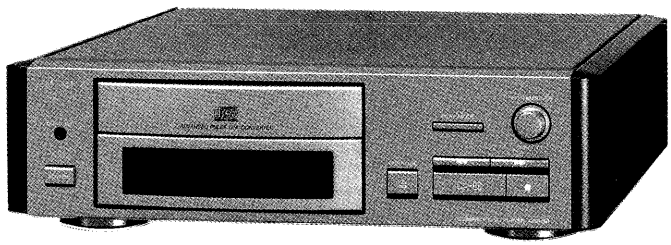
CDP-S1

SERVICE MANUAL

AEP Model
UK Model
Singapore Model
Tourist Model



This set is the CD section in SHC-S1/S2.

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM14L-5BD10B
Base Unit Name	BU-5BD10B

SPECIFICATIONS

Compact disc player

Laser
Semiconductor laser
Wavelength
780 - 790 nm
Frequency response
2 Hz to 20 kHz ±0.5dB
Signal-to-noise ratio
More than 107 dB
Dynamic range
More than 99 dB
Harmonic distortion
Less than 0.0027 %
Channel separation
More than 103 dB

Outputs

LINE OUT (phono jacks)
Output level 2 V (at 50 kilohms)
Load impedance over 10 kilohms
DIGITAL OUT (OPTICAL) (square optical connector jack, rear panel)
Wavelength 660 nm
Output level -18 dBm
DIGITAL OUT (optical mini jack, front panel)
Wavelength 660 nm
Output level -18 dBm

General

Power requirements
220 - 230V AC, 50/60Hz (AEP, UK, G, IT)
110 - 120V, 220 - 240V AC, adjustable, 50/60Hz (SP, JE)
Power consumption
11W
Dimensions (including projections)
Approx. 310 × 90 × 345 mm (12 1/4 × 3 5/8 × 13 5/8 inches) (w/h/d)
Mass
Approx. 3.5 kg (7 lb 12 oz)

Supplied accessory

Audio cord
(1) (2 phono plugs - 2 phono plugs)

Design and specifications are subject to change without notice.

- Abbreviations
  SP : Singapore
  JE : Tourist
  G : German
  IT : Italian

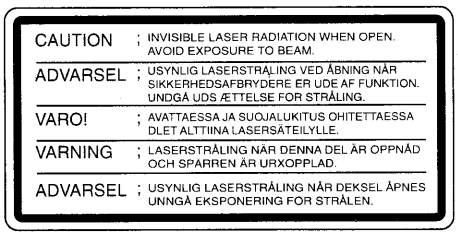
COMPACT DISC PLAYER

SONY®

TABLE OF CONTENTS

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.



CAUTION

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

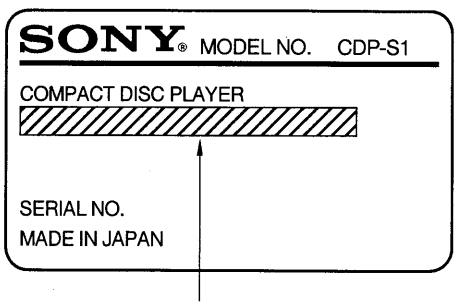
SAFETY-RELATED COMPONENT WARNING!!

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.

MODEL IDENTIFICATION

— Model Number Portion —

Carved on rear cabinet



AEP, UK, German, Italian : AC: 220—230V~50/60Hz

Singapore, Tourist model : AC:110—120/220—240V~50/60Hz

SECTION 1
GENERAL

This section is extracted from instruction manual.

SERVICING NOTES

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

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

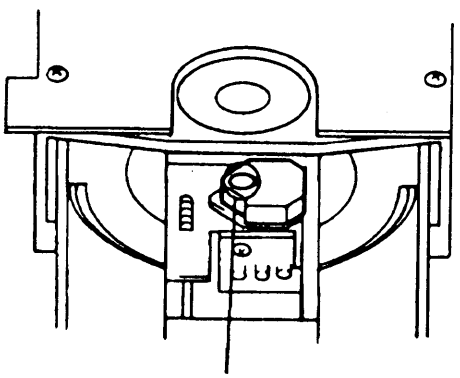
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

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

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Turn POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objecting lens.



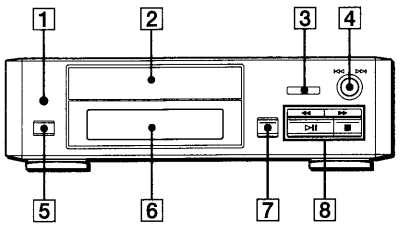
❶ Confirm that laser beam is spread.

❷ Up and down motion of the objective lens. (3 times)

Index to Parts and Controls

Front panel

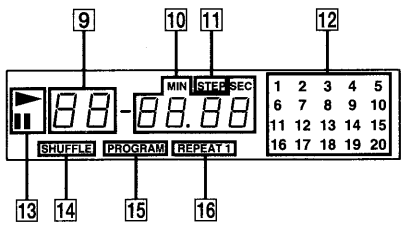
Refer to the pages indicated in parenthesis for details.



1 DIGITAL OUT jack (4)
2 Disc tray (6)
3 PLAY MODE button (8)
4 I◁◁/▷▷I AMS* dial (7)(8)
5 POWER switch (6)
6 Display (6)
7 ⏏ OPEN / CLOSE button (6)
8 CD operating buttons (6)
▷II (play/pause) button
◀◀/▶▶ (manual search) buttons
■ (stop) button

* AMS: Automatic Music Sensor

Display section



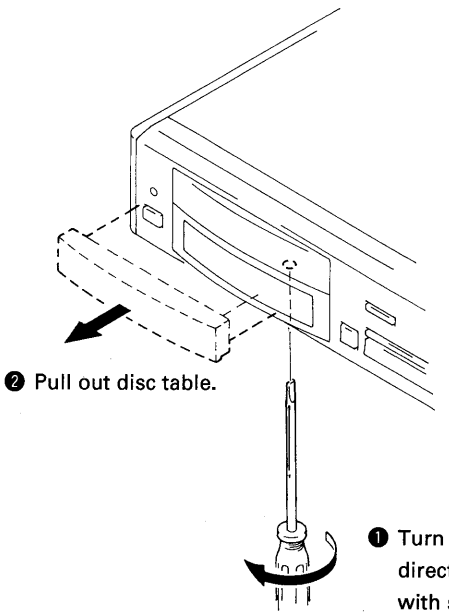
9 Track number indication
10 Playing time/remaining time indication
11 STEP indicator
12 Music calendar
13 PLAY/PAUSE indicator
14 SHUFFLE indicator
15 PROGRAM indicator
16 REPEAT indicator

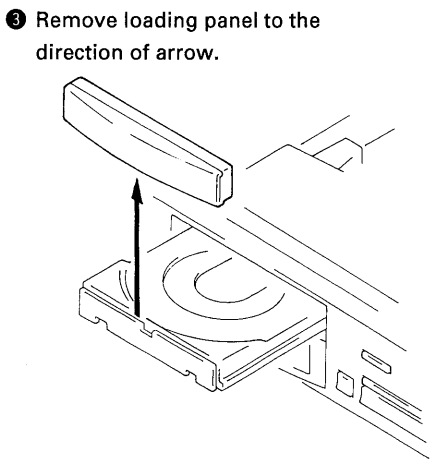
SECTION 2
DISASSEMBLY

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

FRONT PANEL REMOVAL

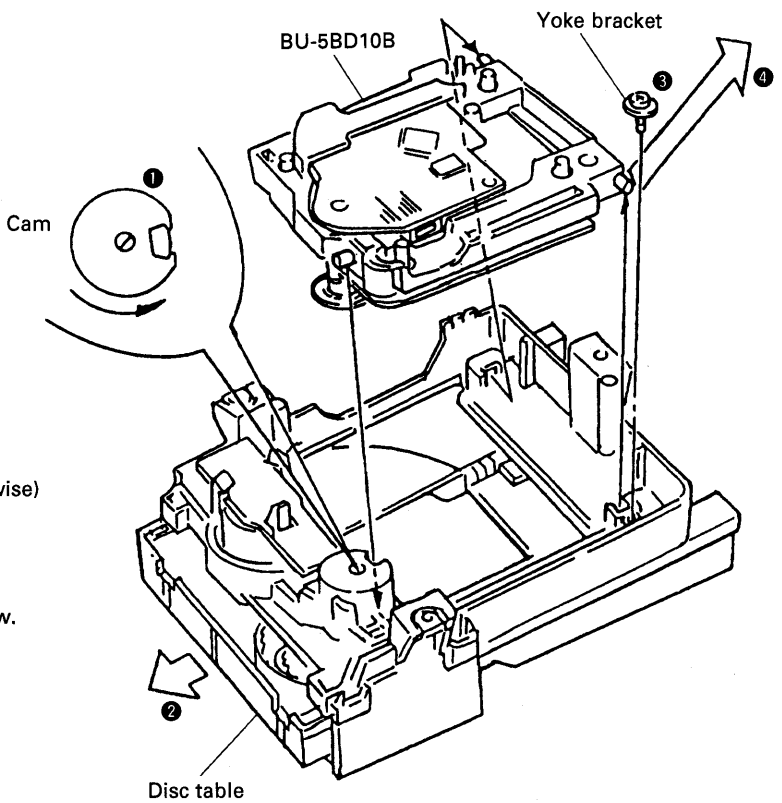
When removing the front panel assembly on electric power failure, first open the loading block by turning cam with a screwdriver as shown in the figure, next pull out the loading block with hand, and remove the loading panel as shown in the figure. Then remove the front panel assembly.





MD (BU-5BD10B) REMOVAL

❶ Turn the cam to the direction of arrow (Counter clockwise) by minus screwdriver.
❷ Take off the disc table.
❸ Remove the yoke bracket.
❹ Remove the MD (BU-5BD10B) to the direction of arrow.

