CDP-XE530

SERVICE MANUAL

AEP Model
UK Model

Photo : SILVER

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM14FL-5BD25
Base Unit Type	BU-5BD25
Optical Pick-up Type	KSS-213BA/F-NP

SPECIFICATIONS

Compact Disc Player

Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous
Laser output	Max 44.6 µW* * This output is the value measured at adistance of 200 mm from the objective lens surface on the Optical Pick-up block with 7 mm aperture.
Frequency response	2 Hz to 20 kHz ± 0.5 dB
Signal-to-noise ratio	More than 100 dB
Dynamic range	More than 98 dB
Harmonic distortion	Less than 0.0045%
Channel separation	More than 95 dB

Output

	Jack type	Maximum output level	Load impedance
LINE OUT	Phono jacks	2V (at 50 kΩ)	Over 10 kΩ
DIGITAL OUT (OPTICAL)	Optical output connector	–18 dBm	Wave length: 660 nm
PHONES	Stereo phone jack	10 mW	32 Ω

General

Power requirements	220 V – 230 V AC, 50/60 Hz
Power consumption	11W
Dimensions (approx.) (w/h/d)	430 × 110 × 290 mm (17 × 4 3/8 × 11 1/2 in.) incl. projecting parts
Mass (approx.)	3.4 kg (7 lbs 8 oz)

Supplied accessories

Audio cord (2 phono plugs–2 phono plugs) (1)
Remote commander (remote) (1)
R6 (size AA) batteries (2)

Design and specifications are subject to change without notice.

COMPACT DISC PLAYER

MICROFILM

SONY®

The following caution label is located inside of the unit.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VORSICHT : UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.

VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTASSA OLET ALTTINA NÄKYMÄTTÖMÄLLE LASERSÄTEIYLLE. ÄLÄ KATSO SÄTEESEEN.

VARNING : OSYNLIG LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

ADVERSEL : USYLING LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.

VIGYÁZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATIAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

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.

CAUTION

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

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.

Flexible Circuit Board Repairing

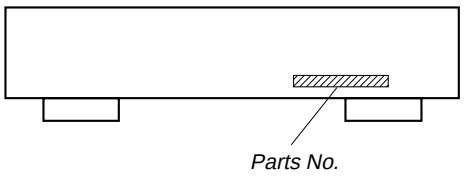
- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

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

TABLE OF CONTENTS

MODEL IDENTIFICATION
— BACK PANEL —



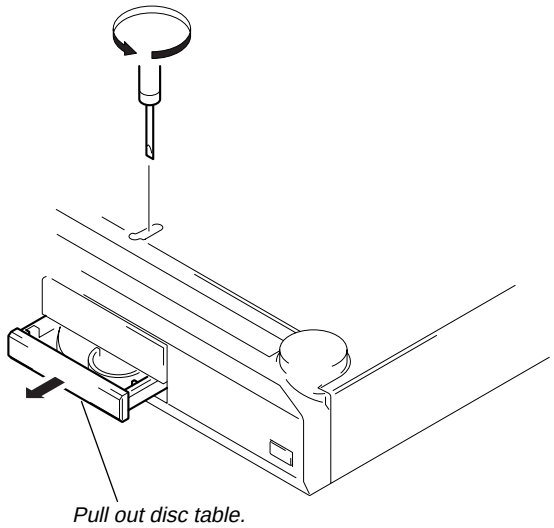
PARTS No.	MODEL
4-214-172-0☐	XE530 : AEP, North European, CIS
4-214-172-1☐	XE530 : UK

SECTION 1
SERVICING NOTE

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 table, turn the driver in the reverse direction.*



Pull out disc table.

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

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

NOTES ON LASER DIODE EMISSION CHECK

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

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveform is output continuously.

CD-TEXT TEST DISC

This unit is able to display the TEXT data (character information) written in the CD on its fluorescent indicator tube.
The CD-TEXT TEST DISC (TGCS-313: J-2501-126-A) is used for checking the display.
To check, perform the following procedure.

Procedure:

1. Turn ON the power and set the test disc.
2. Press the [▶] button and play back the disc.
3. The following will be displayed on the fluorescent indicator tube.
   Display : 1kHz/0 dB/– – – –
4. Rotate the [⏮ AMS ⏭] knob to switch the track. The text data of each track will be displayed.

Restrictions in CD-TEXT Display

In this unit, some special characters will not be displayed properly. These will be displayed as a space or a character resembling it. For details, refer to “Table 2 : CD-TEXT DISC Recorded Contents and Display”.

Table 1 : CD-TEXT TEST DISC TEXT Data Contents (TRACKS No. 1 to 41:Normal Characters)

TRACK No.	Displayed Contents	TRACK No.	Displayed Contents
1	1kHz/0dB/L&R	22	1kHz/-90dB/L&R
2	20Hz/0dB/L&R	23	Infinity Zero w/o emphasis//L&R
3	40Hz/0dB/L&R	24	Infinity Zero with emphasis//L&R
4	100Hz/0dB/L&R	25	400Hz+7kHz(4:1)/0dB/L&R
5	200Hz/0dB/L&R	26	400Hz+7kHz(4:1)/-10dB/L&R
6	500Hz/0dB/L&R	27	19kHz+20kHz(1:1)/0dB/L&R
7	1kHz/0dB/L&R	28	19kHz+20kHz(1:1)/-10dB/L&R
8	5kHz/0dB/L&R	29	100Hz/0dB/L*
9	7kHz/0dB/L&R	30	1kHz/0dB/L*
10	10kHz/0dB/L&R	31	10kHz/0dB/L*
11	16kHz/0dB/L&R	32	20kHz/0dB/L*
12	18kHz/0dB/L&R	33	100Hz/0dB/R*
13	20kHz/0dB/L&R	34	1kHz/0dB/R*
14	1kHz/0dB/L&R	35	10kHz/0dB/R*
15	1kHz/-1dB/L&R	36	20kHz/0dB/R*
16	1kHz/-3dB/L&R	37	100Hz Squer Wave//L&R
17	1kHz/-6dB/L&R	38	1kHz Squer Wave//L&R
18	1kHz/-10dB/L&R	39	1kHz w/emphasis/-0.37dB/L&R
19	1kHz/-20dB/L&R	40	5kHz w/emphasis/-4.53dB/L&R
20	1kHz/-60dB/L&R	41	16kHz w/emphasis/-9.04dB/L&R
21	1kHz/-80dB/L&R		

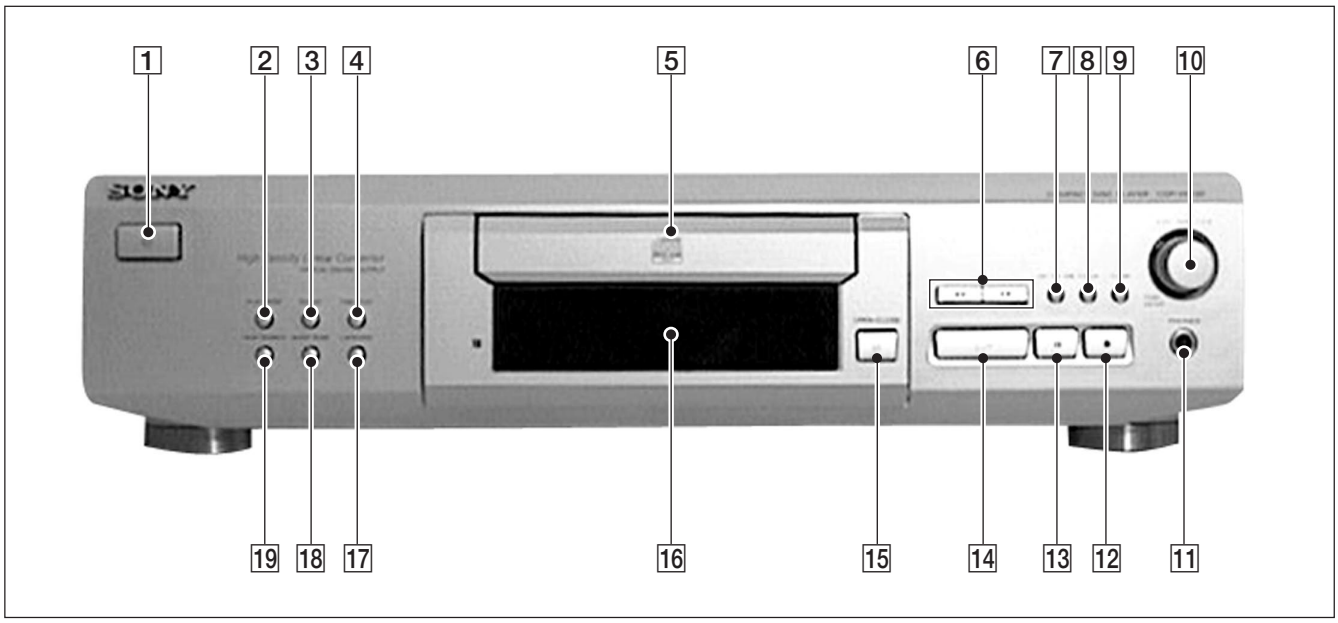
NOTE : The contents of Track No. 1 to 41 are the same as those of the current TEST DISC-their titles are displayed.
However, only 8 digits are displayed, and the 9th digit onwards are displayed as “– – – – –”.

Table 2: CD-TEXT TEST DISC Recorded Contents and Display
(In this unit, some special characters cannot be displayed. This is not a fault.)

TRACK No.	Recorded contents	Display
42	! " # $ % & ´ (21h to 27h)1kHz 0dB L&R	: ···· ! " # $ % &are not displayed
43	( ) * + , – . / (28h to 2Fh)	( ) * + – / ···· , . are not displayed
44	0 1 2 3 4 5 6 7 (30h to 37h)	0 1 2 3 4 5 6 7 ····
45	8 9 : ; < = > ? (38h to 3Fh)	8 9 = ? ···· : ; < >are not displayed
46	@A B C D E F G (40h to 47h)	A B C D E F G ···· @is not displayed
47	H I J K L M N O (48h to 4Fh)	H I J K L M N O ····
48	P Q R S T U V W (50h to 57h)	P Q R S T U V W ····
49	X Y Z [¥] ^ _ (58h to 5Fh)	X Y Z [/] ^ _ ····
50	` a b c d e f g (60h to 57h)	` A B C D E F G ····
51	h i j k l m n o (68h to 6Fh)	H I J K L M N O ····
52	p q r s t u v w (70h to 77h)	P Q R S T U V W ····
53	x y z { I } ~ ▉ (78h to 7Fh)	X Y Z ···· { I } ▉ are not displayed
54	▯ ¡ ¢ £ ¤ ¥ ¦ § (A0h to A7h) 8859-1	···· ▯ ¡ ¢ £ ¤ ¥ ¦ § are not displayed
55	♪ © ª « ¬ ® ¯ (A8h to AFh)	¬ ¯ ····♪ © ª « ® ® are not displayed
56	· ± ² ³ ´ µ ¶ • (B0h to B7h)	·: ± ´ ····² ³ µ ¶ • are not displayed
57	† ¹ º » ¼ ½ ¾ ¿ (B8h to BFh)	¿ ···· †¹º » ¼ ½ ¾ are not displayed
58	À Á Â Ã Ä Å Æ Ç (C0h to C7h)	À Á Â Ã Ä Å ···· Æ Çare not displayed
59	È É Ê Ë Ì Í Î Ï (C8h to CFh)	È É Ê Ë Ì Í Î Ï ····
60	Ð Ñ Ò Ó Ô Õ Ö × (D0h to C7h)	Ñ Ò Ó Ô Õ Ö ····Ð× are not displayed
61	Ø Ù Ú Û Ü Ý Þ ß (D8h to DFh)	Ù Ú Û Ü Ý ····Ø Þ ß are not displayed
62	à á â ã ä å æ ç (E0h to E7h)	À Á Â Ã Ä Å ····æ çare not displayed
63	è é ê ë ì í î ï (E8h to FFh)	È É Ê Ë Ì Í Î Ï ····
64	ð ñ ò ó ô õ ö ÷ (F0h to F7h)	Ñ Ò Ó Ô Õ Ö ···ð ÷ are not displayed
65	ø ù ú û ü ý þ ÿ (F8h to FFh)	Ù Ú Û Ü Ý ···øþÿ are not displayed
66	No.66	← All the same
67	No.67	← All the same
to	to	to
99	No.99	← All the same

SECTION 2
GENERAL

Front Panel



LOCATION OF PARTS AND CONTROLS

1 ⏻ switch
2 PLAY MODE button
3 REPEAT button
4 TIME/TEXT button
5 Disc tray
6 ◀◀,▶▶ button
7 EDIT/TIME FADE button
8 CHECK button
9 CLEAR button
10 AMS knob (PUSH ENTER)
11 PHONES jack
12 ■ (stop) button
13 ❚❚ (pause) button
14 ▷ (play) button
15 ⏏ OPEN CLOSE button
16 Window display
17 LANGUAGE button
18 MUSIC SCAN button
19 PEAK SEARCH button

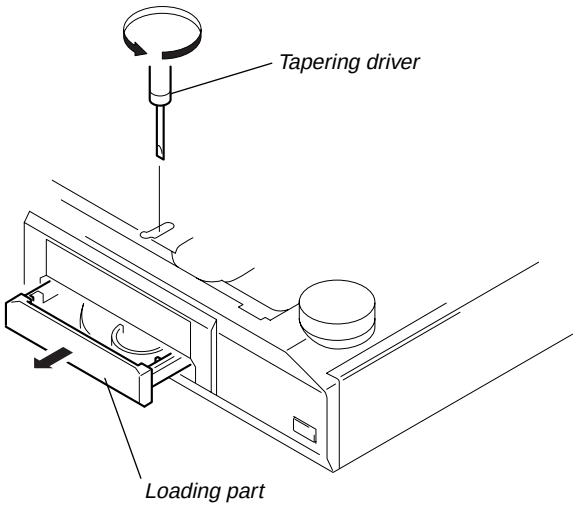
* AMS is the abbreviation for Automatic Music Sensor.

