CDP-XB820

SERVICE MANUAL

AEP Model

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM36-14E
Base Unit Type	BU-14E
Optical Pick-up Type	KSS-213B/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 a distance 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 108 dB
Dynamic range	More than 99 dB
Harmonic distortion	Less than 0.0027%
Channel separation	More than 103 dB

Outputs

	Jack type	Maximum output level	Load impedance
LINE OUT	Phono jacks	2 V (at 50 kilohms)	Over 50 kilohms
DIGITAL OUT (OPTICAL)	Optical output connector	–18 dBm	Wave length: 660 nm
DIGITAL OUT (COAXIAL)	Coaxial output connector	0.5 Vp-p (at 75 ohms)	75 ohms
PHONES	Stereo phone jack	10 mW	32 ohms

– Continued on next page –

COMPACT DISC PLAYER

MICROFILM

SONY®

General

Power requirements	220 V – 230 V AC, 50/60 Hz
Power consumption	14 W
Dimensions (approx.) (w/h/d)	430 × 115 × 290 mm (17 × 4 5/8 × 11 1/2 in.) incl. projecting parts
Mass (approx.)	5 kg (11 lbs)

Supplied accessories

Audio 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.

TABLE OF CONTENTS

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.

SECTION 1
SERVICING NOTES

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

The laser diode in the optical pick-up block may suffer electrostatic 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.

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.

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

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

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

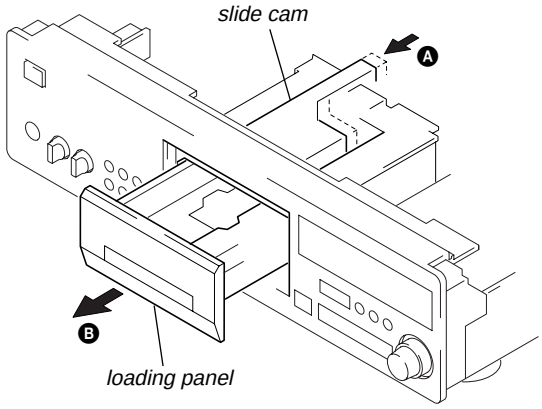
The following caution label is located inside the unit.

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

Insert a tapering driver into the aperture of he unit bottom, and turn in the direction of arrow (to OUT direction).

DISC REMOVAL PROCEDURE (at POWER OFF)

1. Remove the case. (Refer to page 7.)
2. Push the slide cam in the direction of the arrow Ⓐ.
3. Draw out the loading panel in the direction of the arrow Ⓑ by hand, and remove a disk.



CD-TEXT TEST DISC

This unit is able to display the test data (character information) written in the CD on its fluorescent indicator tube.
The CD-TEXT TEST DISC (TGCS-313:4-989-366-01) is used for checking the display.
To check, perform the following procedure.

Checking Method:

1. Turn ON the power, set the disc to the disc table with the “test disc” label facing up, and chuck the disc.
2. Press the [▷] button and play back the disc.
3. The following will be displayed on the fluorescent indicator tube.
   Display : 1KHZ/0dB
4. Rotating [⏮ AMS ⏭] knob, select the track. The text data of each track will be displayed.
   For details of the displayed contents for each track, refer to “Table 1 : CD-TEXT TEST DISC TEXT Data Contents” and “Table 2 : CD-TEXT TEST DISC Recorded Contents and Display”.

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.

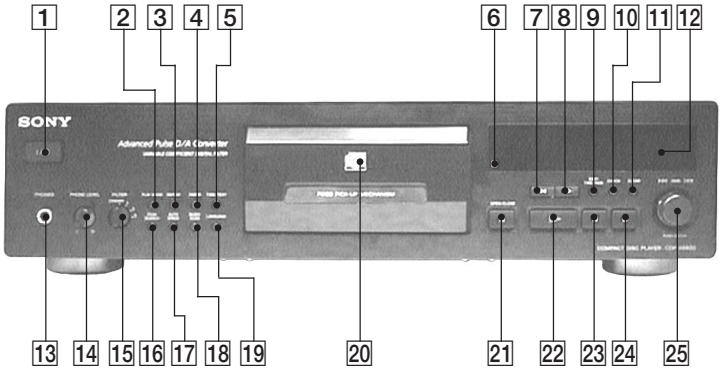
Table 2: CD-TEXT TEST DISC Recorded Contents and Display

(In this unit, some special characters cannot be displayed. This is no a fault.)

TRACK No.	Recorded contents	Display
42	! " # $ % & ´ (21h to 27h)1kHz 0dB L&R	
43	( ) * + , – . / (28h to 2Fh)	
44	0 1 2 3 4 5 6 7 (30h to 37Fh)	
45	8 9 : ; < = > ? (38h to 3Fh)	
46	@A B C D E F G (40h to 47Fh)	
47	H I J K L M N O (48h to 4Fh)	
48	P Q R S T U V W (50h to 57Fh)	
49	X Y Z [¥] ^ _ (58h to 5Fh)	
50	` a b c d e f g (60h to 67Fh)	
51	h i j k l m n o (68h to 6Fh)	
52	p q r s t u v w (70h to 77Fh)	
53	x y z { l } ~ ▉ (78h to 7Fh)	
54	▉ ¡ ¢ £ ¤ ¥ ¦ § (A0h to A7h) 8859-1	
55	♪ © ª « ¬ ® ¯ (A8h to AFh)	
56	· ± ² ³ ´ µ ¶ • (B0h to B7h)	
57	† ¹ º » ¼ ½ ¾ ¿ (B8h to BFh)	
58	À Á Â Ã Ä Å Æ Ç (C0h to C7Fh)	
59	È É Ê Ë Ì Í Î Ï (C8h to CFh)	
60	Ð Ñ Ò Ó Ô Õ Ö × (D0h to D7Fh)	
61	Ø Ù Ú Û Ü Ý Þ ß (D8h to DFh)	
62	à á â ã ä å æ ç (E0h to E7Fh)	
63	è é ê ë ì í î ï (E8h to FFh)	
64	ð ñ ò ó ô õ ö ÷ (F0h to F7Fh)	
65	ø ù ú û ü ý þ ÿ (F8h to FFFh)	
66	No.66	NO 66
67	No.67	NO 67
to	to	to
99	No.99	NO 99

SECTION 2
GENERAL

• LOCATION OF CONTROLS

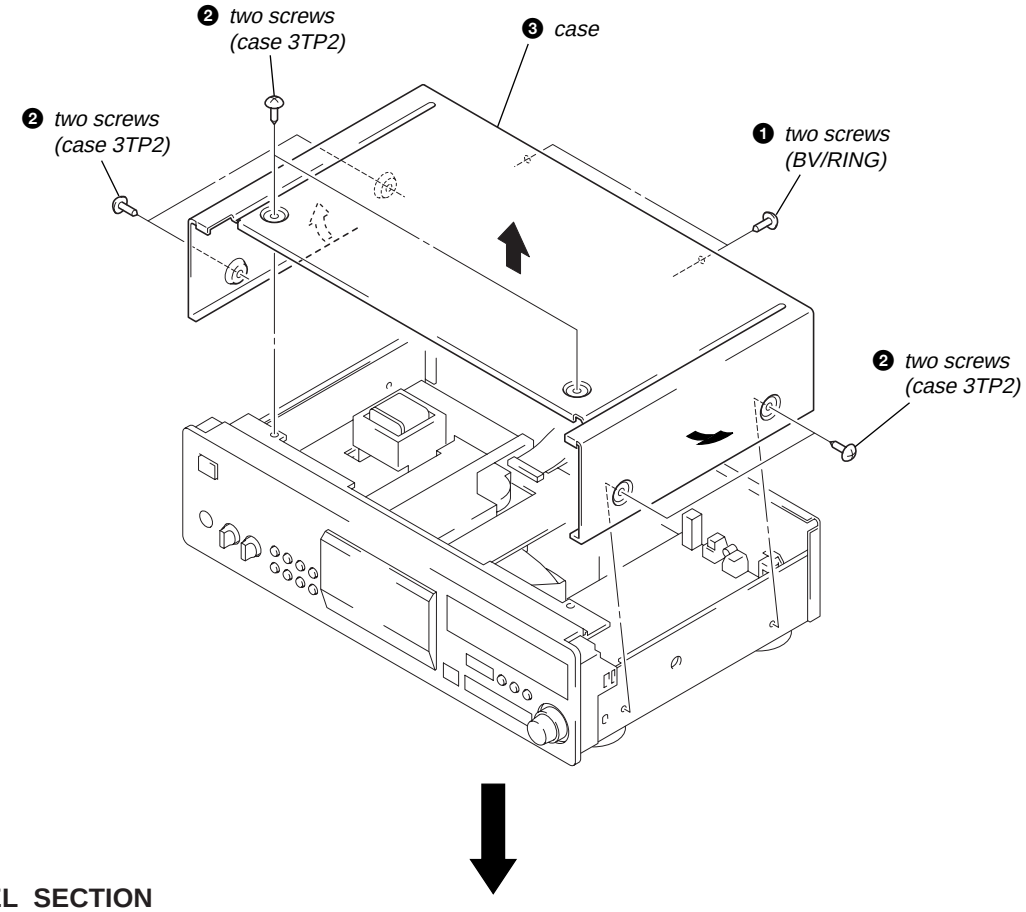


1 ⏻ (power) button
2 PLAY MODE button
3 REPEAT button
4 FADER button
5 TIME TEXT button
6 Remote sensor
7 ◀◀ button
8 ▶▶ button
9 EDIT/TIME FADER button
10 CHECK button
11 CLEAR button
12 Fluorescent indicator tube
13 PHONES jack
14 PHONE LEVEL knob
15 FILTER knob
16 PEAK SEARCH button
17 AUTO SPACE button
18 MUSIC SCAN button
19 LANGUAGE button
20 Disc tray
21 ⏏ OPEN/CLOSE button
22 ▷ button
23 ❚❚ button
24 ■ button
25 ⏮ AMS ⏭, PUSH ENTER knob

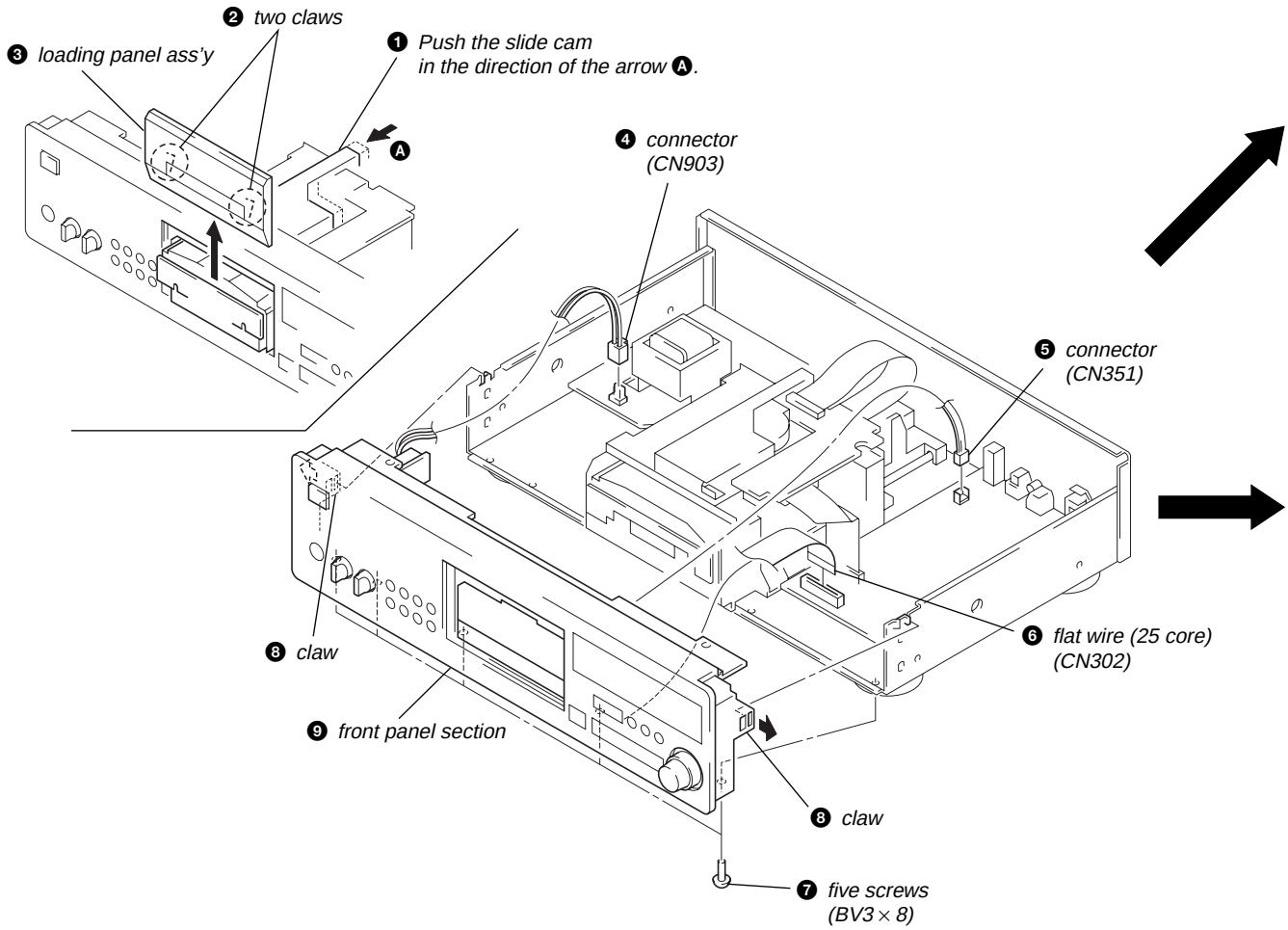
SECTION 3
DISASSEMBLY

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

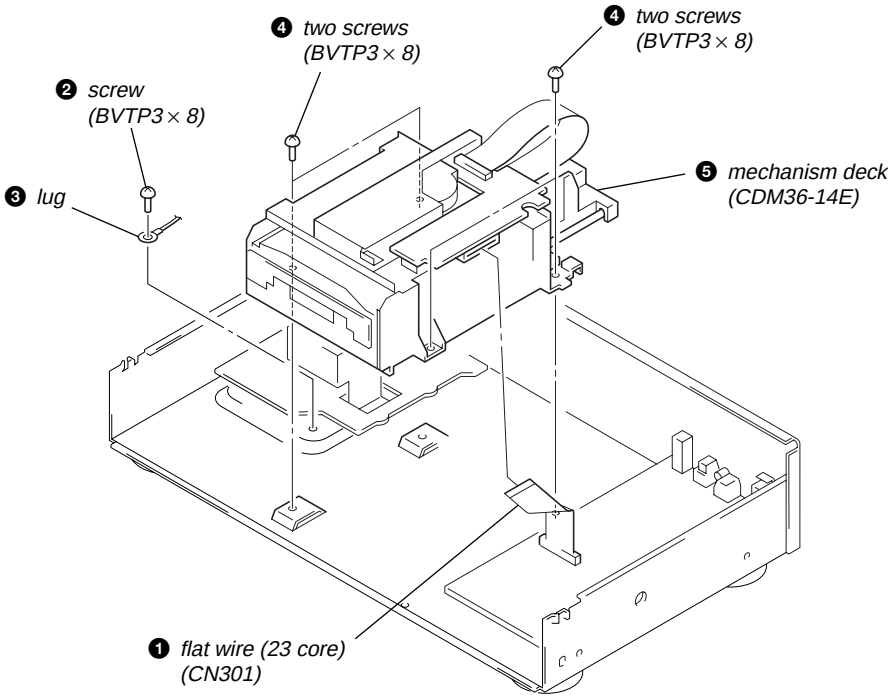
CASE



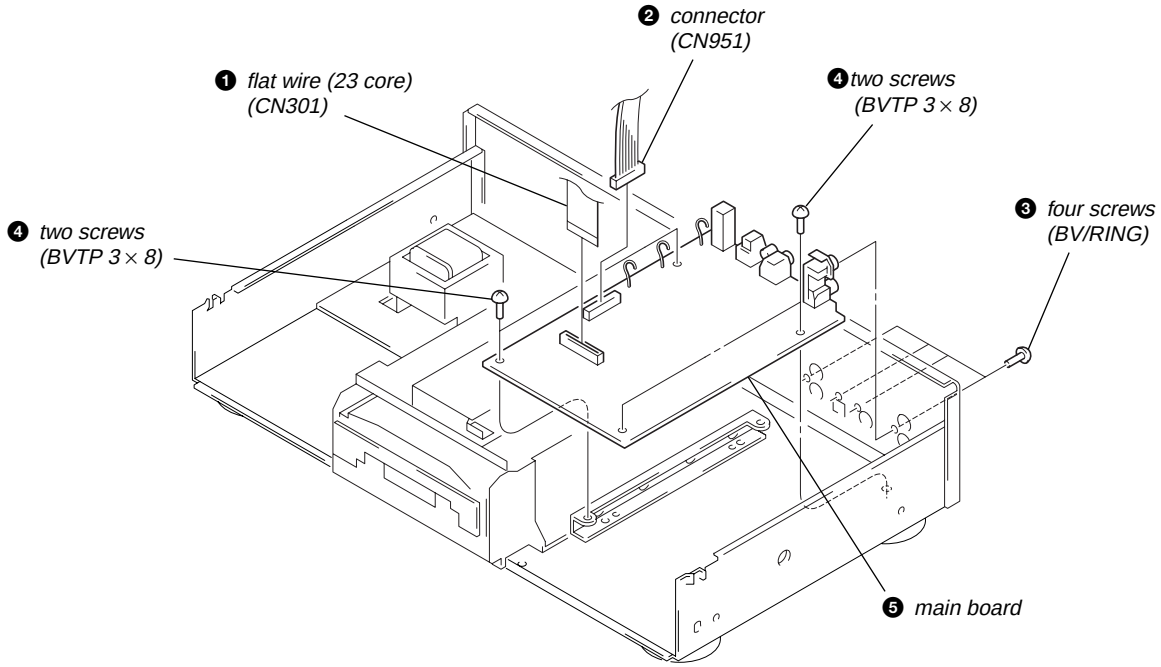
FRONT PANEL SECTION



MECHANISM DECK (CDM36-14E)



MAIN BOARD



SECTION 4
TEST MODE

4-1. AF ADJ MODE

The following checks can be performed in the AF ADJ mode, which is set by connecting the TP2 (AF ADJ : JW96) 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)

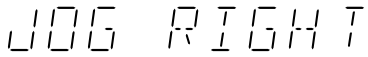
  When the ■ button is pressed, the following will be displayed. (partial lighting 2)

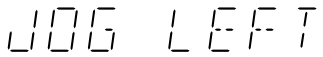
	2		4	
6		8		10
	12		14	
16		18		20

(Partial lighting 2)

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

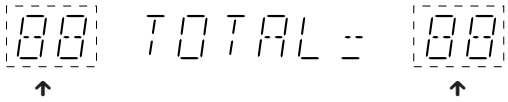
  When the ⏮ AMS ⏭ knob is rotated, the following will be displayed. (partial lighting 3)

Rightward: 

Lefrward: 
(Partial lighting 3)

- **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 "18". It will not count for buttons already pressed once, but will display the button's number.



Display of counting *Display of button number*

Buttons and Corresponding Button Numbers

Button	Button Number or Display
LANGUAGE	0
MUSIC SCAN	1
AUTO SPACE	2
PEAK SEARCH	3
PLAY MODE	4
REPEAT	5
FADER	6
TIME/TEXT	7
◀◀	8
▶▶	9
EDIT/TIME FADE	10
CHECK	11
CLEAR	12
❚❚	18
PUSH ENTER	20
OPEN/CLOSE ⏏	All lit
PLAY ▷	Partial lighting 1
STOP ■	Partial lighting 2
⏮ AMS ⏭	Partial lighting 3

"FILTER-STD/1/2/3" is displayed on the FL tube when the FILTER switch is pressed.