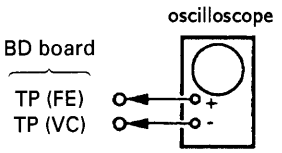


SECTION 3
ELECTRICAL BLOCK CHECKING

Note :

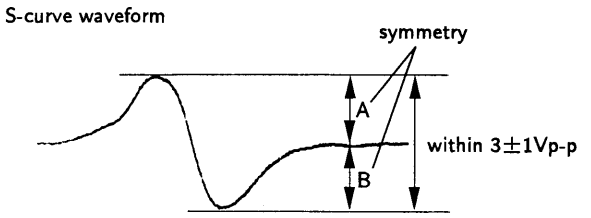
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check



Procedure :

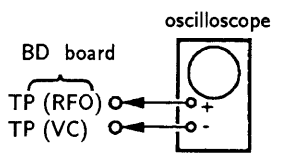
1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.



6. After check, remove the lead wire connected in step 2.

Note : • Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

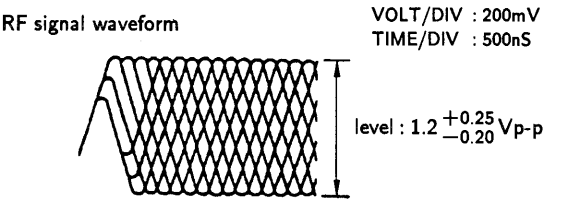


Procedure :

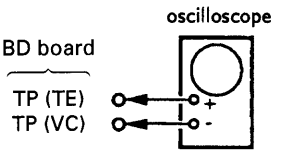
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

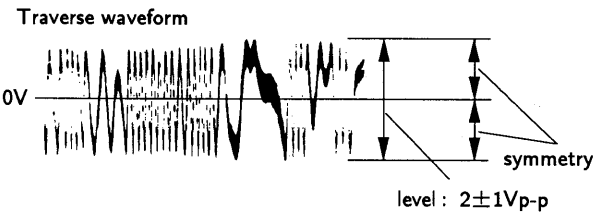


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TEI) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TE) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

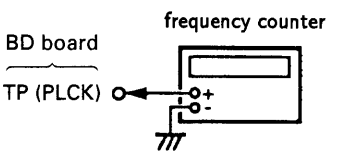


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK) with lead wire.

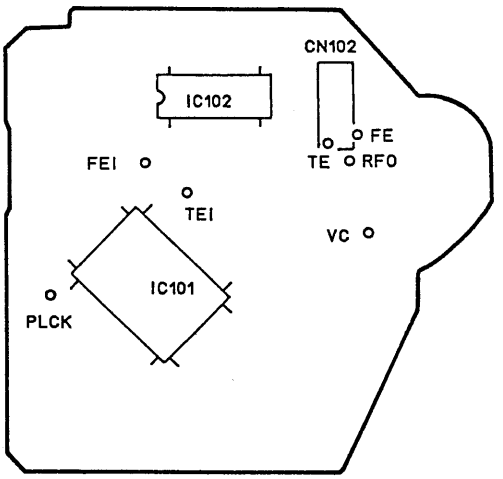


2. Turned Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location :

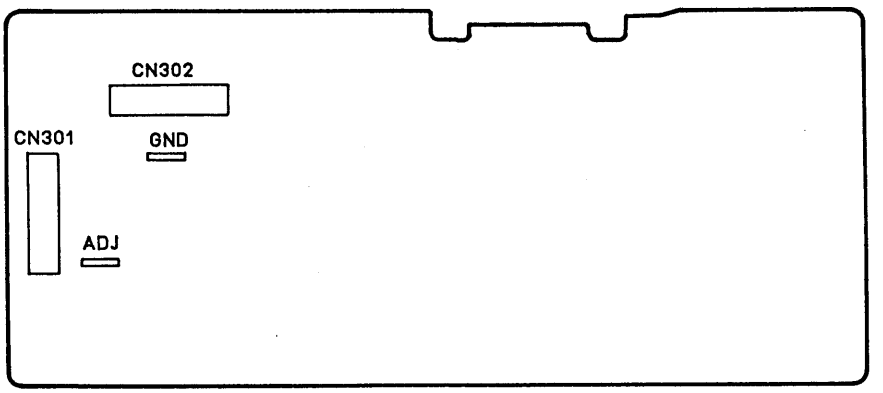
[BD BOARD]

- Conductor side -



[MAIN BOARD]

-Component side-



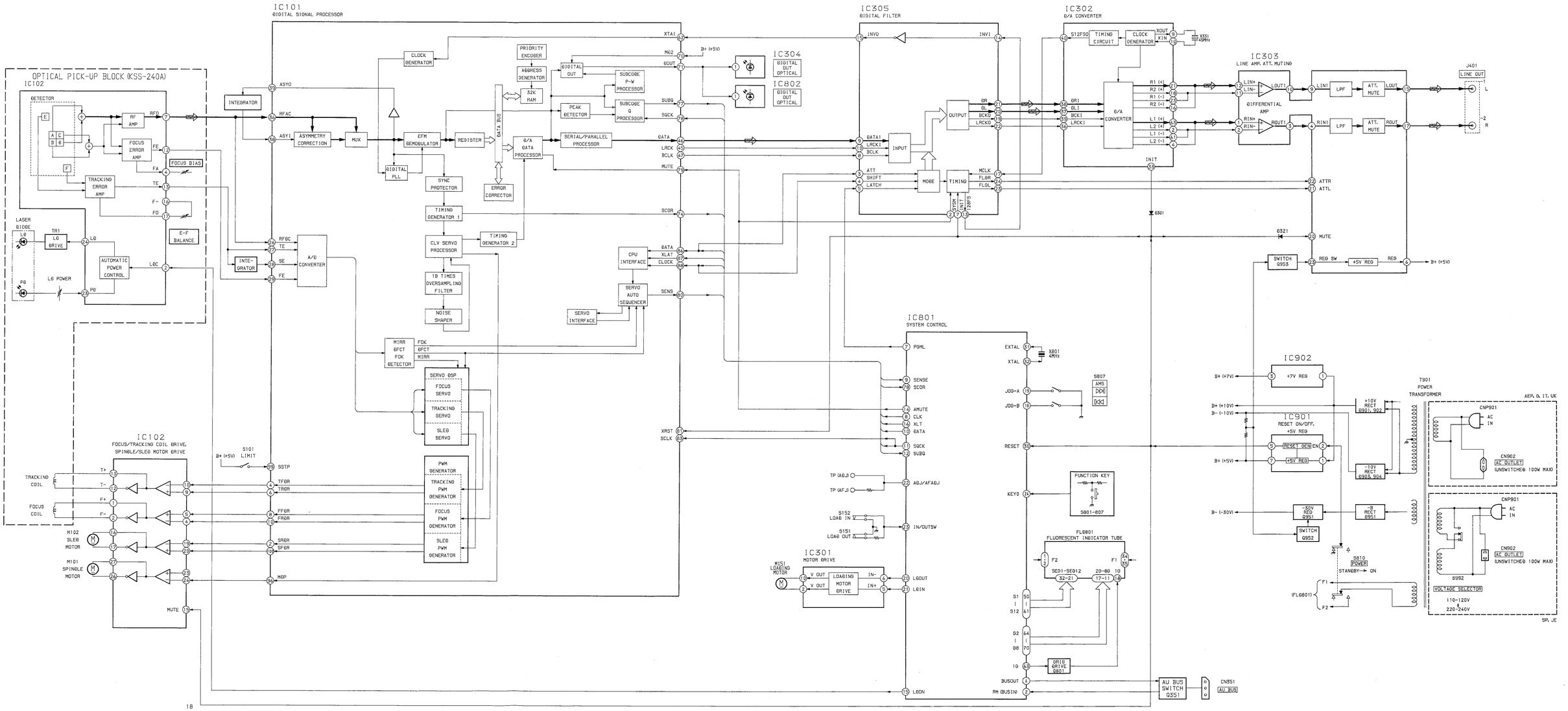
SECTION 4
DIAGRAMS

4-1. IC PIN DESCRIPTION

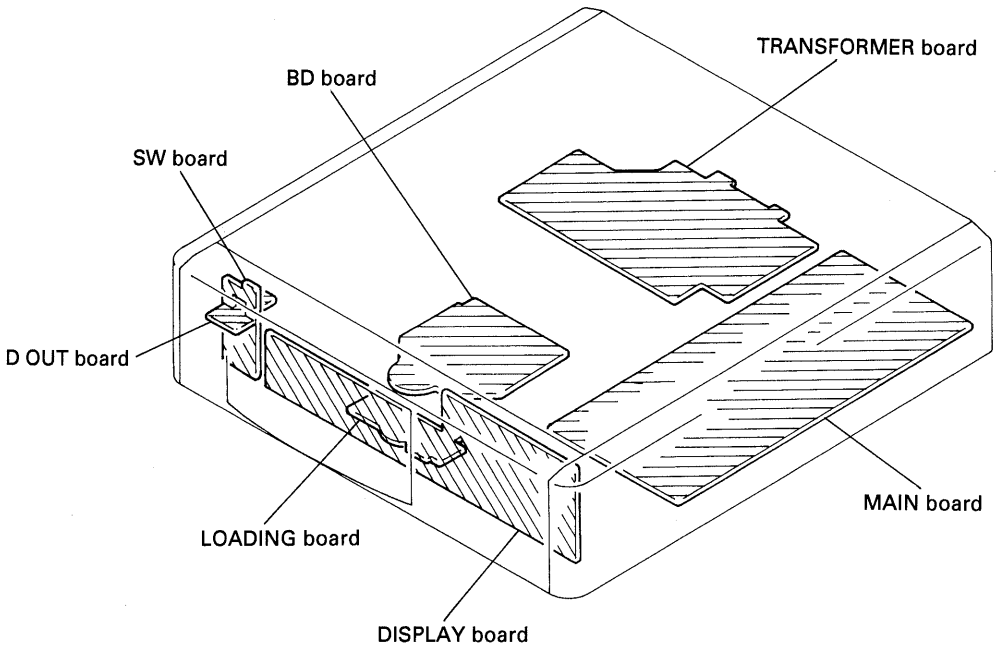
• IC801 CXP82316-044Q SYSTEM CONTROL, FLD. DRIVE