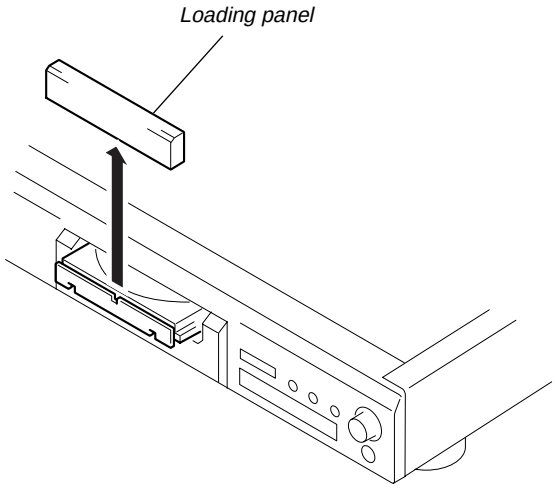
SECTION 3
DISASSEMBLY

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

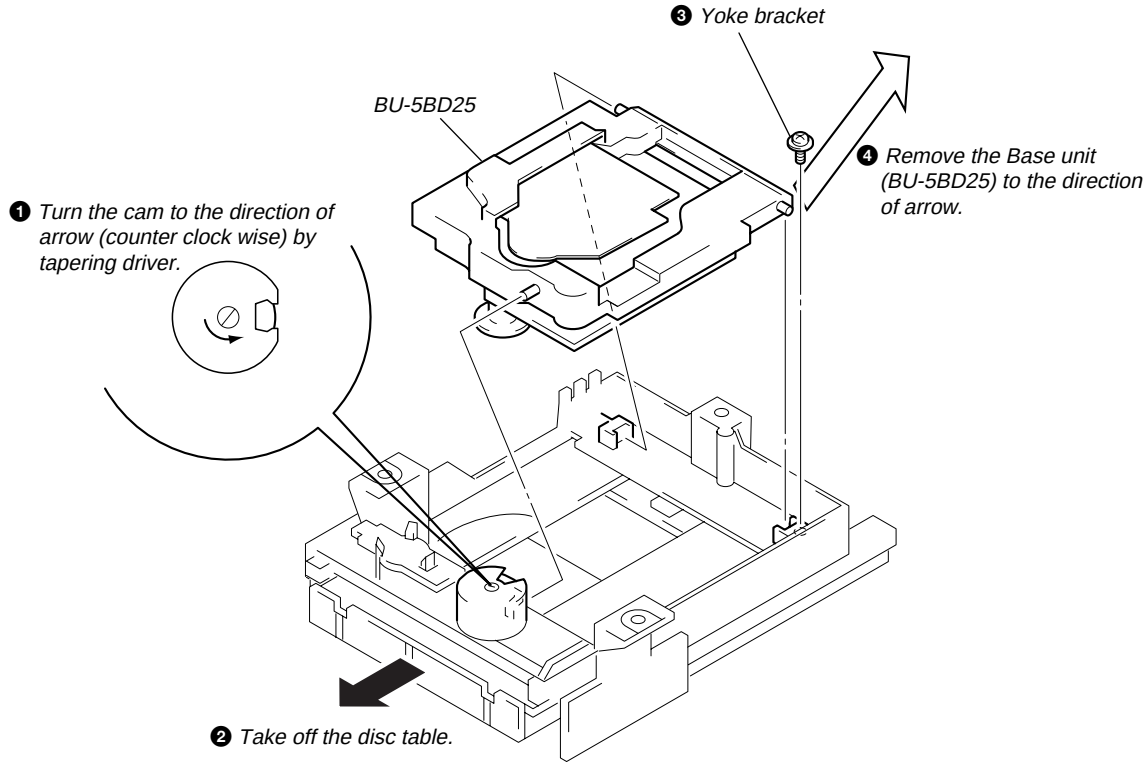
3-1. FRONT PANEL

- In order to remove the front panel block when the power supply does not turn on, rotate the cam with tapering driver as the figure shows, and the loading part will be moved.
  Then pull out the loading part by your hand to remove the loading panel as the figure shows. After that take out the front panel block.





3-2. BASE UNIT (BU-5BD25)



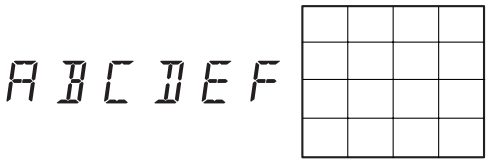
SECTION 4
TEST MODE

4-1. AF MODE

The following checks can be performed in the AF mode, which is set by connecting the JW617 (AFADJ) terminal on MAIN board to the Ground and turning on the power.

- **FL tube check**

  After all segments light up, when the ▷ button is pressed, the following will be displayed. (Partial lighting 1)



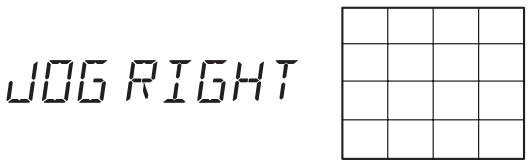
(Partial lighting 1)

When the ■ button is pressed, the following will be displayed. (partial lighting 2)

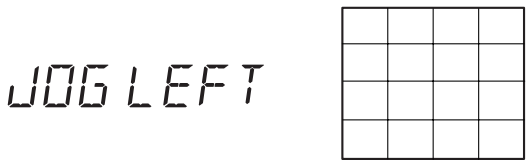
	2		4	
6		8		10
	12		14	
16		18		20

(Partial lighting 2)

The display will light up as follows (partial lighting 3) when the ⏮◁◁ AMS ▷▷⏭ knob is rotated to the right, and as follows (partial lighting 4) when rotated to the left.



(Partial lighting 3)

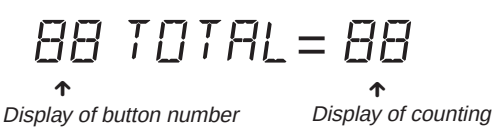


(Partial lighting 4)

When the OPEN/CLOSE ⏏ button is pressed, all will light up again.

- **Key check**

  All buttons have corresponding button numbers. When a button is pressed, the counter will count up and display the button's number. However, the counter will only count to "16". It will not count for buttons already pressed once, but will display the button's number.



Display of button number *Display of counting*

Button	Button No. Displayed	Button	Button No. Displayed
LANGUAGE	0	▶▶	11
MUSIC SCAN	1	◀◀	12
PEAK SEARCH	2	▮▮	18
PLAY MODE	3	ENTER (AMS)	20
REPEAT	4	OPEN/ CLOSE ⏏	All lit
TIME/TEXT	5		
CLEAR	8	PLAY ▷	Partial lighting 1
CHECK	9	STOP ■	Partial lighting 2
EDIT/ TIME FADE	10		

- **Remote commander check**

  When buttons other than the ▷ button are pressed when the whole display is lit, the display will change to partial lighting 2. When the "▷" button is pressed, the display will light up as follows.

(Partial lighting 5)

4-2. ADJ MODE

The following operations are performed in the ADJ mode, which is set by connecting the JW613 (ADJ) terminal to the Ground and turning on the power.

Table of Button Operations in ADJ Mode

The functions of the number buttons are shown in the following table.

Function of Number Buttons (With the General Remote Commander)

Button	Function
4	Tracking servo, sled servo off
9	Tracking servo, sled servo on
11	S curve continuous output check mode

* **NOTE :** Other buttons are not used for servicing and should not be pressed without a reason.

4-3. AGING MODE

This unit is equipped with an aging mode to check operations of the mechanism deck.

• When faults occur:

Aging stops, and the state when aging stopped is displayed on the fluorescent display tube.

• When no fault has occurred:

Aging is continued repeatedly.

Aging method 1

(When using the aging mode remote controller (J-2501-123-A)):

1. Press the ⏻ button and turn ON the power.
2. Set the disc on the tray.
3. Press the AGING START button of the aging remote controller.
4. Aging starts and the message shown in Fig. 1 is displayed on the fluorescent display tube.
5. To end, press the ⏻ button.

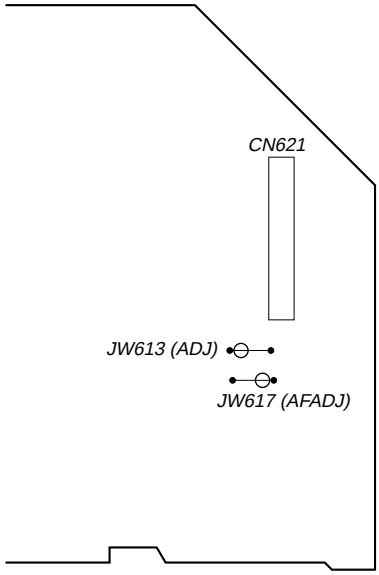
Aging method 2 (When no aging mode remote controller):

1. Press the ⏻ button and turn ON the power.
2. Set the disc on the tray.
3. Press the ⏏ OPEN/CLOSE button, ■ button, and MUSIC SCAN button at the same time. (If these buttons are not pressed at the same time, nothing performs.)
4. Aging starts and the message shown in Fig. 1 is displayed on the fluorescent display tube.
5. To end, press the ⏻ button.

Fig. 1 Message in Aging Mode

Code No.	State	Display when normal	Display when abnormal
0	Load in	AGING-0	ERROR-0
1	Access to TOC	AGING-1	ERROR-1
2	Access to last track	AGING-2	ERROR-2
3	Playback of last track (3 seconds)	Counter display	ERROR-3
4	Access to first track	AGING-4	ERROR-4
5	Playback of first track (3 seconds)	Counter display	ERROR-5
6	Load out	AGING-6	ERROR-6

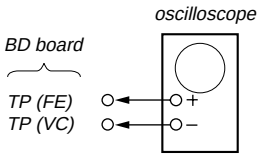
[MAIN BOARD] – Component Side –



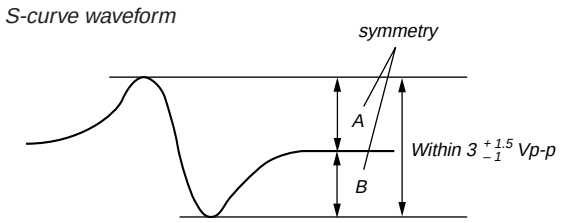
SECTION 5
ELECTRICAL BLOCK CHECKING

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 10MΩ 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 (With general remote commander)



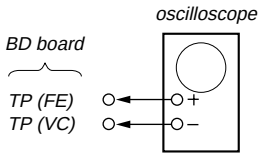
Procedure :
1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect the test point JW613 (ADJ) on MAIN board to the ground with a lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in press ▷ (play) button.
5. When the 11 button of the remote commander is pressed, the S curve will be output continuously.
6. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within $3^{+1.5}_{-1}$ Vp-p.



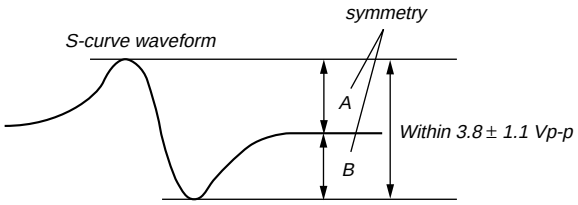
7. After check, remove the lead wire connected in step 2.

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.

S Curve Check (Without general remote commander)



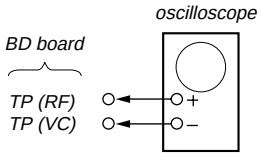
Procedure :
1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Connect both ends of TP R151 of the BD board to the lead wire.
4. Turn Power switch on.
5. Put disc (YEDS-18) in and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
6. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3.8 ± 1 Vp-p.



7. After check, remove the lead wire connected in step 2 and 3.

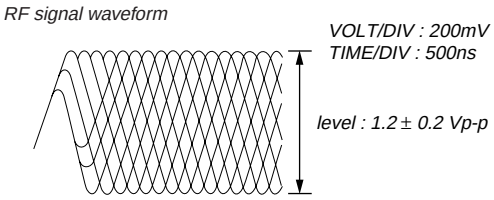
Note :
- Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

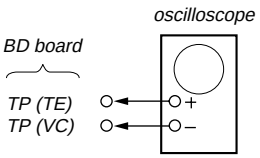


Procedure :
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

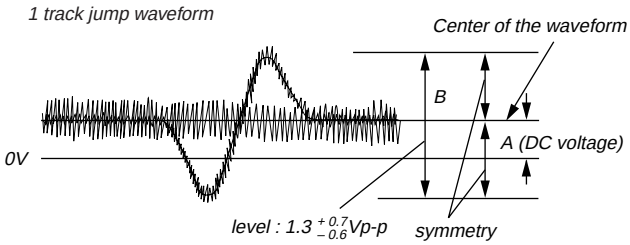
Note:
A clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.



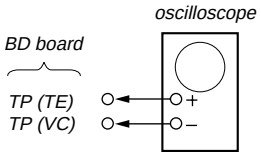
E-F Balance (1 Track Jump) Check (Without general remote commander)



Procedure :
1. Connect oscilloscpe to test point TP (TE) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the ▮▮ (Pause) button. (Becomes the 1 track jump mode)
5. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
   Confirm the following :
   A/B x 100 = less than ± 22%

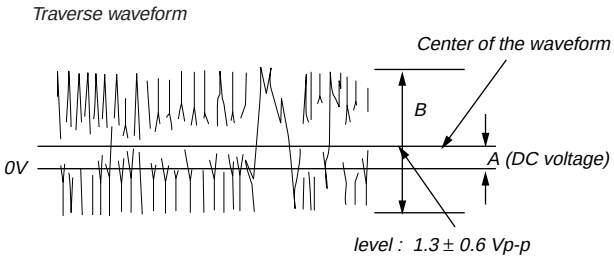


E-F Balance Check (With general remote commander)

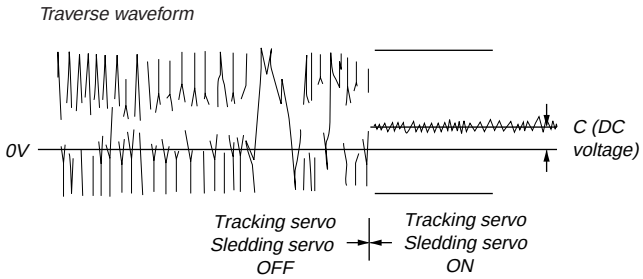


Procedure :

1. Connect the test point JW613 (ADJ) on MAIN board to the ground with a lead wire on main board.
2. Connect oscilloscpe to test point TP (TE) on BD board.
3. Turn the Power switch on to set the ADJ mode.
4. Put disc (YEDS-18) in to play the number five track.
5. Press the [4] button. (The tracking servo and the sledding servo are turned OFF.)
6. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
   Confirm the following :
   A/B x 100 = less than ± 22%



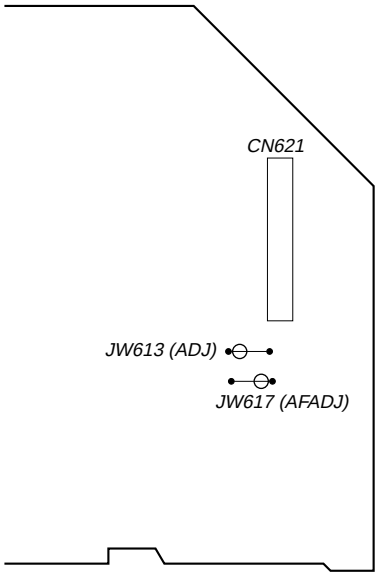
7. Press the [9] button. (The tracking servo and sledding servo are turned ON.) Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 6.



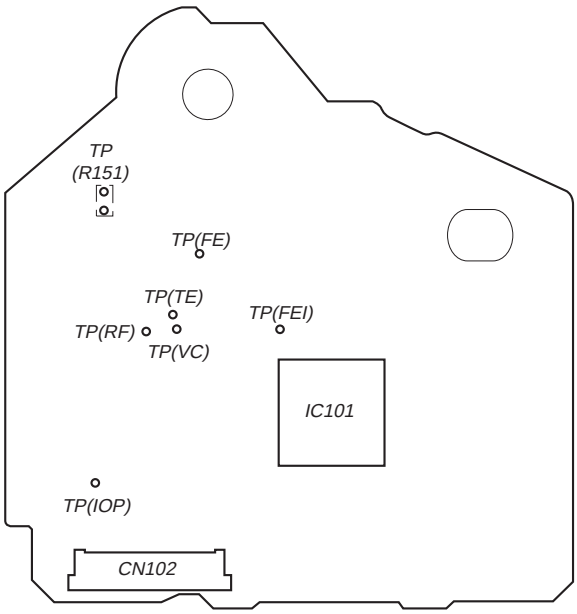
8. Disconnect the lead wire of JW613 (ADJ) connected in step 1.

