

CDP-212/312

SERVICE MANUAL

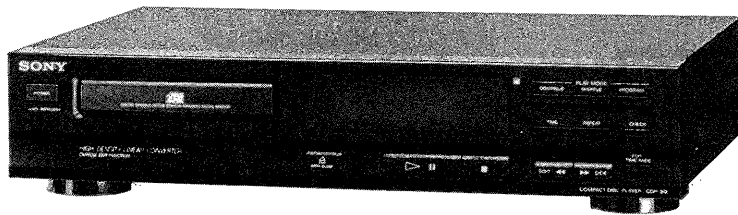


Photo : CDP-312

US Model
CDP-212
Canadian Model
AEP Model
UK Model
E Model
Australian Model
CDP-212/312

Model Name Using Similer Mechanism	CDP-H7900
CD Mechanism Type	CDM14-5BD10 or CDM14C-5BD10
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 ± 0.5 dB
Signal-to-noise ratio	More than 97 dB
Dynamic range	More than 95 dB
Harmonic distortion	Less than 0.0050 %
Channel separation	More than 93 dB

Outputs

LINE OUT (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms
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General

Power requirements	US, Canadian model : 120 V AC, 60 Hz European model : 220 – 230 V AC, 50/60 Hz Australian model : 240 V AC, 60 Hz Models for other countries : 110 – 120/220 – 240 AC, adjustable, 50/60 Hz
Power consumption	10 W
Dimensions (approx., including projections)	430 x 100 x 295 mm (w/h/d) (17 x 4 x 11 $\frac{5}{8}$ inches)
Mass (approx.)	3.0 kg (6 lbs 10 oz)

Remote commander (only for CDP-312)

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

Supplied accessories

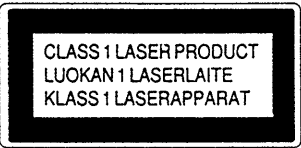
Audio cord	(1) (2 phono plugs – 2 phono plugs)
Remote commander (only for CDP-312)	(1)
Sony SUM-3 (NS) batteries (only for CDP-312)	(2)

Design and specifications are subject to change without notice.



COMPACT DISC PLAYER
SONY®

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.

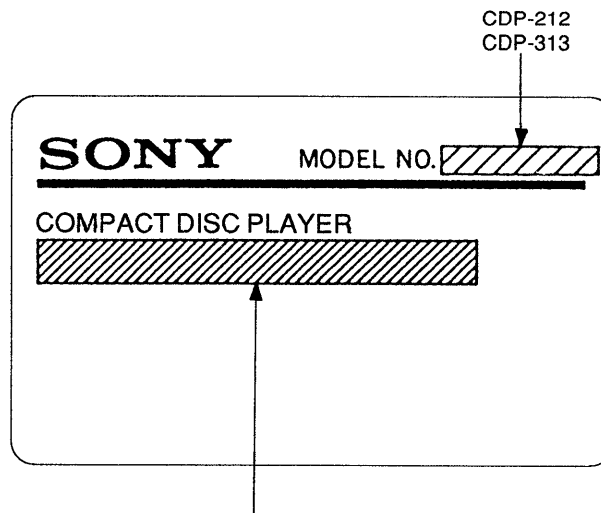
CAUTION	: INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	: USYNLIG LASERSTRALING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGAUDES JÆTTELSE FOR STRÅLING.
VARO!	: AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTIHINA LASERSÄTEILYLLE.
VARNING	: LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URÖPPPLAD.
ADVARSEL	: USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

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MODEL IDENTIFICATION

— Specification Label —



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.

US, Canadian model : 120V AC, 60Hz, 10W

AEP, UK, German model : 220 – 230V AC, 50/60Hz, 10W

Australian model : 240V AC, 50Hz 10W

E, Saudi Arabia model : 110 – 120/220 – 240V AC, 50/60 Hz 10W

SAFETY CHECK-OUT

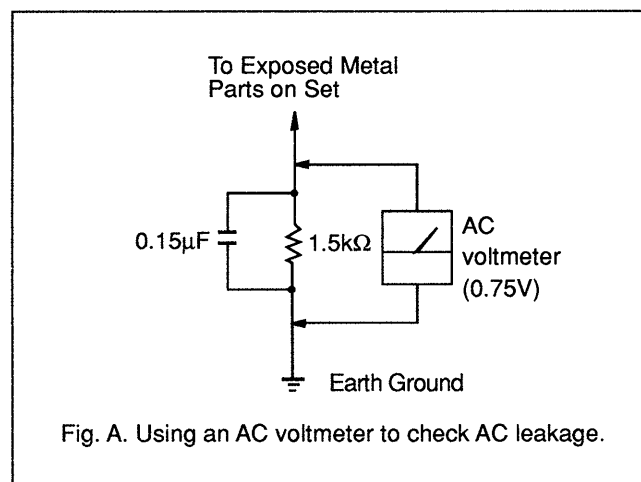
After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)



SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK Δ OR DOTTED LINE WITH MARK Δ 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

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.

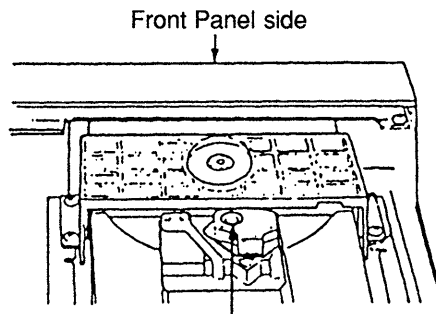
The flexible board is easily damaged and should be handled with care.

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)

How to open the DISC TRAY when POWER SWITCH turns off See page 5 for SECTION 3 DISASSEMBLY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

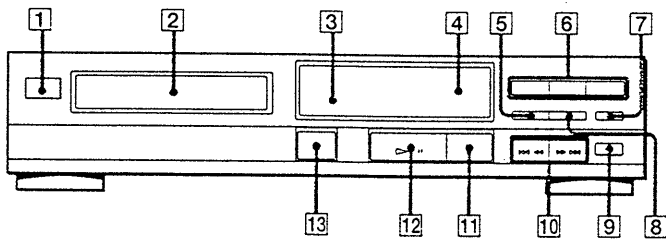
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE Δ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 2 GENERAL

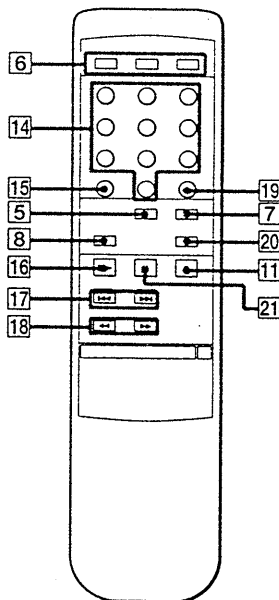
This section is extracted from
instruction manual.

Identifying the Parts

CDP-312/212



RM-D320



(only for CDP-312)

Front Panel / Remote Commander

- 1 POWER switch (7)
- 2 Disc tray (7)
- 3 Display
- 4 Remote sensor
- 5 TIME button (8)
- 6 PLAY MODE buttons
 - CONTINUE button (10, 12, 16)
 - SHUFFLE button (10, 12, 16)
 - PROGRAM button (11)
- 7 CHECK (program check) button (12, 13)
- 8 REPEAT button (14)
- 9 EDIT/TIME FADE button (15, 16, 17)
- 10 <<< <<</>>> >>> (AMS*/manual search) buttons (9, 11, 15, 17)
- 11 ■ (stop) button (7)
- 12 ▷|| (play/pause) button (7)
- 13 ≡ OPEN/CLOSE button (7)
- 14 Numeric buttons** (9, 11, 13, 15, 17)
- 15 >10 (over 10) button** (9)
- 16 ► (play) button** (7)
- 17 <<</>>> (AMS*) buttons** (9, 11)
- 18 <<</>>> (manual search) buttons** (9)
- 19 CLEAR (program clear) button** (13)
- 20 FADER button** (8)
- 21 || (pause) button** (7)

* AMS is the abbreviation of Automatic Music Sensor.

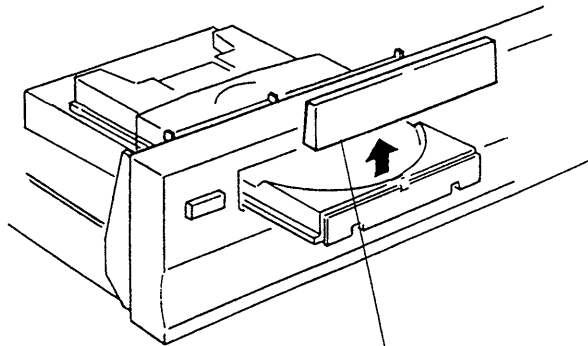
** only on the remote commander

SECTION 3 DISASSEMBLY

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

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.

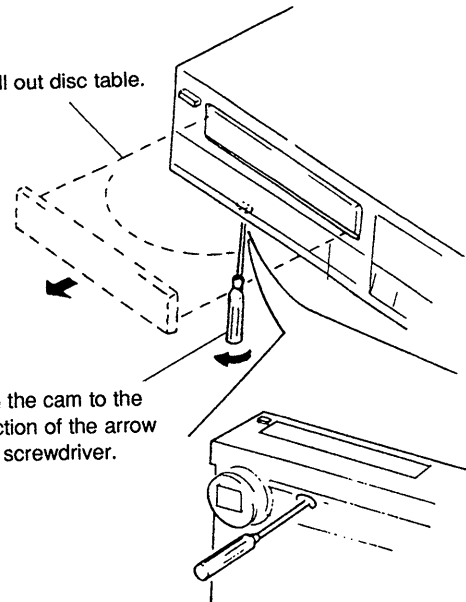


- ③ Remove loading panel to the direction of arrow.

- ② Pull out disc table.

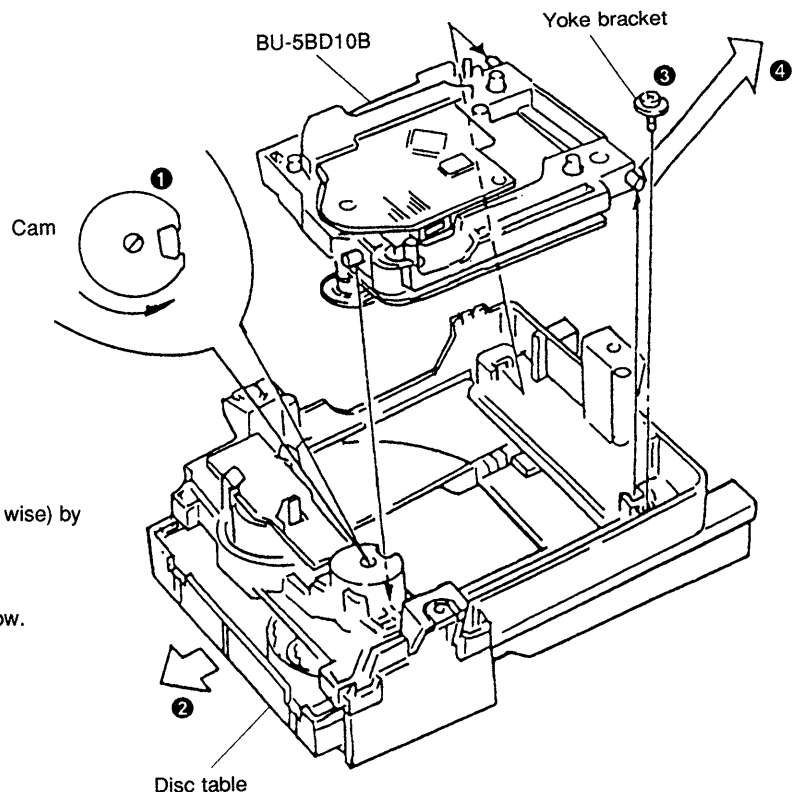
- ① Turn the cam to the direction of the arrow with screwdriver.