- **Remote commander check**

  "REMOCON PLAY" is displayed on the FL tube when the PLAY button on the remote commander is pressed.
  All go off when the other buttons a pressed.

- **Audio check**
  - Initial setting of digital filter and release of mute.
  - When the TP2 (AF ADJ) terminal on MAIN board is set to HIGH (VDD), emphasis turns on. When set to LOW (GND), it turns off.

4-2. ADJ MODE

The following operations are performed in the ADJ mode, which is set by connecting the TP1 (ADJ : JW98) terminal to the Ground and turning on the power.

- During playback, there is no problem even if the GFS is continuously LOW.
- High speed search is prohibited during access.
- During playback, the gain of focus servo and spindle servo does not decrease.
- Servo related manual operations and measurement can be performed.
  (For details of operations, refer to Table of Key Operrations in ADJ Mode.)

4-3. CLV-S MODE

The spindle servo for playback sets into the CLV-S mode when the TP2 (AFADJ) terminal is connected to Ground after turning on the power.

TABLE OF BUTTON OPERATIONS IN ADJ MODE

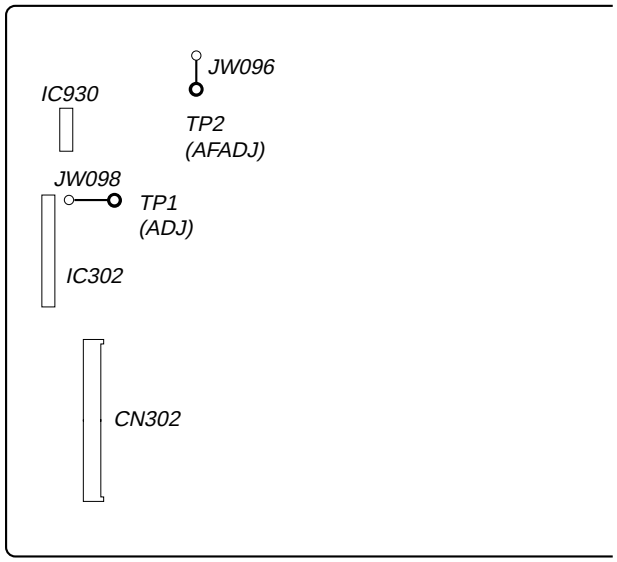
The jitter value display mode can be set after the all-music remaining number mode using the TIME/TEXT button.

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

FUNCTIONS OF NUMBER BUTTONS (With the attached remote commander)

Button	Function
1	Focus bias up
2	Focus bias aliasing (upper, middle, lower) display
3	Focus bias (best point, jitter value) display
4	Tracking servo, sled servo off
5	Tracking gain up
6	Focus bias down
7	Focus bias readjustment
8	Focus bias 00 point
9	Tracking servo, sled servo on
10	Tracking gain normal
11	S-Curve mode (play mode only)
12	Eccentric mode
13	Reserved for BD
14	
15	
16	
17	Tracking gain initialize
18	Offset display (TE), EF, Bias
19	Offset display (VC, FE, RF)
20	Auto gain (FCS, TRK)
CLR key	(Error Rate, RFCK, GFS) selection

[MAIN BOARD] – Conductor Side –



4-4. AGING MODE

1. How to Enter AGING Mode

Aging method 1

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

1) Pess 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):

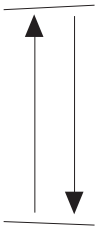
1) Turn on the power of the set, and insert any disc.
2) Press three buttons of MUSIC SCAN, ⏏ (OPEN/CLOSE), and ■ simultaneously, and the set goes in the AGING mode.
3) Performing the aging for a while, confirm that "ERROR" is not displayed on the fluorescent display tube.

2. How to Exit from AGING Mode

Turn off the Power, and normal operation becomes ready.

3. Operation sequence in AGING Mode.

Contents of AGING mode



	Display	Operation
1	AGING-0	loading IN
2	AGING-1	Toc read
3	AGING-2	last access
4	AGING-3	last play
5	AGING-4	first access
6	AGING-5	first play
7	AGING-6	loading OUT

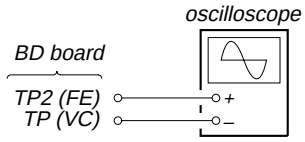
Fig. 1

*: In case of a failure
A faulty operation mode No. such as "ERROR-3" is blinking.
*: During aging, the keys on the set and the remote control A1 are not accepted.
*: To quit the aging, turn of the power of the set.

SECTION 5
ELECTRICAL BLOCK CHECKING

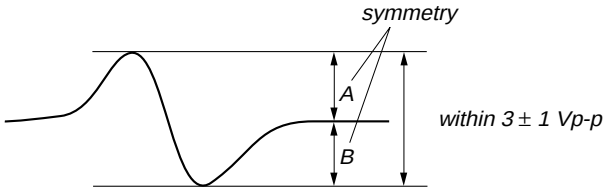
Note:
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when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

S Curve Check
Connection:



Procedure :
1. Connect oscilloscope to test point TP2 (FE) on BD board.
2. Connect between test point TP3 (FEI) and TP (VC) by lead wire.
3. Turn ON the power.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1 Vp-p.

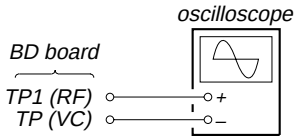
S-curve waveform



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.

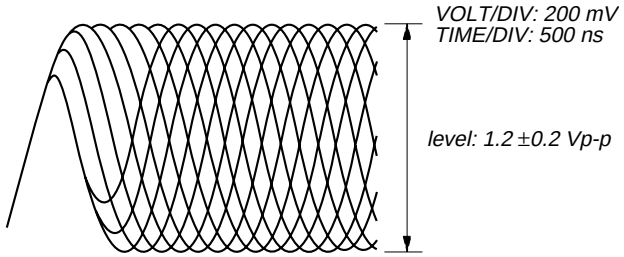
RF Level Check
Connection:



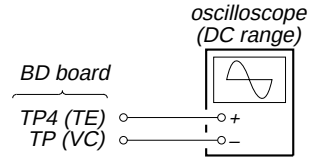
Procedure :
1. Connect oscilloscope to test point TP1 (RF) on BD board.
2. Turn ON the power.
3. Put disc (YEDS-18) in to play the number five track.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

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

RF signal waveform

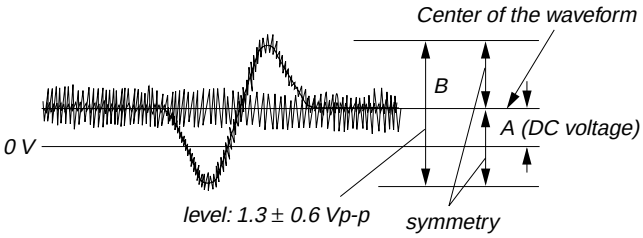


E-F Balance (1 Track Jump) Check (Without remote commander)
Connection:

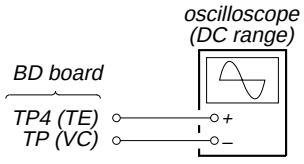


Procedure :
1. Connect oscilloscpe to test point TP4 (TE) on BD board.
2. Turn ON the power.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the "❚❚ (Pause)" button. (Becomes the 1 track jump mode)
5. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
   Confirm the following :
   A/B x 100 = less than ± 22%

1 track jump waveform

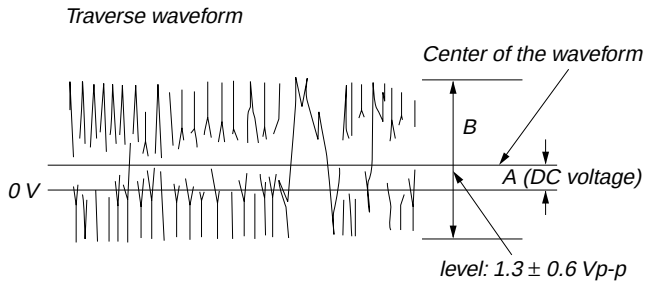


E-F Balance Check (With remote commander)
Connection:

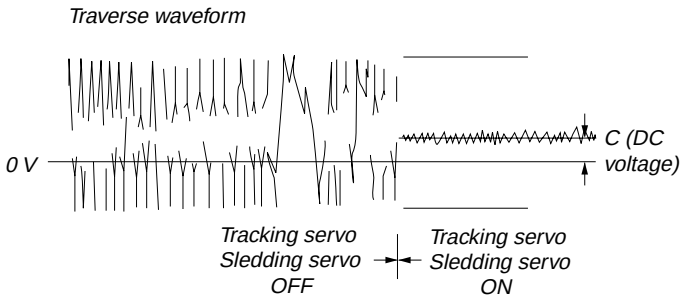


Procedure :
1. Connect the test point TP1 (ADJ : JW98) on MAIN board to the ground with a lead wire on MAIN board.
2. Connect oscilloscpe to test point TP4 (TE) on BD board.
3. Turn ON the power to set the ADJ mode.
4. Put disc (YEDS-18) in to play the number five track.
5. Press the "4" button. (The 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.

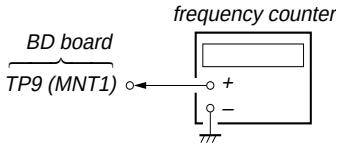


8. Disconnect the lead wire of TP1 (ADJ : JW98) connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

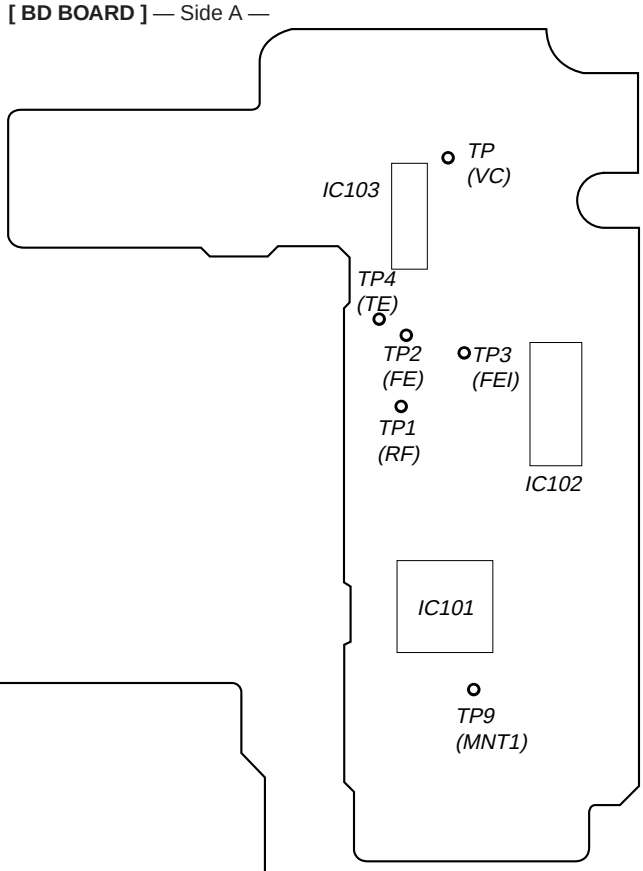
1. Connect frequency counter to test point (MNT1) with lead wire.



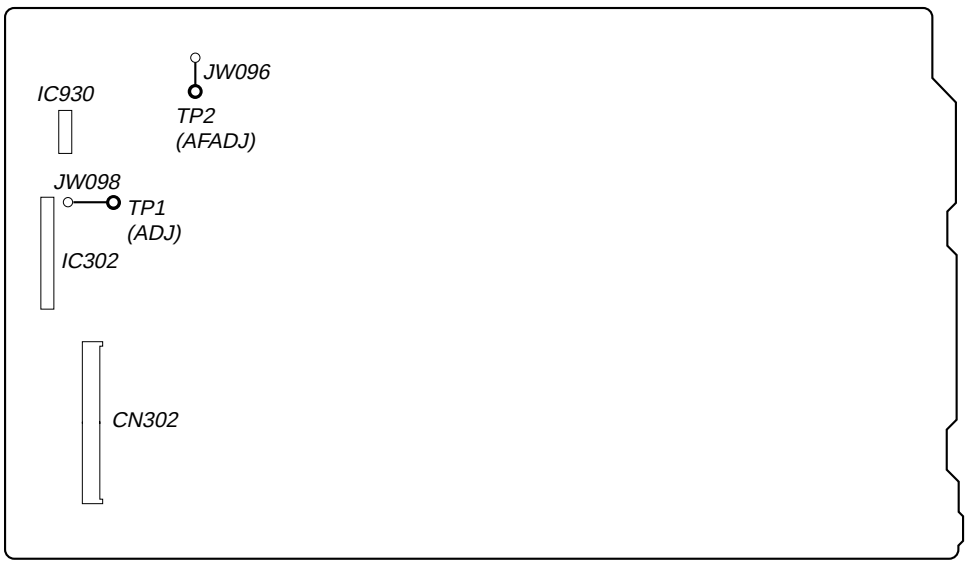
2. Turn ON the power.
3. Put the disc (YEDS-18) in to play the number five track.
   Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location :

[BD BOARD] — Side A —



[MAIN BOARD] – Conductor Side –



SECTION 6
DIAGRAMS

6-1. IC PIN FUNCTION DESCRIPTION

• DISP BOARD IC801 CXP82832-009Q (SYSTEM CONTROLLER/FL DRIVER)

Pin No.	Pin Name	I/O	Function
1, 2	13G, 14G	O	Grid drive signal output to the fluorescent indicator tube (FL801) "H": goes on
3	NC	—	Not used (fixed at "H")
4	+5V	—	Power supply terminal (+5V)
5	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD2585Q (IC101) in BD section "H" active
6, 7	GND	—	Ground terminal
8	RMIN	I	Sircs signal input from the remote control receiver (IC802) "L" active
9	GND	—	Ground terminal
10, 11	OPEN	O	Not used (open)
12	LDOUT	O	Motor control signal (load out direction) output to the loading motor driver (IC302) "H" active *1
13	LDIN	O	Motor control signal (load in direction) output to the loading motor driver (IC302) "H" active *1
14	SENSE	I	Internal status monitor input from the CXD2585Q (IC101) in BD section
15	XLT	O	Serial data latch pulse output to the CXD2585Q (IC101) in BD section "L" active
16	DMUTE	O	Digital muting on/off control signal output to the CXD2585Q (IC101) and D/A converter (IC301) "L": muting on
17	PRGLT	O	Serial data latch pulse output to the D/A converter (IC301) "L" active
18	SENSOR IN	I	Stabilizer detect sensor input terminal (fixed at "L" in this set)
19	BUSOUT	O	Sircs remote control signal output for the CONTROL A1 "H" active
20	BUSIN	I	Sircs remote control signal input for the CONTROL A1 "L" active
21	SENSOR SW	I	Stabilizer detect sensor switch input terminal "H" active Not used (open)
22	CLK	O	Serial data transfer clock signal output to the CXD2585Q (IC101) in BD section "L" active
23	LDON	O	Laser on/off control signal output to the CXA2568M (IC103) "H": laser on
24	DATA	O	Serial data output to the CXD2585Q (IC101) in BD section
25	SQCK	O	Subcode Q data reading clock signal output to the CXD2585Q (IC101) in BD section "L" active
26	SUBQ	I	Subcode Q data input from the CXD2585Q (IC101) in BD section
27	+5V	—	Power supply terminal (+5V)
28	AVREF	I	Reference voltage (+5V) input terminal (for A/D converter)
29	KEY0	I	Key input terminal (A/D input) S851 to S858 (LANGUAGE, MUSIC SCAN, AUTO SPACE, PEAK SEARCH, PLAY MODE, REPEAT, FADER, TIME/TEXT keys input)
30	KEY1	I	Key input terminal (A/D input) S801 to S805 and S810 (CLEAR, CHECK, EDIT/TIME FADE, ◀◀, ▶▶, PUSH ENTER keys input)
31	KEY2	I	Key input terminal (A/D input) S806 to S810 (⏏ OPEN/CLOSE, ▷, ▮▮, ■, ⏮ AMS ⏭ keys input)
32	FILTER.SW	I	FILTER switch (S860) input terminal (A/D input)
33	ADJ/AFADJ	I	Input terminal for the CD test mode setting "L": ADJ mode, center voltage: AFADJ mode, normally: "H"
34	LOADSW	I	Loading in/out detect switch (S152 and S153) input terminal
35	MODEL.SEL1	I	Destination setting terminal (fixed at "H")

*1 Loading motor (M903) control

Terminal \ Operation	IN	OUT	BRAKE	RUN IDLE
LDOUT (pin ⑫)	"L"	"H"	"H"	"L"
LDIN (pin ⑬)	"H"	"L"	"H"	"L"

Pin No.	Pin Name	I/O	Function
36	MODEL.SEL2	I	Destination setting terminal (fixed at “L”)
37	AVSS	—	Ground terminal (for A/D converter)
38	$\overline{\text{RST}}$	I	System reset signal input from the reset signal generator (IC930) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
39	EXTAL	I	Main system clock input terminal (8 MHz)
40	XTAL	O	Main system clock output terminal (8 MHz)
41	VSS	—	Ground terminal
42	TX	O	Sub system clock output terminal Not used (open)
43	TEX	I	Sub system clock input terminal Not used (fixed at “L”)
44	VDD (+5V)	—	Power supply terminal (+5V)
45	VFDP (–30V)	—	Power supply terminal (–30V) (for FL drive)
46	XSEL	O	Not used (open)
47	REINIT	O	Not used (open)
48	RFGF	O	Laser power hold control signal output to the CXA2568M (IC103) “H”: hold on
49 to 66	OPEN	O	Not used (open)
67 to 87	S21 to S1	O	Segment drive signal output to the fluorescent indicator tube (FL801) “H”: goes on
88	1G	O	Grid drive signal output to the fluorescent indicator tube (FL801) “H”: goes on
89	VDD (+5V)	—	Power supply terminal (+5V)
90 to 100	2G to 12G	O	Grid drive signal output to the fluorescent indicator tube (FL801) “H”: goes on

6-2. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Schematic Diagram:

- 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 1/4 W or less unless otherwise specified.
- △ : internal component.
- : fusible resistor.
- : 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 in playback mode.
  no mark : 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

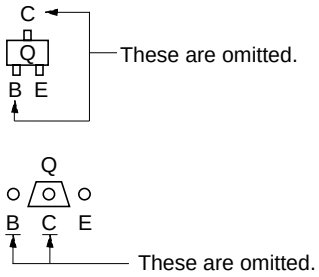
Note on Printed Wiring Boards:

- : parts extracted from the component side.
- ○ : Through hole.
- : Pattern from the side which enables seeing.