Adjustment Location :

[MAIN BOARD] – Component Side –

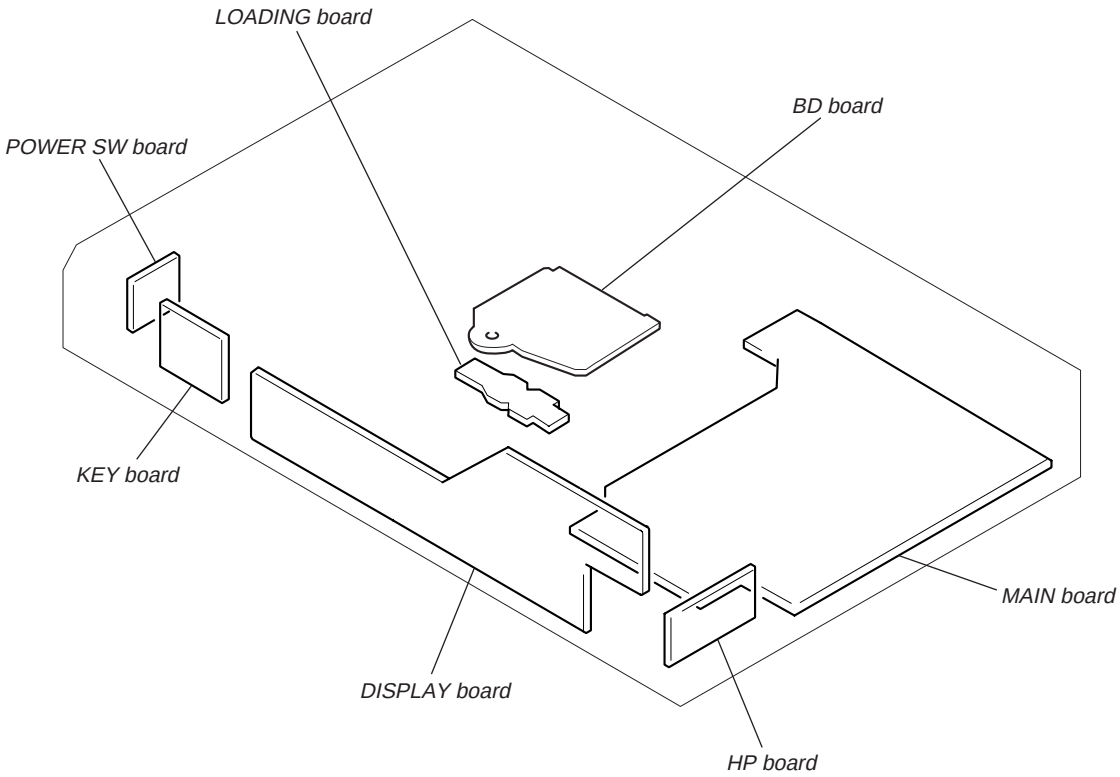


[BD BOARD] – Side A –



SECTION 6
DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

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

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

For printed wiring boards.

Note:

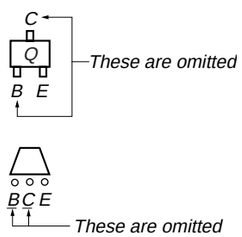
- o——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ○ : Through hole.
- ▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:

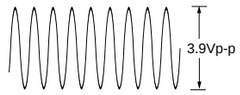
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

• Indication of transistor

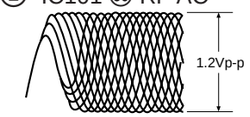


• Waveforms

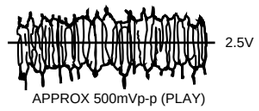
① IC101 ⑦① XTAI



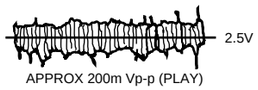
② IC101 ⑤⓪ RF AC



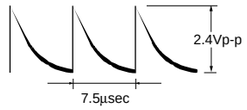
③ IC101 ④① TE



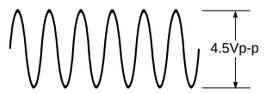
④ IC101 ③⑨ FE



⑤ IC101 ②⑤ MDP

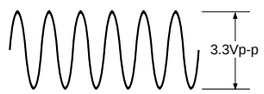


⑥ IC661 ⑥ 384FS



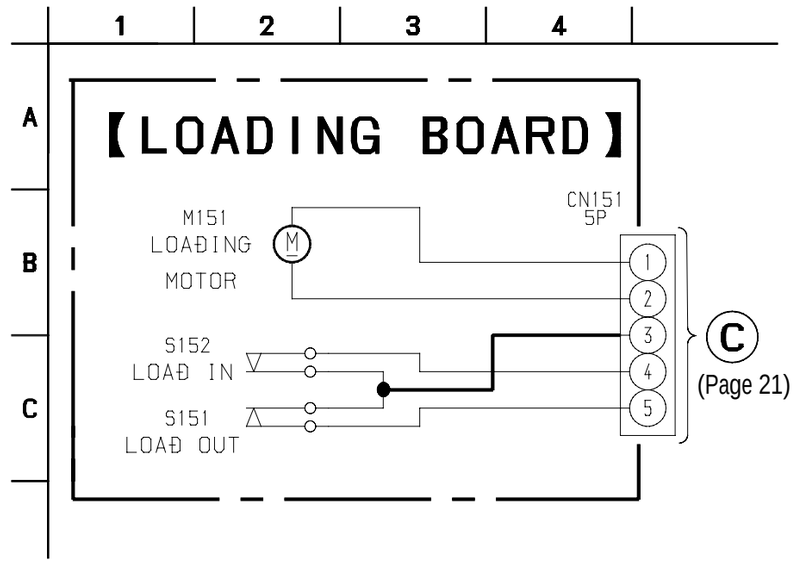
⑦ IC661 ⑩ BCK

⑧ IC661 ②① XOUT



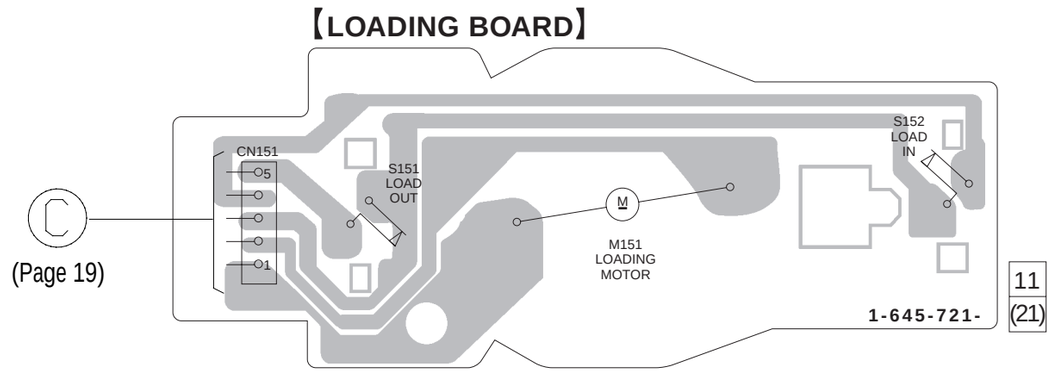
⑨ IC501 ③⑨ EXTAL

6-2. SCHEMATIC DIAGRAM – LOADING MOTOR SECTION –

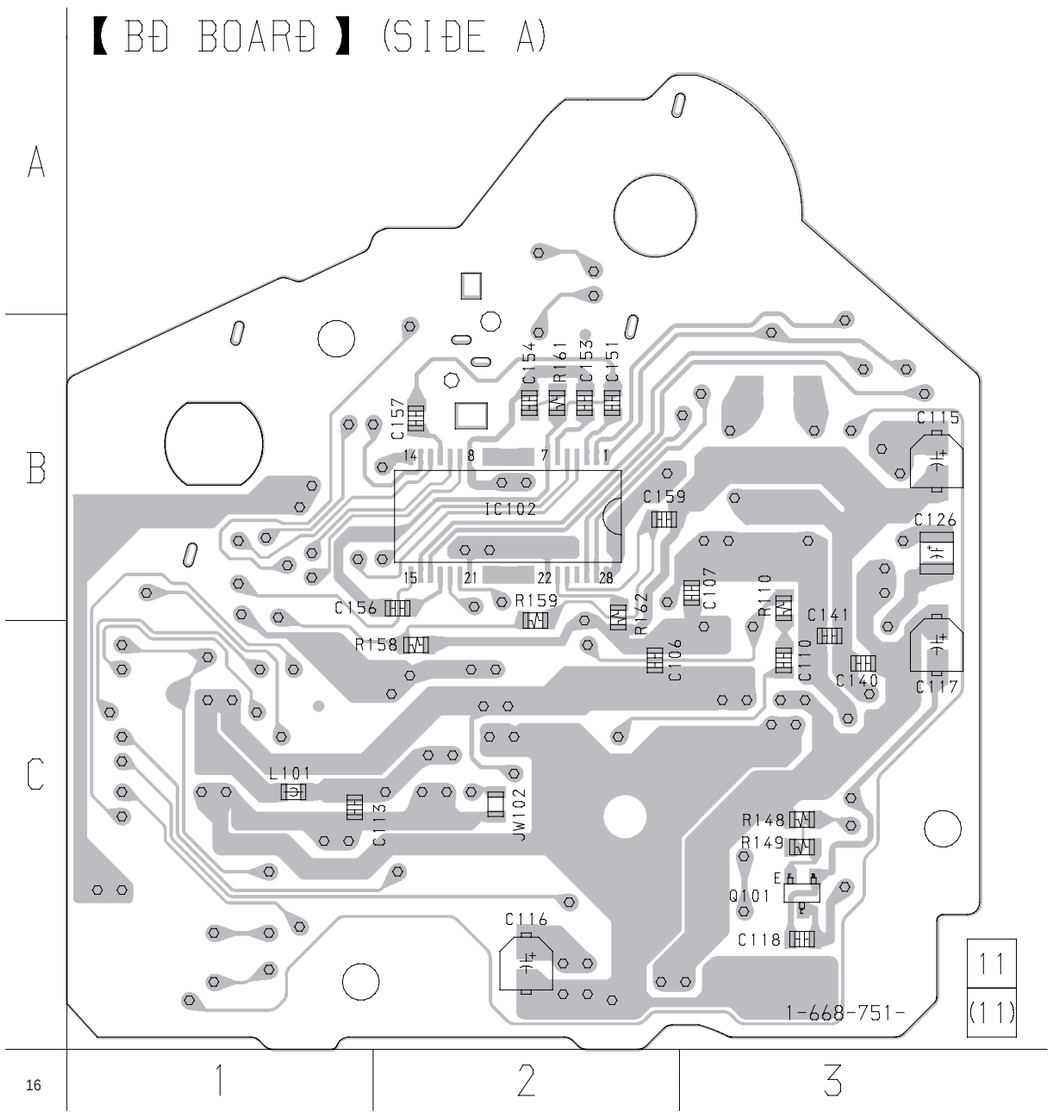


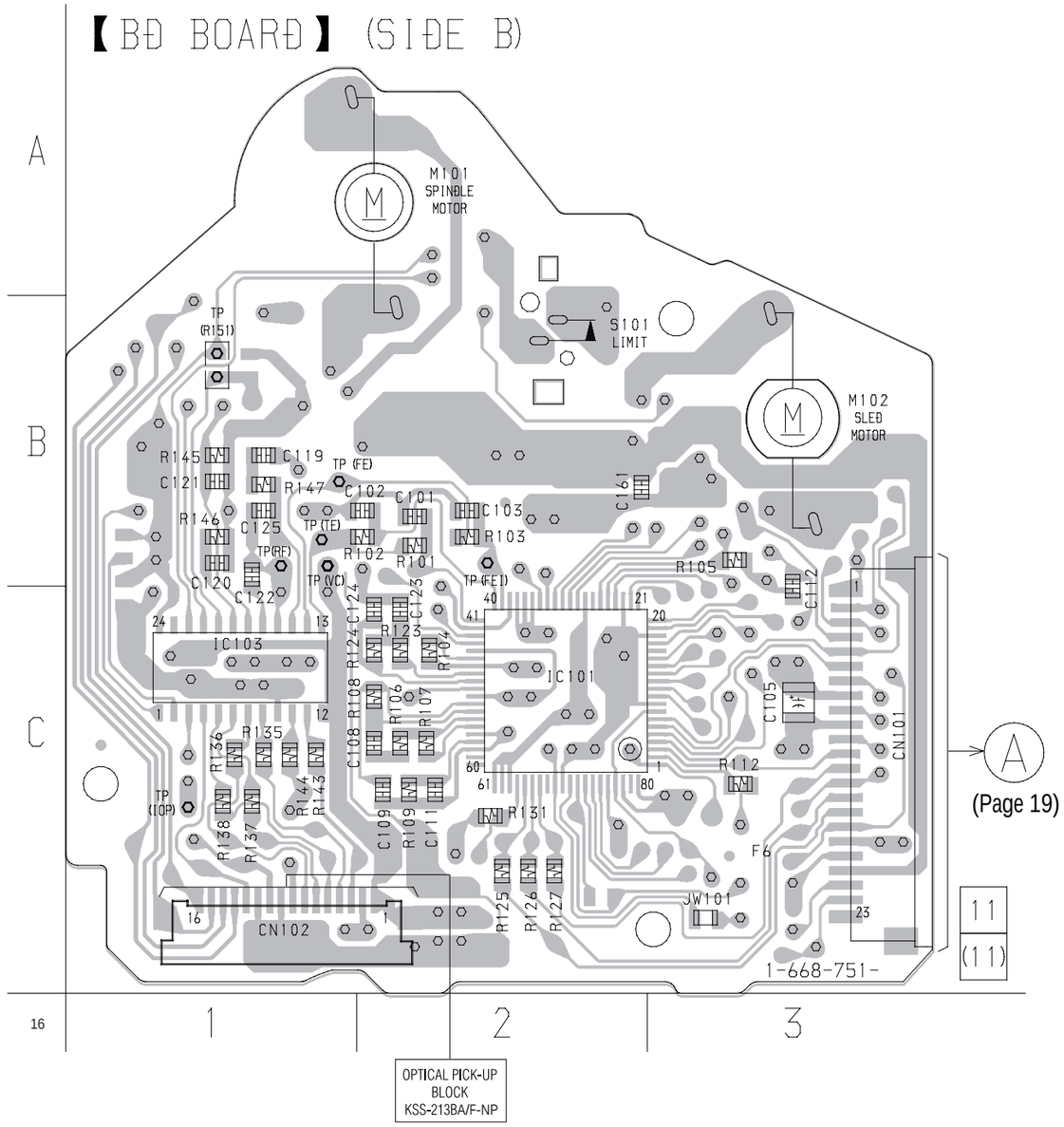
6-3. PRINTED WIRING BOARD – LOADING MOTOR SECTION –

• See page 12 for Circuit Board Location.