Note : Keep the set horizontal



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.



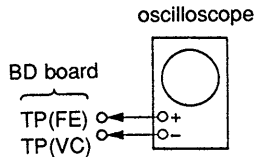
SECTION 4

ELECTRICAL BLOCK CHECKING

Note :

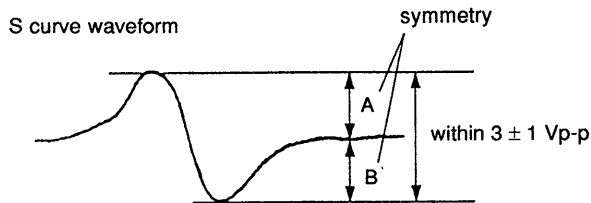
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than $10M\Omega$ impedance.
4. Clean an object lens by an applicator with neutral detergent when 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 ± 1 Vp-p.

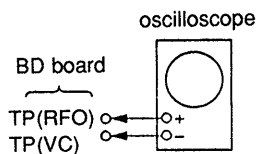


6. After check, remove the lead wire connected in step 2.

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 :

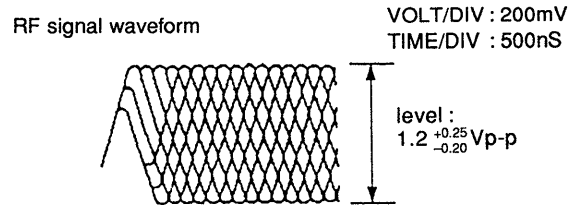
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turned Power switch on.

3. Put disc (YEDS-18) in and playback.

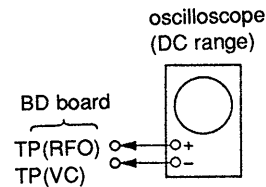
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

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

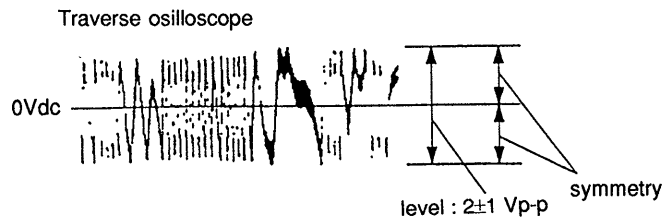


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) 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.

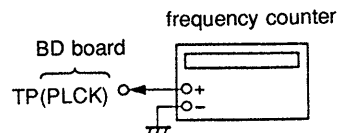


6. Remove the lead wire connected in step 1.

RF Free-run Frequency Check

Procedure :

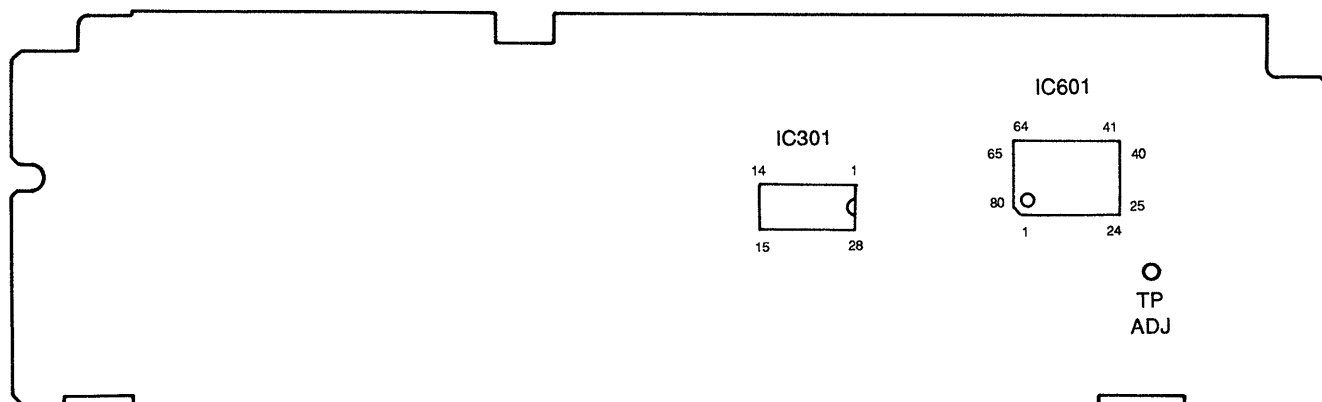
1. Connect frequency counter to test point (PLCK) with lead wire.



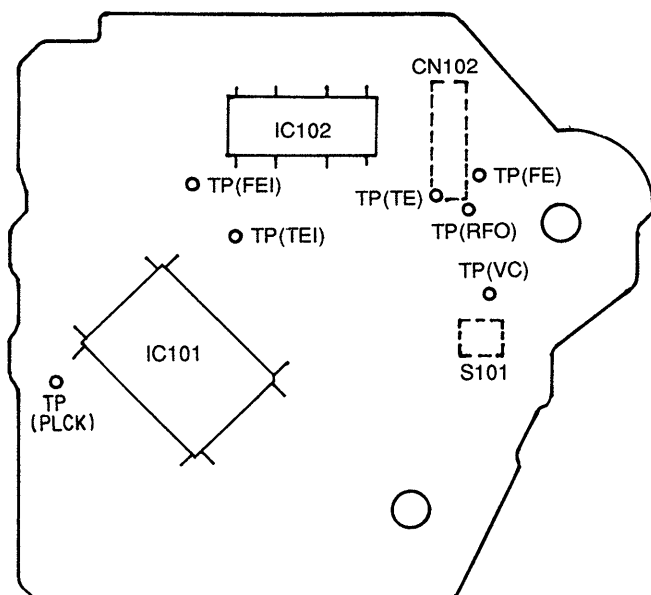
2. Turned Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location :

[MAIN BOARD] — Conductor Side —



[BD BOARD] — Conductor Side —



SECTION 5

DIAGRAMS

5-1. IC PIN FUNCTIONS

• IC101 (CXD2515Q)

Pin No.	Pin Name	I/O	Function
1	SRON	O	Sled drive output
2	SRDR	O	Sled drive output
3	SFON	O	Sled drive output
4	TFDR	O	Tracking drive output
5	TRON	O	Tracking drive output
6	TRDR	O	Tracking drive output
7	TFON	O	Tracking drive output
8	FFDR	O	Focus drive output
9	FRON	O	Focus drive output
10	FRDR	O	Focus drive output
11	FFON	O	Focus drive output
12	VCOO	O	VCO output for analog EFM PLL
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
19	VPCO	O	Charge-pump output for variable pitch PLL
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	ASYI	I	Asymmetry compare voltage input
39	ASYO	O	EFM full swing output
40	AVDI	—	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
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
49	64BCLK	O	DA 13 output when PSSL=1. 64-bit slot data when PSSL=0
50	64LRCK	O	DA 12 output when PSSL=1. 64-bit slot data when PSSL=0
51	GTOP	O	DA 11 output when PSSL=1. GTOPO output when PSSL=0
52	XUGF	O	DA 10 output when PSSL=1. XUGFO output when PSSL=0
53	XPLCK	O	DA 09 output when PSSL=1. XPLCKO output when PSSL=0
54	GFS	O	DA 08 output when PSSL=1. GFSO output when PSSL=0
55	PFCK	O	DA 07 output when PSSL=1. RFCKO output when PSSL=0
56	C2PO	O	DA 06 output when PSSL=1. C2POO output when PSSL=0
57	XRAOF	O	DA 05 output when PSSL=1. XRAOFO output when PSSL=0
58	MNT3	O	DA 04 output when PSSL=1. MNT3O output when PSSL=0
59	MNT2	O	DA 03 output when PSSL=1. MNT2O output when PSSL=0
60	MNT1	O	DA 02 output when PSSL=1. MNT1O output when PSSL=0
61	MNT0	O	DA 01 output when PSSL=1. MNT0O output when PSSL=0
62	XTAI	I	X'tal oscillator circuit input
63	XTAO	O	X'tal oscillator circuit output
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
69	C16M	O	16.9344 MHz output
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
73	WFCK	O	WFCK output
74	SCOR	O	Sub-code sync output
75	SBSO	O	Sub-P through Sub-W serial output
76	EXCK	I	Clock input for SBS0 read-out
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
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 CPU
87	XLAT	I	Latch input, supplied from CPU
88	CLOCK	I	Serial data transfer clock input, supplied from CPU
89	COUT	O	Numbers of track counted signal output
90	DVDD	—	Digital power supply
91	MIRR	O	Mirror signal output
92	DFCT	O	Defect signal output
93	FOK	O	Focus OK output
94	FSW	O	Output to select spindle motor output filter
95	MON	O	Output to control ON/OFF of spindle motor
96	MDP	O	Output to control spindle motor servo
97	MDS	O	Output to control spindle motor servo
98	LOCK	O	GFS is sampled by 460 Hz. H when GFS is H
99	SSTP	I	Input signal to detect disc inner most track
100	SFDR	O	Sled drive output

