

CDP-S3

SERVICE MANUAL

Ver 1.3 2002.12

*AEP Model
UK Model
E Model
Australian Model*



CDP-S3 is the CD player section
in MHC-S7AV or MHC-S3.

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM63B-30BD60
Base Unit Name	BU-30BD60
Optical Pick-up Name	OP Assy (A-MAX.3)

SPECIFICATIONS

System	Compact disc and digital audio system
Laser	Semiconductor laser ($\lambda=780$ nm) Emission duration: continuous
Frequency response	2 Hz – 20 kHz (± 0.5 dB)
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB
OPTICAL OUT (Square optical connector jack, rear panel)	
Dimensions (w/h/d)	Approx. 280 x 108 x 330 mm
Mass	Approx. 2.7 kg

Design and specifications are subject to change
without notice.

COMPACT DISC PLAYER

SONY®

9-873-831-14
2002L0500-1
© 2002.12

Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

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

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

NOTES ON LASER DIODE EMISSION CHECK

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

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveforms is output three times.

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 the 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.

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.



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.

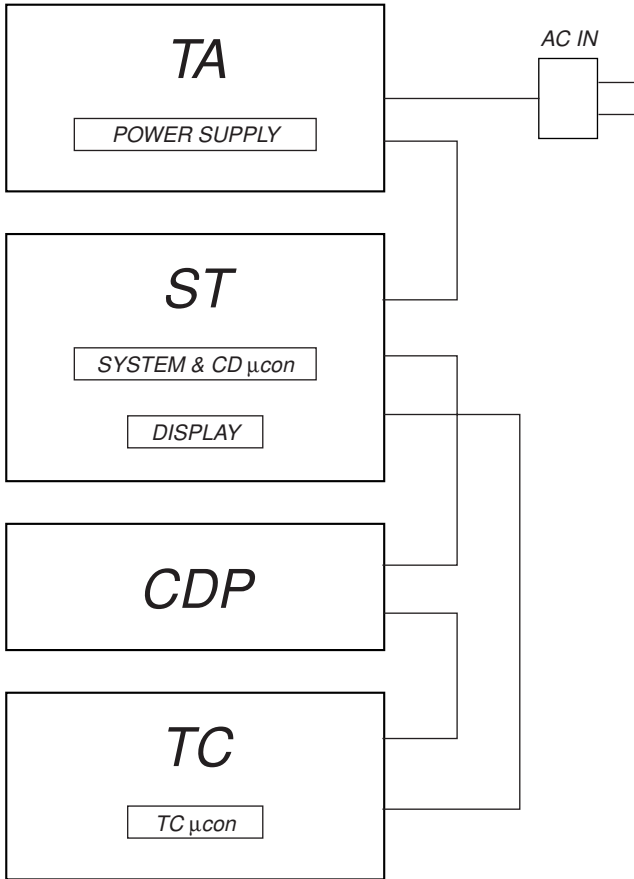
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SECTION 1
SERVICING NOTES

This set is a component of the MHC-S7AV or MHC-S3.
The MHC-S7AV or MHC-S3 system configuration is as shown below, and therefore it does not operate normally unless all four components are connected.
In performing the repair, connect all components with the system cables.
Note: The precaution to the users is described on the label stuck on the back panel (CD player) and in the troubleshooting section in the Operation Manual.

System Configuration:



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. Press the button to turn the power on, set the disc to the disc table with the “test disc” label facing up, and chuck the disc.
2. Press the button to set CD function, and press the button to playback the disc.
3. The following will be displayed on the liquid crystal display.
Display : 1KHZ/0DB/L R
4. Pressing the or button, 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”.

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.

Table 1 : CD-TEXT TEST DISC TEXT Data Contents
(TRACKS No. 1 to 20:Normal Characters)

TRACK No.	Displayed Contents
1	1kHz/0dB/L&R
2	20Hz/0dB/L&R
3	40Hz/0dB/L&R
4	100Hz/0dB/L&R
5	200Hz/0dB/L&R
6	500Hz/0dB/L&R
7	1kHz/0dB/L&R
8	5kHz/0dB/L&R
9	7kHz/0dB/L&R
10	10kHz/0dB/L&R
11	16kHz/0dB/L&R
12	18kHz/0dB/L&R
13	20kHz/0dB/L&R
14	1kHz/0dB/L&R
15	1kHz/−1dB/L&R
16	1kHz/−3dB/L&R
17	1kHz/−6dB/L&R
18	1kHz/−10dB/L&R
19	1kHz/−20dB/L&R
20	1kHz/−60dB/L&R

Note: Track No. 21 to 99 are not displayed.

SECTION 2 GENERAL

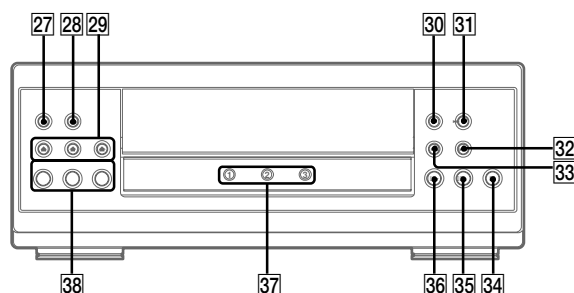
This section is extracted from instruction manual.

Parts Identification

The items are arranged in alphabetical order.

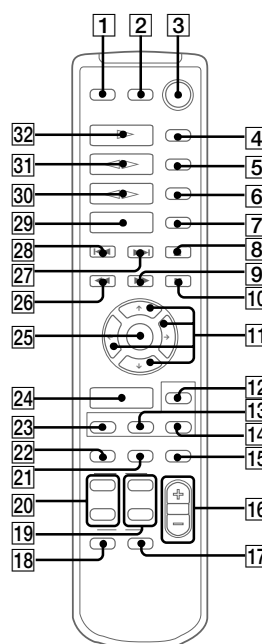
Refer to the pages indicated in parentheses () for details.

Main unit



- DISC 1-3 **38** (14, 15, 21)
- DISC 1-3 indicators **37**
- DISC 1-3 **▲** (eject) **29** (14)
- PLAY MODE **27** (14, 15, 21)
- REPEAT **28** (14)
- ▶** (play) **36** (14, 15)
- ||** (pause) **35** (14)
- (stop) **34** (14, 20)
- ◀◀** (go back) **33** (14, 15, 21)
- ▶▶** (go forward) **32** (14, 15, 21)
- ◀◀** (rewind) **30** (14)
- ▶▶** (fast forward) **31** (14)

Remote Control



- CD **▷** **32** (14, 15)
- CHECK **5** (15)
- CLEAR **6** (15)
- CLOCK/TIMER SELECT **17** (30)
- CLOCK/TIMER SET **18** (13, 21, 29)
- DBFB **15** (23)
- DISPLAY **22** (13, 16, 18, 29, 35)
- D.SKIP **4** (14)
- ENTER **25** (10, 12, 13, 15, 17, 18, 21, 22, 26-30)
- EQ **13** (27)
- EQ ON/OFF **14** (10, 28)
- FUNCTION **24** (10, 14, 15, 20, 21, 31)
- GROOVE **21** (23)
- SET UP **12** (10, 12, 26, 28, 29)
- SLEEP **7** (29)
- SUR **23** (25)
- TAPE A **◀▷** **31** (19, 35)
- TAPE B **◀▷** **30** (19, 20, 35)
- TUNER/BAND **29** (17)
- TUNING + **9** (17)
- TUNING - **26** (17)
- TV CH +/- **19**
- TV VOL +/- **20**
- TV I/⏻ **2**
- TV/VIDEO **1**
- VOL +/- **16**

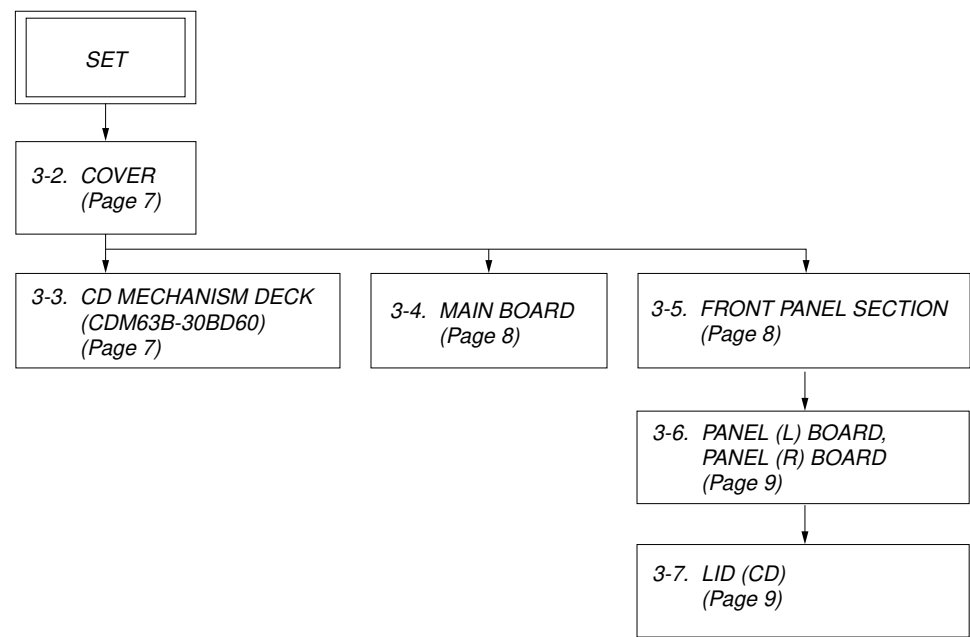
BUTTON DESCRIPTIONS

- I/⏻ (power) **3**
- ||** (pause) **10**
- (stop) **8**
- ◀◀** (go back) **28**
- ▶▶** (go forward) **27**
- ◀◀** (rewind) **26**
- ▶▶** (fast forward) **9**
- ↕/↔/↔/↔ **11**

SECTION 3
DISASSEMBLY

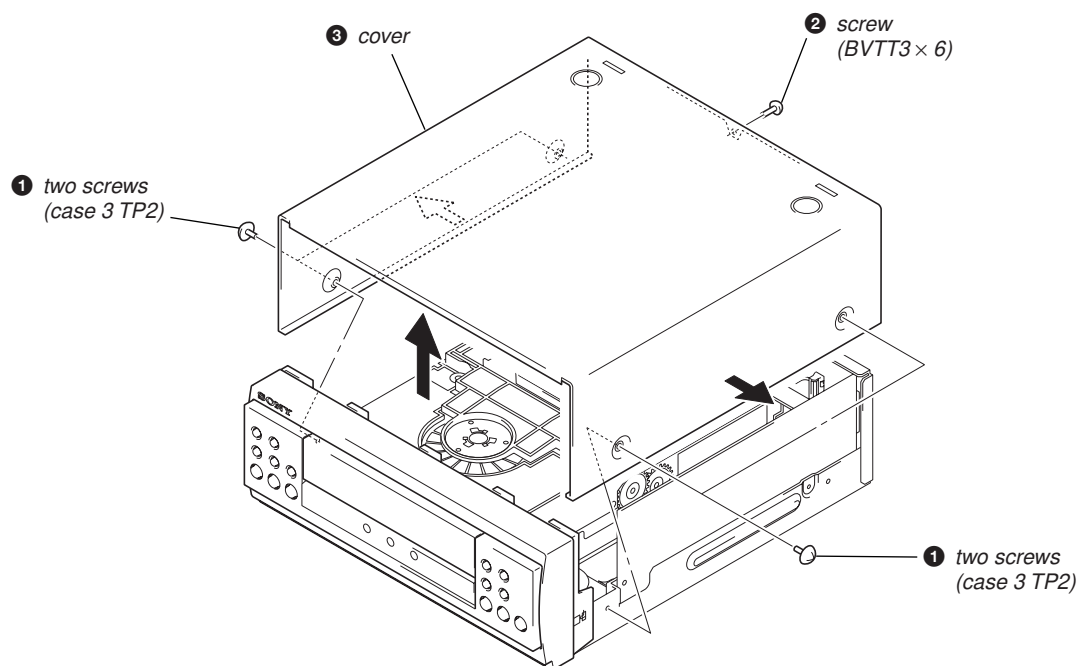
• This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

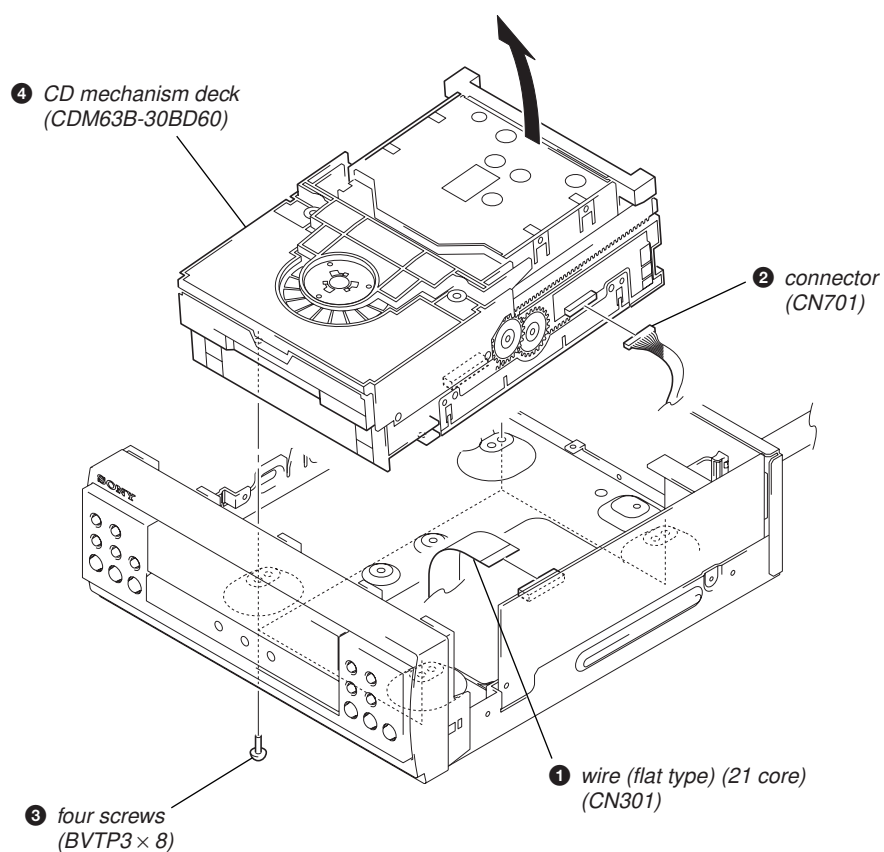


Note: Follow the disassembly procedure in the numerical order given.