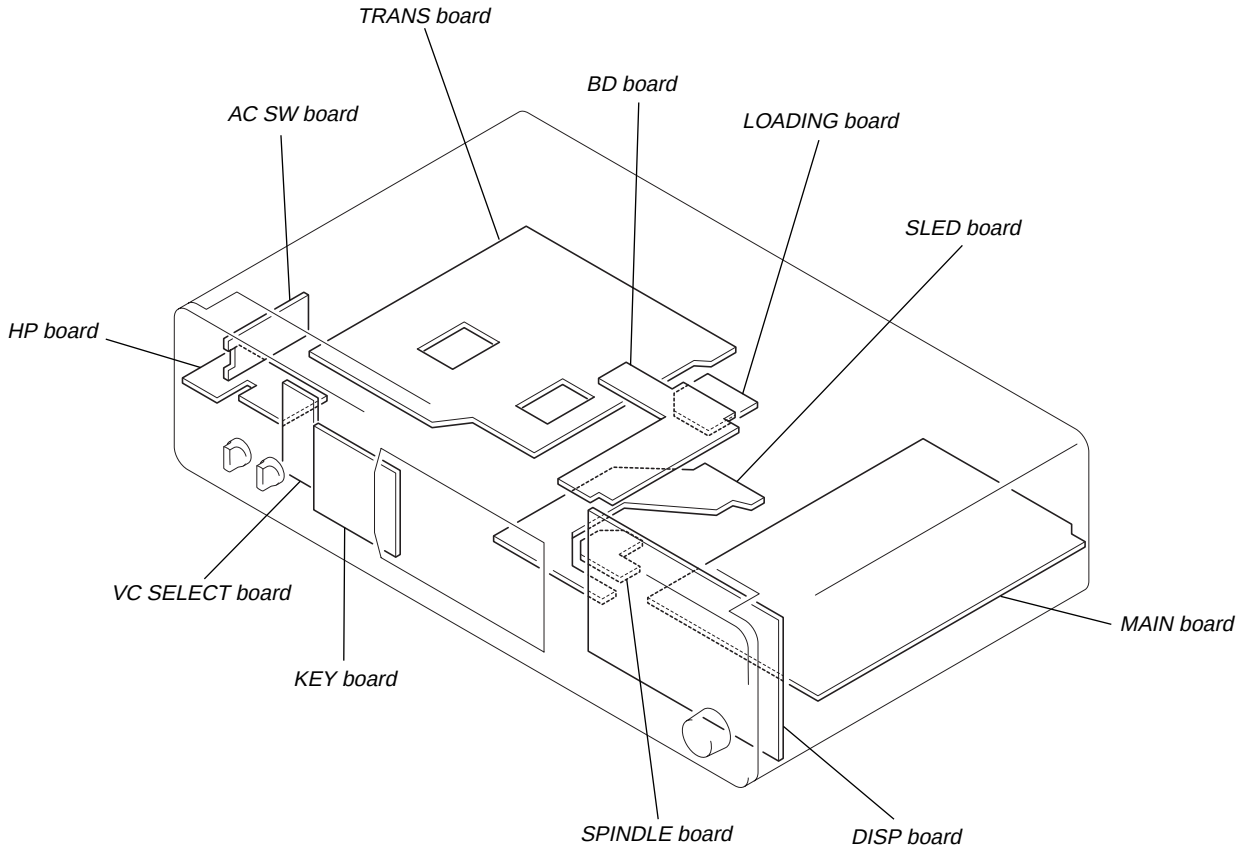
(The other layers' patterns are not indicated.)

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.



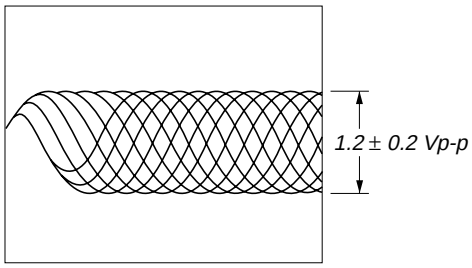
• Circuit Boards Location



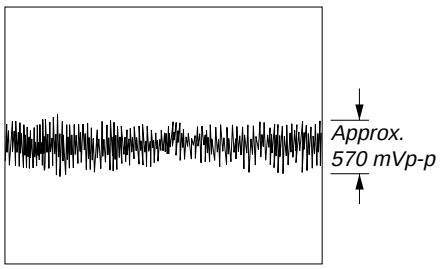
• **Waveforms**

– BD Board –

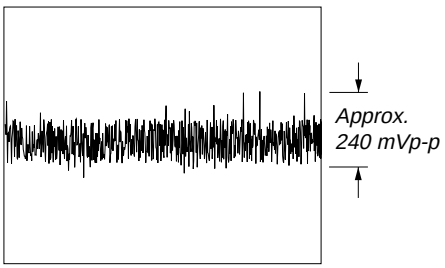
❶ IC103 ⑯ (RFO) (PLAY MODE)
500 mV/DIV, 1 µs/DIV



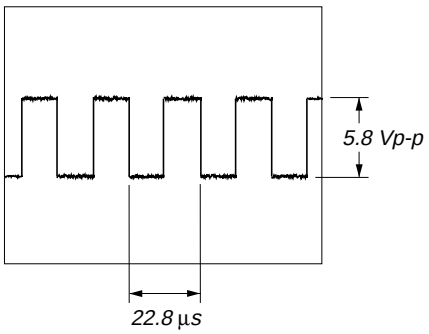
❷ IC101 ㊶ (TE) (PLAY MODE)
200 mV/DIV, 1 µs/DIV



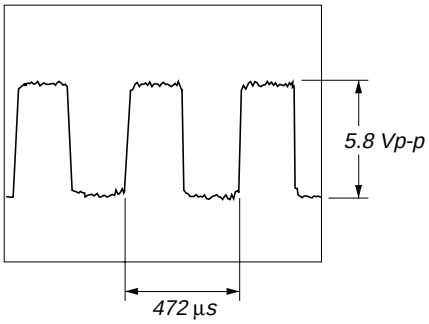
❸ IC101 ㊴ (FE) (PLAY MODE)
100 mV/DIV, 500 ns/DIV



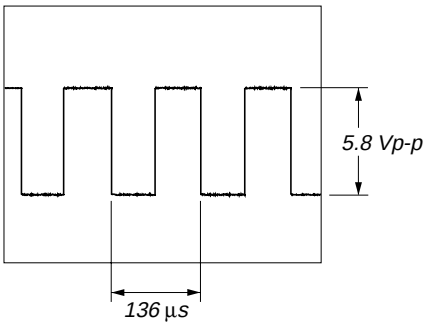
❹ IC101㊺ (LRCK)
2 V/DIV, 10 µs/DIV



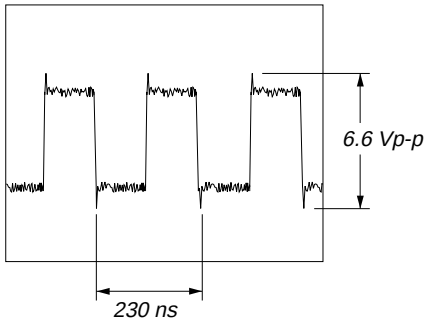
❺ IC101 ㊼ (BCLK)
2 V/DIV, 200 ns/DIV



❻ IC101 ⑩ (WFCK)
2 V/DIV, 100 µs/DIV

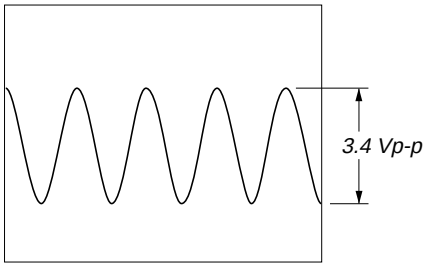


❼ IC101⑫ (XPCK)
2 V/DIV, 100 ns/DIV



– MAIN Board –

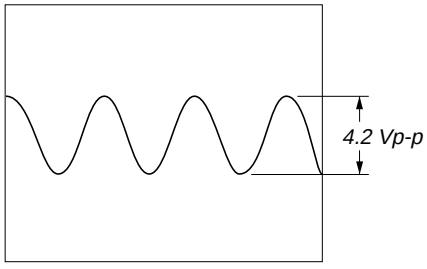
❶ IC301 ㉘ (XOUT)
2 V/DIV, 20 ns/DIV



45 MHz

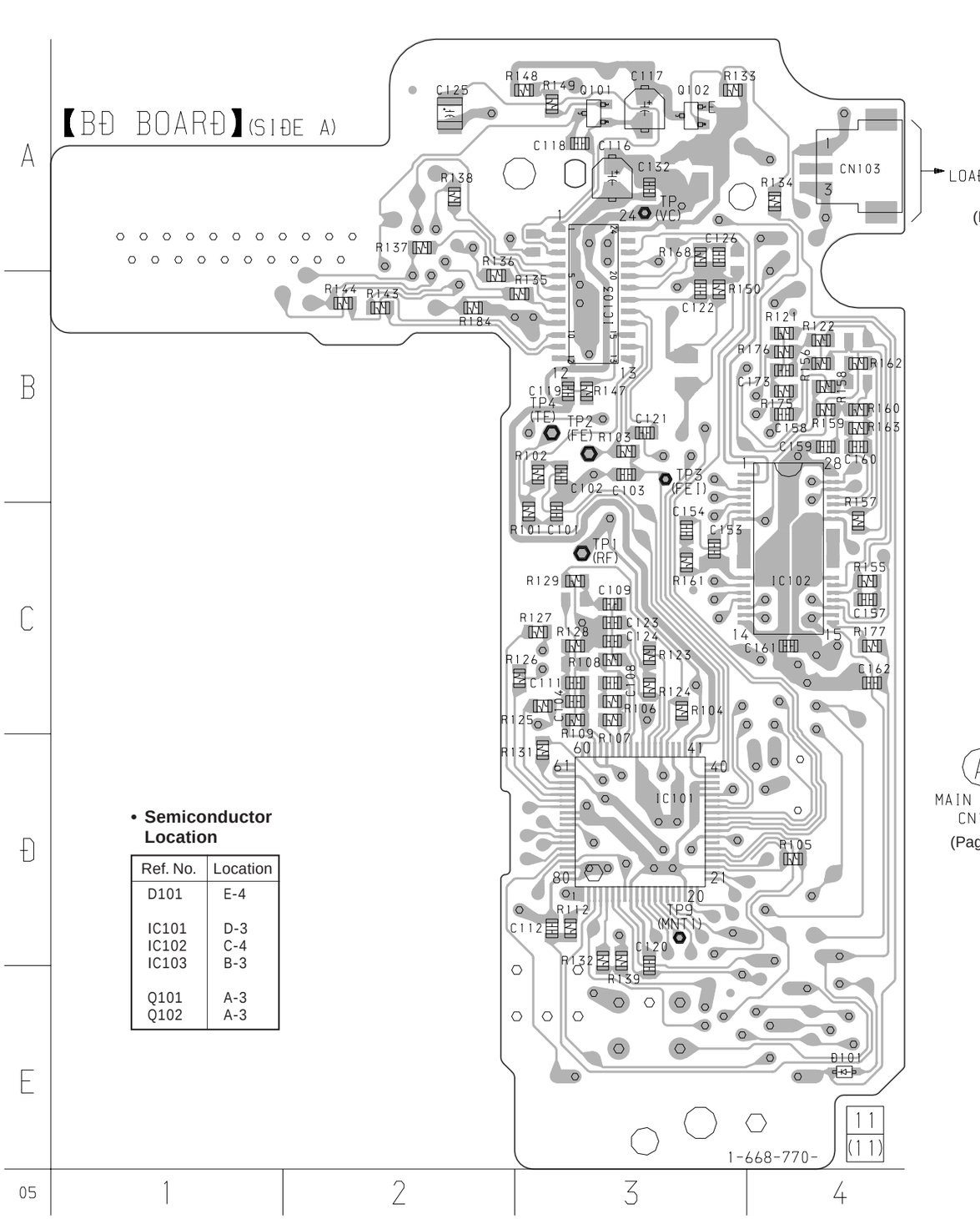
– DISP Board –

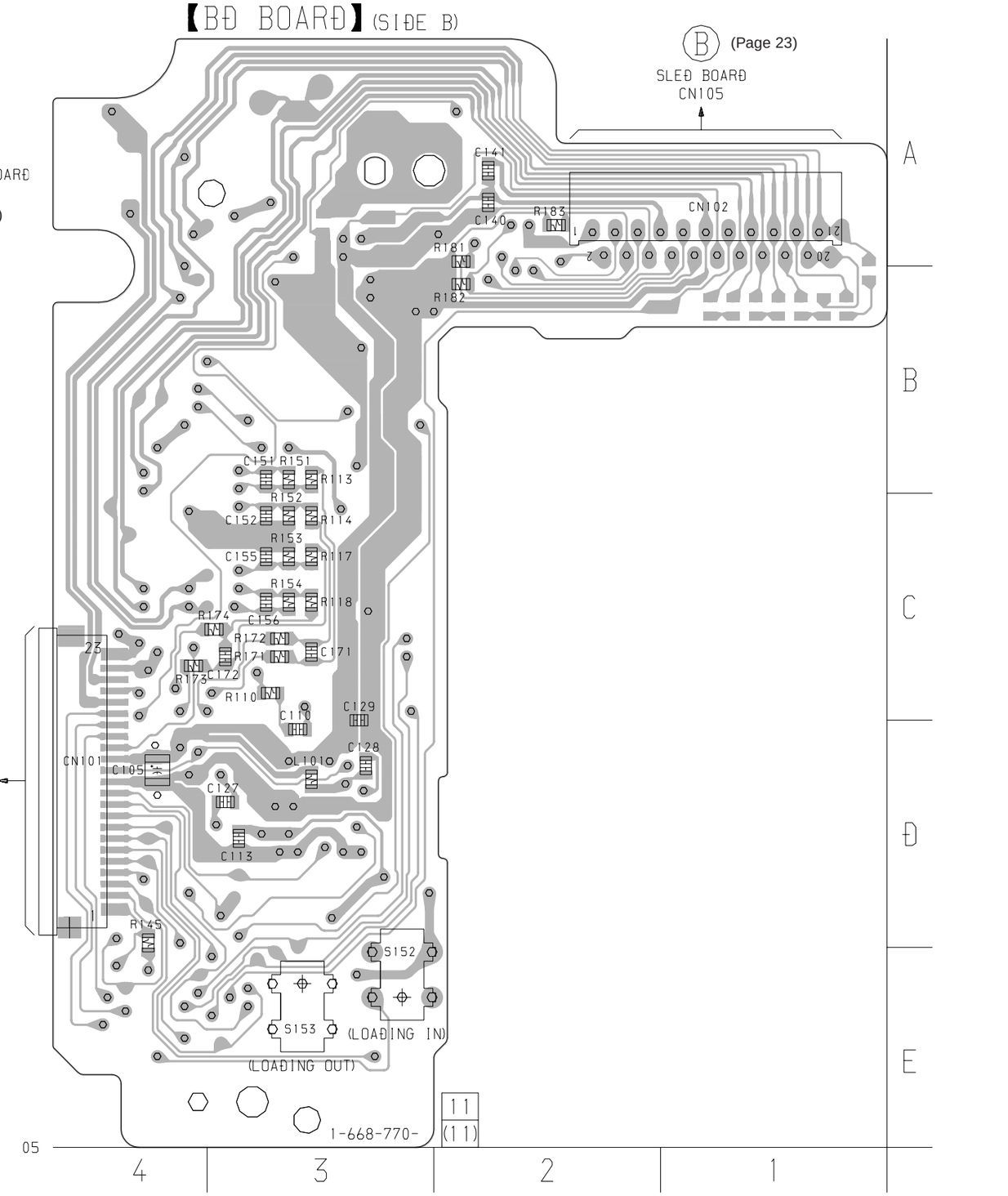
❶ IC801 ㊴ (EXTAL)
2 V/DIV, 50 ns/DIV



8 MHz

6-3. PRINTED WIRING BOARD – BD Section – • See page 17 for Circuit Boards Location.