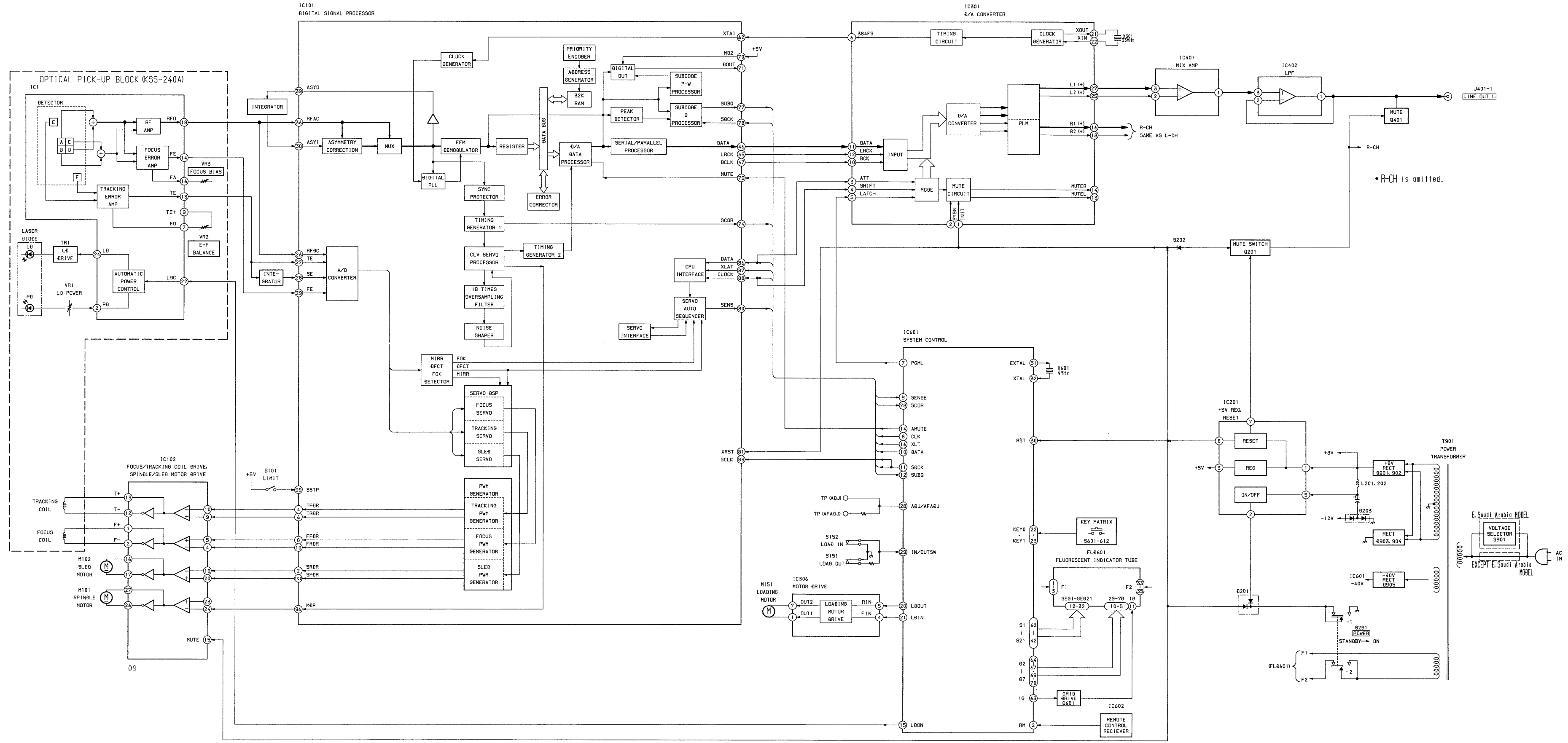
• IC301 (CXD2565AM)

Pin No.	Pin Name	I/O	Function
1	INIT	I	Re-synchronizing at rise-up edge of this signal
2	SYSM	—	Connected to GND
3	ATT	I	Attenuation data input
4	SHIFT	I	Shift clock input
5	LATCH	I	Latch clock input
6	384FS	O	384FS clock output
7	TEST1	—	Connected to GND
8	DVss	—	Digital GND
9	TEST2	—	Connected to GND
10	BCK	I	BCK input
11	DATA	I	Data input
12	LRCK	I	LRCK input
13	MUTEL	O	Not used
14	MUTER	O	Not used
15	DVDD1	—	Digital power supply
16	R1 (+)	O	R-ch PLM output-1 (positive phase)
17	AVDDR	—	L-ch analog power supply
18	R2 (+)	O	R-ch PLM output-2 (positive phase)
19	AVssR	—	L-ch analog GND
20	XVDD	—	Master clock power supply
21	XOUT	O	X'tal oscillator output (33.8 MHz)
22	XIN	I	X'tal oscillator input (33.8 MHz)
23	XVss	—	Master clock GND
24	AVssL	—	L-ch analog GND
25	L2 (+)	O	L-ch PLM output-2 (positive phase)
26	AVDDL	—	L-ch analog power supply
27	L1 (+)	O	L-ch PLM output-1 (positive phase)
28	DVDD2	—	Digital power supply

• IC601 (CXP82316-037Q)

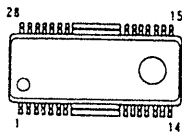
Pin No.	Pin Name	I/O	Function
1	TIMER	—	Connected to +5V.
2	RM	I	Audio bus input.
3	+5V	—	Connected to +5V.
4	OPEN	—	} Not used. (open).
5	OPEN	—	
6	OPEN	—	
7	PGML	O	Latch signal output to digital filter (IC301).
8	CLK	O	Serial clock output.
9	SENSE	I	SENSE signal input.
10	DATA	O	Serial data output.
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	OPEN	—	} Not used. (open).
18	RV+	—	
19	RV-	—	
20	LDOUT	O	} Loading motor control signal output.
21	LDIN	O	
22, 23	KEY0, KEY1	I	Key input. (S601 to S612)
24 to 27	KEY2 to KEY5	—	Connected to +5V.
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	Vss	—	GND
34 to 41	OPEN	—	Not used. (open)
42 to 62	S1 to S21	O	FL segment output.
63 to 70	IG to 7G	O	FL grid output.
71	VFDP (–30V)	—	–30V pin for FL display tube.
72	VDD (+5V)	—	} +5V pin.
73	—	—	
74	SEL1	—	} Connected to GND.
75	OPEN	—	
76	OPEN	—	
77	OPEN	—	
78	SCOR	I	Read out timing signal input for subcode Q data.
79	SEL2	—	Connected to GND.
80	SEL3	—	Connected to +5V.

