

# CDP-715/715E

## SERVICE MANUAL

AEP Model  
E Model  
CDP-715

UK Model  
CDP-715E

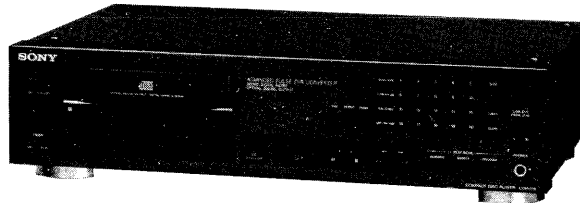


Photo : CDP-715

Model Name Using Similer Mechanism	CDP-711/711E
CD Mechanism Type	CDM25C-5BD10B
Base Unit Type	BU-5BD10B
Optical Pick-up Type	KSS-240A

### SPECIFICATIONS

#### Compact disc player

Laser	Semiconductor laser
Wavelength	780 – 790 nm
Frequency response	2 Hz to 20 kHz $\pm 0.5$ dB
Signal-to-noise ratio	More than 112 dB
Dynamic range	More than 99 dB
Harmonic distortion	Less than 0.0025%
Channel separation	More than 105 dB

#### Outputs

LINE OUT (FIXED) (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms
LINE OUT (VARIABLE) (phono jacks)	Output level max. 2 V (at 50 kilohms) Load impedance over 50 kilohms
DIGITAL OUT (OPTICAL) (optical output connector)	Wavelength 660 nm Output level $-18$ dBm
PHONES (stereo phone jack)	Output level max. 10 mW Load impedance 32 ohms

#### General

Power requirements	European model (CDP-715): 220 V – 230 V AC, 50/60 Hz Model for other countries (CDP-715): 110 V – 120 V, 220 – 240 V AC, 50/60 Hz, adjustable UK model (CDP-715E): 240 V AC, 50/60Hz
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Power consumption	13W
Dimensions (approx., including projections)	430 x 110 x 295 mm (w/h/d) (17 x 4 <sup>3</sup> / <sub>8</sub> x 11 <sup>3</sup> / <sub>8</sub> inches)
Mass (approx.)	4.1 kg (9 lb 1 oz)

#### Remote commander

Remote control system	Infrared control
Power requirements	3 V DC with two R6 (size AA) batteries
Dimensions (approx., including projections)	44 x 21 x 185 mm (w/h/d) (1 <sup>3</sup> / <sub>4</sub> x 7 <sup>7</sup> / <sub>8</sub> x 7 <sup>3</sup> / <sub>8</sub> inches)
Mass (approx.)	100 g (4 oz)

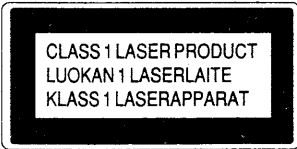
#### Supplied accessories

Audio connecting cord	(1) (2 phono plugs – 2 phono plugs)
Remote commander	(1)
Sony SUM-3 (NS) batteries	(2)

Design and specifications are subject to change without notice.

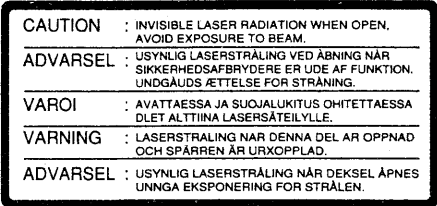
COMPACT DISC PLAYER  
**SONY**<sup>®</sup>

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.



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.



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**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.

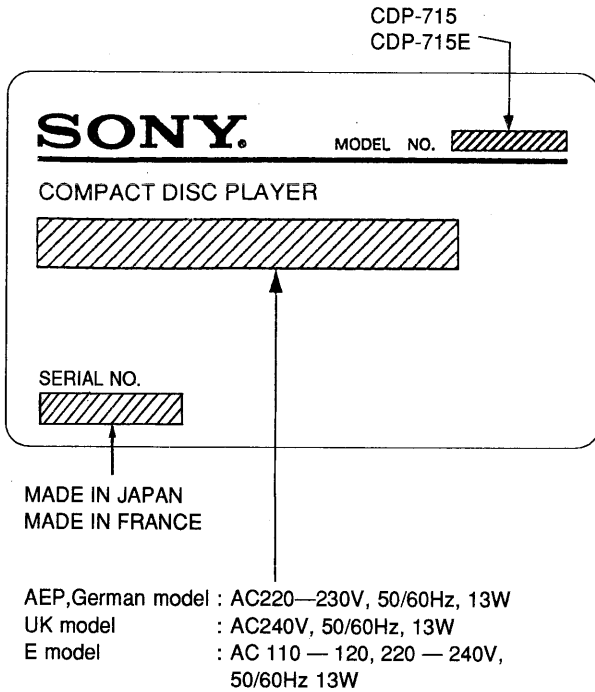
**SAFETY-RELATED COMPONENT WARNING !!**

**COMPONENTS IDENTIFIED BY MARK  $\Delta$  OR DOTTED LINE WITH MARK  $\Delta$  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 SERVICING NOTE

### MODEL IDENTIFICATION

— Specification Label —



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

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

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

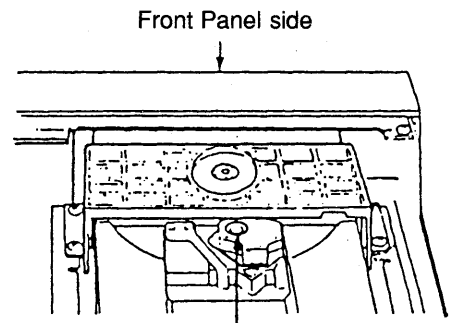
The flexible board is easily damaged and should be handled with care.

### 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 from more than 30 cm away from the objective lens.

### LASER DIODE AND FOCUS SEARCH OPERATION CHECK

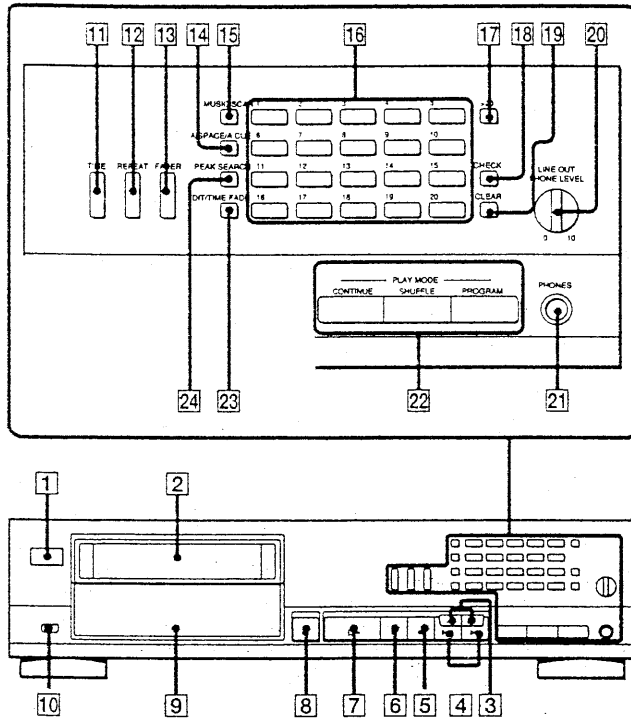
1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objective lens.



- ① Confirm that laser beam is spread.
- ② Up and down motion of the objective lens. (3 times)

## SECTION 2 GENERAL

This section is extracted from instruction manual.

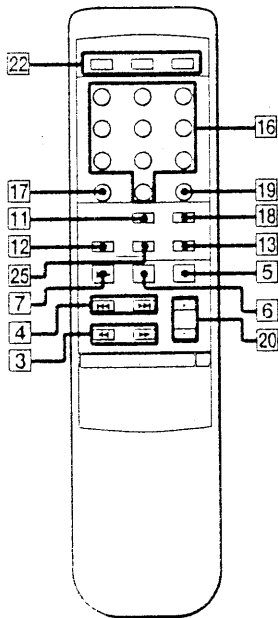


### Identifying the Parts

Refer to the pages indicated in parentheses for details.

#### Front Panel/ Remote Commander

- 1 POWER switch (16)
- 2 Disc tray (16)
- 3 ◀▶ (manual search) buttons (20)
- 4 ◀◀/▶▶ (AMS\*) buttons (20, 34, 48)
- 5 ■ (stop) button (16)
- 6 || (pause) button (16)
- 7 ▶ (play) button (16)
- 8 ⏏ OPEN/CLOSE button (16)
- 9 Display (16)
- 10 TIMER switch
- 11 TIME button (18)
- 12 REPEAT button (40)  
(CLEAR REPEAT button on the remote commander)
- 13 FADER button (44)
- 14 A.SPACE/A.CUE button (22, 24)
- 15 MUSIC SCAN button (38)
- 16 Numeric buttons (20, 28, 32, 44, 46)
- 17 >20 (over 20) button (20)  
(>10 (over 10) button on the remote commander)
- 18 CHECK (program check) button (36)
- 19 CLEAR (program clear) button (28, 30, 36)
- 20 LINE OUT/PHONE LEVEL control (12, 16)  
(LINE OUT LEVEL +/- buttons on the remote commander)
- 21 PHONES jack (16)
- 22 Play mode buttons  
CONTINUE button (26, 30)  
SHUFFLE button (26, 28, 30)  
PROGRAM button (32, 34)
- 23 EDIT/TIME FADE button (46, 52)
- 24 PEAK SEARCH button (54)
- 25 A ↔ B button (42)



\* AMS is the abbreviation of Automatic Music Sensor.

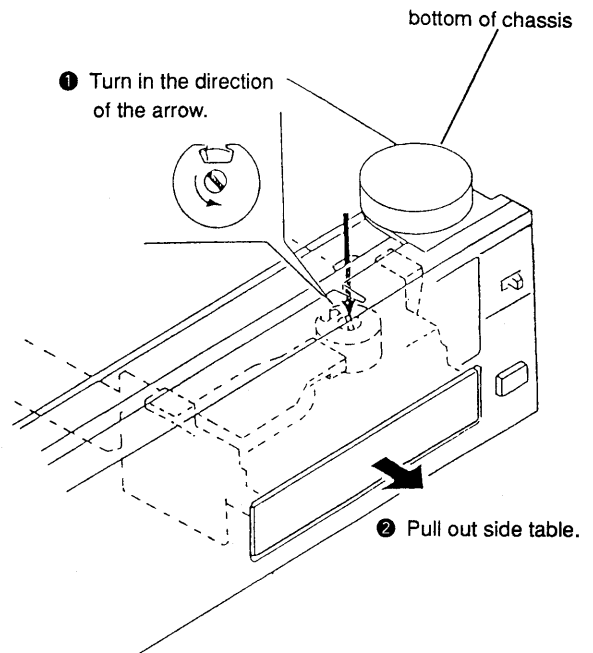
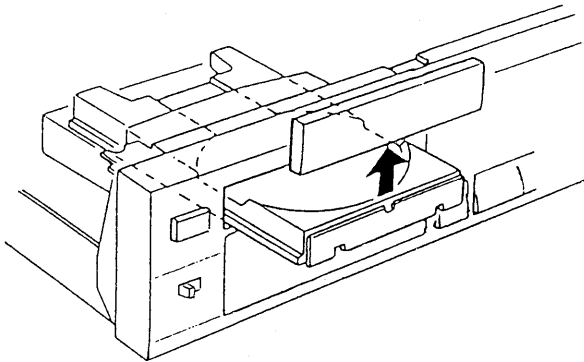
## SECTION 3 DISASSEMBLY

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

### 3-1. FRONT PANEL

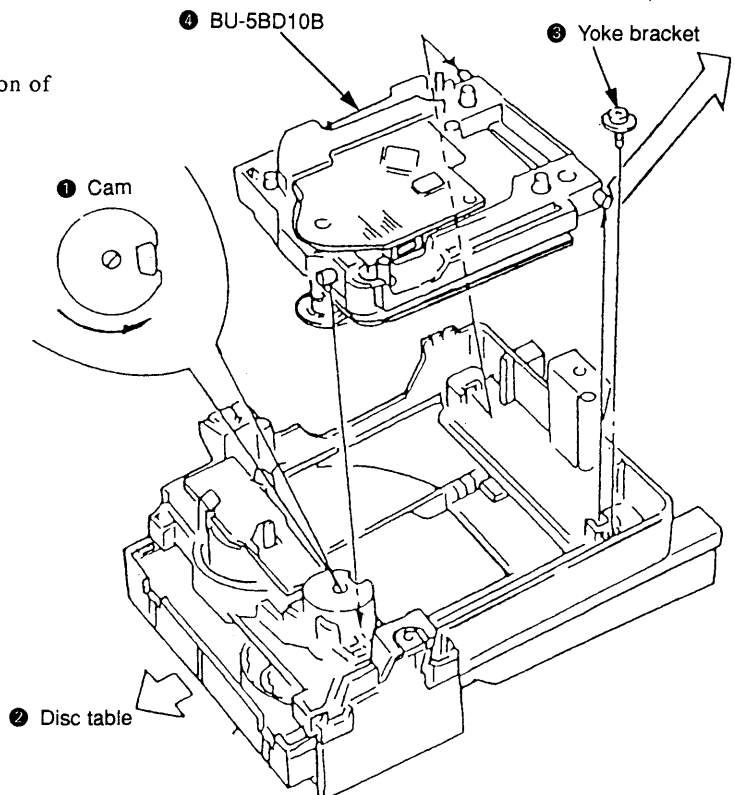
• When removing the front panel assembly on electric power failure, first open the loading block by turning cam with a screwdriver as shown in the figure, next pull out the loading block with hand, and remove the loading panel as shown in the figure, Then remove the front panel assembly.

② Remove loading panel in the arrow direction.



### 3-2. MD (BU-5BD10B)

- ① Turn the cam to the direction of arrow (Counter clock wise) by minus screw driver.
- ② Take off the disc table.
- ③ Remove the yoke bracket.
- ④ Remove the MD (BU-5BD10B) to the direction of arrow.



