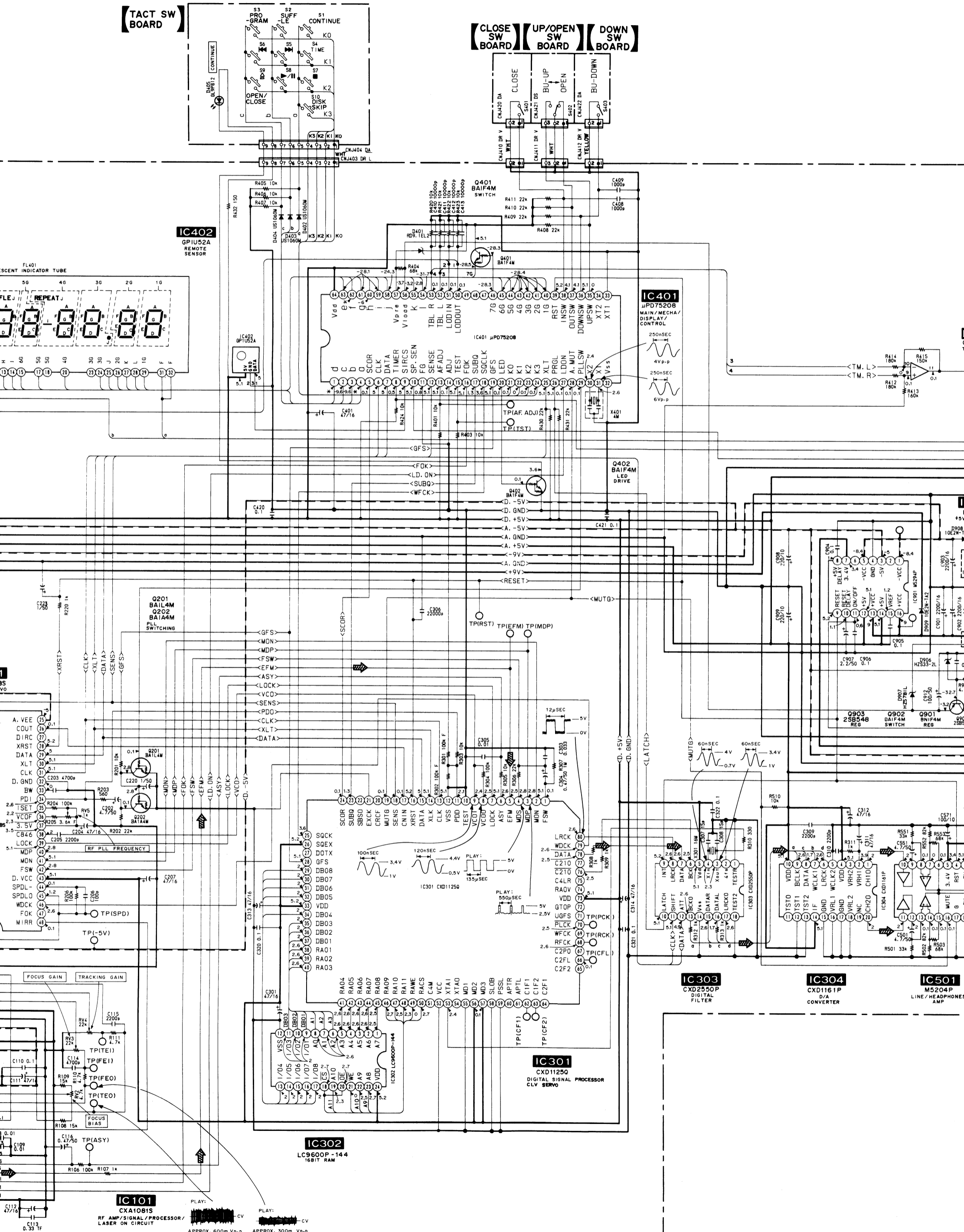
Note: The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

- Note on Schematic Diagram:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV 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.
  - Components for right channel have same values as for left channel. Reference numbers are coded from  $\Delta$  : internal component.
  - $\text{---}$  : B+ Line
  - $\text{- - -}$  : B- Line
  - $\square$  : adjustment for repair.
  - Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions. no mark : STOP mode
  - Voltages are taken with a VOM (50  $k\Omega/V$ ). 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.
  - Signal path.  $\Rightarrow$  : CD
  - Switch

Ref. No.	Switch	Position
S901	POWER	OFF
S902	TIMER	OFF
S401	CLOSE	OFF
S402	UP/OPEN	OPEN
S403	DOWN	OFF
S1	KEY MATRIX	OFF
S10		OFF
S404		LIMIT IN

[ TACT SW BOARD ]

[ CLOSE SW BOARD ] [ UP/OPEN SW BOARD ] [ DOWN SW BOARD ]



[ IC101 CXA1081S RF AMP/SIGNAL/PROCESSOR/LASER ON CIRCUIT ]

APPROX. 600m Vp-p

[ IC301 CXD11250 DIGITAL SIGNAL PROCESSOR CLV SERVO ]

