

CDP-761/761E

SERVICE MANUAL

AEP Model
CDP-761

UK Model

E Model

Chinese Model
CDP-761E



Photo : CDP-761

Model Name Using Similar Mechanism	CDP-715/715E
CD Mechanism Type	CDM25D-5BD20
Base Unit Type	BU-5BD20
Optical Pick-up Type	KSS-213BA

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 113 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) (only for CDP-761)	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) (only for CDP-761)	Output level max. 10 mW Load impedance 32 ohms

General

Power requirements	AEP, UK model : 220 V - 230 V AC, 50/60 Hz E, Chinese model : 110 - 120, 220 - 230 V AC, 50/60 Hz Switchable
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Power consumption	13W
Dimensions (approx., including projections)	430 x 110 x 295 mm (w/h/d) (17 x 4 ³ / ₈ x 11 ³ / ₈ inches)
Mass (approx.)	4.1 kg (9 lb 1 oz)

Supplied accessories

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

Design and specifications are subject to change without notice.

COMPACT DISC PLAYER
SONY[®]

CAUTION

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

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

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

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 LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	: AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING	: LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD.
ADVERSEL	: USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNGÅ EKSPONERING FOR STRÅLEN.

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 !!

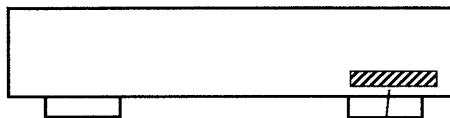
COMPONENTS IDENTIFIED BY MARK Δ OR DOTTED LINE WITH MARK Δ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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MODEL IDENTIFICATION

— BACK PANEL —



CDP-761 (AEP Model)	: 4-962-238-3□
CDP-761 (German Model)	: 4-962-238-4□
CDP-761E (UK Model)	: 4-956-652-5□
CDP-761E (E, Chinese Model)	: 4-956-652-7□

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.

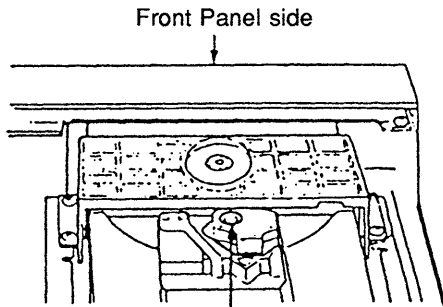
The flexible board is easily damaged and should be handled with care.

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.

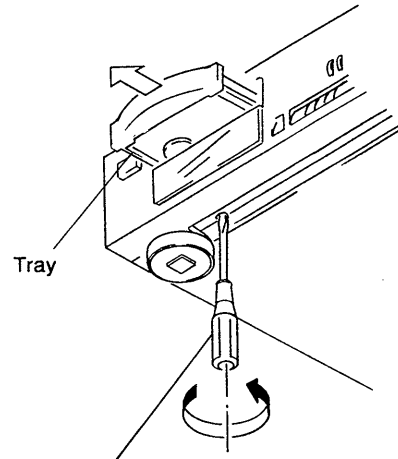
LASER DIODE AND FOCUS SEARCH OPERATION CHECK

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

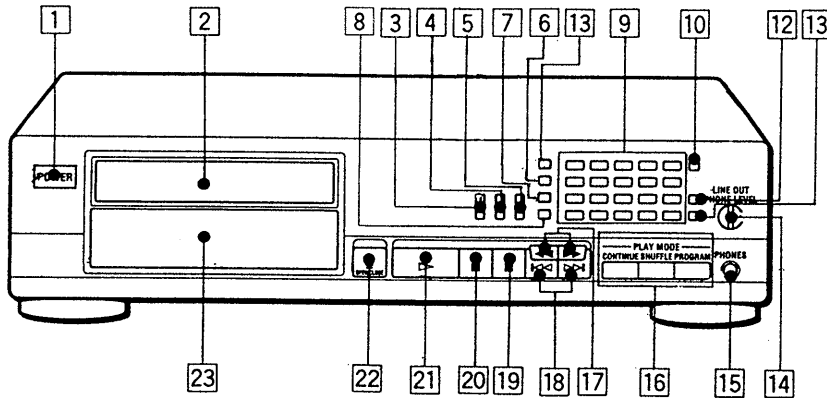


Insert a tapering driver into the aperture of the unit bottom, and turn in the direction of arrow.

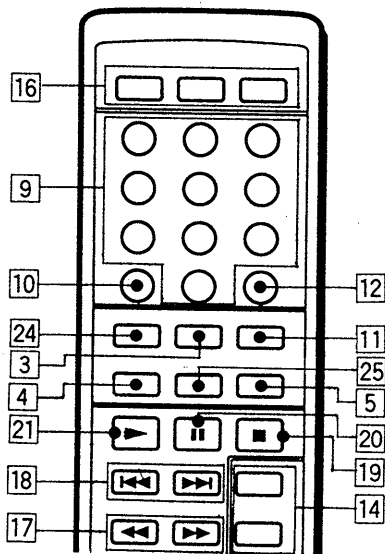
* To close the disc tray, turn the driver in the reverse direction.

SECTION 2 GENERAL

Identifiing the Parts



RM-D820



- 1 Power switch
- 2 Disc tray
- 3 TIME button
- 4 REPEAT button
- 5 FADER button
- 6 AUTO SPACE button
- 7 PEAK SEARCH button
- 8 EDIT/TIME FADE button
- 9 Number button
- 10 >20 (over 20) button
>10 (over 10) button on the remote commander
- 11 CHECK (Program check) button
- 12 CLEAR (Program clear) button
- 13 MUSIC SCAN button
- 14 LINE OUT/PHONE LEVEL control
(LINE OUT LEVEL +/- buttons on the remote commander)
(only for CDP-761)
- 15 PHONES jack (only for CDP-761)
- 16 Play mode buttons
CONTINUE button
SHUFFLE button
PROGRAM button
- 17 ◀▶ (manual search) buttons
- 18 ◀◀▶▶ (AMS*) buttons
- 19 ■ (stop) button
- 20 || (pause) button
- 21 ▷ (play) button
- 22 △ OPEN/CLOSE button
- 23 Display
- 24 DISPLAY OFF button
- 25 A ↔ B button

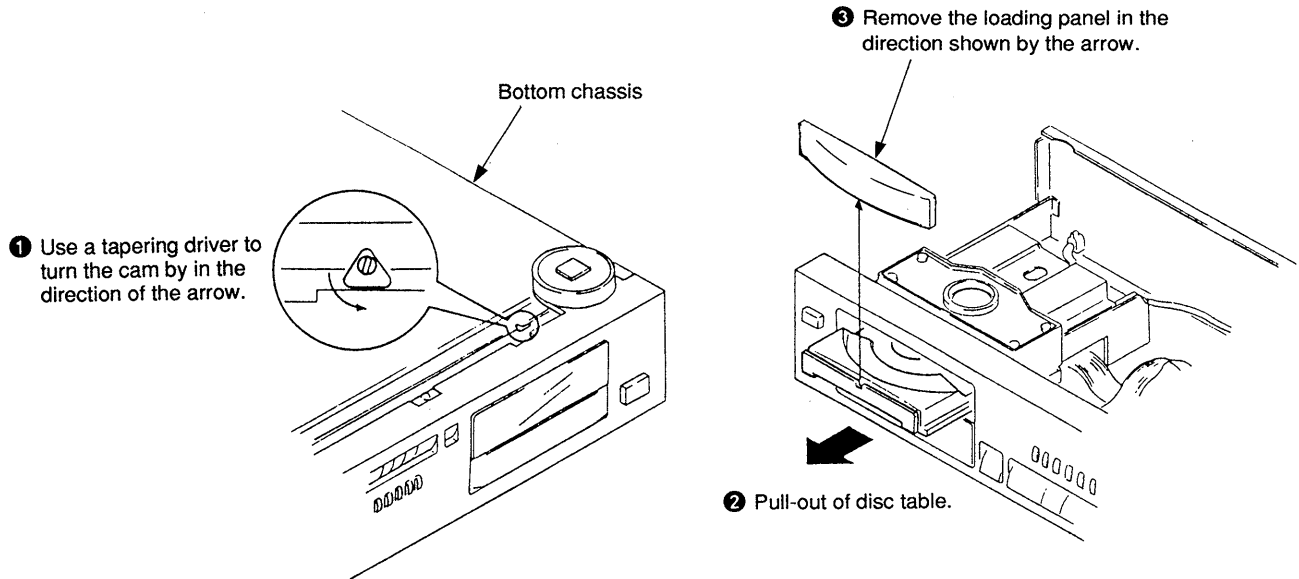
* AMS is the addreviation of Automatic Music Sensor.

SECTION 3

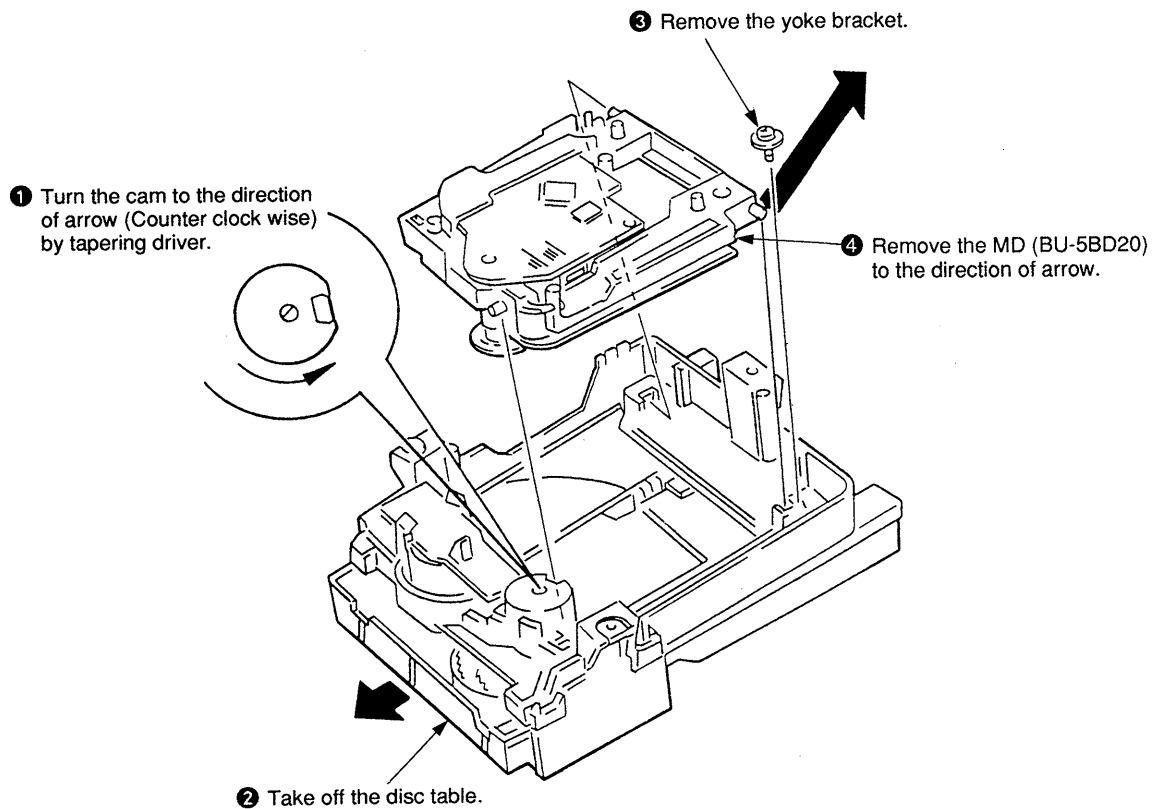
DISASSEMBLY

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

3-1. LOADING PANEL



3-2. MD (BU-5BD20) BLOCK



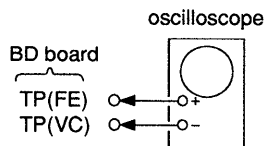
SECTION 4

ELECTRICAL BLOCK CHECKING

Note :

1. CD Block is basically designed 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 an oscilloscope with more than 10M Ω impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

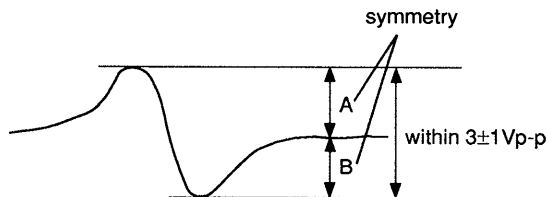
S Curve Check



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 $3\pm 1V_{p-p}$.

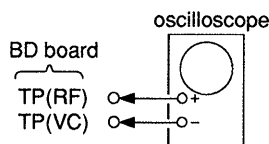
S-curve waveform



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 :

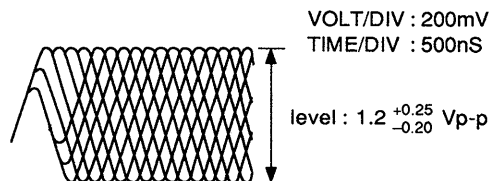
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.