## SECTION 4

### ELECTRICAL BLOCK CHECKING

**Note :**

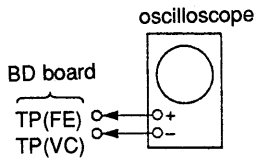
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal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

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 :**

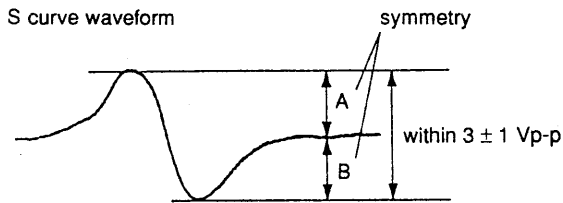
Clear RF signal waveform means that the shape “◇” can be clearly distinguished at the center of the waveform.

**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  $3 \pm 1$  Vp-p.

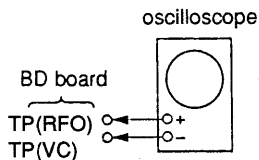


6. After check, remove the lead wire connected in step 2.

**Note :**

- Try to measure several times to make sure than 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.

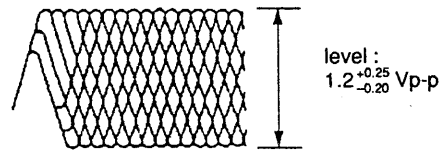
**RF Level Check**



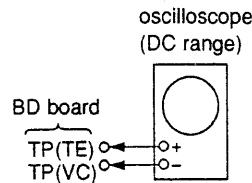
**Procedure :**

1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turned Power switch on.

RF signal waveform  
 VOLT/DIV : 200mV  
 TIME/DIV : 500nS

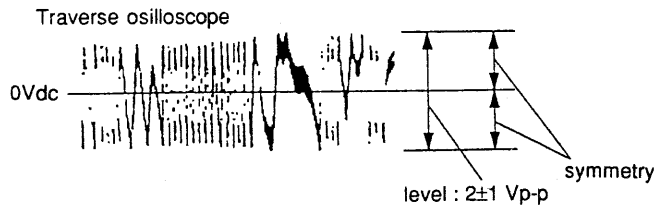


**E-F Balance Check**



**Procedure :**

1. Connect test point TP (ADJ) on MAIN board 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 oscilloscope waveform is symmetrical on the top and bottom in relation to 0Vdc, and check this level.

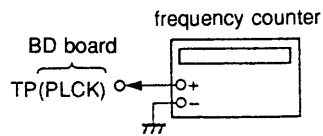


6. Remove the lead wire connected in step 1.

**RF Free-run Frequency Check**

**Procedure :**

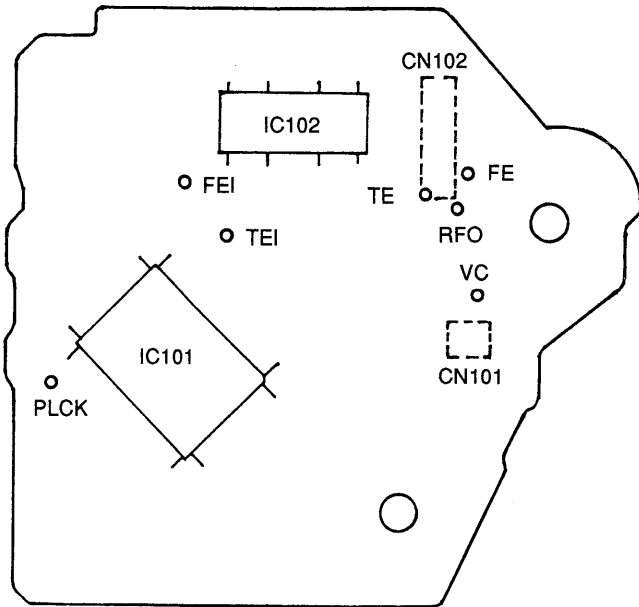
1. Connect frequency counter to test point (PLCK) with lead wire.



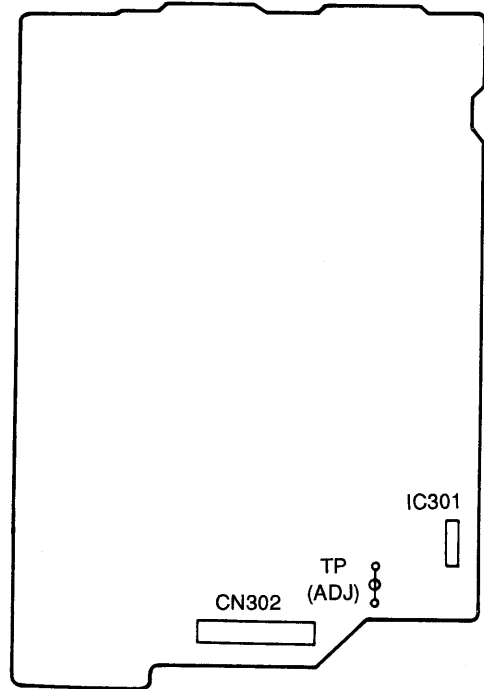
2. Turned Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

**Adjustment Location :**

**[ BD BOARD ] — Conductor Side —**

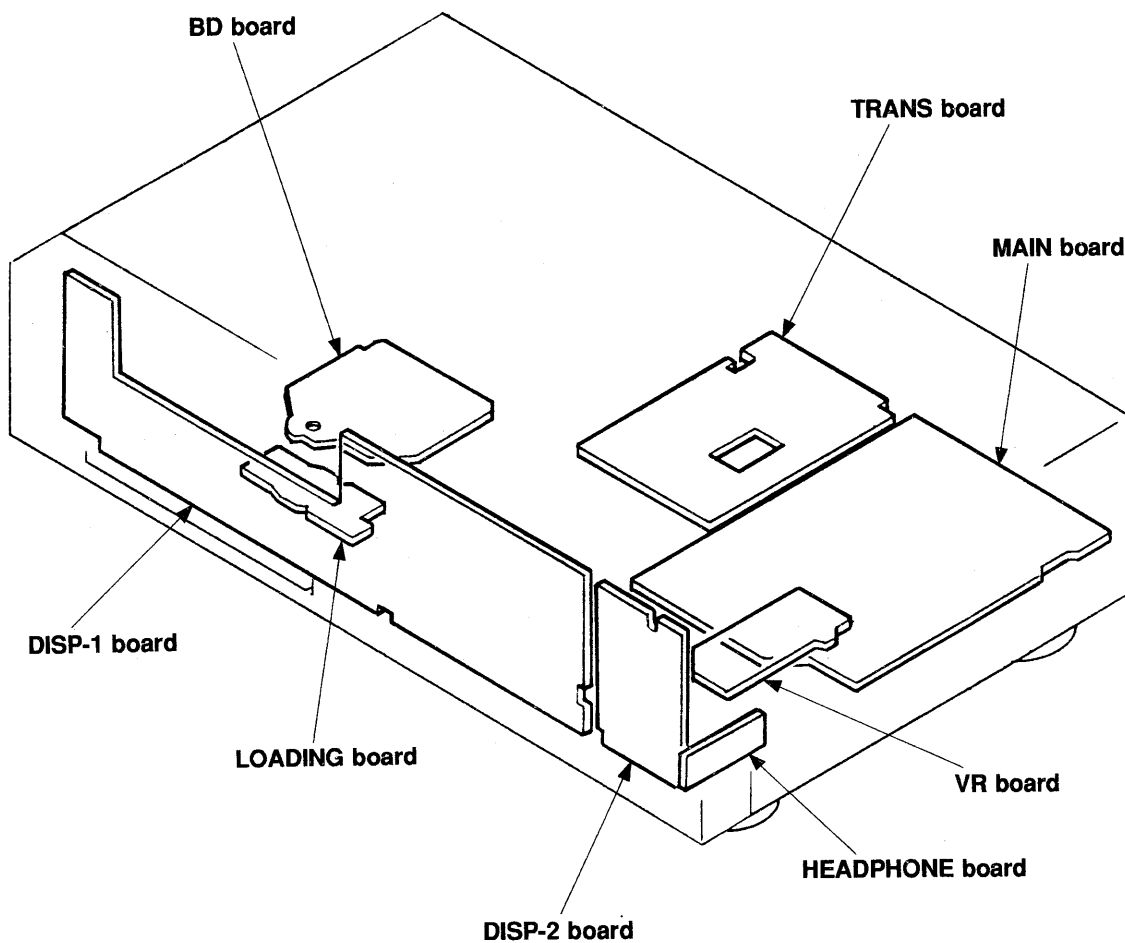


**[ MAIN BOARD ] — Component Side —**



# SECTION 5 DIAGRAMS

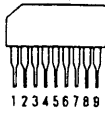
## 5-1. CIRCUIT BOARDS LOCATION



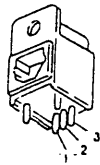


## 5-2. SEMICONDUCTOR LEAD LAYOUTS

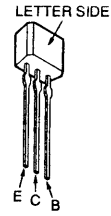
**BA6208**



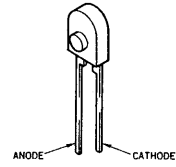
**GP1F32T**



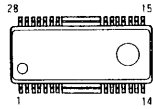
**2SA1175-HFE**



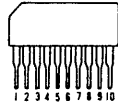
**BR4361F**



**BA6297AFP**



**LB1641**

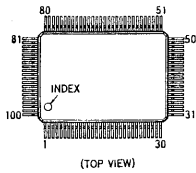


**2SB1041  
2SC2878-AB**

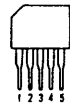


**DTA144ES  
DTC114ES  
DTC144ES  
MTZJ-27B  
HTZJ-4.7C  
RD4.7ES-B3  
RD7.5ESB2  
RD27ES-B2  
1SS119  
11ES2  
11EQS04**

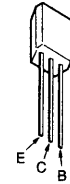
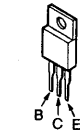
**CXD2515Q**



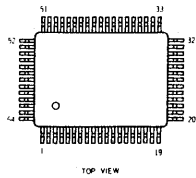
**M51957AL**



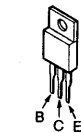
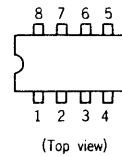
**2SC3514  
2SD1944-K**