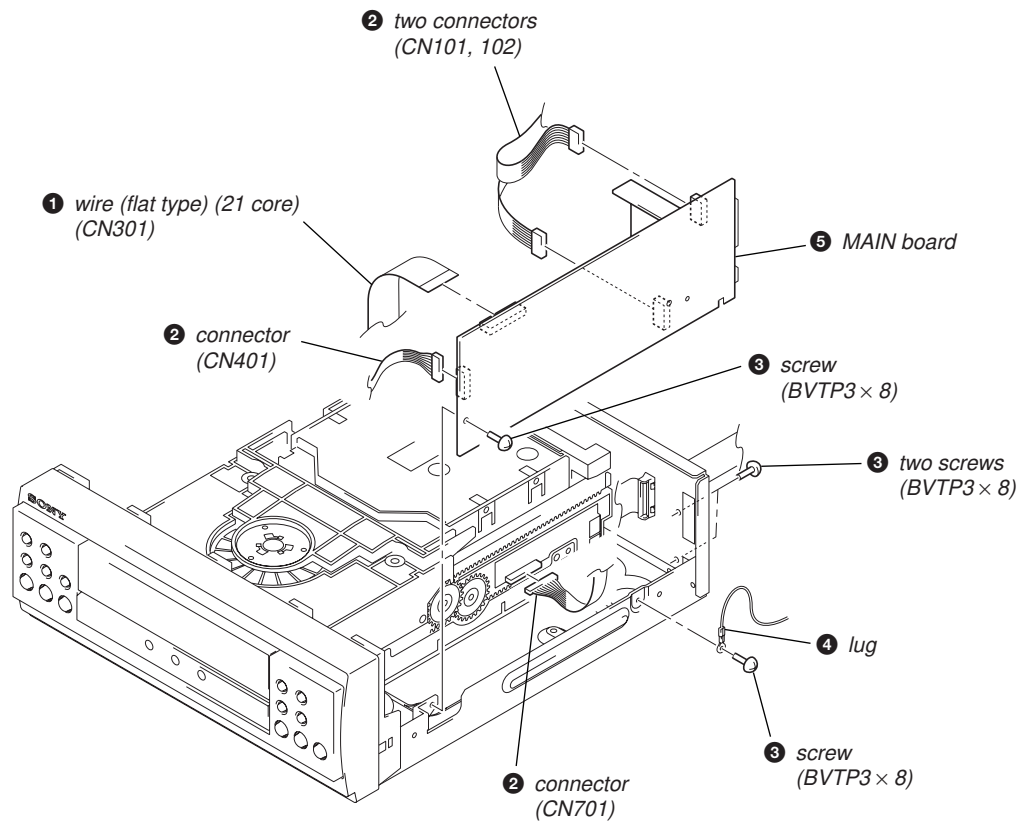
3-2. COVER



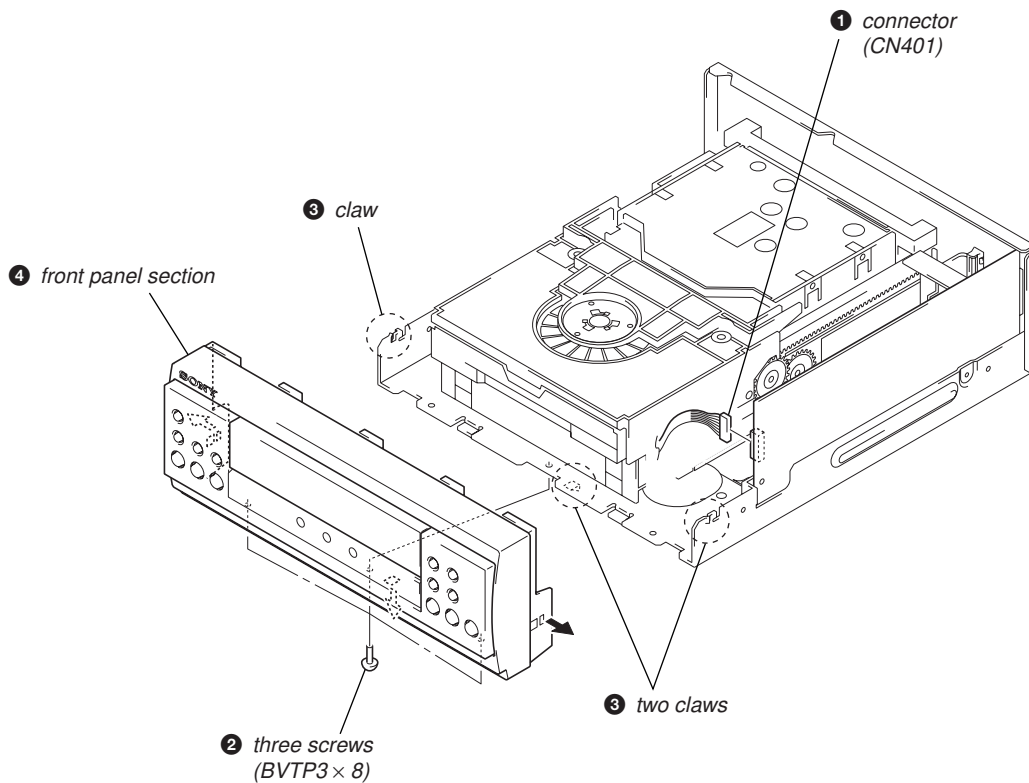
3-3. CD MECHANISM DECK (CDM63B-30BD60)



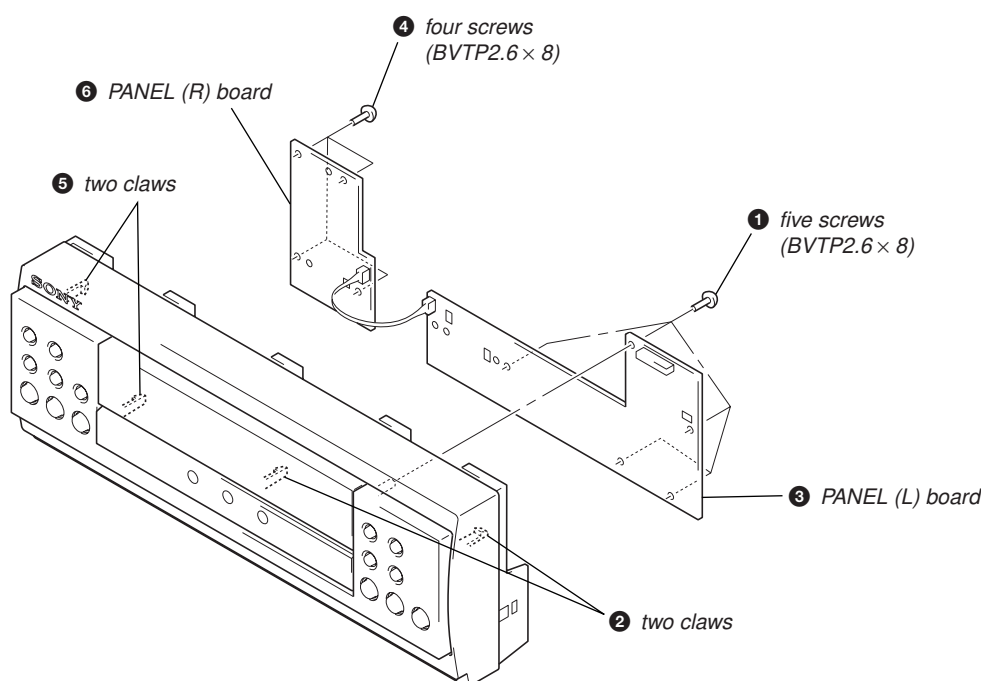
3-4. MAIN BOARD



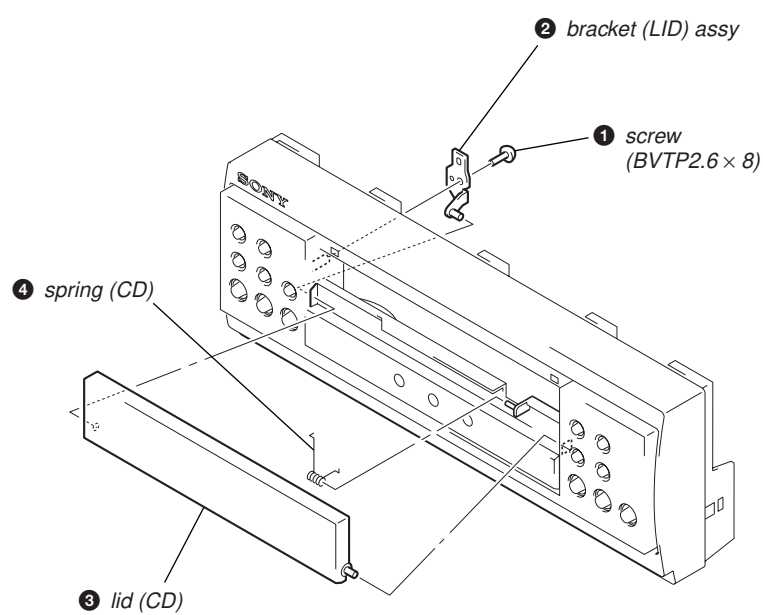
3-5. FRONT PANEL SECTION



3-6. PANEL (L) BOARD, PANEL (R) BOARD



3-7. LID (CD)



SECTION 4

TEST MODE

Note: Use flowing buttons in the test mode.

no mark : Button of CD unit (CDP-S3)

*1 : Button of amplifier unit (TA-S7AV or TA-S3)

*2 : Button of tuner unit (ST-S5 or ST-S3)

[CD Delivery Mode]

- This mode moves the optical pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

- Press the *1 button to turn the power on.
- Turn the **FILE SELECT** *1 knob to set the CD function.
- While pressing the **EQ ON/OFF** *1 button, press the *1 button.
- The message "LOCK" is displayed on the fluorescent indicator tube of tuner unit and turn the power off automatically, and the CD delivery mode is set.

[GC Test Mode]

Enter the GC Test Mode

Procedure 1:

- Press the *1 button to turn the power on.
- While pressing the both **PLAY MODE** and  buttons, press the  (DISC 1) button.
- LEDs and fluorescent indicator tube are all turned on of all units.

Procedure 2:

- Press the *1 button to turn the power on.
- While pressing the both **STEREO/MONO** *2 and **CINEMA STUDIO C** *1 buttons, press the **CLOCK/TIMER** *2 button.
- LEDs and fluorescent indicator tube are all turned on of all units.

Version Display Mode

Procedure:

- Enter the GC test mode.
- Each time the **DISC 1** or **TUNER MEMORY** *2 button is pressed, microcomputer or mechanism deck version is displayed of each unit.
- Press the **DISC 3** or **TUNING +** *2 button to detail is displayed the version.

Key Check Mode

Procedure:

- Enter the GC test mode.
- Press the **DISC 2** or **TUNING -** *2 button to set the key check mode, and displays "K 0 J 0 V 0" on the fluorescent indicator tube of tuner unit.
- All buttons are pressed of CD unit, all LEDs are blinking of CD unit. (not change the display of fluorescent indicator tube)

Releasing the GC Test Mode

To release from this mode, press three buttons in the same manner as entering this mode or disconnect the power cord.

[CD Service Mode]

- This mode can run the CD sled motor optionally. Use this mode, for instance, when cleaning the optical pick-up.

Procedure:

- Press the *1 button to turn the power on.
- Turn the **FILE SELECT** *1 knob to set the CD function.
- While pressing the both **PLAY MODE** and  buttons, press the  button.
- Set to the CD service mode.
- With the CD in stop status, press the  button to move the optical pick-up to outside track, or press the  button to inside track.
- To release from this mode, perform as follows.
 - Move the optical pick-up to the most inside track.
 - Disconnect the power cord.

- Notes:**
- Always move the optical pick-up to most inside track when releasing from this mode. Otherwise, a disc will not be unloaded.
 - Do not run the sled motor excessively, otherwise the gear can be chipped.

[CD Cancellation Mode of Repeat Limitation]

- This mode can cancel the CD repeat limitation (5 times).

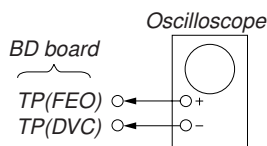
Procedure:

- Press the *1 button to turn the power on.
- Turn the **FILE SELECT** *1 knob to set the CD function.
- While pressing the both **PLAY MODE** and  buttons, press the **REPEAT** button.
- CD repeat limitation is canceled.
- To release this mode, disconnect the power cord.

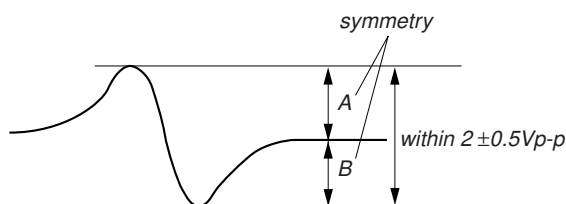
SECTION 5 ELECTRICAL ADJUSTMENTS

Note :

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use LUV-P01 (4-999-032-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10M Ω impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check**Procedure :**

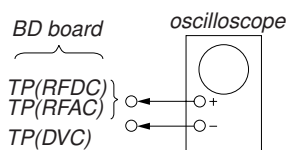
1. Connect an oscilloscope to TP (FEO).
2. Connect between TP (FEO) and TP (DVC) (≈ 1.65 V) by lead wire.
3. Turn Power switch on.
4. Load a disc (LUV-P01) and actuate the focus search. (In consequence of open and close the disc tray, actuate the focus search)
5. Confirm that the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 2 ± 0.5 Vp-p.

S-curve waveform

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

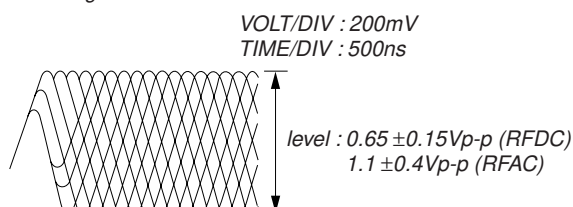
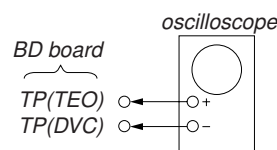
Note :

- 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.

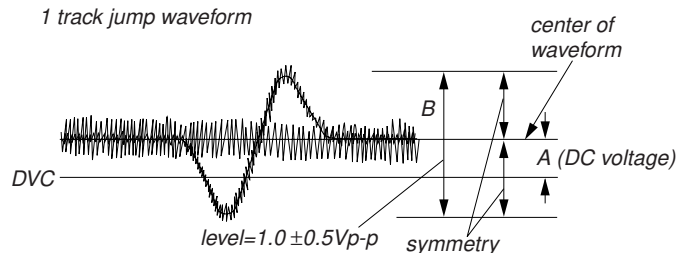
RF Level Check**Procedure :**

1. Connect an oscilloscope CH1 to TP (RFDC) and CH2 to TP (RFAC).
2. Turn Power switch on.
3. Load a disc (LUV-P01) and playback.
4. Confirm that oscilloscope waveform is clear and check if RF signal level is correct or not.

Note : Clear RF signal waveform means that the shape “ $\diamond$ ” can be clearly distinguished at the center of the waveform.

RF signal waveform**E-F Balance (1 Track jump) Check****Procedure :**

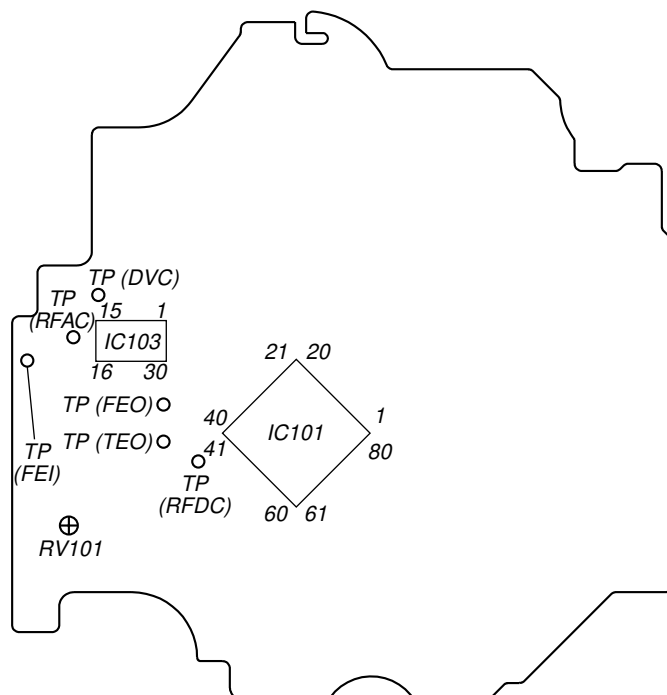
1. Connect an oscilloscope to TP (TEO) and TP (DVC).
2. Turn Power switch on.
3. Load a disc (LUV-P01) and playback the number nine track.
4. Press the button. (Becomes the 1 track jump mode.)
5. Confirm that the level B and A (DC voltage) on the oscilloscope waveform.

1 track jump waveform

6. Adjust RV101 on the BD board so that the center of waveform becomes the same voltage of DVC. (i.e. A=0V)

Adjustment Location:

[BD BOARD] (Conductor Side)

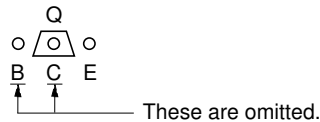
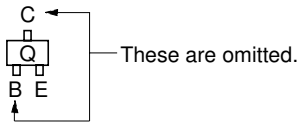


SECTION 6
DIAGRAMS

6-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

Note on Printed Wiring Boards:

- — : parts extracted from the component side.
- : parts extracted from the conductor side.
- △ : internal component.
- : Pattern from the side which enables seeing.
- Indication of transistor.