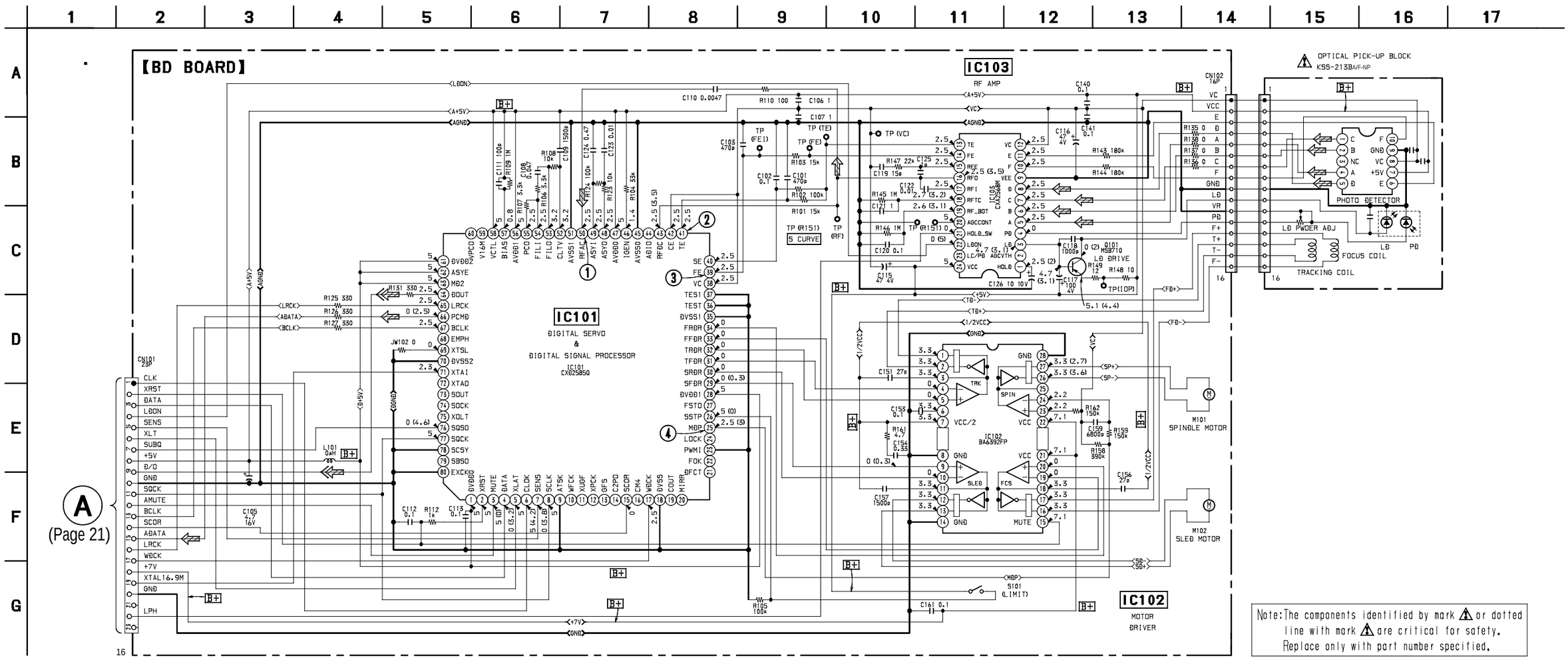


6-4. PRINTED WIRING BOARD – BD SECTION – • See page 12 for Circuit Board Location.

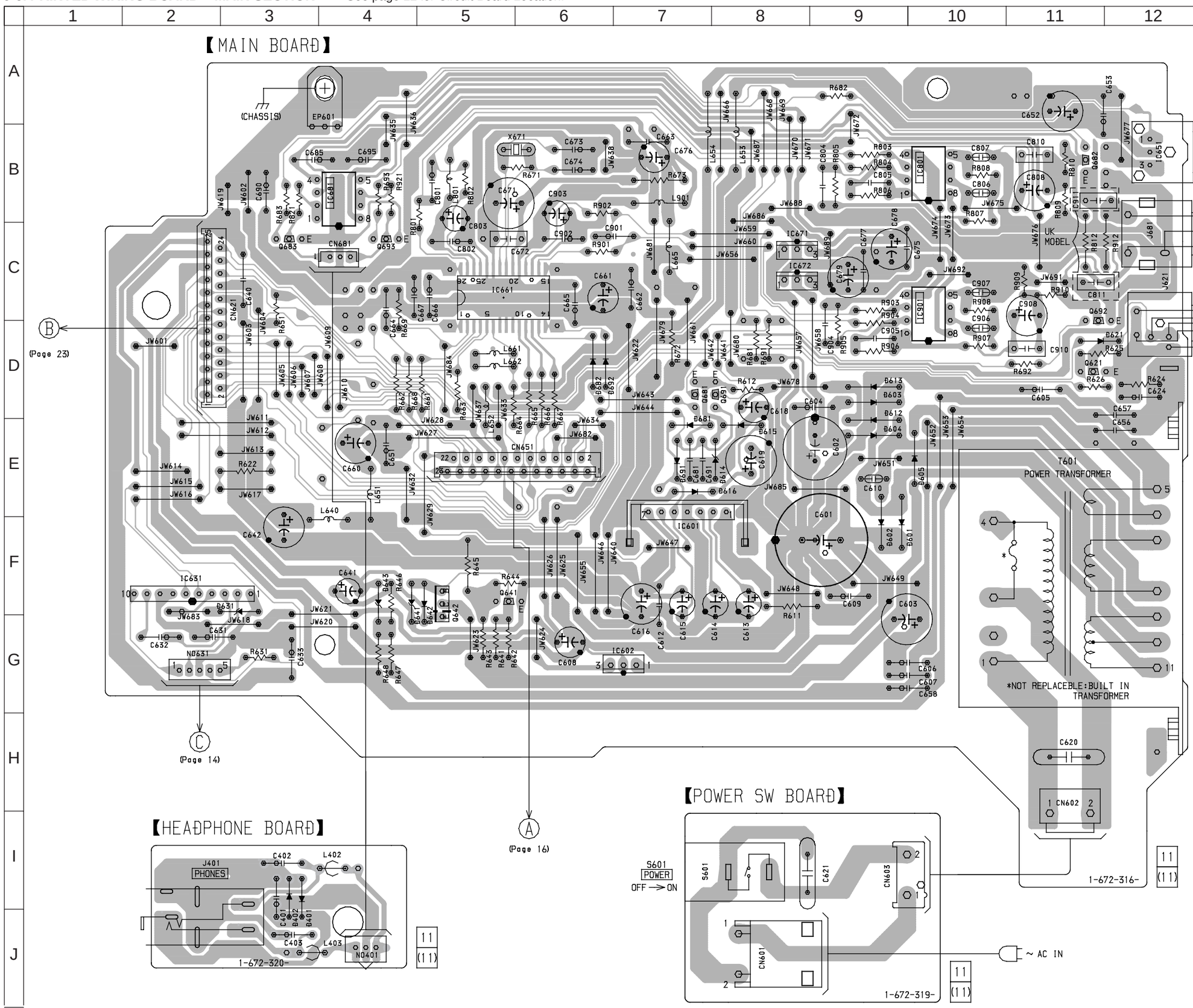




6-5 SCHEMATIC DIAGRAM – BD SECTION – • See page 13 for Waveforms. • See page 27 for IC Pin Functions. • See page 31 for IC Block Diagrams.



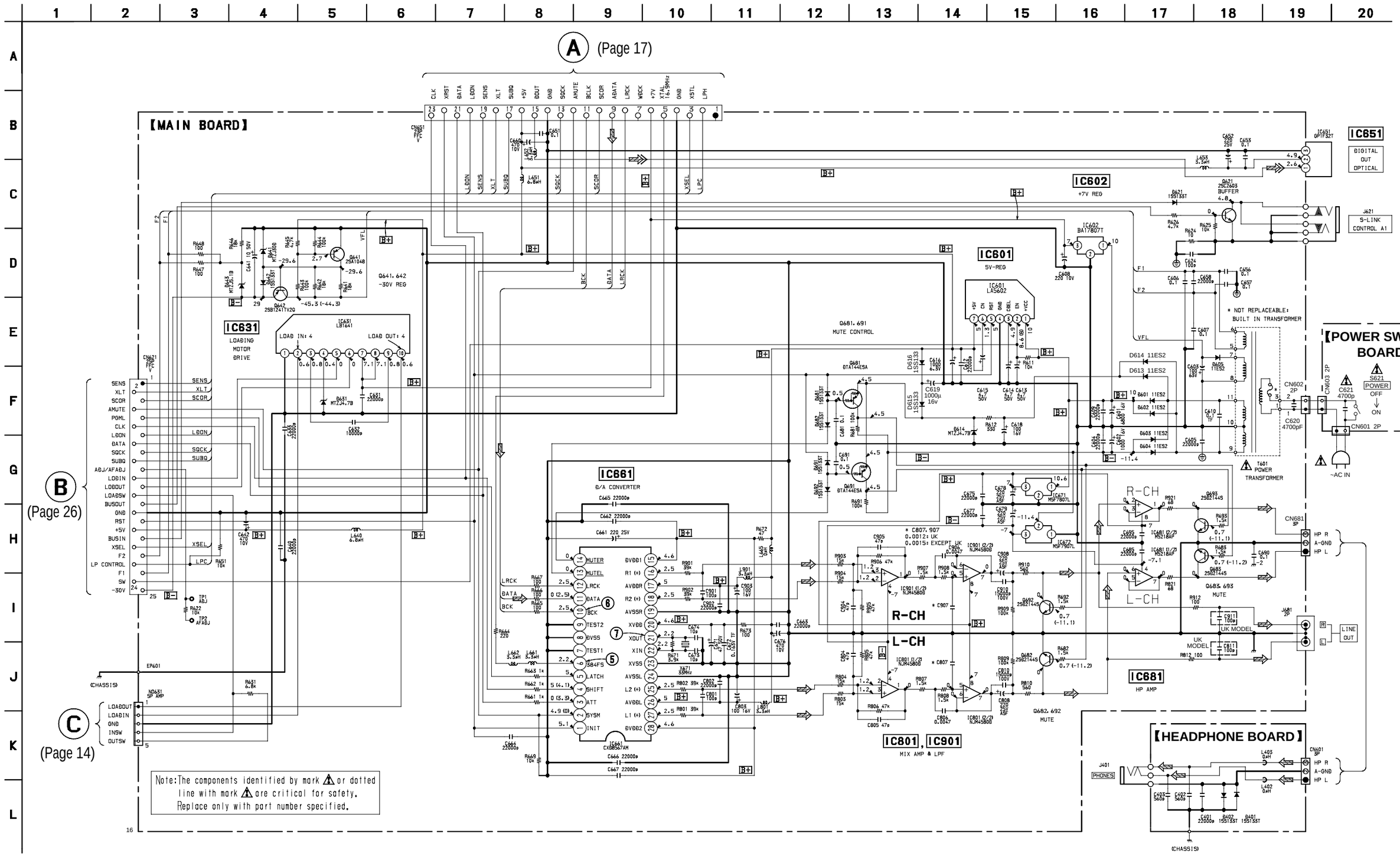
6-6. PRINTED WIRING BOARD – MAIN SECTION – • See page 12 for Circuit Board Location.



- **Semiconductor Location**

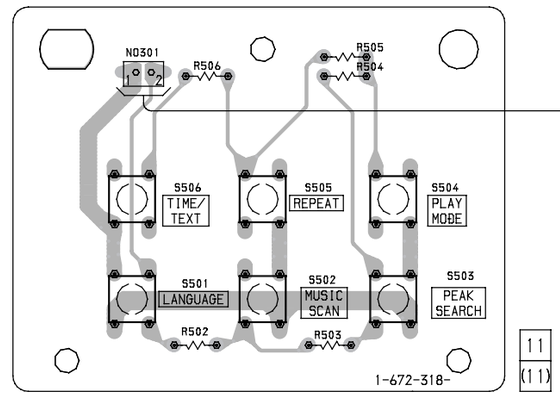
Ref. No.	Location
D401	I-3
D402	I-3
D601	F-9
D602	F-9
D603	D-9
D604	E-9
D605	E-10
D612	D-9
D613	D-9
D614	E-8
D615	E-8
D616	E-7
D621	D-12
D631	F-3
D641	F-4
D642	F-5
D643	F-4
D681	D-7
D682	D-6
D691	E-7
D692	D-6
IC601	F-7
IC602	G-7
IC631	F-2
IC651	B-12
IC661	C-5
IC671	C-8
IC672	C-8
IC681	B-4
IC801	B-10
IC901	C-10
Q621	D-11
Q641	F-5
Q642	F-5
Q681	D-7
Q682	B-11
Q683	C-3
Q691	D-8
Q692	D-11
Q693	C-4

6-7. SCHEMATIC DIAGRAM – MAIN SECTION – • See page 33 for IC Block Diagrams.

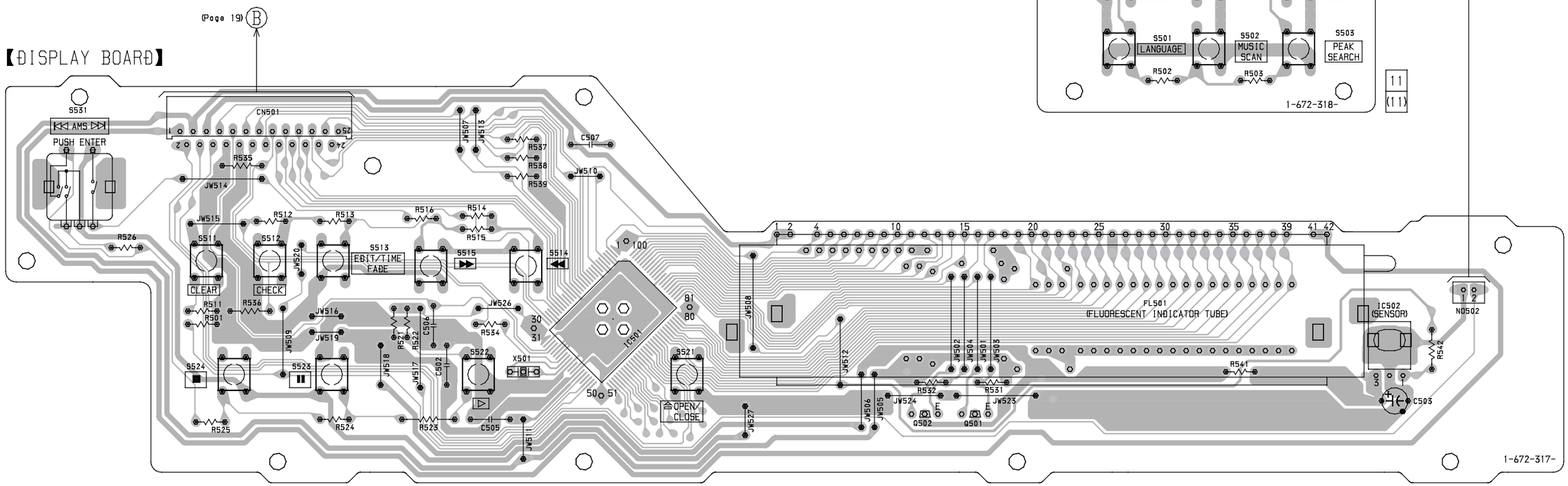


6-8. PRINTED WIRING BOARD – DISPLAY SECTION – • See page 12 for Circuit Board Location.