APPROX. 300m Vp-p



## SECTION 5 EXPLODED VIEWS

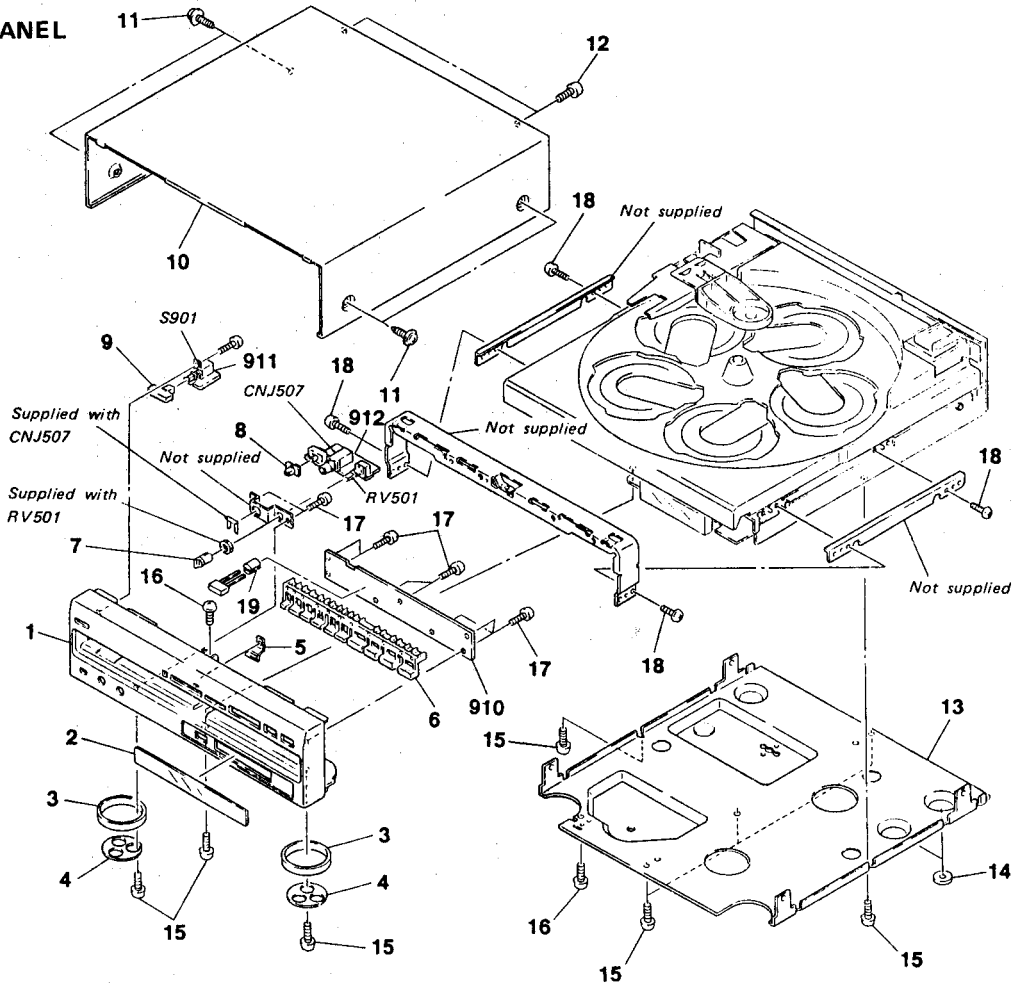
**NOTE:**

- 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

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

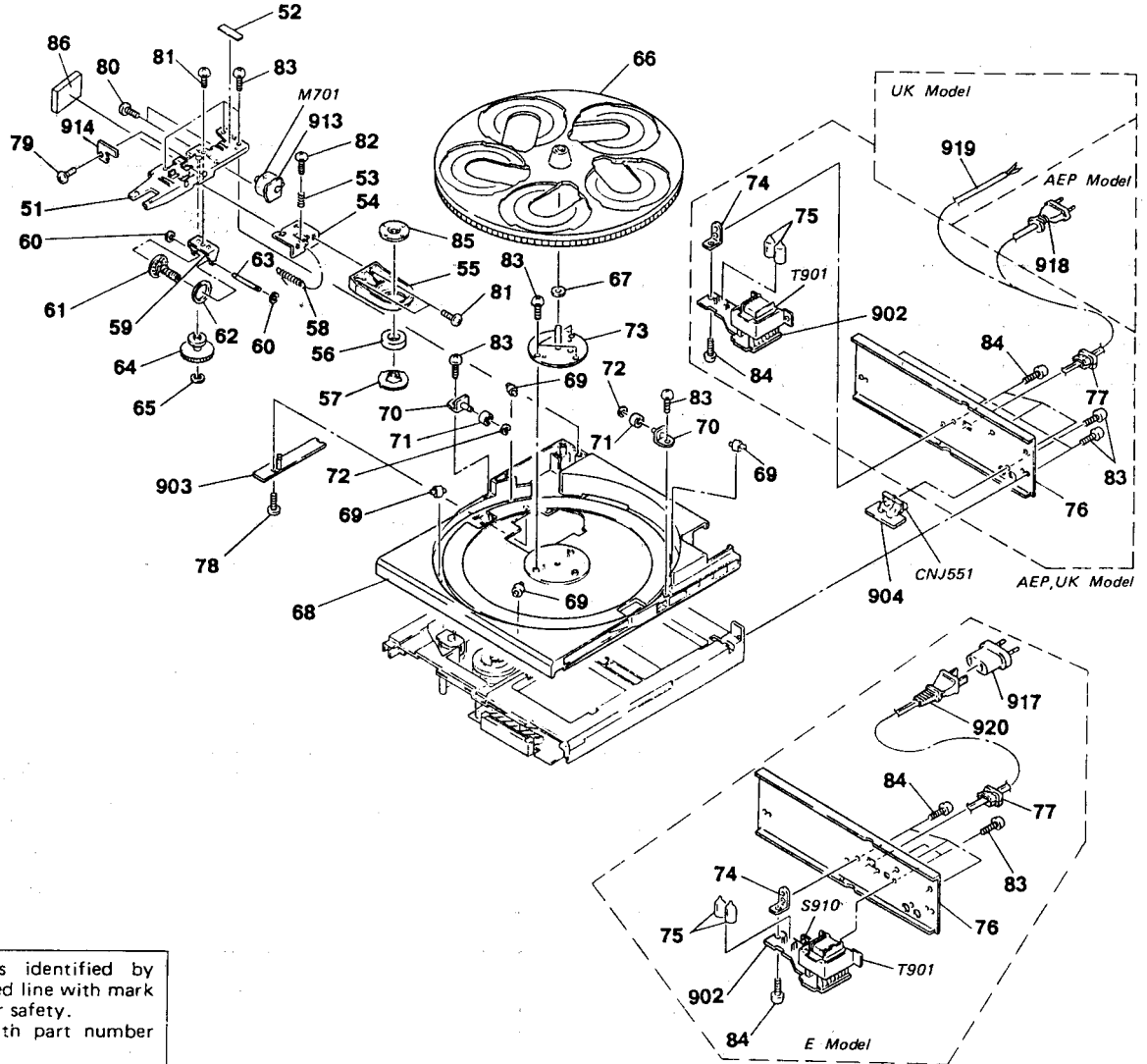
**1. FRONT PANEL**



No.	Part No.	Description	Remarks	No.	Part No.	Description
1	4-930-530-11	(BLACK:AEP,UK)...PANEL, FRONT		10	4-930-534-01	(BLACK:AEP,UK)...CASE
	4-930-530-21	(GRAY:AEP,UK,E)...PANEL, FRONT			4-930-534-11	(GRAY:AEP,UK,E)...CASE
2	4-930-526-01	PLATE, INDICATION		11	3-704-366-21	SCREW (CASE) (M3X10)
3	4-921-918-01	(BLACK:AEP,UK)...PLATE, ORNAMENTAL		12	3-703-685-21	SCREW (+BV 3X8)
4	4-921-906-01	FELT		13	★4-924-438-01	PLATE (M), BOTTOM
5	4-930-525-01	PLATE (MODE), INDICATION		14	4-924-410-01	FELT
6	4-930-529-01	(BLACK:AEP,UK)...BUTTON		15	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
	4-930-529-11	(GRAY:AEP,UK,E)...BUTTON		16	7-682-547-04	SCREW +BVTT 3X6 (S)
7	4-922-531-01	(BLACK:AEP,UK)...KNOB (A TYPE), LOV		17	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
	4-922-531-21	(GRAY:AEP,UK,E)...KNOB (A TYPE), LOV		18	7-685-648-79	SCREW +BTP 3X12 TYPE2 N-S
8	4-922-518-01	(BLACK:AEP,UK)...KNOB (TIMER)		19	★4-923-532-11	SPACER, LED
	4-922-518-21	(GRAY:AEP,UK,E)...KNOB (TIMER)		910	*1-631-014-11	PC BOARD, TACT SW
9	4-922-660-01	(BLACK:AEP,UK)...BUTTON (POWER)		911	*1-631-015-11	PC BOARD, POWER SW
	4-922-660-11	(GRAY:AEP,UK,E)...BUTTON (POWER)		912	*1-631-016-11	PC BOARD, HEADPHONE
				CNJ507	1-568-518-21	JACK, LARGE TYPE (HEADPHONES)
				RV501	1-238-302-11	RES, VAR, CARBON 1K/1K (HEADPHONES LEVEL)
				S901	1-552-928-00	SWITCH (POWER)