3. Put disc (YEDS-18) in to play the number five track.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

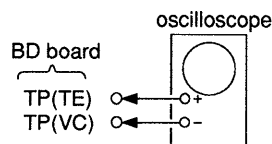
Note :

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

RF signal waveform

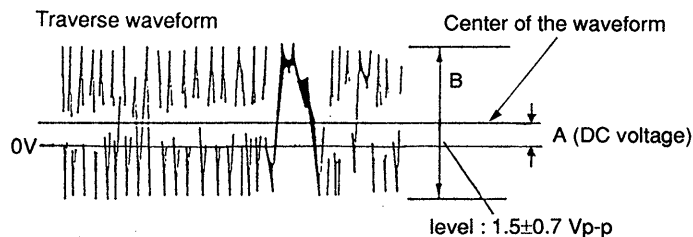


E-F Balance Check

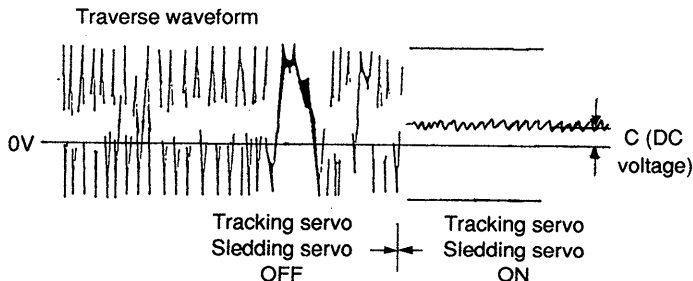


Procedure :

1. Connect test point TP (ADJ) to ground 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 to play the number five track.
5. Press the CHECK button. (The tracking servo and the sledding servo are turned OFF.)
6. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform. Confirm the following :
 $A/B \times 100 = \text{less than } \pm 20\%$.



7. Press the CLEAR button. (The tracking servo and sledding servo are turned ON.) Confirm the C (DC voltage) is almost equal to the A (DC voltage) in step 6.

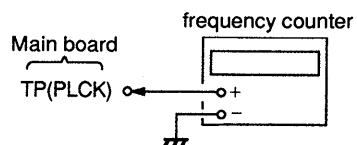


8. Disconnect the laed wire of TP (ADJ) connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

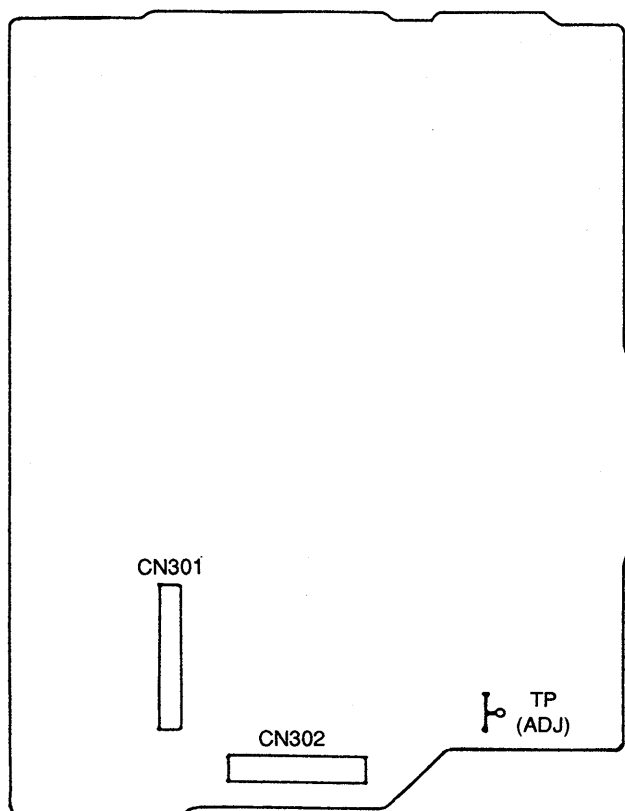
1. Connect frequency counter to test point (PLCK) with lead wire.



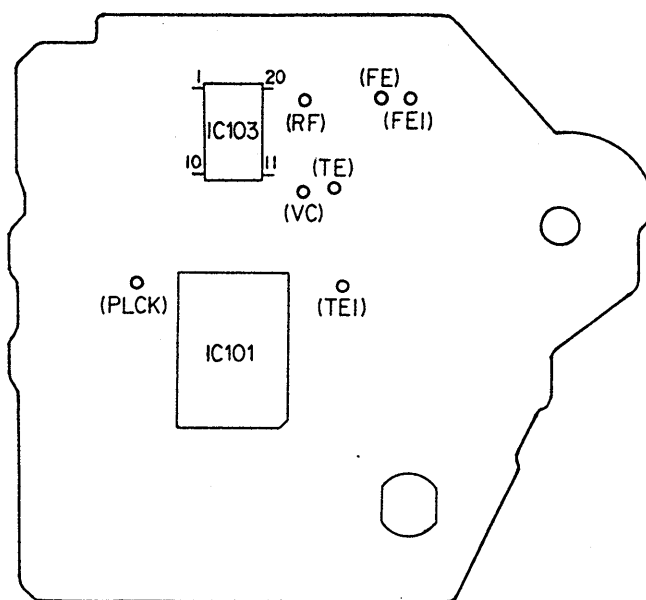
2. Turned Power switch on.
3. Put the disc (YEDS-18) in to play the number five track. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location :

[MAIN BOARD] — Component Side —



[BD BOARD] — SIDE A —



SECTION 5

DIAGRAMS

5-1. IC PIN FUNCTIONS

• IC101 (CXD2545Q)

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 (GND)
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 (GND)
21	AVD2	—	Analog power supply
22	IGEN	I	Power supply pin for operational amplifiers
23	AVS2	—	Analog GND
24	ADIO	I	(Not used)
25	RFC	O	(Not used)
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	AVD1	—	Analog power supply

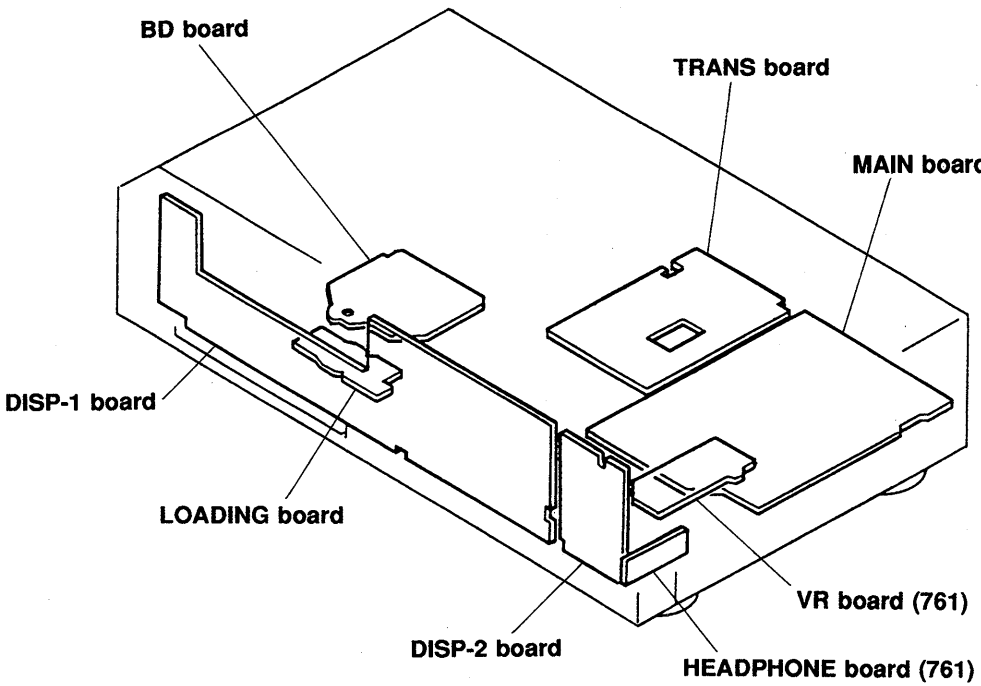
Pin No.	Pin Name	I/O	Function
41	DVDD	—	Digital power supply
42	ASYE	I	Asymmetry circuit ON/OFF
43	PSSL	I	Audio data output mode selection input
44	WDCK	O	48-bit slot D/A interface. Word clock
45	LRCK	O	48-bit slot D/A interface. LR clock
46	DATA	O	DA 16 output when PSSL=1. 48-bit slot serial data when 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. GTOF 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. XRAOF output when PSSL=0
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 (GND)
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	FSOF	O	(Not used)
69	C16M	O	16.9344 MHz output (Not used)
70	MD2	I	Digital-out ON/OFF control pin (+5V)
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 (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 (+5V)
83	SCLK	I	SENS serial data read-out clock
84	DFSW	I	DFCT selection pin (GND)
85	ATSK	I	Input pin for anti-shock (GND)

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 (Not used)
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 (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 (CXP82316-059Q)

Pin No.	Pin Name	I/O	Function
1	TIMER	—	Connected to +5V.
2	RM (BUSIN)	I	Audio bus input.
3	+5V	—	Connected to +5V.
4	OPEN	—	} Not used. (open)
5	OPEN	—	
6	(BUS-OUT)	—	
7	PRGL	O	Latch signal output to digital filter (IC303).
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+	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	Vss	—	GND
34 to 41	OPEN	—	Not used. (open)
42 to 62	SEG1 to SEG21	O	FL segment output.
63 to 70	1G to 8G	O	FL grid output.
71	VFDP (-30V)	—	-30V pin for FL display tube.
72	VDD (+5V)	—	} +5V pin.
73	—	—	
74	SEL1	—	Connected to +5V.
75	IN PORT	—	} Connected to +5V.
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.