5-2. BLOCK DIAGRAM

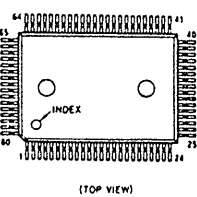


5-3. SEMICONDUCTOR LEAD LAYOUTS

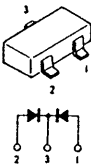
BA6297AFP



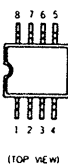
CXP82316-037Q



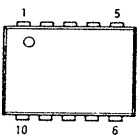
DAN202U



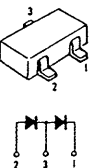
BA6287F



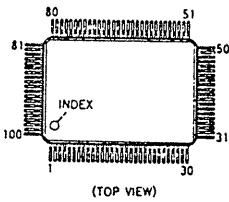
LA5601



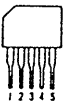
DA204K



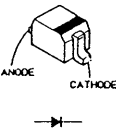
CXD2515Q



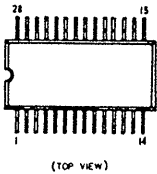
M5293L



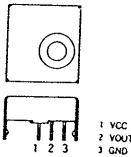
DTZ10B



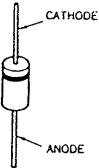
CXD2565AM



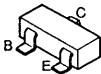
SBX1610-59



11ES2

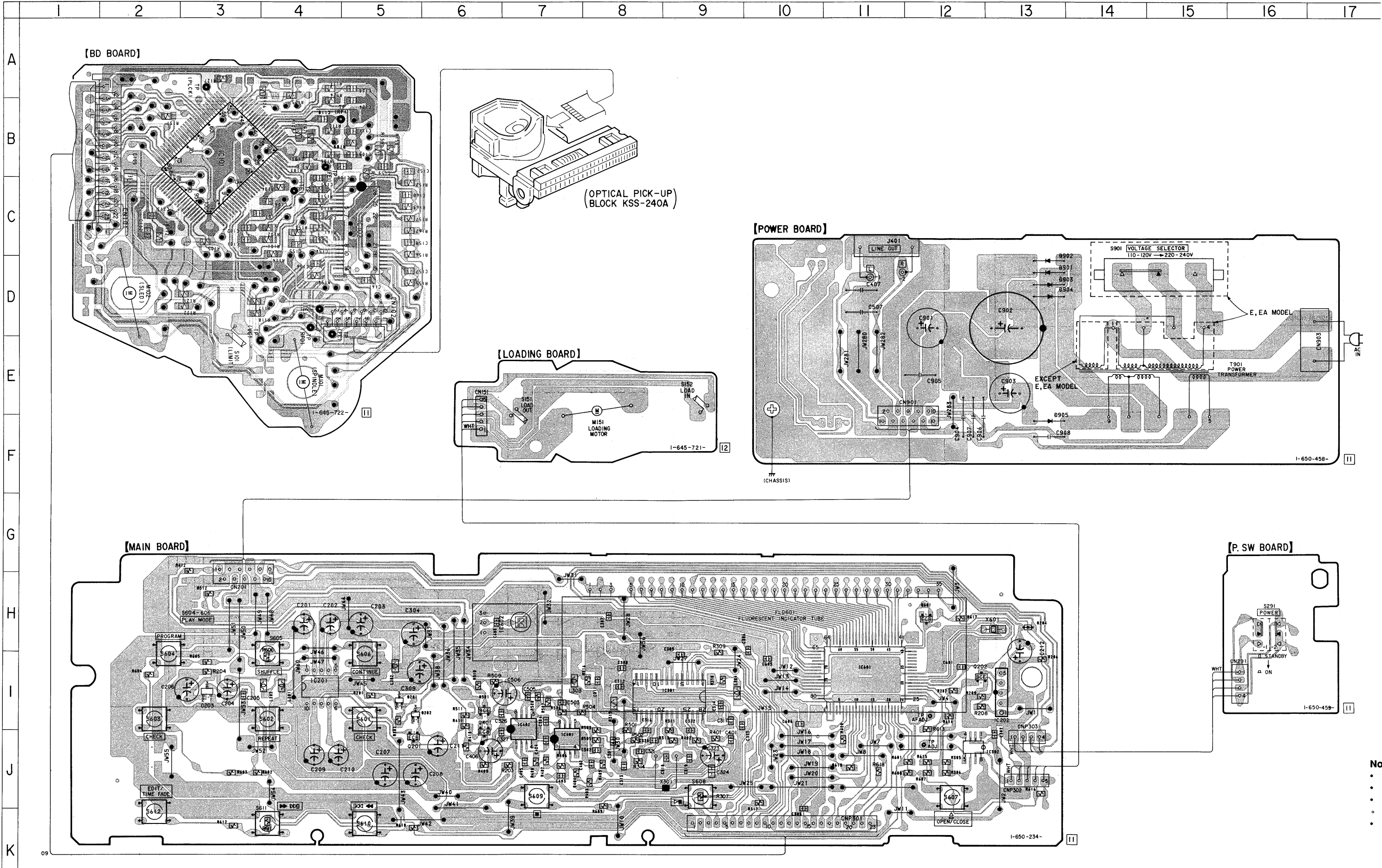


DTA114EK
DTC114EK
2SA1179-M5M6
2SC3398
2SD2114K



• Semiconductor Location

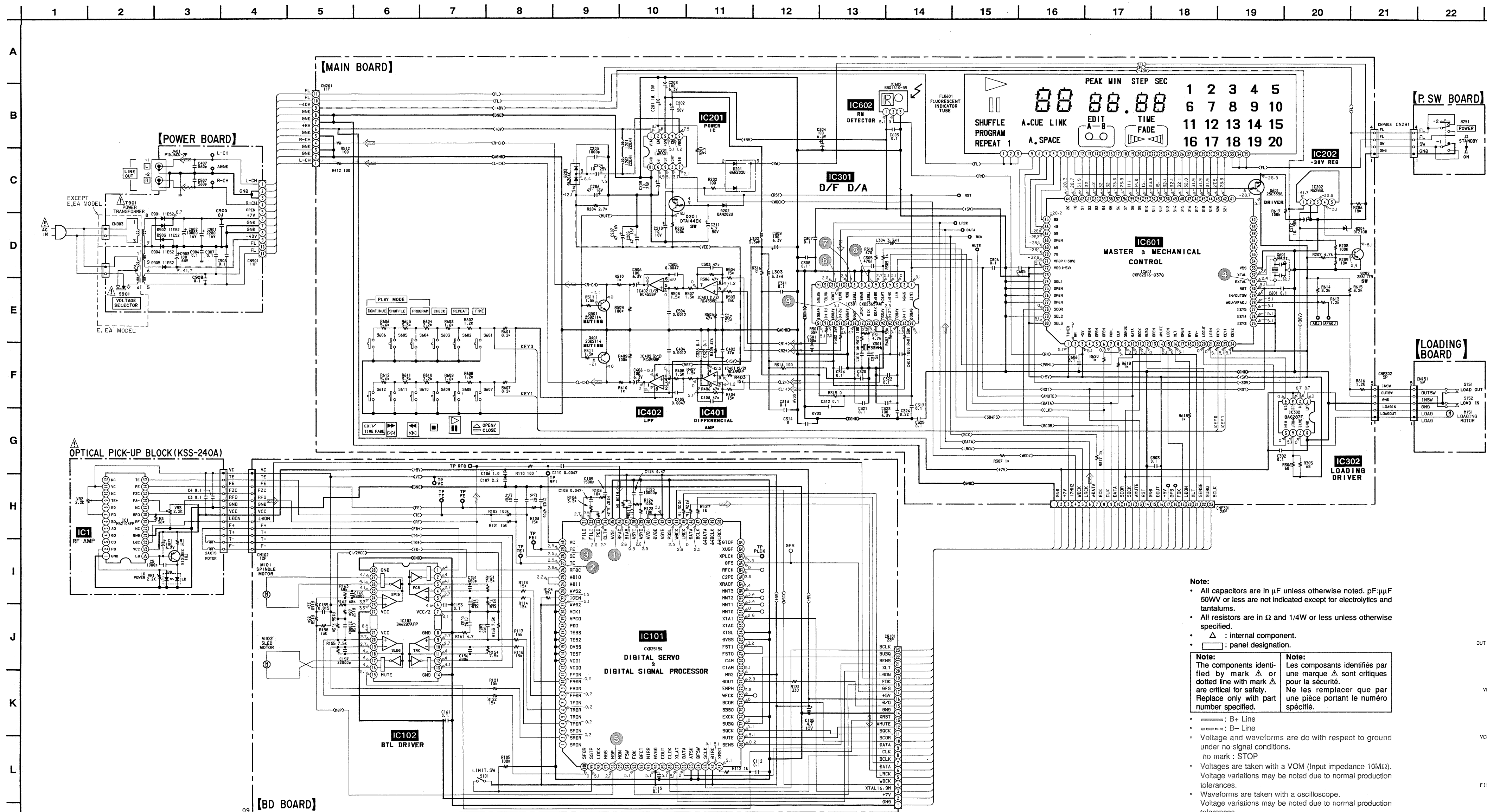
Ref. No.	Location
D201	I-5
D202	I-6
D203	I-3
D204	H-13
D901	D-13
D902	D-13
D903	D-13
D904	D-13
D905	E-13
IC101	B-3
IC102	C-5
IC201	I-4
IC202	I-13
IC301	I-9
IC302	J-13
IC401	J-7
IC402	I-7
IC601	I-11
IC602	H-6
Q201	J-5
Q202	I-12
Q401	I-6
Q501	I-6
Q601	H-12



Note:

- — : parts extracted from the component side.
- ● : Through hole.
- — : Pattern from the side which enable seeing.
- — : Pattern of the rear side.
- EA : Saudi Arabia model.

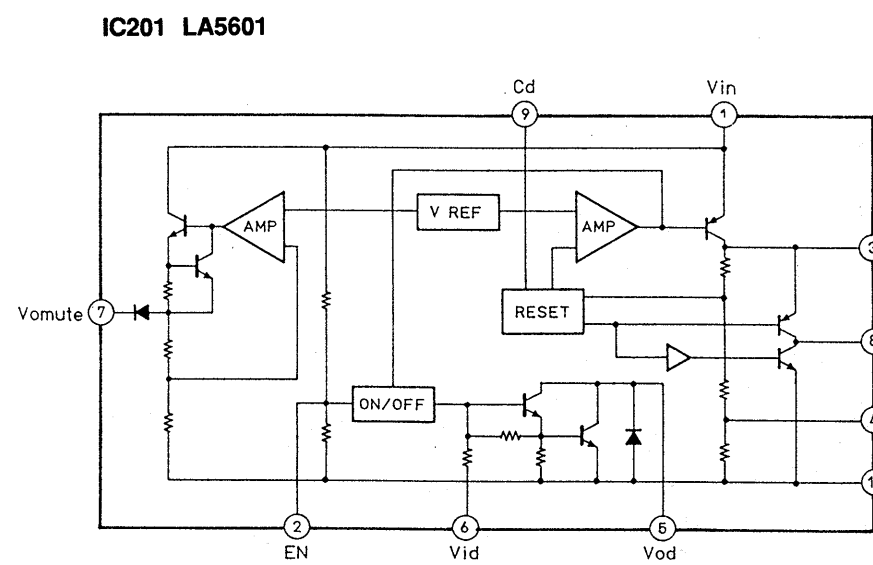
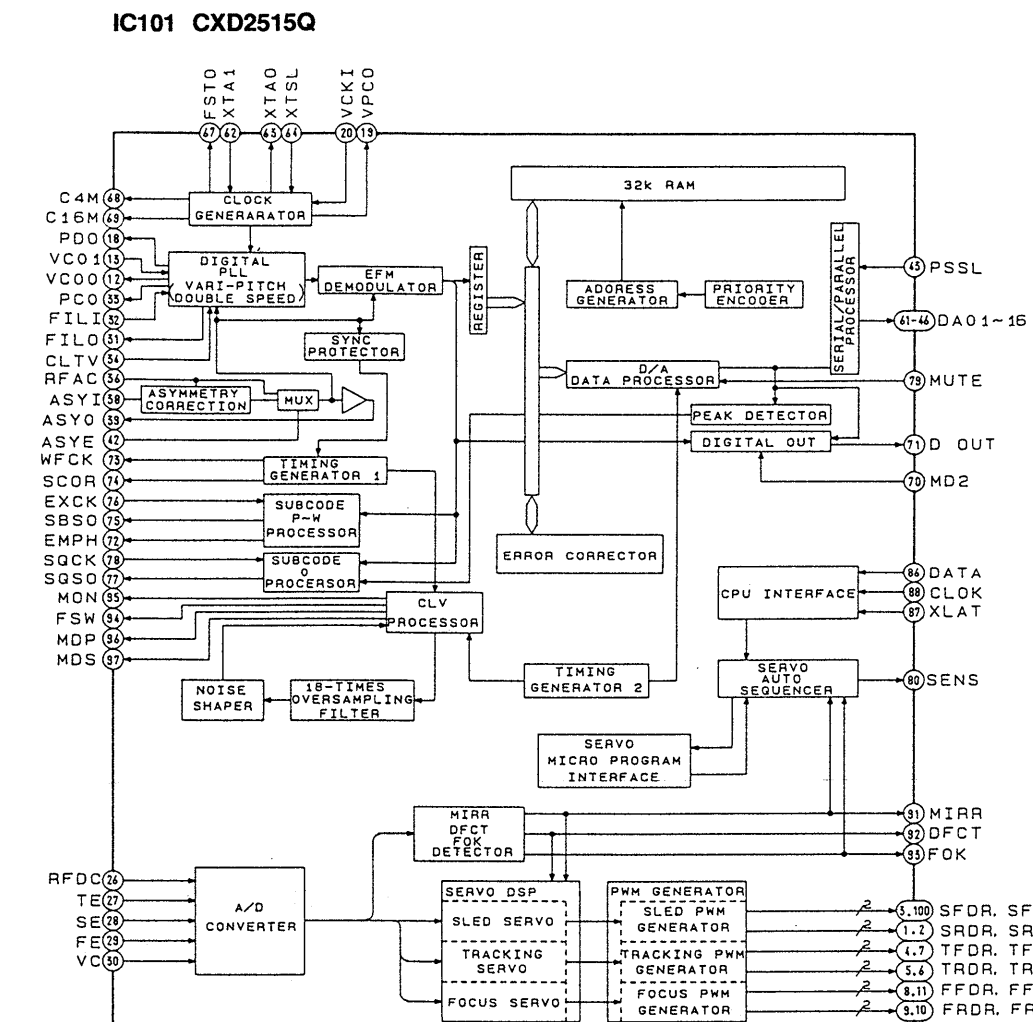
5-5. SCHEMATIC DIAGRAM
• See page 8 to 11 for IC Pin Functions. (IC101, IC301, IC601)



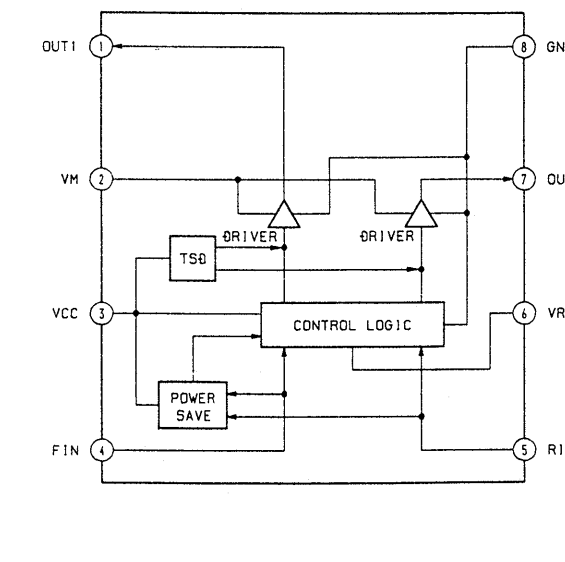
- Note:**
- All capacitors are in μF unless otherwise noted. μpF , μM , μF 50WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and 1/4W or less unless otherwise specified.
 - Δ : internal component.
 - $\square$: panel designation.
- Note:**
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.
- Note:**
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- --- : B+ Line
- --- : B- Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark : STOP
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- $\Rightarrow$: CD
- EA : Saudi Arabia model.