# CDP-C500M

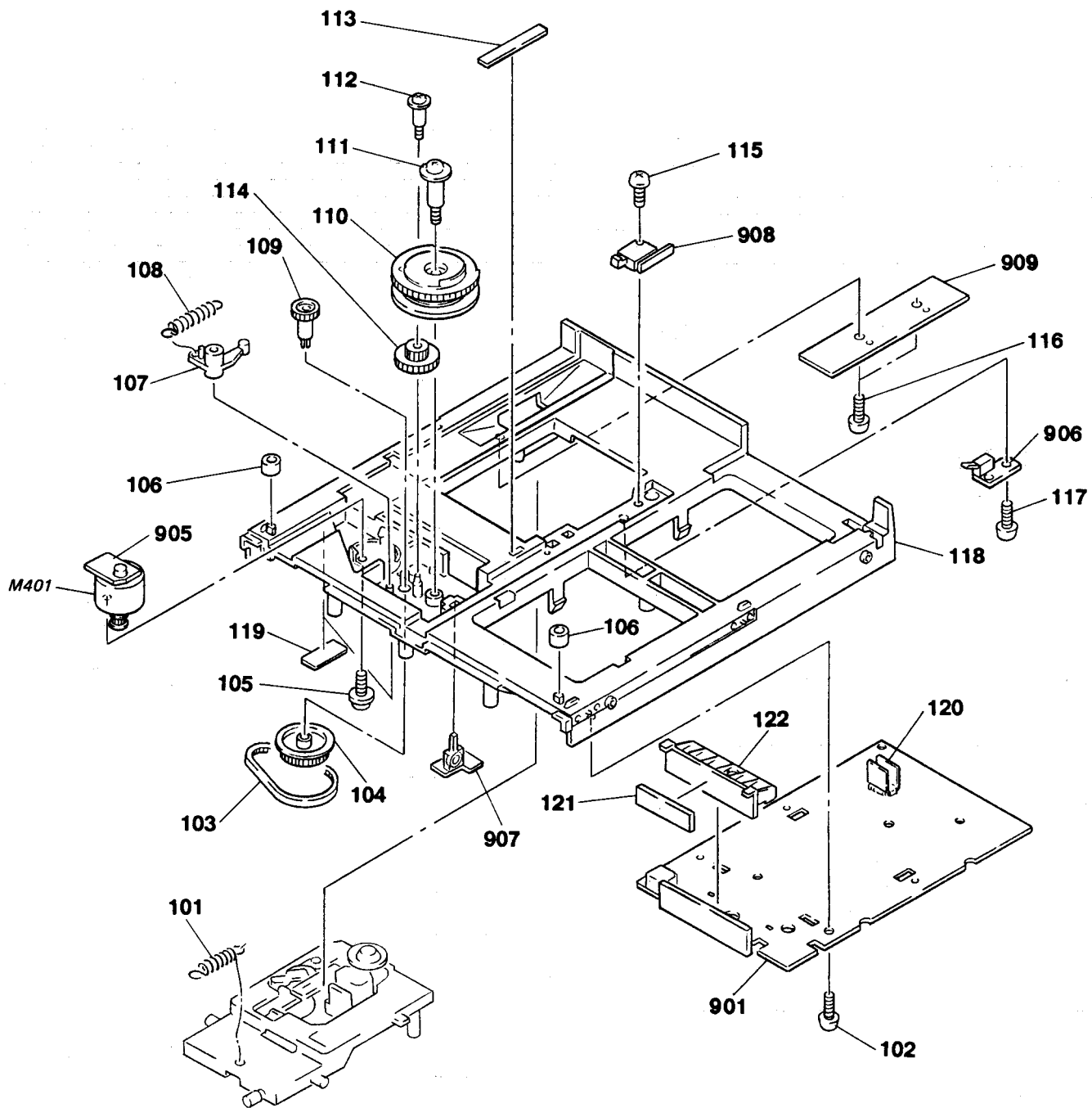
## 2. DISK TABLE



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

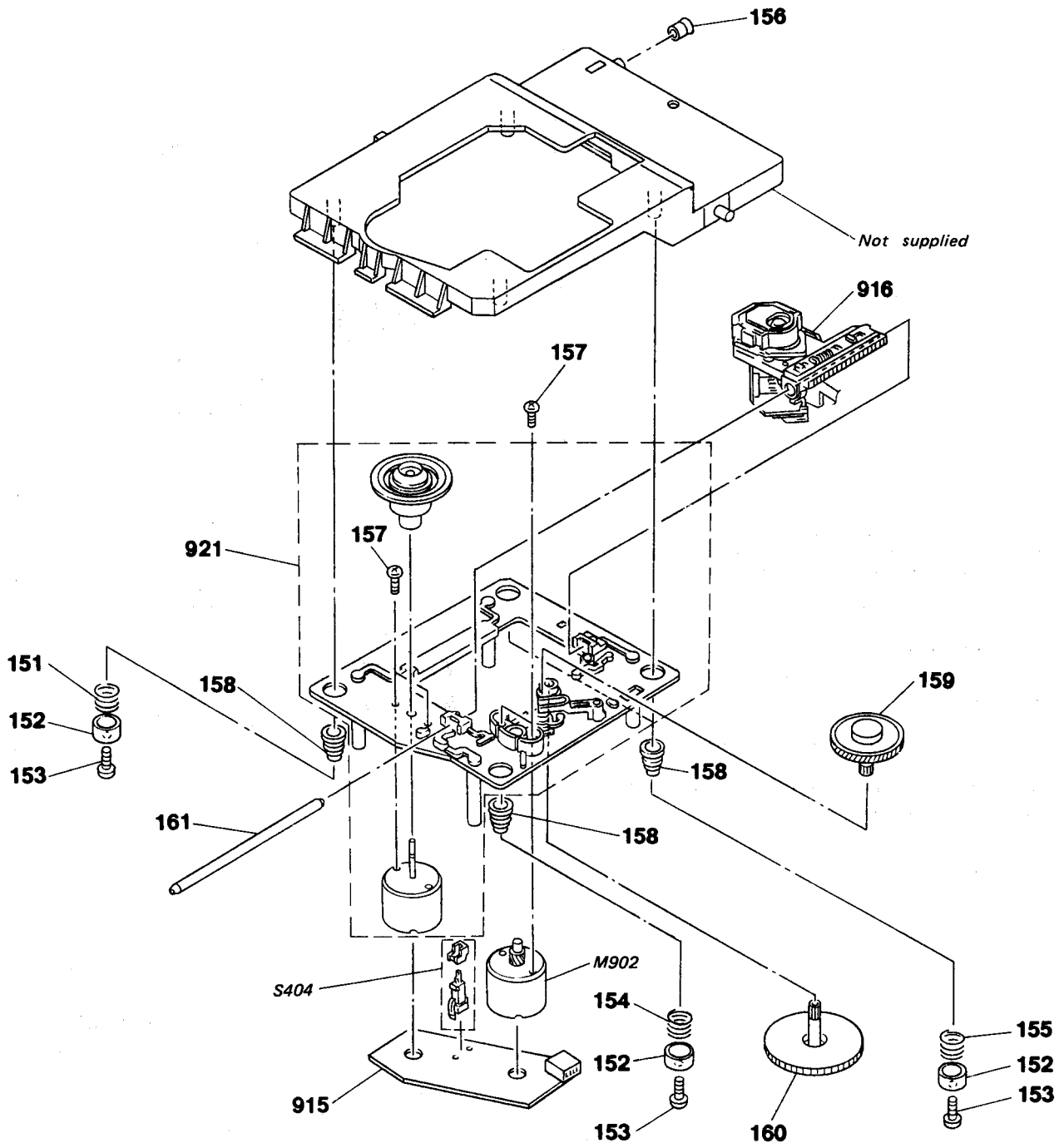
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	*X-4924-423-1	BRACKET (R GEAR) ASSY		77	▲.*3-703-244-00	(AEP,UK)...BUSHING (2104), CORD	
52	*3-846-067-11	SPACER			▲.3-703-571-11	(E)....BUSHING (S)(4516), CORD	
53	4-924-477-01	SPRING, COMPRESSION		78	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
54	*4-926-328-01	BRACKET (ADJUSTMENT A)		79	7-621-770-87	SCREW +BVTT 2.6X5 (S)	
55	*4-926-326-01	BRACKET (PRESS PULLEY)		80	7-621-775-08	SCREW +P 2.6X3	
56	1-452-340-21	MAGNET		81	7-685-870-01	SCREW +BVTT 3X5 (S)	
57	4-921-022-01	PULLEY, CHUCKING		82	7-682-548-09	SCREW +B 3X8	
58	4-924-421-01	SPRING (C), TENSION		83	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
59	*4-924-424-01	BRACKET (WORM)		84	7-682-547-04	SCREW +BVTT 3X6 (S)	
60	3-669-465-00	WASHER (1.5), STOPPER		85	4-921-029-01	YOKE, CHUCKING	
61	4-924-419-01	PULLEY (WORM)		86	9-911-841-XX	CUSHION	
62	4-917-548-02	BELT, DRIVING		902	▲.*1-631-004-11	(AEP,UK)...PC BOARD, P.T.	
63	4-924-420-01	SHAFT (W)			▲.*1-631-005-11	(E).....PC BOARD, P.T.	