Pin No.	Pin Name	I/O	Description
1	TIMER	I	Not used (GND)
2	BUSIN	I	AU BUS input
3	+5V	I	Not used (+5V)
4	OPEN	—	Not used (open)
5	OPEN	—	Not used (open)
6	BUSOUT	O	AU BUS output
7	PGML	O	Latch signal output to digital filter (IC305)
8	CLK	O	Serial clock output
9	SENSE	I	SENSE signal input
10	DATA	O	Serial data output
11	SQCK	O	Read out clock output for subcode Q data
12	SUBQ	I	Subcode Q data input
13	OPEN	—	Not used (open)
14	AMUTE	O	Analog muting control signal output "H": Mute
15	LDON	O	Optical pickup laser diode control output "H": On
16	XLT	O	Serial data latch signal output
17	OPEN	—	Not used (open)
18	JOGINB	I	Jog dial signal input
19	JOGINA	I	
20	LDOUT	O	Loading motor control signal output
21	LDIN	O	
22	ADJ/AFADJ	I	ADJ, AFJ test pin
23	IN/OUTSW	I	Loading IN/OUT switch input
24	KEY0	I	Key input
25 — 29	OPEN	—	Not used (open)
30	RESET	I	Reset signal input
31	EXTAL	I	Clock input (4MHz)
32	XTAL	O	Clock output (4MHz)
33	Vss	—	GND
34 — 49	OPEN	—	Not used (open)
50 — 61	S1 — S12	O	FL segment output
62	OPEN	—	Not used (open)
63 — 70	1G — 8G	O	FL grid output
71	-30V	—	-30V pin for FL display tube
72	VDD	I	+5V
73	+5V	—	Not used (+5V)
74 — 77	OPEN	—	Not used (open)
78	SCOR	I	Read out timing signal input for subcode Q data
79	+5V	I	Not used (+5V)
80	+5V	I	Not used (+5V)

4-2. BLOCK DIAGRAM

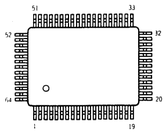


4-3. CIRCUIT BOARDS LOCATION

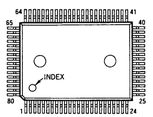


4-4. SEMICONDUCTOR LEAD LAYOUTS

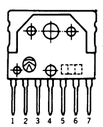
CXD2562Q



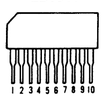
CXP82316-044Q



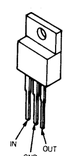
LA5602



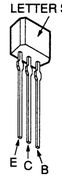
LB1641



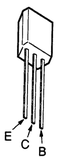
M5F78M07L



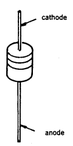
2SA1175-HFE
2SB1041T103



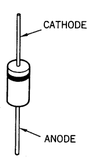
DTC114ES



11EQS04
11ES2
HZS30-2L
HZS6A1L
UZL-7L3
UZ-4.7BSC



1N4148M



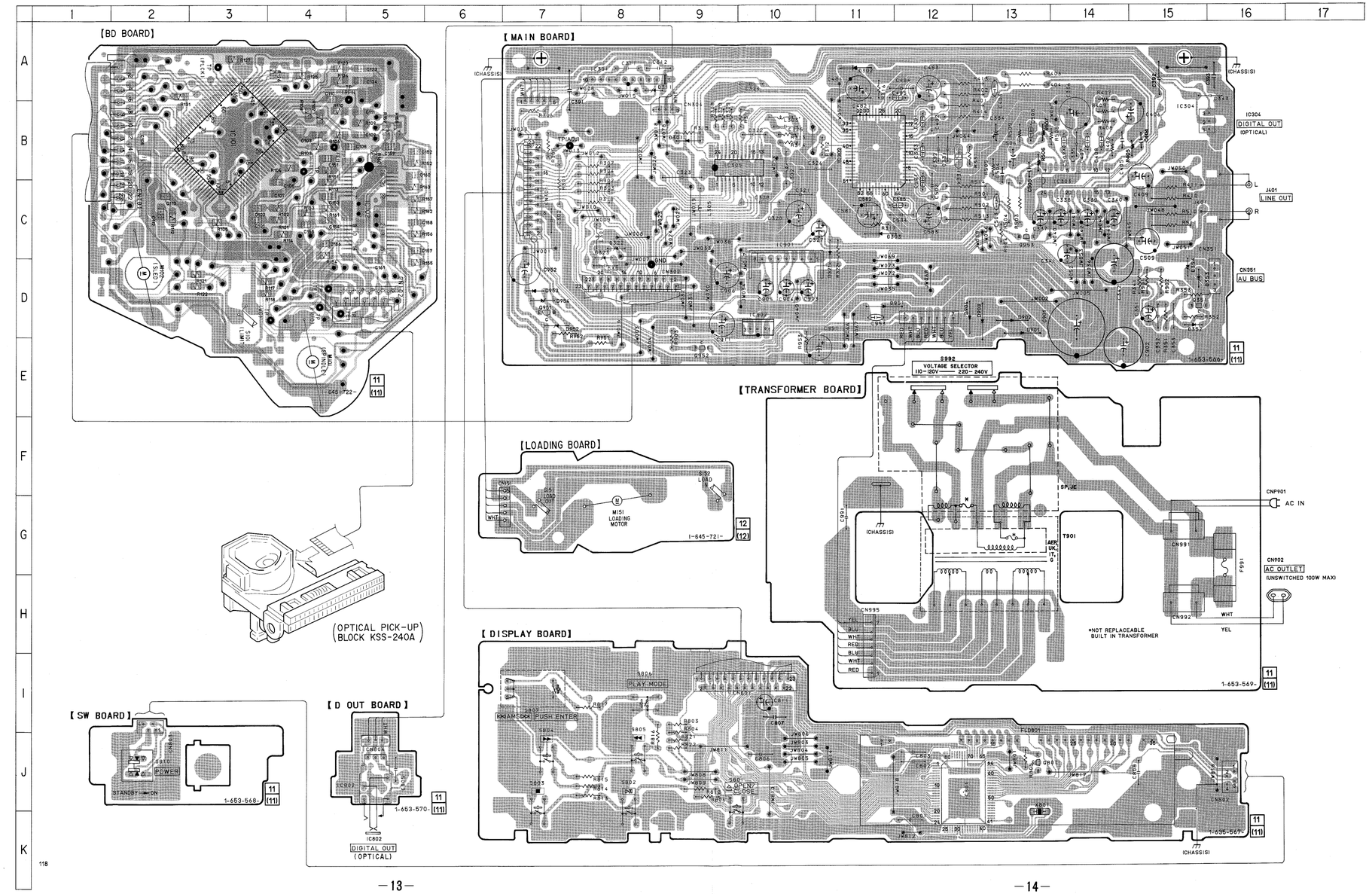
4-5. PRINTED WIRING BOARDS

• Semiconductor Location

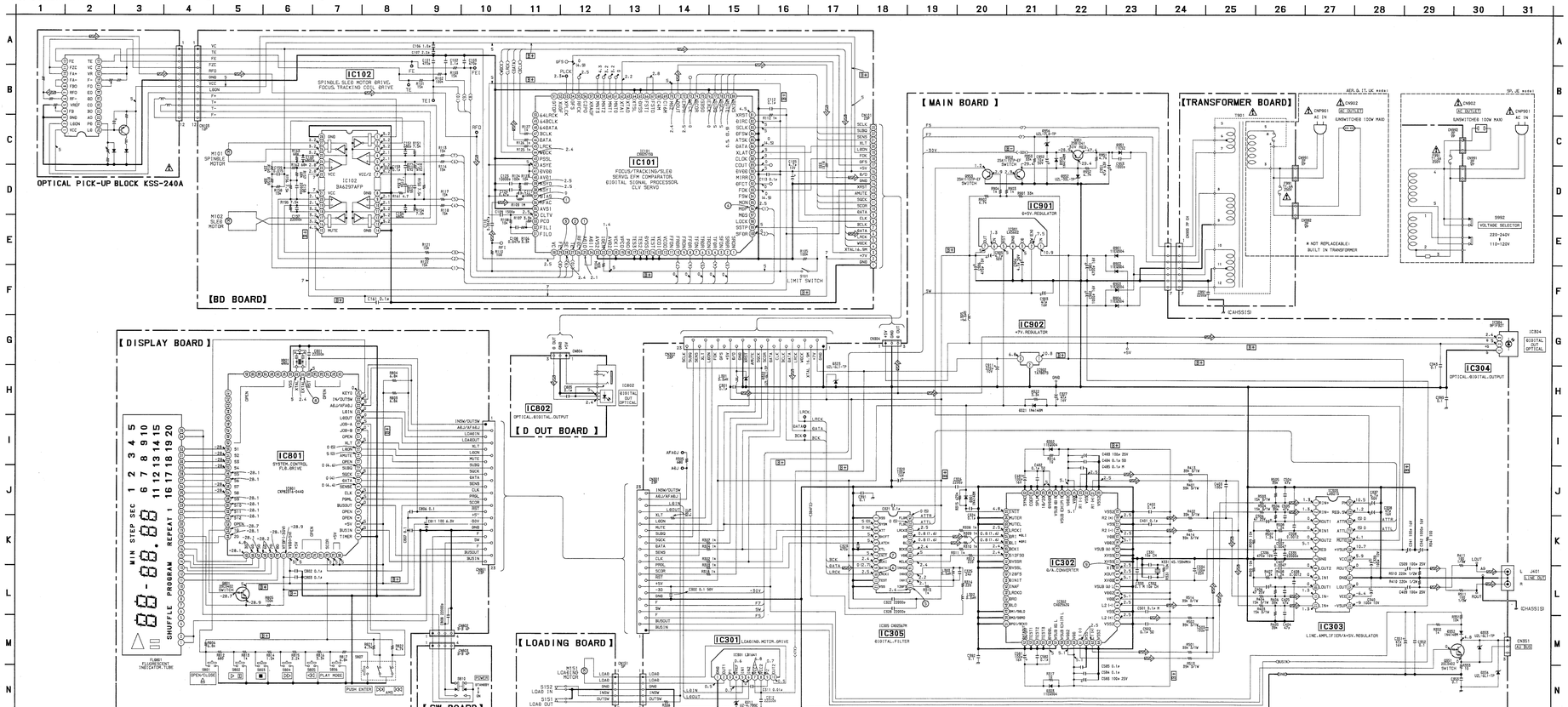
Ref. No.	Location
D301	B - 9
D302	A - 11
D303	C - 11
D311	A - 8
D321	C - 11
D322	C - 8
D323	D - 8
D352	D - 15
D353	D - 15
D354	D - 15
D901	D - 13
D902	D - 13
D903	D - 13
D904	D - 12
D951	D - 11
D952	D - 7
D953	D - 7
D954	D - 7
IC101	B - 3
IC102	C - 5
IC301	A - 8
IC302	B - 11
IC303	C - 14
IC304	B - 16
IC305	B - 10
IC801	J - 12
IC802	J - 5
IC901	D - 10
IC902	D - 10
Q351	D - 15
Q801	J - 13
Q951	D - 7
Q952	E - 9
Q953	C - 13