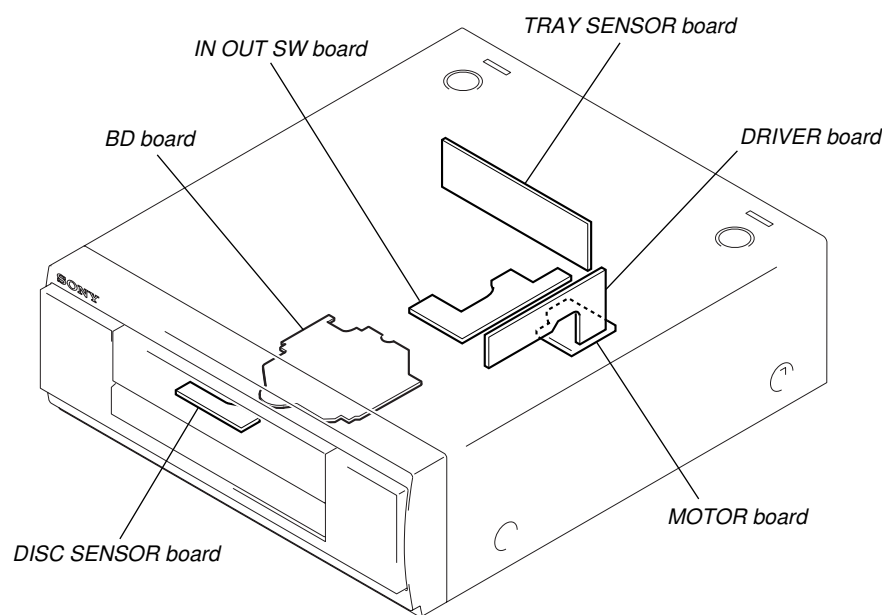
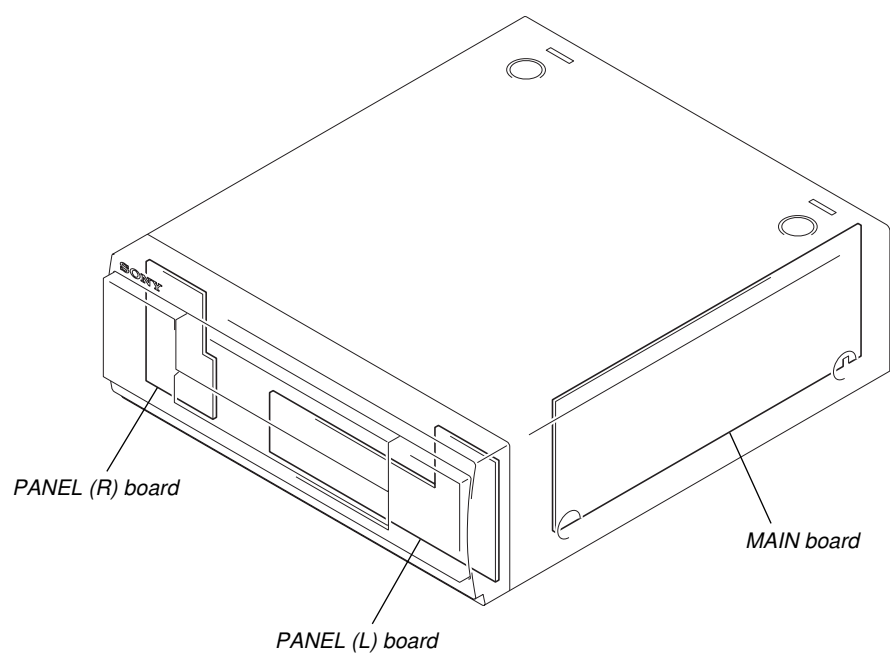
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$ 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ 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+ Line.
- Voltages are taken with a VOM (Input impedance 10 M Ω). 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 PLAY

- **Circuit Boards Location**

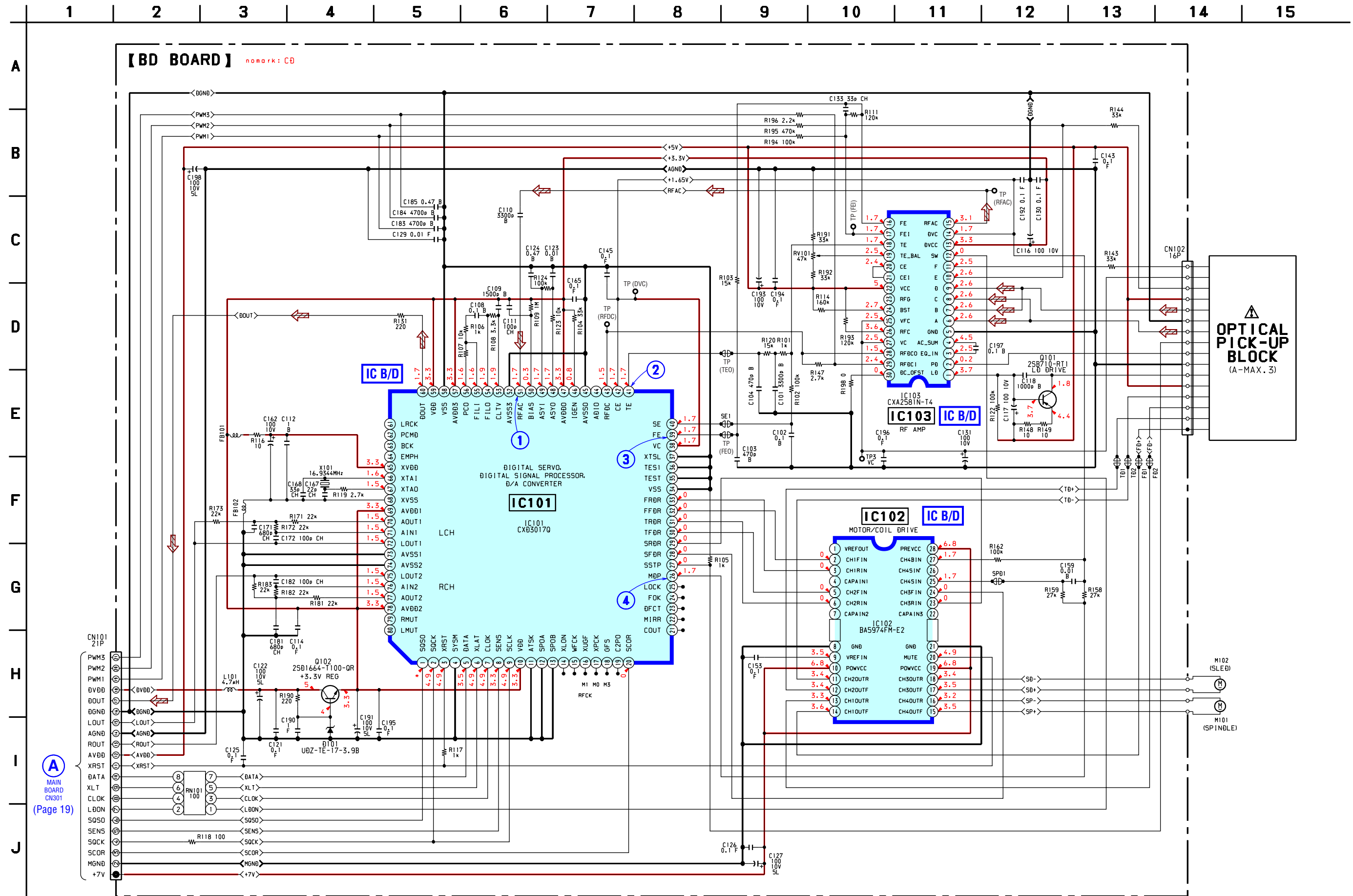




Ref. No.	Location
D101	B-3
IC101	C-3
IC102	B-2
IC103	D-2
Q101	C-1
Q102	A-3

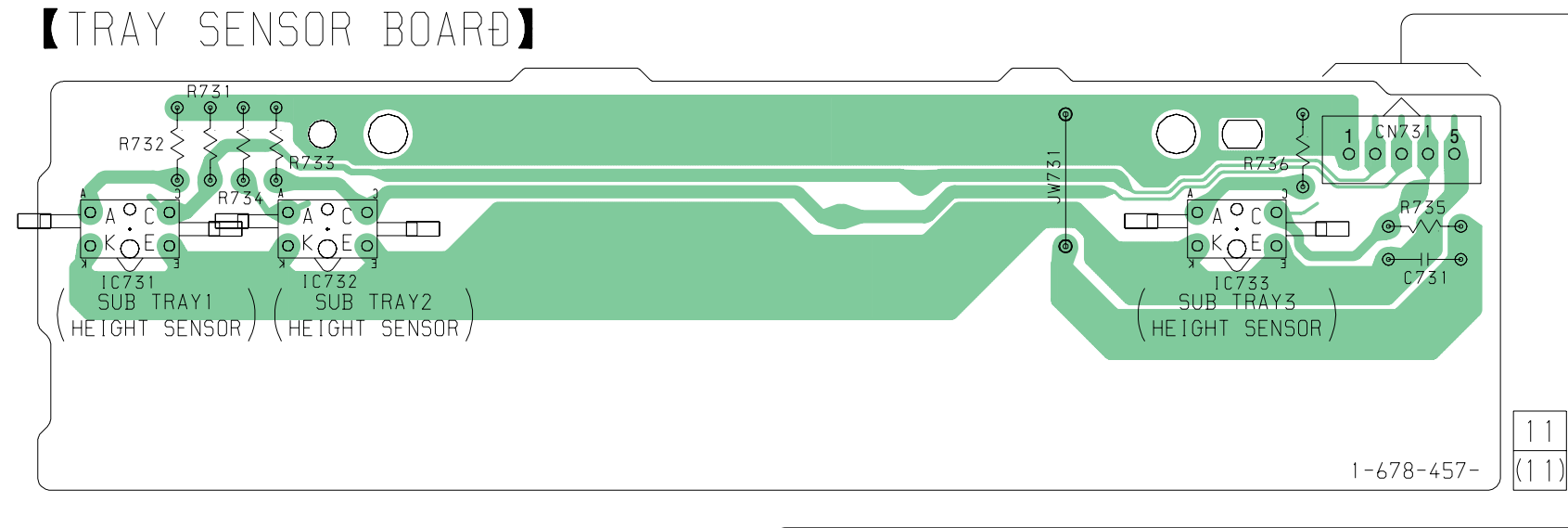
There are a few cases that the part printed on this diagram isn't mounted in this model.

6-3. SCHEMATIC DIAGRAM – BD Section – • See page 22 for Waveforms. • See page 22 for IC Block Diagrams.

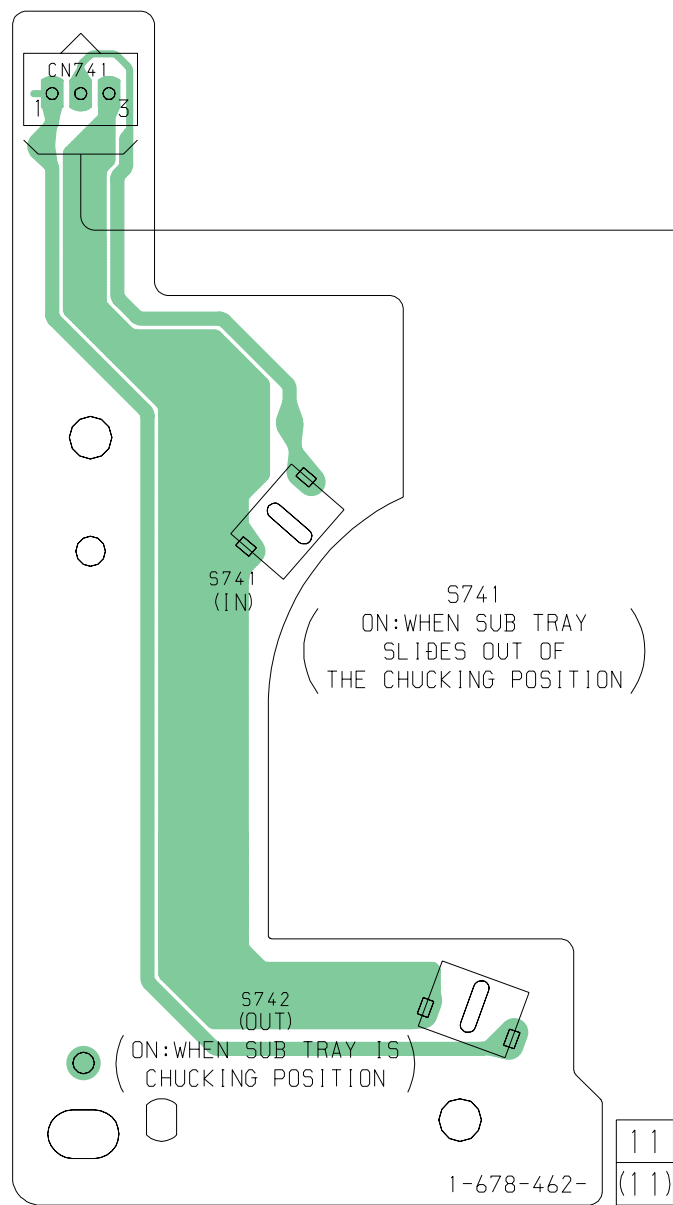


6-4. PRINTED WIRING BOARDS – CD CHANGER Section – • See page 13 for Circuit Boards Location.