64	4-924-414-01	GEAR (WH)		903	*1-631-007-11	PC BOARD, SENSOR	
65	7-624-106-04	STOP RING 3.0, TYPE -E		904	*1-631-008-11	PC BOARD, PIN JACK	
66	4-930-531-01	TABLE (C), DISK		913	*1-631-017-11	PC BOARD, MOTOR	
67	▲.4-926-307-01	WASHER		914	*1-631-018-11	PC BOARD, (R) GEAR TRANSLATION	
68	4-924-406-31	(BLACK:AEP,UK)....TABLE (A), DISK		917	▲.1-526-565-00	(E)...AC PLUG ADAPTOR	
	4-924-406-41	(GRAY:AEP,UK,E)...TABLE (A), DISK		918	▲.1-555-795-00	(AEP)...CORD, POWER, EULO PLUG	
69	*X-4924-409-1	SHAFT (ROLLER B) ASSY		919	▲.1-556-035-00	(UK)....CORD, POWER	
70	*X-4924-410-1	BRACKET (ROLLER) ASSY		920	▲.1-551-188-XX	(E)....CORD, POWER	
71	*X-4924-408-3	COLLAR (ROLLER) ASSY		CNJ551	1-566-921-11	JACK, PIN 2P (LINE OUT L/R)	
72	3-325-290-21	WASHER, STOPPER		M701	A-4608-367-A	MOTOR ASSY, ROTARY	
73	*X-4924-402-1	BRACKET (A) ASSY		S910	▲.1-571-309-11	(E)....SWITCH (VOLTAGE SELECT)	
74	*4-923-506-01	BRACKET (PC BOARD)		T901	▲.1-449-217-11	(AEP,UK)...TRANSFORMER, POWER	
75	*4-912-962-01	COVER (1P), TERMINAL		T901	▲.1-449-218-11	(E).....TRANSFORMER, POWER	
76	*4-924-402-51	(UK)....PANEL (M), BACK					
	*4-924-402-61	(E)....PANEL (M), BACK					
	*4-924-402-71	(AEP)...PANEL (M), BACK					