Note:

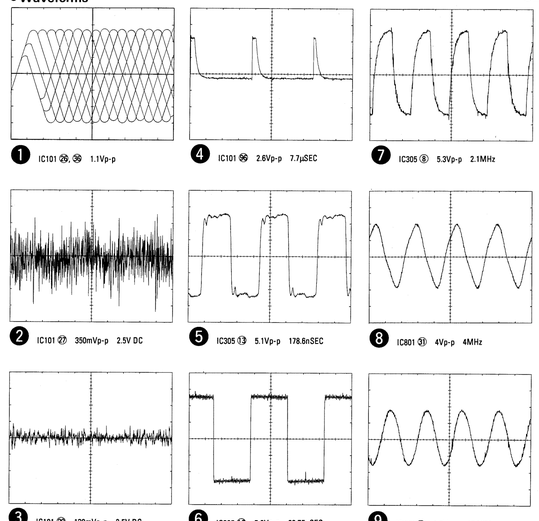
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▒▒ : Pattern on the side which is seen.
- ▒▒ : Pattern of the rear side.



● See page 19, 20 for IC Block Diagrams.



● Waveforms



Note:

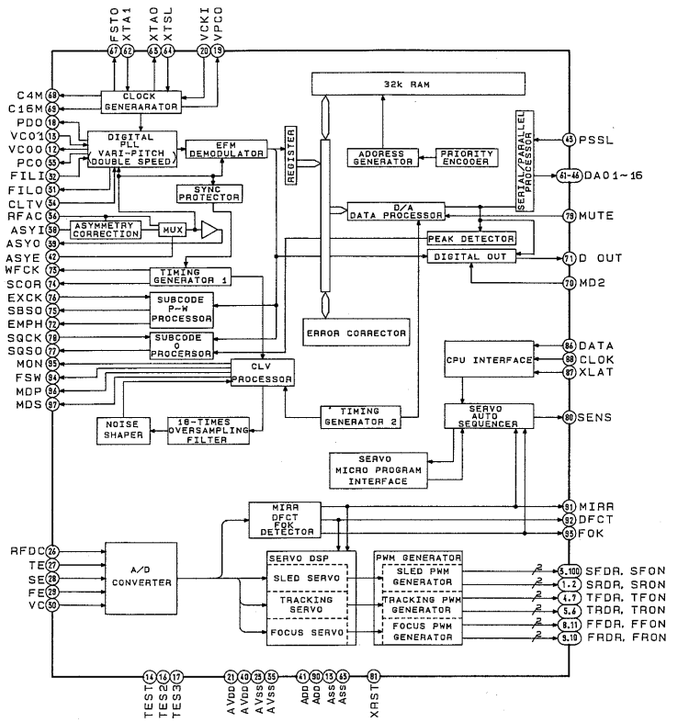
- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.

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

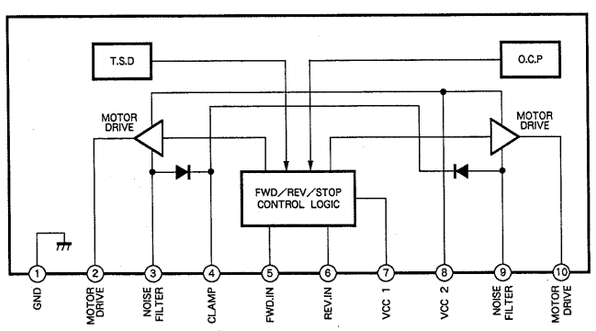
- B+ : B+ Line
- B− : B− Line
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : STOP
  ( ) : PLAY
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