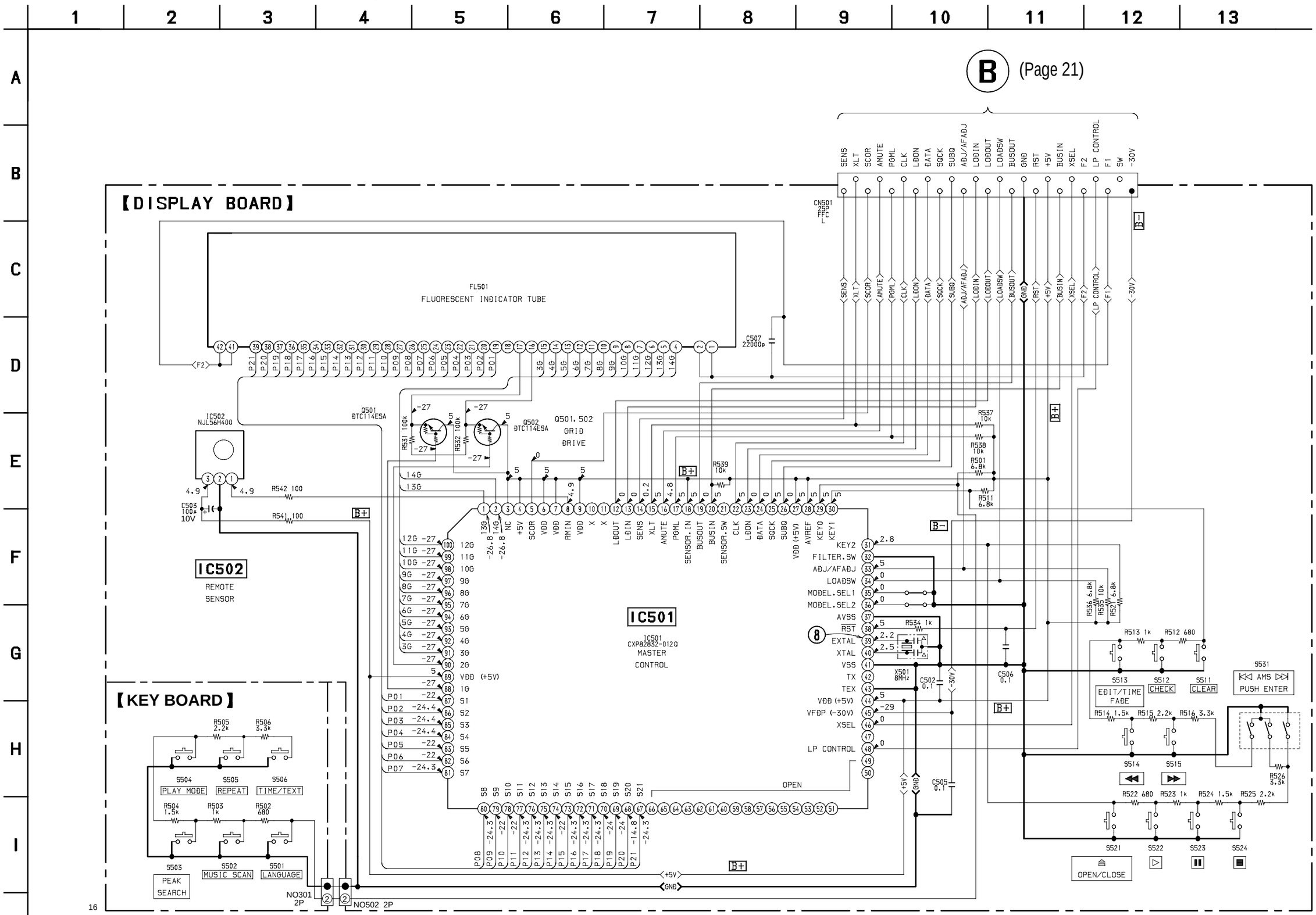
【KEY BOARD】



【DISPLAY BOARD】



6-9 SCHEMATIC DIAGRAM – DISPLAY SECTION – • See page 29 for IC Pin Functions.



6-10. IC PINFUNCTIONS

• **IC101 DIGITAL SIGNAL PROCESSOR (CXD2585Q)(BD board)**

Pin No.	Pin Name	I/O	Function
1	DVDD	–	Digital power supply
2	XRST	I	System reset “L” : reset
3	MUTE	I	Muting input “H” : mute
4	DATA	I	Serial data input, supplied from CPU
5	XLAT	I	Latch input, supplied from CPU
6	CLOK	I	Serial data transfer clock input, supplied from CPU
7	SENS	O	SENS signal output to CPU
8	SCLK	I	SENS serial data read-out clock input
9	ATSK	I	Input pin for anti-shock (Connected to ground)
10	WFCK	O	WFCK output (Not used)
11	XUGF	O	Not used
12	XPCK	O	Not used
13	GFS	O	Not used
14	C2PO	O	Not used
15	SCOR	O	Sub-code sync output
16	CM4	O	4.2336 MHz output (Not used)
17	WDCK	O	Word clock output (f = 2Fs)
18	DVSS	–	Digital ground
19	COUT	I/O	Numbers of track counted signal input/output (Not used)
20	MIRR	I/O	Mirror signal input/output (Not used)
21	DFCT	I/O	Defect signal input/output (Not used)
22	FOK	I/O	Focus OK input/output (Not used)
23	PWMI	I	Spindle motor external control input (Connected to ground)
24	LOCK	I/O	GFS is sampled by 460 Hz. H when GFS is H (Not used)
25	MDP	O	Output to control spindle motor servo
26	SSTP	I	Input signal to detect disc inner most track
27	FSTO	O	2/3 divider output of pin 71 (Not used)
28	DVDD1	–	Digital power supply
29	SFDR	O	Sled drive output
30	SRDR	O	Sled drive output
31	TFDR	O	Tracking drive output
32	TRDR	O	Tracking drive output
33	FFDR	O	Focus drive output
34	FRDR	O	Focus drive output
35	DVSS1	–	Digital ground
36	TEST	I	TEST pin connected normally to ground
37	TES1	I	TEST pin connected normally to ground
38	VC	I	Center voltage input pin
39	FE	I	Focus error signal input
40	SE	I	Sled error signal input

• Abbreviation
GFS : Guarded Frame Sync

Pin No.	Pin Name	I/O	Function
41	TE	I	Tracking error signal input
42	CE	I	Center servo analog input
43	RFDC	I	RF signal input
44	ADIO	O	Test pin (Not used)
45	AVSS0	–	Analog ground
46	IGEN	I	Stabilized current input for operational amplifiers
47	AVDD0	–	Analog power supply
48	ASYO	O	EFM full swing output
49	ASYI	I	Asymmetry comparate voltage input
50	RFAC	I	EFM signal input
51	AVSS1	–	Analog ground
52	CLTV	I	Control voltage input for master VCO1
53	FILO	O	Filter output for master PLL
54	FILI	I	Filter input for master PLL
55	PCO	O	Charge-pump output for master PLL
56	AVDD1	–	Analog power supply
57	BIAS	I	Asymmetry circuit constant current input
58	VCTL	I	VCO2 control voltage input for wide band EFM PLL (Connected to VDD)
59	V16M	I/O	VCO2 oscillator input/output for wide band EFM PLL (Not used)
60	VPCO	O	Charge-pump output for wide band EFM PLL (Not used)
61	DVDD2	–	Digital power supply
62	ASYE	I	Asymmetry circuit ON/OFF input “L” OFF, “H” : ON (Connected to VDD)
63	MD2	I	Digital-out ON/OFF control input (Connected to VDD)
64	DOUT	O	Digital-out output pin
65	LRCK	O	D/A interface LR clock output (f = Fs)
66	PCMD	O	D/A interface serial data output
67	BCLK	O	D/A interface bit clock output
68	EMPH	O	Playback disc output in emphasis mode (Not used)
69	XTSL	I	X'tal selection input (Connected to ground)
70	DVSS2	–	Digital ground
71	XTAI	I	X'tal oscillator circuit input
72	XTAO	O	X'tal oscillator circuit output (Not used)
73	SOUT	O	Serial data output in servo block (Not used)
74	SOCK	O	Serial data read clock output in servo block (Not used)
75	XOLT	O	Serial data latch output in servo block (Not used)
76	SQSO	O	Sub-Q 80-bit and PCM peak level data output (CD text data output)
77	SQCK	I	Clock input for SQSO read-out
78	SCSY	I	Connected to ground
79	SBSO	O	Sub-P through Sub-W serial output (Not used)
80	EXCK	I	Clock input for SBSO read-out (Connected to ground)

• Abbreviation
EFM : Eight to Fourteen Modulation
PLL : Phase Locked Loop

• IC501 SYSTEM CONTROL (CXP82832-012Q)(DISPLAY board)

Pin No.	Pin Name	I/O	Function
1	13G	O	FL grid signal output
2	14G	O	FL grid signal output
3	NC	–	Connected to VDD
4	+5V	–	Power supply (+5V)
5	SCOR	I	Sub code sync input
6, 7	VDD	–	Power supply
8	RMIN	I	Remote control signal input
9	VDD	–	Power supply (+5V)
10, 11	X	–	Not used (Open)
12	LD OUT	O	Loading motor control
13	LD IN	I	Loading motor control
14	SENS	I	Sense signal input
15	XLT	O	Serial latch output
16	AMUTE	O	Audio mute output
17	PGML	O	Digital filter latch output
18	SENSOR. IN	–	Connected to VDD
19	BUSOUT	O	CONTROL-A1 transmission output
20	BUSIN	I	CONTROL-A1 receive input
21	SENSOR. SW	–	Not used (Open)
22	CLK	O	Serial clock output
23	LDON	O	Optical pick-up laser diode control output
24	DATA	O	Serial data output
25	SQCK	O	Subcode Q data readout clock output
26	SUBQ	I	Subcode Q data input
27	VDD (+5V)	–	Power supply (+5V)
28	AVREF	I	Analog reference voltage input
29	KEY 0	I	Key input
30	KEY 1	I	Key input
31	KEY 2	I	Key input
32	FILTER. SW	–	Connected to ground
33	ADJ/AFADJ	I	Test mode terminal
34	LOADSW	O	Load in/out select control output
35	MODEL. SEL1	–	Model select pin (Connected to ground)
36	MODEL. SEL2	–	Model select pin (Connected to ground)
37	AVSS	–	Analog ground
38	RST	I	Reset signal input
39	EXTAL	I	8 MHz clock input
40	XTAL	I	8 MHz clock output

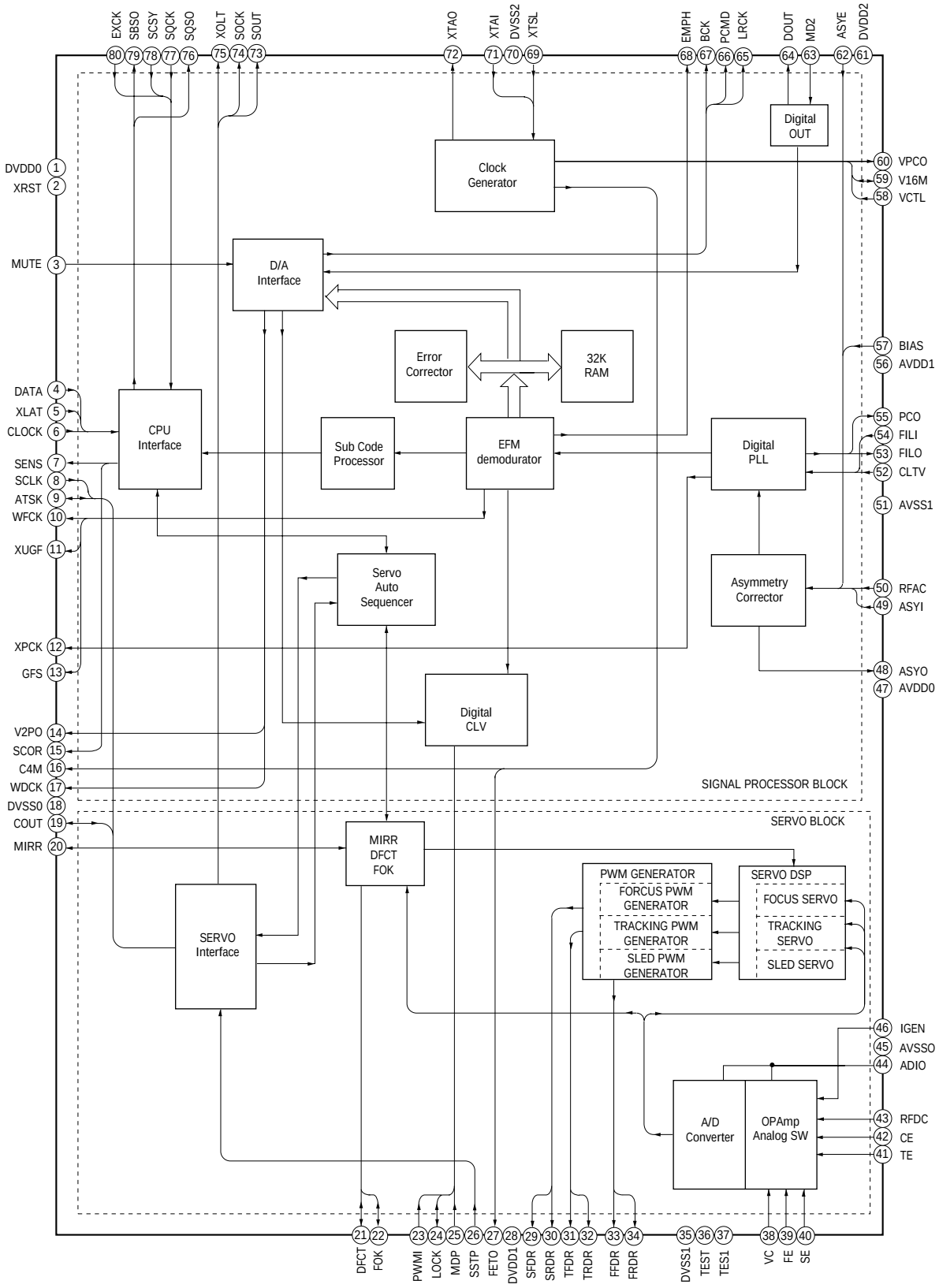
• Abbreviation
FL : Fluorescent indicator tube

Pin No.	Pin Name	I/O	Function
41	VSS	–	Ground
42	TX	–	Not used
43	TEX	–	Connected to ground
44	VDD (+5V)	–	Power supply (+5V)
45	VFDP (–30V)	–	Pull down voltage (–30V)
46	XSEL	O	Not used
47	—	–	Not used
48	LP CONTROL	O	LP control hold output
49 to 66	OPEN	–	Not used
67 to 87	S21 to S1	O	FL segment signal output
88	1G	O	FL grid signal output
89	VDD (+5V)	–	Power supply (+5V)
90 to 100	2G to 12G	O	FL grid signal output

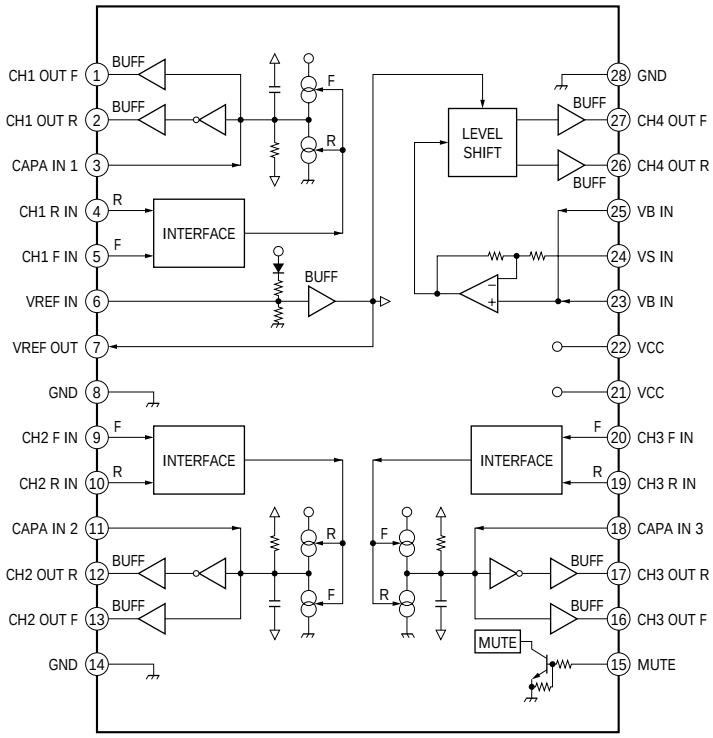
• Abbreviation
FL : Fluorescent indicator tube