## 3. CHASSIS



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	4-924-411-01	SPRING (A), TENSION		117	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
102	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S		118	4-924-407-06	FRAME	
103	4-930-528-01	BELT (TIMING)		119	3-831-441-XX	CUSHION (B), CABINET	
104	4-930-507-01	PULLEY (LOADING)		120	*4-926-349-01	HEAT SINK	
105	7-628-254-10	+PSW, 2.6X6		121	*4-926-354-01	SHEET (ADHESIVE)	
106	*3-576-990-01	CUSHION		122	*4-926-324-01	BRACKET (FL)	
107	4-917-519-01	LEVER, SET		901	*A-4617-020-A	(AEP,E)...MOUNTED PCB, MAIN	
108	4-924-412-01	SPRING (B), TENSION			*A-4617-106-A	(UK).....MOUNTED PCB, MAIN	
109	4-924-425-01	GEAR (LOADING B)		905	*1-631-009-11	PC BOARD, L.M.	
110	4-924-431-01	GEAR (LOADING A)		906	*1-631-010-11	PC BOARD, DOWN SW	
111	7-685-666-79	SCREW, STEP		907	*1-631-011-11	PC BOARD, OPEN/UP SW	
112	4-926-320-01	SCREW (B), STEP		908	*1-631-012-11	PC BOARD, CLOSE SW	
113	*4-926-316-01	SHEET		909	*1-631-013-11	PC BOARD, TRANSLATION	
114	4-924-426-01	GEAR (LOADING C)		M401	A-4608-350-A	MOTOR ASSY, LOADING	
115	7-685-137-19	SCREW +BTP 2.6X14 TYPE2 N-S					
116	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S					

4. BASE UNIT



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	4-917-541-01	SPRING (B)		159	4-917-567-01	GEAR (M)	
152	4-917-508-01	HOLDER, SP		160	4-917-564-01	GEAR (P), FLATNESS	
153	7-685-135-19	SCREW +P 2.6X10 TYPE2 NON-SLIT		161	4-917-565-01	SHAFT, SLED	
154	4-918-669-01	SPRING (W)		915	*1-627-304-11	PC BOARD, SL/SP MOTOR	
155	4-917-507-01	SPRING (H)		916	8-848-062-01	PICK UP, OPTICAL KSS-150A	
156	4-917-515-01	ROLLER		921	X-4917-523-1	BASE ASSY (BU-5C)(SPINDLE MOTOR)	
157	7-621-255-15	SCREW +P 2X3		M902	X-4917-504-1	MOTOR ASSY (SLED)	
158	4-917-562-01	INSULATOR		S404	1-571-274-11	SWITH, LEAF (LIMIT IN)	



## SECTION 6 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:  $\mu$ F, PF:  $\mu$  $\mu$ F.

**RESISTORS**  
• All resistors are in ohms.  
• F: nonflammable

**COILS**  
• MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**  
In each case, U:  $\mu$ , for example:  
UA....:  $\mu$ A...., UPA....:  $\mu$ PA....,  
UPC....:  $\mu$ PC, UPD....:  $\mu$ PD...