● IC Block Diagrams

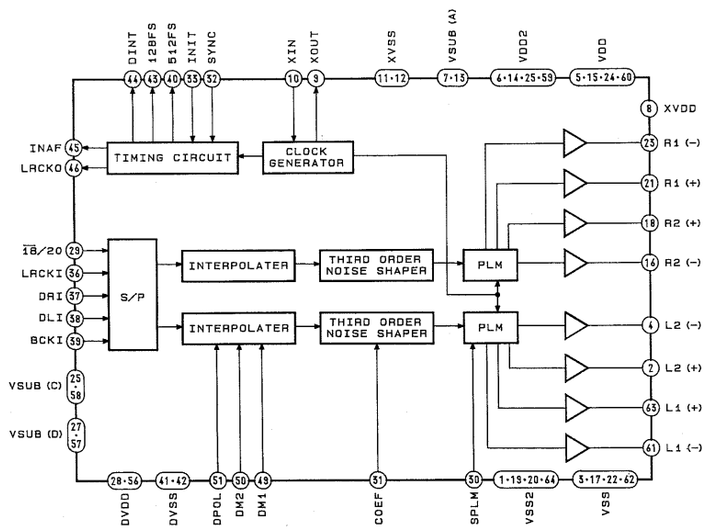
IC101 CXD2515Q



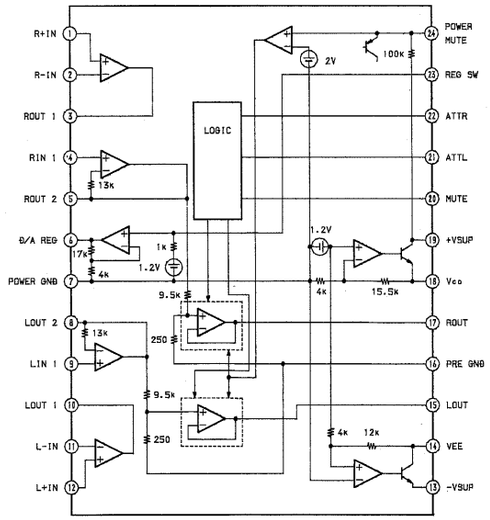
IC301 LB1641



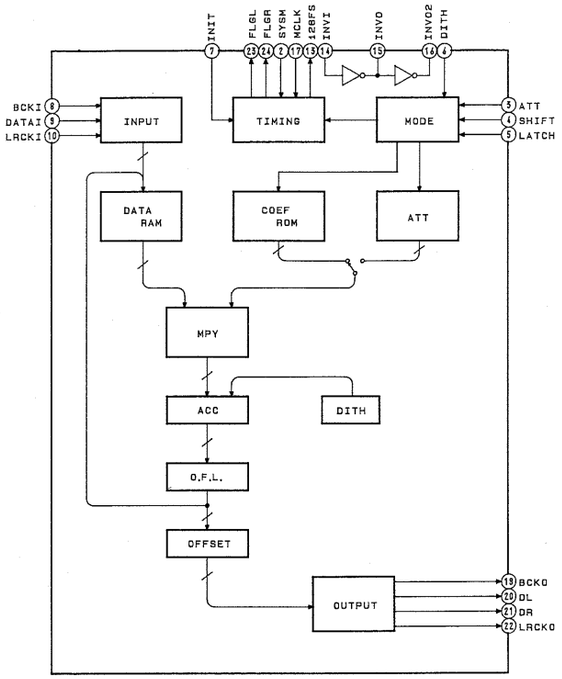
IC302 CXD2562Q



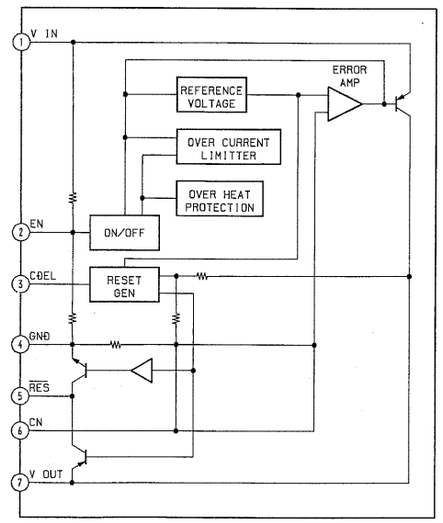
IC303 LA9215



IC305 CXD2567M



IC901 LA5602



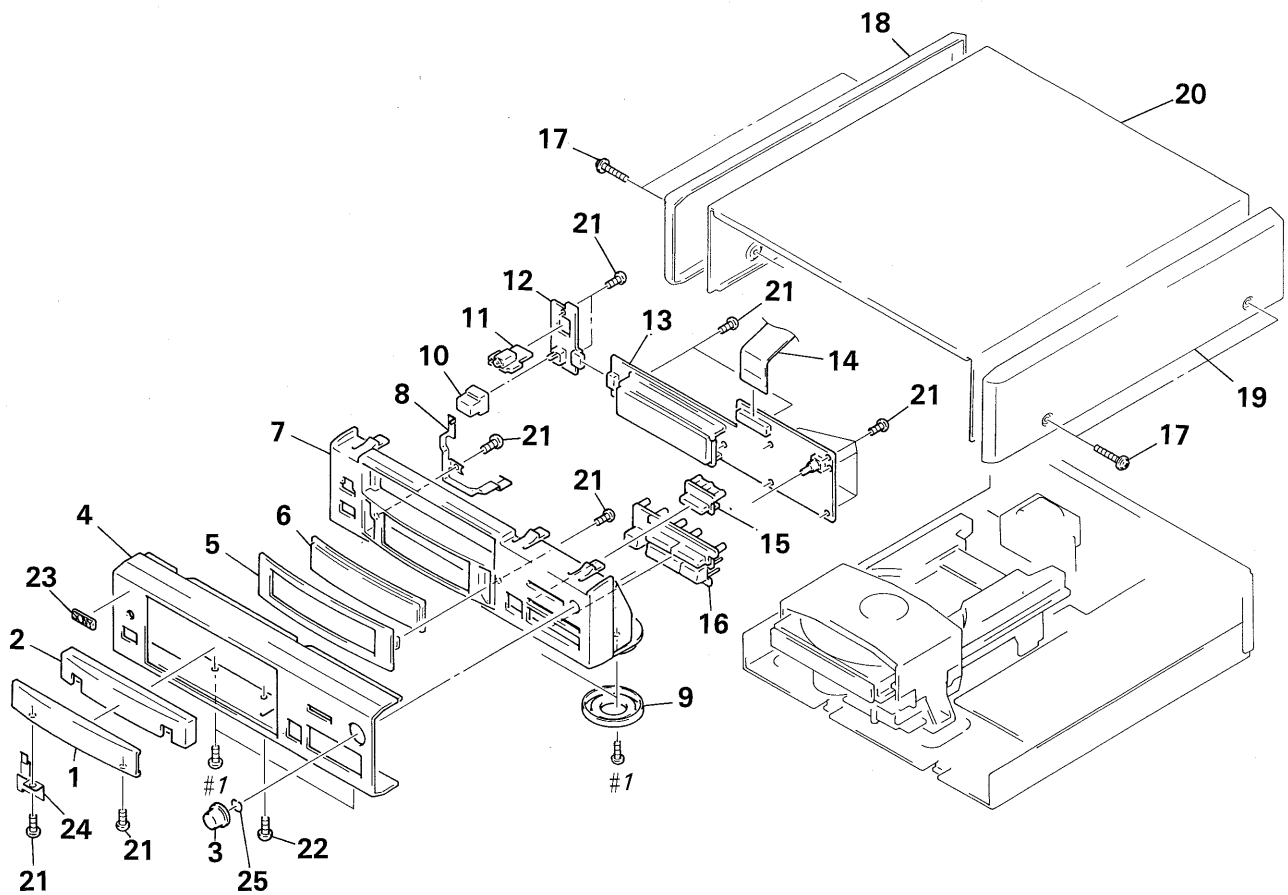
SECTION 5
EXPLODED VIEWS

NOTE:
- –XX, –X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (#mark) list and accessories and packing materials are given in the last of this parts list.

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

- Abbreviation
  SP : Singapore G : German
  JE : Tourist IT : Italian

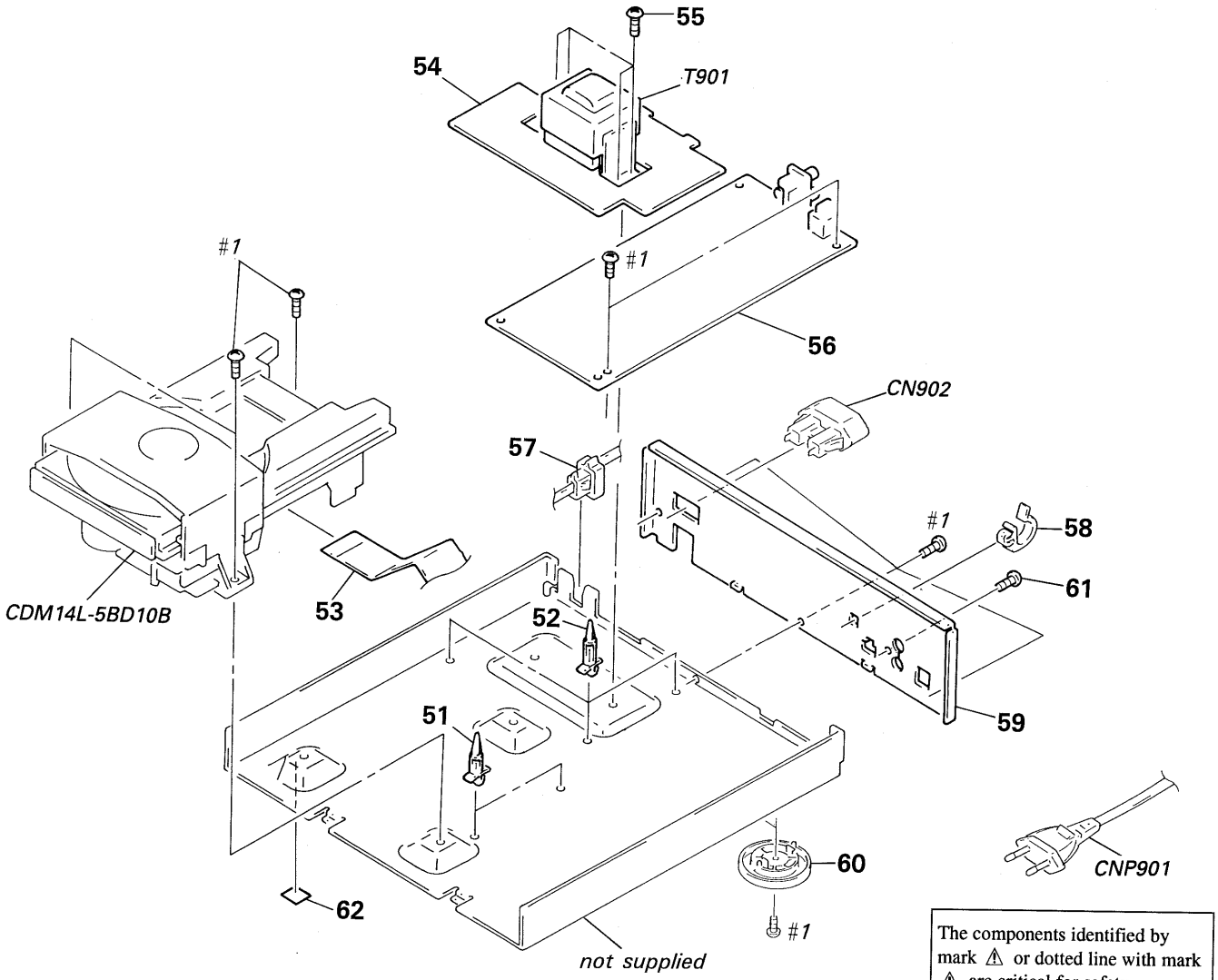
5-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	3-916-808-11	PANEL (AL), LOADING	
2	4-968-181-01	PANEL, LOADING	
3	4-968-178-01	BUTTON (AMS)	
4	4-968-182-01	PANEL, FRONT	
5	3-916-810-11	PANEL (FL)	
6	3-916-795-01	PLATE (TC.CD), INDICATION	
7	3-916-802-01	BASE (TC.CD), PANEL	
8	4-970-623-11	SPRING (HB), LEAF	
9	X-4945-079-1	RING ASSY, FOOT	
10	4-968-098-01	BUTTON (P)	
* 11	1-653-570-11	DOUT BOARD	
* 12	1-653-568-11	SW BOARD	

Ref. No.	Part No.	Description	Remark
* 13	1-653-567-11	DISP BOARD	
14	1-690-910-11	WIRE (FLAT TYPE) (23 CORE)	
15	4-968-177-01	BUTTON (MODE)	
16	X-4945-323-1	BUTTON ASSY	
17	4-969-954-01	SCREW (SIDE PANEL)	
18	X-4945-476-1	PANEL (L) ASSY, SIDE	
19	X-4945-477-1	PANEL (R) ASSY, SIDE	
20	4-967-150-31	CASE	
21	4-951-620-01	SCREW (2.6X8), +BVTP	
22	3-704-515-21	SCREW (BV/RING)	
23	4-969-961-11	EMBLEM (NO.4), SONY	
24	4-970-624-01	SPRING (LP), LEAF	
25	3-354-981-01	SPRING (SUS), RING	