6-11. IC BLOCK DIAGRAMS

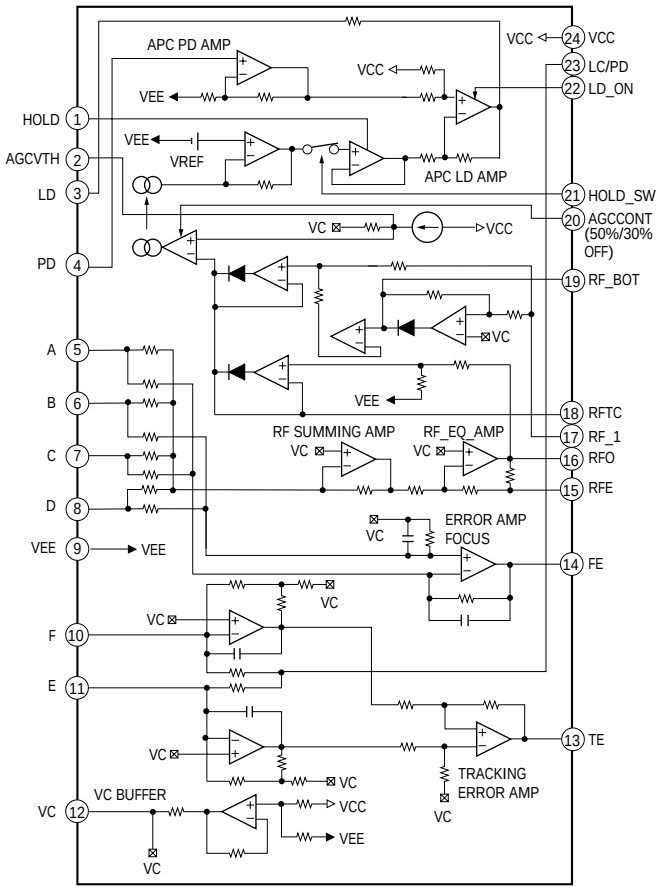
• BD SECTION
IC101 CXD2585Q



IC102 BA6392FP

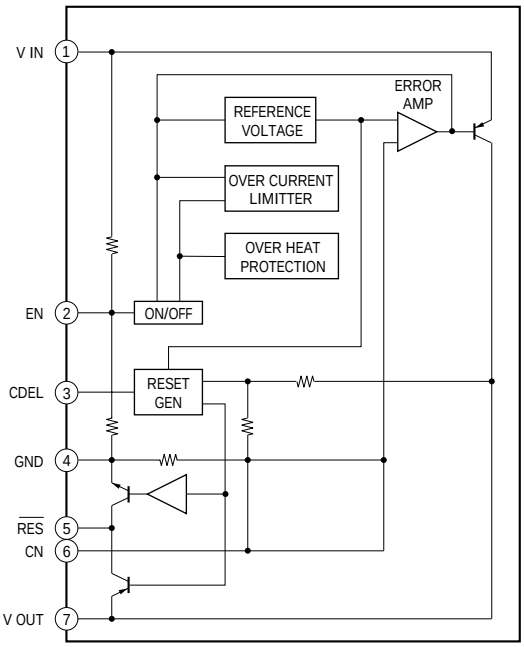


IC103 CXA2568M

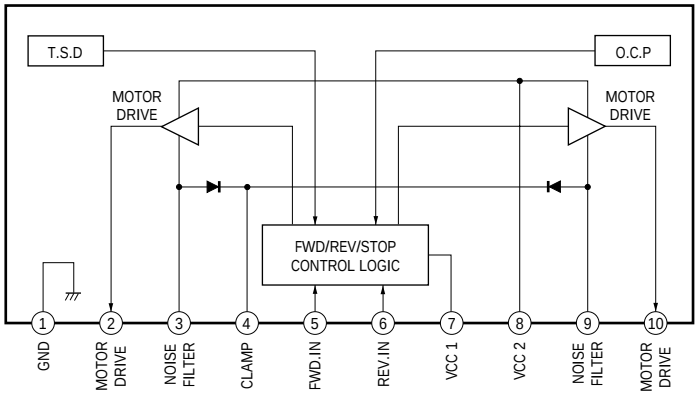


• MAIN SECTION

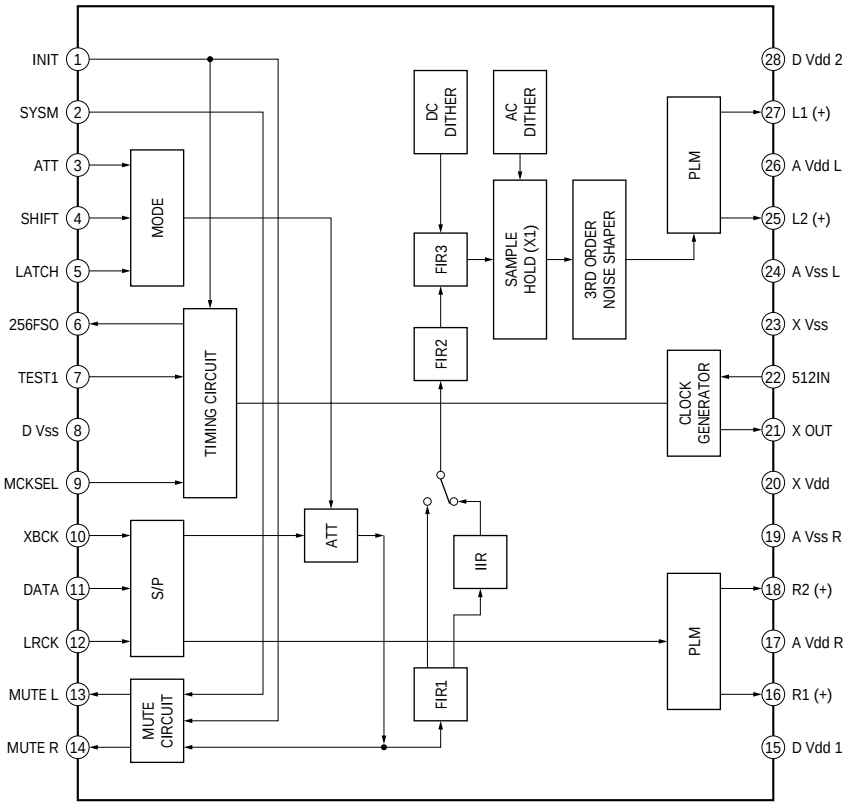
IC601 LA5602



IC631 LB1641



IC661 CXD8567AM



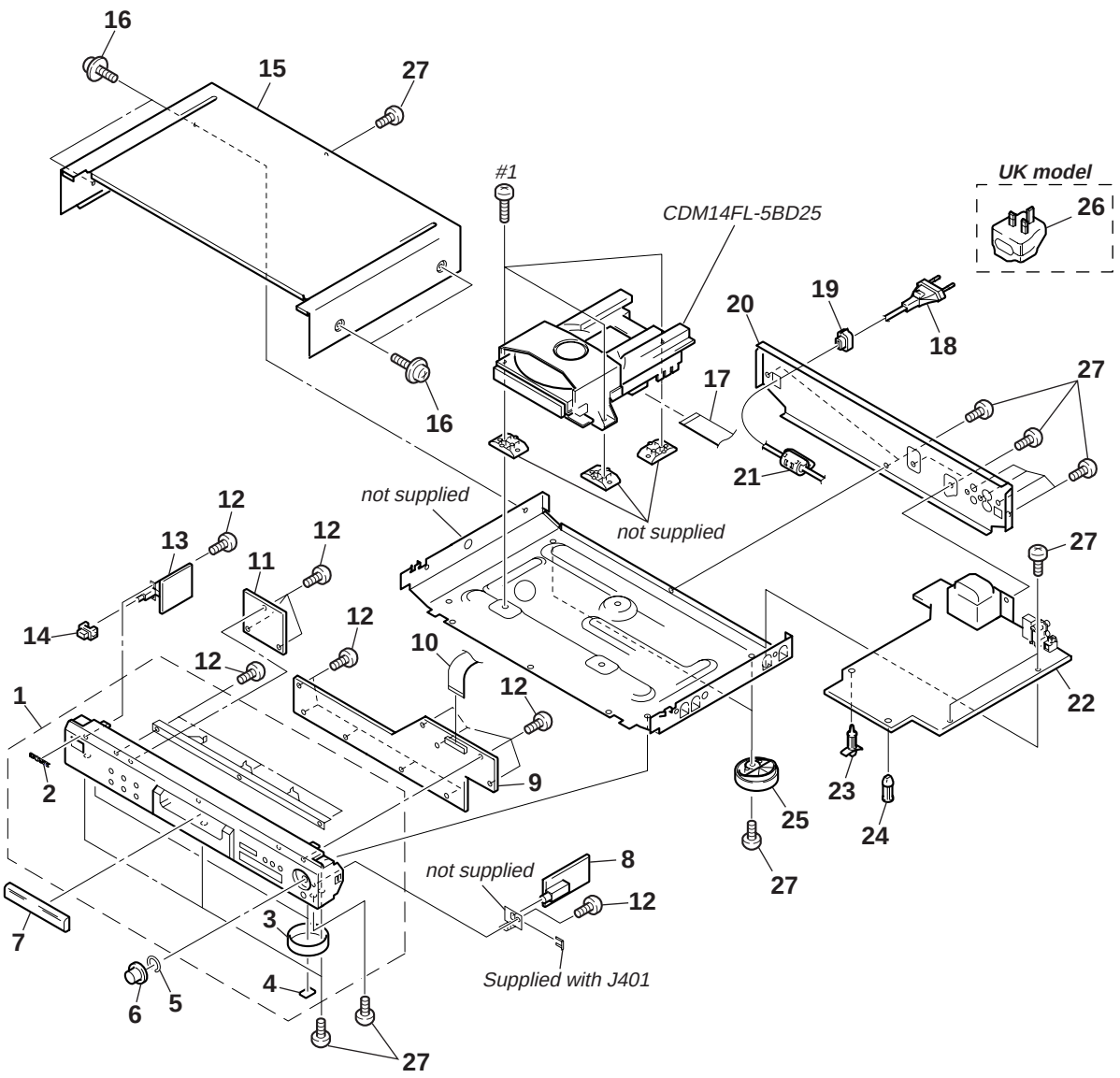
SECTION 7
EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences 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
  AED : North European
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (RED)
  ↑
  Cabinet's Color

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

7-1. FRONT PANEL AND CASE SECTION

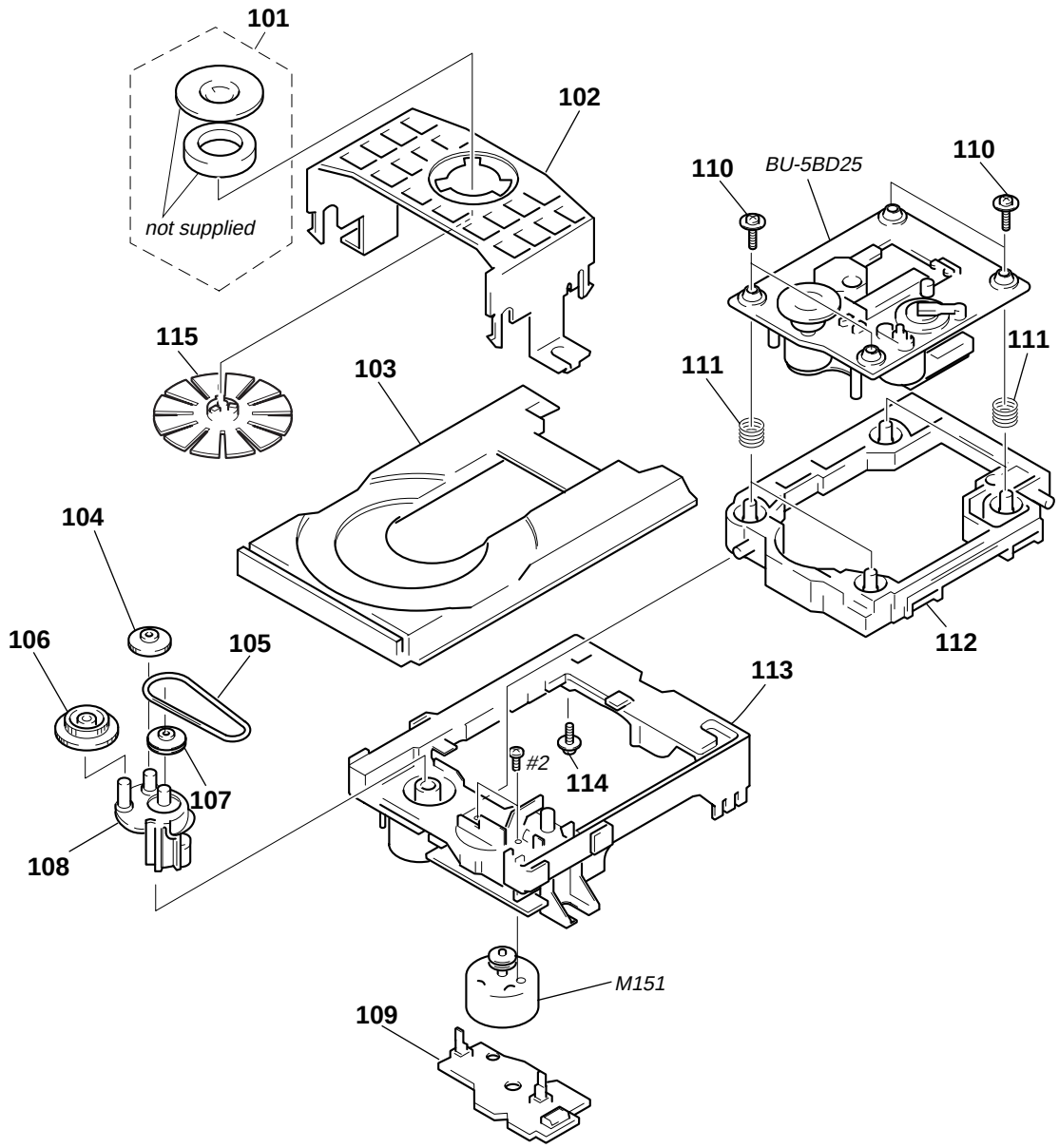


Ref. No.	Part No.	Description	Remarks
1	X-4950-693-1	PANEL ASSY, FRONT(BLACK)	
1	X-4950-694-1	PANEL ASSY, FRONT(SILVER)	
2	4-996-698-01	EMBLEM, SONY	
3	4-977-593-11	RING(DIA. 50), ORNAMENTAL	
4	4-977-358-11	CUSHION(AEP,UK,CIS)	
5	3-354-981-11	SPRING (SUS), RING	
6	4-996-687-11	KNOB(AMS)(SILVER)	
6	4-996-687-51	KNOB(AMS)(BLACK)	
7	4-214-165-11	PANEL, LOADING(BLACK)	
7	4-214-165-21	PANEL, LOADING(SILVER)	
* 8	A-4724-504-A	HP BOARD, COMPLETE	
* 9	A-4724-502-A	DISPLAY BOARD, COMPLETE	
10	1-773-210-11	WIRE(FLAT TYPE) (25 CORE)	
* 11	1-672-318-11	KEY BOARD	
12	4-951-620-01	SCREW (2.6 × 8), +BVTP	
* 13	1-672-319-11	POWER SW BOARD	
14	3-931-429-62	BUTTON (POWER)(BLACK)	
14	3-931-429-81	BUTTON (POWER)(SILVER)	
* 15	4-217-585-01	CASE (409526)(SILVER)	
* 15	4-980-777-01	CASE (409526)(BLACK)	