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	Ref.No.	Part No.	Description				
901	*A-4617-020-A	(AEP,E)...MOUNTED PCB, MAIN	C209	1-136-165-00	FILM	0.1MF	5%	50V	
	*A-4617-106-A	(UK).....MOUNTED PCB, MAIN	C210	1-123-875-11	ELECT	10MF	20%	50V	
902	*1-631-004-11	(AEP,UK)...PC BOARD, P.T.	C211	1-136-165-00	FILM	0.1MF	5%	50V	
	*1-631-005-11	(E).....PC BOARD, P.T.	C212	1-123-382-00	ELECT	3.3MF	20%	50V	
903	*1-631-007-11	PC BOARD, SENSOR	C213	1-136-159-00	FILM	0.033MF	5%	50V	
904	*1-631-008-11	PC BOARD, PIN JACK	C214	1-136-165-00	FILM	0.1MF	5%	50V	
905	*1-631-009-11	PC BOARD, L.M.	C215	1-162-291-31	CERAMIC	560PF	10%	50V	
906	*1-631-010-11	PC BOARD, DOWN SW	C216	1-161-375-00	CERAMIC	0.0022MF	30%	16V	
907	*1-631-011-11	PC BOARD, OPEN/UP SW	C217	1-124-477-11	ELECT	47MF	20%	16V	
908	*1-631-012-11	PC BOARD, CLOSE SW	C218	1-124-477-11	ELECT	47MF	20%	16V	
909	*1-631-013-11	PC BOARD, TRANSLATION	C219	1-124-477-11	ELECT	47MF	20%	16V	
910	*1-631-014-11	PC BOARD, TACT SW	C220	1-124-499-11	ELECT	1MF	20%	50V	
911	*1-631-015-11	PC BOARD, POWER SW	C221	1-164-159-11	CERAMIC	0.1MF		50V	
912	*1-631-016-11	PC BOARD, HEADPHONE	C222	1-164-159-11	CERAMIC	0.1MF		50V	
913	*1-631-017-11	PC BOARD, MOTOR	C223	1-124-499-11	ELECT	1MF	20%	50V	
914	*1-631-018-11	PC BOARD, (R) GEAR TRANSLATION	C301	1-124-477-11	ELECT	47MF	20%	16V	
915	*1-627-304-11	PC BOARD, SL/SP MOTOR	C303	1-136-159-00	FILM	0.033MF	5%	50V	
916	8-848-062-01	PICK UP, OPTICAL KSS-150A	C304	1-124-902-00	ELECT	0.47MF	20%	50V	
917	1-526-565-00	(E)...AC PLUG ADAPTOR	C305	1-136-153-00	FILM	0.01MF	5%	50V	
918	1-555-795-00	(AEP)...CORD, POWER, EULO PLUG	C306	1-161-494-00	CERAMIC	0.022MF		25V	
919	1-556-035-00	(UK)...CORD, POWER	C307	1-162-203-31	CERAMIC	15PF	5%	50V	
920	1-551-188-XX	(E)...CORD, POWER	C308	1-162-203-31	CERAMIC	15PF	5%	50V	
921	X-4917-523-1	BASE ASSY (BU-5C) (SPINDLE MOTOR)	C309	1-161-375-00	CERAMIC	0.0022MF	30%	16V	
C103	1-162-294-31	CERAMIC	C310	1-161-375-00	CERAMIC	0.0022MF	30%	16V	
C104	1-124-477-11	ELECT	C311	1-124-477-11	ELECT	47MF	20%	16V	
C105	1-124-477-11	ELECT							
C106	1-161-375-00	CERAMIC	C312	1-124-477-11	ELECT	47MF	20%	16V	
C107	1-136-159-00	FILM	C313	1-124-477-11	ELECT	47MF	20%	16V	
C108	1-136-153-00	FILM	C314	1-124-477-11	ELECT	47MF	20%	16V	
C109	1-136-153-00	FILM	C320	1-162-851-11	CERAMIC	0.1MF	20%	16V	
C110	1-164-159-11	CERAMIC	C321	1-162-851-11	CERAMIC	0.1MF	20%	16V	
C111	1-124-477-11	ELECT	C322	1-162-851-11	CERAMIC	0.1MF	20%	16V	
C112	1-124-477-11	ELECT	C401	1-124-477-11	ELECT	47MF	20%	16V	
C113	1-136-171-00	FILM	C407	1-161-494-00	CERAMIC	0.022MF		25V	
C114	1-161-377-00	CERAMIC	C408	1-162-294-31	CERAMIC	0.001MF	10%	50V	
C115	1-161-375-00	CERAMIC	C409	1-162-294-31	CERAMIC	0.001MF	10%	50V	
C116	1-124-902-00	ELECT	C410	1-161-379-00	CERAMIC	0.01MF	20%	16V	
C202	1-124-927-11	ELECT	C411	1-161-379-00	CERAMIC	0.01MF	20%	16V	
C203	1-161-377-00	CERAMIC	C412	1-161-379-00	CERAMIC	0.01MF	20%	16V	
C204	1-124-477-11	ELECT	C413	1-161-379-00	CERAMIC	0.01MF	20%	16V	
C205	1-161-375-00	CERAMIC	C420	1-162-851-11	CERAMIC	0.1MF	20%	16V	
C206	1-162-282-31	CERAMIC	C421	1-162-851-11	CERAMIC	0.1MF	20%	16V	
C207	1-124-477-11	ELECT	C430	1-162-851-11	CERAMIC	0.1MF	20%	16V	
C208	1-161-379-00	CERAMIC	C501	1-124-927-11	ELECT	4.7MF	20%	50V	
			C503	1-162-286-31	CERAMIC	220PF	10%	50V	
			C504	1-162-291-31	CERAMIC	560PF	10%	50V	
			C505	1-164-159-11	CERAMIC	0.1MF		50V	