5-2. CIRCUIT BOARDS LOCATION



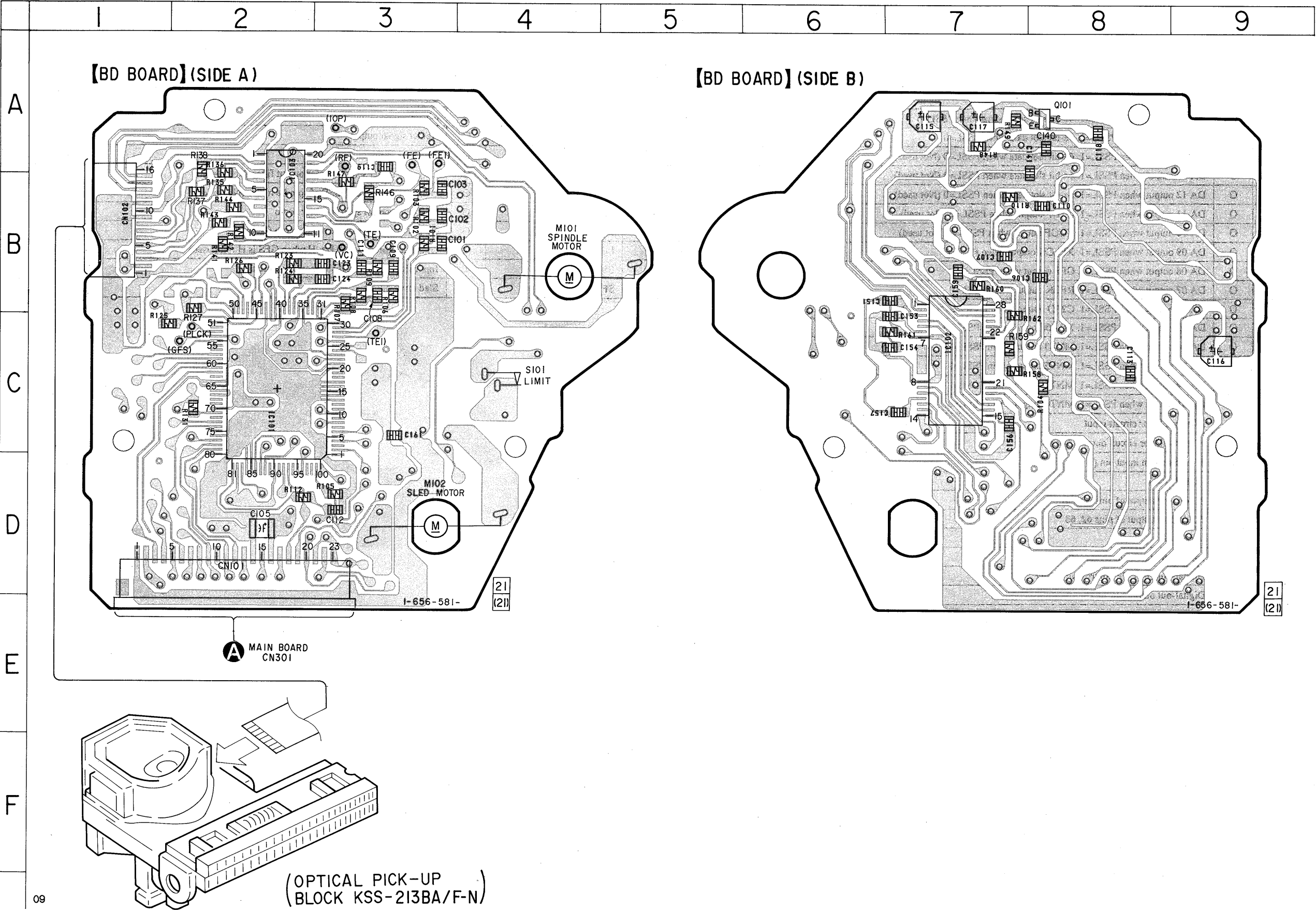
• Semiconductor Location

Ref. No.	Location
IC101	C-2
IC102	C-7
IC103	B-2
Q101	A-8

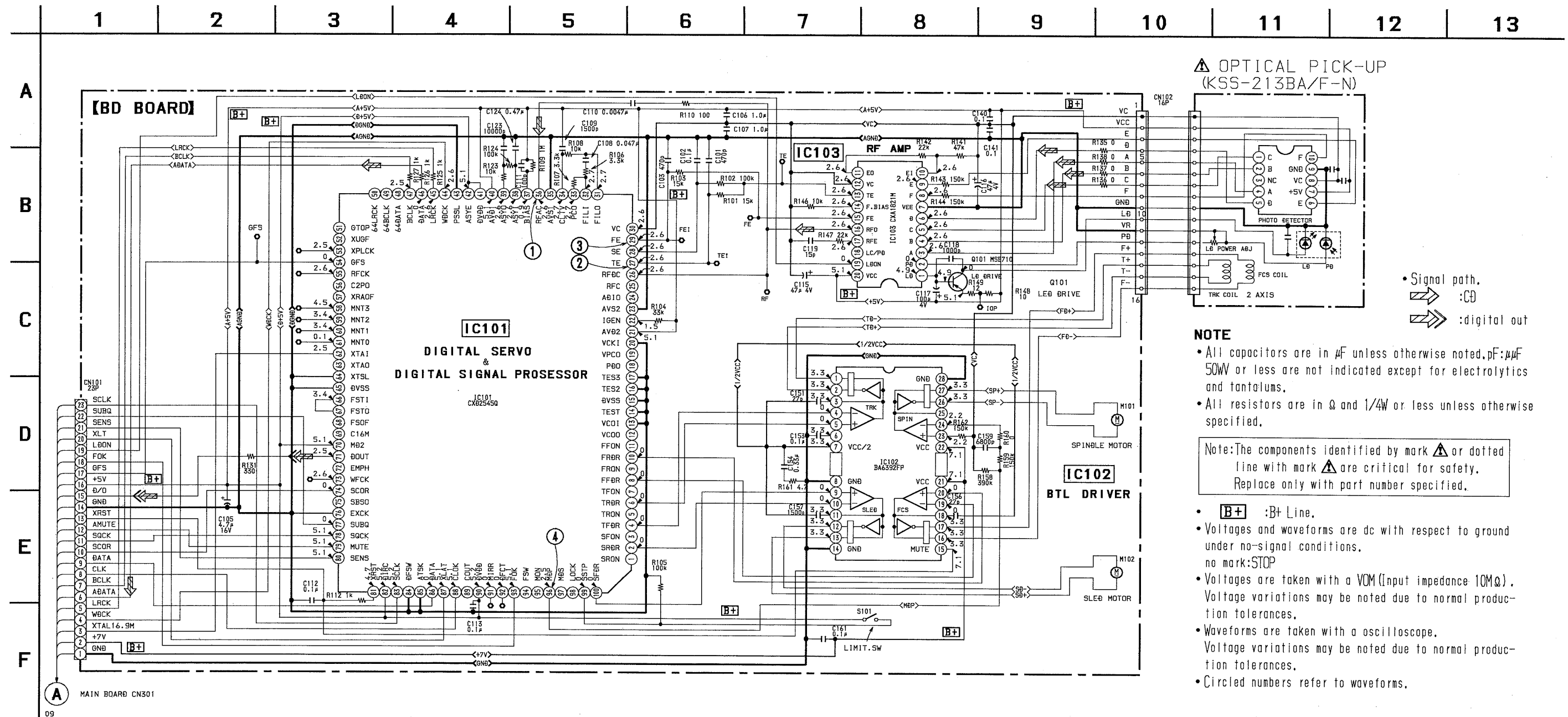
Note:

- : parts extracted from the components side.
- : parts extracted from the conductor side.
- : Through hole.
- : Pattern from the side which enable seeing.
(The other layer's patterns are not indicated.)

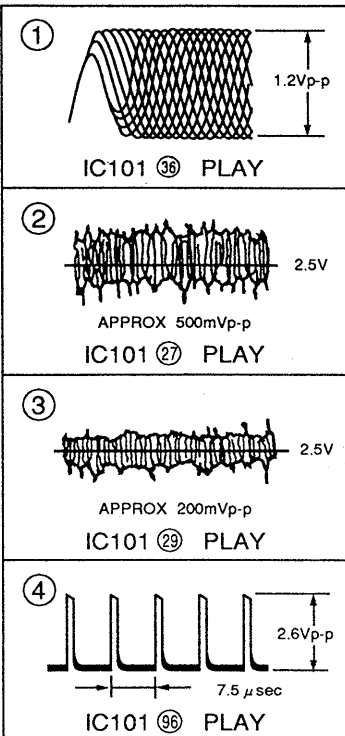
5-3. PRINTED WIRING BOARD — BD SECTION —



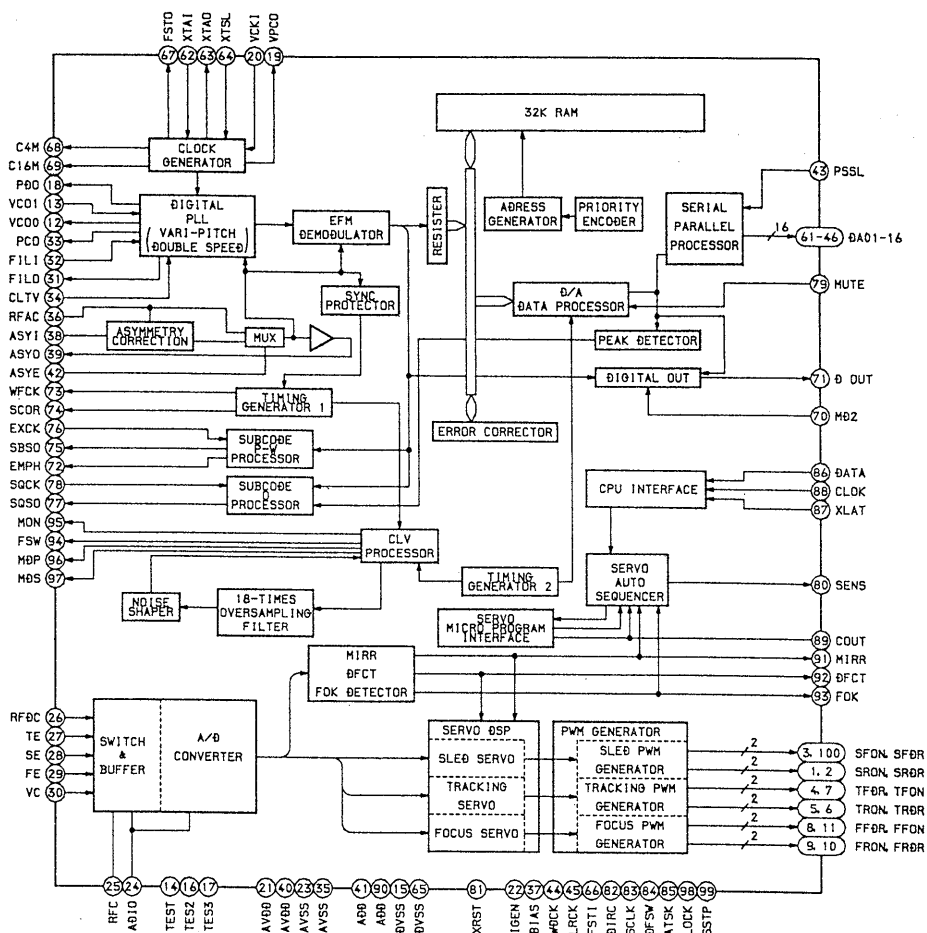
5-4. SCHEMATIC DIAGRAM — BD SECTION —
• See page 8 for IC Pin Functions. (IC101)



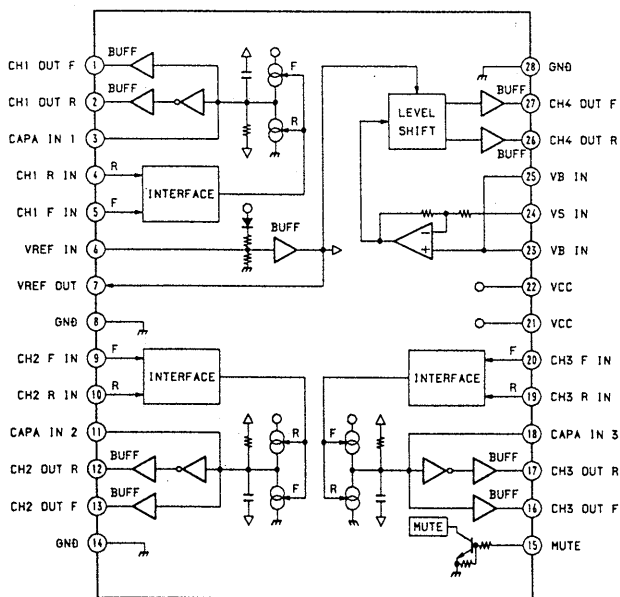
Waveforms



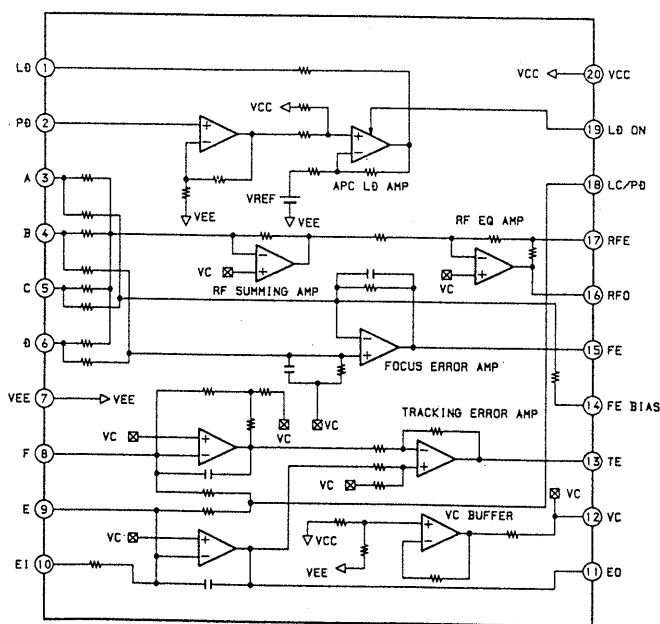
IC Block Diagrams — BD SECTION — IC101 CXD2545Q