5-2. CHASSIS SECTION

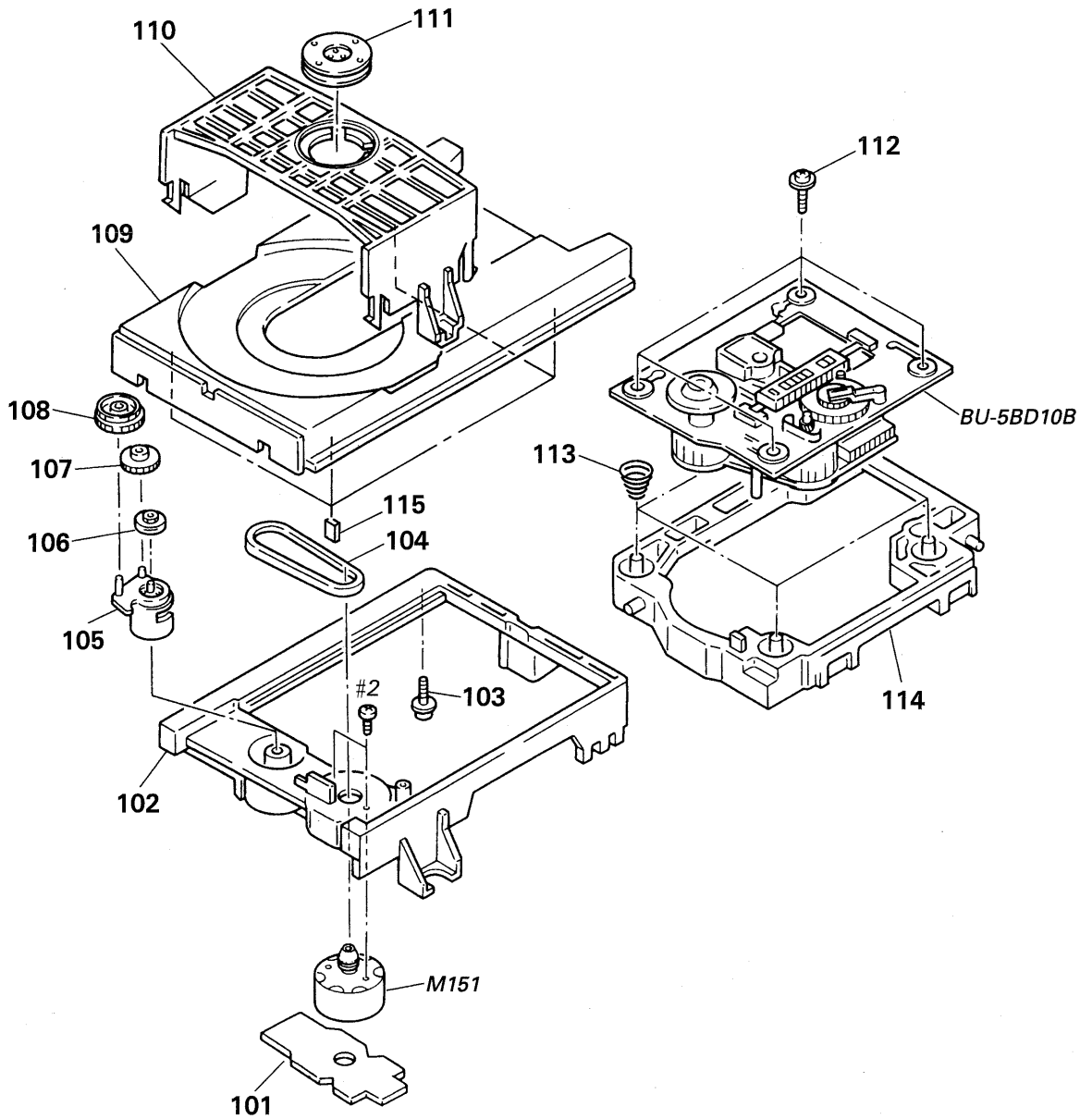


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
51	4-943-687-01	HOLDER, PC BOARD	
* 52	4-924-098-31	HOLDER, PC BOARD	
53	1-696-998-11	WIRE (FLAT TYPE) (23 CORE)	
* 54	1-653-569-11	TRANSFORMER BOARD	
55	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
* 56	A-4673-390-A	MAIN BOARD, COMPLETE	
* 57	3-703-244-00	BUSHING (2104), CORD	
* 58	4-949-235-01	HOOK	
* 59	4-968-179-12	PANEL, BACK (AEP, G, IT)	

Ref. No.	Part No.	Description	Remark
* 59	4-968-179-31	PANEL, BACK (SP, JE)	
* 59	4-968-179-41	PANEL, BACK (UK)	
60	X-4945-129-1	FOOT ASSY	
61	3-704-515-41	SCREW (BV/RING)	
62	9-911-842-XX	CUSHION (F)	
⚠CN902	1-526-794-11	OUTLET, AC (AC OUTLET)	
⚠CNP901	1-575-651-21	CORD, POWER (EXCEPT UK)	
⚠CNP901	1-769-639-11	CORD, POWER (UK)	
⚠T901	1-427-671-11	TRANSFORMER, POWER (AEP, G, IT, UK)	
⚠T901	1-427-672-11	TRANSFORMER, POWER (SP, JE)	

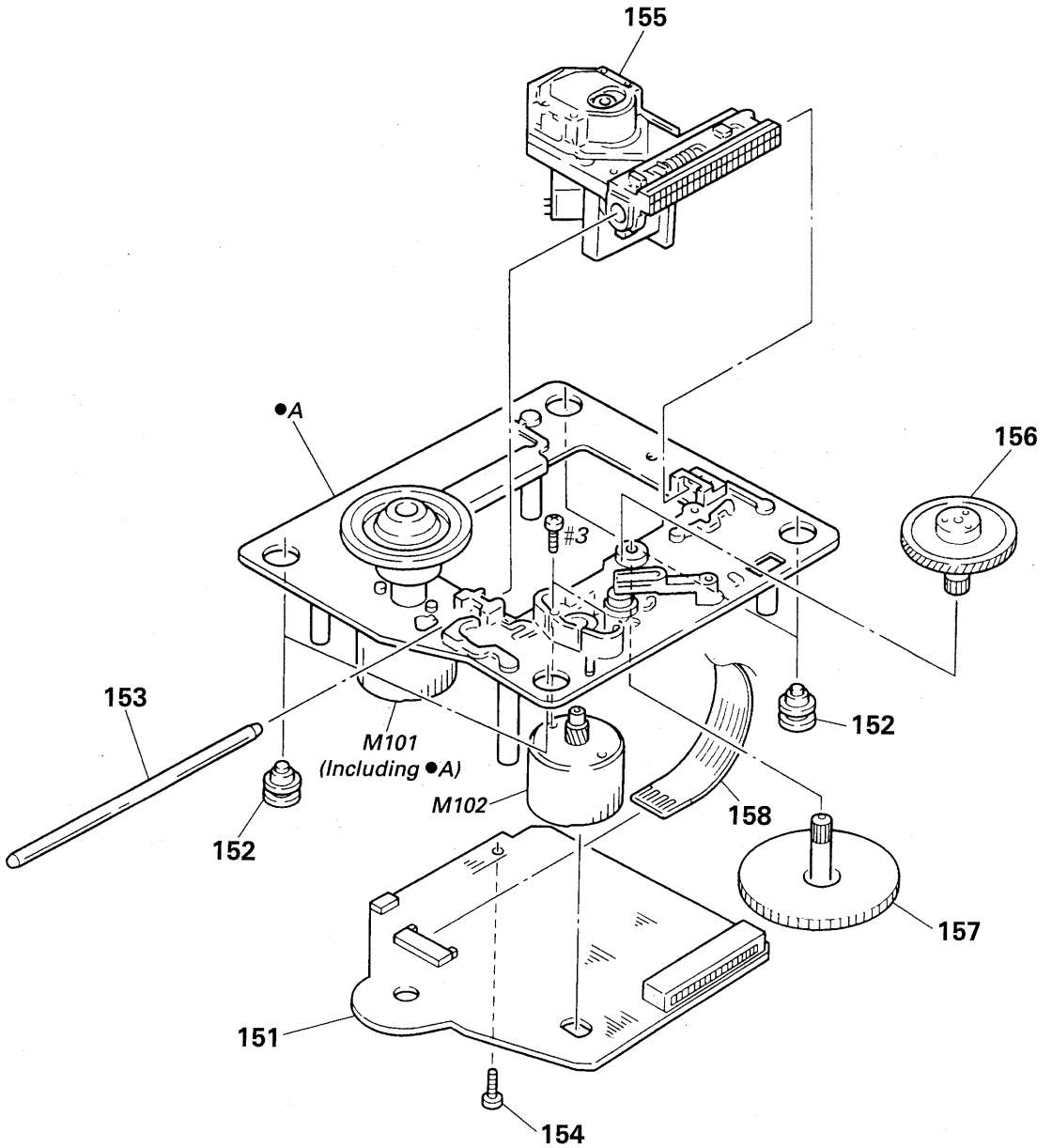
5-3. CD MECHANISM SECTION (CDM14L-5BD10B)



Ref. No.	Part No.	Description	Remark
* 101	1-645-721-11	LOADING BOARD	
102	4-933-111-01	CHASSIS (MD)	
* 103	4-917-583-21	BRACKET, YOKE	
104	4-927-649-01	BELT	
105	4-933-109-01	CAM	
106	4-927-651-01	PULLEY (S)	
107	4-967-268-01	GEAR (C)	
108	4-933-107-01	GEAR (PL)	

Ref. No.	Part No.	Description	Remark
109	4-949-336-01	TABLE, DISK	
110	4-933-110-01	HOLDER (MG)	
* 111	1-452-538-11	MAGNET	
112	4-933-134-01	SCREW (+PTPWH M2.6X6)	
113	4-959-996-01	SPRING (932), COMPRESSION	
114	4-933-129-01	HOLDER (BU)	
115	4-925-315-31	DAMPER	
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	

5-4. OPTICAL PICK-UP BLOCK (BU-5BD10B)



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

Ref. No.	Part No.	Description	Remark
* 151	A-4649-432-A	BD BOARD, COMPLETE	
152	4-951-940-01	INSULATOR (BU)	
153	4-917-565-01	SHAFT, SLED	
154	4-951-620-01	SCREW (2.6X8), +BVTP	
⚠155	8-848-144-11	DEVICE, OPTICAL KSS-240A	

Ref. No.	Part No.	Description	Remark
156	4-917-567-01	GEAR (M)	
157	4-917-564-01	GEAR (P), FLATNESS	
158	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