Ref.No.	Part No.	Description					Ref.No.	Part No.	Description					
C551	1-124-927-11	ELECT	4.7MF	20%	50V		FL401	1-519-477-11	INDICATOR TUBE, FLUORESCENT					
C553	1-162-286-31	CERAMIC	220PF	10%	50V		IB101	1-233-171-11	COMPOSITION CIRCUIT BLOCK					
C554	1-162-291-31	CERAMIC	560PF	10%	50V		IB102	1-233-171-11	COMPOSITION CIRCUIT BLOCK					
C555	1-164-159-11	CERAMIC	0.1MF		50V		IC101	8-752-034-00	IC CXA1081S					
C560	1-124-477-11	ELECT	47MF	20%	16V		IC201	8-752-032-30	IC CXA1082BS					
C561	1-124-477-11	ELECT	47MF	20%	16V		IC202	8-759-035-28	IC CXA-1291P					
C570	1-136-165-00	FILM	0.1MF	5%	50V		IC203	8-759-035-28	IC CXA-1291P					
C571	1-124-443-00	ELECT	100MF	20%	10V		IC301	8-752-328-62	IC CXD1125Q					
C572	1-162-851-11	CERAMIC	0.1MF	20%	16V		IC302	8-752-323-64	IC CXX5816M-12L					
C701	1-161-494-00	CERAMIC	0.022MF	30%	25V		IC303	8-752-328-72	IC CXD2550P					
C901	1-124-556-11	ELECT	2200MF	20%	16V		IC304	8-759-805-35	IC CXD1161P-2					
C902	1-124-556-11	ELECT	2200MF	20%	16V		IC401	8-759-145-82	IC UPD75208CW-287					
C903	1-124-556-11	ELECT	2200MF	20%	16V		IC402	8-749-920-53	RECEIVER UNIT, REMOCON GPIU52A					
C904	1-136-165-00	FILM	0.1MF	5%	50V		IC501	8-759-631-39	IC M5204P					
C905	1-136-165-00	FILM	0.1MF	5%	50V		IC701	8-719-970-19	DIODE G1A521					
C906	1-136-165-00	FILM	0.1MF	5%	50V		IC901	8-759-631-40	IC M5294P					
C907	1-124-925-11	ELECT	2.2MF	20%	50V		L901	1-421-915-11	(AEP,UK)...COIL, LINE FILTER					
C908	1-126-176-11	ELECT	220MF	20%	10V		M401	A-4608-350-A	MOTOR ASSY, LOADING					
C909	1-126-176-11	ELECT	220MF	20%	10V		M701	A-4608-367-A	MOTOR ASSY, ROTARY					
C910	1-124-919-11	ELECT	220MF	20%	63V		M902	X-4917-504-1	MOTOR ASSY (SLED)					
C911	1-130-479-00	MYLAR	0.0047MF	5%	50V		Q101	8-729-116-57	TRANSISTOR 2SB1013					
C912	1-124-122-11	ELECT	100MF	20%	50V		Q201	8-729-115-77	TRANSISTOR BA1L4M					
C913	1-124-556-11	ELECT	2200MF	20%	16V		Q202	8-729-900-61	TRANSISTOR DTC114ES					
CNJ101*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P						Q401	8-729-900-36	TRANSISTOR DTC124ES					
CNJ103*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P						Q402	8-729-900-36	TRANSISTOR DTC124ES					
CNJ201*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P						Q901	8-729-900-63	TRANSISTOR DTA124ES					
CNJ202*1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P						Q902	8-729-900-61	TRANSISTOR DTC114ES					
CNJ401*1-564-339-00	PIN, CONNECTOR 5P						Q903	8-729-154-83	TRANSISTOR 2SB548					
CNJ403*1-506-615-11	PIN, CONNECTOR 9P						R101	1-249-397-11	CARBON	22	5%	1/4W		
CNJ407*1-564-336-00	PIN, CONNECTOR 2P						R102	1-249-405-11	CARBON	100	5%	1/4W		
CNJ410*1-564-336-00	PIN, CONNECTOR 2P						R103	1-249-417-11	CARBON	1K	5%	1/4W		
CNJ411*1-564-337-00	PIN, CONNECTOR 3P						R104	1-249-433-11	CARBON	22K	5%	1/4W		
CNJ412*1-564-336-71	PIN, CONNECTOR 2P						R105	1-247-864-11	CARBON	24K	5%	1/4W		
CNJ501*1-564-338-00	PIN, CONNECTOR 4P						R106	1-249-441-11	CARBON	100K	5%	1/4W		
CNJ504*1-564-500-11	PIN, CONNECTOR 7P						R107	1-249-417-11	CARBON	1K	5%	1/4W		
CNJ507 1-568-518-21	JACK, LARGE TYPE (HEADPHONES)						R108	1-249-431-11	CARBON	15K	5%	1/4W		
CNJ551 1-566-921-11	JACK, PIN 2P (LINE OUT L/R)						R109	1-249-431-11	CARBON	15K	5%	1/4W		
CNJ701*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P						R110	1-249-425-11	CARBON	4.7K	5%	1/4W		
CNJ703*1-564-336-00	PIN, CONNECTOR 2P						R111	1-249-425-11	CARBON	4.7K	5%	1/4W		
CNJ706*1-564-337-00	PIN, CONNECTOR 3P						R201	1-249-429-11	CARBON	10K	5%	1/4W		
CNJ902*1-564-521-11	PLUG, CONNECTOR 6P						R202	1-249-433-11	CARBON	22K	5%	1/4W		
CNJ911*1-564-336-00	PIN, CONNECTOR 2P						R203	1-249-414-11	CARBON	560	5%	1/4W		
D101	8-719-912-20	DIODE 1SS120					R204	1-249-441-11	CARBON	100K	5%	1/4W		
D401	8-719-121-24	DIODE RD9.1ES-L					R205	1-215-434-00	METAL	3.6K	1%	1/6W		
D402	8-719-912-20	DIODE 1SS120					R206	1-249-441-11	CARBON	100K	5%	1/4W		
D403	8-719-912-20	DIODE 1SS120					R207	1-249-440-11	CARBON	82K	5%	1/4W		
D404	8-719-912-20	DIODE 1SS120					R208	1-247-889-00	CARBON	270K	5%	1/4W		
D405	8-719-920-07	DIODE GL-9PG12 (CONTINUE)					R209	1-249-435-11	CARBON	33K	5%	1/4W		
D901	8-719-200-77	DIODE 10E2N					R210	1-247-896-11	CARBON	510K	5%	1/4W		
D902	8-719-200-77	DIODE 10E2N					R211	1-249-427-11	CARBON	6.8K	5%	1/4W		
D903	8-719-200-77	DIODE 10E2N					R212	1-247-881-00	CARBON	120K	5%	1/4W		
D904	8-719-200-77	DIODE 10E2N					R213	1-249-423-11	CARBON	3.3K	5%	1/4W		
D905	8-719-200-77	DIODE 10E2N					R214	1-249-425-11	CARBON	4.7K	5%	1/4W		
D906	8-719-102-30	DIODE RD33ES-L2					R215	1-247-882-11	CARBON	130K	5%	1/4W		
D907	8-719-934-50	DIODE HZS7B1L2					R216	1-249-432-11	CARBON	18K	5%	1/4W		
D908	8-719-200-77	DIODE 10E2N												
D909	8-719-200-77	DIODE 10E2N												

Ref.No.	Part No.	Description			
R217	1-249-432-11	CARBON	18K	5%	1/4W
R218	1-249-437-11	CARBON	47K	5%	1/4W
R219	1-249-435-11	CARBON	33K	5%	1/4W
R220	1-249-417-11	CARBON	1K	5%	1/4W
R221	1-249-393-11	CARBON	10	5%	1/4W
R222	1-249-393-11	CARBON	10	5%	1/4W
R223	1-249-441-11	CARBON	100K	5%	1/4W
R301	1-215-469-00	METAL	100K	1%	1/6W
R302	1-215-469-00	METAL	100K	1%	1/6W
R303	1-249-429-11	CARBON	10K	5%	1/4W
R304	1-249-441-11	CARBON	100K	5%	1/4W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-433-11	CARBON	22K	5%	1/4W
R307	1-247-903-00	CARBON	1M	5%	1/4W
R308	1-249-417-11	CARBON	1K	5%	1/4W
R309	1-249-417-11	CARBON	1K	5%	1/4W
R310	1-249-411-11	CARBON	330	5%	1/4W
R311	1-249-417-11	CARBON	1K	5%	1/4W
R312	1-249-417-11	CARBON	1K	5%	1/4W
R313	1-249-417-11	CARBON	1K	5%	1/4W
R401	1-249-429-11	CARBON	10K	5%	1/4W
R403	1-249-429-11	CARBON	10K	5%	1/4W
R404	1-249-439-11	CARBON	68K	5%	1/4W
R405	1-249-429-11	CARBON	10K	5%	1/4W
R406	1-249-429-11	CARBON	10K	5%	1/4W
R407	1-249-429-11	CARBON	10K	5%	1/4W
R408	1-249-433-11	CARBON	22K	5%	1/4W
R409	1-249-433-11	CARBON	22K	5%	1/4W
R410	1-249-433-11	CARBON	22K	5%	1/4W
R411	1-249-433-11	CARBON	22K	5%	1/4W
R412	1-247-885-00	CARBON	180K	5%	1/4W
R413	1-247-884-11	CARBON	160K	5%	1/4W
R414	1-247-885-00	CARBON	180K	5%	1/4W
R415	1-247-883-00	CARBON	150K	5%	1/4W
R416	1-247-881-00	CARBON	120K	5%	1/4W
R417	1-247-883-00	CARBON	150K	5%	1/4W
R418	1-247-882-11	CARBON	130K	5%	1/4W
R419	1-247-883-00	CARBON	150K	5%	1/4W
R420	1-249-429-11	CARBON	10K	5%	1/4W
R421	1-249-429-11	CARBON	10K	5%	1/4W
R422	1-249-429-11	CARBON	10K	5%	1/4W
R423	1-249-429-11	CARBON	10K	5%	1/4W
R424	1-249-429-11	CARBON	10K	5%	1/4W
R425	1-249-417-11	CARBON	1K	5%	1/4W
R430	1-249-433-11	CARBON	22K	5%	1/4W
R431	1-249-433-11	CARBON	22K	5%	1/4W
R432	1-249-407-11	CARBON	150	5%	1/4W
R501	1-249-435-11	CARBON	33K	5%	1/4W
R502	1-249-440-11	CARBON	82K	5%	1/4W
R503	1-249-439-11	CARBON	68K	5%	1/4W
R504	1-249-417-11	CARBON	1K	5%	1/4W
R505	1-249-402-11	CARBON	56	5%	1/4W
R510	1-249-429-11	CARBON	10K	5%	1/4W
R551	1-249-435-11	CARBON	33K	5%	1/4W
R552	1-249-440-11	CARBON	82K	5%	1/4W
R553	1-249-439-11	CARBON	68K	5%	1/4W
R554	1-249-417-11	CARBON	1K	5%	1/4W