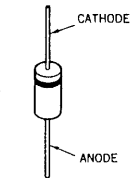
**CXD2562Q**



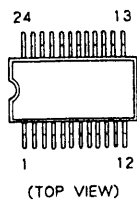
**NE5532P  
NJM4580D-D**



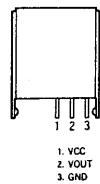
**RD5.1JS-B2  
1N4148M**



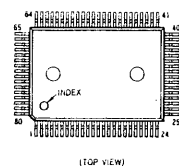
**CXD2567M**



**SBX1610-59**

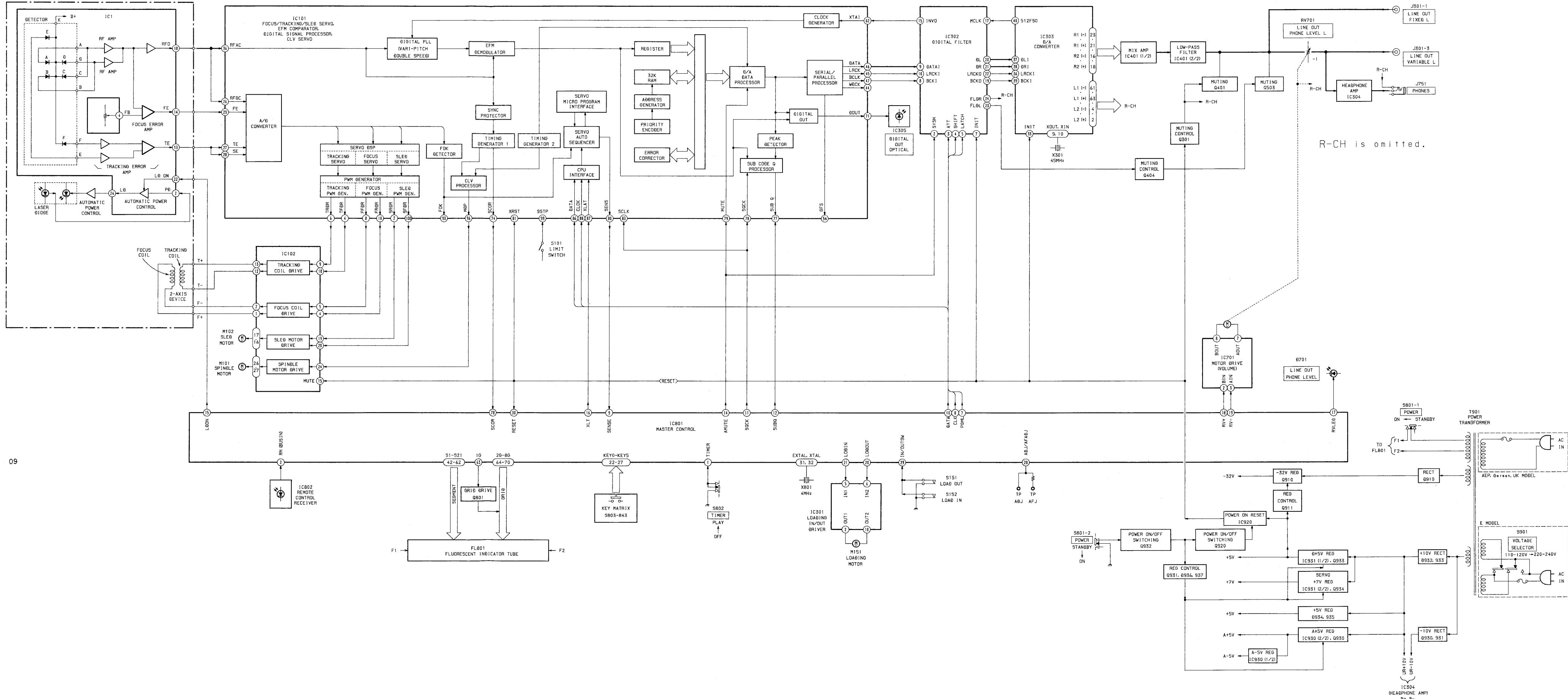


**CXP82316-037Q**



5-3. BLOCK DIAGRAM

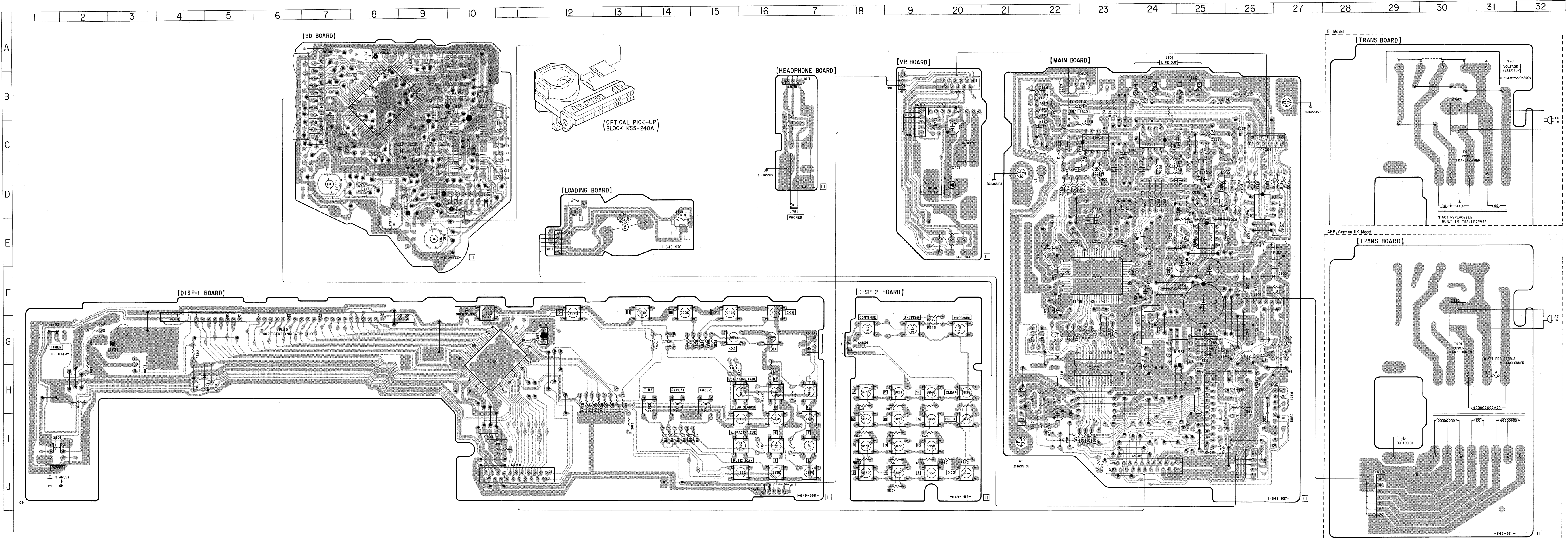
OPTICAL PICK-UP BLOCK (KSS-240A)



5-4. PRINTED WIRING BOARDS  
 • See page 8 for Circuit Boards Location.  
 • See page 9 for Semiconductor Lead Layouts.

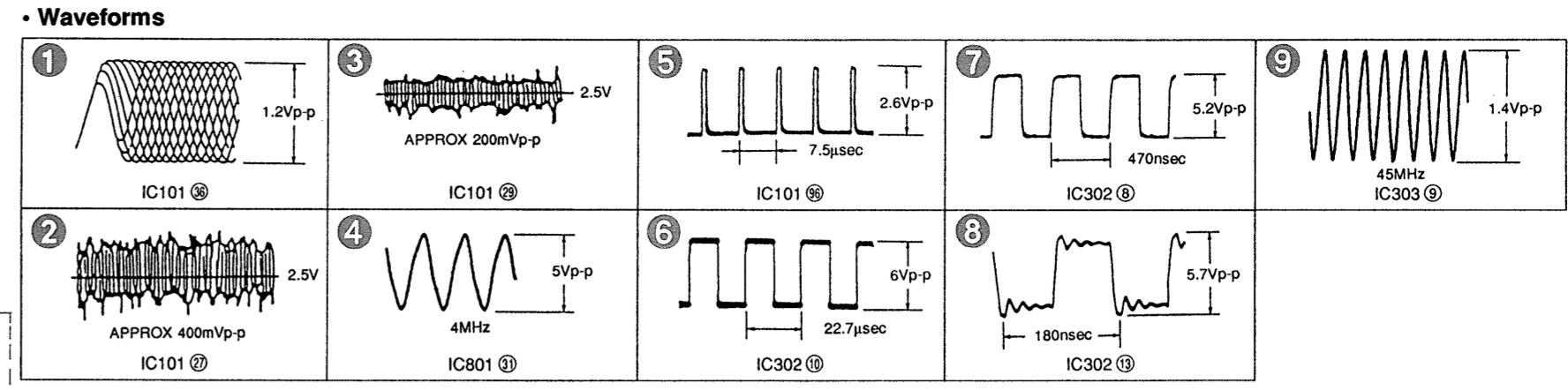
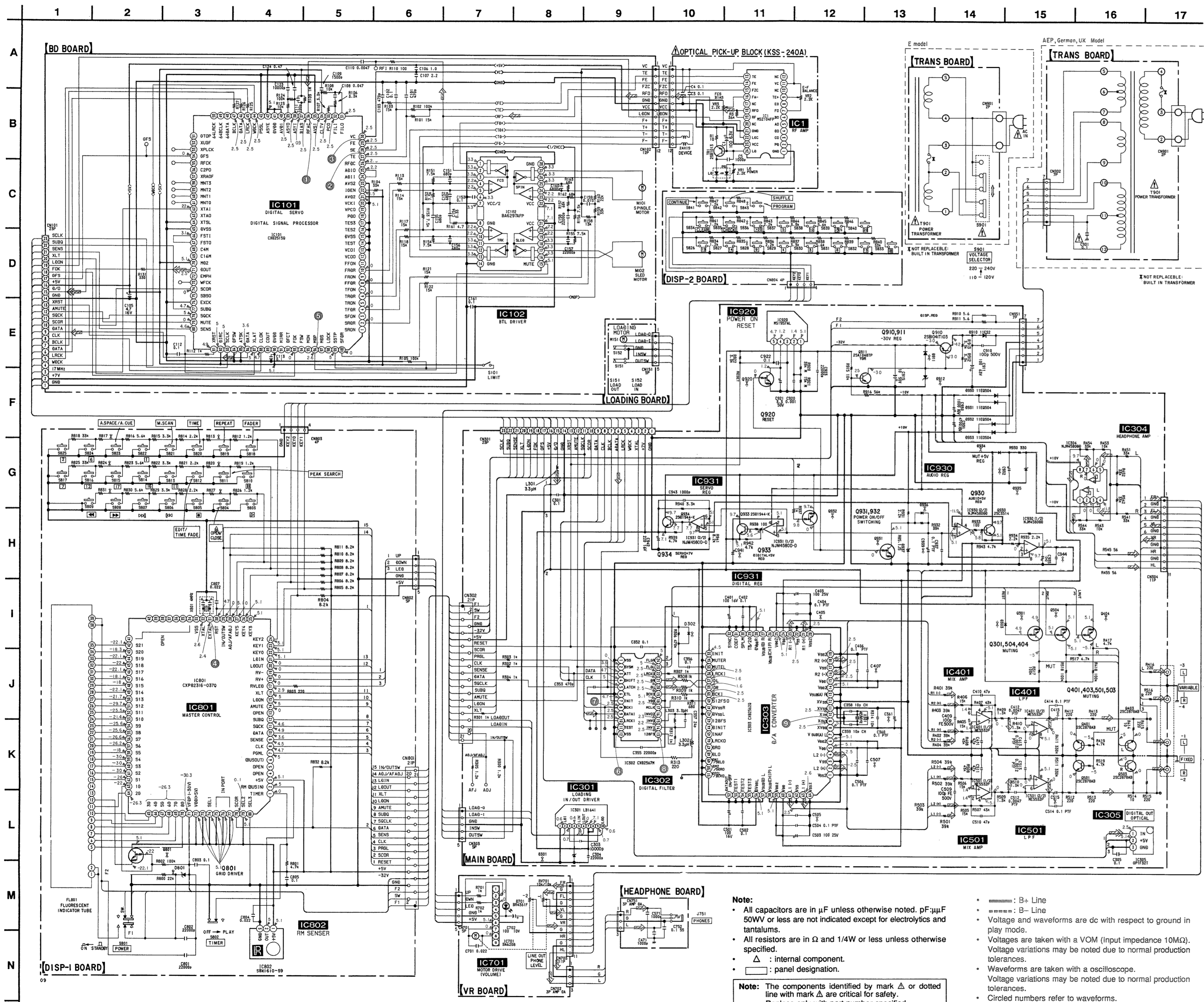
• Semiconductor Location

Ref. No.	Location
D301	H-27
D302	G-22
D303	E-26
D701	D-20
D801	H-4
D910	F-27
D911	H-26
D912	G-26
D930	F-26
D931	F-26
D932	G-26
D933	G-26
D934	E-25
D935	D-25
D936	E-25
D937	E-24
IC101	B-8
IC102	C-10
IC301	I-26
IC302	H-23
IC303	F-23
IC304	D-26
IC305	B-22
IC401	C-23
IC501	C-24
IC701	B-20
IC801	G-10
IC802	G-2
IC920	H-21
IC930	E-25
IC931	G-24
Q301	D-26
Q401	C-22
Q402	B-22
Q404	G-22
Q501	C-26
Q503	C-26
Q504	G-21
Q801	H-3
Q910	G-26
Q911	H-26
Q920	I-22
Q930	D-24
Q931	E-24
Q932	H-26
Q933	G-24
Q934	G-25



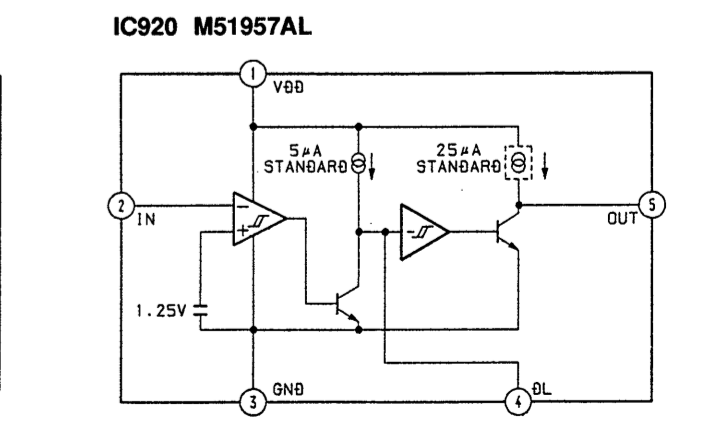
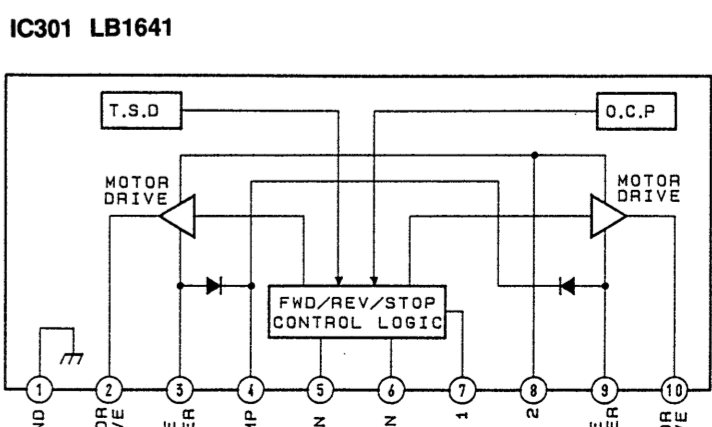
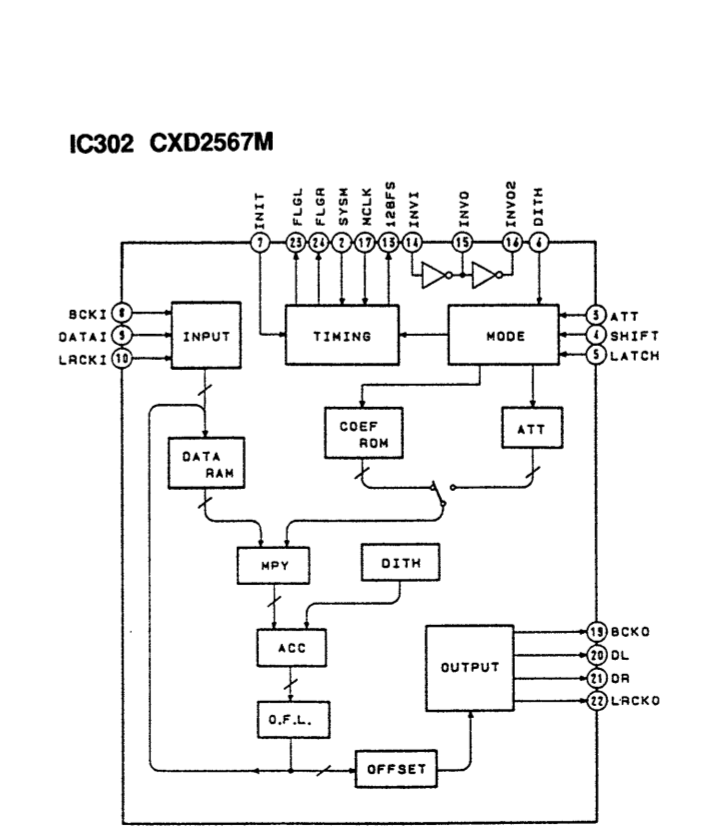
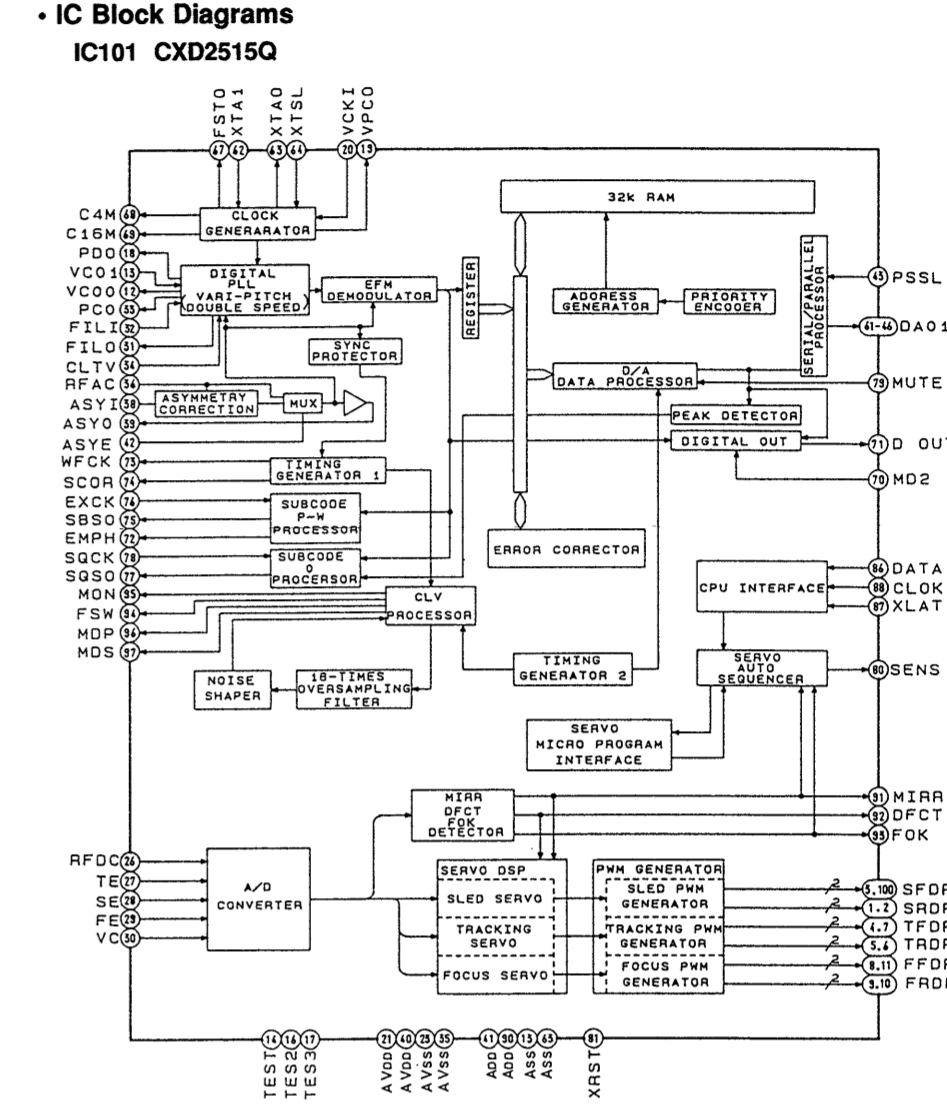
Note:  
 • ○ — : parts extracted from the component side.  
 • ● — : Through hole.  
 • ■ — : Pattern from the side which enable seeing.  
 • ▨ — : Pattern of the rear side.