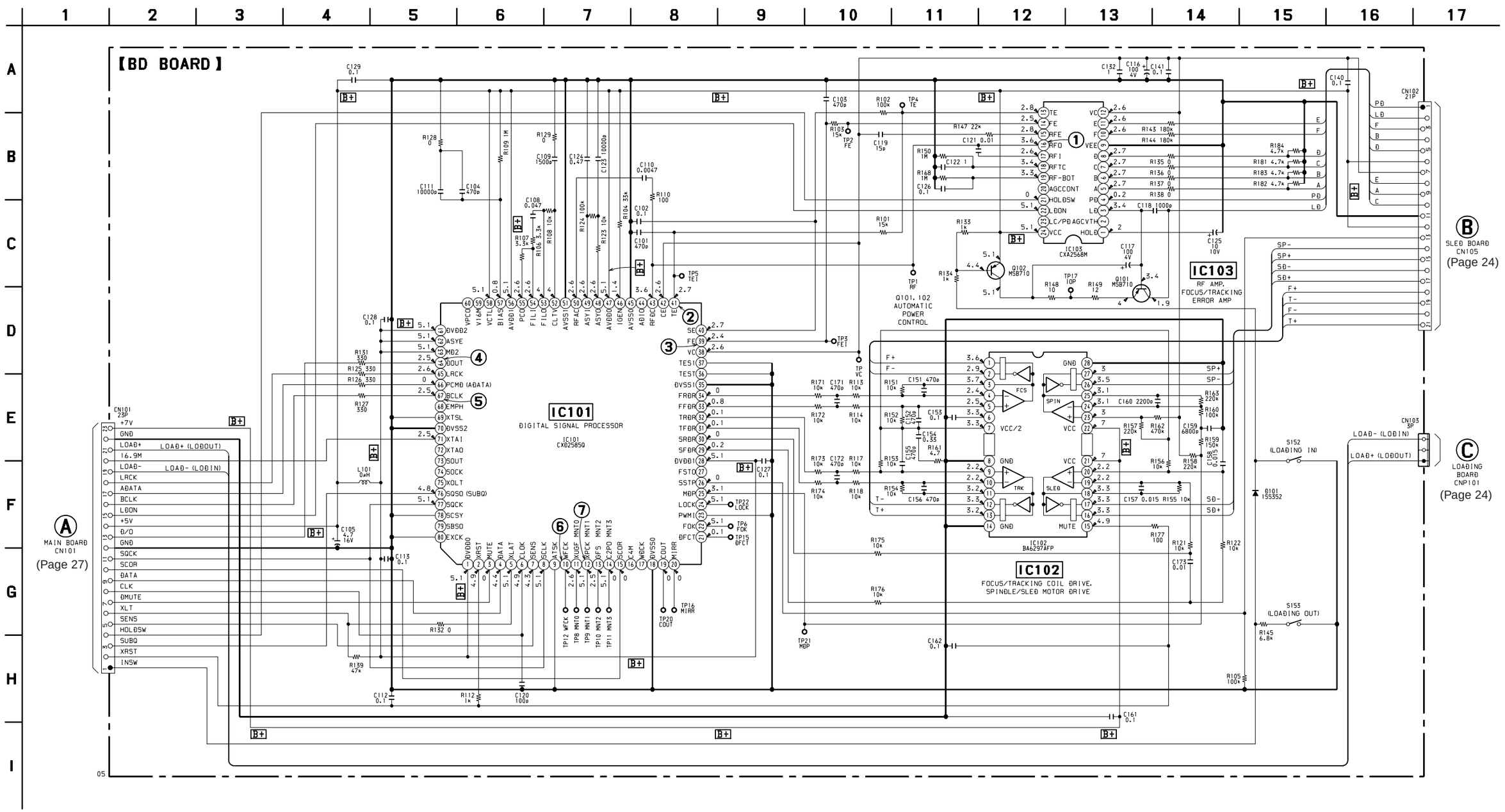


- **Semiconductor Location**

Ref. No.	Location
D101	E-4
IC101	D-3
IC102	C-4
IC103	B-3
Q101	A-3
Q102	A-3

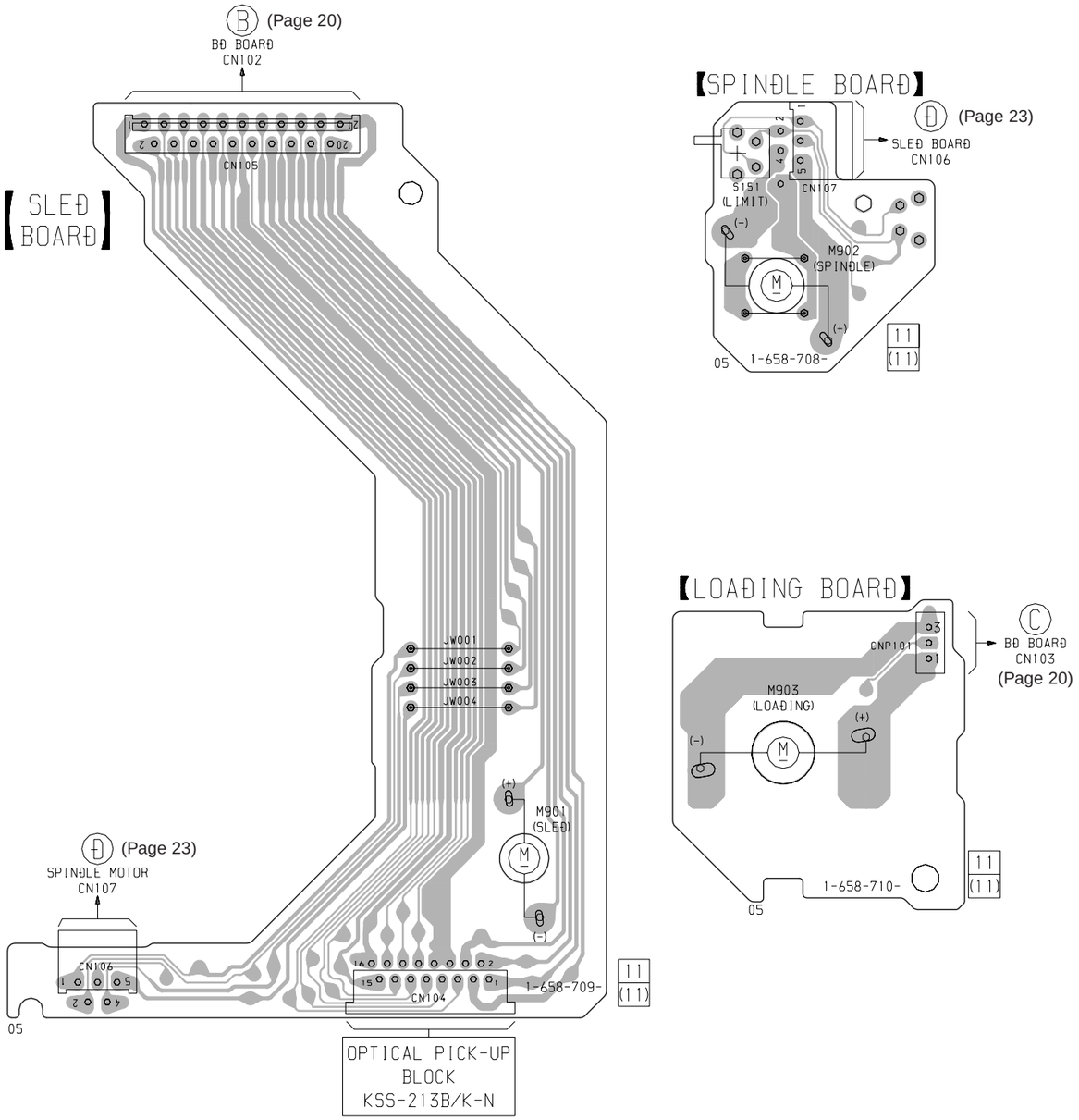
6-4. SCHEMATIC DIAGRAM – BD Section –

• See page 18 for Waveforms. • See page 39 and 40 for IC Block Diagrams.

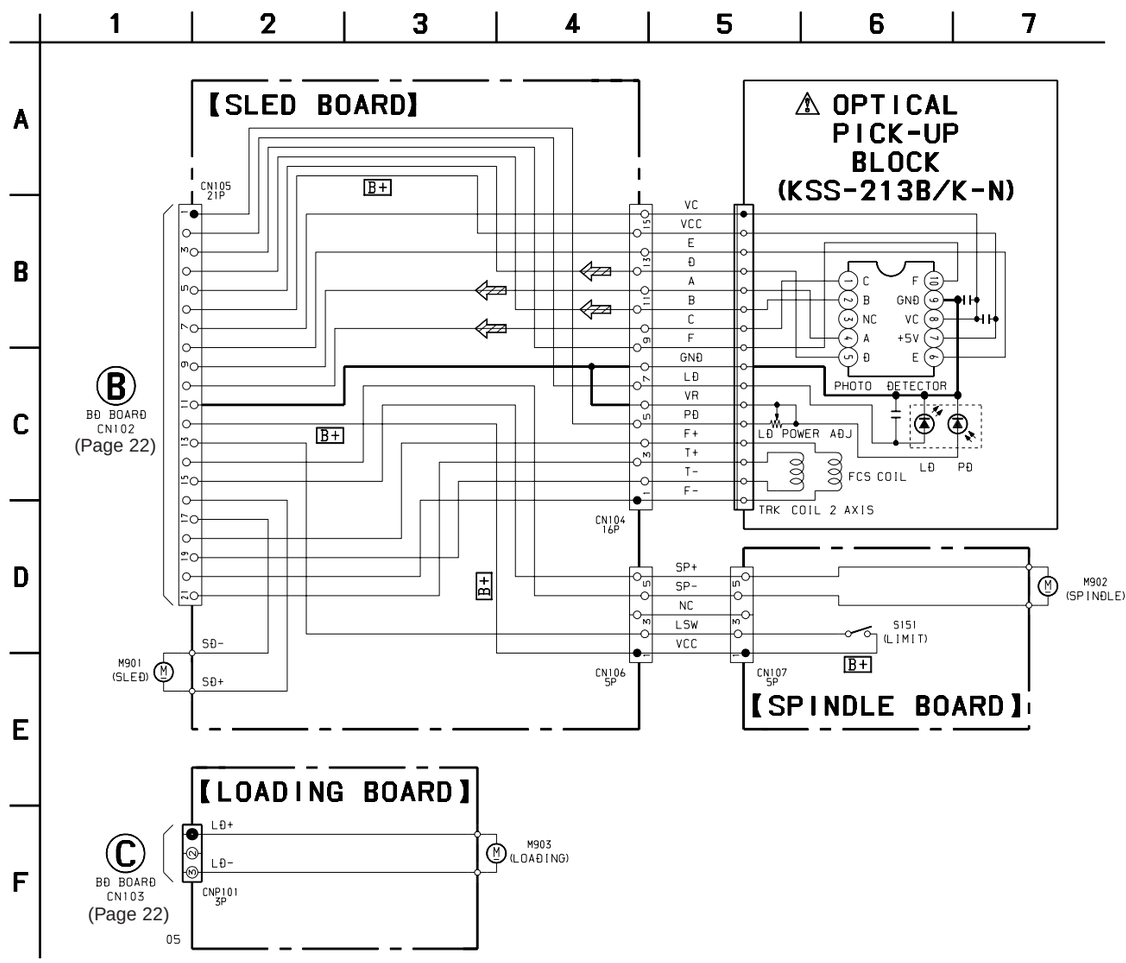


6-5. PRINTED WIRING BOARDS – OPTICAL PICK-UP / MOTOR Section –

• See page 17 for Circuit Boards Location.



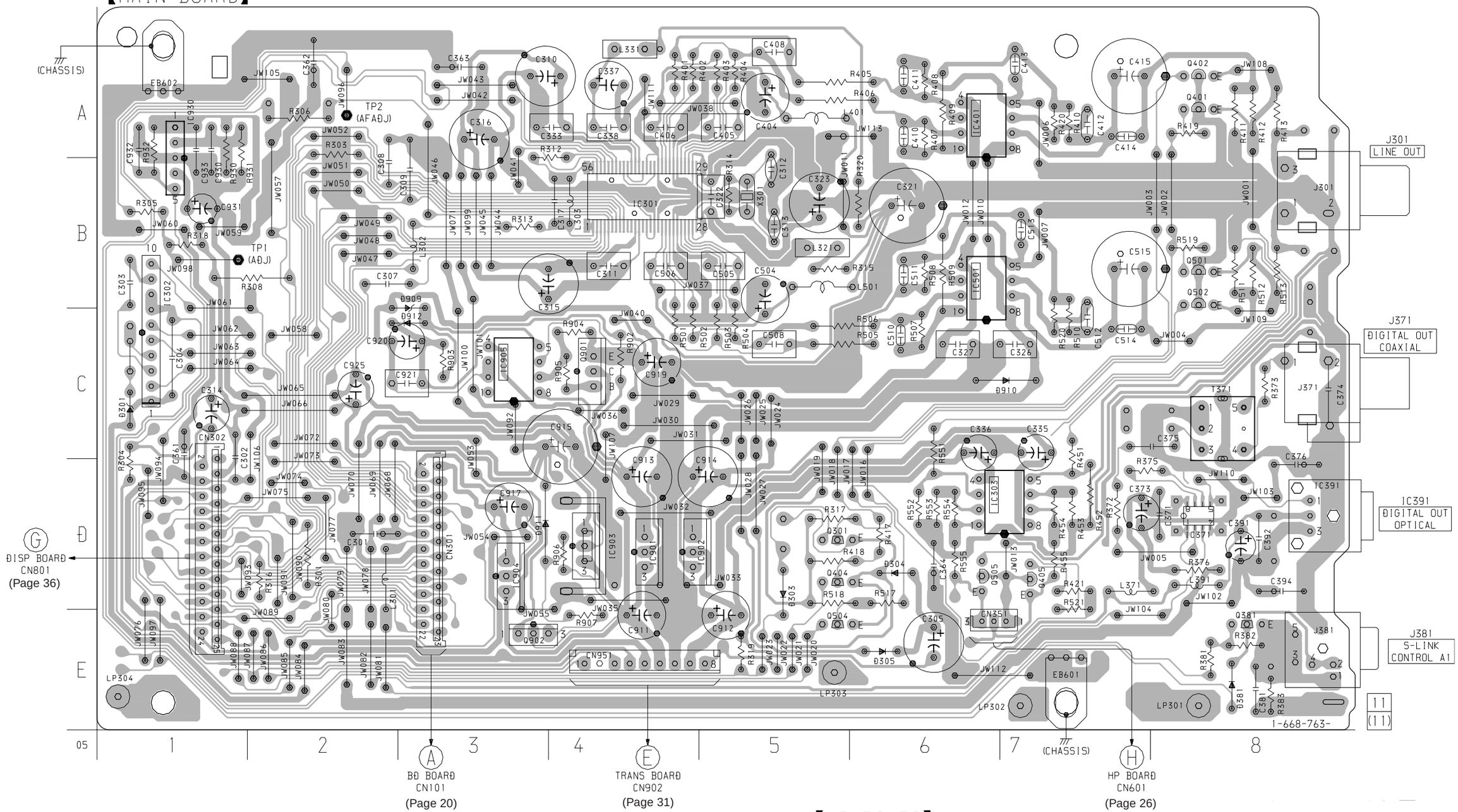
6-6. SCHEMATIC DIAGRAM – OPTICAL PICK-UP / MOTOR Section –



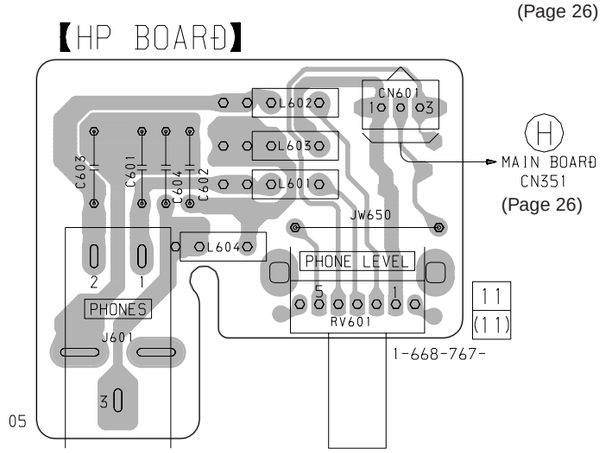
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

6-7. PRINTED WIRING BOARD – MAIN Section – • See page 17 for Circuit Boards Location.

【MAIN BOARD】



【HP BOARD】

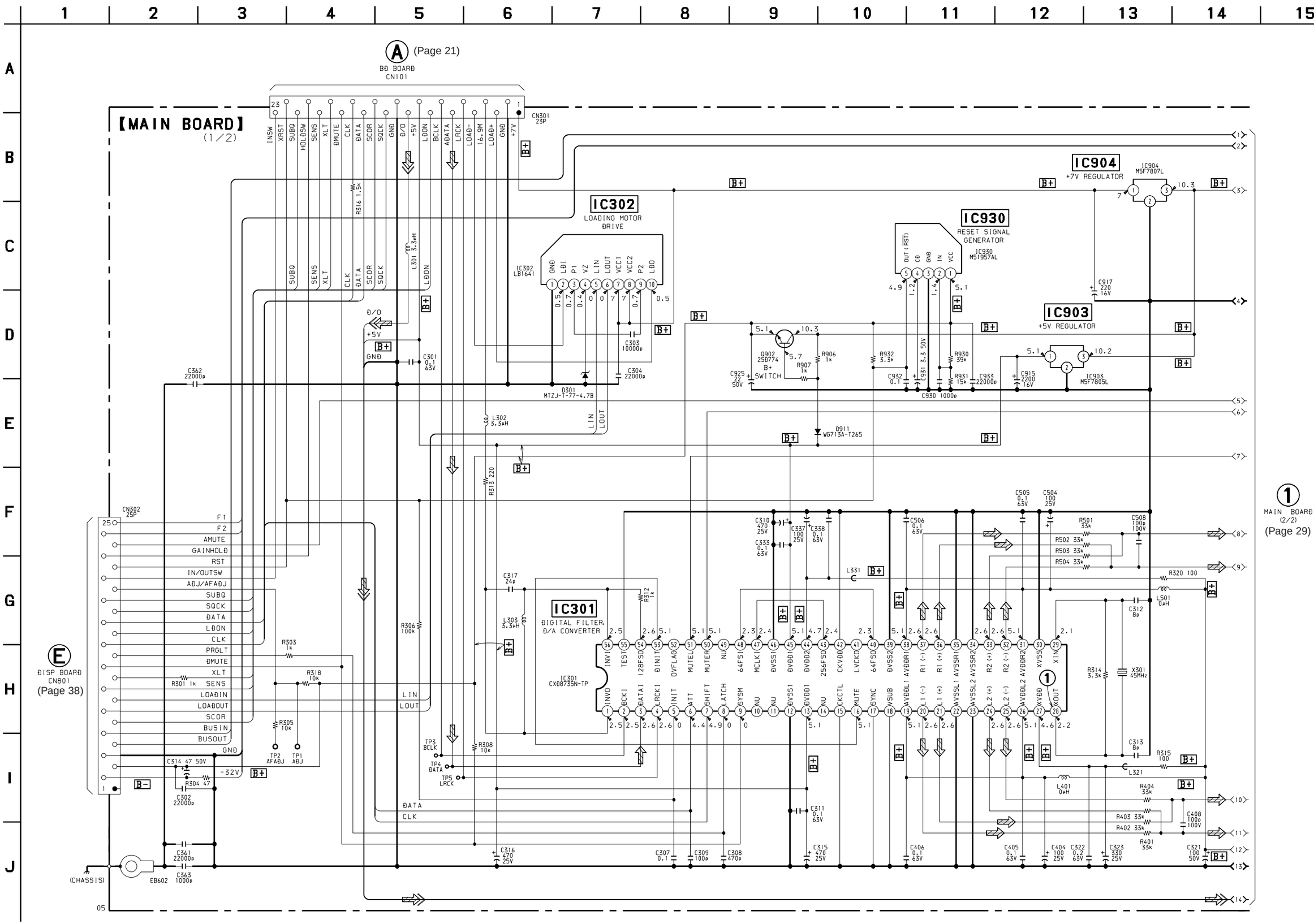


• **Semiconductor Location**

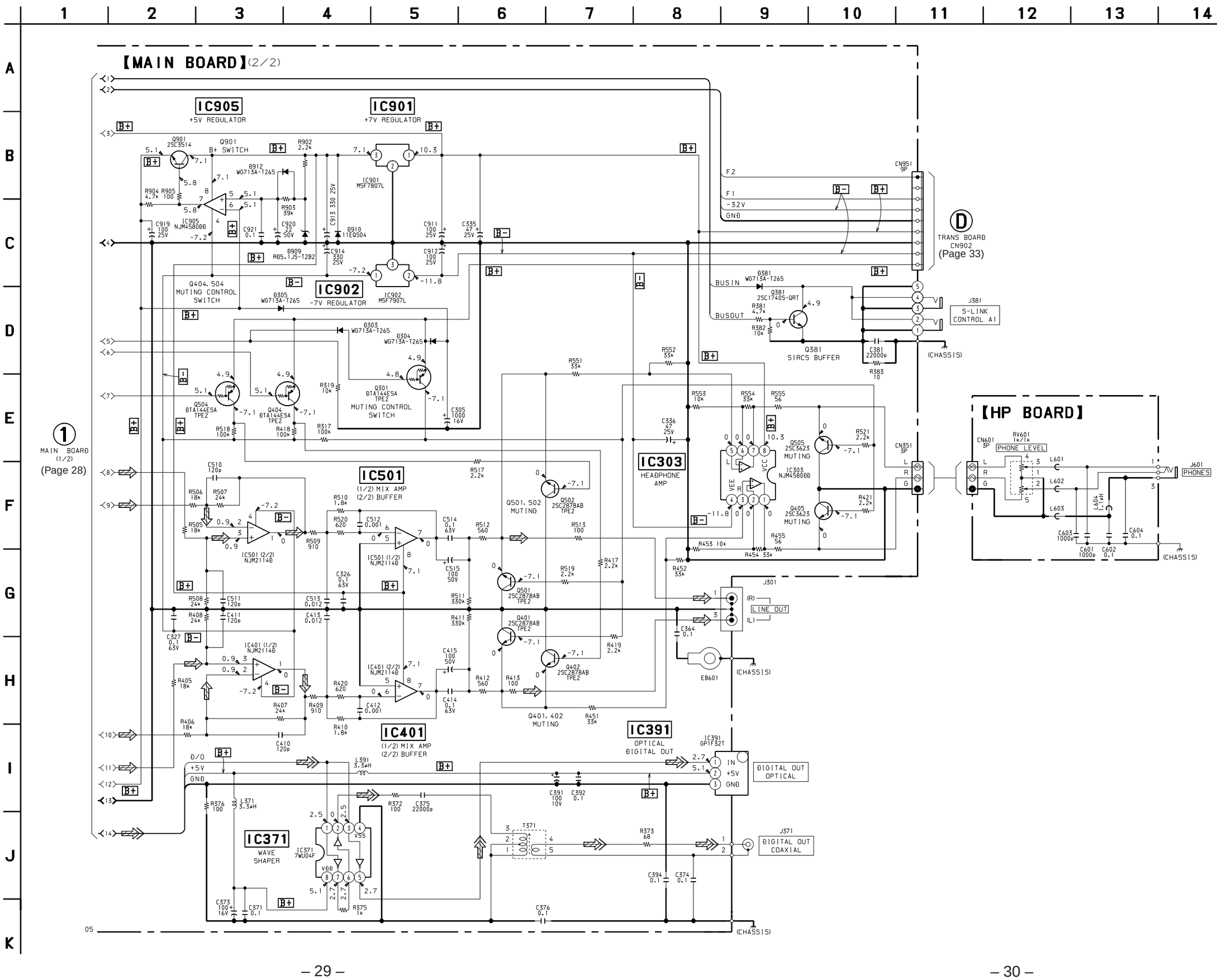
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D301	C-1	IC303	D-6	Q301	D-5
D303	D-5	IC371	D-8	Q381	E-8
D304	D-6	IC391	D-8	Q401	A-8
D305	E-6	IC401	A-6	Q402	A-8
D381	E-8	IC501	B-6	Q404	D-5
D909	B-3	IC901	D-4	Q405	D-7
D910	C-7	IC902	D-4	Q501	B-8
D911	D-3	IC903	D-4	Q502	B-8
D912	C-3	IC904	D-3	Q504	E-5
		IC905	C-3	Q505	D-6
IC301	B-4	IC930	A-1	Q901	C-4
IC302	C-1			Q902	E-3

6-8. SCHEMATIC DIAGRAM – MAIN Section (1/2) –

• See page 18 for Waveform. • See page 41 for IC Block Diagrams.