Ref.No.	Part No.	Description			
R555	1-249-402-11	CARBON	56	5%	1/4W
R701	1-249-416-11	CARBON	820	5%	1/4W
R901	1-247-883-00	CARBON	150K	5%	1/4W
R902	1-249-425-11	CARBON	4.7K	5%	1/4W
RV1	1-228-995-00	RES, ADJ, CARBON	22K		
RV2	1-228-993-00	RES, ADJ, CARBON	4.7K		
RV3	1-228-995-00	RES, ADJ, CARBON	22K		
RV4	1-228-995-00	RES, ADJ, CARBON	22K		
RV5	1-228-990-00	RES, ADJ, METAL GLAZE	1K		
RV501	1-238-302-11	RES, VAR, CARBON	1K/1K		(HEADPHONES LEVEL)
S1	1-554-596-21	SWITCH, KEY BOARD			(CONTINUE)
S2	1-554-596-21	SWITCH, KEY BOARD			(SUFFLE)
S3	1-554-596-21	SWITCH, KEY BOARD			(PROGRAM)
S4	1-554-596-21	SWITCH, KEY BOARD			(TIME)
S5	1-554-596-21	SWITCH, KEY BOARD			(▶▶)
S6	1-554-596-21	SWITCH, KEY BOARD			(◀◀)
S7	1-554-596-21	SWITCH, KEY BOARD			(■)
S8	1-554-596-21	SWITCH, KEY BOARD			(▶/■)
S9	1-554-596-21	SWITCH, KEY BOARD			(≡ OPEN/CLOSE)
S10	1-554-596-21	SWITCH, KEY BOARD			(DISK SKIP)
S401	1-571-677-11	SWITCH, PUSH (1 KEY)			(CLOSE)
S402	1-571-300-11	SWITCH, ROTARY			(BU-UP/OPEN)
S403	1-571-453-11	SWITCH, LEVER SLIDE			(BU-DOWN)
S404	1-571-274-11	SWITH, LEAF			(LIMIT IN)
S901	1-552-928-00	SWITCH			(POWER)
S902	1-570-707-21	SWITCH, SLIDE			(TIMER)
S910	△.1-571-309-11	(E)....SWITCH			(VOLTAGE SELECT)
T901	△.1-449-217-11	(AEP,UK)...TRANSFORMER			(POWER)
T901	△.1-449-218-11	(E).....TRANSFORMER			(POWER)
X301	1-567-741-11	VIBRATOR, CRYSTAL			16MHz
X401	1-567-686-11	OSCILLATOR, CERAMIC			4MHz

ACCESSORY & PACKING MATERIAL

1-465-186-11	REMOTE COMMANDER	(RM-D505)
1-559-533-11	CORD, CONNECTION	
3-701-630-00	BAG, POLYETHYLENE	
3-750-381-11	MANUAL, INSTRUCTION	
3-750-381-41	(AEP)...MANUAL, INSTRUCTION	
*3-795-629-11	(AEP)...INSTRUCTION	
4-384-285-01	COVER, BATTERY	
*4-885-838-00	LABEL, CLASS 1	
*4-924-418-01	PLATE (TRANSPORT), LOCK	
*4-930-516-01	CUSHION (LEFT)	
*4-930-517-01	CUSHION (RIGHT)	
*4-930-570-01	INDIVIDUAL CARTON	

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

**TROUBLESHOOTING GUIDE**

The following checks will assist in the correction of most problems which you may encounter with your unit. Should any problem persist after you have made these checks, consult your nearest Sony service facility. Before going through the check list below, first refer back to the connection and operating procedures.

<b>Trouble</b>	<b>Causes</b>	<b>Remedy</b>
No audio from one or both channels	Incorrect operation of the amplifier	Operate correctly.
	Loose connection	Connect the cords firmly.
Play does not begin.	No disc in the disc compartment	Put disc(s) in the compartment.
	The player is in the pause mode.	Press ►   (or    on the remote commander) to release pause.
	Moisture condensation	Leave the player turned on for about an hour.
	The disc is set upside down.	Set the disc with the label side up.
	The disc is tilted.	Set the disc correctly.
	The disc is extremely dirty.	Clean the disc.
Discs cannot be played continuously.	Play did not start from the disc in the DISC 1 tray.	Press DISC 1 to start play.
Remote commander does not operate the unit.	The batteries are exhausted.	Replace both batteries.
	The remote commander is not pointed at the remote control sensor.	Point the remote commander to the sensor.
	There is an obstacle between the remote commander and the unit.	Remove the obstacle.
	The remote commander is too far from the unit.	Move closer.
Any operation is not possible.	The internal control program may not run.	Turn OFF the power and turn it ON again.