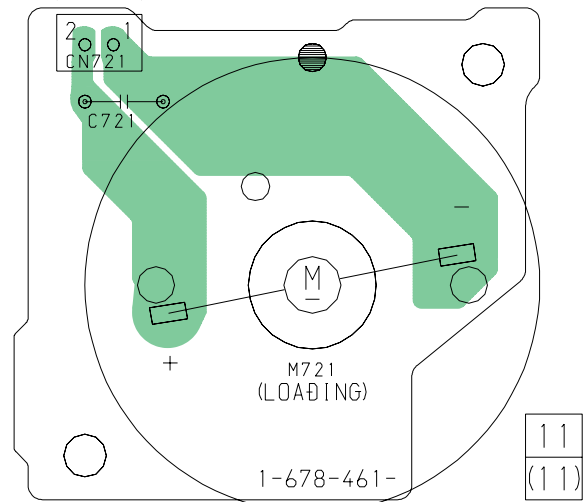
【TRAY SENSOR BOARD】



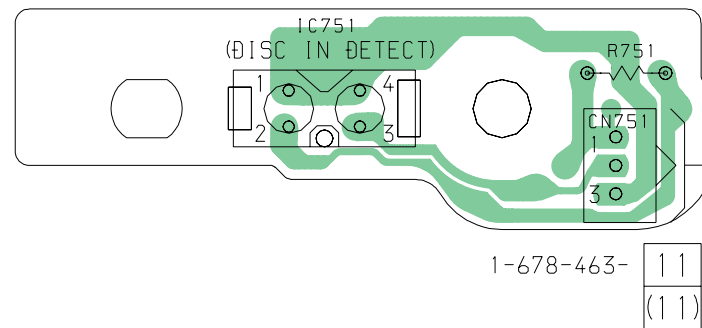
【IN OUT SW BOARD】



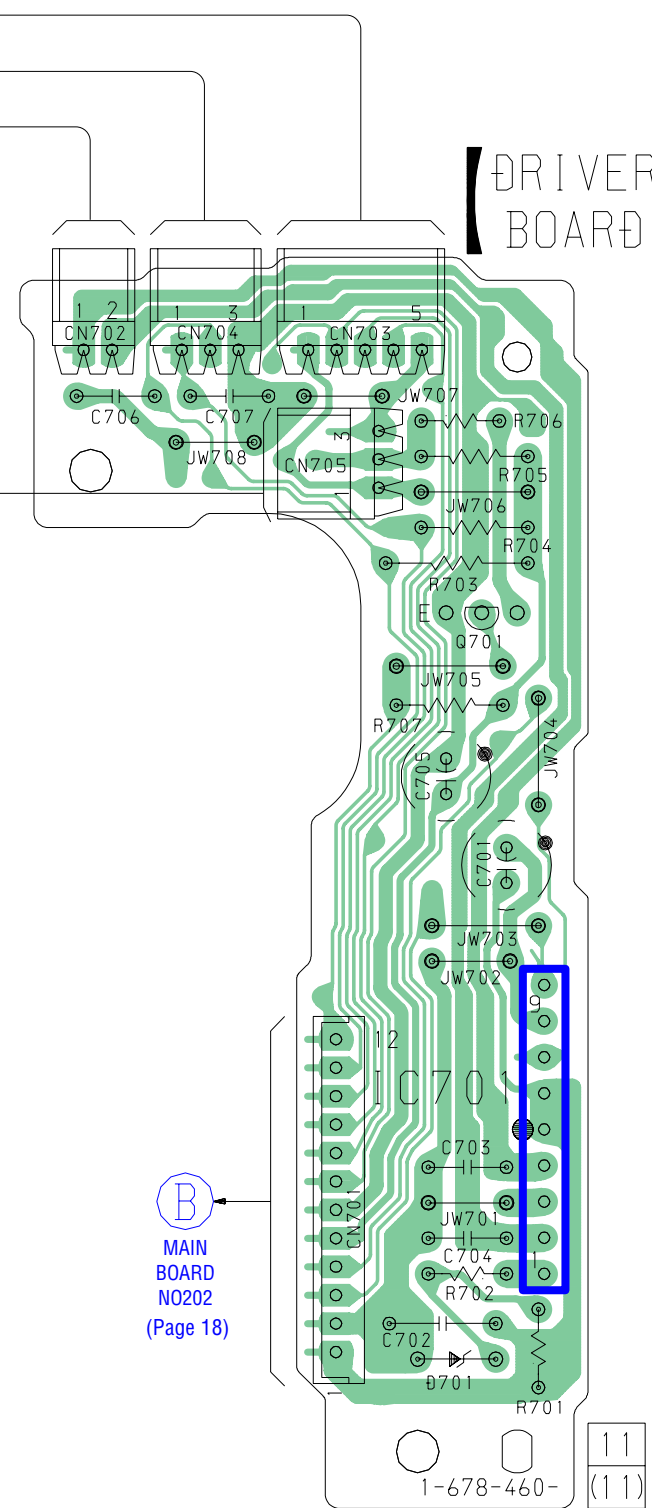
【MOTOR BOARD】



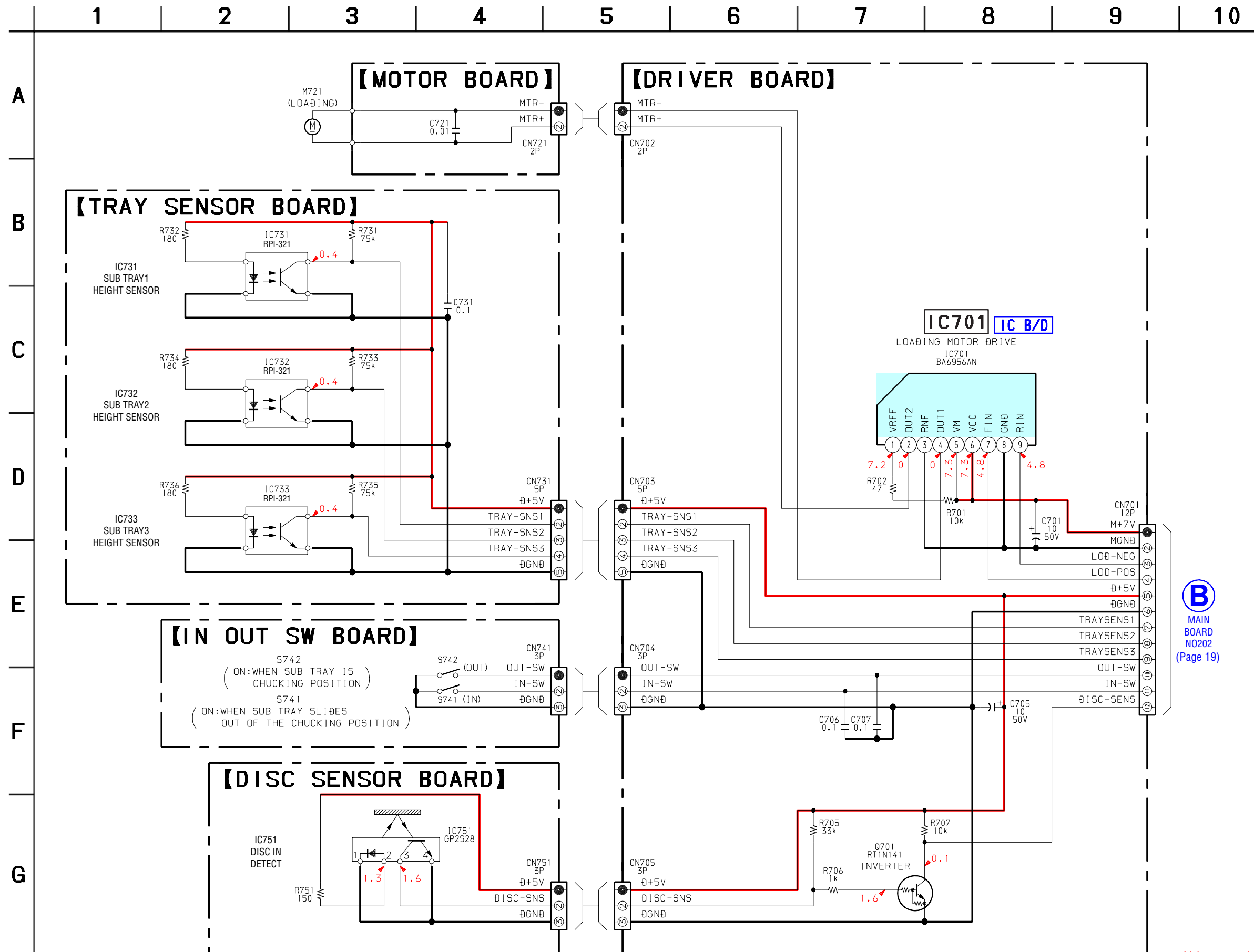
【DISC SENSOR BOARD】



【DRIVER BOARD】

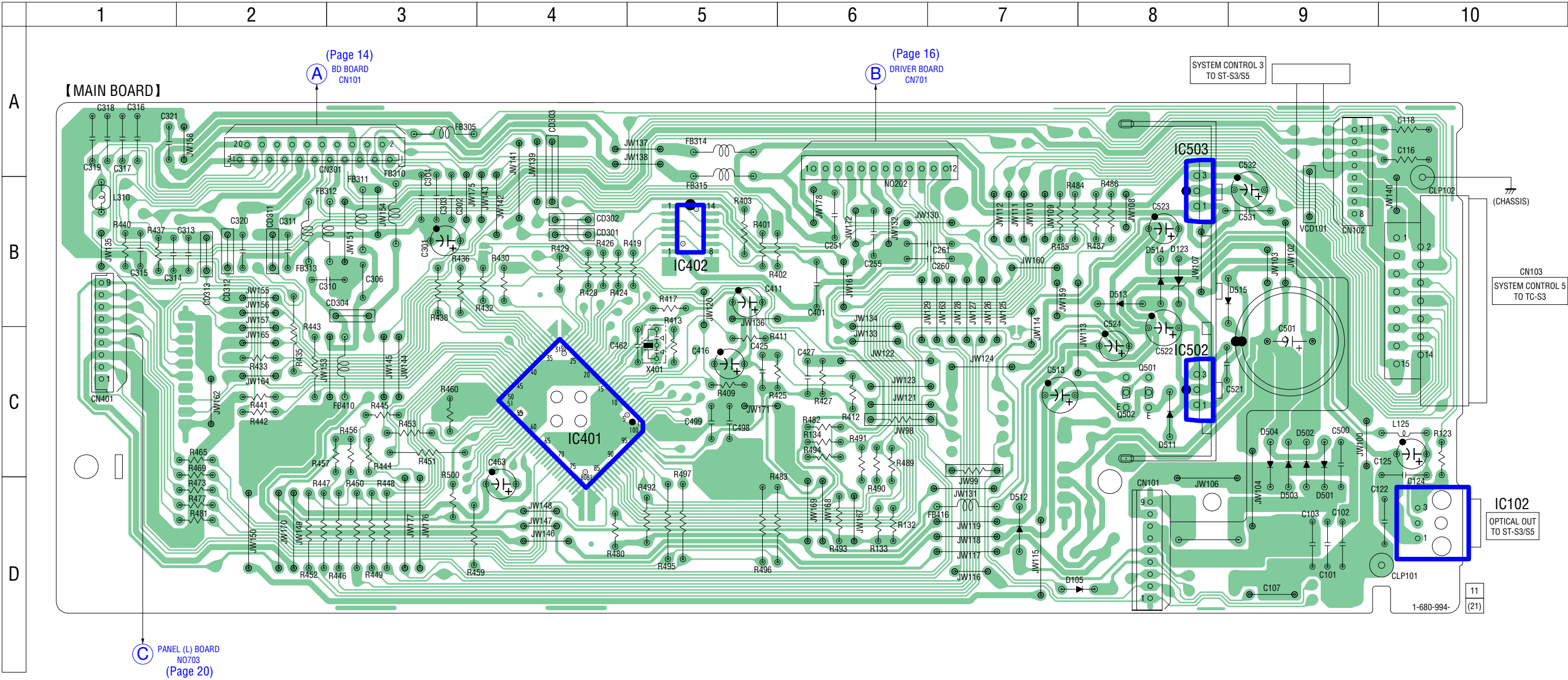


6-5. SCHEMATIC DIAGRAM – CD CHANGER Section – • See page 22 for IC Block Diagram.



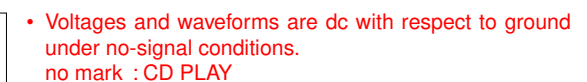
• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : CD STOP

6-6. PRINTED WIRING BOARD – MAIN Section – • See page 13 for Circuit Boards Location.

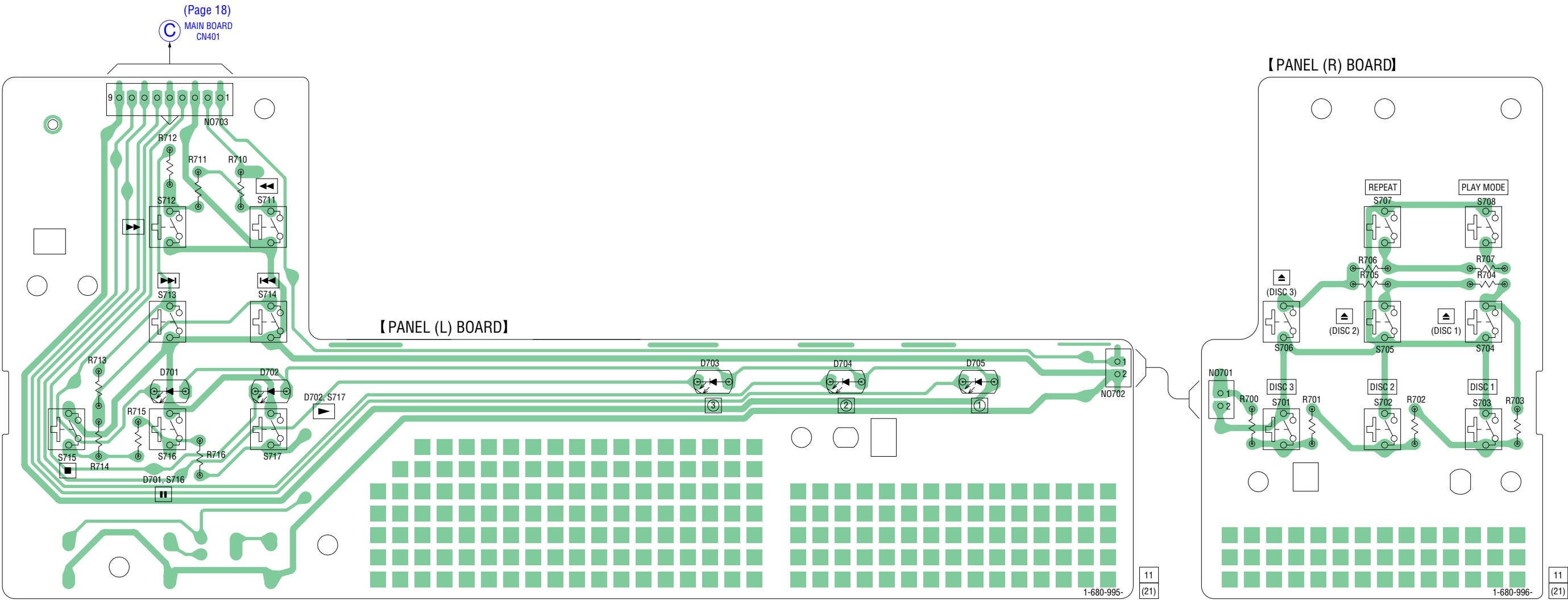


• Semiconductor Location

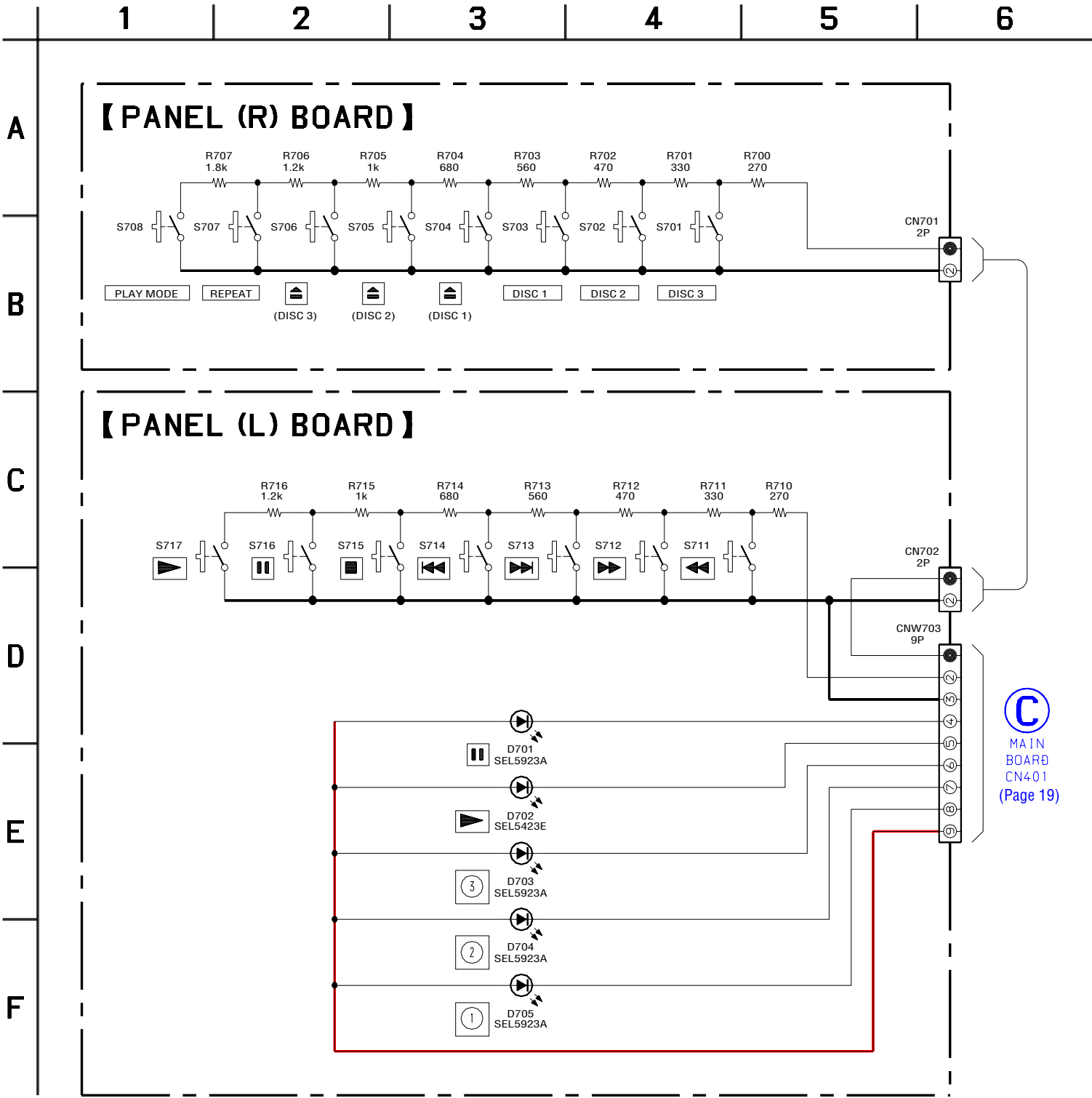
Ref. No.	Location	Ref. No.	Location
D103	D-9	IC102	D-10
D104	D-9	IC401	C-4
D105	D-7	IC402	B-5
D123	B-8	IC502	C-8
D501	C-9	IC503	B-8
D502	C-9		
D503	C-9	Q501	C-8
D504	C-9	Q502	C-8
D511	C-8		
D512	D-7		
D513	B-8		
D514	B-8		



6-8. PRINTED WIRING BOARDS – PANEL Section – • See page 13 for Circuit Boards Location.