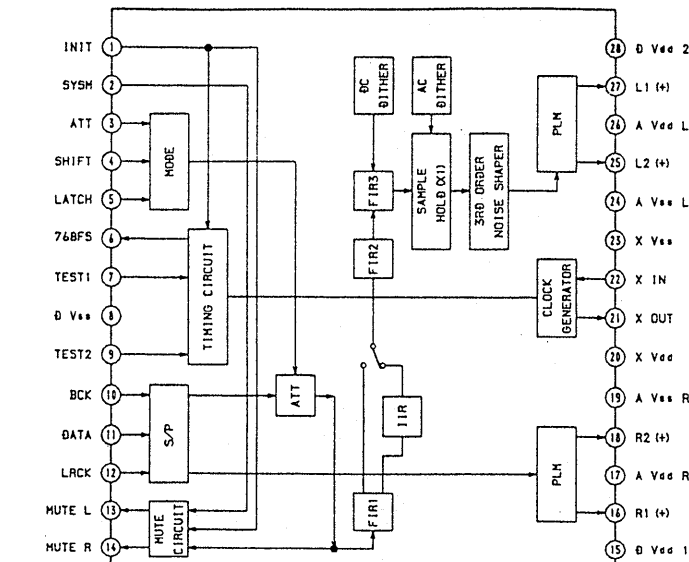
• IC Block Diagrams



IC302 BA6287F



IC301 CXD2565AM



EXPLODED VIEWS

NOTE:

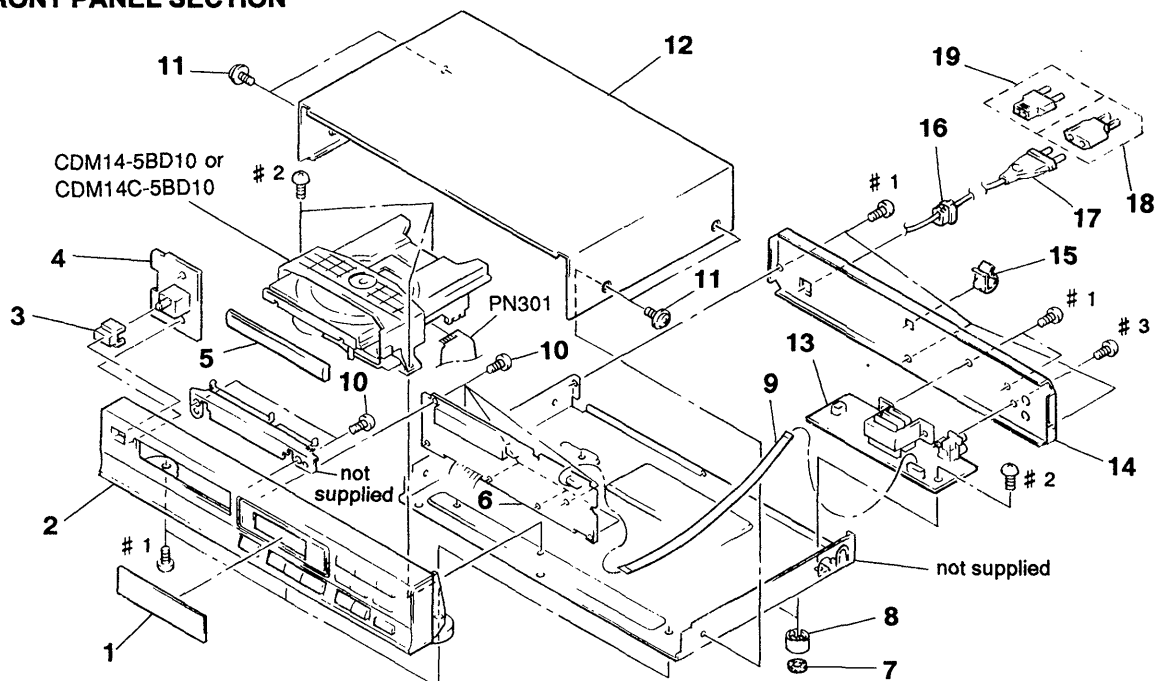
- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
 KNOB, BALANCE (WHITE) . . . (RED)
 ↑ ↑
 Parts color Cabinet's color
- -XX, -X mean standardized parts, 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.
- CND : Canadian model
- G : German model
- EA : Saudi Arabia model
- AUS : Australian model

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

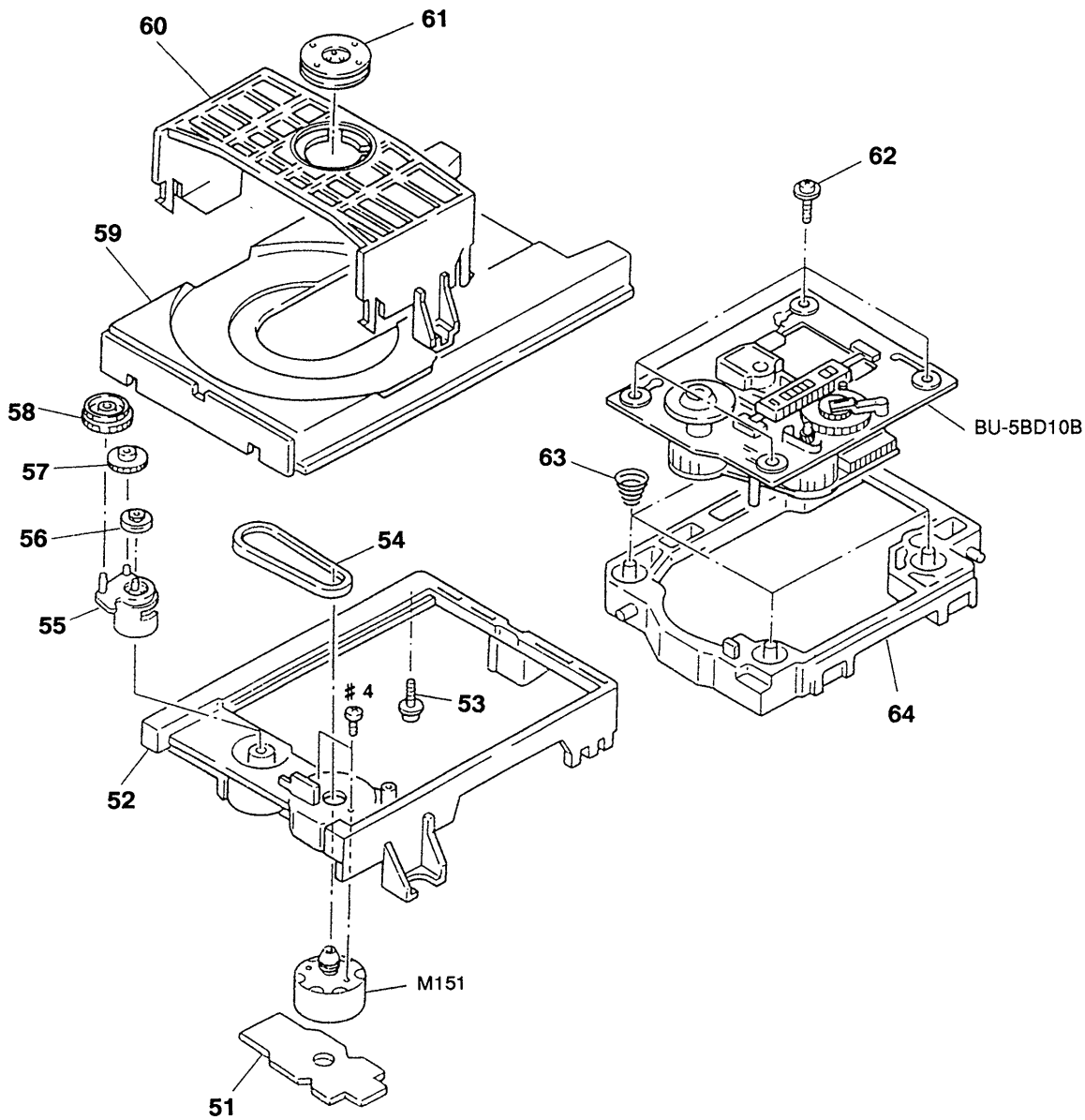
Les composants identifiés par une marque  sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. FRONT PANEL SECTION