Ref. No.	Part No.	Description	Remarks
16	4-210-291-01	SCREW (CASE 3 TP2)(BLACK)(AEP,AED,CIS)	
16	4-210-291-11	SCREW (CASE 3 TP2)(SILVER)(AEP)	
16	4-999-877-01	SCREW (CASE)(UK)	
17	1-776-100-11	WIRE(FLAT TYPE) (23 CORE)	
⚠ 18	1-575-651-21	CORD, POWER	
19	4-966-267-11	BUSHING (FBS001), CORD	
* 20	4-214-172-02	PANEL, BACK(AEP,AED,CIS)	
* 20	4-214-172-12	PANEL, BACK(UK)	
21	1-500-386-11	FILTER, CLAMP (FERRITE CORE)	
* 22	A-4724-503-A	MAIN BOARD, COMPLETE(AEP,AED,CIS)	
* 22	A-4724-507-A	MAIN BOARD, COMPLETE(UK)	
* 23	4-954-051-51	HOLDER, PC BOARD	
* 24	3-349-025-41	HOLDER, PC BOARD	
25	X-4947-124-1	FOOT ASSY (F50150S)(SILVER)	
25	X-4947-207-1	FOOT ASSY (F50150S)(BLACK)	
⚠ 26	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P(UK)	
27	4-974-510-01	SCREW (+BV 3 × 8 CU)(UK)	
27	7-685-646-79	SCREW (+BVTP 3 × 8 TYPE2 N-S)	(AEP,AED,CIS)

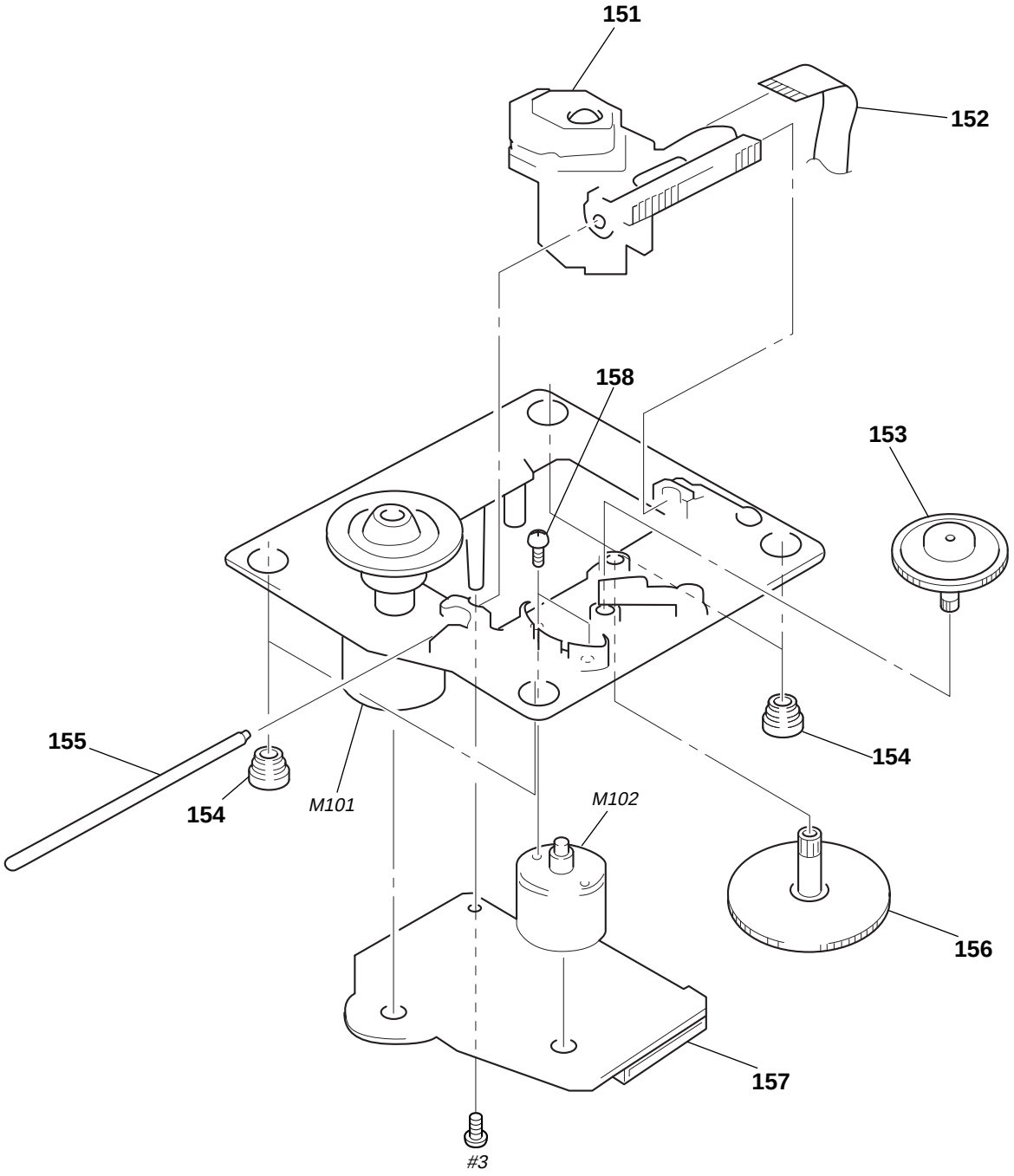
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

7-2. CD MECHANISM SECTION (CDM14FL-5BD25)



Ref. No.	Part No.	Description	Remarks
101	1-452-925-21	MAGNET ASSY	
102	4-933-110-41	HOLDER (MG)	
103	4-995-814-21	TABLE (FL), DISC	
104	4-967-268-01	GEAR (C)	
105	4-927-649-01	BELT	
106	4-933-107-01	GEAR (PL)	
107	4-927-651-01	PULLEY (S)	
108	4-933-109-01	CAM	
109	1-645-721-11	LOADING BOARD	
110	4-933-134-01	SCREW (+PTPWH M2.6 × 6)	
111	4-959-996-01	SPRING (932), COMPRESSION	
112	4-933-129-01	HOLDER (BU)	
113	4-933-111-41	CHASSIS (MD)	
114	4-917-583-21	BRACKET, YOKE	
115	4-993-142-21	PULLEY (L), PRESS	
M151	A-4604-363-A	MOTOR (L) ASSY	

7-3. BASE UNIT SECTION (BU-5BD25)



Ref. No.	Part No.	Description	Remarks
⚠151	8-848-379-31	OPTICAL PICK-UP KSS-213BA/F-NP	
152	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
153	4-917-567-01	GEAR (M)	
154	4-951-940-01	INSULATOR (BU)	
155	4-917-565-01	SHAFT, SLED	

Ref. No.	Part No.	Description	Remarks
156	4-917-564-01	GEAR (P), FLATNESS	
* 157	A-4724-002-A	BD BOARD, COMPLETE	
158	3-713-786-51	SCREW +P 2 × 3	
M101	X-4917-523-4	MOTOR ASSY(SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY(SLED)	

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

BD

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -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.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- Abbreviation
  AED : North European
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

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

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			Remarks
*	A-4724-002-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-164-346-11	CERAMIC CHIP	1uF		16V
C108	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C109	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C112	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C113	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-126-607-11	ELECT CHIP	47uF	20%	4V
C117	1-126-209-11	ELECT CHIP	100uF	20%	4V
C118	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C119	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C120	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C121	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C122	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C123	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C124	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C125	1-163-217-11	CERAMIC CHIP	1PF	0.25PF	50V
C126	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C140	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C141	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C151	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C153	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C156	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C157	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C161	1-163-038-91	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-770-072-11	CONNECTOR,(LIF(NON-ZIF))FFC23P			
CN102	1-770-014-11	CONNECTOR, FFC/FPC 16P			
		< IC >			
IC101	8-752-389-34	IC CXD2585Q			
IC102	8-759-455-91	IC BA6392FP-E2			
IC103	8-752-085-51	IC CXA2568M-T6			

Ref. No.	Part No.	Description			Remarks
		< JUMPER RESISTOR >			
JW102	1-216-295-91	SHORT	0		
		< COIL >			
L101	1-414-234-22	INDUCTOR CHIP	0uH		
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR	MSB710-R		
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-91	RES,CHIP	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-097-91	RES,CHIP	100K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-121-91	RES,CHIP	1M	5%	1/10W
R110	1-216-025-91	RES,CHIP	100	5%	1/10W
R112	1-216-049-91	RES,CHIP	1K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-91	RES,CHIP	100K	5%	1/10W
R125	1-216-037-00	METAL CHIP	330	5%	1/10W
R126	1-216-037-00	METAL CHIP	330	5%	1/10W
R127	1-216-037-00	METAL CHIP	330	5%	1/10W
R131	1-216-037-00	METAL CHIP	330	5%	1/10W
R135	1-216-295-91	SHORT	0		
R136	1-216-295-91	SHORT	0		
R137	1-216-295-91	SHORT	0		
R138	1-216-295-91	SHORT	0		
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W
R145	1-216-121-91	RES,CHIP	1M	5%	1/10W
R146	1-216-121-91	RES,CHIP	1M	5%	1/10W
R147	1-216-081-00	METAL CHIP	22K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-003-11	RES,CHIP	12	5%	1/10W
R158	1-216-111-00	METAL CHIP	390K	5%	1/10W
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R162	1-216-101-00	METAL CHIP	150K	5%	1/10W
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)			

****

Ref. No.	Part No.	Description				Remarks
*	A-4724-502-A	DISPLAY BOARD, COMPLETE				
		**********				
*	4-997-495-01	GUIDE(FL)				
		< CAPACITOR >				
C502	1-164-159-11	CERAMIC	0.1uF			50V
C503	1-124-584-00	ELECT	100uF	20%		10V
C505	1-164-159-11	CERAMIC	0.1uF			50V
C506	1-164-159-11	CERAMIC	0.1uF			50V
C507	1-161-494-00	CERAMIC	0.022uF			25V
		< CONNECTOR >				
CN501	1-784-747-11	CONNECTOR, FFC 25P				
		< FLUORESCENT INDICATOR TUBE >				
FL501	1-517-740-11	INDICATOR TUBE, FLUORESCENT				
		< IC >				
IC501	8-752-902-02	IC CXP82832-012Q				
IC502	8-749-014-66	IC NJL56H400A(SENSOR)				
		< TRANSISTOR >				
Q501	8-729-029-66	TRANSISTOR DTC114ESA				
Q502	8-729-029-66	TRANSISTOR DTC114ESA				
		< RESISTOR >				
R501	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R511	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R512	1-249-415-11	CARBON	680	5%	1/4W	F
R513	1-249-417-11	CARBON	1K	5%	1/4W	F
R514	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R515	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R516	1-247-843-11	CARBON	3.3K	5%	1/4W	
R521	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R522	1-249-415-11	CARBON	680	5%	1/4W	F
R523	1-249-417-11	CARBON	1K	5%	1/4W	F
R524	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R525	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R526	1-247-843-11	CARBON	3.3K	5%	1/4W	
R531	1-249-441-11	CARBON	100K	5%	1/4W	
R532	1-249-441-11	CARBON	100K	5%	1/4W	
R534	1-249-417-11	CARBON	1K	5%	1/4W	F
R535	1-249-429-11	CARBON	10K	5%	1/4W	
R536	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R537	1-249-429-11	CARBON	10K	5%	1/4W	
R538	1-249-429-11	CARBON	10K	5%	1/4W	
R539	1-249-429-11	CARBON	10K	5%	1/4W	
R541	1-247-807-31	CARBON	100	5%	1/4W	
R542	1-247-807-31	CARBON	100	5%	1/4W	
		< SWITCH >				
S511	1-762-752-11	SWITCH, TACTILE(CLEAR)				
S512	1-762-752-11	SWITCH, TACTILE(CHECK)				
S513	1-762-752-11	SWITCH, TACTILE(EDIT/TIME FADE)				
S514	1-762-752-11	SWITCH, TACTILE(◀◀)				
S515	1-762-752-11	SWITCH, TACTILE(▶▶)				

Ref. No.	Part No.	Description				Remarks
S521	1-762-752-11	SWITCH, TACTILE(⏏OPEN/CLOSE)				
S522	1-762-752-11	SWITCH, TACTILE(▷)				
S523	1-762-752-11	SWITCH, TACTILE(❚❚)				
S524	1-762-752-11	SWITCH, TACTILE(■)				
S531	1-475-543-11	ENCODER, ROTARY(AMS)				
		< VIBRATOR >				
X501	1-579-125-11	VIBRATOR, CERAMIC 8MHz				
**********						
*	1-672-320-11	HEADPHONE BOARD				
		**********				
		< CAPACITOR >				
C401	1-161-494-00	CERAMIC	0.022uF			25V
C402	1-162-291-31	CERAMIC	560PF	10%		50V
C403	1-162-291-31	CERAMIC	560PF	10%		50V
		< DIODE >				
D401	8-719-911-19	DIODE 1SS119				
D402	8-719-911-19	DIODE 1SS119				
		< JACK >				
J401	1-770-307-11	JACK (LARGE TYPE)(PHONES)				
		< COIL >				
L402	1-412-911-11	FERRITE	0uH			
L403	1-412-911-11	FERRITE	0uH			
**********						
*	1-672-318-11	KEY BOARD				
		*********				
		< RESISTOR >				
R502	1-249-415-11	CARBON	680	5%	1/4W	F
R503	1-249-417-11	CARBON	1K	5%	1/4W	F
R504	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R505	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R506	1-247-843-11	CARBON	3.3K	5%	1/4W	
		< SWITCH >				
S501	1-762-752-11	SWITCH, TACTILE(LANGUAGE)				
S502	1-762-752-11	SWITCH, TACTILE(MUSIC SCAN)				
S503	1-762-752-11	SWITCH, TACTILE(PEAK SEARCH)				
S504	1-762-752-11	SWITCH, TACTILE(PLAY MODE)				
S505	1-762-752-11	SWITCH, TACTILE(REPEAT)				
S506	1-762-752-11	SWITCH, TACTILE(TIME/TEXT)				
**********						
	1-645-721-11	LOADING BOARD				
		**********				
		< CONNECTOR >				
* CN151	1-568-943-11	PIN, CONNECTOR 5P				
		< MOTOR >				
M151	A-4604-363-A	MOTOR (L) ASSY				
		< SWITCH >				
S151	1-572-086-11	SWITCH, LEAF(LOAD OUT)				
S152	1-572-086-11	SWITCH, LEAF(LOAD IN)				
**********						