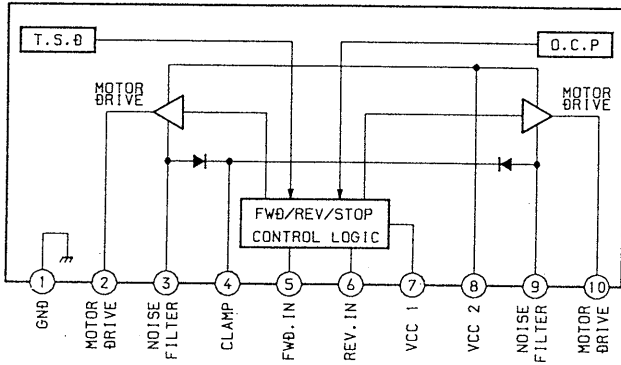
IC102 BA6392FP



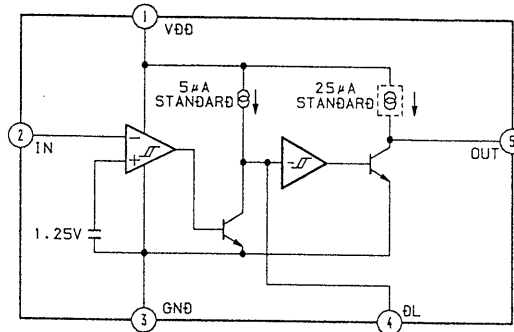
IC103 CXA1821M



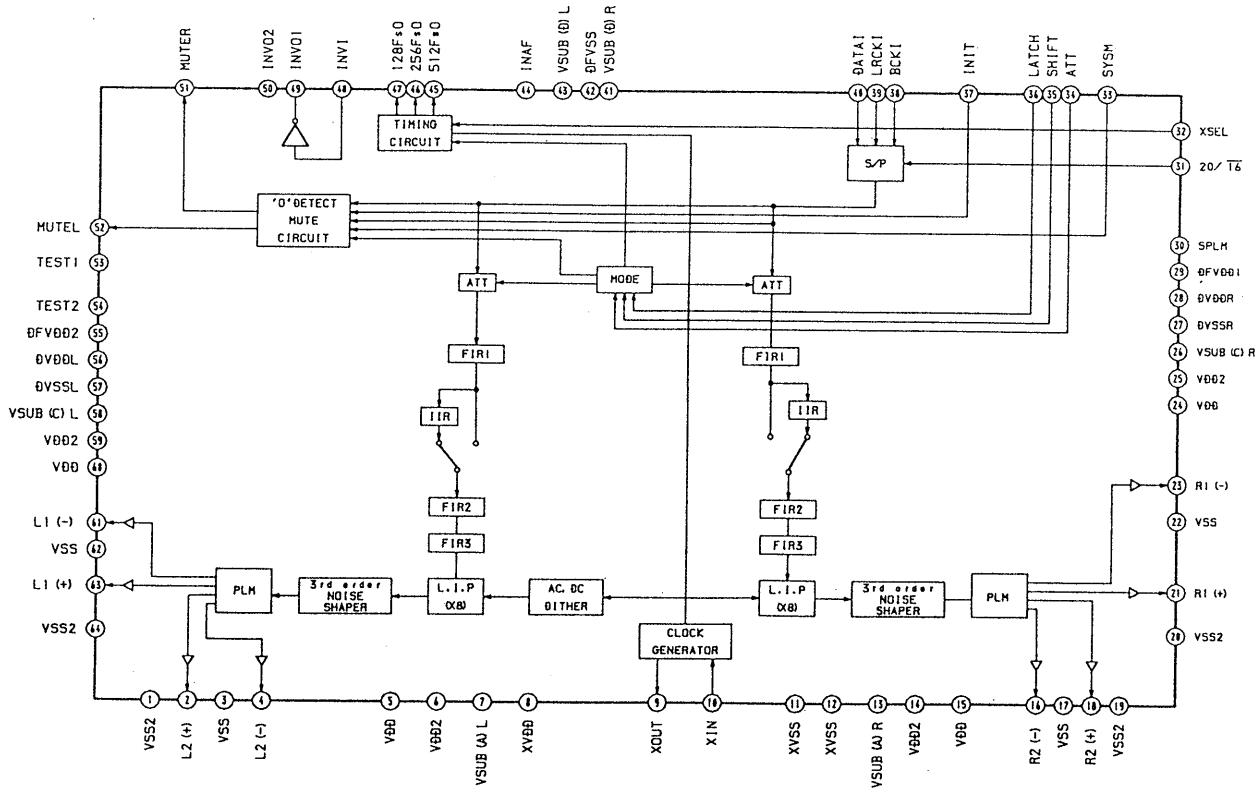
• IC Block Diagrams
— MAIN SECTION —
IC301 LB1641



IC920 M51957AL



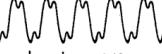
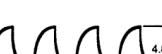
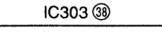
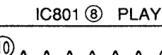
IC303 CXD8505AQ









- 20 -

- 21 —



<p>⑤</p>  <p>45.1584 MHz IC303 ⑨</p> <p>0.44 Vp-p</p>	<p>⑧</p>  <p>0.18 μsec IC303 ④7</p> <p>5.5 Vp-p</p>
<p>⑥</p>  <p>0.48 μsec IC303 ③8</p> <p>4.8 Vp-p</p>	<p>⑨</p>  <p>1.6 μsec IC801 ⑧ PLAY</p> <p>6 Vp-p</p>
<p>⑦</p>  <p>23 μsec IC303 ③8</p> <p>5.3 Vp-p</p>	<p>⑩</p>  <p>4 MHz IC801 ③1</p> <p>5.2 Vp-p</p>

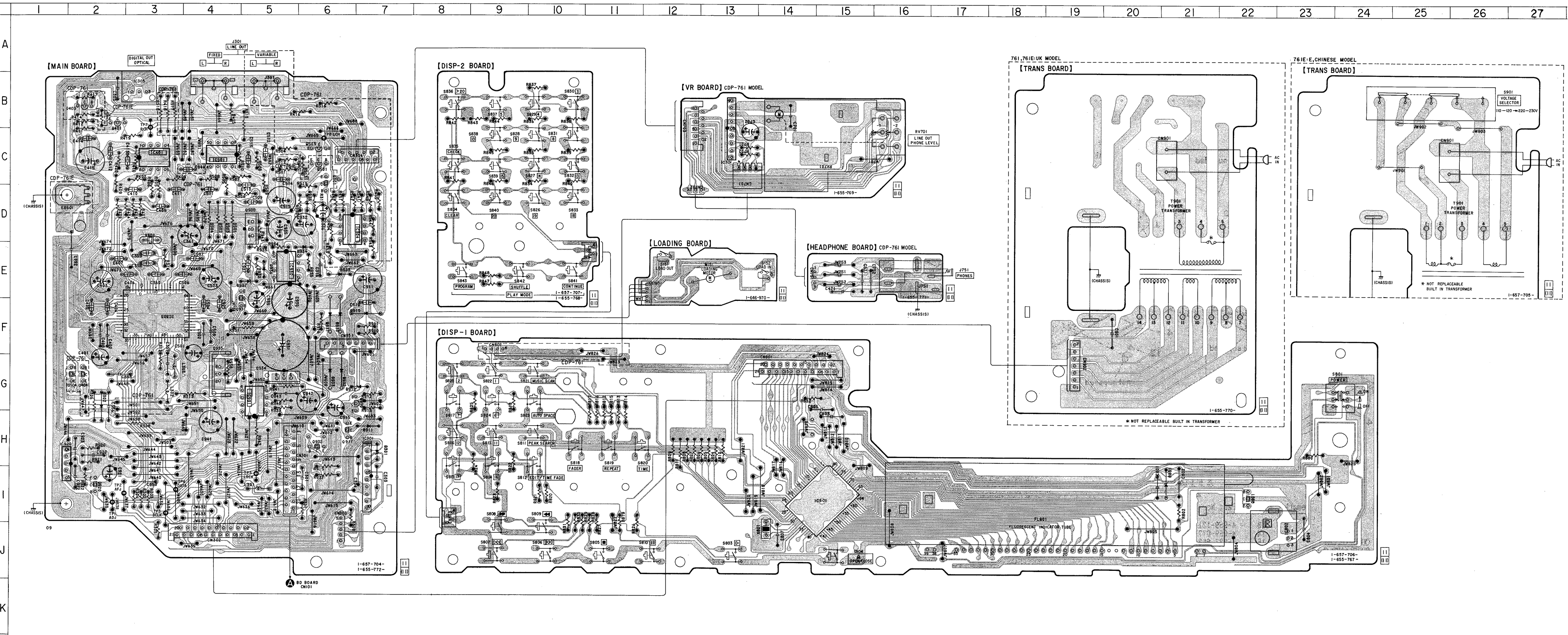
- Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

-  :B+ Line.
-  :B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:STOP
() :LOAD OUT
< > :LOAD IN
- 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.
 :CB
 :digital out

5-6. PRINTED WIRING BOARD — MAIN SECTION —
• See page 12 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location
D301	H-7
D302	G-2
D303	E-6
D801	I-21
D910	F-7
D911	H-7
D912	G-7
D930	F-6
D931	F-6
D932	G-6
D933	G-6
D934	E-6
D935	D-6
D936	E-5
D937	E-5
IC301	I-7
IC303	F-3
IC304	D-6
IC305	B-3
IC401	C-3
IC501	C-4
IC701	B-13
IC801	I-15
IC802	J-22
IC920	H-1
IC930	E-5
IC931	G-5
Q301	C-6
Q401	B-2
Q403	B-2
Q404	G-2
Q501	C-6
Q503	C-6
Q504	G-2
Q801	I-22
Q910	G-6
Q911	H-6
Q920	I-2
Q930	D-5
Q931	F-4
Q932	H-6
Q933	G-4
Q934	G-5



Note:

- : parts extracted from the components side.
- : Denotes that Jumper wire works as Test Point.
- : Pattern from the side which enable seeing.

SECTION 6

EXPLODED VIEWS

NOTE:

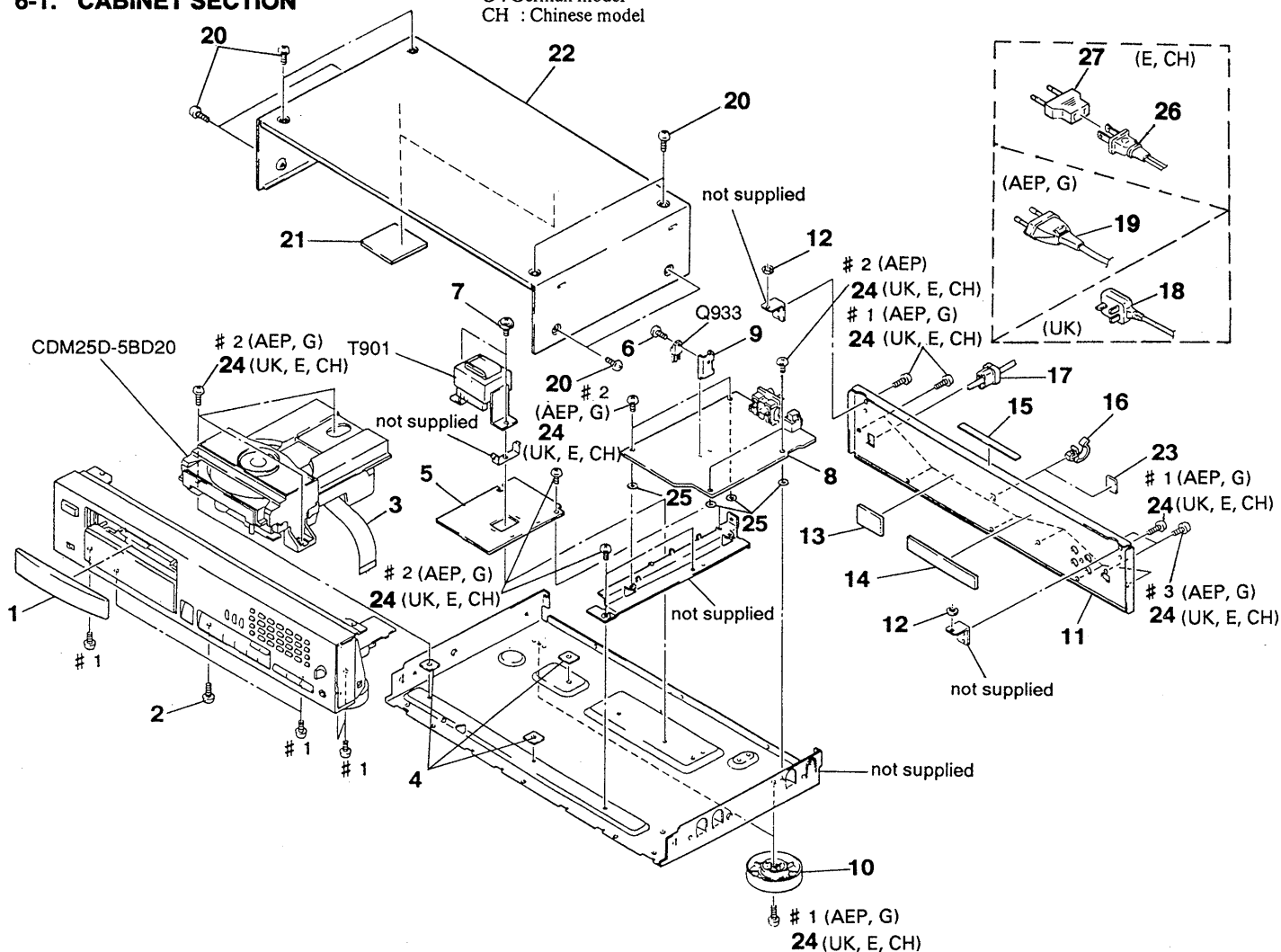
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