5-5. SCHEMATIC DIAGRAM  
 • See pages 23 to 26 for IC Pin Functions.(IC101, IC801)



Note

Board	Ref. No.	CDP-715 (AEP, E model)	CDP-715 (Made in France)	CDP-715E (Made in France)	UK model
DISP-1	D801	RD7.5 ES	MTZJ7-5C		
	D802	2SC3402	DTC114ES		
	R813	1.5K	1.6K		
	R817	12K	11K		
	R820	1.5K	1.6K		
	R824	12K	11K		
	R827	1.5K	1.6K		
	R831	12K	11K		
	R835	1.5K	1.6K		
	R839	12K	11K		
DISP-2	R842	1.5K	1.6K		
	R846	12K	11K		
	R848	1.5K	1.6K		
	C381	100 25V	100 50V		
	C405		0.022	0.1	
	C407		0.022	0.1	
	C415		47 50V	47 63V	
	C505		0.022	0.1	
	C507		0.022	0.1	
	C515		47 50V	47 63V	
MAIN	C932	220 16V	100 16V		
	C935	22 63V	47 50V	47 63V	
	C939	22 63V	47 63V	47 63V	
	C941	220 16V	100 16V		
	C944		0.1 50V	10P 500V	
	D301	RD4.7ES	HTZJ-4.7C		
	D302	1N4148M	WG713		
	D303	1N4148M	WG713		
	D911	1N4148M	WG713		
	D912	RD2.7ES	MTZJ-2.7B		
D934	1N4148M	WG713			
D935	RD4.7ES	HTZJ-4.7C			
D936	1N4148M	WG713			
Q301	2SA1345	DTA144ES			
Q404	2SA1345	DTA144ES			
Q504	2SA1345	DTA144ES			
Q920	2SC3399	DTA144ES			
Q931	2SC3399	DTA144ES			
Q932	2SA1345	DTA144ES			



Note:  
 • All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ ,  $\mu\text{M}$  50WV or less are not indicated except for electrolytics and tantalums.  
 • All resistors are in  $\Omega$  and 1/4W or less unless otherwise specified.  
 •  $\Delta$  : internal component.  
 •  $\square$  : panel designation.  
 Note: The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

• — : B+ Line  
 • — : B- Line  
 • Voltage and waveforms are dc with respect to ground in play mode.  
 • Waveforms are taken with a VOM (input impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.  
 • Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.  
 • Circled numbers refer to waveforms.  
 • Signal path.  
 • CD  
 • digital out

## 5-6. IC PIN FUNCTIONS

### • IC101 Digital Servo & DSP (CXD2515Q)

Pin No.	Pin Name	I/O	Function
1	SRON	O	Sled drive output (Not used)
2	SRDR	O	Sled drive output
3	SFON	O	Sled drive output (Not used)
4	TFDR	O	Tracking drive output
5	TRON	O	Tracking drive output (Not used)
6	TRDR	O	Tracking drive output
7	TFON	O	Tracking drive output (Not used)
8	FFDR	O	Focus drive output
9	FRON	O	Focus drive output (Not used)
10	FRDR	O	Focus drive output
11	FFON	O	Focus drive output (Not used)
12	VCOO	O	VCO output for analog EFM PLL (Not used)
13	VCOI	I	VCO output for analog EFM PLL
14	TEST	I	TEST pin connected normally to GND
15	DVss	–	Digital GND
16	TES2	I	TEST pin connected normally to GND
17	TES3	I	TEST pin connected normally to GND
18	PDO	O	Charge-pump output for analog EFM PLL (Not used)
19	VPCO	O	Charge-pump output for variable pitch PLL (Not used)
20	VCKI	I	Clock input from variable pitch external VCO
21	AVD2	–	Analog power supply
22	IGEN	I	Power supply pin for operational amplifiers
23	AVS2	–	Analog GND
24	ADII	I	Input pin for A/D converter
25	ADIO	O	Operational amplifier output pin
26	RFDC	I	RF signal input
27	TE	I	Tracking error signal input
28	SE	I	Sled error signal input
29	FE	I	Focus error signal input
30	VC	I	Center voltage input pin
31	FILO	O	Filter output for master PLL
32	FILI	I	Filter input for master PLL
33	PCO	O	Charge-pump output for master PLL
34	CLTV	I	Control voltage input for master VCO
35	AVS1	–	Analog GND
36	RFAC	I	EFM signal input
37	BIAS	I	Asymmetry circuit constant current input
38	ASY1	I	Asymmetry comparate voltage input
39	ASYO	O	EFM full swing output
40	AVD1	–	Analog power supply

Pin No.	Pin Name	I/O	Function
41	DVDD	–	Digital power supply
42	ASYE	I	Asymmetry circuit ON/OFF
43	PSSL	I	Audio data output mode selection input
44	WDCK	O	48-bit slot D/A interface. Word clock (Not used)
45	LRCK	O	48-bit slot D/A interface. LR clock
46	DATA	O	DA 16 output when PSSL=1. 48-bit slot serial data when PSSL=0
47	BCLK	O	DA 15 output when PSSL=1. 48-bit slot data when PSSL=0
48	64DATA	O	DA 14 output when PSSL=1. 64-bit slot data when PSSL=0 (Not used)
49	64BCLK	O	DA 13 output when PSSL=1. 64-bit slot data when PSSL=0 (Not used)
50	64LRCK	O	DA 12 output when PSSL=1. 64-bit slot data when PSSL=0 (Not used)
51	GTOP	O	DA 11 output when PSSL=1. GTOP output when PSSL=0 (Not used)
52	XUGF	O	DA 10 output when PSSL=1. XUGF output when PSSL=0 (Not used)
53	XPLCK	O	DA 09 output when PSSL=1. XPLCK output when PSSL=0
54	GFS	O	DA 08 output when PSSL=1. GFS output when PSSL=0
55	PFCK	O	DA 07 output when PSSL=1. RFCK output when PSSL=0
56	C2PO	O	DA 06 output when PSSL=1. C2PO output when PSSL=0 (Not used)
57	XRAOF	O	DA 05 output when PSSL=1. XRA0F output when PSSL=0 (Not used)
58	MNT3	O	DA 04 output when PSSL=1. MNT3 output when PSSL=0
59	MNT2	O	DA 03 output when PSSL=1. MNT2 output when PSSL=0
60	MNT1	O	DA 02 output when PSSL=1. MNT1 output when PSSL=0
61	MNT0	O	DA 01 output when PSSL=1. MNT0 output when PSSL=0
62	XTAI	I	X'tal oscillator circuit input
63	XTAO	O	X'tal oscillator circuit output (Not used)
64	XTSL	I	X'tal selection input pin
65	DVss	–	Digital GND
66	FSTI	I	2/3 divider output of pins 62, 63
67	FSTO	O	2/3 divider output of pins 62, 63
68	C4M	O	4.2336 MHz output (Not used)
69	C16M	O	16.9344 MHz output (Not used)
70	MD2	I	Digital-out ON/OFF control pin
71	DOUT	O	Digital-out output pin
72	EMPH	O	Playback disc output in emphasis mode (Not used)
73	WFCK	O	WFCK output
74	SCOR	O	Sub-code sync output
75	SBSO	O	Sub-P through Sub-W serial output (Not used)
76	EXCK	I	Clock input for SBS0 read-out (Connected to GND)
77	SUBQ	O	Sub-Q 80-bit output
78	SQCK	I	Clock input for SQS0 read-out
79	MUTE	I	Muting selection pin
80	SENS	O	SENS output
81	XRST	I	System reset
82	DIRC	I	Used in 1-track jump mode (Connected to +5V)
83	SCLK	I	SENS serial data read-out clock
84	DFSW	I	DFCT selection pin
85	ATSK	I	Input pin for anti-shock

Pin No.	Pin Name	I/O	Function
86	DATA	I	Serial data input, supplied from IC801 (master control)
87	XLAT	I	Latch input, supplied from IC801 (master control)
88	CLOK	I	Serial data transfer clock input, supplied from IC801 (master control)
89	COUT	O	Numbers of track counted signal output (Not used)
90	DVDD	—	Digital power supply
91	MIRR	O	Mirror signal output (Not used)
92	DFCT	O	Defect signal output (Not used)
93	FOK	O	Focus OK output
94	FSW	O	Output to select spindle motor output filter (Not used)
95	MON	O	Output to control ON/OFF of spindle motor (Not used)
96	MDP	O	Output to control spindle motor servo
97	MDS	O	Output to control spindle motor servo (Not used)
98	LOCK	O	GFS is sampled by 460 Hz. H when GFS is H (Not used)
99	SSTP	I	Input signal to detect disc inner most track
100	SFDR	O	Sled drive output

• IC801 Master Control (CXP82316-037Q)

Pin No.	Pin Name	I/O	Function
1	TIMER	I	Timer switch (S802) control input.
2	RM (BUS IN)	I	Siracs signal input from remote control receiver (IC802). (Audio bus input)
3	+5V	—	Connected to +5V.
4	OPEN	—	} Not used. (open).
5	OPEN	—	
6	(BUS OUT)	O	Audio bus output.
7	PGML	O	Latch signal output to digital filter (IC302).
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.
15	LDON	O	Optical pickup laser diode control output.
16	XLT	O	Serial data latch signal output.
17	RV LED	O	Remote commander volume LED.
18	RV+	O	Remote commander volume +.
19	RV-	O	Remote commander volume -.
20	LDOUT	O	} Loading motor control signal output.
21	LDIN	O	
22 to 27	KEY0 to KEY5	I	Key input. (S803 to S843)
28	ADJ/AFADJ	—	ADJ, AFJ test pin.
29	IN/OUTSW	I	Loading IN/OUT switch input.
30	RST	I	Reset signal input.
31	EXTAL	I	Clock input. (4 MHz)
32	XTAL	O	Clock output. (4 MHz)
33	V <sub>ss</sub>	—	GND
34 to 41	OPEN	—	Not used. (open)
42 to 62	S1 to S21	O	FL segment output.
63 to 70	1G to 8G	O	FL grid output.
71	VFDP (-30V)	—	-30V pin for FL display tube.
72	V <sub>DD</sub> (+5V)	—	} +5V pin.
73	—	—	
74	SEL1	—	} Connected to +5V.
75	IN PORT	—	
76	IN PORT	—	
77	IN PORT	—	
78	SCOR	I	Read out timing signal input for subcode Q data.
79	SEL2	—	Connected to +5V.
80	SEL3	—	Connected to GND.