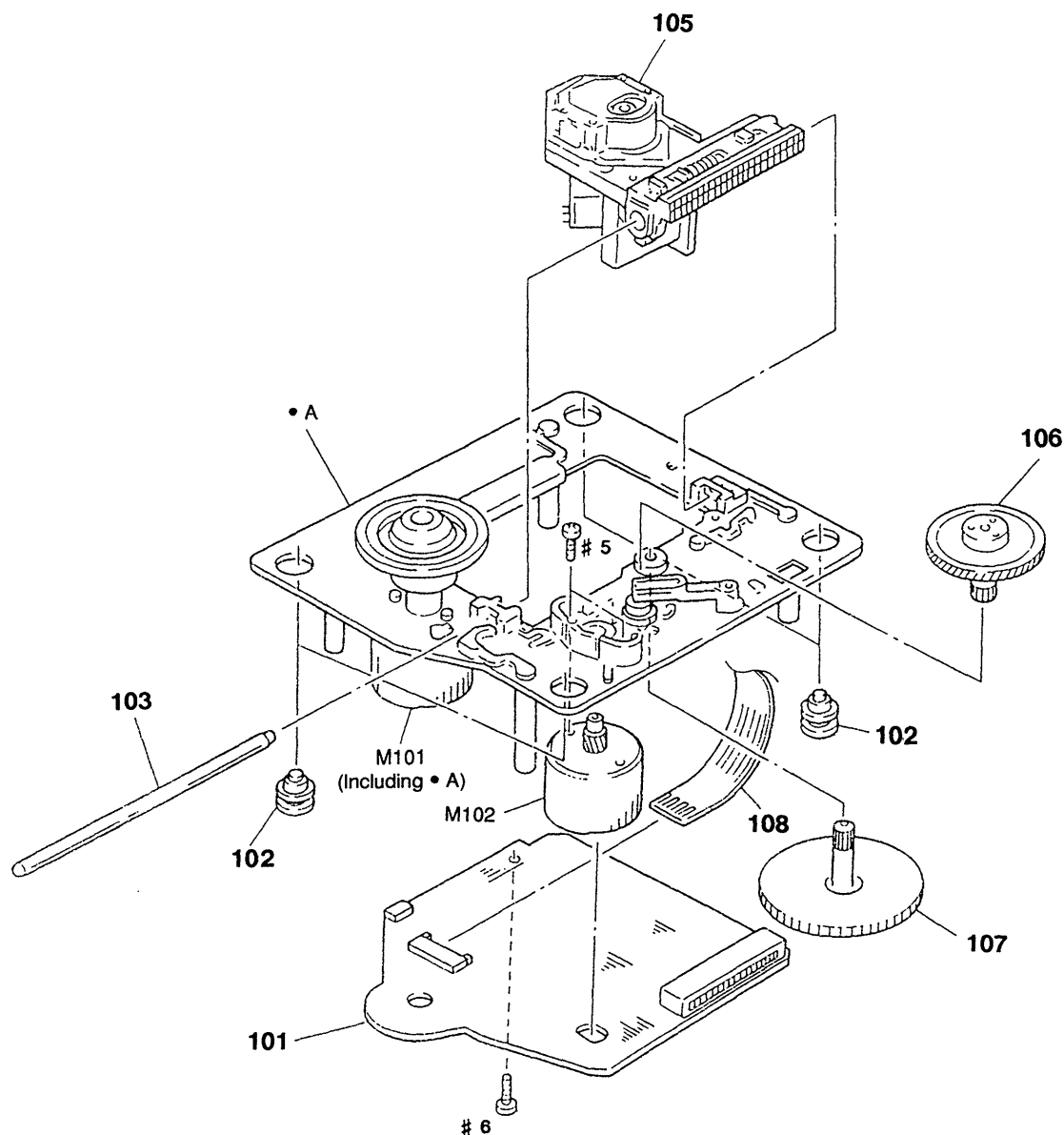
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-962-270-01	PLATE, INDICATION		14	4-962-093-42	PANEL, BACK (312:G)	
2	X-4944-472-1	PANEL ASSY, FRONT (312:CND, UK, G)		14	4-962-093-52	PANEL, BACK (312:UK)	
2	X-4944-473-1	PANEL ASSY, FRONT (312:AEP, E, AUS, EA)		14	4-962-093-61	PANEL, BACK (212:G)	
2	X-4944-474-1	PANEL ASSY, FRONT (212:US, CND, UK, G)					
2	X-4944-475-1	PANEL ASSY, FRONT (212:AEP, E, AUS, EA)		14	4-962-093-72	PANEL, BACK (212:UK)	
3	4-947-034-01	BUTTON (POWER)		14	4-964-718-12	PANEL, BACK (312:CND)	
* 4	1-650-459-11	P. SW BOARD		14	4-964-718-22	PANEL, BACK (312:AEP)	
5	4-962-897-21	PANEL, LOADING (312:UK, G)		14	4-964-718-32	PANEL, BACK (312:E, EA)	
5	4-962-897-31	PANEL, LOADING (212:UK, G)		14	4-964-718-41	PANEL, BACK (312:AUS)	
5	4-962-897-81	PANEL, LOADING (312:CND, AEP, E, AUS, EA)		14	4-964-718-51	PANEL, BACK (212:US)	
5	4-962-897-91	PANEL, LOADING (212:US, CND, AEP, E, AUS, EA)		14	4-964-718-62	PANEL, BACK (212:CND)	
* 6	A-4673-036-A	MAIN BOARD, COMPLETE		14	4-964-718-72	PANEL, BACK (212:AEP)	
7	4-964-668-01	CUSHION (DIA. 16) (212:US, CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)		14	4-964-718-82	PANEL, BACK (212:E, EA)	
8	4-930-848-01	FOOT (212:UK, G/312:UK, G)		14	4-964-718-91	PANEL, BACK (212:AUS)	
8	4-964-090-01	FOOT (F22175H-M) (212:US, CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)		* 15	4-949-235-01	HOOK	
9	1-765-065-11	WIRE (FLAT TYPE) (11 CORE) (212:UK, G/312:UK, G)		* 16	3-703-244-00	BUSHING (2104), CORD (212:US, CND, AEP, AUS, EA, UK, G/312:CND, AEP, AUS, EA, E)	
9	1-765-169-11	WIRE (FLAT TYPE) (11 CORE) (212:US, CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)		* 16	3-703-571-11	BUSHING (S) (4516), CORD (212:E/312:E)	
10	4-951-620-01	SCREW (2. 6X8), +BVTP		△17	1-558-943-61	CORD, POWER (212:E/312:E)	
11	3-363-099-01	SCREW (CASE 3 TP2) (212:UK, G/312:UK, G)		△17	1-575-651-21	CORD, POWER (212:AEP, EA, G/312:AEP, EA, G)	
11	3-704-366-31	SCREW (CASE) (M3X6) (212:US, CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)		△17	1-590-926-11	CORD, POWER (212:US, CND/312:CND)	
12	4-929-035-31	CASE (AFTER BAP)		△17	1-696-845-11	CORD, POWER (212:AUS/312:AUS)	
* 13	1-650-458-11	POWER BOARD		△17	1-696-907-11	CORD, POWER (212:UK/312:UK)	
				△18	1-569-008-11	ADAPTER, CONVERSION 2P (212:EA/312:EA)	
				△19	1-569-007-11	ADAPTER, CONVERSION 2P (212:E/312:E)	
				CNP301	1-537-472-11	JUMPER, FILM (WITH TERMINAL)	

6-2. CD MECHANISM SECTION
(CDM14-5BD10 or CDM14C-5BD10)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 51	1-645-721-11	LOADING BOARD		59	4-933-112-11	TABLE, DISK (212:UK, G/312:UK, G)	
52	4-933-111-01	CHASSIS (MD)		60	4-933-110-01	HOLDER (MG)	
		(212:US, CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)				(212:US, CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)	
52	4-933-111-11	CHASSIS (MD) (212:UK, G/312:UK, G)		60	4-933-110-11	HOLDER (MG) (212:UK, G/312:UK, G)	
* 53	4-917-583-21	BRACKET, YOKE		* 61	1-452-538-11	MAGNET	
54	4-927-649-01	BELT		62	4-933-134-01	SCREW (+PTPWH M2, 6X6)	
55	4-933-109-01	CAM		63	4-959-996-01	SPRING (932), COMPRESSION	
56	4-927-651-01	PULLEY (S)		64	4-933-129-01	HOLDER (BU)	
57	4-927-628-01	GEAR (C)		M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
58	4-933-107-01	GEAR (PL)		*	4-604-764-01	PACK, SEAL (CDM TRANSPORT ONLY)	
59	4-933-112-01	TABLE, DISK				(212:US, CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)	
		(212:US, CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)					

6-3. OPTICAL PICK-UP SECTION (BU-5BD10B)



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

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

Ref.No.	Part No.	Description
* 101	A-4649-432-A	BD BOARD, COMPLETE
102	4-951-940-01	INSULATOR (BU)
103	4-917-565-01	SHAFT, SLED
▲105	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)
106	4-917-567-01	GEAR (M)

Ref.No.	Part No.	Description
107	4-917-564-01	GEAR (P), FLATNESS
108	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 7

ELECTRICAL PARTS LIST

BD

NOTE:

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

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

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: μ , for example:
uA...: μ A..., uPA...: μ PA..., uPB...: μ PB...,
uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H
- CND : Canadian model
- G : German model
- EA : Saudi Arabia model
- AUS : Australian model

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*	A-4649-432-A	BD BOARD, COMPLETE *****				< RESISTOR >	
		< CAPACITOR >		R101	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C101	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R102	1-216-097-00	METAL CHIP 100K 5% 1/10W	
C102	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R103	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C103	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R104	1-216-085-00	METAL CHIP 33K 5% 1/10W	
C105	1-135-155-21	TANTALUM CHIP 4.7uF 10% 16V		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	
		< CONNECTOR >		R154	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
* CN101	1-568-865-11	SOCKET, CONNECTOR 23P		R155	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
CN102	1-568-795-11	SOCKET, CONNECTOR 12P		R156	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
		< IC >		R157	1-216-093-00	METAL CHIP 68K 5% 1/10W	
IC101	8-752-361-90	IC CXD2515Q		R158	1-216-076-00	METAL CHIP 13K 5% 1/10W	
IC102	8-759-071-79	IC BA6297AFP		R159	1-216-085-00	METAL CHIP 33K 5% 1/10W	
		< MOTOR >		R160	1-216-081-00	METAL CHIP 22K 5% 1/10W	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)		R161	1-216-308-00	METAL CHIP 4.7 5% 1/10W	
M102	X-4917-504-1	MOTOR ASSY (SLED)		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 (LIMIT)	

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*****				C322	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
*	1-645-721-11	LOADING BOARD		C323	1-124-584-00	ELECT	100uF 20% 10V
		*****		C324	1-163-081-00	CERAMIC CHIP	0. 22uF 25V
		< CONNECTOR >		C325	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
* CN151	1-568-943-11	PIN, CONNECTOR 5P		C326	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
		< MOTOR >		C327	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)		C401	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
		< SWITCH >		C402	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)		C403	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)		C404	1-163-143-00	CERAMIC CHIP	0. 0012uF 5% 50V
*****				C405	1-163-017-00	CERAMIC CHIP	0. 0047uF 5% 50V
*	A-4673-036-A	MAIN BOARD, COMPLETE		C406	1-124-584-00	ELECT	100uF 20% 10V
		*****		C501	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
		< CAPACITOR >		C502	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
C201	1-126-157-11	ELECT	10uF 20% 16V	C503	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
C202	1-126-160-11	ELECT	1uF 20% 50V	C504	1-163-143-00	CERAMIC CHIP	0. 0012uF 5% 50V
C203	1-124-584-00	ELECT	100uF 20% 10V	C505	1-163-017-00	CERAMIC CHIP	0. 0047uF 5% 50V
C204	1-126-096-11	ELECT	10uF 20% 35V	C506	1-124-584-00	ELECT	100uF 20% 10V
C205	1-163-275-11	CERAMIC CHIP	0. 001uF 5% 50V	C601	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C206	1-124-589-11	ELECT	47uF 20% 16V	C603	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C207	1-124-589-11	ELECT	47uF 20% 16V	C605	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C208	1-124-589-11	ELECT	47uF 20% 16V	C606	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C209	1-126-096-11	ELECT	10uF 20% 35V	< CONNECTOR >			
C210	1-126-157-11	ELECT	10uF 20% 16V	* CN201	1-568-830-11	SOCKET, CONNECTOR 11P	
C211	1-126-163-11	ELECT	4. 7uF 20% 50V	CNP301	1-537-472-11	JUMPER, FILM (WITH TERMINAL)	
C212	1-124-261-00	ELECT	10uF 20% 50V	< DIODE >			
C302	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	D201	8-719-941-86	DIODE DAN202U	
C303	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	D202	8-719-941-86	DIODE DAN202U	
C304	1-124-584-00	ELECT	100uF 20% 10V	D203	8-719-914-42	DIODE DA204K	
C305	1-163-133-00	CERAMIC CHIP	470PF 5% 50V	D204	8-719-977-28	DIODE DTZ10B	
C306	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	< FLUORESCENT INDICATOR >			
C307	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	FLD601	1-519-752-11	INDICATOR TUBE, FLUORESCENT	
C308	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	< IC >			
C309	1-124-584-00	ELECT	100uF 20% 10V	IC201	8-759-821-93	IC LA5601	
C311	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	IC202	8-759-633-42	IC M5293L	
C312	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	IC301	8-752-367-61	IC CXD2565AM	
C313	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	IC302	8-759-040-83	IC BA6287F	
C314	1-216-295-00	METAL CHIP	0 5% 1/10W	IC401	8-759-996-43	IC RC4558PS	
C316	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	IC402	8-759-996-43	IC RC4558PS	
C317	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	IC601	8-752-851-82	IC CXP82316-037Q	
C318	1-163-088-00	CERAMIC CHIP	5PF 50V	IC602	8-741-100-48	IC SBX1610-59	
C319	1-163-088-00	CERAMIC CHIP	5PF 50V	< COIL >			
C320	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	L201	1-410-658-31	INDUCTOR CHIP	220uH
C321	1-163-038-00	CERAMIC CHIP	0. 1uF 25V	L202	1-410-658-31	INDUCTOR CHIP	220uH
				L302	1-410-375-11	INDUCTOR CHIP	3. 3uH