• Abbreviation
G : German model
CH : Chinese model

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

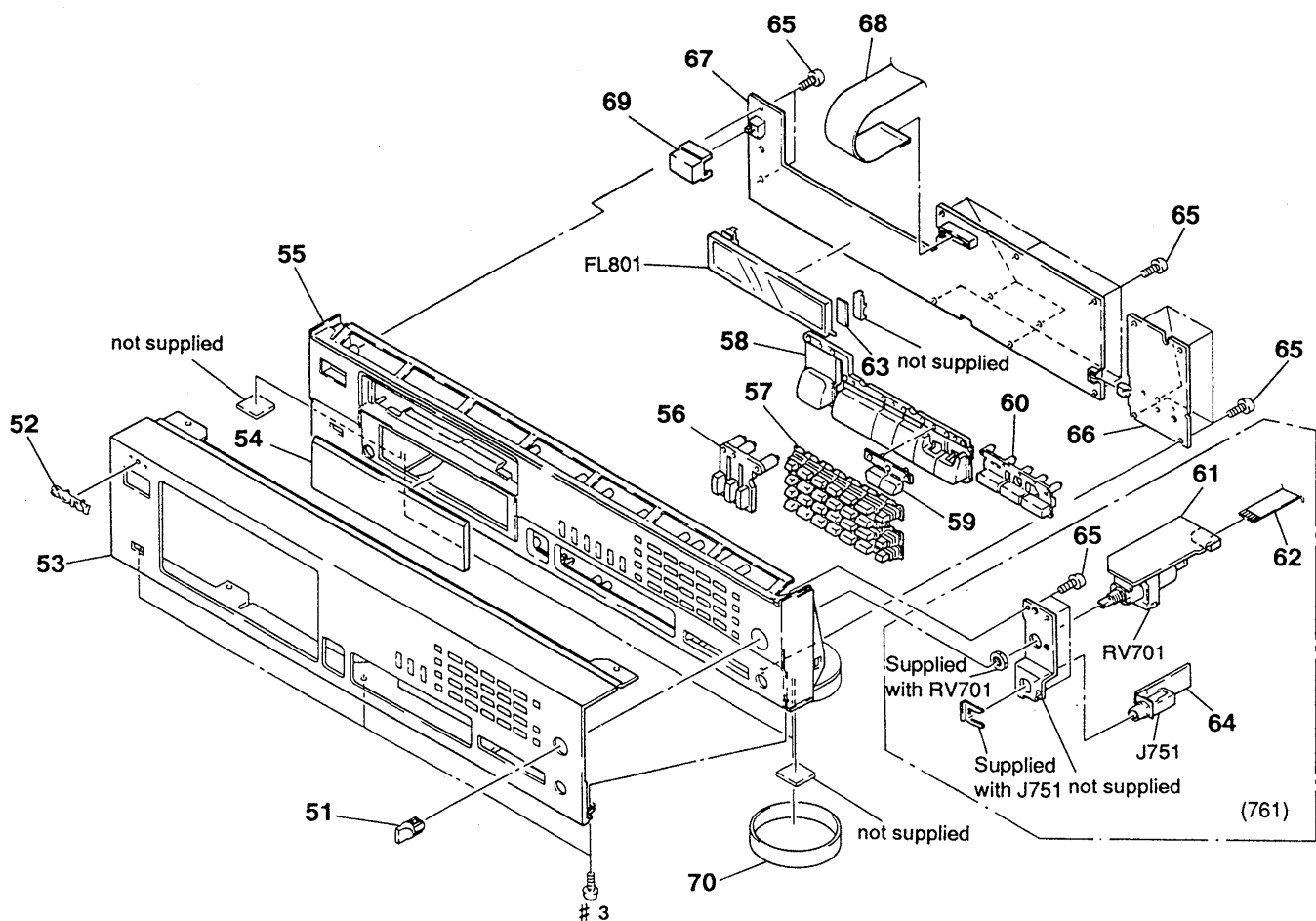
6-1. CABINET SECTION



Ref. No.	Part No.	Description
1	4-971-681-01	PANEL, LOADING
2	3-703-685-21	SCREW (+BV 3X8)
3	1-696-760-11	WIRE (FLAT TYPE) (23 CORE) (E, CH)
3	1-696-760-31	WIRE (FLAT TYPE) (23 CORE) (AEP, G, UK)
4	4-959-062-01	SHEET (CDM) (AEP, G, UK)
* 5	1-655-770-11	TRANS BOARD (AEP, G, UK)
6	4-967-959-01	SCREW (3X6) (UK)
6	7-685-871-01	SCREW +BVTT 3X6 (S) (AEP, G)
7	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6
* 8	A-4673-502-A	MAIN BOARD, COMPLETE (AEP, G)
* 8	A-4673-535-A	MAIN BOARD, COMPLETE (UK)
* 8	A-4673-706-A	MAIN BOARD, COMPLETE (E, CH)
* 9	3-309-144-21	HEAT SINK
10	4-956-885-11	FOOT (F58175S2W) (AEP, G)
10	X-4941-014-1	FOOT ASSY (UK, E, CH)
* 11	4-956-652-51	PANEL, BACK (UK)
* 11	4-956-652-71	PANEL, BACK (E, CH)
* 11	4-962-238-31	PANEL (ALS), BACK (AEP)
* 11	4-962-238-42	PANEL (ALS), BACK (G)
11	4-962-238-61	PANEL (ALS), BACK (UK)
12	4-955-939-01	WASHER (CASE)

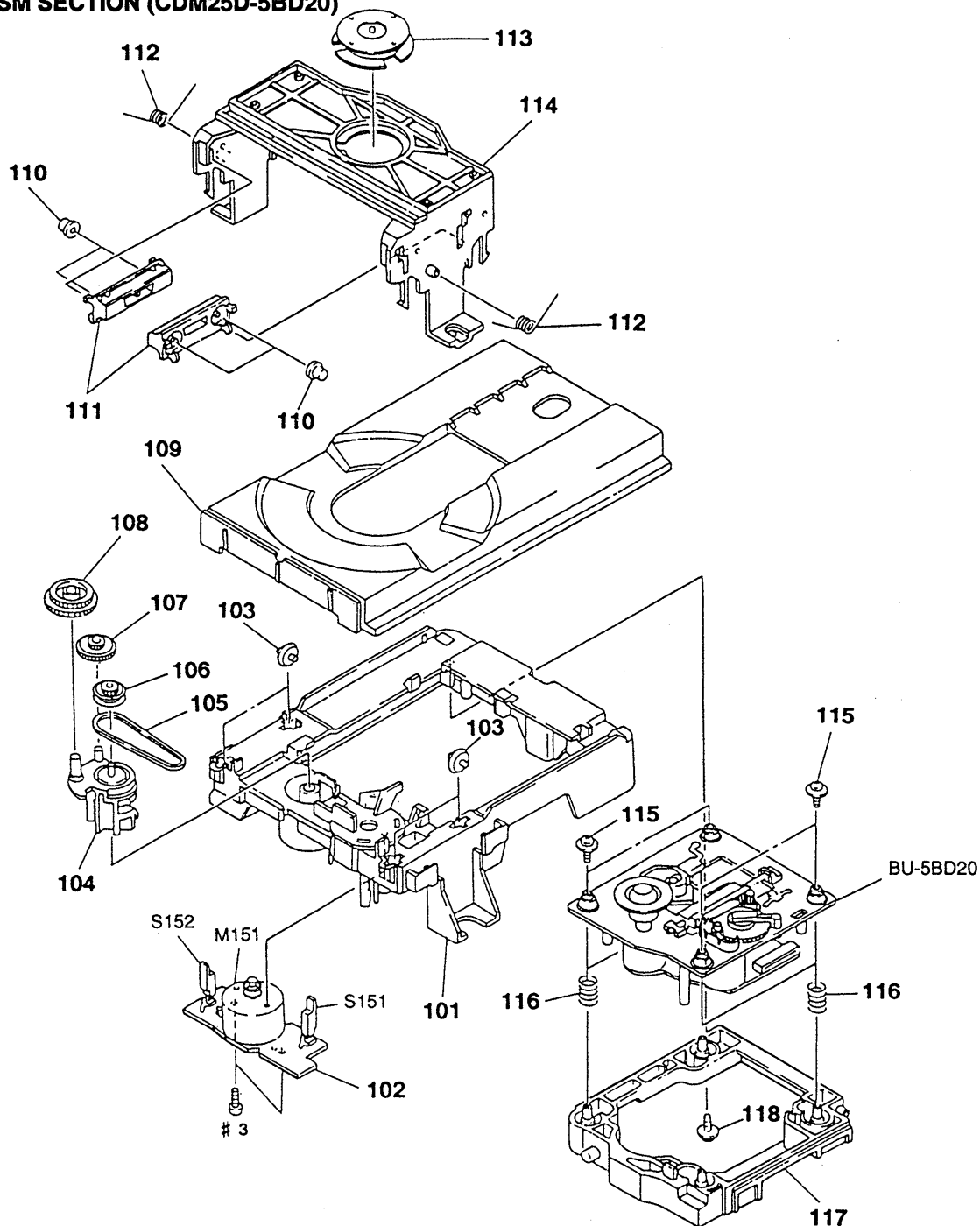
Ref. No.	Part No.	Description
13	4-959-121-01	DAMPER
14	4-959-077-01	DAMPER
15	4-927-653-01	SHEET (F/P)
* 16	3-681-263-11	SADDLE, WIRE (AEP, G)
17	3-703-244-00	BUSHING, CORD
Δ 18	1-696-907-11	CORD, POWER (UK)
Δ 19	1-575-651-21	CORD, POWER (AEP, G)
20	3-363-099-01	SCREW (CASE 3 TP2) (AEP, G)
20	4-974-509-01	SCREW (CASE 3B) (UK)
* 21	4-962-329-01	DAMPER
22	4-943-897-21	CASE (UK)
22	4-929-529-01	CASE (AEP, G, E, CH)
23	4-614-901-01	INSULATOR, TERMINAL (E, CH, UK)
24	4-974-510-01	SCREW (+BV 3X8 B) (UK)
25	4-955-939-01	WASHER (CASE)
Δ 26	1-696-027-11	CORD, POWER (E, CH)
27	1-569-007-11	ADAPTOR, CONVERSION 2P (E, CH)
Q933	8-729-021-82	TRANSISTOR 2SD2396K
Δ T901	1-423-518-11	TRANSFORMER, POWER (E, CH)
Δ T901	1-449-925-11	TRANSFORMER, POWER (AEP, G, UK)

6-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-950-189-01	KNOB (A) (VOL) (AEP, G)		65	4-951-620-01	SCREW (2.6X8), +BVTP (AEP, G, UK)	
52	4-942-568-01	EMBLEM (NO. 5), SONY		* 66	A-4673-505-A	DISP-2 BOARD, COMPLETE (AEP, G, UK)	
53	4-962-237-61	PANEL, FRONT (AEP, G)		66	A-4673-705-A	DISP-2 BOARD, COMPLETE (E, CH)	
53	4-962-237-71	PANEL, FRONT (UK, E, CH)		* 67	A-4673-504-A	DISP-1 BOARD, COMPLETE (AEP, G)	
54	4-962-199-01	PLATE, INDICATION		* 67	A-4673-588-A	DISP-1 BOARD, COMPLETE (UK)	
55	X-4943-372-1	BASE, PANEL		* 67	A-4673-707-A	DISP-1 BOARD, COMPLETE (E, CH)	
56	4-955-934-01	BUTTON (FILE)		68	1-751-713-11	WIRE (FLAT TYPE) (21 CORE)	
57	4-955-935-01	BUTTON (20 KEY)		69	4-947-034-01	BUTTON (POWER)	
58	4-955-931-01	BUTTON (PLAY)		70	4-933-135-31	RING (DIA. 58A), ORNAMENTAL (UK)	
59	4-955-932-01	BUTTON (MMS)		FL801	1-519-757-11	INDICATOR TUBE, FLUORESCENT	
60	4-955-933-01	BUTTON (MODE 3)		J751	1-770-307-11	JACK (LARGE TYPE) (PHONES) (AEP, G)	
* 61	1-655-769-11	VR BOARD (AEP, G)		RV701	1-238-974-11	RES, VAR, CARBON 10K/10K	
62	1-751-712-11	WIRE (FLAT TYPE) (11 CORE) (AEP, G)				(LINE OUT, PHONE LEVEL) (AEP, G)	
63	3-831-441-XX	CUSHION (AEP, G, UK)					
* 64	1-655-771-11	HEADPHONE BOARD (AEP, G)					