## SECTION 6 EXPLODED VIEWS

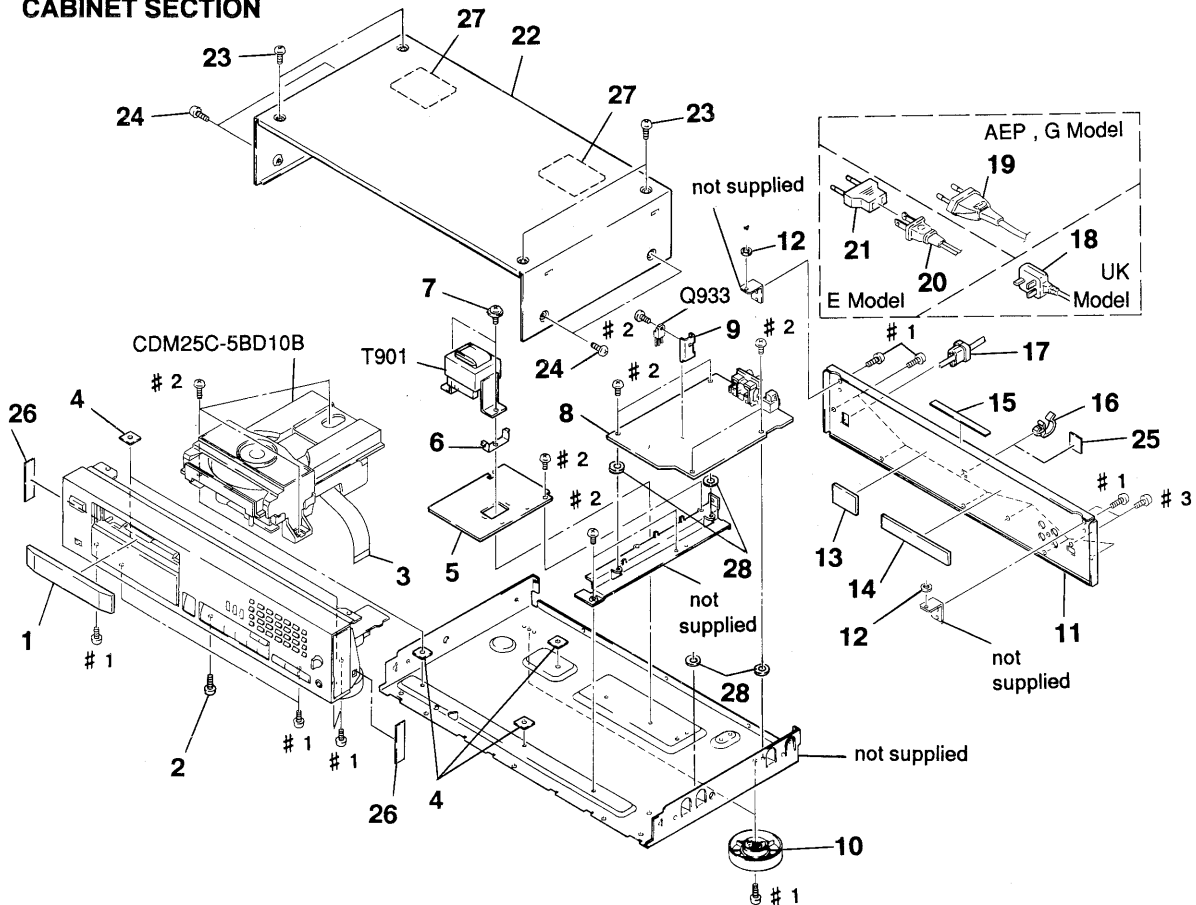
**NOTE:**

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:  
KNOB, BALANCE (WHITE) . . . (RED)  
↑                    ↑  
Parts color    Cabinet's color

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- 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.
- G : German model

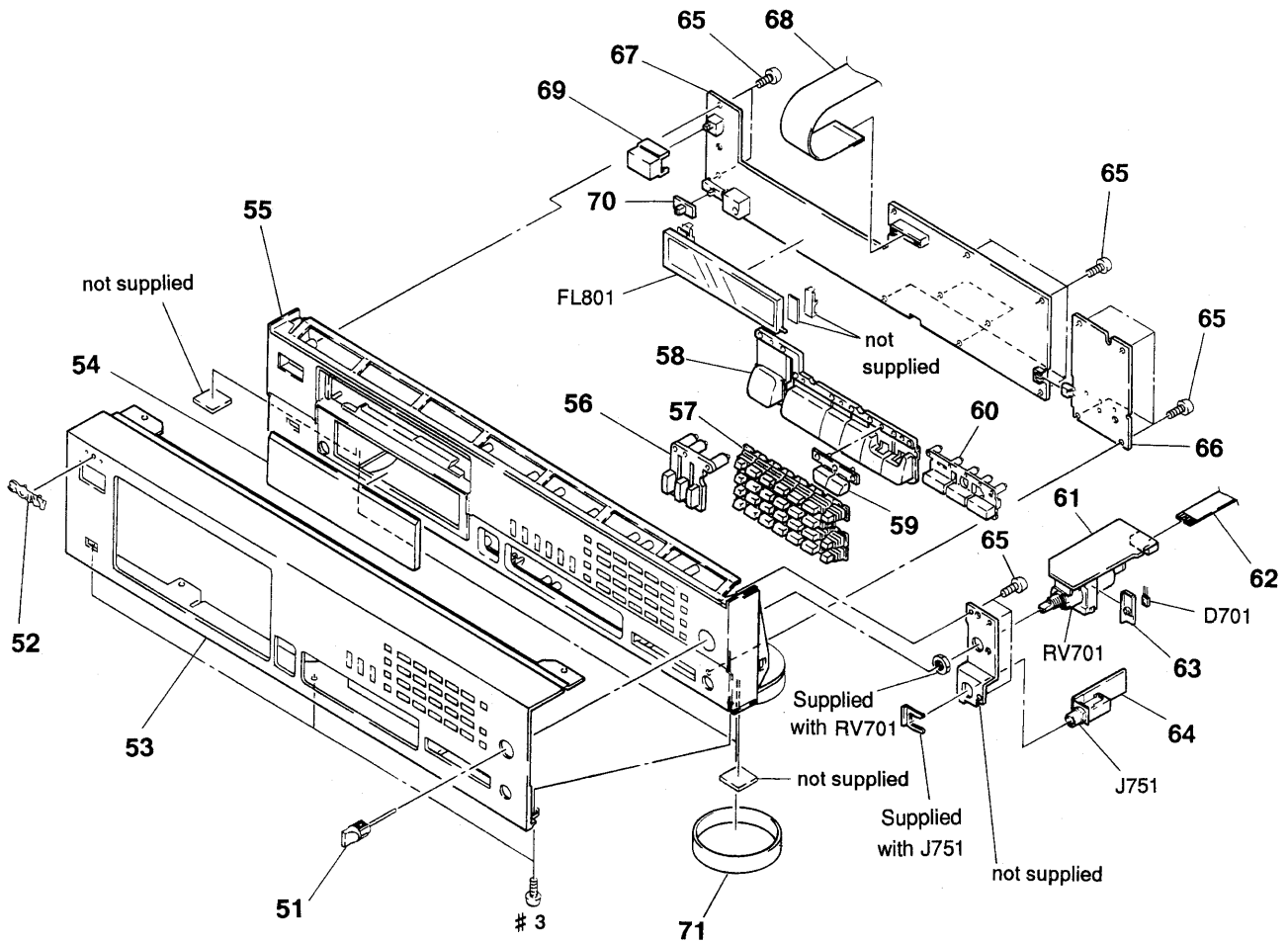
The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety.  
Replace only with part number specified.

### 6-1. CABINET SECTION



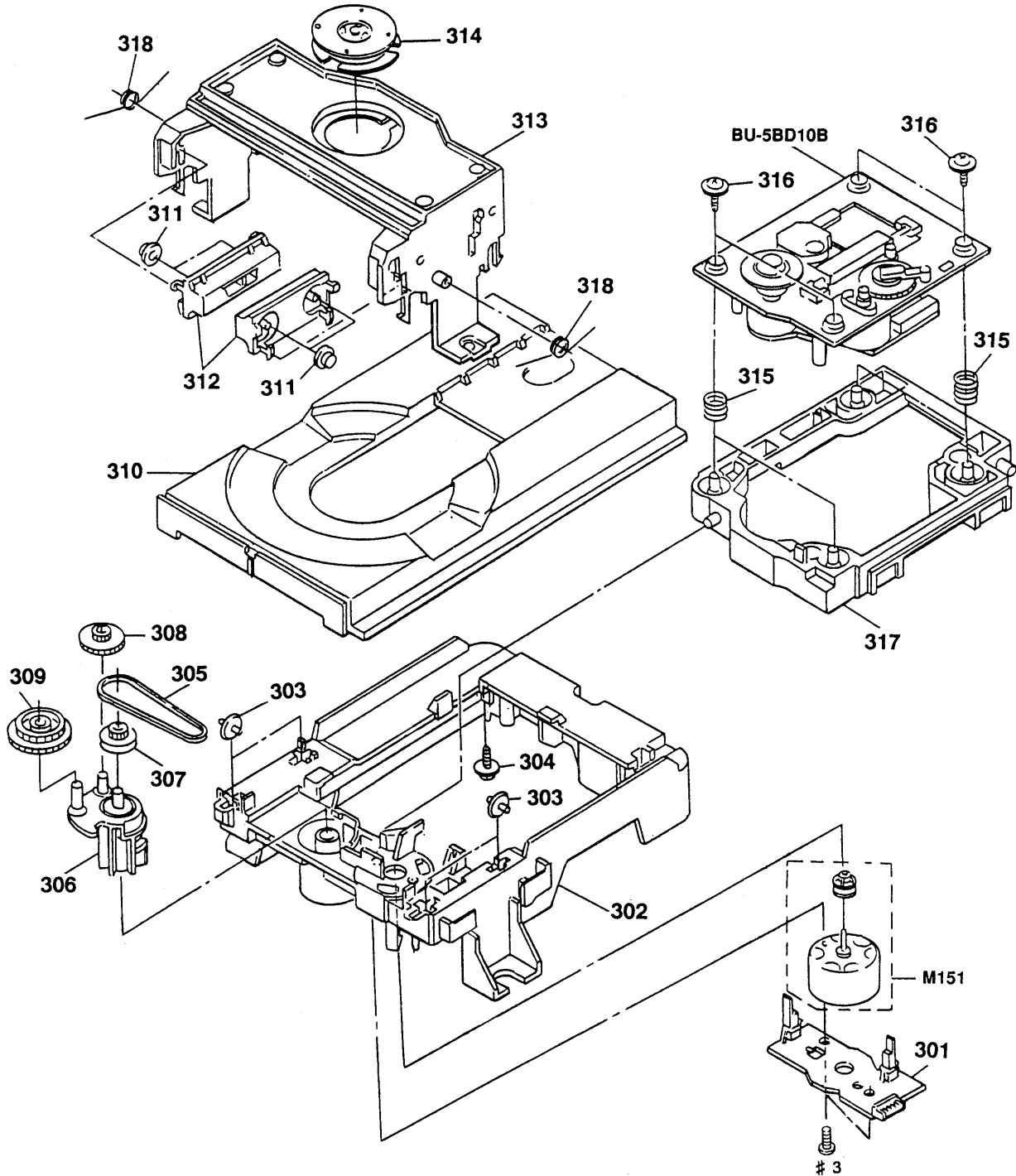
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-962-733-21	PANEL, LOADING		* 16	3-681-263-11	HOOK (Made in FRANCE)	
2	3-703-685-21	SCREW (+BV 3X8)		* 16	4-949-235-01	HOOK (Made in JAPAN) (AEP, E)	
3	1-696-760-11	WIRE (FLAT TYPE) (23 CORE)		* 17	3-703-244-00	BUSHING (2104), CORD (AEP, G, UK)	
4	4-959-062-01	SHEET (CDM)		* 17	3-703-571-11	BUSHING (S) (4516), CORD (E)	
* 5	1-649-961-11	TRANS BOARD		$\triangle$ 18	1-696-907-11	CORD, POWER (UK)	
6	4-952-197-01	PLATE (TR), GROUND		$\triangle$ 19	1-575-651-21	CORD, POWER (AEP, G)	
7	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6		$\triangle$ 20	1-696-027-11	CORD, POWER (E)	
* 8	A-4649-876-A	MAIN BOARD, COMPLETE (Made in FRANCE)	(AEP, G, UK)	$\triangle$ 21	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
* 8	A-4673-040-A	MAIN BOARD, COMPLETE (Made in JAPAN)	(AEP, E)	22	4-929-529-01	CASE	
* 9	3-309-144-21	HEATSINK		23	3-363-099-01	SCREW (CASE 3 TP2)	
10	4-956-885-11	FOOT (F58175S2W) (AEP, E, G)		24	3-704-366-01	SCREW (CASE) (M3X8) (Made in JAPAN) (AEP, E)	
10	X-4941-014-1	FOOT ASSY (UK)		24	3-363-099-01	SCREW (CASE 3 TP2) (Made in FRANCE)	(AEP, G, UK)
* 11	4-962-238-12	PANEL (ALS), BACK (Made in FRANCE) (AEP, G)		25	4-614-901-01	INSULATOR, TERMINAL (715E)	
* 11	4-962-238-22	PANEL (ALS), BACK (715E)		26	3-831-441-11	CUSHION (715E)	
* 11	4-964-449-01	PANEL, BACK (Made in JAPAN) (AEP)		* 27	4-962-329-01	DAMPER (715E)	
* 11	4-964-449-11	PANEL, BACK (E)		28	4-955-939-31	WASHER (CASE) (715E)	
12	4-955-939-31	WASHER (CASE)		Q933	8-729-905-67	TRANSISTOR 2SD1944-K	
13	4-959-121-01	DAMPER		$\triangle$ T901	1-423-518-11	TRANSFORMER, POWER (E)	
14	4-959-077-01	DAMPER		$\triangle$ T901	1-449-922-11	TRANSFORMER, POWER (Made in JAPAN) (AEP)	
15	9-911-835-XX	CUSHION, F (715)		$\triangle$ T901	1-449-925-11	TRANSFORMER, POWER (Made in FRANCE)	(AEP, G, UK)
15	4-927-653-01	SHEET (F/P) (715E)					