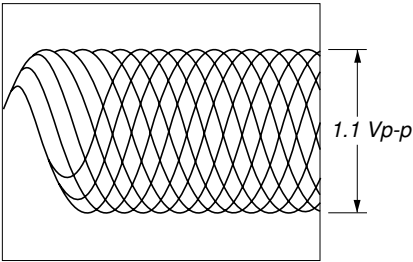
6-9. SCHEMATIC DIAGRAM – PANEL Section –



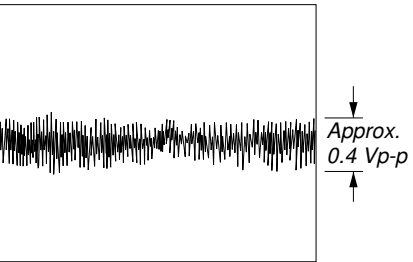
CDP-S3

• Waveforms
– BD Board –

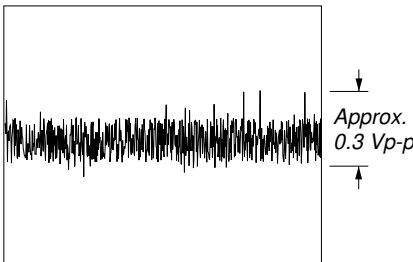
1 IC101 51 (RFAC) (CD Play mode)



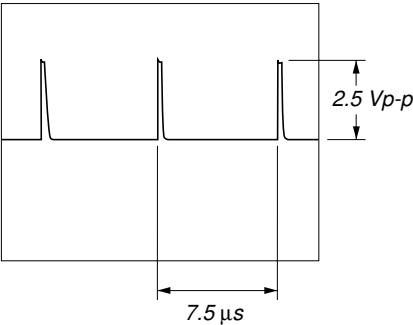
2 IC101 41 (TE) (CD Play mode)



3 IC101 39 (FE) (CD Play mode)

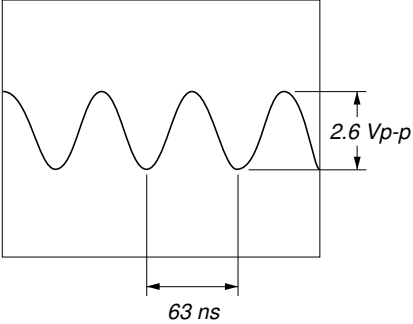


4 IC101 26 (MDP)



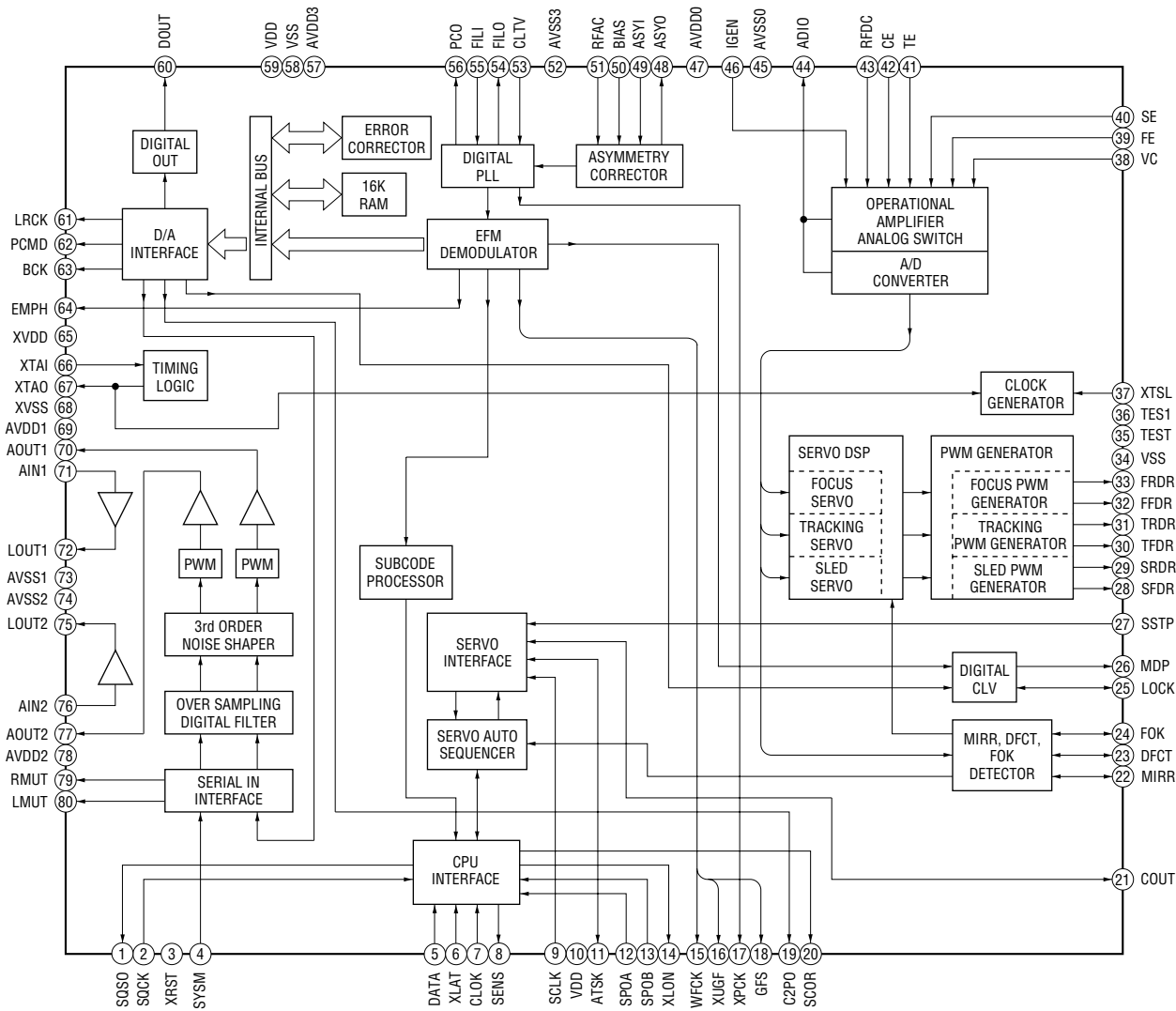
– MAIN Board –

1 IC401 13 (X-OUT)

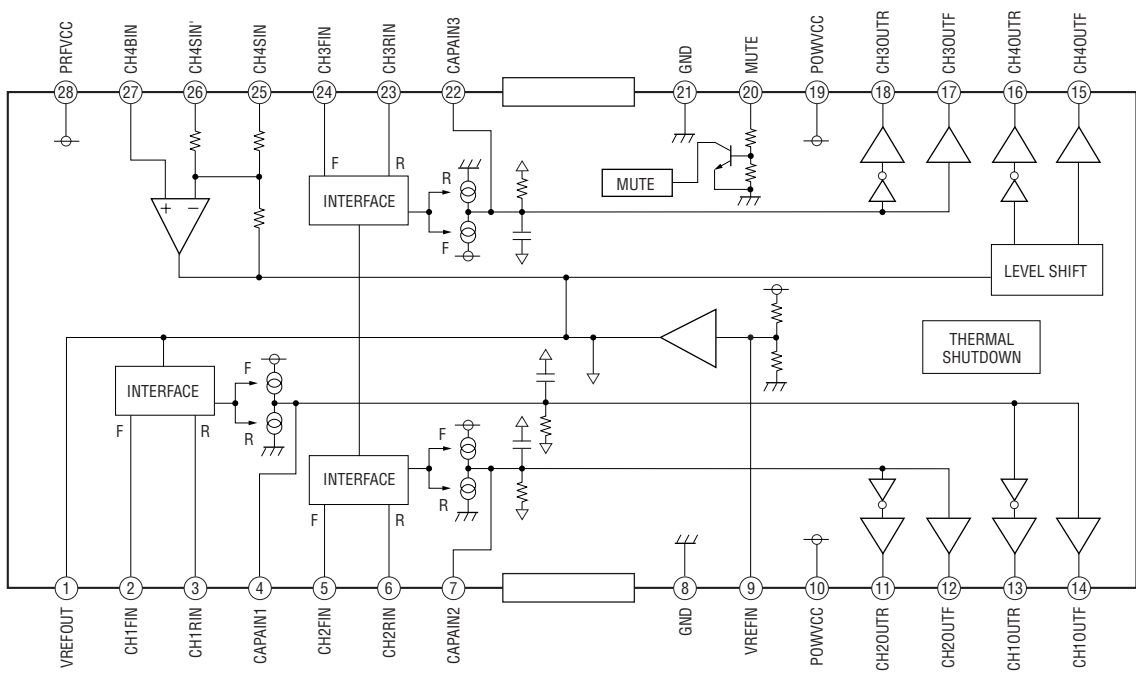


• IC Block Diagrams
– BD Board –

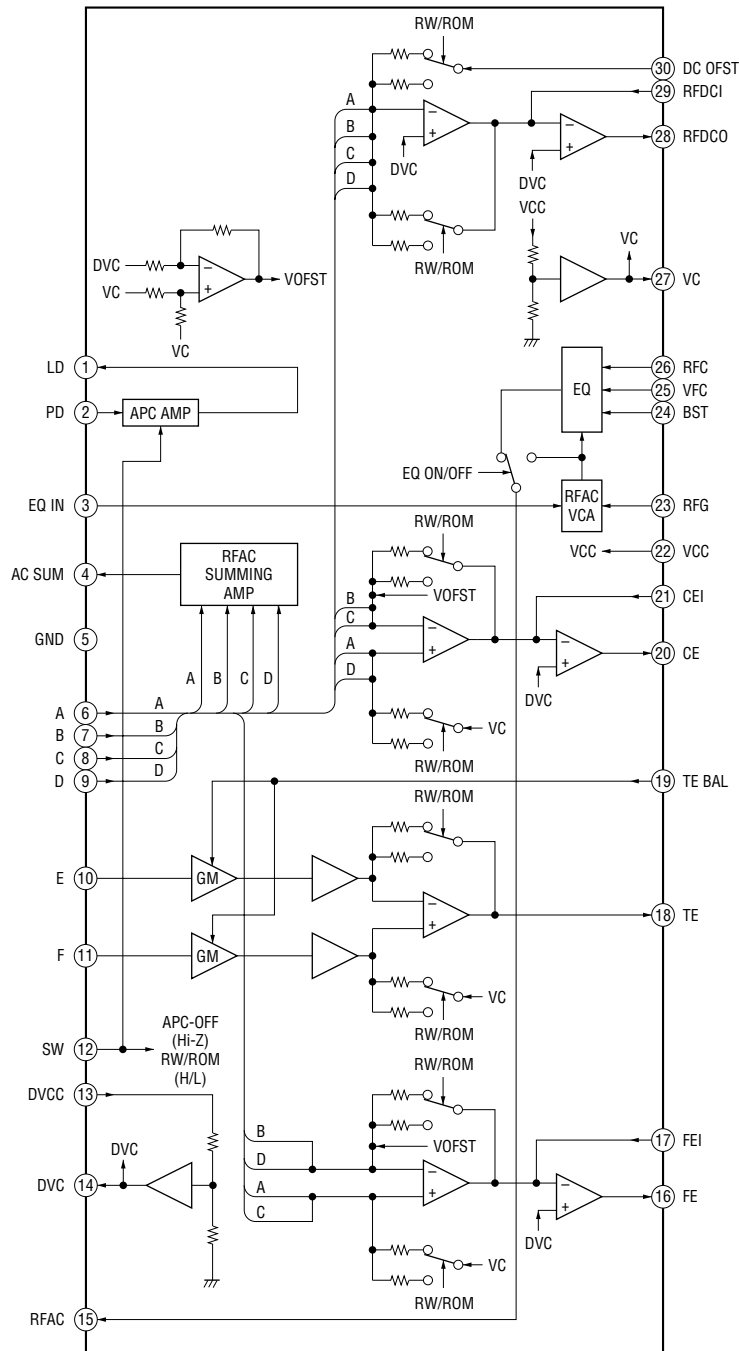
IC101 CXD3017Q



IC102 BA5974FM-E2

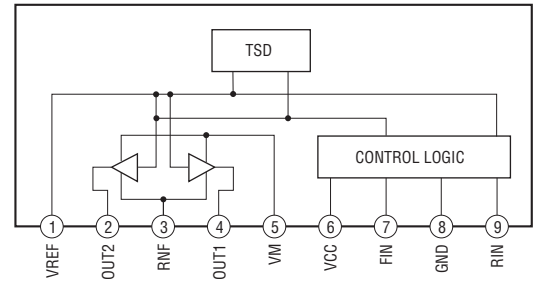


IC103 CXA2581N-T4



– DRIVER Board –

IC701 BA6956AN



6-10. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC401 M30620MAA-B31FP (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1 to 7	—	—	Not used (open)
8	BYTE	I	External data bus line byte selection signal input “L”: 16 bits, “H”: 8 bits Not used (fixed at “L”)
9	CNVSS	—	To flash memory connector
10	—	—	Not used (fixed at “L”)
11	—	—	Not used (open)
12	RESET	I	Reset signal input from the tuner unit (ST-S3/S5)
13	X-OUT	O	System clock output terminal (16 MHz)
14	VSS	—	Ground terminal
15	X-IN	I	System clock input terminal (16 MHz)
16	VCC	—	Power supply terminal (+5V)
17	NMI	I	Non-maskable interrupt input terminal (fixed at “H” in this set)
18	—	—	Not used (open)
19	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD3017Q (IC101)
20 to 23	—	—	Not used (open)
24	BU PWM 3	O	RFDC PWM signal output to the CXA2581N (IC103)
25	—	—	Not used (open)
26	BU PWM 2	O	Tracking error PWM signal output to the CXA2581N (IC103)
27	—	—	Not used (open)
28	BU PWM 1	O	Focus error PWM signal output to the CXA2581N (IC103)
29	IIC-CLK	I/O	Communication data reading clock signal input or transfer clock signal output with the tuner unit (ST-S3/S5)
30	IIC-DATA	I/O	Communication data bus with the tuner system (ST-S3/S5)
31	—	—	Not used
32	SQ-DATA-IN	I	Subcode Q data input from the CXD3017Q (IC101)
33	SQ-CLK	O	Subcode Q data reading clock signal output to the CXD3017Q (IC101)
34	RTS1	—	Not used
35	CD-DATA	O	CD decode data output to the CXD3017Q (IC101)
36	SENS	I	Internal status (SENSE) signal input from the CXD3017Q (IC101)
37	CD-CLK	O	Serial data transfer clock signal output to the CXD3017Q (IC101)
38	CD POWER	O	Power on/off control signal output for the CD mechanism deck section “L”: standby, “H”: power on
39	—	—	Not used (open)
40	HOLD	O	Automatic power control hold signal output to the CXA2581N (IC103)
41	—	—	Not used (fixed at “L”)
42	XLT	O	Serial data latch pulse output to the CXD3017Q (IC101)
43	XRST	O	Reset signal output to the CXD3017Q (IC101)
44	LOAD-IN	O	Loading motor drive signal (load-in direction) output the motor driver (IC701)
45	LOAD-OUT	O	Loading motor drive signal (load-out direction) output the motor driver (IC701)
46	OPEN	I	Sub tray load in/out detect switch (S742) input “L”: sub tray is chucking position
47	CLOSE	I	Sub tray load in/out detect switch (S742) input “L”: sub tray slides out of chucking position
48	T-SENS1	I	Detection input from the disc tray 1 height sensor (IC731) “H”: disc tray 1 position is chucking position
49	T-SENS2	I	Detection input from the disc tray 2 height sensor (IC732) “H”: disc tray 2 position is chucking position