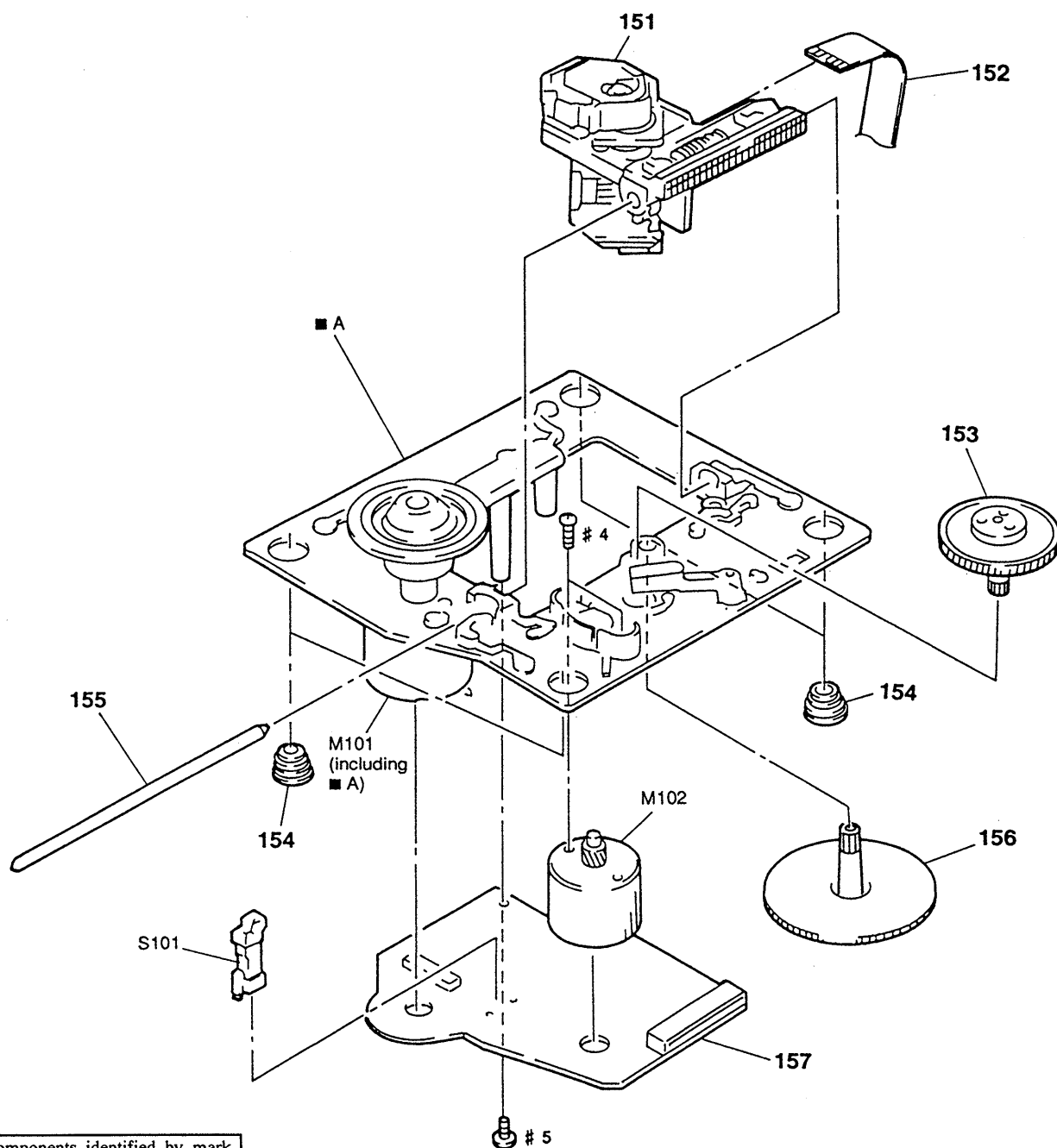
6-3. MECHANISM SECTION (CDM25D-5BD20)






Ref.No.	Part No.	Description
* 101	4-954-190-01	BASE (MD)
* 102	1-646-970-11	LOADING BOARD
103	4-954-193-01	ROLLER (A)
104	4-933-109-01	CAM
105	4-927-649-01	BELT
106	4-927-651-01	PULLEY (S)
107	4-967-268-01	GEAR (C)
108	4-933-107-01	GEAR (PL)
109	4-961-794-01	TABLE, DISC (E, CH)
109	4-961-794-11	TABLE, DISC (AEP, G, UK)
110	4-954-194-01	ROLLER (B)
111	4-954-199-01	PLATE, SLIDE

Ref.No.	Part No.	Description
112	4-954-195-01	SPRING, TORSION
* 113	1-452-538-11	MAGNET
* 114	4-954-192-01	HOLDER (M) (E, CH)
* 114	4-954-192-11	HOLDER (M) (AEP, G, UK)
115	4-933-134-01	SCREW +PTPHW M2. 6X6
116	4-959-996-01	SPRING (932), COMPRESSION
117	4-933-129-01	HOLDER (BU)
* 118	4-917-583-21	BRACKET, YOKE
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)

6-4. BASE UNIT SECTION (BU-5BD20)



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
 151	8-848-367-11	OPTICAL PICK-UP BLOCK KSS-213BA/F-N		156	4-917-564-01	GEAR (P), FLATNESS	
152	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)		* 157	A-4673-509-A	BD BOARD, COMPLETE (E, CH)	
153	4-917-567-01	GEAR (M) (E, CH)		157	A-4673-511-A	BD BOARD, COMPLETE (AEP, G, UK)	
153	4-917-567-21	GEAR (M) (AEP, G, UK)		M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
154	4-951-940-01	INSULATOR (BU)		M102	X-4917-504-1	MOTOR ASSY (SLED)	
155	4-917-565-01	SHAFT, SLED		S101	1-572-085-11	SWITCH, LEAF (LIMIT)	

SECTION 7

ELECTRICAL PARTS LIST

NOTE:

The components identified by mark Δ or dotted line with mark Δ 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.
- 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
- Abbreviation
G : German model
CH : Chinese model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-4673-509-A	BD BOARD, COMPLETE (E, CH) *****		IC103	8-752-072-45	IC CXA1821M-T6	
	A-4673-511-A	BD BOARD, COMPLETE (AEP, G, UK) *****				< MOTOR >	
		< CAPACITOR >		M101	X-4917-504-1	MOTOR ASSY (SLED)	
				M102	X-4917-523-4	BASE (OUTSERT) ASSY (SPINDLE MOTOR)	
						< TRANSISTOR >	
C101	1-163-005-11	CERAMIC CHIP 470PF 10%	50V	Q101	8-729-010-08	TRANSISTOR MSB710-R	
C102	1-163-038-91	CERAMIC CHIP 0.1uF	25V			< RESISTOR >	
C103	1-163-005-11	CERAMIC CHIP 470PF 10%	50V	R101	1-216-077-00	METAL CHIP 15K 5%	1/10W
C105	1-135-155-21	TANTALUM CHIP 4.7uF 10%	16V	R102	1-216-097-00	METAL CHIP 100K 5%	1/10W
C106	1-164-346-11	CERAMIC CHIP 1uF	16V	R103	1-216-077-00	METAL CHIP 15K 5%	1/10W
				R104	1-216-085-00	METAL CHIP 33K 5%	1/10W
C107	1-164-346-11	CERAMIC CHIP 1uF	16V	R105	1-216-097-00	METAL CHIP 100K 5%	1/10W
C108	1-163-035-00	CERAMIC CHIP 0.047uF	50V	R106	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
C109	1-163-145-00	CERAMIC CHIP 0.0015uF 5%	50V	R107	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
C110	1-163-017-00	CERAMIC CHIP 0.0047uF 5%	50V	R108	1-216-073-00	METAL CHIP 10K 5%	1/10W
C111	1-163-251-11	CERAMIC CHIP 100PF 5%	50V	R109	1-216-121-00	METAL CHIP 1M 5%	1/10W
				R110	1-216-025-91	METAL GLAZE 100 5%	1/10W
C112	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R112	1-216-049-91	METAL GLAZE 1K 5%	1/10W
C113	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R123	1-216-073-00	METAL CHIP 10K 5%	1/10W
C115	1-126-607-11	ELECT CHIP 47uF 20%	4V	R124	1-216-097-00	METAL CHIP 100K 5%	1/10W
C116	1-126-607-11	ELECT CHIP 47uF 20%	4V	R125	1-216-049-91	METAL GLAZE 1K 5%	1/10W
C117	1-126-209-11	ELECT 100uF 20%	4V	R126	1-216-049-91	METAL GLAZE 1K 5%	1/10W
				R127	1-216-049-91	METAL GLAZE 1K 5%	1/10W
C118	1-163-275-11	CERAMIC CHIP 0.001uF 5%	50V	R131	1-216-037-00	METAL CHIP 330 5%	1/10W
C119	1-163-097-00	CERAMIC CHIP 15PF 5%	50V	R135	1-216-295-91	CONDUCTOR, CHIP (2012)	
C123	1-164-232-11	CERAMIC CHIP 0.01uF	50V	R136	1-216-295-91	CONDUCTOR, CHIP (2012)	
C124	1-164-005-11	CERAMIC CHIP 0.47uF	25V	R137	1-216-295-91	CONDUCTOR, CHIP (2012)	
C140	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R138	1-216-295-91	CONDUCTOR, CHIP (2012)	
				R141	1-216-089-00	METAL CHIP 47K 5%	1/10W
C141	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R142	1-216-081-00	METAL CHIP 22K 5%	1/10W
C151	1-163-237-11	CERAMIC CHIP 27PF 5%	50V	R143	1-216-101-00	METAL CHIP 150K 5%	1/10W
C153	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R144	1-216-101-00	METAL CHIP 150K 5%	1/10W
C154	1-164-336-11	CERAMIC CHIP 0.33uF	25V				
C156	1-163-237-11	CERAMIC CHIP 27PF 5%	50V	R146	1-216-073-00	METAL CHIP 10K 5%	1/10W
				R147	1-216-081-00	METAL CHIP 22K 5%	1/10W
C157	1-163-145-00	CERAMIC CHIP 0.0015uF 5%	50V	R148	1-216-001-00	METAL CHIP 10 5%	1/10W
C159	1-163-019-00	CERAMIC CHIP 0.0068uF 10%	50V	R149	1-216-003-11	METAL GLAZE 12 5%	1/10W
C161	1-163-038-91	CERAMIC CHIP 0.1uF	25V	R158	1-216-111-00	METAL CHIP 390K 5%	1/10W
		< CONNECTOR >		R159	1-216-101-00	METAL CHIP 150K 5%	1/10W
CN101	1-770-072-11	CONNECTOR (FFC) 23P		R160	1-216-295-91	CONDUCTOR, CHIP (2012)	
CN102	1-770-014-11	CONNECTOR, FFC/FPC 16P					
		< IC >					
IC101	8-752-369-78	IC CXD2545Q					
IC102	8-759-176-09	IC BA6392FP					

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R161	1-216-308-00	METAL CHIP	4.7 5% 1/10W	R805	1-249-427-11	CARBON	6.8K 5% 1/4W F
R162	1-216-101-00	METAL CHIP	150K 5% 1/10W	R806	1-249-427-11	CARBON	6.8K 5% 1/4W F
< SWITCH >				R807	1-249-427-11	CARBON	6.8K 5% 1/4W F
S101	1-572-085-11	SWITCH, LEAF (LIMIT)		R808	1-249-427-11	CARBON	6.8K 5% 1/4W F
*****				R809	1-249-427-11	CARBON	6.8K 5% 1/4W F
*	A-4673-504-A	DISP-1 BOARD, COMPLETE (AEP, G)		R810	1-249-427-11	CARBON	6.8K 5% 1/4W F
		*****		R811	1-249-427-11	CARBON	6.8K 5% 1/4W F
*	A-4673-588-A	DISP-1 BOARD, COMPLETE (UK)		R812	1-249-415-11	CARBON	680 5% 1/4W F
		*****		R813	1-249-417-11	CARBON	1K 5% 1/4W F
*	A-4673-707-A	DISP-1 BOARD, COMPLETE (E, CH)		R814	1-249-419-11	CARBON	1.5K 5% 1/4W F
		*****		R815	1-249-421-11	CARBON	2.2K 5% 1/4W F
3-815-381-01	CUSHION			R816	1-249-423-11	CARBON	3.3K 5% 1/4W F
< CAPACITOR >				R817	1-249-427-11	CARBON	6.8K 5% 1/4W F
C801	1-161-494-00	CERAMIC	0.022uF 25V	R818	1-249-431-11	CARBON	15K 5% 1/4W F
C802	1-161-494-00	CERAMIC	0.022uF 25V	R819	1-249-415-11	CARBON	680 5% 1/4W F
C803	1-164-159-11	CERAMIC	0.1uF 50V	R820	1-249-417-11	CARBON	1K 5% 1/4W F
C804	1-161-494-00	CERAMIC	0.022uF 25V	R821	1-249-419-11	CARBON	1.5K 5% 1/4W F
C805	1-164-159-11	CERAMIC	0.1uF 50V	R822	1-249-421-11	CARBON	2.2K 5% 1/4W F
C807	1-161-494-00	CERAMIC	0.022uF 25V	R823	1-249-423-11	CARBON	3.3K 5% 1/4W F
< CONNECTOR >				R824	1-249-427-11	CARBON	6.8K 5% 1/4W F
CN801	1-750-999-11	CONNECTOR, FFC/FPC 21P		R825	1-249-431-11	CARBON	15K 5% 1/4W F
CN803	1-750-194-11	CONNECTOR, BOARD TO BOARD 4P		R826	1-249-415-11	CARBON	680 5% 1/4W F
< DIODE >				R827	1-249-417-11	CARBON	1K 5% 1/4W F
D801	8-719-110-03	DIODE RD7.5ESB2 (AEP, G, UK)		R828	1-249-419-11	CARBON	1.5K 5% 1/4W F
D801	8-719-110-04	DIODE RD7.5ESB3 (E, CH)		R829	1-249-421-11	CARBON	2.2K 5% 1/4W F
< FLUORESCENT INDICATOR >				R830	1-249-423-11	CARBON	3.3K 5% 1/4W F
FL801	1-519-757-11	INDICATOR TUBE, FLUORESCENT		R831	1-249-427-11	CARBON	6.8K 5% 1/4W F
< IC >				R832	1-249-429-11	CARBON	10K 5% 1/4W F
IC801	8-752-868-32	IC CXP82316-059Q		< SWITCH >			
IC802	8-741-810-59	IC SBX1810-59		S801	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)	
< TRANSISTOR >				S803	1-554-303-21	SWITCH, TACTILE (▷)	
Q801	8-729-900-80	TRANSISTOR DTC114ES (AEP, G, E, CH)		S804	1-554-303-21	SWITCH, TACTILE (△ OPEN/CLOSE)	
Q801	8-729-029-66	TRANSISTOR DTC114ESA (UK)		S805	1-554-303-21	SWITCH, TACTILE (■)	
< RESISTOR >				S806	1-554-303-21	SWITCH, TACTILE (◀◀◀)	
R800	1-247-863-91	CARBON	22K 5% 1/4W (AEP, G, UK)	S807	1-554-303-21	SWITCH, TACTILE (▷▷▷)	
R800	1-249-433-11	CARBON	22K 5% 1/4W (E, CH)	S808	1-554-303-21	SWITCH, TACTILE (▶▶▶)	
R802	1-249-441-11	CARBON	100K 5% 1/4W	S809	1-554-303-21	SWITCH, TACTILE (◀◀◀)	
R804	1-249-427-11	CARBON	6.8K 5% 1/4W F	S810	1-554-303-21	SWITCH, TACTILE (▢)	
				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)	