## 6-2. FRONT PANEL SECTION



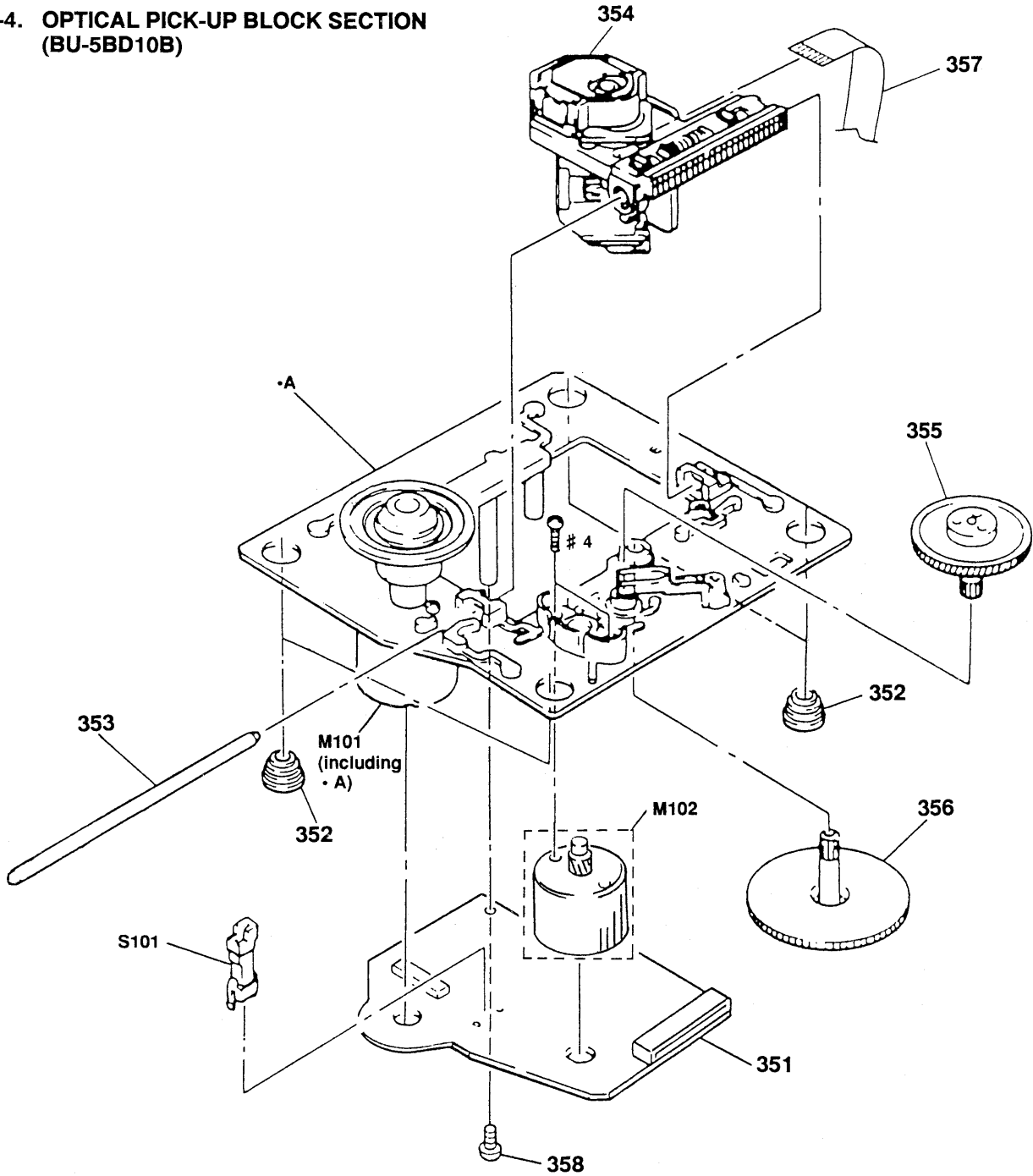
Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
* 51	A-4660-383-A	KNOB (VOL) ASSY		65	4-951-620-01	SCREW (2.6X8), +BVTP	
52	4-942-568-01	EMBLEM (NO. 5), SONY		* 66	1-649-959-11	DISP-2 BOARD	
53	4-962-237-11	PANEL, FRONT (UK)		* 67	A-4673-041-A	DISP-1 BOARD, COMPLETE	
53	4-962-237-21	PANEL, FRONT (AEP, E, G)		68	1-751-713-11	WIRE (FLAT TYPE) (21 CORE)	
54	4-955-929-11	PLATE, INDICATION		69	4-947-034-01	BUTTON (POWER)	
55	X-4943-372-1	BASE ASSY, PANEL		70	4-922-518-11	KNOB (TIMER)	
56	4-955-934-11	BUTTON (FILE)		71	4-933-135-02	RING (DIA. 58A), ORNAMENTAL (AEP, G, E)	
57	4-955-935-11	BUTTON (20 KEY)		71	4-933-135-31	RING (DIA. 58A), ORNAMENTAL (UK)	
58	4-955-931-11	BUTTON (PLAY)		D701	8-719-970-49	DIODE BR4361F	
59	4-955-932-11	BUTTON (MMS)		FL801	1-519-757-11	INDICATOR TUBE, FLUORESCENT	
60	4-955-933-11	BUTTON (MODE 3)		J751	1-568-519-41	JACK, LARGE TYPE (PHONES)	
* 61	1-649-960-11	VR BOARD		RV701	1-238-974-11	RES, VAR, CARBON 10K/10K (LEVEL OUT/PHONE LEVEL)	
62	1-751-712-11	WIRE (FLAT TYPE) (11 CORE)					
* 63	4-922-980-01	HOLDER (LED)					
* 64	1-649-962-11	HEADPHONE BOARD					

6-3. CD MECHANISM SECTION (CDM25C-5BD10B)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 301	1-646-970-11	LOADING BOARD		311	4-954-194-01	ROLLER (B)	
* 302	4-954-190-01	BASE (MD)		312	4-954-199-01	PLATE, SLIDE	
303	4-954-193-01	ROLLER (A)		* 313	4-954-192-01	HOLDER (M)	
* 304	4-917-583-21	BRACKET, YOKE		* 314	1-452-538-11	MAGNET	
305	4-927-649-01	BELT		315	4-959-996-01	SPRING (932), COMPRESSION	
306	4-933-109-01	CAM		316	4-933-134-01	SCREW (+PTPWH M2.6X6)	
307	4-927-651-01	PULLEY (S)		317	4-933-129-01	HOLDER (BU)	
308	4-927-628-01	GEAR (C)		318	4-954-195-01	SPRING, TORSION	
309	4-933-107-01	GEAR (PL)		M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
310	4-961-794-01	TABLE, DISK					

**6-4. OPTICAL PICK-UP BLOCK SECTION  
(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	Ref. No.	Part No.	Description	Remark
* 351	A-4649-432-A	BD BOARD, COMPLETE		357	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
352	4-951-940-01	INSULATOR (BU)		358	4-951-620-01	SCREW (2.6X8), +BVTP	
353	4-917-565-01	SHAFT, SLED		M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
⚠354	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)		M102	X-4917-504-1	MOTOR ASSY (SLED)	
355	4-917-567-01	GEAR (M)		S101	1-572-085-11	SWITCH, LEAF (LIMIT)	
356	4-917-564-01	GEAR (P), FLATNESS					

# SECTION 7

## ELECTRICAL PARTS LIST

BD

**NOTE:**

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

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

- 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.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:  
KNOB, BALANCE (WHITE) ... (RED)  
  ↑  ↑  
  Parts color Cabinet's color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- RESISTORS  
All resistors are in ohms  
METAL: Metal-film resistor  
METAL OXIDE: Metal Oxide-film resistor  
F : nonflammable
- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA...:  $\mu$  A..., uPA...:  $\mu$  PA..., uPB...:  $\mu$  PB...,  
uPC...:  $\mu$  PC..., uPD...:  $\mu$  PD...
- CAPACITORS  
uF :  $\mu$  F
- COILS  
uH :  $\mu$  H
- G : German model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-4649-432-A	BD BOARD, COMPLETE ***** (Made in JAPAN) (AEP, E)				< IC >	
				IC101	8-752-361-90	IC CXD2515Q	
				IC102	8-759-071-79	IC BA6297AFP	
*	A-4649-430-A	BD BOARD, COMPLETE ***** (Made in FRANCE) (AEP, G, UK)				< MOTOR >	
				M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
				M102	X-4917-504-1	MOTOR ASSY (SLED)	
						< RESISTOR >	
C101	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R101	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C102	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R102	1-216-097-00	METAL CHIP 100K 5% 1/10W	
C103	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R103	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C105	1-135-155-21	TANTALUM CHIP 4.7uF 10% 16V (Made in JAPAN) (AEP, E)		R104	1-216-085-00	METAL CHIP 33K 5% 1/10W	
C105	1-135-287-91	TANTAL. CHIP 4.7uF 20% 16V (Made in FRANCE) (AEP, G, UK)		R105	1-216-097-00	METAL CHIP 100K 5% 1/10W	
C106	1-164-346-11	CERAMIC CHIP 1uF 16V		R106	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
C107	1-164-505-11	CERAMIC CHIP 2.2uF 16V		R107	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
C108	1-163-035-00	CERAMIC CHIP 0.047uF 50V		R108	1-216-073-00	METAL CHIP 10K 5% 1/10W	
C109	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V		R109	1-216-121-00	METAL CHIP 1M 5% 1/10W	
C110	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V		R110	1-216-025-00	METAL CHIP 100 5% 1/10W	
C111	1-163-251-11	CERAMIC CHIP 100PF 5% 50V		R112	1-216-049-00	METAL CHIP 1K 5% 1/10W	
C112	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R113	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C113	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R114	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C123	1-164-232-11	CERAMIC CHIP 0.01uF 50V		R117	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C124	1-164-005-11	CERAMIC CHIP 0.47uF 25V		R118	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C151	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		R121	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C152	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		R122	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C153	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R123	1-216-073-00	METAL CHIP 10K 5% 1/10W	
C154	1-164-336-11	CERAMIC CHIP 0.33uF 25V		R124	1-216-097-00	METAL CHIP 100K 5% 1/10W	
C155	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		R125	1-216-049-00	METAL CHIP 1K 5% 1/10W	
C156	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		R126	1-216-049-00	METAL CHIP 1K 5% 1/10W	
C157	1-163-033-00	CERAMIC CHIP 0.022uF 50V		R127	1-216-049-00	METAL CHIP 1K 5% 1/10W	
C158	1-163-033-00	CERAMIC CHIP 0.022uF 50V		R131	1-216-037-00	METAL CHIP 330 5% 1/10W	
C159	1-163-023-00	CERAMIC CHIP 0.015uF 5% 50V		R151	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
C160	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V		R152	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
C161	1-163-038-00	CERAMIC CHIP 0.1uF 25V		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	
						< CONNECTOR >	
* CN101	1-568-865-11	SOCKET, CONNECTOR 23P					
CN102	1-568-795-11	SOCKET, CONNECTOR 12P					

**BD DISP-1**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R161	1-216-308-00	METAL CHIP	4.7 5% 1/10W	R810	1-249-428-11	CARBON	8.2K 5% 1/4W F
R162	1-216-093-00	METAL CHIP	68K 5% 1/10W	R811	1-249-428-11	CARBON	8.2K 5% 1/4W F
R163	1-216-093-00	METAL CHIP	68K 5% 1/10W	R812	1-249-418-11	CARBON	1.2K 5% 1/4W F
		< SWITCH >		R813	1-247-836-11	CARBON	1.6K 5% 1/4W (Made in FRANCE) (AEP, G, UK)
S101	1-572-085-11	SWITCH, LEAF (LIMIT)		R813	1-249-419-11	CARBON	1.5K 5% 1/4W F (Made in JAPAN) (AEP, E)
*****							
*	A-4673-041-A	DISP-1 BOARD, COMPLETE		R814	1-249-421-11	CARBON	2.2K 5% 1/4W F
		*****		R815	1-249-423-11	CARBON	3.3K 5% 1/4W F
		< CAPACITOR >		R816	1-249-426-11	CARBON	5.6K 5% 1/4W
C801	1-161-494-00	CERAMIC	0.022uF 25V	R817	1-247-856-00	CARBON	11K 5% 1/4W (Made in FRANCE) (AEP, G, UK)
C802	1-161-494-00	CERAMIC	0.022uF 25V	R817	1-249-430-11	CARBON	12K 5% 1/4W (Made in JAPAN) (AEP, E)
C803	1-164-159-11	CERAMIC	0.1uF 50V	R818	1-249-435-11	CARBON	33K 5% 1/4W
C804	1-161-494-00	CERAMIC	0.022uF 25V	R819	1-249-418-11	CARBON	1.2K 5% 1/4W F
C805	1-164-159-11	CERAMIC	0.1uF 50V	R820	1-247-836-11	CARBON	1.6K 5% 1/4W (Made in FRANCE) (AEP, G, UK)
C807	1-161-494-00	CERAMIC	0.022uF 25V	R820	1-249-419-11	CARBON	1.5K 5% 1/4W F (Made in JAPAN) (AEP, E)
		< CONNECTOR >		R821	1-249-421-11	CARBON	2.2K 5% 1/4W F
CN801	1-750-999-11	CONNECTOR, FFC/FPC 21P		R822	1-249-423-11	CARBON	3.3K 5% 1/4W F
CN803	1-750-194-11	CONNECTOR, BOARD TO BOARD 4P		R823	1-249-426-11	CARBON	5.6K 5% 1/4W
		< DIODE >		R824	1-247-856-00	CARBON	11K 5% 1/4W (Made in FRANCE) (AEP, G, UK)
D801	8-719-110-03	DIODE RD7.5ESB2		R824	1-249-430-11	CARBON	12K 5% 1/4W (Made in JAPAN) (AEP, E)
		< FILTER >		R825	1-249-435-11	CARBON	33K 5% 1/4W
FL801	1-519-757-11	INDICATOR TUBE, FLUORESCENT		R826	1-249-418-11	CARBON	1.2K 5% 1/4W F
		< IC >		R827	1-247-836-11	CARBON	1.6K 5% 1/4W (Made in FRANCE) (AEP, G, UK)
IC801	8-752-851-82	IC CXP82316-037Q		R827	1-249-419-11	CARBON	1.5K 5% 1/4W F (Made in JAPAN) (AEP, E)
IC802	8-741-100-48	IC SBX1610-59		R828	1-249-421-11	CARBON	2.2K 5% 1/4W F
		< TRANSISTOR >		R829	1-249-423-11	CARBON	3.3K 5% 1/4W F
Q801	8-729-900-80	TRANSISTOR DTC114ES		R830	1-249-426-11	CARBON	5.6K 5% 1/4W
		< RESISTOR >		R831	1-247-856-00	CARBON	11K 5% 1/4W (Made in FRANCE) (AEP, G, UK)
R800	1-249-433-11	CARBON	22K 5% 1/4W	R831	1-249-430-11	CARBON	12K 5% 1/4W (Made in JAPAN) (AEP, E)
R801	1-249-425-11	CARBON	4.7K 5% 1/4W F	R832	1-249-428-11	CARBON	8.2K 5% 1/4W F
R802	1-249-441-11	CARBON	100K 5% 1/4W			< SWITCH >	
R803	1-249-409-11	CARBON	220 5% 1/4W F	S801	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)	
R804	1-249-428-11	CARBON	8.2K 5% 1/4W F	S802	1-570-157-51	SWITCH, SLIDE (TIMER)	
R805	1-249-428-11	CARBON	8.2K 5% 1/4W F	S803	1-554-303-21	SWITCH, TACTILE (▷)	
R806	1-249-428-11	CARBON	8.2K 5% 1/4W F	S804	1-554-303-21	SWITCH, TACTILE (△ OPEN/CLOSE)	
R807	1-249-428-11	CARBON	8.2K 5% 1/4W F	S805	1-554-303-21	SWITCH, TACTILE (■)	
R808	1-249-428-11	CARBON	8.2K 5% 1/4W F	S806	1-554-303-21	SWITCH, TACTILE (◁▷)	
R809	1-249-428-11	CARBON	8.2K 5% 1/4W F	S807	1-554-303-21	SWITCH, TACTILE (▷▷)	
				S808	1-554-303-21	SWITCH, TACTILE (◁◁)	
				S809	1-554-303-21	SWITCH, TACTILE (◁▷)	
				S810	1-554-303-21	SWITCH, TACTILE (■)	