Pin No.	Pin Name	I/O	Description
50	T-SENS3	I	Detection input from the disc tray 3 height sensor (IC733) “H”: disc tray 3 position is chucking position
51	—	—	Not used (fixed at “H”)
52	DISC-SENS	I	Detection input from the disc in detect sensor (IC751)
53	B-TRIG	O	Deck-B trigger plunger drive signal output to the tape deck unit (TC-S3) “H”: trigger plunger on
54	ECO CHECK	—	Not used (fixed at “H”)
55	A-TRIG	O	Deck-A trigger plunger drive signal output to the tape deck unit (TC-S3) “H”: trigger plunger on
56 to 58	—	—	Not used (open)
59	R/PB/PASS	O	Recording/playback/pass selection signal output to the tape deck unit (TC-S3) “L”: recording, center voltage: playback, “H”: pass
60, 61	—	—	Not used (open)
62	VCC	—	Power supply terminal (+5V)
63	SOFT-TEST	O	For software check terminal
64	VSS	—	Ground terminal
65 to 68	LED_DISC1	O	LED drive signal output of the ① indicator (D705) “L”: LED on
69 to 72	LED_DISC2	O	LED drive signal output of the ② indicator (D704) “L”: LED on
73 to 76	LED_DISC3	O	LED drive signal output of the ③ indicator (D703) “L”: LED on
77 to 80	LED_PLAY	O	LED drive signal output of the ► indicator (D702) “L”: LED on
81 to 83	LED_PAUSE	O	LED drive signal output of the ■■ indicator (D701) “L”: LED on
84	EXP-IN DATA	I	Serial data input from the tape deck unit (TC-S3)
85	EXP-OUT DATA	O	Serial data output to the tape deck unit (TC-S3)
86	EXP-LAT	O	Serial data latch pulse signal output to the tape deck unit (TC-S3)
87	EXP-CLK	O	Serial data transfer clock signal output to the tape deck unit (TC-S3)
88	LED_PAUSE	O	LED drive signal output of the ■■ indicator (D701) “L”: LED on
89	A-SHUT	I	Shut off (desk-A) detection signal input from the tape deck unit (TC-S3)
90	B-SHUT	I	Shut off (desk-B) detection signal input from the tape deck unit (TC-S3)
91	B-HALF	I	Detection input from the deck-B cassette detect switch of the tape deck unit (TC-S3) “L”: cassette in
92	MODEL-IN	I	Model destination setting terminal
93	KEY3	—	Not used (open)
94	KEY2 (TC)	I	Key input from the tape deck unit (TC-S3) (A/D input)
95	KEY1 (CD)	I	Key input terminal (A/D input) (S711 to S717) ◀◀, ▶▶, ◀◀, ▶▶, ■, ■■, ▶ keys input
96	AVSS	—	Ground terminal (for A/D conversion)
97	KEY1 (CD)	I	Key input terminal (A/D input) (S701 to S708) DISC 3, DISC 2, DISC 1, ▲ (DISC1), ▲ (DISC2), ▲ (DISC3), REPEAT, PLAY MODE keys input
98	VREF	I	Reference voltage (+5V) input terminal (for A/D converter)
99	AVCC	—	Power supply terminal (+5V) (for A/D conversion)
100	—	—	Not used (open)

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)

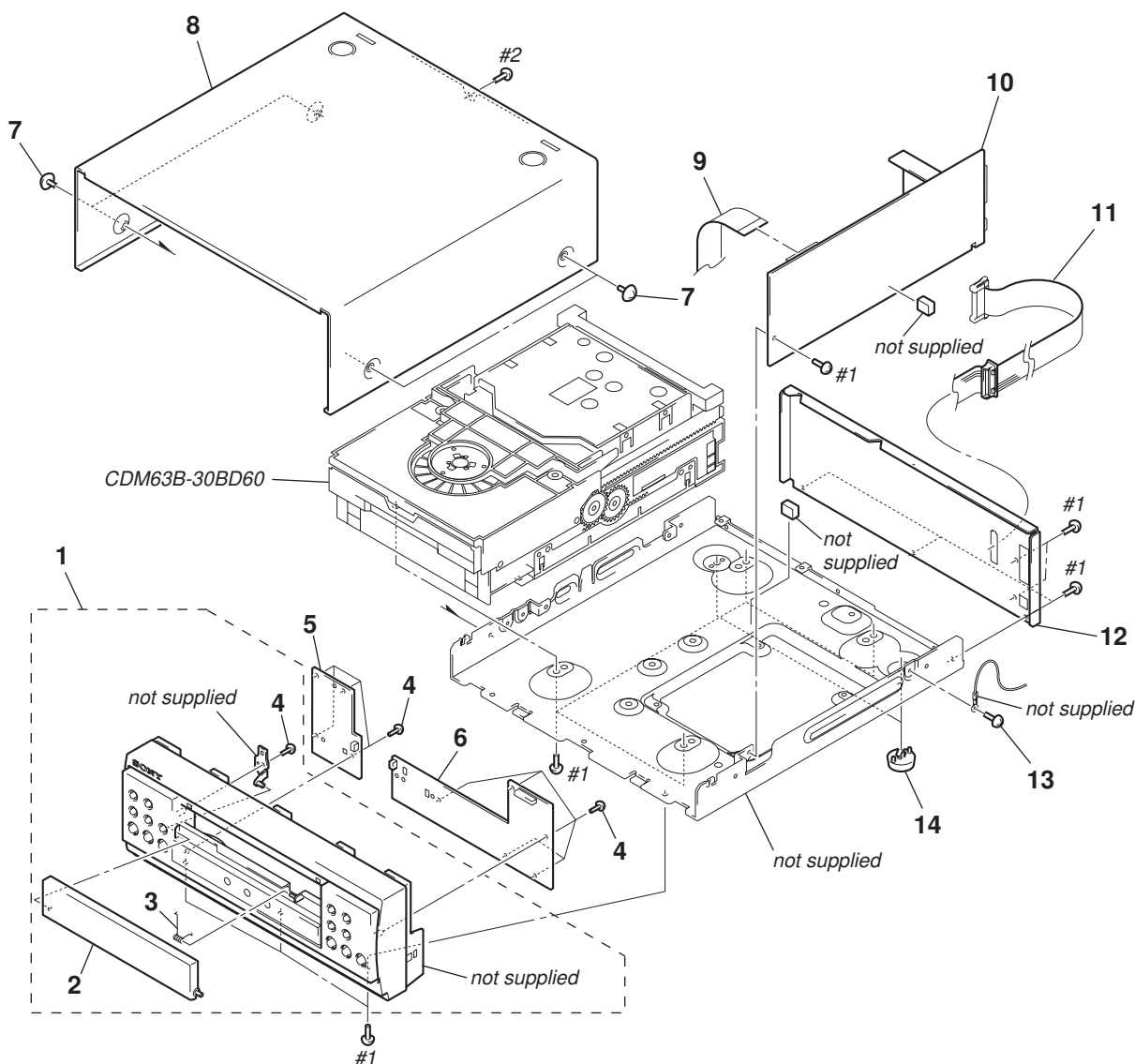
↑
Parts Color

↑
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.

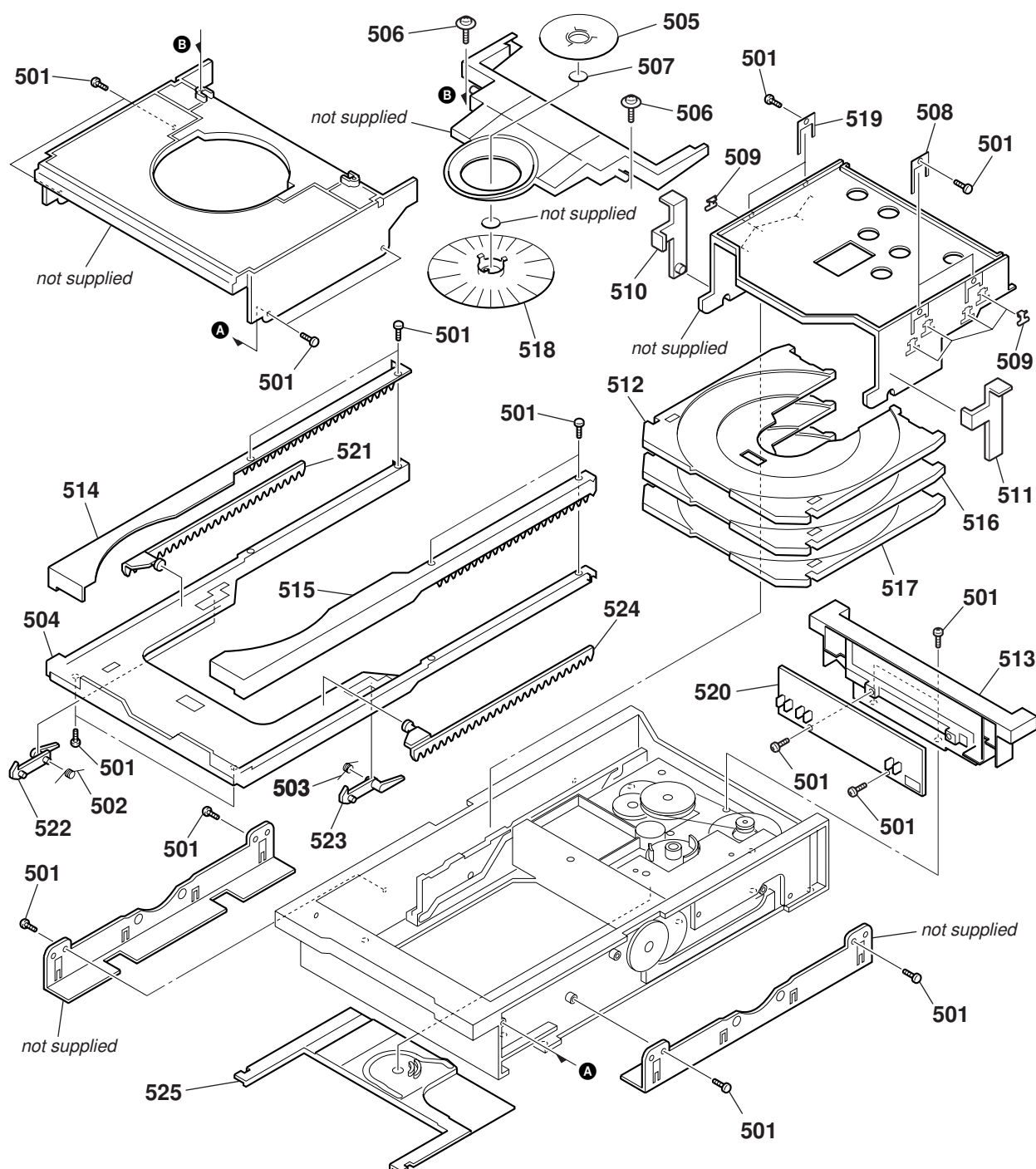
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

7-1. GENERAL SECTION



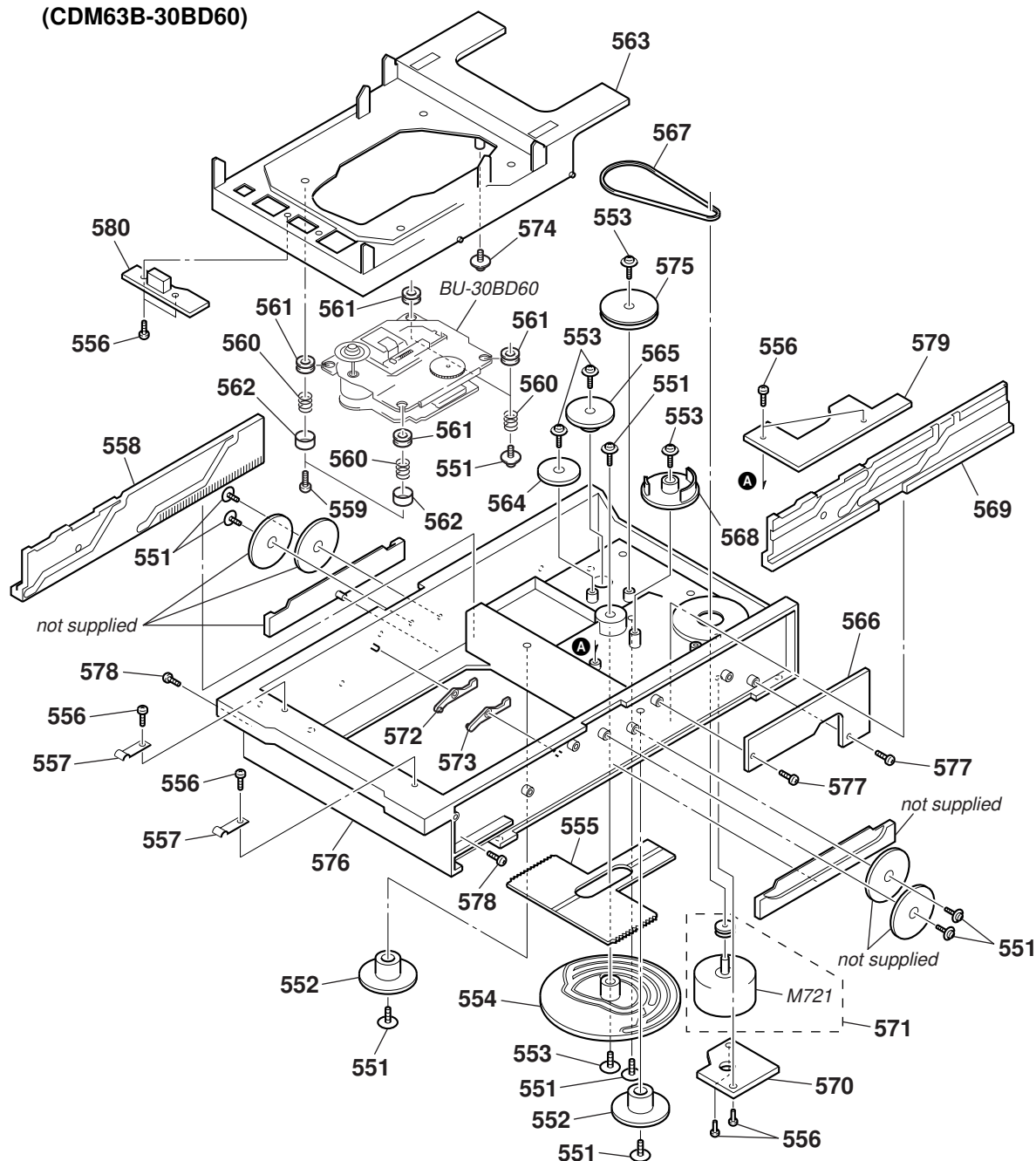
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-4953-613-1	PANEL ASSY, FRONT		10	A-4725-658-A	MAIN BOARD, COMPLETE	
2	4-233-136-01	LID (CD)		11	1-757-633-11	CORD (WITH CONNECTOR) 17P	
3	4-233-147-01	SPRING (CD)		12	4-233-135-01	PANEL, BACK (AEP, UK)	
4	4-951-620-01	SCREW (2.6X8), +BVTP		12	4-233-135-11	PANEL, BACK (Korea, Australian)	
5	1-680-996-11	PANEL (R) BOARD		12	4-233-135-31	PANEL, BACK (Mexican)	
6	1-680-995-11	PANEL (L) BOARD		13	3-970-608-01	SUMITITE (B3), +BV	
7	3-363-099-21	SCREW (CASE 3 TP2)		14	4-965-822-01	FOOT	
8	4-233-134-11	COVER		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
9	1-823-055-11	WIRE (FLAT TYPE) (21 CORE)		#2	7-685-871-01	SCREW +BVTT 3X6 (S)	