DISP-1

DISP-2

HEADPHONE

LOADING

MAIN

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
S822	1-554-303-21	SWITCH, TACTILE (1)		S840	1-554-303-21	SWITCH, TACTILE (20)	
S823	1-554-303-21	SWITCH, TACTILE (AUTO SPACE)		S841	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S824	1-554-303-21	SWITCH, TACTILE (6)		S842	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S825	1-554-303-21	SWITCH, TACTILE (2)		S843	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
< VIBRATOR >				*****			
X801	1-577-082-11	VIBRATOR, CERAMIC (4MHz) (AEP, G, UK)		*	1-655-771-11	HEADPHONE BOARD (AEP, G)	
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHz) (E, CH)		*****			
*****				< CAPACITOR >			
*	A-4673-505-A	DISP-2 BOARD, COMPLETE (AEP, G, UK)		C471	1-162-294-31	CERAMIC 0.001uF 10% 50V (AEP, G)	
*****				C571	1-162-294-31	CERAMIC 0.001uF 10% 50V (AEP, G)	
*	A-4673-705-A	DISP-2 BOARD, COMPLETE (E, CH)		C752	1-164-159-11	CERAMIC 0.1uF 50V (AEP, G)	
*****				< JACK >			
< CONNECTOR >				J751	1-770-307-11	JACK (LARGE TYPE) (PHONES) (AEP, G)	
CN804	1-750-185-11	CONNECTOR, BOARD TO BOARD 4P		*****			
< RESISTOR >				*	1-646-970-11	LOADING BOARD	
R834	1-249-415-11	CARBON 680 5% 1/4W F		*****			
R835	1-249-417-11	CARBON 1K 5% 1/4W F		< CONNECTOR >			
R836	1-249-419-11	CARBON 1.5K 5% 1/4W F		* CN151	1-568-943-11	PIN, CONNECTOR 5P	
R837	1-249-421-11	CARBON 2.2K 5% 1/4W F		< MOTOR >			
R838	1-249-423-11	CARBON 3.3K 5% 1/4W F		M151	A-4604-363-A	MOTOR (L) ASSY	
R839	1-249-427-11	CARBON 6.8K 5% 1/4W F		< SWITCH >			
R840	1-249-431-11	CARBON 15K 5% 1/4W F		S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)	
R841	1-249-415-11	CARBON 680 5% 1/4W F		S152	1-572-086-11	SWITCH, LEAF (LOAD IN)	
R842	1-249-417-11	CARBON 1K 5% 1/4W F		*****			
R843	1-249-419-11	CARBON 1.5K 5% 1/4W F		*	A-4673-502-A	MAIN BOARD, COMPLETE (AEP, G)	
R844	1-249-421-11	CARBON 2.2K 5% 1/4W F		*****			
R845	1-249-423-11	CARBON 3.3K 5% 1/4W F		*	A-4673-535-A	MAIN BOARD, COMPLETE (UK)	
R846	1-249-427-11	CARBON 6.8K 5% 1/4W F		*****			
R847	1-249-415-11	CARBON 680 5% 1/4W F		*	A-4673-706-A	MAIN BOARD, COMPLETE (E, CH)	
R848	1-249-417-11	CARBON 1K 5% 1/4W F		*****			
< SWITCH >				*	3-309-144-21	HEAT SINK	
S826	1-554-303-21	SWITCH, TACTILE (19)		4-967-959-01	SCREW (3X6) (UK, E, CH)		
S827	1-554-303-21	SWITCH, TACTILE (14)		7-685-871-01	SCREW +BVT 3X6 (S) (AEP, G)		
S828	1-554-303-21	SWITCH, TACTILE (9)		< CAPACITOR >			
S829	1-554-303-21	SWITCH, TACTILE (4)		C301	1-164-159-11	CERAMIC 0.1uF 50V	
S830	1-554-303-21	SWITCH, TACTILE (3)		C303	1-162-306-11	CERAMIC 0.01uF 30% 16V	
S831	1-554-303-21	SWITCH, TACTILE (8)		C304	1-161-494-00	CERAMIC 0.022uF 25V	
S832	1-554-303-21	SWITCH, TACTILE (13)		C305	1-164-159-11	CERAMIC 0.1uF 50V	
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)					

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C306	1-126-962-11	ELECT	3.3uF	20%	50V	C937	1-136-850-11	FILM	0.1uF	5%	63V
C353	1-162-290-31	CERAMIC	470PF	10%	50V	C939	1-124-916-11	ELECT	22uF	20%	63V
C356	1-164-159-11	CERAMIC	0.1uF		50V	C941	1-124-572-11	ELECT	100uF	20%	63V (UK, E, CH)
C357	1-162-208-31	CERAMIC	24PF	5%	50V	C941	1-126-052-11	ELECT	100uF	20%	50V (AEP, G)
C358	1-102-947-00	CERAMIC	10PF	5%	50V	C942	1-124-120-11	ELECT	220uF	20%	25V
C359	1-102-947-00	CERAMIC	10PF	5%	50V	C943	1-162-294-31	CERAMIC	0.001uF	10%	50V
C360	1-130-495-00	MYLAR	0.1uF	5%	50V	C944	1-136-850-11	FILM	0.1uF	5%	63V (AEP, G)
C361	1-124-572-11	ELECT	100uF	20%	63V	< CONNECTOR >					
C392	1-164-159-11	CERAMIC	0.1uF		50V	CN301	1-750-428-11	CONNECTOR, FFC/FPC	23P		
C401	1-104-665-11	ELECT	100uF	20%	16V	CN302	1-750-426-11	CONNECTOR, FFC/FPC	21P		
C402	1-164-159-11	CERAMIC	0.1uF		50V	* CN304	1-750-416-11	CONNECTOR, FFC/FPC	11P	(AEP, G)	
C403	1-124-122-11	ELECT	100uF	20%	50V	CN951	1-564-510-11	PLUG, CONNECTOR	7P		
C404	1-130-495-00	MYLAR	0.1uF	5%	50V	< DIODE >					
C405	1-130-495-00	MYLAR	0.1uF	5%	50V	D301	8-719-109-82	DIODE	RD4.7ES-B3	(E, CH)	
C406	1-130-495-00	MYLAR	0.1uF	5%	50V	D301	8-719-921-40	DIODE	MTZJ-4.7C	(AEP, G, UK)	
C407	1-130-495-00	MYLAR	0.1uF	5%	50V	D302	8-719-815-85	DIODE	1S1585	(AEP, G, UK)	
C408	1-164-159-11	CERAMIC	0.1uF		50V	D302	8-719-987-63	DIODE	1N4148M	(E, CH)	
C409	1-107-611-11	MICA	100PF	5%	500V	D303	8-719-815-85	DIODE	1S1585	(AEP, G, UK)	
C410	1-102-816-00	CERAMIC	120PF	5%	50V	D303	8-719-987-63	DIODE	1N4148M	(E, CH)	
C411	1-102-816-00	CERAMIC	120PF	5%	50V	D910	8-719-200-82	DIODE	11ES2		
C412	1-106-343-00	MYLAR	1000PF	5%	200V	D911	8-719-815-85	DIODE	1S1585	(AEP, G, UK)	
C413	1-130-484-00	MYLAR	0.012uF	5%	50V	D911	8-719-987-63	DIODE	1N4148M	(E, CH)	
C414	1-136-850-11	FILM	0.1uF	5%	63V	D912	8-719-113-76	DIODE	RD27ES-B2	(E, CH)	
C415	1-124-918-11	ELECT	47uF	20%	63V	D912	8-719-982-15	DIODE	MTZJ-27B	(AEP, G, UK)	
C501	1-104-665-11	ELECT	100uF	20%	16V	D930	8-719-210-21	DIODE	11EQS04		
C502	1-164-159-11	CERAMIC	0.1uF		50V	D931	8-719-210-21	DIODE	11EQS04		
C503	1-124-122-11	ELECT	100uF	20%	50V	D932	8-719-210-21	DIODE	11EQS04		
C504	1-130-495-00	MYLAR	0.1uF	5%	50V	D933	8-719-210-21	DIODE	11EQS04		
C505	1-130-495-00	MYLAR	0.1uF	5%	50V	D934	8-719-815-85	DIODE	1S1585	(AEP, G, UK)	
C506	1-130-495-00	MYLAR	0.1uF	5%	50V	D934	8-719-987-63	DIODE	1N4148M	(E, CH)	
C507	1-130-495-00	MYLAR	0.1uF	5%	50V	D935	8-719-109-82	DIODE	RD4.7ES-B3	(E, CH)	
C508	1-164-159-11	CERAMIC	0.1uF		50V	D935	8-719-921-40	DIODE	MTZJ-4.7C	(AEP, G, UK)	
C509	1-107-611-11	MICA	100PF	5%	500V	D936	8-719-815-85	DIODE	1S1585	(AEP, G, UK)	
C510	1-102-816-00	CERAMIC	120PF	5%	50V	D936	8-719-987-63	DIODE	1N4148M	(E, CH)	
C511	1-102-816-00	CERAMIC	120PF	5%	50V	D937	8-719-114-30	DIODE	RD5.1JS-B2	(E, CH)	
C512	1-106-343-00	MYLAR	1000PF	5%	200V	D937	8-719-115-38	DIODE	RD5.1JS-T1B2	(AEP, G, UK)	
C513	1-130-484-00	MYLAR	0.012uF	5%	50V	< GROUND TERMINAL >					
C514	1-136-850-11	FILM	0.1uF	5%	63V	EB601	1-537-770-21	TERMINAL BOARD, GROUND	(UK, E, CH)		
C515	1-124-918-11	ELECT	47uF	20%	63V	< IC >					
C910	1-107-611-11	MICA	100PF	5%	500V	IC301	8-759-822-09	IC	LB1641		
C911	1-124-572-11	ELECT	100uF	20%	63V	IC303	8-759-334-75	IC	CXD8505AQ		
C915	1-124-907-11	ELECT	10uF	20%	50V	IC304	8-759-710-59	IC	NJM4580D-D	(AEP, G)	
C920	1-162-294-31	CERAMIC	0.001uF	10%	50V	IC305	8-749-921-12	IC	GP1F32T		
C921	1-126-962-11	ELECT	3.3uF	20%	50V	IC401	8-759-712-02	IC	NJM2114D	(AEP, G)	
C922	1-164-159-11	CERAMIC	0.1uF		50V	IC401	8-759-971-80	IC	AD712JN	(UK, E, CH)	
C923	1-161-494-00	CERAMIC	0.022uF		25V						
C930	1-124-360-00	ELECT	1000uF	20%	16V						
C931	1-124-523-11	ELECT	4700uF	20%	16V						
C932	1-104-665-11	ELECT	100uF	20%	16V						
C935	1-124-910-11	ELECT	47uF	20%	50V						