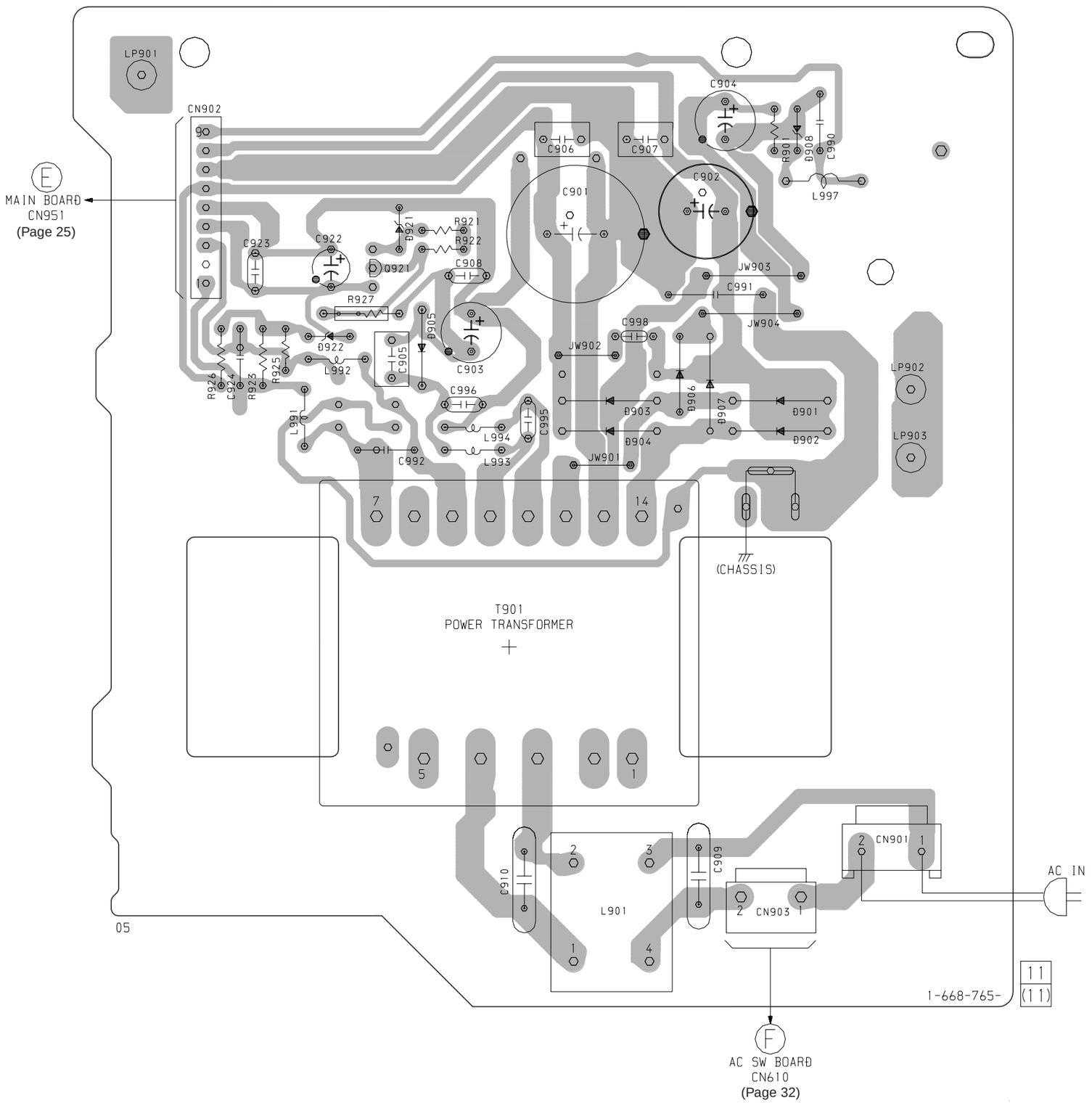


6-9. SCHEMATIC DIAGRAM – MAIN Section (2/2) –

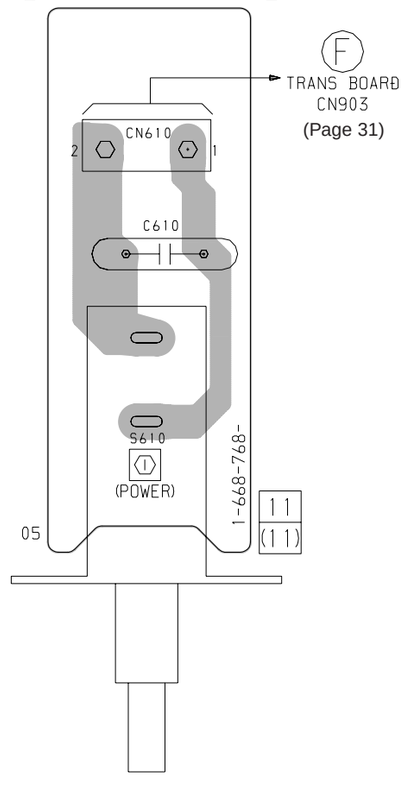


6-10. PRINTED WIRING BOARDS – POWER Section – • See page 17 for Circuit Boards Location.

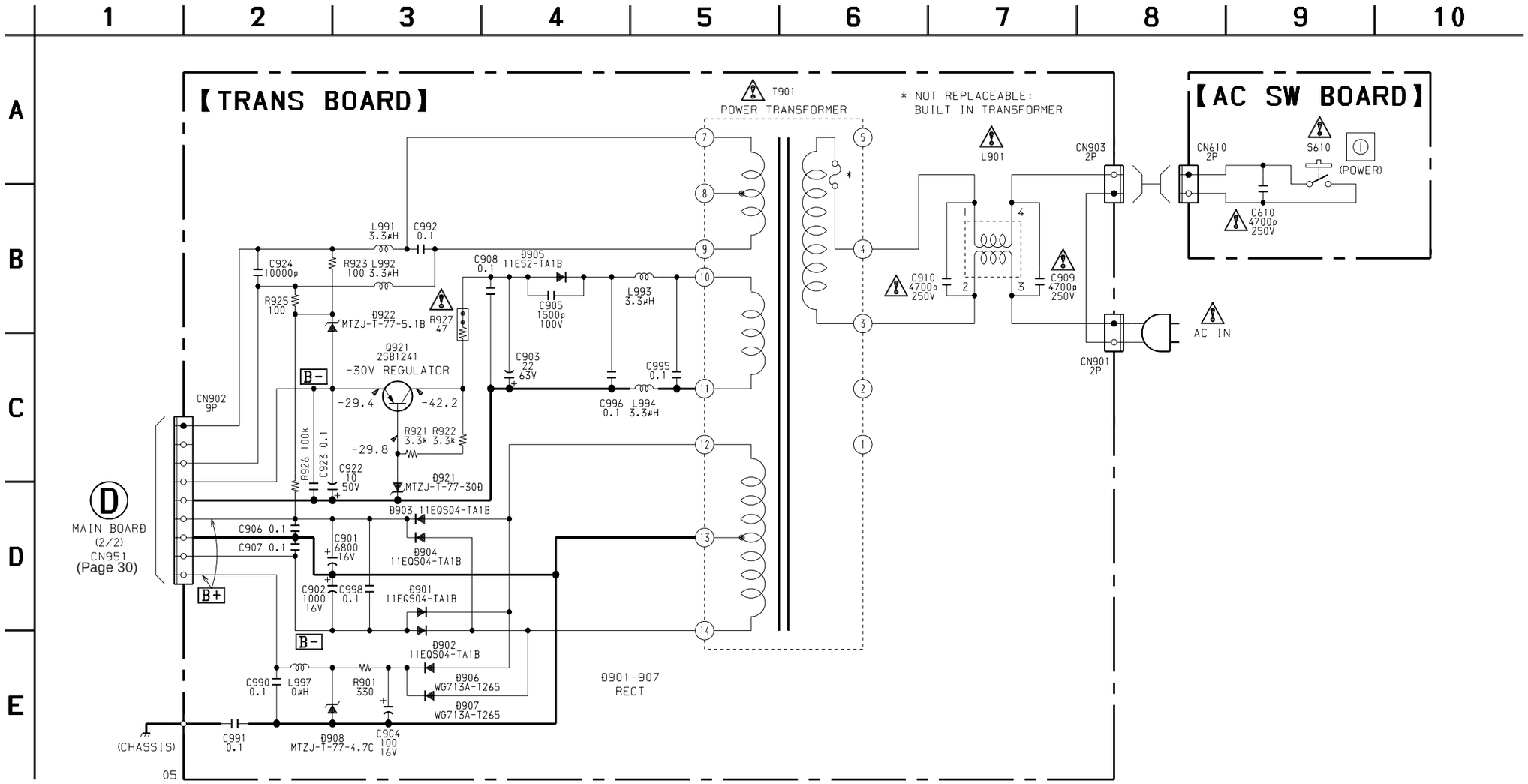
【TRANS BOARD】



【AC SW BOARD】

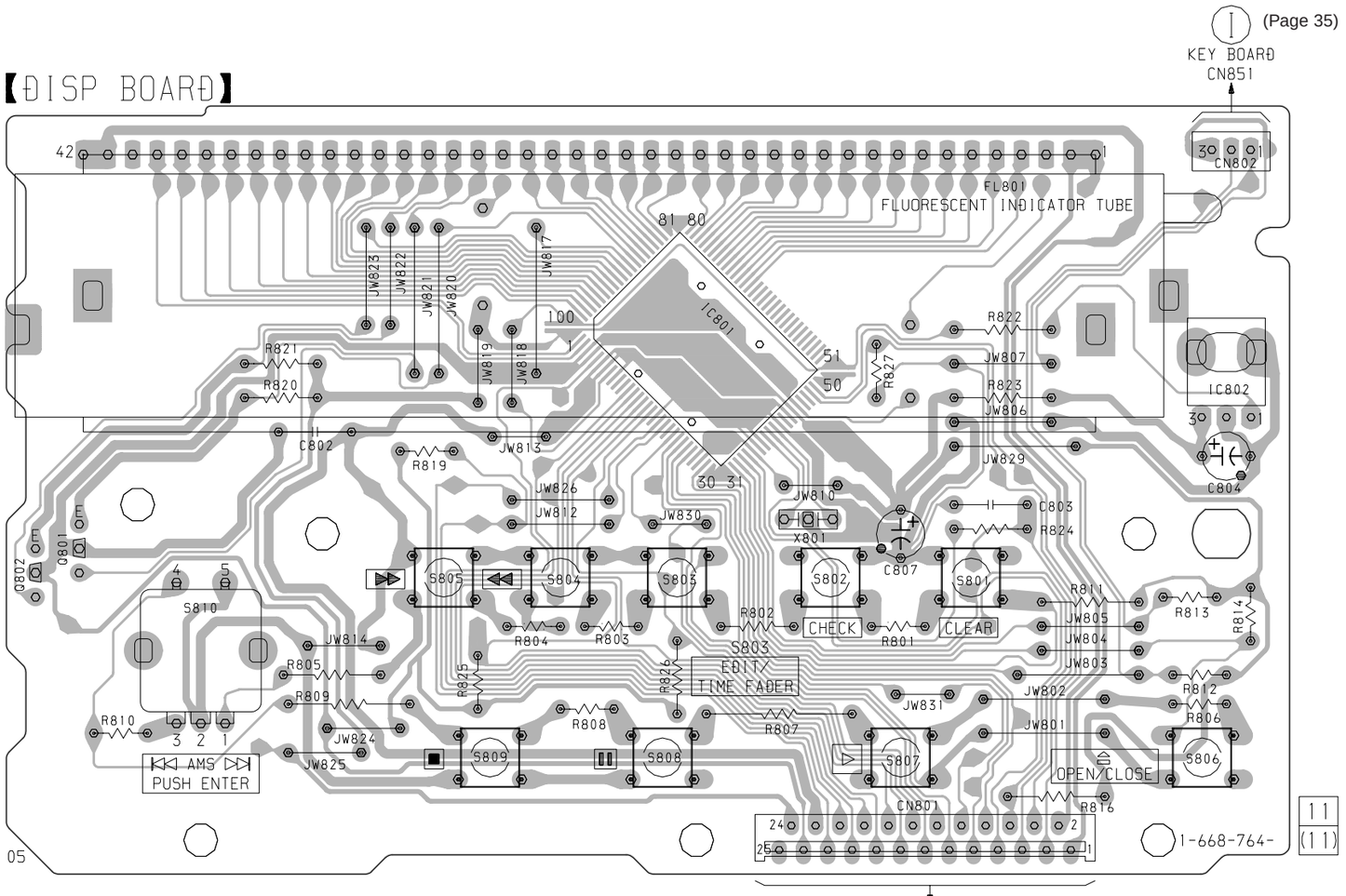


6-11. SCHEMATIC DIAGRAM – POWER Section –

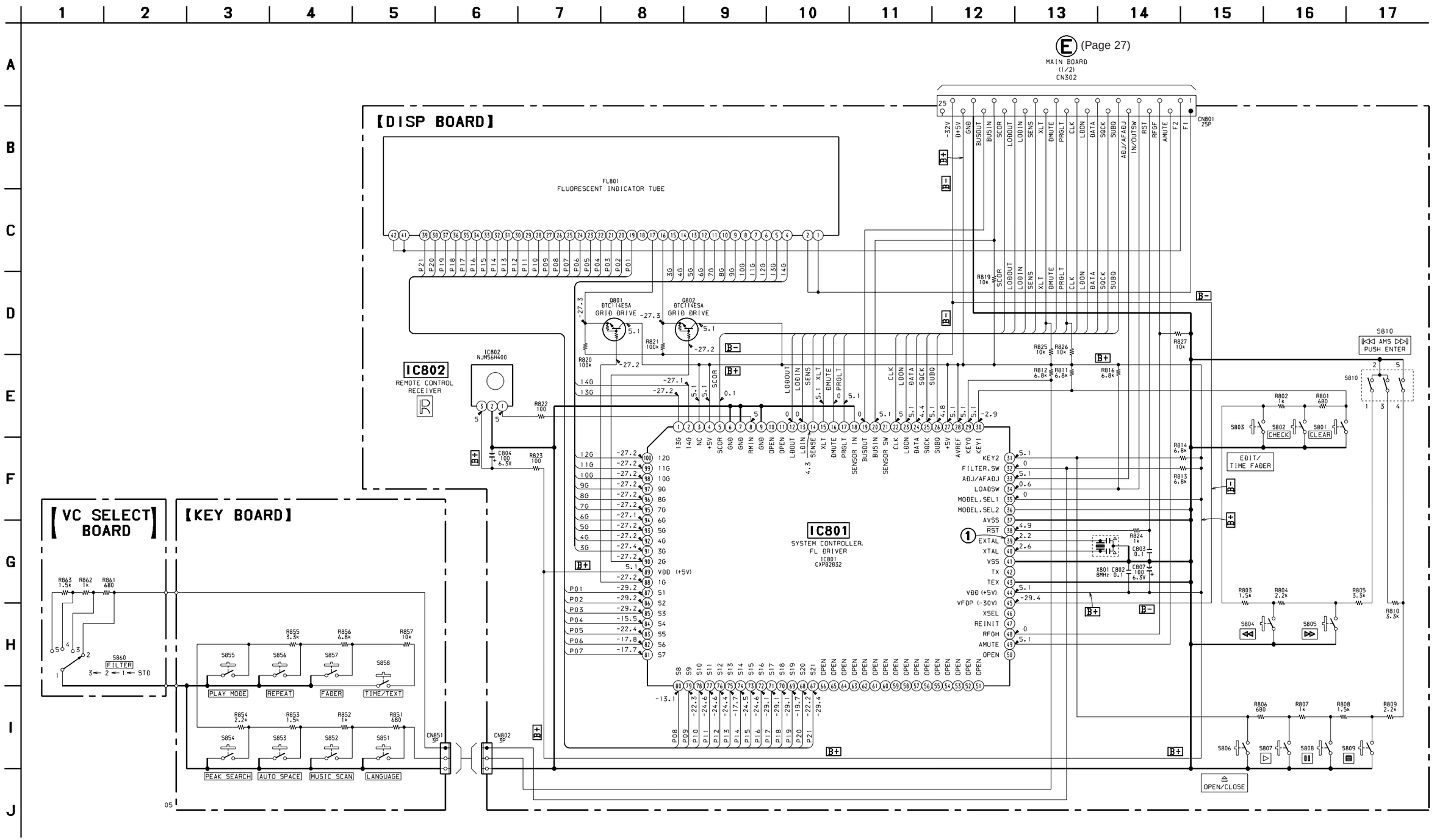


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

6-12. PRINTED WIRING BOARDS – PANEL Section – • See page 17 for Circuit Boards Location.

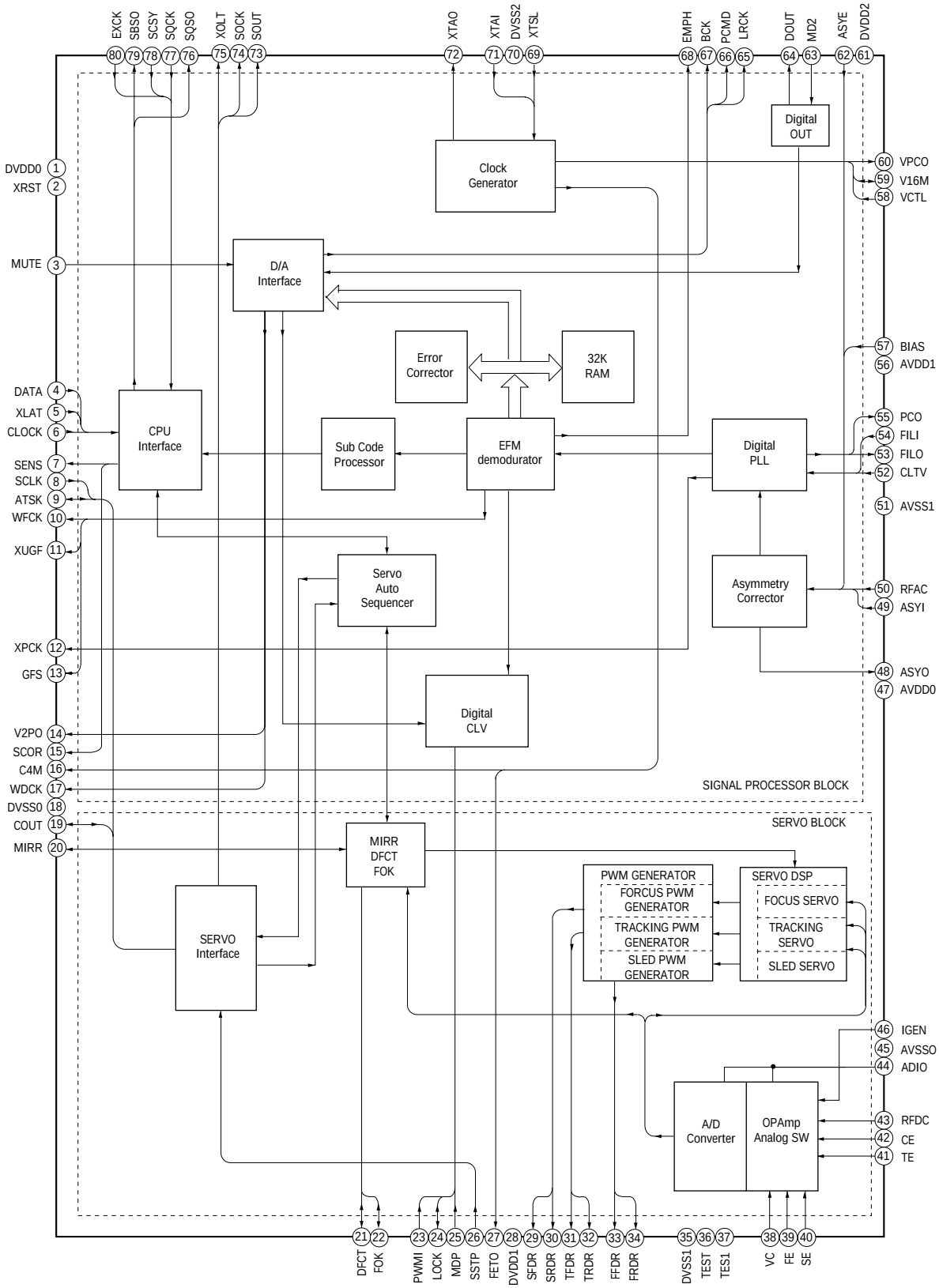


6-13. SCHEMATIC DIAGRAM – PANEL Section – • See page 18 for Waveform.