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
L303	1-410-375-11	INDUCTOR CHIP 3.3uH		R510	1-216-049-00	METAL CHIP 1K 5% 1/10W	
L304	1-410-375-11	INDUCTOR CHIP 3.3uH		R511	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
< TRANSISTOR >				R512	1-216-025-00	METAL CHIP 100 5% 1/10W	
Q201	8-729-901-06	TRANSISTOR DTA144EK		R601	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
Q202	8-729-820-76	TRANSISTOR 2SA1179-M5M6		R602	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
Q401	8-729-023-22	TRANSISTOR 2SD2114K		R603	1-216-054-00	METAL GLAZE 1.6K 5% 1/10W	
Q501	8-729-023-22	TRANSISTOR 2SD2114K		R604	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
Q601	8-729-805-41	TRANSISTOR 2SC3398		R605	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
< RESISTOR >				R606	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R201	1-216-298-00	METAL CHIP 2.2 5% 1/10W		R607	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R202	1-216-025-00	METAL CHIP 100 5% 1/10W		R608	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R203	1-216-097-00	METAL CHIP 100K 5% 1/10W		R609	1-216-054-00	METAL GLAZE 1.6K 5% 1/10W	
R204	1-216-059-00	METAL CHIP 2.7K 5% 1/10W		R610	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R206	1-216-079-00	METAL CHIP 18K 5% 1/10W		R611	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R207	1-216-065-00	METAL CHIP 4.7K 5% 1/10W		R612	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R208	1-216-097-00	METAL CHIP 100K 5% 1/10W		R613	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R209	1-216-079-00	METAL CHIP 18K 5% 1/10W		R614	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R305	1-216-021-00	METAL CHIP 68 5% 1/10W		R615	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R306	1-216-021-00	METAL CHIP 68 5% 1/10W		R616	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R307	1-216-049-00	METAL CHIP 1K 5% 1/10W		R617	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R309	1-216-049-00	METAL CHIP 1K 5% 1/10W		R618	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R310	1-216-041-00	METAL CHIP 470 5% 1/10W		R619	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R311	1-216-065-00	METAL CHIP 4.7K 5% 1/10W		R620	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R312	1-216-025-00	METAL CHIP 100 5% 1/10W		< SWITCH >			
R314	1-216-025-00	METAL CHIP 100 5% 1/10W		S601	1-554-303-21	SWITCH, TACTILE (TIME)	
R315	1-216-296-91	METAL GLAZE 0 5% 1/8W		S602	1-554-303-21	SWITCH, TACTILE (REPEAT)	
R316	1-216-295-00	METAL CHIP 0 5% 1/10W		S603	1-554-303-21	SWITCH, TACTILE (CHECK)	
R317	1-216-049-00	METAL CHIP 1K 5% 1/10W		S604	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
R401	1-216-689-11	METAL CHIP 39K 0.5% 1/10W		S605	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
R402	1-216-689-11	METAL CHIP 39K 0.5% 1/10W		S606	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
R403	1-216-077-00	METAL CHIP 15K 5% 1/10W		S607	1-554-303-21	SWITCH, TACTILE (△ OPEN/CLOSE)	
R404	1-216-077-00	METAL CHIP 15K 5% 1/10W		S608	1-554-303-21	SWITCH, TACTILE (▷)	
R405	1-216-089-91	METAL GLAZE 47K 5% 1/10W		S609	1-554-303-21	SWITCH, TACTILE (■)	
R406	1-216-089-91	METAL GLAZE 47K 5% 1/10W		S610	1-554-303-21	SWITCH, TACTILE (◀◀, ▶▶)	
R407	1-216-053-00	METAL CHIP 1.5K 5% 1/10W		S611	1-554-303-21	SWITCH, TACTILE (▶▶, ▷▷)	
R408	1-216-053-00	METAL CHIP 1.5K 5% 1/10W		S612	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE)	
R409	1-216-097-00	METAL CHIP 100K 5% 1/10W		< VIBRATOR >			
R410	1-216-049-00	METAL CHIP 1K 5% 1/10W		X301	1-579-833-21	VIBRATOR, CRYSTAL (33MHz)	
R411	1-216-053-00	METAL CHIP 1.5K 5% 1/10W		X601	1-577-082-11	VIBRATOR, CERAMIC (4MHz)	
R412	1-216-025-00	METAL CHIP 100 5% 1/10W		*****			
R501	1-216-689-11	METAL CHIP 39K 0.5% 1/10W		* 1-650-459-11 P.SW BOARD			
R502	1-216-689-11	METAL CHIP 39K 0.5% 1/10W		*****			
R503	1-216-077-00	METAL CHIP 15K 5% 1/10W		< CONNECTOR >			
R504	1-216-077-00	METAL CHIP 15K 5% 1/10W		CN291	1-506-469-11	PIN, CONNECTOR 4P	
R505	1-216-089-91	METAL GLAZE 47K 5% 1/10W					
R506	1-216-089-91	METAL GLAZE 47K 5% 1/10W					
R507	1-216-053-00	METAL CHIP 1.5K 5% 1/10W					
R508	1-216-053-00	METAL CHIP 1.5K 5% 1/10W					
R509	1-216-097-00	METAL CHIP 100K 5% 1/10W					

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
		< SWITCH >					
S291	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)		△17	1-575-651-21	CORD, POWER (212:AEP, EA, G/312:AEP, EA, G)	
*****				△17	1-590-926-11	CORD, POWER (212:US, CND/312:CND)	
*	1-650-458-11	POWER BOARD		△17	1-696-845-11	CORD, POWER (212:AUS/312:AUS)	
		*****		△17	1-696-907-11	CORD, POWER (212:UK/312:UK)	
		< CAPACITOR >		△18	1-569-008-11	ADAPTER, CONVERSION 2P (212:EA/312:EA)	
C407	1-162-291-31	CERAMIC	560PF 10% 50V	△19	1-569-007-11	ADAPTER, CONVERSION 2P (212:E/312:E)	
C507	1-162-291-31	CERAMIC	560PF 10% 50V	* 61	1-452-538-11	MAGNET	
C901	1-126-768-11	ELECT	2200uF 20% 16V				
C902	1-126-939-11	ELECT	10000uF 20% 16V	△105	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)	
C903	1-124-572-11	ELECT	100uF 20% 63V	108	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
C904	1-164-159-11	CERAMIC	0.1uF 50V	CNP301	1-537-472-11	JUMPER, FILM (WITH TERMINAL)	
C905	1-164-159-11	CERAMIC	0.1uF 50V	M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
C906	1-164-159-11	CERAMIC	0.1uF 50V	M102	X-4917-504-1	MOTOR ASSY (SLED)	
C907	1-164-159-11	CERAMIC	0.1uF 50V				
C908	1-164-159-11	CERAMIC	0.1uF 50V	M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
		< CONNECTOR >		*****			
* CN901	1-568-830-11	SOCKET, CONNECTOR 11P		ACCESSORIES & PACKING MATERIALS			
CN903	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P		*****			
		< DIODE >		1-467-316-11	REMOTE COMMANDER (RM-D320) (312)		
D901	8-719-200-82	DIODE 11ES2		1-558-271-11	CORD, CONNECTION (AUDIO 108cm)		
D902	8-719-200-82	DIODE 11ES2		3-757-992-11	MANUAL, INSTRUCTION		
D903	8-719-200-82	DIODE 11ES2			(ENGLISH, FRENCH, SPANISH, SWEDISH)		
D904	8-719-200-82	DIODE 11ES2			(212:CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)		
D905	8-719-200-82	DIODE 11ES2		3-757-992-21	MANUAL, INSTRUCTION (ENGLISH) (212:US)		
		< JACK >		3-757-992-41	MANUAL, INSTRUCTION		
J401	1-750-679-21	JACK, PIN 2P (LINE OUT)			(GERMAN, ITALIAN, DUTCH, PORTUGUESE) (212:AEP/312:AEP)		
		< SWITCH >		3-757-992-51	MANUAL, INSTRUCTION		
△S901	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE			(ENGLISH, FRENCH, SPANISH, DANISH)		
		(VOLTAGE SELECTOR) (212:E, EA/312:E, EA)			(212:AEP, UK/312:AEP, UK)		
		< TRANSFORMER >		3-757-992-61	MANUAL, INSTRUCTION		
△T901	1-423-979-11	TRANSFORMER, POWER			(GERMAN, ITALIAN, DUTCH, PORTUGUESE) (212:AEP/312:AEP)		
		(212:AEP, UK, G, AUS/312:AEP, UK, G, AUS)		3-757-992-71	MANUAL, INSTRUCTION (GERMAN)		
△T901	1-426-621-11	TRANSFORMER, POWER (212:US, CND/312:CND)			(212:G/312:G)		
△T901	1-426-622-11	TRANSFORMER, POWER (212:E, EA/312:E, EA)		3-757-992-81	MANUAL, INSTRUCTION (CHINESE)		
*****					(212:E, EA/312:E, EA)		
		MISCELLANEOUS		*	4-925-389-11	CUSHION	
		*****			(212:US, CND, AEP, E, AUS, EA/312:CND, AEP, E, AUS, EA)		
9	1-765-065-11	WIRE (FLAT TYPE) (11 CORE)		*	4-929-506-01	CUSHION (212:AEP, UK, G/312:AEP, UK, G)	
9	1-765-169-11	WIRE (FLAT TYPE) (11 CORE)			4-962-615-01	COVER, BATTERY (for RM-D320) (312)	
△17	1-558-943-61	CORD, POWER (212:E/312:E)		*	4-964-737-41	INDIVIDUAL CARTON (312:CND, E, AUS, EA)	
				*	4-964-737-51	INDIVIDUAL CARTON (312:AEP)	
				*	4-964-737-61	INDIVIDUAL CARTON (212:US, CND, E, AUS, EA)	
				*	4-964-737-71	INDIVIDUAL CARTON (212:AEP)	
				*	4-964-925-01	INDIVIDUAL CARTON (212:UK, G)	
				*	4-964-925-11	INDIVIDUAL CARTON (312:UK, G)	
*****				*****			