SECTION 6
ELECTRICAL PARTS LIST

BD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- –XX and –X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example:
  uA··· : μA···, uPA··· : μPA···, uPB··· : μPB···, uPC··· : μPC···, uPD··· : μPD···
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- Abbreviations
  SP : Singapore G : German
  JE : Tourist IT : Italian

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

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

Ref. No.	Part No.	Description			Remark
*	A-4649-432-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C108	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C112	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C113	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C123	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C124	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C151	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C152	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C153	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C155	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C156	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C157	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C158	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C159	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C160	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C161	1-163-038-91	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
* CN101	1-568-865-11	SOCKET, CONNECTOR 23P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-351-94	IC CXD2515Q			
IC102	8-759-071-79	IC BA6297AFP			
		< RESISTOR >			

Ref. No.	Part No.	Description			Remark
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-097-00	METAL CHIP	100K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-121-00	METAL CHIP	1M	5%	1/10W
R110	1-216-025-00	METAL CHIP	100	5%	1/10W
R112	1-216-049-00	METAL CHIP	1K	5%	1/10W
R113	1-216-077-00	METAL CHIP	15K	5%	1/10W
R114	1-216-077-00	METAL CHIP	15K	5%	1/10W
R117	1-216-077-00	METAL CHIP	15K	5%	1/10W
R118	1-216-077-00	METAL CHIP	15K	5%	1/10W
R121	1-216-077-00	METAL CHIP	15K	5%	1/10W
R122	1-216-077-00	METAL CHIP	15K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-00	METAL CHIP	100K	5%	1/10W
R125	1-216-049-00	METAL CHIP	1K	5%	1/10W
R126	1-216-049-00	METAL CHIP	1K	5%	1/10W
R127	1-216-049-00	METAL CHIP	1K	5%	1/10W
R131	1-216-037-00	METAL CHIP	330	5%	1/10W
R151	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R152	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R153	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R154	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R155	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R156	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R157	1-216-093-00	METAL CHIP	68K	5%	1/10W
R158	1-216-076-00	METAL CHIP	13K	5%	1/10W
R159	1-216-085-00	METAL CHIP	33K	5%	1/10W
R160	1-216-081-00	METAL CHIP	22K	5%	1/10W
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R162	1-216-093-00	METAL CHIP	68K	5%	1/10W
R163	1-216-093-00	METAL CHIP	68K	5%	1/10W
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF			

D OUT DISPLAY LOADING MAIN

Ref. No.	Part No.	Description			Remark
*	1-653-570-11	D OUT BOARD			
		**********			
		< CAPACITOR >			
C805	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN804	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
		< IC >			
IC802	8-759-199-42	IC GP1F354T(OPTICAL)			
**********					
*	1-653-567-11	DISP BOARD			
		**********			
*	3-916-799-01	HOLDER (FL)			
*	4-932-810-11	CUSHION (FL)			
		< CAPACITOR >			
C801	1-161-494-00	CERAMIC	0.022uF		25V
C802	1-164-159-11	CERAMIC	0.1uF		50V
C803	1-164-159-11	CERAMIC	0.1uF		50V
C806	1-164-159-11	CERAMIC	0.1uF		50V
C807	1-164-159-11	CERAMIC	0.1uF		50V
C808	1-161-494-00	CERAMIC	0.022uF		25V
C811	1-124-584-00	ELECT	100uF	20%	10V
		< CONNECTOR >			
* CN801	1-568-865-11	SOCKET, CONNECTOR 23P			
CN802	1-750-194-11	CONNECTOR, BOARD TO BOARD 4P			
		< FLUORECENT INDICATOR >			
FLD801	1-519-678-21	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC801	8-752-856-83	IC CXP82316-044Q			
		< TRANSISTOR >			
Q801	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R803	1-249-427-11	CARBON	6.8K	5%	1/4W F
R804	1-249-427-11	CARBON	6.8K	5%	1/4W F
R805	1-249-441-11	CARBON	100K	5%	1/4W
R806	1-249-427-11	CARBON	6.8K	5%	1/4W F
R812	1-249-415-11	CARBON	680	5%	1/4W F
R813	1-249-417-11	CARBON	1K	5%	1/4W F
R814	1-249-419-11	CARBON	1.5K	5%	1/4W F
R815	1-249-421-11	CARBON	2.2K	5%	1/4W F
R816	1-249-423-11	CARBON	3.3K	5%	1/4W F
R817	1-249-427-11	CARBON	6.8K	5%	1/4W F
R821	1-249-425-11	CARBON	4.7K	5%	1/4W F
R822	1-249-425-11	CARBON	4.7K	5%	1/4W F
		< SWITCH >			
S801	1-554-303-21	SWITCH, TACTILE (OPEN/CLOSE⏏)			
S802	1-554-303-21	SWITCH, TACTILE (▶❚❚)			
S803	1-554-303-21	SWITCH, TACTILE (■)			
S804	1-554-303-21	SWITCH, TACTILE (▶▶)			
S805	1-554-303-21	SWITCH, TACTILE (◀◀)			
S806	1-554-303-21	SWITCH, TACTILE (PLAY MODE)			
S807	1-467-818-11	ENCODER, ROTARY (PUSH ENTER ▶▶| AMS |◀◀)			
		< VIBRATOR >			
X801	1-577-358-21	VIBRATOR, CERAMIC			
**********					
*	1-645-721-11	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN151	1-568-943-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S151	1-572-086-11	SWITCH, LEAF			
S152	1-572-086-11	SWITCH, LEAF			
**********					
*	A-4673-390-A	MAIN BOARD, COMPLETE			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
C301	1-164-159-11	CERAMIC	0.1uF		50V
C302	1-164-159-11	CERAMIC	0.1uF		50V
C311	1-162-306-11	CERAMIC	0.01uF	30%	16V
C312	1-161-494-00	CERAMIC	0.022uF		25V
C320	1-124-122-11	ELECT	100uF	20%	50V
C321	1-164-159-11	CERAMIC	0.1uF		50V
C322	1-161-494-00	CERAMIC	0.022uF		25V
C323	1-162-290-31	CERAMIC	470PF	10%	50V
C324	1-164-159-11	CERAMIC	0.1uF		50V
C325	1-162-208-31	CERAMIC	24PF	5%	50V
C326	1-162-302-11	CERAMIC	0.0022uF	30%	16V

Ref. No.	Part No.	Description			Remark
C327	1-124-477-11	ELECT	47uF	20%	25V
C328	1-161-494-00	CERAMIC	0.022uF		25V
C331	1-162-199-31	CERAMIC	10PF	5%	50V
C332	1-162-199-31	CERAMIC	10PF	5%	50V
C333	1-130-495-00	MYLAR	0.1uF	5%	50V
C334	1-124-122-11	ELECT	100uF	20%	50V
C335	1-161-494-00	CERAMIC	0.022uF		25V
C336	1-126-103-11	ELECT	470uF	20%	16V
C337	1-124-927-11	ELECT	4.7uF	20%	100V
C338	1-124-477-11	ELECT	47uF	20%	25V
C339	1-126-101-11	ELECT	100uF	20%	16V
C340	1-126-101-11	ELECT	100uF	20%	16V
C341	1-124-122-11	ELECT	100uF	20%	50V
C342	1-124-360-00	ELECT	1000uF	20%	16V
C343	1-164-159-11	CERAMIC	0.1uF		50V
C351	1-124-477-11	ELECT	47uF	20%	25V
C352	1-164-159-11	CERAMIC	0.1uF		50V
C353	1-164-159-11	CERAMIC	0.1uF		50V
C391	1-164-159-11	CERAMIC	0.1uF		50V
C392	1-164-159-11	CERAMIC	0.1uF		50V
C393	1-164-159-11	CERAMIC	0.1uF		50V
C401	1-130-495-00	MYLAR	0.1uF	5%	50V
C402	1-164-159-11	CERAMIC	0.1uF		50V
C403	1-102-973-00	CERAMIC	100PF	5%	50V
C404	1-101-880-00	CERAMIC	47PF	5%	50V
C405	1-101-880-00	CERAMIC	47PF	5%	50V
C406	1-124-910-11	ELECT	47uF	20%	50V
C407	1-106-359-00	MYLAR	4700PF	5%	200V
C408	1-130-472-00	MYLAR	0.0012uF	5%	50V
C409	1-124-122-11	ELECT	100uF	20%	50V
C481	1-124-122-11	ELECT	100uF	20%	50V
C482	1-164-159-11	CERAMIC	0.1uF		50V
C483	1-124-122-11	ELECT	100uF	20%	50V
C484	1-164-159-11	CERAMIC	0.1uF		50V
C485	1-130-495-00	MYLAR	0.1uF	5%	50V
C501	1-130-495-00	MYLAR	0.1uF	5%	50V
C502	1-164-159-11	CERAMIC	0.1uF		50V
C503	1-102-973-00	CERAMIC	100PF	5%	50V
C504	1-101-880-00	CERAMIC	47PF	5%	50V
C505	1-101-880-00	CERAMIC	47PF	5%	50V
C506	1-124-910-11	ELECT	47uF	20%	50V
C507	1-106-359-00	MYLAR	4700PF	5%	200V
C508	1-130-472-00	MYLAR	0.0012uF	5%	50V
C509	1-124-122-11	ELECT	100uF	20%	50V
C581	1-124-122-11	ELECT	100uF	20%	50V
C582	1-164-159-11	CERAMIC	0.1uF		50V
C583	1-124-122-11	ELECT	100uF	20%	50V
C584	1-164-159-11	CERAMIC	0.1uF		50V
C585	1-130-495-00	MYLAR	0.1uF	5%	50V