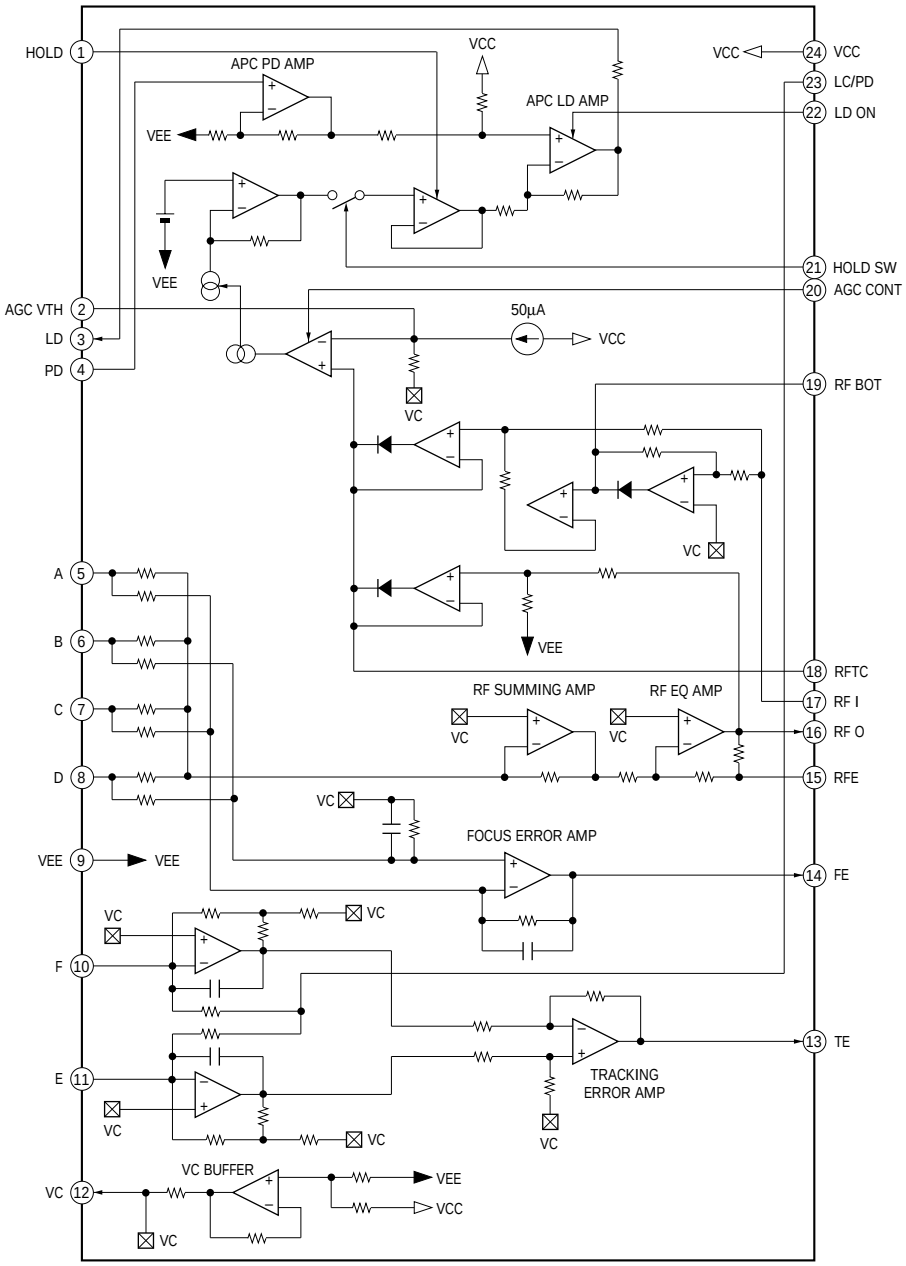


• IC Block Diagrams
– BD BOARD –

IC101 CDX2585Q

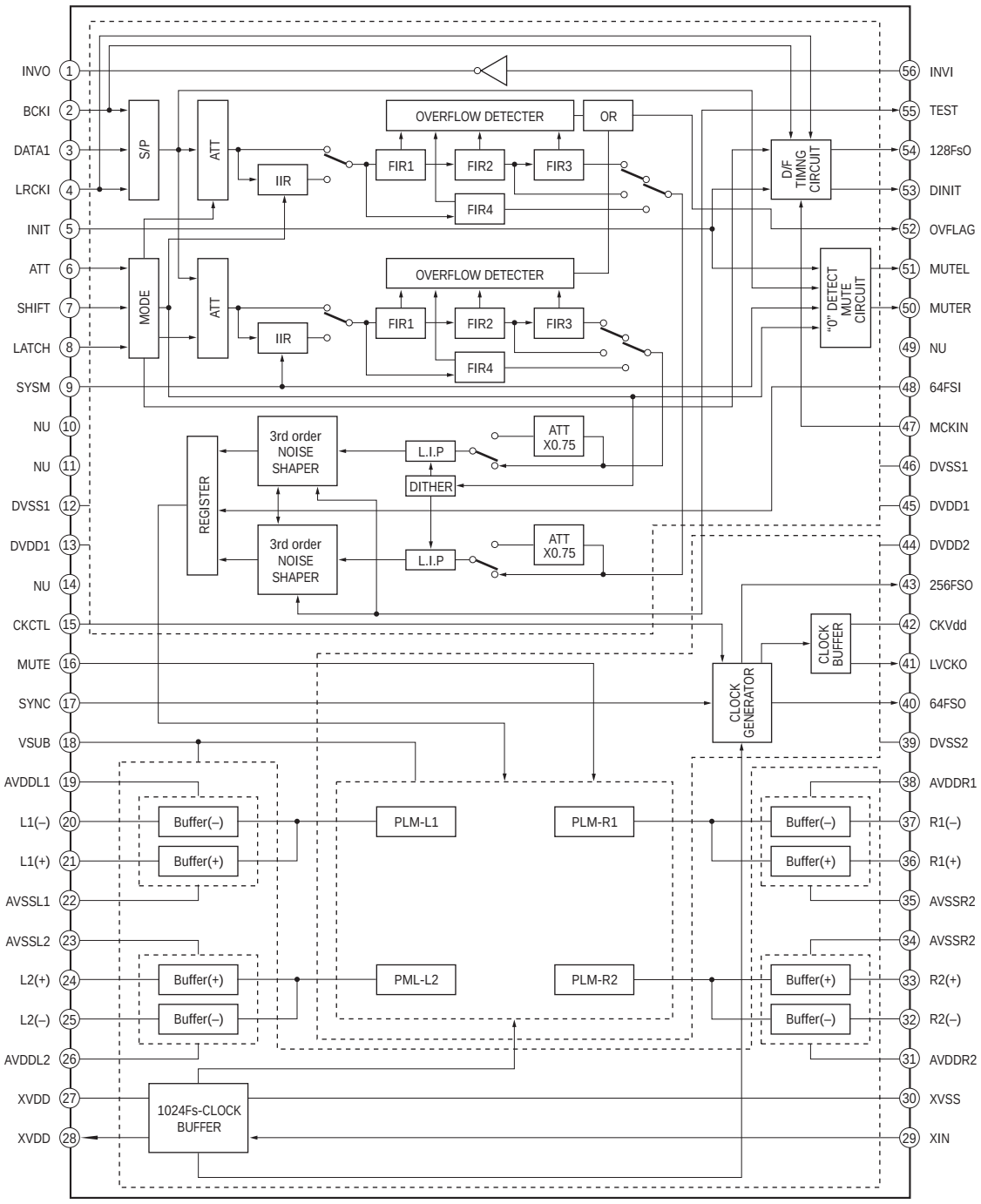


IC103 CXA2568M-T6

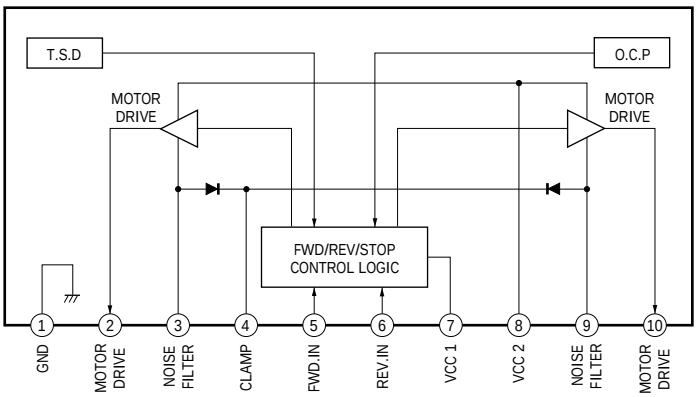


– MAIN Board –

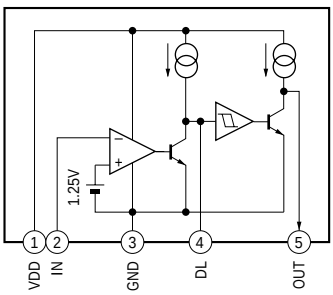
IC301 CXD8735N



IC302 LB1641



IC930 M51957AL

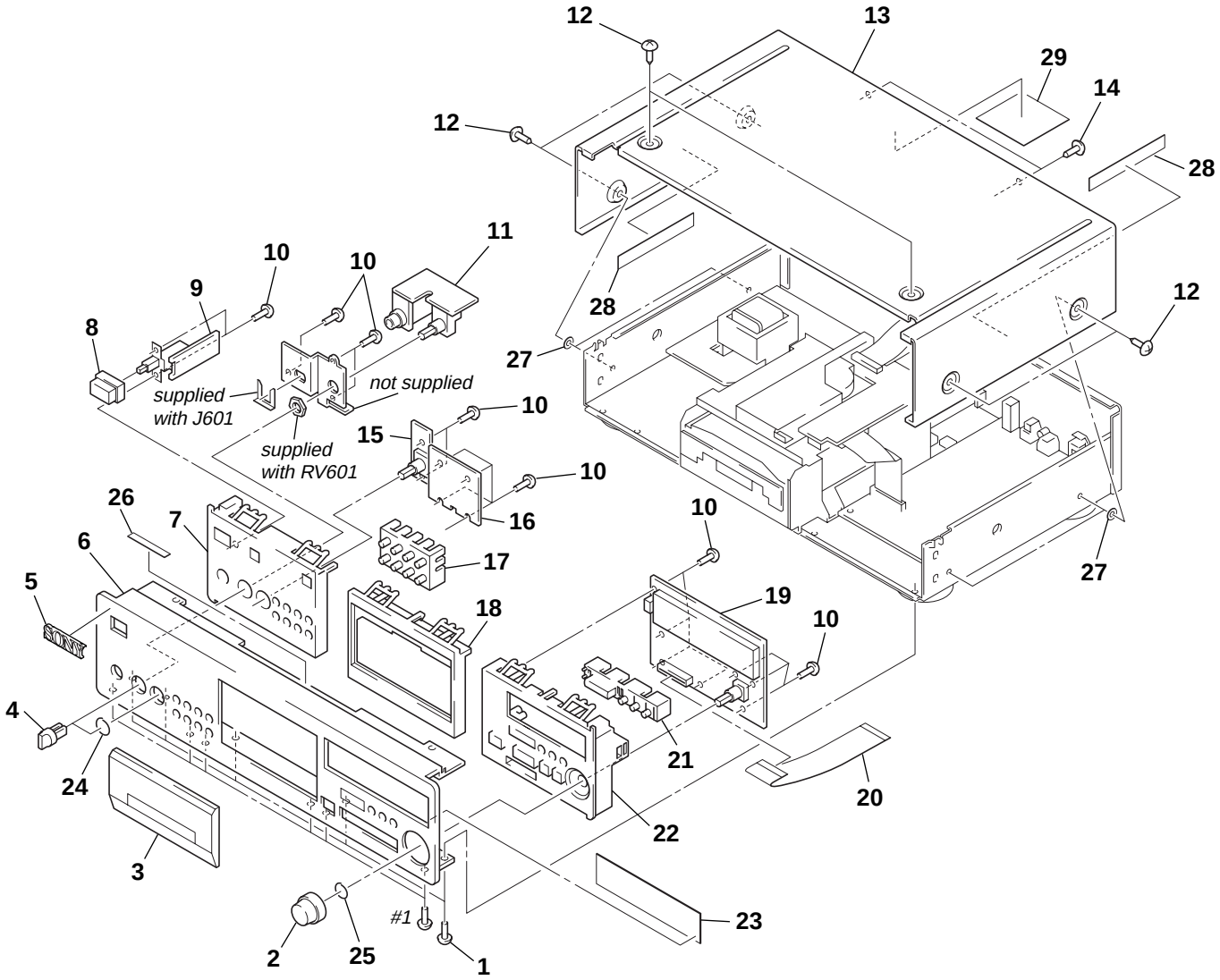


SECTION 7
EXPLODED VIEWS

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- 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 the electrical parts list.

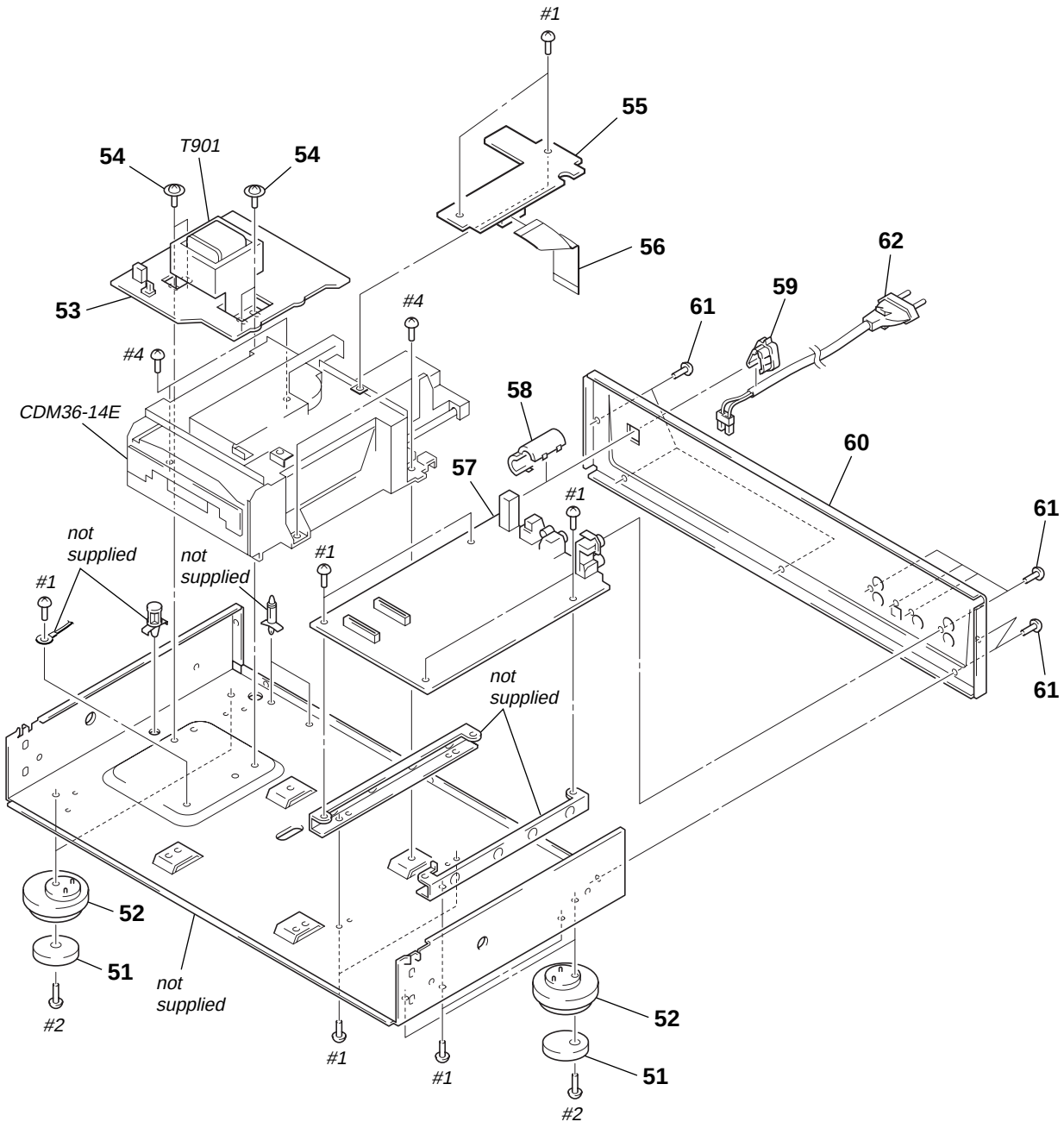
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(1) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	3-703-685-21	SCREW (+BV 3X8)	
2	4-996-687-51	KNOB (AMS)	
3	X-4949-457-1	PANEL ASSY, LOADING	
4	4-950-189-01	KNOB (A) (VOL)	
5	4-942-568-41	EMBLEM (NO.5), SONY	
6	4-997-199-21	PANEL, FRONT	
7	4-997-200-01	BASE (L), PANEL	
8	4-998-790-01	KNOB, POWER (⏻)	
* 9	1-668-768-11	AC SW BOARD	
10	4-951-620-01	SCREW (2.6X8), +BVTP	
* 11	1-668-767-11	HP BOARD	
12	4-210-291-01	SCREW (CASE 3 TP2)	
* 13	4-997-138-01	CASE (4095269)	
14	3-704-515-21	SCREW (BV/RING)	
* 15	1-668-769-11	VC SELECT BOARD	
* 16	1-668-766-11	KEY BOARD	
17	4-997-211-01	BUTTON (MODE)	
18	4-997-202-11	BASE (M1), PANEL	
* 19	A-4699-984-A	DISP BOARD, COMPLETE	
20	1-773-216-11	WIRE (FLAT TYPE) (25 CORE)	
21	4-997-213-01	BUTTON (F.R) (◀◀, ▶▶)	
22	X-4949-458-1	BASE (R) ASSY, PANEL	
23	4-997-210-01	PLATE, INDICATION	
24	4-948-469-01	SPRING, RING	
25	3-354-981-11	SPRING (SUS), RING	
26	3-840-486-12	CUSHION, SPEAKER	
27	4-949-302-21	WASHER	
28	4-959-077-01	DAMPER	
* 29	4-962-329-01	DAMPER	