7-2. CD MECHANISM DECK SECTION-1 (CDM63B-30BD60)



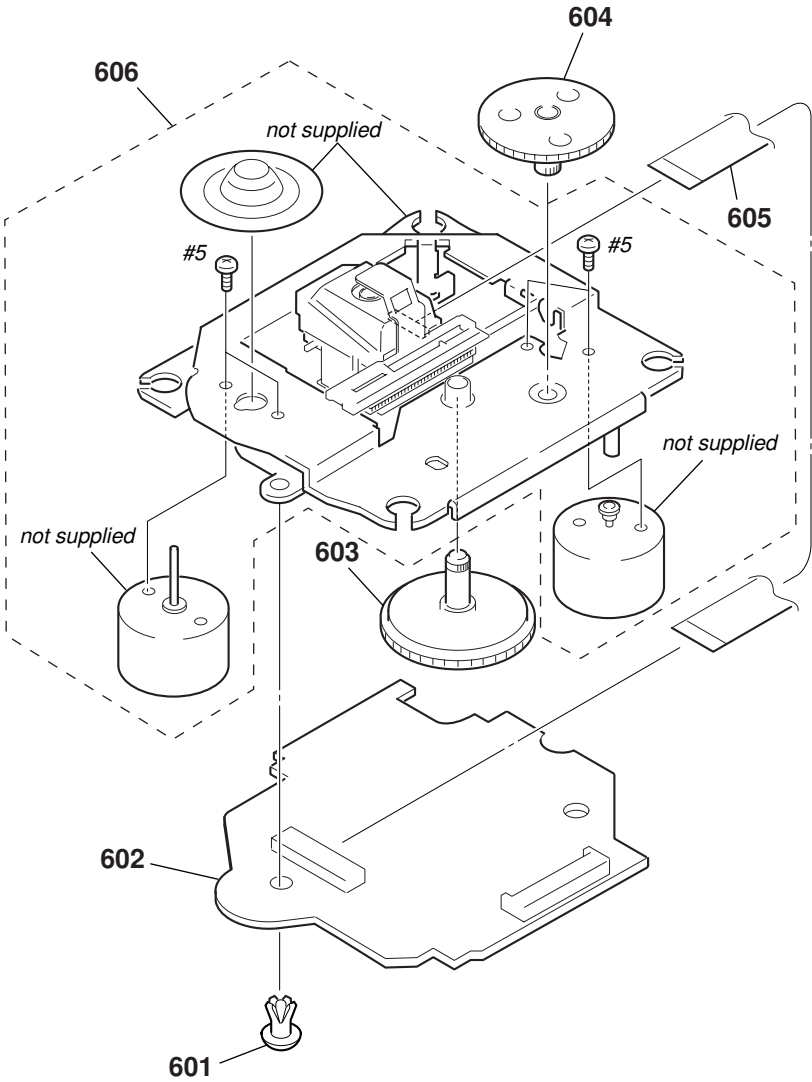
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
501	4-218-253-01	SCREW (M2.6), +BTTP		514	4-228-975-02	COVER (TRAY. L)	
502	4-228-996-01	SPRING (R), TORSION		515	4-228-978-02	COVER (TRAY. R)	
503	4-228-995-01	SPRING (L), TORSION		516	4-228-970-12	TRAY (SUB)	
504	4-228-972-02	TRAY (MAIN)		517	4-228-970-22	TRAY (SUB)	
505	4-231-971-01	PULLEY (30B), CHUCKING		518	X-4953-307-1	PULLEY (A) ASSY, CHUCKING	
506	4-985-672-01	SCREW (+PTPWH M2.6), FLOATING		519	4-234-423-01	SPRING (STOCKER L), LEAF	
507	4-228-414-01	BRACKET (YOKE)		520	1-678-457-11	TRAY SENSOR BOARD	
508	4-228-980-01	SPRING (STOCKER), LEAF		521	4-228-986-02	RACK (TRAY.L)	
509	4-228-981-02	STOPPER (TRAY)		522	4-228-990-03	LEVER (SUB.L)	
510	4-228-963-01	SLIDER (STOCKER. L)		523	4-228-991-03	LEVER (SUB.R)	
511	4-228-964-01	SLIDER (STOCKER. R)		524	4-228-987-02	RACK (TRAY.R)	
512	4-228-970-02	TRAY (SUB)		525	4-228-993-05	SLIDER (LOADING)	
513	4-229-001-01	HOLDER (SENSOR)					

7-3. CD MECHANISM DECK SECTION-2 (CDM63B-30BD60)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
551	4-985-672-01	SCREW (+PTPWH M2.6), FLOATING		567	4-228-968-01	BELT	
552	4-229-002-02	GEAR (SLIDER)		568	4-228-998-01	GEAR (DETECTION)	
553	4-218-254-21	SCREW (M2.6), +PTPWH		569	4-228-976-01	SLIDER (BU. R)	
554	4-228-971-01	CAM		570	1-678-461-11	MOTOR BOARD	
555	4-228-974-02	RACK (CENTER)		571	X-4952-971-2	MOTOR ASSY	
556	4-218-253-01	SCREW (M2.6), +BTTP		572	4-228-999-02	LEVER (MAIN. L)	
557	4-228-969-02	SPRING (TABLE), LEAF		573	4-229-000-02	LEVER (MAIN. R)	
558	4-228-977-01	SLIDER (BU. L)		574	4-227-899-01	SCREW (DIA. 12), FLOATING	
559	4-951-620-01	SCREW (2.6X8), +BVTP		575	4-229-003-01	PULLEY	
560	4-227-045-11	SPRING (INSULATOR), COIL		576	4-228-988-01	CHASSIS	
561	4-231-451-01	INSULATOR (BU-30)		577	4-218-253-61	SCREW (M2.6), +BTTP	
562	4-231-151-01	STOPPER (BU)		578	4-218-253-71	SCREW (M2.6), +BTTP	
563	4-231-517-03	HOLDER (BU30)		579	1-678-462-11	IN OUT SW BOARD	
564	4-228-985-01	GEAR (PULLEY)		580	1-678-463-11	DISC SENSOR BOARD	
565	4-228-997-02	GEAR (CAM)		M721	1-541-632-12	MOTOR, DC (LOADING)	
566	1-678-460-11	DRIVER BOARD					

7-4. BASE UNIT SECTION
(BU-30BD60)



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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
601	3-531-576-11	RIVET		605	1-757-710-11	WIRE (FLAT TYPE) (16 CORE)	
602	A-4725-531-A	BD BOARD, COMPLETE		$\triangle$ 606	A-4735-188-A	BU-30 (60) ASSY	
603	4-233-832-01	GEAR (LB)		#5	7-627-853-28	SCREW, PRECISION +P 2X3 TYPE3	
604	4-233-831-01	GEAR (LA)					

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. . : μ A. . uPA. . : μ PA. .
uPB. . : μ PB. . uPC. . : μ PC. .
uPD. . : μ PD. .
- CAPACITORS
uF: μ F
- COILS
uH: μ H

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-4725-531-A	BD BOARD, COMPLETE					

		< CAPACITOR >					
C101	1-162-967-11	CERAMIC CHIP	0.0033uF 10% 50V	C191	1-124-584-00	ELECT	100uF 20% 10V
C102	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	C192	1-163-038-11	CERAMIC CHIP	0.1uF 25V
C103	1-162-962-11	CERAMIC CHIP	470PF 10% 50V	C193	1-104-665-11	ELECT	100uF 20% 10V
C104	1-162-962-11	CERAMIC CHIP	470PF 10% 50V	C194	1-163-038-11	CERAMIC CHIP	0.1uF 25V
C108	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	C195	1-163-038-11	CERAMIC CHIP	0.1uF 25V
C109	1-162-965-11	CERAMIC CHIP	0.0015uF 10% 50V	C196	1-163-038-11	CERAMIC CHIP	0.1uF 25V
C110	1-162-967-11	CERAMIC CHIP	0.0033uF 10% 50V	C197	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C111	1-162-927-11	CERAMIC CHIP	100PF 5% 50V	C198	1-124-584-00	ELECT	100uF 20% 10V
C112	1-109-982-11	CERAMIC CHIP	1uF 10% 10V			< CONNECTOR >	
C114	1-163-038-11	CERAMIC CHIP	0.1uF 25V	CN101	1-568-864-11	CONNECTOR, FFC 21P	
C116	1-104-665-11	ELECT	100uF 20% 10V	CN102	1-793-907-11	CONNECTOR, FFC/FPC 16P	
C117	1-104-665-11	ELECT	100uF 20% 10V			< DIODE >	
C118	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	D101	8-719-422-12	DIODE UDZ-TE-17-3.9B	
C121	1-163-038-11	CERAMIC CHIP	0.1uF 25V			< FERRITE BEAD >	
C122	1-124-584-00	ELECT	100uF 20% 10V	FB101	1-500-445-21	FERRITE	0uH
C123	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	FB102	1-500-445-21	FERRITE	0uH
C124	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V			< IC >	
C125	1-163-038-11	CERAMIC CHIP	0.1uF 25V	IC101	8-752-402-31	IC CXD3017Q	
C126	1-163-038-11	CERAMIC CHIP	0.1uF 25V	IC102	8-759-827-41	IC BA5974FM-E2	
C127	1-124-584-00	ELECT	100uF 20% 10V	IC103	8-752-089-74	IC CXA2581N-T4	
C129	1-162-974-11	CERAMIC CHIP	0.01uF 50V			< SHORT >	
C130	1-163-038-11	CERAMIC CHIP	0.1uF 25V	JR101	1-216-295-11	SHORT	0
C131	1-104-665-11	ELECT	100uF 20% 10V	JR102	1-216-295-11	SHORT	0
C133	1-162-921-11	CERAMIC CHIP	33PF 5% 50V	JR103	1-216-295-11	SHORT	0
C143	1-163-038-11	CERAMIC CHIP	0.1uF 25V	JR104	1-216-295-11	SHORT	0
C145	1-163-038-11	CERAMIC CHIP	0.1uF 25V	JR105	1-216-295-11	SHORT	0
C153	1-163-038-11	CERAMIC CHIP	0.1uF 25V	JR106	1-216-295-11	SHORT	0
C159	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	JR122	1-216-296-11	SHORT	0
C162	1-104-665-11	ELECT	100uF 20% 10V	JR123	1-216-296-11	SHORT	0
C165	1-163-038-11	CERAMIC CHIP	0.1uF 25V	JR124	1-216-296-11	SHORT	0
C167	1-162-919-11	CERAMIC CHIP	22PF 5% 50V	JR125	1-216-296-11	SHORT	0
C168	1-162-921-11	CERAMIC CHIP	33PF 5% 50V			< COIL >	
C171	1-115-412-11	CERAMIC CHIP	680PF 5% 25V	L101	1-469-553-21	INDUCTOR	4.7uH
C172	1-162-927-11	CERAMIC CHIP	100PF 5% 50V			< TRANSISTOR >	
C181	1-115-412-11	CERAMIC CHIP	680PF 5% 25V	Q101	8-729-010-08	TRANSISTOR	MSB710-RT1
C182	1-162-927-11	CERAMIC CHIP	100PF 5% 50V				
C183	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V				
C184	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V				
C185	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V				
C190	1-115-156-11	CERAMIC CHIP	1uF 10V				

BD						DISC SENSOR						DRIVER						IN OUT SW						MAIN					
Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark																			
Q102	8-729-920-85	TRANSISTOR	2SD1664-T100-QR					1-678-463-11	DISC SENSOR BOARD	*****																			
		< RESISTOR >							< PHOTO REFLECTOR >																				
R101	1-216-049-11	RES-CHIP	1K	5%	1/10W																								
R102	1-216-097-11	RES-CHIP	100K	5%	1/10W	IC751	8-749-924-30	PHOTO REFLECTOR	GP2S28	(DISC IN DETECT)																			
R103	1-216-077-00	RES-CHIP	15K	5%	1/10W			< RESISTOR >																					
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W																								
R105	1-216-049-11	RES-CHIP	1K	5%	1/10W																								
R106	1-216-049-11	RES-CHIP	1K	5%	1/10W	R751	1-249-407-11	CARBON	150	5%	1/4W	*****																	
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W																								
R108	1-216-061-00	METAL CHIP	3.3K	5%	1/10W																								
R109	1-216-121-11	RES-CHIP	1M	5%	1/10W		1-678-460-11	DRIVER BOARD	*****																				
R111	1-216-099-00	METAL CHIP	120K	5%	1/10W			< CAPACITOR >																					
R114	1-218-745-11	RES-CHIP	160K	5%	1/16W																								
R116	1-216-001-00	METAL CHIP	10	5%	1/10W	C701	1-124-261-00	ELECT	10uF	20%	50V																		
R117	1-216-049-11	RES-CHIP	1K	5%	1/10W	C705	1-124-261-00	ELECT	10uF	20%	50V																		
R118	1-216-025-11	RES-CHIP	100	5%	1/10W	C706	1-164-159-11	CERAMIC	0.1uF	50V																			
R119	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	C707	1-164-159-11	CERAMIC	0.1uF	50V																			
R120	1-216-077-00	RES-CHIP	15K	5%	1/10W			< CONNECTOR >																					
R122	1-216-097-11	RES-CHIP	100K	5%	1/10W	CN701	1-785-324-11	PIN, CONNECTOR (STRAIGHT)	12P																				
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W	CN702	1-785-328-11	PIN, CONNECTOR (LIGHT ANGRE)	2P																				
R124	1-216-097-11	RES-CHIP	100K	5%	1/10W	CN703	1-785-331-11	PIN, CONNECTOR (LIGHT ANGLE)	5P																				
R131	1-216-033-00	METAL CHIP	220	5%	1/10W	CN704	1-785-329-11	PIN, CONNECTOR (LIGHT ANGLE)	3P																				
R143	1-216-085-00	METAL CHIP	33K	5%	1/10W	CN705	1-785-329-21	PIN, CONNECTOR (LIGHT ANGLE)	3P																				
R144	1-216-085-00	METAL CHIP	33K	5%	1/10W			< IC >																					
R147	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	IC701	8-759-598-69	IC	BA6956AN																				
R148	1-216-001-00	METAL CHIP	10	5%	1/10W			< TRANSISTOR >																					
R149	1-216-001-00	METAL CHIP	10	5%	1/10W																								
R158	1-216-083-00	METAL CHIP	27K	5%	1/10W	Q701	8-729-029-66	TRANSISTOR	RT1N141S-TP																				
R159	1-216-083-00	METAL CHIP	27K	5%	1/10W			< RESISTOR >																					
R162	1-216-097-11	RES-CHIP	100K	5%	1/10W																								
R171	1-216-081-00	METAL CHIP	22K	5%	1/10W																								
R172	1-216-081-00	METAL CHIP	22K	5%	1/10W																								
R173	1-216-081-00	METAL CHIP	22K	5%	1/10W																								
R181	1-216-081-00	METAL CHIP	22K	5%	1/10W	R701	1-249-429-11	CARBON	10K	5%	1/4W																		
R182	1-216-081-00	METAL CHIP	22K	5%	1/10W	R702	1-249-401-11	CARBON	47	5%	1/4W																		
R183	1-216-081-00	METAL CHIP	22K	5%	1/10W	R705	1-249-435-11	CARBON	33K	5%	1/4W																		
R190	1-216-033-00	METAL CHIP	220	5%	1/10W	R706	1-249-417-11	CARBON	1K	5%	1/4W																		
R191	1-216-085-00	METAL CHIP	33K	5%	1/10W	R707	1-249-429-11	CARBON	10K	5%	1/4W	*****																	
R192	1-216-085-00	METAL CHIP	33K	5%	1/10W																								
R193	1-216-099-00	METAL CHIP	120K	5%	1/10W		1-678-462-11	IN OUT SW BOARD	*****																				
R194	1-216-097-11	RES-CHIP	100K	5%	1/10W			< SWITCH >																					
R195	1-216-113-00	METAL CHIP	470K	5%	1/10W	S741	1-771-821-11	SWITCH, PUSH (1 KEY) (IN)																					
R196	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	S742	1-771-821-11	SWITCH, PUSH (1 KEY) (OUT)	*****																				
R198	1-216-295-11	SHORT	0																										
		< COMPOSITION CIRCUIT BLOCK >																											
RN101	1-233-576-11	RES, CHIP NETWORK 100						A-4725-658-A	MAIN BOARD, COMPLETE	*****																			
		< VARIABLE RESISTOR >																											
RV101	1-238-602-11	RES, ADJ, CARBON 47K						7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S																				
		< VIBRATOR >							< CAPACITOR/RESISTOR >																				
X101	1-579-280-11	VIBRATOR, CRYSTAL (16.9344MHz)	*****				C101	1-164-159-11	CERAMIC	0.1uF	50V																		
							C102	1-164-159-11	CERAMIC	0.1uF	50V																		
							C103	1-164-159-11	CERAMIC	0.1uF	50V																		
							C116	1-249-417-11	CARBON	1K	5%	1/4W																	
							C118	1-249-417-11	CARRON	1K	5%	1/4W																	