**DISP-1**

**DISP-2**

**HEADPHONE**

**LOADING**

Ref.No.	Part No.	Description	Remark
S811	1-554-303-21	SWITCH, TACTILE (PEAK SEARCH)	
S812	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE)	
S813	1-554-303-21	SWITCH, TACTILE (11)	
S814	1-554-303-21	SWITCH, TACTILE (16)	
S815	1-554-303-21	SWITCH, TACTILE (17)	
S816	1-554-303-21	SWITCH, TACTILE (12)	
S817	1-554-303-21	SWITCH, TACTILE (7)	
S818	1-554-303-21	SWITCH, TACTILE (FADER)	
S819	1-554-303-21	SWITCH, TACTILE (REPEAT)	
S820	1-554-303-21	SWITCH, TACTILE (TIME)	
S821	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)	
S822	1-554-303-21	SWITCH, TACTILE (1)	
S823	1-554-303-21	SWITCH, TACTILE (A. SPACE/A. CUE)	
S824	1-554-303-21	SWITCH, TACTILE (6)	
S825	1-554-303-21	SWITCH, TACTILE (2)	
< VIBRATOR >			
X801	1-577-082-11	VIBRATOR, CERAMIC (4MHZ) (Made in FRANCE) (AEP, G, UK)	
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHZ) (Made in JAPAN) (AEP, E)	
*****			
*	1-649-959-11	DISP-2 BOARD *****	
< CONNECTOR >			
CN804	1-750-185-11	CONNECTOR, BOARD TO BOARD 4P	
< RESISTOR >			
R834	1-249-418-11	CARBON 1.2K 5% 1/4W F	
R835	1-247-835-11	CARBON 1.5K 5% 1/4W (Made in JAPAN) (AEP, E)	
R835	1-247-836-11	CARBON 1.6K 5% 1/4W (Made in FRANCE) (AEP, G, UK)	
R836	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R837	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R838	1-249-426-11	CARBON 5.6K 5% 1/4W	
R839	1-247-856-00	CARBON 11K 5% 1/4W (Made in FRANCE) (AEP, G, UK)	
R839	1-249-430-11	CARBON 12K 5% 1/4W (Made in JAPAN) (AEP, E)	
R840	1-249-435-11	CARBON 33K 5% 1/4W	
R841	1-249-418-11	CARBON 1.2K 5% 1/4W F	
R842	1-247-835-11	CARBON 1.5K 5% 1/4W (Made in JAPAN) (AEP, E)	
R842	1-247-836-11	CARBON 1.6K 5% 1/4W (Made in FRANCE) (AEP, G, UK)	
R843	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R844	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R845	1-249-426-11	CARBON 5.6K 5% 1/4W	

Ref.No.	Part No.	Description	Remark
R846	1-247-856-00	CARBON 11K 5% 1/4W (Made in FRANCE) (AEP, G, UK)	
R846	1-249-430-11	CARBON 12K 5% 1/4W (Made in JAPAN) (AEP, E)	
R847	1-249-418-11	CARBON 1.2K 5% 1/4W F	
R848	1-247-835-11	CARBON 1.5K 5% 1/4W (Made in JAPAN) (AEP, E)	
R848	1-247-836-11	CARBON 1.6K 5% 1/4W (Made in FRANCE) (AEP, G, UK)	
< SWITCH >			
S826	1-554-303-21	SWITCH, TACTILE (19)	
S827	1-554-303-21	SWITCH, TACTILE (14)	
S828	1-554-303-21	SWITCH, TACTILE (9)	
S829	1-554-303-21	SWITCH, TACTILE (4)	
S830	1-554-303-21	SWITCH, TACTILE (3)	
S831	1-554-303-21	SWITCH, TACTILE (8)	
S832	1-554-303-21	SWITCH, TACTILE (13)	
S833	1-554-303-21	SWITCH, TACTILE (18)	
S834	1-554-303-21	SWITCH, TACTILE (CLEAR)	
S835	1-554-303-21	SWITCH, TACTILE (CHECK)	
S836	1-554-303-21	SWITCH, TACTILE (>20)	
S837	1-554-303-21	SWITCH, TACTILE (5)	
S838	1-554-303-21	SWITCH, TACTILE (10)	
S839	1-554-303-21	SWITCH, TACTILE (15)	
S840	1-554-303-21	SWITCH, TACTILE (20)	
S841	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S842	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S843	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
*****			
*	1-649-962-11	HEADPHONE BOARD *****	
< CAPACITOR >			
C471	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C571	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C752	1-164-159-11	CERAMIC 0.1uF 50V	
< JACK >			
J751	1-568-519-41	JACK, LARGE TYPE (PHONES)	
*****			
*	1-646-970-11	LOADING BOARD *****	
< CONNECTOR >			
* CN151	1-568-943-11	PIN, CONNECTOR 5P	

# LOADING      MAIN

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
		< MOTOR >					
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)		C412	1-106-359-00	MYLAR 4700PF 5%	200V
		< SWITCH >		C413	1-130-472-00	MYLAR 0.0012uF 5%	50V
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)		C414	1-130-495-00	MYLAR 0.1uF 5%	50V
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)		C415	1-124-910-11	ELECT 47uF 20%	50V (AEP, G, E)
*****							
*	A-4673-040-A	MAIN BOARD, COMPLETE		C415	1-124-918-11	ELECT 47uF 20%	63V (UK)
		*****		C501	1-126-101-11	ELECT 100uF 20%	16V
		(Made in JAPAN) (AEP, E)		C502	1-164-159-11	CERAMIC 0.1uF	50V
*	A-4649-876-A	MAIN BOARD, COMPLETE		C503	1-124-122-11	ELECT 100uF 20%	50V
		*****		C504	1-130-495-00	MYLAR 0.1uF 5%	50V
		(Made in FRANCE) (AEP, G, UK)		C505	1-110-245-11	MYLAR 0.1uF 5%	50V (UK)
				C505	1-161-494-00	CERAMIC 0.022uF	25V (AEP, G, E)
*	3-309-144-21	HEAT SINK		C506	1-130-495-00	MYLAR 0.1uF 5%	50V
	3-831-441-XX	CUSHION		C507	1-110-245-11	MYLAR 0.1uF 5%	50V (UK)
	7-682-547-09	SCREW +BVTT 3X6 (S)		C507	1-161-494-00	CERAMIC 0.022uF	25V (AEP, G, E)
		< CAPACITOR >		C509	1-107-169-00	MICA 100PF 5%	500V
C301	1-164-159-11	CERAMIC 0.1uF	50V	C510	1-101-880-00	CERAMIC 47PF 5%	50V
C303	1-161-379-00	CERAMIC 0.01uF 20%	25V	C511	1-101-880-00	CERAMIC 47PF 5%	50V
C304	1-161-494-00	CERAMIC 0.022uF	25V	C512	1-106-359-00	MYLAR 4700PF 5%	200V
C305	1-164-159-11	CERAMIC 0.1uF	50V	C513	1-130-472-00	MYLAR 0.0012uF 5%	50V
C352	1-164-159-11	CERAMIC 0.1uF	50V	C514	1-130-495-00	MYLAR 0.1uF 5%	50V
C353	1-162-290-31	CERAMIC 470PF 10%	50V	C515	1-124-910-11	ELECT 47uF 20%	50V (AEP, G, E)
C355	1-161-494-00	CERAMIC 0.022uF	25V	C515	1-124-918-11	ELECT 47uF 20%	63V (UK)
C356	1-164-159-11	CERAMIC 0.1uF	50V	C910	1-107-169-00	MICA 100PF 5%	500V
C357	1-162-208-31	CERAMIC 24PF 5%	50V	C911	1-124-572-11	ELECT 100uF 20%	63V
C358	1-102-947-00	CERAMIC 10PF 5%	50V	C915	1-124-907-11	ELECT 10uF 20%	50V
C359	1-102-947-00	CERAMIC 10PF 5%	50V	C920	1-162-294-31	CERAMIC 0.001uF 10%	50V
C360	1-130-495-00	MYLAR 0.1uF 5%	50V	C921	1-126-962-11	ELECT 3.3uF 20%	50V
C361	1-124-122-11	ELECT 100uF 20%	50V (Made in JAPAN) (AEP, E)	C922	1-164-159-11	CERAMIC 0.1uF	50V
C361	1-124-572-11	ELECT 100uF 20%	63V (Made in FRANCE) (AEP, G, UK)	C923	1-161-494-00	CERAMIC 0.022uF	25V
C401	1-126-101-11	ELECT 100uF 20%	16V	C930	1-126-013-11	ELECT 1000uF 20%	16V
C402	1-164-159-11	CERAMIC 0.1uF	50V	C931	1-126-016-11	ELECT 4700uF 20%	16V (Made in JAPAN) (AEP, E)
C403	1-124-122-11	ELECT 100uF 20%	50V	C932	1-124-120-11	ELECT 220uF 20%	25V (Made in FRANCE) (AEP, G, UK)
C404	1-130-495-00	MYLAR 0.1uF 5%	50V	C932	1-126-101-11	ELECT 100uF 20%	16V (Made in FRANCE) (AEP, G, UK)
C405	1-110-245-11	MYLAR 0.1uF 5%	50V (UK)	C935	1-124-910-11	ELECT 47uF 20%	50V (Made in FRANCE) (AEP, G)
C405	1-161-494-00	CERAMIC 0.022uF	25V (AEP, G, E)	C935	1-124-916-11	ELECT 22uF 20%	63V (Made in JAPAN) (AEP, E)
C406	1-130-495-00	MYLAR 0.1uF 5%	50V	C935	1-124-918-11	ELECT 47uF 20%	63V (UK)
C407	1-110-245-11	MYLAR 0.1uF 5%	50V (UK)	C937	1-130-495-00	MYLAR 0.1uF 5%	50V
C407	1-161-494-00	CERAMIC 0.022uF	25V (AEP, G, E)	C939	1-124-916-11	ELECT 22uF 20%	63V (AEP, G, E)
C409	1-107-169-00	MICA 100PF 5%	500V	C939	1-124-918-11	ELECT 47uF 20%	63V (UK)
C410	1-101-880-00	CERAMIC 47PF 5%	50V	C941	1-124-120-11	ELECT 220uF 20%	25V (Made in JAPAN) (AEP, E)
C411	1-101-880-00	CERAMIC 47PF 5%	50V	C941	1-126-052-11	ELECT 100uF 20%	50V (Made in FRANCE) (AEP, G, UK)