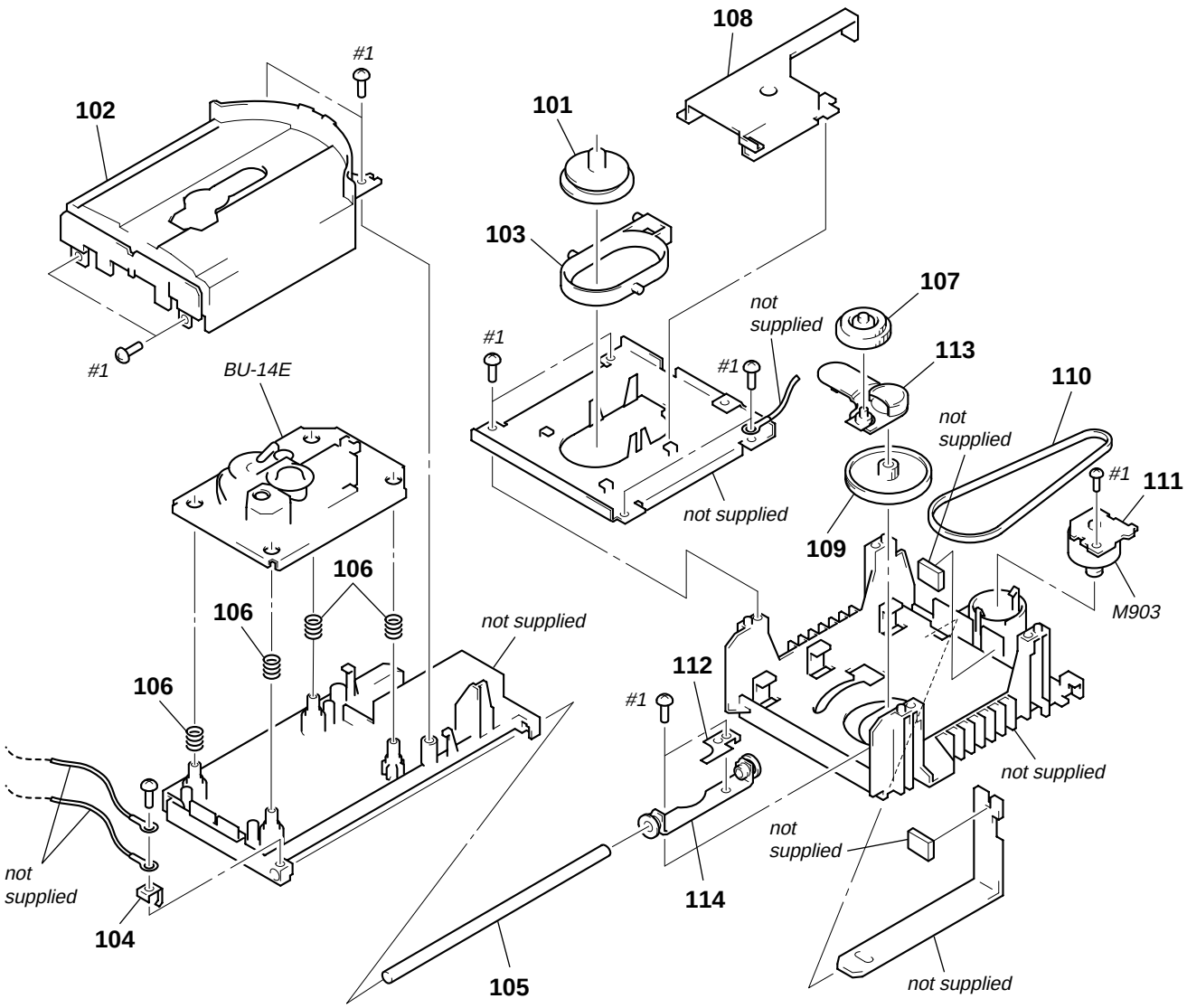
(2) CHASSIS SECTION



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

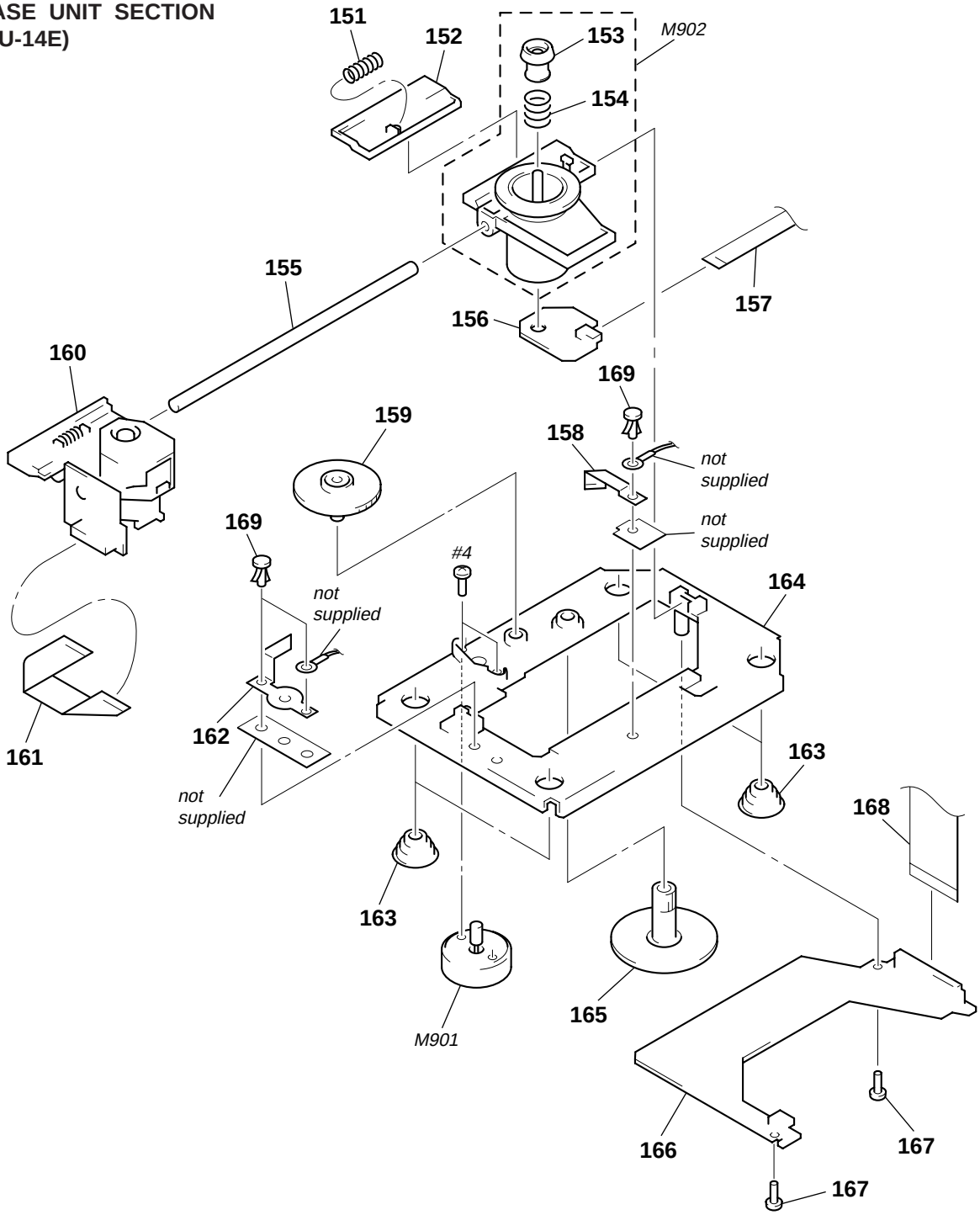
Ref. No.	Part No.	Description	Remark
51	4-984-485-01	CUSHION (FOOT)	
52	X-4949-523-1	FOOT ASSY (F50180S)	
* 53	1-668-765-11	TRANS BOARD	
54	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
* 55	A-4699-998-A	BD BOARD, COMPLETE	
56	1-783-699-11	WIRE (FLAT TYPE) (23 CORE)	
* 57	A-4699-983-A	MAIN BOARD, COMPLETE	
58	1-500-386-11	FILTER, CLAMP (FERRITE CORE)	
59	4-966-267-11	BUSHING (FBS001), CORD	
* 60	4-997-214-21	PANEL, BACK	
61	3-704-515-21	SCREW (BV/RING)	
⚠62	1-575-651-21	CORD, POWER	
⚠T901	1-431-715-11	TRANSFORMER, POWER	

(3) MECHANISM DECK SECTION (CDM36-14E)



Ref. No.	Part No.	Description	Remark
101	1-452-820-11	MAGNET (ASSY)	
* 102	4-977-902-01	PANEL (DRAWER)	
* 103	4-977-894-01	HOLDER (AP)	
* 104	4-977-889-01	PLATE (BU), GROUND	
* 105	4-977-888-01	SHAFT	
106	4-948-503-01	SPRING (BU), COMPRESSION	
107	4-977-897-01	GEAR	
* 108	4-977-893-01	CAM, SLIDE	
109	4-977-896-01	PULLEY	
110	4-968-905-01	BELT (CDM)	
* 111	1-658-710-11	LOADING BOARD	
* 112	4-977-891-01	PLATE, GROUND	
113	4-977-898-01	LEVER (SWING)	
* 114	4-977-892-01	BEARING	
M903	A-4660-968-A	MOTOR ASSY (LOADING)	

(4) BASE UNIT SECTION (BU-14E)



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

Ref. No.	Part No.	Description	Remark
151	4-977-925-01	SPRING (SLIDE BASE), COMPRESSION	
152	4-977-926-01	RACK, SLIDE	
153	4-977-915-02	CAP, CENTERING	
154	4-977-927-02	SPRING (CENTERING), COMPRESSION	
155	4-977-923-01	SHAFT, SLED	
* 156	1-658-708-11	SPINDLE BOARD	
157	1-775-990-11	WIRE (FLAT TYPE) (5 CORE)	
* 158	4-977-928-01	SPRING (SPINDLE), LEAF	
159	4-977-921-01	GEAR (B), FLAT	
⚠160	8-848-379-31	OPTICAL PICK-UP KSS-213B/F-RP	
161	1-775-991-11	WIRE (FLAT TYPE) (16 CORE)	
* 162	4-993-919-01	SPRING (A) (OP), LEAF	
163	4-951-940-01	INSULATOR (BU)	
* 164	4-977-918-01	BASE (OUTSERT)	
165	4-977-920-01	GEAR (C), FLAT	
* 166	1-658-709-11	SLED BOARD	
167	4-951-620-01	SCREW (2.6X8), +BVTP	
168	1-776-998-11	WIRE (FLAT TYPE) (21 CORE)	
169	2-279-715-01	RIVET, NYLON	
M901	X-4947-303-1	MOTOR ASSY (SLED)	
M902	X-4950-385-1	MOTOR ASSY (SPINDLE)	

AC SW **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 and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

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

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

Ref. No.	Part No.	Description			Remark
*	1-668-768-11	AC SW BOARD			
		**********			
		< CAPACITOR >			
⚠C610	1-113-924-11	CERAMIC	0.0047uF	20%	250V
		< CONNECTOR >			
CN610	1-690-123-21	REED (WITH CONNECTOR) (2 CORE)			
		< SWITCH >			
⚠S610	1-572-267-51	SWITCH, PUSH (AC POWER) (1 KEY) (① (POWER))			
**********					
*	A-4699-998-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C104	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	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	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C113	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C116	1-126-209-11	ELECT CHIP	100uF	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	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C121	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C122	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C123	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C124	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C125	1-104-851-11	TANTALUM CHIP	10uF	20%	10V
C126	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C127	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C128	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C129	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C132	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C141	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C151	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C152	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C153	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C155	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C156	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C157	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C158	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C160	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C161	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C162	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C171	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C172	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C173	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
		< CONNECTOR >			
CN101	1-770-072-11	CONNECTOR, (LIF(NON-ZIF)) FFC23P			
CN102	1-750-753-11	CONNECTOR, FFC/FPC 21P			
CN103	1-774-653-21	PIN, CONNECTOR (PC BOARD) 3P			
		< DIODE >			
D101	8-719-016-74	DIODE 1SS352			
		< IC >			
IC101	8-752-389-34	IC CXD2585Q			
IC102	8-759-071-79	IC BA6297AFP			
IC103	8-752-085-51	IC CXA2568M-T6			
		< COIL >			
L101	1-414-234-11	INDUCTOR CHIP 0uH			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
Q102	8-729-010-08	TRANSISTOR MSB710-R			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-00	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	1-216-097-00	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	1-216-121-00	RES,CHIP	1M	5%	1/10W
R110	1-216-025-00	RES,CHIP	100	5%	1/10W
R112	1-216-049-11	RES,CHIP	1K	5%	1/10W
R113	1-216-073-00	METAL CHIP	10K	5%	1/10W
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-073-00	METAL CHIP	10K	5%	1/10W
R122	1-216-073-00	METAL CHIP	10K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-00	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
R128	1-216-295-00	SHORT	0		
R129	1-216-295-00	SHORT	0		
R131	1-216-037-00	METAL CHIP	330	5%	1/10W
R132	1-216-295-00	SHORT	0		
R133	1-216-049-11	RES,CHIP	1K	5%	1/10W
R134	1-216-049-11	RES,CHIP	1K	5%	1/10W
R135	1-216-295-00	SHORT	0		
R136	1-216-295-00	SHORT	0		
R137	1-216-295-00	SHORT	0		
R138	1-216-295-00	SHORT	0		
R139	1-216-089-00	RES,CHIP	47K	5%	1/10W
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W
R145	1-216-069-00	METAL CHIP	6.8K	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
R150	1-216-121-00	RES,CHIP	1M	5%	1/10W
R151	1-216-073-00	METAL CHIP	10K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-073-00	METAL CHIP	10K	5%	1/10W
R154	1-216-073-00	METAL CHIP	10K	5%	1/10W
R155	1-216-073-00	METAL CHIP	10K	5%	1/10W
R156	1-216-073-00	METAL CHIP	10K	5%	1/10W
R157	1-216-105-00	RES,CHIP	220K	5%	1/10W
R158	1-216-105-00	RES,CHIP	220K	5%	1/10W
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W
R160	1-216-097-00	RES,CHIP	100K	5%	1/10W
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R162	1-216-113-00	METAL CHIP	470K	5%	1/10W
R163	1-216-105-00	RES,CHIP	220K	5%	1/10W
R168	1-216-121-00	RES,CHIP	1M	5%	1/10W
R171	1-216-073-00	METAL CHIP	10K	5%	1/10W
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W
R173	1-216-073-00	METAL CHIP	10K	5%	1/10W
R174	1-216-073-00	METAL CHIP	10K	5%	1/10W
R175	1-216-073-00	METAL CHIP	10K	5%	1/10W
R176	1-216-073-00	METAL CHIP	10K	5%	1/10W
R177	1-216-025-00	RES,CHIP	100	5%	1/10W
R181	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R182	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R183	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R184	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
		< SWITCH >			
S152	1-762-010-11	SWITCH, LEVER (LOADING IN)			
S153	1-762-010-11	SWITCH, LEVER (LOADING OUT)			
**********					
*	A-4699-984-A	DISP BOARD, COMPLETE			
		**********			
*	4-997-495-01	GUIDE (FL)			
		< CAPACITOR >			
C802	1-164-159-21	CERAMIC	0.1uF		50V
C803	1-164-159-21	CERAMIC	0.1uF		50V
C804	1-126-177-11	ELECT	100uF	20%	10V
C807	1-126-177-11	ELECT	100uF	20%	10V
		< CONNECTOR >			
* CN801	1-568-841-11	SOCKET, CONNECTOR 25P			
		< FLUORESCENT INDICATOR TUBE >			
FL801	1-517-740-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC801	8-752-888-75	IC CXP82832-009Q			
IC802	8-749-014-66	IC NJL56H400A			
		< TRANSISTOR >			
Q801	8-729-029-66	TRANSISTOR DTC114ESA			
Q802	8-729-029-66	TRANSISTOR DTC114ESA			
		< RESISTOR >			
R801	1-249-415-11	CARBON	680	5%	1/4W
R802	1-249-417-11	CARBON	1K	5%	1/4W
R803	1-249-419-11	CARBON	1.5K	5%	1/4W
R804	1-249-421-11	CARBON	2.2K	5%	1/4W
R805	1-247-843-11	CARBON	3.3K	5%	1/4W
R806	1-249-415-11	CARBON	680	5%	1/4W
R807	1-249-417-11	CARBON	1K	5%	1/4W
R808	1-249-419-11	CARBON	1.5K	5%	1/4W
R809	1-249-421-11	CARBON	2.2K	5%	1/4W
R810	1-247-843-11	CARBON	3.3K	5%	1/4W
R811	1-249-427-11	CARBON	6.8K	5%	1/4W
R812	1-249-427-11	CARBON	6.8K	5%	1/4W
R813	1-249-427-11	CARBON	6.8K	5%	1/4W
R814	1-249-427-11	CARBON	6.8K	5%	1/4W
R816	1-249-427-11	CARBON	6.8K	5%	1/4W
R819	1-249-429-11	CARBON	10K	5%	1/4W
R820	1-249-441-11	CARBON	100K	5%	1/4W

DISP **HP** **KEY** **LOADING** **MAIN**

Ref. No.	Part No.	Description			Remark
R821	1-249-441-11	CARBON	100K	5%	1/4W
R822	1-247-807-31	CARBON	100	5%	1/4W
R823	1-247-807-31	CARBON	100	5%	1/4W
R824	1-249-417-11	CARBON	1K	5%	1/4W
R825	1-249-429-11	CARBON	10K	5%	1/4W
R826	1-249-429-11	CARBON	10K	5%	1/4W
R827	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S801	1-554-303-21	SWITCH, TACTILE (CLEAR)			
S802	1-554-303-21	SWITCH, TACTILE (CHECK)			
S803	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADER)			
S804	1-554-303-21	SWITCH, TACTILE (◀◀)			
S805	1-554-303-21	SWITCH, TACTILE (▶▶)			
S806	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)			
S807	1-554-303-21	SWITCH, TACTILE (▷)			
S808	1-554-303-21	SWITCH, TACTILE (❚❚)			
S809	1-554-303-21	SWITCH, TACTILE (■)			
S810	1-475-543-11	ENCODER, ROTARY (⏮◁◁ AMS ▷▷⏭, PUSH ENTER)			
		< VIBRATOR >			
X801	1-579-125-11	VIBRATOR, CERAMIC (8MHz)			

****

*	1-668-767-11	HP BOARD *********			
*	4-962-201-01	PLATE (HP), GROUND			
		< CAPACITOR >			
C601	1-162-294-31	CERAMIC	0.001uF	10%	50V
C602	1-164-159-21	CERAMIC	0.1uF		50V
C603	1-162-294-31	CERAMIC	0.001uF	10%	50V
C604	1-164-159-21	CERAMIC	0.1uF		50V
		< JACK >			
J601	1-750-162-61	JACK (LARGE TYPE) (PHONES)			
		< COIL >			
L601	1-424-122-11	FILTER, NOISE			
L602	1-424-122-11	FILTER, NOISE			
L603	1-424-122-11	FILTER, NOISE			
L604	1-410-397-21	FERRITE BEAD INDUCTOR			
		< VARIABLE RESISTOR >			
RV601	1-223-926-11	RES, VAR, CARBON 1K/1K (PHONE LEVEL)			

****

*	1-668-766-11	KEY BOARD **********			
		< RESISTOR >			
R851	1-249-415-11	CARBON	680	5%	1/4W
R852	1-249-417-11	CARBON	1K	5%	1/4W
R853	1-249-419-11	CARBON	1.5K	5%	1/4W
R854	1-249-421-11	CARBON	2.2K	5%	1/4W
R855	1-247-843-11	CARBON	3.3K	5%	1/4W
R856	1-249-427-11	CARBON	6.8K	5%	1/4W
R857	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S851	1-554-303-21	SWITCH, TACTILE (LANGUAGE)			
S852	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)			
S853	1-554-303-21	SWITCH, TACTILE (AUTO SPACE)			
S854	1-554-303-21	SWITCH, TACTILE (PEAK SEARCH)			
S855	1-554-303-21	SWITCH, TACTILE (PLAE MODE)			
S856	1-554-303-21	SWITCH, TACTILE (REPEAT)			
S857	1-554-303-21	SWITCH, TACTILE (FADER)			
S858	1-554-303-21	SWITCH, TACTILE (TIME/TEXT)			