MAIN

Ref. No.	Part No.	Description	Remark		Ref. No.	Part No.	Description	Remark	
C122	1-161-494-00	CERAMIC	0.022uF	25V	D513	8-719-024-99	DIODE 11ES2-NTA2B		
C124	1-164-159-11	CERAMIC	0.1uF	50V	D514	8-719-024-99	DIODE 11ES2-NTA2B		
C125	1-126-923-11	ELECT	220uF	20% 10V	D515	8-719-024-99	DIODE 11ES2-NTA2B		
C251	1-161-494-00	CERAMIC	0.022uF	25V	< FERRITE BEAD >				
C255	1-161-494-00	CERAMIC	0.022uF	25V	FB305	1-412-473-21	INDUCTOR	0uH	
C260	1-161-494-00	CERAMIC	0.022uF	25V	FB310	1-412-473-21	INDUCTOR	0uH	
C301	1-126-959-11	ELECT	0.47uF	20% 50V	FB311	1-412-473-21	INDUCTOR	0uH	
C302	1-162-600-11	CERAMIC	0.0047uF	20% 16V	FB312	1-412-473-21	INDUCTOR	0uH	
C303	1-162-306-11	CERAMIC	0.01uF	20% 16V	FB313	1-412-473-21	INDUCTOR	0uH	
C304	1-161-494-00	CERAMIC	0.022uF	25V	FB314	1-412-473-21	INDUCTOR	0uH	
C310	1-161-494-00	CERAMIC	0.022uF	25V	FB315	1-412-473-21	INDUCTOR	0uH	
C311	1-162-306-11	CERAMIC	0.01uF	20% 16V	FB410	1-412-473-21	INDUCTOR	0uH	
C313	1-162-286-31	CERAMIC	220PF	10% 50V	FB416	1-412-473-21	INDUCTOR	0uH	
C314	1-162-282-31	CERAMIC	100PF	10% 50V	< IC >				
C315	1-162-282-31	CERAMIC	100PF	10% 50V	IC102	8-749-019-13	IC TOTX140 (OPTICAL OUT TO ST-S3/S5)		
C316	1-162-282-31	CERAMIC	100PF	10% 50V	IC401	8-759-827-46	IC M30620MAA-B31FP		
C317	1-162-282-31	CERAMIC	100PF	10% 50V	IC402	8-759-269-09	IC SN74HCT04ANS-E05		
C318	1-162-282-31	CERAMIC	100PF	10% 50V	IC502	8-759-158-62	IC TA78057S		
C319	1-162-282-31	CERAMIC	100PF	10% 50V	IC503	8-759-071-48	IC TA7807S		
C320	1-162-306-11	CERAMIC	0.01uF	20% 16V	< RESISTOR >				
C321	1-161-494-00	CERAMIC	0.022uF	25V	JW98	1-247-807-31	CARBON	100	5% 1/4W
C401	1-161-494-00	CERAMIC	0.022uF	25V	JW99	1-247-807-31	CARBON	100	5% 1/4W
C411	1-126-960-11	ELECT	1uF	20% 50V	< COIL >				
C416	1-126-964-11	ELECT	10uF	20% 50V	L125	1-410-336-11	INDUCTOR	220uH	
C425	1-162-282-31	CERAMIC	100PF	10% 50V	L310	1-410-467-11	INDUCTOR	5.6uH	
C427	1-162-282-31	CERAMIC	100PF	10% 50V	< TRANSISTOR >				
C462	1-161-494-00	CERAMIC	0.022uF	25V	Q501	8-729-049-79	TRANSISTOR	RT1P137S-TP	
C463	1-126-964-11	ELECT	10uF	20% 50V	Q502	8-729-900-80	TRANSISTOR	BA1A4M-TP	
C498	1-161-494-00	CERAMIC	0.022uF	25V	< RESISTOR >				
C499	1-161-494-00	CERAMIC	0.022uF	25V	R123	1-247-807-31	CARBON	100	5% 1/4W
C500	1-164-159-11	CERAMIC	0.1uF	50V	R132	1-247-876-11	CARBON	75K	5% 1/4W
C501	1-126-937-11	ELECT	4700uF	20% 16V	R133	1-247-876-11	CARBON	75K	5% 1/4W
C513	1-126-935-11	ELECT	470uF	20% 10V	R134	1-249-417-11	CARBON	1K	5% 1/4W
C521	1-164-159-11	CERAMIC	0.1uF	50V	R401	1-247-807-31	CARBON	100	5% 1/4W
C522	1-126-935-11	ELECT	470uF	20% 10V	R402	1-247-807-31	CARBON	100	5% 1/4W
C523	1-126-934-11	ELECT	220uF	20% 10V	R403	1-247-807-31	CARBON	100	5% 1/4W
C524	1-126-934-11	ELECT	220uF	20% 10V	R409	1-249-429-11	CARBON	10K	5% 1/4W
C531	1-164-159-11	CERAMIC	0.1uF	50V	R411	1-247-807-31	CARBON	100	5% 1/4W
C532	1-126-935-11	ELECT	470uF	20% 10V	R412	1-249-429-11	CARBON	10K	5% 1/4W
< CONNECTOR >					R413	1-249-411-11	CARBON	330	5% 1/4W
* CN101	1-568-419-11	PIN, CONNECTOR 9P			R417	1-249-429-11	CARBON	10K	5% 1/4W
CN102	1-568-373-11	PIN, CONNECTOR 8P			R419	1-247-807-31	CARBON	100	5% 1/4W
CN103	1-566-859-11	SOCKET, CONNECTOR 15P			R424	1-249-421-11	CARBON	2.2K	5% 1/4W
		(SYSTEM CONTROL 5 TO TC-S3)			R425	1-249-425-11	CARBON	4.7K	5% 1/4W
CN301	1-568-838-11	CONNECTOR, FFC 21P			R426	1-247-887-00	CARBON	220K	5% 1/4W
* CN401	1-568-936-11	PIN, CONNECTOR 9P			R427	1-249-425-11	CARBON	4.7K	5% 1/4W
< DIODE >					R428	1-249-441-11	CARBON	100K	5% 1/4W
D105	8-719-911-19	DIODE 1SS133T-72			R429	1-247-807-31	CARBON	100	5% 1/4W
D123	8-719-982-96	DIODE MTZJ-T-72-2.2A			R430	1-247-807-31	CARBON	100	5% 1/4W
D501	8-719-024-99	DIODE 11ES2-NTA2B			R432	1-247-807-31	CARBON	100	5% 1/4W
D502	8-719-024-99	DIODE 11ES2-NTA2B			R433	1-247-807-31	CARBON	100	5% 1/4W
D503	8-719-024-99	DIODE 11ES2-NTA2B							
D504	8-719-024-99	DIODE 11ES2-NTA2B							
D511	8-719-024-99	DIODE 11ES2-NTA2B							
D512	8-719-024-99	DIODE 11ES2-NTA2B							

MAIN						MOTOR		PANEL (L)		PANEL (R)		TRAY SENSOR			
Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description				Remark			
R435	1-247-807-31	CARBON	100	5%	1/4W		1-680-995-11	PANEL (L) BOARD							
R436	1-247-807-31	CARBON	100	5%	1/4W			*****							
R437	1-247-807-31	CARBON	100	5%	1/4W										
								< LED >							
R438	1-247-807-31	CARBON	100	5%	1/4W	D701	8-719-057-97	LED SEL5923A-TP15 (■)							
R440	1-247-807-31	CARBON	100	5%	1/4W	D702	8-719-058-03	LED SEL5423E-TP15 (▶)							
R441	1-249-429-11	CARBON	10K	5%	1/4W	D703	8-719-057-97	LED SEL5923A-TP15 (③)							
R442	1-247-807-31	CARBON	100	5%	1/4W	D704	8-719-057-97	LED SEL5923A-TP15 (②)							
R443	1-247-807-31	CARBON	100	5%	1/4W	D705	8-719-057-97	LED SEL5923A-TP15 (①)							
								< RESISTOR >							
R444	1-247-807-31	CARBON	100	5%	1/4W	R710	1-249-410-11	CARBON	270	5%	1/4W				
R445	1-247-807-31	CARBON	100	5%	1/4W	R711	1-249-411-11	CARBON	330	5%	1/4W				
R446	1-247-807-31	CARBON	100	5%	1/4W	R712	1-249-413-11	CARBON	470	5%	1/4W				
R447	1-247-807-31	CARBON	100	5%	1/4W	R713	1-249-414-11	CARBON	560	5%	1/4W				
R448	1-247-807-31	CARBON	100	5%	1/4W	R714	1-249-415-11	CARBON	680	5%	1/4W				
R449	1-247-807-31	CARBON	100	5%	1/4W	R715	1-249-417-11	CARBON	1K	5%	1/4W				
R450	1-247-807-31	CARBON	100	5%	1/4W	R716	1-249-418-11	CARBON	1.2K	5%	1/4W				
R451	1-247-807-31	CARBON	100	5%	1/4W			< SWITCH >							
R452	1-247-807-31	CARBON	100	5%	1/4W	S711	1-771-410-21	SWITCH, TACTILE (◀◀)							
R453	1-247-807-31	CARBON	100	5%	1/4W	S712	1-771-410-21	SWITCH, TACTILE (▶▶)							
						S713	1-771-410-21	SWITCH, TACTILE (▶▶▶)							
R456	1-249-429-11	CARBON	10K	5%	1/4W	S714	1-771-410-21	SWITCH, TACTILE (◀◀◀)							
R457	1-249-429-11	CARBON	10K	5%	1/4W	S715	1-771-410-21	SWITCH, TACTILE (■)							
R459	1-247-807-31	CARBON	100	5%	1/4W										
R460	1-249-429-11	CARBON	10K	5%	1/4W	S716	1-771-410-21	SWITCH, TACTILE (■)							
R465	1-249-407-11	CARBON	150	5%	1/4W	S717	1-771-410-21	SWITCH, TACTILE (▶)							

R469	1-249-407-11	CARBON	150	5%	1/4W		1-680-996-11	PANEL (R) BOARD							
R473	1-249-407-11	CARBON	150	5%	1/4W			*****							
R477	1-249-407-11	CARBON	150	5%	1/4W			< RESISTOR >							
R480	1-249-441-11	CARBON	100K	5%	1/4W										
R481	1-249-407-11	CARBON	150	5%	1/4W										
R482	1-249-429-11	CARBON	10K	5%	1/4W	R700	1-249-410-11	CARBON	270	5%	1/4W				
R483	1-249-429-11	CARBON	10K	5%	1/4W	R701	1-249-411-11	CARBON	330	5%	1/4W				
R484	1-247-807-31	CARBON	100	5%	1/4W	R702	1-249-413-11	CARBON	470	5%	1/4W				
R485	1-247-807-31	CARBON	100	5%	1/4W	R703	1-249-414-11	CARBON	560	5%	1/4W				
R486	1-247-807-31	CARBON	100	5%	1/4W	R704	1-249-415-11	CARBON	680	5%	1/4W				
R487	1-247-807-31	CARBON	100	5%	1/4W										
R489	1-247-807-31	CARBON	100	5%	1/4W	R705	1-249-417-11	CARBON	1K	5%	1/4W				
R490	1-247-807-31	CARBON	100	5%	1/4W	R706	1-249-418-11	CARBON	1.2K	5%	1/4W				
R491	1-247-807-31	CARBON	100	5%	1/4W	R707	1-249-420-11	CARBON	1.8K	5%	1/4W				
R492	1-249-425-11	CARBON	4.7K	5%	1/4W			< SWITCH >							
R493	1-249-407-11	CARBON	150	5%	1/4W	S701	1-771-410-21	SWITCH, TACTILE (DISC 3)							
R494	1-247-807-31	CARBON	100	5%	1/4W	S702	1-771-410-21	SWITCH, TACTILE (DISC 2)							
R495	1-247-807-31	CARBON	100	5%	1/4W	S703	1-771-410-21	SWITCH, TACTILE (DISC1)							
R496	1-249-429-11	CARBON	10K	5%	1/4W	S704	1-771-410-21	SWITCH, TACTILE (▲ (DISC 1))							
R497	1-247-807-31	CARBON	100	5%	1/4W	S705	1-771-410-21	SWITCH, TACTILE (▲ (DISC 2))							
R500	1-249-429-11	CARBON	10K	5%	1/4W	S706	1-771-410-21	SWITCH, TACTILE (▲ (DISC 3))							
						S707	1-771-410-21	SWITCH, TACTILE (REPEAT)							
X401	1-781-107-21	VIBRATOR, CERAMIC (16MHz)				S708	1-771-410-21	SWITCH, TACTILE (PLAY MODE)							

	1-678-461-11	MOTOR BOARD													

		< CAPACITOR >					1-678-457-11	TRAY SENSOR BOARD							

C721	1-162-306-11	CERAMIC	0.01uF	30%	16V			< CAPACITOR >							
						C731	1-164-159-11	CERAMIC	0.1uF		50V				

TRAY SENSOR

Ref. No.	Part No.	Description	Remark
< PHOTO SENSOR >			
IC731	8-749-016-76	PHOTO SENSOR RPI-321	
IC732	8-749-016-76	PHOTO SENSOR RPI-321	
IC733	8-749-016-76	PHOTO SENSOR RPI-321	
< RESISTOR >			
R731	1-247-876-11	CARBON 75K 5% 1/4W	
R732	1-249-408-11	CARBON 180 5% 1/4W	
R733	1-247-876-11	CARBON 75K 5% 1/4W	
R734	1-249-408-11	CARBON 180 5% 1/4W	
R735	1-247-876-11	CARBON 75K 5% 1/4W	
R736	1-249-408-11	CARBON 180 5% 1/4W	

MISCELLANEOUS			

9	1-823-055-11	WIRE (FLAT TYPE) (21 CORE)	
11	1-757-633-11	CORD (WITH CONNECTOR) 17P	
571	X-4952-971-2	MOTOR ASSY	
605	1-757-710-11	WIRE (FLAT TYPE) (16 CORE)	
△ 606	A-4735-188-A	BU-30 (60) ASSY	
M721	1-541-632-12	MOTOR, DC (LOADING)	

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

MEMO

REVISION HISTORY

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Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

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