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C942	1-124-120-11	ELECT	220uF 20% 25V			< JACK >	
C943	1-162-294-31	CERAMIC	0.001uF 10% 50V				
C944	1-107-202-00	MICA	10PF 5% 500V (UK)	* J301	1-569-443-11	JACK, PIN 4P (LINE OUT)	
C944	1-130-495-00	MYLAR	0.1uF 5% 50V (AEP, G, UK)			< COIL >	
		< CONNECTOR >		L301	1-410-322-11	INDUCTOR 3.3uH	
CN301	1-750-428-11	CONNECTOR, FFC/FPC 23P		L302	1-410-322-11	INDUCTOR 3.3uH	
CN302	1-750-999-11	CONNECTOR, FFC/FPC 21P		L303	1-410-322-11	INDUCTOR 3.3uH	
* CN304	1-750-416-11	CONNECTOR, FFC/FPC 11P				< TRANSISTOR >	
CN951	1-564-510-11	PLUG, CONNECTOR 7P		Q301	8-729-900-65	TRANSISTOR DTA144ES	
		< DIODE >		Q401	8-729-231-55	TRANSISTOR 2SC2878-AB	
D301	8-719-109-82	DIODE RD4.7ES-B3 (Made in JAPAN) (AEP, E)		Q403	8-729-231-55	TRANSISTOR 2SC2878-AB	
D301	8-719-921-40	DIODE HTZJ-4.7C (Made in FRANCE) (AEP, G, UK)		Q404	8-729-900-65	TRANSISTOR DTA144ES	
D302	8-719-911-19	DIODE 1SS119 (Made in FRANCE) (AEP, G, UK)		Q501	8-729-231-55	TRANSISTOR 2SC2878-AB	
D302	8-719-987-63	DIODE 1N4148M (Made in JAPAN) (AEP, E)		Q503	8-729-231-55	TRANSISTOR 2SC2878-AB	
D303	8-719-911-19	DIODE 1SS119 (Made in FRANCE) (AEP, G, UK)		Q504	8-729-900-65	TRANSISTOR DTA144ES	
D303	8-719-987-63	DIODE 1N4148M (Made in JAPAN) (AEP, E)		Q910	8-729-019-64	TRANSISTOR 2SB104I	
D910	8-719-200-82	DIODE 11ES2		Q911	8-729-119-76	TRANSISTOR 2SA1175-HFE	
D911	8-719-911-19	DIODE 1SS119 (Made in FRANCE) (AEP, G, UK)		Q920	8-729-900-89	TRANSISTOR DTC144ES	
D911	8-719-987-63	DIODE 1N4148M (Made in JAPAN) (AEP, E)		Q930	8-729-104-18	TRANSISTOR 2SC3514	
D912	8-719-110-67	DIODE RD27ES-B2 (Made in JAPAN) (AEP, E)		Q931	8-729-900-89	TRANSISTOR DTC144ES	
D912	8-719-982-15	DIODE MTZJ-27B (Made in FRANCE) (AEP, G, UK)		Q932	8-729-900-65	TRANSISTOR DTA144ES	
D930	8-719-210-21	DIODE 11EQS04		Q933	8-729-905-67	TRANSISTOR 2SD1944-K	
D931	8-719-210-21	DIODE 11EQS04		Q934	8-729-905-67	TRANSISTOR 2SD1944-K	
D932	8-719-210-21	DIODE 11EQS04				< RESISTOR >	
D933	8-719-210-21	DIODE 11EQS04		R300	1-249-418-11	CARBON 1.2K 5% 1/4W F	
D934	8-719-911-19	DIODE 1SS119 (Made in FRANCE) (AEP, G, UK)		R301	1-249-417-11	CARBON 1K 5% 1/4W F	
D934	8-719-987-63	DIODE 1N4148M (Made in JAPAN) (AEP, E)		R302	1-249-417-11	CARBON 1K 5% 1/4W F	
D935	8-719-109-82	DIODE RD4.7ES-B3 (Made in JAPAN) (AEP, E)		R303	1-249-417-11	CARBON 1K 5% 1/4W F	
D935	8-719-921-40	DIODE HTZJ-4.7C (Made in FRANCE) (AEP, G, UK)		R304	1-249-417-11	CARBON 1K 5% 1/4W F	
D936	8-719-911-19	DIODE 1SS119 (Made in FRANCE) (AEP, G, UK)		R305	1-249-418-11	CARBON 1.2K 5% 1/4W F	
D936	8-719-987-63	DIODE 1N4148M (Made in JAPAN) (AEP, E)		R306	1-247-895-00	CARBON 470K 5% 1/4W	
D937	8-719-114-30	DIODE RD5.1JS-B2		R307	1-249-417-11	CARBON 1K 5% 1/4W F	
		< IC >		R308	1-249-417-11	CARBON 1K 5% 1/4W F	
IC301	8-759-822-09	IC LB1641		R309	1-249-417-11	CARBON 1K 5% 1/4W F	
IC302	8-752-356-03	IC CXD2567M		R310	1-249-417-11	CARBON 1K 5% 1/4W F	
IC303	8-759-044-10	IC CXD2562Q		R311	1-249-415-11	CARBON 680 5% 1/4W F	
IC304	8-759-710-59	IC NJM4580D-D		R312	1-249-417-11	CARBON 1K 5% 1/4W F	
IC305	8-749-921-12	IC GP1F32T (DIGITAL OUT OPTICAL)		R313	1-249-409-11	CARBON 220 5% 1/4W F	
IC401	8-759-900-72	IC NE5532P		R314	1-249-429-11	CARBON 10K 5% 1/4W	
IC501	8-759-900-72	IC NE5532P		R317	1-249-441-11	CARBON 100K 5% 1/4W	
IC920	8-759-636-16	IC M51957AL		R401	1-249-436-11	CARBON 39K 5% 1/4W	
IC930	8-759-710-59	IC NJM4580D-D		R402	1-249-436-11	CARBON 39K 5% 1/4W	
IC931	8-759-710-59	IC NJM4580D-D		R403	1-249-436-11	CARBON 39K 5% 1/4W	
				R404	1-249-436-11	CARBON 39K 5% 1/4W	
				R405	1-249-431-11	CARBON 15K 5% 1/4W	
				R406	1-249-431-11	CARBON 15K 5% 1/4W	
				R407	1-247-870-11	CARBON 43K 5% 1/4W	
				R408	1-247-870-11	CARBON 43K 5% 1/4W	

**MAIN**   **TRANS**   **VR**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R409	1-247-834-11	CARBON	1.3K 5% 1/4W	R931	1-249-421-11	CARBON	2.2K 5% 1/4W F
R410	1-247-834-11	CARBON	1.3K 5% 1/4W	R932	1-249-436-11	CARBON	39K 5% 1/4W
R411	1-247-891-00	CARBON	330K 5% 1/4W	R933	1-247-807-31	CARBON	100 5% 1/4W
R412	1-249-409-11	CARBON	220 5% 1/4W F	R934	1-249-421-11	CARBON	2.2K 5% 1/4W F
R413	1-249-409-11	CARBON	220 5% 1/4W F	R935	1-249-421-11	CARBON	2.2K 5% 1/4W F
R414	1-249-393-11	CARBON	10 5% 1/4W F	R937	1-249-417-11	CARBON	1K 5% 1/4W F
R415	1-249-409-11	CARBON	220 5% 1/4W F	R938	1-247-807-31	CARBON	100 5% 1/4W
R416	1-249-409-11	CARBON	220 5% 1/4W F	R939	1-249-425-11	CARBON	4.7K 5% 1/4W F
R417	1-249-425-11	CARBON	4.7K 5% 1/4W F	R940	1-249-423-11	CARBON	3.3K 5% 1/4W F
R418	1-249-441-11	CARBON	100K 5% 1/4W	R941	1-249-428-11	CARBON	8.2K 5% 1/4W F
R419	1-249-425-11	CARBON	4.7K 5% 1/4W F	R942	1-249-425-11	CARBON	4.7K 5% 1/4W F
R451	1-249-435-11	CARBON	33K 5% 1/4W	R943	1-249-425-11	CARBON	4.7K 5% 1/4W F
R452	1-249-435-11	CARBON	33K 5% 1/4W			< VIBRATOR >	
R453	1-249-429-11	CARBON	10K 5% 1/4W	X301	1-579-161-11	VIBRATOR, CRYSTAL (45MHz)	
R454	1-249-435-11	CARBON	33K 5% 1/4W			*****	
R455	1-249-402-11	CARBON	56 5% 1/4W F	*	1-649-961-11	TRANS BOARD	
R501	1-249-436-11	CARBON	39K 5% 1/4W			*****	
R502	1-249-436-11	CARBON	39K 5% 1/4W			< CAPACITOR >	
R503	1-249-436-11	CARBON	39K 5% 1/4W	C901	1-164-159-11	CERAMIC	0.1uF 50V
R504	1-249-436-11	CARBON	39K 5% 1/4W			< CONNECTOR >	
R505	1-249-431-11	CARBON	15K 5% 1/4W	* CN901	1-580-230-11	PIN, CONNECTOR (PC BOARD)	3P
R506	1-249-431-11	CARBON	15K 5% 1/4W			< SWITCH >	
R507	1-247-870-11	CARBON	43K 5% 1/4W	△S901	1-571-722-11	SWITCH (VOLTAGE SELECTOR) (E)	
R508	1-247-870-11	CARBON	43K 5% 1/4W			< TRANS >	
R509	1-247-834-11	CARBON	1.3K 5% 1/4W	△T901	1-423-518-11	TRANSFORMER, POWER (E)	
R510	1-247-834-11	CARBON	1.3K 5% 1/4W	△T901	1-449-922-11	TRANSFORMER, POWER (Made in JAPAN) (AEP)	
R511	1-247-891-00	CARBON	330K 5% 1/4W	△T901	1-449-925-11	TRANSFORMER, POWER (Made in FRANCE)	(AEP, G, UK)
R512	1-249-409-11	CARBON	220 5% 1/4W F			*****	
R513	1-249-409-11	CARBON	220 5% 1/4W F	*	1-649-960-11	VR BOARD	
R514	1-249-393-11	CARBON	10 5% 1/4W F			*****	
R515	1-249-409-11	CARBON	220 5% 1/4W F			< CAPACITOR >	
R516	1-249-409-11	CARBON	220 5% 1/4W F	C701	1-161-494-00	CERAMIC	0.022uF 25V
R517	1-249-425-11	CARBON	4.7K 5% 1/4W F	C702	1-124-443-00	ELECT	100uF 20% 10V
R518	1-249-441-11	CARBON	100K 5% 1/4W			< CONNECTOR >	
R519	1-249-425-11	CARBON	4.7K 5% 1/4W F	* CN701	1-568-943-11	PIN, CONNECTOR	5P
R541	1-249-435-11	CARBON	33K 5% 1/4W	CN703	1-750-452-11	CONNECTOR, FFC/FPC	11P
R542	1-249-435-11	CARBON	33K 5% 1/4W				
R543	1-249-429-11	CARBON	10K 5% 1/4W				
R544	1-249-435-11	CARBON	33K 5% 1/4W				
R545	1-249-402-11	CARBON	56 5% 1/4W F				
R910	1-249-390-11	CARBON	5.6 5% 1/6W F				
R911	1-249-390-11	CARBON	5.6 5% 1/6W F				
R912	1-249-423-11	CARBON	3.3K 5% 1/4W F				
R913	1-249-423-11	CARBON	3.3K 5% 1/4W F				
R915	1-249-429-11	CARBON	10K 5% 1/4W				
R916	1-249-438-11	CARBON	56K 5% 1/4W				
R920	1-249-436-11	CARBON	39K 5% 1/4W				
R921	1-249-431-11	CARBON	15K 5% 1/4W				
R922	1-249-423-11	CARBON	3.3K 5% 1/4W F				
R930	1-249-411-11	CARBON	330 5% 1/4W				

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

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D701	8-719-970-49	DIODE BR4361F	
		< IC >	
IC701	8-759-962-08	IC BA6208	
		< RESISTOR >	
R701	1-249-417-11	CARBON 1K 5% 1/4W F	
R702	1-249-417-11	CARBON 1K 5% 1/4W F	
		< VARIABLE RESISTOR >	
RV701	1-238-974-11	RES, VAR, CARBON 10K/10K (LINE OUT PHONE LEVEL)	
*****			
		MISCELLANEOUS	
		*****	
3	1-696-760-11	WIRE (FLAT TYPE)	
△18	1-696-907-11	CORD, POWER (UK)	
△19	1-575-651-21	CORD, POWER (AEP, G)	
△20	1-696-027-11	CORD, POWER (E)	
△21	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
62	1-751-712-11	WIRE (FLAT TYPE) (11 CORE)	
68	1-751-713-11	WIRE (FLAT TYPE) (21 CORE)	
* 314	1-452-538-11	MAGNET	
△354	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)	
357	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
D701	8-719-970-49	DIODE BR4361F	
FL801	1-519-757-11	INDICATOR TUBE, FLUORESCENT	
J751	1-568-519-41	JACK, LARGE TYPE (PHONES)	
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
Q933	8-729-905-67	TRANSISTOR 2SD1944-K	
RV701	1-238-974-11	RES, VAR, CARBON 10K/10K (LEVEL OUT/PHONE LEVEL)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	
△T901	1-423-518-11	TRANSFORMER, POWER (E)	
△T901	1-449-922-11	TRANSFORMER, POWER (Made in JAPAN) (AEP)	
△T901	1-449-925-11	TRANSFORMER, POWER (Made in FRANCE) (AEP, G, UK)	
*****			

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		*****	
	1-467-315-11	REMOTE COMMANDER (RM-D720)	
	1-558-271-11	CORD, CONNECTION (AUDIO 108cm)	
	3-757-301-41	MANUAL, INSTRUCTION (Made in JAPAN) (AEP) (GERMAN, ITALIAN, DUTCH, PORTUGUESE)	
	3-757-601-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE) (E)	
	3-757-601-51	MANUAL, INSTRUCTION (Made in FRANCE) (ENGLISH, FRENCH, SPANISH, DANISH) (AEP, UK)	
	3-757-601-61	MANUAL, INSTRUCTION (Made in FRANCE) (GERMAN, ITALIAN, DUTCH, PORTUGUESE) (AEP)	
	3-757-601-71	MANUAL, INSTRUCTION (GERMAN) (G)	
	3-757-601-91	MANUAL, INSTRUCTION (FINNISH, SWEDISH) (AEP)	
	4-941-925-01	CUSHION	
	4-955-664-51	INDIVIDUAL CARTON (715E)	
	4-955-664-61	INDIVIDUAL CARTON (Made in FRANCE) (AEP, G)	
	4-956-947-51	INDIVIDUAL CARTON (Made in Japan)	
	4-962-615-01	COVER, BATTERY (For RM-D720)	
*****			
		*****	
		HARDWARE LIST	
		*****	
#1	7-682-548-09	SCREW +BVTT 3X8 (S)	
#2	7-682-547-09	SCREW +BVTT 3X6 (S)	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-621-255-15	SCREW +P 2X3	

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