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC501	8-759-712-02	IC NJM2114D (AEP, G)		R317	1-249-441-11	CARBON 100K 5% 1/4W	
IC501	8-759-971-80	IC AD712JN (UK, E, CH)		R401	1-249-435-11	CARBON 33K 5% 1/4W	
IC920	8-759-636-16	IC M51957AL		R402	1-249-435-11	CARBON 33K 5% 1/4W	
IC930	8-759-710-59	IC NJM4580D-D					
IC931	8-759-710-59	IC NJM4580D-D		R403	1-249-435-11	CARBON 33K 5% 1/4W	
< JACK >				R404	1-249-435-11	CARBON 33K 5% 1/4W	
J301	1-569-443-21	JACK, PIN 4P (LINE OUT) (FIXED, VARIABLE)	(AEP, G)	R405	1-249-432-11	CARBON 18K 5% 1/4W	
J301	1-766-507-11	JACK, PIN 2P (LINE OUT) (FIXED) (UK, E, CH)		R406	1-249-432-11	CARBON 18K 5% 1/4W	
< COIL >				R407	1-247-863-91	CARBON 22K 5% 1/4W	(AEP, G, UK)
L301	1-410-322-11	INDUCTOR 3. 3uH		R407	1-249-433-11	CARBON 22K 5% 1/4W	(E, CH)
L302	1-410-322-11	INDUCTOR 3. 3uH		R408	1-247-863-91	CARBON 22K 5% 1/4W	(AEP, G, UK)
L303	1-410-503-11	INDUCTOR 3. 3uH		R408	1-249-433-11	CARBON 22K 5% 1/4W	(E, CH)
< TRANSISTOR >				R409	1-247-830-11	CARBON 910 5% 1/4W	
Q301	8-729-029-56	TRANSISTOR DTA144ESA (UK)		R410	1-249-420-11	CARBON 1. 8K 5% 1/4W	F
Q301	8-729-900-65	TRANSISTOR DTA144ES (AEP, G, E, CH)		R411	1-247-891-00	CARBON 330K 5% 1/4W	
Q401	8-729-231-55	TRANSISTOR 2SC2878-AB		R412	1-247-815-91	CARBON 220 5% 1/4W	(AEP, G)
Q403	8-729-231-55	TRANSISTOR 2SC2878-AB (AEP, G)		R412	1-249-414-11	CARBON 560 5% 1/4W	F (UK, E, CH)
Q404	8-729-900-65	TRANSISTOR DTA144ES (AEP, G)		R413	1-247-815-91	CARBON 220 5% 1/4W	(AEP, G)
Q501	8-729-231-55	TRANSISTOR 2SC2878-AB		R414	1-249-393-11	CARBON 10 5% 1/4W	F (AEP, G)
Q503	8-729-231-55	TRANSISTOR 2SC2878-AB (AEP, G)		R415	1-247-807-31	CARBON 100 5% 1/4W	(UK, E, CH)
Q504	8-729-900-65	TRANSISTOR DTA144ES (AEP, G)		R415	1-247-815-91	CARBON 220 5% 1/4W	(AEP, G)
Q910	8-729-019-64	TRANSISTOR 2SB1041		R416	1-247-815-91	CARBON 220 5% 1/4W	(AEP, G)
Q911	8-729-119-76	TRANSISTOR 2SA1175-HFE		R417	1-249-425-11	CARBON 4. 7K 5% 1/4W	F (AEP, G)
Q920	8-729-030-02	TRANSISTOR DTC144ESA (UK)		R418	1-249-441-11	CARBON 100K 5% 1/4W	(AEP, G)
Q920	8-729-900-89	TRANSISTOR DTC144ES (AEP, G, E, CH)		R419	1-249-425-11	CARBON 4. 7K 5% 1/4W	F
Q930	8-729-104-18	TRANSISTOR 2SC3514		R420	1-247-826-00	CARBON 620 5% 1/4W	
Q931	8-729-030-02	TRANSISTOR DTC144ESA (UK)		R451	1-249-435-11	CARBON 33K 5% 1/4W	(AEP, G)
Q931	8-729-900-89	TRANSISTOR DTC144ES (AEP, G, E, CH)		R452	1-249-435-11	CARBON 33K 5% 1/4W	(AEP, G)
Q932	8-729-029-56	TRANSISTOR DTA144ESA (UK)		R453	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, G)
Q932	8-729-900-65	TRANSISTOR DTA144ES (AEP, G, E, CH)		R454	1-249-435-11	CARBON 33K 5% 1/4W	(AEP, G)
Q933	8-729-021-82	TRANSISTOR 2SD2396K		R455	1-249-402-11	CARBON 56 5% 1/4W	F (AEP, G)
Q934	8-729-021-82	TRANSISTOR 2SD2396K		R501	1-249-435-11	CARBON 33K 5% 1/4W	
< RESISTOR >				R502	1-249-435-11	CARBON 33K 5% 1/4W	
R300	1-249-415-11	CARBON 680 5% 1/4W	F	R503	1-249-435-11	CARBON 33K 5% 1/4W	
R301	1-249-417-11	CARBON 1K 5% 1/4W	F	R504	1-249-435-11	CARBON 33K 5% 1/4W	
R302	1-249-417-11	CARBON 1K 5% 1/4W	F	R505	1-249-432-11	CARBON 18K 5% 1/4W	
R303	1-249-417-11	CARBON 1K 5% 1/4W	F	R506	1-249-432-11	CARBON 18K 5% 1/4W	
R304	1-249-417-11	CARBON 1K 5% 1/4W	F	R507	1-247-863-91	CARBON 22K 5% 1/4W	(AEP, G, UK)
R305	1-249-415-11	CARBON 680 5% 1/4W	F	R507	1-249-433-11	CARBON 22K 5% 1/4W	(E, CH)
R306	1-247-895-00	CARBON 470K 5% 1/4W		R508	1-247-863-91	CARBON 22K 5% 1/4W	(AEP, G, UK)
R308	1-249-429-11	CARBON 10K 5% 1/4W		R508	1-249-433-11	CARBON 22K 5% 1/4W	(E, CH)
R312	1-249-417-11	CARBON 1K 5% 1/4W	F	R509	1-247-830-11	CARBON 910 5% 1/4W	
R313	1-247-815-91	CARBON 220 5% 1/4W	(AEP, G, UK)	R510	1-249-420-11	CARBON 1. 8K 5% 1/4W	F
R313	1-249-409-11	CARBON 220 5% 1/4W	F (E, CH)	R511	1-247-891-00	CARBON 330K 5% 1/4W	
R314	1-249-425-11	CARBON 4. 7K 5% 1/4W	F	R512	1-247-815-91	CARBON 220 5% 1/4W	(AEP, G)
				R512	1-249-414-11	CARBON 560 5% 1/4W	F (UK, E, CH)
				R513	1-247-815-91	CARBON 220 5% 1/4W	(AEP, G)
				R514	1-249-393-11	CARBON 10 5% 1/4W	F (AEP, G)
				R515	1-247-807-31	CARBON 100 5% 1/4W	(UK, E, CH)
				R515	1-247-815-91	CARBON 220 5% 1/4W	(AEP, G)
				R516	1-247-815-91	CARBON 220 5% 1/4W	(AEP, G)

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R517	1-249-425-11	CARBON 4.7K 5% 1/4W	F (AEP, G)			< SWITCH >	
R518	1-249-441-11	CARBON 100K 5% 1/4W	(AEP, G)				
R519	1-249-425-11	CARBON 4.7K 5% 1/4W	F	△S901	1-571-722-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (E, CH)	
R520	1-247-826-00	CARBON 620 5% 1/4W				< TRANSFORMER >	
R541	1-249-435-11	CARBON 33K 5% 1/4W	(AEP, G)	△T901	1-423-518-11	TRANSFORMER, POWER (E, CH)	
R542	1-249-435-11	CARBON 33K 5% 1/4W	(AEP, G)	△T901	1-449-925-11	TRANSFORMER, POWER (AEP, G, UK)	
R543	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, G)			*****	
R544	1-249-435-11	CARBON 33K 5% 1/4W	(AEP, G)	*	1-655-769-11	VR BOARD (AEP, G)	
R545	1-249-402-11	CARBON 56 5% 1/4W	F (AEP, G)			*****	
R910	1-249-390-11	CARBON 5.6 5% 1/4W	F			< CAPACITOR >	
R911	1-249-390-11	CARBON 5.6 5% 1/4W	F	C701	1-161-494-00	CERAMIC 0.022uF 25V (AEP, G)	
R912	1-249-423-11	CARBON 3.3K 5% 1/4W	F	C702	1-124-443-00	ELECT 100uF 20% 10V (AEP, G)	
R913	1-249-423-11	CARBON 3.3K 5% 1/4W	F			< CONNECTOR >	
R915	1-249-429-11	CARBON 10K 5% 1/4W		* CN701	1-568-942-11	PIN, CONNECTOR 4P (AEP, G)	
R916	1-249-438-11	CARBON 56K 5% 1/4W		CN703	1-750-452-11	CONNECTOR, FFC/FPC 11P (AEP, G)	
R920	1-249-436-11	CARBON 39K 5% 1/4W				< IC >	
R921	1-249-431-11	CARBON 15K 5% 1/4W		IC701	8-759-962-08	IC BA6208 (AEP, G)	
R922	1-249-423-11	CARBON 3.3K 5% 1/4W	F			< RESISTOR >	
R930	1-249-411-11	CARBON 330 5% 1/4W		R701	1-249-417-11	CARBON 1K 5% 1/4W F (AEP, G)	
R931	1-249-421-11	CARBON 2.2K 5% 1/4W	F	R702	1-249-417-11	CARBON 1K 5% 1/4W F (AEP, G)	
R932	1-249-436-11	CARBON 39K 5% 1/4W				< VARIABLE RESISTOR >	
R933	1-247-807-31	CARBON 100 5% 1/4W		RV701	1-238-974-11	RES, VAR, CARBON 10K/10K (LINE OUT, PHONE LEVEL) (AEP, G)	
R934	1-249-421-11	CARBON 2.2K 5% 1/4W	F			*****	
R935	1-249-422-11	CARBON 2.7K 5% 1/4W	F			MISCELLANEOUS	
R937	1-249-417-11	CARBON 1K 5% 1/4W	F			*****	
R938	1-247-807-31	CARBON 100 5% 1/4W		3	1-696-760-11	WIRE (FLAT TYPE) (23 CORE) (E, CH)	
R939	1-249-425-11	CARBON 4.7K 5% 1/4W	F	3	1-696-760-31	WIRE (FLAT TYPE) (23 CORE) (AEP, G, UK)	
R940	1-249-423-11	CARBON 3.3K 5% 1/4W	F	△18	1-696-907-11	CORD, POWER (UK)	
R941	1-249-428-11	CARBON 8.2K 5% 1/4W	F	△19	1-575-651-21	CORD, POWER (AEP, G)	
R942	1-249-425-11	CARBON 4.7K 5% 1/4W	F	△26	1-696-027-11	CORD, POWER (E, CH)	
R943	1-249-425-11	CARBON 4.7K 5% 1/4W	F	62	1-751-712-11	WIRE (FLAT TYPE) (11 CORE) (761)	
		< VIBRATOR >		68	1-751-713-11	WIRE (FLAT TYPE) (21 CORE)	
X301	1-579-161-11	VIBRATOR, CRYSTAL (45.1584MHz)		△151	8-848-367-11	OPTICAL PICK-UP BLOCK KSS-213BA/F-N	
		*****		152	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
*	1-655-770-11	TRANS BOARD (AEP, G, UK)		FL801	1-519-757-11	INDICATOR TUBE, FLUORESCENT	
		*****		J751	1-770-307-11	JACK (LARGE TYPE) (PHONES) (AEP, G)	
*	1-657-705-11	TRANS BOARD (E, CH)		M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
		*****		M102	X-4917-504-1	MOTOR ASSY (SLED)	
		< CAPACITOR >		M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
C901	1-164-159-11	CERAMIC 0.1uF	50V				
		< CONNECTOR >					
CN901	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P					

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
Q933	8-729-021-82	TRANSISTOR 2SD2396K	
RV701	1-238-974-11	RES, VAR, CARBON 10K/10K (LINE OUT, PHONE LEVEL) (AEP, G)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)	
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)	
△T901	1-423-518-11	TRANSFORMER, POWER (E, CH)	
△T901	1-449-925-11	TRANSFORMER, POWER (AEP, G, UK)	

ACCESSORIES & PACKING MATERIALS			

	1-473-125-11	REMOTE COMMANDER (RM-D820)	
	1-590-925-31	CORD, CONNECTION (AUDIO 100cm)	
	1-696-760-11	WIRE (FLAT TYPE) (23 CORE) (E, CH)	
	3-759-994-51	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, SWEDISH) (AEP, UK)	
	3-759-994-61	MANUAL, INSTRUCTION (GERMAN, DUTCH, ITALIAN, PORTUGUESE) (AEP)	
	3-759-994-71	MANUAL, INSTRUCTION (GERMAN) (G)	
	3-759-994-81	MANUAL, INSTRUCTION (ENGLISH) (E, CH)	
	4-941-925-02	CUSHION	
*	4-956-947-81	INDIVIDUAL CARTON (E, CH)	
	4-962-615-01	COVER, BATTERY (for RM-D820)	
*	4-973-638-31	INDIVIDUAL CARTON (AEP, G)	
*	4-973-638-41	INDIVIDUAL CARTON (UK)	

HARDWARE LIST			

#1	7-682-548-09	SCREW +BVTT 3X8 (S)	
#2	7-685-871-01	SCREW +BVTT 3X6 (S) (AEP, G)	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-621-255-15	SCREW +P 2X3	
#5	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	

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