****

*	1-658-710-11	LOADING BOARD **********			

****

*	A-4699-983-A	MAIN BOARD, COMPLETE **********			
*	3-309-144-21	HEAT SINK			
	7-685-871-01	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C301	1-136-850-11	FILM	0.1uF	5%	63V
C302	1-161-494-00	CERAMIC	0.022uF		25V
C303	1-162-306-11	CERAMIC	0.01uF	20%	16V
C304	1-161-494-00	CERAMIC	0.022uF		25V
C305	1-126-767-11	ELECT	1000uF	20%	16V
C307	1-164-159-21	CERAMIC	0.1uF		50V
C308	1-162-290-31	CERAMIC	470PF	10%	50V
C309	1-162-282-31	CERAMIC	100PF	10%	50V
C310	1-126-026-11	ELECT	470uF	20%	25V
C311	1-136-850-11	FILM	0.1uF	5%	63V
C312	1-102-945-00	CERAMIC	8.0PF	0.5PF	50V
C313	1-102-945-00	CERAMIC	8.0PF	0.5PF	50V
C314	1-126-051-11	ELECT	47uF	20%	50V
C315	1-126-026-11	ELECT	470uF	20%	25V
C316	1-126-026-11	ELECT	470uF	20%	25V
C317	1-162-208-31	CERAMIC	24PF	5%	50V
C321	1-128-201-11	ELECT	100uF	20%	50V
C322	1-136-851-11	FILM	0.2uF	5%	63V
C323	1-124-700-11	ELECT	330uF	20%	25V
C326	1-136-850-11	FILM	0.1uF	5%	63V
C327	1-136-850-11	FILM	0.1uF	5%	63V
C333	1-136-850-11	FILM	0.1uF	5%	63V
C335	1-124-910-11	ELECT	47uF	20%	50V
C336	1-124-910-11	ELECT	47uF	20%	50V
C337	1-126-023-11	ELECT	100uF	20%	25V
C338	1-136-850-11	FILM	0.1uF	5%	63V
C361	1-161-494-00	CERAMIC	0.022uF		25V
C362	1-161-494-00	CERAMIC	0.022uF		25V
C363	1-162-294-31	CERAMIC	0.001uF	10%	50V
C364	1-164-159-21	CERAMIC	0.1uF		50V
C371	1-164-159-21	CERAMIC	0.1uF		50V
C373	1-126-009-81	ELECT	100uF	20%	16V
C374	1-164-159-21	CERAMIC	0.1uF		50V
C375	1-161-494-00	CERAMIC	0.022uF		25V
C376	1-164-159-21	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description			Remark
C381	1-161-494-00	CERAMIC	0.022uF		25V
C391	1-124-994-11	ELECT	100uF	20%	10V
C392	1-164-159-21	CERAMIC	0.1uF		50V
C394	1-164-159-21	CERAMIC	0.1uF		50V
C404	1-126-023-11	ELECT	100uF	20%	25V
C405	1-136-850-11	FILM	0.1uF	5%	63V
C406	1-136-850-11	FILM	0.1uF	5%	63V
C408	1-136-808-11	FILM	100PF	5%	100V
C410	1-102-816-00	CERAMIC	120PF	5%	50V
C411	1-102-816-00	CERAMIC	120PF	5%	50V
C412	1-106-343-00	MYLAR	1000PF	5%	200V
C413	1-130-484-00	MYLAR	0.012uF	5%	50V
C414	1-136-850-11	FILM	0.1uF	5%	63V
C415	1-128-201-11	ELECT	100uF	20%	50V
C504	1-126-023-11	ELECT	100uF	20%	25V
C505	1-136-850-11	FILM	0.1uF	5%	63V
C506	1-136-850-11	FILM	0.1uF	5%	63V
C508	1-136-808-11	FILM	100PF	5%	100V
C510	1-102-816-00	CERAMIC	120PF	5%	50V
C511	1-102-816-00	CERAMIC	120PF	5%	50V
C512	1-106-343-00	MYLAR	1000PF	5%	200V
C513	1-130-484-00	MYLAR	0.012uF	5%	50V
C514	1-136-850-11	FILM	0.1uF	5%	63V
C515	1-128-201-11	ELECT	100uF	20%	50V
C911	1-126-023-11	ELECT	100uF	20%	25V
C912	1-126-023-11	ELECT	100uF	20%	25V
C913	1-124-700-11	ELECT	330uF	20%	25V
C914	1-124-700-11	ELECT	330uF	20%	25V
C915	1-124-556-11	ELECT	2200uF	20%	16V
C917	1-126-024-11	ELECT	220uF	20%	16V
C919	1-126-023-11	ELECT	100uF	20%	25V
C920	1-126-049-11	ELECT	22uF	20%	50V
C921	1-136-850-11	FILM	0.1uF	5%	63V
C925	1-126-049-11	ELECT	22uF	20%	50V
C930	1-162-294-31	CERAMIC	0.001uF	10%	50V
C931	1-126-962-11	ELECT	3.3uF	20%	50V
C932	1-164-159-21	CERAMIC	0.1uF		50V
C933	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
* CN301	1-568-839-11	SOCKET, CONNECTOR 23P			
* CN302	1-568-841-11	SOCKET, CONNECTOR 25P			
CN351	1-506-468-11	PIN, CONNECTOR 3P			
CN951	1-766-270-11	PIN, CONNECTOR (PC BOARD) 8P			
		< DIODE >			
D301	8-719-921-40	DIODE MTZJ-4.7C			
D303	8-719-991-33	DIODE 1SS133T-77			
D304	8-719-991-33	DIODE 1SS133T-77			
D305	8-719-991-33	DIODE 1SS133T-77			
D381	8-719-991-33	DIODE 1SS133T-77			
D909	8-719-115-38	DIODE RD5.1JS-T1B2			
D910	8-719-210-21	DIODE 11EQS04			
D911	8-719-991-33	DIODE 1SS133T-77			
D912	8-719-991-33	DIODE 1SS133T-77			
		< GROUND TERMINAL >			
EB601	1-537-770-21	TERMINAL BOARD, GROUND			
EB602	1-537-770-21	TERMINAL BOARD, GROUND			
		< IC >			
IC301	8-759-527-07	IC CXD8735N			
IC302	8-759-822-09	IC LB1641			
IC303	8-759-710-59	IC NJM4580D-D			
IC371	8-759-242-70	IC TC7WU04F			
IC391	8-749-921-12	IC GP1F32T (DIGITAL OUT OPTICAL)			
IC401	8-759-712-02	IC NJM2114D			
IC501	8-759-712-02	IC NJM2114D			
IC901	8-759-604-86	IC M5F7807L			
IC902	8-759-604-90	IC M5F7907L			
IC903	8-759-231-53	IC TA7805S			
IC904	8-759-604-86	IC M5F7807L			
IC905	8-759-710-59	IC NJM4580D-D			
IC930	8-759-636-16	IC M51957AL			
		< JACK >			
J301	1-774-727-11	JACK, PIN 2P (LINE OUT)			
J371	1-784-689-11	JACK, PIN 1P (DIGITAL OUT COAXIAL)			
J381	1-774-726-11	JACK (S-LINK CONTROL A1)			
		< COIL >			
L301	1-410-322-11	INDUCTOR 3.3uH			
L302	1-410-322-11	INDUCTOR 3.3uH			
L303	1-410-503-11	INDUCTOR 3.3uH			
L321	1-424-122-11	FILTER, NOISE			
L331	1-424-122-11	FILTER, NOISE			
L371	1-410-322-11	INDUCTOR 3.3uH			
L391	1-410-322-11	INDUCTOR 3.3uH			
L401	1-412-473-21	INDUCTOR 0uH			
L501	1-412-473-21	INDUCTOR 0uH			
		< TRANSISTOR >			
Q301	8-729-029-56	TRANSISTOR DTA144ESA			
Q381	8-729-119-78	TRANSISTOR 2SC403SP-51			
Q401	8-729-231-55	TRANSISTOR 2SC2878-AB			
Q402	8-729-231-55	TRANSISTOR 2SC2878-AB			
Q404	8-729-029-56	TRANSISTOR DTA144ESA			
Q405	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q501	8-729-231-55	TRANSISTOR 2SC2878-AB			
Q502	8-729-231-55	TRANSISTOR 2SC2878-AB			
Q504	8-729-029-56	TRANSISTOR DTA144ESA			
Q505	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q901	8-729-104-18	TRANSISTOR 2SC3514-Q			
Q902	8-729-140-96	TRANSISTOR 2SD774-34			
		< RESISTOR >			
R301	1-249-417-11	CARBON	1K	5%	1/4W
R303	1-249-417-11	CARBON	1K	5%	1/4W
R304	1-249-401-11	CARBON	47	5%	1/4W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-441-11	CARBON	100K	5%	1/4W
R308	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-417-11	CARBON	1K	5%	1/4W
R313	1-247-815-91	CARBON	220	5%	1/4W
R314	1-247-843-11	CARBON	3.3K	5%	1/4W
R315	1-247-807-31	CARBON	100	5%	1/4W

Ref. No.	Part No.	Description			Remark
R316	1-249-419-11	CARBON	1.5K	5%	1/4W
R317	1-249-441-11	CARBON	100K	5%	1/4W
R318	1-249-429-11	CARBON	10K	5%	1/4W
R319	1-249-429-11	CARBON	10K	5%	1/4W
R320	1-247-807-31	CARBON	100	5%	1/4W
R372	1-247-807-31	CARBON	100	5%	1/4W
R373	1-249-403-11	CARBON	68	5%	1/4W
R375	1-249-417-11	CARBON	1K	5%	1/4W
R376	1-247-807-31	CARBON	100	5%	1/4W
R381	1-249-425-11	CARBON	4.7K	5%	1/4W
R382	1-249-429-11	CARBON	10K	5%	1/4W
R383	1-249-393-11	CARBON	10	5%	1/4W
R401	1-259-464-11	CARBON	33K	5%	1/6W
R402	1-259-464-11	CARBON	33K	5%	1/6W
R403	1-259-464-11	CARBON	33K	5%	1/6W
R404	1-259-464-11	CARBON	33K	5%	1/6W
R405	1-259-458-11	CARBON	18K	5%	1/6W
R406	1-259-458-11	CARBON	18K	5%	1/6W
R407	1-259-461-11	CARBON	24K	5%	1/6W
R408	1-259-461-11	CARBON	24K	5%	1/6W
R409	1-259-427-81	CARBON	910	5%	1/6W
R410	1-259-434-11	CARBON	1.8K	5%	1/6W
R411	1-259-488-11	CARBON	330K	5%	1/6W
R412	1-259-422-11	CARBON	560	5%	1/6W
R413	1-259-404-11	CARBON	100	5%	1/6W
R417	1-249-421-11	CARBON	2.2K	5%	1/4W
R418	1-249-441-11	CARBON	100K	5%	1/4W
R419	1-249-421-11	CARBON	2.2K	5%	1/4W
R420	1-259-423-81	CARBON	620	5%	1/6W
R421	1-249-421-11	CARBON	2.2K	5%	1/4W
R451	1-249-435-11	CARBON	33K	5%	1/4W
R452	1-249-435-11	CARBON	33K	5%	1/4W
R453	1-249-429-11	CARBON	10K	5%	1/4W
R454	1-249-435-11	CARBON	33K	5%	1/4W
R455	1-249-402-11	CARBON	56	5%	1/4W
R501	1-259-464-11	CARBON	33K	5%	1/6W
R502	1-259-464-11	CARBON	33K	5%	1/6W
R503	1-259-464-11	CARBON	33K	5%	1/6W
R504	1-259-464-11	CARBON	33K	5%	1/6W
R505	1-259-458-11	CARBON	18K	5%	1/6W
R506	1-259-458-11	CARBON	18K	5%	1/6W
R507	1-259-461-11	CARBON	24K	5%	1/6W
R508	1-259-461-11	CARBON	24K	5%	1/6W
R509	1-259-427-81	CARBON	910	5%	1/6W
R510	1-259-434-11	CARBON	1.8K	5%	1/6W
R511	1-259-488-11	CARBON	330K	5%	1/6W
R512	1-259-422-11	CARBON	560	5%	1/6W
R513	1-259-404-11	CARBON	100	5%	1/6W
R517	1-249-421-11	CARBON	2.2K	5%	1/4W
R518	1-249-441-11	CARBON	100K	5%	1/4W
R519	1-249-421-11	CARBON	2.2K	5%	1/4W
R520	1-259-423-81	CARBON	620	5%	1/6W
R521	1-249-421-11	CARBON	2.2K	5%	1/4W
R551	1-249-435-11	CARBON	33K	5%	1/4W
R552	1-249-435-11	CARBON	33K	5%	1/4W
R553	1-249-429-11	CARBON	10K	5%	1/4W
R554	1-249-435-11	CARBON	33K	5%	1/4W
R555	1-249-402-11	CARBON	56	5%	1/4W
R902	1-249-421-11	CARBON	2.2K	5%	1/4W
R903	1-249-436-11	CARBON	39K	5%	1/4W
R904	1-249-425-11	CARBON	4.7K	5%	1/4W
R905	1-247-807-31	CARBON	100	5%	1/4W
R906	1-249-417-11	CARBON	1K	5%	1/4W
R907	1-249-417-11	CARBON	1K	5%	1/4W
R930	1-249-436-11	CARBON	39K	5%	1/4W
R931	1-249-431-11	CARBON	15K	5%	1/4W
R932	1-247-843-11	CARBON	3.3K	5%	1/4W

< COIL >

T371	1-409-594-11	COIL (WITH CORE)	

< VIBRATOR >

X301	1-760-955-11	VIBRATOR, CRYSTAL (45MHz)	

****

*	1-658-709-11	SLED BOARD	

****

< CONNECTOR >

CN104	1-774-380-11	CONNECTOR, FFC/FPC 16P	
CN105	1-568-838-11	SOCKET, CONNECTOR 21P	
* CN106	1-750-737-11	CONNECTOR, FFC/FPC 5P	

****

*	1-658-708-11	SPINDLE BOARD	

****

< CONNECTOR >

* CN107	1-568-848-11	SOCKET, CONNECTOR 5P	

< SWITCH >

S151	1-571-958-11	SWITCH, PUSH (1 KEY) (LIMIT)	

****

*	1-668-765-11	TRANS BOARD	

****

*	4-962-200-01	PLATE (TR), GROUND	

< CAPACITOR >

C901	1-126-017-11	ELECT	6800uF	20%	16V
C902	1-124-689-11	ELECT	1000uF	20%	16V
C903	1-128-198-11	ELECT	22uF	20%	63V
C904	1-126-052-11	ELECT	100uF	20%	16V
C905	1-136-802-11	FILM	0.015uF	5%	100V
C906	1-136-850-11	FILM	0.1uF	5%	63V
C907	1-136-850-11	FILM	0.1uF	5%	63V
C908	1-136-165-00	FILM	0.1uF	5%	50V
⚠C909	1-113-924-11	CERAMIC	0.0047uF	20%	250V
⚠C910	1-113-924-11	CERAMIC	0.0047uF	20%	250V
C922	1-124-907-11	ELECT	10uF	20%	50V
C923	1-136-165-00	FILM	0.1uF	5%	50V
C924	1-162-306-11	CERAMIC	0.01uF	20%	16V
C990	1-164-159-21	CERAMIC	0.1uF		50V
C991	1-164-159-21	CERAMIC	0.1uF		50V

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
C992	1-164-159-21	CERAMIC	0.1uF		50V
C995	1-136-165-00	FILM	0.1uF	5%	50V
C996	1-136-165-00	FILM	0.1uF	5%	50V
C998	1-136-850-11	FILM	0.1uF	5%	63V
		< CONNECTOR >			
CN901	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P			
CN903	1-564-321-00	PIN, CONNECTOR 2P			
		< DIODE >			
D901	8-719-210-21	DIODE 11EQS04			
D902	8-719-210-21	DIODE 11EQS04			
D903	8-719-210-21	DIODE 11EQS04			
D904	8-719-210-21	DIODE 11EQS04			
D905	8-719-200-82	DIODE 11ES2			
D906	8-719-991-33	DIODE 1SS133T-77			
D907	8-719-991-33	DIODE 1SS133T-77			
D908	8-719-921-40	DIODE MTZJ-4.7C			
D921	8-719-982-22	DIODE MTZJ-30D			
D922	8-719-109-85	DIODE RD5.1ES-B2			
		< COIL >			
⚠L901	1-421-915-11	COIL, LINE FILTER			
L991	1-410-322-11	INDUCTOR	3.3uH		
L992	1-410-322-11	INDUCTOR	3.3uH		
L993	1-410-322-11	INDUCTOR	3.3uH		
L994	1-410-322-11	INDUCTOR	3.3uH		
L997	1-412-473-21	INDUCTOR	0uH		
		< TRANSISTOR >			
Q921	8-729-041-38	TRANSISTOR 2SB1241TV2Q			
		< RESISTOR >			
R901	1-249-411-11	CARBON	330	5%	1/4W
R921	1-247-843-11	CARBON	3.3K	5%	1/4W
R922	1-247-843-11	CARBON	3.3K	5%	1/4W
R923	1-247-807-31	CARBON	100	5%	1/4W
R925	1-247-807-31	CARBON	100	5%	1/4W
R926	1-249-441-11	CARBON	100K	5%	1/4W
⚠R927	1-212-873-11	FUSIBLE	47	5%	1/4W F
		< TRANSFORMER >			
⚠T901	1-431-715-11	TRANSFORMER, POWER			
**********					
*	1-668-769-11	VC SELECT BOARD			
		**********			
		< RESISTOR >			
R861	1-249-415-11	CARBON	680	5%	1/4W
R862	1-249-417-11	CARBON	1K	5%	1/4W
R863	1-249-419-11	CARBON	1.5K	5%	1/4W
		< SWITCH >			
S860	1-771-312-11	SWITCH, ROTARY (FILTER)			
**********					

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
20	1-773-216-11	WIRE (FLAT TYPE) (25 CORE)	
56	1-783-699-11	WIRE (FLAT TYPE) (23 CORE)	
58	1-500-386-11	FILTER, CLAMP (FERRITE CORE)	
⚠62	1-575-651-21	CORD, POWER	
101	1-452-820-11	MAGNET (ASSY)	
157	1-775-990-11	WIRE (FLAT TYPE) (5 CORE)	
⚠160	8-848-379-31	OPTICAL PICK-UP KSS-213B/F-RP	
161	1-775-991-11	WIRE (FLAT TYPE) (16 CORE)	
168	1-776-998-11	WIRE (FLAT TYPE) (21 CORE)	
M901	X-4947-303-1	MOTOR ASSY (SLED)	
M902	X-4950-385-1	MOTOR ASSY (SPINDLE)	
M903	A-4660-968-A	MOTOR ASSY (LOADING)	
⚠T901	1-431-715-11	TRANSFORMER, POWER	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-885-09	SCREW +BVTT 4X16 (S)	
#3	7-627-852-07	SCREW, PRECISION +P 1.7X2.5	
#4	7-685-871-01	SCREW +BVTP 3X6	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-473-720-11	REMOTE COMMANDER (RM-DX50)	
	1-590-925-31	CORD, CONNECTION (AUDIO 100cm)	
	3-810-765-72	MANUAL, COMMONNESS INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, DUTCH, ITALIAN, PORTUGUESE)	
	3-861-844-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH)	
	3-861-844-21	MANUAL, INSTRUCTION (GERMAN, DUTCH, ITALIAN, PORTUGUESE)	
	4-983-956-01	COVER, BATTERY (for RM-DX50)	

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

9-922-850-11

Sony Corporation
Home A&V Products Company

98F057541-1
Printed in Hungary
Published by Quality Assurance Dept.
(Shibaura)