Ref. No.	Part No.	Description			Remark
C901	1-124-523-11	ELECT	4700uF	20%	16V
C902	1-124-360-00	ELECT	1000uF	20%	16V
C903	1-124-477-11	ELECT	47uF	20%	25V
C904	1-126-163-11	ELECT	4.7uF	20%	50V
C905	1-126-163-11	ELECT	4.7uF	20%	50V
C906	1-124-472-11	ELECT	470uF	20%	10V
C951	1-124-918-11	ELECT	47uF	20%	63V
C952	1-124-907-11	ELECT	10uF	20%	50V
C953	1-102-074-00	CERAMIC	0.001uF	10%	50V
C991	1-162-302-11	CERAMIC	0.0022uF	30%	16V

< CONNECTOR >

* CN301	1-568-839-11	SOCKET, CONNECTOR 23P	
* CN302	1-568-839-11	SOCKET, CONNECTOR 23P	
* CN304	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P	
* CN351	1-565-561-11	PIN, CONNECTOR 3P	

< DIODE >

D301	8-719-987-63	DIODE	1N4148M
D302	8-719-210-21	DIODE	11EQS04
D303	8-719-210-21	DIODE	11EQS04
D311	8-719-010-34	DIODE	UZ-4.7BSC
D321	8-719-987-63	DIODE	1N4148M
D322	8-719-933-33	DIODE	HZS6A1L
D323	8-719-933-33	DIODE	HZS6A1L
D352	8-719-987-63	DIODE	1N4148M
D353	8-719-933-33	DIODE	HZS6A1L
D354	8-719-933-33	DIODE	HZS6A1L
D901	8-719-210-21	DIODE	11EQS04
D902	8-719-210-21	DIODE	11EQS04
D903	8-719-210-21	DIODE	11EQS04
D904	8-719-210-21	DIODE	11EQS04
D951	8-719-200-82	DIODE	11ES2
D952	8-719-934-22	HZS30-2L	
D953	8-719-987-63	DIODE	1N4148M
D954	8-719-000-81	DIODE	UZL-7L3

< IC >

IC301	8-759-822-09	IC	LB1641
IC302	8-759-044-10	IC	CXD2562Q
IC303	8-759-175-88	IC	LA9215-ST
IC304	8-749-921-12	IC	GP1F32T
IC305	8-752-356-03	IC	CXD2567M
IC802	8-759-199-42	IC	GP1F354T
IC901	8-759-061-65	IC	LA5602
IC902	8-759-605-00	IC	M5F78M07L

< JACK >

J401	1-766-507-11	JACK, PIN 2P	

MAIN SW

Ref. No.	Part No.	Description				Remark
		< COIL >				
L301	1-410-322-11	INDUCTOR	3.3uH			
L302	1-410-322-11	INDUCTOR	3.3uH			
L303	1-410-503-11	INDUCTOR	3.3uH			
L305	1-410-322-11	INDUCTOR	3.3uH			
		< TRANSISTOR >				
Q351	8-729-900-80	TRANSISTOR	DTC114ES			
Q951	8-729-019-64	TRANSISTOR	2SB1041			
Q952	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q953	8-729-119-76	TRANSISTOR	2SA1175-HFE			
		< RESISTOR >				
R301	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R302	1-249-417-11	CARBON	1K	5%	1/4W	F
R303	1-249-417-11	CARBON	1K	5%	1/4W	F
R304	1-249-417-11	CARBON	1K	5%	1/4W	F
R305	1-249-415-11	CARBON	680	5%	1/4W	F
R306	1-249-415-11	CARBON	680	5%	1/4W	F
R307	1-249-417-11	CARBON	1K	5%	1/4W	F
R308	1-249-417-11	CARBON	1K	5%	1/4W	F
R309	1-249-417-11	CARBON	1K	5%	1/4W	F
R310	1-249-417-11	CARBON	1K	5%	1/4W	F
R311	1-249-417-11	CARBON	1K	5%	1/4W	F
R312	1-249-409-11	CARBON	220	5%	1/4W	F
R313	1-249-417-11	CARBON	1K	5%	1/4W	F
R314	1-249-409-11	CARBON	220	5%	1/4W	F
R315	1-247-895-00	CARBON	470K	5%	1/4W	
R316	1-249-393-11	CARBON	10	5%	1/4W	F
R317	1-249-393-11	CARBON	10	5%	1/4W	F
R318	1-249-417-11	CARBON	1K	5%	1/4W	F
R322	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R331	1-249-429-11	CARBON	10K	5%	1/4W	
R341	1-247-807-31	CARBON	100	5%	1/4W	
R351	1-249-429-11	CARBON	10K	5%	1/4W	
R352	1-249-417-11	CARBON	1K	5%	1/4W	F
R353	1-249-393-11	CARBON	10	5%	1/4W	F
R401	1-249-491-11	CARBON	39K	5%	1/3W	
R402	1-249-491-11	CARBON	39K	5%	1/3W	
R403	1-249-487-11	CARBON	15K	5%	1/3W	
R404	1-249-487-11	CARBON	15K	5%	1/3W	
R405	1-259-205-21	CARBON	39K	5%	1/4W	
R406	1-259-205-21	CARBON	39K	5%	1/4W	
R407	1-259-169-21	CARBON	1.2K	5%	1/4W	
R408	1-259-169-21	CARBON	1.2K	5%	1/4W	
R409	1-259-191-21	CARBON	10K	5%	1/4W	
R410	1-214-921-00	METAL	220K	1%	1/2W	
R411	1-249-186-11	CARBON	100	5%	1/3W	
R413	1-249-491-11	CARBON	39K	5%	1/3W	
R414	1-249-491-11	CARBON	39K	5%	1/3W	
R501	1-249-491-11	CARBON	39K	5%	1/3W	
R502	1-249-491-11	CARBON	39K	5%	1/3W	
R503	1-249-487-11	CARBON	15K	5%	1/3W	
R504	1-249-487-11	CARBON	15K	5%	1/3W	
R505	1-259-205-21	CARBON	39K	5%	1/4W	
R506	1-259-205-21	CARBON	39K	5%	1/4W	
R507	1-259-169-21	CARBON	1.2K	5%	1/4W	
R508	1-259-169-21	CARBON	1.2K	5%	1/4W	
R509	1-259-191-21	CARBON	10K	5%	1/4W	
R510	1-214-921-00	METAL	220K	1%	1/2W	
R511	1-249-186-11	CARBON	100	5%	1/3W	
R513	1-249-491-11	CARBON	39K	5%	1/3W	
R514	1-249-491-11	CARBON	39K	5%	1/3W	
R901	1-249-435-11	CARBON	33K	5%	1/4W	
R902	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R903	1-249-417-11	CARBON	1K	5%	1/4W	F
R904	1-249-417-11	CARBON	1K	5%	1/4W	F
R951	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R952	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R953	1-249-435-11	CARBON	33K	5%	1/4W	
		< SWITCH >				
S801	1-554-303-21	SWITCH, TACTILE				
S802	1-554-303-21	SWITCH, TACTILE				
S803	1-554-303-21	SWITCH, TACTILE				
S804	1-554-303-21	SWITCH, TACTILE				
S805	1-554-303-21	SWITCH, TACTILE				
S806	1-554-303-21	SWITCH, TACTILE				
S807	1-467-818-11	ENCODER, ROTARY				
		< VIBRATOR >				
X331	1-579-161-11	VIBRATOR, CRYSTAL				
X801	1-577-358-21	VIBRATOR, CERAMIC				

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*	1-653-568-11	SW BOARD	
		********	
		< CONNECTOR >	
CN803	1-750-185-11	CONNECTOR, BOARD TO BOARD 4P	
		< SWITCH >	
S810	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)	

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Ref. No.	Part No.	Description	Remark
*	1-653-569-11	TRANSFORMER BOARD	
		**********	
	1-533-293-11	FUSE HOLDER	
*	4-962-200-01	PLATE (TR), GROUND	
		< CAPACITOR >	
C911	1-126-176-11	ELECT 220uF 20% 10V	
		< CONNECTOR >	
CN991	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
CN992	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
CN995	1-564-510-11	PLUG, CONNECTOR 7P	
		< FUSE >	
⚠F991	1-532-259-00	FUSE	
		< SWITCH >	
⚠S922	1-571-722-11	SWITCH, VOLTAGE SELECTOR (SP, JE)	
		< TRANSFORMER >	
⚠T901	1-427-671-11	TRANSFORMER, POWER (AEP, G, IT, UK)	
⚠T901	1-427-672-11	TRANSFORMER, POWER (SP, JE)	

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MISCELLANEOUS
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14	1-690-910-11	WIRE (FLAT TYPE) (23 CORE)	
53	1-696-998-11	WIRE (FLAT TYPE) (23 CORE)	
⚠155	8-848-144-11	DEVICE, OPTICAL KSS-240A	
158	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
⚠CN902	1-526-794-11	OUTLET, AC (AC OUTLET)	
⚠CNP901	1-575-651-21	CORD, POWER (EXCEPT UK)	
⚠CNP901	1-769-639-11	CORD, POWER (UK)	
M101	X-4917-523-3	MOTER ASSY (SPINDLE)	
M102	X-4917-504-1	MOTER ASSY (SLECD)	
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
⚠T901	1-427-671-11	TRANSFORMER, POWER (AEP, G, IT, UK)	
⚠T901	1-427-672-11	TRANSFORMER, POWER (SP, JE)	

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	X-4945-464-1	SCREW ASSY (4)	
	1-558-271-11	CORD, CONNECTION	
	3-759-546-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (AEP, IT)	
	3-759-546-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP, G, IT)	
	3-759-546-51	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE) (SP, JE)	
*	4-968-991-01	CUSHION	
*	4-968-992-71	INDIVIDUAL CARTON (AEP, G, IT)	
*	4-970-587-11	PLATE (PIN JACK 2P), INDICATION	

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HARDWARE LIST
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#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#2	7-621-775-10	SCREW +B 2.6X4
#3	7-621-255-15	SCREW +P 2X3

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

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

9-959-702-12

English
94J1818-1
Printed in Japan

Published by Home A&V Products Div. Quality Engineering Dept.