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
		***** HARDWARE LIST *****	
#1	7-682-548-04	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	7-621-775-10	SCREW +B 2.6X4	
#5	7-621-255-15	SCREW +P 2X3	
#6	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	

CDP-212/312

SONY[®] **SERVICE MANUAL**

US Model
Canadian Model
AEP Model
UK Model
E model
Australian Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject : 1. CORRECTION 2. PARTS CHANGED 3. BOARD CHANGED 4. MODEL ADDITION (CDP-312: US model)
--

(ECN-CD400569)

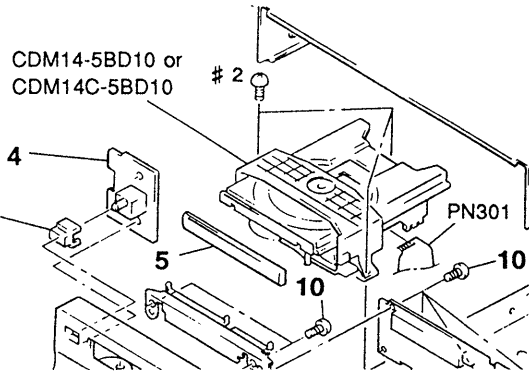
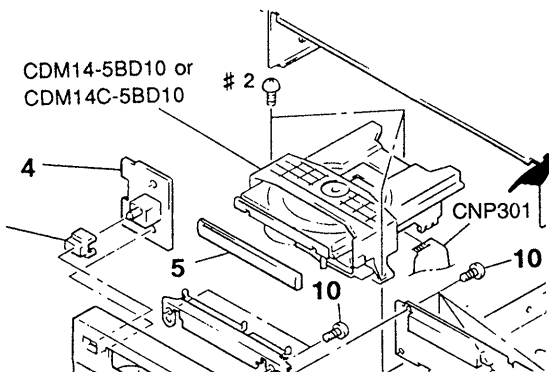
1. CORRECTION

- The base unit is corrected as shown in the table below.

INCORRECT	CORRECT
BU-5BD10B	BU-5BD10

- Correct your service manual as shown below.

 : Indicates corrected portion.

Page	INCORRECT	CORRECT
23	Ref. No. Part No. Description Remark *** EXPLODED VIEWS *** 	Ref. No. Part No. Description Remark *** EXPLODED VIEWS *** 
24	* 4-604-764-01 PACK, SEAL (CDM TRANSPORT ONLY) (212: US, CND, AEP, E, AUS, EA/312: CND, AEP, E, AUS, EA)	

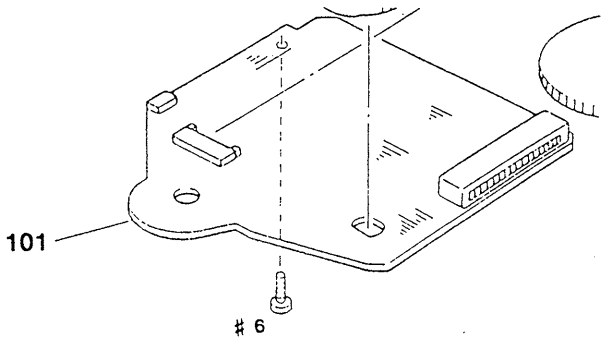
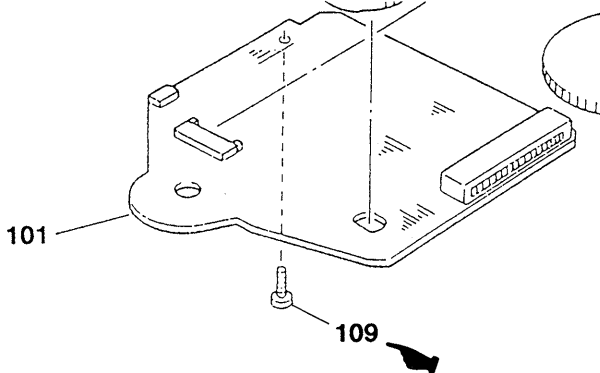
2. PARTS CHANGED

 : Changed portion.

Page	FORMER	NEW
23	Ref. No. Part No. Description Remark *** EXPLODED VIEWS *** *6 A-4673-036-A MAIN BOARD, COMPLETE	Ref. No. Part No. Description Remark *** EXPLODED VIEWS *** *6 A-4673-330-A MAIN BOARD, COMPLETE
24	57 4-927-628-01 GEAR (C) 60 4-933-110-01 HOLDER (MG) (212: US, CND, AEP, E, AUS, EA/312: CND, AEP, E, AUS, EA) 60 4-933-110-11 HOLDER (MG) (212: UK, G/312: UK, G)	57 4-967-268-01 GEAR (C) 60 4-933-110-41 HOLDER (MG)

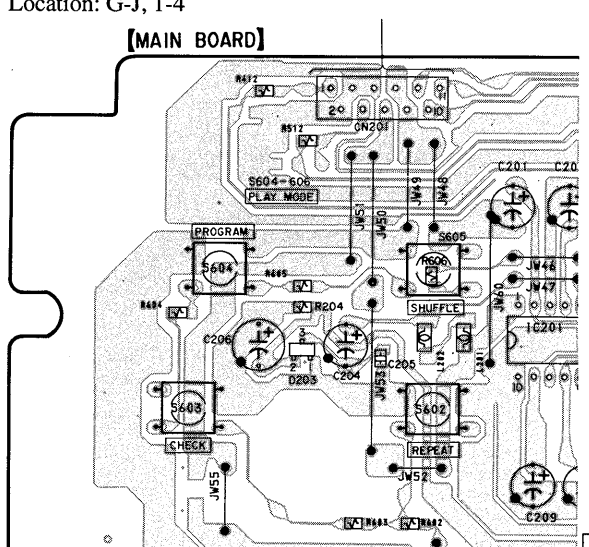
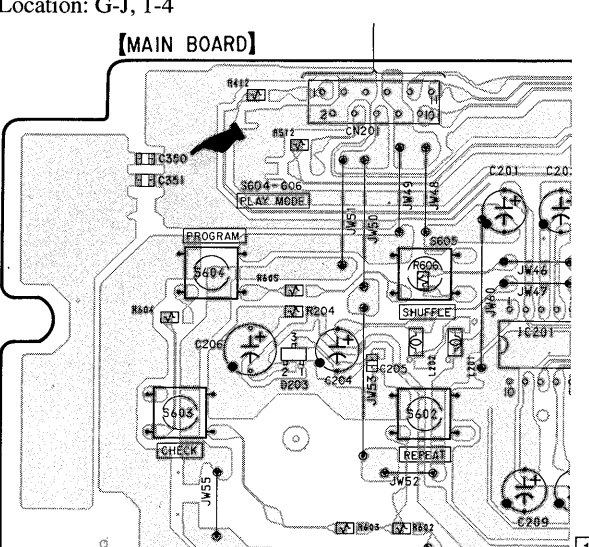
NOTE:

- Abbreviation
 - CND : Canadian model
 - G : German model
 - EA : Saudi Arabia model
 - AUS : Australian model

Page	FORMER				NEW			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
25	*101	A-4649-432-A	BD BOARD, COMPLETE		*101	A-4649-946-A	BD BOARD, COMPLETE	
					109	4-951-620-01	SCREW (2.6X8, +BVTP)	
								
26	*** ELECTRICAL PARTS LIST *** * A-4649-432-A BD BOARD, COMPLETE IC101 8-752-361-90 IC CXD2515Q				*** ELECTRICAL PARTS LIST *** * A-4649-946-A BD BOARD, COMPLETE IC101 8-752-351-94 IC CXD2515Q			
27	* A-4673-036-A MAIN BOARD, COMPLETE C318 1-163-088-00 CERAMIC CHIP 5PF 50V C319 1-163-088-00 CERAMIC CHIP 5PF 50V IC601 8-752-851-82 IC CXP82316-037Q IC602 8-741-100-48 IC SBX1610-59				* A-4673-330-A MAIN BOARD, COMPLETE C318 1-163-222-11 CERAMIC CHIP 5PF 0.25PF 50V C319 1-163-222-11 CERAMIC CHIP 5PF 0.25PF 50V IC601 8-752-861-37 IC CXP82316-046Q IC602 8-741-810-59 IC SBX1610-59			
30	*** HARDWARE LIST *** #2 7-682-547-09 SCREW +BVTT 3X6 (S) #6 7-685-134-19 SCREW +BVTP 2.6X8 TYPE2 N-S				*** HARDWARE LIST *** #2 7-682-871-01 SCREW +BVTT 3X6 (S)			

3. BOARD CHANGED

 : Indicates changed portion.

Page	FORMER	NEW
16	[MAIN BOARD] Location: G-J, 1-4 [MAIN BOARD]  1-650-234- (11)	[MAIN BOARD] Location: G-J, 1-4 [MAIN BOARD]  1-650-234- (12)

Page	FORMER	NEW
17	[LOADING BOARD] Location: E-F, 6-9	[LOADING BOARD] Location: E-F, 6-9
18	[MAIN BOARD] Location: H-I, 12-14	[MAIN BOARD] Location: H-I, 12-14
19	[MAIN BOARD] Location: C-5	[MAIN BOARD] Location: C-5

Page	FORMER				NEW			
	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
27	LOADING							
	*	1-645-721-11	LOADING BOARD		*	1-645-721-21	LOADING BOARD	
	S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)		S271	1-572-086-11	SWITCH, LEAF (LOAD OUT)	
	S152	1-572-086-11	SWITCH, LEAF (LOAD IN)		S272	1-572-086-11	SWITCH, LEAF (LOAD IN)	
	MAIN							
					C350	1-163-038-00	CERAMIC CHIP 0.1uF	25V
					C351	1-163-038-00	CERAMIC CHIP 0.1uF	25V

4. MODEL ADDITION (CDP-312: US model)

• For detailed CDP-312: US model, refer to CDP-212: US model.

Difference table

Page	212: US model				312: US model			
	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
23	*** EXPLODED VIEWS ***				*** EXPLODED VIEWS ***			
	2	X-4944-474-1	PANEL ASSY, FRONT		2	X-4944-472-1	PANEL ASSY, FRONT	
	5	4-962-897-91	PANEL, LOADING		5	4-962-897-81	PANEL, LOADING	
	12	4-929-035-31	CASE (AFTER BAP)		12	4-929-035-71	CASE (AFTER BAP)	
	*14	4-964-718-51	PANEL, BACK		*14	4-964-718-01	PANEL, BACK	
	*** ACCESSORIES & PACKING MATERIALS ***				*** ACCESSORIES & PACKING MATERIALS ***			
					1-467-316-11		REMOTE COMMANDER (RM-D320)	
					4-962-615-01		COVER, BATTERY (for RM-D320)	
	* 4-964-737-61		INDIVIDUAL CARTON		* 4-964-737-41		INDIVIDUAL CARTON	