MAIN

Ref. No.	Part No.	Description			Remarks
*	A-4724-503-A	MAIN BOARD, COMPLETE(AEP,AED,CIS)			
		**********			
*	A-4724-507-A	MAIN BOARD, COMPLETE(UK)			
		**********			
	7-685-871-01	SCREW +BVTT 3 × 6 (S)			
		< CAPACITOR >			
C601	1-128-547-11	ELECT	6800uF	20%	16V
C602	1-126-767-11	ELECT	1000uF	20%	16V
C603	1-128-576-11	ELECT	100uF	20%	63V
C604	1-161-494-00	CERAMIC	0.022uF		25V
C605	1-161-494-00	CERAMIC	0.022uF		25V
C606	1-164-159-11	CERAMIC	0.1uF		50V
C607	1-164-159-11	CERAMIC	0.1uF		50V
C608	1-126-934-11	ELECT	220uF	20%	10V
C609	1-161-494-00	CERAMIC	0.022uF		25V
C610	1-136-165-00	FILM	0.1uF	5%	50V
C612	1-161-494-00	CERAMIC	0.022uF		25V
C613	1-126-963-11	ELECT	4.7uF	20%	50V
C614	1-126-963-11	ELECT	4.7uF	20%	50V
C615	1-126-963-11	ELECT	4.7uF	20%	50V
C616	1-126-916-11	ELECT	1000uF	20%	6.3V
C618	1-126-933-11	ELECT	100uF	20%	16V
C619	1-126-767-11	ELECT	1000uF	20%	16V
C620	1-113-924-11	CERAMIC	0.0047uF	20%	250V
C624	1-162-282-31	CERAMIC	100PF	10%	50V
C631	1-161-494-00	CERAMIC	0.022uF		25V
C632	1-162-306-11	CERAMIC	0.01uF	20%	16V
C633	1-161-494-00	CERAMIC	0.022uF		25V
C640	1-161-494-00	CERAMIC	0.022uF		25V
C641	1-126-964-11	ELECT	10uF	20%	50V
C642	1-126-925-11	ELECT	470uF	20%	10V
C651	1-164-159-11	CERAMIC	0.1uF		50V
C652	1-104-666-11	ELECT	220uF	20%	25V
C653	1-164-159-11	CERAMIC	0.1uF		50V
C656	1-164-159-11	CERAMIC	0.1uF		50V
C657	1-164-159-11	CERAMIC	0.1uF		50V
C658	1-161-494-00	CERAMIC	0.022uF		25V
C660	1-126-925-11	ELECT	470uF	20%	10V
C661	1-104-666-11	ELECT	220uF	20%	25V
C662	1-161-494-00	CERAMIC	0.022uF		25V
C663	1-161-494-00	CERAMIC	0.022uF		25V
C664	1-161-494-00	CERAMIC	0.022uF		25V
C665	1-161-494-00	CERAMIC	0.022uF		25V
C666	1-161-494-00	CERAMIC	0.022uF		25V
C667	1-161-494-00	CERAMIC	0.022uF		25V
C671	1-128-200-11	ELECT	47uF	20%	50V
C672	1-136-850-11	FILM	0.1uF	5%	63V
C673	1-162-199-31	CERAMIC	10PF	5%	50V
C674	1-162-199-31	CERAMIC	10PF	5%	50V
C675	1-161-494-00	CERAMIC	0.022uF		25V
C676	1-126-925-11	ELECT	470uF	20%	10V
C677	1-161-494-00	CERAMIC	0.022uF		25V
C678	1-126-024-11	ELECT	220uF	20%	25V
C679	1-126-024-11	ELECT	220uF	20%	25V
C681	1-164-159-11	CERAMIC	0.1uF		50V
C685	1-161-494-00	CERAMIC	0.022uF		25V
C690	1-164-159-11	CERAMIC	0.1uF		50V
C691	1-164-159-11	CERAMIC	0.1uF		50V
C695	1-161-494-00	CERAMIC	0.022uF		25V
C801	1-162-282-31	CERAMIC	100PF	10%	50V
C802	1-161-494-00	CERAMIC	0.022uF		25V
C803	1-126-933-11	ELECT	100uF	20%	16V
C804	1-162-215-31	CERAMIC	47PF	5%	50V
C805	1-162-215-31	CERAMIC	47PF	5%	50V
C806	1-130-479-00	MYLAR	0.0047uF	5%	50V
C807	1-130-472-00	MYLAR	0.0012uF	5%	50V(UK)
C807	1-130-473-00	MYLAR	0.0015uF	5%	50V (AEP,AED,CIS)
C808	1-126-024-11	ELECT	220uF	20%	25V
C810	1-136-802-11	FILM	0.015uF	5%	100V
C811	1-136-808-11	FILM	100PF	5%	100V (UK)
C901	1-162-282-31	CERAMIC	100PF	10%	50V
C902	1-161-494-00	CERAMIC	0.022uF		25V
C903	1-126-933-11	ELECT	100uF	20%	16V
C904	1-162-215-31	CERAMIC	47PF	5%	50V
C905	1-162-215-31	CERAMIC	47PF	5%	50V
C906	1-130-479-00	MYLAR	0.0047uF	5%	50V
C907	1-130-472-00	MYLAR	0.0012uF	5%	50V(UK)
C907	1-130-473-00	MYLAR	0.0015uF	5%	50V (AEP,AED,CIS)
C908	1-126-024-11	ELECT	220uF	20%	25V
C910	1-136-802-11	FILM	0.015uF	5%	100V
C911	1-136-808-11	FILM	100PF	5%	100V (UK)
		< CONNECTOR >			
CN602	1-564-321-00	PIN, CONNECTOR 2P			
CN621	1-784-786-11	CONNECTOR, FFC 25P			
CN651	1-784-784-11	CONNECTOR, FFC 23P			
CN681	1-506-468-11	PIN, CONNECTOR 3P			
		< DIODE >			
D601	8-719-024-99	DIODE 11ES2-NTA2B			
D602	8-719-024-99	DIODE 11ES2-NTA2B			
D603	8-719-024-99	DIODE 11ES2-NTA2B			
D604	8-719-024-99	DIODE 11ES2-NTA2B			
D605	8-719-024-99	DIODE 11ES2-NTA2B			
D612	8-719-024-99	DIODE 11ES2-NTA2B			
D613	8-719-024-99	DIODE 11ES2-NTA2B			
D614	8-719-921-40	DIODE MTZJ-4.7C			
D615	8-719-911-19	DIODE 1SS119			
D616	8-719-911-19	DIODE 1SS119			
D621	8-719-911-19	DIODE 1SS119			
D631	8-719-921-40	DIODE MTZJ-4.7C			
D641	8-719-983-84	DIODE MTZJ-T-72-30D			
D642	8-719-911-19	DIODE 1SS119			
D643	8-719-109-85	DIODE RD5.1ES-B2			
D681	8-719-911-19	DIODE 1SS119			
D682	8-719-911-19	DIODE 1SS119			
D691	8-719-911-19	DIODE 1SS119			
D692	8-719-911-19	DIODE 1SS119			
		< TERMINAL >			
* EP601	1-537-738-21	TERMINAL, EARTH			

Ref. No.	Part No.	Description				Remarks
		< IC >				
IC601	8-759-061-65	IC LA5602				
IC602	8-749-011-78	IC BA17807T				
IC631	8-759-822-09	IC LB1641				
IC651	8-749-921-12	IC GP1F32T(DIGITAL OUT OPTICAL)				
IC661	8-759-362-47	IC CXD8567AM				
IC671	8-759-604-86	IC M5F7807L				
IC672	8-759-604-90	IC M5F7907L				
IC681	8-759-634-51	IC M5218AP				
IC801	8-759-710-59	IC NJM4580D-D				
IC901	8-759-710-59	IC NJM4580D-D				
		< JACK >				
J621	1-774-726-11	JACK(S-LINK CONTROL A1)				
J681	1-785-868-11	JACK, PIN 2P(LINE OUT)				
		< COIL >				
L640	1-410-507-11	INDUCTOR	6.8uH			
L651	1-410-507-11	INDUCTOR	6.8uH			
L652	1-410-322-11	INDUCTOR	3.3uH			
L653	1-410-322-11	INDUCTOR	3.3uH			
L654	1-412-473-21	INDUCTOR	0uH			
L661	1-410-322-11	INDUCTOR	3.3uH			
L662	1-410-322-11	INDUCTOR	3.3uH			
L665	1-412-473-21	INDUCTOR	0uH			
L801	1-410-322-11	INDUCTOR	3.3uH			
L901	1-410-322-11	INDUCTOR	3.3uH			
		< TRANSISTOR >				
Q621	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q641	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q642	8-729-041-38	TRANSISTOR	2SB1241TV2Q			
Q681	8-729-029-56	TRANSISTOR	DTA144ESA			
Q682	8-729-922-37	TRANSISTOR	2SD2144S			
Q683	8-729-922-37	TRANSISTOR	2SD2144S			
Q691	8-729-029-56	TRANSISTOR	DTA144ESA			
Q692	8-729-922-37	TRANSISTOR	2SD2144S			
Q693	8-729-922-37	TRANSISTOR	2SD2144S			
		< RESISTOR >				
R611	1-249-429-11	CARBON	10K	5%	1/4W	
R612	1-249-411-11	CARBON	330	5%	1/4W	
R622	1-249-429-11	CARBON	10K	5%	1/4W	
R624	1-249-393-11	CARBON	10	5%	1/4W	F
R625	1-249-429-11	CARBON	10K	5%	1/4W	
R626	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R631	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R641	1-249-432-11	CARBON	18K	5%	1/4W	
R642	1-249-432-11	CARBON	18K	5%	1/4W	
R643	1-249-441-11	CARBON	100K	5%	1/4W	
R644	1-249-441-11	CARBON	100K	5%	1/4W	
R645	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R646	1-249-432-11	CARBON	18K	5%	1/4W	
R647	1-247-807-31	CARBON	100	5%	1/4W	
R648	1-247-807-31	CARBON	100	5%	1/4W	

Ref. No.	Part No.	Description				Remarks
R651	1-249-429-11	CARBON	10K	5%	1/4W	
R661	1-249-417-11	CARBON	1K	5%	1/4W	F
R662	1-249-417-11	CARBON	1K	5%	1/4W	F
R663	1-249-417-11	CARBON	1K	5%	1/4W	F
R664	1-249-409-11	CARBON	220	5%	1/4W	F
R665	1-247-807-31	CARBON	100	5%	1/4W	
R666	1-247-807-31	CARBON	100	5%	1/4W	
R667	1-247-807-31	CARBON	100	5%	1/4W	
R668	1-249-417-11	CARBON	1K	5%	1/4W	F
R669	1-249-429-11	CARBON	10K	5%	1/4W	
R671	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R672	1-249-401-11	CARBON	47	5%	1/4W	F
R673	1-247-807-31	CARBON	100	5%	1/4W	
R681	1-249-441-11	CARBON	100K	5%	1/4W	
R682	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R683	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R691	1-249-441-11	CARBON	100K	5%	1/4W	
R692	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R693	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R801	1-249-436-11	CARBON	39K	5%	1/4W	
R802	1-249-436-11	CARBON	39K	5%	1/4W	
R803	1-249-431-11	CARBON	15K	5%	1/4W	
R804	1-249-431-11	CARBON	15K	5%	1/4W	
R805	1-249-437-11	CARBON	47K	5%	1/4W	
R806	1-249-437-11	CARBON	47K	5%	1/4W	
R807	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R808	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R809	1-249-441-11	CARBON	100K	5%	1/4W	
R810	1-249-414-11	CARBON	560	5%	1/4W	F
R812	1-247-807-31	CARBON	100	5%	1/4W	
R821	1-249-403-11	CARBON	68	5%	1/4W	F
R901	1-249-436-11	CARBON	39K	5%	1/4W	
R902	1-249-436-11	CARBON	39K	5%	1/4W	
R903	1-249-431-11	CARBON	15K	5%	1/4W	
R904	1-249-431-11	CARBON	15K	5%	1/4W	
R905	1-249-437-11	CARBON	47K	5%	1/4W	
R906	1-249-437-11	CARBON	47K	5%	1/4W	
R907	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R908	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R909	1-249-441-11	CARBON	100K	5%	1/4W	
R910	1-249-414-11	CARBON	560	5%	1/4W	F
R912	1-247-807-31	CARBON	100	5%	1/4W	
R921	1-249-403-11	CARBON	68	5%	1/4W	F
		< TRANSFORMER >				
⚠T601	1-431-696-21	TRANSFORMER, POWER				
		< VIBRATOR >				
X671	1-579-834-11	VIBRATOR, CRYSTAL 33MHz				

****

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

POWER SW

Ref. No.	Part No.	Description	Remarks
*	1-672-319-11	POWER SW BOARD **********	
	7-685-871-01	SCREW +BVTT 3 × 6 (S)	
		< CAPACITOR >	
⚠C621	1-113-924-11	CERAMIC 0.0047uF 20% 250V	
		< CONNECTOR >	
* CN601	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P	
CN603	1-769-745-71	LEAD (WITH CONNECTOR) (2 CORE)	
		< SWITCH >	
⚠S601	1-572-267-51	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)	
**********			
		MISCELLANEOUS **********	
10	1-773-210-11	WIRE(FLAT TYPE) (25 CORE)	
17	1-776-100-11	WIRE(FLAT TYPE) (23 CORE)	
⚠18	1-575-651-21	CORD, POWER	
21	1-500-386-11	FILTER, CLAMP (FERRITE CORE)	
⚠26	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P(UK)	
101	1-452-925-21	MAGNET ASSY	
⚠151	8-848-379-31	OPTICAL PICK-UP KSS-213BA/F-NP	
152	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
M101	X-4917-523-4	MOTOR ASSY(SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY(SLED)	
M151	A-4604-363-A	MOTOR (L) ASSY	
**********			

Ref. No.	Part No.	Description	Remarks
		ACCESSORIES & PACKING MATERIALS **********	
	1-473-720-11	REMOTECOMMANDER (RM-DX50)	
	1-776-263-11	CORD,CONNECTION (AUDIO)	
	3-810-765-11	MANUAL,COMMONNESS INSTRUCTION (ENGLISH)(UK)	
	3-810-765-21	MANUAL,COMMONNESS INSTRUCTION (ENGLISH/FRENCH/GERMAN/SPANISH/DUTCH/SWEDISH/ITALIAN/PORTUGUESE/CHINESE)(AEP)	
	3-810-765-82	MANUAL,COMMONNESS INSTRUCTION (SWEDISH/DANISH/FINNISH)(AED)	
	3-810-765-92	MANUAL,COMMONNESS INSTRUCTION (ENGLISH/POLISH/RUSSIAN)(CIS)	
	3-865-462-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH)(AEP/UK)	
	3-865-462-21	MANUAL, INSTRUCTION (GERMAN/DUTCH/ITALIAN/PORTUGUESE)(AEP)	
	3-865-462-31	MANUAL, INSTRUCTION (SWEDISH/DANISH/FINNISH)(AED)	
	3-865-462-41	MANUAL, INSTRUCTION (ENGLISH/POLISH/RUSSIAN)(CIS)	
	3-865-462-51	MANUAL, INSTRUCTION(HUNGARIAN)(CIS)	
	3-865-462-61	MANUAL, INSTRUCTION(CZECH)(CIS)	
	3-865-462-71	MANUAL, INSTRUCTION(TURKISH)(CIS)	
	3-865-462-81	MANUAL, INSTRUCTION(GREEK)(CIS)	
	4-983-956-01	COVER,BATTERY (For RM-DX50)	
**********			
		********** HARDWARE LIST **********	
#1	7-685-649-79	SCREW +BVTP 3 × 14 TYPE2 IT-3	
#2	7-621-775-10	SCREW +B 2.6 × 4	
#3	7-685-134-19	SCREW +BVT 2.6 × 8 TYPE2 N-S	

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Replace only with part number specified.

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